

Form 3160-3
(October 2024)FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2027UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☐ DRILL ☐ REENTER		5. Lease Serial No.
1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator		8. Lease Name and Well No.
3a. Address		9. API Well No. 30-045-38516
3b. Phone No. (include area code)		10. Field and Pool, or Exploratory
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish
		13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

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

- | | |
|--|---|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 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). | 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: NENW / 1161 FNL / 2411 FWL / TWSP: 23N / RANGE: 9W / SECTION: 27 / LAT: 36.201958 / LONG: -107.776919 (TVD: 0 feet, MD: 0 feet)
PPP: NWNE / 723 FNL / 2447 FEL / TWSP: 23N / RANGE: 9W / SECTION: 27 / LAT: 36.203151 / LONG: -107.77543 (TVD: 4008 feet, MD: 4206 feet)
PPP: NESE / 0 FNL / 0 FEL / TWSP: 23N / RANGE: 9W / SECTION: 27 / LAT: 36.19787 / LONG: -107.76868 (TVD: 4110 feet, MD: 14174 feet)
PPP: NENW / 0 FNL / 0 FEL / TWSP: 23N / RANGE: 9W / SECTION: 35 / LAT: 36.190631 / LONG: -107.75944 (TVD: 4110 feet, MD: 14174 feet)
PPP: SESW / 0 FSL / 0 FWL / TWSP: 23N / RANGE: 9W / SECTION: 26 / LAT: 36.19331 / LONG: -107.76275 (TVD: 4110 feet, MD: 14174 feet)
PPP: NWSW / 0 FNL / 0 FWL / TWSP: 23N / RANGE: 9W / SECTION: 26 / LAT: 36.19671 / LONG: -107.76714 (TVD: 4110 feet, MD: 14174 feet)
BHL: SENE / 2407 FNL / 796 FEL / TWSP: 23N / RANGE: 9W / SECTION: 35 / LAT: 36.184052 / LONG: -107.752139 (TVD: 4110 feet, MD: 14174 feet)

BLM Point of Contact

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

CONFIDENTIAL

C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024	
		Submittal Type	☒ Initial Submittal
			☐ Amended Report
		☐ As Drilled	

WELL LOCATION INFORMATION

API Number 30-045-38516	Pool Code 98157	Pool Name LYBROOK MANCOS W
Property Code 332891	Property Name GREATER LYBROOK UNIT	Well Number 045H
OGRID No. 372286	Operator Name ENDURING RESOURCES, LLC	Ground Level Elevation 6640'
Surface Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal		Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal

Surface Location

UL C	Section 27	Township 23N	Range 9W	Lot	Feet from N/S Line 1161' NORTH	Feet from E/W Line 2411' WEST	Latitude 36.201958 °N	Longitude -107.776919 °W	County SAN JUAN
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Bottom Hole Location

UL H	Section 35	Township 23N	Range 9W	Lot	Feet from N/S Line 2407' NORTH	Feet from E/W Line 796' EAST	Latitude 36.184052 °N	Longitude -107.752139 °W	County SAN JUAN
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Dedicated Acres 480.00	Penetrated Spacing Unit W/2 SW/4, SE/4 SW/4 - Section 26 NE/4 NW/4, W/2 NE/4, SE/4 NE/4 NE/4 SE/4 - Section 27 NE/4 NW/4, NW/4 NE/4, S/2 NE/4 - Section 35	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit ☐ Yes ☐ No	Consolidation Code UNIT
Order Numbers R-22081			Well setbacks are under Common Ownership ☒ Yes ☐ No		

Kick Off Point (KOP)

UL C	Section 27	Township 23N	Range 9W	Lot	Feet from N/S Line 1161' NORTH	Feet from E/W Line 2411' WEST	Latitude 36.201958 °N	Longitude -107.776919 °W	County SAN JUAN
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First Take Point (FTP)

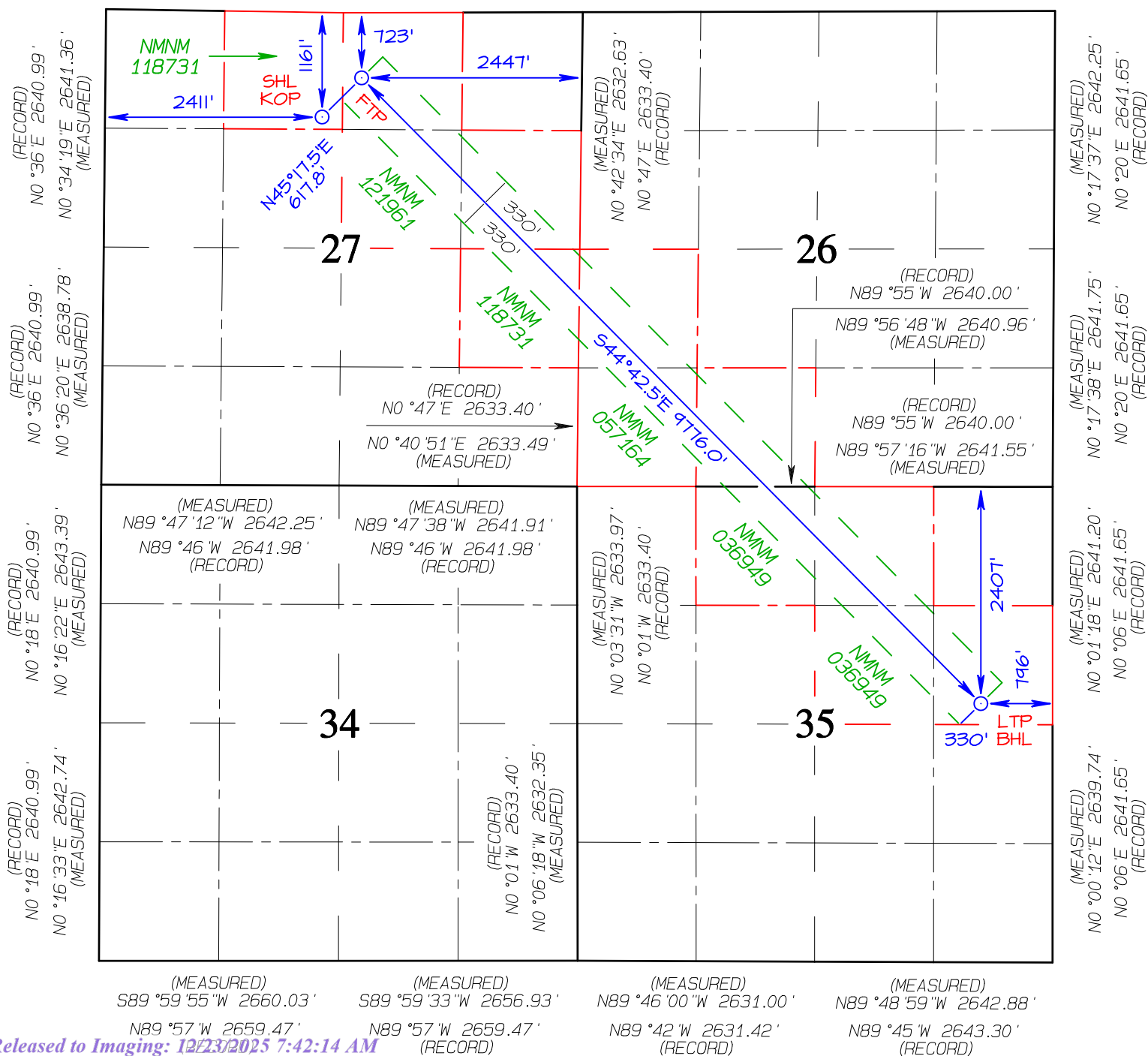
UL B	Section 27	Township 23N	Range 9W	Lot	Feet from N/S Line 723' NORTH	Feet from E/W Line 2447' EAST	Latitude 36.203151 °N	Longitude -107.775430 °W	County SAN JUAN
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Last Take Point (LTP)

UL H	Section 35	Township 23N	Range 9W	Lot	Feet from N/S Line 2407' NORTH	Feet from E/W Line 796' EAST	Latitude 36.184052 °N	Longitude -107.752139 °W	County SAN JUAN
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Unitized Area or Area of Uniform Interest GREATER LYBROOK UNIT	Spacing Unit Type ☒ Horizontal ☐ Vertical ☐ Directional	Ground Floor Elevation
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OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division. Shaw-Marie Ford Signature 10/29/2025 Date Shaw-Marie Ford Printed Name sford@enduringresources.com E-mail Address	SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.  JASON C. EDWARDS Signature and Seal of Professional Surveyor Certificate Number 15269 Date of Survey DECEMBER 20, 2023
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State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: Enduring Resources, LLC **OGRID:** 372286 **Date:** 10 / 02 / 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
Greater Lybrook Unit 043H	TBD	C-27-23N-9W	1201 FNL x 2411 FWL	210	210	84
Greater Lybrook Unit 044H	TBD	C-27-23N-9W	1181 FNL x 2411 FWL	391	782	156
Greater Lybrook Unit 045H	TBD	C-27-23N-9W	1161 FNL x 2411 FWL	189	189	76
Greater Lybrook Unit 046H	TBD	C-27-23N-9W	1141 FNL x 2411 FWL	340	680	136
Greater Lybrook Unit 047H	TBD	C-27-23N-9W	1121 FNL x 2411 FWL	158	158	63
				3-year Decline	3-year Decline	3-year Decline
Greater Lybrook Unit 043H	TBD	C-27-23N-9W	1201 FNL x 2411 FWL	80	80	32
Greater Lybrook Unit 044H	TBD	C-27-23N-9W	1181 FNL x 2411 FWL	88	177	35
Greater Lybrook Unit 045H	TBD	C-27-23N-9W	1161 FNL x 2411 FWL	72	72	29
Greater Lybrook Unit 046H	TBD	C-27-23N-9W	1141 FNL x 2411 FWL	77	154	31
Greater Lybrook Unit 047H	TBD	C-27-23N-9W	1121 FNL x 2411 FWL	60	60	24

IV. Central Delivery Point Name: Chaco Processing Plant [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Greater Lybrook Unit 043H	TBD	Q3 2025	Q3 2025	Q3 2025	Q3 2025	Q3 2025
Greater Lybrook Unit 044H	TBD	Q3 2025	Q3 2025	Q3 2025	Q3 2025	Q3 2025
Greater Lybrook Unit 045H	TBD	Q3 2025	Q3 2025	Q3 2025	Q3 2025	Q3 2025
Greater Lybrook Unit 046H	TBD	Q3 2025	Q3 2025	Q3 2025	Q3 2025	Q3 2025
Greater Lybrook Unit 047H	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: <i>Shaw-Marie Ford</i>
Printed Name: Shaw-Marie Ford
Title: Regulatory Specialist
E-mail Address: sford@enduringresources.com
Date: 10/02/2024
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
Greater Lybrook Unit 043H, 044H, 045H, 046H, 047H

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
Greater Lybrook Unit 043H, 044H, 045H, 046H, 047H

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
Greater Lybrook Unit 043H, 044H, 045H, 046H, 047H

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
Greater Lybrook Unit 043H, 044H, 045H, 046H, 047H

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, COLORADO 80211

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

WELL INFORMATION:

Name: Greater Lybrook Unit 045H

API Number: 30-045-unassigned

AFE Number: Not yet assigned

ER Well Number: Not yet assigned

State: New Mexico

County: San Juan

Surface Elevation: 6,640 ft ASL (GL) 6,664 ft ASL (KB)

Surface Location: 27-23-9 Sec-Twn-Rng 1,161 ft FNL 2,411 ft FWL

36.201958 ° N latitude 107.776919 ° W longitude (NAD 83)

BH Location: 35-23-9 Sec-Twn-Rng 2,407 ft FNL 796 ft FEL

36.184052 ° N latitude 107.752139 ° W longitude (NAD 83)

Driving Directions: FROM THE INTERSECTION OF US HWY 550 & US HWY 64 IN BLOOMFIELD, NM:

South on US Hwy 550 for 38.3 miles to MM 113.4, Right (Southwest) on CR #7890 for 0.8 miles to fork, Left (South) remaining on CR #7890 for 1.3 miles to 4-way intersection, Left (Southeast) remaining on CR #7890 for 0.6 miles to hard right, Right (Southwest) on CR #7890 for 0.6 miles to 4-way, Right (West) exiting CR #7890 onto access road for 0.6 miles to fork, Left (West) onto access road for 0.7 miles to fork, Left (West) which is straight for 1.4 miles to fork. Left (Southeast) for 0.6 miles to W Lybrook Unit 730H Pad (existing wells: GLU 863H, 763H, 830H, 730H, 861H). New wells from South to North: GLU 043H, 044H, 045H, 046H, 047H.

GEOLOGIC AND RESERVOIR INFORMATION:

Prognosis:	Formation Tops	TVD (ft ASL)	TVD (ft KB)	MD (ft KB)	O / G / W	Pressure
	Ojo Alamo	6,490	174	174	W	normal
	Kirtland	6,375	289	289	W	normal
	Fruitland	6,165	499	499	G, W	sub
	Pictured Cliffs	5,770	894	894	G, W	sub
	Lewis	5,610	1,054	1,054	G, W	normal
	Chacra	5,405	1,259	1,261	G, W	normal
	Cliff House	4,388	2,276	2,342	G, W	sub
	Menefee	4,358	2,306	2,375	G, W	normal
	Point Lookout	3,377	3,287	3,405	G, W	normal
	Mancos	3,217	3,447	3,565	O,G	sub (~0.38)
	Gallup (MNCS_A)	2,888	3,776	3,902	O,G	sub (~0.38)
	MNCS_B	2,784	3,880	4,022	O,G	sub (~0.38)
	MNCS_C	2,696	3,968	4,141	O,G	sub (~0.38)
	MNCS_Cms	2,656	4,008	4,206	O,G	sub (~0.38)
	MNCS_D	6,664	0	0	O,G	sub (~0.38)
	MNCS_E	6,664	0	0	O,G	sub (~0.38)
	MNCS_F	6,664	0	0	O,G	sub (~0.38)
	MNCS_G	6,664	0	0	O,G	sub (~0.38)
	MNCS_H	6,664	0	0	O,G	sub (~0.38)
	MNCS_I	6,664	0	0	O,G	sub (~0.38)
	FTP TARGET	2,656	4,008	4,206	O,G	sub (~0.38)
	PROJECTED TD	2,617	4,047	14,174	O,G	sub (~0.38)

Surface: Nacimiento

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

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

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

Maximum anticipated BH pressure, assuming maximum pressure gradient: 1,750 psi

Maximum anticipated surface pressure, assuming partially evacuated hole: 860 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 7" casing to TD; gas detection from drillout of 9-5/8" casing to TD.

MWD / LWD: Gamma Ray from drillout of 9-5/8" casing to TD

Open Hole Logs: None planned

Testing: None planned

Coring: None planned

Cased Hole Logs: CBL on 7" casing from deepest free-fall depth to surface

DRILLING RIG INFORMATION:

Contractor: Ensign

Rig No.: 140

Draw Works: Pacific Rim 1500AC (1,500 hp)

Mast: Process MFG Corp Swing Up Triple (136 ft, 750,000 lbs)

Top Drive: Tesco 400-EXI-600 (400 ton)

Prime Movers: 3 - CAT 3512C (1,350 hp)

Pumps: 2 - Gardner Denver PZ-11 (7,500 psi)

BOPE 1: T3 Annular & Shaffer double gate ram (11", 5,000 psi)

BOPE 2: T3 annular(11", 5,000 psi)

Choke 3", 5,000 psi

KB-GL (ft): 23.5

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 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 and attached Newpark mud program for additional details.

DETAILED DRILLING PLAN:

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

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

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

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

Hole Size: 12-1/4"

Bit / Motor: Mill Tooth or PDC, no motor

MWD / Survey: No MWD, deviation survey

Logging: None

Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	9.625	36.0	K-55	STC	2,020	3,520	564,000	423,000
Loading					153	883	110,988	110,988
Min. S.F.					13.21	3.99	5.08	3.81

Assumptions: Collapse: fully evacuated casing with 8.4 ppg equivalent external pressure gradient

Burst: maximum anticipated surface pressure with 9.5 ppg fluid inside casing while drilling intermediate hole and 8.4 ppg equivalent external pressure gradient

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

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

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

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

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	Hole Cap. (cuft/ft)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)	Total Cmt (cu ft)
Redi-Mix	TYPE I-II	14.5	1.61	7.41	0.3132	50%	0	114	184

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

Csg ID 8.921

Mesa Ready Mix or first available

Shoe Track L 44

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

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

350 ft (MD)	to	4,508 ft (MD)	Hole Section Length:	4,158 ft
350 ft (TVD)	to	4,110 ft (TVD)	Casing Required:	4,508 ft

Fluid:	Type	MW (ppg)	FL (mL/30 min)	PV (cp)	YP (lb/100 sqft)	pH	Comments
	LSND (KCI)	8.8 - 9.2	15	8 - 14	12-Jun	10.8 - 11.2	No OBM

Hole Size: 8.75**Bit / Motor:** 8-3/4" PDC bit w/mud motor**MWD / Survey:** MWD Survey with inclination and azimuth survey (every 100' at a minimum), GR optional**Logging:** None**Pressure Test:** NU BOPE and test (as noted above); pressure test 9.625" 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	7	26.0	K-55	LTC	4,320	4,980	415,000	367,000
Loading					1,795	1,095	202,211	202,211
Min. S.F.					2.41	4.55	2.05	1.81

*Assumptions: Collapse: fully evacuated casing with 8.4 ppg equivalent external pressure gradient**Burst: maximum anticipated surface pressure with 9.5 ppg fluid inside casing while drilling production hole and 8.4 ppg equivalent external pressure gradient**Tension: buoyed weight in 8.4 ppg fluid with 100,000 lbs over-pull***MU Torque (ft lbs):** Minimum: 3,400 Optimum: 4,530 Maximum: 5,660**Centralizers:** 1 per joint in non-vertical hole; 1 per 2-joints in vertical hole

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)	Total Cmt (cu ft)
Lead	III:POZ Blend	12.5	2.150	12.06	80%	0	419	901
Tail	Type III	13.5	1.710	8.88	30%	3,465	125	213

Annular Capacity	0.16681	cuft/ft	7" casing x 9-5/8" casing annulus	Shoe Track L	44
	0.1503	cuft/ft	9-5/8" casing x 12-1/4" hole annulus	Casing ID	6.276
	0.2148	cuft/ft	7" casing casing volume		

*Calculated cement volumes assume gauge hole and the excess noted in table**Drake Intermediate Cementing Program***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.*

4,508 ft (MD)	to	14,174 ft (MD)	Hole Section Length:	9,666 ft
4,110 ft (TVD)	to	4,047 ft (TVD)	Casing Required:	9,816 ft
Estimated KOP:		3,658 ft (MD)	3,540 ft (TVD)	
Estimated Liner Top:		4,358 ft (MD)	4,078 ft (TVD)	
Estimated Landing Point (FTP):		4,206 ft (MD)	4,008 ft (TVD)	
Estimated Lateral Length:		9,968 ft (MD)		

Fluid:	Type	MW (ppg)	FL (mL/30')	PV (cp)	YP (lb/100 sqft)	pH	Comments	Comments
	WBM	8.7 - 9.0	NC	+20	±2	9-9.5	prod water	OBM as contingency

Hole Size: 6.125**Bit / Motor:** 6-1/8" PDC bit w/mud motor**MWD / Survey:** MWD with GR, inclination, and azimuth (survey every joint from KOP to Landing Point and survey every 100' minimum before KOP and after Landing Point)**Logging:** GR MWD for entire section, no mud-log or cuttings sampling, no OH WL logs**Pressure Test:** NU BOPE and test (as noted above); pressure test 9-5/8" casing to 1,500 psi for 30 minutes.

Liner/Casing Specs:	Size (in)	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	4.500	11.6	P-110	BTC	7,560	10,690	367,000	385,000
Loading					1,999	8,731	241,878	241,878
Min. S.F.					3.78	1.22	1.52	1.59

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. Tension calculations assume vertical hole to approximate drag in lateral.

MU Torque (ft lbs): Minimum: BTC Optimum: BTC Maximum: BTC

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

Cement:	Type	Weight (ppg)	Yield	Water	% Excess	Planned TOC	Total Cmt	Total Cmt (cu)
Spacer	IntegraGuard Star	11		31.6		0	20 bbls	
Tail	G:POZ blend	13.3	1.520	7.54	30%	4,358	823	1,251
Displacement	195	est bbls						
Annular Capacities	0.1044	cuft/ft	4-1/2" casing x 7" casing annulus					
	0.09417	cuft/ft	4-1/2" casing x 6-1/8" hole annulus					
	0.0873	cuft/ft	4-1/2" casing volume est shoe jt ft 100					
	0.0102	bbls/ft	4" DP capacity					

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

American Cementing Liner & Production Blend

Spacer	S-8 Silica Flour 163.7 lbs/bbl	Avis 616 viscosifier 11.6 lb/bbl	FP24 Defoamer .5 lb/bbl	Plus 3K LCM 15 lb/bbl	SS201 Surfactant 1 gal/bbl			
Lead/Tail	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	
		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

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

Note: This well will not be considered an unorthodox well location as defined by NMAC19.15.16.15.C.5. As defined in

FINISH WELL: ND BOP, cap well, RDMO.

COMPLETION AND PRODUCTION PLAN:

Est Lateral Length: 9,868

Est Frac Inform: 41 Frac Stages 158,000 bbls slick water 12,830,000 lbs proppant

Frac: 39 plug-and-perf stages with 150,000 bbls slickwater fluid and 12,100,000 lbs of proppant (estimated)

Flowback: Flow back through production tubing as pressures allow

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

ESTIMATED START DATES:

Drilling: 5/16/2024

Completion: 7/15/2024

Production: 8/29/2024

Prepared by: Greg Olson 1/25/2024

Updated: Greg Olson 4/11/2024

Greg Olson 9/9/2024

WELL NAME: **Greater Lybrook Unit 045H**

OBJECTIVE: **Drill, complete, and equip single lateral in the Mancos-Silt (Cms) formation**

API Number: *30-045-unassigned*

AFE Number: *Not yet assigned*

ER Well Number: *Not yet assigned*

State: *New Mexico*

County: *San Juan*

Surface Elev.: 6,640 ft ASL (GL) 6,664 ft ASL (KB)

Surface Location: 27-23-9 Sec-Twn- Rng 1,161 ft FNL 2,411 ft FWL

BH Location: 35-23-9 Sec-Twn- Rng 2407 ft FNL 796 ft FEL

Driving Directions: **FROM THE INTERSECTION OF US HWY 550 & US HWY 64 IN BLOOMFIELD, NM:**

South on US Hwy 550 for 38.3 miles to MM 113.4, Right (Southwest) on CR #7890 for 0.8 miles to fork, Left (South) remaining on CR #7890 for 1.3 miles to 4-way intersection, Left (Southeast) remaining on CR #7890 for 0.6 miles to hard right, Right (Southwest) on CR #7890 for 0.6 miles to 4-way, Right (West) exiting CR #7890 onto access road for 0.6 miles to fork, Left (West) onto access road for 0.7 miles to fork, Left (West) which is straight for 1.4 miles to fork. Left (Southeast) for 0.6 miles to W Lybrook Unit 730H Pad (existing wells: GLU 863H, 763H, 830H, 730H, 861H). New wells from South to North: GLU 043H. 044H. 045H. 046H. 047H.

WELL CONSTRUCTION SUMMARY:

	Hole (in)	TD MD (ft)	Csg (in)	Csg (lb/ft)	Csg (grade)	Csg (conn)	Csg Top (ft)	Csg Bot (ft)
Surface	12.250	350	9.625	36	K-55	STC	0	350
Intermediate	8.750	4,508	7	26.0	K-55	LTC	0	4,508
Production	6.125	14,174	4.500	11.6	P-110	BTC	4,358	14,174

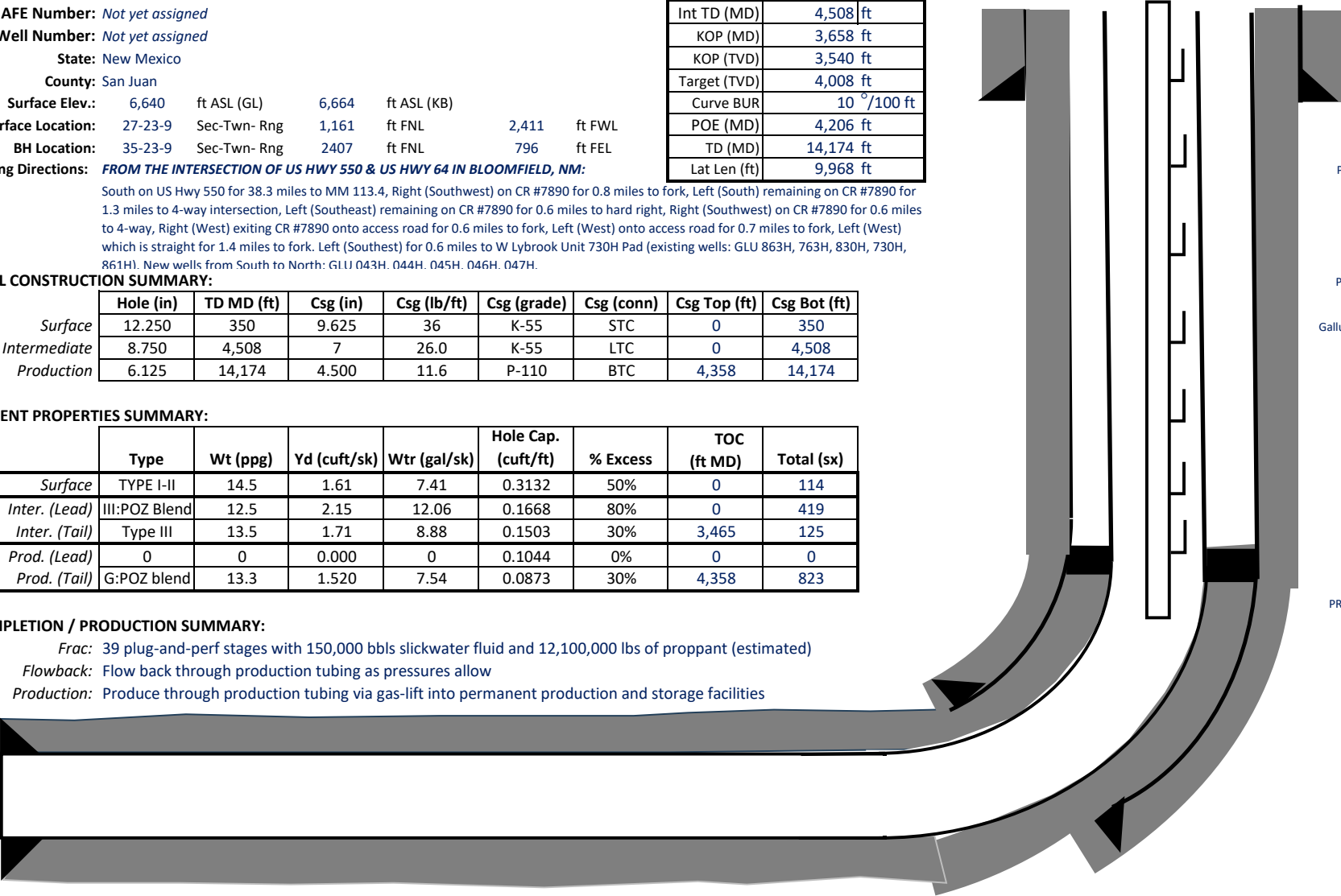
CEMENT PROPERTIES SUMMARY:

	Type	Wt (ppg)	Yd (cuft/sk)	Wtr (gal/sk)	Hole Cap. (cuft/ft)	% Excess	TOC (ft MD)	Total (sx)
Surface	TYPE I-II	14.5	1.61	7.41	0.3132	50%	0	114
Inter. (Lead)	III:POZ Blend	12.5	2.15	12.06	0.1668	80%	0	419
Inter. (Tail)	Type III	13.5	1.71	8.88	0.1503	30%	3,465	125
Prod. (Lead)	0	0	0.000	0	0.1044	0%	0	0
Prod. (Tail)	G:POZ blend	13.3	1.520	7.54	0.0873	30%	4,358	823

COMPLETION / PRODUCTION SUMMARY:

Frac: 39 plug-and-perf stages with 150,000 bbls slickwater fluid and 12,100,000 lbs of proppant (estimated)
Flowback: Flow back through production tubing as pressures allow
Production: Produce through production tubing via gas-lift into permanent production and storage facilities

QUICK REFERENCE	
Sur TD (MD)	350 ft
Int TD (MD)	4,508 ft
KOP (MD)	3,658 ft
KOP (TVD)	3,540 ft
Target (TVD)	4,008 ft
Curve BUR	10 °/100 ft
POE (MD)	4,206 ft
TD (MD)	14,174 ft
Lat Len (ft)	9,968 ft

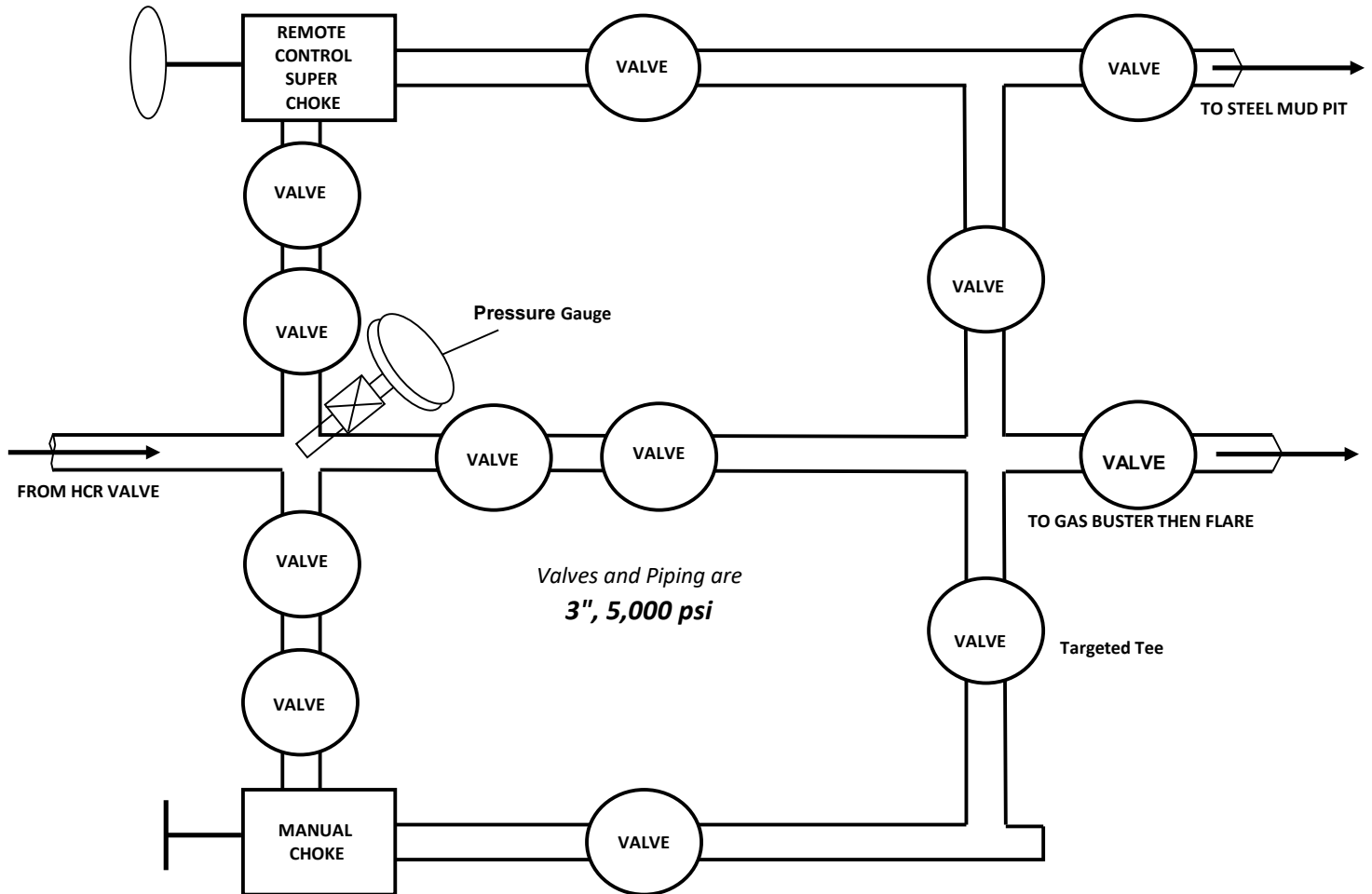


Tops	TVD (ft KB)	MD (ft KB)
Ojo Alamo	174	174
Kirtland	289	289
Fruitland	499	499
Pictured Cliffs	894	894
Lewis	1,054	1,054
Chacra	1,259	1,261
Cliff House	2,276	2,342
Menefee	2,306	2,375
Point Lookout	3,287	3,405
Mancos	3,447	3,565
Gallup (MNCS_A)	3,776	3,902
MNCS_B	3,880	4,022
MNCS_C	3,968	4,141
MNCS_Cms	4,008	4,206
MNCS_D	0	0
MNCS_E	0	0
MNCS_F	0	0
MNCS_G	0	0
MNCS_H	0	0
MNCS_I	0	0
FTP TARGET	4,008	4,206
PROJECTED TD	4,047	14,174

Greater Lybrook Unit 045H

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.

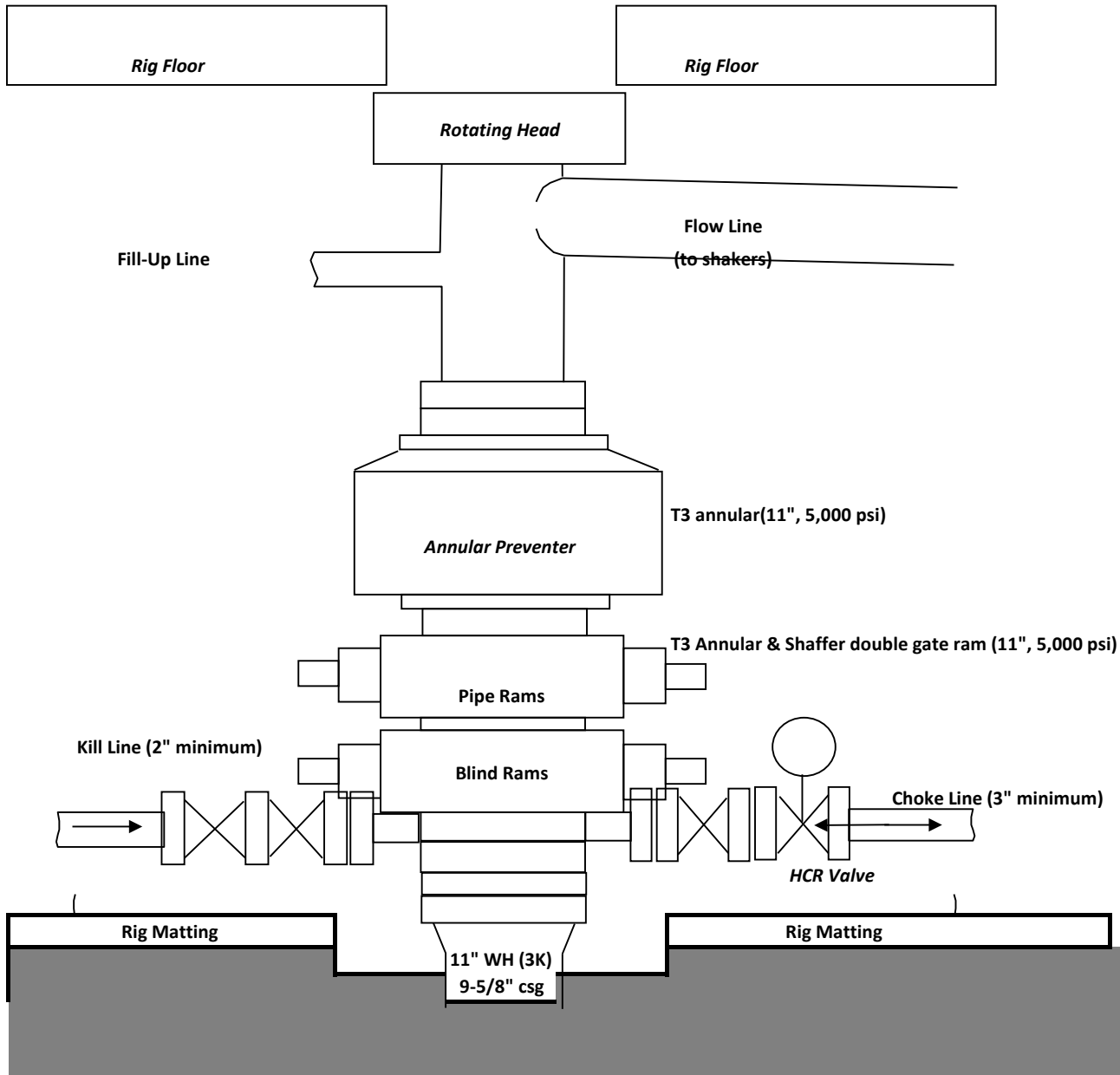
CHOKE MANIFOLD



Greater Lybrook Unit 045H

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





Well: Greater Lybrook Unit 45H
Site: Greater Lybrook Unit 730 (43,44,45,46&47)
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=6640+23.5 @ 6663.50ft

Surface location:
Northing: 1892815.04
Easting: 2739735.67
Latitude: 36.20195800
Longitude: -107.77691900

Total Corr (M=>G): To convert a Magnetic Direction to a Grid Direction, Add 8.434°



Azimuths to Grid North
True North: -0.03°
Magnetic North: 8.43°

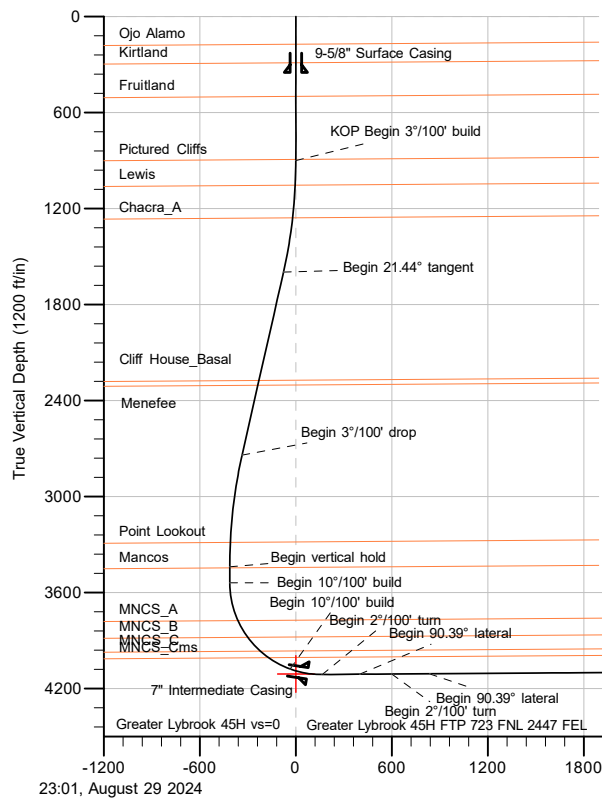
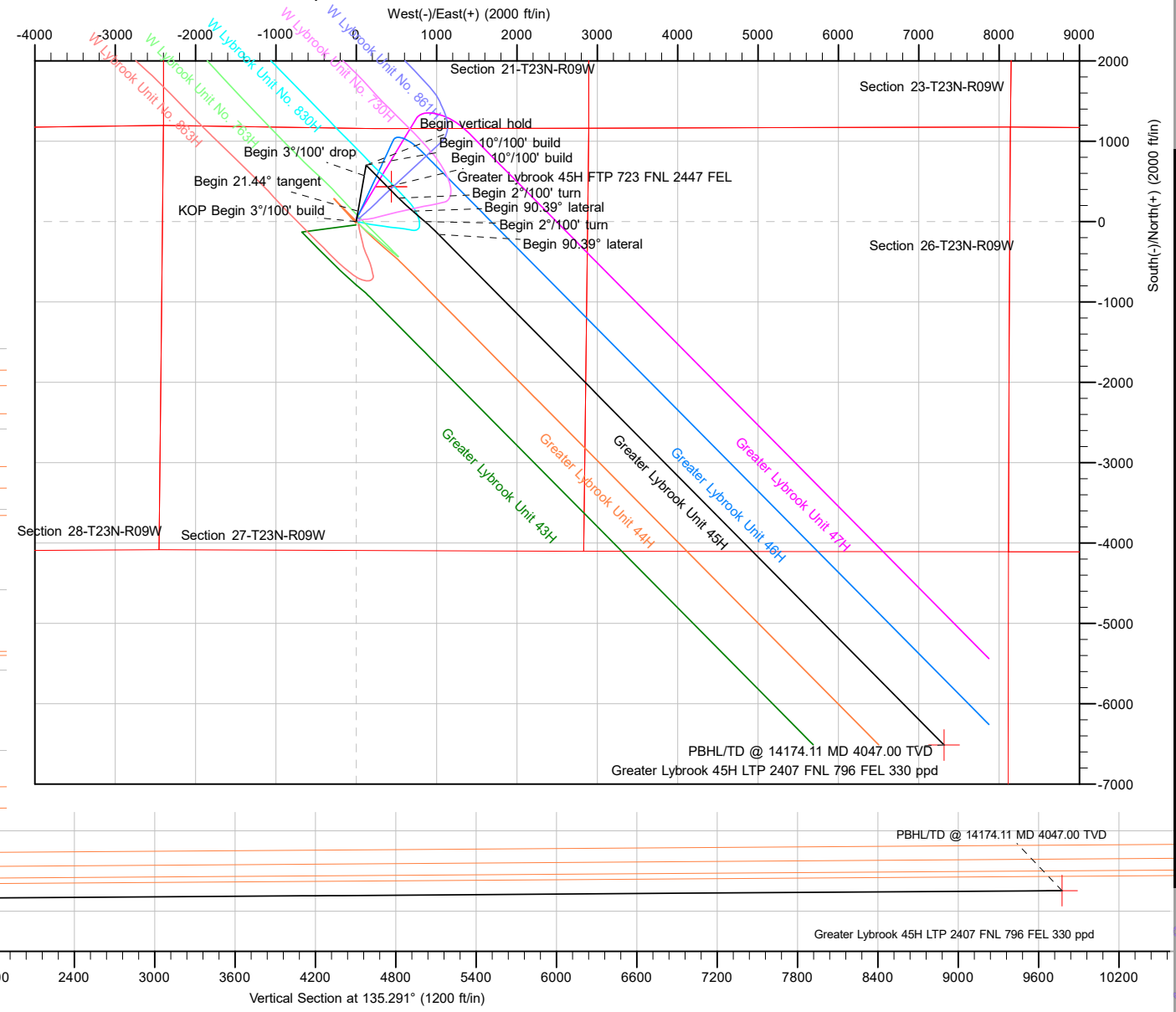
Magnetic Field
Strength: 48963.6nT
Dip Angle: 62.65°
Date: 8/29/2024
Model: IGRF2020



CASING DETAILS		
TVD	MD	Size
350.00	350.00	9-5/8
4105.78	4469.41	7

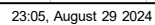
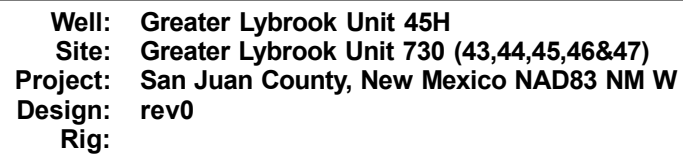
Section Details											
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation	
1	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.000	0.00		
2	900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.000	0.00	KOP Begin 3°/100' build	
3	1614.60	21.44	9.997	1598.04	130.13	22.94	3.00	9.997	-76.35	Begin 21.44° tangent	
4	2843.12	21.44	9.997	2741.57	572.33	100.88	0.00	0.000	-335.78	Begin 3°/100' drop	
5	3557.72	0.00	0.000	3439.61	702.46	123.82	3.00	180.000	-412.12	Begin vertical hold	
6	3657.72	0.00	0.000	3539.61	702.46	123.82	0.00	0.000	-412.12	Begin 10°/100' build	
7	4357.72	70.00	135.291	4078.01	434.53	389.04	10.00	135.291	-35.13	Begin 10°/100' build	
8	4561.62	90.39	135.291	4112.55	292.49	529.64	10.00	0.000	164.74	Begin 2°/100' turn	
9	4797.67	90.39	130.570	4110.95	131.77	702.42	2.00	-89.984	400.51	Begin 90.39° lateral	
10	4997.67	90.39	130.570	4109.59	1.70	854.34	0.00	0.000	599.82	Begin 2°/100' turn	
11	5233.82	90.39	135.293	4107.98	-159.10	1027.19	2.00	89.974	835.71	Begin 90.39° lateral	
12	14174.11	90.39	135.293	4047.00	-6512.96	7316.35	0.00	0.000	9775.79	PBHL/TD @ 14174.11 MD 4047.00 TVD	

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Greater Lybrook 45H FTP 723 FNL 2447 FEL	4109.00	434.54	439.04	1893249.57	2740174.71	36.20315100	-107.77543000
Greater Lybrook 45H LTP 2407 FNL 796 FEL 330 ppd	4047.00	-6512.96	7316.35	1886302.09	2747052.00	36.18405200	-107.75213900
Greater Lybrook 45H vs=0	4109.00	434.57	439.01	1893249.60	2740174.67	36.20315109	-107.77543011



23:01, August 29 2024

Vertical Section at 135.291° (1200 ft/in)





Planning Report



Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Greater Lybrook Unit 45H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	North Reference:	Grid
Well:	Greater Lybrook Unit 45H	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	Greater Lybrook Unit 730 (43,44,45,46&47)		
Site Position:		Northing:	1,892,775.00 usft
From:	Lat/Long	Easting:	2,739,735.40 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	36.20184800
		Longitude:	-107.77692000

Well	Greater Lybrook Unit 45H, Surf loc: 1161 FNL 2411 FWL Section 27-T23N-R09W		
Well Position	+N/-S	0.00 ft	Northing: 1,892,815.04 usft
	+E/-W	0.00 ft	Easting: 2,739,735.67 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
Grid Convergence:	0.033 °	Ground Level:	6,640.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	8/29/2024	8.467	62.646	48,963.60472454

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	135.291	

Plan Survey Tool Program	Date	8/29/2024			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	14,174.09	rev0 (Original Hole)	MWD	
				OWSG MWD - Standard	



Planning Report



Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Greater Lybrook Unit 45H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	North Reference:	Grid
Well:	Greater Lybrook Unit 45H	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	0.000	
900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.00	0.00	0.000	
1,614.60	21.44	9.997	1,598.04	130.13	22.94	3.00	3.00	0.00	9.997	
2,843.12	21.44	9.997	2,741.57	572.33	100.88	0.00	0.00	0.00	0.000	
3,557.72	0.00	0.000	3,439.61	702.46	123.82	3.00	-3.00	0.00	180.000	
3,657.72	0.00	0.000	3,539.61	702.46	123.82	0.00	0.00	0.00	0.000	
4,357.72	70.00	135.291	4,078.01	434.53	389.04	10.00	10.00	0.00	135.291	
4,561.62	90.39	135.291	4,112.55	292.49	529.64	10.00	10.00	0.00	0.000	
4,797.67	90.39	130.570	4,110.95	131.77	702.42	2.00	0.00	-2.00	-89.984	
4,997.67	90.39	130.570	4,109.59	1.70	854.34	0.00	0.00	0.00	0.000	
5,233.82	90.39	135.293	4,107.98	-159.10	1,027.19	2.00	0.00	2.00	89.974	
14,174.11	90.39	135.293	4,047.00	-6,512.96	7,316.35	0.00	0.00	0.00	0.000	Greater Lybrook 45H



Planning Report



Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Greater Lybrook Unit 45H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	North Reference:	Grid
Well:	Greater Lybrook Unit 45H	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
174.00	0.00	0.000	174.00	0.00	0.00	0.00	0.00	0.00	0.00
Ojo Alamo									
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00
289.00	0.00	0.000	289.00	0.00	0.00	0.00	0.00	0.00	0.00
Kirtland									
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
9-5/8" Surface Casing									
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
499.00	0.00	0.000	499.00	0.00	0.00	0.00	0.00	0.00	0.00
Fruitland									
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
894.00	0.00	0.000	894.00	0.00	0.00	0.00	0.00	0.00	0.00
Pictured Cliffs									
900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP Begin 3°/100' build									
1,000.00	3.00	9.997	999.95	2.58	0.45	-1.51	3.00	3.00	0.00
1,054.19	4.63	9.997	1,054.02	6.13	1.08	-3.59	3.00	3.00	0.00
Lewis									
1,100.00	6.00	9.997	1,099.63	10.30	1.82	-6.04	3.00	3.00	0.00
1,200.00	9.00	9.997	1,198.77	23.16	4.08	-13.59	3.00	3.00	0.00
1,261.28	10.84	9.997	1,259.13	33.55	5.91	-19.68	3.00	3.00	0.00
Chacra_A									
1,300.00	12.00	9.997	1,297.08	41.10	7.24	-24.11	3.00	3.00	0.00
1,400.00	15.00	9.997	1,394.31	64.09	11.30	-37.60	3.00	3.00	0.00
1,500.00	18.00	9.997	1,490.18	92.06	16.23	-54.01	3.00	3.00	0.00
1,600.00	21.00	9.997	1,584.43	124.93	22.02	-73.29	3.00	3.00	0.00
1,614.60	21.44	9.997	1,598.04	130.13	22.94	-76.35	3.00	3.00	0.00
Begin 21.44° tangent									
1,700.00	21.44	9.997	1,677.53	160.87	28.36	-94.38	0.00	0.00	0.00
1,800.00	21.44	9.997	1,770.62	196.86	34.70	-115.50	0.00	0.00	0.00
1,900.00	21.44	9.997	1,863.70	232.86	41.05	-136.61	0.00	0.00	0.00
2,000.00	21.44	9.997	1,956.78	268.85	47.39	-157.73	0.00	0.00	0.00
2,100.00	21.44	9.997	2,049.86	304.85	53.73	-178.85	0.00	0.00	0.00
2,200.00	21.44	9.997	2,142.94	340.84	60.08	-199.97	0.00	0.00	0.00
2,300.00	21.44	9.997	2,236.02	376.84	66.42	-221.08	0.00	0.00	0.00
2,342.48	21.44	9.997	2,275.57	392.13	69.12	-230.06	0.00	0.00	0.00
Cliff House_Basal									
2,374.76	21.44	9.997	2,305.61	403.75	71.17	-236.87	0.00	0.00	0.00
Menefee									
2,400.00	21.44	9.997	2,329.10	412.83	72.77	-242.20	0.00	0.00	0.00
2,500.00	21.44	9.997	2,422.19	448.83	79.11	-263.32	0.00	0.00	0.00
2,600.00	21.44	9.997	2,515.27	484.82	85.46	-284.44	0.00	0.00	0.00
2,700.00	21.44	9.997	2,608.35	520.81	91.80	-305.55	0.00	0.00	0.00
2,800.00	21.44	9.997	2,701.43	556.81	98.15	-326.67	0.00	0.00	0.00
2,843.12	21.44	9.997	2,741.57	572.33	100.88	-335.78	0.00	0.00	0.00
Begin 3°/100' drop									
2,900.00	19.73	9.997	2,794.81	592.02	104.35	-347.33	3.00	-3.00	0.00



Planning Report



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Project:	San Juan County, New Mexico NAD83 NM 4W	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	North Reference:	Grid
Well:	Greater Lybrook Unit 45H	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)
3,000.00	16.73	9.997	2,889.78	622.83	109.78	-365.41	3.00	-3.00	0.00
3,100.00	13.73	9.997	2,986.26	648.70	114.34	-380.58	3.00	-3.00	0.00
3,200.00	10.73	9.997	3,083.98	669.56	118.02	-392.82	3.00	-3.00	0.00
3,300.00	7.73	9.997	3,182.67	685.36	120.81	-402.09	3.00	-3.00	0.00
3,400.00	4.73	9.997	3,282.07	696.05	122.69	-408.36	3.00	-3.00	0.00
3,404.73	4.59	9.997	3,286.78	696.43	122.76	-408.58	3.00	-3.00	0.00
Point Lookout									
3,500.00	1.73	9.997	3,381.90	701.60	123.67	-411.62	3.00	-3.00	0.00
3,557.72	0.00	0.000	3,439.61	702.46	123.82	-412.12	3.00	-3.00	0.00
Begin vertical hold									
3,564.92	0.00	0.000	3,446.81	702.46	123.82	-412.12	0.00	0.00	0.00
Mancos									
3,600.00	0.00	0.000	3,481.89	702.46	123.82	-412.12	0.00	0.00	0.00
3,657.72	0.00	0.000	3,539.61	702.46	123.82	-412.12	0.00	0.00	0.00
Begin 10°/100' build									
3,700.00	4.23	135.291	3,581.85	701.35	124.92	-410.56	10.00	10.00	0.00
3,750.00	9.23	135.291	3,631.49	697.19	129.04	-404.71	10.00	10.00	0.00
3,800.00	14.23	135.291	3,680.43	689.97	136.18	-394.55	10.00	10.00	0.00
3,850.00	19.23	135.291	3,728.30	679.75	146.31	-380.16	10.00	10.00	0.00
3,900.00	24.23	135.291	3,774.73	666.59	159.32	-361.66	10.00	10.00	0.00
3,901.89	24.42	135.291	3,776.46	666.04	159.87	-360.88	10.00	10.00	0.00
MNCS_A									
3,950.00	29.23	135.291	3,819.38	650.62	175.14	-339.18	10.00	10.00	0.00
4,000.00	34.23	135.291	3,861.89	631.94	193.63	-312.89	10.00	10.00	0.00
4,022.25	36.45	135.291	3,880.04	622.79	202.69	-300.02	10.00	10.00	0.00
MNCS_B									
4,050.00	39.23	135.291	3,901.95	610.69	214.66	-283.00	10.00	10.00	0.00
4,100.00	44.23	135.291	3,939.26	587.05	238.06	-249.73	10.00	10.00	0.00
4,140.87	48.31	135.291	3,967.50	566.07	258.84	-220.20	10.00	10.00	0.00
MNCS_C									
4,150.00	49.23	135.291	3,973.52	561.18	263.67	-213.34	10.00	10.00	0.00
4,200.00	54.23	135.291	4,004.48	533.30	291.27	-174.09	10.00	10.00	0.00
4,206.33	54.86	135.291	4,008.15	529.63	294.90	-168.94	10.00	10.00	0.00
MNCS_Cms									
4,250.00	59.23	135.291	4,031.90	503.60	320.67	-132.30	10.00	10.00	0.00
4,300.00	64.23	135.291	4,055.58	472.31	351.64	-88.28	10.00	10.00	0.00
4,350.00	69.23	135.291	4,075.32	439.68	383.95	-42.37	10.00	10.00	0.00
4,357.72	70.00	135.291	4,078.01	434.53	389.04	-35.13	10.00	10.00	0.00
Begin 10°/100' build									
4,400.00	74.23	135.291	4,091.00	405.95	417.34	5.10	10.00	10.00	0.00
4,450.00	79.23	135.291	4,102.47	371.37	451.56	53.75	10.00	10.00	0.00
4,469.41	81.17	135.291	4,105.78	357.78	465.02	72.87	10.00	10.00	0.00
7" Intermediate Casing									
4,500.00	84.23	135.291	4,109.66	336.22	486.36	103.21	10.00	10.00	0.00
4,550.00	89.23	135.291	4,112.52	300.75	521.47	153.11	10.00	10.00	0.00
4,561.62	90.39	135.291	4,112.55	292.49	529.64	164.74	10.00	10.00	0.00
Begin 2°/100' turn									
4,600.00	90.39	134.523	4,112.29	265.40	556.82	203.11	2.00	0.00	-2.00
4,700.00	90.39	132.523	4,111.61	196.54	629.33	303.06	2.00	0.00	-2.00
4,797.67	90.39	130.570	4,110.95	131.77	702.42	400.51	2.00	0.00	-2.00
Begin 90.39° lateral									
4,800.00	90.39	130.570	4,110.93	130.25	704.19	402.83	0.00	0.00	0.00
4,900.00	90.39	130.570	4,110.25	65.22	780.15	502.49	0.00	0.00	0.00



Planning Report



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Project:	San Juan County, New Mexico NAD83 NM 4W	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	North Reference:	Grid
Well:	Greater Lybrook Unit 45H	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)
4,997.67	90.39	130.570	4,109.59	1.70	854.34	599.82	0.00	0.00	0.00
Begin 2°/100' turn									
5,000.00	90.39	130.617	4,109.57	0.18	856.11	602.15	2.00	0.00	2.00
5,100.00	90.39	132.617	4,108.89	-66.23	930.86	701.94	2.00	0.00	2.00
5,200.00	90.39	134.617	4,108.21	-135.21	1,003.25	801.89	2.00	0.00	2.00
5,233.82	90.39	135.293	4,107.98	-159.10	1,027.19	835.71	2.00	0.00	2.00
Begin 90.39° lateral									
5,300.00	90.39	135.293	4,107.52	-206.14	1,073.74	901.88	0.00	0.00	0.00
5,400.00	90.39	135.293	4,106.84	-277.21	1,144.09	1,001.88	0.00	0.00	0.00
5,500.00	90.39	135.293	4,106.16	-348.28	1,214.44	1,101.88	0.00	0.00	0.00
5,600.00	90.39	135.293	4,105.48	-419.35	1,284.78	1,201.88	0.00	0.00	0.00
5,700.00	90.39	135.293	4,104.80	-490.42	1,355.13	1,301.87	0.00	0.00	0.00
5,800.00	90.39	135.293	4,104.11	-561.49	1,425.47	1,401.87	0.00	0.00	0.00
5,900.00	90.39	135.293	4,103.43	-632.56	1,495.82	1,501.87	0.00	0.00	0.00
6,000.00	90.39	135.293	4,102.75	-703.63	1,566.17	1,601.87	0.00	0.00	0.00
6,100.00	90.39	135.293	4,102.07	-774.70	1,636.51	1,701.87	0.00	0.00	0.00
6,200.00	90.39	135.293	4,101.39	-845.77	1,706.86	1,801.86	0.00	0.00	0.00
6,300.00	90.39	135.293	4,100.70	-916.84	1,777.21	1,901.86	0.00	0.00	0.00
6,400.00	90.39	135.293	4,100.02	-987.91	1,847.55	2,001.86	0.00	0.00	0.00
6,500.00	90.39	135.293	4,099.34	-1,058.98	1,917.90	2,101.86	0.00	0.00	0.00
6,600.00	90.39	135.293	4,098.66	-1,130.05	1,988.24	2,201.85	0.00	0.00	0.00
6,700.00	90.39	135.293	4,097.98	-1,201.12	2,058.59	2,301.85	0.00	0.00	0.00
6,800.00	90.39	135.293	4,097.29	-1,272.19	2,128.94	2,401.85	0.00	0.00	0.00
6,900.00	90.39	135.293	4,096.61	-1,343.26	2,199.28	2,501.85	0.00	0.00	0.00
7,000.00	90.39	135.293	4,095.93	-1,414.33	2,269.63	2,601.84	0.00	0.00	0.00
7,100.00	90.39	135.293	4,095.25	-1,485.40	2,339.98	2,701.84	0.00	0.00	0.00
7,200.00	90.39	135.293	4,094.57	-1,556.47	2,410.32	2,801.84	0.00	0.00	0.00
7,300.00	90.39	135.293	4,093.88	-1,627.54	2,480.67	2,901.84	0.00	0.00	0.00
7,400.00	90.39	135.293	4,093.20	-1,698.61	2,551.01	3,001.84	0.00	0.00	0.00
7,500.00	90.39	135.293	4,092.52	-1,769.68	2,621.36	3,101.83	0.00	0.00	0.00
7,600.00	90.39	135.293	4,091.84	-1,840.75	2,691.71	3,201.83	0.00	0.00	0.00
7,700.00	90.39	135.293	4,091.16	-1,911.82	2,762.05	3,301.83	0.00	0.00	0.00
7,800.00	90.39	135.293	4,090.47	-1,982.89	2,832.40	3,401.83	0.00	0.00	0.00
7,900.00	90.39	135.293	4,089.79	-2,053.96	2,902.75	3,501.82	0.00	0.00	0.00
8,000.00	90.39	135.293	4,089.11	-2,125.03	2,973.09	3,601.82	0.00	0.00	0.00
8,100.00	90.39	135.293	4,088.43	-2,196.10	3,043.44	3,701.82	0.00	0.00	0.00
8,200.00	90.39	135.293	4,087.75	-2,267.17	3,113.78	3,801.82	0.00	0.00	0.00
8,300.00	90.39	135.293	4,087.06	-2,338.24	3,184.13	3,901.81	0.00	0.00	0.00
8,400.00	90.39	135.293	4,086.38	-2,409.31	3,254.48	4,001.81	0.00	0.00	0.00
8,500.00	90.39	135.293	4,085.70	-2,480.38	3,324.82	4,101.81	0.00	0.00	0.00
8,600.00	90.39	135.293	4,085.02	-2,551.45	3,395.17	4,201.81	0.00	0.00	0.00
8,700.00	90.39	135.293	4,084.34	-2,622.51	3,465.52	4,301.81	0.00	0.00	0.00
8,800.00	90.39	135.293	4,083.65	-2,693.58	3,535.86	4,401.80	0.00	0.00	0.00
8,900.00	90.39	135.293	4,082.97	-2,764.65	3,606.21	4,501.80	0.00	0.00	0.00
9,000.00	90.39	135.293	4,082.29	-2,835.72	3,676.55	4,601.80	0.00	0.00	0.00
9,100.00	90.39	135.293	4,081.61	-2,906.79	3,746.90	4,701.80	0.00	0.00	0.00
9,200.00	90.39	135.293	4,080.93	-2,977.86	3,817.25	4,801.79	0.00	0.00	0.00
9,300.00	90.39	135.293	4,080.24	-3,048.93	3,887.59	4,901.79	0.00	0.00	0.00
9,400.00	90.39	135.293	4,079.56	-3,120.00	3,957.94	5,001.79	0.00	0.00	0.00
9,500.00	90.39	135.293	4,078.88	-3,191.07	4,028.29	5,101.79	0.00	0.00	0.00
9,600.00	90.39	135.293	4,078.20	-3,262.14	4,098.63	5,201.78	0.00	0.00	0.00
9,700.00	90.39	135.293	4,077.51	-3,333.21	4,168.98	5,301.78	0.00	0.00	0.00
9,800.00	90.39	135.293	4,076.83	-3,404.28	4,239.33	5,401.78	0.00	0.00	0.00
9,900.00	90.39	135.293	4,076.15	-3,475.35	4,309.67	5,501.78	0.00	0.00	0.00



Planning Report



Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Greater Lybrook Unit 45H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	North Reference:	Grid
Well:	Greater Lybrook Unit 45H	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)
10,000.00	90.39	135.293	4,075.47	-3,546.42	4,380.02	5,601.77	0.00	0.00	0.00
10,100.00	90.39	135.293	4,074.79	-3,617.49	4,450.36	5,701.77	0.00	0.00	0.00
10,200.00	90.39	135.293	4,074.10	-3,688.56	4,520.71	5,801.77	0.00	0.00	0.00
10,300.00	90.39	135.293	4,073.42	-3,759.63	4,591.06	5,901.77	0.00	0.00	0.00
10,400.00	90.39	135.293	4,072.74	-3,830.70	4,661.40	6,001.77	0.00	0.00	0.00
10,500.00	90.39	135.293	4,072.06	-3,901.77	4,731.75	6,101.76	0.00	0.00	0.00
10,600.00	90.39	135.293	4,071.38	-3,972.84	4,802.10	6,201.76	0.00	0.00	0.00
10,700.00	90.39	135.293	4,070.69	-4,043.91	4,872.44	6,301.76	0.00	0.00	0.00
10,800.00	90.39	135.293	4,070.01	-4,114.98	4,942.79	6,401.76	0.00	0.00	0.00
10,900.00	90.39	135.293	4,069.33	-4,186.05	5,013.13	6,501.75	0.00	0.00	0.00
11,000.00	90.39	135.293	4,068.65	-4,257.12	5,083.48	6,601.75	0.00	0.00	0.00
11,100.00	90.39	135.293	4,067.97	-4,328.19	5,153.83	6,701.75	0.00	0.00	0.00
11,200.00	90.39	135.293	4,067.28	-4,399.26	5,224.17	6,801.75	0.00	0.00	0.00
11,300.00	90.39	135.293	4,066.60	-4,470.33	5,294.52	6,901.74	0.00	0.00	0.00
11,400.00	90.39	135.293	4,065.92	-4,541.40	5,364.87	7,001.74	0.00	0.00	0.00
11,500.00	90.39	135.293	4,065.24	-4,612.47	5,435.21	7,101.74	0.00	0.00	0.00
11,600.00	90.39	135.293	4,064.56	-4,683.54	5,505.56	7,201.74	0.00	0.00	0.00
11,700.00	90.39	135.293	4,063.87	-4,754.61	5,575.90	7,301.74	0.00	0.00	0.00
11,800.00	90.39	135.293	4,063.19	-4,825.68	5,646.25	7,401.73	0.00	0.00	0.00
11,900.00	90.39	135.293	4,062.51	-4,896.75	5,716.60	7,501.73	0.00	0.00	0.00
12,000.00	90.39	135.293	4,061.83	-4,967.82	5,786.94	7,601.73	0.00	0.00	0.00
12,100.00	90.39	135.293	4,061.15	-5,038.89	5,857.29	7,701.73	0.00	0.00	0.00
12,200.00	90.39	135.293	4,060.46	-5,109.96	5,927.64	7,801.72	0.00	0.00	0.00
12,300.00	90.39	135.293	4,059.78	-5,181.03	5,997.98	7,901.72	0.00	0.00	0.00
12,400.00	90.39	135.293	4,059.10	-5,252.10	6,068.33	8,001.72	0.00	0.00	0.00
12,500.00	90.39	135.293	4,058.42	-5,323.17	6,138.67	8,101.72	0.00	0.00	0.00
12,600.00	90.39	135.293	4,057.74	-5,394.24	6,209.02	8,201.71	0.00	0.00	0.00
12,700.00	90.39	135.293	4,057.05	-5,465.31	6,279.37	8,301.71	0.00	0.00	0.00
12,800.00	90.39	135.293	4,056.37	-5,536.38	6,349.71	8,401.71	0.00	0.00	0.00
12,900.00	90.39	135.293	4,055.69	-5,607.45	6,420.06	8,501.71	0.00	0.00	0.00
13,000.00	90.39	135.293	4,055.01	-5,678.52	6,490.41	8,601.71	0.00	0.00	0.00
13,100.00	90.39	135.293	4,054.33	-5,749.59	6,560.75	8,701.70	0.00	0.00	0.00
13,200.00	90.39	135.293	4,053.64	-5,820.66	6,631.10	8,801.70	0.00	0.00	0.00
13,300.00	90.39	135.293	4,052.96	-5,891.73	6,701.44	8,901.70	0.00	0.00	0.00
13,400.00	90.39	135.293	4,052.28	-5,962.80	6,771.79	9,001.70	0.00	0.00	0.00
13,500.00	90.39	135.293	4,051.60	-6,033.87	6,842.14	9,101.69	0.00	0.00	0.00
13,600.00	90.39	135.293	4,050.92	-6,104.94	6,912.48	9,201.69	0.00	0.00	0.00
13,700.00	90.39	135.293	4,050.23	-6,176.01	6,982.83	9,301.69	0.00	0.00	0.00
13,800.00	90.39	135.293	4,049.55	-6,247.08	7,053.18	9,401.69	0.00	0.00	0.00
13,900.00	90.39	135.293	4,048.87	-6,318.15	7,123.52	9,501.68	0.00	0.00	0.00
14,000.00	90.39	135.293	4,048.19	-6,389.22	7,193.87	9,601.68	0.00	0.00	0.00
14,100.00	90.39	135.293	4,047.51	-6,460.29	7,264.22	9,701.68	0.00	0.00	0.00
14,174.11	90.39	135.293	4,047.00	-6,512.96	7,316.35	9,775.79	0.00	0.00	0.00
PBHL/TD @ 14174.11 MD 4047.00 TVD									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
350.00	350.00	9-5/8" Surface Casing	9-5/8	12-1/4	
4,469.41	4,105.78	7" Intermediate Casing	7	8-3/4	



Planning Report



Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Greater Lybrook Unit 45H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	North Reference:	Grid
Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
174.00	174.00	Ojo Alamo		-0.390	135.291	
289.00	289.00	Kirtland		-0.390	135.291	
499.00	499.00	Fruitland		-0.390	135.291	
894.00	894.00	Pictured Cliffs		-0.390	135.291	
1,054.19	1,054.02	Lewis		-0.390	135.291	
1,261.28	1,259.13	Chacra_A		-0.390	135.291	
2,342.48	2,275.57	Cliff House_Basal		-0.390	135.291	
2,374.76	2,305.61	Menefee		-0.390	135.291	
3,404.73	3,286.78	Point Lookout		-0.390	135.291	
3,564.92	3,446.81	Mancos		-0.390	135.291	
3,901.89	3,776.46	MNCS_A		-0.390	135.291	
4,022.25	3,880.04	MNCS_B		-0.390	135.291	
4,140.87	3,967.50	MNCS_C		-0.390	135.291	
4,206.33	4,008.15	MNCS_Cms		-0.390	135.291	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
900.00	900.00	0.00	0.00	KOP Begin 3°/100' build	
1,614.60	1,598.04	130.13	22.94	Begin 21.44° tangent	
2,843.12	2,741.57	572.33	100.88	Begin 3°/100' drop	
3,557.72	3,439.61	702.46	123.82	Begin vertical hold	
3,657.72	3,539.61	702.46	123.82	Begin 10°/100' build	
4,357.72	4,078.01	434.53	389.04	Begin 10°/100' build	
4,561.62	4,112.55	292.49	529.64	Begin 2°/100' turn	
4,797.67	4,110.95	131.77	702.42	Begin 90.39° lateral	
4,997.67	4,109.59	1.70	854.34	Begin 2°/100' turn	
5,233.82	4,107.98	-159.10	1,027.19	Begin 90.39° lateral	
14,174.11	4,047.00	-6,512.96	7,316.35	PBHL/TD @ 14174.11 MD 4047.00 TVD	



Planning Report - Geographic



Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Greater Lybrook Unit 45H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	North Reference:	Grid
Well:	Greater Lybrook Unit 45H	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	Greater Lybrook Unit 730 (43,44,45,46&47)				
Site Position:		Northing:	1,892,775.00 usft	Latitude:	36.20184800
From:	Lat/Long	Easting:	2,739,735.40 usft	Longitude:	-107.77692000
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Greater Lybrook Unit 45H, Surf loc: 1161 FNL 2411 FWL Section 27-T23N-R09W						
Well Position	+N/-S	0.00 ft	Northing:	1,892,815.04	usft	Latitude:	36.20195800
	+E/-W	0.00 ft	Easting:	2,739,735.67	usft	Longitude:	-107.77691900
Position Uncertainty		0.00 ft	Wellhead Elevation:		ft	Ground Level:	6,640.00 ft
Grid Convergence:		0.033 °					

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	8/29/2024	8.467	62.646	48,963.60472454

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	135.291

Plan Survey Tool Program	Date	8/29/2024		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	14,174.09 rev0 (Original Hole)	MWD	
			OWSG MWD - Standard	



Planning Report - Geographic



Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Greater Lybrook Unit 45H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	North Reference:	Grid
Well:	Greater Lybrook Unit 45H	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	0.000	
900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.00	0.00	0.000	
1,614.60	21.44	9.997	1,598.04	130.13	22.94	3.00	3.00	0.00	9.997	
2,843.12	21.44	9.997	2,741.57	572.33	100.88	0.00	0.00	0.00	0.000	
3,557.72	0.00	0.000	3,439.61	702.46	123.82	3.00	-3.00	0.00	180.000	
3,657.72	0.00	0.000	3,539.61	702.46	123.82	0.00	0.00	0.00	0.000	
4,357.72	70.00	135.291	4,078.01	434.53	389.04	10.00	10.00	0.00	135.291	
4,561.62	90.39	135.291	4,112.55	292.49	529.64	10.00	10.00	0.00	0.000	
4,797.67	90.39	130.570	4,110.95	131.77	702.42	2.00	0.00	-2.00	-89.984	
4,997.67	90.39	130.570	4,109.59	1.70	854.34	0.00	0.00	0.00	0.000	
5,233.82	90.39	135.293	4,107.98	-159.10	1,027.19	2.00	0.00	2.00	89.974	
14,174.11	90.39	135.293	4,047.00	-6,512.96	7,316.35	0.00	0.00	0.00	0.000	Greater Lybrook 45H



Planning Report - Geographic



Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Greater Lybrook Unit 45H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	North Reference:	Grid
Well:	Greater Lybrook Unit 45H	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	1,892,815.04	2,739,735.67	36.20195800	-107.77691900	
100.00	0.00	0.000	100.00	0.00	0.00	1,892,815.04	2,739,735.67	36.20195800	-107.77691900	
174.00	0.00	0.000	174.00	0.00	0.00	1,892,815.04	2,739,735.67	36.20195800	-107.77691900	
Ojo Alamo										
200.00	0.00	0.000	200.00	0.00	0.00	1,892,815.04	2,739,735.67	36.20195800	-107.77691900	
289.00	0.00	0.000	289.00	0.00	0.00	1,892,815.04	2,739,735.67	36.20195800	-107.77691900	
Kirtland										
300.00	0.00	0.000	300.00	0.00	0.00	1,892,815.04	2,739,735.67	36.20195800	-107.77691900	
350.00	0.00	0.000	350.00	0.00	0.00	1,892,815.04	2,739,735.67	36.20195800	-107.77691900	
9-5/8" Surface Casing										
400.00	0.00	0.000	400.00	0.00	0.00	1,892,815.04	2,739,735.67	36.20195800	-107.77691900	
499.00	0.00	0.000	499.00	0.00	0.00	1,892,815.04	2,739,735.67	36.20195800	-107.77691900	
Fruitland										
500.00	0.00	0.000	500.00	0.00	0.00	1,892,815.04	2,739,735.67	36.20195800	-107.77691900	
600.00	0.00	0.000	600.00	0.00	0.00	1,892,815.04	2,739,735.67	36.20195800	-107.77691900	
700.00	0.00	0.000	700.00	0.00	0.00	1,892,815.04	2,739,735.67	36.20195800	-107.77691900	
800.00	0.00	0.000	800.00	0.00	0.00	1,892,815.04	2,739,735.67	36.20195800	-107.77691900	
894.00	0.00	0.000	894.00	0.00	0.00	1,892,815.04	2,739,735.67	36.20195800	-107.77691900	
Pictured Cliffs										
900.00	0.00	0.000	900.00	0.00	0.00	1,892,815.04	2,739,735.67	36.20195800	-107.77691900	
KOP Begin 3°/100' build										
1,000.00	3.00	9.997	999.95	2.58	0.45	1,892,817.62	2,739,736.12	36.20196508	-107.77691745	
1,054.19	4.63	9.997	1,054.02	6.13	1.08	1,892,821.16	2,739,736.75	36.20197483	-107.77691532	
Lewis										
1,100.00	6.00	9.997	1,099.63	10.30	1.82	1,892,825.34	2,739,737.48	36.20198630	-107.77691282	
1,200.00	9.00	9.997	1,198.77	23.16	4.08	1,892,838.19	2,739,739.75	36.20202161	-107.77690511	
1,261.28	10.84	9.997	1,259.13	33.55	5.91	1,892,848.59	2,739,741.58	36.20205016	-107.77689888	
Chacra_A										
1,300.00	12.00	9.997	1,297.08	41.10	7.24	1,892,856.14	2,739,742.91	36.20207090	-107.77689436	
1,400.00	15.00	9.997	1,394.31	64.09	11.30	1,892,879.13	2,739,746.96	36.20213404	-107.77688058	
1,500.00	18.00	9.997	1,490.18	92.06	16.23	1,892,907.09	2,739,751.89	36.20221086	-107.77686381	
1,600.00	21.00	9.997	1,584.43	124.93	22.02	1,892,939.96	2,739,757.69	36.20230115	-107.77684411	
1,614.60	21.44	9.997	1,598.04	130.13	22.94	1,892,945.17	2,739,758.60	36.20231544	-107.77684099	
Begin 21.44° tangent										
1,700.00	21.44	9.997	1,677.53	160.87	28.36	1,892,975.91	2,739,764.02	36.20239988	-107.77682257	
1,800.00	21.44	9.997	1,770.62	196.86	34.70	1,893,011.90	2,739,770.37	36.20249875	-107.77680099	
1,900.00	21.44	9.997	1,863.70	232.86	41.05	1,893,047.90	2,739,776.71	36.20259762	-107.77677941	
2,000.00	21.44	9.997	1,956.78	268.85	47.39	1,893,083.89	2,739,783.06	36.20269649	-107.77675784	
2,100.00	21.44	9.997	2,049.86	304.85	53.73	1,893,119.88	2,739,789.40	36.20279536	-107.77673626	
2,200.00	21.44	9.997	2,142.94	340.84	60.08	1,893,155.88	2,739,795.75	36.20289423	-107.77671469	
2,300.00	21.44	9.997	2,236.02	376.84	66.42	1,893,191.87	2,739,802.09	36.20299310	-107.77669311	
2,342.48	21.44	9.997	2,275.57	392.13	69.12	1,893,207.16	2,739,804.79	36.20303510	-107.77668394	
Cliff House_Basal										
2,374.76	21.44	9.997	2,305.61	403.75	71.17	1,893,218.78	2,739,806.83	36.20306702	-107.77667698	
Menefee										
2,400.00	21.44	9.997	2,329.10	412.83	72.77	1,893,227.87	2,739,808.43	36.20309197	-107.77667153	
2,500.00	21.44	9.997	2,422.19	448.83	79.11	1,893,263.86	2,739,814.78	36.20319084	-107.77664996	
2,600.00	21.44	9.997	2,515.27	484.82	85.46	1,893,299.86	2,739,821.12	36.20328971	-107.77662838	
2,700.00	21.44	9.997	2,608.35	520.81	91.80	1,893,335.85	2,739,827.47	36.20338858	-107.77660680	
2,800.00	21.44	9.997	2,701.43	556.81	98.15	1,893,371.85	2,739,833.81	36.20348745	-107.77658523	
2,843.12	21.44	9.997	2,741.57	572.33	100.88	1,893,387.37	2,739,836.55	36.20353008	-107.77657592	
Begin 3°/100' drop										
2,900.00	19.73	9.997	2,794.81	592.02	104.35	1,893,407.06	2,739,840.02	36.20358418	-107.77656412	



Planning Report - Geographic



Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Greater Lybrook Unit 45H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	North Reference:	Grid
Well:	Greater Lybrook Unit 45H	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
3,000.00	16.73	9.997	2,889.78	622.83	109.78	1,893,437.87	2,739,845.45	36.20366880	-107.77654565
3,100.00	13.73	9.997	2,986.26	648.70	114.34	1,893,463.74	2,739,850.01	36.20373986	-107.77653014
3,200.00	10.73	9.997	3,083.98	669.56	118.02	1,893,484.60	2,739,853.69	36.20379717	-107.77651764
3,300.00	7.73	9.997	3,182.67	685.36	120.81	1,893,500.40	2,739,856.47	36.20384056	-107.77650817
3,400.00	4.73	9.997	3,282.07	696.05	122.69	1,893,511.09	2,739,858.36	36.20386992	-107.77650176
3,404.73	4.59	9.997	3,286.78	696.43	122.76	1,893,511.47	2,739,858.42	36.20387096	-107.77650153
Point Lookout									
3,500.00	1.73	9.997	3,381.90	701.60	123.67	1,893,516.64	2,739,859.34	36.20388517	-107.77649843
3,557.72	0.00	0.000	3,439.61	702.46	123.82	1,893,517.50	2,739,859.49	36.20388753	-107.77649792
Begin vertical hold									
3,564.92	0.00	0.000	3,446.81	702.46	123.82	1,893,517.50	2,739,859.49	36.20388753	-107.77649792
Mancos									
3,600.00	0.00	0.000	3,481.89	702.46	123.82	1,893,517.50	2,739,859.49	36.20388753	-107.77649792
3,657.72	0.00	0.000	3,539.61	702.46	123.82	1,893,517.50	2,739,859.49	36.20388753	-107.77649792
Begin 10°/100' build									
3,700.00	4.23	135.291	3,581.85	701.35	124.92	1,893,516.39	2,739,860.58	36.20388448	-107.77649420
3,750.00	9.23	135.291	3,631.49	697.19	129.04	1,893,512.23	2,739,864.70	36.20387304	-107.77648025
3,800.00	14.23	135.291	3,680.43	689.97	136.18	1,893,505.01	2,739,871.85	36.20385319	-107.77645603
3,850.00	19.23	135.291	3,728.30	679.75	146.31	1,893,494.78	2,739,881.97	36.20382509	-107.77642175
3,900.00	24.23	135.291	3,774.73	666.59	159.32	1,893,481.63	2,739,894.99	36.20378894	-107.77637765
3,901.89	24.42	135.291	3,776.46	666.04	159.87	1,893,481.08	2,739,895.54	36.20378742	-107.77637579
MNCS_A									
3,950.00	29.23	135.291	3,819.38	650.62	175.14	1,893,465.65	2,739,910.80	36.20374503	-107.77632408
4,000.00	34.23	135.291	3,861.89	631.94	193.63	1,893,446.97	2,739,929.30	36.20369368	-107.77626143
4,022.25	36.45	135.291	3,880.04	622.79	202.69	1,893,437.83	2,739,938.35	36.20366854	-107.77623076
MNCS_B									
4,050.00	39.23	135.291	3,901.95	610.69	214.66	1,893,425.73	2,739,950.33	36.20363529	-107.77619020
4,100.00	44.23	135.291	3,939.26	587.05	238.06	1,893,402.09	2,739,973.73	36.20357030	-107.77611091
4,140.87	48.31	135.291	3,967.50	566.07	258.84	1,893,381.10	2,739,994.50	36.20351262	-107.77604055
MNCS_C									
4,150.00	49.23	135.291	3,973.52	561.18	263.67	1,893,376.22	2,739,999.33	36.20349920	-107.77602418
4,200.00	54.23	135.291	4,004.48	533.30	291.27	1,893,348.33	2,740,026.94	36.20342255	-107.77593066
4,206.33	54.86	135.291	4,008.15	529.63	294.90	1,893,344.67	2,740,030.57	36.20341247	-107.77591838
MNCS_Cms									
4,250.00	59.23	135.291	4,031.90	503.60	320.67	1,893,318.63	2,740,056.34	36.20334091	-107.77583107
4,300.00	64.23	135.291	4,055.58	472.31	351.64	1,893,287.35	2,740,087.31	36.20325492	-107.77572616
4,350.00	69.23	135.291	4,075.32	439.68	383.95	1,893,254.72	2,740,119.61	36.20316522	-107.77561674
4,357.72	70.00	135.291	4,078.01	434.53	389.04	1,893,249.57	2,740,124.70	36.20315108	-107.77559949
Begin 10°/100' build									
4,400.00	74.23	135.291	4,091.00	405.95	417.34	1,893,220.98	2,740,153.00	36.20307250	-107.77550363
4,450.00	79.23	135.291	4,102.47	371.37	451.56	1,893,186.41	2,740,187.23	36.20297746	-107.77538769
4,469.41	81.17	135.291	4,105.78	357.78	465.02	1,893,172.82	2,740,200.68	36.20294010	-107.77534211
7" Intermediate Casing									
4,500.00	84.23	135.291	4,109.66	336.22	486.36	1,893,151.26	2,740,222.03	36.20288083	-107.77526981
4,550.00	89.23	135.291	4,112.52	300.75	521.47	1,893,115.79	2,740,257.13	36.20278335	-107.77515089
4,561.62	90.39	135.291	4,112.55	292.49	529.64	1,893,107.53	2,740,265.31	36.20276065	-107.77512320
Begin 2°/100' turn									
4,600.00	90.39	134.523	4,112.29	265.40	556.82	1,893,080.44	2,740,292.49	36.20268618	-107.77503113
4,700.00	90.39	132.523	4,111.61	196.54	629.33	1,893,011.58	2,740,364.99	36.20249689	-107.77478552
4,797.67	90.39	130.570	4,110.95	131.77	702.42	1,892,946.81	2,740,438.08	36.20231884	-107.77453792
Begin 90.39° lateral									
4,800.00	90.39	130.570	4,110.93	130.25	704.19	1,892,945.29	2,740,439.86	36.20231467	-107.77453191
4,900.00	90.39	130.570	4,110.25	65.22	780.15	1,892,880.25	2,740,515.81	36.20213588	-107.77427458



Planning Report - Geographic



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Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	North Reference:	Grid
Well:	Greater Lybrook Unit 45H	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
4,997.67	90.39	130.570	4,109.59	1.70	854.34	1,892,816.74	2,740,590.00	36.20196126	-107.77402326
Begin 2°/100' turn									
5,000.00	90.39	130.617	4,109.57	0.18	856.11	1,892,815.22	2,740,591.77	36.20195709	-107.77401726
5,100.00	90.39	132.617	4,108.89	-66.23	930.86	1,892,748.81	2,740,666.53	36.20177453	-107.77376402
5,200.00	90.39	134.617	4,108.21	-135.21	1,003.25	1,892,679.83	2,740,738.92	36.20158492	-107.77351879
5,233.82	90.39	135.293	4,107.98	-159.10	1,027.19	1,892,655.94	2,740,762.85	36.20151924	-107.77343772
Begin 90.39° lateral									
5,300.00	90.39	135.293	4,107.52	-206.14	1,073.74	1,892,608.90	2,740,809.41	36.20138995	-107.77328003
5,400.00	90.39	135.293	4,106.84	-277.21	1,144.09	1,892,537.83	2,740,879.75	36.20119460	-107.77304174
5,500.00	90.39	135.293	4,106.16	-348.28	1,214.44	1,892,466.76	2,740,950.10	36.20099924	-107.77280346
5,600.00	90.39	135.293	4,105.48	-419.35	1,284.78	1,892,395.69	2,741,020.45	36.20080388	-107.77256518
5,700.00	90.39	135.293	4,104.80	-490.42	1,355.13	1,892,324.62	2,741,090.79	36.20060853	-107.77232690
5,800.00	90.39	135.293	4,104.11	-561.49	1,425.47	1,892,253.55	2,741,161.14	36.20041317	-107.77208862
5,900.00	90.39	135.293	4,103.43	-632.56	1,495.82	1,892,182.48	2,741,231.48	36.20021781	-107.77185034
6,000.00	90.39	135.293	4,102.75	-703.63	1,566.17	1,892,111.41	2,741,301.83	36.20002245	-107.77161206
6,100.00	90.39	135.293	4,102.07	-774.70	1,636.51	1,892,040.34	2,741,372.18	36.19982709	-107.77137379
6,200.00	90.39	135.293	4,101.39	-845.77	1,706.86	1,891,969.27	2,741,442.52	36.19963173	-107.77113551
6,300.00	90.39	135.293	4,100.70	-916.84	1,777.21	1,891,898.20	2,741,512.87	36.19943637	-107.77089724
6,400.00	90.39	135.293	4,100.02	-987.91	1,847.55	1,891,827.13	2,741,583.21	36.19924101	-107.77065896
6,500.00	90.39	135.293	4,099.34	-1,058.98	1,917.90	1,891,756.06	2,741,653.56	36.19904565	-107.77042069
6,600.00	90.39	135.293	4,098.66	-1,130.05	1,988.24	1,891,684.99	2,741,723.91	36.19885029	-107.77018242
6,700.00	90.39	135.293	4,097.98	-1,201.12	2,058.59	1,891,613.92	2,741,794.25	36.19865493	-107.76994415
6,800.00	90.39	135.293	4,097.29	-1,272.19	2,128.94	1,891,542.85	2,741,864.60	36.19845956	-107.76970588
6,900.00	90.39	135.293	4,096.61	-1,343.26	2,199.28	1,891,471.78	2,741,934.95	36.19826420	-107.76946762
7,000.00	90.39	135.293	4,095.93	-1,414.33	2,269.63	1,891,400.71	2,742,005.29	36.19806884	-107.76922935
7,100.00	90.39	135.293	4,095.25	-1,485.40	2,339.98	1,891,329.65	2,742,075.64	36.19787347	-107.76899109
7,200.00	90.39	135.293	4,094.57	-1,556.47	2,410.32	1,891,258.58	2,742,145.98	36.19767811	-107.76875282
7,300.00	90.39	135.293	4,093.88	-1,627.54	2,480.67	1,891,187.51	2,742,216.33	36.19748274	-107.76851456
7,400.00	90.39	135.293	4,093.20	-1,698.61	2,551.01	1,891,116.44	2,742,286.68	36.19728738	-107.76827630
7,500.00	90.39	135.293	4,092.52	-1,769.68	2,621.36	1,891,045.37	2,742,357.02	36.19709201	-107.76803804
7,600.00	90.39	135.293	4,091.84	-1,840.75	2,691.71	1,890,974.30	2,742,427.37	36.19689665	-107.76779978
7,700.00	90.39	135.293	4,091.16	-1,911.82	2,762.05	1,890,903.23	2,742,497.71	36.19670128	-107.76756153
7,800.00	90.39	135.293	4,090.47	-1,982.89	2,832.40	1,890,832.16	2,742,568.06	36.19650591	-107.76732327
7,900.00	90.39	135.293	4,089.79	-2,053.96	2,902.75	1,890,761.09	2,742,638.41	36.19631055	-107.76708501
8,000.00	90.39	135.293	4,089.11	-2,125.03	2,973.09	1,890,690.02	2,742,708.75	36.19611518	-107.76684676
8,100.00	90.39	135.293	4,088.43	-2,196.10	3,043.44	1,890,618.95	2,742,779.10	36.19591981	-107.76660851
8,200.00	90.39	135.293	4,087.75	-2,267.17	3,113.78	1,890,547.88	2,742,849.45	36.19572444	-107.76637026
8,300.00	90.39	135.293	4,087.06	-2,338.24	3,184.13	1,890,476.81	2,742,919.79	36.19552907	-107.76613201
8,400.00	90.39	135.293	4,086.38	-2,409.31	3,254.48	1,890,405.74	2,742,990.14	36.19533370	-107.76589376
8,500.00	90.39	135.293	4,085.70	-2,480.38	3,324.82	1,890,334.67	2,743,060.48	36.19513833	-107.76565551
8,600.00	90.39	135.293	4,085.02	-2,551.45	3,395.17	1,890,263.60	2,743,130.83	36.19494296	-107.76541726
8,700.00	90.39	135.293	4,084.34	-2,622.51	3,465.52	1,890,192.53	2,743,201.18	36.19474759	-107.76517902
8,800.00	90.39	135.293	4,083.65	-2,693.58	3,535.86	1,890,121.46	2,743,271.52	36.19455221	-107.76494077
8,900.00	90.39	135.293	4,082.97	-2,764.65	3,606.21	1,890,050.39	2,743,341.87	36.19435684	-107.76470253
9,000.00	90.39	135.293	4,082.29	-2,835.72	3,676.55	1,889,979.32	2,743,412.21	36.19416147	-107.76446429
9,100.00	90.39	135.293	4,081.61	-2,906.79	3,746.90	1,889,908.25	2,743,482.56	36.19396609	-107.76422605
9,200.00	90.39	135.293	4,080.93	-2,977.86	3,817.25	1,889,837.18	2,743,552.91	36.19377072	-107.76398781
9,300.00	90.39	135.293	4,080.24	-3,048.93	3,887.59	1,889,766.11	2,743,623.25	36.19357535	-107.76374957
9,400.00	90.39	135.293	4,079.56	-3,120.00	3,957.94	1,889,695.04	2,743,693.60	36.19337997	-107.76351133
9,500.00	90.39	135.293	4,078.88	-3,191.07	4,028.29	1,889,623.97	2,743,763.95	36.19318460	-107.76327310
9,600.00	90.39	135.293	4,078.20	-3,262.14	4,098.63	1,889,552.90	2,743,834.29	36.19298922	-107.76303486
9,700.00	90.39	135.293	4,077.51	-3,333.21	4,168.98	1,889,481.83	2,743,904.64	36.19279384	-107.76279663
9,800.00	90.39	135.293	4,076.83	-3,404.28	4,239.33	1,889,410.76	2,743,974.98	36.19259847	-107.76255840
9,900.00	90.39	135.293	4,076.15	-3,475.35	4,309.67	1,889,339.69	2,744,045.33	36.19240309	-107.76232016



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Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	North Reference:	Grid
Well:	Greater Lybrook Unit 45H	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	
10,000.00	90.39	135.293	4,075.47	-3,546.42	4,380.02	1,889,268.62	2,744,115.68	36.19220771	-107.76208193	
10,100.00	90.39	135.293	4,074.79	-3,617.49	4,450.36	1,889,197.55	2,744,186.02	36.19201233	-107.76184371	
10,200.00	90.39	135.293	4,074.10	-3,688.56	4,520.71	1,889,126.48	2,744,256.37	36.19181695	-107.76160548	
10,300.00	90.39	135.293	4,073.42	-3,759.63	4,591.06	1,889,055.41	2,744,326.71	36.19162158	-107.76136725	
10,400.00	90.39	135.293	4,072.74	-3,830.70	4,661.40	1,888,984.34	2,744,397.06	36.19142620	-107.76112903	
10,500.00	90.39	135.293	4,072.06	-3,901.77	4,731.75	1,888,913.27	2,744,467.41	36.19123082	-107.76089080	
10,600.00	90.39	135.293	4,071.38	-3,972.84	4,802.10	1,888,842.20	2,744,537.75	36.19103543	-107.76065258	
10,700.00	90.39	135.293	4,070.69	-4,043.91	4,872.44	1,888,771.13	2,744,608.10	36.19084005	-107.76041436	
10,800.00	90.39	135.293	4,070.01	-4,114.98	4,942.79	1,888,700.06	2,744,678.45	36.19064467	-107.76017614	
10,900.00	90.39	135.293	4,069.33	-4,186.05	5,013.13	1,888,628.99	2,744,748.79	36.19044929	-107.75993792	
11,000.00	90.39	135.293	4,068.65	-4,257.12	5,083.48	1,888,557.92	2,744,819.14	36.19025391	-107.75969970	
11,100.00	90.39	135.293	4,067.97	-4,328.19	5,153.83	1,888,486.85	2,744,889.48	36.19005852	-107.75946148	
11,200.00	90.39	135.293	4,067.28	-4,399.26	5,224.17	1,888,415.78	2,744,959.83	36.18986314	-107.75922327	
11,300.00	90.39	135.293	4,066.60	-4,470.33	5,294.52	1,888,344.71	2,745,030.18	36.18966776	-107.75898505	
11,400.00	90.39	135.293	4,065.92	-4,541.40	5,364.87	1,888,273.64	2,745,100.52	36.18947237	-107.75874684	
11,500.00	90.39	135.293	4,065.24	-4,612.47	5,435.21	1,888,202.57	2,745,170.87	36.18927699	-107.75850862	
11,600.00	90.39	135.293	4,064.56	-4,683.54	5,505.56	1,888,131.50	2,745,241.21	36.18908160	-107.75827041	
11,700.00	90.39	135.293	4,063.87	-4,754.61	5,575.90	1,888,060.43	2,745,311.56	36.18888622	-107.75803220	
11,800.00	90.39	135.293	4,063.19	-4,825.68	5,646.25	1,887,989.36	2,745,381.91	36.18869083	-107.75779399	
11,900.00	90.39	135.293	4,062.51	-4,896.75	5,716.60	1,887,918.29	2,745,452.25	36.18849544	-107.75755579	
12,000.00	90.39	135.293	4,061.83	-4,967.82	5,786.94	1,887,847.22	2,745,522.60	36.18830005	-107.75731758	
12,100.00	90.39	135.293	4,061.15	-5,038.89	5,857.29	1,887,776.16	2,745,592.94	36.18810467	-107.75707938	
12,200.00	90.39	135.293	4,060.46	-5,109.96	5,927.64	1,887,705.09	2,745,663.29	36.18790928	-107.75684117	
12,300.00	90.39	135.293	4,059.78	-5,181.03	5,997.98	1,887,634.02	2,745,733.64	36.18771389	-107.75660297	
12,400.00	90.39	135.293	4,059.10	-5,252.10	6,068.33	1,887,562.95	2,745,803.98	36.18751850	-107.75636477	
12,500.00	90.39	135.293	4,058.42	-5,323.17	6,138.67	1,887,491.88	2,745,874.33	36.18732311	-107.75612657	
12,600.00	90.39	135.293	4,057.74	-5,394.24	6,209.02	1,887,420.81	2,745,944.68	36.18712772	-107.75588837	
12,700.00	90.39	135.293	4,057.05	-5,465.31	6,279.37	1,887,349.74	2,746,015.02	36.18693233	-107.75565017	
12,800.00	90.39	135.293	4,056.37	-5,536.38	6,349.71	1,887,278.67	2,746,085.37	36.18673694	-107.75541197	
12,900.00	90.39	135.293	4,055.69	-5,607.45	6,420.06	1,887,207.60	2,746,155.71	36.18654155	-107.75517378	
13,000.00	90.39	135.293	4,055.01	-5,678.52	6,490.41	1,887,136.53	2,746,226.06	36.18634615	-107.75493558	
13,100.00	90.39	135.293	4,054.33	-5,749.59	6,560.75	1,887,065.46	2,746,296.41	36.18615076	-107.75469739	
13,200.00	90.39	135.293	4,053.64	-5,820.66	6,631.10	1,886,994.39	2,746,366.75	36.18595537	-107.75445920	
13,300.00	90.39	135.293	4,052.96	-5,891.73	6,701.44	1,886,923.32	2,746,437.10	36.18575997	-107.75422100	
13,400.00	90.39	135.293	4,052.28	-5,962.80	6,771.79	1,886,852.25	2,746,507.44	36.18556458	-107.75398281	
13,500.00	90.39	135.293	4,051.60	-6,033.87	6,842.14	1,886,781.18	2,746,577.79	36.18536919	-107.75374463	
13,600.00	90.39	135.293	4,050.92	-6,104.94	6,912.48	1,886,710.11	2,746,648.14	36.18517379	-107.75350644	
13,700.00	90.39	135.293	4,050.23	-6,176.01	6,982.83	1,886,639.04	2,746,718.48	36.18497840	-107.75326825	
13,800.00	90.39	135.293	4,049.55	-6,247.08	7,053.18	1,886,567.97	2,746,788.83	36.18478300	-107.75303007	
13,900.00	90.39	135.293	4,048.87	-6,318.15	7,123.52	1,886,496.90	2,746,859.18	36.18458760	-107.75279188	
14,000.00	90.39	135.293	4,048.19	-6,389.22	7,193.87	1,886,425.83	2,746,929.52	36.18439221	-107.75255370	
14,100.00	90.39	135.293	4,047.51	-6,460.29	7,264.22	1,886,354.76	2,746,999.87	36.18419681	-107.75231552	
14,174.11	90.39	135.293	4,047.00	-6,512.96	7,316.35	1,886,302.09	2,747,052.00	36.18405200	-107.75213900	
PBHL/TD @ 14174.11 MD 4047.00 TVD										



Planning Report - Geographic



Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Greater Lybrook Unit 45H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	North Reference:	Grid
Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
Greater Lybrook 45H LTI	0.00	0.000	4,047.00	-6,512.96	7,316.35	1,886,302.09	2,747,052.00	36.18405200	-107.75213900
- plan hits target center									
- Point									
Greater Lybrook 45H FT	0.00	0.000	4,109.00	434.54	439.04	1,893,249.57	2,740,174.71	36.20315100	-107.77543000
- plan misses target center by 40.16ft at 4400.00ft MD (4091.00 TVD, 405.95 N, 417.34 E)									
- Point									
Greater Lybrook 45H vs:	0.00	0.000	4,109.00	434.57	439.01	1,893,249.61	2,740,174.68	36.20315109	-107.77543011
- plan misses target center by 40.16ft at 4400.00ft MD (4091.00 TVD, 405.95 N, 417.34 E)									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter	
(ft)	(ft)		(")	(")	
350.00	350.00	9-5/8" Surface Casing	9-5/8	12-1/4	
4,469.41	4,105.78	7" Intermediate Casing	7	8-3/4	

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
174.00	174.00	Ojo Alamo		-0.390	135.291	
289.00	289.00	Kirtland		-0.390	135.291	
499.00	499.00	Fruitland		-0.390	135.291	
894.00	894.00	Pictured Cliffs		-0.390	135.291	
1,054.19	1,054.02	Lewis		-0.390	135.291	
1,261.28	1,259.13	Chacra_A		-0.390	135.291	
2,342.48	2,275.57	Cliff House_Basal		-0.390	135.291	
2,374.76	2,305.61	Menefee		-0.390	135.291	
3,404.73	3,286.78	Point Lookout		-0.390	135.291	
3,564.92	3,446.81	Mancos		-0.390	135.291	
3,901.89	3,776.46	MNCS_A		-0.390	135.291	
4,022.25	3,880.04	MNCS_B		-0.390	135.291	
4,140.87	3,967.50	MNCS_C		-0.390	135.291	
4,206.33	4,008.15	MNCS_Cms		-0.390	135.291	



Planning Report - Geographic



Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Greater Lybrook Unit 45H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	North Reference:	Grid
Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
900.00	900.00	0.00	0.00	KOP Begin 3°/100' build	
1,614.60	1,598.04	130.13	22.94	Begin 21.44° tangent	
2,843.12	2,741.57	572.33	100.88	Begin 3°/100' drop	
3,557.72	3,439.61	702.46	123.82	Begin vertical hold	
3,657.72	3,539.61	702.46	123.82	Begin 10°/100' build	
4,357.72	4,078.01	434.53	389.04	Begin 10°/100' build	
4,561.62	4,112.55	292.49	529.64	Begin 2°/100' turn	
4,797.67	4,110.95	131.77	702.42	Begin 90.39° lateral	
4,997.67	4,109.59	1.70	854.34	Begin 2°/100' turn	
5,233.82	4,107.98	-159.10	1,027.19	Begin 90.39° lateral	
14,174.11	4,047.00	-6,512.96	7,316.35	PBHL/TD @ 14174.11 MD 4047.00 TVD	



Anticollision Report



Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
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 1,617.41ft	Error Surface:	Ellipsoid Separation
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	8/29/2024		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	14,174.09	rev0 (Original Hole)	MWD	OWSG MWD - Standard	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Greater Lybrook Unit 730 (43,44,45,46&47)						
Greater Lybrook Unit 43H - Original Hole - rev0	900.00	900.00	40.04	33.76	6.372	CC, ES
Greater Lybrook Unit 43H - Original Hole - rev0	13,025.00	12,973.29	1,154.56	748.81	2.845	SF
Greater Lybrook Unit 44H - Original Hole - rev0	900.00	900.00	20.02	13.74	3.186	CC, ES
Greater Lybrook Unit 44H - Original Hole - rev0	13,600.00	13,899.36	708.19	389.47	2.222	SF
Greater Lybrook Unit 46H - Original Hole - rev0	700.00	700.00	20.02	15.17	4.128	CC, ES
Greater Lybrook Unit 46H - Original Hole - rev0	14,174.11	14,672.97	720.44	397.76	2.233	SF
Greater Lybrook Unit 47H - Original Hole - rev0	500.00	500.00	40.04	36.63	11.721	CC, ES
Greater Lybrook Unit 47H - Original Hole - rev0	13,900.00	14,121.53	1,158.67	715.24	2.613	SF
W Lybrook 730 Pad (730, 763, 830, 861 & 863)						
W Lybrook Unit No. 730H - Original Hole - Surveys Origin	1,130.66	1,135.19	27.90	20.65	3.846	CC, ES
W Lybrook Unit No. 730H - Original Hole - Surveys Origin	1,200.00	1,203.51	29.58	21.85	3.825	SF
W Lybrook Unit No. 763H - Original Hole - Surveys Origin	900.00	905.55	38.50	32.93	6.914	CC
W Lybrook Unit No. 763H - Original Hole - Surveys Origin	904.45	910.00	38.50	32.90	6.876	ES
W Lybrook Unit No. 763H - Original Hole - Surveys Origin	1,000.00	1,005.59	39.96	33.68	6.364	SF
W Lybrook Unit No. 830H - Original Hole - Surveys Origin	1,108.71	1,114.29	23.31	16.26	3.304	CC, ES
W Lybrook Unit No. 830H - Original Hole - Surveys Origin	4,404.88	4,575.41	61.94	30.67	1.981	Level 3<2.00, SF
W Lybrook Unit No. 861H - Original Hole - Surveys Origin	1,220.68	1,221.63	37.94	30.12	4.854	CC, ES
W Lybrook Unit No. 861H - Original Hole - Surveys Origin	1,300.00	1,299.05	39.54	31.17	4.726	SF
W Lybrook Unit No. 863H - Original Hole - Surveys Origin	717.72	723.25	47.34	43.03	10.991	CC
W Lybrook Unit No. 863H - Original Hole - Surveys Origin	900.00	905.37	48.19	42.61	8.639	ES
W Lybrook Unit No. 863H - Original Hole - Surveys Origin	1,000.00	1,005.38	50.22	43.93	7.993	SF

Offset Design:	Greater Lybrook Unit 730 (43,44,45,46&47) - Greater Lybrook Unit 43H - Original Hole - rev0												Offset Site Error:	0.00 ft
Survey Program:	0-MWD												Offset Well Error:	0.00 ft
Reference Measured Depth (ft)	Vertical Depth (ft)	Offset Measured Depth (ft)	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	-179.611	-40.04	-0.27	40.04					
100.00	100.00	100.00	100.00	0.27	0.27	-179.611	-40.04	-0.27	40.04	39.49	0.55	73.010		
200.00	200.00	200.00	200.00	0.63	0.63	-179.611	-40.04	-0.27	40.04	38.78	1.27	31.645		
300.00	300.00	300.00	300.00	0.99	0.99	-179.611	-40.04	-0.27	40.04	38.06	1.98	20.200		
400.00	400.00	400.00	400.00	1.35	1.35	-179.611	-40.04	-0.27	40.04	37.34	2.70	14.835		
500.00	500.00	500.00	500.00	1.71	1.71	-179.611	-40.04	-0.27	40.04	36.63	3.42	11.721		

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 Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Greater Lybrook Unit 730 (43,44,45,46&47) - Greater Lybrook Unit 43H - 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
600.00	600.00	600.00	600.00	2.07	2.07	-179.611	-40.04	-0.27	40.04	35.91	4.13	9.688	
700.00	700.00	700.00	700.00	2.43	2.43	-179.611	-40.04	-0.27	40.04	35.19	4.85	8.256	
800.00	800.00	800.00	800.00	2.78	2.78	-179.611	-40.04	-0.27	40.04	34.48	5.57	7.193	
900.00	900.00	900.00	900.00	3.14	3.14	-179.611	-40.04	-0.27	40.04	33.76	6.28	6.372 CC, ES	
1,000.00	999.95	999.95	999.95	3.50	3.50	170.967	-40.04	-0.27	42.63	35.63	7.00	6.088	
1,100.00	1,099.63	1,099.10	1,099.05	3.86	3.85	175.198	-40.38	-2.82	50.90	43.19	7.71	6.601	
1,200.00	1,198.77	1,196.77	1,196.42	4.23	4.18	-177.375	-41.37	-10.31	66.15	57.74	8.41	7.866	
1,300.00	1,297.08	1,292.00	1,290.86	4.60	4.52	-170.246	-42.96	-22.36	89.34	80.24	9.10	9.817	
1,400.00	1,394.31	1,383.93	1,381.35	5.01	4.87	-164.592	-45.08	-38.40	120.65	110.87	9.78	12.339	
1,500.00	1,490.18	1,471.85	1,467.06	5.45	5.23	-160.317	-47.64	-57.76	159.76	149.32	10.44	15.304	
1,600.00	1,584.43	1,555.17	1,547.39	5.94	5.59	-157.035	-50.54	-79.71	206.17	195.09	11.09	18.598	
1,700.00	1,677.53	1,634.27	1,622.68	6.47	5.97	-154.880	-53.71	-103.73	257.88	246.16	11.72	22.008	
1,800.00	1,770.62	1,710.32	1,694.05	7.03	6.36	-153.017	-57.15	-129.72	312.12	299.79	12.33	25.319	
1,900.00	1,863.70	1,788.85	1,766.84	7.60	6.81	-151.273	-61.01	-158.97	368.43	355.42	13.01	28.321	
2,000.00	1,956.78	1,870.84	1,842.72	8.20	7.30	-149.890	-65.08	-189.74	425.14	411.37	13.77	30.878	
2,100.00	2,049.86	1,952.82	1,918.60	8.80	7.81	-148.830	-69.14	-220.51	481.98	467.43	14.55	33.129	
2,200.00	2,142.94	2,034.81	1,994.49	9.42	8.34	-147.993	-73.21	-251.28	538.91	523.56	15.35	35.116	
2,300.00	2,236.02	2,116.80	2,070.37	10.05	8.88	-147.316	-77.27	-282.06	595.90	579.74	16.16	36.876	
2,400.00	2,329.10	2,198.78	2,146.25	10.68	9.44	-146.756	-81.34	-312.83	652.94	635.95	16.99	38.440	
2,500.00	2,422.19	2,280.77	2,222.13	11.32	10.00	-146.286	-85.40	-343.60	710.01	692.18	17.82	39.834	
2,600.00	2,515.27	2,362.75	2,298.01	11.96	10.57	-145.886	-89.47	-374.38	767.11	748.44	18.67	41.084	
2,700.00	2,608.35	2,444.74	2,373.90	12.61	11.14	-145.541	-93.54	-405.15	824.23	804.70	19.53	42.209	
2,800.00	2,701.43	2,526.72	2,449.78	13.26	11.73	-145.240	-97.60	-435.92	881.37	860.98	20.39	43.225	
2,900.00	2,794.81	2,609.08	2,526.00	13.90	12.31	-145.599	-101.69	-466.84	937.95	916.69	21.26	44.127	
3,000.00	2,889.78	2,693.41	2,604.06	14.50	12.92	-146.209	-105.87	-498.49	991.28	969.16	22.12	44.814	
3,100.00	2,986.26	2,779.71	2,683.93	15.05	13.55	-146.569	-110.15	-530.88	1,040.95	1,017.97	22.98	45.300	
3,200.00	3,083.98	2,926.66	2,821.62	15.53	14.55	-146.392	-116.86	-581.69	1,084.84	1,060.37	24.47	44.327	
3,300.00	3,182.67	3,096.30	2,984.89	15.97	15.54	-146.201	-122.86	-627.13	1,118.82	1,092.81	26.00	43.024	
3,400.00	3,282.07	3,276.68	3,162.23	16.34	16.37	-146.091	-127.14	-659.50	1,141.85	1,114.49	27.36	41.731	
3,500.00	3,381.90	3,463.94	3,348.72	16.66	17.01	-146.073	-129.24	-675.41	1,153.23	1,124.75	28.48	40.497	
3,600.00	3,481.89	3,597.12	3,481.89	16.92	17.36	-136.101	-129.41	-676.69	1,154.48	1,125.29	29.19	39.549	
3,700.00	3,581.85	3,694.09	3,578.74	17.17	17.58	88.523	-131.63	-674.49	1,154.53	1,124.80	29.73	38.835	
3,800.00	3,680.43	3,788.89	3,671.78	17.34	17.73	88.393	-144.16	-662.10	1,154.60	1,124.51	30.09	38.370	
3,900.00	3,774.73	3,883.38	3,760.36	17.43	17.84	88.309	-167.31	-639.18	1,154.65	1,124.32	30.32	38.077	
4,000.00	3,861.89	3,977.69	3,842.25	17.45	17.91	88.274	-200.41	-606.42	1,154.67	1,124.17	30.50	37.852	
4,100.00	3,939.26	4,071.97	3,915.38	17.42	17.96	88.289	-242.58	-564.67	1,154.66	1,123.92	30.74	37.562	
4,200.00	4,004.48	4,166.37	3,977.87	17.35	18.01	88.352	-292.77	-515.00	1,154.63	1,123.47	31.16	37.051	
4,300.00	4,055.58	4,261.03	4,028.04	17.25	18.07	88.463	-349.72	-458.62	1,154.57	1,122.66	31.91	36.184	
4,400.00	4,091.00	4,356.08	4,064.48	17.14	18.20	88.619	-412.04	-396.94	1,154.49	1,121.39	33.10	34.880	
4,500.00	4,109.66	4,451.68	4,086.02	17.06	18.48	88.816	-478.15	-331.50	1,154.41	1,119.72	34.69	33.280	
4,505.82	4,110.23	4,457.26	4,086.80	17.11	18.50	88.832	-482.08	-327.61	1,154.40	1,119.62	34.78	33.191	
4,600.00	4,112.29	4,555.45	4,091.84	18.16	19.12	88.982	-551.66	-258.67	1,154.57	1,117.75	36.82	31.357	
4,700.00	4,111.61	4,722.93	4,090.82	19.48	21.11	88.974	-666.42	-136.72	1,154.11	1,113.68	40.43	28.544	
4,798.50	4,110.94	4,841.33	4,090.09	20.96	22.96	88.964	-743.80	-47.11	1,152.71	1,108.94	43.77	26.334	
4,800.00	4,110.93	4,842.83	4,090.08	20.98	22.98	88.963	-744.78	-45.97	1,152.76	1,108.93	43.82	26.306	
4,900.00	4,110.25	4,942.83	4,089.47	22.63	24.70	88.967	-809.85	29.96	1,152.81	1,105.65	47.16	24.445	
5,000.00	4,109.57	5,022.61	4,088.98	24.39	26.14	88.971	-862.10	90.24	1,153.47	1,103.16	50.31	22.927	
5,100.00	4,108.89	5,100.00	4,088.51	26.23	27.58	88.988	-914.26	147.41	1,154.72	1,101.19	53.53	21.573	
5,200.00	4,108.21	5,165.17	4,088.12	28.10	28.81	89.004	-959.37	194.44	1,154.91	1,098.38	56.54	20.427	
5,300.00	4,107.52	5,248.29	4,087.62	30.01	30.41	89.012	-1,018.23	253.13	1,154.68	1,094.70	59.98	19.250	
5,400.00	4,106.84	5,348.29	4,087.01	31.96	32.37	89.016	-1,089.30	323.48	1,154.68	1,090.78	63.91	18.068	
5,500.00	4,106.16	5,448.29	4,086.41	33.95	34.37	89.020	-1,160.37	393.83	1,154.68	1,086.77	67.91	17.003	

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 Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Greater Lybrook Unit 730 (43,44,45,46&47) - Greater Lybrook Unit 43H - Original Hole - rev0												Offset Site Error:	0.00 ft
Survey Program: 0-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	
5,600.00	4,105.48	5,548.29	4,085.81	35.98	36.41	89.024	-1,231.44	464.17	1,154.68	1,082.70	71.98	16.041	
5,700.00	4,104.80	5,648.29	4,085.20	38.03	38.47	89.028	-1,302.51	534.52	1,154.68	1,078.57	76.11	15.171	
5,800.00	4,104.11	5,748.29	4,084.60	40.11	40.56	89.032	-1,373.58	604.87	1,154.67	1,074.39	80.29	14.381	
5,900.00	4,103.43	5,848.29	4,084.00	42.21	42.67	89.036	-1,444.65	675.21	1,154.67	1,070.16	84.51	13.663	
6,000.00	4,102.75	5,948.29	4,083.39	44.33	44.80	89.039	-1,515.72	745.56	1,154.67	1,065.91	88.76	13.008	
6,100.00	4,102.07	6,048.29	4,082.79	46.46	46.94	89.043	-1,586.79	815.91	1,154.67	1,061.62	93.05	12.409	
6,200.00	4,101.39	6,148.29	4,082.19	48.61	49.10	89.047	-1,657.86	886.25	1,154.67	1,057.30	97.36	11.859	
6,300.00	4,100.70	6,248.29	4,081.58	50.77	51.27	89.051	-1,728.93	956.60	1,154.67	1,052.97	101.70	11.354	
6,400.00	4,100.02	6,348.29	4,080.98	52.94	53.45	89.055	-1,800.00	1,026.95	1,154.66	1,048.61	106.06	10.887	
6,500.00	4,099.34	6,448.29	4,080.38	55.12	55.63	89.059	-1,871.07	1,097.29	1,154.66	1,044.23	110.43	10.456	
6,600.00	4,098.66	6,548.29	4,079.77	57.31	57.83	89.063	-1,942.14	1,167.64	1,154.66	1,039.84	114.82	10.056	
6,700.00	4,097.98	6,648.29	4,079.17	59.51	60.03	89.067	-2,013.21	1,237.99	1,154.66	1,035.43	119.23	9.685	
6,800.00	4,097.29	6,748.29	4,078.57	61.71	62.24	89.071	-2,084.28	1,308.34	1,154.66	1,031.01	123.64	9.338	
6,900.00	4,096.61	6,848.29	4,077.96	63.92	64.45	89.075	-2,155.35	1,378.68	1,154.66	1,026.58	128.07	9.016	
7,000.00	4,095.93	6,948.29	4,077.36	66.13	66.67	89.078	-2,226.42	1,449.03	1,154.65	1,022.14	132.51	8.714	
7,100.00	4,095.25	7,048.29	4,076.76	68.35	68.90	89.082	-2,297.49	1,519.38	1,154.65	1,017.69	136.96	8.431	
7,200.00	4,094.57	7,148.29	4,076.15	70.57	71.13	89.086	-2,368.56	1,589.72	1,154.65	1,013.23	141.42	8.165	
7,300.00	4,093.88	7,248.29	4,075.55	72.80	73.36	89.090	-2,439.63	1,660.07	1,154.65	1,008.77	145.88	7.915	
7,400.00	4,093.20	7,348.29	4,074.95	75.03	75.59	89.094	-2,510.70	1,730.42	1,154.65	1,004.29	150.35	7.680	
7,500.00	4,092.52	7,448.29	4,074.34	77.27	77.83	89.098	-2,581.77	1,800.76	1,154.65	999.81	154.83	7.457	
7,600.00	4,091.84	7,548.29	4,073.74	79.50	80.07	89.102	-2,652.84	1,871.11	1,154.64	995.33	159.31	7.248	
7,700.00	4,091.16	7,648.29	4,073.14	81.74	82.32	89.106	-2,723.91	1,941.46	1,154.64	990.84	163.80	7.049	
7,800.00	4,090.47	7,748.29	4,072.53	83.99	84.56	89.110	-2,794.98	2,011.80	1,154.64	986.34	168.30	6.861	
7,900.00	4,089.79	7,848.29	4,071.93	86.23	86.81	89.114	-2,866.05	2,082.15	1,154.64	981.84	172.79	6.682	
8,000.00	4,089.11	7,948.29	4,071.33	88.48	89.06	89.118	-2,937.12	2,152.50	1,154.64	977.34	177.30	6.512	
8,100.00	4,088.43	8,048.29	4,070.72	90.73	91.31	89.121	-3,008.19	2,222.85	1,154.64	972.83	181.80	6.351	
8,200.00	4,087.75	8,148.29	4,070.12	92.98	93.57	89.125	-3,079.26	2,293.19	1,154.63	968.32	186.31	6.197	
8,300.00	4,087.06	8,248.29	4,069.52	95.24	95.82	89.129	-3,150.33	2,363.54	1,154.63	963.81	190.82	6.051	
8,400.00	4,086.38	8,348.29	4,068.91	97.49	98.08	89.133	-3,221.40	2,433.89	1,154.63	959.29	195.34	5.911	
8,500.00	4,085.70	8,448.29	4,068.31	99.75	100.34	89.137	-3,292.47	2,504.23	1,154.63	954.77	199.86	5.777	
8,600.00	4,085.02	8,548.29	4,067.71	102.01	102.60	89.141	-3,363.54	2,574.58	1,154.63	950.25	204.38	5.649	
8,700.00	4,084.34	8,648.29	4,067.10	104.26	104.86	89.145	-3,434.61	2,644.93	1,154.63	945.72	208.90	5.527	
8,800.00	4,083.65	8,748.29	4,066.50	106.53	107.13	89.149	-3,505.68	2,715.27	1,154.62	941.19	213.43	5.410	
8,900.00	4,082.97	8,848.29	4,065.90	108.79	109.39	89.153	-3,576.75	2,785.62	1,154.62	936.66	217.96	5.297	
9,000.00	4,082.29	8,948.29	4,065.29	111.05	111.66	89.157	-3,647.82	2,855.97	1,154.62	932.13	222.49	5.190	
9,100.00	4,081.61	9,048.29	4,064.69	113.31	113.92	89.160	-3,718.89	2,926.31	1,154.62	927.60	227.02	5.086	
9,200.00	4,080.93	9,148.29	4,064.09	115.58	116.19	89.164	-3,789.96	2,996.66	1,154.62	923.06	231.56	4.986	
9,300.00	4,080.24	9,248.29	4,063.48	117.85	118.46	89.168	-3,861.03	3,067.01	1,154.62	918.52	236.09	4.890	
9,400.00	4,079.56	9,348.29	4,062.88	120.11	120.73	89.172	-3,932.10	3,137.36	1,154.61	913.98	240.63	4.798	
9,500.00	4,078.88	9,448.29	4,062.28	122.38	122.99	89.176	-4,003.17	3,207.70	1,154.61	909.44	245.17	4.709	
9,600.00	4,078.20	9,548.29	4,061.67	124.65	125.26	89.180	-4,074.24	3,278.05	1,154.61	904.90	249.71	4.624	
9,700.00	4,077.51	9,648.29	4,061.07	126.92	127.54	89.184	-4,145.31	3,348.40	1,154.61	900.36	254.25	4.541	
9,800.00	4,076.83	9,748.29	4,060.47	129.19	129.81	89.188	-4,216.38	3,418.74	1,154.61	895.81	258.80	4.461	
9,900.00	4,076.15	9,848.29	4,059.86	131.46	132.08	89.192	-4,287.45	3,489.09	1,154.61	891.27	263.34	4.384	
10,000.00	4,075.47	9,948.29	4,059.26	133.73	134.35	89.196	-4,358.52	3,559.44	1,154.61	886.72	267.89	4.310	
10,100.00	4,074.79	10,048.29	4,058.66	136.00	136.63	89.200	-4,429.59	3,629.78	1,154.60	882.17	272.43	4.238	
10,200.00	4,074.10	10,148.29	4,058.05	138.28	138.90	89.203	-4,500.66	3,700.13	1,154.60	877.62	276.98	4.168	
10,300.00	4,073.42	10,248.29	4,057.45	140.55	141.17	89.207	-4,571.73	3,770.48	1,154.60	873.07	281.53	4.101	
10,400.00	4,072.74	10,348.29	4,056.85	142.82	143.45	89.211	-4,642.80	3,840.82	1,154.60	868.52	286.08	4.036	
10,500.00	4,072.06	10,448.29	4,056.24	145.10	145.72	89.215	-4,713.87	3,911.17	1,154.60	863.96	290.63	3.973	
10,600.00	4,071.38	10,548.29	4,055.64	147.37	148.00	89.219	-4,784.94	3,981.52	1,154.60	859.41	295.19	3.911	
10,700.00	4,070.69	10,648.29	4,055.04	149.65	150.28	89.223	-4,856.01	4,051.86	1,154.60	854.86	299.74	3.852	

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 Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Greater Lybrook Unit 730 (43,44,45,46&47) - Greater Lybrook Unit 43H - Original Hole - rev0												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Rule Assigned:												Warning	
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	
10,800.00	4,070.01	10,748.29	4,054.43	151.92	152.55	89.227	-4,927.08	4,122.21	1,154.59	850.30	304.29	3.794	
10,900.00	4,069.33	10,848.29	4,053.83	154.20	154.83	89.231	-4,998.15	4,192.56	1,154.59	845.75	308.85	3.738	
11,000.00	4,068.65	10,948.29	4,053.23	156.48	157.11	89.235	-5,069.22	4,262.91	1,154.59	841.19	313.40	3.684	
11,100.00	4,067.97	11,048.29	4,052.62	158.75	159.39	89.239	-5,140.29	4,333.25	1,154.59	836.63	317.96	3.631	
11,200.00	4,067.28	11,148.29	4,052.02	161.03	161.66	89.243	-5,211.36	4,403.60	1,154.59	832.08	322.51	3.580	
11,300.00	4,066.60	11,248.29	4,051.42	163.31	163.94	89.246	-5,282.43	4,473.95	1,154.59	827.52	327.07	3.530	
11,400.00	4,065.92	11,348.29	4,050.81	165.58	166.22	89.250	-5,353.50	4,544.29	1,154.58	822.96	331.63	3.482	
11,500.00	4,065.24	11,448.29	4,050.21	167.86	168.50	89.254	-5,424.57	4,614.64	1,154.58	818.40	336.19	3.434	
11,600.00	4,064.56	11,548.29	4,049.61	170.14	170.78	89.258	-5,495.64	4,684.99	1,154.58	813.84	340.74	3.388	
11,700.00	4,063.87	11,648.29	4,049.00	172.42	173.06	89.262	-5,566.71	4,755.33	1,154.58	809.28	345.30	3.344	
11,800.00	4,063.19	11,748.29	4,048.40	174.70	175.34	89.266	-5,637.78	4,825.68	1,154.58	804.72	349.86	3.300	
11,900.00	4,062.51	11,848.29	4,047.80	176.98	177.62	89.270	-5,708.85	4,896.03	1,154.58	800.15	354.42	3.258	
12,000.00	4,061.83	11,948.29	4,047.19	179.26	179.90	89.274	-5,779.92	4,966.37	1,154.58	795.59	358.98	3.216	
12,100.00	4,061.15	12,048.29	4,046.59	181.54	182.18	89.278	-5,850.99	5,036.72	1,154.57	791.03	363.55	3.176	
12,200.00	4,060.46	12,148.29	4,045.99	183.82	184.46	89.282	-5,922.06	5,107.07	1,154.57	786.47	368.11	3.137	
12,300.00	4,059.78	12,248.29	4,045.38	186.10	186.74	89.285	-5,993.13	5,177.42	1,154.57	781.90	372.67	3.098	
12,400.00	4,059.10	12,348.29	4,044.78	188.38	189.02	89.289	-6,064.20	5,247.76	1,154.57	777.34	377.23	3.061	
12,500.00	4,058.42	12,448.29	4,044.18	190.66	191.30	89.293	-6,135.27	5,318.11	1,154.57	772.77	381.79	3.024	
12,600.00	4,057.74	12,548.29	4,043.57	192.94	193.59	89.297	-6,206.34	5,388.46	1,154.57	768.21	386.36	2.988	
12,700.00	4,057.05	12,648.29	4,042.97	195.22	195.87	89.301	-6,277.41	5,458.80	1,154.57	763.64	390.92	2.953	
12,800.00	4,056.37	12,748.29	4,042.37	197.50	198.15	89.305	-6,348.48	5,529.15	1,154.57	759.08	395.49	2.919	
12,900.00	4,055.69	12,848.29	4,041.76	199.78	200.43	89.309	-6,419.55	5,599.50	1,154.56	754.51	400.05	2.886	
13,000.00	4,055.01	12,948.29	4,041.16	202.07	202.71	89.313	-6,490.62	5,669.84	1,154.56	749.95	404.62	2.853	
13,025.00	4,054.84	12,973.29	4,041.01	202.64	203.28	89.314	-6,508.39	5,687.43	1,154.56	748.81	405.76	2.845 SF	
13,100.00	4,054.33	12,974.92	4,041.00	204.35	203.32	89.314	-6,509.54	5,688.58	1,156.89	751.02	405.87	2.850	
13,200.00	4,053.64	12,974.92	4,041.00	206.63	203.32	89.314	-6,509.54	5,688.58	1,167.50	765.49	402.01	2.904	
13,300.00	4,052.96	12,974.92	4,041.00	208.91	203.32	89.314	-6,509.54	5,688.58	1,186.48	792.35	394.13	3.010	
13,400.00	4,052.28	12,974.92	4,041.00	211.20	203.32	89.314	-6,509.54	5,688.58	1,213.43	830.41	383.02	3.168	
13,500.00	4,051.60	12,974.92	4,041.00	213.48	203.32	89.314	-6,509.54	5,688.58	1,247.83	878.20	369.63	3.376	
13,600.00	4,050.92	12,974.92	4,041.00	215.76	203.32	89.314	-6,509.54	5,688.58	1,289.09	934.24	354.85	3.633	
13,700.00	4,050.23	12,974.92	4,041.00	218.04	203.32	89.314	-6,509.54	5,688.58	1,336.57	997.13	339.44	3.938	
13,800.00	4,049.55	12,974.92	4,041.00	220.33	203.32	89.314	-6,509.54	5,688.58	1,389.64	1,065.66	323.97	4.289	
13,900.00	4,048.87	12,974.92	4,041.00	222.61	203.32	89.314	-6,509.54	5,688.58	1,447.67	1,138.82	308.85	4.687	
14,000.00	4,048.19	12,974.92	4,041.00	224.89	203.32	89.314	-6,509.54	5,688.58	1,510.11	1,215.77	294.34	5.130	
14,100.00	4,047.51	12,974.92	4,041.00	227.18	203.32	89.314	-6,509.54	5,688.58	1,576.42	1,295.83	280.59	5.618	

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 Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Greater Lybrook Unit 730 (43,44,45,46&47) - Greater Lybrook Unit 44H - 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	-179.189	-20.02	-0.28	20.02				
100.00	100.00	100.00	100.00	0.27	0.27	-179.189	-20.02	-0.28	20.02	19.47	0.55	36.508	
200.00	200.00	200.00	200.00	0.63	0.63	-179.189	-20.02	-0.28	20.02	18.76	1.27	15.824	
300.00	300.00	300.00	300.00	0.99	0.99	-179.189	-20.02	-0.28	20.02	18.04	1.98	10.101	
400.00	400.00	400.00	400.00	1.35	1.35	-179.189	-20.02	-0.28	20.02	17.32	2.70	7.418	
500.00	500.00	500.00	500.00	1.71	1.71	-179.189	-20.02	-0.28	20.02	16.61	3.42	5.861	
600.00	600.00	600.00	600.00	2.07	2.07	-179.189	-20.02	-0.28	20.02	15.89	4.13	4.845	
700.00	700.00	700.00	700.00	2.43	2.43	-179.189	-20.02	-0.28	20.02	15.17	4.85	4.128	
800.00	800.00	800.00	800.00	2.78	2.78	-179.189	-20.02	-0.28	20.02	14.46	5.57	3.597	
900.00	900.00	900.00	900.00	3.14	3.14	-179.189	-20.02	-0.28	20.02	13.74	6.28	3.186 CC, ES	
1,000.00	999.95	999.95	999.95	3.50	3.50	171.862	-20.02	-0.28	22.61	15.61	7.00	3.230	
1,100.00	1,099.63	1,100.66	1,100.61	3.86	3.86	177.779	-18.05	-2.06	28.63	20.92	7.72	3.711	
1,200.00	1,198.77	1,201.10	1,200.73	4.23	4.22	-172.013	-12.16	-7.36	37.18	28.75	8.43	4.410	
1,300.00	1,297.08	1,300.98	1,299.74	4.60	4.58	-161.601	-2.43	-16.12	49.48	40.32	9.16	5.402	
1,400.00	1,394.31	1,399.75	1,396.90	5.01	4.96	-153.130	10.72	-27.96	66.30	56.39	9.92	6.686	
1,500.00	1,490.18	1,497.19	1,492.57	5.45	5.35	-149.073	24.46	-40.33	88.17	77.47	10.70	8.244	
1,600.00	1,584.43	1,593.63	1,587.26	5.94	5.74	-147.869	38.06	-52.58	114.53	103.04	11.49	9.968	
1,700.00	1,677.53	1,689.31	1,681.20	6.47	6.14	-148.056	51.56	-64.72	143.62	131.32	12.30	11.679	
1,800.00	1,770.62	1,784.97	1,775.12	7.03	6.54	-148.237	65.05	-76.87	172.76	159.64	13.12	13.170	
1,900.00	1,863.70	1,880.63	1,869.04	7.60	6.95	-148.365	78.54	-89.02	201.89	187.94	13.95	14.470	
2,000.00	1,956.78	1,976.29	1,962.97	8.20	7.37	-148.462	92.03	-101.16	231.03	216.23	14.80	15.609	
2,100.00	2,049.86	2,071.95	2,056.89	8.80	7.79	-148.536	105.52	-113.31	260.16	244.50	15.66	16.613	
2,200.00	2,142.94	2,167.61	2,150.81	9.42	8.21	-148.596	119.01	-125.45	289.30	272.77	16.53	17.502	
2,300.00	2,236.02	2,263.27	2,244.73	10.05	8.64	-148.644	132.50	-137.60	318.44	301.03	17.41	18.295	
2,400.00	2,329.10	2,358.93	2,338.66	10.68	9.07	-148.685	145.99	-149.74	347.57	329.28	18.29	19.004	
2,500.00	2,422.19	2,454.59	2,432.58	11.32	9.50	-148.719	159.48	-161.89	376.71	357.53	19.18	19.642	
2,600.00	2,515.27	2,550.26	2,526.50	11.96	9.93	-148.748	172.97	-174.03	405.85	385.78	20.07	20.218	
2,700.00	2,608.35	2,645.92	2,620.43	12.61	10.36	-148.774	186.46	-186.18	434.99	414.01	20.97	20.741	
2,800.00	2,701.43	2,741.58	2,714.35	13.26	10.80	-148.796	199.95	-198.32	464.12	442.25	21.87	21.217	
2,900.00	2,794.81	2,837.44	2,808.47	13.90	11.24	-149.019	213.47	-210.50	492.57	469.79	22.78	21.623	
3,000.00	2,889.78	2,934.34	2,903.61	14.50	11.68	-149.098	227.13	-222.80	517.09	493.40	23.69	21.829	
3,100.00	2,986.26	3,032.13	2,999.62	15.05	12.13	-148.838	240.92	-235.21	537.26	512.67	24.60	21.843	
3,200.00	3,083.98	3,130.55	3,096.26	15.53	12.58	-148.266	254.80	-247.71	553.12	527.61	25.50	21.687	
3,300.00	3,182.67	3,227.70	3,191.79	15.97	13.02	-147.490	267.92	-259.52	564.79	538.41	26.38	21.413	
3,400.00	3,282.07	3,324.41	3,287.58	16.34	13.42	-146.863	277.72	-268.34	572.66	545.48	27.17	21.073	
3,500.00	3,381.90	3,421.78	3,384.58	16.66	13.79	-146.399	283.93	-273.94	576.67	548.77	27.90	20.671	
3,600.00	3,481.89	3,519.54	3,482.27	16.92	14.12	-136.120	286.47	-276.22	577.13	548.59	28.54	20.219	
3,700.00	3,581.85	3,619.12	3,581.85	17.17	14.44	88.755	286.53	-276.27	577.09	547.94	29.15	19.795	
3,785.23	3,666.07	3,703.34	3,666.07	17.31	14.70	90.000	286.53	-276.27	576.95	547.29	29.66	19.451	
3,800.00	3,680.43	3,717.70	3,680.43	17.34	14.75	90.332	286.53	-276.27	576.96	547.21	29.76	19.390	
3,900.00	3,774.73	3,812.00	3,774.73	17.43	15.05	93.287	286.53	-276.27	578.10	547.74	30.35	19.047	
4,000.00	3,861.89	3,899.16	3,861.89	17.45	15.32	96.953	286.53	-276.27	583.19	552.28	30.92	18.863	
4,100.00	3,939.26	3,978.50	3,941.23	17.42	15.58	100.562	286.49	-276.24	595.69	564.24	31.44	18.945	
4,200.00	4,004.48	4,085.64	4,047.60	17.35	15.84	105.424	278.39	-268.22	616.33	584.38	31.95	19.290	
4,300.00	4,055.58	4,219.45	4,174.46	17.25	16.05	110.754	248.80	-238.93	642.55	610.46	32.09	20.025	
4,400.00	4,091.00	4,399.01	4,322.99	17.14	16.30	116.792	178.04	-168.89	670.39	638.79	31.60	21.217	
4,500.00	4,109.66	4,649.08	4,464.17	17.06	17.15	122.477	33.05	-25.37	692.43	661.25	31.18	22.208	
4,600.00	4,112.29	4,907.87	4,506.39	18.16	19.34	124.329	-146.83	152.96	698.82	665.35	33.47	20.879	
4,700.00	4,111.61	5,033.10	4,505.75	19.48	20.91	124.345	-232.79	244.00	698.68	662.76	35.92	19.451	
4,794.45	4,110.97	5,142.60	4,505.20	20.89	22.50	124.385	-304.81	326.48	698.07	659.63	38.44	18.160	
4,800.00	4,110.93	5,148.15	4,505.17	20.98	22.59	124.383	-308.42	330.70	698.11	659.52	38.58	18.094	
4,900.00	4,110.25	5,248.15	4,504.67	22.63	24.21	124.392	-373.51	406.61	698.26	656.97	41.29	16.911	

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 Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Greater Lybrook Unit 730 (43,44,45,46&47) - Greater Lybrook Unit 44H - Original Hole - rev0												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Rule Assigned:												Warning	
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	
5,000.00	4,109.57	5,341.42	4,504.19	24.39	25.82	124.391	-434.36	477.28	698.61	654.56	44.05	15.860	
5,100.00	4,108.89	5,424.65	4,503.77	26.23	27.31	124.372	-490.17	539.03	699.43	652.70	46.73	14.967	
5,200.00	4,108.21	5,507.87	4,503.35	28.10	28.83	124.381	-547.75	599.11	699.76	650.32	49.44	14.155	
5,300.00	4,107.52	5,600.98	4,502.88	30.01	30.58	124.399	-613.77	664.75	699.82	647.42	52.39	13.357	
5,400.00	4,106.84	5,700.97	4,502.38	31.96	32.51	124.411	-684.84	735.10	699.92	644.33	55.59	12.590	
5,500.00	4,106.16	5,800.97	4,501.87	33.95	34.48	124.423	-755.91	805.45	700.02	641.16	58.85	11.894	
5,600.00	4,105.48	5,900.97	4,501.37	35.98	36.49	124.435	-826.98	875.80	700.12	637.95	62.17	11.262	
5,700.00	4,104.80	6,000.97	4,500.86	38.03	38.53	124.447	-898.05	946.14	700.22	634.69	65.53	10.686	
5,800.00	4,104.11	6,100.97	4,500.36	40.11	40.60	124.459	-969.12	1,016.49	700.32	631.40	68.92	10.162	
5,900.00	4,103.43	6,200.97	4,499.85	42.21	42.69	124.471	-1,040.19	1,086.84	700.42	628.08	72.34	9.683	
6,000.00	4,102.75	6,300.97	4,499.35	44.33	44.79	124.483	-1,111.26	1,157.19	700.52	624.74	75.78	9.244	
6,100.00	4,102.07	6,400.97	4,498.84	46.46	46.92	124.495	-1,182.33	1,227.53	700.62	621.38	79.24	8.842	
6,200.00	4,101.39	6,500.97	4,498.34	48.61	49.06	124.507	-1,253.40	1,297.88	700.72	618.00	82.71	8.472	
6,300.00	4,100.70	6,600.97	4,497.83	50.77	51.22	124.519	-1,324.47	1,368.23	700.82	614.62	86.20	8.130	
6,400.00	4,100.02	6,700.97	4,497.33	52.94	53.38	124.531	-1,395.54	1,438.58	700.92	611.22	89.70	7.814	
6,500.00	4,099.34	6,800.97	4,496.82	55.12	55.56	124.543	-1,466.61	1,508.92	701.02	607.82	93.20	7.522	
6,600.00	4,098.66	6,900.97	4,496.32	57.31	57.74	124.555	-1,537.68	1,579.27	701.12	604.41	96.70	7.250	
6,700.00	4,097.98	7,000.97	4,495.82	59.51	59.93	124.567	-1,608.75	1,649.62	701.22	601.00	100.21	6.997	
6,800.00	4,097.29	7,100.97	4,495.31	61.71	62.13	124.579	-1,679.82	1,719.97	701.32	597.59	103.72	6.761	
6,900.00	4,096.61	7,200.97	4,494.81	63.92	64.34	124.591	-1,750.89	1,790.31	701.42	594.18	107.23	6.541	
7,000.00	4,095.93	7,300.97	4,494.30	66.13	66.55	124.602	-1,821.96	1,860.66	701.52	590.77	110.74	6.335	
7,100.00	4,095.25	7,400.97	4,493.80	68.35	68.76	124.614	-1,893.03	1,931.01	701.62	587.37	114.25	6.141	
7,200.00	4,094.57	7,500.97	4,493.29	70.57	70.98	124.626	-1,964.10	2,001.36	701.72	583.96	117.75	5.959	
7,300.00	4,093.88	7,600.97	4,492.79	72.80	73.21	124.638	-2,035.17	2,071.70	701.82	580.56	121.25	5.788	
7,400.00	4,093.20	7,700.97	4,492.28	75.03	75.44	124.650	-2,106.24	2,142.05	701.92	577.17	124.75	5.627	
7,500.00	4,092.52	7,800.97	4,491.78	77.27	77.67	124.662	-2,177.31	2,212.40	702.02	573.78	128.24	5.474	
7,600.00	4,091.84	7,900.97	4,491.27	79.50	79.91	124.674	-2,248.38	2,282.75	702.12	570.40	131.72	5.330	
7,700.00	4,091.16	8,000.97	4,490.77	81.74	82.14	124.686	-2,319.45	2,353.09	702.22	567.02	135.20	5.194	
7,800.00	4,090.47	8,100.97	4,490.26	83.99	84.39	124.698	-2,390.52	2,423.44	702.32	563.65	138.67	5.065	
7,900.00	4,089.79	8,200.97	4,489.76	86.23	86.63	124.710	-2,461.60	2,493.79	702.42	560.29	142.13	4.942	
8,000.00	4,089.11	8,300.97	4,489.25	88.48	88.88	124.722	-2,532.67	2,564.14	702.52	556.94	145.58	4.826	
8,100.00	4,088.43	8,400.97	4,488.75	90.73	91.12	124.734	-2,603.74	2,634.48	702.62	553.59	149.03	4.715	
8,200.00	4,087.75	8,500.97	4,488.25	92.98	93.37	124.746	-2,674.81	2,704.83	702.72	550.26	152.46	4.609	
8,300.00	4,087.06	8,600.97	4,487.74	95.24	95.63	124.758	-2,745.88	2,775.18	702.82	546.93	155.89	4.509	
8,400.00	4,086.38	8,700.97	4,487.24	97.49	97.88	124.770	-2,816.95	2,845.53	702.92	543.62	159.30	4.412	
8,500.00	4,085.70	8,800.97	4,486.73	99.75	100.14	124.781	-2,888.02	2,915.87	703.02	540.31	162.71	4.321	
8,600.00	4,085.02	8,900.97	4,486.23	102.01	102.39	124.793	-2,959.09	2,986.22	703.12	537.02	166.11	4.233	
8,700.00	4,084.34	9,000.97	4,485.72	104.26	104.65	124.805	-3,030.16	3,056.57	703.22	533.73	169.49	4.149	
8,800.00	4,083.65	9,100.97	4,485.22	106.53	106.91	124.817	-3,101.23	3,126.92	703.32	530.46	172.87	4.069	
8,900.00	4,082.97	9,200.97	4,484.71	108.79	109.17	124.829	-3,172.30	3,197.26	703.42	527.19	176.23	3.992	
9,000.00	4,082.29	9,300.97	4,484.21	111.05	111.44	124.841	-3,243.37	3,267.61	703.52	523.94	179.58	3.918	
9,100.00	4,081.61	9,400.97	4,483.70	113.31	113.70	124.853	-3,314.44	3,337.96	703.62	520.70	182.92	3.847	
9,200.00	4,080.93	9,500.97	4,483.20	115.58	115.96	124.865	-3,385.51	3,408.31	703.72	517.48	186.25	3.778	
9,300.00	4,080.24	9,600.97	4,482.69	117.85	118.23	124.877	-3,456.58	3,478.65	703.83	514.26	189.57	3.713	
9,400.00	4,079.56	9,700.97	4,482.19	120.11	120.50	124.888	-3,527.65	3,549.00	703.93	511.06	192.87	3.650	
9,500.00	4,078.88	9,800.97	4,481.68	122.38	122.76	124.900	-3,598.72	3,619.35	704.03	507.87	196.16	3.589	
9,600.00	4,078.20	9,900.97	4,481.18	124.65	125.03	124.912	-3,669.79	3,689.69	704.13	504.69	199.44	3.531	
9,700.00	4,077.51	10,000.97	4,480.67	126.92	127.30	124.924	-3,740.86	3,760.04	704.23	501.52	202.71	3.474	
9,800.00	4,076.83	10,100.97	4,480.17	129.19	129.57	124.936	-3,811.93	3,830.39	704.33	498.37	205.96	3.420	
9,900.00	4,076.15	10,200.97	4,479.67	131.46	131.84	124.948	-3,883.00	3,900.74	704.43	495.23	209.20	3.367	
10,000.00	4,075.47	10,300.97	4,479.16	133.73	134.11	124.960	-3,954.07	3,971.08	704.53	492.11	212.42	3.317	
10,100.00	4,074.79	10,400.97	4,478.66	136.00	136.38	124.972	-4,025.14	4,041.43	704.63	489.00	215.64	3.268	

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 Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Greater Lybrook Unit 730 (43,44,45,46&47) - Greater Lybrook Unit 44H - Original Hole - rev0													Offset Site Error: 0.00 ft	
Survey Program: Reference		Offset		Semi Major Axis		Offset Wellbore Centre			Rule Assigned: Distance				Offset Well Error: 0.00 ft	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
10,200.00	4,074.10	10,500.97	4,478.15	138.28	138.66	124.983	-4,096.21	4,111.78	704.73	485.90	218.83	3.220		
10,300.00	4,073.42	10,600.97	4,477.65	140.55	140.93	124.995	-4,167.28	4,182.13	704.84	482.81	222.02	3.175		
10,400.00	4,072.74	10,700.97	4,477.14	142.82	143.20	125.007	-4,238.35	4,252.47	704.94	479.75	225.19	3.130		
10,500.00	4,072.06	10,800.97	4,476.64	145.10	145.48	125.019	-4,309.42	4,322.82	705.04	476.69	228.35	3.088		
10,600.00	4,071.38	10,900.97	4,476.13	147.37	147.75	125.031	-4,380.49	4,393.17	705.14	473.65	231.49	3.046		
10,700.00	4,070.69	11,000.97	4,475.63	149.65	150.02	125.043	-4,451.56	4,463.52	705.24	470.62	234.62	3.006		
10,800.00	4,070.01	11,100.97	4,475.12	151.92	152.30	125.054	-4,522.63	4,533.86	705.34	467.61	237.73	2.967		
10,900.00	4,069.33	11,200.97	4,474.62	154.20	154.58	125.066	-4,593.70	4,604.21	705.44	464.61	240.83	2.929		
11,000.00	4,068.65	11,300.97	4,474.11	156.48	156.85	125.078	-4,664.77	4,674.56	705.54	461.63	243.92	2.893		
11,100.00	4,067.97	11,400.97	4,473.61	158.75	159.13	125.090	-4,735.84	4,744.91	705.64	458.66	246.98	2.857		
11,200.00	4,067.28	11,500.97	4,473.10	161.03	161.40	125.102	-4,806.91	4,815.25	705.75	455.71	250.04	2.823		
11,300.00	4,066.60	11,600.97	4,472.60	163.31	163.68	125.114	-4,877.98	4,885.60	705.85	452.77	253.08	2.789		
11,400.00	4,065.92	11,700.97	4,472.10	165.58	165.96	125.125	-4,949.05	4,955.95	705.95	449.84	256.10	2.756		
11,500.00	4,065.24	11,800.97	4,471.59	167.86	168.24	125.137	-5,020.12	5,026.30	706.05	446.94	259.11	2.725		
11,600.00	4,064.56	11,900.97	4,471.09	170.14	170.52	125.149	-5,091.19	5,096.64	706.15	444.04	262.11	2.694		
11,700.00	4,063.87	12,000.97	4,470.58	172.42	172.79	125.161	-5,162.26	5,166.99	706.25	441.17	265.09	2.664		
11,800.00	4,063.19	12,100.97	4,470.08	174.70	175.07	125.173	-5,233.33	5,237.34	706.35	438.30	268.05	2.635		
11,900.00	4,062.51	12,200.96	4,469.57	176.98	177.35	125.184	-5,304.40	5,307.69	706.46	435.46	271.00	2.607		
12,000.00	4,061.83	12,300.96	4,469.07	179.26	179.63	125.196	-5,375.47	5,378.03	706.56	432.62	273.93	2.579		
12,100.00	4,061.15	12,400.96	4,468.56	181.54	181.91	125.208	-5,446.54	5,448.38	706.66	429.81	276.85	2.552		
12,200.00	4,060.46	12,500.96	4,468.06	183.82	184.19	125.220	-5,517.61	5,518.73	706.76	427.01	279.75	2.526		
12,300.00	4,059.78	12,600.96	4,467.55	186.10	186.47	125.231	-5,588.68	5,589.08	706.86	424.22	282.64	2.501		
12,400.00	4,059.10	12,700.96	4,467.05	188.38	188.75	125.243	-5,659.75	5,659.42	706.96	421.45	285.51	2.476		
12,500.00	4,058.42	12,800.96	4,466.54	190.66	191.03	125.255	-5,730.82	5,729.77	707.07	418.70	288.37	2.452		
12,600.00	4,057.74	12,900.96	4,466.04	192.94	193.31	125.267	-5,801.89	5,800.12	707.17	415.96	291.21	2.428		
12,700.00	4,057.05	13,000.96	4,465.53	195.22	195.59	125.279	-5,872.96	5,870.47	707.27	413.23	294.04	2.405		
12,800.00	4,056.37	13,100.96	4,465.03	197.50	197.88	125.290	-5,944.03	5,940.81	707.37	410.53	296.85	2.383		
12,900.00	4,055.69	13,200.96	4,464.52	199.78	200.16	125.302	-6,015.10	6,011.16	707.47	407.83	299.64	2.361		
13,000.00	4,055.01	13,300.96	4,464.02	202.07	202.44	125.314	-6,086.17	6,081.51	707.58	405.16	302.42	2.340		
13,100.00	4,054.33	13,400.96	4,463.52	204.35	204.72	125.326	-6,157.24	6,151.86	707.68	402.49	305.18	2.319		
13,200.00	4,053.64	13,500.96	4,463.01	206.63	207.00	125.337	-6,228.31	6,222.20	707.78	399.85	307.93	2.298		
13,300.00	4,052.96	13,600.96	4,462.51	208.91	209.28	125.349	-6,299.38	6,292.55	707.88	397.21	310.67	2.279		
13,400.00	4,052.28	13,700.96	4,462.00	211.20	211.57	125.361	-6,370.45	6,362.90	707.98	394.60	313.39	2.259		
13,500.00	4,051.60	13,800.96	4,461.50	213.48	213.85	125.373	-6,441.52	6,433.25	708.09	392.00	316.09	2.240		
13,600.00	4,050.92	13,899.36	4,461.00	215.76	216.10	125.384	-6,511.45	6,502.46	708.19	389.47	318.72	2.222 SF		
13,700.00	4,050.23	13,899.36	4,461.00	218.04	216.10	125.384	-6,511.45	6,502.46	715.54	403.06	312.48	2.290		
13,800.00	4,049.55	13,899.36	4,461.00	220.33	216.10	125.384	-6,511.45	6,502.46	736.52	439.23	297.30	2.477		
13,900.00	4,048.87	13,899.36	4,461.00	222.61	216.10	125.384	-6,511.45	6,502.46	770.02	493.02	277.00	2.780		
14,000.00	4,048.19	13,899.36	4,461.00	224.89	216.10	125.384	-6,511.45	6,502.46	814.49	559.37	255.12	3.193		
14,100.00	4,047.51	13,899.36	4,461.00	227.18	216.10	125.384	-6,511.45	6,502.46	868.25	634.36	233.89	3.712		
14,174.11	4,047.00	13,899.36	4,461.00	228.87	216.10	125.384	-6,511.45	6,502.46	913.13	693.86	219.27	4.164		

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 Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Greater Lybrook Unit 730 (43,44,45,46&47) - Greater Lybrook Unit 46H - 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	0.811	20.02	0.28	20.02				
100.00	100.00	100.00	100.00	0.27	0.27	0.811	20.02	0.28	20.02	19.47	0.55	36.508	
200.00	200.00	200.00	200.00	0.63	0.63	0.811	20.02	0.28	20.02	18.76	1.27	15.824	
300.00	300.00	300.00	300.00	0.99	0.99	0.811	20.02	0.28	20.02	18.04	1.98	10.101	
400.00	400.00	400.00	400.00	1.35	1.35	0.811	20.02	0.28	20.02	17.32	2.70	7.418	
500.00	500.00	500.00	500.00	1.71	1.71	0.811	20.02	0.28	20.02	16.61	3.42	5.861	
600.00	600.00	600.00	600.00	2.07	2.07	0.811	20.02	0.28	20.02	15.89	4.13	4.845	
700.00	700.00	700.00	700.00	2.43	2.43	0.811	20.02	0.28	20.02	15.17	4.85	4.128 CC, ES	
800.00	800.00	798.96	798.92	2.78	2.78	3.490	22.35	1.36	22.41	16.85	5.56	4.031	
900.00	900.00	897.40	897.05	3.14	3.14	8.886	29.27	4.58	29.77	23.51	6.26	4.758	
1,000.00	999.95	995.13	993.96	3.50	3.49	3.860	40.66	9.87	39.69	32.76	6.93	5.727	
1,100.00	1,099.63	1,092.32	1,089.57	3.86	3.87	8.301	56.44	17.19	49.66	42.09	7.58	6.554	
1,200.00	1,198.77	1,188.96	1,183.64	4.23	4.27	12.446	76.48	26.50	59.79	51.59	8.21	7.286	
1,300.00	1,297.08	1,285.04	1,275.94	4.60	4.70	16.379	100.66	37.72	70.17	61.34	8.83	7.951	
1,400.00	1,394.31	1,380.56	1,366.25	5.01	5.18	20.132	128.84	50.81	80.88	71.45	9.43	8.575	
1,500.00	1,490.18	1,479.07	1,458.24	5.45	5.72	24.025	160.79	65.64	90.48	80.29	10.18	8.885	
1,600.00	1,584.43	1,578.62	1,551.18	5.94	6.28	28.615	193.16	80.67	95.93	84.90	11.02	8.703	
1,700.00	1,677.53	1,678.18	1,644.12	6.47	6.87	33.777	225.54	95.70	99.17	87.22	11.94	8.302	
1,800.00	1,770.62	1,777.73	1,737.05	7.03	7.47	38.603	257.91	110.73	103.12	90.17	12.95	7.965	
1,900.00	1,863.70	1,877.29	1,829.99	7.60	8.09	43.047	290.29	125.76	107.76	93.73	14.02	7.684	
2,000.00	1,956.78	1,976.84	1,922.93	8.20	8.71	47.104	322.66	140.79	112.98	97.82	15.16	7.451	
2,100.00	2,049.86	2,076.40	2,015.87	8.80	9.34	50.788	355.03	155.83	118.73	102.37	16.36	7.258	
2,200.00	2,142.94	2,175.96	2,108.80	9.42	9.98	54.121	387.41	170.86	124.92	107.32	17.60	7.099	
2,300.00	2,236.02	2,275.51	2,201.74	10.05	10.62	57.132	419.78	185.89	131.50	112.62	18.87	6.967	
2,400.00	2,329.10	2,375.07	2,294.68	10.68	11.26	59.850	452.16	200.92	138.40	118.22	20.17	6.860	
2,500.00	2,422.19	2,474.63	2,387.62	11.32	11.91	62.306	484.53	215.95	145.58	124.09	21.50	6.772	
2,600.00	2,515.27	2,574.18	2,480.55	11.96	12.56	64.529	516.91	230.98	153.01	130.18	22.83	6.701	
2,700.00	2,608.35	2,673.74	2,573.49	12.61	13.21	66.543	549.28	246.01	160.64	136.46	24.18	6.643	
2,800.00	2,701.43	2,773.29	2,666.43	13.26	13.87	68.374	581.66	261.04	168.46	142.92	25.54	6.596	
2,900.00	2,794.81	2,872.86	2,759.37	13.90	14.52	69.919	614.03	276.08	176.72	149.85	26.87	6.577	
3,000.00	2,889.78	2,972.35	2,852.25	14.50	15.18	70.099	646.39	291.10	186.65	158.62	28.03	6.660	
3,100.00	2,986.26	3,071.51	2,944.82	15.05	15.84	68.914	678.63	306.07	198.42	169.44	28.98	6.846	
3,200.00	3,083.98	3,170.08	3,036.83	15.53	16.49	66.654	710.68	320.95	212.35	182.61	29.74	7.141	
3,300.00	3,182.67	3,267.77	3,128.03	15.97	17.14	63.624	742.45	335.70	228.96	198.67	30.29	7.558	
3,400.00	3,282.07	3,364.32	3,218.16	16.34	17.79	60.123	773.85	350.28	248.86	218.19	30.67	8.115	
3,500.00	3,381.90	3,459.46	3,306.98	16.66	18.42	56.422	804.79	364.64	272.63	241.73	30.90	8.823	
3,600.00	3,481.89	3,553.11	3,394.40	16.92	19.05	62.490	835.24	378.78	300.48	269.43	31.06	9.675	
3,700.00	3,581.85	3,646.23	3,481.33	17.17	19.67	-75.515	865.52	392.84	329.91	298.68	31.22	10.566	
3,800.00	3,680.43	3,736.26	3,565.37	17.34	20.27	-77.998	894.80	406.43	358.09	327.03	31.06	11.528	
3,900.00	3,774.73	3,820.18	3,643.72	17.43	20.83	-81.441	922.09	419.10	387.21	356.54	30.67	12.625	
4,000.00	3,861.89	3,895.45	3,713.99	17.45	21.34	-84.711	946.57	430.47	420.67	390.33	30.34	13.866	
4,100.00	3,939.26	3,959.79	3,774.04	17.42	21.77	-86.746	967.49	440.18	461.39	431.02	30.37	15.191	
4,200.00	4,004.48	4,011.23	3,822.06	17.35	22.11	-86.648	984.22	447.95	511.03	480.09	30.94	16.518	
4,300.00	4,055.58	4,048.21	3,856.59	17.25	22.36	-83.729	996.24	453.53	569.63	537.66	31.98	17.815	
4,400.00	4,091.00	4,069.61	3,876.57	17.14	22.50	-77.603	1,003.20	456.76	635.81	602.54	33.27	19.112	
4,500.00	4,109.66	4,074.79	3,881.40	17.06	22.54	-68.495	1,004.89	457.54	707.14	672.56	34.58	20.450	
4,600.00	4,112.29	5,100.08	4,528.44	18.16	25.38	-124.191	694.89	993.82	740.68	712.65	28.02	26.431	
4,700.00	4,111.61	5,200.03	4,527.91	19.48	25.88	-124.377	623.85	1,064.13	738.21	708.29	29.93	24.669	
4,800.00	4,110.93	5,299.80	4,527.39	20.98	26.62	-124.749	552.94	1,134.33	732.88	700.79	32.09	22.835	
4,900.00	4,110.25	5,399.47	4,526.86	22.63	27.60	-125.129	482.11	1,204.43	726.21	691.73	34.48	21.060	
5,000.00	4,109.57	5,499.13	4,526.34	24.39	28.78	-125.513	411.29	1,274.54	719.58	682.53	37.05	19.422	
5,100.00	4,108.89	5,598.92	4,525.81	26.23	30.14	-125.748	340.37	1,344.74	714.45	674.65	39.81	17.949	

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 Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design:		Greater Lybrook Unit 730 (43,44,45,46&47) - Greater Lybrook Unit 46H - Original Hole - rev0											Offset Site Error:		0.00 ft	
Survey Program:		0-MWD						Rule Assigned:						Offset Well Error:		0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	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)						
5,200.00	4,108.21	5,698.87	4,525.29	28.10	31.64	-125.855	269.33	1,415.06	712.17	669.43	42.75	16.660				
5,290.28	4,107.59	5,789.14	4,524.81	29.82	33.09	-125.886	205.17	1,478.57	711.78	666.26	45.53	15.634				
5,300.00	4,107.52	5,798.87	4,524.76	30.01	33.26	-125.869	198.26	1,485.41	712.11	666.26	45.84	15.534				
5,400.00	4,106.84	5,898.87	4,524.24	31.96	34.96	-125.879	127.19	1,555.75	712.20	663.17	49.02	14.527				
5,500.00	4,106.16	5,998.87	4,523.71	33.95	36.73	-125.889	56.12	1,626.10	712.29	660.02	52.27	13.627				
5,600.00	4,105.48	6,098.87	4,523.19	35.98	38.57	-125.899	-14.95	1,696.45	712.38	656.82	55.56	12.821				
5,700.00	4,104.80	6,198.87	4,522.66	38.03	40.46	-125.909	-86.02	1,766.80	712.48	653.58	58.90	12.097				
5,800.00	4,104.11	6,298.87	4,522.13	40.11	42.39	-125.919	-157.08	1,837.15	712.57	650.31	62.26	11.445				
5,900.00	4,103.43	6,398.87	4,521.61	42.21	44.35	-125.929	-228.15	1,907.49	712.66	647.01	65.65	10.855				
6,000.00	4,102.75	6,498.87	4,521.08	44.33	46.35	-125.939	-299.22	1,977.84	712.76	643.69	69.06	10.321				
6,100.00	4,102.07	6,598.87	4,520.56	46.46	48.37	-125.949	-370.29	2,048.19	712.85	640.36	72.49	9.834				
6,200.00	4,101.39	6,698.87	4,520.03	48.61	50.41	-125.960	-441.36	2,118.54	712.94	637.02	75.92	9.390				
6,300.00	4,100.70	6,798.87	4,519.50	50.77	52.48	-125.970	-512.43	2,188.89	713.04	633.67	79.37	8.984				
6,400.00	4,100.02	6,898.86	4,518.98	52.94	54.57	-125.980	-583.50	2,259.24	713.13	630.31	82.82	8.611				
6,500.00	4,099.34	6,998.86	4,518.45	55.12	56.67	-125.990	-654.57	2,329.58	713.22	626.95	86.28	8.267				
6,600.00	4,098.66	7,098.86	4,517.93	57.31	58.78	-126.000	-725.64	2,399.93	713.32	623.58	89.73	7.949				
6,700.00	4,097.98	7,198.86	4,517.40	59.51	60.91	-126.010	-796.71	2,470.28	713.41	620.22	93.19	7.655				
6,800.00	4,097.29	7,298.86	4,516.88	61.71	63.05	-126.020	-867.78	2,540.63	713.50	616.85	96.65	7.382				
6,900.00	4,096.61	7,398.86	4,516.35	63.92	65.20	-126.030	-938.85	2,610.98	713.59	613.49	100.11	7.128				
7,000.00	4,095.93	7,498.86	4,515.82	66.13	67.36	-126.040	-1,009.92	2,681.32	713.69	610.13	103.56	6.892				
7,100.00	4,095.25	7,598.86	4,515.30	68.35	69.52	-126.050	-1,080.98	2,751.67	713.78	606.77	107.01	6.670				
7,200.00	4,094.57	7,698.86	4,514.77	70.57	71.70	-126.060	-1,152.05	2,822.02	713.87	603.42	110.45	6.463				
7,300.00	4,093.88	7,798.86	4,514.25	72.80	73.88	-126.070	-1,223.12	2,892.37	713.97	600.07	113.89	6.269				
7,400.00	4,093.20	7,898.86	4,513.72	75.03	76.07	-126.080	-1,294.19	2,962.72	714.06	596.73	117.33	6.086				
7,500.00	4,092.52	7,998.86	4,513.19	77.27	78.26	-126.090	-1,365.26	3,033.06	714.16	593.40	120.76	5.914				
7,600.00	4,091.84	8,098.86	4,512.67	79.50	80.46	-126.100	-1,436.33	3,103.41	714.25	590.07	124.18	5.752				
7,700.00	4,091.16	8,198.86	4,512.14	81.74	82.66	-126.110	-1,507.40	3,173.76	714.34	586.75	127.59	5.599				
7,800.00	4,090.47	8,298.86	4,511.62	83.99	84.87	-126.120	-1,578.47	3,244.11	714.44	583.44	130.99	5.454				
7,900.00	4,089.79	8,398.86	4,511.09	86.23	87.08	-126.130	-1,649.54	3,314.46	714.53	580.14	134.39	5.317				
8,000.00	4,089.11	8,498.86	4,510.56	88.48	89.30	-126.140	-1,720.61	3,384.81	714.62	576.85	137.78	5.187				
8,100.00	4,088.43	8,598.86	4,510.04	90.73	91.52	-126.150	-1,791.68	3,455.15	714.72	573.56	141.15	5.063				
8,200.00	4,087.75	8,698.86	4,509.51	92.98	93.74	-126.160	-1,862.75	3,525.50	714.81	570.29	144.52	4.946				
8,300.00	4,087.06	8,798.86	4,508.99	95.24	95.97	-126.171	-1,933.82	3,595.85	714.90	567.02	147.88	4.834				
8,400.00	4,086.38	8,898.86	4,508.46	97.49	98.20	-126.181	-2,004.89	3,666.20	715.00	563.77	151.23	4.728				
8,500.00	4,085.70	8,998.86	4,507.94	99.75	100.43	-126.191	-2,075.95	3,736.55	715.09	560.52	154.57	4.626				
8,600.00	4,085.02	9,098.86	4,507.41	102.01	102.66	-126.201	-2,147.02	3,806.89	715.18	557.29	157.89	4.530				
8,700.00	4,084.34	9,198.86	4,506.88	104.26	104.90	-126.211	-2,218.09	3,877.24	715.28	554.07	161.21	4.437				
8,800.00	4,083.65	9,298.86	4,506.36	106.53	107.14	-126.221	-2,289.16	3,947.59	715.37	550.86	164.52	4.348				
8,900.00	4,082.97	9,398.86	4,505.83	108.79	109.38	-126.231	-2,360.23	4,017.94	715.47	547.66	167.81	4.264				
9,000.00	4,082.29	9,498.86	4,505.31	111.05	111.63	-126.241	-2,431.30	4,088.29	715.56	544.47	171.09	4.182				
9,100.00	4,081.61	9,598.86	4,504.78	113.31	113.87	-126.251	-2,502.37	4,158.63	715.65	541.29	174.36	4.104				
9,200.00	4,080.93	9,698.86	4,504.25	115.58	116.12	-126.261	-2,573.44	4,228.98	715.75	538.12	177.62	4.030				
9,300.00	4,080.24	9,798.86	4,503.73	117.85	118.36	-126.271	-2,644.51	4,299.33	715.84	534.97	180.87	3.958				
9,400.00	4,079.56	9,898.86	4,503.20	120.11	120.61	-126.281	-2,715.58	4,369.68	715.93	531.83	184.10	3.889				
9,500.00	4,078.88	9,998.86	4,502.68	122.38	122.87	-126.291	-2,786.65	4,440.03	716.03	528.70	187.33	3.822				
9,600.00	4,078.20	10,098.86	4,502.15	124.65	125.12	-126.301	-2,857.72	4,510.38	716.12	525.58	190.54	3.758				
9,700.00	4,077.51	10,198.86	4,501.62	126.92	127.37	-126.311	-2,928.79	4,580.72	716.22	522.48	193.73	3.697				
9,800.00	4,076.83	10,298.86	4,501.10	129.19	129.63	-126.320	-2,999.86	4,651.07	716.31	519.39	196.92	3.638				
9,900.00	4,076.15	10,398.86	4,500.57	131.46	131.88	-126.330	-3,070.92	4,721.42	716.40	516.31	200.09	3.580				
10,000.00	4,075.47	10,498.86	4,500.05	133.73	134.14	-126.340	-3,141.99	4,791.77	716.50	513.25	203.25	3.525				
10,100.00	4,074.79	10,598.86	4,499.52	136.00	136.40	-126.350	-3,213.06	4,862.12	716.59	510.20	206.39	3.472				
10,200.00	4,074.10	10,698.86	4,498.99	138.28	138.66	-126.360	-3,284.13	4,932.46	716.69	507.16	209.53	3.420				

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 Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Greater Lybrook Unit 730 (43,44,45,46&47) - Greater Lybrook Unit 46H - Original Hole - rev0											Offset Site Error:	0.00 ft
Survey Program: 0-MWD											Offset Well Error:	0.00 ft
Rule Assigned:											Warning	
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
10,300.00	4,073.42	10,798.86	4,498.47	140.55	140.92	-126.370	-3,355.20	5,002.81	716.78	504.13	212.65	3.371
10,400.00	4,072.74	10,898.86	4,497.94	142.82	143.18	-126.380	-3,426.27	5,073.16	716.87	501.12	215.75	3.323
10,500.00	4,072.06	10,998.86	4,497.42	145.10	145.44	-126.390	-3,497.34	5,143.51	716.97	498.12	218.84	3.276
10,600.00	4,071.38	11,098.86	4,496.89	147.37	147.71	-126.400	-3,568.41	5,213.86	717.06	495.14	221.92	3.231
10,700.00	4,070.69	11,198.86	4,496.37	149.65	149.97	-126.410	-3,639.48	5,284.20	717.16	492.17	224.99	3.188
10,800.00	4,070.01	11,298.86	4,495.84	151.92	152.24	-126.420	-3,710.55	5,354.55	717.25	489.21	228.04	3.145
10,900.00	4,069.33	11,398.86	4,495.31	154.20	154.50	-126.430	-3,781.62	5,424.90	717.34	486.27	231.07	3.104
11,000.00	4,068.65	11,498.86	4,494.79	156.48	156.77	-126.440	-3,852.69	5,495.25	717.44	483.34	234.10	3.065
11,100.00	4,067.97	11,598.86	4,494.26	158.75	159.04	-126.450	-3,923.76	5,565.60	717.53	480.43	237.10	3.026
11,200.00	4,067.28	11,698.86	4,493.74	161.03	161.30	-126.460	-3,994.83	5,635.95	717.63	477.53	240.10	2.989
11,300.00	4,066.60	11,798.86	4,493.21	163.31	163.57	-126.470	-4,065.89	5,706.29	717.72	474.64	243.08	2.953
11,400.00	4,065.92	11,898.86	4,492.68	165.58	165.84	-126.480	-4,136.96	5,776.64	717.81	471.77	246.05	2.917
11,500.00	4,065.24	11,998.86	4,492.16	167.86	168.11	-126.490	-4,208.03	5,846.99	717.91	468.91	249.00	2.883
11,600.00	4,064.56	12,098.86	4,491.63	170.14	170.38	-126.500	-4,279.10	5,917.34	718.00	466.07	251.93	2.850
11,700.00	4,063.87	12,198.86	4,491.11	172.42	172.65	-126.510	-4,350.17	5,987.69	718.10	463.24	254.86	2.818
11,800.00	4,063.19	12,298.86	4,490.58	174.70	174.92	-126.520	-4,421.24	6,058.03	718.19	460.42	257.77	2.786
11,900.00	4,062.51	12,398.86	4,490.05	176.98	177.19	-126.529	-4,492.31	6,128.38	718.29	457.62	260.66	2.756
12,000.00	4,061.83	12,498.86	4,489.53	179.26	179.46	-126.539	-4,563.38	6,198.73	718.38	454.84	263.54	2.726
12,100.00	4,061.15	12,598.86	4,489.00	181.54	181.74	-126.549	-4,634.45	6,269.08	718.48	452.06	266.41	2.697
12,200.00	4,060.46	12,698.86	4,488.48	183.82	184.01	-126.559	-4,705.52	6,339.43	718.57	449.31	269.26	2.669
12,300.00	4,059.78	12,798.86	4,487.95	186.10	186.28	-126.569	-4,776.59	6,409.77	718.66	446.56	272.10	2.641
12,400.00	4,059.10	12,898.86	4,487.43	188.38	188.56	-126.579	-4,847.66	6,480.12	718.76	443.84	274.92	2.614
12,500.00	4,058.42	12,998.86	4,486.90	190.66	190.83	-126.589	-4,918.73	6,550.47	718.85	441.12	277.73	2.588
12,600.00	4,057.74	13,098.86	4,486.37	192.94	193.10	-126.599	-4,989.79	6,620.82	718.95	438.42	280.53	2.563
12,700.00	4,057.05	13,198.86	4,485.85	195.22	195.38	-126.609	-5,060.86	6,691.17	719.04	435.73	283.31	2.538
12,800.00	4,056.37	13,298.86	4,485.32	197.50	197.65	-126.619	-5,131.93	6,761.52	719.14	433.06	286.08	2.514
12,900.00	4,055.69	13,398.86	4,484.80	199.78	199.93	-126.629	-5,203.00	6,831.86	719.23	430.40	288.83	2.490
13,000.00	4,055.01	13,498.86	4,484.27	202.07	202.20	-126.638	-5,274.07	6,902.21	719.33	427.76	291.57	2.467
13,100.00	4,054.33	13,598.86	4,483.74	204.35	204.48	-126.648	-5,345.14	6,972.56	719.42	425.13	294.29	2.445
13,200.00	4,053.64	13,698.86	4,483.22	206.63	206.76	-126.658	-5,416.21	7,042.91	719.52	422.51	297.00	2.423
13,300.00	4,052.96	13,798.86	4,482.69	208.91	209.03	-126.668	-5,487.28	7,113.26	719.61	419.91	299.70	2.401
13,400.00	4,052.28	13,898.86	4,482.17	211.20	211.31	-126.678	-5,558.35	7,183.60	719.70	417.33	302.38	2.380
13,500.00	4,051.60	13,998.86	4,481.64	213.48	213.59	-126.688	-5,629.42	7,253.95	719.80	414.75	305.05	2.360
13,600.00	4,050.92	14,098.86	4,481.11	215.76	215.86	-126.698	-5,700.49	7,324.30	719.89	412.19	307.70	2.340
13,700.00	4,050.23	14,198.86	4,480.59	218.04	218.14	-126.708	-5,771.56	7,394.65	719.99	409.65	310.34	2.320
13,800.00	4,049.55	14,298.86	4,480.06	220.33	220.42	-126.718	-5,842.63	7,465.00	720.08	407.11	312.97	2.301
13,900.00	4,048.87	14,398.86	4,479.54	222.61	222.70	-126.727	-5,913.70	7,535.34	720.18	404.59	315.59	2.282
14,000.00	4,048.19	14,498.86	4,479.01	224.89	224.98	-126.737	-5,984.76	7,605.69	720.27	402.09	318.19	2.264
14,100.00	4,047.51	14,598.86	4,478.49	227.18	227.25	-126.747	-6,055.83	7,676.04	720.37	399.59	320.77	2.246
14,174.11	4,047.00	14,672.97	4,478.10	228.87	228.94	-126.754	-6,108.50	7,728.18	720.44	397.76	322.68	2.233 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 Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Greater Lybrook Unit 730 (43,44,45,46&47) - Greater Lybrook Unit 47H - Original Hole - rev0												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis	Highside	Rule Assigned:				Warning					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	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	0.389	40.04	0.27	40.04				
100.00	100.00	100.00	100.00	0.27	0.27	0.389	40.04	0.27	40.04	39.49	0.55	73.010	
200.00	200.00	200.00	200.00	0.63	0.63	0.389	40.04	0.27	40.04	38.78	1.27	31.645	
300.00	300.00	300.00	300.00	0.99	0.99	0.389	40.04	0.27	40.04	38.06	1.98	20.200	
400.00	400.00	400.00	400.00	1.35	1.35	0.389	40.04	0.27	40.04	37.34	2.70	14.835	
500.00	500.00	500.00	500.00	1.71	1.71	0.389	40.04	0.27	40.04	36.63	3.42	11.721	CC, ES
600.00	600.00	598.14	598.10	2.07	2.06	2.131	42.20	1.57	42.28	38.15	4.13	10.247	
700.00	700.00	695.77	695.42	2.43	2.42	6.379	48.63	5.44	49.15	44.32	4.83	10.177	
800.00	800.00	792.38	791.24	2.78	2.77	11.257	59.19	11.78	60.98	55.46	5.52	11.048	
900.00	900.00	887.50	884.85	3.14	3.14	15.530	73.62	20.46	77.90	71.70	6.19	12.580	
1,000.00	999.95	981.26	976.18	3.50	3.54	9.010	91.73	31.35	97.31	90.47	6.84	14.234	
1,100.00	1,099.63	1,074.05	1,065.44	3.86	3.98	12.116	113.42	44.39	116.69	109.23	7.46	15.649	
1,200.00	1,198.77	1,165.86	1,152.45	4.23	4.45	14.990	138.52	59.48	136.10	128.04	8.06	16.892	
1,300.00	1,297.08	1,256.71	1,237.07	4.60	4.97	17.697	166.85	76.51	155.60	146.95	8.65	17.988	
1,400.00	1,394.31	1,346.60	1,319.15	5.01	5.54	20.270	198.24	95.38	175.26	166.02	9.24	18.962	
1,500.00	1,490.18	1,435.55	1,398.58	5.45	6.16	22.729	232.53	116.00	195.13	185.29	9.84	19.827	
1,600.00	1,584.43	1,528.74	1,480.06	5.94	6.86	25.255	271.29	139.30	214.65	204.07	10.57	20.301	
1,700.00	1,677.53	1,626.60	1,565.38	6.47	7.63	27.999	312.36	163.99	232.21	220.76	11.46	20.267	
1,800.00	1,770.62	1,724.46	1,650.71	7.03	8.41	30.391	353.43	188.68	250.20	237.80	12.40	20.185	
1,900.00	1,863.70	1,822.33	1,736.05	7.60	9.21	32.463	394.49	213.37	268.55	255.17	13.37	20.080	
2,000.00	1,956.78	1,920.20	1,821.38	8.20	10.02	34.270	435.56	238.06	287.20	272.81	14.39	19.961	
2,100.00	2,049.86	2,018.06	1,906.71	8.80	10.84	35.856	476.63	262.75	306.09	290.65	15.43	19.834	
2,200.00	2,142.94	2,115.93	1,992.04	9.42	11.67	37.258	517.70	287.44	325.18	308.68	16.50	19.703	
2,300.00	2,236.02	2,213.79	2,077.37	10.05	12.50	38.505	558.76	312.13	344.44	326.85	17.60	19.573	
2,400.00	2,329.10	2,311.66	2,162.70	10.68	13.33	39.620	599.83	336.82	363.85	345.13	18.71	19.446	
2,500.00	2,422.19	2,409.52	2,248.03	11.32	14.17	40.623	640.90	361.51	383.37	363.53	19.84	19.322	
2,600.00	2,515.27	2,507.39	2,333.37	11.96	15.01	41.528	681.97	386.20	402.99	382.01	20.98	19.204	
2,700.00	2,608.35	2,605.25	2,418.70	12.61	15.86	42.349	723.03	410.89	422.71	400.56	22.14	19.092	
2,800.00	2,701.43	2,703.12	2,504.03	13.26	16.70	43.098	764.10	435.58	442.49	419.19	23.31	18.984	
2,900.00	2,794.81	2,800.89	2,589.28	13.90	17.55	43.960	805.13	460.25	462.95	438.48	24.47	18.920	
3,000.00	2,889.78	2,897.99	2,673.94	14.50	18.39	44.632	845.88	484.75	486.76	461.22	25.54	19.057	
3,100.00	2,986.26	2,994.12	2,757.76	15.05	19.23	44.953	886.21	509.00	514.18	487.67	26.51	19.397	
3,200.00	3,083.98	3,089.00	2,840.49	15.53	20.05	44.987	926.03	532.94	545.17	517.81	27.37	19.920	
3,300.00	3,182.67	3,182.39	2,921.92	15.97	20.86	44.803	965.22	556.50	579.78	551.65	28.12	20.614	
3,400.00	3,282.07	3,274.02	3,001.81	16.34	21.66	44.464	1,003.67	579.62	618.02	589.24	28.79	21.468	
3,500.00	3,381.90	3,363.64	3,079.95	16.66	22.44	44.030	1,041.28	602.23	659.97	630.61	29.37	22.472	
3,600.00	3,481.89	3,451.22	3,156.32	16.92	23.21	53.116	1,078.03	624.32	705.37	675.48	29.89	23.601	
3,700.00	3,581.85	3,538.19	3,232.15	17.17	23.97	-81.508	1,114.52	646.26	751.53	721.15	30.38	24.737	
3,800.00	3,680.43	3,622.21	3,305.41	17.34	24.70	-78.887	1,149.78	667.46	796.44	765.79	30.65	25.986	
3,900.00	3,774.73	3,700.47	3,373.64	17.43	25.39	-77.118	1,182.62	687.20	840.13	809.39	30.73	27.337	
4,000.00	3,861.89	3,770.57	3,434.77	17.45	26.00	-75.692	1,212.04	704.89	883.37	852.61	30.76	28.720	
4,100.00	3,939.26	3,830.40	3,486.94	17.42	26.52	-74.131	1,237.15	719.99	927.07	896.19	30.88	30.024	
4,200.00	4,004.48	3,878.14	3,528.56	17.35	26.94	-72.037	1,257.18	732.03	971.99	940.75	31.24	31.113	
4,300.00	4,055.58	3,912.33	3,558.38	17.25	27.24	-69.130	1,271.53	740.66	1,018.47	986.53	31.94	31.887	
4,400.00	4,091.00	3,933.38	3,576.73	17.14	27.43	-65.385	1,280.36	745.97	1,066.33	1,033.34	32.99	32.319	
4,500.00	4,109.66	3,950.87	3,592.00	17.06	27.58	-61.479	1,287.48	750.65	1,114.78	1,080.35	34.43	32.380	
4,600.00	4,112.29	3,926.73	3,570.93	18.16	27.37	-57.414	1,277.57	744.29	1,163.06	1,127.35	35.71	32.570	
4,700.00	4,111.61	5,020.86	4,119.06	19.48	34.06	-90.379	1,031.44	1,472.87	1,186.88	1,146.23	40.65	29.198	
4,800.00	4,110.93	5,120.64	4,118.53	20.98	34.62	-90.402	960.53	1,543.06	1,180.31	1,136.97	43.34	27.235	
4,900.00	4,110.25	5,220.30	4,118.01	22.63	35.32	-90.413	889.70	1,613.17	1,172.07	1,125.74	46.34	25.296	
5,000.00	4,109.57	5,319.96	4,117.48	24.39	36.15	-90.423	818.87	1,683.28	1,163.84	1,114.27	49.58	23.476	
5,100.00	4,108.89	5,419.75	4,116.95	26.23	37.12	-90.418	747.95	1,753.48	1,157.43	1,104.41	53.02	21.831	

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 Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Greater Lybrook Unit 730 (43,44,45,46&47) - Greater Lybrook Unit 47H - 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
5,200.00	4,108.21	5,519.70	4,116.42	28.10	38.23	-90.412	676.92	1,823.79	1,154.51	1,097.89	56.62	20.392	
5,290.65	4,107.59	5,610.34	4,115.95	29.83	39.34	-90.415	612.49	1,887.56	1,153.92	1,093.94	59.98	19.238	
5,300.00	4,107.52	5,619.70	4,115.90	30.01	39.46	-90.416	605.85	1,894.14	1,154.31	1,093.95	60.36	19.123	
5,400.00	4,106.84	5,719.70	4,115.37	31.96	40.80	-90.423	534.78	1,964.48	1,154.31	1,090.21	64.10	18.008	
5,500.00	4,106.16	5,819.70	4,114.84	33.95	42.24	-90.431	463.70	2,034.83	1,154.31	1,086.31	68.00	16.974	
5,600.00	4,105.48	5,919.70	4,114.31	35.98	43.77	-90.438	392.63	2,105.18	1,154.31	1,082.31	72.01	16.030	
5,700.00	4,104.80	6,019.70	4,113.78	38.03	45.38	-90.446	321.56	2,175.52	1,154.32	1,078.25	76.07	15.174	
5,800.00	4,104.11	6,119.70	4,113.26	40.11	47.06	-90.454	250.49	2,245.87	1,154.32	1,074.13	80.19	14.396	
5,900.00	4,103.43	6,219.70	4,112.73	42.21	48.80	-90.461	179.42	2,316.22	1,154.32	1,069.97	84.35	13.685	
6,000.00	4,102.75	6,319.70	4,112.20	44.33	50.59	-90.469	108.35	2,386.57	1,154.32	1,065.77	88.55	13.036	
6,100.00	4,102.07	6,419.70	4,111.67	46.46	52.42	-90.477	37.28	2,456.91	1,154.32	1,061.53	92.79	12.440	
6,200.00	4,101.39	6,519.70	4,111.14	48.61	54.30	-90.484	-33.79	2,527.26	1,154.32	1,057.27	97.06	11.893	
6,300.00	4,100.70	6,619.70	4,110.62	50.77	56.21	-90.492	-104.86	2,597.61	1,154.32	1,052.97	101.35	11.389	
6,400.00	4,100.02	6,719.70	4,110.09	52.94	58.15	-90.500	-175.93	2,667.95	1,154.33	1,048.66	105.67	10.924	
6,500.00	4,099.34	6,819.70	4,109.56	55.12	60.12	-90.507	-247.00	2,738.30	1,154.33	1,044.32	110.01	10.493	
6,600.00	4,098.66	6,919.70	4,109.03	57.31	62.11	-90.515	-318.07	2,808.65	1,154.33	1,039.96	114.37	10.093	
6,700.00	4,097.98	7,019.70	4,108.50	59.51	64.13	-90.523	-389.14	2,878.99	1,154.33	1,035.59	118.74	9.721	
6,800.00	4,097.29	7,119.70	4,107.98	61.71	66.16	-90.530	-460.21	2,949.34	1,154.33	1,031.20	123.13	9.375	
6,900.00	4,096.61	7,219.69	4,107.45	63.92	68.21	-90.538	-531.28	3,019.69	1,154.33	1,026.80	127.53	9.051	
7,000.00	4,095.93	7,319.69	4,106.92	66.13	70.28	-90.545	-602.35	3,090.04	1,154.34	1,022.39	131.95	8.748	
7,100.00	4,095.25	7,419.69	4,106.39	68.35	72.37	-90.553	-673.42	3,160.38	1,154.34	1,017.97	136.37	8.465	
7,200.00	4,094.57	7,519.69	4,105.86	70.57	74.46	-90.561	-744.49	3,230.73	1,154.34	1,013.53	140.81	8.198	
7,300.00	4,093.88	7,619.69	4,105.33	72.80	76.57	-90.568	-815.56	3,301.08	1,154.34	1,009.09	145.25	7.947	
7,400.00	4,093.20	7,719.69	4,104.81	75.03	78.69	-90.576	-886.63	3,371.42	1,154.34	1,004.64	149.70	7.711	
7,500.00	4,092.52	7,819.69	4,104.28	77.27	80.82	-90.584	-957.70	3,441.77	1,154.35	1,000.19	154.16	7.488	
7,600.00	4,091.84	7,919.69	4,103.75	79.50	82.95	-90.591	-1,028.77	3,512.12	1,154.35	995.72	158.62	7.277	
7,700.00	4,091.16	8,019.69	4,103.22	81.74	85.10	-90.599	-1,099.84	3,582.47	1,154.35	991.26	163.09	7.078	
7,800.00	4,090.47	8,119.69	4,102.69	83.99	87.25	-90.607	-1,170.91	3,652.81	1,154.35	986.78	167.57	6.889	
7,900.00	4,089.79	8,219.69	4,102.17	86.23	89.41	-90.614	-1,241.98	3,723.16	1,154.35	982.30	172.05	6.709	
8,000.00	4,089.11	8,319.69	4,101.64	88.48	91.58	-90.622	-1,313.05	3,793.51	1,154.35	977.82	176.54	6.539	
8,100.00	4,088.43	8,419.69	4,101.11	90.73	93.75	-90.630	-1,384.12	3,863.85	1,154.36	973.33	181.03	6.377	
8,200.00	4,087.75	8,519.69	4,100.58	92.98	95.93	-90.637	-1,455.19	3,934.20	1,154.36	968.83	185.52	6.222	
8,300.00	4,087.06	8,619.69	4,100.05	95.24	98.11	-90.645	-1,526.26	4,004.55	1,154.36	964.34	190.02	6.075	
8,400.00	4,086.38	8,719.69	4,099.53	97.49	100.30	-90.652	-1,597.33	4,074.89	1,154.36	959.84	194.53	5.934	
8,500.00	4,085.70	8,819.69	4,099.00	99.75	102.50	-90.660	-1,668.40	4,145.24	1,154.36	955.33	199.03	5.800	
8,600.00	4,085.02	8,919.69	4,098.47	102.01	104.69	-90.668	-1,739.48	4,215.59	1,154.37	950.83	203.54	5.671	
8,700.00	4,084.34	9,019.69	4,097.94	104.26	106.90	-90.675	-1,810.55	4,285.94	1,154.37	946.32	208.05	5.548	
8,800.00	4,083.65	9,119.69	4,097.41	106.53	109.10	-90.683	-1,881.62	4,356.28	1,154.37	941.81	212.56	5.431	
8,900.00	4,082.97	9,219.69	4,096.89	108.79	111.31	-90.691	-1,952.69	4,426.63	1,154.37	937.29	217.08	5.318	
9,000.00	4,082.29	9,319.69	4,096.36	111.05	113.52	-90.698	-2,023.76	4,496.98	1,154.38	932.78	221.60	5.209	
9,100.00	4,081.61	9,419.69	4,095.83	113.31	115.74	-90.706	-2,094.83	4,567.32	1,154.38	928.26	226.12	5.105	
9,200.00	4,080.93	9,519.69	4,095.30	115.58	117.95	-90.714	-2,165.90	4,637.67	1,154.38	923.73	230.65	5.005	
9,300.00	4,080.24	9,619.69	4,094.77	117.85	120.17	-90.721	-2,236.97	4,708.02	1,154.38	919.21	235.17	4.909	
9,400.00	4,079.56	9,719.69	4,094.25	120.11	122.40	-90.729	-2,308.04	4,778.37	1,154.38	914.69	239.70	4.816	
9,500.00	4,078.88	9,819.69	4,093.72	122.38	124.62	-90.736	-2,379.11	4,848.71	1,154.39	910.16	244.23	4.727	
9,600.00	4,078.20	9,919.69	4,093.19	124.65	126.85	-90.744	-2,450.18	4,919.06	1,154.39	905.63	248.76	4.641	
9,700.00	4,077.51	10,019.69	4,092.66	126.92	129.08	-90.752	-2,521.25	4,989.41	1,154.39	901.10	253.29	4.558	
9,800.00	4,076.83	10,119.69	4,092.13	129.19	131.31	-90.759	-2,592.32	5,059.75	1,154.39	896.57	257.82	4.477	
9,900.00	4,076.15	10,219.69	4,091.60	131.46	133.55	-90.767	-2,663.39	5,130.10	1,154.40	892.04	262.36	4.400	
10,000.00	4,075.47	10,319.69	4,091.08	133.73	135.78	-90.775	-2,734.46	5,200.45	1,154.40	887.51	266.89	4.325	
10,100.00	4,074.79	10,419.69	4,090.55	136.00	138.02	-90.782	-2,805.53	5,270.79	1,154.40	882.97	271.43	4.253	
10,200.00	4,074.10	10,519.69	4,090.02	138.28	140.26	-90.790	-2,876.60	5,341.14	1,154.40	878.43	275.97	4.183	

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 Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Greater Lybrook Unit 730 (43,44,45,46&47) - Greater Lybrook Unit 47H - Original Hole - rev0													Offset Site Error: 0.00 ft
Survey Program: 0-MWD													Offset Well Error: 0.00 ft
Rule Assigned:													
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
10,300.00	4,073.42	10,619.69	4,089.49	140.55	142.50	-90.798	-2,947.67	5,411.49	1,154.41	873.90	280.51	4.115	
10,400.00	4,072.74	10,719.69	4,088.96	142.82	144.75	-90.805	-3,018.74	5,481.84	1,154.41	869.36	285.05	4.050	
10,500.00	4,072.06	10,819.69	4,088.44	145.10	146.99	-90.813	-3,089.81	5,552.18	1,154.41	864.82	289.59	3.986	
10,600.00	4,071.38	10,919.69	4,087.91	147.37	149.24	-90.821	-3,160.88	5,622.53	1,154.41	860.28	294.13	3.925	
10,700.00	4,070.69	11,019.69	4,087.38	149.65	151.48	-90.828	-3,231.95	5,692.88	1,154.42	855.74	298.68	3.865	
10,800.00	4,070.01	11,119.69	4,086.85	151.92	153.73	-90.836	-3,303.02	5,763.22	1,154.42	851.20	303.22	3.807	
10,900.00	4,069.33	11,219.69	4,086.32	154.20	155.98	-90.843	-3,374.09	5,833.57	1,154.42	846.66	307.76	3.751	
11,000.00	4,068.65	11,319.69	4,085.80	156.48	158.23	-90.851	-3,445.16	5,903.92	1,154.42	842.11	312.31	3.696	
11,100.00	4,067.97	11,419.69	4,085.27	158.75	160.48	-90.859	-3,516.23	5,974.27	1,154.43	837.57	316.86	3.643	
11,200.00	4,067.28	11,519.69	4,084.74	161.03	162.74	-90.866	-3,587.30	6,044.61	1,154.43	833.02	321.40	3.592	
11,300.00	4,066.60	11,619.69	4,084.21	163.31	164.99	-90.874	-3,658.37	6,114.96	1,154.43	828.48	325.95	3.542	
11,400.00	4,065.92	11,719.69	4,083.68	165.58	167.24	-90.882	-3,729.44	6,185.31	1,154.43	823.93	330.50	3.493	
11,500.00	4,065.24	11,819.69	4,083.16	167.86	169.50	-90.889	-3,800.51	6,255.65	1,154.44	819.39	335.05	3.446	
11,600.00	4,064.56	11,919.69	4,082.63	170.14	171.76	-90.897	-3,871.58	6,326.00	1,154.44	814.84	339.60	3.399	
11,700.00	4,063.87	12,019.69	4,082.10	172.42	174.01	-90.905	-3,942.66	6,396.35	1,154.44	810.29	344.15	3.354	
11,800.00	4,063.19	12,119.69	4,081.57	174.70	176.27	-90.912	-4,013.73	6,466.69	1,154.44	805.75	348.70	3.311	
11,900.00	4,062.51	12,219.69	4,081.04	176.98	178.53	-90.920	-4,084.80	6,537.04	1,154.45	801.20	353.25	3.268	
12,000.00	4,061.83	12,319.69	4,080.52	179.26	180.79	-90.927	-4,155.87	6,607.39	1,154.45	796.65	357.80	3.227	
12,100.00	4,061.15	12,419.69	4,079.99	181.54	183.05	-90.935	-4,226.94	6,677.74	1,154.45	792.10	362.35	3.186	
12,200.00	4,060.46	12,519.69	4,079.46	183.82	185.31	-90.943	-4,298.01	6,748.08	1,154.45	787.55	366.90	3.146	
12,300.00	4,059.78	12,619.69	4,078.93	186.10	187.57	-90.950	-4,369.08	6,818.43	1,154.46	783.00	371.46	3.108	
12,400.00	4,059.10	12,719.69	4,078.40	188.38	189.84	-90.958	-4,440.15	6,888.78	1,154.46	778.45	376.01	3.070	
12,500.00	4,058.42	12,819.69	4,077.87	190.66	192.10	-90.966	-4,511.22	6,959.12	1,154.46	773.90	380.56	3.034	
12,600.00	4,057.74	12,919.69	4,077.35	192.94	194.36	-90.973	-4,582.29	7,029.47	1,154.47	769.35	385.12	2.998	
12,700.00	4,057.05	13,019.69	4,076.82	195.22	196.63	-90.981	-4,653.36	7,099.82	1,154.47	764.80	389.67	2.963	
12,800.00	4,056.37	13,119.69	4,076.29	197.50	198.89	-90.989	-4,724.43	7,170.16	1,154.47	760.25	394.23	2.928	
12,900.00	4,055.69	13,219.69	4,075.76	199.78	201.16	-90.996	-4,795.50	7,240.51	1,154.48	755.70	398.78	2.895	
13,000.00	4,055.01	13,319.69	4,075.23	202.07	203.43	-91.004	-4,866.57	7,310.86	1,154.48	751.14	403.33	2.862	
13,100.00	4,054.33	13,419.69	4,074.71	204.35	205.69	-91.012	-4,937.64	7,381.21	1,154.48	746.59	407.89	2.830	
13,200.00	4,053.64	13,519.69	4,074.18	206.63	207.96	-91.019	-5,008.71	7,451.55	1,154.48	742.04	412.44	2.799	
13,300.00	4,052.96	13,619.69	4,073.65	208.91	210.23	-91.027	-5,079.78	7,521.90	1,154.49	737.49	417.00	2.769	
13,400.00	4,052.28	13,719.69	4,073.12	211.20	212.50	-91.034	-5,150.85	7,592.25	1,154.49	732.94	421.56	2.739	
13,500.00	4,051.60	13,819.69	4,072.59	213.48	214.77	-91.042	-5,221.92	7,662.59	1,154.49	728.38	426.11	2.709	
13,600.00	4,050.92	13,919.69	4,072.07	215.76	217.03	-91.050	-5,292.99	7,732.94	1,154.50	723.83	430.67	2.681	
13,700.00	4,050.23	14,019.69	4,071.54	218.04	219.30	-91.057	-5,364.06	7,803.29	1,154.50	719.28	435.22	2.653	
13,800.00	4,049.55	14,119.69	4,071.01	220.33	221.57	-91.065	-5,435.13	7,873.64	1,154.50	714.72	439.78	2.625	
13,900.00	4,048.87	14,121.53	4,071.00	222.61	221.62	-91.065	-5,436.45	7,874.94	1,158.67	715.24	443.43	2.613 SF	
14,000.00	4,048.19	14,121.53	4,071.00	224.89	221.62	-91.065	-5,436.45	7,874.94	1,171.39	729.47	441.92	2.651	
14,100.00	4,047.51	14,121.53	4,071.00	227.18	221.62	-91.065	-5,436.45	7,874.94	1,192.39	756.67	435.72	2.737	
14,174.11	4,047.00	14,121.53	4,071.00	228.87	221.62	-91.065	-5,436.45	7,874.94	1,213.05	784.43	428.61	2.830	

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 Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: W Lybrook 730 Pad (730, 763, 830, 861 & 863) - W Lybrook Unit No. 730H - Original Hole - Surveys Original Hole												Offset Site Error:	0.00 ft
Survey Program: 401-MWD, 2583-MWD, 12844-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Rule Assigned:		Distance		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	5.51	5.51	0.00	0.01	60.927	19.68	35.39	40.49				
100.00	100.00	105.67	105.67	0.27	0.18	61.051	19.49	35.24	40.28	39.83	0.45	89.315	
200.00	200.00	205.82	205.82	0.63	0.34	61.406	18.98	34.83	39.67	38.69	0.98	40.613	
300.00	300.00	305.97	305.96	0.99	0.51	62.013	18.15	34.14	38.67	37.17	1.50	25.738	
400.00	400.00	406.09	406.07	1.35	0.69	62.911	16.98	33.20	37.29	35.25	2.04	18.299	
500.00	500.00	505.93	505.90	1.71	1.05	63.856	15.87	32.32	36.01	33.26	2.75	13.074	
600.00	600.00	605.92	605.88	2.07	1.41	64.479	15.02	31.47	34.87	31.40	3.47	10.045	
700.00	700.00	705.79	705.75	2.43	1.77	65.223	14.25	30.86	33.99	29.81	4.19	8.117	
800.00	800.00	805.75	805.70	2.78	2.12	65.950	13.58	30.43	33.33	28.42	4.90	6.795	
900.00	900.00	905.72	905.68	3.14	2.48	66.742	12.94	30.11	32.77	27.15	5.62	5.830	
1,000.00	999.95	1,005.66	1,005.61	3.50	2.84	61.714	12.30	29.80	30.92	24.58	6.34	4.879	
1,100.00	1,099.63	1,104.88	1,104.82	3.86	3.18	75.859	12.34	29.88	28.14	21.10	7.04	3.997	
1,130.66	1,130.10	1,135.19	1,135.13	3.97	3.29	82.015	12.69	30.30	27.90	20.65	7.25	3.846 CC, ES	
1,200.00	1,198.77	1,203.51	1,203.42	4.23	3.51	98.368	13.66	32.08	29.58	21.85	7.73	3.825 SF	
1,300.00	1,297.08	1,301.41	1,301.17	4.60	3.84	119.789	15.46	37.05	39.34	30.91	8.44	4.664	
1,400.00	1,394.31	1,398.16	1,397.52	5.01	4.17	131.965	18.10	45.45	57.33	48.18	9.15	6.267	
1,500.00	1,490.18	1,493.60	1,492.16	5.45	4.50	137.940	21.12	57.37	82.08	72.21	9.87	8.316	
1,600.00	1,584.43	1,585.94	1,583.13	5.94	4.84	140.535	24.18	72.79	113.02	102.42	10.60	10.663	
1,700.00	1,677.53	1,674.87	1,669.75	6.47	5.19	141.162	26.80	92.72	149.31	137.98	11.33	13.173	
1,800.00	1,770.62	1,762.50	1,753.64	7.03	5.58	139.942	29.23	117.87	188.47	176.38	12.10	15.581	
1,900.00	1,863.70	1,850.65	1,836.57	7.60	6.01	137.938	32.06	147.60	229.65	216.73	12.92	17.775	
2,000.00	1,956.78	1,943.81	1,922.99	8.20	6.52	135.636	36.50	182.09	271.43	257.56	13.87	19.564	
2,100.00	2,049.86	2,036.38	2,007.63	8.80	7.09	133.157	44.19	218.77	312.18	297.30	14.89	20.972	
2,200.00	2,142.94	2,123.94	2,086.04	9.42	7.68	130.628	53.52	256.58	353.64	337.75	15.89	22.255	
2,300.00	2,236.02	2,209.51	2,161.29	10.05	8.31	128.191	63.66	296.04	396.54	379.62	16.91	23.444	
2,400.00	2,329.10	2,296.47	2,237.31	10.68	9.00	126.079	73.85	337.00	440.67	422.67	18.00	24.486	
2,500.00	2,422.19	2,387.38	2,316.96	11.32	9.74	124.310	84.36	379.55	485.14	465.97	19.17	25.309	
2,600.00	2,515.27	2,479.14	2,397.77	11.96	10.50	122.903	95.03	421.69	529.26	508.89	20.37	25.986	
2,700.00	2,608.35	2,571.78	2,479.70	12.61	11.13	121.784	105.53	463.63	573.33	551.88	21.45	26.725	
2,800.00	2,701.43	2,674.29	2,571.20	13.26	11.59	120.861	117.37	508.29	616.24	593.79	22.45	27.455	
2,900.00	2,794.81	2,751.80	2,640.91	13.90	11.95	121.007	125.53	541.20	658.68	635.54	23.14	28.465	
3,000.00	2,889.78	2,836.02	2,716.52	14.50	12.37	121.376	132.98	577.53	700.50	676.61	23.89	29.316	
3,100.00	2,986.26	2,927.37	2,798.20	15.05	12.87	121.278	141.34	617.58	740.36	715.64	24.72	29.955	
3,200.00	3,083.98	3,029.16	2,889.34	15.53	13.45	120.714	151.12	661.83	777.54	751.91	25.63	30.338	
3,300.00	3,182.67	3,122.39	2,973.61	15.97	14.00	120.101	160.19	700.67	811.22	784.83	26.39	30.741	
3,400.00	3,282.07	3,215.66	3,057.53	16.34	14.57	119.215	169.11	740.38	843.87	816.78	27.09	31.151	
3,500.00	3,381.90	3,304.00	3,137.58	16.66	15.13	118.278	177.62	776.74	873.76	846.10	27.67	31.579	
3,600.00	3,481.89	3,377.22	3,203.39	16.92	15.60	127.155	183.79	808.25	904.50	876.51	27.99	32.316	
3,700.00	3,581.85	3,480.13	3,296.30	17.17	16.30	-10.065	192.26	851.69	933.85	905.19	28.66	32.583	
3,800.00	3,680.43	3,562.04	3,369.99	17.34	16.86	-11.461	199.06	886.79	950.91	921.94	28.96	32.831	
3,900.00	3,774.73	3,666.87	3,464.46	17.43	17.60	-13.773	207.99	931.33	951.85	922.38	29.47	32.301	
4,000.00	3,861.89	3,757.00	3,545.92	17.45	18.24	-16.409	215.44	969.17	937.16	907.47	29.69	31.562	
4,100.00	3,939.26	3,853.11	3,633.04	17.42	18.92	-20.251	223.25	1,009.00	907.67	877.77	29.89	30.362	
4,200.00	4,004.48	3,949.23	3,721.03	17.35	19.59	-25.822	231.29	1,046.84	863.47	833.47	30.00	28.779	
4,300.00	4,055.58	4,016.49	3,782.82	17.25	20.04	-32.551	237.25	1,072.74	807.87	778.15	29.72	27.184	
4,400.00	4,091.00	4,072.48	3,834.45	17.14	20.42	-41.517	242.44	1,093.77	743.62	714.31	29.30	25.375	
4,500.00	4,109.66	4,109.00	3,867.97	17.06	20.67	-51.929	246.26	1,107.75	674.78	645.98	28.79	23.436	
4,600.00	4,112.29	4,142.30	3,898.46	18.16	20.90	-60.642	251.27	1,120.15	604.69	576.12	28.57	21.164	
4,700.00	4,111.61	4,160.46	3,915.04	19.48	21.02	-62.207	254.99	1,126.55	539.89	511.08	28.82	18.735	
4,800.00	4,110.93	4,171.91	3,925.47	20.98	21.10	-63.152	257.69	1,130.44	484.14	454.07	30.07	16.098	
4,900.00	4,110.25	4,179.79	3,932.63	22.63	21.15	-64.226	259.70	1,133.03	442.59	409.79	32.80	13.494	
5,000.00	4,109.57	4,185.30	3,937.62	24.39	21.18	-64.979	261.18	1,134.81	421.05	384.14	36.92	11.405	

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 Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: W Lybrook 730 Pad (730, 763, 830, 861 & 863) - W Lybrook Unit No. 730H - Original Hole - Surveys Original Hole												Offset Site Error:	0.00 ft
Survey Program: 401-MWD, 2583-MWD, 12844-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	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)			
5,037.91	4,109.31	4,186.87	3,939.05	25.09	21.19	-65.205	261.61	1,135.32	419.12	380.47	38.65	10.844	
5,100.00	4,108.89	4,188.80	3,940.80	26.23	21.20	-65.417	262.15	1,135.93	424.29	382.93	41.36	10.258	
5,200.00	4,108.21	4,190.59	3,942.41	28.10	21.22	-65.395	262.66	1,136.50	453.20	408.43	44.77	10.123	
5,300.00	4,107.52	4,191.37	3,943.13	30.01	21.22	-65.361	262.88	1,136.74	502.80	456.11	46.69	10.769	
5,400.00	4,106.84	4,191.97	3,943.66	31.96	21.22	-65.444	263.05	1,136.93	566.02	518.53	47.49	11.918	
5,500.00	4,106.16	4,192.45	3,944.10	33.95	21.23	-65.511	263.19	1,137.08	638.71	591.06	47.64	13.406	
5,600.00	4,105.48	4,192.86	3,944.47	35.98	21.23	-65.568	263.31	1,137.21	718.00	670.53	47.47	15.126	
5,700.00	4,104.80	4,193.20	3,944.78	38.03	21.23	-65.616	263.41	1,137.32	801.92	754.78	47.15	17.008	
5,800.00	4,104.11	4,193.50	3,945.05	40.11	21.23	-65.657	263.49	1,137.41	889.18	842.41	46.78	19.008	
5,900.00	4,103.43	4,193.76	3,945.28	42.21	21.24	-65.693	263.57	1,137.49	978.88	932.48	46.41	21.094	
6,000.00	4,102.75	4,193.98	3,945.49	44.33	21.24	-65.724	263.63	1,137.56	1,070.41	1,024.36	46.05	23.244	
6,100.00	4,102.07	4,194.18	3,945.67	46.46	21.24	-65.752	263.69	1,137.63	1,163.33	1,117.61	45.72	25.444	
6,200.00	4,101.39	4,194.36	3,945.83	48.61	21.24	-65.777	263.74	1,137.68	1,257.34	1,211.92	45.42	27.682	
6,300.00	4,100.70	4,194.52	3,945.97	50.77	21.24	-65.799	263.79	1,137.73	1,352.21	1,307.06	45.15	29.951	
6,400.00	4,100.02	4,194.66	3,946.10	52.94	21.24	-65.819	263.83	1,137.78	1,447.77	1,402.87	44.90	32.245	
6,500.00	4,099.34	4,194.79	3,946.22	55.12	21.24	-65.837	263.87	1,137.82	1,543.89	1,499.22	44.68	34.557	

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



Anticollision Report



Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: W Lybrook 730 Pad (730, 763, 830, 861 & 863) - W Lybrook Unit No. 763H - Original Hole - Surveys Original Hole													Offset Site Error:	0.00 ft					
Survey Program:		431-MWD, 2584-MWD, 13747-MWD		Reference			Offset		Semi Major Axis		Highside		Offset Wellbore Centre		Rule Assigned:			Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses	Minimum Separation (ft)	Separation Factor	Warning						
0.00	0.00	5.50	5.50	0.00	0.01	120.108	-20.37	35.12	40.60										
100.00	100.00	105.53	105.53	0.27	0.18	120.383	-20.52	34.99	40.56	40.11	0.45	89.782							
200.00	200.00	205.55	205.55	0.63	0.35	121.157	-20.94	34.64	40.47	39.50	0.98	41.361							
300.00	300.00	305.56	305.56	0.99	0.51	122.435	-21.64	34.05	40.34	38.84	1.51	26.801							
400.00	400.00	405.57	405.56	1.35	0.68	124.226	-22.61	33.24	40.20	38.16	2.03	19.781							
500.00	500.00	505.77	505.75	1.71	0.99	126.180	-23.50	32.13	39.81	37.11	2.70	14.737							
600.00	600.00	605.62	605.59	2.07	1.35	127.791	-24.20	31.20	39.49	36.07	3.42	11.553							
700.00	700.00	705.73	705.70	2.43	1.71	129.417	-24.78	30.14	39.02	34.88	4.14	9.436							
800.00	800.00	805.64	805.60	2.78	2.07	130.710	-25.22	29.32	38.67	33.82	4.85	7.970							
900.00	900.00	905.55	905.51	3.14	2.43	131.958	-25.74	28.63	38.50	32.93	5.57	6.914 CC							
904.45	904.45	910.00	909.95	3.16	2.44	122.003	-25.75	28.61	38.50	32.90	5.60	6.876 ES							
1,000.00	999.95	1,005.59	1,005.54	3.50	2.78	125.530	-25.95	28.43	39.96	33.68	6.28	6.364 SF							
1,100.00	1,099.63	1,105.29	1,105.24	3.86	3.13	134.183	-25.99	27.87	44.68	37.69	6.99	6.389							
1,200.00	1,198.77	1,204.22	1,204.17	4.23	3.49	144.542	-26.29	27.26	54.61	46.90	7.71	7.082							
1,300.00	1,297.08	1,302.72	1,302.67	4.60	3.83	153.274	-26.57	26.94	70.48	62.06	8.42	8.371							
1,400.00	1,394.31	1,400.64	1,400.58	5.01	4.15	159.210	-25.96	27.48	91.50	82.39	9.11	10.043							
1,500.00	1,490.18	1,496.17	1,496.10	5.45	4.47	163.381	-25.19	28.28	117.86	108.07	9.80	12.030							
1,600.00	1,584.43	1,590.87	1,590.80	5.94	4.79	166.436	-24.73	29.14	149.83	139.34	10.48	14.290							
1,700.00	1,677.53	1,679.65	1,679.56	6.47	5.09	168.453	-25.10	30.60	186.02	174.87	11.15	16.688							
1,800.00	1,770.62	1,763.08	1,762.84	7.03	5.38	169.129	-28.20	34.33	225.46	213.69	11.77	19.163							
1,900.00	1,863.70	1,844.46	1,843.69	7.60	5.66	168.867	-34.54	41.03	268.62	256.25	12.36	21.725							
2,000.00	1,956.78	1,923.31	1,921.51	8.20	5.95	168.129	-43.24	50.17	314.76	301.82	12.94	24.318							
2,100.00	2,049.86	1,998.73	1,995.41	8.80	6.23	167.268	-54.10	60.67	363.99	350.50	13.49	26.974							
2,200.00	2,142.94	2,075.00	2,069.30	9.42	6.53	166.155	-67.43	73.97	416.10	402.04	14.06	29.585							
2,300.00	2,236.02	2,140.71	2,132.10	10.05	6.81	165.014	-80.75	87.97	470.98	456.45	14.53	32.414							
2,400.00	2,329.10	2,210.84	2,198.10	10.68	7.13	163.668	-96.66	105.51	528.47	513.40	15.07	35.072							
2,500.00	2,422.19	2,282.72	2,264.72	11.32	7.49	162.168	-113.70	126.44	587.57	571.92	15.65	37.542							
2,600.00	2,515.27	2,358.00	2,333.78	11.96	7.89	160.673	-132.11	150.06	647.87	631.57	16.30	39.739							
2,700.00	2,608.35	2,438.92	2,407.83	12.61	8.36	159.272	-151.88	176.02	708.55	691.50	17.06	41.544							
2,800.00	2,701.43	2,515.97	2,478.52	13.26	8.70	158.176	-170.49	200.39	769.15	751.50	17.65	43.569							
2,900.00	2,794.81	2,592.42	2,548.81	13.90	9.02	157.785	-189.46	223.72	829.59	811.38	18.21	45.566							
3,000.00	2,889.78	2,677.93	2,627.68	14.50	9.26	157.673	-210.78	248.93	886.50	867.79	18.71	47.374							
3,100.00	2,986.26	2,774.23	2,716.97	15.05	9.57	157.415	-234.21	276.38	938.77	919.45	19.32	48.596							
3,200.00	3,083.98	2,867.00	2,803.59	15.53	9.90	157.157	-255.68	301.70	985.67	965.79	19.88	49.576							
3,300.00	3,182.67	2,939.36	2,870.99	15.97	10.19	156.991	-272.72	321.78	1,029.03	1,008.77	20.26	50.793							
3,400.00	3,282.07	3,020.28	2,945.47	16.34	10.54	156.587	-293.22	345.84	1,070.27	1,049.57	20.70	51.698							
3,500.00	3,381.90	3,152.51	3,068.25	16.66	11.15	155.574	-324.76	383.45	1,105.78	1,084.15	21.63	51.115							
3,600.00	3,481.89	3,291.59	3,199.84	16.92	11.77	164.398	-352.88	418.52	1,132.82	1,110.24	22.58	50.177							
3,700.00	3,581.85	3,430.36	3,430.07	17.17	12.37	167.625	-341.98	-236.29	1,071.60	1,047.19	24.41	43.895							
3,800.00	3,680.43	3,414.84	3,429.79	17.34	12.39	112.057	330.63	-225.70	985.99	960.54	25.45	38.747							
3,900.00	3,774.73	3,381.05	3,429.16	17.43	12.79	120.904	306.00	-202.58	906.58	880.19	26.39	34.347							
4,000.00	3,861.89	3,330.65	3,428.16	17.45	12.90	125.778	269.41	-167.93	835.92	808.71	27.21	30.717							
4,100.00	3,939.26	3,267.15	3,426.85	17.42	12.81	128.175	223.49	-124.10	776.00	748.11	27.89	27.825							
4,200.00	4,004.48	3,193.83	3,425.43	17.35	12.62	129.069	170.61	-73.33	728.12	699.72	28.40	25.636							
4,300.00	4,055.58	3,097.82	3,423.27	17.25	12.81	128.573	101.42	-6.80	692.58	663.99	28.59	24.228							
4,400.00	4,091.00	3,097.03	3,417.73	17.14	12.79	127.752	29.00	63.08	667.10	638.35	28.75	23.200							
4,500.00	4,109.66	3,078.95	3,415.25	17.06	12.16	121.350	-167.60	258.74	646.99	618.34	28.65	22.583							
4,600.00	4,112.29	3,054.42	3,385.17	18.16	13.75	117.460	-241.07	334.40	614.39	584.19	30.20	20.343							
4,700.00	4,111.61	3,046.81	3,310.47	19.48	13.69	110.319	-303.96	397.94	584.32	552.04	32.27	18.106							
4,800.00	4,110.93	3,032.24	3,229.14	20.98	13.80	101.974	-352.09	444.69	559.19	524.60	34.59	16.166							
4,900.00	4,110.25	3,023.89	3,162.09	22.63	13.92	94.964	-380.48	473.47	542.99	506.37	36.62	14.827							
4,971.06	4,109.77	3,022.17	3,133.64	23.88	13.97	91.952	-390.25	483.53	539.18	501.42	37.76	14.279							

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 Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: W Lybrook 730 Pad (730, 763, 830, 861 & 863) - W Lybrook Unit No. 763H - Original Hole - Surveys Original												Offset Site Error:	0.00 ft
Survey Program: 431-MWD, 2584-MWD, 13747-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	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)			
5,000.00	4,109.57	4,240.00	4,122.56	24.39	13.99	90.779	-393.82	487.09	539.88	501.74	38.13	14.157	
5,100.00	4,108.89	4,208.00	4,093.06	26.23	14.03	87.682	-402.79	495.62	550.61	511.60	39.01	14.115	
5,200.00	4,108.21	4,181.46	4,068.20	28.10	14.07	85.133	-409.69	501.85	573.43	534.24	39.19	14.632	
5,300.00	4,107.52	4,156.60	4,044.59	30.01	14.10	82.733	-415.50	507.04	608.01	569.22	38.79	15.675	
5,400.00	4,106.84	4,137.07	4,025.83	31.96	14.11	80.827	-419.52	510.67	654.95	616.92	38.03	17.221	
5,500.00	4,106.16	4,121.72	4,010.96	33.95	14.12	79.331	-422.33	513.22	712.27	675.14	37.12	19.186	
5,600.00	4,105.48	4,113.00	4,002.47	35.98	14.13	78.483	-423.79	514.56	777.84	741.63	36.21	21.480	
5,700.00	4,104.80	4,097.57	3,987.38	38.03	14.14	76.988	-426.16	516.72	849.80	814.47	35.33	24.052	
5,800.00	4,104.11	4,082.00	3,972.08	40.11	14.14	75.491	-428.29	518.67	926.80	892.26	34.54	26.831	
5,900.00	4,103.43	4,082.00	3,972.08	42.21	14.14	75.491	-428.29	518.67	1,007.61	973.73	33.89	29.733	
6,000.00	4,102.75	4,082.00	3,972.08	44.33	14.14	75.491	-428.29	518.67	1,091.61	1,058.29	33.32	32.762	
6,100.00	4,102.07	4,066.69	3,956.97	46.46	14.14	74.032	-430.11	520.33	1,177.84	1,145.04	32.80	35.913	
6,200.00	4,101.39	4,061.39	3,951.71	48.61	14.14	73.530	-430.67	520.84	1,266.11	1,233.74	32.36	39.121	
6,300.00	4,100.70	4,050.00	3,940.42	50.77	14.14	72.459	-431.75	521.83	1,356.01	1,324.02	31.98	42.399	
6,400.00	4,100.02	4,050.00	3,940.42	52.94	14.14	72.459	-431.75	521.83	1,447.10	1,415.43	31.67	45.696	
6,500.00	4,099.34	4,050.00	3,940.42	55.12	14.14	72.459	-431.75	521.83	1,539.30	1,507.90	31.40	49.029	



Anticollision Report



Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: W Lybrook 730 Pad (730, 763, 830, 861 & 863) - W Lybrook Unit No. 830H - Original Hole - Surveys Original Hole												Offset Site Error:	0.00 ft
Survey Program: 431-MWD, 2554-MWD, 12753-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Distance Between Centres (ft)		Minimum Separation (ft)	Separation Factor	Warning
+N/-S (ft)	+E/-W (ft)												
0.00	0.00	5.50	5.50	0.00	0.01	90.560	-0.34	35.11	35.11				
100.00	100.00	105.58	105.58	0.27	0.18	90.403	-0.25	34.98	34.99	34.53	0.45	77.524	
200.00	200.00	205.66	205.66	0.63	0.35	89.955	0.03	34.64	34.64	33.66	0.98	35.435	
300.00	300.00	305.73	305.73	0.99	0.51	89.201	0.48	34.07	34.07	32.57	1.50	22.658	
400.00	400.00	405.80	405.79	1.35	0.68	88.108	1.10	33.27	33.29	31.26	2.03	16.402	
500.00	500.00	505.83	505.82	1.71	0.99	86.889	1.76	32.33	32.38	29.68	2.70	11.997	
600.00	600.00	605.89	605.86	2.07	1.35	85.583	2.40	31.08	31.18	27.76	3.42	9.127	
700.00	700.00	705.71	705.68	2.43	1.71	84.893	2.71	30.31	30.43	26.30	4.13	7.367	
800.00	800.00	805.87	805.83	2.78	2.07	84.831	2.67	29.49	29.61	24.77	4.85	6.110	
900.00	900.00	906.05	906.00	3.14	2.42	84.217	2.84	27.99	28.14	22.58	5.56	5.059	
1,000.00	999.95	1,006.02	1,005.96	3.50	2.78	78.961	3.08	26.00	25.56	19.28	6.28	4.071	
1,100.00	1,099.63	1,105.63	1,105.55	3.86	3.14	96.955	3.53	24.14	23.34	16.34	6.99	3.337	
1,108.71	1,108.29	1,114.29	1,114.20	3.89	3.17	99.215	3.57	24.00	23.31	16.26	7.06	3.304 CC, ES	
1,200.00	1,198.77	1,204.61	1,204.52	4.23	3.50	125.799	3.87	22.66	26.78	19.06	7.72	3.470	
1,300.00	1,297.08	1,302.93	1,302.83	4.60	3.85	148.246	3.99	21.66	39.81	31.37	8.44	4.716	
1,400.00	1,394.31	1,399.08	1,398.98	5.01	4.18	159.317	3.81	21.89	61.21	52.07	9.14	6.697	
1,500.00	1,490.18	1,492.69	1,492.51	5.45	4.49	163.588	1.89	24.87	90.64	80.83	9.81	9.240	
1,600.00	1,584.43	1,585.56	1,585.11	5.94	4.79	164.663	-1.13	31.18	126.48	116.00	10.48	12.067	
1,700.00	1,677.53	1,676.31	1,675.20	6.47	5.10	164.072	-4.12	41.65	165.71	154.55	11.15	14.858	
1,800.00	1,770.62	1,762.69	1,760.15	7.03	5.40	162.199	-7.84	56.73	206.50	194.70	11.80	17.499	
1,900.00	1,863.70	1,848.78	1,843.74	7.60	5.72	159.730	-13.09	76.60	249.81	237.33	12.48	20.025	
2,000.00	1,956.78	1,934.38	1,925.79	8.20	6.08	157.101	-18.58	100.35	294.54	281.36	13.18	22.344	
2,100.00	2,049.86	2,017.60	2,004.40	8.80	6.46	154.501	-24.18	127.05	340.92	327.02	13.90	24.520	
2,200.00	2,142.94	2,098.53	2,079.43	9.42	6.87	151.890	-29.74	156.86	389.18	374.53	14.65	26.572	
2,300.00	2,236.02	2,177.79	2,151.18	10.05	7.33	149.221	-34.94	190.08	439.33	423.92	15.41	28.502	
2,400.00	2,329.10	2,257.76	2,222.51	10.68	7.85	146.724	-40.16	225.86	491.12	474.88	16.24	30.235	
2,500.00	2,422.19	2,343.47	2,298.86	11.32	8.44	144.517	-45.87	264.40	543.74	526.54	17.19	31.625	
2,600.00	2,515.27	2,429.38	2,375.76	11.96	9.06	142.775	-51.52	302.28	596.40	578.23	18.17	32.826	
2,700.00	2,608.35	2,515.56	2,453.15	12.61	9.56	141.360	-57.11	339.78	649.09	630.06	19.03	34.102	
2,800.00	2,701.43	2,606.31	2,534.91	13.26	9.95	140.136	-62.74	378.75	701.54	681.71	19.83	35.380	
2,900.00	2,794.81	2,697.14	2,617.03	13.90	10.31	139.709	-67.68	417.25	752.80	732.22	20.58	36.583	
3,000.00	2,889.78	2,788.94	2,700.31	14.50	10.71	139.602	-72.30	455.59	800.50	779.16	21.34	37.512	
3,100.00	2,986.26	2,882.83	2,785.83	15.05	11.15	139.297	-76.80	494.09	844.37	822.25	22.12	38.175	
3,200.00	3,083.98	2,980.31	2,874.98	15.53	11.64	138.779	-81.09	533.30	884.27	861.35	22.92	38.581	
3,300.00	3,182.67	3,080.95	2,967.41	15.97	12.16	138.058	-84.98	572.89	920.08	896.34	23.73	38.768	
3,400.00	3,282.07	4,979.52	4,114.52	16.34	21.48	118.045	729.44	177.92	829.47	814.28	15.18	54.631	
3,500.00	3,381.90	4,985.24	4,114.61	16.66	21.59	67.509	733.56	173.96	729.65	714.34	15.32	47.631	
3,600.00	3,481.89	4,987.62	4,114.65	16.92	21.63	55.920	735.27	172.32	629.99	614.58	15.41	40.873	
3,700.00	3,581.85	4,987.64	4,114.65	17.17	21.63	-117.278	735.29	172.31	530.51	515.01	15.50	34.227	
3,800.00	3,680.43	4,972.15	4,114.39	17.34	21.35	-149.386	724.12	183.04	432.36	416.88	15.49	27.918	
3,900.00	3,774.73	4,941.32	4,113.78	17.43	20.78	-156.433	702.03	204.54	338.46	323.08	15.38	22.010	
4,000.00	3,861.89	4,895.69	4,112.89	17.45	19.96	-156.947	669.95	236.97	252.18	236.90	15.28	16.499	
4,100.00	3,939.26	4,834.46	4,111.71	17.42	18.90	-152.743	627.80	281.36	177.22	161.61	15.62	11.349	
4,200.00	4,004.48	4,759.34	4,110.13	17.35	17.66	-142.712	575.86	335.61	117.51	100.11	17.40	6.754	
4,300.00	4,055.58	4,672.69	4,108.08	17.25	16.40	-123.740	514.86	397.11	78.02	55.49	22.52	3.464	
4,400.00	4,091.00	4,579.79	4,097.91	17.14	15.42	-91.102	449.10	461.80	61.98	30.98	31.00	1.999 Level 3<2.00	
4,404.88	4,092.30	4,575.41	4,097.05	17.12	15.39	-89.282	446.03	464.81	61.94	30.67	31.27	1.981 Level 3<2.00, SF	
4,500.00	4,109.66	4,492.00	4,075.14	17.06	15.00	-57.765	388.29	520.78	74.15	45.19	28.96	2.560	
4,600.00	4,112.29	4,408.82	4,042.99	18.16	14.92	-38.627	332.87	573.74	102.15	76.45	25.70	3.975	
4,700.00	4,111.61	4,329.91	4,004.60	19.48	14.96	-27.416	283.21	621.51	142.24	117.94	24.29	5.855	
4,800.00	4,110.93	4,245.02	3,960.83	20.98	15.08	-18.886	229.46	670.49	187.59	164.67	22.92	8.186	
4,900.00	4,110.25	4,178.00	3,922.84	22.63	15.20	-12.409	186.07	704.57	239.86	216.79	23.07	10.398	

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 Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: W Lybrook 730 Pad (730, 763, 830, 861 & 863) - W Lybrook Unit No. 830H - Original Hole - Surveys Original Hole												Offset Site Error:	0.00 ft
Survey Program: 431-MWD, 2554-MWD, 12753-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	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)			
5,000.00	4,109.57	4,123.44	3,888.67	24.39	15.28	-7.657	150.50	727.85	300.50	276.69	23.81	12.620	
5,100.00	4,108.89	4,074.50	3,855.70	26.23	15.35	-2.351	118.92	745.43	368.22	343.66	24.55	14.996	
5,200.00	4,108.21	4,032.68	3,825.98	28.10	15.40	2.043	92.30	757.95	441.28	415.94	25.34	17.417	
5,300.00	4,107.52	3,996.20	3,798.80	30.01	15.44	4.291	69.78	767.16	518.52	492.48	26.04	19.913	
5,400.00	4,106.84	3,965.34	3,774.96	31.96	15.47	5.380	51.33	773.74	599.10	572.46	26.64	22.490	
5,500.00	4,106.16	3,937.35	3,752.72	33.95	15.48	6.300	35.06	778.63	682.43	655.31	27.12	25.159	
5,600.00	4,105.48	3,911.43	3,731.74	35.98	15.49	7.126	20.25	782.16	767.91	740.45	27.47	27.958	
5,700.00	4,104.80	3,894.00	3,717.47	38.03	15.50	7.663	10.43	784.04	855.16	827.31	27.84	30.716	
5,800.00	4,104.11	3,863.00	3,691.57	40.11	15.49	8.535	-6.41	786.56	943.97	916.03	27.94	33.780	
5,900.00	4,103.43	3,863.00	3,691.57	42.21	15.49	8.535	-6.41	786.56	1,034.07	1,005.70	28.37	36.447	
6,000.00	4,102.75	3,832.00	3,664.80	44.33	15.48	9.242	-21.94	788.28	1,125.37	1,096.97	28.40	39.627	
6,100.00	4,102.07	3,832.00	3,664.80	46.46	15.48	9.242	-21.94	788.28	1,217.45	1,188.76	28.69	42.432	
6,200.00	4,101.39	3,817.48	3,651.95	48.61	15.48	9.508	-28.67	788.90	1,310.44	1,281.62	28.82	45.468	
6,300.00	4,100.70	3,800.00	3,636.25	50.77	15.47	9.780	-36.33	789.51	1,404.17	1,375.26	28.91	48.575	
6,400.00	4,100.02	3,800.00	3,636.25	52.94	15.47	9.780	-36.33	789.51	1,498.39	1,469.30	29.09	51.516	
6,500.00	4,099.34	3,800.00	3,636.25	55.12	15.47	9.780	-36.33	789.51	1,593.31	1,564.08	29.24	54.498	



Anticollision Report



Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: W Lybrook 730 Pad (730, 763, 830, 861 & 863) - W Lybrook Unit No. 861H - Original Hole - Surveys Original Hole												Offset Site Error:	0.00 ft
Survey Program: 401-MWD, 2682-MWD, 11416-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Rule Assigned:		Distance		Warning					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	5.51	5.51	0.00	0.01	41.945	39.70	35.68	53.37				
100.00	100.00	105.67	105.67	0.27	0.18	41.945	39.57	35.56	53.20	52.75	0.45	118.064	
200.00	200.00	205.83	205.83	0.63	0.34	41.948	39.22	35.25	52.73	51.75	0.98	54.016	
300.00	300.00	305.99	305.98	0.99	0.51	41.951	38.63	34.73	51.95	50.45	1.50	34.594	
400.00	400.00	406.13	406.12	1.35	0.69	41.957	37.82	34.00	50.87	48.83	2.04	24.971	
500.00	500.00	506.07	506.05	1.71	1.05	42.131	36.86	33.34	49.70	46.95	2.75	18.051	
600.00	600.00	606.00	605.97	2.07	1.41	42.505	35.87	32.87	48.66	45.19	3.47	14.023	
700.00	700.00	705.95	705.92	2.43	1.76	42.532	35.20	32.29	47.77	43.58	4.19	11.411	
800.00	800.00	805.94	805.91	2.78	2.12	42.534	34.51	31.66	46.83	41.93	4.90	9.551	
900.00	900.00	905.90	905.87	3.14	2.48	42.813	33.77	31.29	46.04	40.42	5.62	8.194	
1,000.00	999.95	1,005.05	1,005.01	3.50	2.83	35.326	33.23	31.43	43.58	37.26	6.32	6.894	
1,100.00	1,099.63	1,103.36	1,103.28	3.86	3.15	42.160	34.93	33.55	40.22	33.21	7.00	5.743	
1,200.00	1,198.77	1,201.38	1,201.06	4.23	3.48	53.984	39.61	38.21	38.02	30.34	7.67	4.954	
1,220.68	1,219.18	1,221.63	1,221.22	4.30	3.55	57.016	40.98	39.54	37.94	30.12	7.82	4.854 CC, ES	
1,300.00	1,297.08	1,299.05	1,298.08	4.60	3.82	69.472	47.68	45.97	39.54	31.17	8.37	4.726 SF	
1,400.00	1,394.31	1,395.84	1,393.40	5.01	4.17	83.785	59.49	57.74	47.11	38.01	9.10	5.178	
1,500.00	1,490.18	1,492.25	1,487.17	5.45	4.55	93.992	74.53	74.30	61.26	51.35	9.90	6.185	
1,600.00	1,584.43	1,588.43	1,579.60	5.94	4.97	100.950	91.92	94.43	80.24	69.45	10.79	7.435	
1,700.00	1,677.53	1,684.58	1,670.62	6.47	5.43	104.816	112.40	117.59	102.30	90.55	11.75	8.704	
1,800.00	1,770.62	1,778.01	1,757.21	7.03	5.94	104.965	135.67	143.80	126.52	113.79	12.73	9.940	
1,900.00	1,863.70	1,871.63	1,841.69	7.60	6.53	103.075	162.03	174.32	153.41	139.65	13.77	11.142	
2,000.00	1,956.78	1,967.93	1,926.56	8.20	7.20	100.214	192.60	208.02	181.36	166.44	14.92	12.157	
2,100.00	2,049.86	2,060.38	2,005.88	8.80	7.91	96.864	225.82	241.90	210.00	193.97	16.03	13.099	
2,200.00	2,142.94	2,146.88	2,077.14	9.42	8.66	93.180	260.49	276.54	241.65	224.61	17.04	14.185	
2,300.00	2,236.02	2,234.21	2,146.73	10.05	9.48	89.588	297.37	314.28	277.01	258.95	18.06	15.337	
2,400.00	2,329.10	2,325.10	2,218.69	10.68	10.38	86.615	335.73	354.42	314.18	294.98	19.20	16.367	
2,500.00	2,422.19	2,420.30	2,294.68	11.32	11.34	84.332	375.10	396.11	351.59	331.13	20.45	17.190	
2,600.00	2,515.27	2,511.65	2,368.44	11.96	12.27	82.759	411.92	435.47	388.62	366.97	21.65	17.952	
2,700.00	2,608.35	2,603.36	2,442.17	12.61	13.15	81.433	448.88	475.57	426.53	403.73	22.80	18.708	
2,800.00	2,701.43	2,700.87	2,521.28	13.26	13.91	80.386	487.41	517.57	463.89	439.99	23.90	19.407	
2,900.00	2,794.81	2,798.86	2,601.61	13.90	14.54	80.161	525.44	558.84	500.47	475.61	24.87	20.126	
3,000.00	2,889.78	2,892.62	2,678.96	14.50	15.19	80.100	561.67	597.51	537.05	511.35	25.70	20.900	
3,100.00	2,986.26	2,971.66	2,743.52	15.05	15.76	79.891	592.67	630.96	575.89	549.70	26.19	21.986	
3,200.00	3,083.98	3,064.04	2,818.35	15.53	16.48	79.138	629.30	670.85	617.05	590.23	26.82	23.007	
3,300.00	3,182.67	3,163.53	2,899.77	15.97	17.27	78.056	668.27	712.69	658.63	631.17	27.47	23.979	
3,400.00	3,282.07	3,236.11	2,959.25	16.34	17.87	77.541	696.63	743.10	701.93	674.31	27.61	25.419	
3,500.00	3,381.90	3,315.86	3,023.62	16.66	18.56	76.722	728.45	777.80	748.97	721.18	27.79	26.952	
3,600.00	3,481.89	3,419.95	3,108.36	16.92	19.46	84.491	769.78	821.90	797.19	768.93	28.26	28.210	
3,700.00	3,581.85	3,493.01	3,168.76	17.17	20.10	-51.079	798.20	851.59	844.19	815.91	28.27	29.859	
3,800.00	3,680.43	3,552.00	3,216.36	17.34	20.63	-49.446	821.73	877.30	887.19	859.33	27.87	31.837	
3,900.00	3,774.73	3,621.54	3,271.76	17.43	21.30	-49.227	850.00	908.40	923.74	896.31	27.43	33.679	
4,000.00	3,861.89	3,696.48	3,331.68	17.45	22.02	-50.131	880.77	941.23	952.79	925.84	26.95	35.352	
4,100.00	3,939.26	3,762.97	3,384.90	17.42	22.66	-51.387	908.25	970.11	975.96	949.56	26.40	36.973	
4,200.00	4,004.48	3,823.69	3,433.72	17.35	23.25	-52.916	933.19	996.20	994.44	968.44	26.00	38.251	
4,300.00	4,055.58	3,889.55	3,487.24	17.25	23.88	-55.135	959.74	1,023.92	1,009.37	983.26	26.11	38.659	
4,400.00	4,091.00	3,941.63	3,530.27	17.14	24.36	-56.904	980.06	1,045.08	1,021.91	995.20	26.71	38.259	
4,500.00	4,109.66	3,971.98	3,555.64	17.06	24.64	-57.590	991.66	1,057.02	1,033.59	1,005.76	27.84	37.131	
4,600.00	4,112.29	3,976.95	3,559.82	18.16	24.68	-57.315	993.54	1,058.95	1,045.78	1,016.37	29.40	35.566	
4,700.00	4,111.61	3,979.46	3,561.94	19.48	24.70	-57.657	994.49	1,059.92	1,063.18	1,031.74	31.44	33.817	
4,800.00	4,110.93	3,985.14	3,566.72	20.98	24.76	-58.232	996.63	1,062.10	1,086.69	1,052.89	33.80	32.153	
4,900.00	4,110.25	3,992.07	3,572.57	22.63	24.82	-58.611	999.24	1,064.75	1,117.33	1,081.05	36.28	30.795	
5,000.00	4,109.57	3,998.66	3,578.14	24.39	24.88	-58.959	1,001.70	1,067.25	1,155.82	1,117.10	38.72	29.851	

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 Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: W Lybrook 730 Pad (730, 763, 830, 861 & 863) - W Lybrook Unit No. 861H - Original Hole - Surveys Original Hole												Offset Site Error:	0.00 ft
Survey Program: 401-MWD, 2682-MWD, 11416-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		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	4,108.89	4,003.36	3,582.13	26.23	24.92	-58.653	1,003.46	1,069.03	1,202.76	1,161.79	40.97	29.357	
5,200.00	4,108.21	3,998.20	3,577.75	28.10	24.87	-57.642	1,001.54	1,067.09	1,258.38	1,215.55	42.83	29.378	
5,300.00	4,107.52	3,997.94	3,577.53	30.01	24.87	-57.345	1,001.44	1,066.99	1,321.00	1,276.50	44.50	29.683	
5,400.00	4,106.84	4,003.28	3,582.06	31.96	24.92	-57.649	1,003.43	1,069.00	1,388.12	1,342.08	46.04	30.153	
5,500.00	4,106.16	4,002.42	3,581.33	33.95	24.91	-57.600	1,003.11	1,068.68	1,459.02	1,411.75	47.27	30.863	
5,600.00	4,105.48	4,001.59	3,580.62	35.98	24.90	-57.553	1,002.80	1,068.36	1,533.17	1,484.83	48.34	31.718	
5,700.00	4,104.80	4,000.78	3,579.94	38.03	24.90	-57.507	1,002.50	1,068.06	1,610.12	1,560.87	49.25	32.696	



Anticollision Report



Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: W Lybrook 730 Pad (730, 763, 830, 861 & 863) - W Lybrook Unit No. 863H - Original Hole - Surveys Original Hole												Offset Site Error:	0.00 ft
Survey Program: 400-MWD, 2583-MWD, 13910-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Rule Assigned:		Distance		Warning					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	5.51	5.51	0.00	0.01	139.219	-40.39	34.84	53.33				
100.00	100.00	105.69	105.69	0.27	0.18	139.191	-40.22	34.73	53.15	52.69	0.45	117.922	
200.00	200.00	205.87	205.87	0.63	0.34	139.111	-39.77	34.44	52.61	51.64	0.98	53.894	
300.00	300.00	306.05	306.04	0.99	0.51	138.977	-39.03	33.96	51.74	50.24	1.50	34.453	
400.00	400.00	406.18	406.17	1.35	0.69	138.783	-38.00	33.29	50.53	48.49	2.04	24.780	
500.00	500.00	505.95	505.93	1.71	1.05	138.693	-37.19	32.68	49.51	46.75	2.75	17.971	
600.00	600.00	606.18	606.15	2.07	1.41	138.725	-36.26	31.83	48.25	44.78	3.47	13.894	
700.00	700.00	705.66	705.63	2.43	1.76	138.854	-35.66	31.16	47.36	43.18	4.18	11.322	
717.72	717.72	723.25	723.22	2.49	1.82	138.924	-35.68	31.10	47.34	43.03	4.31	10.991 CC	
800.00	800.00	805.26	805.22	2.78	2.10	139.460	-36.27	31.02	47.73	42.85	4.88	9.780	
900.00	900.00	905.37	905.33	3.14	2.44	140.100	-36.97	30.91	48.19	42.61	5.58	8.639 ES	
1,000.00	999.95	1,005.38	1,005.34	3.50	2.78	133.386	-37.75	30.38	50.22	43.93	6.28	7.993 SF	
1,100.00	1,099.63	1,105.05	1,105.01	3.86	3.13	139.505	-38.14	30.17	56.13	49.14	6.99	8.028	
1,200.00	1,198.77	1,203.81	1,203.77	4.23	3.48	146.917	-38.69	29.99	67.06	59.35	7.70	8.706	
1,300.00	1,297.08	1,302.27	1,302.22	4.60	3.82	153.840	-39.48	29.81	83.69	75.27	8.42	9.943	
1,400.00	1,394.31	1,399.11	1,399.06	5.01	4.17	159.469	-40.06	29.39	105.72	96.59	9.13	11.582	
1,500.00	1,490.18	1,494.88	1,494.83	5.45	4.51	163.745	-40.82	28.95	133.48	123.65	9.84	13.572	
1,600.00	1,584.43	1,583.81	1,583.74	5.94	4.82	166.508	-42.53	29.19	167.73	157.22	10.51	15.964	
1,700.00	1,677.53	1,666.04	1,665.81	6.47	5.11	168.221	-47.29	30.66	208.88	197.76	11.12	18.784	
1,800.00	1,770.62	1,742.72	1,742.01	7.03	5.38	169.198	-55.49	32.68	254.66	243.00	11.66	21.833	
1,900.00	1,863.70	1,816.22	1,814.52	7.60	5.65	169.762	-67.21	35.11	305.07	292.90	12.17	25.065	
2,000.00	1,956.78	1,886.00	1,882.91	8.20	5.92	170.109	-80.80	37.65	358.68	346.04	12.64	28.378	
2,100.00	2,049.86	1,963.46	1,958.36	8.80	6.22	170.316	-98.04	40.93	414.59	401.38	13.21	31.386	
2,200.00	2,142.94	2,028.64	2,021.35	9.42	6.50	170.336	-114.39	44.40	472.90	459.26	13.64	34.661	
2,300.00	2,236.02	2,075.00	2,065.69	10.05	6.70	170.254	-127.58	47.48	534.52	520.66	13.86	38.574	
2,400.00	2,329.10	2,141.85	2,128.75	10.68	7.01	170.051	-149.11	52.64	598.80	584.46	14.34	41.755	
2,500.00	2,422.19	2,193.43	2,176.62	11.32	7.27	169.859	-167.81	57.06	666.16	651.51	14.65	45.483	
2,600.00	2,515.27	2,243.35	2,222.31	11.96	7.54	169.666	-187.41	61.58	735.90	720.95	14.95	49.237	
2,700.00	2,608.35	2,301.15	2,274.56	12.61	7.86	169.445	-211.53	67.03	807.50	792.14	15.36	52.560	
2,800.00	2,701.43	2,366.83	2,333.73	13.26	8.25	169.221	-239.34	73.30	879.63	863.74	15.89	55.342	
2,900.00	2,794.81	2,438.68	2,398.39	13.90	8.70	169.286	-269.79	80.60	951.22	934.72	16.50	57.637	
3,000.00	2,889.78	2,524.08	2,475.42	14.50	9.12	169.420	-305.47	89.91	1,019.03	1,001.92	17.11	59.542	
3,100.00	2,986.26	2,615.84	2,558.66	15.05	9.50	169.419	-342.61	100.44	1,081.88	1,064.20	17.68	61.180	
3,200.00	3,083.98	2,704.34	2,638.93	15.53	9.81	169.192	-377.42	113.73	1,139.82	1,121.71	18.11	62.938	
3,300.00	3,182.67	2,789.00	2,715.61	15.97	10.14	168.907	-410.49	127.66	1,193.42	1,174.91	18.51	64.487	
3,400.00	3,282.07	2,885.99	2,803.61	16.34	10.56	168.509	-447.92	143.82	1,242.31	1,223.30	19.01	65.362	
3,500.00	3,381.90	2,992.34	2,900.56	16.66	11.05	168.021	-487.81	161.68	1,285.75	1,266.18	19.58	65.670	
3,600.00	3,481.89	3,030.44	3,004.21	16.92	11.54	167.419	-527.81	179.94	1,327.94	1,307.11	20.15	66.078	
3,700.00	3,581.85	3,031.03	3,004.22	17.17	12.04	166.827	-567.81	198.21	1,369.82	1,348.29	20.72	66.486	
3,800.00	3,680.43	3,031.61	3,004.23	17.43	12.54	166.235	-607.81	216.48	1,411.70	1,389.57	21.29	66.894	
3,900.00	3,774.73	3,032.20	3,004.24	17.68	13.04	165.643	-647.81	234.75	1,453.57	1,431.34	21.86	67.302	
4,000.00	3,861.89	3,032.79	3,004.25	17.93	13.54	165.051	-687.81	253.02	1,495.45	1,472.21	22.43	67.710	
4,100.00	3,939.26	3,033.38	3,004.26	18.18	14.04	164.459	-727.81	271.29	1,537.33	1,513.08	23.00	68.118	
4,200.00	4,004.48	3,033.97	3,004.27	18.43	14.54	163.867	-767.81	289.56	1,579.21	1,554.95	23.57	68.526	
4,300.00	4,055.58	3,034.56	3,004.28	18.68	15.04	163.275	-807.81	307.83	1,621.09	1,596.83	24.14	68.934	
4,348.51	4,074.79	3,035.15	3,004.29	18.93	15.54	162.683	-847.81	326.10	1,662.97	1,638.71	24.71	69.342	
4,400.00	4,091.00	3,035.74	3,004.30	19.18	16.04	162.091	-887.81	344.37	1,704.85	1,679.59	25.28	69.750	
4,500.00	4,109.66	3,036.33	3,004.31	19.43	16.54	161.499	-927.81	362.64	1,746.73	1,721.47	25.85	70.158	
4,600.00	4,112.29	3,036.92	3,004.32	19.68	17.04	160.907	-967.81	380.91	1,788.61	1,763.35	26.42	70.566	
4,667.87	4,111.83	3,037.51	3,004.33	19.93	17.54	160.315	-1007.81	399.18	1,830.49	1,805.23	27.00	70.974	
4,700.00	4,111.61	3,038.10	3,004.34	20.18	18.04	159.723	-1047.81	417.45	1,872.37	1,847.11	27.57	71.382	
4,800.00	4,110.93	3,038.69	3,004.35	20.43	18.54	159.131	-1087.81	435.72	1,914.25	1,889.00	28.14	71.790	

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 Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: W Lybrook 730 Pad (730, 763, 830, 861 & 863) - W Lybrook Unit No. 863H - Original Hole - Surveys Original Hole												Offset Site Error:	0.00 ft
Survey Program: 400-MWD, 2583-MWD, 13910-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		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	
4,900.00	4,110.25	4,059.37	3,863.00	22.63	14.21	76.776	-690.58	4.79	1,111.89	1,078.14	33.75	32.948	
5,000.00	4,109.57	3,959.81	3,785.50	24.39	14.37	72.737	-718.46	60.46	1,121.66	1,086.79	34.87	32.166	
5,100.00	4,108.89	3,911.01	3,744.32	26.23	14.41	70.677	-726.91	85.23	1,135.14	1,098.95	36.19	31.369	
5,200.00	4,108.21	3,875.15	3,713.20	28.10	14.44	69.181	-731.58	102.39	1,152.23	1,114.80	37.43	30.784	
5,300.00	4,107.52	3,847.21	3,688.43	30.01	14.45	67.943	-734.28	115.04	1,174.02	1,135.48	38.54	30.460	
5,400.00	4,106.84	3,823.20	3,666.81	31.96	14.46	66.820	-735.88	125.36	1,202.78	1,163.29	39.50	30.453	
5,500.00	4,106.16	3,798.00	3,643.87	33.95	14.47	65.633	-736.92	135.73	1,238.33	1,198.10	40.24	30.775	
5,600.00	4,105.48	3,777.93	3,625.45	35.98	14.46	64.681	-737.20	143.71	1,280.17	1,239.33	40.83	31.351	
5,700.00	4,104.80	3,758.16	3,607.21	38.03	14.45	63.740	-736.89	151.33	1,327.77	1,286.52	41.25	32.185	
5,800.00	4,104.11	3,741.66	3,591.93	40.11	14.44	62.949	-736.15	157.52	1,380.65	1,339.10	41.55	33.228	
5,900.00	4,103.43	3,735.00	3,585.76	42.21	14.44	62.630	-735.73	159.97	1,438.35	1,396.52	41.83	34.385	
6,000.00	4,102.75	3,719.19	3,571.06	44.33	14.42	61.870	-734.47	165.68	1,500.29	1,458.41	41.89	35.819	
6,100.00	4,102.07	3,704.00	3,556.92	46.46	14.41	61.139	-732.95	170.98	1,566.12	1,524.26	41.86	37.414	



Anticollision Report



Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB=6640+23.5 @ 6663.50ft

Offset Depths are relative to Offset Datum

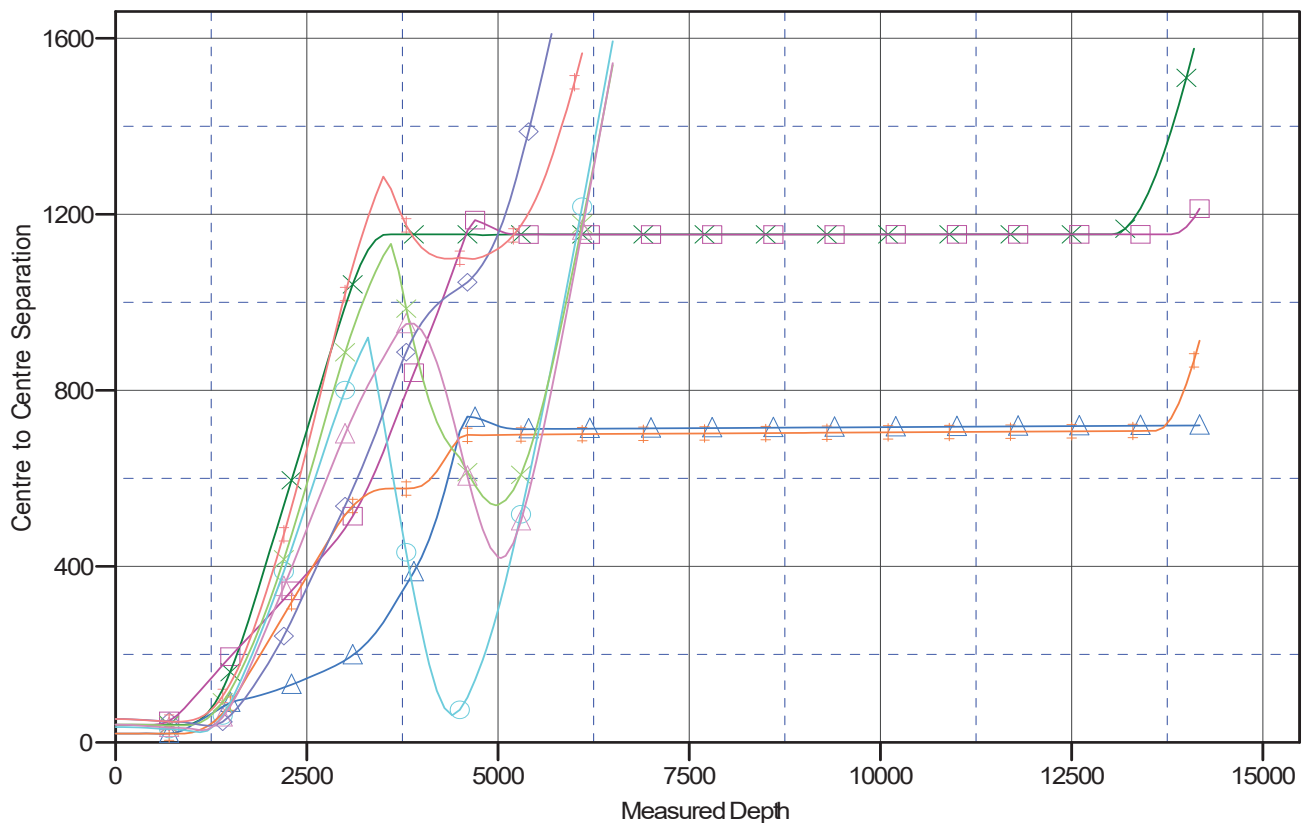
Central Meridian is -107.83333333

Coordinates are relative to: Greater Lybrook Unit 45H

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

Grid Convergence at Surface is: 0.033°

Ladder Plot



LEGEND

GreaterLybrookUnit45H.OriginalHole.rev0 V0	GreaterLybrookUnit45H.OriginalHole.rev0 V0	W LybrookUnitNo.861H.OriginalHole.SurveysOriginalHole V0
GreaterLybrookUnit45H.OriginalHole.rev0 V0	W LybrookUnitNo.830H.OriginalHole.SurveysOriginalHole V0	W LybrookUnitNo.730H.OriginalHole.SurveysOriginalHole V0
GreaterLybrookUnit45H.OriginalHole.rev0 V0	W LybrookUnitNo.763H.OriginalHole.SurveysOriginalHole V0	W LybrookUnitNo.863H.OriginalHole.SurveysOriginalHole V0

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 Greater Lybrook Unit 45H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
Reference Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	MD Reference:	RKB=6640+23.5 @ 6663.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Greater Lybrook Unit 45H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB=6640+23.5 @ 6663.50ft

Offset Depths are relative to Offset Datum

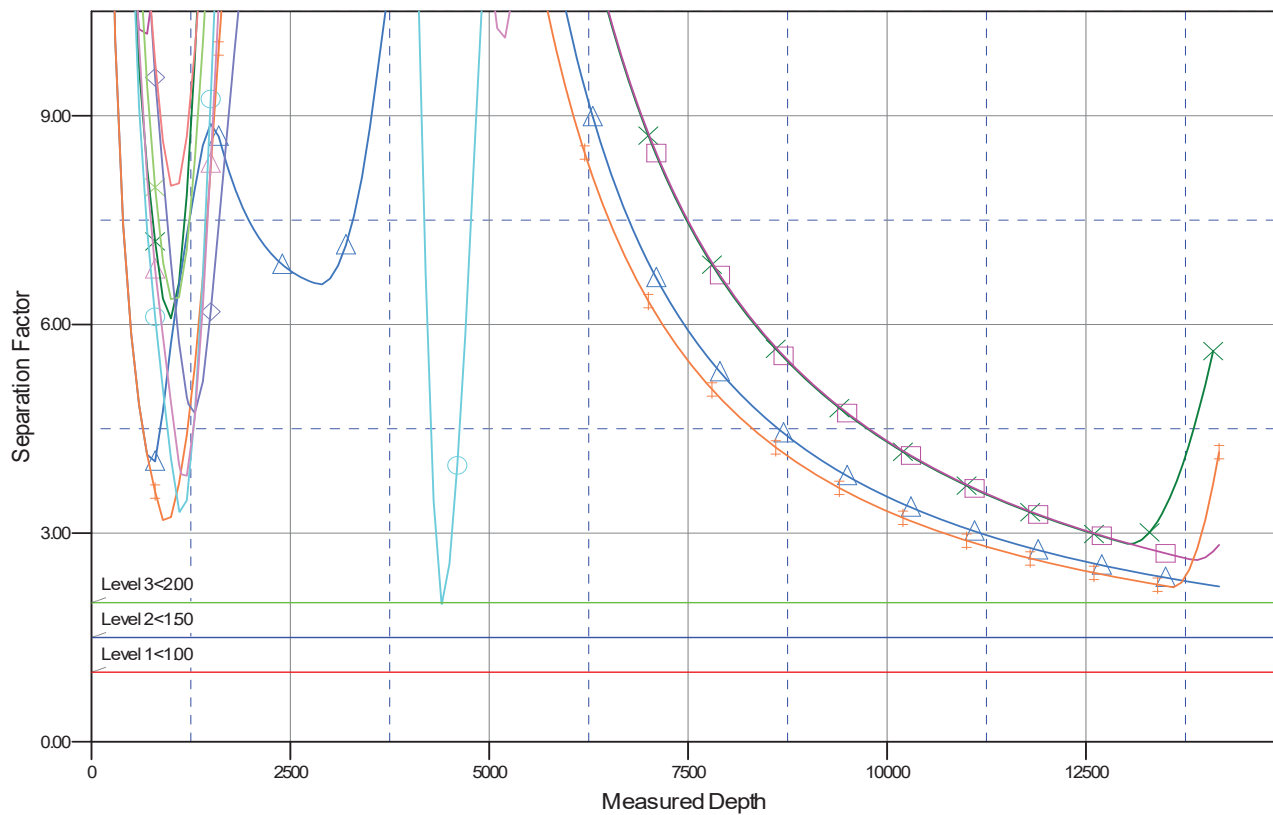
Central Meridian is -107.8333333

Coordinates are relative to: Greater Lybrook Unit 45H

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

Grid Convergence at Surface is: 0.033°

Separation Factor Plot



LEGEND

GreaterLybrookUnit45H.OriginalHole.rev0 V0	GreaterLybrookUnit47H.OriginalHole.rev0 V0	W LybrookUnitNo.861H.OriginalHole.SurveysOriginalHole V0
GreaterLybrookUnit48H.OriginalHole.rev0 V0	W LybrookUnitNo.830H.OriginalHole.SurveysOriginalHole V0	W LybrookUnitNo.730H.OriginalHole.SurveysOriginalHole V0
GreaterLybrookUnit48H.OriginalHole.rev0 V0	W LybrookUnitNo.763H.OriginalHole.SurveysOriginalHole V0	W LybrookUnitNo.863H.OriginalHole.SurveysOriginalHole 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
#045H GREATER LYBROOK UNIT
Lease: NMNM121961 Agreement: NMNM144419X

SH: NE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 27, T. 23N., R. 09W.
San Juan County, New Mexico
BH: SE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 35, T. 23N., R. 09W.
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. 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.
- L. 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.
- M. **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.

VII. PHONE NUMBERS

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

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

ACKNOWLEDGMENTS

Action 524948

ACKNOWLEDGMENTS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way Centennial, CO 80111	OGRID: 372286
	Action Number: 524948
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

ACKNOWLEDGMENTS

☒	I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well.
-------------------------------------	--

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

General Information
Phone: (505) 629-6116

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

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

CONDITIONS

Action 524948

CONDITIONS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way Centennial, CO 80111	OGRID: 372286
	Action Number: 524948
	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.	11/10/2025
sford	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	11/10/2025
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	12/23/2025
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	12/23/2025
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.	12/23/2025
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.	12/23/2025