

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. 30-045-38517
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 / 1141 FNL / 2411 FWL / TWSP: 23N / RANGE: 9W / SECTION: 27 / LAT: 36.202013 / LONG: -107.776918 (TVD: 0 feet, MD: 0 feet)
PPP: NWNE / 308 FNL / 2052 FEL / TWSP: 23N / RANGE: 9W / SECTION: 27 / LAT: 36.204294 / LONG: -107.774072 (TVD: 4415 feet, MD: 4707 feet)
PPP: NWNE / 0 FNL / 0 FEL / TWSP: 23N / RANGE: 9W / SECTION: 35 / LAT: 36.19062 / LONG: -107.75867 (TVD: 4529 feet, MD: 14881 feet)
PPP: NESW / 0 FSL / 0 FWL / TWSP: 23N / RANGE: 9W / SECTION: 26 / LAT: 36.19477 / LONG: -107.76273 (TVD: 4529 feet, MD: 14881 feet)
PPP: SWNW / 0 FNL / 0 FWL / TWSP: 23N / RANGE: 9W / SECTION: 26 / LAT: 36.19833 / LONG: -107.76712 (TVD: 4529 feet, MD: 14881 feet)
PPP: SWSE / 0 FSL / 0 FWL / TWSP: 23N / RANGE: 9W / SECTION: 26 / LAT: 36.19123 / LONG: -107.7583 (TVD: 4529 feet, MD: 14881 feet)
BHL: SENE / 2151 FNL / 238 FEL / TWSP: 23N / RANGE: 9W / SECTION: 35 / LAT: 36.184755 / LONG: -107.750246 (TVD: 4529 feet, MD: 14881 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 30-045-38517	Pool Code 98157	Pool Name LYBROOK MANCOS W
Property Code 332891	Property Name GREATER LYBROOK UNIT	Well Number 046H
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 1141' NORTH	Feet from E/W Line 2411' WEST	Latitude 36.202013 °N	Longitude -107.776918 °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 2151' NORTH	Feet from E/W Line 238' EAST	Latitude 36.184755 °N	Longitude -107.750246 °W	County SAN JUAN
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Dedicated Acres 640.00	Penetrated Spacing Unit NE/4 NW/4, NE/4 - Section 35 NE/4, NE/4 SE/4 - Section 27 SW/4 NW/4, SW/4, SW/4 SE/4 - Section 26	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 1141' NORTH	Feet from E/W Line 2411' WEST	Latitude 36.202013 °N	Longitude -107.776918 °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 308' NORTH	Feet from E/W Line 2052' EAST	Latitude 36.204294 °N	Longitude -107.774072 °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 2151' NORTH	Feet from E/W Line 238' EAST	Latitude 36.184755 °N	Longitude -107.750246 °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. <u>Shaw-Marie Ford</u> Signature <u>10/30/2025</u> Date Shaw-Marie Ford Printed Name <u>sford@enduringresources.com</u> 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 <table><tr><td>Certificate Number 15269</td><td>Date of Survey DECEMBER 20, 2023</td></tr></table>	Certificate Number 15269	Date of Survey DECEMBER 20, 2023
Certificate Number 15269	Date of Survey DECEMBER 20, 2023		

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-Gallup formation*

WELL INFORMATION:

Name: Greater Lybrook Unit 046H

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 1,141 ft FNL 2,411 ft FWL
 36.202013 ° N latitude 107.776918 ° W longitude (NAD 83)

BH Location: 35-23-9 Sec-Twn-Rng 2,151 ft FNL 238 ft FEL
 36.184755 ° N latitude 107.750246 ° 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	1,056	G, W	normal
	Chacra	5,405	1,259	1,267	G, W	normal
	Cliff House	4,389	2,275	2,354	G, W	sub
	Menefee	4,359	2,305	2,386	G, W	normal
	Point Lookout	3,372	3,292	3,443	G, W	normal
	Mancos	3,212	3,452	3,614	O,G	sub (~0.38)
	Gallup (MNCS_A)	2,878	3,786	3,973	O,G	sub (~0.38)
	MNCS_B	2,778	3,886	4,080	O,G	sub (~0.38)
	MNCS_C	2,691	3,973	4,172	O,G	sub (~0.38)
	MNCS_Cms	2,648	4,016	4,218	O,G	sub (~0.38)
	MNCS_D	2,515	4,149	4,361	O,G	sub (~0.38)
	MNCS_E	2,371	4,293	4,531	O,G	sub (~0.38)
	MNCS_F	2,319	4,345	4,600	O,G	sub (~0.38)
	MNCS_G	2,249	4,415	4,707	O,G	sub (~0.38)
	MNCS_H	2,200	4,464	4,802	O,G	sub (~0.38)

MNCS_I	2,150	4,514	4,946	O,G	sub (~0.38)
FTP TARGET	2,249	4,415	4,707	O,G	sub (~0.38)
PROJECTED TD	2,135	4,529	14,881	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: 1,950 psi

Maximum anticipated surface pressure, assuming partially evacuated hole: 960 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 the there is no power to the accumulator.

FLUIDS AND SOLIDS CONTROL PROGRAM:

Fluid Measurement:

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

Closed-Loop System: A fully, closed-loop system will be utilized. The system will consist of above-ground piping and above-ground storage tanks and bins. The system will not entail any earthen pits, below-grade storage, or drying pads. All equipment will be disassembled and removed from the site when drilling operations cease. The system will be capable of storing all fluids and generated cuttings and of preventing uncontrolled releases of the same. The system will be operated in an efficient manner to allow the recycling and reuse of as much fluid as possible and to 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: Specs Loading		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
	9.625	36.0	K-55	STC	2,020	3,520	564,000	423,000
					153	970	110,988	110,988

Min. S.F.

13.21

3.63

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	5,027 ft (MD)	Hole Section Length:	4,677 ft
350 ft (TVD)	to	4,526 ft (TVD)	Casing Required:	5,027 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 13-3/8" casing to 1,500 psi for 30 minutes.

Casing Specs: Specs Loading Min. S.F.		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
	7	26.0	K-55	LTC	4,320	4,980	415,000	367,000
					1,977	1,219	213,979	213,979
					2.19	4.09	1.94	1.72

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	425	915
Tail	Type III	13.5	1.710	8.88	30%	3,514	178	305

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.

5,027 ft (MD)	to	14,881 ft (MD)	Hole Section Length:	9,854 ft
4,526 ft (TVD)	to	4,529 ft (TVD)	Casing Required:	10,004 ft
Estimated KOP:		4,093 ft (MD)	3,898 ft (TVD)	
Estimated Liner Top:		4,877 ft (MD)	4,494 ft (TVD)	
Estimated Landing Point (FTP):		4,707 ft (MD)	4,415 ft (TVD)	
Estimated Lateral Length:		10,174 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					2,237	8,759	248,955	248,955
Min. S.F.					3.38	1.22	1.47	1.55

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%	4,877	838	1,274

Displacement 204 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	Avis 616 viscosifier	FP24 Defoamer .5	Plus 3K LCM 15	SS201 Surfactant 1			
	163.7 lbs/bbl	11.6 lb/bbl	lb/bbl	lb/bbl	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	
	Type G 50%	Pozzolan Fly Ash Extender 50%	BA90 Bonding Agent 3.0 lb/sx	Bentonite Viscosifier 4% BWOB	IntegraGuard FL24 Fluid Loss .4% BWOB	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 definted by NMAC19.15.16.15.C.5. As defined in

FINISH WELL: ND BOP, cap well, RDMO.

COMPLETION AND PRODUCTION PLAN:

Est Lateral Length: 10,074
Est Frac Inform: 42 Frac Stages 162,000 bbls slick water 13,100,000 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 9/11/2024

WELL NAME: **Greater Lybrook Unit 046H**

OBJECTIVE: **Drill, complete, and equip single lateral in the Mancos-Gallup 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 **1,141** ft FNL **2,411** ft FWL

BH Location: **35-23-9** Sec-Twn- Rng **2151** ft FNL **238** 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	5,027	7	26.0	K-55	LTC	0	5,027
Production	6.125	14,881	4.500	11.6	P-110	BTC	4,877	14,881

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	425
Inter. (Tail)	Type III	13.5	1.71	8.88	0.1503	30%	3,514	178
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%	4,877	838

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

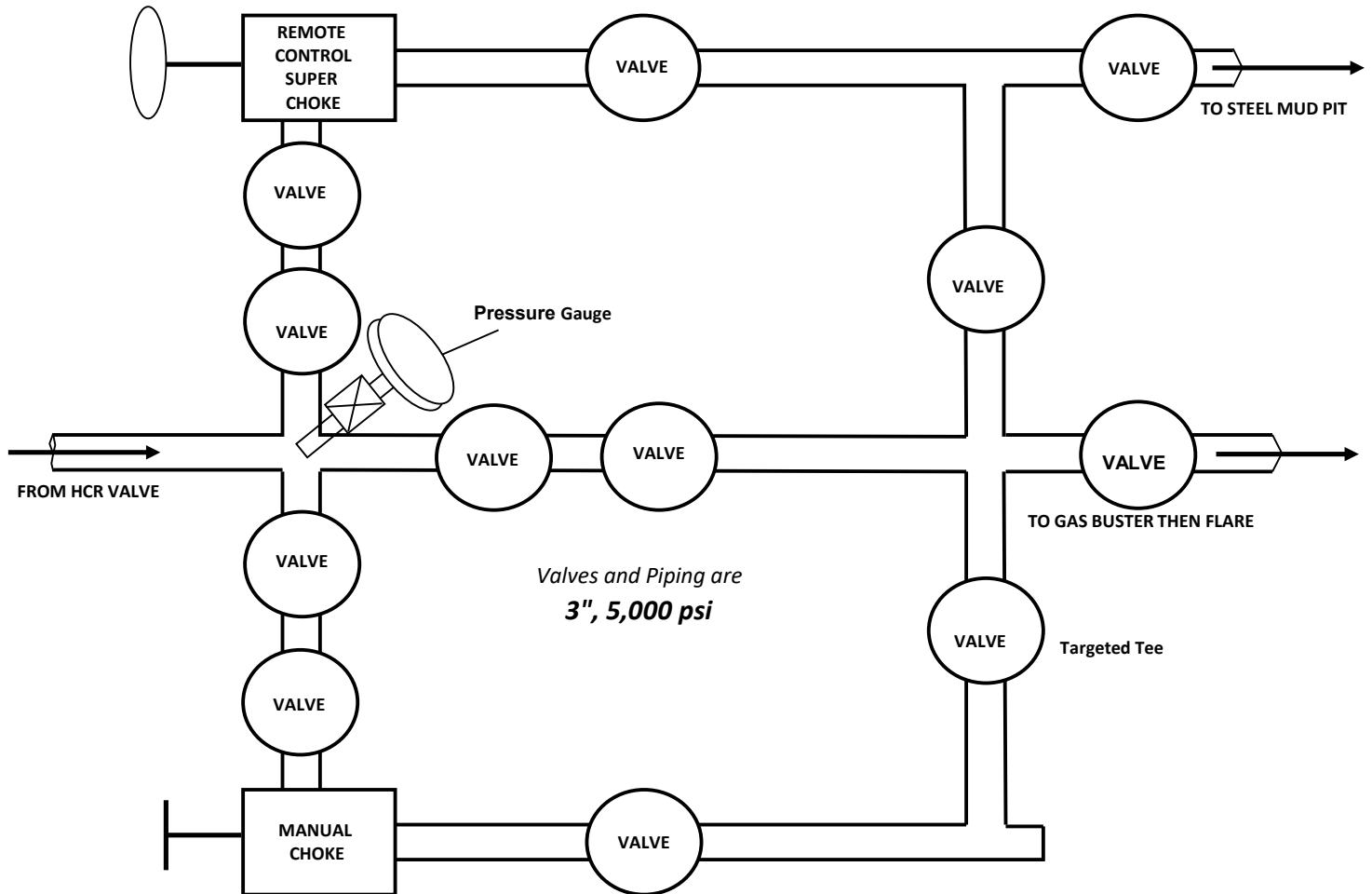
QUICK REFERENCE	
Sur TD (MD)	350 ft
Int TD (MD)	5,027 ft
KOP (MD)	4,093 ft
KOP (TVD)	3,898 ft
Target (TVD)	4,415 ft
Curve BUR	10 °/100 ft
POE (MD)	4,707 ft
TD (MD)	14,881 ft
Lat Len (ft)	10,174 ft

Tops	TVD (ft KB)	MD (ft KB)
Ojo Alamo	174	174
Kirtland	289	289
Fruitland	499	499
Pictured Cliffs	894	894
Lewis	1,054	1,056
Chacra	1,259	1,267
Cliff House	2,275	2,354
Menefee	2,305	2,386
Point Lookout	3,292	3,443
Mancos	3,452	3,614
Gallup (MNCS_A)	3,786	3,973
MNCS_B	3,886	4,080
MNCS_C	3,973	4,172
MNCS_Cms	4,016	4,218
MNCS_D	4,149	4,361
MNCS_E	4,293	4,531
MNCS_F	4,345	4,600
MNCS_G	4,415	4,707
MNCS_H	4,464	4,802
MNCS_I	4,514	4,946
FTP TARGET	4,415	4,707
PROJECTED TD	4,529	14,881

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.

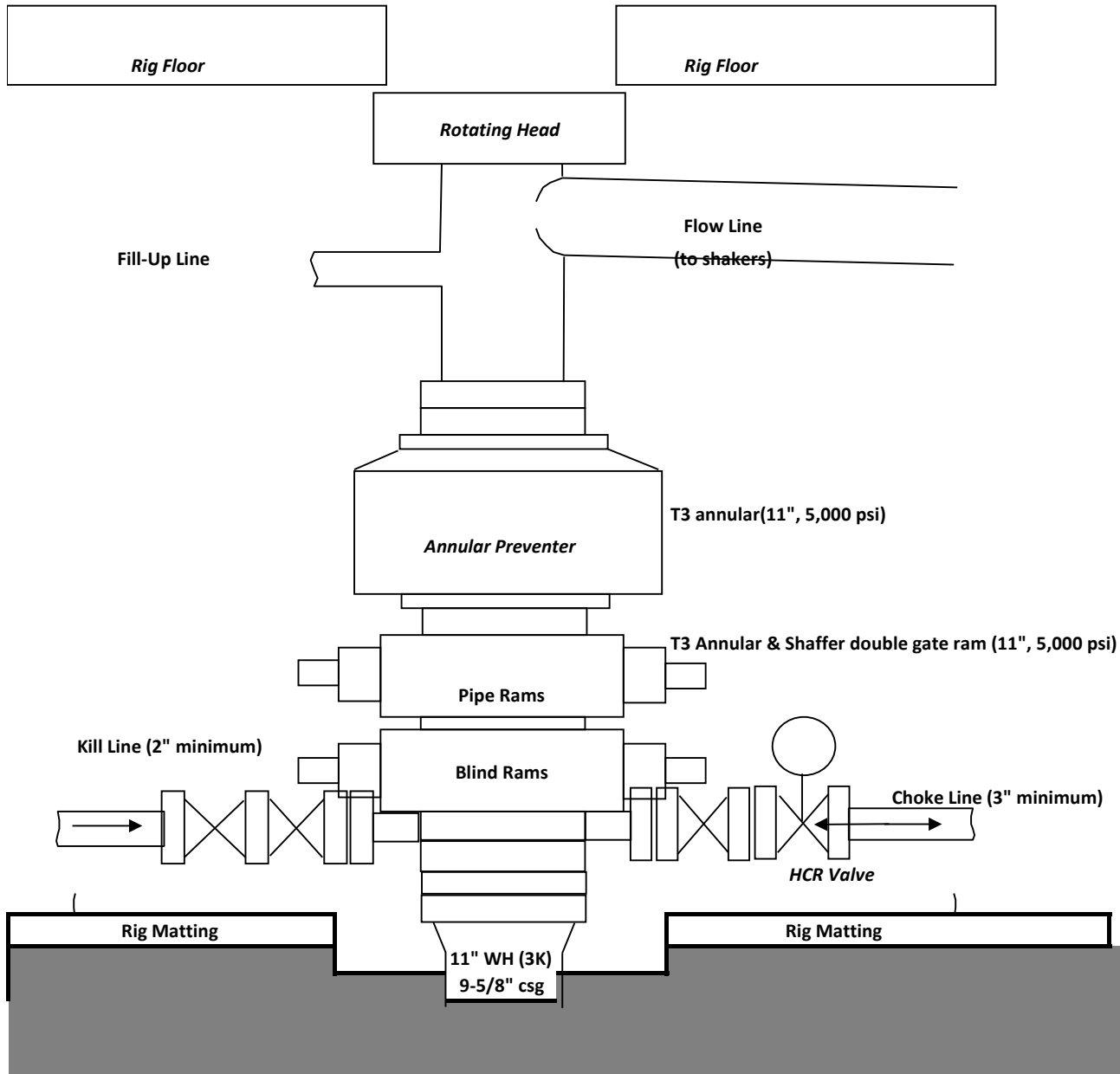
CHOKE MANIFOLD



Greater Lybrook Unit 046H

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



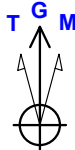


Well: Greater Lybrook Unit 46H
Site: Greater Lybrook Unit 730 (43,44,45,46&47)
Project: San Juan County, New Mexico NAD83 NM W
Design: rev0
Rig:

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: 1892835.06
Easting: 2739735.95
Latitude: 36.20201300
Longitude: -107.77691800

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

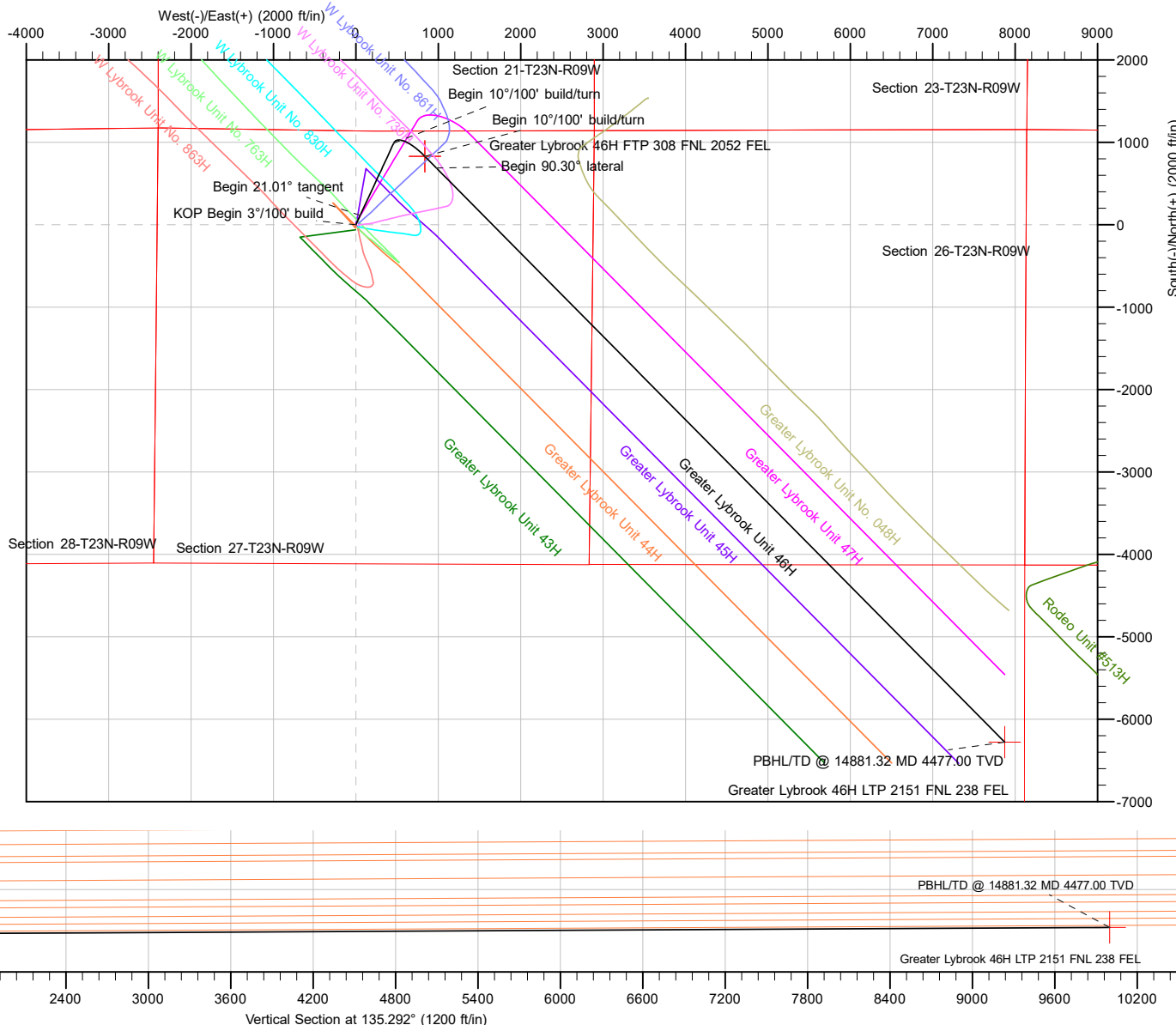
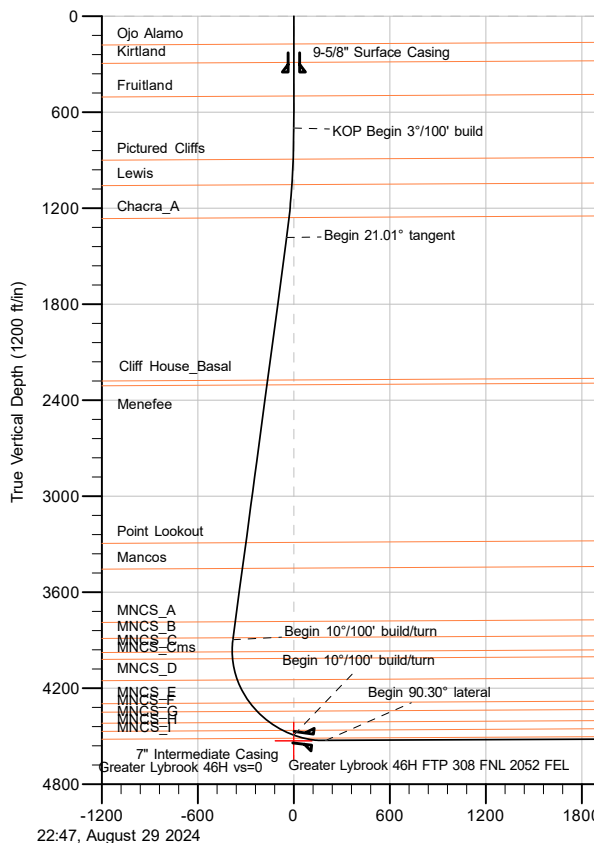
TVD	MD	Size
350.00	350.00	9-5/8
4523.26	4998.63	7

Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.000	0.00	
2	700.00	0.00	0.000	700.00	0.00	0.00	0.00	0.000	0.00	KOP Begin 3°/100' build
3	1400.33	21.01	24.905	1384.74	115.16	53.47	3.00	24.905	-44.23	Begin 21.01° tangent
4	4093.08	21.01	24.905	3898.47	990.81	460.02	0.00	0.000	-380.55	Begin 10°/100' build/turn
5	4876.59	70.00	135.292	4494.00	830.83	839.15	10.00	115.927	-0.13	Begin 10°/100' build/turn
6	5079.60	90.30	135.292	4528.55	689.42	979.13	10.00	0.000	198.84	Begin 90.30° lateral
7	14881.32	90.30	135.292	4477.00	-6276.60	7874.47	0.00	0.000	10000.43	PBHL/TD @ 14881.32 MD 4477.00 TVD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Greater Lybrook 46H FTP 308 FNL 2052 FEL	4529.00	830.83	839.15	1893665.89	2740875.10	36.20429400	-107.77407200
Greater Lybrook 46H LTP 2151 FNL 238 FEL	4477.00	-6276.60	7874.47	1886558.47	2747810.40	36.18475500	-107.75024600
Greater Lybrook 46H vs=0	4529.00	830.74	839.25	1893665.80	2740575.20	36.20429375	-107.77407167

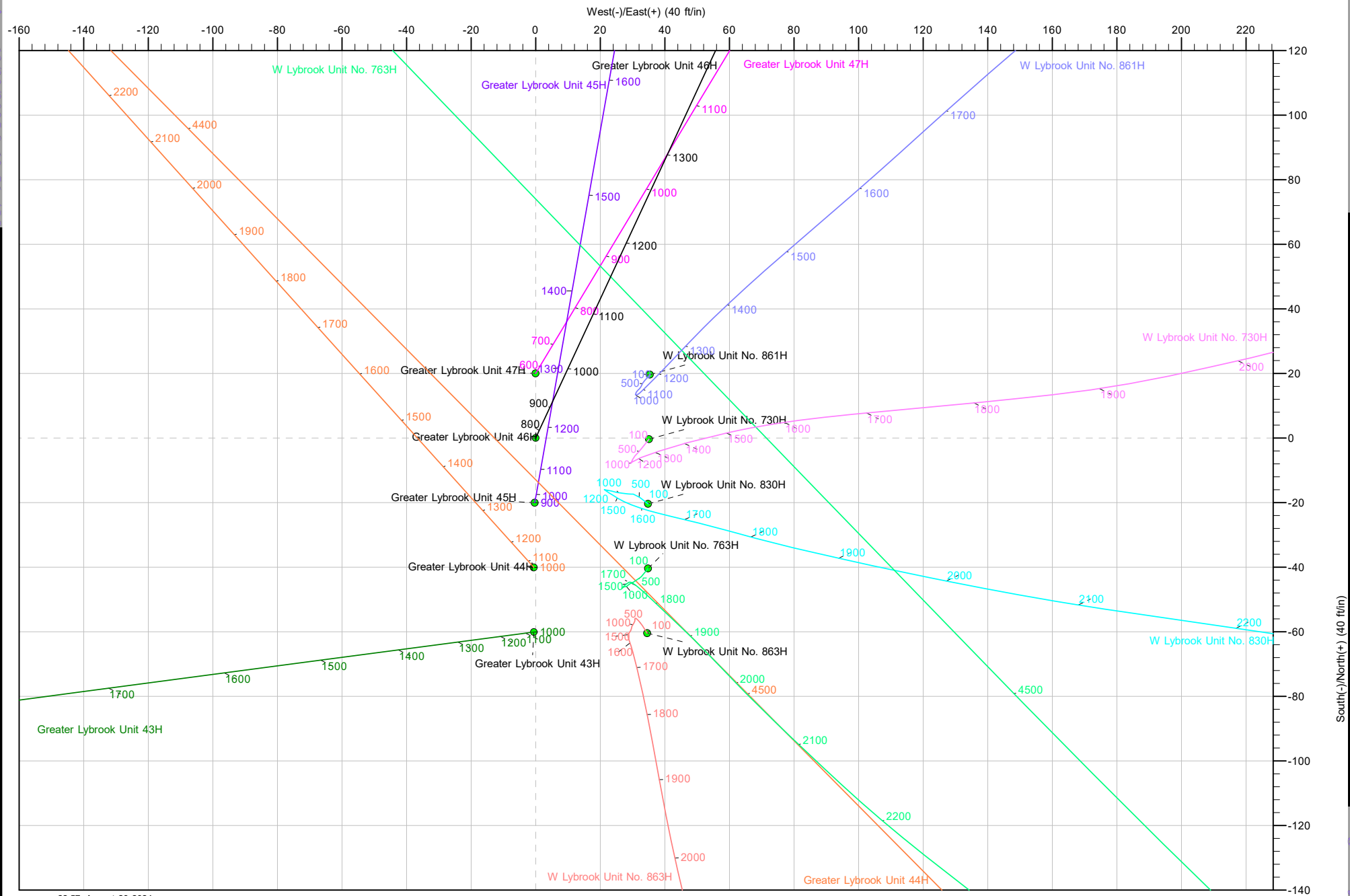


22:47, August 29 2024

Vertical Section at 135.292° (1200 ft/in)



Well: Greater Lybrook Unit 46H
Site: Greater Lybrook Unit 730 (43,44,45,46&47)
Project: San Juan County, New Mexico NAD83 NM W
Design: rev0
Rig:





Planning Report



Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Greater Lybrook Unit 46H
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 46H	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 46H, Surf loc: 1141 FNL 2411 FWL Section 27-T23N-R09W						
Well Position	+N/-S	0.00 ft	Northing:	1,892,835.06	usft	Latitude:	36.20201300
	+E/-W	0.00 ft	Easting:	2,739,735.95	usft	Longitude:	-107.77691800
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	48,963.63597695

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	135.292	

Plan Survey Tool Program	Date	8/29/2024			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	14,881.32 rev0 (Original Hole)	MWD		
			OWSG MWD - Standard		

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	
700.00	0.00	0.000	700.00	0.00	0.00	0.00	0.00	0.00	0.000	
1,400.33	21.01	24.905	1,384.74	115.16	53.47	3.00	3.00	0.00	24.905	
4,093.08	21.01	24.905	3,898.47	990.81	460.02	0.00	0.00	0.00	0.000	
4,876.59	70.00	135.292	4,494.00	830.83	839.15	10.00	6.25	14.09	115.927	
5,079.60	90.30	135.292	4,528.55	689.42	979.13	10.00	10.00	0.00	0.000	
14,881.32	90.30	135.292	4,477.00	-6,276.60	7,874.47	0.00	0.00	0.00	0.000	Greater Lybrook 46H



Planning Report



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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 46H	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
KOP Begin 3°/100' build									
800.00	3.00	24.905	799.95	2.37	1.10	-0.91	3.00	3.00	0.00
894.35	5.83	24.905	894.02	8.96	4.16	-3.44	3.00	3.00	0.00
Pictured Cliffs									
900.00	6.00	24.905	899.63	9.49	4.41	-3.64	3.00	3.00	0.00
1,000.00	9.00	24.905	998.77	21.33	9.90	-8.19	3.00	3.00	0.00
1,056.12	10.68	24.905	1,054.06	30.03	13.94	-11.53	3.00	3.00	0.00
Lewis									
1,100.00	12.00	24.905	1,097.08	37.85	17.58	-14.54	3.00	3.00	0.00
1,200.00	15.00	24.905	1,194.31	59.03	27.40	-22.67	3.00	3.00	0.00
1,267.47	17.02	24.905	1,259.15	75.90	35.24	-29.15	3.00	3.00	0.00
Chacra_A									
1,300.00	18.00	24.905	1,290.18	84.78	39.36	-32.56	3.00	3.00	0.00
1,400.33	21.01	24.905	1,384.74	115.16	53.47	-44.23	3.00	3.00	0.00
Begin 21.01° tangent									
1,500.00	21.01	24.905	1,477.78	147.57	68.52	-56.68	0.00	0.00	0.00
1,600.00	21.01	24.905	1,571.14	180.09	83.61	-69.17	0.00	0.00	0.00
1,700.00	21.01	24.905	1,664.49	212.61	98.71	-81.66	0.00	0.00	0.00
1,800.00	21.01	24.905	1,757.84	245.13	113.81	-94.15	0.00	0.00	0.00
1,900.00	21.01	24.905	1,851.19	277.65	128.91	-106.64	0.00	0.00	0.00
2,000.00	21.01	24.905	1,944.54	310.17	144.01	-119.13	0.00	0.00	0.00
2,100.00	21.01	24.905	2,037.90	342.69	159.11	-131.62	0.00	0.00	0.00
2,200.00	21.01	24.905	2,131.25	375.21	174.20	-144.11	0.00	0.00	0.00
2,300.00	21.01	24.905	2,224.60	407.73	189.30	-156.60	0.00	0.00	0.00
2,353.83	21.01	24.905	2,274.86	425.23	197.43	-163.32	0.00	0.00	0.00
Cliff House_Basal									
2,385.99	21.01	24.905	2,304.88	435.69	202.28	-167.34	0.00	0.00	0.00
Menefee									
2,400.00	21.01	24.905	2,317.95	440.24	204.40	-169.09	0.00	0.00	0.00
2,500.00	21.01	24.905	2,411.30	472.76	219.50	-181.58	0.00	0.00	0.00
2,600.00	21.01	24.905	2,504.66	505.28	234.60	-194.07	0.00	0.00	0.00
2,700.00	21.01	24.905	2,598.01	537.80	249.69	-206.56	0.00	0.00	0.00
2,800.00	21.01	24.905	2,691.36	570.32	264.79	-219.05	0.00	0.00	0.00
2,900.00	21.01	24.905	2,784.71	602.84	279.89	-231.54	0.00	0.00	0.00
3,000.00	21.01	24.905	2,878.06	635.36	294.99	-244.03	0.00	0.00	0.00
3,100.00	21.01	24.905	2,971.41	667.88	310.09	-256.52	0.00	0.00	0.00



Planning Report



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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 46H	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)
3,200.00	21.01	24.905	3,064.77	700.39	325.18	-269.01	0.00	0.00	0.00
3,300.00	21.01	24.905	3,158.12	732.91	340.28	-281.50	0.00	0.00	0.00
3,400.00	21.01	24.905	3,251.47	765.43	355.38	-293.99	0.00	0.00	0.00
3,442.95	21.01	24.905	3,291.57	779.40	361.86	-299.35	0.00	0.00	0.00
Point Lookout									
3,500.00	21.01	24.905	3,344.82	797.95	370.48	-306.48	0.00	0.00	0.00
3,600.00	21.01	24.905	3,438.17	830.47	385.58	-318.97	0.00	0.00	0.00
3,614.47	21.01	24.905	3,451.68	835.17	387.76	-320.77	0.00	0.00	0.00
Mancos									
3,700.00	21.01	24.905	3,531.53	862.99	400.67	-331.46	0.00	0.00	0.00
3,800.00	21.01	24.905	3,624.88	895.51	415.77	-343.95	0.00	0.00	0.00
3,900.00	21.01	24.905	3,718.23	928.03	430.87	-356.43	0.00	0.00	0.00
3,972.50	21.01	24.905	3,785.91	951.60	441.82	-365.49	0.00	0.00	0.00
MNCS_A									
4,000.00	21.01	24.905	3,811.58	960.55	445.97	-368.92	0.00	0.00	0.00
4,079.70	21.01	24.905	3,885.98	986.46	458.00	-378.88	0.00	0.00	0.00
MNCS_B									
4,093.08	21.01	24.905	3,898.47	990.81	460.02	-380.55	0.00	0.00	0.00
Begin 10°/100' build/turn									
4,100.00	20.72	26.665	3,904.94	993.03	461.09	-381.37	10.00	-4.24	25.43
4,150.00	19.18	40.656	3,951.96	1,007.18	470.42	-384.86	10.00	-3.06	27.98
4,172.27	18.88	47.422	3,973.02	1,012.39	475.46	-385.03	10.00	-1.38	30.39
MNCS_C									
4,200.00	18.85	56.008	3,999.27	1,017.93	482.48	-384.03	10.00	-0.12	30.96
4,217.69	19.03	61.432	4,016.00	1,020.91	487.38	-382.69	10.00	1.04	30.66
MNCS_Cms									
4,250.00	19.76	70.921	4,046.48	1,025.21	497.17	-378.87	10.00	2.26	29.37
4,300.00	21.77	83.874	4,093.26	1,028.97	514.38	-369.42	10.00	4.02	25.91
4,350.00	24.61	94.360	4,139.24	1,029.17	534.00	-355.77	10.00	5.68	20.97
4,360.60	25.29	96.281	4,148.84	1,028.75	538.45	-352.34	10.00	6.45	18.13
MNCS_D									
4,400.00	28.02	102.619	4,184.06	1,025.81	555.85	-338.00	10.00	6.93	16.09
4,450.00	31.83	109.132	4,227.40	1,018.91	579.78	-316.27	10.00	7.61	13.03
4,500.00	35.90	114.345	4,268.92	1,008.54	605.61	-290.73	10.00	8.15	10.43
4,530.78	38.51	117.063	4,293.43	1,000.46	622.37	-273.20	10.00	8.46	8.83
MNCS_E									
4,550.00	40.16	118.607	4,308.30	994.77	633.14	-261.57	10.00	8.61	8.03
4,599.94	44.54	122.164	4,345.20	977.73	662.12	-229.07	10.00	8.78	7.12
MNCS_F									
4,600.00	44.55	122.168	4,345.25	977.70	662.16	-229.03	10.00	8.88	6.55
4,650.00	49.03	125.209	4,379.47	957.47	692.45	-193.34	10.00	8.97	6.08
4,700.00	53.58	127.860	4,410.73	934.22	723.78	-154.78	10.00	9.11	5.30
4,706.88	54.21	128.200	4,414.78	930.80	728.15	-149.27	10.00	9.17	4.94
MNCS_G									
4,750.00	58.19	130.216	4,438.76	908.14	755.90	-113.65	10.00	9.22	4.67
4,800.00	62.83	132.346	4,463.37	879.43	788.58	-70.25	10.00	9.29	4.26
4,802.16	63.03	132.434	4,464.36	878.13	790.01	-68.32	10.00	9.32	4.07
MNCS_H									
4,850.00	67.51	134.305	4,484.37	848.29	821.57	-24.91	10.00	9.35	3.91
4,876.59	70.00	135.292	4,494.00	830.83	839.15	-0.13	10.00	9.38	3.71
Begin 10°/100' build/turn									
4,900.00	72.34	135.292	4,501.56	815.08	854.74	22.03	10.00	10.00	0.00



Planning Report



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Site:	Greater Lybrook Unit 730 (43,44,45,46&47)	North Reference:	Grid
Well:	Greater Lybrook Unit 46H	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)
4,945.64	76.91	135.292	4,513.65	783.82	885.69	66.02	10.00	10.00	0.00
MNCS_I									
4,950.00	77.34	135.292	4,514.63	780.80	888.68	70.27	10.00	10.00	0.00
4,998.63	82.20	135.292	4,523.26	746.79	922.34	118.11	10.00	10.00	0.00
7" Intermediate Casing									
5,000.00	82.34	135.292	4,523.44	745.83	923.29	119.47	10.00	10.00	0.00
5,050.00	87.34	135.292	4,527.94	710.45	958.32	169.25	10.00	10.00	0.00
5,079.60	90.30	135.292	4,528.55	689.42	979.13	198.84	10.00	10.00	0.00
Begin 90.30° lateral									
5,100.00	90.30	135.292	4,528.44	674.92	993.48	219.24	0.00	0.00	0.00
5,200.00	90.30	135.292	4,527.91	603.85	1,063.83	319.24	0.00	0.00	0.00
5,300.00	90.30	135.292	4,527.39	532.78	1,134.18	419.24	0.00	0.00	0.00
5,400.00	90.30	135.292	4,526.86	461.71	1,204.53	519.24	0.00	0.00	0.00
5,500.00	90.30	135.292	4,526.33	390.64	1,274.88	619.24	0.00	0.00	0.00
5,600.00	90.30	135.292	4,525.81	319.57	1,345.22	719.24	0.00	0.00	0.00
5,700.00	90.30	135.292	4,525.28	248.50	1,415.57	819.23	0.00	0.00	0.00
5,800.00	90.30	135.292	4,524.76	177.43	1,485.92	919.23	0.00	0.00	0.00
5,900.00	90.30	135.292	4,524.23	106.37	1,556.27	1,019.23	0.00	0.00	0.00
6,000.00	90.30	135.292	4,523.71	35.30	1,626.62	1,119.23	0.00	0.00	0.00
6,100.00	90.30	135.292	4,523.18	-35.77	1,696.97	1,219.23	0.00	0.00	0.00
6,200.00	90.30	135.292	4,522.65	-106.84	1,767.31	1,319.23	0.00	0.00	0.00
6,300.00	90.30	135.292	4,522.13	-177.91	1,837.66	1,419.23	0.00	0.00	0.00
6,400.00	90.30	135.292	4,521.60	-248.98	1,908.01	1,519.22	0.00	0.00	0.00
6,500.00	90.30	135.292	4,521.08	-320.05	1,978.36	1,619.22	0.00	0.00	0.00
6,600.00	90.30	135.292	4,520.55	-391.12	2,048.71	1,719.22	0.00	0.00	0.00
6,700.00	90.30	135.292	4,520.02	-462.19	2,119.05	1,819.22	0.00	0.00	0.00
6,800.00	90.30	135.292	4,519.50	-533.26	2,189.40	1,919.22	0.00	0.00	0.00
6,900.00	90.30	135.292	4,518.97	-604.33	2,259.75	2,019.22	0.00	0.00	0.00
7,000.00	90.30	135.292	4,518.45	-675.40	2,330.10	2,119.22	0.00	0.00	0.00
7,100.00	90.30	135.292	4,517.92	-746.47	2,400.45	2,219.21	0.00	0.00	0.00
7,200.00	90.30	135.292	4,517.39	-817.54	2,470.80	2,319.21	0.00	0.00	0.00
7,300.00	90.30	135.292	4,516.87	-888.61	2,541.14	2,419.21	0.00	0.00	0.00
7,400.00	90.30	135.292	4,516.34	-959.67	2,611.49	2,519.21	0.00	0.00	0.00
7,500.00	90.30	135.292	4,515.82	-1,030.74	2,681.84	2,619.21	0.00	0.00	0.00
7,600.00	90.30	135.292	4,515.29	-1,101.81	2,752.19	2,719.21	0.00	0.00	0.00
7,700.00	90.30	135.292	4,514.77	-1,172.88	2,822.54	2,819.21	0.00	0.00	0.00
7,800.00	90.30	135.292	4,514.24	-1,243.95	2,892.88	2,919.21	0.00	0.00	0.00
7,900.00	90.30	135.292	4,513.71	-1,315.02	2,963.23	3,019.20	0.00	0.00	0.00
8,000.00	90.30	135.292	4,513.19	-1,386.09	3,033.58	3,119.20	0.00	0.00	0.00
8,100.00	90.30	135.292	4,512.66	-1,457.16	3,103.93	3,219.20	0.00	0.00	0.00
8,200.00	90.30	135.292	4,512.14	-1,528.23	3,174.28	3,319.20	0.00	0.00	0.00
8,300.00	90.30	135.292	4,511.61	-1,599.30	3,244.63	3,419.20	0.00	0.00	0.00
8,400.00	90.30	135.292	4,511.08	-1,670.37	3,314.97	3,519.20	0.00	0.00	0.00
8,500.00	90.30	135.292	4,510.56	-1,741.44	3,385.32	3,619.20	0.00	0.00	0.00
8,600.00	90.30	135.292	4,510.03	-1,812.51	3,455.67	3,719.19	0.00	0.00	0.00
8,700.00	90.30	135.292	4,509.51	-1,883.58	3,526.02	3,819.19	0.00	0.00	0.00
8,800.00	90.30	135.292	4,508.98	-1,954.65	3,596.37	3,919.19	0.00	0.00	0.00
8,900.00	90.30	135.292	4,508.45	-2,025.72	3,666.71	4,019.19	0.00	0.00	0.00
9,000.00	90.30	135.292	4,507.93	-2,096.78	3,737.06	4,119.19	0.00	0.00	0.00
9,100.00	90.30	135.292	4,507.40	-2,167.85	3,807.41	4,219.19	0.00	0.00	0.00
9,200.00	90.30	135.292	4,506.88	-2,238.92	3,877.76	4,319.19	0.00	0.00	0.00
9,300.00	90.30	135.292	4,506.35	-2,309.99	3,948.11	4,419.18	0.00	0.00	0.00
9,400.00	90.30	135.292	4,505.83	-2,381.06	4,018.46	4,519.18	0.00	0.00	0.00



Planning Report



Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Greater Lybrook Unit 46H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6640+23.5 @ 6663.50ft
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 46H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,500.00	90.30	135.292	4,505.30	-2,452.13	4,088.80	4,619.18	0.00	0.00	0.00
9,600.00	90.30	135.292	4,504.77	-2,523.20	4,159.15	4,719.18	0.00	0.00	0.00
9,700.00	90.30	135.292	4,504.25	-2,594.27	4,229.50	4,819.18	0.00	0.00	0.00
9,800.00	90.30	135.292	4,503.72	-2,665.34	4,299.85	4,919.18	0.00	0.00	0.00
9,900.00	90.30	135.292	4,503.20	-2,736.41	4,370.20	5,019.18	0.00	0.00	0.00
10,000.00	90.30	135.292	4,502.67	-2,807.48	4,440.55	5,119.17	0.00	0.00	0.00
10,100.00	90.30	135.292	4,502.14	-2,878.55	4,510.89	5,219.17	0.00	0.00	0.00
10,200.00	90.30	135.292	4,501.62	-2,949.62	4,581.24	5,319.17	0.00	0.00	0.00
10,300.00	90.30	135.292	4,501.09	-3,020.69	4,651.59	5,419.17	0.00	0.00	0.00
10,400.00	90.30	135.292	4,500.57	-3,091.76	4,721.94	5,519.17	0.00	0.00	0.00
10,500.00	90.30	135.292	4,500.04	-3,162.83	4,792.29	5,619.17	0.00	0.00	0.00
10,600.00	90.30	135.292	4,499.51	-3,233.89	4,862.63	5,719.17	0.00	0.00	0.00
10,700.00	90.30	135.292	4,498.99	-3,304.96	4,932.98	5,819.17	0.00	0.00	0.00
10,800.00	90.30	135.292	4,498.46	-3,376.03	5,003.33	5,919.16	0.00	0.00	0.00
10,900.00	90.30	135.292	4,497.94	-3,447.10	5,073.68	6,019.16	0.00	0.00	0.00
11,000.00	90.30	135.292	4,497.41	-3,518.17	5,144.03	6,119.16	0.00	0.00	0.00
11,100.00	90.30	135.292	4,496.89	-3,589.24	5,214.38	6,219.16	0.00	0.00	0.00
11,200.00	90.30	135.292	4,496.36	-3,660.31	5,284.72	6,319.16	0.00	0.00	0.00
11,300.00	90.30	135.292	4,495.83	-3,731.38	5,355.07	6,419.16	0.00	0.00	0.00
11,400.00	90.30	135.292	4,495.31	-3,802.45	5,425.42	6,519.16	0.00	0.00	0.00
11,500.00	90.30	135.292	4,494.78	-3,873.52	5,495.77	6,619.15	0.00	0.00	0.00
11,600.00	90.30	135.292	4,494.26	-3,944.59	5,566.12	6,719.15	0.00	0.00	0.00
11,700.00	90.30	135.292	4,493.73	-4,015.66	5,636.46	6,819.15	0.00	0.00	0.00
11,800.00	90.30	135.292	4,493.20	-4,086.73	5,706.81	6,919.15	0.00	0.00	0.00
11,900.00	90.30	135.292	4,492.68	-4,157.80	5,777.16	7,019.15	0.00	0.00	0.00
12,000.00	90.30	135.292	4,492.15	-4,228.87	5,847.51	7,119.15	0.00	0.00	0.00
12,100.00	90.30	135.292	4,491.63	-4,299.93	5,917.86	7,219.15	0.00	0.00	0.00
12,200.00	90.30	135.292	4,491.10	-4,371.00	5,988.21	7,319.14	0.00	0.00	0.00
12,300.00	90.30	135.292	4,490.57	-4,442.07	6,058.55	7,419.14	0.00	0.00	0.00
12,400.00	90.30	135.292	4,490.05	-4,513.14	6,128.90	7,519.14	0.00	0.00	0.00
12,500.00	90.30	135.292	4,489.52	-4,584.21	6,199.25	7,619.14	0.00	0.00	0.00
12,600.00	90.30	135.292	4,489.00	-4,655.28	6,269.60	7,719.14	0.00	0.00	0.00
12,700.00	90.30	135.292	4,488.47	-4,726.35	6,339.95	7,819.14	0.00	0.00	0.00
12,800.00	90.30	135.292	4,487.95	-4,797.42	6,410.29	7,919.14	0.00	0.00	0.00
12,900.00	90.30	135.292	4,487.42	-4,868.49	6,480.64	8,019.13	0.00	0.00	0.00
13,000.00	90.30	135.292	4,486.89	-4,939.56	6,550.99	8,119.13	0.00	0.00	0.00
13,100.00	90.30	135.292	4,486.37	-5,010.63	6,621.34	8,219.13	0.00	0.00	0.00
13,200.00	90.30	135.292	4,485.84	-5,081.70	6,691.69	8,319.13	0.00	0.00	0.00
13,300.00	90.30	135.292	4,485.32	-5,152.77	6,762.04	8,419.13	0.00	0.00	0.00
13,400.00	90.30	135.292	4,484.79	-5,223.84	6,832.38	8,519.13	0.00	0.00	0.00
13,500.00	90.30	135.292	4,484.26	-5,294.91	6,902.73	8,619.13	0.00	0.00	0.00
13,600.00	90.30	135.292	4,483.74	-5,365.98	6,973.08	8,719.13	0.00	0.00	0.00
13,700.00	90.30	135.292	4,483.21	-5,437.04	7,043.43	8,819.12	0.00	0.00	0.00
13,800.00	90.30	135.292	4,482.69	-5,508.11	7,113.78	8,919.12	0.00	0.00	0.00
13,900.00	90.30	135.292	4,482.16	-5,579.18	7,184.13	9,019.12	0.00	0.00	0.00
14,000.00	90.30	135.292	4,481.63	-5,650.25	7,254.47	9,119.12	0.00	0.00	0.00
14,100.00	90.30	135.292	4,481.11	-5,721.32	7,324.82	9,219.12	0.00	0.00	0.00
14,200.00	90.30	135.292	4,480.58	-5,792.39	7,395.17	9,319.12	0.00	0.00	0.00
14,300.00	90.30	135.292	4,480.06	-5,863.46	7,465.52	9,419.12	0.00	0.00	0.00
14,400.00	90.30	135.292	4,479.53	-5,934.53	7,535.87	9,519.11	0.00	0.00	0.00
14,500.00	90.30	135.292	4,479.01	-6,005.60	7,606.21	9,619.11	0.00	0.00	0.00
14,600.00	90.30	135.292	4,478.48	-6,076.67	7,676.56	9,719.11	0.00	0.00	0.00
14,700.00	90.30	135.292	4,477.95	-6,147.74	7,746.91	9,819.11	0.00	0.00	0.00
14,800.00	90.30	135.292	4,477.43	-6,218.81	7,817.26	9,919.11	0.00	0.00	0.00



Planning Report



Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Greater Lybrook Unit 46H
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 46H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
14,881.32	90.30	135.292	4,477.00	-6,276.60	7,874.47	10,000.43	0.00	0.00	0.00
PBHL/TD @ 14881.32 MD 4477.00 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	
4,998.63	4,523.26	7" Intermediate Casing	7	8-3/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
174.00	174.00	Ojo Alamo		-0.300	135.292
289.00	289.00	Kirtland		-0.300	135.292
499.00	499.00	Fruitland		-0.300	135.292
894.35	894.02	Pictured Cliffs		-0.300	135.292
1,056.12	1,054.06	Lewis		-0.300	135.292
1,267.47	1,259.15	Chacra_A		-0.300	135.292
2,353.83	2,274.86	Cliff House_Basal		-0.300	135.292
2,385.99	2,304.88	Menefee		-0.300	135.292
3,442.95	3,291.57	Point Lookout		-0.300	135.292
3,614.47	3,451.68	Mancos		-0.300	135.292
3,972.50	3,785.91	MNCS_A		-0.300	135.292
4,079.70	3,885.98	MNCS_B		-0.300	135.292
4,172.27	3,973.02	MNCS_C		-0.300	135.292
4,217.69	4,016.00	MNCS_Cms		-0.300	135.292
4,360.60	4,148.84	MNCS_D		-0.300	135.292
4,530.78	4,293.43	MNCS_E		-0.300	135.292
4,599.94	4,345.20	MNCS_F		-0.300	135.292
4,706.88	4,414.78	MNCS_G		-0.300	135.292
4,802.16	4,464.36	MNCS_H		-0.300	135.292
4,945.64	4,513.65	MNCS_I		-0.300	135.292

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
700.00	700.00	0.00	0.00	KOP Begin 3°/100' build
1,400.33	1,384.74	115.16	53.47	Begin 21.01° tangent
4,093.08	3,898.47	990.81	460.02	Begin 10°/100' build/turn
4,876.59	4,494.00	830.83	839.15	Begin 10°/100' build/turn
5,079.60	4,528.55	689.42	979.13	Begin 90.30° lateral
14,881.32	4,477.00	-6,276.60	7,874.47	PBHL/TD @ 14881.32 MD 4477.00 TVD



Planning Report - Geographic



Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Greater Lybrook Unit 46H
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 46H	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 46H, Surf loc: 1141 FNL 2411 FWL Section 27-T23N-R09W						
Well Position	+N/-S	0.00 ft	Northing:	1,892,835.06	usft	Latitude:	36.20201300
	+E/-W	0.00 ft	Easting:	2,739,735.95	usft	Longitude:	-107.77691800
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	48,963.63597695

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	135.292

Plan Survey Tool Program	Date	8/29/2024		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	14,881.32 rev0 (Original Hole)	MWD	
			OWSG MWD - Standard	

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	
700.00	0.00	0.000	700.00	0.00	0.00	0.00	0.00	0.00	0.000	
1,400.33	21.01	24.905	1,384.74	115.16	53.47	3.00	3.00	0.00	24.905	
4,093.08	21.01	24.905	3,898.47	990.81	460.02	0.00	0.00	0.00	0.000	
4,876.59	70.00	135.292	4,494.00	830.83	839.15	10.00	6.25	14.09	115.927	
5,079.60	90.30	135.292	4,528.55	689.42	979.13	10.00	10.00	0.00	0.000	
14,881.32	90.30	135.292	4,477.00	-6,276.60	7,874.47	0.00	0.00	0.00	0.000	Greater Lybrook 46H



Planning Report - Geographic



Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Greater Lybrook Unit 46H
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 46H	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	1,892,835.06	2,739,735.95	36.20201300	-107.77691800	
100.00	0.00	0.000	100.00	0.00	0.00	1,892,835.06	2,739,735.95	36.20201300	-107.77691800	
174.00	0.00	0.000	174.00	0.00	0.00	1,892,835.06	2,739,735.95	36.20201300	-107.77691800	
Ojo Alamo										
200.00	0.00	0.000	200.00	0.00	0.00	1,892,835.06	2,739,735.95	36.20201300	-107.77691800	
289.00	0.00	0.000	289.00	0.00	0.00	1,892,835.06	2,739,735.95	36.20201300	-107.77691800	
Kirtland										
300.00	0.00	0.000	300.00	0.00	0.00	1,892,835.06	2,739,735.95	36.20201300	-107.77691800	
350.00	0.00	0.000	350.00	0.00	0.00	1,892,835.06	2,739,735.95	36.20201300	-107.77691800	
9-5/8" Surface Casing										
400.00	0.00	0.000	400.00	0.00	0.00	1,892,835.06	2,739,735.95	36.20201300	-107.77691800	
499.00	0.00	0.000	499.00	0.00	0.00	1,892,835.06	2,739,735.95	36.20201300	-107.77691800	
Fruitland										
500.00	0.00	0.000	500.00	0.00	0.00	1,892,835.06	2,739,735.95	36.20201300	-107.77691800	
600.00	0.00	0.000	600.00	0.00	0.00	1,892,835.06	2,739,735.95	36.20201300	-107.77691800	
700.00	0.00	0.000	700.00	0.00	0.00	1,892,835.06	2,739,735.95	36.20201300	-107.77691800	
KOP Begin 3°/100' build										
800.00	3.00	24.905	799.95	2.37	1.10	1,892,837.43	2,739,737.05	36.20201952	-107.77691425	
894.35	5.83	24.905	894.02	8.96	4.16	1,892,844.02	2,739,740.11	36.20203761	-107.77690387	
Pictured Cliffs										
900.00	6.00	24.905	899.63	9.49	4.41	1,892,844.55	2,739,740.36	36.20203906	-107.77690304	
1,000.00	9.00	24.905	998.77	21.33	9.90	1,892,856.39	2,739,745.85	36.20207157	-107.77688439	
1,056.12	10.68	24.905	1,054.06	30.03	13.94	1,892,865.09	2,739,749.89	36.20209547	-107.77687068	
Lewis										
1,100.00	12.00	24.905	1,097.08	37.85	17.58	1,892,872.91	2,739,753.53	36.20211696	-107.77685835	
1,200.00	15.00	24.905	1,194.31	59.03	27.40	1,892,894.08	2,739,763.35	36.20217510	-107.77682499	
1,267.47	17.02	24.905	1,259.15	75.90	35.24	1,892,910.96	2,739,771.19	36.20222146	-107.77679840	
Chacra_A										
1,300.00	18.00	24.905	1,290.18	84.78	39.36	1,892,919.84	2,739,775.31	36.20224584	-107.77678441	
1,400.33	21.01	24.905	1,384.74	115.16	53.47	1,892,950.22	2,739,789.42	36.20232928	-107.77673654	
Begin 21.01° tangent										
1,500.00	21.01	24.905	1,477.78	147.57	68.52	1,892,982.63	2,739,804.47	36.20241829	-107.77668547	
1,600.00	21.01	24.905	1,571.14	180.09	83.61	1,893,015.15	2,739,819.57	36.20250760	-107.77663423	
1,700.00	21.01	24.905	1,664.49	212.61	98.71	1,893,047.67	2,739,834.66	36.20259691	-107.77658299	
1,800.00	21.01	24.905	1,757.84	245.13	113.81	1,893,080.19	2,739,849.76	36.20268622	-107.77653175	
1,900.00	21.01	24.905	1,851.19	277.65	128.91	1,893,112.71	2,739,864.86	36.20277552	-107.77648051	
2,000.00	21.01	24.905	1,944.54	310.17	144.01	1,893,145.23	2,739,879.96	36.20286483	-107.77642927	
2,100.00	21.01	24.905	2,037.90	342.69	159.11	1,893,177.75	2,739,895.06	36.20295414	-107.77637803	
2,200.00	21.01	24.905	2,131.25	375.21	174.20	1,893,210.26	2,739,910.15	36.20304345	-107.77632679	
2,300.00	21.01	24.905	2,224.60	407.73	189.30	1,893,242.78	2,739,925.25	36.20313276	-107.77627555	
2,353.83	21.01	24.905	2,274.86	425.23	197.43	1,893,260.29	2,739,933.38	36.20318083	-107.77624797	
Cliff House_Basal										
2,385.99	21.01	24.905	2,304.88	435.69	202.28	1,893,270.75	2,739,938.23	36.20320956	-107.77623149	
Menefee										
2,400.00	21.01	24.905	2,317.95	440.24	204.40	1,893,275.30	2,739,940.35	36.20322206	-107.77622431	
2,500.00	21.01	24.905	2,411.30	472.76	219.50	1,893,307.82	2,739,955.45	36.20331137	-107.77617307	
2,600.00	21.01	24.905	2,504.66	505.28	234.60	1,893,340.34	2,739,970.55	36.20340068	-107.77612183	
2,700.00	21.01	24.905	2,598.01	537.80	249.69	1,893,372.86	2,739,985.64	36.20348999	-107.77607059	
2,800.00	21.01	24.905	2,691.36	570.32	264.79	1,893,405.38	2,740,000.74	36.20357929	-107.77601935	
2,900.00	21.01	24.905	2,784.71	602.84	279.89	1,893,437.90	2,740,015.84	36.20366860	-107.77596811	
3,000.00	21.01	24.905	2,878.06	635.36	294.99	1,893,470.41	2,740,030.94	36.20375791	-107.77591687	
3,100.00	21.01	24.905	2,971.41	667.88	310.09	1,893,502.93	2,740,046.04	36.20384722	-107.77586563	
3,200.00	21.01	24.905	3,064.77	700.39	325.18	1,893,535.45	2,740,061.13	36.20393653	-107.77581439	



Planning Report - Geographic



Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Greater Lybrook Unit 46H
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 46H	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	
3,300.00	21.01	24.905	3,158.12	732.91	340.28	1,893,567.97	2,740,076.23	36.20402583	-107.77576315	
3,400.00	21.01	24.905	3,251.47	765.43	355.38	1,893,600.49	2,740,091.33	36.20411514	-107.77571191	
3,442.95	21.01	24.905	3,291.57	779.40	361.86	1,893,614.46	2,740,097.81	36.20415350	-107.77568990	
Point Lookout										
3,500.00	21.01	24.905	3,344.82	797.95	370.48	1,893,633.01	2,740,106.43	36.20420445	-107.77566067	
3,600.00	21.01	24.905	3,438.17	830.47	385.58	1,893,665.53	2,740,121.53	36.20429376	-107.77560942	
3,614.47	21.01	24.905	3,451.68	835.17	387.76	1,893,670.23	2,740,123.71	36.20430668	-107.77560201	
Mancos										
3,700.00	21.01	24.905	3,531.53	862.99	400.67	1,893,698.05	2,740,136.62	36.20438306	-107.77555818	
3,800.00	21.01	24.905	3,624.88	895.51	415.77	1,893,730.57	2,740,151.72	36.20447237	-107.77550694	
3,900.00	21.01	24.905	3,718.23	928.03	430.87	1,893,763.08	2,740,166.82	36.20456168	-107.77545570	
3,972.50	21.01	24.905	3,785.91	951.60	441.82	1,893,786.66	2,740,177.77	36.20462643	-107.77541855	
MNCS_A										
4,000.00	21.01	24.905	3,811.58	960.55	445.97	1,893,795.60	2,740,181.92	36.20465099	-107.77540446	
4,079.70	21.01	24.905	3,885.98	986.46	458.00	1,893,821.52	2,740,193.95	36.20472217	-107.77536362	
MNCS_B										
4,093.08	21.01	24.905	3,898.47	990.81	460.02	1,893,825.87	2,740,195.97	36.20473411	-107.77535676	
Begin 10°/100' build/turn										
4,100.00	20.72	26.665	3,904.94	993.03	461.09	1,893,828.09	2,740,197.04	36.20474021	-107.77535312	
4,150.00	19.18	40.656	3,951.96	1,007.18	470.42	1,893,842.23	2,740,206.37	36.20477905	-107.77532148	
4,172.27	18.88	47.422	3,973.02	1,012.39	475.46	1,893,847.45	2,740,211.41	36.20479336	-107.77530440	
MNCS_C										
4,200.00	18.85	56.008	3,999.27	1,017.93	482.48	1,893,852.99	2,740,218.43	36.20480857	-107.77528060	
4,217.69	19.03	61.432	4,016.00	1,020.91	487.38	1,893,855.97	2,740,223.33	36.20481674	-107.77526397	
MNCS_Cms										
4,250.00	19.76	70.921	4,046.48	1,025.21	497.17	1,893,860.27	2,740,233.12	36.20482855	-107.77523078	
4,300.00	21.77	83.874	4,093.26	1,028.97	514.38	1,893,864.02	2,740,250.33	36.20483884	-107.77517242	
4,350.00	24.61	94.360	4,139.24	1,029.17	534.00	1,893,864.22	2,740,269.94	36.20483935	-107.77510594	
4,360.60	25.29	96.281	4,148.84	1,028.75	538.45	1,893,863.81	2,740,274.40	36.20483820	-107.77509087	
MNCS_D										
4,400.00	28.02	102.619	4,184.06	1,025.81	555.85	1,893,860.86	2,740,291.80	36.20483008	-107.77503188	
4,450.00	31.83	109.132	4,227.40	1,018.91	579.78	1,893,853.97	2,740,315.73	36.20481111	-107.77495077	
4,500.00	35.90	114.345	4,268.92	1,008.54	605.61	1,893,843.60	2,740,341.56	36.20478258	-107.77486324	
4,530.78	38.51	117.063	4,293.43	1,000.46	622.37	1,893,835.52	2,740,358.32	36.20476035	-107.77480646	
MNCS_E										
4,550.00	40.16	118.607	4,308.30	994.77	633.14	1,893,829.83	2,740,369.09	36.20474470	-107.77476996	
4,599.94	44.54	122.164	4,345.20	977.73	662.12	1,893,812.79	2,740,398.07	36.20469783	-107.77467176	
MNCS_F										
4,600.00	44.55	122.168	4,345.25	977.70	662.16	1,893,812.76	2,740,398.11	36.20469777	-107.77467163	
4,650.00	49.03	125.209	4,379.47	957.47	692.45	1,893,792.53	2,740,428.40	36.20464213	-107.77456901	
4,700.00	53.58	127.860	4,410.73	934.22	723.78	1,893,769.28	2,740,459.72	36.20457822	-107.77446287	
4,706.88	54.21	128.200	4,414.78	930.80	728.15	1,893,765.86	2,740,464.10	36.20456880	-107.77444804	
MNCS_G										
4,750.00	58.19	130.216	4,438.76	908.14	755.90	1,893,743.20	2,740,491.85	36.20450652	-107.77435403	
4,800.00	62.83	132.346	4,463.37	879.43	788.58	1,893,714.48	2,740,524.53	36.20442758	-107.77424331	
4,802.16	63.03	132.434	4,464.36	878.13	790.01	1,893,713.18	2,740,525.96	36.20442401	-107.77423849	
MNCS_H										
4,850.00	67.51	134.305	4,484.37	848.29	821.57	1,893,683.35	2,740,557.52	36.20434199	-107.77413156	
4,876.59	70.00	135.292	4,494.00	830.83	839.15	1,893,665.89	2,740,575.10	36.20429400	-107.77407200	
Begin 10°/100' build/turn										
4,900.00	72.34	135.292	4,501.56	815.08	854.74	1,893,650.14	2,740,590.69	36.20425071	-107.77401920	
4,945.64	76.91	135.292	4,513.65	783.82	885.69	1,893,618.88	2,740,621.64	36.20416477	-107.77391436	
MNCS_I										



Planning Report - Geographic



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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 46H	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
4,950.00	77.34	135.292	4,514.63	780.80	888.68	1,893,615.85	2,740,624.63	36.20415646	-107.77390423
4,998.63	82.20	135.292	4,523.26	746.79	922.34	1,893,581.85	2,740,658.29	36.20406300	-107.77379022
7" Intermediate Casing									
5,000.00	82.34	135.292	4,523.44	745.83	923.29	1,893,580.89	2,740,659.24	36.20406035	-107.77378698
5,050.00	87.34	135.292	4,527.94	710.45	958.32	1,893,545.51	2,740,694.26	36.20396309	-107.77366835
5,079.60	90.30	135.292	4,528.55	689.42	979.13	1,893,524.48	2,740,715.08	36.20390529	-107.77359784
Begin 90.30° lateral									
5,100.00	90.30	135.292	4,528.44	674.92	993.48	1,893,509.98	2,740,729.43	36.20386544	-107.77354922
5,200.00	90.30	135.292	4,527.91	603.85	1,063.83	1,893,438.91	2,740,799.78	36.20367008	-107.77331092
5,300.00	90.30	135.292	4,527.39	532.78	1,134.18	1,893,367.84	2,740,870.13	36.20347473	-107.77307262
5,400.00	90.30	135.292	4,526.86	461.71	1,204.53	1,893,296.77	2,740,940.48	36.20327937	-107.77283433
5,500.00	90.30	135.292	4,526.33	390.64	1,274.88	1,893,225.70	2,741,010.82	36.20308402	-107.77259603
5,600.00	90.30	135.292	4,525.81	319.57	1,345.22	1,893,154.63	2,741,081.17	36.20288866	-107.77235774
5,700.00	90.30	135.292	4,525.28	248.50	1,415.57	1,893,083.56	2,741,151.52	36.20269331	-107.77211944
5,800.00	90.30	135.292	4,524.76	177.43	1,485.92	1,893,012.49	2,741,221.87	36.20249795	-107.77188115
5,900.00	90.30	135.292	4,524.23	106.37	1,556.27	1,892,941.42	2,741,292.22	36.20230259	-107.77164286
6,000.00	90.30	135.292	4,523.71	35.30	1,626.62	1,892,870.36	2,741,362.56	36.20210724	-107.77140457
6,100.00	90.30	135.292	4,523.18	-35.77	1,696.97	1,892,799.29	2,741,432.91	36.20191188	-107.77116628
6,200.00	90.30	135.292	4,522.65	-106.84	1,767.31	1,892,728.22	2,741,503.26	36.20171652	-107.77092799
6,300.00	90.30	135.292	4,522.13	-177.91	1,837.66	1,892,657.15	2,741,573.61	36.20152116	-107.77068971
6,400.00	90.30	135.292	4,521.60	-248.98	1,908.01	1,892,586.08	2,741,643.96	36.20132580	-107.77045142
6,500.00	90.30	135.292	4,521.08	-320.05	1,978.36	1,892,515.01	2,741,714.30	36.20113044	-107.77021314
6,600.00	90.30	135.292	4,520.55	-391.12	2,048.71	1,892,443.94	2,741,784.65	36.20093508	-107.76997486
6,700.00	90.30	135.292	4,520.02	-462.19	2,119.05	1,892,372.87	2,741,855.00	36.20073972	-107.76973657
6,800.00	90.30	135.292	4,519.50	-533.26	2,189.40	1,892,301.80	2,741,925.35	36.20054436	-107.76949829
6,900.00	90.30	135.292	4,518.97	-604.33	2,259.75	1,892,230.73	2,741,995.70	36.20034900	-107.76926002
7,000.00	90.30	135.292	4,518.45	-675.40	2,330.10	1,892,159.66	2,742,066.04	36.20015364	-107.76902174
7,100.00	90.30	135.292	4,517.92	-746.47	2,400.45	1,892,088.59	2,742,136.39	36.19995827	-107.76878346
7,200.00	90.30	135.292	4,517.39	-817.54	2,470.80	1,892,017.52	2,742,206.74	36.19976291	-107.76854518
7,300.00	90.30	135.292	4,516.87	-888.61	2,541.14	1,891,946.46	2,742,277.09	36.19956755	-107.76830691
7,400.00	90.30	135.292	4,516.34	-959.67	2,611.49	1,891,875.39	2,742,347.44	36.19937218	-107.76806864
7,500.00	90.30	135.292	4,515.82	-1,030.74	2,681.84	1,891,804.32	2,742,417.78	36.19917682	-107.76783037
7,600.00	90.30	135.292	4,515.29	-1,101.81	2,752.19	1,891,733.25	2,742,488.13	36.19898145	-107.76759209
7,700.00	90.30	135.292	4,514.77	-1,172.88	2,822.54	1,891,662.18	2,742,558.48	36.19878609	-107.76735382
7,800.00	90.30	135.292	4,514.24	-1,243.95	2,892.88	1,891,591.11	2,742,628.83	36.19859072	-107.76711556
7,900.00	90.30	135.292	4,513.71	-1,315.02	2,963.23	1,891,520.04	2,742,699.18	36.19839535	-107.76687729
8,000.00	90.30	135.292	4,513.19	-1,386.09	3,033.58	1,891,448.97	2,742,769.53	36.19819999	-107.76663902
8,100.00	90.30	135.292	4,512.66	-1,457.16	3,103.93	1,891,377.90	2,742,839.87	36.19800462	-107.76640076
8,200.00	90.30	135.292	4,512.14	-1,528.23	3,174.28	1,891,306.83	2,742,910.22	36.19780925	-107.76616249
8,300.00	90.30	135.292	4,511.61	-1,599.30	3,244.63	1,891,235.76	2,742,980.57	36.19761388	-107.76592423
8,400.00	90.30	135.292	4,511.08	-1,670.37	3,314.97	1,891,164.69	2,743,050.92	36.19741851	-107.76568597
8,500.00	90.30	135.292	4,510.56	-1,741.44	3,385.32	1,891,093.62	2,743,121.27	36.19722314	-107.76544771
8,600.00	90.30	135.292	4,510.03	-1,812.51	3,455.67	1,891,022.56	2,743,191.61	36.19702777	-107.76520945
8,700.00	90.30	135.292	4,509.51	-1,883.58	3,526.02	1,890,951.49	2,743,261.96	36.19683240	-107.76497119
8,800.00	90.30	135.292	4,508.98	-1,954.65	3,596.37	1,890,880.42	2,743,332.31	36.19663703	-107.76473294
8,900.00	90.30	135.292	4,508.45	-2,025.72	3,666.71	1,890,809.35	2,743,402.66	36.19644166	-107.76449468
9,000.00	90.30	135.292	4,507.93	-2,096.78	3,737.06	1,890,738.28	2,743,473.01	36.19624629	-107.76425643
9,100.00	90.30	135.292	4,507.40	-2,167.85	3,807.41	1,890,667.21	2,743,543.35	36.19605092	-107.76401817
9,200.00	90.30	135.292	4,506.88	-2,238.92	3,877.76	1,890,596.14	2,743,613.70	36.19585555	-107.76377992
9,300.00	90.30	135.292	4,506.35	-2,309.99	3,948.11	1,890,525.07	2,743,684.05	36.19566017	-107.76354167
9,400.00	90.30	135.292	4,505.83	-2,381.06	4,018.46	1,890,454.00	2,743,754.40	36.19546480	-107.76330342
9,500.00	90.30	135.292	4,505.30	-2,452.13	4,088.80	1,890,382.93	2,743,824.75	36.19526942	-107.76306517
9,600.00	90.30	135.292	4,504.77	-2,523.20	4,159.15	1,890,311.86	2,743,895.09	36.19507405	-107.76282693
9,700.00	90.30	135.292	4,504.25	-2,594.27	4,229.50	1,890,240.79	2,743,965.44	36.19487867	-107.76258868



Planning Report - Geographic



Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Greater Lybrook Unit 46H
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 46H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,800.00	90.30	135.292	4,503.72	-2,665.34	4,299.85	1,890,169.73	2,744,035.79	36.19468330	-107.76235044
9,900.00	90.30	135.292	4,503.20	-2,736.41	4,370.20	1,890,098.66	2,744,106.14	36.19448792	-107.76211219
10,000.00	90.30	135.292	4,502.67	-2,807.48	4,440.55	1,890,027.59	2,744,176.49	36.19429255	-107.76187395
10,100.00	90.30	135.292	4,502.14	-2,878.55	4,510.89	1,889,956.52	2,744,246.83	36.19409717	-107.76163571
10,200.00	90.30	135.292	4,501.62	-2,949.62	4,581.24	1,889,885.45	2,744,317.18	36.19390179	-107.76139747
10,300.00	90.30	135.292	4,501.09	-3,020.69	4,651.59	1,889,814.38	2,744,387.53	36.19370641	-107.76115923
10,400.00	90.30	135.292	4,500.57	-3,091.76	4,721.94	1,889,743.31	2,744,457.88	36.19351104	-107.76092099
10,500.00	90.30	135.292	4,500.04	-3,162.83	4,792.29	1,889,672.24	2,744,528.23	36.19331566	-107.76068276
10,600.00	90.30	135.292	4,499.51	-3,233.89	4,862.63	1,889,601.17	2,744,598.57	36.19312028	-107.76044452
10,700.00	90.30	135.292	4,498.99	-3,304.96	4,932.98	1,889,530.10	2,744,668.92	36.19292490	-107.76020629
10,800.00	90.30	135.292	4,498.46	-3,376.03	5,003.33	1,889,459.03	2,744,739.27	36.19272952	-107.75996805
10,900.00	90.30	135.292	4,497.94	-3,447.10	5,073.68	1,889,387.96	2,744,809.62	36.19253414	-107.75972982
11,000.00	90.30	135.292	4,497.41	-3,518.17	5,144.03	1,889,316.89	2,744,879.97	36.19233875	-107.75949159
11,100.00	90.30	135.292	4,496.89	-3,589.24	5,214.38	1,889,245.83	2,744,950.32	36.19214337	-107.75925336
11,200.00	90.30	135.292	4,496.36	-3,660.31	5,284.72	1,889,174.76	2,745,020.66	36.19194799	-107.75901513
11,300.00	90.30	135.292	4,495.83	-3,731.38	5,355.07	1,889,103.69	2,745,091.01	36.19175261	-107.75877691
11,400.00	90.30	135.292	4,495.31	-3,802.45	5,425.42	1,889,032.62	2,745,161.36	36.19155722	-107.75853868
11,500.00	90.30	135.292	4,494.78	-3,873.52	5,495.77	1,888,961.55	2,745,231.71	36.19136184	-107.75830046
11,600.00	90.30	135.292	4,494.26	-3,944.59	5,566.12	1,888,890.48	2,745,302.06	36.19116646	-107.75806223
11,700.00	90.30	135.292	4,493.73	-4,015.66	5,636.46	1,888,819.41	2,745,372.40	36.19097107	-107.75782401
11,800.00	90.30	135.292	4,493.20	-4,086.73	5,706.81	1,888,748.34	2,745,442.75	36.19077569	-107.75758579
11,900.00	90.30	135.292	4,492.68	-4,157.80	5,777.16	1,888,677.27	2,745,513.10	36.19058030	-107.75734757
12,000.00	90.30	135.292	4,492.15	-4,228.87	5,847.51	1,888,606.20	2,745,583.45	36.19038491	-107.75710935
12,100.00	90.30	135.292	4,491.63	-4,299.93	5,917.86	1,888,535.13	2,745,653.80	36.19018953	-107.75687113
12,200.00	90.30	135.292	4,491.10	-4,371.00	5,988.21	1,888,464.06	2,745,724.14	36.18999414	-107.75663292
12,300.00	90.30	135.292	4,490.57	-4,442.07	6,058.55	1,888,392.99	2,745,794.49	36.18979875	-107.75639470
12,400.00	90.30	135.292	4,490.05	-4,513.14	6,128.90	1,888,321.93	2,745,864.84	36.18960336	-107.75615649
12,500.00	90.30	135.292	4,489.52	-4,584.21	6,199.25	1,888,250.86	2,745,935.19	36.18940798	-107.75591827
12,600.00	90.30	135.292	4,489.00	-4,655.28	6,269.60	1,888,179.79	2,746,005.54	36.18921259	-107.75568006
12,700.00	90.30	135.292	4,488.47	-4,726.35	6,339.95	1,888,108.72	2,746,075.88	36.18901720	-107.75544185
12,800.00	90.30	135.292	4,487.95	-4,797.42	6,410.29	1,888,037.65	2,746,146.23	36.18882181	-107.75520364
12,900.00	90.30	135.292	4,487.42	-4,868.49	6,480.64	1,887,966.58	2,746,216.58	36.18862642	-107.75496543
13,000.00	90.30	135.292	4,486.89	-4,939.56	6,550.99	1,887,895.51	2,746,286.93	36.18843103	-107.75472723
13,100.00	90.30	135.292	4,486.37	-5,010.63	6,621.34	1,887,824.44	2,746,357.28	36.18823563	-107.75448902
13,200.00	90.30	135.292	4,485.84	-5,081.70	6,691.69	1,887,753.37	2,746,427.62	36.18804024	-107.75425082
13,300.00	90.30	135.292	4,485.32	-5,152.77	6,762.04	1,887,682.30	2,746,497.97	36.18784485	-107.75401261
13,400.00	90.30	135.292	4,484.79	-5,223.84	6,832.38	1,887,611.23	2,746,568.32	36.18764946	-107.75377441
13,500.00	90.30	135.292	4,484.26	-5,294.91	6,902.73	1,887,540.16	2,746,638.67	36.18745406	-107.75353621
13,600.00	90.30	135.292	4,483.74	-5,365.98	6,973.08	1,887,469.09	2,746,709.02	36.18725867	-107.75329801
13,700.00	90.30	135.292	4,483.21	-5,437.04	7,043.43	1,887,398.03	2,746,779.36	36.18706328	-107.75305981
13,800.00	90.30	135.292	4,482.69	-5,508.11	7,113.78	1,887,326.96	2,746,849.71	36.18686788	-107.75282161
13,900.00	90.30	135.292	4,482.16	-5,579.18	7,184.13	1,887,255.89	2,746,920.06	36.18667249	-107.75258342
14,000.00	90.30	135.292	4,481.63	-5,650.25	7,254.47	1,887,184.82	2,746,990.41	36.18647709	-107.75234522
14,100.00	90.30	135.292	4,481.11	-5,721.32	7,324.82	1,887,113.75	2,747,060.76	36.18628169	-107.75210703
14,200.00	90.30	135.292	4,480.58	-5,792.39	7,395.17	1,887,042.68	2,747,131.11	36.18608630	-107.75186884
14,300.00	90.30	135.292	4,480.06	-5,863.46	7,465.52	1,886,971.61	2,747,201.45	36.18589090	-107.75163065
14,400.00	90.30	135.292	4,479.53	-5,934.53	7,535.87	1,886,900.54	2,747,271.80	36.18569550	-107.75139245
14,500.00	90.30	135.292	4,479.01	-6,005.60	7,606.21	1,886,829.47	2,747,342.15	36.18550010	-107.75115427
14,600.00	90.30	135.292	4,478.48	-6,076.67	7,676.56	1,886,758.40	2,747,412.50	36.18530471	-107.75091608
14,700.00	90.30	135.292	4,477.95	-6,147.74	7,746.91	1,886,687.33	2,747,482.85	36.18510931	-107.75067789
14,800.00	90.30	135.292	4,477.43	-6,218.81	7,817.26	1,886,616.26	2,747,553.19	36.18491391	-107.75043971
14,881.32	90.30	135.292	4,477.00	-6,276.60	7,874.47	1,886,558.47	2,747,610.40	36.18475500	-107.75024600
PBHL/TD @ 14881.32 MD 4477.00 TVD									



Planning Report - Geographic



Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Greater Lybrook Unit 46H
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 46H	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 46H LTI	0.00	0.000	4,477.00	-6,276.60	7,874.47	1,886,558.47	2,747,610.40	36.18475500	-107.75024600
- plan hits target center									
- Point									
Greater Lybrook 46H vs:	0.00	0.000	4,529.00	830.74	839.25	1,893,665.80	2,740,575.20	36.20429375	-107.77407168
- plan misses target center by 32.96ft at 4888.01ft MD (4497.80 TVD, 823.18 N, 846.73 E)									
- Point									
Greater Lybrook 46H FT	0.00	0.000	4,529.00	830.83	839.15	1,893,665.89	2,740,575.10	36.20429400	-107.77407200
- plan misses target center by 33.01ft at 4887.88ft MD (4497.76 TVD, 823.26 N, 846.65 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	
4,998.63	4,523.26	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		-0.300	135.292
289.00	289.00	Kirtland		-0.300	135.292
499.00	499.00	Fruitland		-0.300	135.292
894.35	894.02	Pictured Cliffs		-0.300	135.292
1,056.12	1,054.06	Lewis		-0.300	135.292
1,267.47	1,259.15	Chacra_A		-0.300	135.292
2,353.83	2,274.86	Cliff House_Basal		-0.300	135.292
2,385.99	2,304.88	Menefee		-0.300	135.292
3,442.95	3,291.57	Point Lookout		-0.300	135.292
3,614.47	3,451.68	Mancos		-0.300	135.292
3,972.50	3,785.91	MNCS_A		-0.300	135.292
4,079.70	3,885.98	MNCS_B		-0.300	135.292
4,172.27	3,973.02	MNCS_C		-0.300	135.292
4,217.69	4,016.00	MNCS_Cms		-0.300	135.292
4,360.60	4,148.84	MNCS_D		-0.300	135.292
4,530.78	4,293.43	MNCS_E		-0.300	135.292
4,599.94	4,345.20	MNCS_F		-0.300	135.292
4,706.88	4,414.78	MNCS_G		-0.300	135.292
4,802.16	4,464.36	MNCS_H		-0.300	135.292
4,945.64	4,513.65	MNCS_I		-0.300	135.292



Planning Report - Geographic



Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Greater Lybrook Unit 46H
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 46H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
700.00	700.00	0.00	0.00	KOP Begin 3°/100' build	
1,400.33	1,384.74	115.16	53.47	Begin 21.01° tangent	
4,093.08	3,898.47	990.81	460.02	Begin 10°/100' build/turn	
4,876.59	4,494.00	830.83	839.15	Begin 10°/100' build/turn	
5,079.60	4,528.55	689.42	979.13	Begin 90.30° lateral	
14,881.32	4,477.00	-6,276.60	7,874.47	PBHL/TD @ 14881.32 MD 4477.00 TVD	



Anticollision Report



Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Greater Lybrook Unit 46H
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 46H	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
Depth Range:	Unlimited
Results Limited by:	Maximum centre distance of 1,688.13ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCSWA
Scan Method:	Closest Approach 3D
Error Surface:	Ellipsoid Separation
Casing Method:	Not applied

Survey Tool Program		Date	8/29/2024		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	14,881.32	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 (48,49,50,51 & 52)						
Greater Lybrook Unit No. 048H - Original Hole - MWD su	12,158.65	10,577.27	1,115.32	810.27	3.656 CC	
Greater Lybrook Unit No. 048H - Original Hole - MWD su	13,500.00	11,872.76	1,139.07	774.17	3.122 ES	
Greater Lybrook Unit No. 048H - Original Hole - MWD su	13,800.00	12,127.23	1,157.36	780.92	3.074 SF	
Greater Lybrook Unit 730 (43,44,45,46&47)						
Greater Lybrook Unit 43H - Original Hole - rev0	700.00	700.00	60.07	55.22	12.385 CC, ES	
Greater Lybrook Unit 43H - Original Hole - rev0	900.00	899.63	69.73	63.44	11.091 SF	
Greater Lybrook Unit 44H - Original Hole - rev0	700.00	700.00	40.05	35.20	8.257 CC, ES	
Greater Lybrook Unit 44H - Original Hole - rev0	14,100.00	13,899.36	1,154.76	723.57	2.678 SF	
Greater Lybrook Unit 45H - Original Hole - rev0	700.00	700.00	20.02	15.17	4.128 CC, ES	
Greater Lybrook Unit 45H - Original Hole - rev0	14,700.00	14,174.11	720.95	399.26	2.241 SF	
Greater Lybrook Unit 47H - Original Hole - rev0	500.00	500.00	20.02	16.60	5.861 CC, ES	
Greater Lybrook Unit 47H - Original Hole - rev0	14,400.00	14,121.53	714.30	379.94	2.136 SF	
Rodeo Unit 511 pad (511, 512 & 513)						
Rodeo Unit #513H - Original Hole - Surveys Original Hole	14,578.84	5,513.44	1,368.20	1,122.39	5.566 CC	
Rodeo Unit #513H - Original Hole - Surveys Original Hole	14,881.32	5,792.85	1,374.72	1,117.06	5.336 ES, SF	
W Lybrook 730 Pad (730, 763, 830, 861 & 863)						
W Lybrook Unit No. 730H - Original Hole - Surveys Origin	857.40	862.77	30.03	24.72	5.648 CC, ES	
W Lybrook Unit No. 730H - Original Hole - Surveys Origin	5,100.00	4,973.61	66.76	31.61	1.900 Level 3<2.00, SF	
W Lybrook Unit No. 763H - Original Hole - Surveys Origin	0.00	5.50	53.34			
W Lybrook Unit No. 763H - Original Hole - Surveys Origin	706.11	711.74	53.83	49.65	12.883 ES	
W Lybrook Unit No. 763H - Original Hole - Surveys Origin	900.00	905.05	60.21	54.64	10.816 SF	
W Lybrook Unit No. 830H - Original Hole - Surveys Origin	800.00	805.81	34.34	29.49	7.087 CC	
W Lybrook Unit No. 830H - Original Hole - Surveys Origin	804.45	810.26	34.34	29.46	7.040 ES	
W Lybrook Unit No. 830H - Original Hole - Surveys Origin	900.00	905.66	35.43	29.87	6.369 SF	
W Lybrook Unit No. 861H - Original Hole - Surveys Origin	1,004.45	1,008.51	22.74	16.37	3.573 CC, ES, SF	
W Lybrook Unit No. 863H - Original Hole - Surveys Origin	704.51	710.13	63.67	59.45	15.106 CC, ES	
W Lybrook Unit No. 863H - Original Hole - Surveys Origin	900.00	904.76	71.46	65.88	12.809 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 46H
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 46H	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 (48,49,50,51 & 52) - Greater Lybrook Unit No. 048H - Original Hole - MWD surveys Original Hole												Offset Site Error:	0.00 ft
Survey Program: 416-MWD, 2756-MWD, 12201-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
5,200.00	4,527.91	4,571.37	4,341.62	25.88	21.34	-77.172	737.08	2,718.72	1,686.21	1,649.33	36.88	45.720	
5,300.00	4,527.39	4,597.04	4,361.95	26.63	21.44	-77.987	722.24	2,723.77	1,624.11	1,587.30	36.81	44.125	
5,400.00	4,526.86	4,625.07	4,383.47	27.60	21.55	-78.862	705.32	2,729.76	1,564.97	1,527.93	37.04	42.255	
5,500.00	4,526.33	4,657.98	4,407.80	28.79	21.69	-79.867	684.54	2,737.44	1,508.98	1,471.35	37.63	40.102	
5,600.00	4,525.81	4,698.82	4,436.62	30.16	21.88	-81.080	657.49	2,747.72	1,456.11	1,417.49	38.62	37.702	
5,700.00	4,525.28	4,737.00	4,461.79	31.66	22.06	-82.158	630.72	2,758.06	1,406.39	1,366.49	39.90	35.247	
5,800.00	4,524.76	4,779.75	4,487.86	33.27	22.28	-83.296	599.33	2,770.75	1,360.12	1,318.59	41.53	32.750	
5,900.00	4,524.23	4,816.36	4,508.18	34.98	22.47	-84.201	571.34	2,782.74	1,317.56	1,274.17	43.39	30.368	
6,000.00	4,523.71	4,852.49	4,526.44	36.76	22.66	-85.030	543.13	2,796.01	1,279.29	1,233.79	45.49	28.120	
6,100.00	4,523.18	4,894.00	4,546.51	38.59	22.88	-85.963	510.68	2,812.35	1,244.97	1,197.12	47.85	26.017	
6,200.00	4,522.65	4,925.00	4,561.22	40.48	23.04	-86.661	486.74	2,825.45	1,215.27	1,164.94	50.33	24.144	
6,300.00	4,522.13	4,957.00	4,575.38	42.41	23.21	-87.345	462.30	2,840.47	1,191.02	1,138.06	52.97	22.485	
6,400.00	4,521.60	5,002.65	4,593.04	44.37	23.43	-88.213	427.56	2,864.20	1,171.91	1,116.13	55.78	21.008	
6,500.00	4,521.08	5,040.02	4,605.22	46.37	23.62	-88.821	399.48	2,885.64	1,158.23	1,099.61	58.62	19.759	
6,600.00	4,520.55	5,082.00	4,616.24	48.39	23.82	-89.378	368.68	2,911.93	1,150.05	1,088.55	61.51	18.698	
6,700.00	4,520.02	5,127.92	4,624.80	50.44	24.03	-89.817	335.91	2,942.91	1,147.04	1,082.60	64.44	17.800	
6,800.00	4,519.50	5,230.15	4,634.32	52.51	24.59	-90.320	262.92	3,013.79	1,146.11	1,078.11	68.00	16.854	
6,900.00	4,518.97	5,322.15	4,638.32	54.59	25.24	-90.544	196.99	3,077.82	1,145.19	1,073.55	71.63	15.986	
7,000.00	4,518.45	5,429.58	4,639.38	56.69	26.22	-90.626	120.06	3,152.80	1,144.44	1,068.84	75.60	15.138	
7,100.00	4,517.92	5,537.72	4,638.78	58.81	27.43	-90.625	41.97	3,227.60	1,142.79	1,062.91	79.88	14.306	
7,200.00	4,517.39	5,657.45	4,639.45	60.93	29.04	-90.692	-44.66	3,310.24	1,141.13	1,057.08	84.05	13.576	
7,300.00	4,516.87	5,758.10	4,638.25	63.07	30.57	-90.661	-119.78	3,377.22	1,135.91	1,047.65	88.25	12.871	
7,400.00	4,516.34	5,820.25	4,639.25	65.22	31.57	-90.729	-164.69	3,420.16	1,134.09	1,042.32	91.77	12.358	
7,433.40	4,516.17	5,849.85	4,640.00	65.94	32.06	-90.775	-185.76	3,440.93	1,134.03	1,040.93	93.10	12.181	
7,500.00	4,515.82	5,914.52	4,641.53	67.38	33.15	-90.869	-231.59	3,486.54	1,134.23	1,038.34	95.89	11.828	
7,600.00	4,515.29	6,041.12	4,642.44	69.55	35.41	-90.950	-322.77	3,574.34	1,132.78	1,032.10	100.69	11.251	
7,700.00	4,514.77	6,124.35	4,642.19	71.72	36.96	-90.961	-383.04	3,631.74	1,130.94	1,026.27	104.67	10.805	
7,723.11	4,514.64	6,139.64	4,642.30	72.23	37.25	-90.970	-393.95	3,642.45	1,130.86	1,025.35	105.51	10.718	
7,800.00	4,514.24	6,194.59	4,643.25	73.90	38.30	-91.033	-432.55	3,681.55	1,131.72	1,023.36	108.36	10.444	
7,900.00	4,513.71	6,297.43	4,644.91	76.09	40.30	-91.142	-504.21	3,755.28	1,133.70	1,020.91	112.79	10.051	
8,000.00	4,513.19	6,401.14	4,644.27	78.28	42.36	-91.136	-577.18	3,828.98	1,134.68	1,017.42	117.26	9.676	
8,100.00	4,512.66	6,478.78	4,645.69	80.48	43.93	-91.227	-630.99	3,884.92	1,137.15	1,016.02	121.13	9.388	
8,200.00	4,512.14	6,571.31	4,648.59	82.69	45.82	-91.393	-694.43	3,952.21	1,140.69	1,015.33	125.36	9.099	
8,300.00	4,511.61	6,652.00	4,651.14	84.90	47.48	-91.537	-748.87	4,011.72	1,145.70	1,016.43	129.27	8.863	
8,400.00	4,511.08	6,808.85	4,650.82	87.11	50.78	-91.558	-857.77	4,124.54	1,147.47	1,012.32	135.16	8.490	
8,500.00	4,510.56	6,901.70	4,649.38	89.32	52.75	-91.509	-923.11	4,190.49	1,148.43	1,008.97	139.45	8.235	
8,600.00	4,510.03	6,989.72	4,648.20	91.54	54.64	-91.471	-984.52	4,253.55	1,150.24	1,006.60	143.64	8.008	
8,700.00	4,509.51	7,085.96	4,647.16	93.77	56.71	-91.441	-1,051.02	4,323.10	1,152.97	1,004.94	148.03	7.789	
8,800.00	4,508.98	7,205.00	4,646.29	95.99	59.29	-91.426	-1,133.86	4,408.57	1,155.07	1,002.09	152.98	7.550	
8,900.00	4,508.45	7,283.86	4,646.04	98.22	61.01	-91.432	-1,188.97	4,464.99	1,156.82	999.87	156.96	7.370	
9,000.00	4,507.93	7,423.20	4,645.38	100.46	64.06	-91.433	-1,286.04	4,564.92	1,159.09	996.71	162.38	7.138	
9,004.45	4,507.91	7,418.02	4,645.48	100.56	63.95	-91.436	-1,282.32	4,561.32	1,159.14	996.77	162.37	7.139	
9,100.00	4,507.40	7,501.00	4,644.47	102.69	65.77	-91.407	-1,340.76	4,620.23	1,159.99	993.61	166.38	6.972	
9,200.00	4,506.88	7,571.05	4,644.25	104.93	67.32	-91.412	-1,389.19	4,670.84	1,162.70	992.58	170.12	6.835	
9,300.00	4,506.35	7,737.53	4,645.02	107.17	71.00	-91.491	-1,506.26	4,789.14	1,163.71	987.55	176.17	6.606	
9,400.00	4,505.83	7,846.81	4,644.56	109.41	73.41	-91.500	-1,585.48	4,864.41	1,161.68	980.86	180.82	6.424	
9,500.00	4,505.30	7,950.42	4,643.40	111.65	75.70	-91.473	-1,661.12	4,935.19	1,158.86	973.49	185.37	6.252	
9,600.00	4,504.77	8,033.57	4,642.12	113.90	77.54	-91.434	-1,721.53	4,992.31	1,156.58	967.00	189.57	6.101	
9,668.36	4,504.41	8,085.71	4,641.54	115.43	78.70	-91.419	-1,758.86	5,028.72	1,156.07	963.74	192.33	6.011	
9,700.00	4,504.25	8,108.73	4,641.42	116.14	79.22	-91.419	-1,775.15	5,044.97	1,156.19	962.62	193.56	5.973	
9,800.00	4,503.72	8,211.80	4,641.72	118.39	81.52	-91.459	-1,847.31	5,118.58	1,157.74	959.59	198.15	5.843	
9,900.00	4,503.20	8,329.74	4,641.69	120.64	84.15	-91.489	-1,931.83	5,200.83	1,156.80	953.76	203.04	5.697	

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 46H
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 46H	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 (48,49,50,51 & 52) - Greater Lybrook Unit No. 048H - Original Hole - MWD surveys Original Hole												Offset Site Error:	0.00 ft
Survey Program: 416-MWD, 2756-MWD, 12201-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	Offset	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
9,991.23	4,502.72	8,408.61	4,641.26	122.69	85.91	-91.489	-1,988.24	5,255.94	1,156.22	949.31	206.91	5.588	
10,000.00	4,502.67	8,415.91	4,641.19	122.89	86.07	-91.488	-1,993.43	5,261.08	1,156.23	948.95	207.28	5.578	
10,100.00	4,502.14	8,494.18	4,640.44	125.14	87.83	-91.470	-2,048.50	5,316.68	1,157.22	945.93	211.29	5.477	
10,200.00	4,501.62	8,587.59	4,639.93	127.40	89.93	-91.466	-2,113.05	5,384.21	1,159.95	944.30	215.65	5.379	
10,300.00	4,501.09	8,680.54	4,639.29	129.65	92.03	-91.455	-2,177.49	5,451.19	1,162.42	942.41	220.01	5.284	
10,400.00	4,500.57	8,798.27	4,640.96	131.91	94.68	-91.563	-2,258.43	5,536.66	1,165.86	940.83	225.02	5.181	
10,500.00	4,500.04	8,952.99	4,642.43	134.17	98.16	-91.677	-2,369.06	5,644.79	1,165.32	934.70	230.62	5.053	
10,600.00	4,499.51	9,079.28	4,643.37	136.43	100.97	-91.765	-2,463.03	5,729.15	1,160.32	924.92	235.40	4.929	
10,700.00	4,498.99	9,198.28	4,643.90	138.69	103.61	-91.833	-2,552.45	5,807.67	1,154.42	914.43	239.99	4.810	
10,800.00	4,498.46	9,271.17	4,643.44	140.95	105.23	-91.836	-2,607.14	5,855.85	1,148.62	904.33	244.29	4.702	
10,900.00	4,497.94	9,367.60	4,641.19	143.21	107.39	-91.755	-2,678.36	5,920.82	1,144.47	895.70	248.77	4.601	
11,000.00	4,497.41	9,456.02	4,639.32	145.47	109.36	-91.690	-2,743.60	5,980.48	1,140.50	887.35	253.15	4.505	
11,100.00	4,496.89	9,553.77	4,637.41	147.73	111.55	-91.624	-2,815.08	6,047.13	1,137.47	879.82	257.65	4.415	
11,200.00	4,496.36	9,648.05	4,635.65	150.00	113.67	-91.564	-2,883.98	6,111.45	1,134.51	872.41	262.10	4.329	
11,300.00	4,495.83	9,750.11	4,634.23	152.26	115.96	-91.523	-2,958.33	6,181.35	1,131.91	865.26	266.66	4.245	
11,400.00	4,495.31	9,855.62	4,633.27	154.53	118.33	-91.507	-3,035.54	6,253.26	1,128.87	857.61	271.25	4.162	
11,500.00	4,494.78	9,958.01	4,632.74	156.79	120.63	-91.511	-3,110.72	6,322.76	1,125.45	849.65	275.80	4.081	
11,600.00	4,494.26	10,049.00	4,632.56	159.06	122.67	-91.531	-3,177.56	6,384.50	1,122.04	841.84	280.20	4.004	
11,700.00	4,493.73	10,128.47	4,631.99	161.33	124.46	-91.526	-3,235.21	6,439.19	1,119.98	835.60	284.39	3.938	
11,800.00	4,493.20	10,220.62	4,630.68	163.60	126.55	-91.484	-3,300.91	6,503.80	1,119.61	830.83	288.78	3.877	
11,900.00	4,492.68	10,328.04	4,629.53	165.87	128.98	-91.454	-3,377.57	6,579.04	1,119.18	825.69	293.49	3.813	
12,000.00	4,492.15	10,439.78	4,628.26	168.14	131.50	-91.421	-3,458.07	6,656.53	1,117.77	819.52	298.24	3.748	
12,100.00	4,491.63	10,535.88	4,627.12	170.40	133.67	-91.391	-3,527.69	6,722.75	1,115.77	813.05	302.72	3.686	
12,158.65	4,491.32	10,577.27	4,626.77	171.74	134.61	-91.385	-3,557.33	6,751.64	1,115.32	810.27	305.05	3.656 CC	
12,200.00	4,491.10	10,614.00	4,626.62	172.68	135.44	-91.386	-3,583.25	6,777.66	1,115.58	808.76	306.82	3.636	
12,300.00	4,490.57	10,710.73	4,626.27	174.95	137.64	-91.393	-3,651.29	6,846.41	1,116.60	805.31	311.30	3.587	
12,400.00	4,490.05	10,814.39	4,625.45	177.22	139.99	-91.379	-3,724.52	6,919.78	1,117.20	801.25	315.95	3.536	
12,498.75	4,489.53	10,917.38	4,624.40	179.46	142.33	-91.353	-3,797.81	6,992.13	1,117.04	796.49	320.55	3.485	
12,500.00	4,489.52	10,918.33	4,624.39	179.49	142.35	-91.353	-3,798.48	6,992.79	1,117.04	796.44	320.60	3.484	
12,600.00	4,489.00	10,994.55	4,623.96	181.76	144.09	-91.350	-3,852.03	7,047.04	1,118.18	793.66	324.52	3.446	
12,700.00	4,488.47	11,100.39	4,623.92	184.03	146.50	-91.374	-3,925.85	7,122.89	1,120.06	790.80	329.26	3.402	
12,800.00	4,487.95	11,200.71	4,623.83	186.31	148.79	-91.394	-3,996.08	7,194.51	1,121.56	787.72	333.83	3.360	
12,900.00	4,487.42	11,290.93	4,624.19	188.58	150.84	-91.435	-4,058.86	7,259.31	1,123.66	785.57	338.09	3.324	
13,000.00	4,486.89	11,388.66	4,624.69	190.86	153.08	-91.483	-4,126.59	7,329.77	1,126.18	783.61	342.57	3.287	
13,100.00	4,486.37	11,483.21	4,624.82	193.13	155.24	-91.511	-4,191.77	7,398.26	1,129.17	782.22	346.95	3.255	
13,200.00	4,485.84	11,594.46	4,624.66	195.40	157.78	-91.529	-4,268.58	7,478.73	1,132.04	780.13	351.91	3.217	
13,300.00	4,485.32	11,700.47	4,623.01	197.68	160.21	-91.471	-4,342.79	7,554.42	1,133.48	776.80	356.68	3.178	
13,400.00	4,484.79	11,787.36	4,620.91	199.95	162.19	-91.386	-4,403.16	7,616.88	1,135.66	774.81	360.85	3.147	
13,500.00	4,484.26	11,872.76	4,618.48	202.23	164.15	-91.283	-4,461.71	7,679.00	1,139.07	774.17	364.90	3.122 ES	
13,600.00	4,483.74	11,957.13	4,616.00	204.51	166.09	-91.176	-4,518.74	7,741.12	1,143.79	774.97	368.82	3.101	
13,700.00	4,483.21	12,040.64	4,613.19	206.78	168.01	-91.052	-4,574.31	7,803.40	1,149.93	777.33	372.60	3.086	
13,800.00	4,482.69	12,127.23	4,609.69	209.06	169.98	-90.895	-4,631.06	7,868.71	1,157.36	780.92	376.45	3.074 SF	
13,900.00	4,482.16	12,201.00	4,606.44	211.34	171.23	-90.749	-4,679.09	7,924.59	1,165.63	786.78	378.85	3.077	
14,000.00	4,481.63	12,201.00	4,606.44	213.61	171.23	-90.749	-4,679.09	7,924.59	1,180.03	805.51	374.53	3.151	
14,100.00	4,481.11	12,201.00	4,606.44	215.89	171.23	-90.749	-4,679.09	7,924.59	1,202.60	835.76	366.84	3.278	
14,200.00	4,480.58	12,201.00	4,606.44	218.17	171.23	-90.749	-4,679.09	7,924.59	1,232.89	876.35	356.54	3.458	
14,300.00	4,480.06	12,201.00	4,606.44	220.45	171.23	-90.749	-4,679.09	7,924.59	1,270.35	925.92	344.43	3.688	
14,400.00	4,479.53	12,201.00	4,606.44	222.72	171.23	-90.749	-4,679.09	7,924.59	1,314.37	983.10	331.27	3.968	
14,500.00	4,479.01	12,201.00	4,606.44	225.00	171.23	-90.749	-4,679.09	7,924.59	1,364.31	1,046.66	317.65	4.295	
14,600.00	4,478.48	12,201.00	4,606.44	227.28	171.23	-90.749	-4,679.09	7,924.59	1,419.55	1,115.50	304.05	4.669	
14,700.00	4,477.95	12,201.00	4,606.44	229.56	171.23	-90.749	-4,679.09	7,924.59	1,479.49	1,188.70	290.79	5.088	
14,800.00	4,477.43	12,201.00	4,606.44	231.84	171.23	-90.749	-4,679.09	7,924.59	1,543.59	1,265.51	278.07	5.551	

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 46H
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 46H	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 (48,49,50,51 & 52) - Greater Lybrook Unit No. 048H - Original Hole - MWD surveys Original Hole													Offset Site Error:	0.00 ft
Survey Program:		416-MWD, 2756-MWD, 12201-MWD							Rule Assigned:			Offset Well Error:	0.00 ft	
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance						
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	+N/-S	+E/-W	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)			
14,881.32	4,477.00	12,201.00	4,606.44	233.69	171.23	-90.749	-4,679.09	7,924.59	1,598.43	1,330.20	268.23	5.959		

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 46H
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 46H	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
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)			
0.00	0.00	0.00	0.00	0.00	0.00	-179.470	-60.06	-0.56	60.07				
100.00	100.00	100.00	100.00	0.27	0.27	-179.470	-60.06	-0.56	60.07	59.52	0.55	109.518	
200.00	200.00	200.00	200.00	0.63	0.63	-179.470	-60.06	-0.56	60.07	58.80	1.27	47.468	
300.00	300.00	300.00	300.00	0.99	0.99	-179.470	-60.06	-0.56	60.07	58.08	1.98	30.301	
400.00	400.00	400.00	400.00	1.35	1.35	-179.470	-60.06	-0.56	60.07	57.37	2.70	22.253	
500.00	500.00	500.00	500.00	1.71	1.71	-179.470	-60.06	-0.56	60.07	56.65	3.42	17.583	
600.00	600.00	600.00	600.00	2.07	2.07	-179.470	-60.06	-0.56	60.07	55.93	4.13	14.533	
700.00	700.00	700.00	700.00	2.43	2.43	-179.470	-60.06	-0.56	60.07	55.22	4.85	12.385 CC, ES	
800.00	799.95	799.95	799.95	2.78	2.78	156.587	-60.06	-0.56	62.46	56.89	5.57	11.220	
900.00	899.63	899.63	899.63	3.15	3.14	159.070	-60.06	-0.56	69.73	63.44	6.29	11.091 SF	
1,000.00	998.77	998.77	998.77	3.51	3.50	162.211	-60.06	-0.56	82.06	75.05	7.01	11.710	
1,100.00	1,097.08	1,095.46	1,095.42	3.90	3.83	166.551	-60.38	-2.92	100.36	92.64	7.71	13.010	
1,200.00	1,194.31	1,189.38	1,189.07	4.31	4.16	171.944	-61.29	-9.86	126.06	117.66	8.40	15.002	
1,300.00	1,290.18	1,279.53	1,278.54	4.77	4.48	177.073	-62.74	-20.80	159.74	150.67	9.07	17.603	
1,400.00	1,384.43	1,365.12	1,362.90	5.28	4.80	-178.536	-64.62	-35.05	201.43	191.71	9.72	20.718	
1,500.00	1,477.78	1,446.67	1,442.60	5.83	5.12	-174.957	-66.87	-52.10	248.55	238.21	10.34	24.037	
1,600.00	1,571.14	1,525.08	1,518.49	6.41	5.46	-171.972	-69.46	-71.66	298.60	287.66	10.93	27.315	
1,700.00	1,664.49	1,600.00	1,590.18	7.00	5.79	-169.434	-72.31	-93.22	351.48	339.98	11.50	30.558	
1,800.00	1,757.84	1,672.29	1,658.49	7.61	6.16	-167.216	-75.40	-116.66	407.10	395.02	12.07	33.721	
1,900.00	1,851.19	1,741.59	1,723.10	8.23	6.53	-165.267	-78.69	-141.51	465.31	452.68	12.62	36.865	
2,000.00	1,944.54	1,820.10	1,795.76	8.85	6.99	-163.380	-82.58	-170.98	524.98	511.67	13.31	39.436	
2,100.00	2,037.90	1,899.22	1,868.99	9.49	7.47	-161.856	-86.50	-200.68	584.96	570.93	14.03	41.706	
2,200.00	2,131.25	1,978.35	1,942.23	10.13	7.98	-160.612	-90.43	-230.37	645.16	630.40	14.76	43.718	
2,300.00	2,224.60	2,057.47	2,015.46	10.77	8.49	-159.577	-94.35	-260.07	705.52	690.02	15.50	45.517	
2,400.00	2,317.95	2,136.59	2,088.69	11.42	9.02	-158.703	-98.28	-289.77	766.01	749.76	16.25	47.129	
2,500.00	2,411.30	2,215.71	2,161.92	12.07	9.55	-157.955	-102.20	-319.47	826.59	809.58	17.02	48.580	
2,600.00	2,504.66	2,294.84	2,235.16	12.73	10.09	-157.309	-106.12	-349.17	887.26	869.47	17.78	49.888	
2,700.00	2,598.01	2,373.96	2,308.39	13.38	10.65	-156.745	-110.05	-378.87	947.99	929.42	18.56	51.071	
2,800.00	2,691.36	2,453.08	2,381.62	14.04	11.20	-156.248	-113.97	-408.57	1,008.76	989.42	19.34	52.147	
2,900.00	2,784.71	2,532.21	2,454.85	14.70	11.76	-155.808	-117.89	-438.27	1,069.58	1,049.45	20.13	53.128	
3,000.00	2,878.06	2,611.33	2,528.09	15.37	12.33	-155.414	-121.82	-467.96	1,130.44	1,109.52	20.92	54.025	
3,100.00	2,971.41	2,690.45	2,601.32	16.03	12.90	-155.061	-125.74	-497.66	1,191.33	1,169.61	21.72	54.848	
3,200.00	3,064.77	2,769.57	2,674.55	16.69	13.47	-154.742	-129.67	-527.36	1,252.24	1,229.72	22.52	55.605	
3,300.00	3,158.12	2,881.22	2,778.78	17.36	14.25	-154.415	-134.90	-567.00	1,311.55	1,287.88	23.67	55.406	
3,400.00	3,251.47	3,080.11	2,969.25	18.02	15.45	-154.343	-142.34	-623.30	1,364.38	1,338.78	25.59	53.314	
3,500.00	3,344.82	3,345.29	3,230.36	18.69	16.63	-155.062	-148.21	-667.72	1,409.32	1,381.68	27.64	50.989	
3,600.00	3,438.17	3,553.41	3,438.17	19.36	17.26	-156.164	-149.43	-676.98	1,445.42	1,416.50	28.92	49.982	
3,700.00	3,531.53	3,647.66	3,532.43	20.03	17.49	-156.732	-149.55	-676.86	1,478.62	1,448.98	29.64	49.886	
3,800.00	3,624.88	3,743.81	3,627.90	20.70	17.67	-157.685	-156.86	-669.63	1,511.81	1,481.52	30.29	49.907	
3,900.00	3,718.23	3,830.28	3,711.24	21.37	17.78	-159.022	-173.04	-653.61	1,545.47	1,514.63	30.85	50.104	
4,000.00	3,811.58	3,905.19	3,779.97	22.04	17.85	-160.508	-194.13	-632.74	1,580.47	1,549.14	31.33	50.453	
4,100.00	3,904.94	3,968.68	3,834.78	22.71	17.90	-163.905	-216.86	-610.23	1,617.56	1,585.81	31.75	50.951	
4,200.00	3,999.27	4,027.14	3,881.83	23.33	17.93	163.054	-241.49	-585.86	1,655.68	1,623.59	32.08	51.606	

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 46H
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 46H	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	-40.04	-0.57	40.05				
100.00	100.00	100.00	100.00	0.27	0.27	-179.189	-40.04	-0.57	40.05	39.50	0.55	73.016	
200.00	200.00	200.00	200.00	0.63	0.63	-179.189	-40.04	-0.57	40.05	38.78	1.27	31.647	
300.00	300.00	300.00	300.00	0.99	0.99	-179.189	-40.04	-0.57	40.05	38.06	1.98	20.202	
400.00	400.00	400.00	400.00	1.35	1.35	-179.189	-40.04	-0.57	40.05	37.35	2.70	14.836	
500.00	500.00	500.00	500.00	1.71	1.71	-179.189	-40.04	-0.57	40.05	36.63	3.42	11.722	
600.00	600.00	600.00	600.00	2.07	2.07	-179.189	-40.04	-0.57	40.05	35.91	4.13	9.689	
700.00	700.00	700.00	700.00	2.43	2.43	-179.189	-40.04	-0.57	40.05	35.20	4.85	8.257 CC, ES	
800.00	799.95	799.95	799.95	2.78	2.78	157.321	-40.04	-0.57	42.45	36.88	5.57	7.625	
900.00	899.63	899.63	899.63	3.15	3.14	160.730	-40.04	-0.57	49.78	43.49	6.29	7.918	
1,000.00	998.77	998.77	998.77	3.51	3.50	164.595	-40.04	-0.57	62.26	55.25	7.01	8.884	
1,100.00	1,097.08	1,099.38	1,099.33	3.90	3.86	169.592	-38.12	-2.30	78.56	70.84	7.73	10.166	
1,200.00	1,194.31	1,199.33	1,198.97	4.31	4.21	175.931	-32.32	-7.52	97.90	89.46	8.45	11.590	
1,300.00	1,290.18	1,298.13	1,296.92	4.77	4.57	-177.549	-22.78	-16.10	121.21	112.04	9.18	13.210	
1,400.00	1,384.43	1,394.68	1,391.92	5.28	4.94	-171.569	-10.02	-27.60	149.21	139.28	9.92	15.034	
1,500.00	1,477.78	1,489.00	1,484.53	5.83	5.31	-167.422	3.29	-39.58	180.41	169.73	10.69	16.884	
1,600.00	1,571.14	1,583.33	1,577.14	6.41	5.70	-164.495	16.59	-51.55	212.23	200.76	11.46	18.515	
1,700.00	1,664.49	1,677.65	1,669.75	7.00	6.09	-162.329	29.89	-63.53	244.41	232.15	12.26	19.938	
1,800.00	1,757.84	1,771.98	1,762.36	7.61	6.49	-160.666	43.19	-75.50	276.84	263.77	13.07	21.178	
1,900.00	1,851.19	1,866.30	1,854.97	8.23	6.89	-159.351	56.49	-87.48	309.43	295.53	13.90	22.262	
2,000.00	1,944.54	1,960.63	1,947.59	8.85	7.30	-158.286	69.80	-99.46	342.14	327.40	14.74	23.213	
2,100.00	2,037.90	2,054.95	2,040.20	9.49	7.71	-157.406	83.10	-111.43	374.94	359.35	15.59	24.051	
2,200.00	2,131.25	2,149.28	2,132.81	10.13	8.13	-156.668	96.40	-123.41	407.81	391.36	16.45	24.793	
2,300.00	2,224.60	2,243.60	2,225.42	10.77	8.55	-156.040	109.70	-135.38	440.73	423.41	17.31	25.454	
2,400.00	2,317.95	2,337.92	2,318.03	11.42	8.97	-155.499	123.00	-147.36	473.68	455.50	18.19	26.045	
2,500.00	2,411.30	2,432.25	2,410.64	12.07	9.40	-155.028	136.31	-159.33	506.67	487.61	19.07	26.575	
2,600.00	2,504.66	2,526.57	2,503.25	12.73	9.82	-154.615	149.61	-171.31	539.69	519.74	19.95	27.054	
2,700.00	2,598.01	2,620.90	2,595.86	13.38	10.25	-154.249	162.91	-183.29	572.73	551.89	20.84	27.488	
2,800.00	2,691.36	2,715.22	2,688.47	14.04	10.68	-153.923	176.21	-195.26	605.79	584.06	21.73	27.882	
2,900.00	2,784.71	2,809.55	2,781.09	14.70	11.11	-153.631	189.51	-207.24	638.86	616.24	22.62	28.242	
3,000.00	2,878.06	2,903.87	2,873.70	15.37	11.54	-153.368	202.82	-219.21	671.95	648.43	23.52	28.572	
3,100.00	2,971.41	2,998.20	2,966.31	16.03	11.97	-153.129	216.12	-231.19	705.05	680.63	24.42	28.875	
3,200.00	3,064.77	3,092.52	3,058.92	16.69	12.41	-152.912	229.42	-243.17	738.16	712.84	25.32	29.154	
3,300.00	3,158.12	3,187.11	3,151.80	17.36	12.84	-152.717	242.72	-255.14	771.27	745.05	26.22	29.410	
3,400.00	3,251.47	3,283.29	3,246.77	18.02	13.26	-152.768	253.98	-265.27	804.25	777.15	27.11	29.672	
3,500.00	3,344.82	3,379.31	3,342.22	18.69	13.64	-153.165	261.66	-272.19	837.04	809.12	27.93	29.974	
3,600.00	3,438.17	3,474.68	3,437.42	19.36	13.97	-153.861	265.75	-275.87	869.73	841.05	28.68	30.326	
3,700.00	3,531.53	3,568.80	3,531.53	20.03	14.28	-154.792	266.51	-276.56	902.46	873.09	29.37	30.725	
3,800.00	3,624.88	3,662.15	3,624.88	20.70	14.57	-155.717	266.51	-276.56	935.39	905.35	30.05	31.132	
3,900.00	3,718.23	3,755.50	3,718.23	21.37	14.87	-156.580	266.51	-276.56	968.54	937.81	30.72	31.526	
4,000.00	3,811.58	3,848.85	3,811.58	22.04	15.16	-157.388	266.51	-276.56	1,001.86	970.46	31.40	31.906	
4,100.00	3,904.94	3,942.21	3,904.94	22.71	15.46	-160.032	266.51	-276.56	1,035.36	1,003.28	32.08	32.274	
4,200.00	3,999.27	4,036.24	3,998.83	23.33	15.73	168.477	263.86	-273.94	1,068.07	1,035.37	32.70	32.663	
4,300.00	4,093.26	4,130.43	4,091.10	23.84	15.92	138.910	250.82	-261.03	1,098.54	1,065.39	33.15	33.140	
4,400.00	4,184.06	4,225.06	4,179.54	24.24	16.06	118.962	227.09	-237.54	1,125.81	1,092.34	33.46	33.643	
4,500.00	4,268.92	4,320.39	4,261.84	24.53	16.18	106.598	193.06	-203.86	1,149.05	1,115.34	33.71	34.088	
4,600.00	4,345.25	4,416.46	4,335.61	24.72	16.33	98.752	149.45	-160.69	1,167.55	1,133.58	33.97	34.365	
4,700.00	4,410.73	4,513.13	4,398.46	24.84	16.57	93.691	97.36	-109.13	1,180.77	1,146.38	34.39	34.336	
4,800.00	4,463.37	4,610.11	4,448.24	24.90	16.95	90.534	38.30	-50.67	1,188.31	1,153.24	35.07	33.886	
4,900.00	4,501.56	4,707.04	4,483.30	24.96	17.53	89.084	-25.83	12.81	1,190.09	1,153.99	36.10	32.964	
5,000.00	4,523.44	4,803.64	4,502.63	25.09	18.30	88.991	-93.02	79.31	1,190.13	1,152.59	37.54	31.703	
5,100.00	4,528.44	4,920.33	4,506.32	25.38	19.49	88.940	-175.58	161.56	1,189.93	1,150.28	39.65	30.014	

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 46H
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 46H	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)	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	
5,200.00	4,527.91	5,090.96	4,505.46	25.88	21.72	88.934	-291.18	287.03	1,185.33	1,142.07	43.25	27.404	
5,300.00	4,527.39	5,197.65	4,504.92	26.63	23.37	88.927	-360.66	367.99	1,177.19	1,130.94	46.26	25.450	
5,400.00	4,526.86	5,297.32	4,504.42	27.60	25.04	88.921	-425.53	443.65	1,169.03	1,119.63	49.41	23.662	
5,500.00	4,526.33	5,371.29	4,504.04	28.79	26.35	88.917	-474.21	499.35	1,161.86	1,109.71	52.15	22.280	
5,600.00	4,525.81	5,442.41	4,503.68	30.16	27.63	88.914	-522.33	551.71	1,157.14	1,102.22	54.92	21.071	
5,700.00	4,525.28	5,513.65	4,503.32	31.66	28.94	88.913	-571.83	602.94	1,154.90	1,097.15	57.75	19.998	
5,739.87	4,525.07	5,542.06	4,503.18	32.29	29.47	88.913	-591.93	623.03	1,154.71	1,095.82	58.89	19.608	
5,800.00	4,524.76	5,602.19	4,502.88	33.27	30.60	88.914	-634.66	665.33	1,154.71	1,093.59	61.12	18.892	
5,900.00	4,524.23	5,702.19	4,502.37	34.98	32.53	88.915	-705.73	735.67	1,154.71	1,089.79	64.91	17.788	
6,000.00	4,523.71	5,802.19	4,501.87	36.76	34.50	88.916	-776.80	806.02	1,154.71	1,085.91	68.80	16.783	
6,100.00	4,523.18	5,902.19	4,501.36	38.59	36.51	88.917	-847.87	876.37	1,154.71	1,081.94	72.77	15.868	
6,200.00	4,522.65	6,002.19	4,500.86	40.48	38.55	88.918	-918.94	946.72	1,154.71	1,077.90	76.81	15.034	
6,300.00	4,522.13	6,102.19	4,500.35	42.41	40.62	88.919	-990.01	1,017.07	1,154.71	1,073.81	80.90	14.273	
6,400.00	4,521.60	6,202.19	4,499.85	44.37	42.71	88.920	-1,061.08	1,087.41	1,154.71	1,069.67	85.05	13.577	
6,500.00	4,521.08	6,302.19	4,499.34	46.37	44.82	88.921	-1,132.15	1,157.76	1,154.71	1,065.48	89.23	12.941	
6,600.00	4,520.55	6,402.19	4,498.84	48.39	46.95	88.923	-1,203.22	1,228.11	1,154.71	1,061.26	93.46	12.356	
6,700.00	4,520.02	6,502.19	4,498.33	50.44	49.09	88.924	-1,274.29	1,298.46	1,154.71	1,057.00	97.71	11.818	
6,800.00	4,519.50	6,602.19	4,497.83	52.51	51.24	88.925	-1,345.36	1,368.80	1,154.71	1,052.72	101.99	11.321	
6,900.00	4,518.97	6,702.19	4,497.32	54.59	53.41	88.926	-1,416.43	1,439.15	1,154.71	1,048.41	106.30	10.863	
7,000.00	4,518.45	6,802.19	4,496.82	56.69	55.58	88.927	-1,487.50	1,509.50	1,154.71	1,044.08	110.63	10.438	
7,100.00	4,517.92	6,902.19	4,496.31	58.81	57.77	88.928	-1,558.57	1,579.85	1,154.72	1,039.74	114.98	10.043	
7,200.00	4,517.39	7,002.19	4,495.81	60.93	59.96	88.929	-1,629.64	1,650.19	1,154.72	1,035.37	119.34	9.675	
7,300.00	4,516.87	7,102.19	4,495.30	63.07	62.16	88.930	-1,700.71	1,720.54	1,154.72	1,030.99	123.73	9.333	
7,400.00	4,516.34	7,202.19	4,494.80	65.22	64.36	88.931	-1,771.78	1,790.89	1,154.72	1,026.60	128.12	9.013	
7,500.00	4,515.82	7,302.19	4,494.30	67.38	66.57	88.932	-1,842.85	1,861.24	1,154.72	1,022.19	132.53	8.713	
7,600.00	4,515.29	7,402.19	4,493.79	69.55	68.79	88.933	-1,913.92	1,931.58	1,154.72	1,017.77	136.95	8.432	
7,700.00	4,514.77	7,502.19	4,493.29	71.72	71.01	88.934	-1,984.99	2,001.93	1,154.72	1,013.34	141.38	8.168	
7,800.00	4,514.24	7,602.19	4,492.78	73.90	73.24	88.935	-2,056.06	2,072.28	1,154.72	1,008.91	145.81	7.919	
7,900.00	4,513.71	7,702.19	4,492.28	76.09	75.46	88.936	-2,127.13	2,142.63	1,154.72	1,004.46	150.26	7.685	
8,000.00	4,513.19	7,802.19	4,491.77	78.28	77.70	88.937	-2,198.20	2,212.97	1,154.72	1,000.01	154.71	7.464	
8,100.00	4,512.66	7,902.19	4,491.27	80.48	79.93	88.938	-2,269.27	2,283.32	1,154.72	995.55	159.17	7.254	
8,200.00	4,512.14	8,002.19	4,490.76	82.69	82.17	88.939	-2,340.34	2,353.67	1,154.72	991.08	163.64	7.056	
8,300.00	4,511.61	8,102.19	4,490.26	84.90	84.41	88.940	-2,411.41	2,424.02	1,154.72	986.61	168.12	6.869	
8,400.00	4,511.08	8,202.19	4,489.75	87.11	86.66	88.941	-2,482.48	2,494.36	1,154.72	982.13	172.59	6.690	
8,500.00	4,510.56	8,302.19	4,489.25	89.32	88.90	88.943	-2,553.55	2,564.71	1,154.72	977.65	177.08	6.521	
8,600.00	4,510.03	8,402.19	4,488.74	91.54	91.15	88.944	-2,624.62	2,635.06	1,154.73	973.16	181.57	6.360	
8,700.00	4,509.51	8,502.19	4,488.24	93.77	93.40	88.945	-2,695.69	2,705.41	1,154.73	968.67	186.06	6.206	
8,800.00	4,508.98	8,602.19	4,487.73	95.99	95.65	88.946	-2,766.76	2,775.75	1,154.73	964.17	190.56	6.060	
8,900.00	4,508.45	8,702.19	4,487.23	98.22	97.91	88.947	-2,837.83	2,846.10	1,154.73	959.67	195.06	5.920	
9,000.00	4,507.93	8,802.19	4,486.72	100.46	100.16	88.948	-2,908.90	2,916.45	1,154.73	955.17	199.56	5.786	
9,100.00	4,507.40	8,902.19	4,486.22	102.69	102.42	88.949	-2,979.97	2,986.80	1,154.73	950.66	204.07	5.659	
9,200.00	4,506.88	9,002.19	4,485.72	104.93	104.68	88.950	-3,051.04	3,057.14	1,154.73	946.15	208.58	5.536	
9,300.00	4,506.35	9,102.19	4,485.21	107.17	106.94	88.951	-3,122.12	3,127.49	1,154.73	941.64	213.09	5.419	
9,400.00	4,505.83	9,202.19	4,484.71	109.41	109.20	88.952	-3,193.19	3,197.84	1,154.73	937.12	217.61	5.306	
9,500.00	4,505.30	9,302.19	4,484.20	111.65	111.46	88.953	-3,264.26	3,268.19	1,154.73	932.61	222.13	5.199	
9,600.00	4,504.77	9,402.19	4,483.70	113.90	113.73	88.954	-3,335.33	3,338.53	1,154.73	928.09	226.65	5.095	
9,700.00	4,504.25	9,502.19	4,483.19	116.14	115.99	88.955	-3,406.40	3,408.88	1,154.73	923.56	231.17	4.995	
9,800.00	4,503.72	9,602.19	4,482.69	118.39	118.26	88.956	-3,477.47	3,479.23	1,154.73	919.04	235.69	4.899	
9,900.00	4,503.20	9,702.19	4,482.18	120.64	120.52	88.957	-3,548.54	3,549.58	1,154.73	914.51	240.22	4.807	
10,000.00	4,502.67	9,802.19	4,481.68	122.89	122.79	88.958	-3,619.61	3,619.92	1,154.73	909.98	244.75	4.718	
10,100.00	4,502.14	9,902.19	4,481.17	125.14	125.06	88.959	-3,690.68	3,690.27	1,154.73	905.45	249.28	4.632	
10,200.00	4,501.62	10,002.19	4,480.67	127.40	127.33	88.960	-3,761.75	3,760.62	1,154.74	900.92	253.81	4.550	

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 46H
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 46H	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
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)			
10,300.00	4,501.09	10,102.19	4,480.16	129.65	129.60	88.961	-3,832.82	3,830.97	1,154.74	896.39	258.35	4.470	
10,400.00	4,500.57	10,202.19	4,479.66	131.91	131.87	88.963	-3,903.89	3,901.31	1,154.74	891.85	262.88	4.393	
10,500.00	4,500.04	10,302.19	4,479.15	134.17	134.14	88.964	-3,974.96	3,971.66	1,154.74	887.32	267.42	4.318	
10,600.00	4,499.51	10,402.19	4,478.65	136.43	136.41	88.965	-4,046.03	4,042.01	1,154.74	882.78	271.96	4.246	
10,700.00	4,498.99	10,502.19	4,478.15	138.69	138.68	88.966	-4,117.10	4,112.36	1,154.74	878.24	276.50	4.176	
10,800.00	4,498.46	10,602.19	4,477.64	140.95	140.96	88.967	-4,188.17	4,182.70	1,154.74	873.70	281.04	4.109	
10,900.00	4,497.94	10,702.19	4,477.14	143.21	143.23	88.968	-4,259.24	4,253.05	1,154.74	869.16	285.58	4.043	
11,000.00	4,497.41	10,802.19	4,476.63	145.47	145.50	88.969	-4,330.31	4,323.40	1,154.74	864.62	290.13	3.980	
11,100.00	4,496.89	10,902.19	4,476.13	147.73	147.78	88.970	-4,401.38	4,393.75	1,154.74	860.07	294.67	3.919	
11,200.00	4,496.36	11,002.19	4,475.62	150.00	150.05	88.971	-4,472.45	4,464.09	1,154.74	855.53	299.21	3.859	
11,300.00	4,495.83	11,102.19	4,475.12	152.26	152.33	88.972	-4,543.52	4,534.44	1,154.74	850.98	303.76	3.801	
11,400.00	4,495.31	11,202.19	4,474.61	154.53	154.60	88.973	-4,614.59	4,604.79	1,154.74	846.43	308.31	3.745	
11,500.00	4,494.78	11,302.19	4,474.11	156.79	156.88	88.974	-4,685.66	4,675.14	1,154.74	841.89	312.86	3.691	
11,600.00	4,494.26	11,402.19	4,473.60	159.06	159.16	88.975	-4,756.73	4,745.49	1,154.74	837.34	317.40	3.638	
11,700.00	4,493.73	11,502.19	4,473.10	161.33	161.43	88.976	-4,827.80	4,815.83	1,154.75	832.79	321.95	3.587	
11,800.00	4,493.20	11,602.19	4,472.59	163.60	163.71	88.977	-4,898.87	4,886.18	1,154.75	828.24	326.50	3.537	
11,900.00	4,492.68	11,702.19	4,472.09	165.87	165.99	88.978	-4,969.94	4,956.53	1,154.75	823.69	331.06	3.488	
12,000.00	4,492.15	11,802.19	4,471.58	168.14	168.27	88.979	-5,041.01	5,026.88	1,154.75	819.14	335.61	3.441	
12,100.00	4,491.63	11,902.19	4,471.08	170.40	170.54	88.980	-5,112.08	5,097.22	1,154.75	814.59	340.16	3.395	
12,200.00	4,491.10	12,002.19	4,470.57	172.68	172.82	88.981	-5,183.15	5,167.57	1,154.75	810.04	344.71	3.350	
12,300.00	4,490.57	12,102.19	4,470.07	174.95	175.10	88.983	-5,254.22	5,237.92	1,154.75	805.48	349.27	3.306	
12,400.00	4,490.05	12,202.19	4,469.57	177.22	177.38	88.984	-5,325.29	5,308.27	1,154.75	800.93	353.82	3.264	
12,500.00	4,489.52	12,302.19	4,469.06	179.49	179.66	88.985	-5,396.36	5,378.61	1,154.75	796.38	358.38	3.222	
12,600.00	4,489.00	12,402.19	4,468.56	181.76	181.94	88.986	-5,467.43	5,448.96	1,154.75	791.82	362.93	3.182	
12,700.00	4,488.47	12,502.19	4,468.05	184.03	184.22	88.987	-5,538.50	5,519.31	1,154.75	787.27	367.49	3.142	
12,800.00	4,487.95	12,602.19	4,467.55	186.31	186.50	88.988	-5,609.57	5,589.66	1,154.75	782.71	372.04	3.104	
12,900.00	4,487.42	12,702.19	4,467.04	188.58	188.78	88.989	-5,680.64	5,660.00	1,154.75	778.15	376.60	3.066	
13,000.00	4,486.89	12,802.19	4,466.54	190.86	191.06	88.990	-5,751.71	5,730.35	1,154.75	773.60	381.16	3.030	
13,100.00	4,486.37	12,902.19	4,466.03	193.13	193.34	88.991	-5,822.78	5,800.70	1,154.75	769.04	385.71	2.994	
13,200.00	4,485.84	13,002.19	4,465.53	195.40	195.62	88.992	-5,893.85	5,871.05	1,154.75	764.48	390.27	2.959	
13,300.00	4,485.32	13,102.19	4,465.02	197.68	197.90	88.993	-5,964.92	5,941.39	1,154.76	759.92	394.83	2.925	
13,400.00	4,484.79	13,202.19	4,464.52	199.95	200.19	88.994	-6,035.99	6,011.74	1,154.76	755.37	399.39	2.891	
13,500.00	4,484.26	13,302.19	4,464.01	202.23	202.47	88.995	-6,107.06	6,082.09	1,154.76	750.81	403.95	2.859	
13,600.00	4,483.74	13,402.19	4,463.51	204.51	204.75	88.996	-6,178.13	6,152.44	1,154.76	746.25	408.51	2.827	
13,700.00	4,483.21	13,502.19	4,463.00	206.78	207.03	88.997	-6,249.20	6,222.78	1,154.76	741.69	413.07	2.796	
13,800.00	4,482.69	13,602.19	4,462.50	209.06	209.31	88.998	-6,320.27	6,293.13	1,154.76	737.13	417.63	2.765	
13,900.00	4,482.16	13,702.19	4,462.00	211.34	211.59	88.999	-6,391.34	6,363.48	1,154.76	732.57	422.19	2.735	
14,000.00	4,481.63	13,802.19	4,461.49	213.61	213.88	89.000	-6,462.41	6,433.83	1,154.76	728.01	426.75	2.706	
14,010.00	4,481.58	13,812.20	4,461.44	213.84	214.11	89.001	-6,469.52	6,440.86	1,154.76	727.55	427.21	2.703	
14,100.00	4,481.11	13,899.36	4,461.00	215.89	216.10	89.001	-6,531.47	6,502.18	1,154.76	723.57	431.19	2.678 SF	
14,200.00	4,480.58	13,899.36	4,461.00	218.17	216.10	89.001	-6,531.47	6,502.18	1,159.33	730.43	428.90	2.703	
14,300.00	4,480.06	13,899.36	4,461.00	220.45	216.10	89.001	-6,531.47	6,502.18	1,172.44	750.58	421.86	2.779	
14,400.00	4,479.53	13,899.36	4,461.00	222.72	216.10	89.001	-6,531.47	6,502.18	1,193.81	783.01	410.80	2.906	
14,500.00	4,479.01	13,899.36	4,461.00	225.00	216.10	89.001	-6,531.47	6,502.18	1,223.01	826.27	396.74	3.083	
14,600.00	4,478.48	13,899.36	4,461.00	227.28	216.10	89.001	-6,531.47	6,502.18	1,259.49	878.76	380.74	3.308	
14,700.00	4,477.95	13,899.36	4,461.00	229.56	216.10	89.001	-6,531.47	6,502.18	1,302.65	938.92	363.72	3.581	
14,800.00	4,477.43	13,899.36	4,461.00	231.84	216.10	89.001	-6,531.47	6,502.18	1,351.84	1,005.39	346.44	3.902	
14,881.32	4,477.00	13,899.36	4,461.00	233.69	216.10	89.001	-6,531.47	6,502.18	1,395.85	1,063.28	332.56	4.197	

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 46H
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 46H	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 45H - 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	Offset Wellbore Centre		Distance		Minimum	Separation	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)	Separation (ft)	Factor	
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 CC, ES	
800.00	799.95	799.95	799.95	2.78	2.78	158.609	-20.02	-0.28	22.44	16.87	5.57	4.031	
900.00	899.63	899.63	899.63	3.15	3.14	164.041	-20.02	-0.28	29.88	23.59	6.29	4.753	
1,000.00	998.77	1,000.92	1,000.87	3.51	3.50	169.148	-17.40	0.18	39.98	32.98	7.00	5.710	
1,100.00	1,097.08	1,102.72	1,102.34	3.90	3.87	173.781	-9.44	1.58	50.20	42.49	7.70	6.516	
1,200.00	1,194.31	1,205.00	1,203.71	4.31	4.24	178.173	3.91	3.94	60.64	52.24	8.39	7.223	
1,300.00	1,290.18	1,307.74	1,304.65	4.77	4.64	-177.593	22.68	7.24	71.40	62.32	9.08	7.862	
1,400.00	1,384.43	1,410.90	1,404.83	5.28	5.06	-173.490	46.88	11.51	82.59	72.81	9.78	8.448	
1,500.00	1,477.78	1,514.66	1,504.10	5.83	5.52	-169.262	76.55	16.74	91.75	81.26	10.49	8.744	
1,600.00	1,571.14	1,618.61	1,601.78	6.41	6.04	-164.249	111.55	22.91	96.55	85.28	11.27	8.564	
1,700.00	1,664.49	1,718.17	1,694.45	7.00	6.57	-159.133	147.39	29.23	99.90	87.67	12.23	8.169	
1,800.00	1,757.84	1,817.73	1,787.11	7.61	7.13	-154.382	183.22	35.54	104.00	90.74	13.26	7.844	
1,900.00	1,851.19	1,917.28	1,879.78	8.23	7.71	-150.017	219.06	41.86	108.76	94.40	14.35	7.577	
2,000.00	1,944.54	2,016.84	1,972.45	8.85	8.30	-146.036	254.89	48.17	114.10	98.59	15.51	7.357	
2,100.00	2,037.90	2,116.39	2,065.12	9.49	8.90	-142.424	290.73	54.49	119.94	103.22	16.71	7.176	
2,200.00	2,131.25	2,215.95	2,157.79	10.13	9.52	-139.158	326.56	60.81	126.21	108.25	17.96	7.027	
2,300.00	2,224.60	2,315.51	2,250.46	10.77	10.14	-136.208	362.40	67.12	132.86	113.62	19.24	6.906	
2,400.00	2,317.95	2,415.06	2,343.12	11.42	10.77	-133.545	398.23	73.44	139.82	119.28	20.54	6.807	
2,500.00	2,411.30	2,514.62	2,435.79	12.07	11.41	-131.138	434.07	79.76	147.05	125.19	21.86	6.727	
2,600.00	2,504.66	2,614.17	2,528.46	12.73	12.05	-128.959	469.90	86.07	154.52	131.33	23.20	6.662	
2,700.00	2,598.01	2,713.73	2,621.13	13.38	12.70	-126.983	505.74	92.39	162.20	137.65	24.54	6.609	
2,800.00	2,691.36	2,813.29	2,713.80	14.04	13.34	-125.187	541.57	98.71	170.04	144.15	25.89	6.567	
2,900.00	2,784.71	2,910.71	2,804.90	14.70	13.97	-123.947	575.53	104.69	178.46	151.27	27.19	6.564	
3,000.00	2,878.06	3,007.04	2,896.52	15.37	14.54	-124.176	604.79	109.85	188.55	160.25	28.30	6.663	
3,100.00	2,971.41	3,102.72	2,988.90	16.03	15.06	-125.681	629.31	114.17	200.44	171.22	29.22	6.861	
3,200.00	3,064.77	3,197.28	3,081.31	16.69	15.52	-128.176	649.04	117.65	214.43	184.50	29.93	7.164	
3,300.00	3,158.12	3,290.30	3,173.06	17.36	15.92	-131.367	664.03	120.29	231.01	200.56	30.44	7.588	
3,400.00	3,251.47	3,381.38	3,263.52	18.02	16.27	-134.972	674.43	122.12	250.67	219.90	30.77	8.147	
3,500.00	3,344.82	3,470.18	3,352.10	18.69	16.56	-138.744	680.46	123.19	273.88	242.95	30.93	8.855	
3,600.00	3,438.17	3,557.72	3,439.61	19.36	16.81	-142.544	682.44	123.54	300.96	269.97	30.99	9.711	
3,700.00	3,531.53	3,649.64	3,531.53	20.03	17.05	-146.191	682.44	123.54	330.76	299.61	31.15	10.619	
3,800.00	3,624.88	3,751.06	3,632.53	20.70	17.27	-150.759	677.05	128.87	360.69	329.39	31.29	11.527	
3,900.00	3,718.23	3,843.55	3,722.20	21.37	17.39	-156.565	661.21	144.55	391.39	360.42	30.97	12.638	
4,000.00	3,811.58	3,923.44	3,795.91	22.04	17.44	-162.505	639.43	166.11	426.24	395.85	30.39	14.025	
4,100.00	3,904.94	3,990.69	3,854.15	22.71	17.45	-169.921	615.59	189.71	467.64	437.96	29.68	15.756	
4,200.00	3,999.27	4,050.00	3,901.95	23.33	17.44	153.225	590.67	214.38	513.71	484.77	28.94	17.751	
4,300.00	4,093.26	4,112.62	3,948.20	23.84	17.41	119.015	560.70	244.04	559.82	531.50	28.32	19.769	
4,400.00	4,184.06	4,172.60	3,987.93	24.24	17.37	95.584	528.80	275.62	603.33	575.63	27.70	21.782	
4,500.00	4,268.92	4,232.19	4,022.55	24.53	17.32	80.594	494.35	309.73	642.37	615.24	27.13	23.678	
4,600.00	4,345.25	4,300.00	4,055.58	24.72	17.25	70.586	452.29	351.36	675.70	648.89	26.81	25.206	
4,700.00	4,410.73	4,350.00	4,075.32	24.84	17.20	64.149	419.66	383.66	702.10	675.80	26.31	26.688	
4,800.00	4,463.37	4,400.00	4,091.00	24.90	17.14	59.817	385.92	417.05	721.28	695.24	26.04	27.699	
4,900.00	4,501.56	4,467.45	4,105.47	24.96	17.03	57.103	339.13	463.37	732.52	706.13	26.39	27.762	
5,000.00	4,523.44	4,525.51	4,111.66	25.09	17.30	56.145	298.13	503.97	738.81	711.99	26.82	27.544	
5,100.00	4,528.44	4,609.53	4,112.23	25.38	18.28	55.809	238.71	563.35	740.63	712.47	28.16	26.301	

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 46H
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 46H	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 45H - 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			Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)				
5,200.00	4,527.91	4,736.54	4,111.36	25.88	20.02	55.580	152.00	656.13	737.50	706.87	30.63	24.077			
5,300.00	4,527.39	4,849.19	4,110.60	26.63	21.78	55.186	78.24	741.27	731.23	698.02	33.21	22.019			
5,400.00	4,526.86	4,948.85	4,109.92	27.60	23.49	54.805	13.43	816.97	724.57	688.85	35.72	20.283			
5,500.00	4,526.33	5,039.89	4,109.30	28.79	25.12	54.464	-46.02	885.92	718.25	680.09	38.16	18.823			
5,600.00	4,525.81	5,122.88	4,108.73	30.16	26.66	54.250	-101.81	947.36	714.01	673.52	40.49	17.633			
5,700.00	4,525.28	5,206.06	4,108.17	31.66	28.22	54.147	-159.49	1,007.28	712.14	669.20	42.94	16.584			
5,729.40	4,525.13	5,230.53	4,108.00	32.12	28.68	54.138	-176.79	1,024.59	712.04	668.36	43.68	16.302			
5,800.00	4,524.76	5,300.47	4,107.52	33.27	30.02	54.131	-226.49	1,073.79	712.11	666.25	45.86	15.529			
5,900.00	4,524.23	5,400.47	4,106.84	34.98	31.97	54.121	-297.56	1,144.14	712.20	663.16	49.04	14.524			
6,000.00	4,523.71	5,500.47	4,106.16	36.76	33.96	54.111	-368.63	1,214.48	712.29	660.01	52.28	13.624			
6,100.00	4,523.18	5,600.47	4,105.48	38.59	35.99	54.101	-439.70	1,284.83	712.38	656.81	55.58	12.818			
6,200.00	4,522.65	5,700.47	4,104.79	40.48	38.04	54.091	-510.77	1,355.18	712.48	653.57	58.91	12.095			
6,300.00	4,522.13	5,800.47	4,104.11	42.41	40.12	54.081	-581.84	1,425.52	712.57	650.30	62.27	11.443			
6,400.00	4,521.60	5,900.47	4,103.43	44.37	42.22	54.071	-652.91	1,495.87	712.66	647.00	65.66	10.853			
6,500.00	4,521.08	6,000.47	4,102.75	46.37	44.34	54.061	-723.98	1,566.21	712.76	643.68	69.07	10.319			
6,600.00	4,520.55	6,100.47	4,102.06	48.39	46.47	54.050	-795.05	1,636.56	712.85	640.35	72.50	9.833			
6,700.00	4,520.02	6,200.47	4,101.38	50.44	48.62	54.040	-866.12	1,706.91	712.94	637.01	75.93	9.389			
6,800.00	4,519.50	6,300.47	4,100.70	52.51	50.78	54.030	-937.19	1,777.25	713.04	633.66	79.38	8.983			
6,900.00	4,518.97	6,400.47	4,100.02	54.59	52.95	54.020	-1,008.26	1,847.60	713.13	630.30	82.83	8.609			
7,000.00	4,518.45	6,500.47	4,099.34	56.69	55.13	54.010	-1,079.33	1,917.95	713.22	626.94	86.29	8.266			
7,100.00	4,517.92	6,600.47	4,098.65	58.81	57.32	54.000	-1,150.40	1,988.29	713.32	623.57	89.75	7.948			
7,200.00	4,517.39	6,700.47	4,097.97	60.93	59.52	53.990	-1,221.47	2,058.64	713.41	620.21	93.20	7.654			
7,300.00	4,516.87	6,800.47	4,097.29	63.07	61.72	53.980	-1,292.54	2,128.98	713.50	616.84	96.66	7.381			
7,400.00	4,516.34	6,900.47	4,096.61	65.22	63.93	53.970	-1,363.61	2,199.33	713.60	613.48	100.12	7.128			
7,500.00	4,515.82	7,000.47	4,095.93	67.38	66.14	53.960	-1,434.68	2,269.68	713.69	610.12	103.57	6.891			
7,600.00	4,515.29	7,100.47	4,095.24	69.55	68.36	53.950	-1,505.75	2,340.02	713.78	606.76	107.02	6.670			
7,700.00	4,514.77	7,200.47	4,094.56	71.72	70.58	53.940	-1,576.82	2,410.37	713.88	603.41	110.46	6.462			
7,800.00	4,514.24	7,300.47	4,093.88	73.90	72.81	53.930	-1,647.89	2,480.72	713.97	600.06	113.90	6.268			
7,900.00	4,513.71	7,400.47	4,093.20	76.09	75.04	53.920	-1,718.96	2,551.06	714.06	596.72	117.34	6.086			
8,000.00	4,513.19	7,500.47	4,092.52	78.28	77.28	53.910	-1,790.03	2,621.41	714.16	593.39	120.77	5.914			
8,100.00	4,512.66	7,600.47	4,091.83	80.48	79.51	53.900	-1,861.10	2,691.75	714.25	590.06	124.19	5.751			
8,200.00	4,512.14	7,700.47	4,091.15	82.69	81.76	53.890	-1,932.17	2,762.10	714.34	586.75	127.60	5.598			
8,300.00	4,511.61	7,800.47	4,090.47	84.90	84.00	53.880	-2,003.24	2,832.45	714.44	583.43	131.00	5.454			
8,400.00	4,511.08	7,900.47	4,089.79	87.11	86.24	53.869	-2,074.31	2,902.79	714.53	580.13	134.40	5.317			
8,500.00	4,510.56	8,000.47	4,089.11	89.32	88.49	53.859	-2,145.38	2,973.14	714.62	576.84	137.78	5.187			
8,600.00	4,510.03	8,100.47	4,088.42	91.54	90.74	53.849	-2,216.45	3,043.48	714.72	573.56	141.16	5.063			
8,700.00	4,509.51	8,200.47	4,087.74	93.77	92.99	53.839	-2,287.52	3,113.83	714.81	570.28	144.53	4.946			
8,800.00	4,508.98	8,300.47	4,087.06	95.99	95.25	53.829	-2,358.59	3,184.18	714.90	567.02	147.89	4.834			
8,900.00	4,508.45	8,400.47	4,086.38	98.22	97.50	53.819	-2,429.66	3,254.52	715.00	563.76	151.24	4.728			
9,000.00	4,507.93	8,500.47	4,085.70	100.46	99.76	53.809	-2,500.73	3,324.87	715.09	560.52	154.57	4.626			
9,100.00	4,507.40	8,600.47	4,085.01	102.69	102.02	53.799	-2,571.80	3,395.22	715.18	557.28	157.90	4.529			
9,200.00	4,506.88	8,700.47	4,084.33	104.93	104.28	53.789	-2,642.87	3,465.56	715.28	554.06	161.22	4.437			
9,300.00	4,506.35	8,800.47	4,083.65	107.17	106.54	53.779	-2,713.94	3,535.91	715.37	550.85	164.52	4.348			
9,400.00	4,505.83	8,900.47	4,082.97	109.41	108.80	53.769	-2,785.01	3,606.25	715.47	547.65	167.82	4.263			
9,500.00	4,505.30	9,000.47	4,082.29	111.65	111.06	53.759	-2,856.08	3,676.60	715.56	544.46	171.10	4.182			
9,600.00	4,504.77	9,100.47	4,081.60	113.90	113.33	53.749	-2,927.15	3,746.95	715.65	541.28	174.37	4.104			
9,700.00	4,504.25	9,200.47	4,080.92	116.14	115.59	53.739	-2,998.22	3,817.29	715.75	538.12	177.63	4.029			
9,800.00	4,503.72	9,300.47	4,080.24	118.39	117.86	53.729	-3,069.29	3,887.64	715.84	534.96	180.88	3.958			
9,900.00	4,503.20	9,400.47	4,079.56	120.64	120.12	53.719	-3,140.36	3,957.99	715.93	531.82	184.11	3.889			
10,000.00	4,502.67	9,500.47	4,078.88	122.89	122.39	53.709	-3,211.43	4,028.33	716.03	528.70	187.33	3.822			
10,100.00	4,502.14	9,600.47	4,078.19	125.14	124.66	53.699	-3,282.50	4,098.68	716.12	525.58	190.54	3.758			
10,200.00	4,501.62	9,700.47	4,077.51	127.40	126.93	53.689	-3,353.57	4,169.02	716.22	522.48	193.74	3.697			

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 46H
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 46H	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 45H - 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)						
10,300.00	4,501.09	9,800.47	4,076.83	129.65	129.20	53.679	-3,424.64	4,239.37	716.31	519.39	196.92	3.637				
10,400.00	4,500.57	9,900.47	4,076.15	131.91	131.47	53.669	-3,495.71	4,309.72	716.40	516.31	200.10	3.580				
10,500.00	4,500.04	10,000.47	4,075.47	134.17	133.74	53.659	-3,566.78	4,380.06	716.50	513.24	203.25	3.525				
10,600.00	4,499.51	10,100.47	4,074.78	136.43	136.01	53.649	-3,637.85	4,450.41	716.59	510.19	206.40	3.472				
10,700.00	4,498.99	10,200.47	4,074.10	138.69	138.29	53.640	-3,708.92	4,520.75	716.69	507.15	209.53	3.420				
10,800.00	4,498.46	10,300.47	4,073.42	140.95	140.56	53.630	-3,779.99	4,591.10	716.78	504.13	212.65	3.371				
10,900.00	4,497.94	10,400.47	4,072.74	143.21	142.83	53.620	-3,851.06	4,661.45	716.87	501.12	215.75	3.323				
11,000.00	4,497.41	10,500.47	4,072.06	145.47	145.11	53.610	-3,922.13	4,731.79	716.97	498.12	218.85	3.276				
11,100.00	4,496.89	10,600.47	4,071.37	147.73	147.38	53.600	-3,993.20	4,802.14	717.06	495.14	221.92	3.231				
11,200.00	4,496.36	10,700.47	4,070.69	150.00	149.66	53.590	-4,064.27	4,872.49	717.16	492.17	224.99	3.188				
11,300.00	4,495.83	10,800.47	4,070.01	152.26	151.93	53.580	-4,135.34	4,942.83	717.25	489.21	228.04	3.145				
11,400.00	4,495.31	10,900.47	4,069.33	154.53	154.21	53.570	-4,206.41	5,013.18	717.34	486.27	231.08	3.104				
11,500.00	4,494.78	11,000.47	4,068.65	156.79	156.49	53.560	-4,277.48	5,083.52	717.44	483.34	234.10	3.065				
11,600.00	4,494.26	11,100.47	4,067.96	159.06	158.76	53.550	-4,348.55	5,153.87	717.53	480.43	237.11	3.026				
11,700.00	4,493.73	11,200.47	4,067.28	161.33	161.04	53.540	-4,419.62	5,224.22	717.63	477.53	240.10	2.989				
11,800.00	4,493.20	11,300.47	4,066.60	163.60	163.32	53.530	-4,490.68	5,294.56	717.72	474.64	243.08	2.953				
11,900.00	4,492.68	11,400.46	4,065.92	165.87	165.59	53.520	-4,561.75	5,364.91	717.82	471.77	246.05	2.917				
12,000.00	4,492.15	11,500.46	4,065.24	168.14	167.87	53.510	-4,632.82	5,435.26	717.91	468.91	249.00	2.883				
12,100.00	4,491.63	11,600.46	4,064.55	170.40	170.15	53.500	-4,703.89	5,505.60	718.00	466.07	251.94	2.850				
12,200.00	4,491.10	11,700.46	4,063.87	172.68	172.43	53.490	-4,774.96	5,575.95	718.10	463.24	254.86	2.818				
12,300.00	4,490.57	11,800.46	4,063.19	174.95	174.71	53.480	-4,846.03	5,646.29	718.19	460.42	257.77	2.786				
12,400.00	4,490.05	11,900.46	4,062.51	177.22	176.99	53.470	-4,917.10	5,716.64	718.29	457.62	260.66	2.756				
12,500.00	4,489.52	12,000.46	4,061.83	179.49	179.27	53.461	-4,988.17	5,786.99	718.38	454.84	263.54	2.726				
12,600.00	4,489.00	12,100.46	4,061.14	181.76	181.55	53.451	-5,059.24	5,857.33	718.48	452.07	266.41	2.697				
12,700.00	4,488.47	12,200.46	4,060.46	184.03	183.83	53.441	-5,130.31	5,927.68	718.57	449.31	269.26	2.669				
12,800.00	4,487.95	12,300.46	4,059.78	186.31	186.11	53.431	-5,201.38	5,998.02	718.66	446.57	272.10	2.641				
12,900.00	4,487.42	12,400.46	4,059.10	188.58	188.39	53.421	-5,272.45	6,068.37	718.76	443.84	274.92	2.614				
13,000.00	4,486.89	12,500.46	4,058.41	190.86	190.67	53.411	-5,343.52	6,138.72	718.85	441.12	277.73	2.588				
13,100.00	4,486.37	12,600.46	4,057.73	193.13	192.95	53.401	-5,414.59	6,209.06	718.95	438.42	280.53	2.563				
13,200.00	4,485.84	12,700.46	4,057.05	195.40	195.23	53.391	-5,485.66	6,279.41	719.04	435.74	283.31	2.538				
13,300.00	4,485.32	12,800.46	4,056.37	197.68	197.51	53.381	-5,556.73	6,349.76	719.14	433.06	286.07	2.514				
13,400.00	4,484.79	12,900.46	4,055.69	199.95	199.80	53.371	-5,627.80	6,420.10	719.23	430.41	288.83	2.490				
13,500.00	4,484.26	13,000.46	4,055.00	202.23	202.08	53.361	-5,698.87	6,490.45	719.33	427.76	291.56	2.467				
13,600.00	4,483.74	13,100.46	4,054.32	204.51	204.36	53.352	-5,769.94	6,560.79	719.42	425.13	294.29	2.445				
13,700.00	4,483.21	13,200.46	4,053.64	206.78	206.64	53.342	-5,841.01	6,631.14	719.52	422.52	297.00	2.423				
13,800.00	4,482.69	13,300.46	4,052.96	209.06	208.92	53.332	-5,912.08	6,701.49	719.61	419.92	299.69	2.401				
13,900.00	4,482.16	13,400.46	4,052.28	211.34	211.21	53.322	-5,983.15	6,771.83	719.71	417.33	302.38	2.380				
14,000.00	4,481.63	13,500.46	4,051.59	213.61	213.49	53.312	-6,054.22	6,842.18	719.80	414.76	305.04	2.360				
14,100.00	4,481.11	13,600.46	4,050.91	215.89	215.77	53.302	-6,125.29	6,912.53	719.89	412.20	307.70	2.340				
14,200.00	4,480.58	13,700.46	4,050.23	218.17	218.05	53.292	-6,196.36	6,982.87	719.99	409.65	310.34	2.320				
14,300.00	4,480.06	13,800.46	4,049.55	220.45	220.34	53.282	-6,267.43	7,053.22	720.08	407.12	312.97	2.301				
14,400.00	4,479.53	13,900.46	4,048.87	222.72	222.62	53.272	-6,338.50	7,123.56	720.18	404.60	315.58	2.282				
14,500.00	4,479.01	14,000.46	4,048.18	225.00	224.90	53.263	-6,409.57	7,193.91	720.27	402.09	318.18	2.264				
14,600.00	4,478.48	14,100.46	4,047.50	227.28	227.19	53.253	-6,480.64	7,264.26	720.37	399.60	320.77	2.246				
14,600.45	4,478.48	14,100.91	4,047.50	227.29	227.20	53.253	-6,480.96	7,264.57	720.37	399.59	320.78	2.246				
14,700.00	4,477.95	14,174.11	4,047.00	229.56	228.87	53.245	-6,532.98	7,316.06	720.95	399.26	321.68	2.241 SF				
14,800.00	4,477.43	14,174.11	4,047.00	231.84	228.87	53.245	-6,532.98	7,316.06	731.55	419.86	311.69	2.347				
14,881.32	4,477.00	14,174.11	4,047.00	233.69	228.87	53.245	-6,532.98	7,316.06	749.96	452.14	297.82	2.518				

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 46H
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 46H	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
0.00	0.00	0.00	0.00	0.00	0.00	-0.033	20.02	-0.01	20.02				
100.00	100.00	100.00	100.00	0.27	0.27	-0.033	20.02	-0.01	20.02	19.47	0.55	36.504	
200.00	200.00	200.00	200.00	0.63	0.63	-0.033	20.02	-0.01	20.02	18.76	1.27	15.822	
300.00	300.00	300.00	300.00	0.99	0.99	-0.033	20.02	-0.01	20.02	18.04	1.98	10.100	
400.00	400.00	400.00	400.00	1.35	1.35	-0.033	20.02	-0.01	20.02	17.32	2.70	7.417	
500.00	500.00	500.00	500.00	1.71	1.71	-0.033	20.02	-0.01	20.02	16.60	3.42	5.861	CC, ES
600.00	600.00	599.02	598.98	2.07	2.06	3.376	22.22	1.31	22.28	18.15	4.13	5.397	
700.00	700.00	697.51	697.16	2.43	2.42	10.335	28.77	5.25	29.38	24.54	4.83	6.077	
800.00	799.95	795.31	794.13	2.78	2.78	-8.894	39.55	11.73	39.10	33.58	5.52	7.082	
900.00	899.63	892.60	889.84	3.15	3.16	-4.911	54.48	20.71	48.85	42.66	6.19	7.896	
1,000.00	998.77	989.40	984.06	3.51	3.58	-1.774	73.47	32.12	58.55	51.72	6.84	8.564	
1,100.00	1,097.08	1,085.71	1,076.57	3.90	4.04	0.880	96.39	45.90	68.19	60.71	7.48	9.119	
1,200.00	1,194.31	1,181.55	1,167.18	4.31	4.54	3.234	123.14	61.99	77.74	69.63	8.10	9.591	
1,300.00	1,290.18	1,276.93	1,255.68	4.77	5.10	5.386	153.60	80.30	87.19	78.45	8.73	9.983	
1,400.00	1,384.43	1,371.87	1,341.90	5.28	5.71	7.398	187.64	100.76	96.53	87.17	9.37	10.308	
1,500.00	1,477.78	1,466.09	1,425.41	5.83	6.38	9.133	225.00	123.23	108.31	98.31	10.00	10.826	
1,600.00	1,571.14	1,564.31	1,511.07	6.41	7.14	10.471	266.20	147.99	123.15	112.33	10.83	11.376	
1,700.00	1,664.49	1,663.16	1,597.26	7.00	7.92	11.527	307.68	172.93	138.08	126.39	11.69	11.811	
1,800.00	1,757.84	1,762.01	1,683.45	7.61	8.72	12.378	349.16	197.87	153.04	140.47	12.57	12.174	
1,900.00	1,851.19	1,860.86	1,769.64	8.23	9.53	13.076	390.64	222.81	168.03	154.57	13.47	12.478	
2,000.00	1,944.54	1,959.71	1,855.83	8.85	10.35	13.660	432.12	247.75	183.04	168.67	14.37	12.736	
2,100.00	2,037.90	2,058.56	1,942.03	9.49	11.18	14.156	473.60	272.69	198.07	182.78	15.29	12.957	
2,200.00	2,131.25	2,157.42	2,028.22	10.13	12.02	14.582	515.08	297.63	213.11	196.90	16.21	13.146	
2,300.00	2,224.60	2,256.27	2,114.41	10.77	12.86	14.951	556.57	322.57	228.16	211.02	17.14	13.311	
2,400.00	2,317.95	2,355.12	2,200.60	11.42	13.71	15.275	598.05	347.50	243.21	225.14	18.08	13.455	
2,500.00	2,411.30	2,453.97	2,286.79	12.07	14.55	15.561	639.53	372.44	258.28	239.26	19.02	13.582	
2,600.00	2,504.66	2,552.82	2,372.98	12.73	15.40	15.816	681.01	397.38	273.35	253.39	19.96	13.694	
2,700.00	2,598.01	2,651.67	2,459.17	13.38	16.26	16.044	722.49	422.32	288.42	267.51	20.91	13.794	
2,800.00	2,691.36	2,750.52	2,545.36	14.04	17.11	16.249	763.97	447.26	303.50	281.64	21.86	13.883	
2,900.00	2,784.71	2,849.37	2,631.55	14.70	17.97	16.435	805.45	472.20	318.58	295.76	22.82	13.963	
3,000.00	2,878.06	2,948.23	2,717.75	15.37	18.83	16.604	846.93	497.14	333.66	309.89	23.77	14.035	
3,100.00	2,971.41	3,047.08	2,803.94	16.03	19.69	16.758	888.42	522.08	348.75	324.02	24.73	14.101	
3,200.00	3,064.77	3,145.93	2,890.13	16.69	20.55	16.900	929.90	547.02	363.84	338.15	25.69	14.161	
3,300.00	3,158.12	3,244.78	2,976.32	17.36	21.41	17.030	971.38	571.96	378.93	352.28	26.66	14.215	
3,400.00	3,251.47	3,343.63	3,062.51	18.02	22.27	17.151	1,012.86	596.89	394.03	366.40	27.62	14.265	
3,500.00	3,344.82	3,442.48	3,148.70	18.69	23.13	17.262	1,054.34	621.83	409.12	380.53	28.59	14.311	
3,600.00	3,438.17	3,541.33	3,234.89	19.36	24.00	17.366	1,095.82	646.77	424.22	394.66	29.56	14.353	
3,700.00	3,531.53	3,640.18	3,321.08	20.03	24.86	17.462	1,137.30	671.71	439.31	408.79	30.52	14.392	
3,800.00	3,624.88	3,739.03	3,407.27	20.70	25.72	17.552	1,178.78	696.65	454.41	422.92	31.49	14.428	
3,900.00	3,718.23	3,837.89	3,493.47	21.37	26.59	17.636	1,220.27	721.59	469.51	437.05	32.47	14.462	
4,000.00	3,811.58	3,936.39	3,579.36	22.04	27.45	17.719	1,261.59	746.46	484.61	451.18	33.43	14.495	
4,100.00	3,904.94	4,028.33	3,659.68	22.71	28.25	17.210	1,294.89	776.03	500.45	466.04	34.42	14.541	
4,200.00	3,999.27	4,117.13	3,736.16	23.33	29.00	-7.082	1,317.60	814.82	519.11	483.80	35.31	14.702	
4,300.00	4,093.26	4,203.59	3,807.82	23.84	29.69	-29.925	1,330.25	861.35	540.96	505.05	35.91	15.064	
4,400.00	4,184.06	4,288.17	3,873.67	24.24	30.31	-43.752	1,333.33	914.23	565.11	528.84	36.26	15.583	
4,500.00	4,268.92	4,371.39	3,932.94	24.53	30.88	-50.720	1,327.29	972.21	590.66	554.17	36.49	16.186	
4,600.00	4,345.25	4,450.00	3,982.79	24.72	31.38	-53.978	1,313.46	1,031.33	616.76	580.08	36.68	16.816	
4,700.00	4,410.73	4,535.75	4,029.21	24.84	31.87	-55.330	1,289.67	1,099.28	642.57	605.36	37.21	17.268	
4,800.00	4,463.37	4,617.91	4,065.00	24.90	32.32	-55.676	1,258.84	1,166.42	667.39	629.39	38.01	17.559	
4,900.00	4,501.56	4,712.50	4,095.06	24.96	32.79	-55.404	1,214.03	1,243.99	689.87	650.58	39.29	17.560	
5,000.00	4,523.44	4,816.06	4,114.55	25.09	33.24	-54.785	1,153.67	1,325.67	703.87	663.02	40.85	17.231	
5,100.00	4,528.44	4,920.81	4,119.59	25.38	33.63	-54.690	1,082.52	1,402.21	707.36	664.80	42.56	16.620	

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 46H
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 46H	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						Rule Assigned:				Offset Well Error:		0.00 ft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			Minimum Separation (ft)		
5,200.00	4,527.91	5,020.81	4,119.06	25.88	34.06	-54.689	1,011.45	1,472.56	707.36	662.88	44.48	15.902			
5,300.00	4,527.39	5,120.81	4,118.53	26.63	34.62	-54.689	940.38	1,542.90	707.36	660.73	46.62	15.171			
5,400.00	4,526.86	5,220.81	4,118.00	27.60	35.32	-54.689	869.31	1,613.25	707.36	658.39	48.97	14.446			
5,500.00	4,526.33	5,320.81	4,117.47	28.79	36.16	-54.689	798.24	1,683.60	707.36	655.88	51.48	13.741			
5,600.00	4,525.81	5,420.81	4,116.95	30.16	37.14	-54.689	727.17	1,753.94	707.36	653.22	54.13	13.067			
5,700.00	4,525.28	5,520.81	4,116.42	31.66	38.24	-54.688	656.10	1,824.29	707.36	650.44	56.92	12.427			
5,800.00	4,524.76	5,620.81	4,115.89	33.27	39.47	-54.688	585.03	1,894.64	707.36	647.53	59.83	11.823			
5,900.00	4,524.23	5,720.81	4,115.36	34.98	40.82	-54.688	513.96	1,964.99	707.36	644.61	62.75	11.273			
6,000.00	4,523.71	5,820.81	4,114.83	36.76	42.26	-54.688	442.89	2,035.33	707.36	641.57	65.79	10.752			
6,100.00	4,523.18	5,920.81	4,114.31	38.59	43.79	-54.687	371.82	2,105.68	707.36	638.44	68.92	10.264			
6,200.00	4,522.65	6,020.81	4,113.78	40.48	45.40	-54.687	300.75	2,176.03	707.36	635.27	72.09	9.812			
6,300.00	4,522.13	6,120.81	4,113.25	42.41	47.08	-54.687	229.68	2,246.37	707.36	632.05	75.31	9.392			
6,400.00	4,521.60	6,220.81	4,112.72	44.37	48.82	-54.687	158.61	2,316.72	707.36	628.79	78.57	9.003			
6,500.00	4,521.08	6,320.81	4,112.19	46.37	50.61	-54.687	87.54	2,387.07	707.36	625.49	81.87	8.640			
6,600.00	4,520.55	6,420.81	4,111.67	48.39	52.44	-54.686	16.47	2,457.41	707.36	622.17	85.19	8.303			
6,700.00	4,520.02	6,520.81	4,111.14	50.44	54.32	-54.686	-54.60	2,527.76	707.36	618.82	88.54	7.989			
6,800.00	4,519.50	6,620.81	4,110.61	52.51	56.23	-54.686	-125.67	2,598.11	707.36	615.45	91.90	7.697			
6,900.00	4,518.97	6,720.81	4,110.08	54.59	58.17	-54.686	-196.74	2,668.46	707.36	612.07	95.29	7.423			
7,000.00	4,518.45	6,820.81	4,109.55	56.69	60.14	-54.686	-267.81	2,738.80	707.36	608.67	98.69	7.168			
7,100.00	4,517.92	6,920.81	4,109.03	58.81	62.13	-54.685	-338.88	2,809.15	707.36	605.26	102.10	6.928			
7,200.00	4,517.39	7,020.81	4,108.50	60.93	64.15	-54.685	-409.95	2,879.50	707.36	601.84	105.52	6.703			
7,300.00	4,516.87	7,120.81	4,107.97	63.07	66.18	-54.685	-481.03	2,949.84	707.36	598.41	108.95	6.492			
7,400.00	4,516.34	7,220.81	4,107.44	65.22	68.24	-54.685	-552.10	3,020.19	707.36	594.97	112.39	6.294			
7,500.00	4,515.82	7,320.81	4,106.91	67.38	70.31	-54.684	-623.17	3,090.54	707.36	591.53	115.83	6.107			
7,600.00	4,515.29	7,420.81	4,106.39	69.55	72.39	-54.684	-694.24	3,160.89	707.36	588.09	119.27	5.931			
7,700.00	4,514.77	7,520.81	4,105.86	71.72	74.49	-54.684	-765.31	3,231.23	707.36	584.64	122.71	5.764			
7,800.00	4,514.24	7,620.81	4,105.33	73.90	76.59	-54.684	-836.38	3,301.58	707.36	581.20	126.16	5.607			
7,900.00	4,513.71	7,720.81	4,104.80	76.09	78.71	-54.684	-907.45	3,371.93	707.36	577.75	129.61	5.458			
8,000.00	4,513.19	7,820.81	4,104.27	78.28	80.84	-54.683	-978.52	3,442.27	707.36	574.31	133.05	5.317			
8,100.00	4,512.66	7,920.81	4,103.74	80.48	82.98	-54.683	-1,049.59	3,512.62	707.36	570.87	136.49	5.182			
8,200.00	4,512.14	8,020.81	4,103.22	82.69	85.12	-54.683	-1,120.66	3,582.97	707.36	567.43	139.93	5.055			
8,300.00	4,511.61	8,120.81	4,102.69	84.90	87.28	-54.683	-1,191.73	3,653.32	707.36	563.99	143.37	4.934			
8,400.00	4,511.08	8,220.81	4,102.16	87.11	89.44	-54.683	-1,262.80	3,723.66	707.36	560.56	146.80	4.819			
8,500.00	4,510.56	8,320.81	4,101.63	89.32	91.60	-54.682	-1,333.87	3,794.01	707.36	557.14	150.22	4.709			
8,600.00	4,510.03	8,420.81	4,101.10	91.54	93.78	-54.682	-1,404.94	3,864.36	707.36	553.71	153.65	4.604			
8,700.00	4,509.51	8,520.81	4,100.58	93.77	95.96	-54.682	-1,476.01	3,934.70	707.36	550.30	157.06	4.504			
8,800.00	4,508.98	8,620.81	4,100.05	95.99	98.14	-54.682	-1,547.08	4,005.05	707.36	546.89	160.47	4.408			
8,900.00	4,508.45	8,720.81	4,099.52	98.22	100.33	-54.681	-1,618.15	4,075.40	707.36	543.49	163.87	4.317			
9,000.00	4,507.93	8,820.81	4,098.99	100.46	102.52	-54.681	-1,689.22	4,145.75	707.36	540.09	167.27	4.229			
9,100.00	4,507.40	8,920.81	4,098.46	102.69	104.72	-54.681	-1,760.29	4,216.09	707.36	536.71	170.65	4.145			
9,200.00	4,506.88	9,020.81	4,097.94	104.93	106.92	-54.681	-1,831.36	4,286.44	707.36	533.33	174.03	4.064			
9,300.00	4,506.35	9,120.81	4,097.41	107.17	109.13	-54.681	-1,902.43	4,356.79	707.36	529.96	177.41	3.987			
9,400.00	4,505.83	9,220.81	4,096.88	109.41	111.33	-54.680	-1,973.50	4,427.13	707.36	526.59	180.77	3.913			
9,500.00	4,505.30	9,320.81	4,096.35	111.65	113.55	-54.680	-2,044.57	4,497.48	707.36	523.24	184.12	3.842			
9,600.00	4,504.77	9,420.81	4,095.82	113.90	115.76	-54.680	-2,115.64	4,567.83	707.36	519.89	187.47	3.773			
9,700.00	4,504.25	9,520.81	4,095.30	116.14	117.98	-54.680	-2,186.71	4,638.18	707.36	516.56	190.80	3.707			
9,800.00	4,503.72	9,620.81	4,094.77	118.39	120.20	-54.680	-2,257.79	4,708.52	707.36	513.23	194.13	3.644			
9,900.00	4,503.20	9,720.81	4,094.24	120.64	122.42	-54.679	-2,328.86	4,778.87	707.36	509.92	197.44	3.583			
10,000.00	4,502.67	9,820.81	4,093.71	122.89	124.65	-54.679	-2,399.93	4,849.22	707.36	506.62	200.74	3.524			
10,100.00	4,502.14	9,920.81	4,093.18	125.14	126.88	-54.679	-2,471.00	4,919.56	707.36	503.32	204.04	3.467			
10,200.00	4,501.62	10,020.81	4,092.66	127.40	129.11	-54.679	-2,542.07	4,989.91	707.36	500.04	207.32	3.412			
10,300.00	4,501.09	10,120.81	4,092.13	129.65	131.34	-54.678	-2,613.14	5,060.26	707.36	496.77	210.59	3.359			

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 46H
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 46H	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		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 (ft)	Minimum Separation (ft)	Separation Factor	Warning		
10,400.00	4,500.57	10,220.81	4,091.60	131.91	133.57	-54.678	-2,684.21	5,130.61	707.36	493.51	213.86	3.308			
10,500.00	4,500.04	10,320.81	4,091.07	134.17	135.81	-54.678	-2,755.28	5,200.95	707.36	490.26	217.10	3.258			
10,600.00	4,499.51	10,420.81	4,090.54	136.43	138.05	-54.678	-2,826.35	5,271.30	707.36	487.02	220.34	3.210			
10,700.00	4,498.99	10,520.81	4,090.01	138.69	140.29	-54.678	-2,897.42	5,341.65	707.36	483.79	223.57	3.164			
10,800.00	4,498.46	10,620.81	4,089.49	140.95	142.53	-54.677	-2,968.49	5,411.99	707.36	480.58	226.78	3.119			
10,900.00	4,497.94	10,720.81	4,088.96	143.21	144.77	-54.677	-3,039.56	5,482.34	707.36	477.38	229.99	3.076			
11,000.00	4,497.41	10,820.81	4,088.43	145.47	147.02	-54.677	-3,110.63	5,552.69	707.36	474.19	233.17	3.034			
11,100.00	4,496.89	10,920.81	4,087.90	147.73	149.26	-54.677	-3,181.70	5,623.04	707.36	471.01	236.35	2.993			
11,200.00	4,496.36	11,020.81	4,087.37	150.00	151.51	-54.676	-3,252.77	5,693.38	707.36	467.84	239.52	2.953			
11,300.00	4,495.83	11,120.81	4,086.85	152.26	153.76	-54.676	-3,323.84	5,763.73	707.36	464.69	242.67	2.915			
11,400.00	4,495.31	11,220.81	4,086.32	154.53	156.01	-54.676	-3,394.91	5,834.08	707.36	461.55	245.81	2.878			
11,500.00	4,494.78	11,320.81	4,085.79	156.79	158.26	-54.676	-3,465.98	5,904.42	707.36	458.43	248.93	2.842			
11,600.00	4,494.26	11,420.81	4,085.26	159.06	160.51	-54.676	-3,537.05	5,974.77	707.36	455.32	252.05	2.806			
11,700.00	4,493.73	11,520.81	4,084.73	161.33	162.76	-54.675	-3,608.12	6,045.12	707.36	452.22	255.15	2.772			
11,800.00	4,493.20	11,620.81	4,084.21	163.60	165.01	-54.675	-3,679.19	6,115.47	707.36	449.13	258.23	2.739			
11,900.00	4,492.68	11,720.81	4,083.68	165.87	167.27	-54.675	-3,750.26	6,185.81	707.36	446.06	261.30	2.707			
12,000.00	4,492.15	11,820.81	4,083.15	168.14	169.52	-54.675	-3,821.33	6,256.16	707.36	443.00	264.36	2.676			
12,100.00	4,491.63	11,920.81	4,082.62	170.40	171.78	-54.675	-3,892.40	6,326.51	707.36	439.95	267.41	2.645			
12,200.00	4,491.10	12,020.81	4,082.09	172.68	174.04	-54.674	-3,963.48	6,396.85	707.36	436.92	270.44	2.616			
12,300.00	4,490.57	12,120.81	4,081.57	174.95	176.30	-54.674	-4,034.55	6,467.20	707.36	433.90	273.46	2.587			
12,400.00	4,490.05	12,220.81	4,081.04	177.22	178.56	-54.674	-4,105.62	6,537.55	707.36	430.90	276.46	2.559			
12,500.00	4,489.52	12,320.81	4,080.51	179.49	180.82	-54.674	-4,176.69	6,607.90	707.36	427.91	279.45	2.531			
12,600.00	4,489.00	12,420.81	4,079.98	181.76	183.08	-54.673	-4,247.76	6,678.24	707.36	424.94	282.43	2.505			
12,700.00	4,488.47	12,520.81	4,079.45	184.03	185.34	-54.673	-4,318.83	6,748.59	707.36	421.97	285.39	2.479			
12,800.00	4,487.95	12,620.81	4,078.93	186.31	187.60	-54.673	-4,389.90	6,818.94	707.36	419.03	288.33	2.453			
12,900.00	4,487.42	12,720.81	4,078.40	188.58	189.86	-54.673	-4,460.97	6,889.28	707.36	416.09	291.27	2.429			
13,000.00	4,486.89	12,820.81	4,077.87	190.86	192.13	-54.673	-4,532.04	6,959.63	707.36	413.18	294.19	2.404			
13,100.00	4,486.37	12,920.81	4,077.34	193.13	194.39	-54.672	-4,603.11	7,029.98	707.36	410.27	297.09	2.381			
13,200.00	4,485.84	13,020.81	4,076.81	195.40	196.65	-54.672	-4,674.18	7,100.33	707.36	407.38	299.98	2.358			
13,300.00	4,485.32	13,120.81	4,076.28	197.68	198.92	-54.672	-4,745.25	7,170.67	707.36	404.50	302.86	2.336			
13,400.00	4,484.79	13,220.81	4,075.76	199.95	201.19	-54.672	-4,816.32	7,241.02	707.36	401.64	305.72	2.314			
13,500.00	4,484.26	13,320.81	4,075.23	202.23	203.45	-54.672	-4,887.39	7,311.37	707.36	398.79	308.57	2.292			
13,600.00	4,483.74	13,420.81	4,074.70	204.51	205.72	-54.671	-4,958.46	7,381.71	707.36	395.96	311.40	2.272			
13,700.00	4,483.21	13,520.81	4,074.17	206.78	207.99	-54.671	-5,029.53	7,452.06	707.36	393.14	314.22	2.251			
13,800.00	4,482.69	13,620.81	4,073.64	209.06	210.25	-54.671	-5,100.60	7,522.41	707.36	390.34	317.02	2.231			
13,900.00	4,482.16	13,720.81	4,073.12	211.34	212.52	-54.671	-5,171.67	7,592.76	707.36	387.55	319.81	2.212			
14,000.00	4,481.63	13,820.81	4,072.59	213.61	214.79	-54.670	-5,242.74	7,663.10	707.36	384.77	322.59	2.193			
14,100.00	4,481.11	13,920.81	4,072.06	215.89	217.06	-54.670	-5,313.81	7,733.45	707.36	382.01	325.35	2.174			
14,200.00	4,480.58	14,020.81	4,071.53	218.17	219.33	-54.670	-5,384.88	7,803.80	707.36	379.26	328.10	2.156			
14,300.00	4,480.06	14,120.81	4,071.00	220.45	221.60	-54.670	-5,455.95	7,874.14	707.36	376.53	330.83	2.138			
14,400.00	4,479.53	14,121.53	4,071.00	222.72	221.62	-54.670	-5,456.47	7,874.65	714.30	379.94	334.36	2.136 SF			
14,500.00	4,479.01	14,121.53	4,071.00	225.00	221.62	-54.670	-5,456.47	7,874.65	734.90	407.91	326.99	2.247			
14,600.00	4,478.48	14,121.53	4,071.00	227.28	221.62	-54.670	-5,456.47	7,874.65	768.07	456.02	312.05	2.461			
14,700.00	4,477.95	14,121.53	4,071.00	229.56	221.62	-54.670	-5,456.47	7,874.65	812.27	518.73	293.54	2.767			
14,800.00	4,477.43	14,121.53	4,071.00	231.84	221.62	-54.670	-5,456.47	7,874.65	865.82	591.45	274.37	3.156			
14,881.32	4,477.00	14,121.53	4,071.00	233.69	221.62	-54.670	-5,456.47	7,874.65	915.13	655.70	259.43	3.528			

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 46H
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 46H	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: Rodeo Unit 511 pad (511, 512 & 513) - Rodeo Unit #513H - Original Hole - Surveys Original Hole												Offset Site Error:	0.00 ft
Survey Program: 412-MWD, 2745-MWD, 15103-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
13,000.00	4,486.89	4,709.00	4,334.91	190.86	26.18	-77.980	-4,593.57	8,156.91	1,669.85	1,507.57	162.27	10.290	
13,100.00	4,486.37	4,740.00	4,359.51	193.13	26.20	-78.917	-4,610.32	8,165.58	1,618.71	1,449.95	168.76	9.592	
13,200.00	4,485.84	4,740.00	4,359.51	195.40	26.20	-78.917	-4,610.32	8,165.58	1,571.48	1,395.42	176.06	8.926	
13,300.00	4,485.32	4,771.00	4,383.87	197.68	26.20	-79.870	-4,626.48	8,175.88	1,529.02	1,346.18	182.85	8.362	
13,400.00	4,484.79	4,771.00	4,383.87	199.95	26.20	-79.870	-4,626.48	8,175.88	1,491.15	1,300.93	190.22	7.839	
13,500.00	4,484.26	4,803.00	4,408.72	202.23	26.19	-80.863	-4,642.59	8,187.98	1,458.47	1,261.50	196.97	7.405	
13,600.00	4,483.74	4,821.73	4,423.01	204.51	26.17	-81.441	-4,651.95	8,195.67	1,431.05	1,227.31	203.75	7.024	
13,700.00	4,483.21	4,849.36	4,443.55	206.78	26.15	-82.279	-4,665.90	8,207.77	1,409.04	1,198.96	210.08	6.707	
13,800.00	4,482.69	4,880.05	4,465.61	209.06	26.12	-83.188	-4,681.59	8,222.24	1,392.45	1,176.52	215.94	6.448	
13,900.00	4,482.16	4,916.64	4,490.58	211.34	26.08	-84.225	-4,700.74	8,240.89	1,381.21	1,160.02	221.20	6.244	
14,000.00	4,481.63	4,960.00	4,518.01	213.61	26.03	-85.373	-4,724.28	8,264.82	1,374.98	1,149.19	225.79	6.090	
14,100.00	4,481.11	5,035.58	4,558.05	215.89	25.93	-87.057	-4,768.84	8,310.75	1,372.68	1,143.15	229.53	5.980	
14,148.40	4,480.85	5,071.05	4,574.41	216.99	25.89	-87.747	-4,790.82	8,333.29	1,372.38	1,141.16	231.22	5.935	
14,200.00	4,480.58	5,114.78	4,592.95	218.17	25.83	-88.530	-4,818.38	8,361.72	1,372.65	1,139.73	232.92	5.893	
14,300.00	4,480.06	5,230.86	4,627.33	220.45	25.69	-89.990	-4,896.44	8,440.18	1,372.99	1,136.98	236.01	5.817	
14,400.00	4,479.53	5,368.89	4,638.83	222.72	25.55	-90.501	-4,995.74	8,534.94	1,370.99	1,131.75	239.24	5.731	
14,500.00	4,479.01	5,453.96	4,637.83	225.00	25.50	-90.479	-5,057.47	8,593.45	1,368.83	1,125.93	242.90	5.635	
14,578.84	4,478.59	5,513.44	4,637.27	226.80	25.49	-90.469	-5,100.08	8,634.95	1,368.20	1,122.39	245.81	5.566 CC	
14,600.00	4,478.48	5,525.00	4,637.26	227.28	25.49	-90.471	-5,108.29	8,643.09	1,368.23	1,121.67	246.56	5.549	
14,700.00	4,477.95	5,605.83	4,637.14	229.56	25.50	-90.483	-5,165.11	8,700.57	1,369.37	1,119.08	250.29	5.471	
14,800.00	4,477.43	5,685.83	4,635.99	231.84	25.59	-90.452	-5,220.37	8,758.40	1,372.13	1,118.11	254.02	5.402	
14,881.32	4,477.00	5,792.85	4,633.51	233.69	26.10	-90.371	-5,294.08	8,835.93	1,374.72	1,117.06	257.65	5.336 ES, 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 46H
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 46H	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	90.561	-0.34	35.11	35.11				
100.00	100.00	105.60	105.60	0.27	0.18	90.862	-0.53	34.96	34.96	34.51	0.45	77.520	
200.00	200.00	205.69	205.68	0.63	0.34	91.718	-1.04	34.55	34.56	33.58	0.98	35.374	
300.00	300.00	305.77	305.76	0.99	0.51	93.168	-1.87	33.86	33.92	32.41	1.50	22.566	
400.00	400.00	405.83	405.81	1.35	0.69	95.275	-3.04	32.91	33.06	31.02	2.04	16.218	
500.00	500.00	505.73	505.70	1.71	1.05	97.384	-4.15	32.04	32.31	29.56	2.76	11.725	
600.00	600.00	605.76	605.72	2.07	1.41	99.106	-5.00	31.18	31.58	28.11	3.47	9.093	
700.00	700.00	705.64	705.60	2.43	1.77	100.693	-5.77	30.58	31.12	26.93	4.19	7.427	
800.00	799.95	805.55	805.51	2.78	2.12	81.989	-6.44	30.15	30.35	25.45	4.91	6.187	
857.40	857.22	862.77	862.72	2.99	2.33	90.065	-6.80	29.96	30.03	24.72	5.32	5.648 CC, ES	
900.00	899.63	905.15	905.10	3.15	2.48	98.131	-7.08	29.83	30.34	24.72	5.62	5.397	
1,000.00	998.77	1,004.25	1,004.20	3.51	2.84	120.718	-7.71	29.52	35.05	28.70	6.35	5.522	
1,100.00	1,097.08	1,102.90	1,102.85	3.90	3.18	139.758	-7.70	29.57	47.10	40.04	7.06	6.670	
1,200.00	1,194.31	1,200.70	1,200.61	4.31	3.50	150.583	-6.40	31.70	65.57	57.81	7.76	8.447	
1,300.00	1,290.18	1,298.21	1,297.98	4.77	3.83	156.034	-4.64	36.55	89.50	81.03	8.46	10.573	
1,400.00	1,384.43	1,394.94	1,394.31	5.28	4.16	158.259	-2.01	44.82	117.47	108.29	9.18	12.795	
1,500.00	1,477.78	1,491.38	1,489.95	5.83	4.49	158.719	1.03	56.77	147.17	137.25	9.91	14.845	
1,600.00	1,571.14	1,587.23	1,584.40	6.41	4.85	157.623	4.19	72.75	176.40	165.73	10.68	16.524	
1,700.00	1,664.49	1,682.39	1,677.00	7.00	5.23	155.126	6.99	94.39	205.79	194.30	11.49	17.908	
1,800.00	1,757.84	1,777.41	1,767.77	7.61	5.65	151.588	9.65	122.35	235.68	223.29	12.39	19.028	
1,900.00	1,851.19	1,873.09	1,857.49	8.23	6.13	147.665	12.89	155.38	266.08	252.71	13.38	19.894	
2,000.00	1,944.54	1,977.48	1,953.95	8.85	6.71	143.500	18.94	194.81	295.65	281.12	14.54	20.337	
2,100.00	2,037.90	2,077.02	2,044.22	9.49	7.34	139.508	28.31	235.67	323.57	307.81	15.75	20.537	
2,200.00	2,131.25	2,171.45	2,127.94	10.13	8.02	135.595	39.08	278.00	351.90	334.88	17.02	20.679	
2,300.00	2,224.60	2,261.78	2,207.00	10.77	8.72	132.062	49.79	320.35	381.87	363.59	18.28	20.890	
2,400.00	2,317.95	2,354.63	2,288.23	11.42	9.47	128.932	60.56	364.01	413.37	393.78	19.60	21.093	
2,500.00	2,411.30	2,450.20	2,372.23	12.07	10.26	126.262	71.65	408.20	445.51	424.55	20.96	21.254	
2,600.00	2,504.66	2,543.13	2,454.32	12.73	10.96	124.112	82.25	450.47	478.20	455.99	22.21	21.532	
2,700.00	2,598.01	2,643.04	2,543.17	13.38	11.46	122.238	93.71	494.68	510.76	487.45	23.31	21.915	
2,800.00	2,691.36	2,730.84	2,622.06	14.04	11.85	120.970	103.49	531.97	543.06	518.86	24.20	22.439	
2,900.00	2,784.71	2,816.49	2,699.02	14.70	12.27	119.928	111.22	568.76	577.45	552.36	25.09	23.011	
3,000.00	2,878.06	2,910.09	2,782.75	15.37	12.77	118.837	119.71	609.72	612.47	586.34	26.13	23.443	
3,100.00	2,971.41	3,008.70	2,870.95	16.03	13.33	117.795	129.11	652.81	647.27	620.02	27.25	23.752	
3,200.00	3,064.77	3,107.30	2,959.98	16.69	13.91	117.004	138.71	694.05	680.96	652.57	28.40	23.981	
3,300.00	3,158.12	3,197.75	3,041.38	17.36	14.46	116.303	147.36	732.55	715.32	685.87	29.45	24.289	
3,400.00	3,251.47	3,293.82	3,128.37	18.02	15.06	115.711	156.67	772.21	748.92	718.32	30.60	24.475	
3,500.00	3,344.82	3,369.40	3,196.37	18.69	15.55	115.242	163.14	804.56	784.29	752.82	31.47	24.918	
3,600.00	3,438.17	3,473.18	3,290.01	19.36	16.25	114.702	171.66	848.48	819.71	786.94	32.77	25.013	
3,700.00	3,531.53	3,558.58	3,366.88	20.03	16.84	114.267	178.75	885.01	855.40	821.59	33.81	25.297	
3,800.00	3,624.88	3,660.76	3,458.95	20.70	17.56	113.793	187.45	928.48	890.84	855.73	35.12	25.368	
3,900.00	3,718.23	3,752.50	3,537.54	21.37	18.28	113.303	1,129.39	973.42	937.74	895.35	36.43	25.440	
4,000.00	3,811.58	3,846.70	3,636.11	22.04	19.00	112.813	1,141.59	1,016.32	973.98	926.26	37.74	25.512	
4,100.00	3,904.94	3,940.44	3,730.64	22.71	19.72	112.323	1,153.47	1,049.52	975.19	927.14	38.95	25.584	
4,200.00	3,999.27	4,035.28	3,821.81	23.38	20.44	111.833	1,165.35	1,086.65	975.55	927.50	40.16	25.656	
4,300.00	4,093.26	4,129.27	3,913.80	24.05	21.16	111.343	1,177.23	1,123.77	975.91	927.86	41.37	25.728	
4,400.00	4,187.25	4,223.26	4,005.79	24.72	21.88	110.853	1,189.11	1,161.89	976.27	928.22	42.58	25.800	
4,500.00	4,281.24	4,317.25	4,097.78	25.39	22.60	110.363	1,200.99	1,198.01	976.63	928.58	43.79	25.872	
4,600.00	4,375.23	4,411.24	4,189.77	26.06	23.32	109.873	1,212.87	1,234.13	977.00	928.94	45.00	25.944	
4,700.00	4,469.22	4,505.23	4,281.76	26.73	24.04	109.383	1,224.75	1,269.25	977.36	929.30	46.21	26.016	
4,800.00	4,563.21	4,599.22	4,373.75	27.40	24.76	108.893	1,236.63	1,304.37	977.72	929.66	47.42	26.088	
4,900.00	4,657.20	4,693.21	4,465.74	28.07	25.48	108.403	1,248.51	1,339.49	978.08	929.99	48.63	26.160	
5,000.00	4,751.19	4,787.20	4,557.73	28.74	26.20	107.913	1,260.39	1,374.61	978.44	930.35	49.84	26.232	

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 46H
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 46H	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
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 +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.00	4,528.44	4,973.61	4,502.13	25.38	22.86	-61.545	715.81	1,035.59	66.76	31.61	35.14	1.900	Level 3<2.00, SF
5,104.59	4,528.41	4,969.43	4,500.74	25.40	22.86	-60.193	712.52	1,037.74	66.73	31.74	34.99	1.907	Level 3<2.00
5,200.00	4,527.91	4,889.76	4,468.57	25.88	22.87	-32.379	650.41	1,075.71	80.70	50.89	29.81	2.707	
5,300.00	4,527.39	4,811.63	4,428.80	26.63	22.86	-12.151	591.35	1,107.84	122.30	94.45	27.85	4.391	
5,400.00	4,526.86	4,747.77	4,393.17	27.60	22.85	-2.383	543.90	1,131.36	177.44	147.22	30.22	5.871	
5,500.00	4,526.33	4,696.75	4,360.67	28.79	22.81	2.949	507.67	1,146.57	243.84	210.66	33.18	7.350	
5,600.00	4,525.81	4,654.10	4,330.89	30.16	22.77	6.218	478.86	1,156.63	317.97	282.57	35.40	8.981	
5,700.00	4,525.28	4,616.00	4,302.65	31.66	22.72	8.442	454.32	1,163.85	397.20	360.33	36.87	10.772	
5,800.00	4,524.76	4,579.59	4,274.62	33.27	22.66	10.116	431.78	1,169.45	479.78	442.01	37.77	12.702	
5,900.00	4,524.23	4,553.00	4,253.72	34.98	22.62	11.144	415.70	1,172.85	564.69	525.94	38.75	14.573	
6,000.00	4,523.71	4,522.00	4,228.80	36.76	22.56	12.154	397.55	1,176.10	651.49	612.30	39.19	16.625	
6,100.00	4,523.18	4,490.00	4,202.44	38.59	22.50	13.038	379.56	1,178.42	740.14	700.73	39.42	18.777	
6,200.00	4,522.65	4,477.00	4,191.59	40.48	22.47	13.375	372.42	1,178.99	830.12	790.01	40.11	20.696	
6,300.00	4,522.13	4,460.00	4,177.31	42.41	22.43	13.806	363.21	1,179.36	921.35	880.85	40.50	22.750	
6,400.00	4,521.60	4,441.27	4,161.49	44.37	22.38	14.275	353.18	1,179.31	1,013.54	972.82	40.73	24.886	
6,500.00	4,521.08	4,428.00	4,150.26	46.37	22.34	14.605	346.12	1,178.97	1,106.54	1,065.54	41.00	26.987	
6,600.00	4,520.55	4,412.98	4,137.48	48.39	22.29	14.972	338.25	1,178.30	1,200.24	1,159.07	41.17	29.156	
6,700.00	4,520.02	4,396.00	4,122.96	50.44	22.23	15.368	329.53	1,177.19	1,294.60	1,253.36	41.24	31.389	
6,800.00	4,519.50	4,396.00	4,122.96	52.51	22.23	15.368	329.53	1,177.19	1,389.47	1,347.87	41.60	33.401	
6,900.00	4,518.97	4,381.86	4,110.79	54.59	22.18	15.685	322.44	1,175.98	1,484.79	1,443.14	41.65	35.649	
7,000.00	4,518.45	4,365.00	4,096.19	56.69	22.12	16.047	314.19	1,174.20	1,580.62	1,538.99	41.63	37.966	
7,100.00	4,517.92	4,365.00	4,096.19	58.81	22.12	16.047	314.19	1,174.20	1,676.67	1,634.79	41.87	40.043	

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 46H
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 46H	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												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	5.50	5.50	0.00	0.01	139.219	-40.39	34.84	53.34				
100.00	100.00	105.47	105.47	0.27	0.18	139.429	-40.54	34.71	53.37	52.92	0.45	118.158	
200.00	200.00	205.43	205.43	0.63	0.35	140.014	-40.96	34.35	53.46	52.48	0.98	54.646	
300.00	300.00	305.40	305.39	0.99	0.51	140.972	-41.66	33.77	53.63	52.12	1.50	35.634	
400.00	400.00	405.35	405.33	1.35	0.68	142.293	-42.63	32.95	53.88	51.85	2.03	26.523	
500.00	500.00	505.66	505.63	1.71	0.99	143.801	-43.52	31.85	53.93	51.23	2.70	19.969	
541.58	541.58	547.11	547.08	1.86	1.14	144.347	-43.78	31.41	53.88	50.88	3.00	17.970	
600.00	600.00	605.48	605.44	2.07	1.35	145.034	-44.22	30.92	53.96	50.54	3.42	15.790	
700.00	700.00	705.64	705.60	2.43	1.71	146.312	-44.80	29.86	53.84	49.70	4.13	13.021	
706.11	706.11	711.74	711.70	2.45	1.73	121.489	-44.83	29.80	53.83	49.65	4.18	12.883 ES	
800.00	799.95	805.48	805.43	2.78	2.07	124.663	-45.24	29.03	55.21	50.36	4.85	11.382	
900.00	899.63	905.05	905.01	3.15	2.42	131.501	-45.76	28.35	60.21	54.64	5.57	10.816 SF	
1,000.00	998.77	1,004.34	1,004.29	3.51	2.77	139.572	-45.97	28.16	69.73	63.45	6.29	11.095	
1,100.00	1,097.08	1,102.58	1,102.53	3.90	3.12	147.703	-46.01	27.60	84.46	77.46	7.01	12.055	
1,200.00	1,194.31	1,199.34	1,199.29	4.31	3.47	154.513	-46.29	27.01	105.32	97.59	7.73	13.630	
1,300.00	1,290.18	1,295.93	1,295.88	4.77	3.80	159.716	-46.60	26.65	132.00	123.56	8.44	15.646	
1,400.00	1,384.43	1,391.64	1,391.59	5.28	4.12	163.371	-46.07	27.13	163.26	154.13	9.13	17.879	
1,500.00	1,477.78	1,484.79	1,484.73	5.83	4.43	166.140	-45.27	27.89	197.08	187.27	9.81	20.084	
1,600.00	1,571.14	1,578.46	1,578.40	6.41	4.74	168.061	-44.82	28.76	231.52	221.02	10.50	22.057	
1,700.00	1,664.49	1,668.04	1,667.96	7.00	5.05	169.307	-44.93	30.01	266.56	255.39	11.17	23.870	
1,800.00	1,757.84	1,752.63	1,752.43	7.61	5.34	169.645	-47.64	33.40	303.81	291.99	11.81	25.715	
1,900.00	1,851.19	1,835.60	1,834.91	8.23	5.63	169.185	-53.74	39.87	343.84	331.38	12.45	27.612	
2,000.00	1,944.54	1,916.84	1,915.15	8.85	5.92	168.248	-62.45	49.06	386.11	373.02	13.08	29.513	
2,100.00	2,037.90	1,994.55	1,991.32	9.49	6.21	167.136	-73.46	59.75	431.00	417.31	13.69	31.482	
2,200.00	2,131.25	2,075.00	2,069.30	10.13	6.53	165.713	-87.45	73.69	478.23	463.89	14.34	33.352	
2,300.00	2,224.60	2,146.32	2,137.42	10.77	6.83	164.227	-101.99	88.98	527.70	512.78	14.92	35.378	
2,400.00	2,317.95	2,224.61	2,210.95	11.42	7.20	162.420	-119.90	109.01	579.23	563.64	15.60	37.140	
2,500.00	2,411.30	2,304.07	2,284.36	12.07	7.60	160.477	-138.89	132.74	631.81	615.49	16.32	38.705	
2,600.00	2,504.66	2,385.15	2,358.61	12.73	8.05	158.614	-158.83	158.50	685.42	668.32	17.10	40.073	
2,700.00	2,598.01	2,470.97	2,437.21	13.38	8.51	156.903	-179.59	185.97	739.16	721.23	17.94	41.209	
2,800.00	2,691.36	2,548.13	2,508.07	14.04	8.84	155.621	-198.43	210.02	793.49	774.92	18.56	42.741	
2,900.00	2,784.71	2,629.00	2,582.52	14.70	9.12	154.513	-218.62	234.33	848.54	829.37	19.17	44.268	
3,000.00	2,878.06	2,716.74	2,663.60	15.37	9.38	153.526	-240.36	259.82	903.60	883.81	19.80	45.646	
3,100.00	2,971.41	2,811.39	2,751.58	16.03	9.70	152.663	-262.98	286.39	958.03	937.52	20.51	46.701	
3,200.00	3,064.77	2,894.86	2,829.64	16.69	10.01	152.049	-282.09	308.96	1,011.65	990.50	21.15	47.834	
3,300.00	3,158.12	2,957.42	2,887.67	17.36	10.27	151.568	-297.22	326.77	1,066.54	1,044.94	21.60	49.374	
3,400.00	3,251.47	3,043.48	2,966.88	18.02	10.65	150.894	-319.04	352.38	1,122.60	1,100.28	22.32	50.300	
3,500.00	3,344.82	3,162.73	3,077.82	18.69	11.20	150.179	-347.03	385.95	1,177.07	1,153.68	23.39	50.330	
3,600.00	3,438.17	3,285.84	3,194.37	19.36	11.75	149.736	-371.80	416.86	1,228.24	1,203.77	24.47	50.199	
3,700.00	3,531.53	3,359.00	3,263.81	20.03	12.08	149.525	-386.35	434.70	1,279.32	1,254.25	25.08	51.018	
3,800.00	3,624.88	3,438.66	3,338.21	20.70	12.84	148.418	-401.88	461.65	1,330.81	1,305.78	26.15	51.971	
3,900.00	3,718.23	3,522.85	3,422.53	21.37	13.14	147.283	-417.42	488.60	1,382.32	1,357.29	27.22	52.924	
4,000.00	3,811.58	3,607.00	3,506.88	22.04	13.45	146.115	-432.96	515.55	1,434.83	1,409.80	28.29	53.877	
4,100.00	3,904.94	3,691.25	3,591.13	22.71	13.76	144.915	-448.50	542.60	1,487.34	1,462.31	29.36	54.830	
4,200.00	3,999.27	3,775.50	3,675.38	23.38	14.07	143.683	-464.04	569.65	1,539.85	1,514.82	30.43	55.783	
4,300.00	4,093.26	3,859.75	3,759.63	24.05	14.38	142.415	-479.58	596.70	1,592.36	1,567.33	31.50	56.736	
4,400.00	4,184.06	3,944.00	3,843.88	24.72	14.69	141.115	-495.12	623.75	1,644.87	1,619.84	32.57	57.689	
4,437.33	4,216.58	3,977.42	3,877.30	24.34	14.38	140.783	-500.66	650.80	1,697.38	1,672.35	33.64	58.642	
4,500.00	4,268.92	4,061.67	3,961.55	25.01	14.69	139.415	-516.20	677.85	1,749.89	1,724.86	34.71	59.595	
4,600.00	4,345.25	4,145.92	4,045.80	25.68	15.00	138.015	-531.74	704.90	1,802.40	1,777.37	35.78	60.548	
4,700.00	4,410.73	4,230.17	4,130.05	26.35	15.31	136.583	-547.28	731.95	1,854.91	1,829.88	36.85	61.501	
4,800.00	4,463.37	4,314.42	4,214.30	27.02	15.62	135.115	-562.82	759.00	1,907.42	1,882.39	37.92	62.454	

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 46H
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 46H	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												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)			
4,900.00	4,501.56	5,026.27	4,519.45	24.96	17.17	90.806	29.98	42.51	1,129.72	1,093.83	35.88	31.482	
5,000.00	4,523.44	4,929.19	4,513.02	25.09	15.98	89.295	-39.67	109.82	1,130.92	1,095.72	35.20	32.124	
5,100.00	4,528.44	4,816.69	4,492.49	25.38	14.88	87.901	-118.54	187.14	1,132.03	1,097.19	34.84	32.497	
5,159.76	4,528.12	4,749.76	4,469.48	25.65	14.39	86.751	-162.36	232.11	1,131.95	1,097.09	34.86	32.471	
5,200.00	4,527.91	4,717.14	4,455.14	25.88	14.21	86.032	-182.63	253.25	1,132.13	1,097.19	34.94	32.399	
5,300.00	4,527.39	4,644.10	4,418.33	26.63	13.90	84.188	-226.41	298.66	1,134.72	1,099.33	35.40	32.057	
5,400.00	4,526.86	4,578.29	4,381.54	27.60	13.74	82.353	-264.55	337.65	1,140.91	1,104.92	36.00	31.696	
5,500.00	4,526.33	4,522.00	4,346.82	28.79	13.68	80.633	-295.60	369.24	1,151.23	1,114.57	36.66	31.405	
5,600.00	4,525.81	4,471.87	4,313.32	30.16	13.69	78.991	-321.93	395.63	1,166.53	1,129.20	37.32	31.256	
5,700.00	4,525.28	4,437.05	4,288.10	31.66	13.71	77.767	-339.06	412.43	1,187.61	1,149.68	37.92	31.315	
5,800.00	4,524.76	4,397.00	4,257.20	33.27	13.76	76.285	-357.41	430.09	1,214.66	1,176.22	38.44	31.600	
5,900.00	4,524.23	4,365.00	4,231.41	34.98	13.80	75.060	-370.98	443.30	1,247.22	1,208.35	38.87	32.088	
6,000.00	4,523.71	4,334.00	4,205.56	36.76	13.85	73.844	-383.12	455.35	1,285.18	1,245.97	39.20	32.782	
6,100.00	4,523.18	4,302.00	4,178.02	38.59	13.90	72.561	-394.52	467.00	1,328.34	1,288.90	39.44	33.679	
6,200.00	4,522.65	4,271.00	4,150.61	40.48	13.94	71.300	-404.56	477.40	1,376.61	1,337.01	39.59	34.768	
6,300.00	4,522.13	4,260.10	4,140.81	42.41	13.96	70.853	-407.89	480.83	1,429.51	1,389.79	39.72	35.986	
6,400.00	4,521.60	4,240.00	4,122.56	44.37	13.99	70.030	-413.84	486.80	1,486.83	1,447.05	39.78	37.378	
6,500.00	4,521.08	4,240.00	4,122.56	46.37	13.99	70.030	-413.84	486.80	1,548.15	1,508.32	39.83	38.874	
6,600.00	4,520.55	4,208.00	4,093.06	48.39	14.03	68.722	-422.82	495.34	1,612.90	1,573.12	39.78	40.545	
6,700.00	4,520.02	4,208.00	4,093.06	50.44	14.03	68.722	-422.82	495.34	1,680.78	1,641.02	39.76	42.270	



Anticollision Report



Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Greater Lybrook Unit 46H
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 46H	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	5.51	5.51	0.00	0.01	120.318	-20.36	34.83	40.34				
100.00	100.00	105.62	105.62	0.27	0.18	120.287	-20.27	34.70	40.19	39.74	0.45	89.022	
200.00	200.00	205.73	205.73	0.63	0.35	120.199	-19.99	34.35	39.75	38.77	0.98	40.654	
300.00	300.00	305.84	305.83	0.99	0.51	120.051	-19.55	33.78	39.03	37.53	1.50	25.952	
400.00	400.00	405.94	405.93	1.35	0.68	119.836	-18.92	32.99	38.03	36.00	2.03	18.733	
500.00	500.00	505.94	505.93	1.71	0.99	119.683	-18.26	32.04	36.88	34.18	2.70	13.664	
600.00	600.00	606.00	605.98	2.07	1.35	119.776	-17.62	30.80	35.48	32.07	3.42	10.386	
700.00	700.00	705.73	705.70	2.43	1.71	119.963	-17.31	30.03	34.66	30.53	4.13	8.390	
800.00	799.95	805.81	805.78	2.78	2.06	100.176	-17.35	29.21	34.34	29.49	4.85	7.087 CC	
804.45	804.40	810.26	810.23	2.80	2.08	100.615	-17.35	29.16	34.34	29.46	4.88	7.040 ES	
900.00	899.63	905.66	905.61	3.15	2.42	113.903	-17.19	27.72	35.43	29.87	5.56	6.369 SF	
1,000.00	998.77	1,004.78	1,004.72	3.51	2.78	132.330	-16.95	25.74	41.43	35.14	6.29	6.588	
1,100.00	1,097.08	1,103.04	1,102.96	3.90	3.13	147.931	-16.51	23.90	54.73	47.71	7.02	7.801	
1,200.00	1,194.31	1,199.92	1,199.82	4.31	3.48	158.198	-16.15	22.44	75.34	67.61	7.74	9.739	
1,300.00	1,290.18	1,295.96	1,295.86	4.77	3.82	164.460	-16.05	21.43	102.42	93.96	8.45	12.119	
1,400.00	1,384.43	1,389.27	1,389.17	5.28	4.14	167.986	-16.11	21.46	135.01	125.86	9.14	14.763	
1,500.00	1,477.78	1,480.80	1,480.64	5.83	4.45	169.402	-17.79	24.04	171.26	161.45	9.81	17.452	
1,600.00	1,571.14	1,575.12	1,574.71	6.41	4.76	169.305	-20.82	30.00	207.96	197.46	10.50	19.812	
1,700.00	1,664.49	1,671.02	1,669.96	7.00	5.08	168.126	-23.95	40.60	243.60	232.39	11.21	21.730	
1,800.00	1,757.84	1,762.70	1,760.15	7.61	5.40	166.007	-27.86	56.45	278.97	267.04	11.93	23.385	
1,900.00	1,851.19	1,855.22	1,849.95	8.23	5.75	163.206	-33.52	77.96	315.39	302.69	12.70	24.841	
2,000.00	1,944.54	1,947.77	1,938.52	8.85	6.14	160.148	-39.49	104.12	352.11	338.59	13.52	26.046	
2,100.00	2,037.90	2,038.88	2,024.28	9.49	6.56	156.977	-45.65	134.23	389.61	375.21	14.40	27.064	
2,200.00	2,131.25	2,129.80	2,107.96	10.13	7.05	153.607	-51.86	169.20	428.07	412.72	15.35	27.887	
2,300.00	2,224.60	2,217.75	2,186.89	10.77	7.59	150.217	-57.54	207.56	467.62	451.28	16.35	28.604	
2,400.00	2,317.95	2,304.86	2,264.42	11.42	8.17	147.180	-63.33	246.87	508.80	491.41	17.39	29.260	
2,500.00	2,411.30	2,394.06	2,344.12	12.07	8.80	144.590	-69.22	286.49	550.93	532.44	18.49	29.800	
2,600.00	2,504.66	2,483.41	2,424.25	12.73	9.39	142.421	-75.05	325.57	593.67	574.13	19.54	30.379	
2,700.00	2,598.01	2,575.48	2,507.11	13.38	9.84	140.541	-80.96	365.28	636.80	616.32	20.48	31.096	
2,800.00	2,691.36	2,669.99	2,592.46	14.04	10.20	138.895	-86.28	405.51	679.57	658.23	21.34	31.843	
2,900.00	2,784.71	2,763.09	2,676.83	14.70	10.59	137.515	-91.05	444.57	722.12	699.89	22.23	32.486	
3,000.00	2,878.06	2,855.95	2,761.31	15.37	11.02	136.344	-95.55	482.86	764.51	741.36	23.15	33.029	
3,100.00	2,971.41	2,951.28	2,848.39	16.03	11.49	135.328	-99.88	521.41	806.62	782.50	24.12	33.440	
3,200.00	3,064.77	3,048.17	2,937.25	16.69	11.99	134.450	-103.79	559.83	848.21	823.08	25.13	33.750	
3,300.00	3,158.12	3,124.08	3,007.11	17.36	12.40	133.869	-107.04	589.35	889.98	864.06	25.91	34.346	
3,400.00	3,251.47	4,872.42	4,112.45	18.02	19.55	-175.384	633.86	253.51	871.51	853.88	17.63	49.437	
3,500.00	3,344.82	4,886.89	4,112.72	18.69	19.81	-173.627	643.83	243.02	788.20	769.13	19.06	41.345	
3,600.00	3,438.17	4,901.95	4,113.01	19.36	20.08	-171.780	654.29	232.19	708.93	688.03	20.90	33.912	
3,700.00	3,531.53	4,917.62	4,113.32	20.03	20.36	-169.839	665.26	221.01	635.21	611.95	23.26	27.308	
3,800.00	3,624.88	4,933.95	4,113.64	20.70	20.65	-167.801	676.78	209.45	569.17	542.95	26.22	21.710	
3,900.00	3,718.23	4,950.97	4,113.97	21.37	20.96	-165.661	688.89	197.50	513.75	484.00	29.75	17.268	
4,000.00	3,811.58	4,968.72	4,114.33	22.04	21.28	-163.418	701.63	185.14	472.67	439.09	33.59	14.073	
4,100.00	3,904.94	4,984.46	4,114.60	22.71	21.57	-162.973	712.98	174.22	449.90	412.88	37.02	12.154	
4,162.98	3,964.24	4,989.90	4,114.69	23.10	21.67	-178.742	716.90	170.46	445.87	407.38	38.49	11.584	
4,200.00	3,999.27	4,989.57	4,114.68	23.33	21.67	170.257	716.66	170.69	447.28	408.28	39.00	11.470	
4,300.00	4,093.26	4,975.97	4,114.46	23.84	21.42	140.595	706.86	180.10	464.48	425.64	38.85	11.957	
4,400.00	4,184.06	4,939.94	4,113.76	24.24	20.76	115.830	681.04	205.22	497.54	460.72	36.83	13.510	
4,500.00	4,268.92	4,878.39	4,112.56	24.53	19.66	95.234	637.96	249.17	539.05	505.35	33.70	15.994	
4,600.00	4,345.25	4,818.57	4,111.39	24.72	18.63	80.221	596.83	292.59	582.18	551.31	30.87	18.858	
4,700.00	4,410.73	4,751.71	4,109.96	24.84	17.54	68.977	550.52	340.80	622.65	594.31	28.34	21.968	
4,800.00	4,463.37	4,681.00	4,108.33	24.90	16.51	61.043	500.74	390.99	656.87	630.56	26.31	24.970	
4,900.00	4,501.56	4,618.00	4,103.92	24.96	15.76	55.970	455.98	435.06	683.82	658.96	24.86	27.507	

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 46H
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 46H	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	4,523.44	4,572.73	4,096.52	25.09	15.37	52.937	424.14	466.36	706.59	682.44	24.15	29.255	
5,100.00	4,528.44	4,523.00	4,084.49	25.38	15.10	50.774	389.55	499.99	725.93	702.07	23.85	30.431	
5,200.00	4,527.91	4,461.00	4,064.34	25.88	14.95	49.603	347.28	540.59	748.09	724.53	23.56	31.748	
5,300.00	4,527.39	4,415.93	4,046.11	26.63	14.92	48.576	317.47	569.03	776.34	752.63	23.71	32.748	
5,400.00	4,526.86	4,366.00	4,022.95	27.60	14.93	47.298	285.63	599.73	810.11	786.28	23.83	33.991	
5,500.00	4,526.33	4,299.68	3,989.01	28.79	15.00	45.542	244.22	638.87	848.88	825.12	23.77	35.716	
5,600.00	4,525.81	4,240.00	3,958.16	30.16	15.09	44.106	206.20	672.97	890.66	866.71	23.95	37.181	
5,700.00	4,525.28	4,209.00	3,941.02	31.66	15.14	43.400	186.18	689.28	937.66	913.00	24.65	38.032	
5,800.00	4,524.76	4,178.00	3,922.84	33.27	15.20	42.720	166.05	704.29	989.97	964.61	25.36	39.041	
5,900.00	4,524.23	4,146.00	3,903.15	34.98	15.25	42.054	145.17	718.42	1,046.95	1,020.93	26.03	40.227	
6,000.00	4,523.71	4,125.06	3,889.73	36.76	15.28	41.634	131.53	726.94	1,107.98	1,081.18	26.80	41.345	
6,100.00	4,523.18	4,099.06	3,872.50	38.59	15.32	41.129	114.71	736.72	1,172.73	1,145.28	27.45	42.725	
6,200.00	4,522.65	4,083.00	3,861.57	40.48	15.34	40.827	104.36	742.32	1,240.79	1,212.64	28.15	44.081	
6,300.00	4,522.13	4,051.00	3,839.18	42.41	15.38	40.253	83.86	752.46	1,311.55	1,282.93	28.62	45.825	
6,400.00	4,521.60	4,031.15	3,824.86	44.37	15.41	39.910	71.32	758.08	1,384.94	1,355.78	29.16	47.489	
6,500.00	4,521.08	4,020.00	3,816.66	46.37	15.42	39.719	64.37	761.04	1,460.70	1,430.98	29.72	49.151	
6,600.00	4,520.55	3,989.00	3,793.31	48.39	15.45	39.198	45.40	768.52	1,538.29	1,508.22	30.07	51.159	
6,700.00	4,520.02	3,975.83	3,783.15	50.44	15.46	38.980	37.51	771.36	1,617.74	1,587.24	30.50	53.036	

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 46H
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 46H	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 Wellbore Centre		Rule Assigned:				Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.00	0.00	5.51	5.51	0.00	0.01	60.927	19.68	35.39	40.49					
100.00	100.00	105.62	105.62	0.27	0.18	61.006	19.55	35.28	40.33	39.88	0.45	89.509		
200.00	200.00	205.74	205.74	0.63	0.34	61.231	19.20	34.96	39.89	38.91	0.98	40.861		
300.00	300.00	305.85	305.84	0.99	0.51	61.613	18.61	34.44	39.15	37.65	1.50	26.073		
400.00	400.00	405.94	405.93	1.35	0.69	62.169	17.80	33.72	38.14	36.10	2.04	18.725		
500.00	500.00	505.87	505.85	1.71	1.05	63.007	16.84	33.06	37.10	34.35	2.75	13.475		
600.00	600.00	605.82	605.79	2.07	1.41	64.067	15.85	32.59	36.24	32.77	3.47	10.444		
700.00	700.00	705.83	705.80	2.43	1.76	64.629	15.18	32.01	35.43	31.24	4.19	8.461		
800.00	799.95	805.73	805.70	2.78	2.12	43.343	14.49	31.37	32.61	27.70	4.90	6.650		
900.00	899.63	905.28	905.24	3.15	2.48	56.147	13.76	31.01	26.94	21.32	5.62	4.795		
1,000.00	998.77	1,004.12	1,004.09	3.51	2.82	86.003	13.20	31.14	22.74	16.41	6.33	3.591		
1,004.45	1,003.16	1,008.51	1,008.47	3.53	2.84	87.656	13.22	31.19	22.74	16.37	6.36	3.573	CC, ES, SF	
1,100.00	1,097.08	1,102.87	1,102.78	3.90	3.15	120.288	14.90	33.25	27.80	20.76	7.04	3.947		
1,200.00	1,194.31	1,202.01	1,201.70	4.31	3.48	139.568	19.63	37.96	40.83	33.08	7.75	5.269		
1,300.00	1,290.18	1,301.95	1,300.95	4.77	3.83	148.063	27.96	45.97	57.45	48.99	8.46	6.793		
1,400.00	1,384.43	1,402.76	1,400.17	5.28	4.19	150.940	40.46	58.51	75.47	66.28	9.19	8.214		
1,500.00	1,477.78	1,503.24	1,497.80	5.83	4.59	150.282	56.36	76.16	92.68	82.70	9.98	9.285		
1,600.00	1,571.14	1,604.82	1,595.23	6.41	5.04	147.569	75.14	97.88	107.54	96.68	10.86	9.906		
1,700.00	1,664.49	1,708.02	1,692.56	7.00	5.55	143.474	97.94	123.43	119.46	107.62	11.84	10.086		
1,800.00	1,757.84	1,809.76	1,786.11	7.61	6.13	137.520	124.23	153.51	129.28	116.26	13.02	9.930		
1,900.00	1,851.19	1,911.72	1,877.22	8.23	6.80	130.017	154.30	187.97	138.30	123.89	14.40	9.603		
2,000.00	1,944.54	2,014.18	1,966.63	8.85	7.55	121.926	188.63	224.32	146.62	130.67	15.95	9.194		
2,100.00	2,037.90	2,113.12	2,049.68	9.49	8.36	112.813	226.63	262.33	155.45	137.85	17.60	8.834		
2,200.00	2,131.25	2,206.87	2,125.03	10.13	9.22	103.265	265.77	302.04	168.69	149.55	19.13	8.816		
2,300.00	2,224.60	2,300.02	2,198.80	10.77	10.13	94.746	305.18	343.06	187.45	166.99	20.46	9.163		
2,400.00	2,317.95	2,394.93	2,274.31	11.42	11.08	87.850	344.71	384.82	209.98	188.32	21.67	9.692		
2,500.00	2,411.30	2,490.03	2,351.00	12.07	12.05	82.687	383.19	425.81	234.35	211.53	22.81	10.272		
2,600.00	2,504.66	2,583.48	2,426.17	12.73	12.99	78.546	420.86	466.60	260.78	236.92	23.86	10.928		
2,700.00	2,598.01	2,680.95	2,505.04	13.38	13.79	75.169	459.60	508.78	287.99	263.17	24.82	11.604		
2,800.00	2,691.36	2,779.34	2,585.55	14.04	14.41	72.581	497.88	550.41	314.98	289.36	25.63	12.292		
2,900.00	2,784.71	2,877.90	2,666.82	14.70	15.08	70.496	535.95	591.16	341.45	314.98	26.47	12.898		
3,000.00	2,878.06	2,965.46	2,738.49	15.37	15.72	68.807	570.19	627.99	369.03	341.90	27.13	13.601		
3,100.00	2,971.41	3,061.90	2,816.61	16.03	16.46	67.079	608.43	669.65	398.15	370.17	27.98	14.231		
3,200.00	3,064.77	3,164.51	2,900.57	16.69	17.28	65.598	648.63	712.81	426.30	397.32	28.97	14.713		
3,300.00	3,158.12	3,249.45	2,970.07	17.36	17.98	64.522	681.89	748.57	454.72	425.04	29.67	15.324		
3,400.00	3,251.47	3,346.55	3,048.45	18.02	18.82	63.306	720.69	790.75	484.80	454.19	30.60	15.842		
3,500.00	3,344.82	3,460.88	3,142.27	18.69	19.81	62.172	765.65	838.13	512.86	481.00	31.86	16.096		
3,600.00	3,438.17	3,529.99	3,198.76	19.36	20.44	61.548	792.85	867.19	541.62	509.27	32.36	16.740		
3,700.00	3,531.53	3,622.68	3,272.67	20.03	21.31	60.638	830.45	908.62	573.54	540.28	33.26	17.246		
3,800.00	3,624.88	3,721.42	3,351.64	20.70	22.26	59.715	871.05	951.81	604.67	570.40	34.28	17.641		
3,900.00	3,718.23	3,822.09	3,432.44	21.37	23.23	58.865	912.51	995.24	635.30	599.96	35.34	17.978		
4,000.00	3,811.58	3,941.77	3,530.39	22.04	24.36	58.129	960.10	1,044.86	663.97	627.24	36.74	18.074		
4,100.00	3,904.94	4,168.94	3,722.04	22.71	26.30	54.722	1,056.03	1,116.77	685.11	646.23	38.88	17.621		
4,200.00	3,999.27	4,362.10	3,866.78	23.33	27.83	49.680	1,181.04	1,136.31	687.85	649.46	38.39	17.919		
4,300.00	4,093.26	4,568.41	3,990.33	23.84	29.11	-22.068	1,340.92	1,099.20	671.62	636.24	35.38	18.981		
4,400.00	4,184.06	4,616.75	4,015.76	24.24	29.36	-44.495	1,378.67	1,082.94	657.68	623.39	34.29	19.181		
4,455.88	4,232.38	4,628.55	4,022.04	24.40	29.41	-51.951	1,387.80	1,078.88	655.44	621.75	33.68	19.458		
4,500.00	4,268.92	4,633.16	4,024.50	24.53	29.44	-55.970	1,391.36	1,077.29	656.88	623.67	33.21	19.779		
4,600.00	4,345.25	4,630.36	4,023.00	24.72	29.42	-60.318	1,389.20	1,078.26	670.73	638.49	32.24	20.804		
4,700.00	4,410.73	4,604.59	4,009.32	24.84	29.29	-59.082	1,369.23	1,087.10	697.71	666.13	31.59	22.089		
4,800.00	4,463.37	4,557.18	3,984.36	24.90	29.05	-53.929	1,332.09	1,102.75	733.73	702.48	31.25	23.482		
4,900.00	4,501.56	4,509.01	3,957.73	24.96	28.79	-47.682	1,294.19	1,115.92	774.29	742.75	31.54	24.551		

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 46H
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 46H	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		
5,000.00	4,523.44	4,457.27	3,927.32	25.09	28.47	-41.490	1,253.69	1,126.43	813.11	780.69	32.41	25.086		
5,100.00	4,528.44	4,411.55	3,899.15	25.38	28.17	-37.097	1,218.23	1,132.72	847.07	813.05	34.02	24.901		
5,200.00	4,527.91	4,377.56	3,877.14	25.88	27.94	-35.244	1,192.50	1,135.53	884.50	848.27	36.23	24.415		
5,300.00	4,527.39	4,350.53	3,858.89	26.63	27.75	-33.747	1,172.60	1,136.69	929.33	890.71	38.62	24.066		
5,400.00	4,526.86	4,328.09	3,843.21	27.60	27.58	-32.496	1,156.56	1,136.95	980.97	940.02	40.95	23.956		
5,500.00	4,526.33	4,306.00	3,827.30	28.79	27.42	-31.255	1,141.24	1,136.39	1,038.73	995.71	43.02	24.147		
5,600.00	4,525.81	4,292.91	3,817.66	30.16	27.31	-30.516	1,132.40	1,135.65	1,101.77	1,056.75	45.02	24.472		
5,700.00	4,525.28	4,275.00	3,804.28	31.66	27.17	-29.500	1,120.61	1,134.09	1,169.44	1,122.86	46.59	25.101		
5,800.00	4,524.76	4,264.65	3,796.46	33.27	27.09	-28.913	1,113.94	1,132.92	1,241.01	1,192.95	48.06	25.819		
5,900.00	4,524.23	4,243.00	3,779.93	34.98	26.91	-27.686	1,100.28	1,129.90	1,316.00	1,266.98	49.02	26.848		
6,000.00	4,523.71	4,243.00	3,779.93	36.76	26.91	-27.686	1,100.28	1,129.90	1,393.67	1,343.39	50.28	27.718		
6,100.00	4,523.18	4,226.40	3,767.15	38.59	26.77	-26.751	1,090.05	1,127.15	1,473.80	1,422.84	50.97	28.918		
6,200.00	4,522.65	4,212.00	3,755.99	40.48	26.65	-25.949	1,081.33	1,124.56	1,556.00	1,504.44	51.56	30.180		
6,300.00	4,522.13	4,199.03	3,745.87	42.41	26.54	-25.236	1,073.58	1,122.16	1,639.92	1,587.86	52.06	31.502		

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 46H
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 46H	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
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 +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	5.51	5.51	0.00	0.01	150.230	-60.41	34.55	69.59				
100.00	100.00	105.75	105.75	0.27	0.18	150.239	-60.25	34.45	69.40	68.95	0.45	153.944	
200.00	200.00	205.99	205.99	0.63	0.34	150.264	-59.79	34.16	68.86	67.89	0.98	70.521	
300.00	300.00	306.22	306.22	0.99	0.51	150.307	-59.05	33.67	67.98	66.48	1.50	45.258	
400.00	400.00	406.40	406.39	1.35	0.69	150.368	-58.02	33.00	66.76	64.72	2.04	32.726	
500.00	500.00	506.08	506.06	1.71	1.05	150.479	-57.21	32.39	65.75	62.99	2.76	23.860	
600.00	600.00	606.37	606.34	2.07	1.41	150.732	-56.28	31.54	64.52	61.05	3.47	18.575	
700.00	700.00	705.67	705.64	2.43	1.76	150.991	-55.69	30.88	63.67	59.49	4.18	15.221	
704.51	704.51	710.13	710.10	2.44	1.77	126.103	-55.69	30.86	63.67	59.45	4.21	15.106 CC, ES	
800.00	799.95	805.03	805.00	2.78	2.10	128.239	-56.29	30.74	65.73	60.85	4.88	13.471	
900.00	899.63	904.76	904.72	3.15	2.43	133.385	-56.98	30.63	71.46	65.88	5.58	12.809 SF	
1,000.00	998.77	1,003.93	1,003.89	3.51	2.78	140.397	-57.76	30.10	81.63	75.34	6.29	12.978	
1,100.00	1,097.08	1,102.29	1,102.25	3.90	3.12	147.191	-58.15	29.89	96.80	89.79	7.01	13.814	
1,200.00	1,194.31	1,198.89	1,198.85	4.31	3.46	153.126	-58.67	29.71	117.73	110.00	7.72	15.246	
1,300.00	1,290.18	1,294.84	1,294.80	4.77	3.80	157.964	-59.46	29.55	144.58	136.15	8.44	17.139	
1,400.00	1,384.43	1,388.55	1,388.50	5.28	4.13	161.798	-60.00	29.15	176.74	167.59	9.14	19.328	
1,500.00	1,477.78	1,481.68	1,481.63	5.83	4.46	164.906	-60.75	28.72	212.09	202.25	9.84	21.543	
1,600.00	1,571.14	1,569.70	1,569.63	6.41	4.77	166.881	-62.08	28.76	248.41	237.90	10.51	23.633	
1,700.00	1,664.49	1,651.15	1,650.96	7.00	5.06	167.860	-66.15	30.05	287.72	276.59	11.13	25.849	
1,800.00	1,757.84	1,726.88	1,726.31	7.61	5.33	168.276	-73.48	31.94	331.04	319.35	11.70	28.302	
1,900.00	1,851.19	1,798.19	1,796.79	8.23	5.59	168.346	-84.06	34.20	378.67	366.46	12.21	31.004	
2,000.00	1,944.54	1,871.92	1,869.15	8.85	5.86	168.243	-97.91	36.84	429.60	416.85	12.75	33.682	
2,100.00	2,037.90	1,945.76	1,941.17	9.49	6.15	168.034	-113.95	39.83	482.90	469.59	13.30	36.295	
2,200.00	2,131.25	2,014.08	2,007.34	10.13	6.44	167.734	-130.54	43.26	538.21	524.41	13.80	39.000	
2,300.00	2,224.60	2,075.00	2,065.69	10.77	6.70	167.335	-147.60	47.20	596.33	582.11	14.22	41.924	
2,400.00	2,317.95	2,130.85	2,118.46	11.42	6.96	166.888	-165.38	51.47	657.41	642.81	14.60	45.040	
2,500.00	2,411.30	2,170.00	2,154.97	12.07	7.15	166.547	-179.13	54.73	721.58	706.81	14.77	48.855	
2,600.00	2,504.66	2,234.97	2,214.68	12.73	7.49	165.959	-204.04	60.53	787.88	772.60	15.28	51.563	
2,700.00	2,598.01	2,291.85	2,266.16	13.38	7.81	165.448	-227.64	65.86	856.44	840.74	15.70	54.542	
2,800.00	2,691.36	2,359.32	2,326.97	14.04	8.21	164.901	-256.17	72.29	925.72	909.45	16.27	56.888	
2,900.00	2,784.71	2,435.05	2,395.12	14.70	8.68	164.336	-288.27	79.93	995.07	978.11	16.96	58.678	
3,000.00	2,878.06	2,519.81	2,471.56	15.37	9.10	163.753	-323.73	89.15	1,063.94	1,046.31	17.63	60.341	
3,100.00	2,971.41	2,610.95	2,554.22	16.03	9.49	163.201	-360.68	99.53	1,131.79	1,113.49	18.29	61.864	
3,200.00	3,064.77	2,700.74	2,635.66	16.69	9.80	162.546	-396.03	112.86	1,198.38	1,179.53	18.85	63.571	
3,300.00	3,158.12	2,775.60	2,703.47	17.36	10.08	161.994	-425.28	125.15	1,264.69	1,245.38	19.31	65.506	
3,400.00	3,251.47	2,858.86	2,778.96	18.02	10.44	161.437	-457.55	139.01	1,330.78	1,310.92	19.86	67.013	
3,500.00	3,344.82	2,949.46	2,861.41	18.69	10.85	160.897	-491.92	154.18	1,396.27	1,375.77	20.50	68.118	
3,600.00	3,438.17	3,009.58	2,916.27	19.36	11.14	160.580	-514.40	164.12	1,461.46	1,440.58	20.88	69.984	
3,700.00	3,531.53	3,050.85	2,953.75	20.03	11.35	160.410	-530.58	170.14	1,528.20	1,507.09	21.11	72.393	
3,800.00	3,624.88	4,971.70	4,092.84	20.70	21.87	-160.871	-136.86	-616.37	1,531.33	1,495.20	36.13	42.387	
3,900.00	3,718.23	4,989.60	4,093.28	21.37	22.21	-160.209	-124.10	-628.91	1,538.40	1,501.07	37.33	41.211	
4,000.00	3,811.58	5,007.71	4,093.71	22.04	22.55	-159.539	-111.17	-641.58	1,551.72	1,513.31	38.41	40.399	
4,100.00	3,904.94	5,025.48	4,094.10	22.71	22.89	-160.683	-98.45	-653.98	1,571.13	1,531.78	39.36	39.921	
4,200.00	3,999.27	5,031.31	4,094.23	23.33	23.00	169.346	-94.27	-658.05	1,595.56	1,555.67	39.89	40.003	
4,300.00	4,093.26	5,016.65	4,093.91	23.84	22.72	139.718	-104.77	-647.82	1,623.61	1,583.82	39.79	40.807	
4,400.00	4,184.06	4,982.43	4,093.10	24.24	22.08	118.381	-129.22	-623.89	1,653.84	1,614.72	39.11	42.284	
4,500.00	4,268.92	4,908.67	4,091.52	24.53	20.72	103.069	-181.49	-571.88	1,684.08	1,646.52	37.56	44.834	

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 46H
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 46H	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

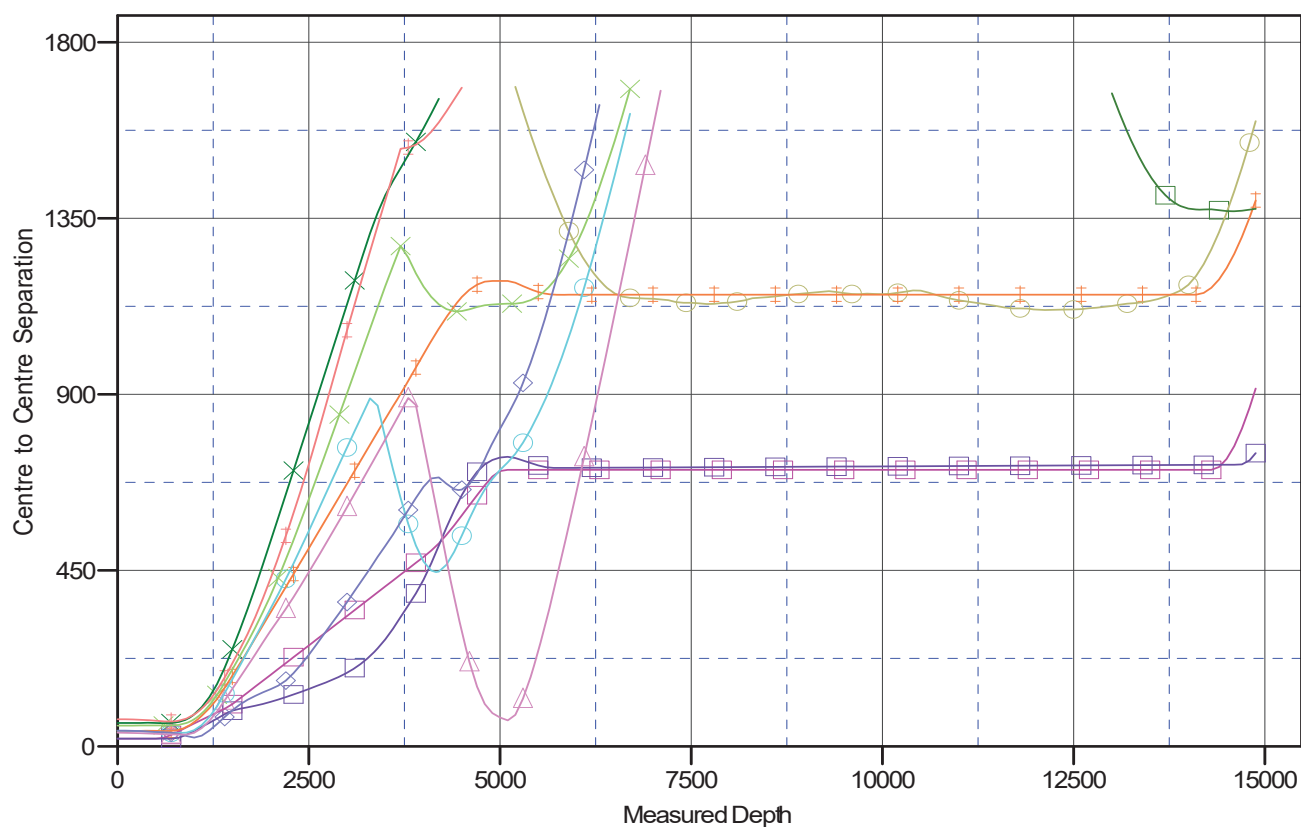
Central Meridian is -107.83333333

Coordinates are relative to: Greater Lybrook Unit 46H

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

Grid Convergence at Surface is: 0.033°

Ladder Plot



LEGEND

GreaterLybrookUnitNo.048HOriginalHole.MWDSurveyOriginalHole V0	GreaterLybrookUnitNo.861HOriginalHole.SurveyOriginalHole V0	W LybrookUnitNo.730HOriginalHole.SurveyOriginalHole V0
GreaterLybrookUnitNo.46HOriginalHole.rev0 V0	W LybrookUnitNo.830HOriginalHole.SurveyOriginalHole V0	W LybrookUnitNo.863HOriginalHole.SurveyOriginalHole V0
GreaterLybrookUnitNo.7HOriginalHole.rev0 V0	W LybrookUnitNo.763HOriginalHole.SurveyOriginalHole V0	Rodeo Unit#513HOriginalHole.SurveyOriginalHole V0
GreaterLybrookUnitNo.6HOriginalHole.rev0 V0	W LybrookUnitNo.861HOriginalHole.SurveyOriginalHole 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 46H
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 46H	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

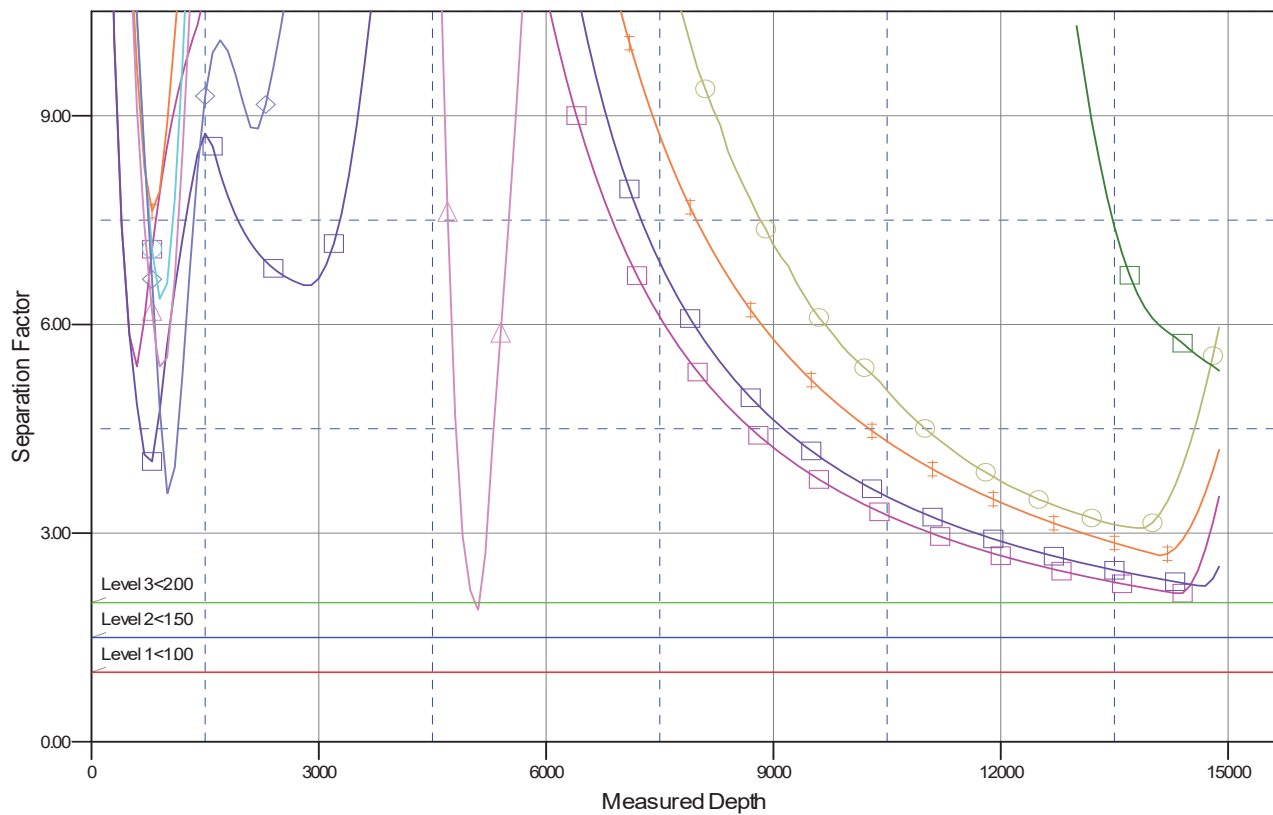
Central Meridian is -107.8333333

Coordinates are relative to: Greater Lybrook Unit 46H

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

Grid Convergence at Surface is: 0.033°

Separation Factor Plot



LEGEND

GreaterLybrookUnitNo.048HOriginalHole.MW/DerivesOriginalHole.V0	GreaterLybrookUnitNo.46HOriginalHole.rev0.V0	WLybrookUnitNo.730HOriginalHole.SurveysOriginalHole.V0
GreaterLybrookUnitNo.46HOriginalHole.rev0.V0	WLybrookUnitNo.830HOriginalHole.SurveysOriginalHole.V0	WLybrookUnitNo.863HOriginalHole.SurveysOriginalHole.V0
GreaterLybrookUnitNo.47HOriginalHole.rev0.V0	WLybrookUnitNo.763HOriginalHole.SurveysOriginalHole.V0	RodeoUnitNo.513HOriginalHole.SurveysOriginalHole.V0
GreaterLybrookUnitNo.46HOriginalHole.rev0.V0	WLybrookUnitNo.861HOriginalHole.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
#046H 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 524960

ACKNOWLEDGMENTS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way Centennial, CO 80111	OGRID: 372286
	Action Number: 524960
	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.
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CONDITIONS

Action 524960

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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