Form 3160-3
(June 2015)

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.

2. Name of Operator

9. API Well No.
30-039-31485

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface

At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date

Title

Approved by *(Signature)*	Name *(Printed/Typed)*	Date

Title	Office

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

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

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 12/19/2024

Additional Operator Remarks

Location of Well

0. SHL: NESE / 1769 FSL / 521 FEL / TWSP: 23N / RANGE: 6W / SECTION: 5 / LAT: 36.251079 / LONG: -107.485453 (TVD: 0 feet, MD: 0 feet)

PPP: SWNW / 1605 FNL / 147 FWL / TWSP: 23N / RANGE: 6W / SECTION: 9 / LAT: 36.241795 / LONG: -107.483286 (TVD: 5511 feet, MD: 6545 feet)

PPP: NESW / 0 FNL / 0 FWL / TWSP: 23N / RANGE: 6W / SECTION: 15 / LAT: 36.2247 / LONG: -107.46033 (TVD: 5511 feet, MD: 18881 feet)

PPP: NWNE / 0 FNL / 0 FWL / TWSP: 23N / RANGE: 6W / SECTION: 16 / LAT: 36.23174 / LONG: -107.47088 (TVD: 5511 feet, MD: 18881 feet)

PPP: SENW / 0 FNL / 0 FWL / TWSP: 23N / RANGE: 6W / SECTION: 9 / LAT: 36.239734 / LONG: -107.478474 (TVD: 5511 feet, MD: 18881 feet)

PPP: NENE / 0 FSL / 0 FEL / TWSP: 23N / RANGE: 6W / SECTION: 8 / LAT: 36.24611 / LONG: -107.48408 (TVD: 5511 feet, MD: 18881 feet)

PPP: SWSE / 0 FSL / 0 FEL / TWSP: 23N / RANGE: 6W / SECTION: 9 / LAT: 36.232569 / LONG: -107.474048 (TVD: 5511 feet, MD: 18881 feet)

PPP: SWNW / 0 FNL / 0 FWL / TWSP: 23N / RANGE: 6W / SECTION: 15 / LAT: 36.225498 / LONG: -107.464344 (TVD: 5511 feet, MD: 18881 feet)

BHL: SWSE / 232 FSL / 2506 FEL / TWSP: 23N / RANGE: 6W / SECTION: 15 / LAT: 36.218395 / LONG: -107.455356 (TVD: 5511 feet, MD: 18881 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	Pool Name
30-039-31485	13379	COUNSELORS GALLUP - DAKOTA

Property Code	Property Name	Well Number
335063	HAYNES CANYON UNIT	420H

OGRID No.	Operator Name	Ground Level Elevation
372286	ENDURING RESOURCES, LLC	6765'

Surface Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal

Mineral Owner: ☒ State ☒ Fee ☐ Tribal ☒ Federal

Surface Location

UL	Section	Township	Range	Lot	Feet from N/S Line	Feet from E/W Line	Latitude	Longitude	County
I	5	23N	6W		1769' SOUTH	521' EAST	36.251079 °N	-107.485453 °W	RIO ARRIBA

Bottom Hole Location

UL	Section	Township	Range	Lot	Feet from N/S Line	Feet from E/W Line	Latitude	Longitude	County
O	15	23N	6W		232' SOUTH	2506' EAST	36.218395 °N	-107.455356 °W	RIO ARRIBA

Penetrated Spacing Unit:

Dedicated Acres		Infill or Defining Well	Defining Well API	Overlapping Spacing Unit	Consolidation Code
600.00	S/2 NW/4, E/2 SW/4, W/2 SE/4 - Section 9 SW/4 NW/4, SW/4, SW/4 SE/4 - Section 15 N/2 NE/4, SE/4 NE/4 - Section 16			☐ Yes ☐ No	UNIT

Order Numbers: R-23096 R-22369

Well setbacks are under Common Ownership: ☒ Yes ☐ No

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet from N/S Line	Feet from E/W Line	Latitude	Longitude	County
I	5	23N	6W		1769' SOUTH	521' EAST	36.251079 °N	-107.485453 °W	RIO ARRIBA

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet from N/S Line	Feet from E/W Line	Latitude	Longitude	County
E	9	23N	6W		1605' NORTH	147' WEST	36.241795 °N	-107.483286 °W	RIO ARRIBA

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet from N/S Line	Feet from E/W Line	Latitude	Longitude	County
O	15	23N	6W		232' SOUTH	2506' EAST	36.218395 °N	-107.455356 °W	RIO ARRIBA

Unitized Area or Area of Uniform Interest	Spacing Unit Type	Ground Floor Elevation
HAYNES CANYON UNIT	☒ Horizontal ☐ Vertical ☐ Directional	

OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

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

Shaw-Marie Ford
Signature

1/19/2025
Date

Shaw-Marie Ford
Printed Name

sford@enduringresources.com
E-mail Address

SURVEYOR CERTIFICATION

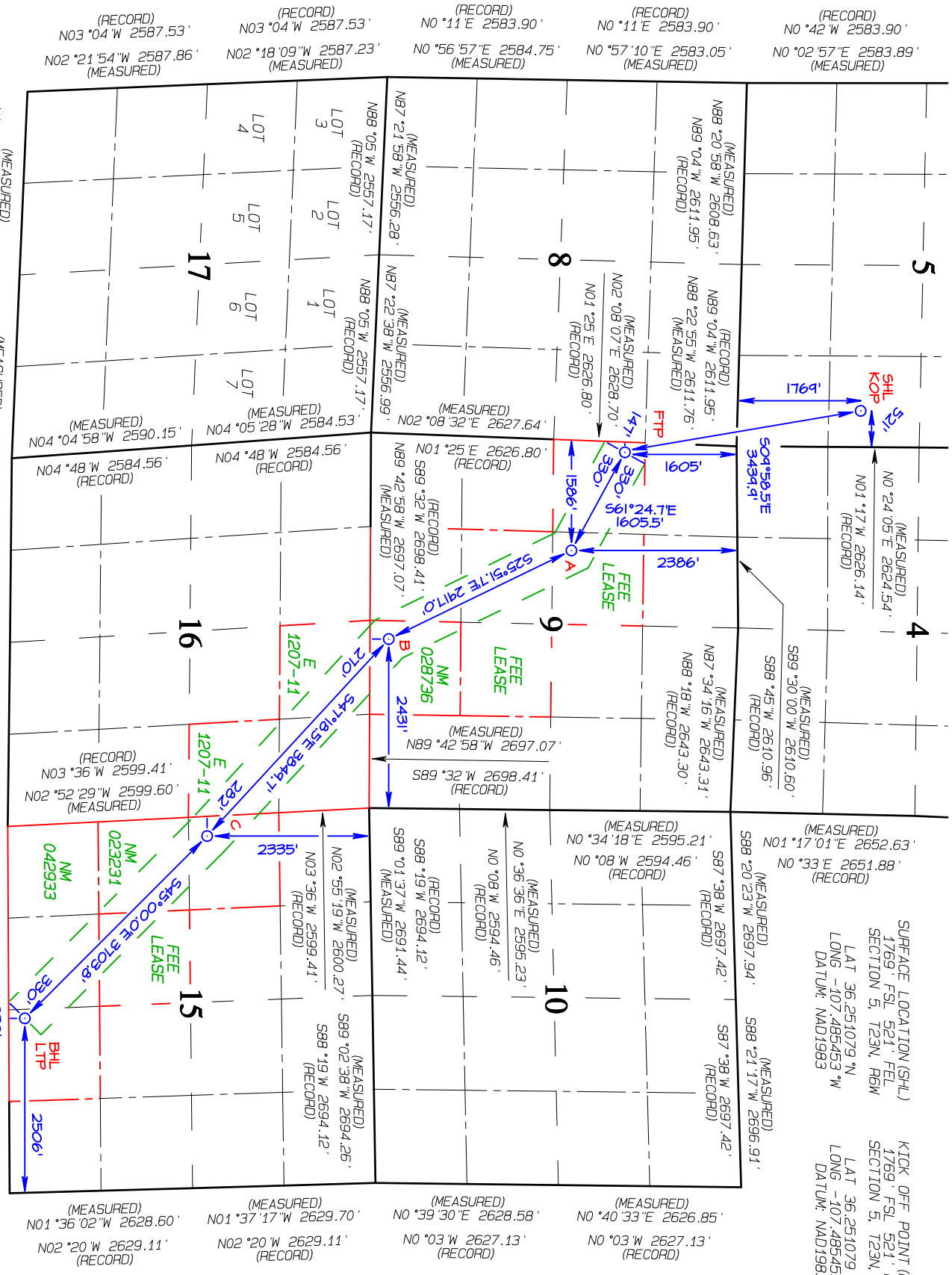
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

JASON C. EDWARDS
NEW MEXICO
15269
1/18/2025
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Signature and Seal of Professional Surveyor

Certificate Number	Date of Survey
15269	OCTOBER 25, 2018

Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.


HAYNES CANYON UNIT #420H
SURFACE LOCATION (SHL)
1769' FSL 521' FEL
SECTION 5, T23N, R6W
LAT 36.251079 °N
LONG -107.485453 °W
DATUM: NAD1983
KICK OFF POINT (KOP)
1769' FSL 521' FEL
SECTION 5, T23N, R6W
LAT 36.251079 °N
LONG -107.485453 °W
DATUM: NAD1983
FIRST TAKE POINT (FTP)
1605' FNL 147' FWL
SECTION 9, T23N, R6W
LAT 36.241795 °N
LONG -107.483286 °W
DATUM: NAD1983
ANGLE POINT (A)
2386' FNL 1586' FWL
SECTION 9, T23N, R6W
LAT 36.239734 °N
LONG -107.478474 °W
DATUM: NAD1983
ANGLE POINT (B)
270' FSL 2431' FEL
SECTION 9, T23N, R6W
LAT 36.232569 °N
LONG -107.474048 °W
DATUM: NAD1983
ANGLE POINT (C)
2335' FNL 282' FWL
SECTION 15, T23N, R6W
LAT 36.225498 °N
LONG -107.464344 °W
DATUM: NAD1983
LAST TAKE POINT (LTP)
232' FSL 2506' FEL
SECTION 15, T23N, R6W
LAT 36.218395 °N
LONG -107.455356 °W
DATUM: NAD1983
BOTTOM HOLE LOCATION (BHL)
232' FSL 2506' FEL
SECTION 15, T23N, R6W
LAT 36.218395 °N
LONG -107.455356 °W
DATUM: NAD1983
SHL
KOP
FTP
LTP
BHL
A
B
C
1769'
521'
1605'
147'
1586'
2386'
270'
2431'
2335'
282'
232'
2506'
330'
S09°58.5'E
3439.9'
S61°24.7'E
1605.5'
S25°51.7'E 2917.0'
S47°18.5'E 3844.7'
S45°00.0'E 3103.9'
FEE LEASE
NM 028736
NM 042933
NM 023231
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(MEASURED)
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S89 °32 'W 2698.41 '
(RECORD)
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S88 °19 'W 2694.12 '
(RECORD)
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(RECORD)
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(RECORD)
(MEASURED) N0 °40 '33 "E 2626.85 '
N0 °03 'W 2627.13 '
(RECORD)

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: Shaw-Marie Ford
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 tall all reasonable actions to achieve a stabilized rate and pressure at the earliest practical time.
    c. Enduring will optimize the system to minimize natural gas venting on any well equipped with a plunger lift or auto control system.
    d. Best Management Practices will be used during downhole well maintenance.
3. During the first year of production from an exploratory well provided:
    a. Enduring receives approval from the NMOCD.
    b. Enduring remains in compliance with the NM gas capture requirements.
    c. Enduring submits an updated C-129 form to the NMOCD.
4. During the following activities unless prohibited:
    a. Gauging or sampling a storage tank or low-pressure production vessel.
    b. Loading out liquids from a storage tank.
    c. Repair and maintenance.
    d. Normal operation of gas activated pneumatic controller or pump.
    e. Normal operation of a storage tank but not including venting from a thief hatch.
    f. Normal operation of dehydration units.
    g. Normal operations of compressors, compressor engines, turbines, valves, flanges, and connectors.
    h. During a bradenhead, packer leakage test, or production test lasting less than 24-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 420H**
API Number: not yet assigned
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 1,769 ft FSL 521 ft FEL
36.251079 ° N latitude 107.485453 ° W longitude (NAD 83)
BH Location: 15-23N-6 Sec-Twn-Rng 232 ft FSL 2,506 ft FEL
36.218395 ° N latitude 107.455356 ° 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	1,444	W	normal
Kirtland	5,310	1,480	1,529	W	normal
Fruitland	5,070	1,720	1,822	G, W	sub
Pictured Cliffs	4,802	1,988	2,158	G, W	sub
Lewis	4,665	2,125	2,330	G, W	normal
Chacra	4,378	2,412	2,691	G, W	normal
Cliff House	3,275	3,515	4,075	G, W	sub
Menefee	3,260	3,530	4,094	G, W	normal
Point Lookout	2,585	4,205	4,941	G, W	normal
Mancos	2,300	4,490	5,299	O,G	sub (~0.38)
Gallup (MNCS_A)	1,970	4,820	5,713	O,G	sub (~0.38)
MNCS_B	1,875	4,915	5,833	O,G	sub (~0.38)
MNCS_C	1,750	5,040	5,989	O,G	sub (~0.38)
MNCS_Cms	1,700	5,090	6,052	O,G	sub (~0.38)
MNCS_D	1,600	5,190	6,182	O,G	sub (~0.38)
MNCS_E	1,510	5,280	6,308	O,G	sub (~0.38)
MNCS_F	1,463	5,327	6,381	O,G	sub (~0.38)
MNCS_G	1,375	5,415	6,545	O,G	sub (~0.38)
MNCS_H	1,300	5,490	6,776	O,G	sub (~0.38)
MNCS_I	0	0	0	O,G	sub (~0.38)
FTP TARGET	**1,375**	**5,415**	**6,545**	**O,G**	**sub (~0.38)**
PROJECTED LTP	**1,375**	**5,415**	**18,881**	**O,G**	**sub (~0.38)**

Surface: Nacimiento
Oil & Gas Zones: Several gas bearing zones will be encountered; target formation is the Gallup
Pressure: Normal (0.43 psi/ft) or sub-normal pressure gradients anticipated in all formations
Max. pressure gradient: 0.43 psi/ft Evacuated hole gradient: 0.22 psi/ft

	Maximum anticipated BH pressure, assuming maximum pressure gradient:	**2,330**	**psi**
	Maximum anticipated surface pressure, assuming partially evacuated hole:	**1,140**	**psi**
Temperature:	**Maximum anticipated BHT is 125° F or less**		

H_2S INFORMATION:

H_2S 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 Cameron (4", 10,000 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.

2) 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.

3) 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.

4) 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.

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

FLUIDS AND SOLIDS CONTROL PROGRAM:

Fluid Measurement:

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

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

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

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

Fluid Program: See "Detailed Drilling Plan" section for 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): *Minumum:* *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*

Cu Ft Slurry
505.3

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

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

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

350 ft (MD)	**to**	**4,282 ft (MD)**	**Hole Section Length:**	**3,932 ft**
350 ft (TVD)	**to**	**3,680 ft (TVD)**	**Casing Required:**	**4,282 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:	**Wt (lb/ft)**	**Grade**	**Conn.**	**Collapse (psi)**	**Burst (psi)**	**Tens. Body (lbs)**	**Tens. Conn (lbs)**
Specs	9.625	36.0	J-55	LTC	2,020	3,520	564,000	453,000
Loading					1,607	1,350	215,529	215,529
Min. S.F.					**1.26**	**2.61**	**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): *Minumum:* *3,400* *Optimum:* *4,530* *Maximum:* *5,660*

	Cement:	**Type**	**Weight (ppg)**	**Yield (cuft/sk)**	**Water (gal/sk)**	**% Excess**	**Planned TOC (ft MD)**	**Total Cmt (sx)**	**Total Cmt (cu ft)**
Stage 1	*Spacer*	D-Mud Breaker	8.5				0	10 bbls	
	Lead	90:10 Type III:POZ	12.5	2.140	12.05	70%	0	913	1,954
	Tail	Type III	14.6	1.380	6.61	20%	3,782	150	207
	Displacement	*328*	*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 .2% 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.***

4,282	ft (MD)	to	18,881	ft (MD)	Hole Section Length: 14,599 ft
3,680	ft (TVD)	to	5,415	ft (TVD)	Casing Required: 18,881 ft

Estimated KOP:	6,050	ft (MD)	5,088	ft (TVD)
Estimated Landing Point (FTP):	6,545	ft (MD)	5,415	ft (TVD)
Estimated Lateral Length:	12,336	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					2,675	9,007	376,974	376,974
Min. S.F.					**2.79**	**1.18**	**1.45**	**1.18**

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-intitiation 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 EZ	11		31.6		0	60 bbls	
Lead	ASTM type I/II	12.4	2.370	13.40	50%	0	634	1,502
Tail	G:POZ blend	13.3	1.570	7.70	10%	5,299	2,180	3,423
Displacement	*417*	*est bbls*						

Annular Capacity	0.2691	cuft/ft	*5-1/2" casing x 9-5/8" casing annulus*		
	0.2291	cuft/ft	*5-1/2" casing x 8-1/2" hole annulus*		
	0.1245	cuft/ft	*5-1/2" casing vol*	*est shoe jt ft*	100

Calculated cement volumes assume gauge hole and the excess noted in table
American Cementing Liner & Production Blend

Spacer	*S-8 Silica Flour 163.7 lbs/bbl*		Avis 616 viscosifier 11.6 lb/bbl	XCem-308 Defoamer .5 lb/bbl	IntegraSeal Hold, ALOC-1212 LCM 15 lb/bbl	SS201 Surfactant 1 gal/bbl	- -		
Lead	*ASTM Type IL*	*Sodium Metasilicate A-2 Accelerator .2% BWOB*	FL-66 Fluid Loss .2% BWOB	IntegraGuard GW86 Viscosifier .1% BWOB	R3 Retarder .5% BWOB	R7C Retarder .1% BWOB	Xcem-1009 Extender 10.0#/sx	XCem-308 Defoamer .3 lb/bbl	Static Free - Anti-static .01 lb/sx
Tail	*Type G 50%*	Pozzolan Fly Ash Extender 50%	Bentonite Viscosifier/Extender 4% BWOB	FL24 Fluid Loss .4% BWOB	IntegraGuard GW86 Viscosifier .1% BWOB	IntegraSeal Poli, LCM .25 lb/sx	R3 Retarder .25% BWOB	XCem-1009 Extender 3.0 lb/sx	XCem-308 Defoamer .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 definted by NMAC19.15.16.15.C.5. As defined in NMAC 19.15.16.15.C.1.a and 19.15.16.15.C.1.b, no point in the completed interval shall be closer to the unit boundary than 100' measured along the azimuth of the well or 330' measured perpendicular to the azimuth well. The boundaries of the completed interval, as defined by NMAC 19.15.16.7.B, are the last take point and first take point, as defined by NMAC 19.15.16.7.E and NMAC 19.15.16.7.J, respectively. In the case of this well, the last take point will be the bottom toe-initiation sleeve, and the first take point will be the top perforation. **Neither the toe-initiation sleeve nor the top perforation shall be closer to the unit boundary than 100' measured along the azimuth of the well or 330' measured perpendicular to the azimuth of the well.**

FINISH WELL: ***ND BOP, cap well, RDMO.***

COMPLETION AND PRODUCTION PLAN:

Est Lateral Length: 12,236

Est Frac Inform: *51 Frac Stages 196,000 bbls slick water 15,910,000 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: 2/1/2024

Completion: 4/1/2024

Production: 5/16/2024

Prepared by:	**Alec Bridge**	**12/20/2021**
Updated:	Greg Olson	2/20/2023
	Greg Olson	3/27/2023
	G Olson	**7/1/2023**
	G Olson	**11/10/2023**
	G Olson	**11/20/2023**

WELL NAME: **HAYNES CANYON UNIT 420H**

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

API Number: *not yet assigned*

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	1,769	ft FSL	521	ft FEL
BH Location:	15-23N-6	Sec-Twn- Rng	232	ft FSL	2506	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)	4,282	ft
KOP (MD)	6,050	ft
KOP (TVD)	5,088	ft
Target (TVD)	5,415	ft
Curve BUR	10	°/100 ft
POE (MD)	6,545	ft
TD (MD)	18,881	ft
Lat Len (ft)	12,336	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	4,282	9.625	36.0	J-55	LTC	0	4,282
Production	8.500	18,881	5.500	17.0	P-110	LTC	0	18,881

CEMENT PROPERTIES SUMMARY:

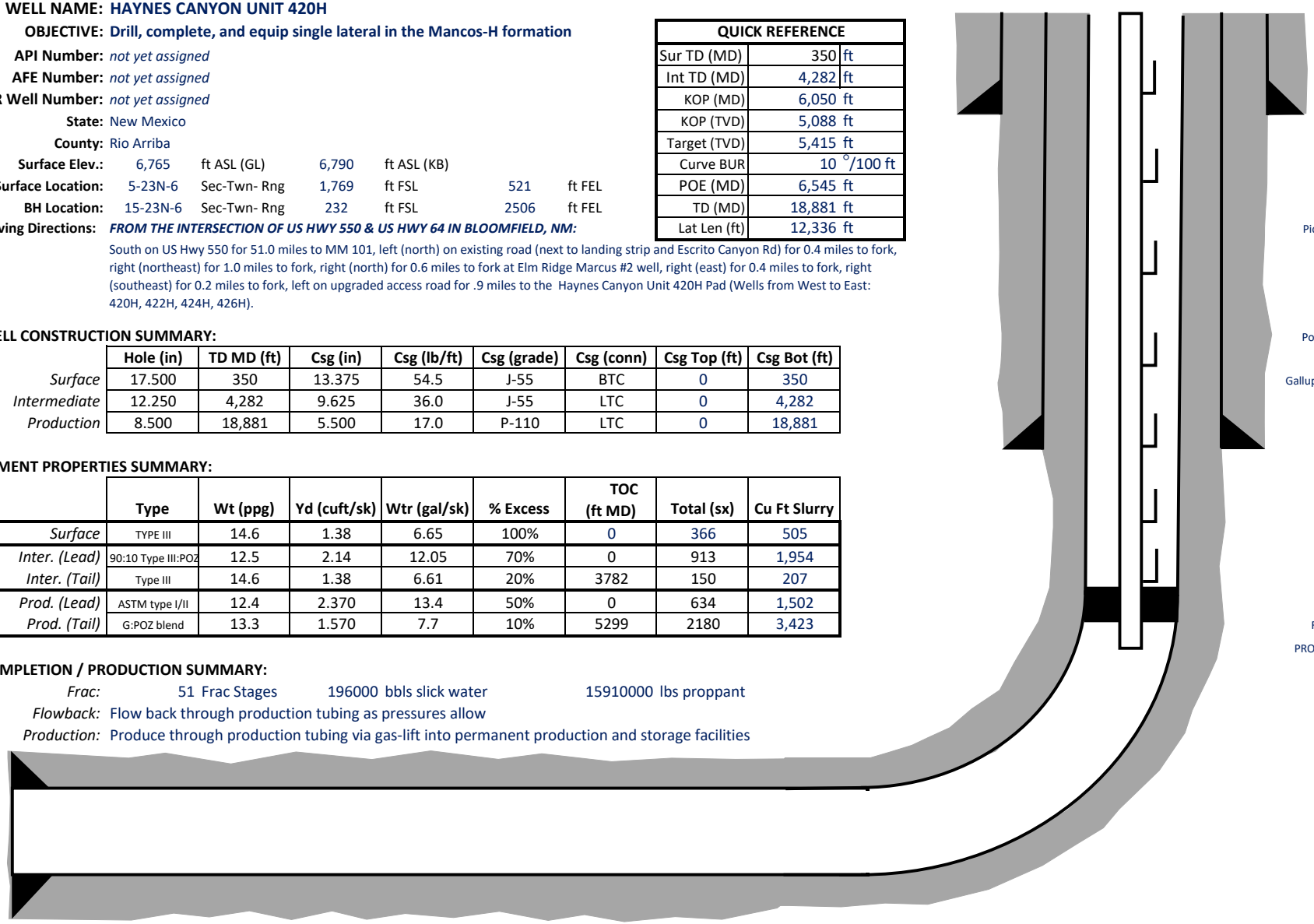
	Type	Wt (ppg)	Yd (cuft/sk)	Wtr (gal/sk)	% Excess	TOC (ft MD)	Total (sx)	Cu Ft Slurry
Surface	TYPE III	14.6	1.38	6.65	100%	0	366	505
Inter. (Lead)	90:10 Type III:POZ	12.5	2.14	12.05	70%	0	913	1,954
Inter. (Tail)	Type III	14.6	1.38	6.61	20%	3782	150	207
Prod. (Lead)	ASTM type I/II	12.4	2.370	13.4	50%	0	634	1,502
Prod. (Tail)	G:POZ blend	13.3	1.570	7.7	10%	5299	2180	3,423

COMPLETION / PRODUCTION SUMMARY:

Frac: 51 Frac Stages 196000 bbls slick water 15910000 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

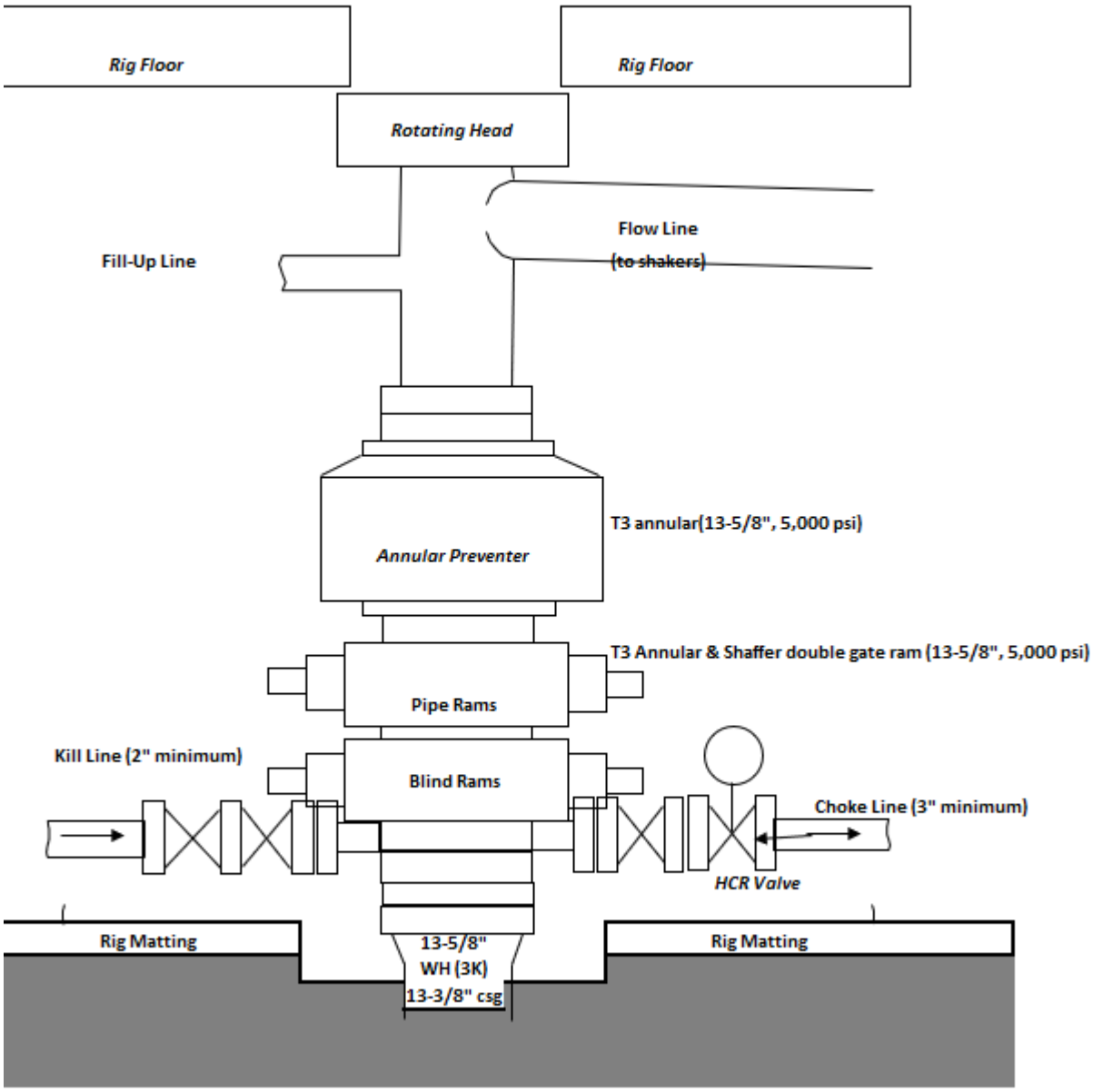


Tops	TVD (ft KB)	MD (ft KB)
Ojo Alamo	1,406	1,444
Kirtland	1,480	1,529
Fruitland	1,720	1,822
Pictured Cliffs	1,988	2,158
Lewis	2,125	2,330
Chacra	2,412	2,691
Cliff House	3,515	4,075
Menefee	3,530	4,094
Point Lookout	4,205	4,941
Mancos	4,490	5,299
Gallup (MNCS_A)	4,820	5,713
MNCS_B	4,915	5,833
MNCS_C	5,040	5,989
MNCS_Cms	5,090	6,052
MNCS_D	5,190	6,182
MNCS_E	5,280	6,308
MNCS_F	5,327	6,381
MNCS_G	5,415	6,545
MNCS_H	5,490	6,776
MNCS_I	0	0
FTP TARGET	5,415	6,545
PROJECTED LTP	5,415	18,881

ENDURING RESOURCES, LLC
Haynes Canyon Unit 420H

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

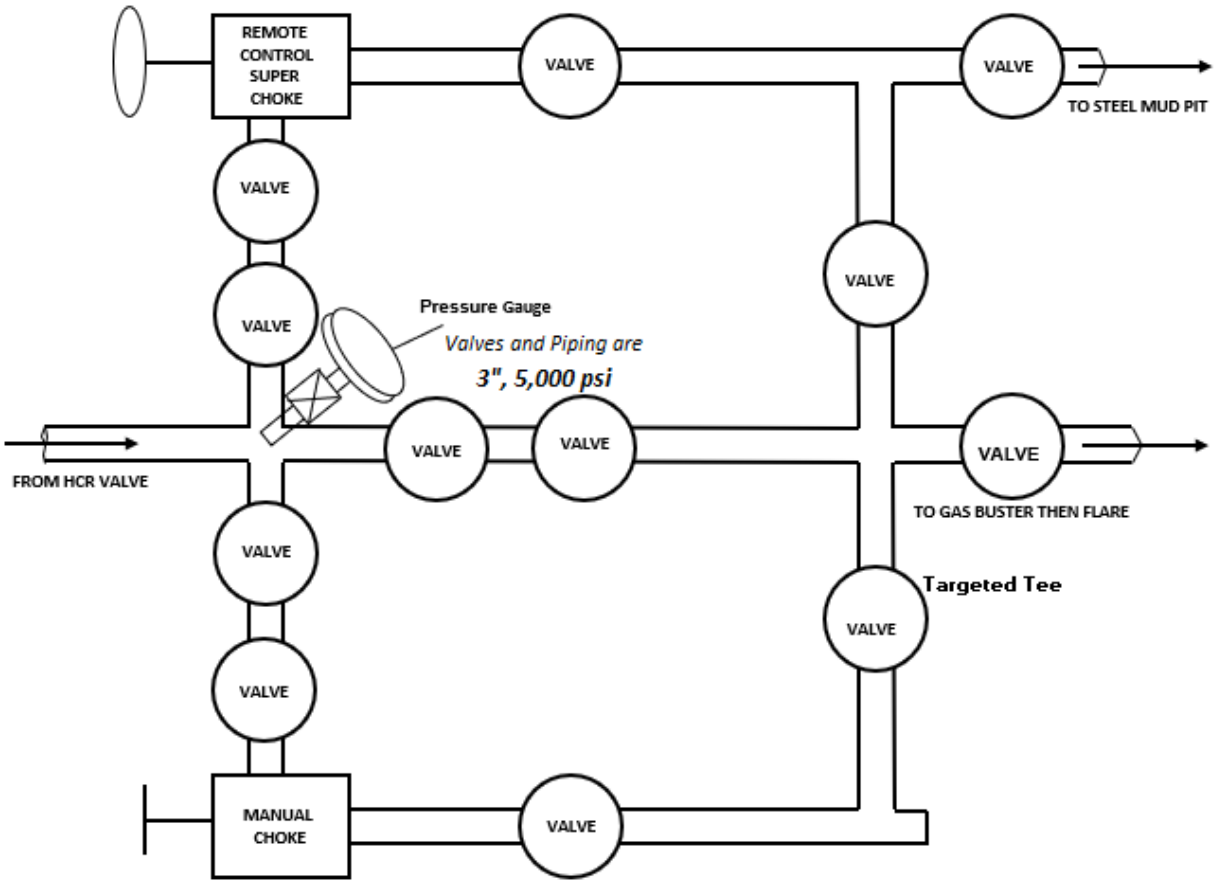
BOPE



ENDURING RESOURCES, LLC
Haynes Canyon Unit 420H

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

CHOKE MANIFOLD



Well: Haynes Canyon Unit 420 H
Site: Haynes Canyon Unit (420, 422)
Project: Rio Arriba County, New Mexico NAD83 NM C
Design: rev0
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	Easting	Latittude	Longitude
1912981.993	1276144.637	36.251079000	-107.485453000

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: 49112.4nT
Dip Angle: 62.76°
Date: 10/26/2023
Model: IGRF2020

Section Details

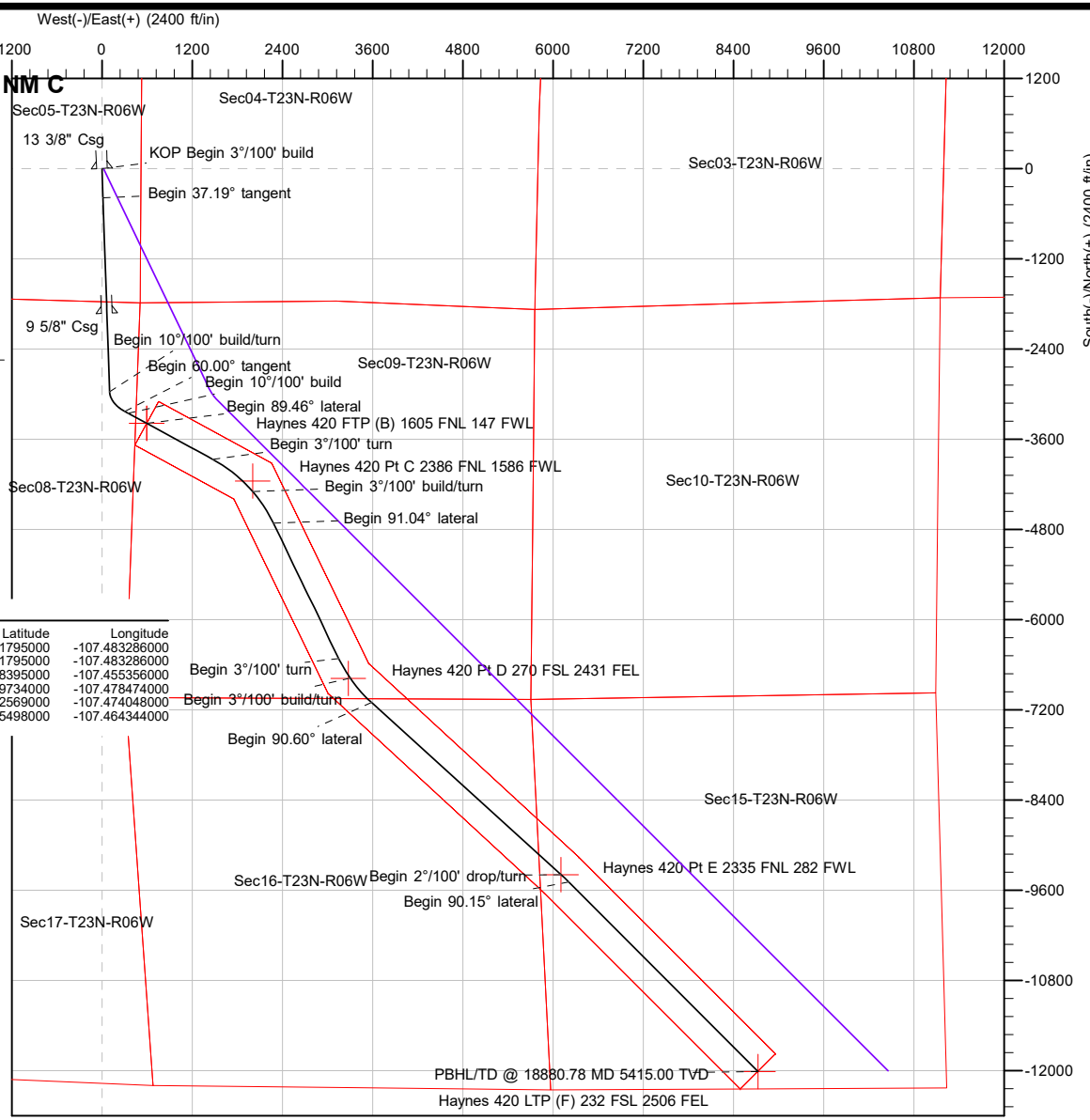
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	TFace	VSect	Annotation
1	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	
2	500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 3°/100' build
3	1739.61	37.19	178.020	1654.39	-388.13	13.42	3.00	178.02	291.59	Begin 37.19° tangent
4	6007.94	37.19	178.020	5054.77	-2966.53	102.54	0.00	0.00	2228.64	Begin 10°/100' build/turn
5	6491.44	60.00	118.594	5388.26	-3228.50	303.49	10.00	-86.26	2557.09	Begin 60.00° tangent
6	6551.44	60.00	118.594	5418.26	-3253.37	349.11	0.00	0.00	2606.48	Begin 10°/100' build
7	6846.09	89.47	118.594	5495.00	-3387.92	595.95	10.00	0.00	2873.72	Begin 89.46° lateral
8	7846.09	89.47	118.594	5504.33	-3866.50	1473.94	0.00	0.00	3824.27	Begin 3°/100' turn
9	8532.09	89.47	139.174	5510.74	-4294.80	2005.05	3.00	90.00	4500.25	Begin 3°/100' build/turn
10	9037.24	91.04	154.247	5508.50	-4715.82	2281.50	3.00	84.04	4996.22	Begin 91.04° lateral
11	11037.24	91.04	154.247	5472.20	-6516.88	3150.34	0.00	0.00	6902.65	Begin 3°/100' turn
12	11337.24	91.04	145.247	5466.75	-6775.71	3301.31	3.00	-90.00	7194.53	Begin 3°/100' build/turn
13	11770.51	90.60	132.255	5460.54	-7100.74	3586.34	3.00	-91.85	7626.55	Begin 90.60° lateral
14	15177.02	90.60	132.255	5425.00	-9391.25	6107.57	0.00	0.00	11022.72	Begin 2°/100' drop/turn
15	15318.72	90.15	135.053	5424.08	-9489.05	6210.08	2.00	99.16	11164.20	Begin 90.15° lateral
16	18880.78	90.15	135.053	5415.00	-12010.11	8726.51	0.00	0.00	14724.81	PBHL/TD

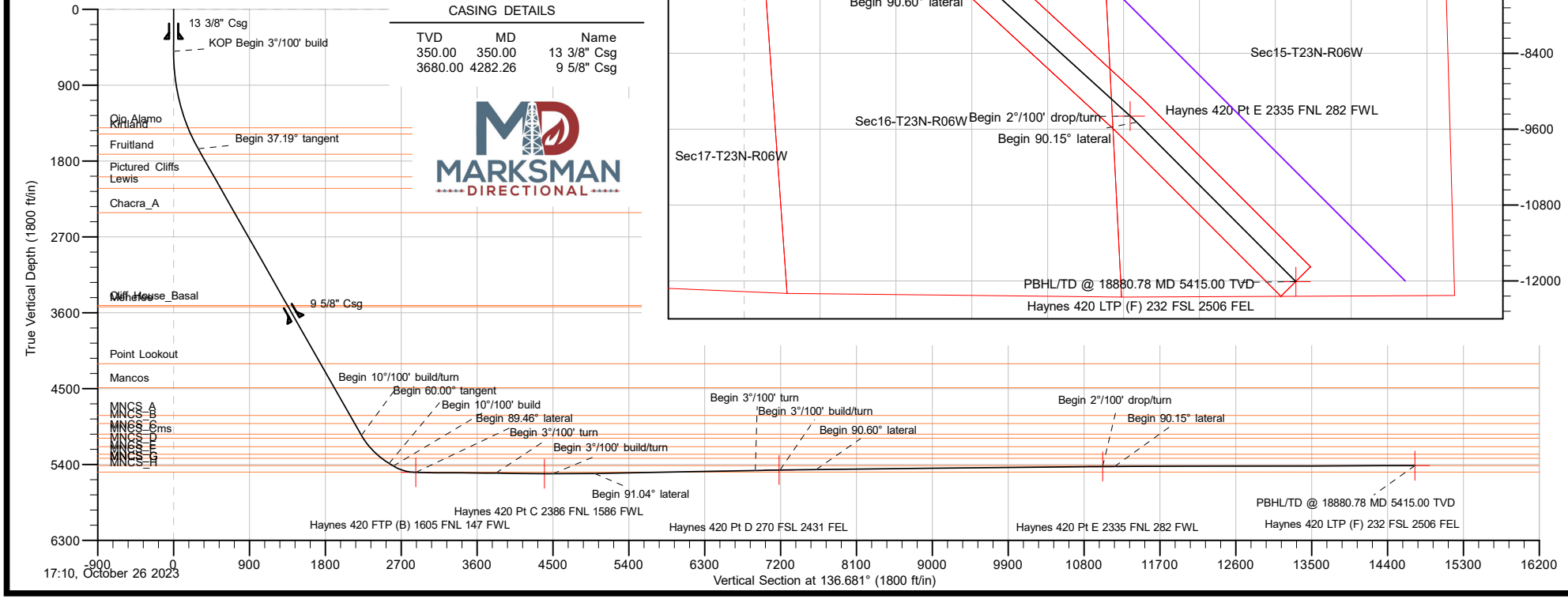
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Haynes 420 330 L 330 R	0.00	-3387.92	595.95	1909594.084	1276740.585	36.241795000	-107.483286000
Haynes 420 FTP (B) 1605 FNL 147 FWL	5495.00	-3387.92	595.95	1909594.084	1276740.585	36.241795000	-107.483286000
Haynes 420 LTP (F) 232 FSL 2506 FEL	5415.00	-12010.11	8726.51	1900971.905	1284871.130	36.218395000	-107.455356000
Haynes 420 Pt C 2386 FNL 1586 FWL	5510.00	-4156.23	2005.49	1908825.769	1278150.120	36.239734000	-107.478474000
Haynes 420 Pt D 270 FSL 2431 FEL	5467.00	-6781.11	3277.80	1906200.897	1279422.426	36.232569000	-107.474048000
Haynes 420 Pt E 2335 FNL 282 FWL	5425.00	-9391.25	6107.57	1903590.765	1282252.196	36.225498000	-107.464344000

CASING DETAILS

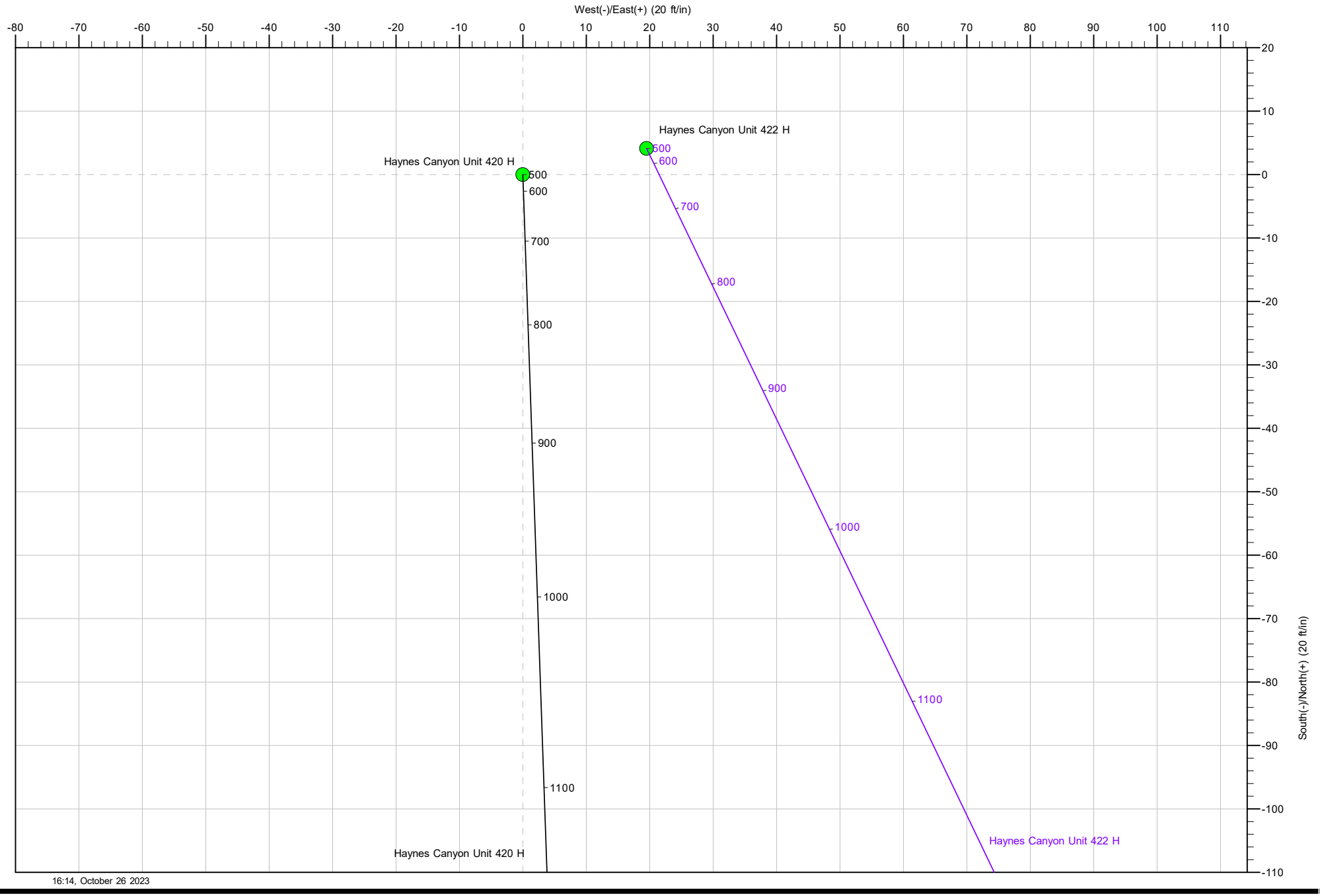
TVD	MD	Name
350.00	350.00	13 3/8" Csg
3680.00	4282.26	9 5/8" Csg





Well: Haynes Canyon Unit 420 H
Site: Haynes Canyon Unit (420, 422)
Project: Rio Arriba County, New Mexico NAD83 NM C
Design: rev0
Rig:

MARKSMAN DIRECTIONAL



16:14, October 26 2023

Planning Report

Database:	DT_Aug2923v16	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
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)	**North Reference:**	Grid
Well:	Haynes Canyon Unit 420 H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

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)

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 420 H, Surf loc: 1769 FSL 521 FEL Section 05-T23N-R06W

Well Position	**+N/-S**	0.00 ft	**Northing:**	1,912,981.994	usft	**Latitude:**	36.251079000
	+E/-W	0.00 ft	**Easting:**	1,276,144.638	usft	**Longitude:**	-107.485453000
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	10/26/2023	8.44	62.76	49,112.44634605

Design rev0

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	136.681

Plan Survey Tool Program **Date** 10/26/2023

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	18,880.78	rev0 (Original Hole)	MWD	
				OWSG MWD - Standard	

Planning Report

Database:	DT_Aug2923v16	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
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)	**North Reference:**	Grid
Well:	Haynes Canyon Unit 420 H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,739.61	37.19	178.020	1,654.39	-388.13	13.42	3.00	3.00	0.00	178.02	
6,007.94	37.19	178.020	5,054.77	-2,966.53	102.54	0.00	0.00	0.00	0.00	
6,491.44	60.00	118.594	5,388.26	-3,228.50	303.49	10.00	4.72	-12.29	-86.26	
6,551.44	60.00	118.594	5,418.26	-3,253.37	349.11	0.00	0.00	0.00	0.00	
6,846.09	89.47	118.594	5,495.00	-3,387.92	595.95	10.00	10.00	0.00	0.00	
7,846.09	89.47	118.594	5,504.33	-3,866.50	1,473.94	0.00	0.00	0.00	0.00	
8,532.09	89.47	139.174	5,510.74	-4,294.80	2,005.05	3.00	0.00	3.00	90.00	
9,037.24	91.04	154.247	5,508.50	-4,715.82	2,281.50	3.00	0.31	2.98	84.04	
11,037.24	91.04	154.247	5,472.20	-6,516.88	3,150.34	0.00	0.00	0.00	0.00	
11,337.24	91.04	145.247	5,466.75	-6,775.71	3,301.31	3.00	0.00	-3.00	-90.00	
11,770.51	90.60	132.255	5,460.54	-7,100.74	3,586.34	3.00	-0.10	-3.00	-91.85	
15,177.02	90.60	132.255	5,425.00	-9,391.25	6,107.57	0.00	0.00	0.00	0.00	Haynes 420 Pt E 233
15,318.72	90.15	135.053	5,424.08	-9,489.05	6,210.08	2.00	-0.32	1.97	99.16	
18,880.78	90.15	135.053	5,415.00	-12,010.11	8,726.51	0.00	0.00	0.00	0.00	Haynes 420 LTP (F) 2

Planning Report

Database:	DT_Aug2923v16	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
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)	**North Reference:**	Grid
Well:	Haynes Canyon Unit 420 H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.000	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP Begin 3°/100' build									
600.00	3.00	178.020	599.95	-2.62	0.09	1.97	3.00	3.00	0.00
700.00	6.00	178.020	699.63	-10.46	0.36	7.86	3.00	3.00	0.00
800.00	9.00	178.020	798.77	-23.50	0.81	17.65	3.00	3.00	0.00
900.00	12.00	178.020	897.08	-41.71	1.44	31.34	3.00	3.00	0.00
1,000.00	15.00	178.020	994.31	-65.04	2.25	48.86	3.00	3.00	0.00
1,100.00	18.00	178.020	1,090.18	-93.42	3.23	70.18	3.00	3.00	0.00
1,200.00	21.00	178.020	1,184.43	-126.78	4.38	95.24	3.00	3.00	0.00
1,300.00	24.00	178.020	1,276.81	-165.02	5.70	123.97	3.00	3.00	0.00
1,400.00	27.00	178.020	1,367.06	-208.04	7.19	156.29	3.00	3.00	0.00
1,443.97	28.32	178.020	1,406.00	-228.44	7.90	171.61	3.00	3.00	0.00
Ojo Alamo									
1,500.00	30.00	178.020	1,454.93	-255.72	8.84	192.11	3.00	3.00	0.00
1,529.08	30.87	178.020	1,480.00	-270.44	9.35	203.17	3.00	3.00	0.00
Kirtland									
1,600.00	33.00	178.020	1,540.18	-307.93	10.64	231.34	3.00	3.00	0.00
1,700.00	36.00	178.020	1,622.59	-364.53	12.60	273.86	3.00	3.00	0.00
1,739.61	37.19	178.020	1,654.39	-388.13	13.42	291.59	3.00	3.00	0.00
Begin 37.19° tangent									
1,800.00	37.19	178.020	1,702.50	-424.61	14.68	318.99	0.00	0.00	0.00
1,821.97	37.19	178.020	1,720.00	-437.88	15.14	328.96	0.00	0.00	0.00
Fruitland									
1,900.00	37.19	178.020	1,782.16	-485.02	16.77	364.38	0.00	0.00	0.00
2,000.00	37.19	178.020	1,861.83	-545.43	18.85	409.76	0.00	0.00	0.00
2,100.00	37.19	178.020	1,941.49	-605.83	20.94	455.14	0.00	0.00	0.00
2,158.38	37.19	178.020	1,988.00	-641.10	22.16	481.63	0.00	0.00	0.00
Pictured Cliffs									
2,200.00	37.19	178.020	2,021.16	-666.24	23.03	500.52	0.00	0.00	0.00
2,300.00	37.19	178.020	2,100.82	-726.65	25.12	545.90	0.00	0.00	0.00
2,330.35	37.19	178.020	2,125.00	-744.98	25.75	559.68	0.00	0.00	0.00
Lewis									
2,400.00	37.19	178.020	2,180.49	-787.06	27.21	591.29	0.00	0.00	0.00
2,500.00	37.19	178.020	2,260.16	-847.47	29.29	636.67	0.00	0.00	0.00
2,600.00	37.19	178.020	2,339.82	-907.87	31.38	682.05	0.00	0.00	0.00
2,690.60	37.19	178.020	2,412.00	-962.60	33.27	723.17	0.00	0.00	0.00
Chacra_A									
2,700.00	37.19	178.020	2,419.49	-968.28	33.47	727.43	0.00	0.00	0.00
2,800.00	37.19	178.020	2,499.15	-1,028.69	35.56	772.81	0.00	0.00	0.00
2,900.00	37.19	178.020	2,578.82	-1,089.10	37.65	818.20	0.00	0.00	0.00
3,000.00	37.19	178.020	2,658.48	-1,149.50	39.74	863.58	0.00	0.00	0.00
3,100.00	37.19	178.020	2,738.15	-1,209.91	41.82	908.96	0.00	0.00	0.00
3,200.00	37.19	178.020	2,817.81	-1,270.32	43.91	954.34	0.00	0.00	0.00
3,300.00	37.19	178.020	2,897.48	-1,330.73	46.00	999.72	0.00	0.00	0.00
3,400.00	37.19	178.020	2,977.14	-1,391.13	48.09	1,045.10	0.00	0.00	0.00
3,500.00	37.19	178.020	3,056.81	-1,451.54	50.18	1,090.49	0.00	0.00	0.00
3,600.00	37.19	178.020	3,136.47	-1,511.95	52.26	1,135.87	0.00	0.00	0.00
3,700.00	37.19	178.020	3,216.14	-1,572.36	54.35	1,181.25	0.00	0.00	0.00

Planning Report

Database:	DT_Aug2923v16	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
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)	**North Reference:**	Grid
Well:	Haynes Canyon Unit 420 H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,800.00	37.19	178.020	3,295.80	-1,632.77	56.44	1,226.63	0.00	0.00	0.00
3,900.00	37.19	178.020	3,375.47	-1,693.17	58.53	1,272.01	0.00	0.00	0.00
4,000.00	37.19	178.020	3,455.13	-1,753.58	60.62	1,317.40	0.00	0.00	0.00
4,075.15	37.19	178.020	3,515.00	-1,798.98	62.19	1,351.50	0.00	0.00	0.00
Cliff House_Basal									
4,093.98	37.19	178.020	3,530.00	-1,810.35	62.58	1,360.04	0.00	0.00	0.00
Menefee									
4,100.00	37.19	178.020	3,534.80	-1,813.99	62.70	1,362.78	0.00	0.00	0.00
4,200.00	37.19	178.020	3,614.46	-1,874.40	64.79	1,408.16	0.00	0.00	0.00
4,300.00	37.19	178.020	3,694.13	-1,934.80	66.88	1,453.54	0.00	0.00	0.00
4,400.00	37.19	178.020	3,773.79	-1,995.21	68.97	1,498.92	0.00	0.00	0.00
4,500.00	37.19	178.020	3,853.46	-2,055.62	71.06	1,544.31	0.00	0.00	0.00
4,600.00	37.19	178.020	3,933.13	-2,116.03	73.15	1,589.69	0.00	0.00	0.00
4,700.00	37.19	178.020	4,012.79	-2,176.43	75.23	1,635.07	0.00	0.00	0.00
4,800.00	37.19	178.020	4,092.46	-2,236.84	77.32	1,680.45	0.00	0.00	0.00
4,900.00	37.19	178.020	4,172.12	-2,297.25	79.41	1,725.83	0.00	0.00	0.00
4,941.27	37.19	178.020	4,205.00	-2,322.18	80.27	1,744.56	0.00	0.00	0.00
Point Lookout									
5,000.00	37.19	178.020	4,251.79	-2,357.66	81.50	1,771.22	0.00	0.00	0.00
5,100.00	37.19	178.020	4,331.45	-2,418.07	83.59	1,816.60	0.00	0.00	0.00
5,200.00	37.19	178.020	4,411.12	-2,478.47	85.67	1,861.98	0.00	0.00	0.00
5,299.02	37.19	178.020	4,490.00	-2,538.29	87.74	1,906.92	0.00	0.00	0.00
Mancos									
5,300.00	37.19	178.020	4,490.78	-2,538.88	87.76	1,907.36	0.00	0.00	0.00
5,400.00	37.19	178.020	4,570.45	-2,599.29	89.85	1,952.74	0.00	0.00	0.00
5,500.00	37.19	178.020	4,650.11	-2,659.70	91.94	1,998.12	0.00	0.00	0.00
5,600.00	37.19	178.020	4,729.78	-2,720.10	94.03	2,043.51	0.00	0.00	0.00
5,700.00	37.19	178.020	4,809.44	-2,780.51	96.11	2,088.89	0.00	0.00	0.00
5,713.25	37.19	178.020	4,820.00	-2,788.52	96.39	2,094.90	0.00	0.00	0.00
MNCS_A									
5,800.00	37.19	178.020	4,889.11	-2,840.92	98.20	2,134.27	0.00	0.00	0.00
5,832.50	37.19	178.020	4,915.00	-2,860.55	98.88	2,149.02	0.00	0.00	0.00
MNCS_B									
5,900.00	37.19	178.020	4,968.77	-2,901.33	100.29	2,179.65	0.00	0.00	0.00
5,989.41	37.19	178.020	5,040.00	-2,955.34	102.16	2,220.23	0.00	0.00	0.00
MNCS_C									
6,007.94	37.19	178.020	5,054.77	-2,966.53	102.54	2,228.64	0.00	0.00	0.00
Begin 10°/100' build/turn									
6,050.00	37.66	171.142	5,088.18	-2,991.94	104.96	2,248.78	10.00	1.13	-16.36
6,052.30	37.70	170.770	5,090.00	-2,993.33	105.18	2,249.95	10.00	1.62	-16.14
MNCS_Cms									
6,100.00	38.73	163.238	5,127.50	-3,022.03	111.83	2,275.39	10.00	2.16	-15.79
6,150.00	40.30	155.775	5,166.09	-3,051.77	122.98	2,304.68	10.00	3.15	-14.93
6,181.64	41.53	151.324	5,190.00	-3,070.31	132.22	2,324.50	10.00	3.89	-14.07
MNCS_D									
6,200.00	42.32	148.842	5,203.66	-3,080.95	138.34	2,336.44	10.00	4.30	-13.51
6,250.00	44.73	142.473	5,239.93	-3,109.32	157.78	2,370.42	10.00	4.81	-12.74
6,300.00	47.46	136.654	5,274.62	-3,136.69	181.15	2,406.36	10.00	5.46	-11.64
6,307.99	47.92	135.772	5,280.00	-3,140.95	185.24	2,412.27	10.00	5.79	-11.03
MNCS_E									
6,350.00	50.45	131.345	5,307.46	-3,162.83	208.29	2,444.00	10.00	6.03	-10.54
6,381.35	52.45	128.252	5,327.00	-3,178.51	227.12	2,468.33	10.00	6.36	-9.87
MNCS_F									

Planning Report

Database:	DT_Aug2923v16	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
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)	**North Reference:**	Grid
Well:	Haynes Canyon Unit 420 H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,400.00	53.67	126.490	5,338.21	-3,187.56	238.97	2,483.04	10.00	6.56	-9.44
6,450.00	57.07	122.032	5,366.63	-3,210.68	272.97	2,523.19	10.00	6.80	-8.92
6,491.44	60.00	118.594	5,388.26	-3,228.50	303.49	2,557.09	10.00	7.07	-8.30
Begin 60.00° tangent									
6,500.00	60.00	118.594	5,392.54	-3,232.05	309.99	2,564.14	0.00	0.00	0.00
6,544.92	60.00	118.594	5,415.00	-3,250.67	344.15	2,601.12	0.00	0.00	0.00
MNCS_G									
6,551.44	60.00	118.594	5,418.26	-3,253.37	349.11	2,606.48	0.00	0.00	0.00
Begin 10°/100' build									
6,600.00	64.86	118.594	5,440.73	-3,273.97	386.89	2,647.39	10.00	10.00	0.00
6,650.00	69.86	118.594	5,459.97	-3,296.04	427.40	2,691.24	10.00	10.00	0.00
6,700.00	74.86	118.594	5,475.12	-3,318.84	469.22	2,736.52	10.00	10.00	0.00
6,750.00	79.86	118.594	5,486.07	-3,342.18	512.04	2,782.88	10.00	10.00	0.00
6,775.53	82.41	118.594	5,490.00	-3,354.25	534.19	2,806.86	10.00	10.00	0.00
MNCS_H									
6,800.00	84.86	118.594	5,492.71	-3,365.89	555.54	2,829.97	10.00	10.00	0.00
6,846.09	89.47	118.594	5,495.00	-3,387.92	595.95	2,873.72	10.00	10.00	0.00
Begin 89.46° lateral									
6,900.00	89.47	118.594	5,495.50	-3,413.72	643.28	2,924.97	0.00	0.00	0.00
7,000.00	89.47	118.594	5,496.43	-3,461.58	731.08	3,020.02	0.00	0.00	0.00
7,100.00	89.47	118.594	5,497.37	-3,509.43	818.88	3,115.07	0.00	0.00	0.00
7,200.00	89.47	118.594	5,498.30	-3,557.29	906.68	3,210.13	0.00	0.00	0.00
7,300.00	89.47	118.594	5,499.24	-3,605.15	994.48	3,305.18	0.00	0.00	0.00
7,400.00	89.47	118.594	5,500.17	-3,653.01	1,082.28	3,400.24	0.00	0.00	0.00
7,500.00	89.47	118.594	5,501.10	-3,700.87	1,170.08	3,495.29	0.00	0.00	0.00
7,600.00	89.47	118.594	5,502.04	-3,748.73	1,257.88	3,590.35	0.00	0.00	0.00
7,700.00	89.47	118.594	5,502.97	-3,796.58	1,345.68	3,685.40	0.00	0.00	0.00
7,800.00	89.47	118.594	5,503.90	-3,844.44	1,433.48	3,780.46	0.00	0.00	0.00
7,846.09	89.47	118.594	5,504.33	-3,866.50	1,473.94	3,824.27	0.00	0.00	0.00
Begin 3°/100' turn									
7,900.00	89.47	120.211	5,504.84	-3,892.96	1,520.91	3,875.74	3.00	0.00	3.00
8,000.00	89.47	123.211	5,505.77	-3,945.52	1,605.96	3,972.33	3.00	0.00	3.00
8,100.00	89.47	126.211	5,506.71	-4,002.46	1,688.15	4,070.14	3.00	0.00	3.00
8,200.00	89.47	129.211	5,507.64	-4,063.61	1,767.25	4,168.90	3.00	0.00	3.00
8,300.00	89.47	132.211	5,508.57	-4,128.83	1,843.04	4,268.34	3.00	0.00	3.00
8,400.00	89.47	135.211	5,509.51	-4,197.92	1,915.31	4,368.19	3.00	0.00	3.00
8,500.00	89.47	138.211	5,510.44	-4,270.70	1,983.87	4,468.18	3.00	0.00	3.00
8,532.09	89.47	139.174	5,510.74	-4,294.80	2,005.05	4,500.25	3.00	0.00	3.00
Begin 3°/100' build/turn									
8,600.00	89.68	141.200	5,511.25	-4,346.96	2,048.53	4,568.02	3.00	0.31	2.98
8,700.00	89.99	144.184	5,511.54	-4,426.49	2,109.13	4,667.46	3.00	0.31	2.98
8,800.00	90.30	147.168	5,511.28	-4,509.07	2,165.51	4,766.22	3.00	0.31	2.98
8,900.00	90.61	150.152	5,510.48	-4,594.47	2,217.51	4,864.03	3.00	0.31	2.98
9,000.00	90.93	153.136	5,509.14	-4,682.45	2,265.00	4,960.62	3.00	0.31	2.98
9,037.24	91.04	154.247	5,508.50	-4,715.82	2,281.50	4,996.22	3.00	0.31	2.98
Begin 91.04° lateral									
9,100.00	91.04	154.247	5,507.36	-4,772.34	2,308.77	5,056.05	0.00	0.00	0.00
9,200.00	91.04	154.247	5,505.55	-4,862.40	2,352.21	5,151.37	0.00	0.00	0.00
9,300.00	91.04	154.247	5,503.73	-4,952.45	2,395.65	5,246.69	0.00	0.00	0.00
9,400.00	91.04	154.247	5,501.92	-5,042.50	2,439.09	5,342.01	0.00	0.00	0.00
9,500.00	91.04	154.247	5,500.10	-5,132.55	2,482.54	5,437.33	0.00	0.00	0.00
9,600.00	91.04	154.247	5,498.29	-5,222.61	2,525.98	5,532.65	0.00	0.00	0.00
9,700.00	91.04	154.247	5,496.47	-5,312.66	2,569.42	5,627.98	0.00	0.00	0.00

Planning Report

Database:	DT_Aug2923v16	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
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)	**North Reference:**	Grid
Well:	Haynes Canyon Unit 420 H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,800.00	91.04	154.247	5,494.66	-5,402.71	2,612.86	5,723.30	0.00	0.00	0.00
9,900.00	91.04	154.247	5,492.84	-5,492.77	2,656.30	5,818.62	0.00	0.00	0.00
10,000.00	91.04	154.247	5,491.03	-5,582.82	2,699.75	5,913.94	0.00	0.00	0.00
10,100.00	91.04	154.247	5,489.21	-5,672.87	2,743.19	6,009.26	0.00	0.00	0.00
10,200.00	91.04	154.247	5,487.40	-5,762.92	2,786.63	6,104.58	0.00	0.00	0.00
10,300.00	91.04	154.247	5,485.58	-5,852.98	2,830.07	6,199.90	0.00	0.00	0.00
10,400.00	91.04	154.247	5,483.77	-5,943.03	2,873.51	6,295.23	0.00	0.00	0.00
10,500.00	91.04	154.247	5,481.95	-6,033.08	2,916.96	6,390.55	0.00	0.00	0.00
10,600.00	91.04	154.247	5,480.14	-6,123.13	2,960.40	6,485.87	0.00	0.00	0.00
10,700.00	91.04	154.247	5,478.32	-6,213.19	3,003.84	6,581.19	0.00	0.00	0.00
10,800.00	91.04	154.247	5,476.51	-6,303.24	3,047.28	6,676.51	0.00	0.00	0.00
10,900.00	91.04	154.247	5,474.69	-6,393.29	3,090.72	6,771.83	0.00	0.00	0.00
11,000.00	91.04	154.247	5,472.88	-6,483.35	3,134.17	6,867.15	0.00	0.00	0.00
11,037.24	91.04	154.247	5,472.20	-6,516.88	3,150.34	6,902.65	0.00	0.00	0.00
Begin 3°/100' turn									
11,100.00	91.04	152.364	5,471.06	-6,572.94	3,178.53	6,962.77	3.00	0.00	-3.00
11,200.00	91.04	149.364	5,469.25	-6,660.26	3,227.21	7,059.70	3.00	0.00	-3.00
11,300.00	91.04	146.364	5,467.43	-6,744.92	3,280.39	7,157.77	3.00	0.00	-3.00
11,337.24	91.04	145.247	5,466.75	-6,775.71	3,301.31	7,194.53	3.00	0.00	-3.00
Begin 3°/100' build/turn									
11,400.00	90.98	143.365	5,465.65	-6,826.67	3,337.92	7,256.73	3.00	-0.10	-3.00
11,500.00	90.88	140.366	5,464.03	-6,905.31	3,399.66	7,356.29	3.00	-0.10	-3.00
11,600.00	90.78	137.367	5,462.58	-6,980.61	3,465.42	7,456.20	3.00	-0.10	-3.00
11,700.00	90.67	134.369	5,461.32	-7,052.37	3,535.04	7,556.17	3.00	-0.10	-3.00
11,770.51	90.60	132.255	5,460.54	-7,100.74	3,586.34	7,626.55	3.00	-0.11	-3.00
Begin 90.60° lateral									
11,800.00	90.60	132.255	5,460.23	-7,120.56	3,608.17	7,655.95	0.00	0.00	0.00
11,900.00	90.60	132.255	5,459.19	-7,187.80	3,682.18	7,755.65	0.00	0.00	0.00
12,000.00	90.60	132.255	5,458.14	-7,255.04	3,756.19	7,855.34	0.00	0.00	0.00
12,100.00	90.60	132.255	5,457.10	-7,322.28	3,830.20	7,955.04	0.00	0.00	0.00
12,200.00	90.60	132.255	5,456.06	-7,389.52	3,904.22	8,054.74	0.00	0.00	0.00
12,300.00	90.60	132.255	5,455.01	-7,456.76	3,978.23	8,154.43	0.00	0.00	0.00
12,400.00	90.60	132.255	5,453.97	-7,524.00	4,052.24	8,254.13	0.00	0.00	0.00
12,500.00	90.60	132.255	5,452.93	-7,591.24	4,126.25	8,353.83	0.00	0.00	0.00
12,600.00	90.60	132.255	5,451.88	-7,658.48	4,200.26	8,453.52	0.00	0.00	0.00
12,700.00	90.60	132.255	5,450.84	-7,725.72	4,274.28	8,553.22	0.00	0.00	0.00
12,800.00	90.60	132.255	5,449.80	-7,792.96	4,348.29	8,652.91	0.00	0.00	0.00
12,900.00	90.60	132.255	5,448.75	-7,860.20	4,422.30	8,752.61	0.00	0.00	0.00
13,000.00	90.60	132.255	5,447.71	-7,927.44	4,496.31	8,852.31	0.00	0.00	0.00
13,100.00	90.60	132.255	5,446.67	-7,994.67	4,570.32	8,952.00	0.00	0.00	0.00
13,200.00	90.60	132.255	5,445.62	-8,061.91	4,644.34	9,051.70	0.00	0.00	0.00
13,300.00	90.60	132.255	5,444.58	-8,129.15	4,718.35	9,151.40	0.00	0.00	0.00
13,400.00	90.60	132.255	5,443.54	-8,196.39	4,792.36	9,251.09	0.00	0.00	0.00
13,500.00	90.60	132.255	5,442.49	-8,263.63	4,866.37	9,350.79	0.00	0.00	0.00
13,600.00	90.60	132.255	5,441.45	-8,330.87	4,940.39	9,450.48	0.00	0.00	0.00
13,700.00	90.60	132.255	5,440.41	-8,398.11	5,014.40	9,550.18	0.00	0.00	0.00
13,800.00	90.60	132.255	5,439.36	-8,465.35	5,088.41	9,649.88	0.00	0.00	0.00
13,900.00	90.60	132.255	5,438.32	-8,532.59	5,162.42	9,749.57	0.00	0.00	0.00
14,000.00	90.60	132.255	5,437.28	-8,599.83	5,236.43	9,849.27	0.00	0.00	0.00
14,100.00	90.60	132.255	5,436.24	-8,667.07	5,310.45	9,948.97	0.00	0.00	0.00
14,200.00	90.60	132.255	5,435.19	-8,734.31	5,384.46	10,048.66	0.00	0.00	0.00
14,300.00	90.60	132.255	5,434.15	-8,801.55	5,458.47	10,148.36	0.00	0.00	0.00
14,400.00	90.60	132.255	5,433.11	-8,868.78	5,532.48	10,248.06	0.00	0.00	0.00

Planning Report

Database:	DT_Aug2923v16	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
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)	**North Reference:**	Grid
Well:	Haynes Canyon Unit 420 H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
14,500.00	90.60	132.255	5,432.06	-8,936.02	5,606.49	10,347.75	0.00	0.00	0.00
14,600.00	90.60	132.255	5,431.02	-9,003.26	5,680.51	10,447.45	0.00	0.00	0.00
14,700.00	90.60	132.255	5,429.98	-9,070.50	5,754.52	10,547.14	0.00	0.00	0.00
14,800.00	90.60	132.255	5,428.93	-9,137.74	5,828.53	10,646.84	0.00	0.00	0.00
14,900.00	90.60	132.255	5,427.89	-9,204.98	5,902.54	10,746.54	0.00	0.00	0.00
15,000.00	90.60	132.255	5,426.85	-9,272.22	5,976.55	10,846.23	0.00	0.00	0.00
15,100.00	90.60	132.255	5,425.80	-9,339.46	6,050.57	10,945.93	0.00	0.00	0.00
15,177.02	90.60	132.255	5,425.00	-9,391.25	6,107.57	11,022.72	0.00	0.00	0.00
Begin 2°/100' drop/turn									
15,200.00	90.52	132.709	5,424.78	-9,406.77	6,124.52	11,045.63	2.00	-0.32	1.97
15,300.00	90.21	134.683	5,424.14	-9,475.84	6,196.81	11,145.49	2.00	-0.32	1.97
15,318.72	90.15	135.053	5,424.08	-9,489.05	6,210.08	11,164.20	2.00	-0.32	1.97
Begin 90.15° lateral									
15,400.00	90.15	135.053	5,423.87	-9,546.58	6,267.50	11,245.45	0.00	0.00	0.00
15,500.00	90.15	135.053	5,423.62	-9,617.35	6,338.15	11,345.41	0.00	0.00	0.00
15,600.00	90.15	135.053	5,423.36	-9,688.13	6,408.79	11,445.37	0.00	0.00	0.00
15,700.00	90.15	135.053	5,423.11	-9,758.90	6,479.44	11,545.33	0.00	0.00	0.00
15,800.00	90.15	135.053	5,422.85	-9,829.68	6,550.08	11,645.28	0.00	0.00	0.00
15,900.00	90.15	135.053	5,422.60	-9,900.45	6,620.73	11,745.24	0.00	0.00	0.00
16,000.00	90.15	135.053	5,422.34	-9,971.23	6,691.37	11,845.20	0.00	0.00	0.00
16,100.00	90.15	135.053	5,422.09	-10,042.01	6,762.02	11,945.16	0.00	0.00	0.00
16,200.00	90.15	135.053	5,421.83	-10,112.78	6,832.67	12,045.12	0.00	0.00	0.00
16,300.00	90.15	135.053	5,421.58	-10,183.56	6,903.31	12,145.08	0.00	0.00	0.00
16,400.00	90.15	135.053	5,421.32	-10,254.33	6,973.96	12,245.04	0.00	0.00	0.00
16,500.00	90.15	135.053	5,421.07	-10,325.11	7,044.60	12,345.00	0.00	0.00	0.00
16,600.00	90.15	135.053	5,420.81	-10,395.88	7,115.25	12,444.96	0.00	0.00	0.00
16,700.00	90.15	135.053	5,420.56	-10,466.66	7,185.89	12,544.92	0.00	0.00	0.00
16,800.00	90.15	135.053	5,420.30	-10,537.43	7,256.54	12,644.88	0.00	0.00	0.00
16,900.00	90.15	135.053	5,420.05	-10,608.21	7,327.18	12,744.84	0.00	0.00	0.00
17,000.00	90.15	135.053	5,419.79	-10,678.98	7,397.83	12,844.80	0.00	0.00	0.00
17,100.00	90.15	135.053	5,419.54	-10,749.76	7,468.47	12,944.76	0.00	0.00	0.00
17,200.00	90.15	135.053	5,419.28	-10,820.54	7,539.12	13,044.72	0.00	0.00	0.00
17,300.00	90.15	135.053	5,419.03	-10,891.31	7,609.76	13,144.67	0.00	0.00	0.00
17,400.00	90.15	135.053	5,418.77	-10,962.09	7,680.41	13,244.63	0.00	0.00	0.00
17,500.00	90.15	135.053	5,418.52	-11,032.86	7,751.06	13,344.59	0.00	0.00	0.00
17,600.00	90.15	135.053	5,418.26	-11,103.64	7,821.70	13,444.55	0.00	0.00	0.00
17,700.00	90.15	135.053	5,418.01	-11,174.41	7,892.35	13,544.51	0.00	0.00	0.00
17,800.00	90.15	135.053	5,417.76	-11,245.19	7,962.99	13,644.47	0.00	0.00	0.00
17,900.00	90.15	135.053	5,417.50	-11,315.96	8,033.64	13,744.43	0.00	0.00	0.00
18,000.00	90.15	135.053	5,417.25	-11,386.74	8,104.28	13,844.39	0.00	0.00	0.00
18,100.00	90.15	135.053	5,416.99	-11,457.51	8,174.93	13,944.35	0.00	0.00	0.00
18,200.00	90.15	135.053	5,416.74	-11,528.29	8,245.57	14,044.31	0.00	0.00	0.00
18,300.00	90.15	135.053	5,416.48	-11,599.07	8,316.22	14,144.27	0.00	0.00	0.00
18,400.00	90.15	135.053	5,416.23	-11,669.84	8,386.86	14,244.23	0.00	0.00	0.00
18,500.00	90.15	135.053	5,415.97	-11,740.62	8,457.51	14,344.19	0.00	0.00	0.00
18,600.00	90.15	135.053	5,415.72	-11,811.39	8,528.15	14,444.15	0.00	0.00	0.00
18,700.00	90.15	135.053	5,415.46	-11,882.17	8,598.80	14,544.10	0.00	0.00	0.00
18,800.00	90.15	135.053	5,415.21	-11,952.94	8,669.45	14,644.06	0.00	0.00	0.00
18,880.78	90.15	135.053	5,415.00	-12,010.11	8,726.51	14,724.81	0.00	0.00	0.00
PBHL/TD @ 18880.78 MD 5415.00 TVD									

Planning Report

Database:	DT_Aug2923v16	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
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)	**North Reference:**	Grid
Well:	Haynes Canyon Unit 420 H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

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 420 330 L 330 F	0.00	0.000	0.00	-3,387.92	595.95	1,909,594.085	1,276,740.585	36.241795000	-107.483286000
- plan misses target center by 3437.84ft at 2245.90ft MD (2057.73 TVD, -693.97 N, 23.99 E)									
- Polygon									
Point 1			0.00	-289.75	-157.93	1,909,304.335	1,276,582.655		
Point 2			0.00	289.75	157.94	1,909,883.834	1,276,898.525		
Point 3			0.00	-529.20	1,660.36	1,909,064.886	1,278,400.942		
Point 4			0.00	-3,193.01	2,951.54	1,906,401.081	1,279,692.119		
Point 5			0.00	-5,769.99	5,744.97	1,903,824.105	1,282,485.543		
Point 6			0.00	-8,388.85	8,363.90	1,901,205.251	1,285,104.468		
Point 7			0.00	-8,855.54	7,897.22	1,900,738.562	1,284,637.789		
Point 8			0.00	-6,245.90	5,287.88	1,903,348.196	1,282,028.454		
Point 9			0.00	-3,593.38	2,412.16	1,906,000.712	1,279,152.740		
Point 10			0.00	-1,007.45	1,158.72	1,908,586.637	1,277,899.303		
Point 11			0.00	-289.75	-157.93	1,909,304.335	1,276,582.655		
Haynes 420 LTP (F) 232	0.00	0.000	5,415.00	-12,010.11	8,726.51	1,900,971.904	1,284,871.130	36.218395000	-107.455356000
- plan hits target center									
- Point									
Haynes 420 Pt E 2335 F	0.00	0.000	5,425.00	-9,391.25	6,107.57	1,903,590.765	1,282,252.196	36.225498000	-107.464344000
- plan hits target center									
- Point									
Haynes 420 Pt D 270 FS	0.00	0.000	5,467.00	-6,781.11	3,277.80	1,906,200.897	1,279,422.426	36.232569000	-107.474048000
- plan misses target center by 22.42ft at 11328.48ft MD (5466.91 TVD, -6768.51 N, 3296.34 E)									
- Point									
Haynes 420 FTP (B) 16(	0.00	0.000	5,495.00	-3,387.92	595.95	1,909,594.085	1,276,740.585	36.241795000	-107.483286000
- plan hits target center									
- Point									
Haynes 420 Pt C 2386 F	0.00	0.000	5,510.00	-4,156.23	2,005.49	1,908,825.769	1,278,150.120	36.239734000	-107.478474000
- plan misses target center by 93.66ft at 8431.49ft MD (5509.80 TVD, -4220.45 N, 1937.31 E)									
- Point									

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
4,282.26	3,680.00	9 5/8" Csg	9-5/8	12-1/4

Planning Report

Database:	DT_Aug2923v16	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
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)	**North Reference:**	Grid
Well:	Haynes Canyon Unit 420 H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,443.97	1,406.00	Ojo Alamo			
1,529.08	1,480.00	Kirtland			
1,821.97	1,720.00	Fruitland			
2,158.38	1,988.00	Pictured Cliffs			
2,330.35	2,125.00	Lewis			
2,690.60	2,412.00	Chacra_A			
4,075.15	3,515.00	Cliff House_Basal			
4,093.98	3,530.00	Menefee			
4,941.27	4,205.00	Point Lookout			
5,299.02	4,490.00	Mancos			
5,713.25	4,820.00	MNCS_A			
5,832.50	4,915.00	MNCS_B			
5,989.41	5,040.00	MNCS_C			
6,052.30	5,090.00	MNCS_Cms			
6,181.64	5,190.00	MNCS_D			
6,307.99	5,280.00	MNCS_E			
6,381.35	5,327.00	MNCS_F			
6,544.92	5,415.00	MNCS_G			
6,775.53	5,490.00	MNCS_H			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
500.00	500.00	0.00	0.00	KOP Begin 3°/100' build
1,739.61	1,654.39	-388.13	13.42	Begin 37.19° tangent
6,007.94	5,054.77	-2,966.53	102.54	Begin 10°/100' build/turn
6,491.44	5,388.26	-3,228.50	303.49	Begin 60.00° tangent
6,551.44	5,418.26	-3,253.37	349.11	Begin 10°/100' build
6,846.09	5,495.00	-3,387.92	595.95	Begin 89.46° lateral
7,846.09	5,504.33	-3,866.50	1,473.94	Begin 3°/100' turn
8,532.09	5,510.74	-4,294.80	2,005.05	Begin 3°/100' build/turn
9,037.24	5,508.50	-4,715.82	2,281.50	Begin 91.04° lateral
11,037.24	5,472.20	-6,516.88	3,150.34	Begin 3°/100' turn
11,337.24	5,466.75	-6,775.71	3,301.31	Begin 3°/100' build/turn
11,770.51	5,460.54	-7,100.74	3,586.34	Begin 90.60° lateral
15,177.02	5,425.00	-9,391.25	6,107.57	Begin 2°/100' drop/turn
15,318.72	5,424.08	-9,489.05	6,210.08	Begin 90.15° lateral
18,880.78	5,415.00	-12,010.11	8,726.51	PBHL/TD @ 18880.78 MD 5415.00 TVD

Planning Report - Geographic

Database:	DT_Aug2923v16	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
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)	**North Reference:**	Grid
Well:	Haynes Canyon Unit 420 H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

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)

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 420 H, Surf loc: 1769 FSL 521 FEL Section 05-T23N-R06W

Well Position	**+N/-S**	0.00 ft	**Northing:**	1,912,981.994 usft	**Latitude:**	36.251079000
	+E/-W	0.00 ft	**Easting:**	1,276,144.638 usft	**Longitude:**	-107.485453000
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	6,765.00 ft
Grid Convergence:						

Wellbore Original Hole

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	10/26/2023	8.44	62.76	49,112.44634605

Design rev0

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	136.681

Plan Survey Tool Program **Date**

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	18,880.78	rev0 (Original Hole)		

Planning Report - Geographic

Database:	DT_Aug2923v16	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
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)	**North Reference:**	Grid
Well:	Haynes Canyon Unit 420 H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,739.61	37.19	178.020	1,654.39	-388.13	13.42	3.00	3.00	0.00	178.02	
6,007.94	37.19	178.020	5,054.77	-2,966.53	102.54	0.00	0.00	0.00	0.00	
6,491.44	60.00	118.594	5,388.26	-3,228.50	303.49	10.00	4.72	-12.29	-86.26	
6,551.44	60.00	118.594	5,418.26	-3,253.37	349.11	0.00	0.00	0.00	0.00	
6,846.09	89.47	118.594	5,495.00	-3,387.92	595.95	10.00	10.00	0.00	0.00	
7,846.09	89.47	118.594	5,504.33	-3,866.50	1,473.94	0.00	0.00	0.00	0.00	
8,532.09	89.47	139.174	5,510.74	-4,294.80	2,005.05	3.00	0.00	3.00	90.00	
9,037.24	91.04	154.247	5,508.50	-4,715.82	2,281.50	3.00	0.31	2.98	84.04	
11,037.24	91.04	154.247	5,472.20	-6,516.88	3,150.34	0.00	0.00	0.00	0.00	
11,337.24	91.04	145.247	5,466.75	-6,775.71	3,301.31	3.00	0.00	-3.00	-90.00	
11,770.51	90.60	132.255	5,460.54	-7,100.74	3,586.34	3.00	-0.10	-3.00	-91.85	
15,177.02	90.60	132.255	5,425.00	-9,391.25	6,107.57	0.00	0.00	0.00	0.00	Haynes 420 Pt E 233
15,318.72	90.15	135.053	5,424.08	-9,489.05	6,210.08	2.00	-0.32	1.97	99.16	
18,880.78	90.15	135.053	5,415.00	-12,010.11	8,726.51	0.00	0.00	0.00	0.00	Haynes 420 LTP (F) 2

Planning Report - Geographic

Database:	DT_Aug2923v16	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
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)	**North Reference:**	Grid
Well:	Haynes Canyon Unit 420 H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.000	0.00	0.00	0.00	1,912,981.994	1,276,144.638	36.251079000	-107.485453000
100.00	0.00	0.000	100.00	0.00	0.00	1,912,981.994	1,276,144.638	36.251079000	-107.485453000
200.00	0.00	0.000	200.00	0.00	0.00	1,912,981.994	1,276,144.638	36.251079000	-107.485453000
300.00	0.00	0.000	300.00	0.00	0.00	1,912,981.994	1,276,144.638	36.251079000	-107.485453000
400.00	0.00	0.000	400.00	0.00	0.00	1,912,981.994	1,276,144.638	36.251079000	-107.485453000
500.00	0.00	0.000	500.00	0.00	0.00	1,912,981.994	1,276,144.638	36.251079000	-107.485453000
KOP Begin 3°/100' build									
600.00	3.00	178.020	599.95	-2.62	0.09	1,912,979.378	1,276,144.728	36.251071819	-107.485452580
700.00	6.00	178.020	699.63	-10.46	0.36	1,912,971.537	1,276,144.999	36.251050295	-107.485451322
800.00	9.00	178.020	798.77	-23.50	0.81	1,912,958.494	1,276,145.450	36.251014488	-107.485449229
900.00	12.00	178.020	897.08	-41.71	1.44	1,912,940.283	1,276,146.079	36.250964495	-107.485446307
1,000.00	15.00	178.020	994.31	-65.04	2.25	1,912,916.956	1,276,146.886	36.250900453	-107.485442564
1,100.00	18.00	178.020	1,090.18	-93.42	3.23	1,912,888.574	1,276,147.867	36.250822539	-107.485438010
1,200.00	21.00	178.020	1,184.43	-126.78	4.38	1,912,855.217	1,276,149.020	36.250730965	-107.485432658
1,300.00	24.00	178.020	1,276.81	-165.02	5.70	1,912,816.976	1,276,150.342	36.250625983	-107.485426522
1,400.00	27.00	178.020	1,367.06	-208.04	7.19	1,912,773.956	1,276,151.829	36.250507880	-107.485419620
1,443.97	28.32	178.020	1,406.00	-228.44	7.90	1,912,753.558	1,276,152.534	36.250451883	-107.485416347
Ojo Alamo									
1,500.00	30.00	178.020	1,454.93	-255.72	8.84	1,912,726.274	1,276,153.477	36.250376980	-107.485411969
1,529.08	30.87	178.020	1,480.00	-270.44	9.35	1,912,711.553	1,276,153.986	36.250336567	-107.485409607
Kirtland									
1,600.00	33.00	178.020	1,540.18	-307.93	10.64	1,912,674.062	1,276,155.282	36.250233642	-107.485403591
1,700.00	36.00	178.020	1,622.59	-364.53	12.60	1,912,617.461	1,276,157.238	36.250078259	-107.485394510
1,739.61	37.19	178.020	1,654.39	-388.13	13.42	1,912,593.861	1,276,158.054	36.250013470	-107.485390723
Begin 37.19° tangent									
1,800.00	37.19	178.020	1,702.50	-424.61	14.68	1,912,557.383	1,276,159.315	36.249913326	-107.485384870
1,821.97	37.19	178.020	1,720.00	-437.88	15.14	1,912,544.112	1,276,159.774	36.249876894	-107.485382741
Fruitland									
1,900.00	37.19	178.020	1,782.16	-485.02	16.77	1,912,496.975	1,276,161.403	36.249747491	-107.485375178
2,000.00	37.19	178.020	1,861.83	-545.43	18.85	1,912,436.567	1,276,163.491	36.249581656	-107.485365486
2,100.00	37.19	178.020	1,941.49	-605.83	20.94	1,912,376.160	1,276,165.580	36.249415820	-107.485355794
2,158.38	37.19	178.020	1,988.00	-641.10	22.16	1,912,340.896	1,276,166.799	36.249319011	-107.485350136
Pictured Cliffs									
2,200.00	37.19	178.020	2,021.16	-666.24	23.03	1,912,315.752	1,276,167.668	36.249249985	-107.485346102
2,300.00	37.19	178.020	2,100.82	-726.65	25.12	1,912,255.345	1,276,169.756	36.249084150	-107.485336409
2,330.35	37.19	178.020	2,125.00	-744.98	25.75	1,912,237.013	1,276,170.390	36.249033825	-107.485333468
Lewis									
2,400.00	37.19	178.020	2,180.49	-787.06	27.21	1,912,194.937	1,276,171.844	36.248918314	-107.485326717
2,500.00	37.19	178.020	2,260.16	-847.47	29.29	1,912,134.530	1,276,173.932	36.248752479	-107.485317025
2,600.00	37.19	178.020	2,339.82	-907.87	31.38	1,912,074.122	1,276,176.020	36.248586643	-107.485307333
2,690.60	37.19	178.020	2,412.00	-962.60	33.27	1,912,019.391	1,276,177.912	36.248436390	-107.485298552
Chacra_A									
2,700.00	37.19	178.020	2,419.49	-968.28	33.47	1,912,013.715	1,276,178.108	36.248420808	-107.485297642
2,800.00	37.19	178.020	2,499.15	-1,028.69	35.56	1,911,953.307	1,276,180.196	36.248254972	-107.485287950
2,900.00	37.19	178.020	2,578.82	-1,089.10	37.65	1,911,892.899	1,276,182.285	36.248089137	-107.485278258
3,000.00	37.19	178.020	2,658.48	-1,149.50	39.74	1,911,832.492	1,276,184.373	36.247923302	-107.485268566
3,100.00	37.19	178.020	2,738.15	-1,209.91	41.82	1,911,772.084	1,276,186.461	36.247757466	-107.485258875
3,200.00	37.19	178.020	2,817.81	-1,270.32	43.91	1,911,711.677	1,276,188.549	36.247591631	-107.485249183
3,300.00	37.19	178.020	2,897.48	-1,330.73	46.00	1,911,651.269	1,276,190.637	36.247425795	-107.485239491
3,400.00	37.19	178.020	2,977.14	-1,391.13	48.09	1,911,590.862	1,276,192.725	36.247259960	-107.485229800
3,500.00	37.19	178.020	3,056.81	-1,451.54	50.18	1,911,530.454	1,276,194.813	36.247094124	-107.485220108
3,600.00	37.19	178.020	3,136.47	-1,511.95	52.26	1,911,470.047	1,276,196.901	36.246928289	-107.485210417
3,700.00	37.19	178.020	3,216.14	-1,572.36	54.35	1,911,409.639	1,276,198.990	36.246762453	-107.485200726
3,800.00	37.19	178.020	3,295.80	-1,632.77	56.44	1,911,349.231	1,276,201.078	36.246596618	-107.485191034

Planning Report - Geographic

Database:	DT_Aug2923v16	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
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)	**North Reference:**	Grid
Well:	Haynes Canyon Unit 420 H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
3,900.00	37.19	178.020	3,375.47	-1,693.17	58.53	1,911,288.824	1,276,203.166	36.246430782	-107.485181343
4,000.00	37.19	178.020	3,455.13	-1,753.58	60.62	1,911,228.416	1,276,205.254	36.246264947	-107.485171652
4,075.15	37.19	178.020	3,515.00	-1,798.98	62.19	1,911,183.022	1,276,206.823	36.246140326	-107.485164369
Cliff House_Basal									
4,093.98	37.19	178.020	3,530.00	-1,810.35	62.58	1,911,171.648	1,276,207.216	36.246109102	-107.485162545
Menefee									
4,100.00	37.19	178.020	3,534.80	-1,813.99	62.70	1,911,168.009	1,276,207.342	36.246099111	-107.485161961
4,200.00	37.19	178.020	3,614.46	-1,874.40	64.79	1,911,107.601	1,276,209.430	36.245933276	-107.485152270
4,300.00	37.19	178.020	3,694.13	-1,934.80	66.88	1,911,047.194	1,276,211.518	36.245767440	-107.485142579
4,400.00	37.19	178.020	3,773.79	-1,995.21	68.97	1,910,986.786	1,276,213.606	36.245601605	-107.485132888
4,500.00	37.19	178.020	3,853.46	-2,055.62	71.06	1,910,926.379	1,276,215.695	36.245435769	-107.485123197
4,600.00	37.19	178.020	3,933.13	-2,116.03	73.15	1,910,865.971	1,276,217.783	36.245269934	-107.485113506
4,700.00	37.19	178.020	4,012.79	-2,176.43	75.23	1,910,805.563	1,276,219.871	36.245104098	-107.485103815
4,800.00	37.19	178.020	4,092.46	-2,236.84	77.32	1,910,745.156	1,276,221.959	36.244938263	-107.485094124
4,900.00	37.19	178.020	4,172.12	-2,297.25	79.41	1,910,684.748	1,276,224.047	36.244772427	-107.485084433
4,941.27	37.19	178.020	4,205.00	-2,322.18	80.27	1,910,659.817	1,276,224.909	36.244703985	-107.485080434
Point Lookout									
5,000.00	37.19	178.020	4,251.79	-2,357.66	81.50	1,910,624.341	1,276,226.135	36.244606592	-107.485074743
5,100.00	37.19	178.020	4,331.45	-2,418.07	83.59	1,910,563.933	1,276,228.223	36.244440756	-107.485065052
5,200.00	37.19	178.020	4,411.12	-2,478.47	85.67	1,910,503.526	1,276,230.311	36.244274921	-107.485055361
5,299.02	37.19	178.020	4,490.00	-2,538.29	87.74	1,910,443.711	1,276,232.379	36.244110713	-107.485045766
Mancos									
5,300.00	37.19	178.020	4,490.78	-2,538.88	87.76	1,910,443.118	1,276,232.400	36.244109085	-107.485045671
5,400.00	37.19	178.020	4,570.45	-2,599.29	89.85	1,910,382.711	1,276,234.488	36.243943249	-107.485035980
5,500.00	37.19	178.020	4,650.11	-2,659.70	91.94	1,910,322.303	1,276,236.576	36.243777414	-107.485026290
5,600.00	37.19	178.020	4,729.78	-2,720.10	94.03	1,910,261.895	1,276,238.664	36.243611578	-107.485016599
5,700.00	37.19	178.020	4,809.44	-2,780.51	96.11	1,910,201.488	1,276,240.752	36.243445743	-107.485006909
5,713.25	37.19	178.020	4,820.00	-2,788.52	96.39	1,910,193.483	1,276,241.029	36.243423767	-107.485005625
MNCS_A									
5,800.00	37.19	178.020	4,889.11	-2,840.92	98.20	1,910,141.080	1,276,242.840	36.243279907	-107.484997219
5,832.50	37.19	178.020	4,915.00	-2,860.55	98.88	1,910,121.448	1,276,243.519	36.243226010	-107.484994069
MNCS_B									
5,900.00	37.19	178.020	4,968.77	-2,901.33	100.29	1,910,080.673	1,276,244.928	36.243114071	-107.484987529
5,989.41	37.19	178.020	5,040.00	-2,955.34	102.16	1,910,026.664	1,276,246.795	36.242965803	-107.484978865
MNCS_C									
6,007.94	37.19	178.020	5,054.77	-2,966.53	102.54	1,910,015.467	1,276,247.182	36.242935062	-107.484977069
Begin 10°/100' build/turn									
6,050.00	37.66	171.142	5,088.18	-2,991.94	104.96	1,909,990.057	1,276,249.601	36.242865361	-107.484967770
6,052.30	37.70	170.770	5,090.00	-2,993.33	105.18	1,909,988.670	1,276,249.822	36.242861557	-107.484966961
MNCS_Cms									
6,100.00	38.73	163.238	5,127.50	-3,022.03	111.83	1,909,959.968	1,276,256.469	36.242782961	-107.484943185
6,150.00	40.30	155.775	5,166.09	-3,051.77	122.98	1,909,930.225	1,276,267.622	36.242701663	-107.484904083
6,181.64	41.53	151.324	5,190.00	-3,070.31	132.22	1,909,911.688	1,276,276.856	36.242651075	-107.484871976
MNCS_D									
6,200.00	42.32	148.842	5,203.66	-3,080.95	138.34	1,909,901.055	1,276,282.977	36.242622084	-107.484850764
6,250.00	44.73	142.473	5,239.93	-3,109.32	157.78	1,909,872.679	1,276,302.415	36.242544832	-107.484783632
6,300.00	47.46	136.654	5,274.62	-3,136.69	181.15	1,909,845.315	1,276,325.790	36.242470493	-107.484703198
6,307.99	47.92	135.772	5,280.00	-3,140.95	185.24	1,909,841.048	1,276,329.880	36.242458917	-107.484689146
MNCS_E									
6,350.00	50.45	131.345	5,307.46	-3,162.83	208.29	1,909,819.169	1,276,352.923	36.242399633	-107.484610074
6,381.35	52.45	128.252	5,327.00	-3,178.51	227.12	1,909,803.486	1,276,371.761	36.242357221	-107.484545526
MNCS_F									
6,400.00	53.67	126.490	5,338.21	-3,187.56	238.97	1,909,794.441	1,276,383.608	36.242332792	-107.484504970

Planning Report - Geographic

Database:	DT_Aug2923v16	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
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)	**North Reference:**	Grid
Well:	Haynes Canyon Unit 420 H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,450.00	57.07	122.032	5,366.63	-3,210.68	272.97	1,909,771.319	1,276,417.610	36.242270478	-107.484388686
6,491.44	60.00	118.594	5,388.26	-3,228.50	303.49	1,909,753.499	1,276,448.123	36.242222603	-107.484284464
Begin 60.00° tangent									
6,500.00	60.00	118.594	5,392.54	-3,232.05	309.99	1,909,749.951	1,276,454.632	36.242213087	-107.484262244
6,544.92	60.00	118.594	5,415.00	-3,250.67	344.15	1,909,731.333	1,276,488.789	36.242163146	-107.484145629
MNCS_G									
6,551.44	60.00	118.594	5,418.26	-3,253.37	349.11	1,909,728.630	1,276,493.747	36.242155897	-107.484128703
Begin 10°/100' build									
6,600.00	64.86	118.594	5,440.73	-3,273.97	386.89	1,909,708.035	1,276,531.530	36.242100655	-107.483999712
6,650.00	69.86	118.594	5,459.97	-3,296.04	427.40	1,909,685.957	1,276,572.034	36.242041433	-107.483861429
6,700.00	74.86	118.594	5,475.12	-3,318.84	469.22	1,909,663.160	1,276,613.857	36.241980284	-107.483718646
6,750.00	79.86	118.594	5,486.07	-3,342.18	512.04	1,909,639.818	1,276,656.681	36.241917672	-107.483572447
6,775.53	82.41	118.594	5,490.00	-3,354.25	534.19	1,909,627.748	1,276,678.824	36.241885296	-107.483496851
MNCS_H									
6,800.00	84.86	118.594	5,492.71	-3,365.89	555.54	1,909,616.108	1,276,700.178	36.241854074	-107.483423947
6,846.09	89.47	118.594	5,495.00	-3,387.92	595.95	1,909,594.082	1,276,740.587	36.241794992	-107.483285994
Begin 89.46° lateral									
6,900.00	89.47	118.594	5,495.50	-3,413.72	643.28	1,909,568.282	1,276,787.919	36.241725787	-107.483124403
7,000.00	89.47	118.594	5,496.43	-3,461.58	731.08	1,909,520.424	1,276,875.718	36.241597414	-107.482824660
7,100.00	89.47	118.594	5,497.37	-3,509.43	818.88	1,909,472.566	1,276,963.517	36.241469040	-107.482524917
7,200.00	89.47	118.594	5,498.30	-3,557.29	906.68	1,909,424.708	1,277,051.316	36.241340665	-107.482225175
7,300.00	89.47	118.594	5,499.24	-3,605.15	994.48	1,909,376.850	1,277,139.116	36.241212290	-107.481925434
7,400.00	89.47	118.594	5,500.17	-3,653.01	1,082.28	1,909,328.992	1,277,226.915	36.241083913	-107.481625694
7,500.00	89.47	118.594	5,501.10	-3,700.87	1,170.08	1,909,281.134	1,277,314.714	36.240955536	-107.481325955
7,600.00	89.47	118.594	5,502.04	-3,748.73	1,257.88	1,909,233.276	1,277,402.513	36.240827158	-107.481026218
7,700.00	89.47	118.594	5,502.97	-3,796.58	1,345.68	1,909,185.418	1,277,490.312	36.240698780	-107.480726481
7,800.00	89.47	118.594	5,503.90	-3,844.44	1,433.48	1,909,137.560	1,277,578.112	36.240570400	-107.480426745
7,846.09	89.47	118.594	5,504.33	-3,866.50	1,473.94	1,909,115.502	1,277,618.579	36.240511229	-107.480288595
Begin 3°/100' turn									
7,900.00	89.47	120.211	5,504.84	-3,892.96	1,520.91	1,909,089.038	1,277,665.541	36.240440182	-107.480128237
8,000.00	89.47	123.211	5,505.77	-3,945.52	1,605.96	1,909,036.482	1,277,750.598	36.240298803	-107.479837597
8,100.00	89.47	126.211	5,506.71	-4,002.46	1,688.15	1,908,979.547	1,277,832.788	36.240145296	-107.479556492
8,200.00	89.47	129.211	5,507.64	-4,063.61	1,767.25	1,908,918.388	1,277,911.885	36.239980080	-107.479285689
8,300.00	89.47	132.211	5,508.57	-4,128.83	1,843.04	1,908,853.174	1,277,987.673	36.239803609	-107.479025934
8,400.00	89.47	135.211	5,509.51	-4,197.92	1,915.31	1,908,784.082	1,278,059.945	36.239616366	-107.478777936
8,500.00	89.47	138.211	5,510.44	-4,270.70	1,983.87	1,908,711.303	1,278,128.501	36.239418865	-107.478542376
8,532.09	89.47	139.174	5,510.74	-4,294.80	2,005.05	1,908,687.198	1,278,149.683	36.239353400	-107.478469526
Begin 3°/100' build/turn									
8,600.00	89.68	141.200	5,511.25	-4,346.96	2,048.53	1,908,635.039	1,278,193.160	36.239211657	-107.478319881
8,700.00	89.99	144.184	5,511.54	-4,426.49	2,109.13	1,908,555.509	1,278,253.763	36.238995339	-107.478111000
8,800.00	90.30	147.168	5,511.28	-4,509.07	2,165.51	1,908,472.933	1,278,310.143	36.238770506	-107.477916303
8,900.00	90.61	150.152	5,510.48	-4,594.47	2,217.51	1,908,387.536	1,278,362.148	36.238537774	-107.477736322
9,000.00	90.93	153.136	5,509.14	-4,682.45	2,265.00	1,908,299.554	1,278,409.634	36.238297782	-107.477571552
9,037.24	91.04	154.247	5,508.50	-4,715.82	2,281.50	1,908,266.181	1,278,426.134	36.238206697	-107.477514178
Begin 91.04° lateral									
9,100.00	91.04	154.247	5,507.36	-4,772.34	2,308.77	1,908,209.659	1,278,453.400	36.238052410	-107.477419310
9,200.00	91.04	154.247	5,505.55	-4,862.40	2,352.21	1,908,119.607	1,278,496.842	36.237806592	-107.477268162
9,300.00	91.04	154.247	5,503.73	-4,952.45	2,395.65	1,908,029.554	1,278,540.284	36.237560774	-107.477117015
9,400.00	91.04	154.247	5,501.92	-5,042.50	2,439.09	1,907,939.502	1,278,583.726	36.237314955	-107.476965869
9,500.00	91.04	154.247	5,500.10	-5,132.55	2,482.54	1,907,849.449	1,278,627.168	36.237069136	-107.476814724
9,600.00	91.04	154.247	5,498.29	-5,222.61	2,525.98	1,907,759.397	1,278,670.610	36.236823317	-107.476663579
9,700.00	91.04	154.247	5,496.47	-5,312.66	2,569.42	1,907,669.344	1,278,714.052	36.236577498	-107.476512436
9,800.00	91.04	154.247	5,494.66	-5,402.71	2,612.86	1,907,579.292	1,278,757.494	36.236331678	-107.476361294
9,900.00	91.04	154.247	5,492.84	-5,492.77	2,656.30	1,907,489.239	1,278,800.936	36.236085859	-107.476210153

Planning Report - Geographic

Database:	DT_Aug2923v16	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
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)	**North Reference:**	Grid
Well:	Haynes Canyon Unit 420 H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,000.00	91.04	154.247	5,491.03	-5,582.82	2,699.75	1,907,399.187	1,278,844.378	36.235840039	-107.476059013
10,100.00	91.04	154.247	5,489.21	-5,672.87	2,743.19	1,907,309.134	1,278,887.820	36.235594219	-107.475907873
10,200.00	91.04	154.247	5,487.40	-5,762.92	2,786.63	1,907,219.082	1,278,931.262	36.235348398	-107.475756735
10,300.00	91.04	154.247	5,485.58	-5,852.98	2,830.07	1,907,129.029	1,278,974.704	36.235102578	-107.475605597
10,400.00	91.04	154.247	5,483.77	-5,943.03	2,873.51	1,907,038.977	1,279,018.146	36.234856757	-107.475454461
10,500.00	91.04	154.247	5,481.95	-6,033.08	2,916.96	1,906,948.924	1,279,061.588	36.234610936	-107.475303326
10,600.00	91.04	154.247	5,480.14	-6,123.13	2,960.40	1,906,858.872	1,279,105.030	36.234365115	-107.475152191
10,700.00	91.04	154.247	5,478.32	-6,213.19	3,003.84	1,906,768.819	1,279,148.472	36.234119293	-107.475001058
10,800.00	91.04	154.247	5,476.51	-6,303.24	3,047.28	1,906,678.766	1,279,191.914	36.233873472	-107.474849925
10,900.00	91.04	154.247	5,474.69	-6,393.29	3,090.72	1,906,588.714	1,279,235.356	36.233627650	-107.474698793
11,000.00	91.04	154.247	5,472.88	-6,483.35	3,134.17	1,906,498.661	1,279,278.798	36.233381828	-107.474547663
11,037.24	91.04	154.247	5,472.20	-6,516.88	3,150.34	1,906,465.130	1,279,294.974	36.233290295	-107.474491389
Begin 3°/100' turn									
11,100.00	91.04	152.364	5,471.06	-6,572.94	3,178.53	1,906,409.067	1,279,323.164	36.233137296	-107.474393421
11,200.00	91.04	149.364	5,469.25	-6,660.26	3,227.21	1,906,321.745	1,279,371.838	36.232899154	-107.474224670
11,300.00	91.04	146.364	5,467.43	-6,744.92	3,280.39	1,906,237.090	1,279,425.016	36.232668493	-107.474040768
11,337.24	91.04	145.247	5,466.75	-6,775.71	3,301.31	1,906,206.297	1,279,445.939	36.232584645	-107.473968520
Begin 3°/100' build/turn									
11,400.00	90.98	143.365	5,465.65	-6,826.67	3,337.92	1,906,155.333	1,279,482.552	36.232445944	-107.473842217
11,500.00	90.88	140.366	5,464.03	-6,905.31	3,399.66	1,906,076.697	1,279,544.288	36.232232108	-107.473629563
11,600.00	90.78	137.367	5,462.58	-6,980.61	3,465.42	1,906,001.395	1,279,610.055	36.232027572	-107.473403388
11,700.00	90.67	134.369	5,461.32	-7,052.37	3,535.04	1,905,929.635	1,279,679.672	36.231832896	-107.473164311
11,770.51	90.60	132.255	5,460.54	-7,100.74	3,586.34	1,905,881.271	1,279,730.973	36.231701842	-107.472988329
Begin 90.60° lateral									
11,800.00	90.60	132.255	5,460.23	-7,120.56	3,608.17	1,905,861.444	1,279,752.797	36.231648144	-107.472913498
11,900.00	90.60	132.255	5,459.19	-7,187.80	3,682.18	1,905,794.205	1,279,826.809	36.231466036	-107.472659719
12,000.00	90.60	132.255	5,458.14	-7,255.04	3,756.19	1,905,726.966	1,279,900.821	36.231283927	-107.472405942
12,100.00	90.60	132.255	5,457.10	-7,322.28	3,830.20	1,905,659.727	1,279,974.833	36.231101818	-107.472152166
12,200.00	90.60	132.255	5,456.06	-7,389.52	3,904.22	1,905,592.488	1,280,048.845	36.230919708	-107.471898391
12,300.00	90.60	132.255	5,455.01	-7,456.76	3,978.23	1,905,525.249	1,280,122.857	36.230737597	-107.471644617
12,400.00	90.60	132.255	5,453.97	-7,524.00	4,052.24	1,905,458.010	1,280,196.869	36.230555486	-107.471390846
12,500.00	90.60	132.255	5,452.93	-7,591.24	4,126.25	1,905,390.770	1,280,270.881	36.230373375	-107.471137074
12,600.00	90.60	132.255	5,451.88	-7,658.48	4,200.26	1,905,323.530	1,280,344.893	36.230191262	-107.470883304
12,700.00	90.60	132.255	5,450.84	-7,725.72	4,274.28	1,905,256.291	1,280,418.905	36.230009150	-107.470629535
12,800.00	90.60	132.255	5,449.80	-7,792.96	4,348.29	1,905,189.052	1,280,492.917	36.229827036	-107.470375767
12,900.00	90.60	132.255	5,448.75	-7,860.20	4,422.30	1,905,121.813	1,280,566.929	36.229644922	-107.470122000
13,000.00	90.60	132.255	5,447.71	-7,927.44	4,496.31	1,905,054.574	1,280,640.941	36.229462808	-107.469868235
13,100.00	90.60	132.255	5,446.67	-7,994.67	4,570.32	1,904,987.335	1,280,714.953	36.229280693	-107.469614470
13,200.00	90.60	132.255	5,445.62	-8,061.91	4,644.34	1,904,920.096	1,280,788.965	36.229098577	-107.469360707
13,300.00	90.60	132.255	5,444.58	-8,129.15	4,718.35	1,904,852.856	1,280,862.977	36.228916461	-107.469106945
13,400.00	90.60	132.255	5,443.54	-8,196.39	4,792.36	1,904,785.617	1,280,936.989	36.228734344	-107.468853184
13,500.00	90.60	132.255	5,442.49	-8,263.63	4,866.37	1,904,718.378	1,281,011.001	36.228552227	-107.468599425
13,600.00	90.60	132.255	5,441.45	-8,330.87	4,940.39	1,904,651.139	1,281,085.013	36.228370109	-107.468345666
13,700.00	90.60	132.255	5,440.41	-8,398.11	5,014.40	1,904,583.900	1,281,159.025	36.228187991	-107.468091909
13,800.00	90.60	132.255	5,439.36	-8,465.35	5,088.41	1,904,516.661	1,281,233.037	36.228005872	-107.467838153
13,900.00	90.60	132.255	5,438.32	-8,532.59	5,162.42	1,904,449.422	1,281,307.048	36.227823752	-107.467584398
14,000.00	90.60	132.255	5,437.28	-8,599.83	5,236.43	1,904,382.183	1,281,381.060	36.227641632	-107.467330644
14,100.00	90.60	132.255	5,436.24	-8,667.07	5,310.45	1,904,314.943	1,281,455.072	36.227459511	-107.467076891
14,200.00	90.60	132.255	5,435.19	-8,734.31	5,384.46	1,904,247.704	1,281,529.084	36.227277390	-107.466823140
14,300.00	90.60	132.255	5,434.15	-8,801.55	5,458.47	1,904,180.465	1,281,603.096	36.227095268	-107.466569390
14,400.00	90.60	132.255	5,433.11	-8,868.78	5,532.48	1,904,113.226	1,281,677.108	36.226913146	-107.466315641
14,500.00	90.60	132.255	5,432.06	-8,936.02	5,606.49	1,904,045.987	1,281,751.120	36.226731023	-107.466061893
14,600.00	90.60	132.255	5,431.02	-9,003.26	5,680.51	1,903,978.748	1,281,825.132	36.226548899	-107.465808146
14,700.00	90.60	132.255	5,429.98	-9,070.50	5,754.52	1,903,911.509	1,281,899.144	36.226366775	-107.465554400

Planning Report - Geographic

Database:	DT_Aug2923v16	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
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)	**North Reference:**	Grid
Well:	Haynes Canyon Unit 420 H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
14,800.00	90.60	132.255	5,428.93	-9,137.74	5,828.53	1,903,844.270	1,281,973.156	36.226184650	-107.465300656
14,900.00	90.60	132.255	5,427.89	-9,204.98	5,902.54	1,903,777.030	1,282,047.168	36.226002525	-107.465046913
15,000.00	90.60	132.255	5,426.85	-9,272.22	5,976.55	1,903,709.791	1,282,121.180	36.225820399	-107.464793171
15,100.00	90.60	132.255	5,425.80	-9,339.46	6,050.57	1,903,642.552	1,282,195.192	36.225638273	-107.464539430
15,177.02	90.60	132.255	5,425.00	-9,391.25	6,107.57	1,903,590.765	1,282,252.196	36.225498000	-107.464344000
Begin 2°/100' drop/turn									
15,200.00	90.52	132.709	5,424.78	-9,406.77	6,124.52	1,903,575.246	1,282,269.143	36.225455959	-107.464285895
15,300.00	90.21	134.683	5,424.14	-9,475.84	6,196.81	1,903,506.168	1,282,341.439	36.225268722	-107.464037894
15,318.72	90.15	135.053	5,424.08	-9,489.05	6,210.08	1,903,492.961	1,282,354.707	36.225232905	-107.463992357
Begin 90.15° lateral									
15,400.00	90.15	135.053	5,423.87	-9,546.58	6,267.50	1,903,435.435	1,282,412.127	36.225076885	-107.463795276
15,500.00	90.15	135.053	5,423.62	-9,617.35	6,338.15	1,903,364.660	1,282,482.772	36.224884929	-107.463552802
15,600.00	90.15	135.053	5,423.36	-9,688.13	6,408.79	1,903,293.885	1,282,553.417	36.224692971	-107.463310329
15,700.00	90.15	135.053	5,423.11	-9,758.90	6,479.44	1,903,223.109	1,282,624.063	36.224501015	-107.463067858
15,800.00	90.15	135.053	5,422.85	-9,829.68	6,550.08	1,903,152.334	1,282,694.708	36.224309057	-107.462825388
15,900.00	90.15	135.053	5,422.60	-9,900.45	6,620.73	1,903,081.559	1,282,765.353	36.224117098	-107.462582919
16,000.00	90.15	135.053	5,422.34	-9,971.23	6,691.37	1,903,010.783	1,282,835.998	36.223925139	-107.462340451
16,100.00	90.15	135.053	5,422.09	-10,042.01	6,762.02	1,902,940.008	1,282,906.644	36.223733179	-107.462097984
16,200.00	90.15	135.053	5,421.83	-10,112.78	6,832.67	1,902,869.233	1,282,977.289	36.223541219	-107.461855518
16,300.00	90.15	135.053	5,421.58	-10,183.56	6,903.31	1,902,798.457	1,283,047.934	36.223349258	-107.461613054
16,400.00	90.15	135.053	5,421.32	-10,254.33	6,973.96	1,902,727.682	1,283,118.579	36.223157297	-107.461370591
16,500.00	90.15	135.053	5,421.07	-10,325.11	7,044.60	1,902,656.907	1,283,189.225	36.222965335	-107.461128129
16,600.00	90.15	135.053	5,420.81	-10,395.88	7,115.25	1,902,586.131	1,283,259.870	36.222773373	-107.460885668
16,700.00	90.15	135.053	5,420.56	-10,466.66	7,185.89	1,902,515.356	1,283,330.515	36.222581410	-107.460643209
16,800.00	90.15	135.053	5,420.30	-10,537.43	7,256.54	1,902,444.581	1,283,401.160	36.222389447	-107.460400750
16,900.00	90.15	135.053	5,420.05	-10,608.21	7,327.18	1,902,373.805	1,283,471.805	36.222197483	-107.460158293
17,000.00	90.15	135.053	5,419.79	-10,678.98	7,397.83	1,902,303.030	1,283,542.451	36.222005519	-107.459915837
17,100.00	90.15	135.053	5,419.54	-10,749.76	7,468.47	1,902,232.255	1,283,613.096	36.221813554	-107.459673382
17,200.00	90.15	135.053	5,419.28	-10,820.54	7,539.12	1,902,161.480	1,283,683.741	36.221621588	-107.459430928
17,300.00	90.15	135.053	5,419.03	-10,891.31	7,609.76	1,902,090.704	1,283,754.386	36.221429622	-107.459188476
17,400.00	90.15	135.053	5,418.77	-10,962.09	7,680.41	1,902,019.929	1,283,825.032	36.221237656	-107.458946024
17,500.00	90.15	135.053	5,418.52	-11,032.86	7,751.06	1,901,949.154	1,283,895.677	36.221045689	-107.458703574
17,600.00	90.15	135.053	5,418.26	-11,103.64	7,821.70	1,901,878.378	1,283,966.322	36.220853721	-107.458461125
17,700.00	90.15	135.053	5,418.01	-11,174.41	7,892.35	1,901,807.603	1,284,036.967	36.220661753	-107.458218677
17,800.00	90.15	135.053	5,417.76	-11,245.19	7,962.99	1,901,736.828	1,284,107.613	36.220469785	-107.457976231
17,900.00	90.15	135.053	5,417.50	-11,315.96	8,033.64	1,901,666.052	1,284,178.258	36.220277816	-107.457733786
18,000.00	90.15	135.053	5,417.25	-11,386.74	8,104.28	1,901,595.277	1,284,248.903	36.220085846	-107.457491341
18,100.00	90.15	135.053	5,416.99	-11,457.51	8,174.93	1,901,524.502	1,284,319.548	36.219893876	-107.457248898
18,200.00	90.15	135.053	5,416.74	-11,528.29	8,245.57	1,901,453.726	1,284,390.193	36.219701906	-107.457006456
18,300.00	90.15	135.053	5,416.48	-11,599.07	8,316.22	1,901,382.951	1,284,460.839	36.219509934	-107.456764016
18,400.00	90.15	135.053	5,416.23	-11,669.84	8,386.86	1,901,312.176	1,284,531.484	36.219317963	-107.456521576
18,500.00	90.15	135.053	5,415.97	-11,740.62	8,457.51	1,901,241.400	1,284,602.129	36.219125991	-107.456279138
18,600.00	90.15	135.053	5,415.72	-11,811.39	8,528.15	1,901,170.625	1,284,672.774	36.218934018	-107.456036701
18,700.00	90.15	135.053	5,415.46	-11,882.17	8,598.80	1,901,099.850	1,284,743.420	36.218742045	-107.455794265
18,800.00	90.15	135.053	5,415.21	-11,952.94	8,669.45	1,901,029.074	1,284,814.065	36.218550071	-107.455551830
18,880.78	90.15	135.053	5,415.00	-12,010.11	8,726.51	1,900,971.904	1,284,871.130	36.218395000	-107.455356000
PBHL/TD @ 18880.78 MD 5415.00 TVD									

Planning Report - Geographic

Database:	DT_Aug2923v16	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
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)	**North Reference:**	Grid
Well:	Haynes Canyon Unit 420 H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

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 420 330 L 330 F	0.00	0.000	0.00	-3,387.92	595.95	1,909,594.085	1,276,740.585	36.241795000	-107.483286000
- plan misses target center by 3437.84ft at 2245.90ft MD (2057.73 TVD, -693.97 N, 23.99 E)									
- Polygon									
Point 1			0.00	-289.75	-157.93	1,909,304.335	1,276,582.655		True
Point 2			0.00	289.75	157.94	1,909,883.834	1,276,898.525		True
Point 3			0.00	-529.20	1,660.36	1,909,064.886	1,278,400.942		True
Point 4			0.00	-3,193.01	2,951.54	1,906,401.081	1,279,692.119		True
Point 5			0.00	-5,769.99	5,744.97	1,903,824.105	1,282,485.543		True
Point 6			0.00	-8,388.85	8,363.90	1,901,205.251	1,285,104.468		True
Point 7			0.00	-8,855.54	7,897.22	1,900,738.562	1,284,637.789		True
Point 8			0.00	-6,245.90	5,287.88	1,903,348.196	1,282,028.454		True
Point 9			0.00	-3,593.38	2,412.16	1,906,000.712	1,279,152.740		True
Point 10			0.00	-1,007.45	1,158.72	1,908,586.637	1,277,899.303		True
Point 11			0.00	-289.75	-157.93	1,909,304.335	1,276,582.655		True
Haynes 420 LTP (F) 232	0.00	0.000	5,415.00	-12,010.11	8,726.51	1,900,971.904	1,284,871.130	36.218395000	-107.455356000
- plan hits target center									
- Point									
Haynes 420 Pt E 2335 F	0.00	0.000	5,425.00	-9,391.25	6,107.57	1,903,590.765	1,282,252.196	36.225498000	-107.464344000
- plan hits target center									
- Point									
Haynes 420 Pt D 270 FS	0.00	0.000	5,467.00	-6,781.11	3,277.80	1,906,200.897	1,279,422.426	36.232569000	-107.474048000
- plan misses target center by 22.42ft at 11328.48ft MD (5466.91 TVD, -6768.51 N, 3296.34 E)									
- Point									
Haynes 420 FTP (B) 16(	0.00	0.000	5,495.00	-3,387.92	595.95	1,909,594.085	1,276,740.585	36.241795000	-107.483286000
- plan hits target center									
- Point									
Haynes 420 Pt C 2386 F	0.00	0.000	5,510.00	-4,156.23	2,005.49	1,908,825.769	1,278,150.120	36.239734000	-107.478474000
- plan misses target center by 93.66ft at 8431.49ft MD (5509.80 TVD, -4220.45 N, 1937.31 E)									
- Point									

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
4,282.26	3,680.00	9 5/8" Csg	9-5/8	12-1/4

Planning Report - Geographic

Database:	DT_Aug2923v16	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
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)	**North Reference:**	Grid
Well:	Haynes Canyon Unit 420 H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,443.97	1,406.00	Ojo Alamo			
1,529.08	1,480.00	Kirtland			
1,821.97	1,720.00	Fruitland			
2,158.38	1,988.00	Pictured Cliffs			
2,330.35	2,125.00	Lewis			
2,690.60	2,412.00	Chacra_A			
4,075.15	3,515.00	Cliff House_Basal			
4,093.98	3,530.00	Menefee			
4,941.27	4,205.00	Point Lookout			
5,299.02	4,490.00	Mancos			
5,713.25	4,820.00	MNCS_A			
5,832.50	4,915.00	MNCS_B			
5,989.41	5,040.00	MNCS_C			
6,052.30	5,090.00	MNCS_Cms			
6,181.64	5,190.00	MNCS_D			
6,307.99	5,280.00	MNCS_E			
6,381.35	5,327.00	MNCS_F			
6,544.92	5,415.00	MNCS_G			
6,775.53	5,490.00	MNCS_H			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
500.00	500.00	0.00	0.00	KOP Begin 3°/100' build
1,739.61	1,654.39	-388.13	13.42	Begin 37.19° tangent
6,007.94	5,054.77	-2,966.53	102.54	Begin 10°/100' build/turn
6,491.44	5,388.26	-3,228.50	303.49	Begin 60.00° tangent
6,551.44	5,418.26	-3,253.37	349.11	Begin 10°/100' build
6,846.09	5,495.00	-3,387.92	595.95	Begin 89.46° lateral
7,846.09	5,504.33	-3,866.50	1,473.94	Begin 3°/100' turn
8,532.09	5,510.74	-4,294.80	2,005.05	Begin 3°/100' build/turn
9,037.24	5,508.50	-4,715.82	2,281.50	Begin 91.04° lateral
11,037.24	5,472.20	-6,516.88	3,150.34	Begin 3°/100' turn
11,337.24	5,466.75	-6,775.71	3,301.31	Begin 3°/100' build/turn
11,770.51	5,460.54	-7,100.74	3,586.34	Begin 90.60° lateral
15,177.02	5,425.00	-9,391.25	6,107.57	Begin 2°/100' drop/turn
15,318.72	5,424.08	-9,489.05	6,210.08	Begin 90.15° lateral
18,880.78	5,415.00	-12,010.11	8,726.51	PBHL/TD @ 18880.78 MD 5415.00 TVD

Anticollision Report

Company:	Enduring Resources LLC	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
Project:	Rio Arriba County, New Mexico NAD83 NM C	**TVD Reference:**	RKB=6765+25 @ 6790.00ft
Reference Site:	Haynes Canyon Unit (420, 422)	**MD Reference:**	RKB=6765+25 @ 6790.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Haynes Canyon Unit 420 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:	rev0	**Offset TVD Reference:**	Offset Datum

Reference rev0

Filter type:	GLOBAL FILTER APPLIED: All wellpaths within 200'+ 100/1000 of reference		
Interpolation Method:	MD Interval 100.00ft	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum centre distance of 2,088.08ft	**Error Surface:**	Ellipsoid Separation
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 10/26/2023

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	18,880.78	rev0 (Original Hole)	MWD	OWSG MWD - Standard

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Haynes Canyon Unit (420, 422)						
Haynes Canyon Unit 422 H - Original Hole - rev0	500.00	500.00	19.95	16.81	6.359	CC, ES
Haynes Canyon Unit 422 H - Original Hole - rev0	18,880.78	17,970.48	1,230.60	602.91	1.961	Level 3<2.00, SF

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 — **Rule Assigned:** — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	78.08	4.12	19.52	19.95				
100.00	100.00	100.00	100.00	0.13	0.13	78.08	4.12	19.52	19.95	19.68	0.27	74.192	
200.00	200.00	200.00	200.00	0.49	0.49	78.08	4.12	19.52	19.95	18.96	0.99	20.234	
300.00	300.00	300.00	300.00	0.85	0.85	78.08	4.12	19.52	19.95	18.24	1.70	11.715	
400.00	400.00	400.00	400.00	1.21	1.21	78.08	4.12	19.52	19.95	17.53	2.42	8.244	
500.00	500.00	500.00	500.00	1.57	1.57	78.08	4.12	19.52	19.95	16.81	3.14	6.359	CC, ES
600.00	599.95	599.74	599.70	1.91	1.91	-100.02	1.77	20.64	21.02	17.20	3.82	5.503	
700.00	699.63	699.41	699.05	2.25	2.25	-100.22	-5.26	24.02	24.23	19.74	4.49	5.392	
800.00	798.77	798.95	797.73	2.61	2.61	-100.43	-16.93	29.63	29.57	24.36	5.21	5.675	
900.00	897.08	898.29	895.41	3.00	3.00	-100.58	-33.18	37.43	37.03	31.04	5.99	6.182	
1,000.00	994.31	997.37	991.77	3.43	3.43	-100.65	-53.93	47.40	46.57	39.72	6.85	6.799	
1,100.00	1,090.18	1,096.13	1,086.50	3.92	3.92	-100.65	-79.06	59.47	58.16	50.35	7.81	7.449	
1,200.00	1,184.43	1,194.52	1,179.31	4.47	4.46	-100.57	-108.46	73.59	71.77	62.89	8.88	8.082	
1,300.00	1,276.81	1,292.49	1,269.94	5.09	5.07	-100.43	-141.97	89.69	87.36	77.28	10.08	8.667	
1,400.00	1,367.06	1,390.00	1,358.14	5.77	5.75	-100.24	-179.45	107.69	104.86	93.45	11.41	9.189	
1,500.00	1,454.93	1,487.02	1,443.67	6.53	6.50	-100.00	-220.71	127.51	124.24	111.36	12.88	9.645	
1,600.00	1,540.18	1,583.52	1,526.32	7.36	7.33	-99.72	-265.58	149.06	145.41	130.92	14.49	10.037	
1,700.00	1,622.59	1,679.48	1,605.92	8.27	8.23	-99.40	-313.88	172.26	168.33	152.09	16.23	10.370	
1,800.00	1,702.50	1,774.92	1,682.32	9.24	9.20	-99.22	-365.43	197.02	192.76	174.66	18.10	10.650	
1,900.00	1,782.16	1,871.25	1,757.29	10.23	10.23	-98.48	-419.95	223.21	217.88	197.82	20.06	10.863	
2,000.00	1,861.83	1,967.99	1,832.48	11.24	11.30	-97.85	-474.83	249.56	243.05	220.99	22.06	11.016	
2,100.00	1,941.49	2,064.74	1,907.67	12.26	12.38	-97.34	-529.71	275.92	268.24	244.15	24.09	11.134	
2,200.00	2,021.16	2,161.49	1,982.86	13.28	13.47	-96.91	-584.58	302.28	293.46	267.31	26.14	11.225	
2,300.00	2,100.82	2,258.24	2,058.06	14.32	14.57	-96.56	-639.46	328.64	318.68	290.47	28.21	11.298	
2,400.00	2,180.49	2,354.99	2,133.25	15.35	15.68	-96.25	-694.34	355.00	343.91	313.63	30.28	11.357	

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

Anticollision Report

Company:	Enduring Resources LLC	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
Project:	Rio Arriba County, New Mexico NAD83 NM C	**TVD Reference:**	RKB=6765+25 @ 6790.00ft
Reference Site:	Haynes Canyon Unit (420, 422)	**MD Reference:**	RKB=6765+25 @ 6790.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Haynes Canyon Unit 420 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:	rev0	**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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Rule Assigned: Distance Between Centres (ft)	Rule Assigned: Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,500.00	2,260.16	2,451.74	2,208.44	16.40	16.79	-95.99	-749.22	381.36	369.16	336.79	32.37	11.405	
2,600.00	2,339.82	2,548.49	2,283.64	17.44	17.91	-95.76	-804.09	407.72	394.40	359.94	34.46	11.445	
2,700.00	2,419.49	2,645.24	2,358.83	18.49	19.03	-95.56	-858.97	434.08	419.66	383.10	36.56	11.478	
2,800.00	2,499.15	2,741.99	2,434.02	19.54	20.15	-95.38	-913.85	460.44	444.92	406.25	38.67	11.507	
2,900.00	2,578.82	2,838.74	2,509.22	20.59	21.28	-95.22	-968.73	486.79	470.18	429.40	40.77	11.531	
3,000.00	2,658.48	2,935.48	2,584.41	21.65	22.41	-95.08	-1,023.61	513.15	495.44	452.55	42.89	11.552	
3,100.00	2,738.15	3,032.23	2,659.60	22.70	23.54	-94.95	-1,078.48	539.51	520.71	475.71	45.00	11.571	
3,200.00	2,817.81	3,128.98	2,734.79	23.76	24.67	-94.83	-1,133.36	565.87	545.98	498.86	47.12	11.587	
3,300.00	2,897.48	3,225.73	2,809.99	24.82	25.80	-94.73	-1,188.24	592.23	571.25	522.01	49.24	11.601	
3,400.00	2,977.14	3,322.48	2,885.18	25.88	26.94	-94.63	-1,243.12	618.59	596.52	545.16	51.37	11.613	
3,500.00	3,056.81	3,419.23	2,960.37	26.94	28.07	-94.54	-1,298.00	644.95	621.80	568.31	53.49	11.624	
3,600.00	3,136.47	3,515.98	3,035.57	28.00	29.21	-94.45	-1,352.87	671.31	647.07	591.45	55.62	11.634	
3,700.00	3,216.14	3,612.73	3,110.76	29.06	30.34	-94.38	-1,407.75	697.67	672.35	614.60	57.75	11.643	
3,800.00	3,295.80	3,709.48	3,185.95	30.12	31.48	-94.31	-1,462.63	724.02	697.63	637.75	59.88	11.651	
3,900.00	3,375.47	3,806.22	3,261.15	31.19	32.62	-94.24	-1,517.51	750.38	722.91	660.90	62.01	11.659	
4,000.00	3,455.13	3,902.97	3,336.34	32.25	33.76	-94.18	-1,572.38	776.74	748.19	684.05	64.14	11.665	
4,100.00	3,534.80	3,999.72	3,411.53	33.31	34.90	-94.12	-1,627.26	803.10	773.47	707.19	66.27	11.671	
4,200.00	3,614.46	4,096.47	3,486.72	34.38	36.04	-94.07	-1,682.14	829.46	798.75	730.34	68.41	11.677	
4,300.00	3,694.13	4,193.22	3,561.92	35.44	37.18	-94.02	-1,737.02	855.82	824.03	753.49	70.54	11.682	
4,400.00	3,773.79	4,289.97	3,637.11	36.51	38.32	-93.97	-1,791.90	882.18	849.31	776.64	72.68	11.686	
4,500.00	3,853.46	4,386.72	3,712.30	37.57	39.46	-93.92	-1,846.77	908.54	874.59	799.78	74.81	11.691	
4,600.00	3,933.13	4,483.47	3,787.50	38.64	40.60	-93.88	-1,901.65	934.90	899.88	822.93	76.95	11.695	
4,700.00	4,012.79	4,580.22	3,862.69	39.70	41.75	-93.84	-1,956.53	961.25	925.16	846.08	79.08	11.698	
4,800.00	4,092.46	4,676.96	3,937.88	40.77	42.89	-93.80	-2,011.41	987.61	950.45	869.22	81.22	11.702	
4,900.00	4,172.12	4,773.71	4,013.07	41.83	44.03	-93.77	-2,066.28	1,013.97	975.73	892.37	83.36	11.705	
5,000.00	4,251.79	4,870.46	4,088.27	42.90	45.17	-93.73	-2,121.16	1,040.33	1,001.01	915.52	85.50	11.708	
5,100.00	4,331.45	4,967.21	4,163.46	43.97	46.32	-93.70	-2,176.04	1,066.69	1,026.30	938.66	87.64	11.711	
5,200.00	4,411.12	5,063.96	4,238.65	45.03	47.46	-93.67	-2,230.92	1,093.05	1,051.59	961.81	89.78	11.713	
5,300.00	4,490.78	5,160.71	4,313.85	46.10	48.60	-93.64	-2,285.80	1,119.41	1,076.87	984.95	91.92	11.716	
5,400.00	4,570.45	5,257.46	4,389.04	47.17	49.75	-93.61	-2,340.67	1,145.77	1,102.16	1,008.10	94.06	11.718	
5,500.00	4,650.11	5,354.21	4,464.23	48.24	50.89	-93.59	-2,395.55	1,172.13	1,127.44	1,031.25	96.20	11.720	
5,600.00	4,729.78	5,450.96	4,539.43	49.30	52.03	-93.56	-2,450.43	1,198.48	1,152.73	1,054.39	98.34	11.722	
5,700.00	4,809.44	5,547.70	4,614.62	50.37	53.18	-93.54	-2,505.31	1,224.84	1,178.02	1,077.54	100.48	11.724	
5,800.00	4,889.11	5,644.45	4,689.81	51.44	54.32	-93.51	-2,560.19	1,251.20	1,203.30	1,100.68	102.62	11.726	
5,900.00	4,968.77	5,741.20	4,765.00	52.51	55.46	-93.49	-2,615.06	1,277.56	1,228.59	1,123.83	104.76	11.728	
6,000.00	5,048.44	5,837.95	4,840.20	53.57	56.61	-93.47	-2,669.94	1,303.92	1,253.88	1,146.98	106.90	11.729	
6,100.00	5,127.50	5,936.17	4,916.54	54.65	57.77	-81.61	-2,725.65	1,330.68	1,271.98	1,162.88	109.10	11.659	
6,200.00	5,203.66	6,036.01	4,994.13	55.72	58.95	-70.74	-2,782.28	1,357.88	1,272.94	1,161.57	111.38	11.429	
6,300.00	5,274.62	6,134.43	5,070.62	56.76	60.12	-62.51	-2,838.11	1,384.70	1,256.69	1,143.02	113.67	11.055	
6,400.00	5,338.21	6,228.47	5,143.70	57.73	61.23	-56.86	-2,891.45	1,410.31	1,223.75	1,107.83	115.91	10.557	
6,500.00	5,392.54	6,310.68	5,207.60	58.63	62.20	-53.78	-2,938.08	1,432.71	1,175.21	1,057.27	117.94	9.964	
6,600.00	5,440.73	6,350.00	5,237.50	59.51	62.68	-56.62	-2,960.68	1,444.57	1,121.66	1,002.73	118.93	9.432	
6,700.00	5,475.12	6,375.05	5,255.83	60.50	63.02	-62.95	-2,975.36	1,453.29	1,065.11	945.53	119.58	8.907	
6,800.00	5,492.71	6,400.00	5,273.48	61.57	63.35	-70.30	-2,990.16	1,462.87	1,006.22	885.92	120.30	8.364	
6,900.00	5,495.50	6,434.39	5,296.77	62.72	63.84	-74.86	-3,010.81	1,477.49	947.49	825.93	121.56	7.795	
7,000.00	5,496.43	6,466.53	5,317.36	63.92	64.31	-76.14	-3,030.31	1,492.60	893.29	770.84	122.45	7.295	
7,100.00	5,497.37	6,500.00	5,337.55	65.19	64.82	-77.44	-3,050.75	1,509.77	844.54	721.58	122.97	6.868	
7,200.00	5,498.30	6,550.00	5,365.15	66.52	65.63	-79.29	-3,081.40	1,538.00	801.73	677.58	124.15	6.458	
7,300.00	5,499.24	6,604.93	5,392.77	67.90	66.54	-81.23	-3,115.04	1,571.50	764.52	639.19	125.34	6.100	
7,400.00	5,500.17	6,680.93	5,428.40	69.35	67.84	-83.86	-3,162.48	1,618.94	730.60	602.64	127.96	5.710	
7,500.00	5,501.10	6,762.36	5,456.73	70.85	69.31	-86.02	-3,216.41	1,672.88	699.62	568.72	130.90	5.345	
7,600.00	5,502.04	6,850.00	5,474.82	72.40	70.98	-87.41	-3,276.98	1,733.45	670.41	536.14	134.27	4.993	

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

Anticollision Report

Company:	Enduring Resources LLC	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
Project:	Rio Arriba County, New Mexico NAD83 NM C	**TVD Reference:**	RKB=6765+25 @ 6790.00ft
Reference Site:	Haynes Canyon Unit (420, 422)	**MD Reference:**	RKB=6765+25 @ 6790.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Haynes Canyon Unit 420 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:	rev0	**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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Rule Assigned: Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,700.00	5,502.97	6,943.32	5,479.69	74.01	72.78	-87.68	-3,342.82	1,799.28	642.03	504.07	137.96	4.654	
7,800.00	5,503.90	7,039.24	5,479.24	75.66	74.65	-87.44	-3,410.64	1,867.11	613.86	472.06	141.80	4.329	
7,900.00	5,504.84	7,135.36	5,478.79	77.37	76.54	-87.23	-3,478.61	1,935.08	586.44	440.77	145.66	4.026	
8,000.00	5,505.77	7,232.67	5,478.33	79.17	78.48	-87.04	-3,547.41	2,003.88	563.54	413.95	149.59	3.767	
8,100.00	5,506.71	7,331.04	5,477.87	81.05	80.44	-86.85	-3,616.97	2,073.44	545.78	392.20	153.58	3.554	
8,200.00	5,507.64	7,430.21	5,477.40	83.00	82.45	-86.68	-3,687.09	2,143.56	533.19	375.57	157.62	3.383	
8,300.00	5,508.57	7,529.91	5,476.93	85.00	84.47	-86.52	-3,757.59	2,214.06	525.81	364.10	161.71	3.252	
8,391.24	5,509.42	7,621.10	5,476.50	86.86	86.34	-86.39	-3,822.07	2,278.55	523.64	358.17	165.47	3.165	
8,400.00	5,509.51	7,629.86	5,476.46	87.04	86.52	-86.38	-3,828.26	2,284.74	523.66	357.83	165.83	3.158	
8,500.00	5,510.44	7,729.79	5,475.99	89.10	88.57	-86.27	-3,898.93	2,355.40	526.73	356.75	169.98	3.099	
8,600.00	5,511.25	7,829.44	5,475.52	91.17	90.64	-86.18	-3,969.38	2,425.86	535.00	360.85	174.15	3.072	
8,700.00	5,511.54	7,928.52	5,475.05	93.23	92.70	-86.14	-4,039.45	2,495.93	548.41	370.06	178.35	3.075	
8,800.00	5,511.28	8,026.78	5,474.59	95.28	94.75	-86.14	-4,108.92	2,565.40	566.90	384.35	182.55	3.105	
8,900.00	5,510.48	8,123.94	5,474.13	97.30	96.80	-86.18	-4,177.62	2,634.11	590.45	403.71	186.74	3.162	
9,000.00	5,509.14	8,219.74	5,473.68	99.29	98.82	-86.24	-4,245.36	2,701.84	618.98	428.10	190.88	3.243	
9,100.00	5,507.36	8,314.26	5,473.23	101.24	100.82	-86.46	-4,312.19	2,768.68	651.48	456.52	194.96	3.342	
9,200.00	5,505.55	8,408.66	5,472.79	103.20	102.83	-86.73	-4,378.95	2,835.43	684.33	485.31	199.01	3.439	
9,300.00	5,503.73	8,503.06	5,472.34	105.15	104.84	-86.98	-4,445.70	2,902.18	717.19	514.13	203.06	3.532	
9,400.00	5,501.92	8,597.46	5,471.90	107.11	106.86	-87.21	-4,512.45	2,968.94	750.06	542.97	207.09	3.622	
9,500.00	5,500.10	8,691.86	5,471.45	109.07	108.88	-87.42	-4,579.20	3,035.69	782.95	571.83	211.11	3.709	
9,600.00	5,498.29	8,786.27	5,471.01	111.04	110.92	-87.61	-4,645.95	3,102.44	815.84	600.71	215.13	3.792	
9,700.00	5,496.47	8,880.67	5,470.57	113.00	112.95	-87.78	-4,712.70	3,169.19	848.74	629.59	219.14	3.873	
9,800.00	5,494.66	8,975.07	5,470.12	114.97	115.00	-87.95	-4,779.45	3,235.95	881.64	658.49	223.15	3.951	
9,900.00	5,492.84	9,069.47	5,469.68	116.94	117.04	-88.10	-4,846.20	3,302.70	914.55	687.39	227.16	4.026	
10,000.00	5,491.03	9,163.88	5,469.23	118.91	119.10	-88.24	-4,912.95	3,369.45	947.47	716.31	231.16	4.099	
10,100.00	5,489.21	9,258.28	5,468.79	120.89	121.15	-88.37	-4,979.70	3,436.20	980.39	745.22	235.17	4.169	
10,200.00	5,487.40	9,352.68	5,468.34	122.86	123.21	-88.50	-5,046.46	3,502.96	1,013.32	774.15	239.17	4.237	
10,300.00	5,485.58	9,447.08	5,467.90	124.84	125.28	-88.61	-5,113.21	3,569.71	1,046.25	803.08	243.17	4.302	
10,400.00	5,483.77	9,541.48	5,467.45	126.81	127.34	-88.72	-5,179.96	3,636.46	1,079.18	832.01	247.17	4.366	
10,500.00	5,481.95	9,635.89	5,467.01	128.79	129.42	-88.82	-5,246.71	3,703.21	1,112.12	860.94	251.18	4.428	
10,600.00	5,480.14	9,730.29	5,466.56	130.77	131.49	-88.92	-5,313.46	3,769.97	1,145.06	889.88	255.18	4.487	
10,700.00	5,478.32	9,824.69	5,466.12	132.75	133.57	-89.01	-5,380.21	3,836.72	1,178.00	918.82	259.18	4.545	
10,800.00	5,476.51	9,919.09	5,465.67	134.73	135.65	-89.09	-5,446.96	3,903.47	1,210.95	947.76	263.19	4.601	
10,900.00	5,474.69	10,013.50	5,465.23	136.72	137.73	-89.18	-5,513.71	3,970.22	1,243.89	976.70	267.19	4.655	
11,000.00	5,472.88	10,107.90	5,464.78	138.70	139.82	-89.25	-5,580.46	4,036.98	1,276.84	1,005.65	271.19	4.708	
11,100.00	5,471.06	10,202.63	5,464.34	140.70	141.92	-89.37	-5,647.45	4,103.96	1,308.82	1,033.59	275.22	4.755	
11,200.00	5,469.25	10,298.80	5,463.88	142.73	144.05	-89.50	-5,715.45	4,171.96	1,336.14	1,056.79	279.35	4.783	
11,300.00	5,467.43	10,396.27	5,463.42	144.80	146.21	-89.62	-5,784.37	4,240.89	1,358.39	1,074.83	283.56	4.790	
11,400.00	5,465.65	10,494.77	5,462.96	146.90	148.40	-89.74	-5,854.02	4,310.54	1,375.52	1,087.65	287.86	4.778	
11,500.00	5,464.03	10,594.04	5,462.49	149.02	150.61	-89.85	-5,924.21	4,380.73	1,387.47	1,095.24	292.23	4.748	
11,600.00	5,462.58	10,693.79	5,462.02	151.16	152.83	-89.94	-5,994.75	4,451.27	1,394.21	1,097.56	296.65	4.700	
11,700.00	5,461.32	10,793.77	5,461.55	153.30	155.06	-90.02	-6,065.44	4,521.96	1,395.73	1,094.61	301.12	4.635	
11,800.00	5,460.23	10,893.70	5,461.08	155.44	157.29	-90.06	-6,136.10	4,592.62	1,392.24	1,086.63	305.60	4.556	
11,900.00	5,459.19	10,993.58	5,460.61	157.58	159.52	-90.09	-6,206.72	4,663.25	1,387.45	1,077.35	310.10	4.474	
12,000.00	5,458.14	11,093.47	5,460.14	159.73	161.75	-90.11	-6,277.35	4,733.88	1,382.66	1,068.06	314.60	4.395	
12,100.00	5,457.10	11,193.35	5,459.67	161.88	163.99	-90.14	-6,347.98	4,804.51	1,377.88	1,058.77	319.11	4.318	
12,200.00	5,456.06	11,293.23	5,459.20	164.04	166.22	-90.16	-6,418.60	4,875.13	1,373.09	1,049.47	323.62	4.243	
12,300.00	5,455.01	11,393.12	5,458.73	166.21	168.46	-90.18	-6,489.23	4,945.76	1,368.30	1,040.17	328.13	4.170	
12,400.00	5,453.97	11,493.00	5,458.26	168.38	170.70	-90.21	-6,559.86	5,016.39	1,363.52	1,030.87	332.64	4.099	
12,500.00	5,452.93	11,592.88	5,457.79	170.55	172.94	-90.23	-6,630.48	5,087.02	1,358.73	1,021.57	337.16	4.030	
12,600.00	5,451.88	11,692.77	5,457.31	172.73	175.19	-90.26	-6,701.11	5,157.65	1,353.94	1,012.26	341.68	3.963	
12,700.00	5,450.84	11,792.65	5,456.84	174.92	177.43	-90.28	-6,771.74	5,228.28	1,349.16	1,002.95	346.21	3.897	

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

Anticollision Report

Company:	Enduring Resources LLC	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
Project:	Rio Arriba County, New Mexico NAD83 NM C	**TVD Reference:**	RKB=6765+25 @ 6790.00ft
Reference Site:	Haynes Canyon Unit (420, 422)	**MD Reference:**	RKB=6765+25 @ 6790.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Haynes Canyon Unit 420 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:	rev0	**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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Rule Assigned: Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
12,800.00	5,449.80	11,892.53	5,456.37	177.11	179.68	-90.31	-6,842.37	5,298.90	1,344.37	993.64	350.73	3.833	
12,900.00	5,448.75	11,992.42	5,455.90	179.30	181.93	-90.33	-6,912.99	5,369.53	1,339.59	984.32	355.26	3.771	
13,000.00	5,447.71	12,092.30	5,455.43	181.50	184.18	-90.36	-6,983.62	5,440.16	1,334.80	975.01	359.80	3.710	
13,100.00	5,446.67	12,192.19	5,454.96	183.70	186.43	-90.39	-7,054.25	5,510.79	1,330.02	965.69	364.33	3.651	
13,200.00	5,445.62	12,292.07	5,454.49	185.90	188.68	-90.41	-7,124.87	5,581.42	1,325.23	956.36	368.87	3.593	
13,300.00	5,444.58	12,391.95	5,454.02	188.11	190.93	-90.44	-7,195.50	5,652.05	1,320.45	947.04	373.41	3.536	
13,400.00	5,443.54	12,491.84	5,453.55	190.32	193.18	-90.47	-7,266.13	5,722.67	1,315.67	937.72	377.95	3.481	
13,500.00	5,442.49	12,591.72	5,453.08	192.53	195.44	-90.49	-7,336.75	5,793.30	1,310.88	928.39	382.49	3.427	
13,600.00	5,441.45	12,691.60	5,452.61	194.75	197.70	-90.52	-7,407.38	5,863.93	1,306.10	919.06	387.04	3.375	
13,700.00	5,440.41	12,791.49	5,452.14	196.97	199.95	-90.55	-7,478.01	5,934.56	1,301.32	909.73	391.58	3.323	
13,800.00	5,439.36	12,891.37	5,451.67	199.19	202.21	-90.57	-7,548.63	6,005.19	1,296.53	900.40	396.13	3.273	
13,900.00	5,438.32	12,991.26	5,451.20	201.42	204.47	-90.60	-7,619.26	6,075.82	1,291.75	891.07	400.68	3.224	
14,000.00	5,437.28	13,091.14	5,450.73	203.65	206.73	-90.63	-7,689.89	6,146.44	1,286.97	881.73	405.24	3.176	
14,100.00	5,436.24	13,191.02	5,450.26	205.88	208.99	-90.66	-7,760.51	6,217.07	1,282.19	872.40	409.79	3.129	
14,200.00	5,435.19	13,290.91	5,449.78	208.11	211.25	-90.68	-7,831.14	6,287.70	1,277.41	863.06	414.34	3.083	
14,300.00	5,434.15	13,390.79	5,449.31	210.35	213.52	-90.71	-7,901.77	6,358.33	1,272.63	853.72	418.90	3.038	
14,400.00	5,433.11	13,490.67	5,448.84	212.59	215.78	-90.74	-7,972.40	6,428.96	1,267.84	844.39	423.46	2.994	
14,500.00	5,432.06	13,590.56	5,448.37	214.83	218.05	-90.77	-8,043.02	6,499.59	1,263.06	835.05	428.02	2.951	
14,600.00	5,431.02	13,690.44	5,447.90	217.07	220.31	-90.80	-8,113.65	6,570.21	1,258.28	825.71	432.58	2.909	
14,700.00	5,429.98	13,790.32	5,447.43	219.32	222.58	-90.83	-8,184.28	6,640.84	1,253.50	816.36	437.14	2.868	
14,800.00	5,428.93	13,890.21	5,446.96	221.57	224.84	-90.86	-8,254.90	6,711.47	1,248.72	807.02	441.70	2.827	
14,900.00	5,427.89	13,990.09	5,446.49	223.82	227.11	-90.89	-8,325.53	6,782.10	1,243.95	797.68	446.26	2.787	
15,000.00	5,426.85	14,089.98	5,446.02	226.07	229.38	-90.92	-8,396.16	6,852.73	1,239.17	788.34	450.83	2.749	
15,100.00	5,425.80	14,189.86	5,445.55	228.32	231.65	-90.95	-8,466.78	6,923.36	1,234.39	779.00	455.39	2.711	
15,200.00	5,424.78	14,289.75	5,445.08	230.58	233.92	-90.97	-8,537.41	6,993.99	1,229.70	769.74	459.96	2.674	
15,300.00	5,424.14	14,389.72	5,444.61	232.83	236.19	-90.96	-8,608.10	7,064.68	1,227.43	762.91	464.51	2.642	
15,382.96	5,423.88	14,472.67	5,444.22	234.70	238.08	-90.95	-8,666.76	7,123.34	1,227.19	758.91	468.29	2.621	
15,400.00	5,423.87	14,489.72	5,444.14	235.08	238.47	-90.95	-8,678.81	7,135.39	1,227.46	758.40	469.06	2.617	
15,500.00	5,423.62	14,589.72	5,443.66	237.33	240.74	-90.94	-8,749.52	7,206.10	1,227.55	753.94	473.61	2.592	
15,600.00	5,423.36	14,689.72	5,443.19	239.58	243.01	-90.93	-8,820.23	7,276.81	1,227.64	749.48	478.15	2.567	
15,700.00	5,423.11	14,789.71	5,442.72	241.83	245.29	-90.92	-8,890.94	7,347.52	1,227.73	745.02	482.70	2.543	
15,800.00	5,422.85	14,889.71	5,442.25	244.09	247.57	-90.91	-8,961.65	7,418.23	1,227.82	740.56	487.25	2.520	
15,900.00	5,422.60	14,989.71	5,441.78	246.34	249.84	-90.89	-9,032.35	7,488.94	1,227.91	736.10	491.80	2.497	
16,000.00	5,422.34	15,089.71	5,441.31	248.60	252.12	-90.88	-9,103.06	7,559.65	1,228.00	731.64	496.35	2.474	
16,100.00	5,422.09	15,189.71	5,440.84	250.85	254.40	-90.87	-9,173.77	7,630.36	1,228.09	727.18	500.90	2.452	
16,200.00	5,421.83	15,289.71	5,440.37	253.11	256.67	-90.86	-9,244.48	7,701.07	1,228.18	722.72	505.46	2.430	
16,300.00	5,421.58	15,389.71	5,439.90	255.37	258.95	-90.85	-9,315.19	7,771.78	1,228.26	718.26	510.01	2.408	
16,400.00	5,421.32	15,489.71	5,439.42	257.63	261.23	-90.84	-9,385.90	7,842.49	1,228.35	713.79	514.56	2.387	
16,500.00	5,421.07	15,589.71	5,438.95	259.88	263.51	-90.83	-9,456.61	7,913.20	1,228.44	709.33	519.12	2.366	
16,600.00	5,420.81	15,689.71	5,438.48	262.15	265.79	-90.82	-9,527.32	7,983.91	1,228.53	704.86	523.67	2.346	
16,700.00	5,420.56	15,789.71	5,438.01	264.41	268.07	-90.81	-9,598.03	8,054.62	1,228.62	700.40	528.23	2.326	
16,800.00	5,420.30	15,889.71	5,437.54	266.67	270.35	-90.80	-9,668.74	8,125.33	1,228.71	695.93	532.78	2.306	
16,900.00	5,420.05	15,989.71	5,437.07	268.93	272.63	-90.79	-9,739.44	8,196.04	1,228.80	691.46	537.34	2.287	
17,000.00	5,419.79	16,089.71	5,436.60	271.19	274.91	-90.78	-9,810.15	8,266.75	1,228.89	687.00	541.90	2.268	
17,100.00	5,419.54	16,189.71	5,436.13	273.46	277.20	-90.77	-9,880.86	8,337.46	1,228.98	682.53	546.45	2.249	
17,200.00	5,419.28	16,289.71	5,435.65	275.72	279.48	-90.76	-9,951.57	8,408.17	1,229.07	678.06	551.01	2.231	
17,300.00	5,419.03	16,389.71	5,435.18	277.99	281.76	-90.75	-10,022.28	8,478.88	1,229.16	673.59	555.57	2.212	
17,400.00	5,418.77	16,489.71	5,434.71	280.26	284.04	-90.74	-10,092.99	8,549.60	1,229.26	669.12	560.13	2.195	
17,500.00	5,418.52	16,589.71	5,434.24	282.52	286.33	-90.73	-10,163.70	8,620.31	1,229.35	664.65	564.69	2.177	
17,600.00	5,418.26	16,689.71	5,433.77	284.79	288.61	-90.72	-10,234.41	8,691.02	1,229.44	660.18	569.25	2.160	
17,700.00	5,418.01	16,789.71	5,433.30	287.06	290.89	-90.71	-10,305.12	8,761.73	1,229.53	655.71	573.81	2.143	
17,800.00	5,417.76	16,889.71	5,432.83	289.33	293.18	-90.70	-10,375.82	8,832.44	1,229.62	651.24	578.37	2.126	

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

Anticollision Report

Company:	Enduring Resources LLC	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
Project:	Rio Arriba County, New Mexico NAD83 NM C	**TVD Reference:**	RKB=6765+25 @ 6790.00ft
Reference Site:	Haynes Canyon Unit (420, 422)	**MD Reference:**	RKB=6765+25 @ 6790.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Haynes Canyon Unit 420 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:	rev0	**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

Rule Assigned:

Offset Well Error: 0.00 ft

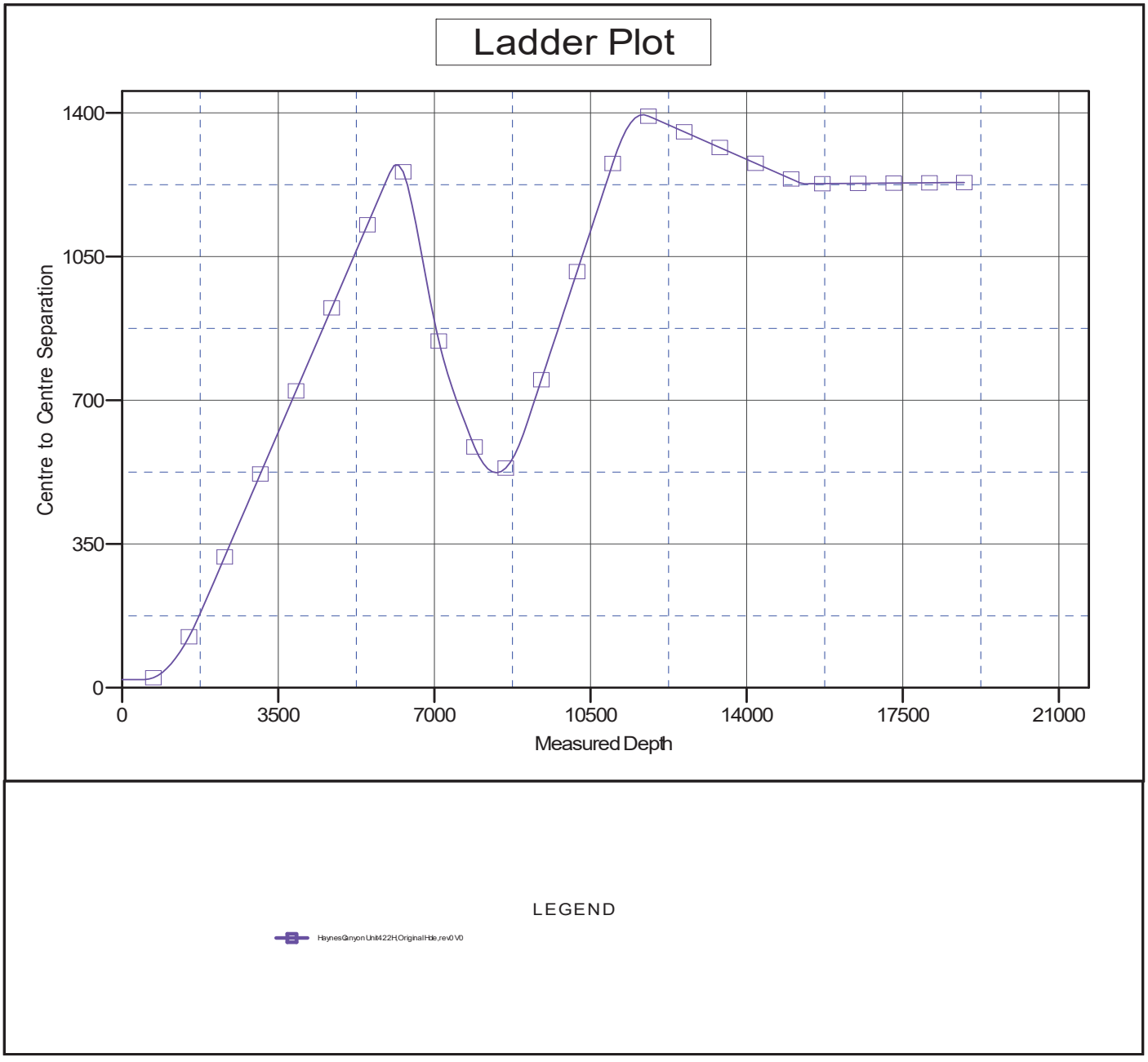
Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
17,900.00	5,417.50	16,989.71	5,432.36	291.60	295.46	-90.69	-10,446.53	8,903.15	1,229.71	646.77	582.93	2.110	
18,000.00	5,417.25	17,089.71	5,431.89	293.87	297.75	-90.68	-10,517.24	8,973.86	1,229.80	642.30	587.50	2.093	
18,100.00	5,416.99	17,189.71	5,431.41	296.14	300.03	-90.67	-10,587.95	9,044.57	1,229.89	637.83	592.06	2.077	
18,200.00	5,416.74	17,289.71	5,430.94	298.41	302.32	-90.66	-10,658.66	9,115.28	1,229.98	633.36	596.62	2.062	
18,300.00	5,416.48	17,389.71	5,430.47	300.68	304.60	-90.65	-10,729.37	9,185.99	1,230.07	628.89	601.18	2.046	
18,400.00	5,416.23	17,489.71	5,430.00	302.95	306.89	-90.64	-10,800.08	9,256.70	1,230.16	624.41	605.75	2.031	
18,500.00	5,415.97	17,589.71	5,429.53	305.22	309.18	-90.63	-10,870.79	9,327.41	1,230.25	619.94	610.31	2.016	
18,600.00	5,415.72	17,689.71	5,429.06	307.50	311.46	-90.62	-10,941.50	9,398.12	1,230.34	615.47	614.87	2.001	
18,700.00	5,415.46	17,789.71	5,428.59	309.77	313.75	-90.61	-11,012.21	9,468.83	1,230.43	610.99	619.44	1.986	Level 3<2.00
18,800.00	5,415.21	17,889.71	5,428.12	312.04	316.04	-90.60	-11,082.91	9,539.54	1,230.52	606.52	624.00	1.972	Level 3<2.00
18,880.78	5,415.00	17,970.48	5,427.73	313.88	317.89	-90.59	-11,140.03	9,596.66	1,230.60	602.91	627.69	1.961	Level 3<2.00, SF

Anticollision Report

Company:	Enduring Resources LLC	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
Project:	Rio Arriba County, New Mexico NAD83 NM C	**TVD Reference:**	RKB=6765+25 @ 6790.00ft
Reference Site:	Haynes Canyon Unit (420, 422)	**MD Reference:**	RKB=6765+25 @ 6790.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Haynes Canyon Unit 420 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:	rev0	**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 (420, 422)
Coordinate System is US State Plane 1983, New Mexico Central Zone
Grid Convergence at Surface is: -0.73°



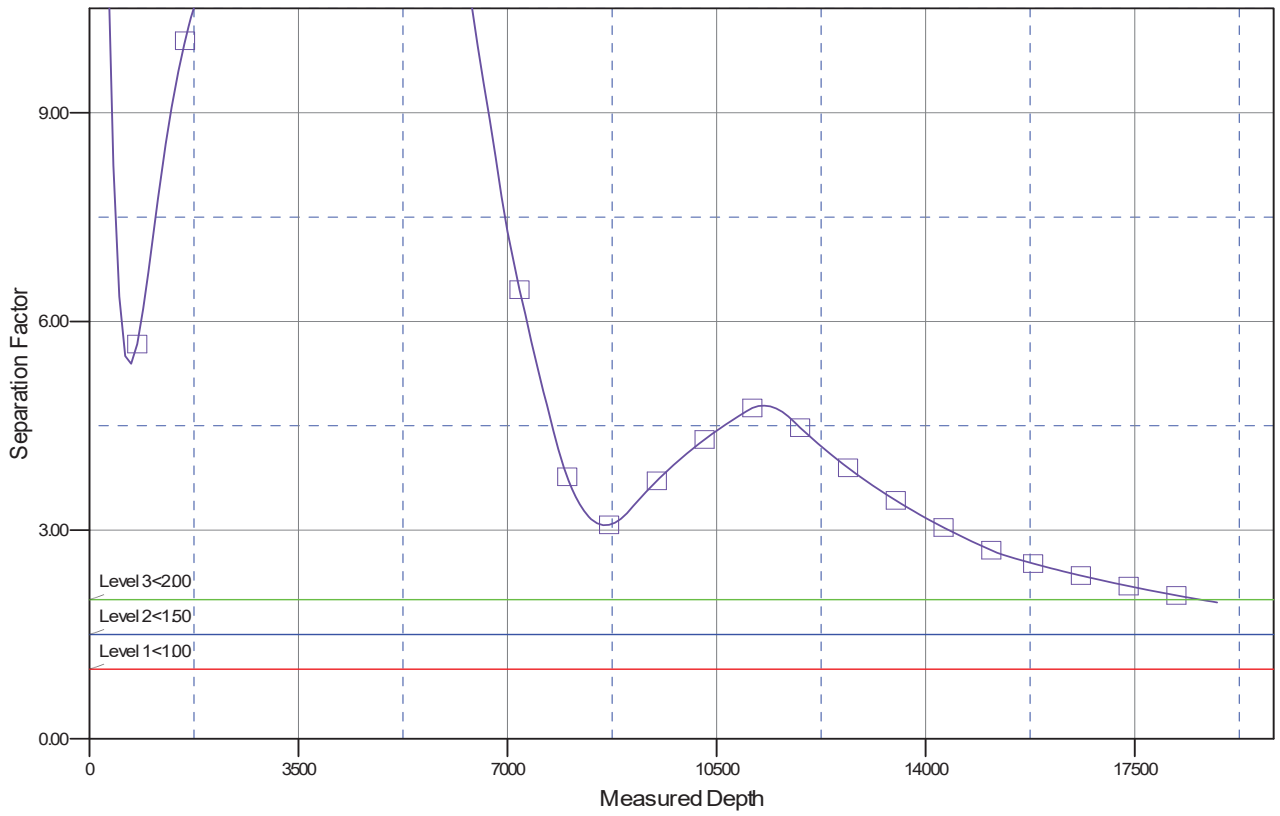
CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Enduring Resources LLC	**Local Co-ordinate Reference:**	Site Haynes Canyon Unit (420, 422)
Project:	Rio Arriba County, New Mexico NAD83 NM C	**TVD Reference:**	RKB=6765+25 @ 6790.00ft
Reference Site:	Haynes Canyon Unit (420, 422)	**MD Reference:**	RKB=6765+25 @ 6790.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Haynes Canyon Unit 420 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:	rev0	**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 (420, 422)
Coordinate System is US State Plane 1983, New Mexico Central Zone
Grid Convergence at Surface is: -0.73°

Separation Factor Plot



LEGEND

HaynesCanyon Unit422H, 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

#420H HAYNES CANYON UNIT

Lease: NMNM28736 Agreement: NMNM105770949

SH: NE¼SE¼ Section 5, T. 23N., R. 6W.
Rio Arriba County, New Mexico
BH: SW¼SE¼ 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.

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.

Approval Date: 12/19/2024

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

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way Centennial, CO 80111	OGRID: 372286
	Action Number: 422801
	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