

Form 3160-3
(June 2015)FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018UNITED 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	3b. Phone No. (include area code)	9. API Well No.
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		10. Field and Pool, or Exploratory
14. Distance in miles and direction from nearest town or post office*		11. Sec., T. R. M. or Blk. and Survey or Area
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)		12. County or Parish
16. No of acres in lease		13. State
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)



Approval Date: 12/19/2024

Additional Operator Remarks

Location of Well

0. SHL: NESE / 1779 FSL / 482 FEL / TWSP: 23N / RANGE: 6W / SECTION: 5 / LAT: 36.251104 / LONG: -107.485321 (TVD: 0 feet, MD: 0 feet)
PPP: SWSW / 1230 FSL / 232 FWL / TWSP: 23N / RANGE: 6W / SECTION: 4 / LAT: 36.249589 / LONG: -107.482891 (TVD: 5439 feet, MD: 5586 feet)
PPP: SWNE / 0 FNL / 0 FEL / TWSP: 23N / RANGE: 6W / SECTION: 15 / LAT: 36.228515 / LONG: -107.456213 (TVD: 5515 feet, MD: 20326 feet)
PPP: SWSW / 231 FSL / 1228 FEL / TWSP: 23N / RANGE: 6W / SECTION: 4 / LAT: 36.246906 / LONG: -107.479492 (TVD: 5515 feet, MD: 20326 feet)
PPP: NESE / 0 FNL / 0 FEL / TWSP: 23N / RANGE: 6W / SECTION: 15 / LAT: 36.224949 / LONG: -107.451701 (TVD: 5515 feet, MD: 20326 feet)
PPP: NENW / 0 FNL / 0 FEL / TWSP: 23N / RANGE: 6W / SECTION: 9 / LAT: 36.2242619 / LONG: -107.474065 (TVD: 5515 feet, MD: 20326 feet)
PPP: NWSW / 0 FNL / 0 FWL / TWSP: 23N / RANGE: 6W / SECTION: 10 / LAT: 36.236101 / LONG: -107.465813 (TVD: 5515 feet, MD: 20326 feet)
PPP: NENW / 0 FNL / 0 FWL / TWSP: 23N / RANGE: 6W / SECTION: 15 / LAT: 36.232002 / LONG: -107.460626 (TVD: 5515 feet, MD: 20326 feet)
BHL: NESE / 1469 FSL / 240 FEL / TWSP: 23N / RANGE: 6W / SECTION: 15 / LAT: 36.2219 / LONG: -107.447844 (TVD: 5515 feet, MD: 20326 feet)

BLM Point of Contact

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

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	Pool Code 13379	Pool Name COUNSELORS GALLUP - DAKOTA
Property Code 335063	Property Name HAYNES CANYON UNIT	Well Number 424H
OGRID No. 372286	Operator Name ENDURING RESOURCES, LLC	Ground Level Elevation 6765'
Surface Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal		Mineral Owner: ☐ State ☒ Fee ☐ Tribal ☒ Federal

Surface Location

UL I	Section 5	Township 23N	Range 6W	Lot	Feet from N/S Line 1779' SOUTH	Feet from E/W Line 482' EAST	Latitude 36.251104 °N	Longitude -107.485321 °W	County RIO ARRIBA
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Bottom Hole Location

UL I	Section 15	Township 23N	Range 6W	Lot	Feet from N/S Line 1469' SOUTH	Feet from E/W Line 240' EAST	Latitude 36.221900 °N	Longitude -107.447844 °W	County RIO ARRIBA
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Penetrated Spacing Unit:

Dedicated Acres 840.00	NW/4 SW/4, S/2 SW/4 - Section 4 W/2 NE/4, SE/4 NE/4, N/2 SE/4 SE/4 SE/4 - Section 9 W/2 SW/4, SE/4 SW/4 - Section 10 N/2 NW/4, SE/4 NW/4, W/2 NE/4, SE/4 NE/4 N/2 SE/4, SE/4 SE/4 - Section 15	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit ☐ Yes ☒ No	Consolidation Code UNIT
		Order Numbers R-23096 R-22369		Well setbacks are under Common Ownership: ☒ Yes ☐ No	

Kick Off Point (KOP)

UL I	Section 5	Township 23N	Range 6W	Lot	Feet from N/S Line 1779' SOUTH	Feet from E/W Line 482' EAST	Latitude 36.251104 °N	Longitude -107.485321 °W	County RIO ARRIBA
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First Take Point (FTP)

UL M	Section 4	Township 23N	Range 6W	Lot	Feet from N/S Line 1230' SOUTH	Feet from E/W Line 232' WEST	Latitude 36.249589 °N	Longitude -107.482891 °W	County RIO ARRIBA
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Last Take Point (LTP)

UL I	Section 15	Township 23N	Range 6W	Lot	Feet from N/S Line 1469' SOUTH	Feet from E/W Line 240' EAST	Latitude 36.221900 °N	Longitude -107.447844 °W	County RIO ARRIBA
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Unitized Area or Area of Uniform Interest HAYNES CANYON 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>1/21/2025</u> Date <u>Shaw-Marie Ford</u> 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 Certificate Number <u>15269</u> Date of Survey <u>OCTOBER 25, 2018</u>
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State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: Enduring Resources, LLC **OGRID:** 372286 **Date:** 09 / 16 / 2024

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Haynes Canyon Unit 420H	TBD	I-05-23N-06W	1769 FSL x 521 FEL	617	1233	247
Haynes Canyon Unit 422H	TBD	I-05-23N-06W	1774 FSL x 501 FEL	714	1429	286
Haynes Canyon Unit 424H	TBD	I-05-23N-06W	1779 FSL x 482 FEL	744	1488	298
Haynes Canyon Unit 426H	TBD	I-05-23N-06W	1784 FSL x 462 FEL	748	1497	299
				3-year Decline	3-year Decline	3-year Decline
Haynes Canyon Unit 420H	TBD	I-05-23N-06W	1769 FSL x 521 FEL	139	279	56
Haynes Canyon Unit 422H	TBD	I-05-23N-06W	1774 FSL x 501 FEL	161	323	65
Haynes Canyon Unit 424H	TBD	I-05-23N-06W	1779 FSL x 482 FEL	168	336	67
Haynes Canyon Unit 426H	TBD	I-05-23N-06W	1784 FSL x 462 FEL	169	38	68

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
Haynes Canyon Unit 420H	TBD	Q3 2025	Q3 2025	Q3 2025	Q3 2025	Q3 2025
Haynes Canyon Unit 422H	TBD	Q3 2025	Q3 2025	Q3 2025	Q3 2025	Q3 2025
Haynes Canyon Unit 424H	TBD	Q3 2025	Q3 2025	Q3 2025	Q3 2025	Q3 2025
Haynes Canyon Unit 426H	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: 9/16/2024
Phone: 505-716-3297
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:



Enduring Resources, LLC.
OGRID No: 372286
NATURAL GAS MANAGEMENT PLAN
Haynes Canyon Unit 420H, 422H, 424H, 426H

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.
OGRID No: 372286
NATURAL GAS MANAGEMENT PLAN
Haynes Canyon Unit 420H, 422H, 424H, 426H

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.
OGRID No: 372286
NATURAL GAS MANAGEMENT PLAN
Haynes Canyon Unit 420H, 422H, 424H, 426H

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.
OGRID No: 372286
NATURAL GAS MANAGEMENT PLAN
Haynes Canyon Unit 420H, 422H, 424H, 426H

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-H formation*

WELL INFORMATION:

Name: HAYNES CANYON UNIT 424H

State: New Mexico

County: Rio Arriba

Surface Elevation: 6,765 ft ASL (GL) 6,790 ft ASL (KB)

Surface Location: 5-23N-6 Sec-Twn-Rng 1,779 ft FSL 482 ft FEL
 36.251104 ° N latitude 107.485321 ° W longitude (NAD 83)

BH Location: 15-23N-6 Sec-Twn-Rng 1,469 ft FSL 240 ft FEL
 36.2219 ° N latitude 107.447844 ° 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 51.0 miles to MM 101, left (north) on existing road (next to landing strip and Escrito Canyon Rd) for 0.4 miles to fork, right (northeast) for 1.0 miles to fork, right (north) for 0.6 miles to fork at Elm Ridge Marcus #2 well, right (east) for 0.4 miles to fork, right (southeast) for 0.2 miles to fork, left on upgraded access road for .9 miles to the Haynes Canyon Unit 420H Pad (Wells from West to East: 420H, 422H, 424H, 426H).

GEOLOGIC AND RESERVOIR INFORMATION:

Prognosis:	Formation Tops	TVD (ft ASL)	TVD (ft KB)	MD (ft KB)	O / G / W	Pressure
	Ojo Alamo	5,384	1,406	1,407	W	normal
	Kirtland	5,310	1,480	1,481	W	normal
	Fruitland	5,070	1,720	1,722	G, W	sub
	Pictured Cliffs	4,802	1,988	1,991	G, W	sub
	Lewis	4,665	2,125	2,128	G, W	normal
	Chacra	4,379	2,411	2,416	G, W	normal
	Cliff House	3,276	3,514	3,523	G, W	sub
	Menefee	3,261	3,529	3,538	G, W	normal
	Point Lookout	2,551	4,239	4,251	G, W	normal
	Mancos	2,269	4,521	4,533	O,G	sub (~0.38)
	Gallup (MNCS_A)	1,931	4,859	4,871	O,G	sub (~0.38)
	MNCS_B	1,846	4,944	4,956	O,G	sub (~0.38)
	MNCS_C	1,708	5,082	5,096	O,G	sub (~0.38)
	MNCS_Cms	1,647	5,143	5,163	O,G	sub (~0.38)
	MNCS_D	1,567	5,223	5,253	O,G	sub (~0.38)
	MNCS_E	1,485	5,305	5,357	O,G	sub (~0.38)
	MNCS_F	1,437	5,353	5,427	O,G	sub (~0.38)
	MNCS_G	1,351	5,439	5,586	O,G	sub (~0.38)
	MNCS_H	1,309	5,481	5,687	O,G	sub (~0.38)
	MNCS_I	1,255	5,535	NA	O,G	sub (~0.38)
	FTP TARGET	1,351	5,439	5,586	O,G	sub (~0.38)
	PROJECTED LTP	1,347	5,443	20,326	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: 2,350 psi
Maximum anticipated surface pressure, assuming partially evacuated hole: 1,160 psi

Temperature: Maximum anticipated BHT is 125° F or less

H₂S INFORMATION:

H₂S Zones: Encountering hydrogen-sulfide bearing zones is **NOT** anticipated.

Safety: Sensors and alarms will be placed in the substructure, on the rig floor, above the pits, and at the shakers.

LOGGING, CORING, AND TESTING:

Mud Logs: None planned; remote geo-steering from drill out of 9-5/8" casing to TD; gas detection from drillout of 13-3/8" casing to TD.

MWD / LWD: Gamma Ray from drillout of 13-3/8" casing to TD

Open Hole Logs: None planned

Testing: None planned

Coring: None planned

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

DRILLING RIG INFORMATION:

Contractor: Aztec

Rig No.: 1000

Draw Works: E80 AC 1,500 hp

Mast: Hyduke Triple (136 ft, 600,000 lbs, 10 lines)

Top Drive: NOV IDS-350PE (350 ton)

Prime Movers: 4 - GE Jenbacher Natural Gas Generator

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

BOPE 1: Cameron single & double gate rams (13-5/8", 3,000 psi)

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

Choke 3", 5,000 psi

KB-GL (ft): 25

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

BOPE REQUIREMENTS:

See attached diagram for details regarding BOPE specifications and configuration.

- 1) Rig will be equipped with upper and lower kelly cocks with handles available.
- 2) Inside BOP and TIW valves will be available to use on all sizes and threads of drill pipe used while drilling the well.
- 3) BOP accumulator will have enough capacity to open the HCR valve, close all rams and annular preventer, and retain minimum of 200 psi above precharge on the closing manifold without the use of closing pumps. The fluid reservoir capacity shall be at least double the usable fluid volume of the accumulator system capacity, and the fluid level shall be maintained at manufacturer's recommendation. There will be two additional sources of power for the closing pumps (electric and air). Sufficient nitrogen bottles will be available and will be recharged when pressure falls below manufacturer's recommended minimum.
- 4) BOP testing shall be conducted (a) when initially installed, (b) whenever any seal is broken or repaired, (c) if the time since the previous test exceeds 30 days. Tests will be conducted using a test plug. BOP ram preventers will be tested to 3,000 psig for 10 minutes, and the annular preventer will be tested to 1,500 psi for 10 minutes. Ram and annular preventers will be tested to 250 psi for 5 minutes. Additionally, BOP and casing strings will be tested to .22 psi/ft or 1,500 psi, whichever is greater but not exceeding 70% of yield strength of the casing, for 30 minutes, prior to drilling out 13-3/8" and 9-5/8" casing. Rams and hydraulically operated remote choke line valve will be function tested daily at a minimum.

- 5) Remote valve for BOP rams, HCR, and choke shall be placed in a location that is readily available to the driller. The remote BOP valve shall be capable of closing and opening the rams.
- 6) Manual locking devices (hand wheels) shall be installed on rams. A valve will be installed on the annular preventer's closing line as close as possible to the preventer to act as a locking device. The valve will be maintained in the open position and shall only be closed when there is no power to the accumulator.

FLUIDS AND SOLIDS CONTROL PROGRAM:

Fluid Measurement:

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

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

Fluid Disposal: Fluids that cannot be reused, recycled, or returned to the supplier will be hauled to and disposed of at an approved disposal site (Industrial Ecosystem, Inc. or Envirotech, Inc.).

Solids Disposal: Drilling solids will be stored (until haul-off) on-site in separate containers with no other waste, debris, or garbage products. Waste solids will be hauled to and disposed of at an approved disposal site (Industrial Ecosystem, Inc. or Envirotech, Inc.).

Fluid Program: See "Detailed Drilling Plan" section for additional details. Sufficient barite will be on location to weight up mud system to balance maximum anticipated pressure gradient.

DETAILED DRILLING PLAN:

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

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

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

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

Hole Size: 17-1/2"

Bit / Motor: Mill Tooth or PDC, no motor

MWD / Survey: No MWD, deviation survey

Logging: None

Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	13.375	54.5	J-55	BTC	1,130	2,730	853,000	909,000
Loading					153	793	116,634	116,634
Min. S.F.					7.39	3.44	7.31	7.79

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

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

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

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

Make-up as per API Buttress Connection running procedure.

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

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

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	Hole Cap. (cuft/ft)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
	TYPE III	14.6	1.38	6.65	0.6946	100%	0	366

Annular Capacity 0.6946 cuft/ft 13-3/8" casing x 17-1/2" hole annulus Csg capacity 0.8680 ft3/ft

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

ASTM Type III
Blend
Calcium Chloride 1% BWOC
Accelerator
D-CD2 .2% BWOC
Dispersant/Friction reducer
.25 lbs/sx Cello
Flake - seepage

Cu Ft Slurry
505.3

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

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

350 ft (MD)	to	3,689 ft (MD)	Hole Section Length:	3,339 ft
350 ft (TVD)	to	3,679 ft (TVD)	Casing Required:	3,689 ft

Fluid:	Type	MW (ppg)	FL (mL/30 min)	PV (cp)	YP (lb/100 sqft)	pH	Comments
	LSND (5% KCl)	8.8 - 9.5	20	8 - 14	8 - 14	9.0 - 9.5	No OBM

Hole Size: 12-1/4"

Bit / Motor: 12-1/4" PDC bit w/mud motor

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

Logging: None

Pressure Test: NU BOPE and test (as noted above); pressure test 13-3/8" casing to 1,500 psi for 30 minutes.

Casing Specs:							Tens. Body	Tens. Conn	
		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	(lbs)	(lbs)	
	Specs	9.625	36.0	J-55	LTC	2,020	3,520	564,000	453,000
	Loading					1,607	1,370	215,498	215,498
Min. S.F.					1.26	2.57	2.62	2.10	

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

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

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

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

Casing Summary: Float shoe, 1 jt casing, float collar, casing to surface (FLOAT EQUIPMENT FROM WEATHERFORD)

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)
Spacer	D-Mud Breaker	8.5				0	10 bbls	
Lead	90:10 Type III:POZ	12.5	2.140	12.05	70%	0	766	1,639
Tail	Type III	14.6	1.380	6.64	20%	3,189	150	207
Displacement	282	est bbls						

Annular Capacity 0.3627 cuft/ft 9-5/8" casing x 13-3/8" casing annulus

0.3132 cuft/ft 9-5/8" casing x 12-1/4" hole annulus 9-5/8" 36# ID 8.921

0.4341 cuft/ft 9-5/8" casing vol est shoe jt ft 44

Calculated cement volumes assume gauge hole and the excess (open hole only) noted in table

Spacer D-Mud Breaker SAPP

Lead ASTM Type III 90/10 Poz D-CSE 1 5.0% BWOC Strength Enhancer D-MPA-1 .4% BWOC Fluid Loss & Gas Migration Control D-SA 1 1.4% BWOC Na Metasilicate D-CD 2 .4% BWOC Dispersant Cello Flace LCM .25 lb/sx D-FP1 0.5% BWOC Defoamer D-R1 .5% Retarder

Tail ASTM Type III Blend D-MPA-1 .4% BWOC Fluid Loss & Gas Migration Control D-CD 2 .5% BWOC Dispersant Cello Flace LCM .25 lb/sx D-R1 .2% Retarder

*Drake Intermediate Cementing Program***Cement must achieve 500 psi compressive strength before drilling out.****Notify NMOCD & BLM if cement is not circulated to surface.****PRODUCTION:** *Drill to TD following directional plan, run casing, cement casing to surface.*

3,689 ft (MD)	to	20,326 ft (MD)	Hole Section Length:	16,637 ft
3,679 ft (TVD)	to	5,443 ft (TVD)	Casing Required:	20,326 ft

Estimated KOP:	4,950 ft (MD)	4,938 ft (TVD)
Estimated Landing Point (FTP):	5,586 ft (MD)	5,439 ft (TVD)
Estimated Lateral Length:	14,740 ft (MD)	

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

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

Casing Specs:	Size (in)	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	5.500	17.0	P-110	LTC	7,460	10,640	546,000	445,000
Loading					2,689	9,009	398,171	398,171
Min. S.F.					2.77	1.18	1.37	1.12

*Assumptions: Collapse: fully evacuated casing with 9.5 ppg fluid in the annulus (floating casing during running)**Burst: 8,500 psi maximum surface treating pressure with 10.2 ppg equivalent mud weight sand laden fluid with 8.4 ppg equivalent external pressure gradient**Tension: buoyed weight in 9.0 ppg fluid with 100,000 lbs over-pull***MU Torque (ft lbs):** Minumum: 3,470 Optimum: 4,620 Maximum: 5,780**Casing Summary:** Float shoe, float collar, 1 jt casing, float collar, 20' marker joint, toe-initiation sleeve, casing to KOP with 20' marker joints spaced evenly in lateral every 2,000', floatation sub at KOP, casing to surface. The toe-initiation sleeve (last-take-point) cannot be placed closer than 330' to the unit boundary when measured perpendicular to the well path.**Centralizers:** *Centralizer count and placement may be adjusted based on well conditions and as-drilled surveys.*

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)	Total Cmt (cu ft)
Spacer	IntegraGuard Star	11		31.6		0	60 bbls	
Lead	ASTM type I/II	12.4	2.370	13.40	50%	0	541	1,283

<i>Tail</i>	G:POZ blend	13.3	1.570	7.70	10%	4,533	2,535	3,980
<i>Displacement</i>	449	<i>est bbls</i>						
<i>Annular Capacity</i>	0.2691	cuft/ft	5-1/2" casing x 9-5/8" casing annulus					
	0.2291	cuft/ft	5-1/2" casing x 8-1/2" hole annulus					
	0.1245	cuft/ft	5-1/2" casing vol			<i>est shoe jt ft</i> 100		
<i>Calculated cement volumes assume gauge hole and the excess noted in table</i>								
<i>American Cementing Liner & Production Blend</i>								
<i>Spacer</i>	<i>S-8 Silica Flour</i>	Avis 616 viscosifier	XCem-308	IntegraSeal Hold,				
	<i>163.7 lbs/bbl</i>	11.6 lb/bbl	Defoamer .5 lb/bbl	lb/bbl	-	1 gal/bbl		
	<i>Sodium Metasilicate A-2</i>	IntegraGuard						
<i>Lead</i>	<i>ASTM Type II</i>	FL-66 Fluid Loss	GW86 Viscosifier	R3 Retarder .5%	R7C Retarder .1%	Xcem-1009	XCem-308	Static Free - Anti-
	<i>BWOB</i>	.2% BWOB	.1% BWOB	BWOB	BWOB	Extender 10.0#/sx	Defoamer .3 lb/bbl	static .01 lb/sx
<i>Tail</i>	<i>Type G 50%</i>	Bentonite	IntegraGuard			XCem-308 Defoamer		
	<i>Extender 50%</i>	Viscosifier/Extender 4% BWOB	FL24 Fluid Loss .4%	GW86 Viscosifier .1% BWOB	IntegraSeal Poli, LCM .25 lb/sx	R3 Retarder .25%	XCem-1009 Extender 3.0 lb/sx	.3% BWOB Static Free - Anti-static .01 lb/sx

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

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

FINISH WELL: ND BOP, cap well, RDMO.

COMPLETION AND PRODUCTION PLAN:

Est Lateral Length: 14,640
Est Frac Inform: 61 Frac Stages 235,000 bbls slick water 19,040,000 lbs proppant
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: 11/1/2023
Completion: 12/31/2023
Production: 2/14/2024

Prepared by: Alec Bridge 12/20/2021
Updated: Greg Olson 2/20/2023
 Greg Olson 3/27/2023
 G Olson 7/1/2023

WELL NAME: HAYNES CANYON UNIT 424H

OBJECTIVE: Drill, complete, and equip single lateral in the Mancos-H formation

API Number: 30-039-

AFE Number: not yet assigned

ER Well Number: not yet assigned

State: New Mexico

County: Rio Arriba

Surface Elev.: 6,765 ft ASL (GL) 6,790 ft ASL (KB)

Surface Location: 5-23N-6 Sec-Twn- Rng 1,779 ft FSL 482 ft FEL

BH Location: 15-23N-6 Sec-Twn- Rng 1469 ft FSL 240 ft FEL

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

South on US Hwy 550 for 51.0 miles to MM 101, left (north) on existing road (next to landing strip and Escrito Canyon Rd) for 0.4 miles to fork, right (northeast) for 1.0 miles to fork, right (north) for 0.6 miles to fork at Elm Ridge Marcus #2 well, right (east) for 0.4 miles to fork, right (southeast) for 0.2 miles to fork, left on upgraded access road for .9 miles to the Haynes Canyon Unit 420H Pad (Wells from West to East: 420H, 422H, 424H, 426H).

QUICK REFERENCE	
Sur TD (MD)	350 ft
Int TD (MD)	3,689 ft
KOP (MD)	4,950 ft
KOP (TVD)	4,938 ft
Target (TVD)	5,439 ft
Curve BUR	10 °/100 ft
POE (MD)	5,586 ft
TD (MD)	20,326 ft
Lat Len (ft)	14,740 ft

WELL CONSTRUCTION SUMMARY:

	Hole (in)	TD MD (ft)	Csg (in)	Csg (lb/ft)	Csg (grade)	Csg (conn)	Csg Top (ft)	Csg Bot (ft)
Surface	17.500	350	13.375	54.5	J-55	BTC	0	350
Intermediate	12.250	3,689	9.625	36.0	J-55	LTC	0	3,689
Production	8.500	20,326	5.500	17.0	P-110	LTC	0	20,326

CEMENT PROPERTIES SUMMARY:

	Type	Wt (ppg)	Yd (cuft/sk)	Wtr (gal/sk)	% Excess	TOC (ft MD)	Total (sx)	Cu Ft Slurry
Surface	TYPE III	14.6	1.38	6.65	100%	0	366	505
Inter. (Lead)	10 Type III:P	12.5	2.14	12.05	70%	0	766	1,639
Inter. (Tail)	Type III	14.6	1.38	6.64	20%	3189	150	207
Prod. (Lead)	ASTM type I/I	12.4	2.370	13.4	50%	0	541	1,283
Prod. (Tail)	G:POZ blend	13.3	1.570	7.7	10%	4533	2535	3,980

COMPLETION / PRODUCTION SUMMARY:

Frac: 61 Frac Stages 235000 bbls slick water 19040000 lbs proppant

Flowback: Flow back through production tubing as pressures allow

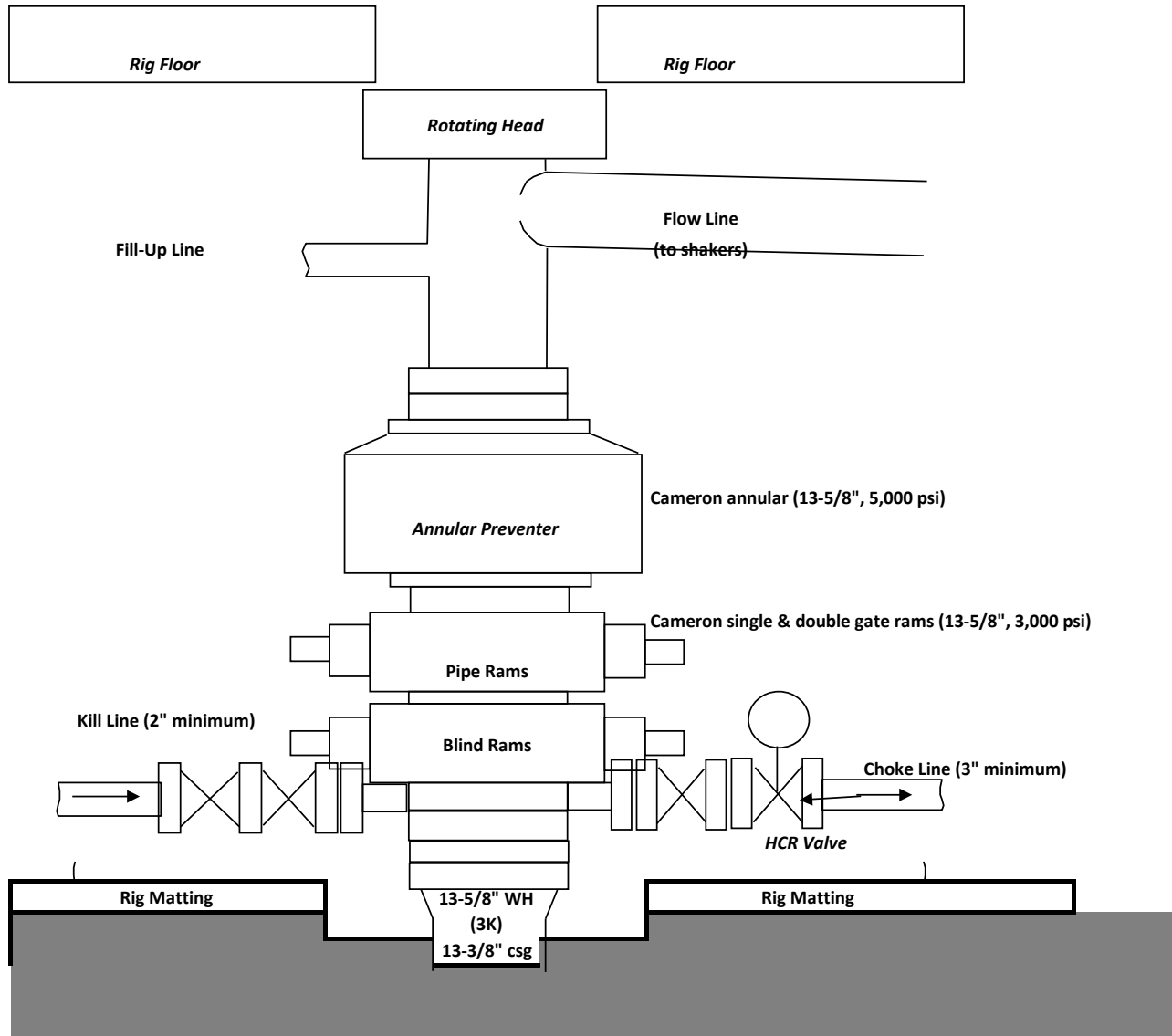
Production: Produce through production tubing via gas-lift into permanent production and storage facilities

Tops	TVD (ft KB)	MD (ft KB)
Ojo Alamo	1,406	1,407
Kirtland	1,480	1,481
Fruitland	1,720	1,722
Pictured Cliffs	1,988	1,991
Lewis	2,125	2,128
Chacra	2,411	2,416
Cliff House	3,514	3,523
Menefee	3,529	3,538
Point Lookout	4,239	4,251
Mancos	4,521	4,533
Gallup (MNCS_A)	4,859	4,871
MNCS_B	4,944	4,956
MNCS_C	5,082	5,096
MNCS_Cms	5,143	5,163
MNCS_D	5,223	5,253
MNCS_E	5,305	5,357
MNCS_F	5,353	5,427
MNCS_G	5,439	5,586
MNCS_H	5,481	5,687
MNCS_I	5,535	NA
FTP TARGET	5,439	5,586
PROJECTED LTP	5,443	20,326

Haynes Canyon Unit 424H

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.

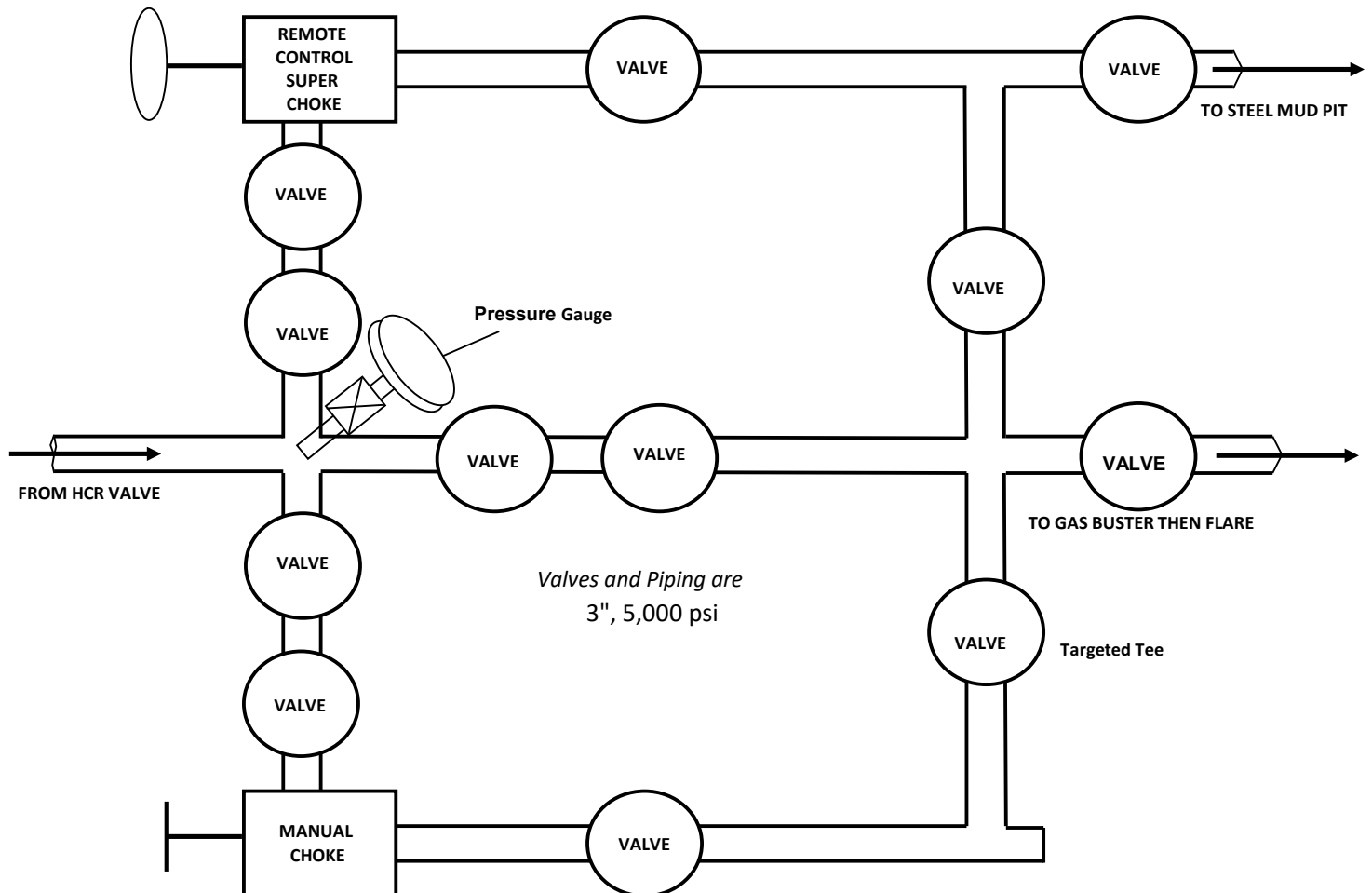
BOPE



Haynes Canyon Unit 424H

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

CHOKE MANIFOLD





Well: Haynes Canyon Unit 424 H
Site: Haynes Canyon Unit (420, 422, 424 & 426)
Project: Rio Arriba County, New Mexico NAD83 NM C
Design: rev1
Rig:

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Central Zone
 System Datum: Mean Sea Level
 Depth Reference: RKB=6765+25 @ 6790.00ft

Surface location:
 Northing 1912990.598 Easting 1276183.675 Latitude 36.251104000 Longitude -107.485321000

Total Corr (M=>G): To convert a Magnetic Direction to a Grid Direction, Add 9.17°



Azimuths to Grid North
 True North: 0.73°
 Magnetic North: 9.17°

Magnetic Field
 Strength: 49110.8nT
 Dip Angle: 62.76°
 Date: 11/1/2023
 Model: IGRF2020

Section Details

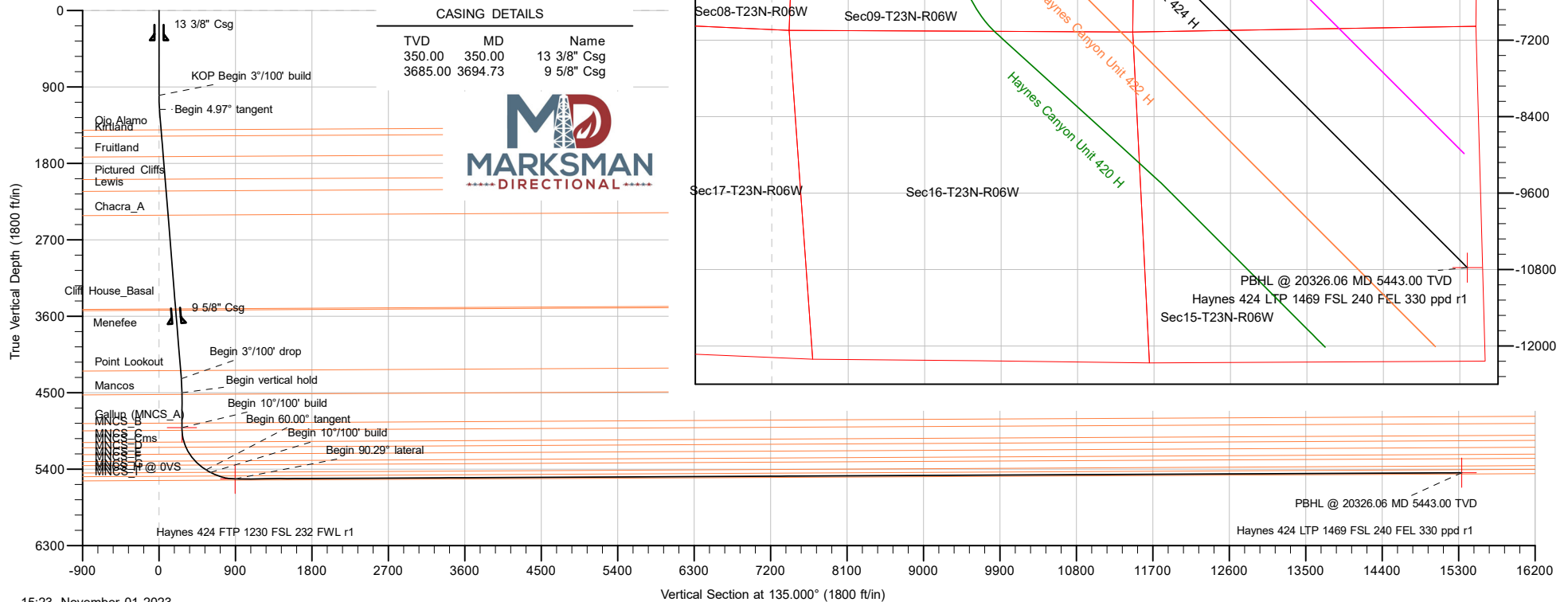
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2	1000.00	0.00	0.000	1000.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 3°/100' build
3	1165.77	4.97	113.730	1165.56	-2.89	6.58	3.00	113.73	6.70	Begin 4.97° tangent
4	4346.62	4.97	113.730	4334.44	-113.86	259.01	0.00	0.00	263.66	Begin 3°/100' drop
5	4512.39	0.00	0.000	4500.00	-116.75	265.59	3.00	180.00	270.36	Begin vertical hold
6	4924.44	0.00	0.000	4912.05	-116.75	265.59	0.00	0.00	270.36	Begin 10°/100' build
7	5524.44	60.00	135.000	5408.25	-319.32	468.16	10.00	135.00	556.83	Begin 60.00° tangent
8	5584.44	60.00	135.000	5438.25	-356.06	504.90	0.00	0.00	608.80	Begin 10°/100' build
9	5887.30	90.29	135.000	5515.00	-560.65	709.50	10.00	0.00	898.13	Begin 90.29° lateral
10	20326.06	90.29	135.000	5443.00	-10770.22	10919.16	0.00	0.00	15336.71	PBHL @ 20326.06 MD 5443.00 TVD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Haynes 424 FTP 1230 FSL 232 FWL r1	5515.00	-560.65	709.50	1912429.946	1276893.173	36.249589000	-107.482891000
Haynes 424 LTP 1469 FSL 240 FEL 330 ppd r1	5443.00	-10770.22	10919.16	1902220.399	1287102.818	36.221900000	-107.447844000
Haynes 424 vert r1	4912.05	-116.75	265.59	1912873.848	1276449.265	36.250792646	-107.484415380

CASING DETAILS

TVD	MD	Name
350.00	350.00	13 3/8" Csg
3685.00	3694.73	9 5/8" Csg

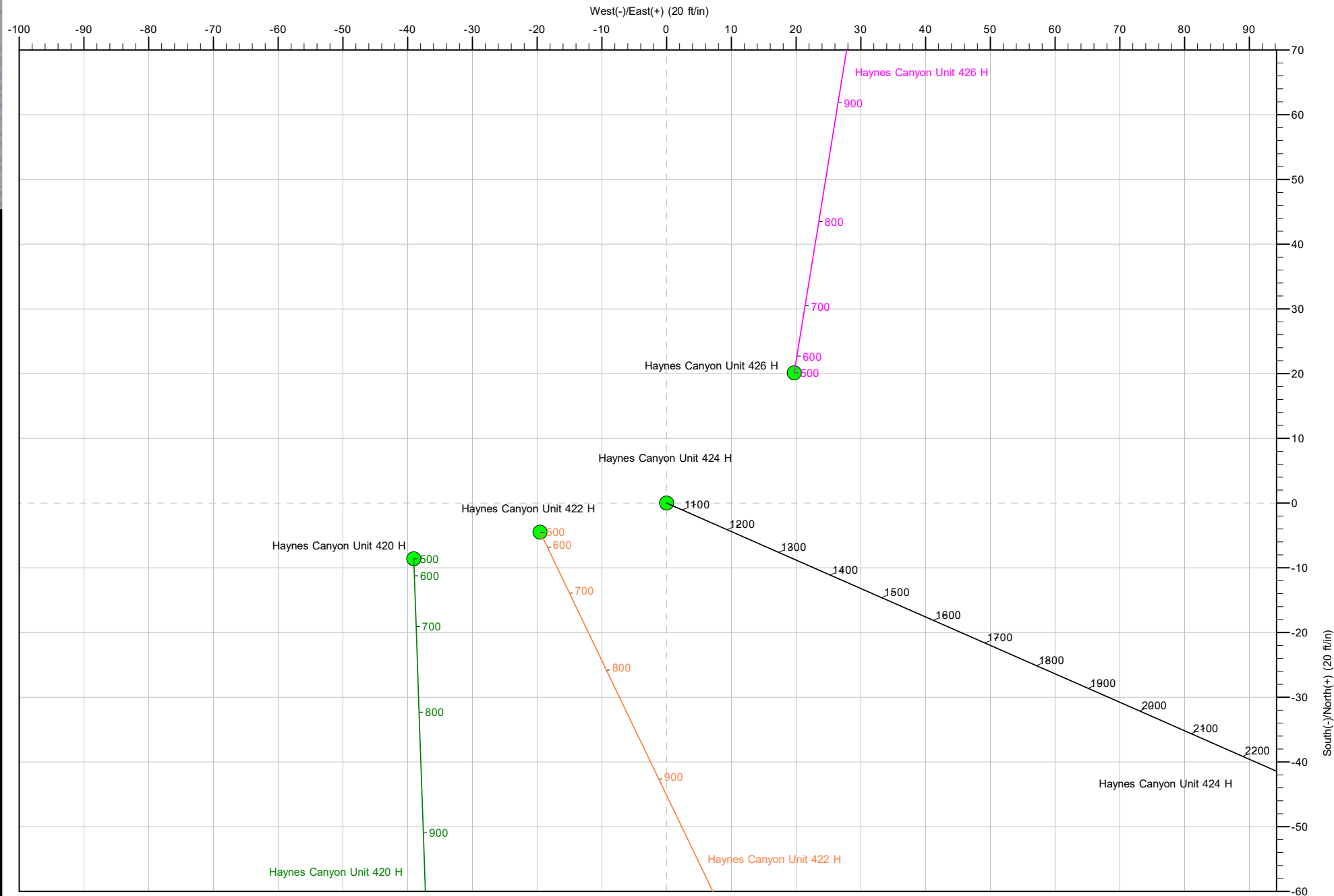


15:23, November 01 2023

Vertical Section at 135.000° (1800 ft/in)



Well: Haynes Canyon Unit 424 H
Site: Haynes Canyon Unit (420, 422, 424 & 426)
Project: Rio Arriba County, New Mexico NAD83 NM C
Design: rev1
Rig:





Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Haynes Canyon Unit 424 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6765+25 @ 6790.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6765+25 @ 6790.00ft
Site:	Haynes Canyon Unit (420, 422, 424 & 426)	North Reference:	Grid
Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Project	Rio Arriba County, New Mexico NAD83 NM C		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	Haynes Canyon Unit (420, 422, 424 & 426)				
Site Position:		Northing:	1,912,981.994 usft	Latitude:	36.251079000
From:	Lat/Long	Easting:	1,276,144.638 usft	Longitude:	-107.485453000
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Haynes Canyon Unit 424 H, Surf loc: 1779 FSL 482 FEL Section 05-T23N-R06W						
Well Position	+N/-S	0.00 ft	Northing:	1,912,990.598	usft	Latitude:	36.251104000
	+E/-W	0.00 ft	Easting:	1,276,183.676	usft	Longitude:	-107.485321000
Position Uncertainty		0.00 ft	Wellhead Elevation:		ft	Ground Level:	6,765.00 ft
Grid Convergence:		-0.73 °					

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	11/1/2023	8.44	62.76	49,110.79356047

Design	rev1				
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	135.000	

Plan Survey Tool Program	Date	11/1/2023			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	20,326.06 rev1 (Original Hole)	MWD		
			OWSG MWD - Standard		



Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Haynes Canyon Unit 424 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6765+25 @ 6790.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6765+25 @ 6790.00ft
Site:	Haynes Canyon Unit (420, 422, 424 & 426)	North Reference:	Grid
Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,165.77	4.97	113.730	1,165.56	-2.89	6.58	3.00	3.00	0.00	113.73	
4,346.62	4.97	113.730	4,334.44	-113.86	259.01	0.00	0.00	0.00	0.00	
4,512.39	0.00	0.000	4,500.00	-116.75	265.59	3.00	-3.00	0.00	180.00	
4,924.44	0.00	0.000	4,912.05	-116.75	265.59	0.00	0.00	0.00	0.00	Haynes 424 vert r1
5,524.44	60.00	135.000	5,408.25	-319.32	468.16	10.00	10.00	0.00	135.00	
5,584.44	60.00	135.000	5,438.25	-356.06	504.90	0.00	0.00	0.00	0.00	
5,887.30	90.29	135.000	5,515.00	-560.65	709.50	10.00	10.00	0.00	0.00	
20,326.06	90.29	135.000	5,443.00	-10,770.22	10,919.17	0.00	0.00	0.00	0.00	Haynes 424 LTP 1465



Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Haynes Canyon Unit 424 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6765+25 @ 6790.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6765+25 @ 6790.00ft
Site:	Haynes Canyon Unit (420, 422, 424 & 426)	North Reference:	Grid
Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.000	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.000	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.000	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.000	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	3.00	113.730	1,099.95	-1.05	2.40	2.44	3.00	3.00	0.00
1,165.77	4.97	113.730	1,165.56	-2.89	6.58	6.70	3.00	3.00	0.00
1,200.00	4.97	113.730	1,199.66	-4.09	9.30	9.47	0.00	0.00	0.00
1,300.00	4.97	113.730	1,299.29	-7.58	17.23	17.54	0.00	0.00	0.00
1,400.00	4.97	113.730	1,398.91	-11.06	25.17	25.62	0.00	0.00	0.00
1,500.00	4.97	113.730	1,498.53	-14.55	33.11	33.70	0.00	0.00	0.00
1,600.00	4.97	113.730	1,598.16	-18.04	41.04	41.78	0.00	0.00	0.00
1,700.00	4.97	113.730	1,697.78	-21.53	48.98	49.86	0.00	0.00	0.00
1,800.00	4.97	113.730	1,797.40	-25.02	56.91	57.93	0.00	0.00	0.00
1,900.00	4.97	113.730	1,897.03	-28.51	64.85	66.01	0.00	0.00	0.00
2,000.00	4.97	113.730	1,996.65	-32.00	72.78	74.09	0.00	0.00	0.00
2,100.00	4.97	113.730	2,096.28	-35.48	80.72	82.17	0.00	0.00	0.00
2,200.00	4.97	113.730	2,195.90	-38.97	88.66	90.25	0.00	0.00	0.00
2,300.00	4.97	113.730	2,295.52	-42.46	96.59	98.33	0.00	0.00	0.00
2,400.00	4.97	113.730	2,395.15	-45.95	104.53	106.40	0.00	0.00	0.00
2,500.00	4.97	113.730	2,494.77	-49.44	112.46	114.48	0.00	0.00	0.00
2,600.00	4.97	113.730	2,594.39	-52.93	120.40	122.56	0.00	0.00	0.00
2,700.00	4.97	113.730	2,694.02	-56.41	128.34	130.64	0.00	0.00	0.00
2,800.00	4.97	113.730	2,793.64	-59.90	136.27	138.72	0.00	0.00	0.00
2,900.00	4.97	113.730	2,893.26	-63.39	144.21	146.79	0.00	0.00	0.00
3,000.00	4.97	113.730	2,992.89	-66.88	152.14	154.87	0.00	0.00	0.00
3,100.00	4.97	113.730	3,092.51	-70.37	160.08	162.95	0.00	0.00	0.00
3,200.00	4.97	113.730	3,192.13	-73.86	168.01	171.03	0.00	0.00	0.00
3,300.00	4.97	113.730	3,291.76	-77.35	175.95	179.11	0.00	0.00	0.00
3,400.00	4.97	113.730	3,391.38	-80.83	183.89	187.19	0.00	0.00	0.00
3,500.00	4.97	113.730	3,491.00	-84.32	191.82	195.26	0.00	0.00	0.00
3,600.00	4.97	113.730	3,590.63	-87.81	199.76	203.34	0.00	0.00	0.00
3,700.00	4.97	113.730	3,690.25	-91.30	207.69	211.42	0.00	0.00	0.00
3,800.00	4.97	113.730	3,789.88	-94.79	215.63	219.50	0.00	0.00	0.00
3,900.00	4.97	113.730	3,889.50	-98.28	223.57	227.58	0.00	0.00	0.00
4,000.00	4.97	113.730	3,989.12	-101.76	231.50	235.65	0.00	0.00	0.00
4,100.00	4.97	113.730	4,088.75	-105.25	239.44	243.73	0.00	0.00	0.00
4,200.00	4.97	113.730	4,188.37	-108.74	247.37	251.81	0.00	0.00	0.00
4,300.00	4.97	113.730	4,287.99	-112.23	255.31	259.89	0.00	0.00	0.00
4,346.62	4.97	113.730	4,334.44	-113.86	259.01	263.66	0.00	0.00	0.00
4,400.00	3.37	113.730	4,387.67	-115.42	262.56	267.27	3.00	-3.00	0.00
4,500.00	0.37	113.730	4,487.61	-116.73	265.55	270.32	3.00	-3.00	0.00
4,512.39	0.00	0.000	4,500.00	-116.75	265.59	270.36	3.00	-3.00	0.00
4,600.00	0.00	0.000	4,587.61	-116.75	265.59	270.36	0.00	0.00	0.00
4,700.00	0.00	0.000	4,687.61	-116.75	265.59	270.36	0.00	0.00	0.00
4,800.00	0.00	0.000	4,787.61	-116.75	265.59	270.36	0.00	0.00	0.00
4,900.00	0.00	0.000	4,887.61	-116.75	265.59	270.36	0.00	0.00	0.00
4,924.44	0.00	0.000	4,912.05	-116.75	265.59	270.36	0.00	0.00	0.00



Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Haynes Canyon Unit 424 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6765+25 @ 6790.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6765+25 @ 6790.00ft
Site:	Haynes Canyon Unit (420, 422, 424 & 426)	North Reference:	Grid
Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

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)
4,950.00	2.56	135.000	4,937.60	-117.15	265.99	270.93	10.00	10.00	0.00
5,000.00	7.56	135.000	4,987.39	-120.27	269.11	275.33	10.00	10.00	0.00
5,050.00	12.56	135.000	5,036.61	-126.44	275.28	284.06	10.00	10.00	0.00
5,100.00	17.56	135.000	5,084.88	-135.62	284.46	297.04	10.00	10.00	0.00
5,150.00	22.56	135.000	5,131.83	-147.74	296.58	314.18	10.00	10.00	0.00
5,200.00	27.56	135.000	5,177.11	-162.71	311.55	335.35	10.00	10.00	0.00
5,250.00	32.56	135.000	5,220.37	-180.41	329.25	360.39	10.00	10.00	0.00
5,300.00	37.56	135.000	5,261.29	-200.71	349.55	389.10	10.00	10.00	0.00
5,350.00	42.56	135.000	5,299.55	-223.46	372.30	421.26	10.00	10.00	0.00
5,400.00	47.56	135.000	5,334.86	-248.47	397.31	456.64	10.00	10.00	0.00
5,450.00	52.56	135.000	5,366.95	-275.57	424.41	494.96	10.00	10.00	0.00
5,500.00	57.56	135.000	5,395.58	-304.54	453.38	535.94	10.00	10.00	0.00
5,524.44	60.00	135.000	5,408.25	-319.32	468.16	556.83	10.00	10.00	0.00
5,584.44	60.00	135.000	5,438.25	-356.06	504.90	608.80	0.00	0.00	0.00
5,600.00	61.56	135.000	5,445.84	-365.67	514.51	622.37	10.00	10.00	0.00
5,650.00	66.56	135.000	5,467.71	-397.45	546.29	667.32	10.00	10.00	0.00
5,700.00	71.56	135.000	5,485.58	-430.46	579.30	714.00	10.00	10.00	0.00
5,750.00	76.56	135.000	5,499.31	-464.44	613.28	762.06	10.00	10.00	0.00
5,800.00	81.56	135.000	5,508.80	-499.14	647.98	811.14	10.00	10.00	0.00
5,850.00	86.56	135.000	5,513.97	-534.30	683.14	860.86	10.00	10.00	0.00
5,887.30	90.29	135.000	5,515.00	-560.65	709.50	898.13	10.00	10.00	0.00
5,900.00	90.29	135.000	5,514.94	-569.64	718.48	910.83	0.00	0.00	0.00
6,000.00	90.29	135.000	5,514.44	-640.35	789.19	1,010.83	0.00	0.00	0.00
6,100.00	90.29	135.000	5,513.94	-711.06	859.90	1,110.83	0.00	0.00	0.00
6,200.00	90.29	135.000	5,513.44	-781.76	930.61	1,210.83	0.00	0.00	0.00
6,300.00	90.29	135.000	5,512.94	-852.47	1,001.32	1,310.83	0.00	0.00	0.00
6,400.00	90.29	135.000	5,512.44	-923.18	1,072.03	1,410.83	0.00	0.00	0.00
6,500.00	90.29	135.000	5,511.95	-993.89	1,142.74	1,510.83	0.00	0.00	0.00
6,600.00	90.29	135.000	5,511.45	-1,064.60	1,213.45	1,610.83	0.00	0.00	0.00
6,700.00	90.29	135.000	5,510.95	-1,135.31	1,284.16	1,710.82	0.00	0.00	0.00
6,800.00	90.29	135.000	5,510.45	-1,206.02	1,354.87	1,810.82	0.00	0.00	0.00
6,900.00	90.29	135.000	5,509.95	-1,276.73	1,425.58	1,910.82	0.00	0.00	0.00
7,000.00	90.29	135.000	5,509.45	-1,347.44	1,496.29	2,010.82	0.00	0.00	0.00
7,100.00	90.29	135.000	5,508.95	-1,418.15	1,567.00	2,110.82	0.00	0.00	0.00
7,200.00	90.29	135.000	5,508.45	-1,488.86	1,637.71	2,210.82	0.00	0.00	0.00
7,300.00	90.29	135.000	5,507.96	-1,559.57	1,708.42	2,310.82	0.00	0.00	0.00
7,400.00	90.29	135.000	5,507.46	-1,630.28	1,779.13	2,410.82	0.00	0.00	0.00
7,500.00	90.29	135.000	5,506.96	-1,700.99	1,849.84	2,510.81	0.00	0.00	0.00
7,600.00	90.29	135.000	5,506.46	-1,771.70	1,920.55	2,610.81	0.00	0.00	0.00
7,700.00	90.29	135.000	5,505.96	-1,842.41	1,991.26	2,710.81	0.00	0.00	0.00
7,800.00	90.29	135.000	5,505.46	-1,913.12	2,061.97	2,810.81	0.00	0.00	0.00
7,900.00	90.29	135.000	5,504.96	-1,983.83	2,132.68	2,910.81	0.00	0.00	0.00
8,000.00	90.29	135.000	5,504.47	-2,054.53	2,203.39	3,010.81	0.00	0.00	0.00
8,100.00	90.29	135.000	5,503.97	-2,125.24	2,274.10	3,110.81	0.00	0.00	0.00
8,200.00	90.29	135.000	5,503.47	-2,195.95	2,344.81	3,210.81	0.00	0.00	0.00
8,300.00	90.29	135.000	5,502.97	-2,266.66	2,415.52	3,310.80	0.00	0.00	0.00
8,400.00	90.29	135.000	5,502.47	-2,337.37	2,486.23	3,410.80	0.00	0.00	0.00
8,500.00	90.29	135.000	5,501.97	-2,408.08	2,556.94	3,510.80	0.00	0.00	0.00
8,600.00	90.29	135.000	5,501.47	-2,478.79	2,627.65	3,610.80	0.00	0.00	0.00
8,700.00	90.29	135.000	5,500.97	-2,549.50	2,698.36	3,710.80	0.00	0.00	0.00
8,800.00	90.29	135.000	5,500.48	-2,620.21	2,769.07	3,810.80	0.00	0.00	0.00
8,900.00	90.29	135.000	5,499.98	-2,690.92	2,839.78	3,910.80	0.00	0.00	0.00
9,000.00	90.29	135.000	5,499.48	-2,761.63	2,910.49	4,010.80	0.00	0.00	0.00
9,100.00	90.29	135.000	5,498.98	-2,832.34	2,981.20	4,110.79	0.00	0.00	0.00



Planning Report

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Company:	Enduring Resources LLC	TVD Reference:	RKB=6765+25 @ 6790.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6765+25 @ 6790.00ft
Site:	Haynes Canyon Unit (420, 422, 424 & 426)	North Reference:	Grid
Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

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)
9,200.00	90.29	135.000	5,498.48	-2,903.05	3,051.91	4,210.79	0.00	0.00	0.00
9,300.00	90.29	135.000	5,497.98	-2,973.76	3,122.62	4,310.79	0.00	0.00	0.00
9,400.00	90.29	135.000	5,497.48	-3,044.47	3,193.33	4,410.79	0.00	0.00	0.00
9,500.00	90.29	135.000	5,496.99	-3,115.18	3,264.04	4,510.79	0.00	0.00	0.00
9,600.00	90.29	135.000	5,496.49	-3,185.89	3,334.75	4,610.79	0.00	0.00	0.00
9,700.00	90.29	135.000	5,495.99	-3,256.60	3,405.46	4,710.79	0.00	0.00	0.00
9,800.00	90.29	135.000	5,495.49	-3,327.30	3,476.17	4,810.79	0.00	0.00	0.00
9,900.00	90.29	135.000	5,494.99	-3,398.01	3,546.88	4,910.78	0.00	0.00	0.00
10,000.00	90.29	135.000	5,494.49	-3,468.72	3,617.59	5,010.78	0.00	0.00	0.00
10,100.00	90.29	135.000	5,493.99	-3,539.43	3,688.30	5,110.78	0.00	0.00	0.00
10,200.00	90.29	135.000	5,493.49	-3,610.14	3,759.01	5,210.78	0.00	0.00	0.00
10,300.00	90.29	135.000	5,493.00	-3,680.85	3,829.72	5,310.78	0.00	0.00	0.00
10,400.00	90.29	135.000	5,492.50	-3,751.56	3,900.43	5,410.78	0.00	0.00	0.00
10,500.00	90.29	135.000	5,492.00	-3,822.27	3,971.14	5,510.78	0.00	0.00	0.00
10,600.00	90.29	135.000	5,491.50	-3,892.98	4,041.86	5,610.78	0.00	0.00	0.00
10,700.00	90.29	135.000	5,491.00	-3,963.69	4,112.57	5,710.77	0.00	0.00	0.00
10,800.00	90.29	135.000	5,490.50	-4,034.40	4,183.28	5,810.77	0.00	0.00	0.00
10,900.00	90.29	135.000	5,490.00	-4,105.11	4,253.99	5,910.77	0.00	0.00	0.00
11,000.00	90.29	135.000	5,489.51	-4,175.82	4,324.70	6,010.77	0.00	0.00	0.00
11,100.00	90.29	135.000	5,489.01	-4,246.53	4,395.41	6,110.77	0.00	0.00	0.00
11,200.00	90.29	135.000	5,488.51	-4,317.24	4,466.12	6,210.77	0.00	0.00	0.00
11,300.00	90.29	135.000	5,488.01	-4,387.95	4,536.83	6,310.77	0.00	0.00	0.00
11,400.00	90.29	135.000	5,487.51	-4,458.66	4,607.54	6,410.77	0.00	0.00	0.00
11,500.00	90.29	135.000	5,487.01	-4,529.37	4,678.25	6,510.76	0.00	0.00	0.00
11,600.00	90.29	135.000	5,486.51	-4,600.07	4,748.96	6,610.76	0.00	0.00	0.00
11,700.00	90.29	135.000	5,486.02	-4,670.78	4,819.67	6,710.76	0.00	0.00	0.00
11,800.00	90.29	135.000	5,485.52	-4,741.49	4,890.38	6,810.76	0.00	0.00	0.00
11,900.00	90.29	135.000	5,485.02	-4,812.20	4,961.09	6,910.76	0.00	0.00	0.00
12,000.00	90.29	135.000	5,484.52	-4,882.91	5,031.80	7,010.76	0.00	0.00	0.00
12,100.00	90.29	135.000	5,484.02	-4,953.62	5,102.51	7,110.76	0.00	0.00	0.00
12,200.00	90.29	135.000	5,483.52	-5,024.33	5,173.22	7,210.76	0.00	0.00	0.00
12,300.00	90.29	135.000	5,483.02	-5,095.04	5,243.93	7,310.75	0.00	0.00	0.00
12,400.00	90.29	135.000	5,482.52	-5,165.75	5,314.64	7,410.75	0.00	0.00	0.00
12,500.00	90.29	135.000	5,482.03	-5,236.46	5,385.35	7,510.75	0.00	0.00	0.00
12,600.00	90.29	135.000	5,481.53	-5,307.17	5,456.06	7,610.75	0.00	0.00	0.00
12,700.00	90.29	135.000	5,481.03	-5,377.88	5,526.77	7,710.75	0.00	0.00	0.00
12,800.00	90.29	135.000	5,480.53	-5,448.59	5,597.48	7,810.75	0.00	0.00	0.00
12,900.00	90.29	135.000	5,480.03	-5,519.30	5,668.19	7,910.75	0.00	0.00	0.00
13,000.00	90.29	135.000	5,479.53	-5,590.01	5,738.90	8,010.75	0.00	0.00	0.00
13,100.00	90.29	135.000	5,479.03	-5,660.72	5,809.61	8,110.74	0.00	0.00	0.00
13,200.00	90.29	135.000	5,478.54	-5,731.43	5,880.32	8,210.74	0.00	0.00	0.00
13,300.00	90.29	135.000	5,478.04	-5,802.14	5,951.03	8,310.74	0.00	0.00	0.00
13,400.00	90.29	135.000	5,477.54	-5,872.84	6,021.74	8,410.74	0.00	0.00	0.00
13,500.00	90.29	135.000	5,477.04	-5,943.55	6,092.45	8,510.74	0.00	0.00	0.00
13,600.00	90.29	135.000	5,476.54	-6,014.26	6,163.16	8,610.74	0.00	0.00	0.00
13,700.00	90.29	135.000	5,476.04	-6,084.97	6,233.87	8,710.74	0.00	0.00	0.00
13,800.00	90.29	135.000	5,475.54	-6,155.68	6,304.58	8,810.74	0.00	0.00	0.00
13,900.00	90.29	135.000	5,475.04	-6,226.39	6,375.29	8,910.73	0.00	0.00	0.00
14,000.00	90.29	135.000	5,474.55	-6,297.10	6,446.00	9,010.73	0.00	0.00	0.00
14,100.00	90.29	135.000	5,474.05	-6,367.81	6,516.71	9,110.73	0.00	0.00	0.00
14,200.00	90.29	135.000	5,473.55	-6,438.52	6,587.42	9,210.73	0.00	0.00	0.00
14,300.00	90.29	135.000	5,473.05	-6,509.23	6,658.13	9,310.73	0.00	0.00	0.00
14,400.00	90.29	135.000	5,472.55	-6,579.94	6,728.84	9,410.73	0.00	0.00	0.00
14,500.00	90.29	135.000	5,472.05	-6,650.65	6,799.55	9,510.73	0.00	0.00	0.00



Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Haynes Canyon Unit 424 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6765+25 @ 6790.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6765+25 @ 6790.00ft
Site:	Haynes Canyon Unit (420, 422, 424 & 426)	North Reference:	Grid
Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

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)
14,600.00	90.29	135.000	5,471.55	-6,721.36	6,870.26	9,610.73	0.00	0.00	0.00
14,700.00	90.29	135.000	5,471.06	-6,792.07	6,940.97	9,710.72	0.00	0.00	0.00
14,800.00	90.29	135.000	5,470.56	-6,862.78	7,011.68	9,810.72	0.00	0.00	0.00
14,900.00	90.29	135.000	5,470.06	-6,933.49	7,082.39	9,910.72	0.00	0.00	0.00
15,000.00	90.29	135.000	5,469.56	-7,004.20	7,153.10	10,010.72	0.00	0.00	0.00
15,100.00	90.29	135.000	5,469.06	-7,074.91	7,223.81	10,110.72	0.00	0.00	0.00
15,200.00	90.29	135.000	5,468.56	-7,145.61	7,294.52	10,210.72	0.00	0.00	0.00
15,300.00	90.29	135.000	5,468.06	-7,216.32	7,365.23	10,310.72	0.00	0.00	0.00
15,400.00	90.29	135.000	5,467.56	-7,287.03	7,435.94	10,410.72	0.00	0.00	0.00
15,500.00	90.29	135.000	5,467.07	-7,357.74	7,506.65	10,510.71	0.00	0.00	0.00
15,600.00	90.29	135.000	5,466.57	-7,428.45	7,577.36	10,610.71	0.00	0.00	0.00
15,700.00	90.29	135.000	5,466.07	-7,499.16	7,648.07	10,710.71	0.00	0.00	0.00
15,800.00	90.29	135.000	5,465.57	-7,569.87	7,718.78	10,810.71	0.00	0.00	0.00
15,900.00	90.29	135.000	5,465.07	-7,640.58	7,789.49	10,910.71	0.00	0.00	0.00
16,000.00	90.29	135.000	5,464.57	-7,711.29	7,860.20	11,010.71	0.00	0.00	0.00
16,100.00	90.29	135.000	5,464.07	-7,782.00	7,930.91	11,110.71	0.00	0.00	0.00
16,200.00	90.29	135.000	5,463.58	-7,852.71	8,001.62	11,210.71	0.00	0.00	0.00
16,300.00	90.29	135.000	5,463.08	-7,923.42	8,072.33	11,310.71	0.00	0.00	0.00
16,400.00	90.29	135.000	5,462.58	-7,994.13	8,143.04	11,410.70	0.00	0.00	0.00
16,500.00	90.29	135.000	5,462.08	-8,064.84	8,213.75	11,510.70	0.00	0.00	0.00
16,600.00	90.29	135.000	5,461.58	-8,135.55	8,284.46	11,610.70	0.00	0.00	0.00
16,700.00	90.29	135.000	5,461.08	-8,206.26	8,355.17	11,710.70	0.00	0.00	0.00
16,800.00	90.29	135.000	5,460.58	-8,276.97	8,425.88	11,810.70	0.00	0.00	0.00
16,900.00	90.29	135.000	5,460.08	-8,347.68	8,496.60	11,910.70	0.00	0.00	0.00
17,000.00	90.29	135.000	5,459.59	-8,418.38	8,567.31	12,010.70	0.00	0.00	0.00
17,100.00	90.29	135.000	5,459.09	-8,489.09	8,638.02	12,110.70	0.00	0.00	0.00
17,200.00	90.29	135.000	5,458.59	-8,559.80	8,708.73	12,210.69	0.00	0.00	0.00
17,300.00	90.29	135.000	5,458.09	-8,630.51	8,779.44	12,310.69	0.00	0.00	0.00
17,400.00	90.29	135.000	5,457.59	-8,701.22	8,850.15	12,410.69	0.00	0.00	0.00
17,500.00	90.29	135.000	5,457.09	-8,771.93	8,920.86	12,510.69	0.00	0.00	0.00
17,600.00	90.29	135.000	5,456.59	-8,842.64	8,991.57	12,610.69	0.00	0.00	0.00
17,700.00	90.29	135.000	5,456.10	-8,913.35	9,062.28	12,710.69	0.00	0.00	0.00
17,800.00	90.29	135.000	5,455.60	-8,984.06	9,132.99	12,810.69	0.00	0.00	0.00
17,900.00	90.29	135.000	5,455.10	-9,054.77	9,203.70	12,910.69	0.00	0.00	0.00
18,000.00	90.29	135.000	5,454.60	-9,125.48	9,274.41	13,010.68	0.00	0.00	0.00
18,100.00	90.29	135.000	5,454.10	-9,196.19	9,345.12	13,110.68	0.00	0.00	0.00
18,200.00	90.29	135.000	5,453.60	-9,266.90	9,415.83	13,210.68	0.00	0.00	0.00
18,300.00	90.29	135.000	5,453.10	-9,337.61	9,486.54	13,310.68	0.00	0.00	0.00
18,400.00	90.29	135.000	5,452.60	-9,408.32	9,557.25	13,410.68	0.00	0.00	0.00
18,500.00	90.29	135.000	5,452.11	-9,479.03	9,627.96	13,510.68	0.00	0.00	0.00
18,600.00	90.29	135.000	5,451.61	-9,549.74	9,698.67	13,610.68	0.00	0.00	0.00
18,700.00	90.29	135.000	5,451.11	-9,620.45	9,769.38	13,710.68	0.00	0.00	0.00
18,800.00	90.29	135.000	5,450.61	-9,691.15	9,840.09	13,810.67	0.00	0.00	0.00
18,900.00	90.29	135.000	5,450.11	-9,761.86	9,910.80	13,910.67	0.00	0.00	0.00
19,000.00	90.29	135.000	5,449.61	-9,832.57	9,981.51	14,010.67	0.00	0.00	0.00
19,100.00	90.29	135.000	5,449.11	-9,903.28	10,052.22	14,110.67	0.00	0.00	0.00
19,200.00	90.29	135.000	5,448.62	-9,973.99	10,122.93	14,210.67	0.00	0.00	0.00
19,300.00	90.29	135.000	5,448.12	-10,044.70	10,193.64	14,310.67	0.00	0.00	0.00
19,400.00	90.29	135.000	5,447.62	-10,115.41	10,264.35	14,410.67	0.00	0.00	0.00
19,500.00	90.29	135.000	5,447.12	-10,186.12	10,335.06	14,510.67	0.00	0.00	0.00
19,600.00	90.29	135.000	5,446.62	-10,256.83	10,405.77	14,610.66	0.00	0.00	0.00
19,700.00	90.29	135.000	5,446.12	-10,327.54	10,476.48	14,710.66	0.00	0.00	0.00
19,800.00	90.29	135.000	5,445.62	-10,398.25	10,547.19	14,810.66	0.00	0.00	0.00
19,900.00	90.29	135.000	5,445.12	-10,468.96	10,617.90	14,910.66	0.00	0.00	0.00



Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Haynes Canyon Unit 424 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6765+25 @ 6790.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6765+25 @ 6790.00ft
Site:	Haynes Canyon Unit (420, 422, 424 & 426)	North Reference:	Grid
Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

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)
20,000.00	90.29	135.000	5,444.63	-10,539.67	10,688.61	15,010.66	0.00	0.00	0.00
20,100.00	90.29	135.000	5,444.13	-10,610.38	10,759.32	15,110.66	0.00	0.00	0.00
20,200.00	90.29	135.000	5,443.63	-10,681.09	10,830.03	15,210.66	0.00	0.00	0.00
20,300.00	90.29	135.000	5,443.13	-10,751.80	10,900.74	15,310.66	0.00	0.00	0.00
20,326.06	90.29	135.000	5,443.00	-10,770.22	10,919.17	15,336.71	0.00	0.00	0.00

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Haynes 424 vert r1 - plan hits target center - Point	0.00	0.000	4,912.05	-116.75	265.59	1,912,873.848	1,276,449.265	36.250792646	-107.484415379
Haynes 424 LTP 1469 F - plan hits target center - Point	0.00	0.000	5,443.00	-10,770.22	10,919.17	1,902,220.399	1,287,102.818	36.221900000	-107.447844000
Haynes 424 FTP 1230 F - plan hits target center - Point	0.00	0.000	5,515.00	-560.65	709.50	1,912,429.947	1,276,893.173	36.249589000	-107.482891000

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
350.00	350.00	13 3/8" Csg	13-3/8	17-1/2	
3,694.73	3,685.00	9 5/8" Csg	9-5/8	12-1/4	



Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Haynes Canyon Unit 424 H
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Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6765+25 @ 6790.00ft
Site:	Haynes Canyon Unit (420, 422, 424 & 426)	North Reference:	Grid
Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,406.98	1,405.87	Ojo Alamo		-0.29	135.000	
1,481.23	1,479.84	Kirtland		-0.29	135.000	
1,722.04	1,719.74	Fruitland		-0.29	135.000	
1,990.94	1,987.63	Pictured Cliffs		-0.29	135.000	
2,128.40	2,124.57	Lewis		-0.29	135.000	
2,416.37	2,411.45	Chacra_A		-0.29	135.000	
3,523.08	3,514.00	Cliff House_Basal		-0.29	135.000	
3,538.13	3,529.00	Menefee		-0.29	135.000	
4,250.53	4,238.70	Point Lookout		-0.29	135.000	
4,533.02	4,520.63	Mancos		-0.29	135.000	
4,871.02	4,858.63	Gallup (MNCS_A)		-0.29	135.000	
4,956.03	4,943.63	MNCS_B		-0.29	135.000	
5,096.47	5,081.50	MNCS_C		-0.29	135.000	
5,162.57	5,143.38	MNCS_Cms		-0.29	135.000	
5,253.32	5,223.17	MNCS_D		-0.29	135.000	
5,357.23	5,304.84	MNCS_E		-0.29	135.000	
5,426.97	5,352.59	MNCS_F		-0.29	135.000	
5,585.78	5,438.91	MNCS_G		-0.29	135.000	
5,687.36	5,481.45	MNCS_H @ 0VS		-0.29	135.000	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,000.00	1,000.00	0.00	0.00	KOP Begin 3°/100' build	
1,165.77	1,165.56	-2.89	6.58	Begin 4.97° tangent	
4,346.62	4,334.44	-113.86	259.01	Begin 3°/100' drop	
4,512.39	4,500.00	-116.75	265.59	Begin vertical hold	
4,924.44	4,912.05	-116.75	265.59	Begin 10°/100' build	
5,524.44	5,408.25	-319.32	468.16	Begin 60.00° tangent	
5,584.44	5,438.25	-356.06	504.90	Begin 10°/100' build	
5,887.30	5,515.00	-560.65	709.50	Begin 90.29° lateral	
20,326.06	5,443.00	-10,770.22	10,919.17	PBHL @ 20326.06 MD 5443.00 TVD	



Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Haynes Canyon Unit 424 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6765+25 @ 6790.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6765+25 @ 6790.00ft
Site:	Haynes Canyon Unit (420, 422, 424 & 426)	North Reference:	Grid
Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Project	Rio Arriba County, New Mexico NAD83 NM C		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	Haynes Canyon Unit (420, 422, 424 & 426)				
Site Position:		Northing:	1,912,981.994 usft	Latitude:	36.251079000
From:	Lat/Long	Easting:	1,276,144.638 usft	Longitude:	-107.485453000
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Haynes Canyon Unit 424 H, Surf loc: 1779 FSL 482 FEL Section 05-T23N-R06W					
Well Position	+N/-S	0.00 ft	Northing:	1,912,990.598 usft	Latitude:	36.251104000
	+E/-W	0.00 ft	Easting:	1,276,183.676 usft	Longitude:	-107.485321000
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,765.00 ft
Grid Convergence:		-0.73 °				

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	11/1/2023	8.44	62.76	49,110.79356047

Design	rev1			
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	135.000

Plan Survey Tool Program	Date	11/1/2023		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	20,326.06 rev1 (Original Hole)	MWD	
			OWSG MWD - Standard	



Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Haynes Canyon Unit 424 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6765+25 @ 6790.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6765+25 @ 6790.00ft
Site:	Haynes Canyon Unit (420, 422, 424 & 426)	North Reference:	Grid
Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,165.77	4.97	113.730	1,165.56	-2.89	6.58	3.00	3.00	0.00	113.73	
4,346.62	4.97	113.730	4,334.44	-113.86	259.01	0.00	0.00	0.00	0.00	
4,512.39	0.00	0.000	4,500.00	-116.75	265.59	3.00	-3.00	0.00	180.00	
4,924.44	0.00	0.000	4,912.05	-116.75	265.59	0.00	0.00	0.00	0.00	Haynes 424 vert r1
5,524.44	60.00	135.000	5,408.25	-319.32	468.16	10.00	10.00	0.00	135.00	
5,584.44	60.00	135.000	5,438.25	-356.06	504.90	0.00	0.00	0.00	0.00	
5,887.30	90.29	135.000	5,515.00	-560.65	709.50	10.00	10.00	0.00	0.00	
20,326.06	90.29	135.000	5,443.00	-10,770.22	10,919.17	0.00	0.00	0.00	0.00	Haynes 424 LTP 1465



Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Haynes Canyon Unit 424 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6765+25 @ 6790.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6765+25 @ 6790.00ft
Site:	Haynes Canyon Unit (420, 422, 424 & 426)	North Reference:	Grid
Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

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	1,912,990.598	1,276,183.676	36.251104000	-107.485321000
100.00	0.00	0.000	100.00	0.00	0.00	1,912,990.598	1,276,183.676	36.251104000	-107.485321000
200.00	0.00	0.000	200.00	0.00	0.00	1,912,990.598	1,276,183.676	36.251104000	-107.485321000
300.00	0.00	0.000	300.00	0.00	0.00	1,912,990.598	1,276,183.676	36.251104000	-107.485321000
400.00	0.00	0.000	400.00	0.00	0.00	1,912,990.598	1,276,183.676	36.251104000	-107.485321000
500.00	0.00	0.000	500.00	0.00	0.00	1,912,990.598	1,276,183.676	36.251104000	-107.485321000
600.00	0.00	0.000	600.00	0.00	0.00	1,912,990.598	1,276,183.676	36.251104000	-107.485321000
700.00	0.00	0.000	700.00	0.00	0.00	1,912,990.598	1,276,183.676	36.251104000	-107.485321000
800.00	0.00	0.000	800.00	0.00	0.00	1,912,990.598	1,276,183.676	36.251104000	-107.485321000
900.00	0.00	0.000	900.00	0.00	0.00	1,912,990.598	1,276,183.676	36.251104000	-107.485321000
1,000.00	0.00	0.000	1,000.00	0.00	0.00	1,912,990.598	1,276,183.676	36.251104000	-107.485321000
1,100.00	3.00	113.730	1,099.95	-1.05	2.40	1,912,989.545	1,276,186.072	36.251101191	-107.485312830
1,165.77	4.97	113.730	1,165.56	-2.89	6.58	1,912,987.705	1,276,190.257	36.251096285	-107.485298557
1,200.00	4.97	113.730	1,199.66	-4.09	9.30	1,912,986.511	1,276,192.974	36.251093100	-107.485289294
1,300.00	4.97	113.730	1,299.29	-7.58	17.23	1,912,983.022	1,276,200.910	36.251083797	-107.485262234
1,400.00	4.97	113.730	1,398.91	-11.06	25.17	1,912,979.534	1,276,208.845	36.251074494	-107.485235174
1,500.00	4.97	113.730	1,498.53	-14.55	33.11	1,912,976.045	1,276,216.781	36.251065191	-107.485208114
1,600.00	4.97	113.730	1,598.16	-18.04	41.04	1,912,972.557	1,276,224.717	36.251055887	-107.485181054
1,700.00	4.97	113.730	1,697.78	-21.53	48.98	1,912,969.068	1,276,232.653	36.251046584	-107.485153994
1,800.00	4.97	113.730	1,797.40	-25.02	56.91	1,912,965.580	1,276,240.589	36.251037281	-107.485126934
1,900.00	4.97	113.730	1,897.03	-28.51	64.85	1,912,962.092	1,276,248.524	36.251027978	-107.485099874
2,000.00	4.97	113.730	1,996.65	-32.00	72.78	1,912,958.603	1,276,256.460	36.251018675	-107.485072815
2,100.00	4.97	113.730	2,096.28	-35.48	80.72	1,912,955.115	1,276,264.396	36.251009371	-107.485045755
2,200.00	4.97	113.730	2,195.90	-38.97	88.66	1,912,951.626	1,276,272.332	36.251000068	-107.485018695
2,300.00	4.97	113.730	2,295.52	-42.46	96.59	1,912,948.138	1,276,280.268	36.250990765	-107.484991635
2,400.00	4.97	113.730	2,395.15	-45.95	104.53	1,912,944.649	1,276,288.203	36.250981462	-107.484964575
2,500.00	4.97	113.730	2,494.77	-49.44	112.46	1,912,941.161	1,276,296.139	36.250972159	-107.484937515
2,600.00	4.97	113.730	2,594.39	-52.93	120.40	1,912,937.672	1,276,304.075	36.250962855	-107.484910455
2,700.00	4.97	113.730	2,694.02	-56.41	128.34	1,912,934.184	1,276,312.011	36.250953552	-107.484883395
2,800.00	4.97	113.730	2,793.64	-59.90	136.27	1,912,930.695	1,276,319.947	36.250944249	-107.484856335
2,900.00	4.97	113.730	2,893.26	-63.39	144.21	1,912,927.207	1,276,327.882	36.250934946	-107.484829275
3,000.00	4.97	113.730	2,992.89	-66.88	152.14	1,912,923.718	1,276,335.818	36.250925642	-107.484802215
3,100.00	4.97	113.730	3,092.51	-70.37	160.08	1,912,920.230	1,276,343.754	36.250916339	-107.484775156
3,200.00	4.97	113.730	3,192.13	-73.86	168.01	1,912,916.741	1,276,351.690	36.250907036	-107.484748096
3,300.00	4.97	113.730	3,291.76	-77.35	175.95	1,912,913.253	1,276,359.626	36.250897733	-107.484721036
3,400.00	4.97	113.730	3,391.38	-80.83	183.89	1,912,909.764	1,276,367.561	36.250888429	-107.484693976
3,500.00	4.97	113.730	3,491.00	-84.32	191.82	1,912,906.276	1,276,375.497	36.250879126	-107.484666916
3,600.00	4.97	113.730	3,590.63	-87.81	199.76	1,912,902.787	1,276,383.433	36.250869823	-107.484639856
3,700.00	4.97	113.730	3,690.25	-91.30	207.69	1,912,899.299	1,276,391.369	36.250860520	-107.484612796
3,800.00	4.97	113.730	3,789.88	-94.79	215.63	1,912,895.810	1,276,399.305	36.250851216	-107.484585737
3,900.00	4.97	113.730	3,889.50	-98.28	223.57	1,912,892.322	1,276,407.240	36.250841913	-107.484558677
4,000.00	4.97	113.730	3,989.12	-101.76	231.50	1,912,888.834	1,276,415.176	36.250832610	-107.484531617
4,100.00	4.97	113.730	4,088.75	-105.25	239.44	1,912,885.345	1,276,423.112	36.250823306	-107.484504557
4,200.00	4.97	113.730	4,188.37	-108.74	247.37	1,912,881.857	1,276,431.048	36.250814003	-107.484477497
4,300.00	4.97	113.730	4,287.99	-112.23	255.31	1,912,878.368	1,276,438.984	36.250804700	-107.484450438
4,346.62	4.97	113.730	4,334.44	-113.86	259.01	1,912,876.742	1,276,442.683	36.250800362	-107.484437822
4,400.00	3.37	113.730	4,387.67	-115.42	262.56	1,912,875.179	1,276,446.239	36.250796194	-107.484425699
4,500.00	0.37	113.730	4,487.61	-116.73	265.55	1,912,873.865	1,276,449.228	36.250792690	-107.484415505
4,512.39	0.00	0.000	4,500.00	-116.75	265.59	1,912,873.848	1,276,449.265	36.250792646	-107.484415379
4,600.00	0.00	0.000	4,587.61	-116.75	265.59	1,912,873.848	1,276,449.265	36.250792646	-107.484415379
4,700.00	0.00	0.000	4,687.61	-116.75	265.59	1,912,873.848	1,276,449.265	36.250792646	-107.484415379
4,800.00	0.00	0.000	4,787.61	-116.75	265.59	1,912,873.848	1,276,449.265	36.250792646	-107.484415379
4,900.00	0.00	0.000	4,887.61	-116.75	265.59	1,912,873.848	1,276,449.265	36.250792646	-107.484415379
4,924.44	0.00	0.000	4,912.05	-116.75	265.59	1,912,873.848	1,276,449.265	36.250792646	-107.484415379
4,950.00	2.56	135.000	4,937.60	-117.15	265.99	1,912,873.445	1,276,449.668	36.250791554	-107.484413995



Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Haynes Canyon Unit 424 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6765+25 @ 6790.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6765+25 @ 6790.00ft
Site:	Haynes Canyon Unit (420, 422, 424 & 426)	North Reference:	Grid
Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,000.00	7.56	135.000	4,987.39	-120.27	269.11	1,912,870.331	1,276,452.783	36.250783108	-107.484403299
5,050.00	12.56	135.000	5,036.61	-126.44	275.28	1,912,864.159	1,276,458.954	36.250766374	-107.484382106
5,100.00	17.56	135.000	5,084.88	-135.62	284.46	1,912,854.978	1,276,468.135	36.250741480	-107.484350578
5,150.00	22.56	135.000	5,131.83	-147.74	296.58	1,912,842.857	1,276,480.256	36.250708614	-107.484308954
5,200.00	27.56	135.000	5,177.11	-162.71	311.55	1,912,827.889	1,276,495.225	36.250668027	-107.484257552
5,250.00	32.56	135.000	5,220.37	-180.41	329.25	1,912,810.187	1,276,512.926	36.250620029	-107.484196763
5,300.00	37.56	135.000	5,261.29	-200.71	349.55	1,912,789.886	1,276,533.227	36.250564983	-107.484127050
5,350.00	42.56	135.000	5,299.55	-223.46	372.30	1,912,767.141	1,276,555.972	36.250503310	-107.484048942
5,400.00	47.56	135.000	5,334.86	-248.47	397.31	1,912,742.125	1,276,580.989	36.250435478	-107.483963035
5,450.00	52.56	135.000	5,366.95	-275.57	424.41	1,912,715.027	1,276,608.086	36.250362003	-107.483869983
5,500.00	57.56	135.000	5,395.58	-304.54	453.38	1,912,686.055	1,276,637.058	36.250283445	-107.483770493
5,524.44	60.00	135.000	5,408.25	-319.32	468.16	1,912,671.278	1,276,651.836	36.250243375	-107.483719746
5,584.44	60.00	135.000	5,438.25	-356.06	504.90	1,912,634.535	1,276,688.578	36.250143748	-107.483593573
5,600.00	61.56	135.000	5,445.84	-365.67	514.51	1,912,624.934	1,276,698.180	36.250117713	-107.483560600
5,650.00	66.56	135.000	5,467.71	-397.45	546.29	1,912,593.151	1,276,729.962	36.250031535	-107.483451461
5,700.00	71.56	135.000	5,485.58	-430.46	579.30	1,912,560.143	1,276,762.971	36.249942031	-107.483338109
5,750.00	76.56	135.000	5,499.31	-464.44	613.28	1,912,526.158	1,276,796.955	36.249849881	-107.483221407
5,800.00	81.56	135.000	5,508.80	-499.14	647.98	1,912,491.457	1,276,831.657	36.249755788	-107.483102244
5,850.00	86.56	135.000	5,513.97	-534.30	683.14	1,912,456.303	1,276,866.811	36.249660467	-107.482981526
5,887.30	90.29	135.000	5,515.00	-560.65	709.50	1,912,429.945	1,276,893.170	36.249588996	-107.482891012
5,900.00	90.29	135.000	5,514.94	-569.64	718.48	1,912,420.963	1,276,902.152	36.249564641	-107.482860168
6,000.00	90.29	135.000	5,514.44	-640.35	789.19	1,912,350.254	1,276,972.862	36.249372910	-107.482617355
6,100.00	90.29	135.000	5,513.94	-711.06	859.90	1,912,279.544	1,277,043.572	36.249181178	-107.482374542
6,200.00	90.29	135.000	5,513.44	-781.76	930.61	1,912,208.835	1,277,114.282	36.248989446	-107.482131731
6,300.00	90.29	135.000	5,512.94	-852.47	1,001.32	1,912,138.126	1,277,184.992	36.248797713	-107.481888921
6,400.00	90.29	135.000	5,512.44	-923.18	1,072.03	1,912,067.417	1,277,255.702	36.248605980	-107.481646112
6,500.00	90.29	135.000	5,511.95	-993.89	1,142.74	1,911,996.707	1,277,326.412	36.248414246	-107.481403305
6,600.00	90.29	135.000	5,511.45	-1,064.60	1,213.45	1,911,925.998	1,277,397.122	36.248222511	-107.481160498
6,700.00	90.29	135.000	5,510.95	-1,135.31	1,284.16	1,911,855.289	1,277,467.832	36.248030776	-107.480917693
6,800.00	90.29	135.000	5,510.45	-1,206.02	1,354.87	1,911,784.579	1,277,538.542	36.247839041	-107.480674889
6,900.00	90.29	135.000	5,509.95	-1,276.73	1,425.58	1,911,713.870	1,277,609.252	36.247647305	-107.480432086
7,000.00	90.29	135.000	5,509.45	-1,347.44	1,496.29	1,911,643.161	1,277,679.962	36.247455569	-107.480189284
7,100.00	90.29	135.000	5,508.95	-1,418.15	1,567.00	1,911,572.451	1,277,750.672	36.247263832	-107.479946484
7,200.00	90.29	135.000	5,508.45	-1,488.86	1,637.71	1,911,501.742	1,277,821.382	36.247072094	-107.479703684
7,300.00	90.29	135.000	5,507.96	-1,559.57	1,708.42	1,911,431.033	1,277,892.092	36.246880356	-107.479460886
7,400.00	90.29	135.000	5,507.46	-1,630.28	1,779.13	1,911,360.324	1,277,962.802	36.246688618	-107.479218089
7,500.00	90.29	135.000	5,506.96	-1,700.99	1,849.84	1,911,289.614	1,278,033.512	36.246496879	-107.478975294
7,600.00	90.29	135.000	5,506.46	-1,771.70	1,920.55	1,911,218.905	1,278,104.222	36.246305139	-107.478732499
7,700.00	90.29	135.000	5,505.96	-1,842.41	1,991.26	1,911,148.196	1,278,174.932	36.246113399	-107.478489706
7,800.00	90.29	135.000	5,505.46	-1,913.12	2,061.97	1,911,077.486	1,278,245.642	36.245921658	-107.478246914
7,900.00	90.29	135.000	5,504.96	-1,983.83	2,132.68	1,911,006.777	1,278,316.352	36.245729917	-107.478004123
8,000.00	90.29	135.000	5,504.47	-2,054.53	2,203.39	1,910,936.068	1,278,387.062	36.245538176	-107.477761333
8,100.00	90.29	135.000	5,503.97	-2,125.24	2,274.10	1,910,865.359	1,278,457.772	36.245346433	-107.477518544
8,200.00	90.29	135.000	5,503.47	-2,195.95	2,344.81	1,910,794.649	1,278,528.482	36.245154691	-107.477275757
8,300.00	90.29	135.000	5,502.97	-2,266.66	2,415.52	1,910,723.940	1,278,599.192	36.244962948	-107.477032970
8,400.00	90.29	135.000	5,502.47	-2,337.37	2,486.23	1,910,653.231	1,278,669.902	36.244771204	-107.476790185
8,500.00	90.29	135.000	5,501.97	-2,408.08	2,556.94	1,910,582.521	1,278,740.612	36.244579460	-107.476547401
8,600.00	90.29	135.000	5,501.47	-2,478.79	2,627.65	1,910,511.812	1,278,811.322	36.244387715	-107.476304619
8,700.00	90.29	135.000	5,500.97	-2,549.50	2,698.36	1,910,441.103	1,278,882.032	36.244195969	-107.476061837
8,800.00	90.29	135.000	5,500.48	-2,620.21	2,769.07	1,910,370.393	1,278,952.742	36.244004224	-107.475819057
8,900.00	90.29	135.000	5,499.98	-2,690.92	2,839.78	1,910,299.684	1,279,023.452	36.243812477	-107.475576278
9,000.00	90.29	135.000	5,499.48	-2,761.63	2,910.49	1,910,228.975	1,279,094.162	36.243620730	-107.475333500
9,100.00	90.29	135.000	5,498.98	-2,832.34	2,981.20	1,910,158.266	1,279,164.872	36.243428983	-107.475090723
9,200.00	90.29	135.000	5,498.48	-2,903.05	3,051.91	1,910,087.556	1,279,235.582	36.243237235	-107.474847947
9,300.00	90.29	135.000	5,497.98	-2,973.76	3,122.62	1,910,016.847	1,279,306.292	36.243045487	-107.474605173



Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Haynes Canyon Unit 424 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6765+25 @ 6790.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6765+25 @ 6790.00ft
Site:	Haynes Canyon Unit (420, 422, 424 & 426)	North Reference:	Grid
Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude		Longitude
9,400.00	90.29	135.000	5,497.48	-3,044.47	3,193.33	1,909,946.138	1,279,377.002	36.242853738		-107.474362400
9,500.00	90.29	135.000	5,496.99	-3,115.18	3,264.04	1,909,875.428	1,279,447.712	36.242661988		-107.474119628
9,600.00	90.29	135.000	5,496.49	-3,185.89	3,334.75	1,909,804.719	1,279,518.422	36.242470238		-107.473876857
9,700.00	90.29	135.000	5,495.99	-3,256.60	3,405.46	1,909,734.010	1,279,589.132	36.242278488		-107.473634087
9,800.00	90.29	135.000	5,495.49	-3,327.30	3,476.17	1,909,663.300	1,279,659.842	36.242086737		-107.473391319
9,900.00	90.29	135.000	5,494.99	-3,398.01	3,546.88	1,909,592.591	1,279,730.552	36.241894985		-107.473148551
10,000.00	90.29	135.000	5,494.49	-3,468.72	3,617.59	1,909,521.882	1,279,801.262	36.241703233		-107.472905785
10,100.00	90.29	135.000	5,493.99	-3,539.43	3,688.30	1,909,451.173	1,279,871.972	36.241511480		-107.472663020
10,200.00	90.29	135.000	5,493.49	-3,610.14	3,759.01	1,909,380.463	1,279,942.682	36.241319727		-107.472420256
10,300.00	90.29	135.000	5,493.00	-3,680.85	3,829.72	1,909,309.754	1,280,013.392	36.241127974		-107.472177494
10,400.00	90.29	135.000	5,492.50	-3,751.56	3,900.43	1,909,239.045	1,280,084.102	36.240936220		-107.471934733
10,500.00	90.29	135.000	5,492.00	-3,822.27	3,971.14	1,909,168.335	1,280,154.812	36.240744465		-107.471691972
10,600.00	90.29	135.000	5,491.50	-3,892.98	4,041.86	1,909,097.626	1,280,225.522	36.240552710		-107.471449213
10,700.00	90.29	135.000	5,491.00	-3,963.69	4,112.57	1,909,026.917	1,280,296.232	36.240360954		-107.471206457
10,800.00	90.29	135.000	5,490.50	-4,034.40	4,183.28	1,908,956.208	1,280,366.942	36.240169198		-107.470963700
10,900.00	90.29	135.000	5,490.00	-4,105.11	4,253.99	1,908,885.498	1,280,437.652	36.239977441		-107.470720944
11,000.00	90.29	135.000	5,489.51	-4,175.82	4,324.70	1,908,814.789	1,280,508.362	36.239785684		-107.470478190
11,100.00	90.29	135.000	5,489.01	-4,246.53	4,395.41	1,908,744.080	1,280,579.072	36.239593926		-107.470235437
11,200.00	90.29	135.000	5,488.51	-4,317.24	4,466.12	1,908,673.370	1,280,649.782	36.239402167		-107.469992685
11,300.00	90.29	135.000	5,488.01	-4,387.95	4,536.83	1,908,602.661	1,280,720.492	36.239210409		-107.469749935
11,400.00	90.29	135.000	5,487.51	-4,458.66	4,607.54	1,908,531.952	1,280,791.202	36.239018649		-107.469507185
11,500.00	90.29	135.000	5,487.01	-4,529.37	4,678.25	1,908,461.242	1,280,861.912	36.238826889		-107.469264437
11,600.00	90.29	135.000	5,486.51	-4,600.07	4,748.96	1,908,390.533	1,280,932.622	36.238635129		-107.469021690
11,700.00	90.29	135.000	5,486.02	-4,670.78	4,819.67	1,908,319.824	1,281,003.332	36.238443368		-107.468778944
11,800.00	90.29	135.000	5,485.52	-4,741.49	4,890.38	1,908,249.115	1,281,074.042	36.238251606		-107.468536199
11,900.00	90.29	135.000	5,485.02	-4,812.20	4,961.09	1,908,178.405	1,281,144.752	36.238059844		-107.468293455
12,000.00	90.29	135.000	5,484.52	-4,882.91	5,031.80	1,908,107.696	1,281,215.462	36.237868082		-107.468050713
12,100.00	90.29	135.000	5,484.02	-4,953.62	5,102.51	1,908,036.987	1,281,286.172	36.237676319		-107.467807972
12,200.00	90.29	135.000	5,483.52	-5,024.33	5,173.22	1,907,966.277	1,281,356.882	36.237484555		-107.467565232
12,300.00	90.29	135.000	5,483.02	-5,095.04	5,243.93	1,907,895.568	1,281,427.592	36.237292791		-107.467322493
12,400.00	90.29	135.000	5,482.52	-5,165.75	5,314.64	1,907,824.859	1,281,498.302	36.237101027		-107.467079755
12,500.00	90.29	135.000	5,482.03	-5,236.46	5,385.35	1,907,754.149	1,281,569.012	36.236909262		-107.466837019
12,600.00	90.29	135.000	5,481.53	-5,307.17	5,456.06	1,907,683.440	1,281,639.722	36.236717496		-107.466594283
12,700.00	90.29	135.000	5,481.03	-5,377.88	5,526.77	1,907,612.731	1,281,710.433	36.236525730		-107.466351549
12,800.00	90.29	135.000	5,480.53	-5,448.59	5,597.48	1,907,542.022	1,281,781.143	36.236333963		-107.466108816
12,900.00	90.29	135.000	5,480.03	-5,519.30	5,668.19	1,907,471.312	1,281,851.853	36.236142196		-107.465866085
13,000.00	90.29	135.000	5,479.53	-5,590.01	5,738.90	1,907,400.603	1,281,922.563	36.235950428		-107.465623354
13,100.00	90.29	135.000	5,479.03	-5,660.72	5,809.61	1,907,329.894	1,281,993.273	36.235758660		-107.465380625
13,200.00	90.29	135.000	5,478.54	-5,731.43	5,880.32	1,907,259.184	1,282,063.983	36.235566891		-107.465137896
13,300.00	90.29	135.000	5,478.04	-5,802.14	5,951.03	1,907,188.475	1,282,134.693	36.235375122		-107.464895169
13,400.00	90.29	135.000	5,477.54	-5,872.84	6,021.74	1,907,117.766	1,282,205.403	36.235183352		-107.464652444
13,500.00	90.29	135.000	5,477.04	-5,943.55	6,092.45	1,907,047.057	1,282,276.113	36.234991582		-107.464409719
13,600.00	90.29	135.000	5,476.54	-6,014.26	6,163.16	1,906,976.347	1,282,346.823	36.234799811		-107.464166996
13,700.00	90.29	135.000	5,476.04	-6,084.97	6,233.87	1,906,905.638	1,282,417.533	36.234608039		-107.463924273
13,800.00	90.29	135.000	5,475.54	-6,155.68	6,304.58	1,906,834.929	1,282,488.243	36.234416268		-107.463681552
13,900.00	90.29	135.000	5,475.04	-6,226.39	6,375.29	1,906,764.219	1,282,558.953	36.234224495		-107.463438832
14,000.00	90.29	135.000	5,474.55	-6,297.10	6,446.00	1,906,693.510	1,282,629.663	36.234032722		-107.463196114
14,100.00	90.29	135.000	5,474.05	-6,367.81	6,516.71	1,906,622.801	1,282,700.373	36.233840949		-107.462953396
14,200.00	90.29	135.000	5,473.55	-6,438.52	6,587.42	1,906,552.091	1,282,771.083	36.233649175		-107.462710680
14,300.00	90.29	135.000	5,473.05	-6,509.23	6,658.13	1,906,481.382	1,282,841.793	36.233457400		-107.462467965
14,400.00	90.29	135.000	5,472.55	-6,579.94	6,728.84	1,906,410.673	1,282,912.503	36.233265625		-107.462225251
14,500.00	90.29	135.000	5,472.05	-6,650.65	6,799.55	1,906,339.964	1,282,983.213	36.233073850		-107.461982538
14,600.00	90.29	135.000	5,471.55	-6,721.36	6,870.26	1,906,269.254	1,283,053.923	36.232882074		-107.461739826
14,700.00	90.29	135.000	5,471.06	-6,792.07	6,940.97	1,906,198.545	1,283,124.633	36.232690297		-107.461497116
14,800.00	90.29	135.000	5,470.56	-6,862.78	7,011.68	1,906,127.836	1,283,195.343	36.232498520		-107.461254407



Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Haynes Canyon Unit 424 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6765+25 @ 6790.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6765+25 @ 6790.00ft
Site:	Haynes Canyon Unit (420, 422, 424 & 426)	North Reference:	Grid
Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
14,900.00	90.29	135.000	5,470.06	-6,933.49	7,082.39	1,906,057.126	1,283,266.053	36.232306742	-107.461011699	
15,000.00	90.29	135.000	5,469.56	-7,004.20	7,153.10	1,905,986.417	1,283,336.763	36.232114964	-107.460768992	
15,100.00	90.29	135.000	5,469.06	-7,074.91	7,223.81	1,905,915.708	1,283,407.473	36.231923186	-107.460526286	
15,200.00	90.29	135.000	5,468.56	-7,145.61	7,294.52	1,905,844.998	1,283,478.183	36.231731406	-107.460283582	
15,300.00	90.29	135.000	5,468.06	-7,216.32	7,365.23	1,905,774.289	1,283,548.893	36.231539627	-107.460040878	
15,400.00	90.29	135.000	5,467.56	-7,287.03	7,435.94	1,905,703.580	1,283,619.603	36.231347846	-107.459798176	
15,500.00	90.29	135.000	5,467.07	-7,357.74	7,506.65	1,905,632.871	1,283,690.313	36.231156066	-107.459555475	
15,600.00	90.29	135.000	5,466.57	-7,428.45	7,577.36	1,905,562.161	1,283,761.023	36.230964284	-107.459312776	
15,700.00	90.29	135.000	5,466.07	-7,499.16	7,648.07	1,905,491.452	1,283,831.733	36.230772503	-107.459070077	
15,800.00	90.29	135.000	5,465.57	-7,569.87	7,718.78	1,905,420.743	1,283,902.443	36.230580720	-107.458827380	
15,900.00	90.29	135.000	5,465.07	-7,640.58	7,789.49	1,905,350.032	1,283,973.153	36.230388937	-107.458584684	
16,000.00	90.29	135.000	5,464.57	-7,711.29	7,860.20	1,905,279.323	1,284,043.863	36.230197154	-107.458341989	
16,100.00	90.29	135.000	5,464.07	-7,782.00	7,930.91	1,905,208.614	1,284,114.573	36.230005370	-107.458099295	
16,200.00	90.29	135.000	5,463.58	-7,852.71	8,001.62	1,905,137.905	1,284,185.283	36.229813586	-107.457856602	
16,300.00	90.29	135.000	5,463.08	-7,923.42	8,072.33	1,905,067.195	1,284,255.993	36.229621801	-107.4576113911	
16,400.00	90.29	135.000	5,462.58	-7,994.13	8,143.04	1,904,996.486	1,284,326.703	36.229430016	-107.457371220	
16,500.00	90.29	135.000	5,462.08	-8,064.84	8,213.75	1,904,925.777	1,284,397.413	36.229238230	-107.457128531	
16,600.00	90.29	135.000	5,461.58	-8,135.55	8,284.46	1,904,855.067	1,284,468.123	36.229046443	-107.456885843	
16,700.00	90.29	135.000	5,461.08	-8,206.26	8,355.17	1,904,784.358	1,284,538.833	36.228854656	-107.456643157	
16,800.00	90.29	135.000	5,460.58	-8,276.97	8,425.88	1,904,713.649	1,284,609.543	36.228662869	-107.456400471	
16,900.00	90.29	135.000	5,460.08	-8,347.68	8,496.60	1,904,642.939	1,284,680.253	36.228471081	-107.456157787	
17,000.00	90.29	135.000	5,459.59	-8,418.38	8,567.31	1,904,572.230	1,284,750.963	36.228279292	-107.455915104	
17,100.00	90.29	135.000	5,459.09	-8,489.09	8,638.02	1,904,501.521	1,284,821.673	36.228087503	-107.455672422	
17,200.00	90.29	135.000	5,458.59	-8,559.80	8,708.73	1,904,430.812	1,284,892.383	36.227895713	-107.455429741	
17,300.00	90.29	135.000	5,458.09	-8,630.51	8,779.44	1,904,360.102	1,284,963.093	36.227703923	-107.455187061	
17,400.00	90.29	135.000	5,457.59	-8,701.22	8,850.15	1,904,289.393	1,285,033.803	36.227512133	-107.454944383	
17,500.00	90.29	135.000	5,457.09	-8,771.93	8,920.86	1,904,218.684	1,285,104.513	36.227320341	-107.454701706	
17,600.00	90.29	135.000	5,456.59	-8,842.64	8,991.57	1,904,147.974	1,285,175.223	36.227128550	-107.454459030	
17,700.00	90.29	135.000	5,456.10	-8,913.35	9,062.28	1,904,077.265	1,285,245.933	36.226936757	-107.454216355	
17,800.00	90.29	135.000	5,455.60	-8,984.06	9,132.99	1,904,006.556	1,285,316.643	36.226744965	-107.453973681	
17,900.00	90.29	135.000	5,455.10	-9,054.77	9,203.70	1,903,935.846	1,285,387.353	36.226553172	-107.453731009	
18,000.00	90.29	135.000	5,454.60	-9,125.48	9,274.41	1,903,865.137	1,285,458.063	36.226361378	-107.453488337	
18,100.00	90.29	135.000	5,454.10	-9,196.19	9,345.12	1,903,794.428	1,285,528.773	36.226169583	-107.453245667	
18,200.00	90.29	135.000	5,453.60	-9,266.90	9,415.83	1,903,723.719	1,285,599.483	36.225977789	-107.453002998	
18,300.00	90.29	135.000	5,453.10	-9,337.61	9,486.54	1,903,653.009	1,285,670.193	36.225785993	-107.452760331	
18,400.00	90.29	135.000	5,452.60	-9,408.32	9,557.25	1,903,582.300	1,285,740.903	36.225594197	-107.452517664	
18,500.00	90.29	135.000	5,452.11	-9,479.03	9,627.96	1,903,511.591	1,285,811.613	36.225402401	-107.452274999	
18,600.00	90.29	135.000	5,451.61	-9,549.74	9,698.67	1,903,440.881	1,285,882.323	36.225210604	-107.452032334	
18,700.00	90.29	135.000	5,451.11	-9,620.45	9,769.38	1,903,370.172	1,285,953.033	36.225018807	-107.451789671	
18,800.00	90.29	135.000	5,450.61	-9,691.15	9,840.09	1,903,299.463	1,286,023.743	36.224827009	-107.451547010	
18,900.00	90.29	135.000	5,450.11	-9,761.86	9,910.80	1,903,228.754	1,286,094.453	36.224635210	-107.451304349	
19,000.00	90.29	135.000	5,449.61	-9,832.57	9,981.51	1,903,158.044	1,286,165.163	36.224443412	-107.451061689	
19,100.00	90.29	135.000	5,449.11	-9,903.28	10,052.22	1,903,087.335	1,286,235.873	36.224251613	-107.450819031	
19,200.00	90.29	135.000	5,448.62	-9,973.99	10,122.93	1,903,016.626	1,286,306.583	36.224059813	-107.450576374	
19,300.00	90.29	135.000	5,448.12	-10,044.70	10,193.64	1,902,945.916	1,286,377.293	36.223868012	-107.450333718	
19,400.00	90.29	135.000	5,447.62	-10,115.41	10,264.35	1,902,875.207	1,286,448.003	36.223676211	-107.450091063	
19,500.00	90.29	135.000	5,447.12	-10,186.12	10,335.06	1,902,804.498	1,286,518.713	36.223484410	-107.449848410	
19,600.00	90.29	135.000	5,446.62	-10,256.83	10,405.77	1,902,733.788	1,286,589.423	36.223292608	-107.449605758	
19,700.00	90.29	135.000	5,446.12	-10,327.54	10,476.48	1,902,663.079	1,286,660.133	36.223100805	-107.449363106	
19,800.00	90.29	135.000	5,445.62	-10,398.25	10,547.19	1,902,592.370	1,286,730.843	36.222909002	-107.449120456	
19,900.00	90.29	135.000	5,445.12	-10,468.96	10,617.90	1,902,521.661	1,286,801.553	36.222717198	-107.448877808	
20,000.00	90.29	135.000	5,444.63	-10,539.67	10,688.61	1,902,450.951	1,286,872.263	36.222525394	-107.448635160	
20,100.00	90.29	135.000	5,444.13	-10,610.38	10,759.32	1,902,380.242	1,286,942.973	36.222333589	-107.448392514	
20,200.00	90.29	135.000	5,443.63	-10,681.09	10,830.03	1,902,309.533	1,287,013.683	36.222141784	-107.448149868	
20,300.00	90.29	135.000	5,443.13	-10,751.80	10,900.74	1,902,238.823	1,287,084.393	36.221949978	-107.447907224	



Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Haynes Canyon Unit 424 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6765+25 @ 6790.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6765+25 @ 6790.00ft
Site:	Haynes Canyon Unit (420, 422, 424 & 426)	North Reference:	Grid
Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
20,326.06	90.29	135.000	5,443.00	-10,770.22	10,919.17	1,902,220.399	1,287,102.818	36.221900000	-107.447844000

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Haynes 424 vert r1 - plan hits target center - Point	0.00	0.000	4,912.05	-116.75	265.59	1,912,873.848	1,276,449.265	36.250792646	-107.484415379
Haynes 424 LTP 1469 F - plan hits target center - Point	0.00	0.000	5,443.00	-10,770.22	10,919.17	1,902,220.399	1,287,102.818	36.221900000	-107.447844000
Haynes 424 FTP 1230 F - plan hits target center - Point	0.00	0.000	5,515.00	-560.65	709.50	1,912,429.947	1,276,893.173	36.249589000	-107.482891000

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
350.00	350.00	13 3/8" Csg	13-3/8	17-1/2	
3,694.73	3,685.00	9 5/8" Csg	9-5/8	12-1/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,406.98	1,405.87	Ojo Alamo		-0.29	135.000
1,481.23	1,479.84	Kirtland		-0.29	135.000
1,722.04	1,719.74	Fruitland		-0.29	135.000
1,990.94	1,987.63	Pictured Cliffs		-0.29	135.000
2,128.40	2,124.57	Lewis		-0.29	135.000
2,416.37	2,411.45	Chacra_A		-0.29	135.000
3,523.08	3,514.00	Cliff House_Basal		-0.29	135.000
3,538.13	3,529.00	Menefee		-0.29	135.000
4,250.53	4,238.70	Point Lookout		-0.29	135.000
4,533.02	4,520.63	Mancos		-0.29	135.000
4,871.02	4,858.63	Gallup (MNCS_A)		-0.29	135.000
4,956.03	4,943.63	MNCS_B		-0.29	135.000
5,096.47	5,081.50	MNCS_C		-0.29	135.000
5,162.57	5,143.38	MNCS_Cms		-0.29	135.000
5,253.32	5,223.17	MNCS_D		-0.29	135.000
5,357.23	5,304.84	MNCS_E		-0.29	135.000
5,426.97	5,352.59	MNCS_F		-0.29	135.000
5,585.78	5,438.91	MNCS_G		-0.29	135.000
5,687.36	5,481.45	MNCS_H @ 0VS		-0.29	135.000



Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Haynes Canyon Unit 424 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6765+25 @ 6790.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6765+25 @ 6790.00ft
Site:	Haynes Canyon Unit (420, 422, 424 & 426)	North Reference:	Grid
Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,000.00	1,000.00	0.00	0.00	KOP Begin 3°/100' build	
1,165.77	1,165.56	-2.89	6.58	Begin 4.97° tangent	
4,346.62	4,334.44	-113.86	259.01	Begin 3°/100' drop	
4,512.39	4,500.00	-116.75	265.59	Begin vertical hold	
4,924.44	4,912.05	-116.75	265.59	Begin 10°/100' build	
5,524.44	5,408.25	-319.32	468.16	Begin 60.00° tangent	
5,584.44	5,438.25	-356.06	504.90	Begin 10°/100' build	
5,887.30	5,515.00	-560.65	709.50	Begin 90.29° lateral	
20,326.06	5,443.00	-10,770.22	10,919.17	PBHL @ 20326.06 MD 5443.00 TVD	



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Haynes Canyon Unit 424 H
Project:	Rio Arriba County, New Mexico NAD83 NM C	TVD Reference:	RKB=6765+25 @ 6790.00ft
Reference Site:	Haynes Canyon Unit (420, 422, 424 & 426)	MD Reference:	RKB=6765+25 @ 6790.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Aug2923v16
Reference Design:	rev1	Offset TVD Reference:	Offset Datum

Reference	rev1		
Filter type:	GLOBAL FILTER APPLIED: All wellpaths within 200'+ 100/1000 of reference		
Interpolation Method:	MD Interval 100.00ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 2,232.61ft	Error Surface:	Ellipsoid Separation
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	11/1/2023		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	20,326.06	rev1 (Original Hole)	MWD	OWSG MWD - Standard	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance		Separation Factor	Warning
			Between Centres (ft)	Between Ellipses (ft)		
Offset Well - Wellbore - Design						
Haynes Canyon Unit (420, 422)						
Haynes Canyon Unit 420 H - Original Hole - rev0	500.00	500.00	39.98	36.84	12.745	CC
Haynes Canyon Unit 420 H - Original Hole - rev0	600.00	599.53	40.53	36.69	10.569	ES
Haynes Canyon Unit 420 H - Original Hole - rev0	10,200.00	8,862.26	1,865.87	1,656.16	8.897	SF
Haynes Canyon Unit 422 H - Original Hole - rev0	629.71	629.81	19.54	15.49	4.830	CC, ES
Haynes Canyon Unit 422 H - Original Hole - rev0	20,326.06	18,665.59	1,230.47	548.18	1.803	Level 3<2.00, SF
Haynes Canyon Unit 426 H - Original Hole - rev0	500.00	500.00	28.19	25.05	8.986	CC, ES
Haynes Canyon Unit 426 H - Original Hole - rev0	19,024.20	20,582.58	1,230.55	575.55	1.879	Level 3<2.00, SF

Offset Design:	Haynes Canyon Unit (420, 422) - Haynes Canyon Unit 420 H - Original Hole - rev0										Offset Site Error:	0.00 ft
Survey Program:	0-MWD										Offset Well Error:	0.00 ft
Reference	Vertical Depth (ft)	Offset	Semi Major Axis	Highside	Offset Wellbore Centre	Distance	Rule Assigned:	Minimum Separation	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor
0.00	0.00	0.00	0.00	0.00	0.00	-102.43	-8.60	-39.04	39.98			
100.00	100.00	100.00	100.00	0.13	0.13	-102.43	-8.60	-39.04	39.98	39.71	0.27	148.687
200.00	200.00	200.00	200.00	0.49	0.49	-102.43	-8.60	-39.04	39.98	38.99	0.99	40.551
300.00	300.00	300.00	300.00	0.85	0.85	-102.43	-8.60	-39.04	39.98	38.27	1.70	23.477
400.00	400.00	400.00	400.00	1.21	1.21	-102.43	-8.60	-39.04	39.98	37.56	2.42	16.521
500.00	500.00	500.00	500.00	1.57	1.57	-102.43	-8.60	-39.04	39.98	36.84	3.14	12.745 CC
600.00	600.00	599.53	599.49	1.93	1.91	-106.04	-11.20	-38.95	40.53	36.69	3.83	10.569 ES
700.00	700.00	698.53	698.17	2.29	2.25	-116.05	-18.91	-38.68	43.09	38.57	4.53	9.522
800.00	800.00	796.46	795.27	2.64	2.59	-129.52	-31.55	-38.24	49.81	44.58	5.22	9.538
900.00	900.00	892.85	890.09	3.00	2.97	-142.38	-48.84	-37.65	62.46	56.55	5.91	10.577
1,000.00	1,000.00	987.25	981.99	3.36	3.38	-152.33	-70.39	-36.90	81.49	74.93	6.56	12.418
1,100.00	1,099.95	1,079.57	1,070.71	3.71	3.82	87.48	-95.82	-36.02	106.36	99.17	7.19	14.794
1,200.00	1,199.66	1,169.75	1,156.10	4.05	4.30	84.77	-124.77	-35.02	135.74	127.94	7.80	17.393
1,300.00	1,299.29	1,257.31	1,237.62	4.40	4.82	83.29	-156.71	-33.92	169.29	160.89	8.40	20.159
1,400.00	1,398.91	1,341.97	1,314.96	4.75	5.37	81.94	-191.10	-32.73	206.91	197.93	8.99	23.027
1,500.00	1,498.53	1,423.54	1,387.97	5.11	5.95	80.73	-227.45	-31.47	248.44	238.89	9.55	26.010
1,600.00	1,598.16	1,500.00	1,454.93	5.47	6.53	79.70	-264.32	-30.20	293.67	283.61	10.07	29.176
1,700.00	1,697.78	1,577.03	1,520.85	5.84	7.17	78.75	-304.15	-28.82	342.39	331.77	10.62	32.241
1,800.00	1,797.40	1,648.86	1,580.82	6.21	7.81	77.94	-343.66	-27.46	394.41	383.29	11.12	35.463
1,900.00	1,897.03	1,717.44	1,636.65	6.58	8.44	77.23	-383.45	-26.08	449.50	437.90	11.60	38.752
2,000.00	1,996.65	1,794.00	1,697.72	6.95	9.18	76.52	-429.59	-24.49	506.86	494.63	12.22	41.462

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 Haynes Canyon Unit 424 H
Project:	Rio Arriba County, New Mexico NAD83 NM C	TVD Reference:	RKB=6765+25 @ 6790.00ft
Reference Site:	Haynes Canyon Unit (420, 422, 424 & 426)	MD Reference:	RKB=6765+25 @ 6790.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Aug2923v16
Reference Design:	rev1	Offset TVD Reference:	Offset Datum

Offset Design: Haynes Canyon Unit (420, 422) - Haynes Canyon Unit 420 H - 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)			
2,100.00	2,096.28	1,875.64	1,762.75	7.32	9.99	75.92	-478.91	-22.78	564.42	551.48	12.94	43.616	
2,200.00	2,195.90	1,957.27	1,827.79	7.70	10.81	75.42	-528.22	-21.08	622.02	608.36	13.66	45.521	
2,300.00	2,295.52	2,038.91	1,892.83	8.07	11.64	75.01	-577.54	-19.37	679.65	665.25	14.40	47.211	
2,400.00	2,395.15	2,120.55	1,957.87	8.45	12.47	74.66	-626.85	-17.67	737.29	722.16	15.13	48.718	
2,500.00	2,494.77	2,202.19	2,022.90	8.83	13.31	74.36	-676.17	-15.96	794.95	779.07	15.88	50.071	
2,600.00	2,594.39	2,283.83	2,087.94	9.21	14.15	74.11	-725.49	-14.26	852.62	836.00	16.62	51.290	
2,700.00	2,694.02	2,365.47	2,152.98	9.59	15.00	73.88	-774.80	-12.55	910.30	892.93	17.37	52.393	
2,800.00	2,793.64	2,447.10	2,218.02	9.97	15.85	73.69	-824.12	-10.85	967.99	949.86	18.13	53.395	
2,900.00	2,893.26	2,528.74	2,283.05	10.35	16.70	73.51	-873.43	-9.14	1,025.69	1,006.80	18.89	54.309	
3,000.00	2,992.89	2,610.38	2,348.09	10.73	17.55	73.35	-922.75	-7.44	1,083.39	1,063.75	19.65	55.146	
3,100.00	3,092.51	2,692.02	2,413.13	11.11	18.41	73.21	-972.07	-5.73	1,141.10	1,120.69	20.41	55.913	
3,200.00	3,192.13	2,773.66	2,478.17	11.49	19.26	73.08	-1,021.38	-4.03	1,198.81	1,177.64	21.17	56.619	
3,300.00	3,291.76	2,855.30	2,543.20	11.87	20.12	72.97	-1,070.70	-2.32	1,256.53	1,234.59	21.94	57.272	
3,400.00	3,391.38	2,936.94	2,608.24	12.25	20.98	72.86	-1,120.01	-0.62	1,314.25	1,291.54	22.71	57.875	
3,500.00	3,491.00	3,018.57	2,673.28	12.63	21.84	72.77	-1,169.33	1.08	1,371.97	1,348.49	23.48	58.436	
3,600.00	3,590.63	3,100.21	2,738.32	13.01	22.71	72.68	-1,218.64	2.79	1,429.69	1,405.44	24.25	58.957	
3,700.00	3,690.25	3,181.85	2,803.35	13.40	23.57	72.60	-1,267.96	4.49	1,487.42	1,462.39	25.02	59.443	
3,800.00	3,789.88	3,263.49	2,868.39	13.78	24.43	72.52	-1,317.28	6.20	1,545.15	1,519.35	25.80	59.896	
3,900.00	3,889.50	3,345.13	2,933.43	14.16	25.30	72.45	-1,366.59	7.90	1,602.87	1,576.30	26.57	60.321	
4,000.00	3,989.12	3,426.77	2,998.47	14.55	26.16	72.38	-1,415.91	9.61	1,660.61	1,633.26	27.35	60.719	
4,100.00	4,088.75	3,508.40	3,063.50	14.93	27.03	72.32	-1,465.22	11.31	1,718.34	1,690.21	28.13	61.093	
4,200.00	4,188.37	3,590.04	3,128.54	15.31	27.89	72.27	-1,514.54	13.02	1,776.07	1,747.17	28.91	61.444	
4,300.00	4,287.99	3,671.68	3,193.58	15.70	28.76	72.21	-1,563.86	14.72	1,833.81	1,804.12	29.69	61.775	
4,400.00	4,387.67	3,753.17	3,258.50	16.08	29.63	73.23	-1,613.08	16.42	1,891.72	1,861.26	30.46	62.104	
4,500.00	4,487.61	3,833.64	3,322.60	16.43	30.48	75.10	-1,661.69	18.10	1,950.73	1,919.53	31.20	62.524	
4,600.00	4,587.61	3,913.32	3,386.08	16.76	31.33	-171.23	-1,709.82	19.77	2,010.47	1,978.56	31.90	63.015	
4,700.00	4,687.61	3,992.98	3,449.54	17.09	32.17	-171.54	-1,757.95	21.43	2,070.25	2,037.64	32.61	63.488	
4,800.00	4,787.61	4,072.65	3,513.01	17.42	33.02	-171.83	-1,806.07	23.10	2,130.07	2,096.76	33.32	63.937	
4,900.00	4,887.61	4,152.31	3,576.47	17.76	33.87	-172.11	-1,854.19	24.76	2,189.93	2,155.90	34.02	64.364	
6,200.00	5,513.44	5,066.49	4,304.75	30.78	43.61	55.82	-2,406.43	43.85	2,210.61	2,156.36	54.25	40.750	
6,300.00	5,512.94	5,110.28	4,339.64	32.56	44.08	56.86	-2,432.88	44.76	2,188.45	2,131.45	57.00	38.393	
6,400.00	5,512.44	5,154.07	4,374.53	34.39	44.54	57.91	-2,459.34	45.68	2,169.79	2,109.88	59.91	36.215	
6,500.00	5,511.95	5,197.87	4,409.42	36.28	45.01	58.96	-2,485.79	46.59	2,154.73	2,091.76	62.97	34.221	
6,600.00	5,511.45	5,241.66	4,444.31	38.22	45.48	60.02	-2,512.24	47.51	2,143.33	2,077.21	66.13	32.412	
6,700.00	5,510.95	5,285.45	4,479.19	40.19	45.95	61.08	-2,538.70	48.42	2,135.66	2,066.29	69.37	30.785	
6,800.00	5,510.45	5,329.25	4,514.08	42.20	46.41	62.13	-2,565.15	49.33	2,131.76	2,059.08	72.68	29.331	
6,853.03	5,510.19	5,352.47	4,532.58	43.28	46.66	62.70	-2,579.18	49.82	2,131.23	2,056.78	74.45	28.627	
6,900.00	5,509.95	5,373.04	4,548.97	44.24	46.88	63.19	-2,591.61	50.25	2,131.65	2,055.63	76.02	28.042	
7,000.00	5,509.45	5,416.83	4,583.86	46.30	47.35	64.25	-2,618.06	51.16	2,135.32	2,055.96	79.36	26.907	
7,100.00	5,508.95	5,460.63	4,618.75	48.38	47.82	65.31	-2,644.52	52.08	2,142.76	2,060.08	82.68	25.915	
7,200.00	5,508.45	5,504.42	4,653.63	50.48	48.28	66.36	-2,670.97	52.99	2,153.93	2,067.97	85.97	25.056	
7,300.00	5,507.96	5,548.10	4,696.23	52.60	48.75	67.42	-2,697.42	53.90	2,165.09	2,075.86	89.30	24.207	
7,400.00	5,507.46	5,591.82	4,738.83	54.74	49.21	68.47	-2,723.87	54.81	2,176.25	2,083.75	92.62	23.358	
7,500.00	5,506.96	5,635.54	4,781.51	56.89	49.68	69.52	-2,750.32	55.72	2,187.40	2,091.64	95.94	22.509	
7,600.00	5,506.46	5,679.26	4,824.20	59.05	50.15	70.57	-2,776.77	56.63	2,198.55	2,103.53	99.26	21.660	
7,700.00	5,505.96	5,722.98	4,866.89	61.22	50.62	71.62	-2,803.22	57.54	2,209.70	2,115.42	102.58	20.811	
7,800.00	5,505.46	5,766.70	4,909.58	63.40	51.09	72.67	-2,829.67	58.45	2,220.85	2,127.31	105.90	20.000	
7,900.00	5,504.96	5,810.42	4,952.27	65.59	51.56	73.72	-2,856.12	59.36	2,232.00	2,139.20	109.22	19.189	
8,000.00	5,504.47	5,854.14	4,994.96	67.78	52.03	74.77	-2,882.57	60.27	2,243.15	2,151.09	112.54	18.378	
8,100.00	5,503.97	5,898.86	5,037.65	69.99	52.50	75.82	-2,909.02	61.18	2,254.30	2,162.98	115.86	17.567	
8,200.00	5,503.47	5,942.58	5,080.34	72.20	52.97	76.87	-2,935.47	62.09	2,265.45	2,174.87	119.18	16.756	
8,300.00	5,502.97	5,986.30	5,123.03	74.41	53.44	77.92	-2,961.92	63.00	2,276.60	2,186.76	122.50	15.945	

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 Haynes Canyon Unit 424 H
Project:	Rio Arriba County, New Mexico NAD83 NM C	TVD Reference:	RKB=6765+25 @ 6790.00ft
Reference Site:	Haynes Canyon Unit (420, 422, 424 & 426)	MD Reference:	RKB=6765+25 @ 6790.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Aug2923v16
Reference Design:	rev1	Offset TVD Reference:	Offset Datum

Offset Design: Haynes Canyon Unit (420, 422) - Haynes Canyon Unit 420 H - 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)	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	
8,400.00	5,502.47	7,940.98	5,505.22	76.63	78.10	90.16	-3,922.56	1,517.05	1,858.00	1,715.34	142.66	13.024	
8,500.00	5,501.97	8,000.00	5,505.77	78.86	79.17	90.18	-3,954.12	1,566.93	1,835.86	1,688.72	147.14	12.477	
8,600.00	5,501.47	8,040.67	5,506.15	81.09	79.93	90.20	-3,976.76	1,600.71	1,816.19	1,664.48	151.71	11.971	
8,700.00	5,500.97	8,100.00	5,506.71	83.32	81.05	90.23	-4,011.06	1,649.12	1,799.20	1,643.03	156.16	11.521	
8,800.00	5,500.48	8,142.34	5,507.10	85.56	81.88	90.25	-4,036.45	1,683.00	1,784.75	1,624.14	160.61	11.112	
8,900.00	5,499.98	8,200.00	5,507.64	87.80	83.00	90.28	-4,072.22	1,728.21	1,773.03	1,608.06	164.97	10.747	
9,000.00	5,499.48	8,245.46	5,508.06	90.04	83.91	90.30	-4,101.37	1,763.09	1,763.95	1,594.71	169.24	10.423	
9,100.00	5,498.98	8,300.00	5,508.57	92.29	85.00	90.33	-4,137.43	1,804.00	1,757.60	1,584.17	173.43	10.135	
9,200.00	5,498.48	8,349.45	5,509.03	94.54	86.01	90.35	-4,171.13	1,840.19	1,753.97	1,576.49	177.48	9.883	
9,290.33	5,498.03	8,400.00	5,509.51	96.58	87.04	90.38	-4,206.52	1,876.27	1,753.04	1,571.96	181.08	9.681	
9,300.00	5,497.98	8,400.00	5,509.51	96.79	87.04	90.38	-4,206.52	1,876.27	1,753.06	1,571.67	181.40	9.664	
9,400.00	5,497.48	8,453.70	5,510.01	99.05	88.15	90.40	-4,245.16	1,913.56	1,754.89	1,569.67	185.22	9.475	
9,500.00	5,496.99	8,500.00	5,510.44	101.31	89.10	90.42	-4,279.30	1,944.83	1,759.46	1,570.68	188.78	9.320	
9,600.00	5,496.49	8,557.66	5,510.96	103.57	90.29	90.45	-4,322.87	1,982.60	1,766.71	1,574.34	192.37	9.184	
9,700.00	5,495.99	8,600.00	5,511.25	105.83	91.17	90.46	-4,355.57	2,009.49	1,776.72	1,581.23	195.49	9.089	
9,800.00	5,495.49	8,660.90	5,511.49	108.09	92.42	90.48	-4,403.62	2,046.89	1,789.30	1,590.43	198.86	8.998	
9,900.00	5,494.99	8,700.00	5,511.54	110.36	93.23	90.48	-4,435.10	2,070.09	1,804.64	1,603.14	201.50	8.956	
10,000.00	5,494.49	8,762.60	5,511.44	112.62	94.51	90.49	-4,486.45	2,105.89	1,822.44	1,617.79	204.65	8.905	
10,100.00	5,493.99	8,800.00	5,511.28	114.89	95.28	90.49	-4,517.67	2,126.47	1,842.98	1,636.15	206.83	8.911	
10,200.00	5,493.49	8,862.26	5,510.85	117.16	96.54	90.48	-4,570.52	2,159.37	1,865.87	1,656.16	209.71	8.897 SF	
10,300.00	5,493.00	8,900.00	5,510.48	119.43	97.30	90.47	-4,603.07	2,178.48	1,891.41	1,679.89	211.51	8.942	
10,400.00	5,492.50	8,959.39	5,509.75	121.70	98.48	90.45	-4,655.02	2,207.23	1,919.24	1,705.20	214.04	8.967	
10,500.00	5,492.00	9,000.00	5,509.14	123.98	99.29	90.44	-4,691.05	2,225.96	1,949.55	1,733.93	215.62	9.042	
10,600.00	5,491.50	9,070.50	5,507.90	126.25	100.67	90.40	-4,754.38	2,256.91	1,981.99	1,763.51	218.48	9.072	
10,700.00	5,491.00	9,164.90	5,506.18	128.53	102.51	90.36	-4,839.39	2,297.92	2,014.95	1,792.48	222.47	9.057	
10,800.00	5,490.50	9,259.30	5,504.47	130.80	104.36	90.31	-4,924.40	2,338.93	2,047.90	1,821.44	226.46	9.043	
10,900.00	5,490.00	9,353.71	5,502.76	133.08	106.21	90.27	-5,009.42	2,379.94	2,080.86	1,850.40	230.45	9.029	
11,000.00	5,489.51	9,448.11	5,501.04	135.36	108.06	90.23	-5,094.43	2,420.95	2,113.81	1,879.36	234.45	9.016	
11,100.00	5,489.01	9,542.51	5,499.33	137.64	109.91	90.19	-5,179.44	2,461.97	2,146.77	1,908.32	238.45	9.003	
11,200.00	5,488.51	9,636.91	5,497.62	139.92	111.76	90.15	-5,264.45	2,502.98	2,179.73	1,937.28	242.45	8.990	
11,300.00	5,488.01	9,731.32	5,495.90	142.20	113.62	90.12	-5,349.47	2,543.99	2,212.69	1,966.23	246.46	8.978	

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 Haynes Canyon Unit 424 H
Project:	Rio Arriba County, New Mexico NAD83 NM C	TVD Reference:	RKB=6765+25 @ 6790.00ft
Reference Site:	Haynes Canyon Unit (420, 422, 424 & 426)	MD Reference:	RKB=6765+25 @ 6790.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Aug2923v16
Reference Design:	rev1	Offset TVD Reference:	Offset Datum

Offset Design: Haynes Canyon Unit (420, 422) - Haynes Canyon Unit 422 H - Original Hole - rev0												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-102.94	-4.48	-19.52	20.03				
100.00	100.00	100.00	100.00	0.13	0.13	-102.94	-4.48	-19.52	20.03	19.76	0.27	74.501	
200.00	200.00	200.00	200.00	0.49	0.49	-102.94	-4.48	-19.52	20.03	19.04	0.99	20.318	
300.00	300.00	300.00	300.00	0.85	0.85	-102.94	-4.48	-19.52	20.03	18.33	1.70	11.763	
400.00	400.00	400.00	400.00	1.21	1.21	-102.94	-4.48	-19.52	20.03	17.61	2.42	8.278	
500.00	500.00	500.00	500.00	1.57	1.57	-102.94	-4.48	-19.52	20.03	16.89	3.14	6.386	
600.00	600.00	600.14	600.09	1.93	1.91	-110.44	-6.85	-18.38	19.62	15.78	3.84	5.112	
629.71	629.71	629.81	629.71	2.03	2.01	-115.66	-8.46	-17.61	19.54	15.49	4.05	4.830 CC, ES	
700.00	700.00	699.73	699.37	2.29	2.25	-132.79	-13.89	-15.00	20.46	15.92	4.53	4.512	
800.00	800.00	798.25	797.04	2.64	2.61	-159.60	-25.43	-9.46	27.30	22.07	5.23	5.220	
900.00	900.00	895.19	892.37	3.00	2.99	-177.38	-41.21	-1.88	41.95	36.05	5.90	7.113	
1,000.00	1,000.00	990.11	984.75	3.36	3.40	172.92	-60.86	7.56	63.20	56.65	6.54	9.657	
1,100.00	1,099.95	1,083.15	1,074.13	3.71	3.85	54.44	-84.11	18.73	88.50	81.34	7.16	12.360	
1,200.00	1,199.66	1,174.60	1,160.66	4.05	4.35	53.18	-110.77	31.53	115.74	107.98	7.76	14.916	
1,300.00	1,299.29	1,263.70	1,243.51	4.40	4.89	52.64	-140.30	45.71	146.76	138.41	8.35	17.577	
1,400.00	1,398.91	1,350.01	1,322.22	4.75	5.47	52.00	-172.19	61.03	182.02	173.08	8.93	20.373	
1,500.00	1,498.53	1,433.32	1,396.61	5.11	6.08	51.37	-205.99	77.27	221.33	211.83	9.50	23.303	
1,600.00	1,598.16	1,513.49	1,466.59	5.47	6.72	50.77	-241.25	94.20	264.49	254.45	10.04	26.343	
1,700.00	1,697.78	1,590.42	1,532.14	5.84	7.39	50.22	-277.54	111.63	311.29	300.73	10.56	29.473	
1,800.00	1,797.40	1,664.07	1,593.32	6.21	8.08	49.72	-314.49	129.38	361.51	350.45	11.06	32.673	
1,900.00	1,897.03	1,734.44	1,650.27	6.58	8.78	49.28	-351.75	147.28	414.93	403.39	11.54	35.943	
2,000.00	1,996.65	1,802.00	1,703.47	6.95	9.48	48.88	-389.28	165.30	471.35	459.34	12.01	39.257	
2,100.00	2,096.28	1,883.57	1,766.86	7.32	10.37	48.46	-435.54	187.52	529.12	516.40	12.72	41.600	
2,200.00	2,195.90	1,965.13	1,830.26	7.70	11.27	48.13	-481.81	209.75	586.91	573.47	13.44	43.667	
2,300.00	2,295.52	2,046.70	1,893.65	8.07	12.18	47.86	-528.08	231.97	644.71	630.54	14.17	45.504	
2,400.00	2,395.15	2,128.27	1,957.04	8.45	13.10	47.63	-574.34	254.19	702.52	687.62	14.90	47.142	
2,500.00	2,494.77	2,209.84	2,020.44	8.83	14.02	47.43	-620.61	276.42	760.33	744.69	15.64	48.607	
2,600.00	2,594.39	2,291.41	2,083.83	9.21	14.95	47.27	-666.88	298.64	818.15	801.77	16.39	49.925	
2,700.00	2,694.02	2,372.97	2,147.23	9.59	15.89	47.12	-713.14	320.86	875.98	858.84	17.14	51.116	
2,800.00	2,793.64	2,454.54	2,210.62	9.97	16.82	47.00	-759.41	343.08	933.81	915.92	17.89	52.200	
2,900.00	2,893.26	2,536.11	2,274.02	10.35	17.77	46.89	-805.68	365.31	991.64	972.99	18.64	53.187	
3,000.00	2,992.89	2,617.68	2,337.41	10.73	18.71	46.79	-851.95	387.53	1,049.47	1,030.07	19.40	54.090	
3,100.00	3,092.51	2,699.25	2,400.80	11.11	19.66	46.70	-898.21	409.75	1,107.30	1,087.14	20.16	54.918	
3,200.00	3,192.13	2,780.81	2,464.20	11.49	20.60	46.62	-944.48	431.98	1,165.14	1,144.21	20.93	55.679	
3,300.00	3,291.76	2,862.38	2,527.59	11.87	21.55	46.54	-990.75	454.20	1,222.98	1,201.28	21.69	56.382	
3,400.00	3,391.38	2,943.95	2,590.99	12.25	22.51	46.48	-1,037.01	476.42	1,280.81	1,258.36	22.46	57.032	
3,500.00	3,491.00	3,025.52	2,654.38	12.63	23.46	46.42	-1,083.28	498.65	1,338.65	1,315.43	23.23	57.636	
3,600.00	3,590.63	3,107.09	2,717.78	13.01	24.41	46.36	-1,129.55	520.87	1,396.49	1,372.50	24.00	58.197	
3,700.00	3,690.25	3,188.65	2,781.17	13.40	25.37	46.31	-1,175.81	543.09	1,454.34	1,429.57	24.77	58.719	
3,800.00	3,789.88	3,270.22	2,844.57	13.78	26.32	46.26	-1,222.08	565.31	1,512.18	1,486.64	25.54	59.207	
3,900.00	3,889.50	3,351.79	2,907.96	14.16	27.28	46.22	-1,268.35	587.54	1,570.02	1,543.70	26.31	59.664	
4,000.00	3,989.12	3,433.36	2,971.35	14.55	28.24	46.18	-1,314.61	609.76	1,627.86	1,600.77	27.09	60.091	
4,100.00	4,088.75	3,514.93	3,034.75	14.93	29.20	46.14	-1,360.88	631.98	1,685.71	1,657.84	27.87	60.493	
4,200.00	4,188.37	3,596.49	3,098.14	15.31	30.15	46.11	-1,407.15	654.21	1,743.55	1,714.91	28.64	60.871	
4,300.00	4,287.99	3,678.06	3,161.54	15.70	31.11	46.07	-1,453.42	676.43	1,801.39	1,771.97	29.42	61.226	
4,400.00	4,387.67	3,759.32	3,224.69	16.08	32.07	46.86	-1,499.51	698.57	1,859.66	1,829.46	30.20	61.583	
4,500.00	4,487.61	3,838.55	3,286.27	16.43	33.00	48.39	-1,544.45	720.15	1,920.48	1,889.54	30.94	62.071	
4,600.00	4,587.61	3,916.29	3,346.69	16.76	33.92	162.09	-1,588.54	741.33	1,983.03	1,951.38	31.65	62.659	
4,700.00	4,687.61	3,994.01	3,407.09	17.09	34.83	161.85	-1,632.63	762.51	2,045.61	2,013.26	32.35	63.227	
4,800.00	4,787.61	4,071.73	3,467.49	17.42	35.75	161.63	-1,676.71	783.68	2,108.22	2,075.16	33.06	63.767	
4,900.00	4,887.61	4,149.45	3,527.90	17.76	36.66	161.42	-1,720.79	804.86	2,170.85	2,137.08	33.77	64.281	
5,000.00	4,987.39	4,229.95	3,590.46	18.11	37.61	24.00	-1,766.46	826.79	2,229.88	2,195.37	34.51	64.620	

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 Haynes Canyon Unit 424 H
Project:	Rio Arriba County, New Mexico NAD83 NM C	TVD Reference:	RKB=6765+25 @ 6790.00ft
Reference Site:	Haynes Canyon Unit (420, 422, 424 & 426)	MD Reference:	RKB=6765+25 @ 6790.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Aug2923v16
Reference Design:	rev1	Offset TVD Reference:	Offset Datum

Offset Design: Haynes Canyon Unit (420, 422) - Haynes Canyon Unit 422 H - Original Hole - rev0											Offset Site Error:	0.00 ft
Survey Program: 0-MWD											Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor
5,800.00	5,508.80	4,953.31	4,152.66	24.58	46.15	30.63	-2,176.76	1,023.87	2,189.70	2,146.80	42.91	51.034
5,900.00	5,514.94	5,017.28	4,202.37	25.97	46.91	35.57	-2,213.04	1,041.29	2,127.87	2,083.71	44.16	48.182
6,000.00	5,514.44	5,076.26	4,248.22	27.48	47.60	36.91	-2,246.50	1,057.36	2,062.76	2,017.25	45.51	45.324
6,100.00	5,513.94	5,135.25	4,294.06	29.09	48.30	38.30	-2,279.96	1,073.43	1,998.79	1,951.75	47.04	42.488
6,200.00	5,513.44	5,194.23	4,339.90	30.78	49.00	39.74	-2,313.42	1,089.50	1,936.08	1,887.30	48.78	39.692
6,300.00	5,512.94	5,253.22	4,385.74	32.56	49.70	41.23	-2,346.87	1,105.57	1,874.75	1,824.02	50.73	36.957
6,400.00	5,512.44	5,312.20	4,431.59	34.39	50.39	42.78	-2,380.33	1,121.64	1,814.94	1,762.02	52.92	34.299
6,500.00	5,511.95	5,371.19	4,477.43	36.28	51.09	44.38	-2,413.79	1,137.71	1,756.80	1,701.45	55.35	31.738
6,600.00	5,511.45	5,430.17	4,523.27	38.22	51.79	46.04	-2,447.25	1,153.78	1,700.51	1,642.45	58.06	29.287
6,700.00	5,510.95	5,489.16	4,569.12	40.19	52.48	47.75	-2,480.70	1,169.85	1,646.27	1,585.21	61.06	26.962
6,800.00	5,510.45	5,548.14	4,614.96	42.20	53.18	49.52	-2,514.16	1,185.92	1,594.26	1,529.91	64.35	24.774
6,900.00	5,509.95	5,607.13	4,660.80	44.24	53.88	51.34	-2,547.62	1,202.00	1,544.73	1,476.78	67.95	22.734
7,000.00	5,509.45	5,666.11	4,706.64	46.30	54.58	53.21	-2,581.07	1,218.07	1,497.92	1,426.06	71.85	20.846
7,100.00	5,508.95	5,725.10	4,752.49	48.38	55.27	55.13	-2,614.53	1,234.14	1,454.09	1,378.02	76.07	19.115
7,200.00	5,508.45	5,784.08	4,798.33	50.48	55.97	57.10	-2,647.99	1,250.21	1,413.51	1,332.93	80.58	17.542
7,300.00	5,507.96	5,843.07	4,844.17	52.60	56.67	59.12	-2,681.45	1,266.28	1,376.48	1,291.12	85.36	16.125
7,400.00	5,507.46	5,902.05	4,890.02	54.74	57.37	61.18	-2,714.90	1,282.35	1,343.30	1,252.91	90.38	14.863
7,500.00	5,506.96	5,961.04	4,935.86	56.89	58.07	63.27	-2,748.36	1,298.42	1,314.24	1,218.65	95.59	13.749
7,600.00	5,506.46	6,020.02	4,981.70	59.05	58.76	65.40	-2,781.82	1,314.49	1,289.59	1,188.67	100.91	12.779
7,700.00	5,505.96	6,079.01	5,027.54	61.22	59.46	67.55	-2,815.28	1,330.56	1,269.60	1,163.31	106.29	11.945
7,800.00	5,505.46	6,137.99	5,073.39	63.40	60.16	69.72	-2,848.73	1,346.63	1,254.51	1,142.89	111.62	11.239
7,900.00	5,504.96	6,196.98	5,119.23	65.59	60.86	71.91	-2,882.19	1,362.70	1,244.48	1,127.66	116.82	10.653
8,000.00	5,504.47	6,255.96	5,165.07	67.78	61.55	74.11	-2,915.65	1,378.77	1,239.64	1,117.86	121.78	10.179
8,042.11	5,504.26	6,280.80	5,184.38	68.71	61.85	75.04	-2,929.74	1,385.53	1,239.17	1,115.39	123.78	10.011
8,100.00	5,503.97	6,326.61	5,219.88	69.99	62.40	76.74	-2,955.77	1,398.20	1,240.03	1,113.32	126.71	9.786
8,200.00	5,503.47	6,385.66	5,265.83	72.20	63.08	78.52	-3,014.30	1,414.30	1,237.96	1,104.10	133.86	9.248
8,300.00	5,502.97	6,444.71	5,311.98	74.41	63.73	80.31	-3,163.64	1,572.46	1,233.55	1,095.27	138.28	8.921
8,400.00	5,502.47	6,503.76	5,358.23	76.63	64.42	82.14	-3,218.14	1,626.96	1,231.45	1,088.90	142.55	8.638
8,500.00	5,501.97	6,562.81	5,404.54	78.86	65.17	84.01	-3,280.97	1,689.79	1,230.72	1,083.93	146.79	8.384
8,600.00	5,501.47	6,621.86	5,450.85	81.09	65.92	85.91	-3,348.75	1,757.57	1,230.58	1,079.56	151.02	8.148
8,700.00	5,500.97	6,680.91	5,497.16	83.32	66.67	87.82	-3,419.46	1,828.28	1,230.58	1,075.31	155.28	7.925
8,800.00	5,500.48	6,739.96	5,543.47	85.56	67.43	89.73	-3,490.17	1,898.99	1,230.58	1,071.03	159.56	7.713
8,900.00	5,499.98	6,799.01	5,589.78	87.80	68.18	91.64	-3,560.87	1,969.70	1,230.58	1,066.73	163.85	7.510
9,000.00	5,499.48	6,858.06	5,636.09	90.04	68.93	93.55	-3,631.58	2,040.41	1,230.58	1,062.42	168.16	7.318
9,100.00	5,498.98	6,917.11	5,682.40	92.29	69.68	95.46	-3,702.29	2,111.12	1,230.58	1,058.09	172.49	7.134
9,200.00	5,498.48	6,976.16	5,728.71	94.54	70.43	97.37	-3,773.00	2,181.83	1,230.58	1,053.74	176.84	6.959
9,300.00	5,497.98	7,035.21	5,775.02	96.79	71.18	99.28	-3,843.71	2,252.54	1,230.58	1,049.39	181.19	6.792
9,400.00	5,497.48	7,094.26	5,821.33	99.05	71.93	101.19	-3,914.42	2,323.25	1,230.58	1,045.02	185.56	6.632
9,500.00	5,496.98	7,153.31	5,867.64	101.31	72.68	103.10	-3,985.13	2,393.97	1,230.58	1,040.63	189.94	6.479
9,600.00	5,496.48	7,212.36	5,913.95	103.57	73.43	105.01	-4,055.84	2,464.68	1,230.57	1,036.24	194.33	6.332
9,700.00	5,495.98	7,271.41	5,960.26	105.83	74.18	106.92	-4,126.55	2,535.39	1,230.57	1,031.84	198.74	6.192
9,800.00	5,495.48	7,330.46	6,006.57	108.09	74.93	108.83	-4,197.26	2,606.10	1,230.57	1,027.42	203.15	6.058
9,900.00	5,494.98	7,389.51	6,052.88	110.36	75.68	110.74	-4,267.97	2,676.81	1,230.57	1,023.00	207.57	5.929
10,000.00	5,494.48	7,448.56	6,099.19	112.62	76.43	112.65	-4,338.67	2,747.52	1,230.57	1,018.57	212.00	5.805
10,100.00	5,493.98	7,507.61	6,145.50	114.89	77.18	114.56	-4,409.38	2,818.23	1,230.57	1,014.14	216.43	5.686
10,200.00	5,493.48	7,566.66	6,191.81	117.16	77.93	116.47	-4,480.09	2,888.94	1,230.57	1,009.69	220.88	5.571
10,300.00	5,493.00	7,625.71	6,238.12	119.43	78.68	118.38	-4,550.80	2,959.65	1,230.57	1,005.24	225.33	5.461
10,400.00	5,492.50	7,684.76	6,284.43	121.70	79.43	120.29	-4,621.51	3,030.36	1,230.57	1,000.78	229.78	5.355
10,500.00	5,492.00	7,743.81	6,330.74	123.98	80.18	122.20	-4,692.22	3,101.07	1,230.57	996.32	234.25	5.253
10,600.00	5,491.50	7,802.86	6,377.05	126.25	80.93	124.11	-4,762.93	3,171.78	1,230.56	991.85	238.72	5.155
10,700.00	5,491.00	7,861.91	6,423.36	128.53	81.68	126.02	-4,833.64	3,242.49	1,230.56	987.37	243.19	5.060
10,800.00	5,490.50	7,920.96	6,469.67	130.80	82.43	127.93	-4,904.35	3,313.20	1,230.56	982.89	247.67	4.969

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 Haynes Canyon Unit 424 H
Project:	Rio Arriba County, New Mexico NAD83 NM C	TVD Reference:	RKB=6765+25 @ 6790.00ft
Reference Site:	Haynes Canyon Unit (420, 422, 424 & 426)	MD Reference:	RKB=6765+25 @ 6790.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Aug2923v16
Reference Design:	rev1	Offset TVD Reference:	Offset Datum

Offset Design: Haynes Canyon Unit (420, 422) - Haynes Canyon Unit 422 H - 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	
10,900.00	5,490.00	9,239.54	5,468.87	133.08	120.74	89.02	-4,975.06	3,383.91	1,230.56	978.41	252.15	4.880	
11,000.00	5,489.51	9,339.54	5,468.40	135.36	122.92	89.02	-5,045.77	3,454.62	1,230.56	973.92	256.64	4.795	
11,100.00	5,489.01	9,439.54	5,467.93	137.64	125.11	89.02	-5,116.48	3,525.34	1,230.56	969.43	261.13	4.712	
11,200.00	5,488.51	9,539.54	5,467.46	139.92	127.30	89.02	-5,187.18	3,596.05	1,230.56	964.93	265.63	4.633	
11,300.00	5,488.01	9,639.54	5,466.99	142.20	129.50	89.02	-5,257.89	3,666.76	1,230.56	960.43	270.13	4.555	
11,400.00	5,487.51	9,739.54	5,466.52	144.48	131.69	89.02	-5,328.60	3,737.47	1,230.56	955.92	274.63	4.481	
11,500.00	5,487.01	9,839.54	5,466.05	146.76	133.90	89.02	-5,399.31	3,808.18	1,230.56	951.41	279.14	4.408	
11,600.00	5,486.51	9,939.54	5,465.58	149.05	136.10	89.03	-5,470.02	3,878.89	1,230.55	946.90	283.65	4.338	
11,700.00	5,486.02	10,039.54	5,465.10	151.33	138.31	89.03	-5,540.73	3,949.60	1,230.55	942.39	288.17	4.270	
11,800.00	5,485.52	10,139.54	5,464.63	153.62	140.52	89.03	-5,611.44	4,020.31	1,230.55	937.87	292.68	4.204	
11,900.00	5,485.02	10,239.54	5,464.16	155.90	142.74	89.03	-5,682.15	4,091.02	1,230.55	933.35	297.20	4.140	
12,000.00	5,484.52	10,339.54	5,463.69	158.19	144.95	89.03	-5,752.86	4,161.73	1,230.55	928.82	301.73	4.078	
12,100.00	5,484.02	10,439.54	5,463.22	160.47	147.17	89.03	-5,823.57	4,232.44	1,230.55	924.30	306.25	4.018	
12,200.00	5,483.52	10,539.54	5,462.75	162.76	149.40	89.03	-5,894.28	4,303.15	1,230.55	919.77	310.78	3.960	
12,300.00	5,483.02	10,639.54	5,462.28	165.05	151.62	89.03	-5,964.99	4,373.86	1,230.55	915.24	315.31	3.903	
12,400.00	5,482.52	10,739.54	5,461.81	167.33	153.85	89.04	-6,035.69	4,444.57	1,230.55	910.70	319.84	3.847	
12,500.00	5,482.03	10,839.54	5,461.34	169.62	156.08	89.04	-6,106.40	4,515.28	1,230.55	906.17	324.38	3.794	
12,600.00	5,481.53	10,939.54	5,460.86	171.91	158.31	89.04	-6,177.11	4,585.99	1,230.54	901.63	328.91	3.741	
12,700.00	5,481.03	11,039.54	5,460.39	174.20	160.55	89.04	-6,247.82	4,656.71	1,230.54	897.09	333.45	3.690	
12,800.00	5,480.53	11,139.54	5,459.92	176.49	162.78	89.04	-6,318.53	4,727.42	1,230.54	892.55	337.99	3.641	
12,900.00	5,480.03	11,239.54	5,459.45	178.78	165.02	89.04	-6,389.24	4,798.13	1,230.54	888.01	342.53	3.592	
13,000.00	5,479.53	11,339.54	5,458.98	181.07	167.26	89.04	-6,459.95	4,868.84	1,230.54	883.46	347.08	3.545	
13,100.00	5,479.03	11,439.54	5,458.51	183.36	169.50	89.04	-6,530.66	4,939.55	1,230.54	878.91	351.62	3.500	
13,200.00	5,478.54	11,539.54	5,458.04	185.65	171.75	89.05	-6,601.37	5,010.26	1,230.54	874.37	356.17	3.455	
13,300.00	5,478.04	11,639.54	5,457.57	187.94	173.99	89.05	-6,672.08	5,080.97	1,230.54	869.82	360.72	3.411	
13,400.00	5,477.54	11,739.54	5,457.09	190.23	176.24	89.05	-6,742.79	5,151.68	1,230.54	865.26	365.27	3.369	
13,500.00	5,477.04	11,839.54	5,456.62	192.53	178.49	89.05	-6,813.50	5,222.39	1,230.54	860.71	369.82	3.327	
13,600.00	5,476.54	11,939.54	5,456.15	194.82	180.74	89.05	-6,884.20	5,293.10	1,230.53	856.16	374.38	3.287	
13,700.00	5,476.04	12,039.54	5,455.68	197.11	182.99	89.05	-6,954.91	5,363.81	1,230.53	851.60	378.93	3.247	
13,800.00	5,475.54	12,139.54	5,455.21	199.40	185.24	89.05	-7,025.62	5,434.52	1,230.53	847.05	383.49	3.209	
13,900.00	5,475.04	12,239.54	5,454.74	201.70	187.49	89.05	-7,096.33	5,505.23	1,230.53	842.49	388.04	3.171	
14,000.00	5,474.55	12,339.54	5,454.27	203.99	189.75	89.06	-7,167.04	5,575.94	1,230.53	837.93	392.60	3.134	
14,100.00	5,474.05	12,439.54	5,453.80	206.28	192.00	89.06	-7,237.75	5,646.65	1,230.53	833.37	397.16	3.098	
14,200.00	5,473.55	12,539.54	5,453.33	208.58	194.26	89.06	-7,308.46	5,717.36	1,230.53	828.81	401.72	3.063	
14,300.00	5,473.05	12,639.54	5,452.85	210.87	196.52	89.06	-7,379.17	5,788.08	1,230.53	824.24	406.28	3.029	
14,400.00	5,472.55	12,739.54	5,452.38	213.17	198.78	89.06	-7,449.88	5,858.79	1,230.53	819.68	410.85	2.995	
14,500.00	5,472.05	12,839.54	5,451.91	215.46	201.04	89.06	-7,520.59	5,929.50	1,230.53	815.11	415.41	2.962	
14,600.00	5,471.55	12,939.54	5,451.44	217.75	203.30	89.06	-7,591.30	6,000.21	1,230.52	810.55	419.98	2.930	
14,700.00	5,471.06	13,039.54	5,450.97	220.05	205.56	89.06	-7,662.01	6,070.92	1,230.52	805.98	424.54	2.898	
14,800.00	5,470.56	13,139.54	5,450.50	222.34	207.83	89.07	-7,732.71	6,141.63	1,230.52	801.41	429.11	2.868	
14,900.00	5,470.06	13,239.54	5,450.03	224.64	210.09	89.07	-7,803.42	6,212.34	1,230.52	796.85	433.67	2.837	
15,000.00	5,469.56	13,339.54	5,449.56	226.94	212.36	89.07	-7,874.13	6,283.05	1,230.52	792.28	438.24	2.808	
15,100.00	5,469.06	13,439.54	5,449.08	229.23	214.62	89.07	-7,944.84	6,353.76	1,230.52	787.71	442.81	2.779	
15,200.00	5,468.56	13,539.54	5,448.61	231.53	216.89	89.07	-8,015.55	6,424.47	1,230.52	783.14	447.38	2.750	
15,300.00	5,468.06	13,639.54	5,448.14	233.82	219.16	89.07	-8,086.26	6,495.18	1,230.52	778.57	451.95	2.723	
15,400.00	5,467.56	13,739.54	5,447.67	236.12	221.43	89.07	-8,156.97	6,565.89	1,230.52	773.99	456.52	2.695	
15,500.00	5,467.07	13,839.54	5,447.20	238.42	223.69	89.07	-8,227.68	6,636.60	1,230.52	769.42	461.10	2.669	
15,600.00	5,466.57	13,939.54	5,446.73	240.71	225.96	89.08	-8,298.39	6,707.31	1,230.51	764.85	465.67	2.642	
15,700.00	5,466.07	14,039.54	5,446.26	243.01	228.24	89.08	-8,369.10	6,778.02	1,230.51	760.27	470.24	2.617	
15,800.00	5,465.57	14,139.54	5,445.79	245.31	230.51	89.08	-8,439.81	6,848.73	1,230.51	755.70	474.82	2.592	
15,900.00	5,465.07	14,239.54	5,445.31	247.60	232.78	89.08	-8,510.52	6,919.45	1,230.51	751.12	479.39	2.567	
16,000.00	5,464.57	14,339.54	5,444.84	249.90	235.05	89.08	-8,581.22	6,990.16	1,230.51	746.54	483.97	2.543	

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 Haynes Canyon Unit 424 H
Project:	Rio Arriba County, New Mexico NAD83 NM C	TVD Reference:	RKB=6765+25 @ 6790.00ft
Reference Site:	Haynes Canyon Unit (420, 422, 424 & 426)	MD Reference:	RKB=6765+25 @ 6790.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Aug2923v16
Reference Design:	rev1	Offset TVD Reference:	Offset Datum

Offset Design: Haynes Canyon Unit (420, 422) - Haynes Canyon Unit 422 H - 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	
16,100.00	5,464.07	14,439.54	5,444.37	252.20	237.32	89.08	-8,651.93	7,060.87	1,230.51	741.97	488.54	2.519	
16,200.00	5,463.58	14,539.54	5,443.90	254.50	239.60	89.08	-8,722.64	7,131.58	1,230.51	737.39	493.12	2.495	
16,300.00	5,463.08	14,639.54	5,443.43	256.79	241.87	89.09	-8,793.35	7,202.29	1,230.51	732.81	497.69	2.472	
16,400.00	5,462.58	14,739.54	5,442.96	259.09	244.15	89.09	-8,864.06	7,273.00	1,230.51	728.23	502.27	2.450	
16,500.00	5,462.08	14,839.54	5,442.49	261.39	246.42	89.09	-8,934.77	7,343.71	1,230.51	723.66	506.85	2.428	
16,600.00	5,461.58	14,939.54	5,442.02	263.69	248.70	89.09	-9,005.48	7,414.42	1,230.51	719.08	511.43	2.406	
16,700.00	5,461.08	15,039.54	5,441.55	265.98	250.98	89.09	-9,076.19	7,485.13	1,230.50	714.50	516.01	2.385	
16,800.00	5,460.58	15,139.54	5,441.07	268.28	253.25	89.09	-9,146.90	7,555.84	1,230.50	709.92	520.59	2.364	
16,900.00	5,460.08	15,239.54	5,440.60	270.58	255.53	89.09	-9,217.61	7,626.55	1,230.50	705.33	525.17	2.343	
17,000.00	5,459.59	15,339.54	5,440.13	272.88	257.81	89.09	-9,288.32	7,697.26	1,230.50	700.75	529.75	2.323	
17,100.00	5,459.09	15,439.54	5,439.66	275.18	260.09	89.10	-9,359.02	7,767.97	1,230.50	696.17	534.33	2.303	
17,200.00	5,458.59	15,539.54	5,439.19	277.48	262.37	89.10	-9,429.73	7,838.68	1,230.50	691.59	538.91	2.283	
17,300.00	5,458.09	15,639.54	5,438.72	279.78	264.65	89.10	-9,500.44	7,909.39	1,230.50	687.01	543.49	2.264	
17,400.00	5,457.59	15,739.54	5,438.25	282.07	266.93	89.10	-9,571.15	7,980.11	1,230.50	682.42	548.07	2.245	
17,500.00	5,457.09	15,839.54	5,437.78	284.37	269.21	89.10	-9,641.86	8,050.82	1,230.50	677.84	552.66	2.227	
17,600.00	5,456.59	15,939.54	5,437.30	286.67	271.49	89.10	-9,712.57	8,121.53	1,230.50	673.26	557.24	2.208	
17,700.00	5,456.10	16,039.54	5,436.83	288.97	273.77	89.10	-9,783.28	8,192.24	1,230.49	668.67	561.82	2.190	
17,800.00	5,455.60	16,139.54	5,436.36	291.27	276.05	89.10	-9,853.99	8,262.95	1,230.49	664.09	566.41	2.172	
17,900.00	5,455.10	16,239.54	5,435.89	293.57	278.33	89.11	-9,924.70	8,333.66	1,230.49	659.50	570.99	2.155	
18,000.00	5,454.60	16,339.54	5,435.42	295.87	280.61	89.11	-9,995.41	8,404.37	1,230.49	654.92	575.58	2.138	
18,100.00	5,454.10	16,439.54	5,434.95	298.17	282.90	89.11	-10,066.12	8,475.08	1,230.49	650.33	580.16	2.121	
18,200.00	5,453.60	16,539.54	5,434.48	300.47	285.18	89.11	-10,136.83	8,545.79	1,230.49	645.74	584.74	2.104	
18,300.00	5,453.10	16,639.54	5,434.01	302.77	287.46	89.11	-10,207.53	8,616.50	1,230.49	641.16	589.33	2.088	
18,400.00	5,452.60	16,739.54	5,433.54	305.07	289.75	89.11	-10,278.24	8,687.21	1,230.49	636.57	593.92	2.072	
18,500.00	5,452.11	16,839.54	5,433.06	307.37	292.03	89.11	-10,348.95	8,757.92	1,230.49	631.99	598.50	2.056	
18,600.00	5,451.61	16,939.54	5,432.59	309.67	294.32	89.11	-10,419.66	8,828.63	1,230.49	627.40	603.09	2.040	
18,700.00	5,451.11	17,039.54	5,432.12	311.97	296.60	89.12	-10,490.37	8,899.34	1,230.48	622.81	607.67	2.025	
18,800.00	5,450.61	17,139.54	5,431.65	314.27	298.89	89.12	-10,561.08	8,970.05	1,230.48	618.22	612.26	2.010	
18,900.00	5,450.11	17,239.54	5,431.18	316.57	301.17	89.12	-10,631.79	9,040.76	1,230.48	613.63	616.85	1.995 Level 3<2.00	
19,000.00	5,449.61	17,339.54	5,430.71	318.87	303.46	89.12	-10,702.50	9,111.48	1,230.48	609.05	621.44	1.980 Level 3<2.00	
19,100.00	5,449.11	17,439.54	5,430.24	321.17	305.74	89.12	-10,773.21	9,182.19	1,230.48	604.46	626.02	1.966 Level 3<2.00	
19,200.00	5,448.62	17,539.54	5,429.77	323.47	308.03	89.12	-10,843.92	9,252.90	1,230.48	599.87	630.61	1.951 Level 3<2.00	
19,300.00	5,448.12	17,639.54	5,429.29	325.77	310.32	89.12	-10,914.63	9,323.61	1,230.48	595.28	635.20	1.937 Level 3<2.00	
19,400.00	5,447.62	17,739.54	5,428.82	328.07	312.60	89.12	-10,985.34	9,394.32	1,230.48	590.69	639.79	1.923 Level 3<2.00	
19,500.00	5,447.12	17,839.54	5,428.35	330.37	314.89	89.13	-11,056.04	9,465.03	1,230.48	586.10	644.38	1.910 Level 3<2.00	
19,600.00	5,446.62	17,939.54	5,427.88	332.67	317.18	89.13	-11,126.75	9,535.74	1,230.48	581.51	648.97	1.896 Level 3<2.00	
19,700.00	5,446.12	18,039.54	5,427.41	334.97	319.46	89.13	-11,197.46	9,606.45	1,230.48	576.92	653.55	1.883 Level 3<2.00	
19,800.00	5,445.62	18,139.54	5,426.94	337.27	321.75	89.13	-11,268.17	9,677.16	1,230.47	572.33	658.14	1.870 Level 3<2.00	
19,900.00	5,445.12	18,239.54	5,426.47	339.57	324.04	89.13	-11,338.88	9,747.87	1,230.47	567.74	662.73	1.857 Level 3<2.00	
20,000.00	5,444.63	18,339.54	5,426.00	341.87	326.33	89.13	-11,409.59	9,818.58	1,230.47	563.15	667.32	1.844 Level 3<2.00	
20,100.00	5,444.13	18,439.54	5,425.52	344.17	328.62	89.13	-11,480.30	9,889.29	1,230.47	558.56	671.91	1.831 Level 3<2.00	
20,200.00	5,443.63	18,539.54	5,425.05	346.47	330.91	89.14	-11,551.01	9,960.00	1,230.47	553.97	676.50	1.819 Level 3<2.00	
20,300.00	5,443.13	18,639.54	5,424.58	348.77	333.20	89.14	-11,621.72	10,030.71	1,230.47	549.38	681.09	1.807 Level 3<2.00	
20,326.06	5,443.00	18,665.59	5,424.46	349.37	333.79	89.14	-11,640.14	10,049.14	1,230.47	548.18	682.29	1.803 Level 3<2.00, 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 Haynes Canyon Unit 424 H
Project:	Rio Arriba County, New Mexico NAD83 NM C	TVD Reference:	RKB=6765+25 @ 6790.00ft
Reference Site:	Haynes Canyon Unit (420, 422, 424 & 426)	MD Reference:	RKB=6765+25 @ 6790.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Aug2923v16
Reference Design:	rev1	Offset TVD Reference:	Offset Datum

Offset Design: Haynes Canyon Unit (420, 422) - Haynes Canyon Unit 426 H - 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	44.40	20.14	19.72	28.19				
100.00	100.00	100.00	100.00	0.13	0.13	44.40	20.14	19.72	28.19	27.92	0.27	104.839	
200.00	200.00	200.00	200.00	0.49	0.49	44.40	20.14	19.72	28.19	27.20	0.99	28.592	
300.00	300.00	300.00	300.00	0.85	0.85	44.40	20.14	19.72	28.19	26.48	1.70	16.553	
400.00	400.00	400.00	400.00	1.21	1.21	44.40	20.14	19.72	28.19	25.77	2.42	11.649	
500.00	500.00	500.00	500.00	1.57	1.57	44.40	20.14	19.72	28.19	25.05	3.14	8.986 CC, ES	
600.00	600.00	598.72	598.68	1.93	1.92	41.62	22.66	20.13	30.34	26.49	3.85	7.881	
700.00	700.00	696.92	696.57	2.29	2.28	35.30	30.15	21.34	37.10	32.54	4.56	8.140	
800.00	800.00	794.08	792.92	2.64	2.64	28.80	42.44	23.34	48.95	43.70	5.25	9.319	
900.00	900.00	889.73	887.03	3.00	3.02	23.74	59.25	26.06	66.02	60.09	5.93	11.134	
1,000.00	1,000.00	983.44	978.30	3.36	3.42	20.17	80.22	29.46	88.17	81.58	6.59	13.389	
1,100.00	1,099.95	1,074.61	1,065.98	3.71	3.85	-96.46	104.82	33.45	115.45	108.24	7.21	16.020	
1,200.00	1,199.66	1,162.50	1,149.29	4.05	4.30	-100.08	132.43	37.92	148.30	140.50	7.80	19.014	
1,300.00	1,299.29	1,247.22	1,228.30	4.40	4.78	-103.13	162.60	42.81	186.15	177.78	8.37	22.247	
1,400.00	1,398.91	1,329.44	1,303.61	4.75	5.28	-105.12	195.14	48.09	228.31	219.38	8.93	25.558	
1,500.00	1,498.53	1,419.04	1,385.02	5.11	5.87	-106.62	232.10	54.08	272.33	262.70	9.63	28.287	
1,600.00	1,598.16	1,508.64	1,466.42	5.47	6.48	-107.70	269.05	60.07	316.45	306.11	10.33	30.625	
1,700.00	1,697.78	1,598.24	1,547.83	5.84	7.09	-108.52	306.01	66.06	360.64	349.59	11.05	32.644	
1,800.00	1,797.40	1,687.85	1,629.24	6.21	7.72	-109.16	342.97	72.05	404.87	393.10	11.77	34.399	
1,900.00	1,897.03	1,777.45	1,710.64	6.58	8.36	-109.67	379.92	78.04	449.14	436.64	12.50	35.936	
2,000.00	1,996.65	1,867.05	1,792.05	6.95	9.00	-110.09	416.88	84.03	493.43	480.20	13.23	37.290	
2,100.00	2,096.28	1,956.65	1,873.45	7.32	9.65	-110.44	453.83	90.02	537.74	523.77	13.97	38.491	
2,200.00	2,195.90	2,046.26	1,954.86	7.70	10.30	-110.74	490.79	96.01	582.07	567.35	14.71	39.562	
2,300.00	2,295.52	2,135.86	2,036.27	8.07	10.95	-111.00	527.75	101.99	626.40	610.94	15.46	40.522	
2,400.00	2,395.15	2,225.46	2,117.67	8.45	11.61	-111.22	564.70	107.98	670.74	654.54	16.21	41.387	
2,500.00	2,494.77	2,315.06	2,199.08	8.83	12.27	-111.42	601.66	113.97	715.09	698.14	16.96	42.170	
2,600.00	2,594.39	2,404.66	2,280.49	9.21	12.93	-111.59	638.61	119.96	759.45	741.74	17.71	42.882	
2,700.00	2,694.02	2,494.27	2,361.89	9.59	13.59	-111.74	675.57	125.95	803.81	785.35	18.46	43.532	
2,800.00	2,793.64	2,583.87	2,443.30	9.97	14.25	-111.88	712.53	131.94	848.18	828.96	19.22	44.127	
2,900.00	2,893.26	2,673.47	2,524.70	10.35	14.92	-112.00	749.48	137.93	892.55	872.57	19.98	44.674	
3,000.00	2,992.89	2,763.07	2,606.11	10.73	15.58	-112.11	786.44	143.92	936.92	916.18	20.74	45.178	
3,100.00	3,092.51	2,852.68	2,687.52	11.11	16.25	-112.21	823.39	149.91	981.29	959.79	21.50	45.643	
3,200.00	3,192.13	2,942.28	2,768.92	11.49	16.91	-112.31	860.35	155.90	1,025.67	1,003.41	22.26	46.075	
3,300.00	3,291.76	3,031.88	2,850.33	11.87	17.58	-112.39	897.31	161.89	1,070.05	1,047.03	23.02	46.476	
3,400.00	3,391.38	3,121.48	2,931.73	12.25	18.25	-112.47	934.26	167.88	1,114.43	1,090.64	23.79	46.849	
3,500.00	3,491.00	3,211.09	3,013.14	12.63	18.92	-112.54	971.22	173.87	1,158.81	1,134.26	24.55	47.198	
3,600.00	3,590.63	3,300.69	3,094.55	13.01	19.59	-112.61	1,008.17	179.86	1,203.20	1,177.88	25.32	47.524	
3,700.00	3,690.25	3,390.29	3,175.95	13.40	20.26	-112.67	1,045.13	185.85	1,247.58	1,221.50	26.08	47.830	
3,800.00	3,789.88	3,479.89	3,257.36	13.78	20.93	-112.73	1,082.09	191.84	1,291.97	1,265.11	26.85	48.116	
3,900.00	3,889.50	3,569.49	3,338.76	14.16	21.60	-112.79	1,119.04	197.83	1,336.35	1,308.73	27.62	48.386	
4,000.00	3,989.12	3,659.10	3,420.17	14.55	22.27	-112.84	1,156.00	203.82	1,380.74	1,352.35	28.39	48.640	
4,100.00	4,088.75	3,748.70	3,501.58	14.93	22.95	-112.88	1,192.96	209.81	1,425.13	1,395.97	29.16	48.880	
4,200.00	4,188.37	3,838.30	3,582.98	15.31	23.62	-112.93	1,229.91	215.80	1,469.52	1,439.59	29.93	49.106	
4,300.00	4,287.99	3,927.90	3,664.39	15.70	24.29	-112.97	1,266.87	221.79	1,513.91	1,483.21	30.70	49.321	
4,400.00	4,387.67	4,017.64	3,745.91	16.08	24.96	-113.70	1,303.88	227.79	1,558.03	1,526.57	31.46	49.521	
4,500.00	4,487.61	4,108.09	3,828.09	16.43	25.64	-114.82	1,341.18	233.84	1,600.47	1,568.26	32.21	49.692	
4,600.00	4,587.61	4,198.28	3,909.55	16.76	26.31	-115.88	1,378.81	239.89	1,642.81	1,604.81	32.96	49.842	
4,700.00	4,687.61	4,288.44	4,000.00	17.09	26.98	-116.93	1,416.44	245.94	1,685.14	1,644.74	33.70	49.982	
4,800.00	4,787.61	4,378.60	4,090.46	17.42	27.65	-117.98	1,454.07	251.99	1,725.47	1,683.27	34.43	50.112	
4,900.00	4,887.61	4,468.76	4,180.91	17.76	28.32	-119.03	1,491.70	258.04	1,765.20	1,721.00	35.16	50.242	
5,000.00	4,987.39	4,558.92	4,271.36	18.11	29.00	-120.08	1,529.33	264.09	1,804.93	1,760.73	35.89	50.372	
5,100.00	5,084.88	4,649.08	4,361.81	18.45	29.67	-121.13	1,566.96	270.14	1,844.66	1,800.46	36.62	50.502	

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 Haynes Canyon Unit 424 H
Project:	Rio Arriba County, New Mexico NAD83 NM C	TVD Reference:	RKB=6765+25 @ 6790.00ft
Reference Site:	Haynes Canyon Unit (420, 422, 424 & 426)	MD Reference:	RKB=6765+25 @ 6790.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Aug2923v16
Reference Design:	rev1	Offset TVD Reference:	Offset Datum

Offset Design: Haynes Canyon Unit (420, 422) - Haynes Canyon Unit 426 H - 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	5,177.11	6,884.77	5,541.45	19.05	31.38	-97.72	706.12	1,183.21	1,283.51	1,237.04	46.47	27.619	
5,300.00	5,261.29	6,938.06	5,541.16	19.64	32.21	-97.84	668.44	1,220.89	1,262.13	1,213.24	48.90	25.812	
5,400.00	5,334.86	7,005.20	5,540.80	20.34	33.30	-97.00	620.96	1,268.36	1,247.82	1,196.35	51.47	24.245	
5,500.00	5,395.58	7,084.17	5,540.37	21.17	34.61	-95.65	565.13	1,324.20	1,239.20	1,185.01	54.18	22.870	
5,600.00	5,445.84	7,170.33	5,539.90	22.16	36.09	-93.83	504.20	1,385.12	1,234.30	1,177.24	57.05	21.634	
5,700.00	5,485.58	7,261.74	5,539.40	23.29	37.70	-92.37	439.56	1,449.76	1,231.88	1,171.81	60.07	20.507	
5,800.00	5,508.80	7,358.75	5,538.88	24.58	39.45	-91.38	370.97	1,518.35	1,231.07	1,167.83	63.24	19.467	
5,900.00	5,514.94	7,458.41	5,538.33	25.97	41.30	-91.09	300.50	1,588.82	1,230.92	1,164.43	66.49	18.512	
6,000.00	5,514.44	7,558.41	5,537.79	27.48	43.19	-91.09	229.79	1,659.53	1,230.92	1,161.05	69.87	17.618	
6,100.00	5,513.94	7,658.41	5,537.25	29.09	45.12	-91.08	159.08	1,730.24	1,230.92	1,157.53	73.39	16.773	
6,200.00	5,513.44	7,758.41	5,536.70	30.78	47.07	-91.08	88.36	1,800.94	1,230.92	1,153.88	77.03	15.980	
6,300.00	5,512.94	7,858.41	5,536.16	32.56	49.06	-91.08	17.65	1,871.65	1,230.91	1,150.13	80.78	15.238	
6,400.00	5,512.44	7,958.41	5,535.62	34.39	51.07	-91.08	-53.06	1,942.36	1,230.91	1,146.29	84.62	14.546	
6,500.00	5,511.95	8,058.41	5,535.07	36.28	53.10	-91.08	-123.77	2,013.07	1,230.91	1,142.37	88.54	13.902	
6,600.00	5,511.45	8,158.41	5,534.53	38.22	55.15	-91.07	-194.48	2,083.78	1,230.90	1,138.38	92.53	13.303	
6,700.00	5,510.95	8,258.41	5,533.99	40.19	57.22	-91.07	-265.19	2,154.49	1,230.90	1,134.33	96.57	12.746	
6,800.00	5,510.45	8,358.41	5,533.44	42.20	59.30	-91.07	-335.90	2,225.20	1,230.90	1,130.23	100.67	12.227	
6,900.00	5,509.95	8,458.41	5,532.90	44.24	61.40	-91.07	-406.61	2,295.90	1,230.89	1,126.09	104.81	11.744	
7,000.00	5,509.45	8,558.41	5,532.36	46.30	63.51	-91.07	-477.32	2,366.61	1,230.89	1,121.90	108.99	11.294	
7,100.00	5,508.95	8,658.41	5,531.81	48.38	65.64	-91.06	-548.03	2,437.32	1,230.89	1,117.69	113.20	10.873	
7,200.00	5,508.45	8,758.41	5,531.27	50.48	67.77	-91.06	-618.74	2,508.03	1,230.89	1,113.44	117.45	10.480	
7,300.00	5,507.96	8,858.41	5,530.72	52.60	69.92	-91.06	-689.45	2,578.74	1,230.88	1,109.17	121.72	10.113	
7,400.00	5,507.46	8,958.41	5,530.18	54.74	72.07	-91.06	-760.16	2,649.45	1,230.88	1,104.87	126.01	9.768	
7,500.00	5,506.96	9,058.41	5,529.64	56.89	74.24	-91.06	-830.88	2,720.15	1,230.88	1,100.55	130.33	9.444	
7,600.00	5,506.46	9,158.41	5,529.09	59.05	76.41	-91.05	-901.59	2,790.86	1,230.87	1,096.20	134.67	9.140	
7,700.00	5,505.96	9,258.41	5,528.55	61.22	78.59	-91.05	-972.30	2,861.57	1,230.87	1,091.85	139.03	8.854	
7,800.00	5,505.46	9,358.41	5,528.01	63.40	80.77	-91.05	-1,043.01	2,932.28	1,230.87	1,087.47	143.40	8.584	
7,900.00	5,504.96	9,458.41	5,527.46	65.59	82.96	-91.05	-1,113.72	3,002.99	1,230.86	1,083.08	147.78	8.329	
8,000.00	5,504.47	9,558.41	5,526.92	67.78	85.16	-91.05	-1,184.43	3,073.70	1,230.86	1,078.68	152.18	8.088	
8,100.00	5,503.97	9,658.41	5,526.38	69.99	87.36	-91.04	-1,255.14	3,144.41	1,230.86	1,074.26	156.60	7.860	
8,200.00	5,503.47	9,758.41	5,525.83	72.20	89.57	-91.04	-1,325.85	3,215.11	1,230.86	1,069.84	161.02	7.644	
8,300.00	5,502.97	9,858.41	5,525.29	74.41	91.78	-91.04	-1,396.56	3,285.82	1,230.85	1,065.40	165.45	7.439	
8,400.00	5,502.47	9,958.41	5,524.75	76.63	93.99	-91.04	-1,467.27	3,356.53	1,230.85	1,060.96	169.89	7.245	
8,500.00	5,501.97	10,058.41	5,524.20	78.86	96.21	-91.03	-1,537.98	3,427.24	1,230.85	1,056.50	174.34	7.060	
8,600.00	5,501.47	10,158.41	5,523.66	81.09	98.44	-91.03	-1,608.69	3,497.95	1,230.84	1,052.04	178.80	6.884	
8,700.00	5,500.97	10,258.41	5,523.12	83.32	100.66	-91.03	-1,679.40	3,568.66	1,230.84	1,047.57	183.27	6.716	
8,800.00	5,500.48	10,358.41	5,522.57	85.56	102.89	-91.03	-1,750.12	3,639.37	1,230.84	1,043.09	187.74	6.556	
8,900.00	5,499.98	10,458.41	5,522.03	87.80	105.13	-91.03	-1,820.83	3,710.07	1,230.84	1,038.61	192.22	6.403	
9,000.00	5,499.48	10,558.41	5,521.48	90.04	107.36	-91.02	-1,891.54	3,780.78	1,230.83	1,034.12	196.71	6.257	
9,100.00	5,498.98	10,658.41	5,520.94	92.29	109.60	-91.02	-1,962.25	3,851.49	1,230.83	1,029.63	201.20	6.117	
9,200.00	5,498.48	10,758.41	5,520.40	94.54	111.84	-91.02	-2,032.96	3,922.20	1,230.83	1,025.13	205.70	5.984	
9,300.00	5,497.98	10,858.41	5,519.85	96.79	114.09	-91.02	-2,103.67	3,992.91	1,230.82	1,020.62	210.20	5.855	
9,400.00	5,497.48	10,958.41	5,519.31	99.05	116.33	-91.02	-2,174.38	4,063.62	1,230.82	1,016.11	214.71	5.733	
9,500.00	5,496.99	11,058.41	5,518.77	101.31	118.58	-91.01	-2,245.09	4,134.32	1,230.82	1,011.60	219.22	5.615	
9,600.00	5,496.49	11,158.41	5,518.22	103.57	120.83	-91.01	-2,315.80	4,205.03	1,230.82	1,007.08	223.73	5.501	
9,700.00	5,495.99	11,258.41	5,517.68	105.83	123.08	-91.01	-2,386.51	4,275.74	1,230.81	1,002.56	228.25	5.392	
9,800.00	5,495.49	11,358.41	5,517.14	108.09	125.34	-91.01	-2,457.22	4,346.45	1,230.81	998.04	232.77	5.288	
9,900.00	5,494.99	11,458.41	5,516.59	110.36	127.59	-91.01	-2,527.93	4,417.16	1,230.81	993.51	237.30	5.187	
10,000.00	5,494.49	11,558.41	5,516.05	112.62	129.85	-91.00	-2,598.64	4,487.87	1,230.80	988.98	241.82	5.090	
10,100.00	5,493.99	11,658.41	5,515.51	114.89	132.11	-91.00	-2,669.36	4,558.58	1,230.80	984.45	246.36	4.996	
10,200.00	5,493.49	11,758.41	5,514.96	117.16	134.37	-91.00	-2,740.07	4,629.28	1,230.80	979.91	250.89	4.906	
10,300.00	5,493.00	11,858.41	5,514.42	119.43	136.63	-91.00	-2,810.78	4,699.99	1,230.80	975.37	255.43	4.819	

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 Haynes Canyon Unit 424 H
Project:	Rio Arriba County, New Mexico NAD83 NM C	TVD Reference:	RKB=6765+25 @ 6790.00ft
Reference Site:	Haynes Canyon Unit (420, 422, 424 & 426)	MD Reference:	RKB=6765+25 @ 6790.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Aug2923v16
Reference Design:	rev1	Offset TVD Reference:	Offset Datum

Offset Design: Haynes Canyon Unit (420, 422) - Haynes Canyon Unit 426 H - 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	
10,400.00	5,492.50	11,958.41	5,513.88	121.70	138.89	-91.00	-2,881.49	4,770.70	1,230.79	970.83	259.96	4.734	
10,500.00	5,492.00	12,058.41	5,513.33	123.98	141.16	-90.99	-2,952.20	4,841.41	1,230.79	966.28	264.51	4.653	
10,600.00	5,491.50	12,158.41	5,512.79	126.25	143.42	-90.99	-3,022.91	4,912.12	1,230.79	961.74	269.05	4.575	
10,700.00	5,491.00	12,258.41	5,512.24	128.53	145.69	-90.99	-3,093.62	4,982.83	1,230.78	957.19	273.60	4.499	
10,800.00	5,490.50	12,358.41	5,511.70	130.80	147.96	-90.99	-3,164.33	5,053.54	1,230.78	952.64	278.14	4.425	
10,900.00	5,490.00	12,458.41	5,511.16	133.08	150.23	-90.98	-3,235.04	5,124.24	1,230.78	948.09	282.69	4.354	
11,000.00	5,489.51	12,558.41	5,510.61	135.36	152.50	-90.98	-3,305.75	5,194.95	1,230.77	943.53	287.24	4.285	
11,100.00	5,489.01	12,658.41	5,510.07	137.64	154.77	-90.98	-3,376.46	5,265.66	1,230.77	938.97	291.80	4.218	
11,200.00	5,488.51	12,758.41	5,509.53	139.92	157.04	-90.98	-3,447.17	5,336.37	1,230.77	934.42	296.35	4.153	
11,300.00	5,488.01	12,858.41	5,508.98	142.20	159.32	-90.98	-3,517.88	5,407.08	1,230.77	929.86	300.91	4.090	
11,400.00	5,487.51	12,958.41	5,508.44	144.48	161.59	-90.97	-3,588.59	5,477.79	1,230.76	925.30	305.47	4.029	
11,500.00	5,487.01	13,058.41	5,507.90	146.76	163.86	-90.97	-3,659.31	5,548.49	1,230.76	920.73	310.03	3.970	
11,600.00	5,486.51	13,158.41	5,507.35	149.05	166.14	-90.97	-3,730.02	5,619.20	1,230.76	916.17	314.59	3.912	
11,700.00	5,486.02	13,258.41	5,506.81	151.33	168.42	-90.97	-3,800.73	5,689.91	1,230.75	911.60	319.15	3.856	
11,800.00	5,485.52	13,358.41	5,506.27	153.62	170.69	-90.97	-3,871.44	5,760.62	1,230.75	907.04	323.71	3.802	
11,900.00	5,485.02	13,458.41	5,505.72	155.90	172.97	-90.96	-3,942.15	5,831.33	1,230.75	902.47	328.28	3.749	
12,000.00	5,484.52	13,558.41	5,505.18	158.19	175.25	-90.96	-4,012.86	5,902.04	1,230.75	897.90	332.84	3.698	
12,100.00	5,484.02	13,658.41	5,504.64	160.47	177.53	-90.96	-4,083.57	5,972.75	1,230.74	893.33	337.41	3.648	
12,200.00	5,483.52	13,758.41	5,504.09	162.76	179.81	-90.96	-4,154.28	6,043.45	1,230.74	888.76	341.98	3.599	
12,300.00	5,483.02	13,858.41	5,503.55	165.05	182.09	-90.96	-4,224.99	6,114.16	1,230.74	884.19	346.55	3.551	
12,400.00	5,482.52	13,958.41	5,503.00	167.33	184.37	-90.95	-4,295.70	6,184.87	1,230.73	879.62	351.12	3.505	
12,500.00	5,482.03	14,058.41	5,502.46	169.62	186.65	-90.95	-4,366.41	6,255.58	1,230.73	875.04	355.69	3.460	
12,600.00	5,481.53	14,158.41	5,501.92	171.91	188.93	-90.95	-4,437.12	6,326.29	1,230.73	870.47	360.26	3.416	
12,700.00	5,481.03	14,258.41	5,501.37	174.20	191.22	-90.95	-4,507.83	6,397.00	1,230.73	865.89	364.84	3.373	
12,800.00	5,480.53	14,358.41	5,500.83	176.49	193.50	-90.95	-4,578.55	6,467.70	1,230.72	861.31	369.41	3.332	
12,900.00	5,480.03	14,458.41	5,500.29	178.78	195.78	-90.94	-4,649.26	6,538.41	1,230.72	856.74	373.98	3.291	
13,000.00	5,479.53	14,558.41	5,499.74	181.07	198.07	-90.94	-4,719.97	6,609.12	1,230.72	852.16	378.56	3.251	
13,100.00	5,479.03	14,658.41	5,499.20	183.36	200.35	-90.94	-4,790.68	6,679.83	1,230.71	847.58	383.14	3.212	
13,200.00	5,478.54	14,758.41	5,498.66	185.65	202.64	-90.94	-4,861.39	6,750.54	1,230.71	843.00	387.71	3.174	
13,300.00	5,478.04	14,858.41	5,498.11	187.94	204.92	-90.93	-4,932.10	6,821.25	1,230.71	838.42	392.29	3.137	
13,400.00	5,477.54	14,958.41	5,497.57	190.23	207.21	-90.93	-5,002.81	6,891.96	1,230.71	833.84	396.87	3.101	
13,500.00	5,477.04	15,058.41	5,497.03	192.53	209.49	-90.93	-5,073.52	6,962.66	1,230.70	829.26	401.45	3.066	
13,600.00	5,476.54	15,158.41	5,496.48	194.82	211.78	-90.93	-5,144.23	7,033.37	1,230.70	824.67	406.03	3.031	
13,700.00	5,476.04	15,258.41	5,495.94	197.11	214.07	-90.93	-5,214.94	7,104.08	1,230.70	820.09	410.61	2.997	
13,800.00	5,475.54	15,358.41	5,495.40	199.40	216.35	-90.92	-5,285.65	7,174.79	1,230.69	815.51	415.19	2.964	
13,900.00	5,475.04	15,458.41	5,494.85	201.70	218.64	-90.92	-5,356.36	7,245.50	1,230.69	810.92	419.77	2.932	
14,000.00	5,474.55	15,558.41	5,494.31	203.99	220.93	-90.92	-5,427.07	7,316.21	1,230.69	806.34	424.35	2.900	
14,100.00	5,474.05	15,658.41	5,493.76	206.28	223.22	-90.92	-5,497.79	7,386.92	1,230.69	801.75	428.93	2.869	
14,200.00	5,473.55	15,758.41	5,493.22	208.58	225.51	-90.92	-5,568.50	7,457.62	1,230.68	797.17	433.52	2.839	
14,300.00	5,473.05	15,858.41	5,492.68	210.87	227.80	-90.91	-5,639.21	7,528.33	1,230.68	792.58	438.10	2.809	
14,400.00	5,472.55	15,958.41	5,492.13	213.17	230.09	-90.91	-5,709.92	7,599.04	1,230.68	787.99	442.69	2.780	
14,500.00	5,472.05	16,058.41	5,491.59	215.46	232.38	-90.91	-5,780.63	7,669.75	1,230.67	783.41	447.27	2.752	
14,600.00	5,471.55	16,158.41	5,491.05	217.75	234.66	-90.91	-5,851.34	7,740.46	1,230.67	778.82	451.85	2.724	
14,700.00	5,471.06	16,258.41	5,490.50	220.05	236.96	-90.91	-5,922.05	7,811.17	1,230.67	774.23	456.44	2.696	
14,800.00	5,470.56	16,358.41	5,489.96	222.34	239.25	-90.90	-5,992.76	7,881.87	1,230.67	769.64	461.03	2.669	
14,900.00	5,470.06	16,458.41	5,489.42	224.64	241.54	-90.90	-6,063.47	7,952.58	1,230.66	765.05	465.61	2.643	
15,000.00	5,469.56	16,558.41	5,488.87	226.94	243.83	-90.90	-6,134.18	8,023.29	1,230.66	760.46	470.20	2.617	
15,100.00	5,469.06	16,658.41	5,488.33	229.23	246.12	-90.90	-6,204.89	8,094.00	1,230.66	755.87	474.79	2.592	
15,200.00	5,468.56	16,758.41	5,487.79	231.53	248.41	-90.90	-6,275.60	8,164.71	1,230.66	751.28	479.37	2.567	
15,300.00	5,468.06	16,858.41	5,487.24	233.82	250.70	-90.89	-6,346.31	8,235.42	1,230.65	746.69	483.96	2.543	
15,400.00	5,467.56	16,958.41	5,486.70	236.12	252.99	-90.89	-6,417.03	8,306.13	1,230.65	742.10	488.55	2.519	
15,500.00	5,467.07	17,058.41	5,486.16	238.42	255.29	-90.89	-6,487.74	8,376.83	1,230.65	737.51	493.14	2.496	

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 Haynes Canyon Unit 424 H
Project:	Rio Arriba County, New Mexico NAD83 NM C	TVD Reference:	RKB=6765+25 @ 6790.00ft
Reference Site:	Haynes Canyon Unit (420, 422, 424 & 426)	MD Reference:	RKB=6765+25 @ 6790.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Aug2923v16
Reference Design:	rev1	Offset TVD Reference:	Offset Datum

Offset Design: Haynes Canyon Unit (420, 422) - Haynes Canyon Unit 426 H - 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	
15,600.00	5,466.57	17,158.41	5,485.61	240.71	257.58	-90.89	-6,558.45	8,447.54	1,230.64	732.92	497.73	2.473	
15,700.00	5,466.07	17,258.41	5,485.07	243.01	259.87	-90.88	-6,629.16	8,518.25	1,230.64	728.32	502.32	2.450	
15,800.00	5,465.57	17,358.41	5,484.52	245.31	262.16	-90.88	-6,699.87	8,588.96	1,230.64	723.73	506.91	2.428	
15,900.00	5,465.07	17,458.41	5,483.98	247.60	264.46	-90.88	-6,770.58	8,659.67	1,230.64	719.14	511.50	2.406	
16,000.00	5,464.57	17,558.41	5,483.44	249.90	266.75	-90.88	-6,841.29	8,730.38	1,230.63	714.55	516.09	2.385	
16,100.00	5,464.07	17,658.41	5,482.89	252.20	269.04	-90.88	-6,912.00	8,801.09	1,230.63	709.95	520.68	2.364	
16,200.00	5,463.58	17,758.41	5,482.35	254.50	271.34	-90.87	-6,982.71	8,871.79	1,230.63	705.36	525.27	2.343	
16,300.00	5,463.08	17,858.41	5,481.81	256.79	273.63	-90.87	-7,053.42	8,942.50	1,230.62	700.77	529.86	2.323	
16,400.00	5,462.58	17,958.41	5,481.26	259.09	275.93	-90.87	-7,124.13	9,013.21	1,230.62	696.17	534.45	2.303	
16,500.00	5,462.08	18,058.41	5,480.72	261.39	278.22	-90.87	-7,194.84	9,083.92	1,230.62	691.58	539.04	2.283	
16,600.00	5,461.58	18,158.41	5,480.18	263.69	280.51	-90.87	-7,265.55	9,154.63	1,230.62	686.98	543.63	2.264	
16,700.00	5,461.08	18,258.41	5,479.63	265.98	282.81	-90.86	-7,336.27	9,225.34	1,230.61	682.39	548.22	2.245	
16,800.00	5,460.58	18,358.41	5,479.09	268.28	285.10	-90.86	-7,406.98	9,296.04	1,230.61	677.79	552.82	2.226	
16,900.00	5,460.08	18,458.41	5,478.55	270.58	287.40	-90.86	-7,477.69	9,366.75	1,230.61	673.20	557.41	2.208	
17,000.00	5,459.59	18,558.41	5,478.00	272.88	289.69	-90.86	-7,548.40	9,437.46	1,230.60	668.60	562.00	2.190	
17,100.00	5,459.09	18,658.41	5,477.46	275.18	291.99	-90.86	-7,619.11	9,508.17	1,230.60	664.01	566.59	2.172	
17,200.00	5,458.59	18,758.41	5,476.92	277.48	294.28	-90.85	-7,689.82	9,578.88	1,230.60	659.41	571.19	2.154	
17,300.00	5,458.09	18,858.41	5,476.37	279.78	296.58	-90.85	-7,760.53	9,649.59	1,230.60	654.82	575.78	2.137	
17,400.00	5,457.59	18,958.41	5,475.83	282.07	298.87	-90.85	-7,831.24	9,720.30	1,230.59	650.22	580.37	2.120	
17,500.00	5,457.09	19,058.41	5,475.28	284.37	301.17	-90.85	-7,901.95	9,791.00	1,230.59	645.62	584.97	2.104	
17,600.00	5,456.59	19,158.41	5,474.74	286.67	303.47	-90.84	-7,972.66	9,861.71	1,230.59	641.03	589.56	2.087	
17,700.00	5,456.10	19,258.41	5,474.20	288.97	305.76	-90.84	-8,043.37	9,932.42	1,230.59	636.43	594.16	2.071	
17,800.00	5,455.60	19,358.41	5,473.65	291.27	308.06	-90.84	-8,114.08	10,003.13	1,230.58	631.83	598.75	2.055	
17,900.00	5,455.10	19,458.41	5,473.11	293.57	310.35	-90.84	-8,184.79	10,073.84	1,230.58	627.24	603.34	2.040	
18,000.00	5,454.60	19,558.41	5,472.57	295.87	312.65	-90.84	-8,255.51	10,144.55	1,230.58	622.64	607.94	2.024	
18,100.00	5,454.10	19,658.41	5,472.02	298.17	314.95	-90.83	-8,326.22	10,215.25	1,230.57	618.04	612.53	2.009	
18,200.00	5,453.60	19,758.41	5,471.48	300.47	317.24	-90.83	-8,396.93	10,285.96	1,230.57	613.44	617.13	1.994 Level 3<2.00	
18,300.00	5,453.10	19,858.41	5,470.94	302.77	319.54	-90.83	-8,467.64	10,356.67	1,230.57	608.85	621.72	1.979 Level 3<2.00	
18,400.00	5,452.60	19,958.41	5,470.39	305.07	321.84	-90.83	-8,538.35	10,427.38	1,230.57	604.25	626.32	1.965 Level 3<2.00	
18,500.00	5,452.11	20,058.41	5,469.85	307.37	324.13	-90.83	-8,609.06	10,498.09	1,230.56	599.65	630.91	1.950 Level 3<2.00	
18,600.00	5,451.61	20,158.41	5,469.31	309.67	326.43	-90.82	-8,679.77	10,568.80	1,230.56	595.05	635.51	1.936 Level 3<2.00	
18,700.00	5,451.11	20,258.41	5,468.76	311.97	328.73	-90.82	-8,750.48	10,639.51	1,230.56	590.45	640.10	1.922 Level 3<2.00	
18,800.00	5,450.61	20,358.41	5,468.22	314.27	331.03	-90.82	-8,821.19	10,710.21	1,230.55	585.85	644.70	1.909 Level 3<2.00	
18,900.00	5,450.11	20,458.41	5,467.68	316.57	333.32	-90.82	-8,891.90	10,780.92	1,230.55	581.26	649.30	1.895 Level 3<2.00	
19,000.00	5,449.61	20,558.41	5,467.13	318.87	335.62	-90.82	-8,962.61	10,851.63	1,230.55	576.66	653.89	1.882 Level 3<2.00	
19,024.20	5,449.49	20,582.58	5,467.00	319.42	336.18	-90.82	-8,979.70	10,868.72	1,230.55	575.55	655.00	1.879 Level 3<2.00, SF	
19,100.00	5,449.11	20,582.58	5,467.00	321.17	336.18	-90.82	-8,979.70	10,868.72	1,232.88	577.13	655.75	1.880 Level 3<2.00	
19,200.00	5,448.62	20,582.58	5,467.00	323.47	336.18	-90.82	-8,979.70	10,868.72	1,243.04	594.05	648.99	1.915 Level 3<2.00	
19,300.00	5,448.12	20,582.58	5,467.00	325.77	336.18	-90.82	-8,979.70	10,868.72	1,261.08	626.53	634.54	1.987 Level 3<2.00	
19,400.00	5,447.62	20,582.58	5,467.00	328.07	336.18	-90.82	-8,979.70	10,868.72	1,286.65	672.31	614.34	2.094	
19,500.00	5,447.12	20,582.58	5,467.00	330.37	336.18	-90.82	-8,979.70	10,868.72	1,319.33	728.89	590.44	2.234	
19,600.00	5,446.62	20,582.58	5,467.00	332.67	336.18	-90.82	-8,979.70	10,868.72	1,358.60	793.96	564.64	2.406	
19,700.00	5,446.12	20,582.58	5,467.00	334.97	336.18	-90.82	-8,979.70	10,868.72	1,403.91	865.61	538.30	2.608	
19,800.00	5,445.62	20,582.58	5,467.00	337.27	336.18	-90.82	-8,979.70	10,868.72	1,454.69	942.34	512.34	2.839	
19,900.00	5,445.12	20,582.58	5,467.00	339.57	336.18	-90.82	-8,979.70	10,868.72	1,510.39	1,023.02	487.37	3.099	
20,000.00	5,444.63	20,582.58	5,467.00	341.87	336.18	-90.82	-8,979.70	10,868.72	1,570.49	1,106.77	463.72	3.387	
20,100.00	5,444.13	20,582.58	5,467.00	344.17	336.18	-90.82	-8,979.70	10,868.72	1,634.50	1,192.96	441.54	3.702	
20,200.00	5,443.63	20,582.58	5,467.00	346.47	336.18	-90.82	-8,979.70	10,868.72	1,701.98	1,281.09	420.90	4.044	
20,300.00	5,443.13	20,582.58	5,467.00	348.77	336.18	-90.82	-8,979.70	10,868.72	1,772.54	1,370.78	401.76	4.412	
20,326.06	5,443.00	20,582.58	5,467.00	349.37	336.18	-90.82	-8,979.70	10,868.72	1,791.39	1,394.37	397.02	4.512	

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 Haynes Canyon Unit 424 H
Project:	Rio Arriba County, New Mexico NAD83 NM C	TVD Reference:	RKB=6765+25 @ 6790.00ft
Reference Site:	Haynes Canyon Unit (420, 422, 424 & 426)	MD Reference:	RKB=6765+25 @ 6790.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Haynes Canyon Unit 424 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Aug2923v16
Reference Design:	rev1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB=6765+25 @ 6790.00ft

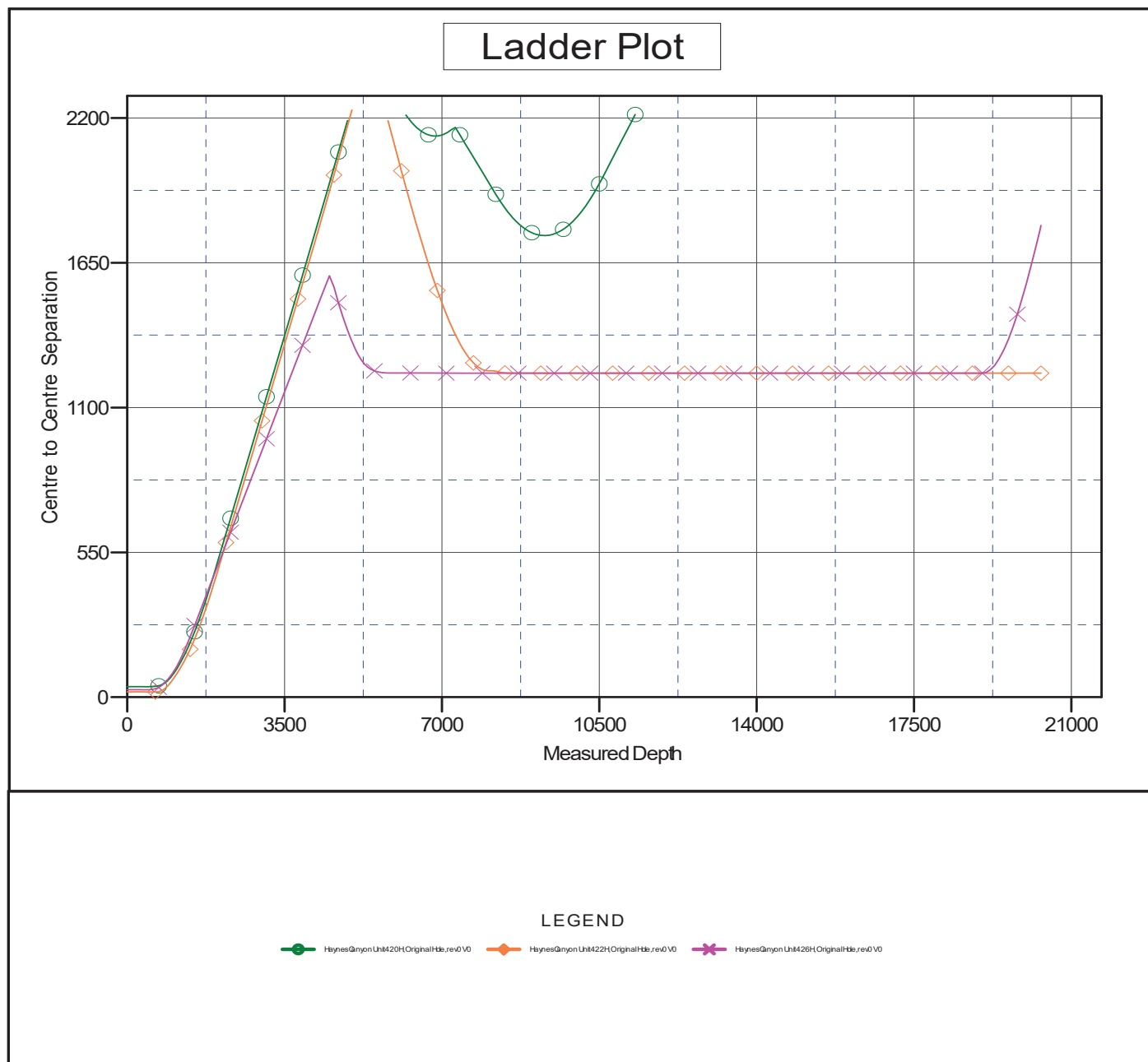
Offset Depths are relative to Offset Datum

Central Meridian is -106.250000000

Coordinates are relative to: Haynes Canyon Unit 424 H

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

Grid Convergence at Surface is: -0.73°



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 Haynes Canyon Unit 424 H
Project:	Rio Arriba County, New Mexico NAD83 NM C	TVD Reference:	RKB=6765+25 @ 6790.00ft
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Reference Design:	rev1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB=6765+25 @ 6790.00ft

Offset Depths are relative to Offset Datum

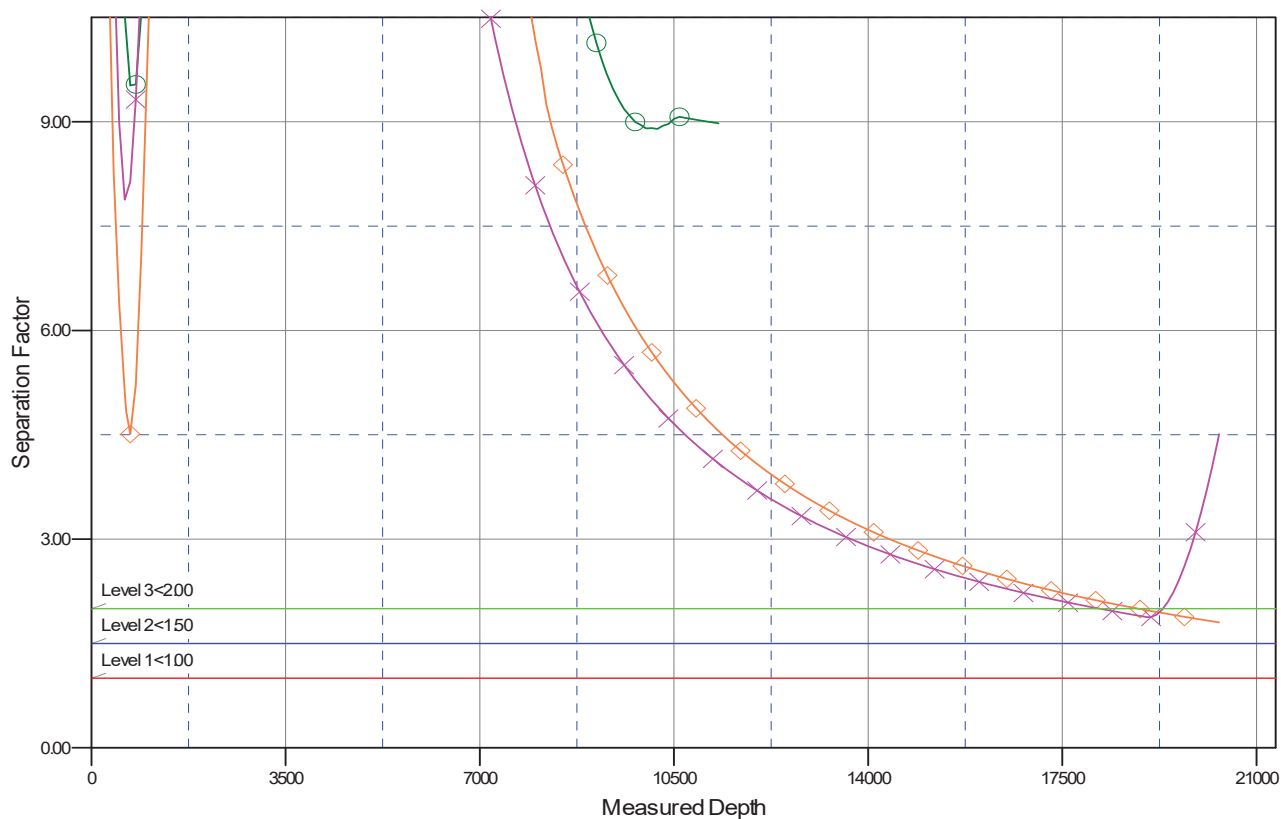
Central Meridian is -106.250000000

Coordinates are relative to: Haynes Canyon Unit 424 H

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

Grid Convergence at Surface is: -0.73°

Separation Factor Plot



LEGEND

 Haynes Canyon Unit 420H Original Hole rev0 V0
  Haynes Canyon Unit 422H Original Hole rev0 V0
  Haynes Canyon Unit 424H Original Hole rev0 V0



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

#424H HAYNES CANYON UNIT

Lease: NMNM130875 Agreement: NMNM105770949

SH: NE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 5, T. 23N., R. 6W.
Rio Arriba County, New Mexico

BH: NE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 15, T. 23N., R. 6W.
Rio Arriba County, New Mexico

***Above Data Required on Well Sign**

GENERAL REQUIREMENTS FOR OIL AND GAS OPERATIONS ON FEDERAL AND INDIAN LEASES

The following special requirements apply and are effective when **checked**:

- A. ☒ Note all surface/drilling conditions of approval attached.
- B. ☒ The required wait on cement (WOC) time will be a minimum of 500 psi compressive strength at 60 degrees. Blowout preventor (BOP) nipple-up operations may then be initiated
- C. ☒ Test all casing strings below the conductor casing to .22 psi/ft. of casing string length or 1500 psi, whichever is greater, but not to exceed 70% of the minimum internal yield (burst) for a minimum of 30 minutes. If pressure declines more than 10 percent in 30 minutes, corrective action shall be taken.
- D. ☐ Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the Bureau of Land Management, New Mexico State Office, Reservoir Management Group, 301 Dinosaur Trail, Santa Fe, New Mexico 87508.
The effective date of the agreement must be **prior** to any sales.
- E. ☐ The use of co-flex hose is authorized contingent upon the following:
 1. From the BOP to the choke manifold: the co-flex hose must be hobbled on both ends and saddle to prevent whip.
 2. From the choke manifold to the discharge tank: the co-flex hoses must be as straight as practical, hobbled on both ends and anchored to prevent whip.
 3. The co-flex hose pressure rating must be at least commensurate with approved BOPE.

INTERIOR REGION 7 • UPPER COLORADO BASIN

COLORADO, NEW MEXICO, UTAH, WYOMING

I. GENERAL

- A. Full compliance with all applicable laws and regulations, with the approved Permit to drill, and with the approved Surface Use and Operations Plan is required. Lessees and/or operators are fully accountable for the actions of their contractors and subcontractors. Failure to comply with these requirements and the filing of required reports will result in strict enforcement pursuant to 43 CFR 3163.1 or 3163.2.
- B. Each well shall have a well sign in legible condition from spud date to final abandonment. The sign should show the operator's name, lease serial number, or unit name, well number, location of the well, and whether lease is Tribal or Allotted, (See 43 CFR 3162.6(b)).
- C. A complete copy of the approved Application for Permit to Drill, along with any conditions of approval, shall be available to authorized personnel at the drill site whenever active drilling operations are under way.
- D. For Wildcat wells only, a drilling operations progress report is to be submitted, to the BLM-Field Office, weekly from the spud date until the well is completed and the Well Completion Report is filed. The report should be on 8-1/2 x 11 inch paper, and each page should identify the well by; operator's name, well number, location and lease number.
- E. As soon as practical, notice is required of all blowouts, fires and accidents involving life-threatening injuries or loss of life. (See NTL-3A).
- F. BOP equipment (except the annular preventer) shall be tested utilizing a test plug to full working pressure for 10 minutes. No bleed-off of pressure is acceptable. (See 43 CFR 3172.6(b)(9)(ii)).
- G. The operator shall have sufficient weighting materials and lost circulation materials on location in the event of a pressure kick or in the event of lost circulation. (See 43 CFR 3172.8(a)).
- H. The flare line(s) discharge shall be located not less than 100 feet from the well head, having straight lines unless turns are targeted with running tees, and shall be positioned downwind of the prevailing wind direction and shall be anchored. The flare system shall have an effective method for ignition. Where noncombustible gas is likely or expected to be vented, the system shall be provided supplemental fuel for ignition and to maintain a continuous flare. (See 43 CFR 3172.8(b)(7)).
- I. Prior approval by the BLM-Authorized Office (Drilling and Production Section) is required for variance from the approved drilling program and before commencing plugging operations, plug back work, casing repair work, corrective cementing operations, or suspending drilling operations indefinitely. Emergency approval may be obtained orally, but such approval is contingent upon filing of a Notice of Intent sundry within three business days. **Any changes to the approved plan or any questions regarding drilling operations should be directed to BLM during regular business hours at 505-564-7600. Emergency program changes after hours should be directed to Virgil Lucero at 505-793-1836.**
- J. **The Inspection and Enforcement Section (I&E), phone number (505-564-7750) is to be notified at least 24 hours in advance of BOP test, spudding, cementing, or plugging operations so that a BLM representative may witness the operations.**
- K. Unless drilling operations are commenced within three years according to 43 CFR 3171.14, approval of the Application for Permit to Drill will expire. No extensions will be granted.

- L. From the time drilling operations are initiated and until drilling operations are completed, a member of the drilling crew or the tool pusher shall maintain rig surveillance at all times, unless the well is secured with blowout preventers or cement plugs.
- M. If for any reason, drilling operations are suspended for more than 90 days, a written notice must be provided to this office outlining your plans for this well.
- N. **Commingling:** No production (oil, gas, and water) from the subject well should start until Sundry Notices (if necessary) granting variances from applicable regulations as related to commingling and off-lease measurement are approved by this office. (See 43 CFR 3173.14)

II. REPORTING REQUIREMENTS

- A. For reporting purposes, all well Sundry notices, well completion and other well actions shall be referenced by the appropriate lease, communitization agreement and/or unit agreement numbers.
- B. The following reports shall be filed with the BLM-Authorized Officer online through AFMSS 2 within 30 days after the work is completed.
 - 1. Provide complete information concerning.
 - a. Setting of each string of casing. Show size and depth of hole, grade and weight of casing, depth set, depth of all cementing tools that are used, amount (in cubic feet) and types of cement used, whether cement circulated to surface and all cement tops in the casing annulus, casing test method and results, and the date work was done. Show spud date on first report submitted.
 - b. Intervals tested, perforated (include size, number and location of perforations), acidized, or fractured; and results obtained. Provide date work was done on well completion report and completion sundry notice.
 - c. Subsequent Report of Abandonment, show the way the well was plugged, including depths where casing was cut and pulled, intervals (by depths) where cement plugs were replaced, and dates of the operations.
 - 2. Well Completion Report will be submitted with 30 days after well has been completed.
 - a. Initial Bottom Hole Pressure (BHP) for the producing formations. Show the BHP on the completion report. The pressure may be: 1) measured with a bottom hole bomb, or; 2) calculated based on shut in surface pressures (minimum seven day buildup) and fluid level shot.
 - 3. Submit a cement evaluation log if cement is not circulated to surface.
- C. Production Startup Notification is required no later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site or resumes production in the case of a well which has been off production for more than 90 days. The operator shall notify the Authorized Officer by letter or Sundry Notice, Form 3160-5, or orally to be followed by a letter or Sundry Notice, of the date on which such production has begun or resumed. CFR 43 3162.4-1(c).

III. DRILLER'S LOG

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

IV. GAS FLARING

Gas produced from this well may not be vented or flared beyond an initial, authorized test period of * Days, 20 MMCF following its (completion)(recompletion), or flowback has been routed to the production separator, whichever first occurs, without the prior, written approval of the authorized officer in accordance with 43 CFR 3179.81. Should gas be vented or flared without approval beyond the test period authorized above, you may be directed to shut-in the well until the gas can be captured or approval to continue venting or flaring as uneconomic is granted. You shall be required to compensate the lessor for the portion of the gas vented or flared without approval which is determined to have been avoidably lost.

*30 days, unless a longer test period is specifically approved by the authorized officer. The 30-day period will commence upon the beginning of flowback following completion or recompletion.

V. SAFETY

- A. All rig heating stoves are to be of the explosion-proof type.
- B. Rig safety lines are to be installed.
- C. Hard hats and other Personal Protective Equipment (PPE) must be utilized.

VI. CHANGE OF PLANS OR ABANDONMENT

- A. Any changes of plans required to mitigate unanticipated conditions encountered during drilling operations, will require approval as set forth in Section 1.I.
- B. If the well is dry, it is to be plugged in accordance with 43 CFR 3162.3-4, approval of the proposed plugging program is required as set forth in Section 1.I. The report should show the total depth reached, the reason for plugging, and the proposed intervals, by depths, where cement plugs are to be placed, type of plugging mud, etc. A Subsequent Report of Abandonment is required as set forth in Section II.B.1c.
- C. Unless a well has been properly cased and cemented, or properly plugged, the drilling rig must not be moved from the drill site without prior approval from the BLM-Authorized Officer.

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

General Information
Phone: (505) 629-6116

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

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

CONDITIONS

Action 422830

CONDITIONS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way Centennial, CO 80111	OGRID: 372286
	Action Number: 422830
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
sford	Cement is required to circulate on both surface and intermediate1 strings of casing.	1/21/2025
sford	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	1/21/2025
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	2/8/2025
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	2/8/2025
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.	2/8/2025
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.	2/8/2025
ward.rikala	This well can not be produced until the land/mineral issues on the NENW-S9-T23N-R6W are resolved.	2/8/2025