

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

1a. Type of work: ☐ DRILL ☐ REENTER		5. Lease Serial No.
1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator		8. Lease Name and Well No.
3a. Address		9. API Well No. 30-043-21543
3b. Phone No. (include area code)		10. Field and Pool, or Exploratory
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish
		13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

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

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

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

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

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

(Continued on page 2)

*(Instructions on page 2)



INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM I: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM connects this information to an evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Connection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

Additional Operator Remarks

Location of Well

0. SHL: NENE / 974 FNL / 1140 FEL / TWSP: 23N / RANGE: 7W / SECTION: 19 / LAT: 36.21711 / LONG: -107.610425 (TVD: 0 feet, MD: 0 feet)

PPP: NESE / 1461 FSL / 1 FEL / TWSP: 23N / RANGE: 8W / SECTION: 13 / LAT: 36.223816 / LONG: -107.624272 (TVD: 5220 feet, MD: 5340 feet)

PPP: SWSW / 0 FSL / 0 FEL / TWSP: 23N / RANGE: 8W / SECTION: 12 / LAT: 36.223816 / LONG: -107.624272 (TVD: 5390 feet, MD: 20294 feet)

PPP: NENE / 1546 FSL / 231 FEL / TWSP: 23N / RANGE: 8W / SECTION: 11 / LAT: 36.238505 / LONG: -107.64288 (TVD: 5390 feet, MD: 20294 feet)

BHL: NENW / 600 FNL / 1782 FWL / TWSP: 23N / RANGE: 8W / SECTION: 11 / LAT: 36.24722 / LONG: -107.653926 (TVD: 5390 feet, MD: 20294 feet)

BLM Point of Contact

Name: CHRISTOPHER P WENMAN

Title: Natural Resource Specialist

Phone: (505) 564-7727

Email: cwenman@blm.gov

CONFIDENTIAL

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

WELL LOCATION INFORMATION

API Number 30-043-21543	Pool Code 98175	Pool Name BETONNIE TSOSIE WASH UNIT MANCOS OIL POOL
Property Code 325179	Property Name BETONNIE TSOSIE WASH UNIT	Well Number 105H
OGRID No. 371838	Operator Name DJR OPERATING, LLC	Ground Level Elevation 6962'
Surface Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal		Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal

Surface Location (SHL)

UL A	Section 19	Township 23N	Range 7W	Lot	Ft from the N/S 974' NORTH	Ft from the E/W 1140' EAST	Latitude 36.217110° N	Longitude 107.610425° W	County SANDOVAL
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Bottom Hole Location (BHL)

UL C	Section 11	Township 23N	Range 8W	Lot	Ft from the N/S 660' NORTH	Ft from the E/W 1782' WEST	Latitude 36.247220° N	Longitude 107.653926° W	County SAN JUAN
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Dedicated Acres PENETRATED SPACING UNIT: SEC 18: SE/SW, LOT 3 & LOT 4 (121.58 AC.); SEC 13: SE/SE, NE/SE, NW/SE, SE/NE, SW/NE, NW/NE, SE/NW & NE/NW (320 AC.); SEC 11: SE/SE, NE/SE, NW/SE, SE/NE, SW/NE, NW/NE, SE/NW & NE/NW (320 AC.) = 761.58 ACRES	Infll or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N) N	Consolidation Code UNIT
Order Numbers: R-13930 R-13930A		Well Setbacks are under Common Ownership: ☒ Yes ☐ No		

Kick Off Point (KOP)

UL M	Section 18	Township 23N	Range 7W	Lot	Ft from the N/S 358' SOUTH	Ft from the E/W 1134' WEST	Latitude 36.220783° N	Longitude 107.620432° W	County RIO ARRIBA
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First Take Point (FTP)

UL M	Section 18	Township 23N	Range 7W	Lot	Ft from the N/S 358' SOUTH	Ft from the E/W 1134' WEST	Latitude 36.220783° N	Longitude 107.620432° W	County RIO ARRIBA
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Last Take Point (LTP)

UL C	Section 11	Township 23N	Range 8W	Lot	Ft from the N/S 660' NORTH	Ft from the E/W 1782' WEST	Latitude 36.247220° N	Longitude 107.653926° W	County SAN JUAN
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Unitized Area or Area of Uniform Interest BETONNIE TSOSIE WASH	Spacing Unit Type ☒ Horizontal ☐ Vertical	Ground Floor Elevation
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OPERATOR CERTIFICATIONS

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

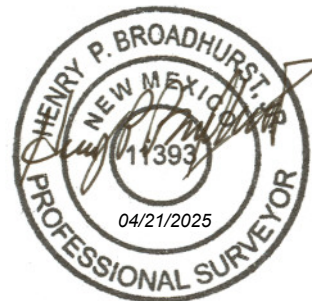
4/21/2025
Date

Shaw-Marie Ford
Printed Name

sford@enduringresources.com
E-mail Address

SURVEYOR CERTIFICATIONS

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.



Signature and Seal of Professional Surveyor:

Certificate Number

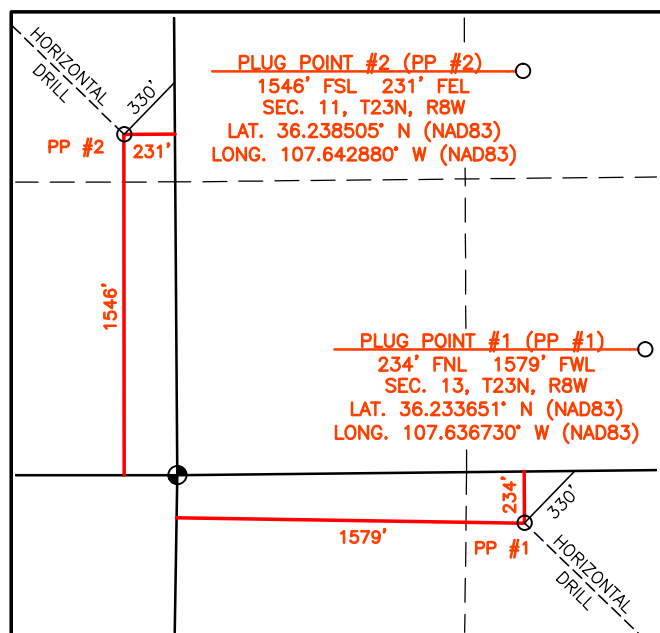
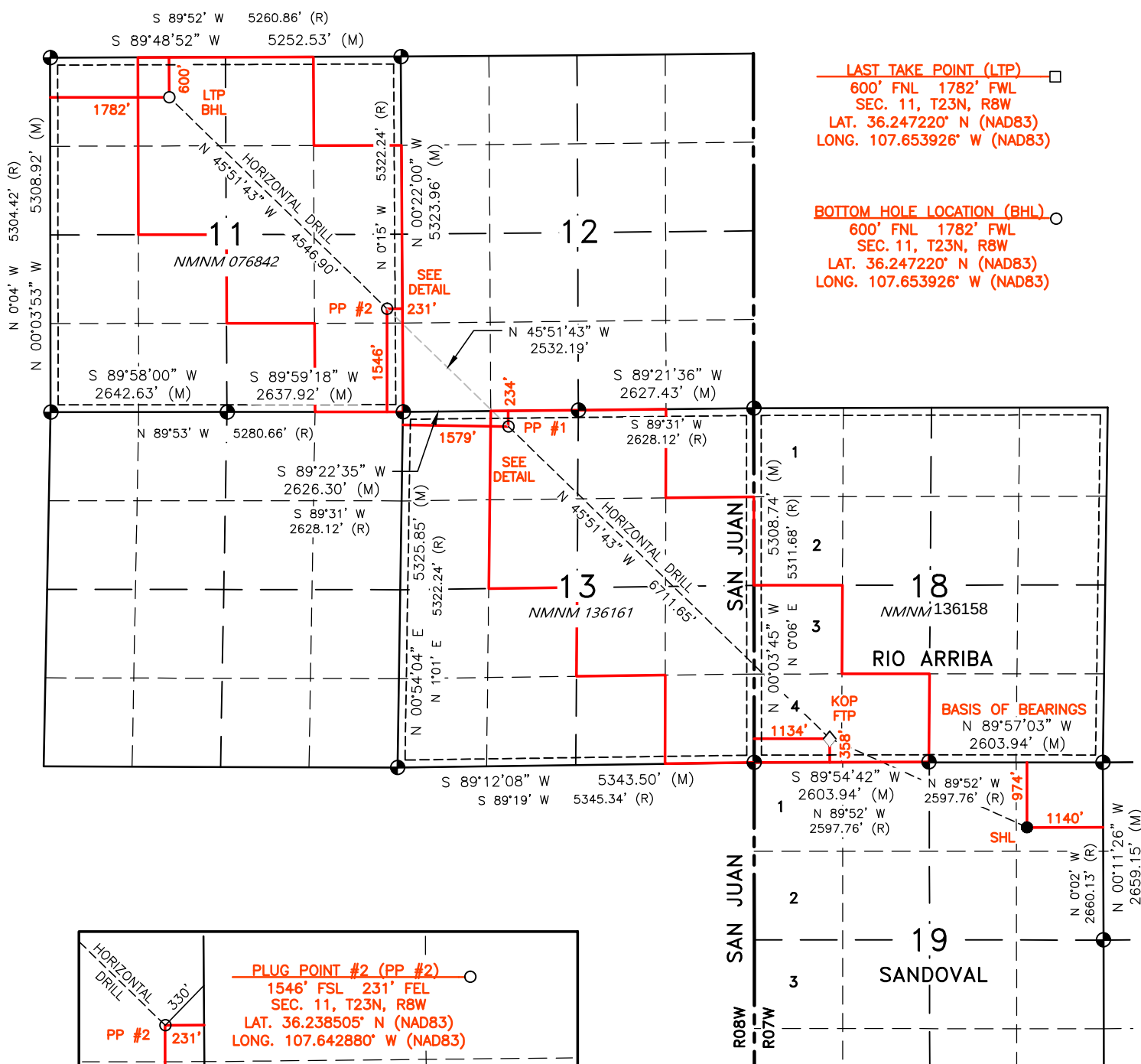
11393

Date of Survey

NOVEMBER 8, 2024

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.

FND 2 1/4" BC
GLO 1948



DETAIL

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: _DJR Operating, LLC_ **OGRID:** _371838_ **Date:** _6/9/2025_

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	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Betonne Tsoie Wash Unit 101H	A-19-23N-7W	935 FNL 1149 FEL	563	1278	225
Betonne Tsoie Wash Unit 103H	A-19-23N-7W	954 FNL 1144 FEL	298	675	119
Betonne Tsoie Wash Unit 105H	A-19-23N-7W	974 FNL 1140 FEL	587	1331	235
Betonne Tsoie Wash Unit 107H	A-19-23N-7W	993 FNL 1135 FEL	238	540	95
			3-year Decline	3-year Decline	3-year Decline
Betonne Tsoie Wash Unit 101H	A-19-23N-7W	935 FNL 1149 FEL	127	509	51
Betonne Tsoie Wash Unit 103H	A-19-23N-7W	954 FNL 1144 FEL	67	269	27
Betonne Tsoie Wash Unit 105H	A-19-23N-7W	974 FNL 1140 FEL	133	530	53
Betonne Tsoie Wash Unit 107H	A-19-23N-7W	993 FNL 1135 FEL	54	215	22

IV. Central Delivery Point Name: _____ Chaco Processing Plat _____ [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	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Betonne Tsoie Wash Unit 101H	9/19/2027	9/29/2027	11/18/2027	11/28/2027	1/2/2028
Betonne Tsoie Wash Unit 103H	9/20/2027	9/30/2027	11/18/2027	11/29/2027	1/4/2028
Betonne Tsoie Wash Unit 105H	9/21/2027	10/1/2027	11/18/2027	11/30/2027	1/6/2028
Betonne Tsoie Wash Unit 107H	9/22/2027	10/2/2027	11/18/2027	12/1/2027	1/8/2028

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

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

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

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature: <i>Shaw-Marie Ford</i>
Printed Name: Shaw-Marie Ford
Title: Regulatory Specialist
E-mail Address: sford@enduringresources.com
Date: 6/9/2025
Phone: 505-716-3297
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:



DJR OPERATING, LLC.
OGRID NO: 371838
NATURAL GAS MANAGEMENT PLAN
BETONNIE TSOSIE WASH UNIT 101H 103H 105H and 107H

SEPARATION EQUIPMENT

DJR Operating, LLC (DJR) has pulled representative pressurized samples from wells in the same producing formation. DJR 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.



DJR OPERATING, LLC.
OGRID NO: 371838
NATURAL GAS MANAGEMENT PLAN
BETONNIE TSOSIE WASH UNIT 101H 103H 105H and 107H

VENTING and FLARING

DJR Operating, LLC (DJR) has a natural gas system available prior to startup of completion operations. DJR 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, DJR utilizes the following from list A-I of Section 3 for its operations to minimize flaring:

- a) DJR 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) DJR'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.

DJR 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



DJR OPERATING, LLC.
OGRID NO: 371838
NATURAL GAS MANAGEMENT PLAN
BETONNIE TSOSIE WASH UNIT 101H 103H 105H and 107H

OPERATIONAL PRACTICES

19.15.27.8 A. Venting and Flaring of Natural Gas

DJR Operating, LLC (DJR) 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

- DJR 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, DJR will vent natural gas in order to avoid substantial impact. DJR 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, DJR utilizes the following:

- DJR 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) DJR analyzes the natural gas samples twice per week.
 - 3) DJR routes the natural gas into a gathering pipeline as soon as the pipeline specifications are met.
 - 4) DJR provides the NMOCD with pipeline specifications and natural gas data.



19.15.27.8 D. Venting and flaring during production operations

During Production Operations DJR 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. DJR does not vent after the well achieves a stabilized rate and pressure.
 - b. DJR will remain present on-site during liquids unloading by manual purging and take all reasonable actions to achieve a stabilized rate and pressure at the earliest practical time.
 - c. DJR 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. DJR receives approval from the NMOCD.
 - b. DJR remains in compliance with the NM gas capture requirements.
 - c. DJR 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. DJR 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. DJR will install a flare that designed to handle the full volume of vapors from the facility in case of the VRU failure and it is 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 DJR 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. DJR will conduct an AVO inspection on all components for leaks and defects on a weekly basis.
5. DJR will make and keep records of AVO inspections which will be available to the NMOCD for at least 5 years.
6. DJR 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. DJR will resolve emergencies as promptly as possible.

19.15.27.8 F. Measurement or estimation of vented and flared natural gas

1. DJR will have meters on both the low- and high-pressure sides of the flares and the volumes will be recorded in DJR's SCADA system.
2. DJR 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. DJR'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. DJR 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. DJR 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. DJR will install measuring equipment whenever the NMOCD determines that metering is necessary.



DJR OPERATING, LLC.
OGRID NO: 371838
NATURAL GAS MANAGEMENT PLAN
BETONNIE TSOSIE WASH UNIT 101H 103H 105H and 107H

BEST MANAGEMENT PRACTICES

DJR Operating, LLC (DJR) utilizes the following Best Management Practices to minimize venting during active and planned maintenance.

DJR 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.

DJR 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.

DJR 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.

DJR 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.

DJR 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.

DJR'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.

DJR shall report the volume of vented and flared natural gas for each well or facility at which venting or flaring occurred on a monthly basis.



ENDURING RESOURCES IV, LLC
6300 S SYRACUSE WAY, SUITE 525
CENTENNIAL, COLORADO 80211

DRILLING PLAN: *Drill, complete, and equip single lateral in the Mancos-Gallup formation*

WELL INFORMATION:

Name: Betonnie Tsosie Wash Unit 105H

State: New Mexico

County: Sandoval

Surface Elevation: 6,962 ft ASL (GL) 6,986 ft ASL (KB)

Surface Location: 19-23-7 Sec-Twn-Rng 974 ft FNL 1,140 ft FEL

36.21711 ° N latitude 107.610425 ° W longitude (NAD 83)

BH Location: 11-23-8 Sec-Twn-Rng 660 ft FNL 1,782 ft FWL

36.24722 ° N latitude 107.653926 ° 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 39.0 miles to MM 112.7, Right (South) on CR #7900 / IR #7061 for 5.1 miles to Y (just passed 4-way), Left (East) leaving CR #7900 for 4.0 miles to lease road; Left (NorthEast) for 1.8 miles to new access; Right (North) for 1.5 miles to NAU A19-2307 pad entrance on left. There are two existing wells on this location and 4 proposed wells. From South (location entrance) to North: BTWU 107H, 105H, 103H, 101H, N Alamito 102H (existing), N Alamito 106H (existing).

GEOLOGIC AND RESERVOIR INFORMATION:

Prognosis:	Formation Tops	TVD (ft ASL)	TVD (ft KB)	MD (ft KB)	O / G / W	Pressure
	Ojo Alamo	5,920	1,066	1,066	W	normal
	Kirtland	5,800	1,186	1,186	W	normal
	Fruitland	5,630	1,356	1,358	G, W	sub
	Pictured Cliffs	5,295	1,691	1,707	G, W	sub
	Lewis	5,139	1,847	1,877	G, W	normal
	Chacra	4,889	2,097	2,169	G, W	normal
	Cliff House	3,796	3,190	3,614	G, W	sub
	Menefee	3,225	3,761	4,375	G, W	normal
	Point Lookout	2,919	4,067	4,783	G, W	normal
	Mancos	2,709	4,277	5,063	O,G	sub (~0.38)
	Gallup (MNCS_A)	2,373	4,613	5,510	O,G	sub (~0.38)
	MNCS_B	2,268	4,718	5,651	O,G	sub (~0.38)
	MNCS_C	2,182	4,804	5,764	O,G	sub (~0.38)
	MNCS_Cms	2,142	4,844	5,818	O,G	sub (~0.38)
	MNCS_D	2,012	4,974	5,991	O,G	sub (~0.38)
	MNCS_E	1,897	5,089	6,145	O,G	sub (~0.38)
	MNCS_F	1,842	5,144	6,220	O,G	sub (~0.38)
	MNCS_G	1,766	5,220	5,340	O,G	sub (~0.38)
	MNCS_H	1,706	5,280	6,467	O,G	sub (~0.38)
	MNCS_I	1,686	5,300	6,526	O,G	sub (~0.38)
	FTP TARGET	1,766	5,220	5,340	O,G	sub (~0.38)
	PROJECTED TD	1,596	5,390	20,294	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: 2,320 psi
Maximum anticipated surface pressure, assuming partially evacuated hole: 1,140 psi

Temperature: Maximum anticipated BHT is 125° F or less

H₂S INFORMATION:

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

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

LOGGING, CORING, AND TESTING:

Mud Logs: None planned; remote geo-steering from drill out of 7" casing to TD; gas detection from drillout of 9-5/8" casing to TD.

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

Open Hole Logs: None planned

Testing: None planned

Coring: None planned

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

DRILLING RIG INFORMATION:

Contractor: Ensign

Rig No.: 140

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

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

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

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

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

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

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

Choke 3", 5,000 psi

KB-GL (ft): 23.5

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

BOPE REQUIREMENTS:

See attached diagram for details regarding BOPE specifications and configuration.

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

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

FLUIDS AND SOLIDS CONTROL PROGRAM:

Fluid Measurement:

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

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

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

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

Fluid Program: See "Detailed Drilling Plan" section and attached Newpark mud program for additional details.

DETAILED DRILLING PLAN:

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

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

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

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

Hole Size: 12-1/4"

Bit / Motor: Mill Tooth or PDC, no motor

MWD / Survey: No MWD, deviation survey

Logging: None

Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	9.625	36.0	K-55	STC	2,020	3,520	564,000	423,000
Loading					153	1,138	110,988	110,988
Min. S.F.					13.21	3.09	5.08	3.81

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

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

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

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

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

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

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

Calculated cement volumes assume gauge hole and the excess noted in table Csg ID 8.921

Mesa Ready Mix or first available

Shoe Track L 44

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

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

350 ft (MD)	to	6,647 ft (MD)	Hole Section Length:	6,297 ft
350 ft (TVD)	to	5,323 ft (TVD)	Casing Required:	6,647 ft

Fluid:	Type	MW (ppg)	FL (mL/30 min)	PV (cp)	YP (lb/100 sqft)	pH	Comments
	LSND (KCI)	8.8 - 9.2	15	8 - 14	6 - 12	10.8 - 11.2	No OBM

Hole Size (inches): 8.75

Bit / Motor: 8-3/4" PDC bit w/mud motor

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

Logging: None

Pressure Test: NU BOPE and test (as noted above); pressure test 9-5/8" casing to 1,500 psi for 30 minutes.

Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	7	26.0	K-55	LTC	4,320	4,980	415,000	367,000
Loading					2,325	1,444	250,709	250,709
Min. S.F.					1.86	3.45	1.66	1.46

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

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

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

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

Centralizers: 1 per joint in non-vertical hole; 1 per 2-joints in vertical hole

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)	Total Cmt (cu ft)
Lead	III:POZ Blend	12.5	2.150	12.05	70%	0	575	1,237
Tail	Type III	13.5	1.710	8.88	30%	4,963	198	339

Annular Capacity	0.16681	cuft/ft	7" casing x 9-5/8" casing annulus	Shoe Track L	44
	0.1503	cuft/ft	7" casing x 8-3/4" hole annulus	Casing ID	6.276
	0.2148	cuft/ft	7" casing casing volume		

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

10 bbls D-Mud

Breaker (SAPP)

Spacer	10 bbls water f/b	f/b	10 bbls water f/b					
			D-MPA-2 .4%					
		D-CSE 1 5.0%	BWOC Fluid Loss & Gas Migration Control	D-SA 1 1.4%				
ASTM Type III		BWOC Strength Enhancer		BWOC Na Metasilicate	D-CD 2 .4%	Cello Flace LCM	D-FP 1 .5%	D-R1 1.2%
Lead	90/10 Poz				BWOC Dispersant	.25 lb/sx	BWOC Defoamer	Retarder
			D-MPA-2 1.2%					
		D-CSE 1 5.0%	BWOC Fluid Loss & Gas Migration Control					
ASTM Type III		BWOC Strength Enhancer		Cello Flace LCM	D-FP 1 .5%	D-R1 0.3%		
Tail	90/10 Poz			.25 lb/sx	BWOC Defoamer	Retarder		

Drake Intermediate Cementing Program

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

PRODUCTION: Drill to TD following directional plan, run casing, cement casing to surface.

6,647 ft (MD)	to	20,294 ft (MD)	Hole Section Length:	13,647 ft
5,323 ft (TVD)	to	5,390 ft (TVD)	Casing Required:	13,797 ft
Estimated KOP:		6,165 ft (MD)	5,104 ft (TVD)	
Estimated Liner Top:		6,497 ft (MD)	5,291 ft (TVD)	
Estimated Landing Point (FTP):		5,340 ft (MD)	5,220 ft (TVD)	
Estimated Lateral Length:		14,954 ft (MD)		

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

Hole Size: 6.125

Bit / Motor: 6-1/8" PDC bit w/mud motor

MWD / Survey: MWD with GR, inclination, and azimuth (survey every joint from KOP to Landing Point and survey every 100' minimum before KOP and after Landing Point)

Logging: GR MWD for entire section, no mud-log or cuttings sampling, no OH WL logs

Pressure Test: NU BOPE and test (as noted above); pressure test 9-5/8" casing to 1,500 psi for 30 minutes.

Liner/Casing Specs:	Size (in)	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	4.500	11.6	P-110	BTC	7,560	10,690	367,000	385,000
Loading					2,663	8,808	303,138	303,138
Min. S.F.					2.84	1.21	1.21	1.27

Assumptions: Collapse: fully evacuated casing with 9.5 ppg fluid in the annulus (floating casing during running)

Burst: 8,500 psi maximum surface treating pressure with 10.2 ppg equivalent mud weight sand laden fluid with 8.4 ppg equivalent external pressure gradient.

Tension: buoyed weight in 9.0 ppg fluid with 100,000 lbs over-pull. Tension calculations assume vertical hole to approximate drag in lateral.

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

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

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)	Total Cmt (cu ft)
Spacer	Water	8.4				0	10 bbls	
Spacer	IntegraGuard Star	10		35.7		0	20 bbls	
Tail	G:POZ blend	13.3	1.520	7.50	25%	6,497	1,070	1,626
Displacement	280	est bbls						

Annular Capacities	0.1044	cuft/ft	4-1/2" casing x 7" casing annulus	
	0.09417	cuft/ft	4-1/2" casing x 6-1/8" hole annulus	
	0.0873	cuft/ft	4-1/2" casing volume	est shoe jt ft 42
	0.0102	bbls/ft	4" DP capacity	

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

S-8 Silica Flour	Avis 616 viscosifier	Xcem-311	SS201 Surfactant				
Spacer 113.2 lbs/bbl	4.0 lb/bbl	Defoamer .8 lb/bbl	0.5 gal/bbl				
		Bentonite	IntegraGuard			Xcem-311	
	Pozzolan Fly Ash	Viscosifier 4%	FL24 Fluid Loss .4%	GW86 Viscosifier	R3 Retarder .2%	Defoamer 0.3%	
Lead/Tail Type G 50%	Extender 50%	BWOB	BWOB	.1% BWOB	BWOB	BWOB	

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

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

FINISH WELL: ND BOP, cap well, RDMO.

COMPLETION AND PRODUCTION PLAN:

Est Lateral Length: 14,854
Est Frac Inform: 62 Frac Stages 238,000 bbls slick water 19,320,000 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: 9/19/2027
Completion: 11/18/2027
Production: 1/2/2028

Prepared by: Greg Olson 7/18/2024
Updated: Greg Olson 4/3/2025
 Greg Olson 5/29/2025

WELL NAME: Betonnie Tsosie Wash Unit 105H

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

API Number: Not yet assigned

AFE Number: Not yet assigned

ER Well Number: Not yet assigned

State: New Mexico

County: Sandoval

Surface Elev.: 6,962 ft ASL (GL) 6,986 ft ASL (KB)

Surface Location: 19-23-7 Sec-Twn- Rng 974 ft FNL 1,140 ft FEL

BH Location: 11-23-8 Sec-Twn- Rng 660 ft FNL 1,782 ft FWL

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

South on US Hwy 550 for 39.0 miles to MM 112.7, Right (South) on CR #7900 / IR #7061 for 5.1 miles to Y (just passed 4-way), Left (East) leaving CR #7900 for 4.0 miles to lease road; Left (NorthEast) for 1.8 miles to new access; Right (North) for 1.5 miles to NAU A19-2307 pad entrance on left. There are two existing wells on this location and 4 proposed wells. From South (location entrance) to North: BTWU 107H, 105H, 103H, 101H, N Alamito 102H (existing), N Alamito 106H (existing).

QUICK REFERENCE	
Sur TD (MD)	350 ft
Int TD (MD)	6,647 ft
KOP (MD)	6,165 ft
KOP (TVD)	5,104 ft
Target (TVD)	5,220 ft
Curve BUR	10 °/100 ft
POE (MD)	5,340 ft
TD (MD)	20,294 ft
Lat Len (ft)	14,954 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	12.250	350	9.625	36	K-55	STC	0	350
Intermediate	8.750	6,647	7	26.0	K-55	LTC	0	6,647
Production	6.125	20,294	4.500	11.6	P-110	BTC	6,497	20,294

CEMENT PROPERTIES SUMMARY:

	Type	Wt (ppg)	Yd (cuft/sk)	Wtr (gal/sk)	Hole Cap. (cuft/ft)	% Excess	TOC (ft MD)	Total (sx)
Surface	TYPE I-II	14.5	1.61	7.41	0.3132	50%	0	114
Inter. (Lead)	III:POZ Blend	12.5	2.15	12.05	0.1668	70%	0	575
Inter. (Tail)	Type III	13.5	1.71	8.88	0.1503	30%	4,963	198
Prod. (Lead)	PegraGuard S	10	0.000	35.7	0.1044	0%	0	20 bbls
Prod. (Tail)	G:POZ blend	13.3	1.520	7.5	0.0873	25%	6,497	1,070

COMPLETION / PRODUCTION SUMMARY:

Flowback: Flow back through production tubing as pressures allow

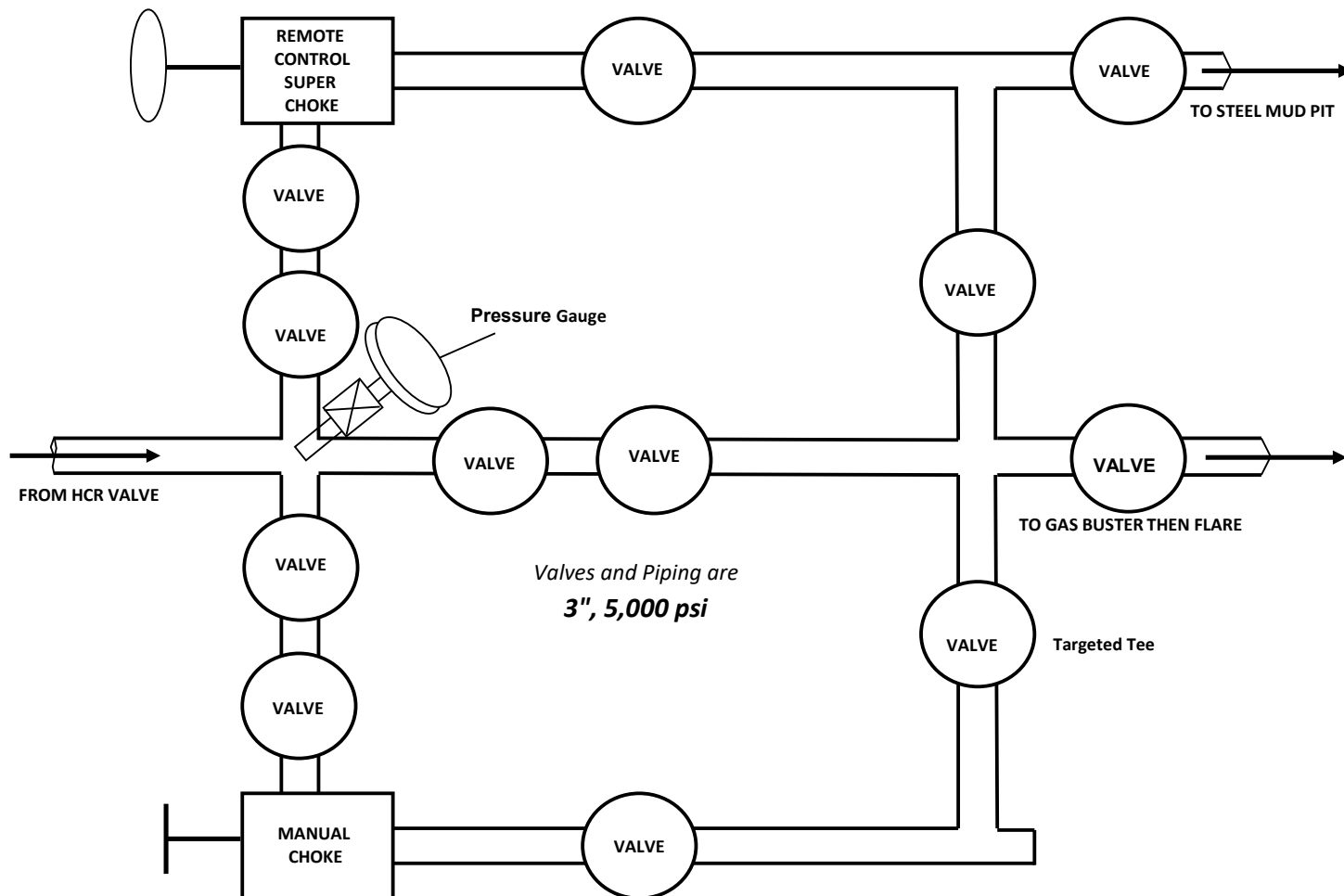
Production: Produce through production tubing via gas-lift into permanent production and storage facilities

Tops	TVD (ft KB)	MD (ft KB)
Ojo Alamo	1,066	1,066
Kirtland	1,186	1,186
Fruitland	1,356	1,358
Pictured Cliffs	1,691	1,707
Lewis	1,847	1,877
Chacra	2,097	2,169
Cliff House	3,190	3,614
Menefee	3,761	4,375
Point Lookout	4,067	4,783
Mancos	4,277	5,063
Gallup (MNCS_A)	4,613	5,510
MNCS_B	4,718	5,651
MNCS_C	4,804	5,764
MNCS_Cms	4,844	5,818
MNCS_D	4,974	5,991
MNCS_E	5,089	6,145
MNCS_F	5,144	6,220
MNCS_G	5,220	5,340
MNCS_H	5,280	6,467
MNCS_J	5,300	6,526
FTP TARGET	5,220	5,340
PROJECTED TD	5,390	20,294

CHOKE MANIFOLD DIAGRAMS

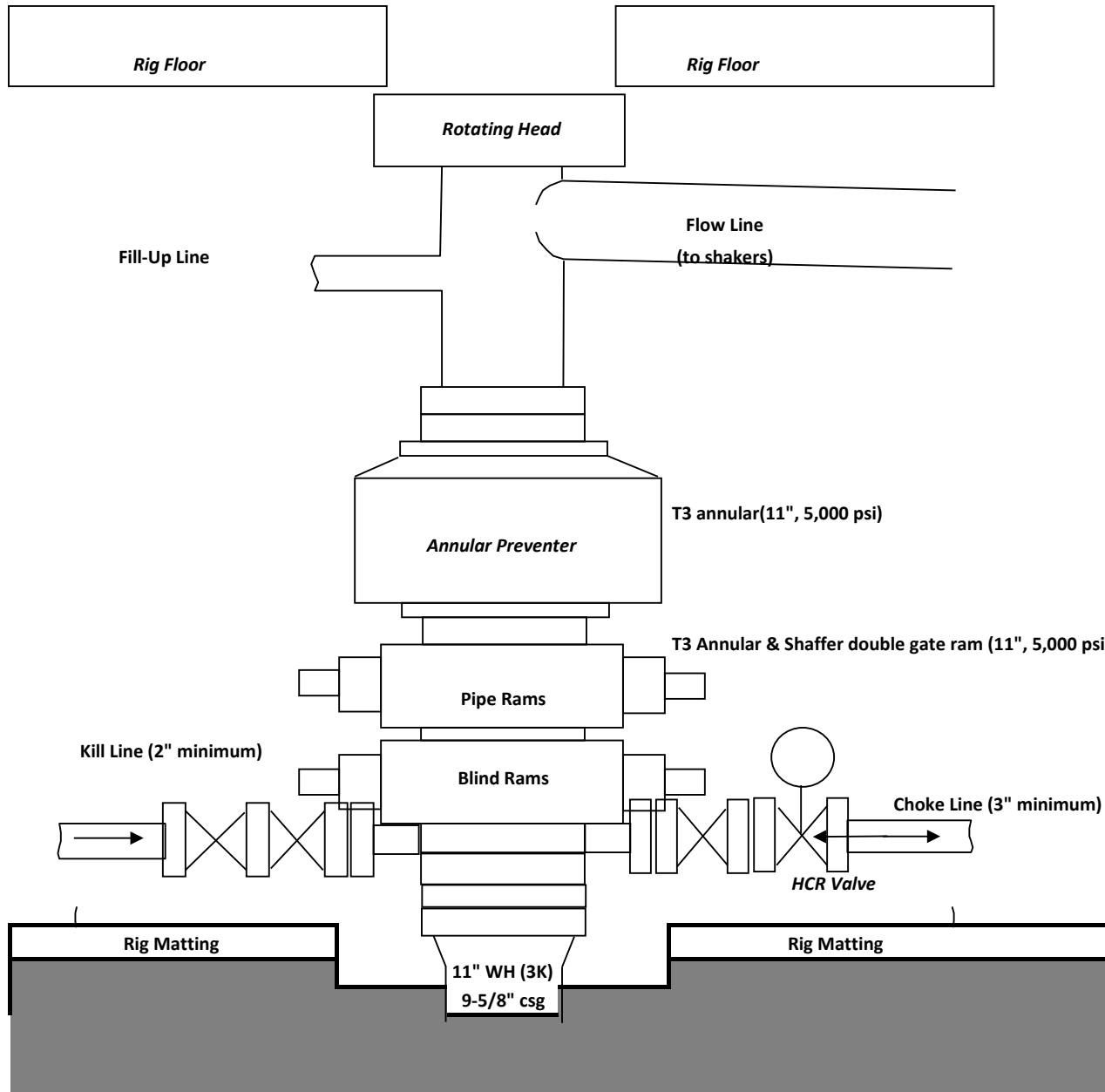
NOTE: EXACT BOPE AND CHOKE CONFIGURATION AND COMPONENTS MAY DIFFER FROM WHAT IS DEPICTED IN THE DIGRAMS BELOW DEPENDING ON THE RIG AND ITS ASSOCIATED EQUIPMENT. RAM PREVENTERS, ANNULAR PREVENTERS, AND CHOKE MANIFOLD AND COMPONENTS WILL BE RATED TO 3,000 PSI MINIMUM.

CHOKE MANIFOLD



BOPE DIAGRAM

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

BOPE



Well: Betonnie Tsosie Wash Unit 105 H
Site: Betonnie Tsosie Wash (101,103,105 & 107)
Project: Rio Arriba, Sandoval & San Juan Counties, NM NAD83
Design: rev0
Rig:

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BTW 105 FTP 358 FSL 1134 FWL	5310.00	1378.72	-2933.12	1902488.10	1236188.06	36.22078300	-107.62043200
BTW 105 vs=0	5310.00	-778.96	-780.97	1900330.43	1236340.21	36.21494057	-107.61303476
BTW 105 LTP 660 FNL 1782 FWL	5390.00	11144.48	-12673.85	1912253.84	1226447.35	36.24722000	-107.65392600

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=6962+23.5 @ 6985.50ft

Surface location:
Northing: 1901109.39
Easting: 1239121.18
Latitude: 36.21711000
Longitude: -107.61042500

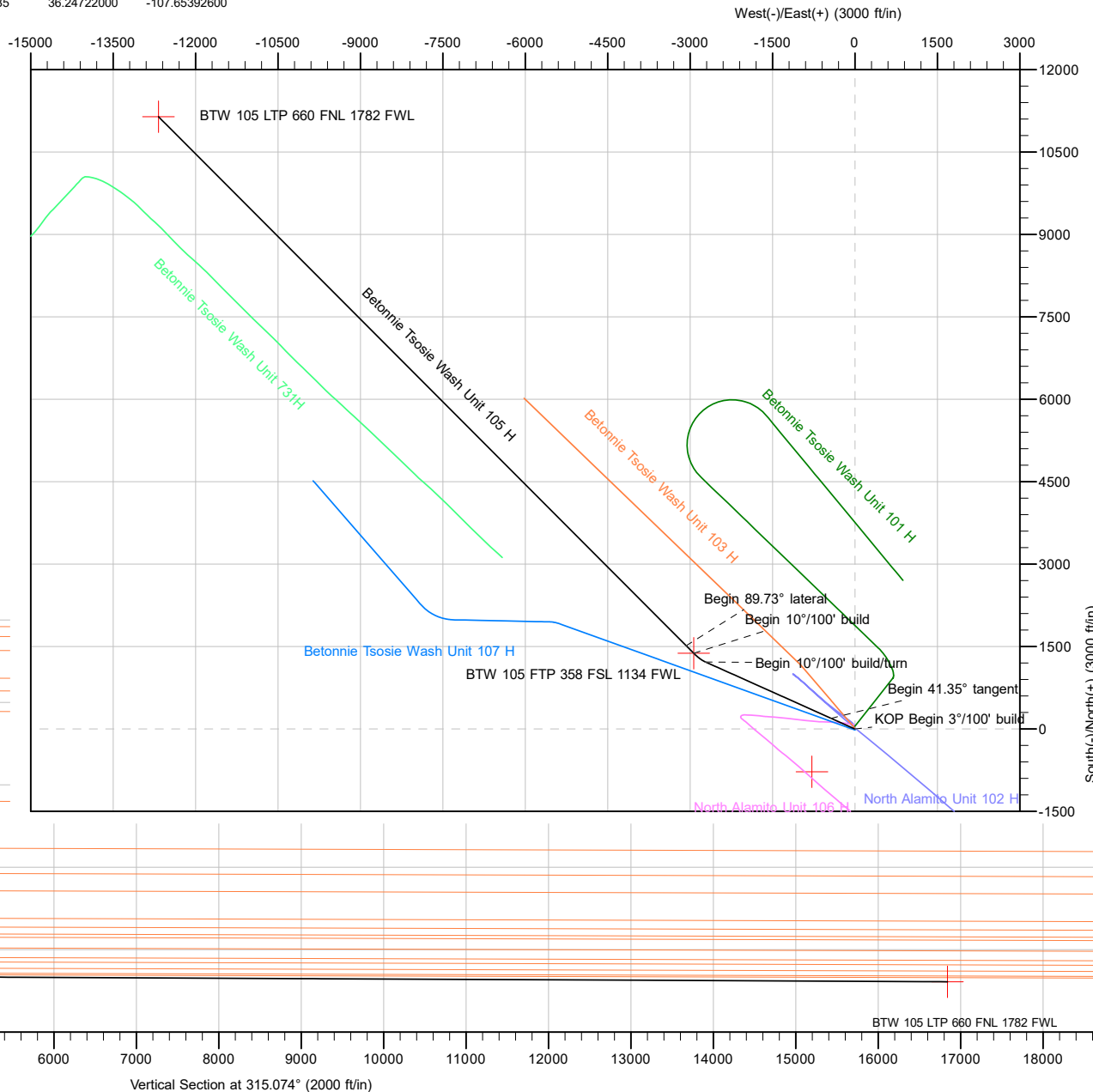
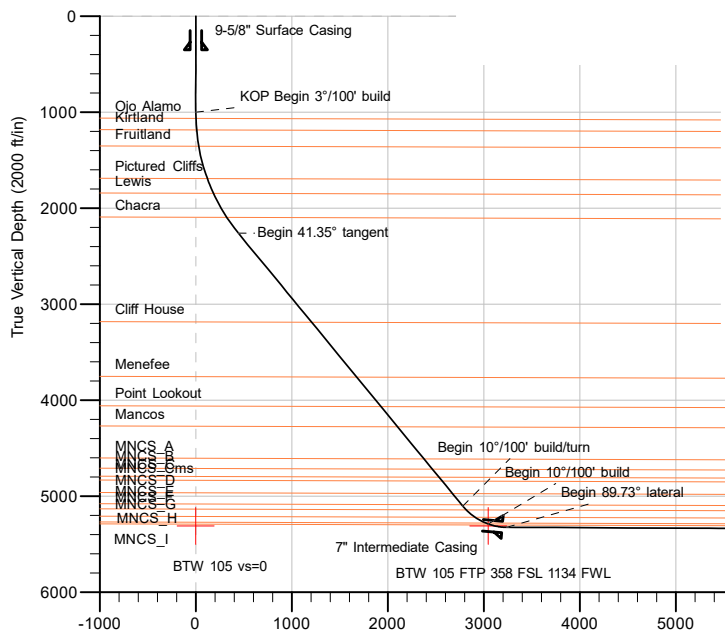
Total Corr (M=>G): To convert a Magnetic Direction to a Grid Direction, Add 9.157°



Azimuths to Grid North
True North: 0.80°
Magnetic North: 9.16°

CASING DETAILS

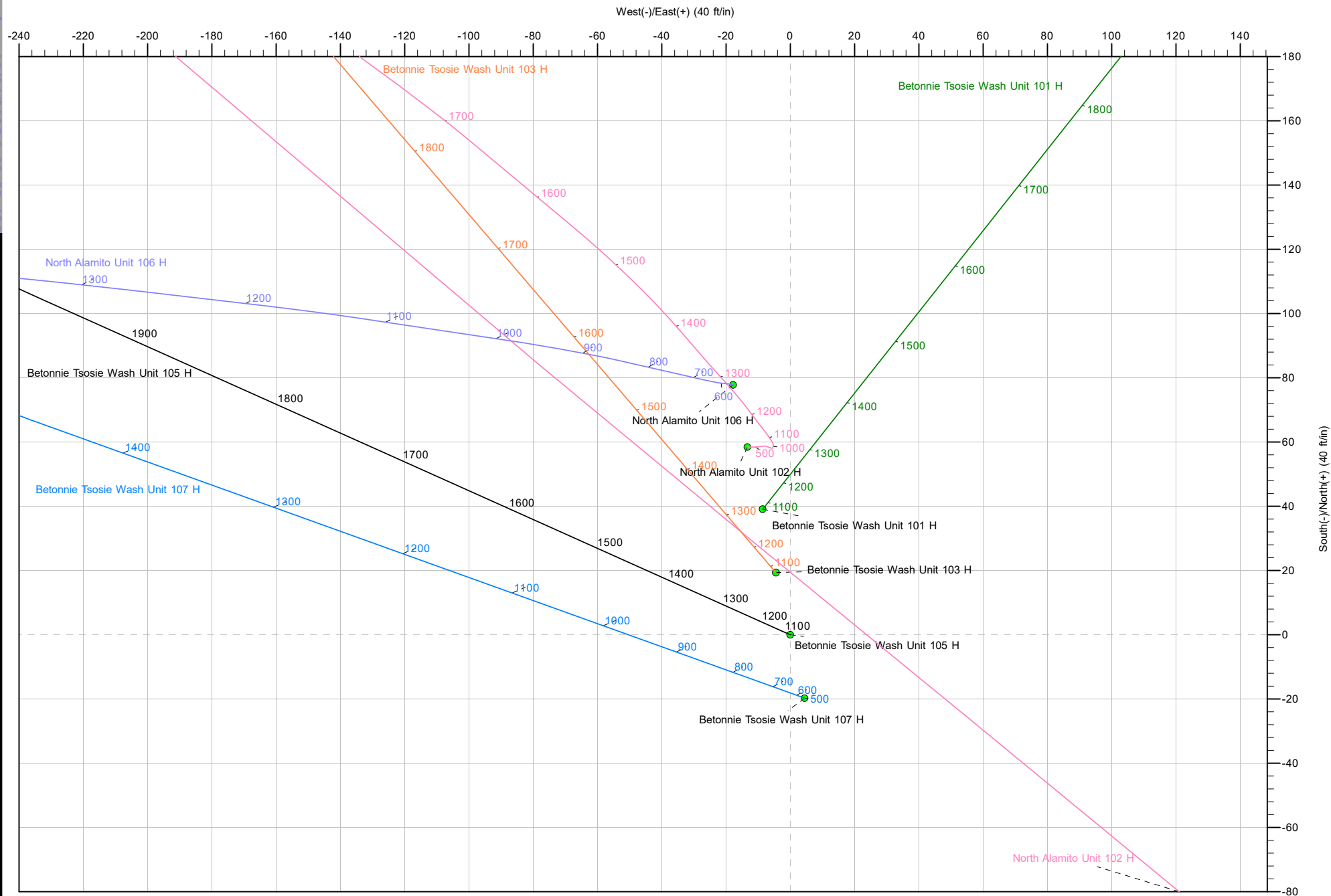
Magnetic Field	TVD	MD	Name
Strength: 48949.0nT	350.00	9-5/8" Surface Casing	
Dip Angle: 62.65°	323.37	6646.91 7" Intermediate Casing	
Date: 1/25/2025			
Model: IGRF2020			



Vertical Section at 315.074° (2000 ft/in)



Well: **Betonne Tsosie Wash Unit 105 H**
Site: **Betonne Tsosie Wash (101,103,105 & 107)**
Project: **Rio Arriba, Sandoval & San Juan Counties, NM NAD83**
Design: **rev0**





Planning Report

Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site:	Betonnie Tsosie Wash (101,103,105 & 107)	North Reference:	Grid
Well:	Betonnie Tsosie Wash Unit 105 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Project	Rio Arriba, Sandoval & San Juan Counties, NM NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site		Betonnie Tsosie Wash (101,103,105 & 107)			
Site Position:		Northing:	1,901,148.47 usft	Latitude:	36.21721700
From:	Lat/Long	Easting:	1,239,112.58 usft	Longitude:	-107.61045600
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Betonnie Tsosie Wash Unit 105 H					
Well Position	+N/-S	0.00 ft	Northing:	1,901,109.39 usft	Latitude:	36.21711000
	+E/-W	0.00 ft	Easting:	1,239,121.18 usft	Longitude:	-107.61042500
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,962.00 ft
Grid Convergence:		-0.804 °				

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	1/25/2025	8.353	62.674	48,948.97168988

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	315.074

Plan Survey Tool Program	Date	1/26/2025		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	20,293.54 rev0 (Original Hole)	MWD	
			OWSG MWD - Standard	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.000	
2,378.28	41.35	294.163	2,261.72	194.89	-434.40	3.00	3.00	0.00	294.163	
6,164.81	41.35	294.163	5,104.29	1,218.84	-2,716.75	0.00	0.00	0.00	0.000	
6,496.91	70.00	315.074	5,291.00	1,378.72	-2,933.12	10.00	8.63	6.30	37.759	
6,694.20	89.73	315.074	5,325.55	1,515.54	-3,069.59	10.00	10.00	0.00	0.000	
20,294.28	89.73	315.074	5,390.00	11,144.48	-12,673.85	0.00	0.00	0.00	0.000	BTW 105 LTP 660 FN



Planning Report

Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site:	Betonnie Tsosie Wash (101,103,105 & 107)	North Reference:	Grid
Well:	Betonnie Tsosie Wash Unit 105 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	
350.00	0.00	0.000	350.00	0.00	0.00	0.00	0.00	0.00	0.00	
9-5/8" Surface Casing										
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.000	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.000	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.000	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
KOP Begin 3°/100' build										
1,066.02	1.98	294.163	1,066.00	0.47	-1.04	1.07	3.00	3.00	0.00	
Ojo Alamo										
1,100.00	3.00	294.163	1,099.95	1.07	-2.39	2.45	3.00	3.00	0.00	
1,186.32	5.59	294.163	1,186.03	3.72	-8.29	8.48	3.00	3.00	0.00	
Kirtland										
1,200.00	6.00	294.163	1,199.63	4.28	-9.55	9.77	3.00	3.00	0.00	
1,300.00	9.00	294.163	1,298.77	9.62	-21.45	21.96	3.00	3.00	0.00	
1,358.19	10.75	294.163	1,356.09	13.71	-30.56	31.28	3.00	3.00	0.00	
Fruitland										
1,400.00	12.00	294.163	1,397.08	17.08	-38.08	38.99	3.00	3.00	0.00	
1,500.00	15.00	294.163	1,494.31	26.64	-59.38	60.79	3.00	3.00	0.00	
1,600.00	18.00	294.163	1,590.18	38.26	-85.29	87.32	3.00	3.00	0.00	
1,700.00	21.00	294.163	1,684.43	51.92	-115.74	118.50	3.00	3.00	0.00	
1,707.43	21.22	294.163	1,691.36	53.02	-118.18	121.00	3.00	3.00	0.00	
Pictured Cliffs										
1,800.00	24.00	294.163	1,776.81	67.59	-150.65	154.24	3.00	3.00	0.00	
1,877.05	26.31	294.163	1,846.55	80.99	-180.53	184.83	3.00	3.00	0.00	
Lewis										
1,900.00	27.00	294.163	1,867.06	85.21	-189.92	194.45	3.00	3.00	0.00	
2,000.00	30.00	294.163	1,954.93	104.74	-233.45	239.02	3.00	3.00	0.00	
2,100.00	33.00	294.163	2,040.18	126.12	-281.12	287.82	3.00	3.00	0.00	
2,168.51	35.06	294.163	2,096.96	141.81	-316.10	323.63	3.00	3.00	0.00	
Chacra										
2,200.00	36.00	294.163	2,122.59	149.30	-332.79	340.73	3.00	3.00	0.00	
2,300.00	39.00	294.163	2,201.91	174.22	-388.33	397.59	3.00	3.00	0.00	
2,378.28	41.35	294.163	2,261.72	194.89	-434.40	444.76	3.00	3.00	0.00	
Begin 41.35° tangent										
2,400.00	41.35	294.163	2,278.03	200.76	-447.49	458.16	0.00	0.00	0.00	
2,500.00	41.35	294.163	2,353.10	227.80	-507.77	519.87	0.00	0.00	0.00	
2,600.00	41.35	294.163	2,428.17	254.85	-568.04	581.58	0.00	0.00	0.00	
2,700.00	41.35	294.163	2,503.24	281.89	-628.32	643.30	0.00	0.00	0.00	
2,800.00	41.35	294.163	2,578.31	308.93	-688.59	705.01	0.00	0.00	0.00	
2,900.00	41.35	294.163	2,653.38	335.97	-748.87	766.72	0.00	0.00	0.00	
3,000.00	41.35	294.163	2,728.45	363.01	-809.15	828.43	0.00	0.00	0.00	
3,100.00	41.35	294.163	2,803.52	390.06	-869.42	890.15	0.00	0.00	0.00	
3,200.00	41.35	294.163	2,878.59	417.10	-929.70	951.86	0.00	0.00	0.00	
3,300.00	41.35	294.163	2,953.66	444.14	-989.97	1,013.57	0.00	0.00	0.00	
3,400.00	41.35	294.163	3,028.73	471.18	-1,050.25	1,075.28	0.00	0.00	0.00	



Planning Report

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Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site:	Betonnie Tsosie Wash (101,103,105 & 107)	North Reference:	Grid
Well:	Betonnie Tsosie Wash Unit 105 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)	
3,500.00	41.35	294.163	3,103.80	498.22	-1,110.52	1,137.00	0.00	0.00	0.00	
3,600.00	41.35	294.163	3,178.88	525.27	-1,170.80	1,198.71	0.00	0.00	0.00	
3,614.26	41.35	294.163	3,189.58	529.12	-1,179.40	1,207.51	0.00	0.00	0.00	
Cliff House										
3,700.00	41.35	294.163	3,253.95	552.31	-1,231.07	1,260.42	0.00	0.00	0.00	
3,800.00	41.35	294.163	3,329.02	579.35	-1,291.35	1,322.13	0.00	0.00	0.00	
3,900.00	41.35	294.163	3,404.09	606.39	-1,351.62	1,383.84	0.00	0.00	0.00	
4,000.00	41.35	294.163	3,479.16	633.43	-1,411.90	1,445.56	0.00	0.00	0.00	
4,100.00	41.35	294.163	3,554.23	660.48	-1,472.18	1,507.27	0.00	0.00	0.00	
4,200.00	41.35	294.163	3,629.30	687.52	-1,532.45	1,568.98	0.00	0.00	0.00	
4,300.00	41.35	294.163	3,704.37	714.56	-1,592.73	1,630.69	0.00	0.00	0.00	
4,375.40	41.35	294.163	3,760.98	734.95	-1,638.18	1,677.23	0.00	0.00	0.00	
Menefee										
4,400.00	41.35	294.163	3,779.44	741.60	-1,653.00	1,692.41	0.00	0.00	0.00	
4,500.00	41.35	294.163	3,854.51	768.64	-1,713.28	1,754.12	0.00	0.00	0.00	
4,600.00	41.35	294.163	3,929.58	795.68	-1,773.55	1,815.83	0.00	0.00	0.00	
4,700.00	41.35	294.163	4,004.65	822.73	-1,833.83	1,877.54	0.00	0.00	0.00	
4,782.68	41.35	294.163	4,066.72	845.08	-1,883.66	1,928.57	0.00	0.00	0.00	
Point Lookout										
4,800.00	41.35	294.163	4,079.72	849.77	-1,894.10	1,939.25	0.00	0.00	0.00	
4,900.00	41.35	294.163	4,154.79	876.81	-1,954.38	2,000.97	0.00	0.00	0.00	
5,000.00	41.35	294.163	4,229.87	903.85	-2,014.65	2,062.68	0.00	0.00	0.00	
5,063.10	41.35	294.163	4,277.24	920.92	-2,052.69	2,101.62	0.00	0.00	0.00	
Mancos										
5,100.00	41.35	294.163	4,304.94	930.89	-2,074.93	2,124.39	0.00	0.00	0.00	
5,200.00	41.35	294.163	4,380.01	957.94	-2,135.20	2,186.10	0.00	0.00	0.00	
5,300.00	41.35	294.163	4,455.08	984.98	-2,195.48	2,247.82	0.00	0.00	0.00	
5,400.00	41.35	294.163	4,530.15	1,012.02	-2,255.76	2,309.53	0.00	0.00	0.00	
5,500.00	41.35	294.163	4,605.22	1,039.06	-2,316.03	2,371.24	0.00	0.00	0.00	
5,510.44	41.35	294.163	4,613.05	1,041.88	-2,322.32	2,377.68	0.00	0.00	0.00	
MNCS_A										
5,600.00	41.35	294.163	4,680.29	1,066.10	-2,376.31	2,432.95	0.00	0.00	0.00	
5,650.65	41.35	294.163	4,718.31	1,079.80	-2,406.84	2,464.21	0.00	0.00	0.00	
MNCS_B										
5,700.00	41.35	294.163	4,755.36	1,093.15	-2,436.58	2,494.67	0.00	0.00	0.00	
5,764.15	41.35	294.163	4,803.52	1,110.49	-2,475.25	2,534.25	0.00	0.00	0.00	
MNCS_C										
5,800.00	41.35	294.163	4,830.43	1,120.19	-2,496.86	2,556.38	0.00	0.00	0.00	
5,817.57	41.35	294.163	4,843.62	1,124.94	-2,507.44	2,567.22	0.00	0.00	0.00	
MNCS_Cms										
5,900.00	41.35	294.163	4,905.50	1,147.23	-2,557.13	2,618.09	0.00	0.00	0.00	
5,991.16	41.35	294.163	4,973.94	1,171.88	-2,612.08	2,674.35	0.00	0.00	0.00	
MNCS_D										
6,000.00	41.35	294.163	4,980.57	1,174.27	-2,617.41	2,679.80	0.00	0.00	0.00	
6,100.00	41.35	294.163	5,055.64	1,201.31	-2,677.68	2,741.51	0.00	0.00	0.00	
6,144.72	41.35	294.163	5,089.22	1,213.41	-2,704.64	2,769.11	0.00	0.00	0.00	
MNCS_E										
6,164.81	41.35	294.163	5,104.29	1,218.84	-2,716.75	2,781.51	0.00	0.00	0.00	
Begin 10°/100' build/turn										
6,200.00	44.17	297.255	5,130.13	1,229.22	-2,738.26	2,804.05	10.00	8.03	8.79	
6,220.12	45.82	298.884	5,144.36	1,235.91	-2,750.81	2,817.65	10.00	8.20	8.09	
MNCS_F										



Planning Report

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Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site:	Betonnie Tsosie Wash (101,103,105 & 107)	North Reference:	Grid
Well:	Betonnie Tsosie Wash Unit 105 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)	
6,250.00	48.31	301.140	5,164.71	1,246.86	-2,769.75	2,838.78	10.00	8.33	7.55	
6,300.00	52.57	304.548	5,196.55	1,267.79	-2,802.10	2,876.44	10.00	8.51	6.82	
6,339.53	56.00	306.976	5,219.63	1,286.55	-2,828.12	2,908.10	10.00	8.67	6.14	
MNCS_G										
6,350.00	56.91	307.586	5,225.42	1,291.83	-2,835.07	2,916.75	10.00	8.74	5.82	
6,400.00	61.32	310.335	5,251.08	1,318.82	-2,868.41	2,959.40	10.00	8.82	5.50	
6,450.00	65.78	312.861	5,273.35	1,348.55	-2,901.86	3,004.07	10.00	8.92	5.05	
6,466.60	67.27	313.659	5,279.96	1,358.98	-2,912.95	3,019.29	10.00	8.97	4.81	
MNCS_H										
6,496.91	70.00	315.074	5,291.00	1,378.72	-2,933.12	3,047.51	10.00	9.01	4.67	
Begin 10°/100' build										
6,500.00	70.31	315.074	5,292.05	1,380.78	-2,935.17	3,050.42	10.00	10.00	0.00	
6,525.56	72.87	315.074	5,300.12	1,397.95	-2,952.30	3,074.67	10.00	10.00	0.00	
MNCS_I										
6,550.00	75.31	315.074	5,306.82	1,414.59	-2,968.89	3,098.17	10.00	10.00	0.00	
6,600.00	80.31	315.074	5,317.38	1,449.18	-3,003.40	3,147.02	10.00	10.00	0.00	
6,646.91	85.00	315.074	5,323.37	1,482.11	-3,036.24	3,193.54	10.00	10.00	0.00	
7" Intermediate Casing										
6,650.00	85.31	315.074	5,323.63	1,484.29	-3,038.42	3,196.61	10.00	10.00	0.00	
6,694.20	89.73	315.074	5,325.55	1,515.54	-3,069.59	3,240.76	10.00	10.00	0.00	
Begin 89.73° lateral										
6,700.00	89.73	315.074	5,325.57	1,519.65	-3,073.69	3,246.56	0.00	0.00	0.00	
6,800.00	89.73	315.074	5,326.05	1,590.45	-3,144.31	3,346.56	0.00	0.00	0.00	
6,900.00	89.73	315.074	5,326.52	1,661.25	-3,214.93	3,446.56	0.00	0.00	0.00	
7,000.00	89.73	315.074	5,327.00	1,732.05	-3,285.55	3,546.56	0.00	0.00	0.00	
7,100.00	89.73	315.074	5,327.47	1,802.85	-3,356.17	3,646.56	0.00	0.00	0.00	
7,200.00	89.73	315.074	5,327.94	1,873.65	-3,426.79	3,746.56	0.00	0.00	0.00	
7,300.00	89.73	315.074	5,328.42	1,944.46	-3,497.41	3,846.56	0.00	0.00	0.00	
7,400.00	89.73	315.074	5,328.89	2,015.26	-3,568.02	3,946.55	0.00	0.00	0.00	
7,500.00	89.73	315.074	5,329.37	2,086.06	-3,638.64	4,046.55	0.00	0.00	0.00	
7,600.00	89.73	315.074	5,329.84	2,156.86	-3,709.26	4,146.55	0.00	0.00	0.00	
7,700.00	89.73	315.074	5,330.31	2,227.66	-3,779.88	4,246.55	0.00	0.00	0.00	
7,800.00	89.73	315.074	5,330.79	2,298.46	-3,850.50	4,346.55	0.00	0.00	0.00	
7,900.00	89.73	315.074	5,331.26	2,369.26	-3,921.12	4,446.55	0.00	0.00	0.00	
8,000.00	89.73	315.074	5,331.74	2,440.06	-3,991.74	4,546.55	0.00	0.00	0.00	
8,100.00	89.73	315.074	5,332.21	2,510.86	-4,062.36	4,646.55	0.00	0.00	0.00	
8,200.00	89.73	315.074	5,332.68	2,581.66	-4,132.98	4,746.55	0.00	0.00	0.00	
8,300.00	89.73	315.074	5,333.16	2,652.46	-4,203.60	4,846.54	0.00	0.00	0.00	
8,400.00	89.73	315.074	5,333.63	2,723.26	-4,274.22	4,946.54	0.00	0.00	0.00	
8,500.00	89.73	315.074	5,334.11	2,794.06	-4,344.84	5,046.54	0.00	0.00	0.00	
8,600.00	89.73	315.074	5,334.58	2,864.86	-4,415.45	5,146.54	0.00	0.00	0.00	
8,700.00	89.73	315.074	5,335.05	2,935.66	-4,486.07	5,246.54	0.00	0.00	0.00	
8,800.00	89.73	315.074	5,335.53	3,006.46	-4,556.69	5,346.54	0.00	0.00	0.00	
8,900.00	89.73	315.074	5,336.00	3,077.26	-4,627.31	5,446.54	0.00	0.00	0.00	
9,000.00	89.73	315.074	5,336.47	3,148.06	-4,697.93	5,546.54	0.00	0.00	0.00	
9,100.00	89.73	315.074	5,336.95	3,218.87	-4,768.55	5,646.54	0.00	0.00	0.00	
9,200.00	89.73	315.074	5,337.42	3,289.67	-4,839.17	5,746.53	0.00	0.00	0.00	
9,300.00	89.73	315.074	5,337.90	3,360.47	-4,909.79	5,846.53	0.00	0.00	0.00	
9,400.00	89.73	315.074	5,338.37	3,431.27	-4,980.41	5,946.53	0.00	0.00	0.00	
9,500.00	89.73	315.074	5,338.84	3,502.07	-5,051.03	6,046.53	0.00	0.00	0.00	
9,600.00	89.73	315.074	5,339.32	3,572.87	-5,121.65	6,146.53	0.00	0.00	0.00	
9,700.00	89.73	315.074	5,339.79	3,643.67	-5,192.26	6,246.53	0.00	0.00	0.00	



Planning Report

Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site:	Betonnie Tsosie Wash (101,103,105 & 107)	North Reference:	Grid
Well:	Betonnie Tsosie Wash Unit 105 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	89.73	315.074	5,340.27	3,714.47	-5,262.88	6,346.53	0.00	0.00	0.00
9,900.00	89.73	315.074	5,340.74	3,785.27	-5,333.50	6,446.53	0.00	0.00	0.00
10,000.00	89.73	315.074	5,341.21	3,856.07	-5,404.12	6,546.53	0.00	0.00	0.00
10,100.00	89.73	315.074	5,341.69	3,926.87	-5,474.74	6,646.52	0.00	0.00	0.00
10,200.00	89.73	315.074	5,342.16	3,997.67	-5,545.36	6,746.52	0.00	0.00	0.00
10,300.00	89.73	315.074	5,342.64	4,068.47	-5,615.98	6,846.52	0.00	0.00	0.00
10,400.00	89.73	315.074	5,343.11	4,139.27	-5,686.60	6,946.52	0.00	0.00	0.00
10,500.00	89.73	315.074	5,343.58	4,210.07	-5,757.22	7,046.52	0.00	0.00	0.00
10,600.00	89.73	315.074	5,344.06	4,280.87	-5,827.84	7,146.52	0.00	0.00	0.00
10,700.00	89.73	315.074	5,344.53	4,351.67	-5,898.46	7,246.52	0.00	0.00	0.00
10,800.00	89.73	315.074	5,345.01	4,422.47	-5,969.07	7,346.52	0.00	0.00	0.00
10,900.00	89.73	315.074	5,345.48	4,493.28	-6,039.69	7,446.52	0.00	0.00	0.00
11,000.00	89.73	315.074	5,345.95	4,564.08	-6,110.31	7,546.51	0.00	0.00	0.00
11,100.00	89.73	315.074	5,346.43	4,634.88	-6,180.93	7,646.51	0.00	0.00	0.00
11,200.00	89.73	315.074	5,346.90	4,705.68	-6,251.55	7,746.51	0.00	0.00	0.00
11,300.00	89.73	315.074	5,347.37	4,776.48	-6,322.17	7,846.51	0.00	0.00	0.00
11,400.00	89.73	315.074	5,347.85	4,847.28	-6,392.79	7,946.51	0.00	0.00	0.00
11,500.00	89.73	315.074	5,348.32	4,918.08	-6,463.41	8,046.51	0.00	0.00	0.00
11,600.00	89.73	315.074	5,348.80	4,988.88	-6,534.03	8,146.51	0.00	0.00	0.00
11,700.00	89.73	315.074	5,349.27	5,059.68	-6,604.65	8,246.51	0.00	0.00	0.00
11,800.00	89.73	315.074	5,349.74	5,130.48	-6,675.27	8,346.51	0.00	0.00	0.00
11,900.00	89.73	315.074	5,350.22	5,201.28	-6,745.88	8,446.50	0.00	0.00	0.00
12,000.00	89.73	315.074	5,350.69	5,272.08	-6,816.50	8,546.50	0.00	0.00	0.00
12,100.00	89.73	315.074	5,351.17	5,342.88	-6,887.12	8,646.50	0.00	0.00	0.00
12,200.00	89.73	315.074	5,351.64	5,413.68	-6,957.74	8,746.50	0.00	0.00	0.00
12,300.00	89.73	315.074	5,352.11	5,484.48	-7,028.36	8,846.50	0.00	0.00	0.00
12,400.00	89.73	315.074	5,352.59	5,555.28	-7,098.98	8,946.50	0.00	0.00	0.00
12,500.00	89.73	315.074	5,353.06	5,626.08	-7,169.60	9,046.50	0.00	0.00	0.00
12,600.00	89.73	315.074	5,353.54	5,696.89	-7,240.22	9,146.50	0.00	0.00	0.00
12,700.00	89.73	315.074	5,354.01	5,767.69	-7,310.84	9,246.50	0.00	0.00	0.00
12,800.00	89.73	315.074	5,354.48	5,838.49	-7,381.46	9,346.49	0.00	0.00	0.00
12,900.00	89.73	315.074	5,354.96	5,909.29	-7,452.08	9,446.49	0.00	0.00	0.00
13,000.00	89.73	315.074	5,355.43	5,980.09	-7,522.69	9,546.49	0.00	0.00	0.00
13,100.00	89.73	315.074	5,355.91	6,050.89	-7,593.31	9,646.49	0.00	0.00	0.00
13,200.00	89.73	315.074	5,356.38	6,121.69	-7,663.93	9,746.49	0.00	0.00	0.00
13,300.00	89.73	315.074	5,356.85	6,192.49	-7,734.55	9,846.49	0.00	0.00	0.00
13,400.00	89.73	315.074	5,357.33	6,263.29	-7,805.17	9,946.49	0.00	0.00	0.00
13,500.00	89.73	315.074	5,357.80	6,334.09	-7,875.79	10,046.49	0.00	0.00	0.00
13,600.00	89.73	315.074	5,358.27	6,404.89	-7,946.41	10,146.48	0.00	0.00	0.00
13,700.00	89.73	315.074	5,358.75	6,475.69	-8,017.03	10,246.48	0.00	0.00	0.00
13,800.00	89.73	315.074	5,359.22	6,546.49	-8,087.65	10,346.48	0.00	0.00	0.00
13,900.00	89.73	315.074	5,359.70	6,617.29	-8,158.27	10,446.48	0.00	0.00	0.00
14,000.00	89.73	315.074	5,360.17	6,688.09	-8,228.89	10,546.48	0.00	0.00	0.00
14,100.00	89.73	315.074	5,360.64	6,758.89	-8,299.50	10,646.48	0.00	0.00	0.00
14,200.00	89.73	315.074	5,361.12	6,829.69	-8,370.12	10,746.48	0.00	0.00	0.00
14,300.00	89.73	315.074	5,361.59	6,900.49	-8,440.74	10,846.48	0.00	0.00	0.00
14,400.00	89.73	315.074	5,362.07	6,971.30	-8,511.36	10,946.48	0.00	0.00	0.00
14,500.00	89.73	315.074	5,362.54	7,042.10	-8,581.98	11,046.47	0.00	0.00	0.00
14,600.00	89.73	315.074	5,363.01	7,112.90	-8,652.60	11,146.47	0.00	0.00	0.00
14,700.00	89.73	315.074	5,363.49	7,183.70	-8,723.22	11,246.47	0.00	0.00	0.00
14,800.00	89.73	315.074	5,363.96	7,254.50	-8,793.84	11,346.47	0.00	0.00	0.00
14,900.00	89.73	315.074	5,364.44	7,325.30	-8,864.46	11,446.47	0.00	0.00	0.00
15,000.00	89.73	315.074	5,364.91	7,396.10	-8,935.08	11,546.47	0.00	0.00	0.00



Planning Report

Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site:	Betonnie Tsosie Wash (101,103,105 & 107)	North Reference:	Grid
Well:	Betonnie Tsosie Wash Unit 105 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)	
15,100.00	89.73	315.074	5,365.38	7,466.90	-9,005.70	11,646.47	0.00	0.00	0.00	
15,200.00	89.73	315.074	5,365.86	7,537.70	-9,076.31	11,746.47	0.00	0.00	0.00	
15,300.00	89.73	315.074	5,366.33	7,608.50	-9,146.93	11,846.47	0.00	0.00	0.00	
15,400.00	89.73	315.074	5,366.81	7,679.30	-9,217.55	11,946.46	0.00	0.00	0.00	
15,500.00	89.73	315.074	5,367.28	7,750.10	-9,288.17	12,046.46	0.00	0.00	0.00	
15,600.00	89.73	315.074	5,367.75	7,820.90	-9,358.79	12,146.46	0.00	0.00	0.00	
15,700.00	89.73	315.074	5,368.23	7,891.70	-9,429.41	12,246.46	0.00	0.00	0.00	
15,800.00	89.73	315.074	5,368.70	7,962.50	-9,500.03	12,346.46	0.00	0.00	0.00	
15,900.00	89.73	315.074	5,369.17	8,033.30	-9,570.65	12,446.46	0.00	0.00	0.00	
16,000.00	89.73	315.074	5,369.65	8,104.10	-9,641.27	12,546.46	0.00	0.00	0.00	
16,100.00	89.73	315.074	5,370.12	8,174.90	-9,711.89	12,646.46	0.00	0.00	0.00	
16,200.00	89.73	315.074	5,370.60	8,245.71	-9,782.51	12,746.46	0.00	0.00	0.00	
16,300.00	89.73	315.074	5,371.07	8,316.51	-9,853.12	12,846.45	0.00	0.00	0.00	
16,400.00	89.73	315.074	5,371.54	8,387.31	-9,923.74	12,946.45	0.00	0.00	0.00	
16,500.00	89.73	315.074	5,372.02	8,458.11	-9,994.36	13,046.45	0.00	0.00	0.00	
16,600.00	89.73	315.074	5,372.49	8,528.91	-10,064.98	13,146.45	0.00	0.00	0.00	
16,700.00	89.73	315.074	5,372.97	8,599.71	-10,135.60	13,246.45	0.00	0.00	0.00	
16,800.00	89.73	315.074	5,373.44	8,670.51	-10,206.22	13,346.45	0.00	0.00	0.00	
16,900.00	89.73	315.074	5,373.91	8,741.31	-10,276.84	13,446.45	0.00	0.00	0.00	
17,000.00	89.73	315.074	5,374.39	8,812.11	-10,347.46	13,546.45	0.00	0.00	0.00	
17,100.00	89.73	315.074	5,374.86	8,882.91	-10,418.08	13,646.45	0.00	0.00	0.00	
17,200.00	89.73	315.074	5,375.34	8,953.71	-10,488.70	13,746.44	0.00	0.00	0.00	
17,300.00	89.73	315.074	5,375.81	9,024.51	-10,559.32	13,846.44	0.00	0.00	0.00	
17,400.00	89.73	315.074	5,376.28	9,095.31	-10,629.93	13,946.44	0.00	0.00	0.00	
17,500.00	89.73	315.074	5,376.76	9,166.11	-10,700.55	14,046.44	0.00	0.00	0.00	
17,600.00	89.73	315.074	5,377.23	9,236.91	-10,771.17	14,146.44	0.00	0.00	0.00	
17,700.00	89.73	315.074	5,377.71	9,307.71	-10,841.79	14,246.44	0.00	0.00	0.00	
17,800.00	89.73	315.074	5,378.18	9,378.51	-10,912.41	14,346.44	0.00	0.00	0.00	
17,900.00	89.73	315.074	5,378.65	9,449.31	-10,983.03	14,446.44	0.00	0.00	0.00	
18,000.00	89.73	315.074	5,379.13	9,520.12	-11,053.65	14,546.44	0.00	0.00	0.00	
18,100.00	89.73	315.074	5,379.60	9,590.92	-11,124.27	14,646.43	0.00	0.00	0.00	
18,200.00	89.73	315.074	5,380.08	9,661.72	-11,194.89	14,746.43	0.00	0.00	0.00	
18,300.00	89.73	315.074	5,380.55	9,732.52	-11,265.51	14,846.43	0.00	0.00	0.00	
18,400.00	89.73	315.074	5,381.02	9,803.32	-11,336.13	14,946.43	0.00	0.00	0.00	
18,500.00	89.73	315.074	5,381.50	9,874.12	-11,406.74	15,046.43	0.00	0.00	0.00	
18,600.00	89.73	315.074	5,381.97	9,944.92	-11,477.36	15,146.43	0.00	0.00	0.00	
18,700.00	89.73	315.074	5,382.44	10,015.72	-11,547.98	15,246.43	0.00	0.00	0.00	
18,800.00	89.73	315.074	5,382.92	10,086.52	-11,618.60	15,346.43	0.00	0.00	0.00	
18,900.00	89.73	315.074	5,383.39	10,157.32	-11,689.22	15,446.43	0.00	0.00	0.00	
19,000.00	89.73	315.074	5,383.87	10,228.12	-11,759.84	15,546.42	0.00	0.00	0.00	
19,100.00	89.73	315.074	5,384.34	10,298.92	-11,830.46	15,646.42	0.00	0.00	0.00	
19,200.00	89.73	315.074	5,384.81	10,369.72	-11,901.08	15,746.42	0.00	0.00	0.00	
19,300.00	89.73	315.074	5,385.29	10,440.52	-11,971.70	15,846.42	0.00	0.00	0.00	
19,400.00	89.73	315.074	5,385.76	10,511.32	-12,042.32	15,946.42	0.00	0.00	0.00	
19,500.00	89.73	315.074	5,386.24	10,582.12	-12,112.94	16,046.42	0.00	0.00	0.00	
19,600.00	89.73	315.074	5,386.71	10,652.92	-12,183.55	16,146.42	0.00	0.00	0.00	
19,700.00	89.73	315.074	5,387.18	10,723.72	-12,254.17	16,246.42	0.00	0.00	0.00	
19,800.00	89.73	315.074	5,387.66	10,794.53	-12,324.79	16,346.42	0.00	0.00	0.00	
19,900.00	89.73	315.074	5,388.13	10,865.33	-12,395.41	16,446.41	0.00	0.00	0.00	
20,000.00	89.73	315.074	5,388.61	10,936.13	-12,466.03	16,546.41	0.00	0.00	0.00	
20,100.00	89.73	315.074	5,389.08	11,006.93	-12,536.65	16,646.41	0.00	0.00	0.00	
20,200.00	89.73	315.074	5,389.55	11,077.73	-12,607.27	16,746.41	0.00	0.00	0.00	
20,294.28	89.73	315.074	5,390.00	11,144.48	-12,673.85	16,840.69	0.00	0.00	0.00	



Planning Report

Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site:	Betonnie Tsosie Wash (101,103,105 & 107)	North Reference:	Grid
Well:	Betonnie Tsosie Wash Unit 105 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)
PBHL/TD @ 20294.28 MD 5390.00 TVD									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
350.00	350.00	9-5/8" Surface Casing	9-5/8	12-1/4	
6,646.91	5,323.37	7" Intermediate Casing	7	8-3/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,066.02	1,066.00	Ojo Alamo		0.170	315.074
1,186.32	1,186.03	Kirtland		0.170	315.074
1,358.19	1,356.09	Fruitland		0.170	315.074
1,707.43	1,691.36	Pictured Cliffs		0.170	315.074
1,877.05	1,846.55	Lewis		0.170	315.074
2,168.51	2,096.96	Chacra		0.170	315.074
3,614.26	3,189.58	Cliff House		0.170	315.074
4,375.40	3,760.98	Menefee		0.170	315.074
4,782.68	4,066.72	Point Lookout		0.170	315.074
5,063.10	4,277.24	Mancos		0.170	315.074
5,510.44	4,613.05	MNCS_A		0.170	315.074
5,650.65	4,718.31	MNCS_B		0.170	315.074
5,764.15	4,803.52	MNCS_C		0.170	315.074
5,817.57	4,843.62	MNCS_Cms		0.170	315.074
5,991.16	4,973.94	MNCS_D		0.170	315.074
6,144.72	5,089.22	MNCS_E		0.170	315.074
6,220.12	5,144.36	MNCS_F		0.170	315.074
6,339.53	5,219.63	MNCS_G		0.170	315.074
6,466.60	5,279.96	MNCS_H		0.170	315.074
6,525.56	5,300.12	MNCS_I		0.170	315.074

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,000.00	1,000.00	0.00	0.00	KOP Begin 3°/100' build
2,378.28	2,261.72	194.89	-434.40	Begin 41.35° tangent
6,164.81	5,104.29	1,218.84	-2,716.75	Begin 10°/100' build/turn
6,496.91	5,291.00	1,378.72	-2,933.12	Begin 10°/100' build
6,694.20	5,325.55	1,515.54	-3,069.59	Begin 89.73° lateral
20,294.28	5,390.00	11,144.48	-12,673.85	PBHL/TD @ 20294.28 MD 5390.00 TVD



Planning Report - Geographic

Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site:	Betonnie Tsosie Wash (101,103,105 & 107)	North Reference:	Grid
Well:	Betonnie Tsosie Wash Unit 105 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Project	Rio Arriba, Sandoval & San Juan Counties, NM NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	Betonnie Tsosie Wash (101,103,105 & 107)				
Site Position:		Northing:	1,901,148.47 usft	Latitude:	36.21721700
From:	Lat/Long	Easting:	1,239,112.58 usft	Longitude:	-107.61045600
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Betonnie Tsosie Wash Unit 105 H					
Well Position	+N/-S	0.00 ft	Northing:	1,901,109.39 usft	Latitude:	36.21711000
	+E/-W	0.00 ft	Easting:	1,239,121.18 usft	Longitude:	-107.61042500
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,962.00 ft
Grid Convergence:		-0.804 °				

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	1/25/2025	8.353	62.674	48,948.97168988

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	315.074

Plan Survey Tool Program	Date	1/26/2025		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	20,293.54 rev0 (Original Hole)	MWD	
			OWSG MWD - Standard	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.000	
2,378.28	41.35	294.163	2,261.72	194.89	-434.40	3.00	3.00	0.00	294.163	
6,164.81	41.35	294.163	5,104.29	1,218.84	-2,716.75	0.00	0.00	0.00	0.000	
6,496.91	70.00	315.074	5,291.00	1,378.72	-2,933.12	10.00	8.63	6.30	37.759	
6,694.20	89.73	315.074	5,325.55	1,515.54	-3,069.59	10.00	10.00	0.00	0.000	
20,294.28	89.73	315.074	5,390.00	11,144.48	-12,673.85	0.00	0.00	0.00	0.000	BTW 105 LTP 660 FN



Planning Report - Geographic

Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site:	Betonnie Tsosie Wash (101,103,105 & 107)	North Reference:	Grid
Well:	Betonnie Tsosie Wash Unit 105 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	1,901,109.39	1,239,121.18	36.21711000	-107.61042500	
100.00	0.00	0.000	100.00	0.00	0.00	1,901,109.39	1,239,121.18	36.21711000	-107.61042500	
200.00	0.00	0.000	200.00	0.00	0.00	1,901,109.39	1,239,121.18	36.21711000	-107.61042500	
300.00	0.00	0.000	300.00	0.00	0.00	1,901,109.39	1,239,121.18	36.21711000	-107.61042500	
350.00	0.00	0.000	350.00	0.00	0.00	1,901,109.39	1,239,121.18	36.21711000	-107.61042500	
9-5/8" Surface Casing										
400.00	0.00	0.000	400.00	0.00	0.00	1,901,109.39	1,239,121.18	36.21711000	-107.61042500	
500.00	0.00	0.000	500.00	0.00	0.00	1,901,109.39	1,239,121.18	36.21711000	-107.61042500	
600.00	0.00	0.000	600.00	0.00	0.00	1,901,109.39	1,239,121.18	36.21711000	-107.61042500	
700.00	0.00	0.000	700.00	0.00	0.00	1,901,109.39	1,239,121.18	36.21711000	-107.61042500	
800.00	0.00	0.000	800.00	0.00	0.00	1,901,109.39	1,239,121.18	36.21711000	-107.61042500	
900.00	0.00	0.000	900.00	0.00	0.00	1,901,109.39	1,239,121.18	36.21711000	-107.61042500	
1,000.00	0.00	0.000	1,000.00	0.00	0.00	1,901,109.39	1,239,121.18	36.21711000	-107.61042500	
KOP Begin 3"/100' build										
1,066.02	1.98	294.163	1,066.00	0.47	-1.04	1,901,109.86	1,239,120.14	36.21711124	-107.61042855	
Ojo Alamo										
1,100.00	3.00	294.163	1,099.95	1.07	-2.39	1,901,110.46	1,239,118.79	36.21711285	-107.61043315	
1,186.32	5.59	294.163	1,186.03	3.72	-8.29	1,901,113.11	1,239,112.89	36.21711989	-107.61045326	
Kirtland										
1,200.00	6.00	294.163	1,199.63	4.28	-9.55	1,901,113.67	1,239,111.63	36.21712139	-107.61045756	
1,300.00	9.00	294.163	1,298.77	9.62	-21.45	1,901,119.01	1,239,099.72	36.21713561	-107.61049817	
1,358.19	10.75	294.163	1,356.09	13.71	-30.56	1,901,123.10	1,239,090.62	36.21714647	-107.61052922	
Fruitland										
1,400.00	12.00	294.163	1,397.08	17.08	-38.08	1,901,126.47	1,239,083.10	36.21715545	-107.61055487	
1,500.00	15.00	294.163	1,494.31	26.64	-59.38	1,901,136.03	1,239,061.80	36.21718087	-107.61062751	
1,600.00	18.00	294.163	1,590.18	38.26	-85.29	1,901,147.65	1,239,035.89	36.21721180	-107.61071587	
1,700.00	21.00	294.163	1,684.43	51.92	-115.74	1,901,161.31	1,239,005.44	36.21724814	-107.61081973	
1,707.43	21.22	294.163	1,691.36	53.02	-118.18	1,901,162.41	1,239,003.00	36.21725106	-107.61082806	
Pictured Cliffs										
1,800.00	24.00	294.163	1,776.81	67.59	-150.65	1,901,176.98	1,238,970.53	36.21728981	-107.61093880	
1,877.05	26.31	294.163	1,846.55	80.99	-180.53	1,901,190.38	1,238,940.65	36.21732548	-107.61104072	
Lewis										
1,900.00	27.00	294.163	1,867.06	85.21	-189.92	1,901,194.60	1,238,931.25	36.21733669	-107.61107275	
2,000.00	30.00	294.163	1,954.93	104.74	-233.45	1,901,214.13	1,238,887.72	36.21738865	-107.61122122	
2,100.00	33.00	294.163	2,040.18	126.12	-281.12	1,901,235.51	1,238,840.06	36.21744554	-107.61138379	
2,168.51	35.06	294.163	2,096.96	141.81	-316.10	1,901,251.20	1,238,805.08	36.21748729	-107.61150308	
Chacra										
2,200.00	36.00	294.163	2,122.59	149.30	-332.79	1,901,258.69	1,238,788.38	36.21750721	-107.61156002	
2,300.00	39.00	294.163	2,201.91	174.22	-388.33	1,901,283.61	1,238,732.85	36.21757350	-107.61174943	
2,378.28	41.35	294.163	2,261.72	194.89	-434.40	1,901,304.28	1,238,686.78	36.21762849	-107.61190656	
Begin 41.35° tangent										
2,400.00	41.35	294.163	2,278.03	200.76	-447.49	1,901,310.15	1,238,673.68	36.21764411	-107.61195121	
2,500.00	41.35	294.163	2,353.10	227.80	-507.77	1,901,337.19	1,238,613.41	36.21771605	-107.61215679	
2,600.00	41.35	294.163	2,428.17	254.85	-568.04	1,901,364.23	1,238,553.13	36.21778799	-107.61236236	
2,700.00	41.35	294.163	2,503.24	281.89	-628.32	1,901,391.28	1,238,492.86	36.21785993	-107.61256794	
2,800.00	41.35	294.163	2,578.31	308.93	-688.59	1,901,418.32	1,238,432.58	36.21793187	-107.61277352	
2,900.00	41.35	294.163	2,653.38	335.97	-748.87	1,901,445.36	1,238,372.31	36.21800381	-107.61297909	
3,000.00	41.35	294.163	2,728.45	363.01	-809.15	1,901,472.40	1,238,312.03	36.21807575	-107.61318467	
3,100.00	41.35	294.163	2,803.52	390.06	-869.42	1,901,499.44	1,238,251.76	36.21814769	-107.61339025	
3,200.00	41.35	294.163	2,878.59	417.10	-929.70	1,901,526.49	1,238,191.48	36.21821963	-107.61359582	
3,300.00	41.35	294.163	2,953.66	444.14	-989.97	1,901,553.53	1,238,131.21	36.21829157	-107.61380140	
3,400.00	41.35	294.163	3,028.73	471.18	-1,050.25	1,901,580.57	1,238,070.93	36.21836351	-107.61400698	
3,500.00	41.35	294.163	3,103.80	498.22	-1,110.52	1,901,607.61	1,238,010.66	36.21843544	-107.61421256	



Planning Report - Geographic

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Company:	Enduring Resources LLC	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site:	Bettonnie Tsosie Wash (101,103,105 & 107)	North Reference:	Grid
Well:	Bettonnie Tsosie Wash Unit 105 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	
3,600.00	41.35	294.163	3,178.88	525.27	-1,170.80	1,901,634.65	1,237,950.38	36.21850738	-107.61441814	
3,614.26	41.35	294.163	3,189.58	529.12	-1,179.40	1,901,638.51	1,237,941.78	36.21851764	-107.61444746	
Cliff House										
3,700.00	41.35	294.163	3,253.95	552.31	-1,231.07	1,901,661.70	1,237,890.11	36.21857932	-107.61462372	
3,800.00	41.35	294.163	3,329.02	579.35	-1,291.35	1,901,688.74	1,237,829.83	36.21865125	-107.61482930	
3,900.00	41.35	294.163	3,404.09	606.39	-1,351.62	1,901,715.78	1,237,769.55	36.21872319	-107.61503488	
4,000.00	41.35	294.163	3,479.16	633.43	-1,411.90	1,901,742.82	1,237,709.28	36.21879513	-107.61524046	
4,100.00	41.35	294.163	3,554.23	660.48	-1,472.18	1,901,769.86	1,237,649.00	36.21886706	-107.61544604	
4,200.00	41.35	294.163	3,629.30	687.52	-1,532.45	1,901,796.90	1,237,588.73	36.21893900	-107.61565162	
4,300.00	41.35	294.163	3,704.37	714.56	-1,592.73	1,901,823.95	1,237,528.45	36.21901093	-107.61585721	
4,375.40	41.35	294.163	3,760.98	734.95	-1,638.18	1,901,844.34	1,237,483.00	36.21906517	-107.61601222	
Menefee										
4,400.00	41.35	294.163	3,779.44	741.60	-1,653.00	1,901,850.99	1,237,468.18	36.21908287	-107.61606279	
4,500.00	41.35	294.163	3,854.51	768.64	-1,713.28	1,901,878.03	1,237,407.90	36.21915480	-107.61626837	
4,600.00	41.35	294.163	3,929.58	795.68	-1,773.55	1,901,905.07	1,237,347.63	36.21922673	-107.61647395	
4,700.00	41.35	294.163	4,004.65	822.73	-1,833.83	1,901,932.11	1,237,287.35	36.21929867	-107.61667954	
4,782.68	41.35	294.163	4,066.72	845.08	-1,883.66	1,901,954.47	1,237,237.52	36.21935814	-107.61684951	
Point Lookout										
4,800.00	41.35	294.163	4,079.72	849.77	-1,894.10	1,901,959.16	1,237,227.08	36.21937060	-107.61688512	
4,900.00	41.35	294.163	4,154.79	876.81	-1,954.38	1,901,986.20	1,237,166.80	36.21944253	-107.61709070	
5,000.00	41.35	294.163	4,229.87	903.85	-2,014.65	1,902,013.24	1,237,106.53	36.21951446	-107.61729629	
5,063.10	41.35	294.163	4,277.24	920.92	-2,052.69	1,902,030.30	1,237,068.49	36.21955985	-107.61742601	
Mancos										
5,100.00	41.35	294.163	4,304.94	930.89	-2,074.93	1,902,040.28	1,237,046.25	36.21958640	-107.61750187	
5,200.00	41.35	294.163	4,380.01	957.94	-2,135.20	1,902,067.32	1,236,985.98	36.21965833	-107.61770746	
5,300.00	41.35	294.163	4,455.08	984.98	-2,195.48	1,902,094.36	1,236,925.70	36.21973026	-107.61791304	
5,400.00	41.35	294.163	4,530.15	1,012.02	-2,255.76	1,902,121.41	1,236,865.43	36.21980219	-107.61811863	
5,500.00	41.35	294.163	4,605.22	1,039.06	-2,316.03	1,902,148.45	1,236,805.15	36.21987412	-107.61832422	
5,510.44	41.35	294.163	4,613.05	1,041.88	-2,322.32	1,902,151.27	1,236,798.86	36.21988163	-107.61834568	
MNCS_A										
5,600.00	41.35	294.163	4,680.29	1,066.10	-2,376.31	1,902,175.49	1,236,744.87	36.21994605	-107.61852980	
5,650.65	41.35	294.163	4,718.31	1,079.80	-2,406.84	1,902,189.19	1,236,714.35	36.21998248	-107.61863393	
MNCS_B										
5,700.00	41.35	294.163	4,755.36	1,093.15	-2,436.58	1,902,202.53	1,236,684.60	36.22001798	-107.61873539	
5,764.15	41.35	294.163	4,803.52	1,110.49	-2,475.25	1,902,219.88	1,236,645.93	36.22006412	-107.61886728	
MNCS_C										
5,800.00	41.35	294.163	4,830.43	1,120.19	-2,496.86	1,902,229.57	1,236,624.32	36.22008991	-107.61894098	
5,817.57	41.35	294.163	4,843.62	1,124.94	-2,507.44	1,902,234.32	1,236,613.74	36.22010254	-107.61897709	
MNCS_Cms										
5,900.00	41.35	294.163	4,905.50	1,147.23	-2,557.13	1,902,256.62	1,236,564.05	36.22016184	-107.61914657	
5,991.16	41.35	294.163	4,973.94	1,171.88	-2,612.08	1,902,281.27	1,236,509.10	36.22022740	-107.61933398	
MNCS_D										
6,000.00	41.35	294.163	4,980.57	1,174.27	-2,617.41	1,902,283.66	1,236,503.77	36.22023376	-107.61935215	
6,100.00	41.35	294.163	5,055.64	1,201.31	-2,677.68	1,902,310.70	1,236,443.50	36.22030569	-107.61955774	
6,144.72	41.35	294.163	5,089.22	1,213.41	-2,704.64	1,902,322.79	1,236,416.54	36.22033786	-107.61964969	
MNCS_E										
6,164.81	41.35	294.163	5,104.29	1,218.84	-2,716.75	1,902,328.22	1,236,404.44	36.22035231	-107.61969098	
Begin 10°/100' build/turn										
6,200.00	44.17	297.255	5,130.13	1,229.22	-2,738.26	1,902,338.60	1,236,382.92	36.22037997	-107.61976439	
6,220.12	45.82	298.884	5,144.36	1,235.91	-2,750.81	1,902,345.30	1,236,370.37	36.22039787	-107.61980725	
MNCS_F										
6,250.00	48.31	301.140	5,164.71	1,246.86	-2,769.75	1,902,356.25	1,236,351.44	36.22042721	-107.61987196	



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Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site:	Betonnie Tsosie Wash (101,103,105 & 107)	North Reference:	Grid
Well:	Betonnie Tsosie Wash Unit 105 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	
6,300.00	52.57	304.548	5,196.55	1,267.79	-2,802.10	1,902,377.17	1,236,319.08	36.22048342	-107.61998261	
6,339.53	56.00	306.976	5,219.63	1,286.55	-2,828.12	1,902,395.93	1,236,293.06	36.22053394	-107.62007172	
MNCS_G										
6,350.00	56.91	307.586	5,225.42	1,291.83	-2,835.07	1,902,401.22	1,236,286.11	36.22054819	-107.62009551	
6,400.00	61.32	310.335	5,251.08	1,318.82	-2,868.41	1,902,428.21	1,236,252.78	36.22062102	-107.62020980	
6,450.00	65.78	312.861	5,273.35	1,348.55	-2,901.86	1,902,457.93	1,236,219.32	36.22070135	-107.62032460	
6,466.60	67.27	313.659	5,279.96	1,358.98	-2,912.95	1,902,468.37	1,236,208.24	36.22072958	-107.62036268	
MNCS_H										
6,496.91	70.00	315.074	5,291.00	1,378.72	-2,933.12	1,902,488.11	1,236,188.06	36.22078300	-107.62043200	
Begin 10°/100' build										
6,500.00	70.31	315.074	5,292.05	1,380.78	-2,935.17	1,902,490.16	1,236,186.01	36.22078857	-107.62043906	
6,525.56	72.87	315.074	5,300.12	1,397.95	-2,952.30	1,902,507.33	1,236,168.88	36.22083506	-107.62049793	
MNCS_I										
6,550.00	75.31	315.074	5,306.82	1,414.59	-2,968.89	1,902,523.97	1,236,152.29	36.22088011	-107.62055497	
6,600.00	80.31	315.074	5,317.38	1,449.18	-3,003.40	1,902,558.56	1,236,117.78	36.22097377	-107.62067357	
6,646.91	85.00	315.074	5,323.37	1,482.11	-3,036.24	1,902,591.49	1,236,084.94	36.22106294	-107.62078648	
7" Intermediate Casing										
6,650.00	85.31	315.074	5,323.63	1,484.29	-3,038.42	1,902,593.67	1,236,082.76	36.22106884	-107.62079396	
6,694.20	89.73	315.074	5,325.55	1,515.54	-3,069.59	1,902,624.93	1,236,051.59	36.22115346	-107.62090111	
Begin 89.73° lateral										
6,700.00	89.73	315.074	5,325.57	1,519.65	-3,073.69	1,902,629.04	1,236,047.49	36.22116459	-107.62091520	
6,800.00	89.73	315.074	5,326.05	1,590.45	-3,144.31	1,902,699.84	1,235,976.87	36.22135629	-107.62115795	
6,900.00	89.73	315.074	5,326.52	1,661.25	-3,214.93	1,902,770.64	1,235,906.25	36.22154799	-107.62140070	
7,000.00	89.73	315.074	5,327.00	1,732.05	-3,285.55	1,902,841.44	1,235,835.63	36.22173969	-107.62164345	
7,100.00	89.73	315.074	5,327.47	1,802.85	-3,356.17	1,902,912.24	1,235,765.02	36.22193139	-107.62188620	
7,200.00	89.73	315.074	5,327.94	1,873.65	-3,426.79	1,902,983.04	1,235,694.40	36.22212308	-107.62212896	
7,300.00	89.73	315.074	5,328.42	1,944.46	-3,497.41	1,903,053.84	1,235,623.78	36.22231478	-107.62237171	
7,400.00	89.73	315.074	5,328.89	2,015.26	-3,568.02	1,903,124.64	1,235,553.16	36.22250648	-107.62261447	
7,500.00	89.73	315.074	5,329.37	2,086.06	-3,638.64	1,903,195.44	1,235,482.54	36.22269817	-107.62285723	
7,600.00	89.73	315.074	5,329.84	2,156.86	-3,709.26	1,903,266.24	1,235,411.92	36.22288987	-107.62309998	
7,700.00	89.73	315.074	5,330.31	2,227.66	-3,779.88	1,903,337.04	1,235,341.30	36.22308156	-107.62334274	
7,800.00	89.73	315.074	5,330.79	2,298.46	-3,850.50	1,903,407.84	1,235,270.68	36.22327326	-107.62358550	
7,900.00	89.73	315.074	5,331.26	2,369.26	-3,921.12	1,903,478.64	1,235,200.06	36.22346495	-107.62382827	
8,000.00	89.73	315.074	5,331.74	2,440.06	-3,991.74	1,903,549.44	1,235,129.44	36.22365665	-107.62407103	
8,100.00	89.73	315.074	5,332.21	2,510.86	-4,062.36	1,903,620.24	1,235,058.83	36.22384834	-107.62431379	
8,200.00	89.73	315.074	5,332.68	2,581.66	-4,132.98	1,903,691.04	1,234,988.21	36.22404003	-107.62455656	
8,300.00	89.73	315.074	5,333.16	2,652.46	-4,203.60	1,903,761.84	1,234,917.59	36.22423172	-107.62479932	
8,400.00	89.73	315.074	5,333.63	2,723.26	-4,274.22	1,903,832.64	1,234,846.97	36.22442342	-107.62504209	
8,500.00	89.73	315.074	5,334.11	2,794.06	-4,344.84	1,903,903.45	1,234,776.35	36.22461511	-107.62528486	
8,600.00	89.73	315.074	5,334.58	2,864.86	-4,415.45	1,903,974.25	1,234,705.73	36.22480680	-107.62552763	
8,700.00	89.73	315.074	5,335.05	2,935.66	-4,486.07	1,904,045.05	1,234,635.11	36.22499849	-107.62577040	
8,800.00	89.73	315.074	5,335.53	3,006.46	-4,556.69	1,904,115.85	1,234,564.49	36.22519018	-107.62601317	
8,900.00	89.73	315.074	5,336.00	3,077.26	-4,627.31	1,904,186.65	1,234,493.87	36.22538187	-107.62625595	
9,000.00	89.73	315.074	5,336.47	3,148.06	-4,697.93	1,904,257.45	1,234,423.26	36.22557355	-107.62649872	
9,100.00	89.73	315.074	5,336.95	3,218.87	-4,768.55	1,904,328.25	1,234,352.64	36.22576524	-107.62674150	
9,200.00	89.73	315.074	5,337.42	3,289.67	-4,839.17	1,904,399.05	1,234,282.02	36.22595693	-107.62698427	
9,300.00	89.73	315.074	5,337.90	3,360.47	-4,909.79	1,904,469.85	1,234,211.40	36.22614862	-107.62722705	
9,400.00	89.73	315.074	5,338.37	3,431.27	-4,980.41	1,904,540.65	1,234,140.78	36.22634030	-107.62746983	
9,500.00	89.73	315.074	5,338.84	3,502.07	-5,051.03	1,904,611.45	1,234,070.16	36.22653199	-107.62771261	
9,600.00	89.73	315.074	5,339.32	3,572.87	-5,121.65	1,904,682.25	1,233,999.54	36.22672367	-107.62795540	
9,700.00	89.73	315.074	5,339.79	3,643.67	-5,192.26	1,904,753.05	1,233,928.92	36.22691536	-107.62819818	
9,800.00	89.73	315.074	5,340.27	3,714.47	-5,262.88	1,904,823.85	1,233,858.30	36.22710704	-107.62844096	
9,900.00	89.73	315.074	5,340.74	3,785.27	-5,333.50	1,904,894.65	1,233,787.68	36.22729873	-107.62868375	



Planning Report - Geographic

Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Bettonnie Tsosie Wash Unit 105 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site:	Bettonnie Tsosie Wash (101,103,105 & 107)	North Reference:	Grid
Well:	Bettonnie Tsosie Wash Unit 105 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	89.73	315.074	5,341.21	3,856.07	-5,404.12	1,904,965.45	1,233,717.07	36.22749041	-107.62892653
10,100.00	89.73	315.074	5,341.69	3,926.87	-5,474.74	1,905,036.25	1,233,646.45	36.22768209	-107.62916932
10,200.00	89.73	315.074	5,342.16	3,997.67	-5,545.36	1,905,107.05	1,233,575.83	36.22787377	-107.62941211
10,300.00	89.73	315.074	5,342.64	4,068.47	-5,615.98	1,905,177.85	1,233,505.21	36.22806546	-107.62965490
10,400.00	89.73	315.074	5,343.11	4,139.27	-5,686.60	1,905,248.65	1,233,434.59	36.22825714	-107.62989769
10,500.00	89.73	315.074	5,343.58	4,210.07	-5,757.22	1,905,319.45	1,233,363.97	36.22844882	-107.63014048
10,600.00	89.73	315.074	5,344.06	4,280.87	-5,827.84	1,905,390.25	1,233,293.35	36.22864050	-107.63038328
10,700.00	89.73	315.074	5,344.53	4,351.67	-5,898.46	1,905,461.05	1,233,222.73	36.22883218	-107.63062607
10,800.00	89.73	315.074	5,345.01	4,422.47	-5,969.07	1,905,531.85	1,233,152.11	36.22902385	-107.63086887
10,900.00	89.73	315.074	5,345.48	4,493.28	-6,039.69	1,905,602.66	1,233,081.50	36.22921553	-107.63111167
11,000.00	89.73	315.074	5,345.95	4,564.08	-6,110.31	1,905,673.46	1,233,010.88	36.22940721	-107.63135446
11,100.00	89.73	315.074	5,346.43	4,634.88	-6,180.93	1,905,744.26	1,232,940.26	36.22959889	-107.63159726
11,200.00	89.73	315.074	5,346.90	4,705.68	-6,251.55	1,905,815.06	1,232,869.64	36.22979057	-107.63184007
11,300.00	89.73	315.074	5,347.37	4,776.48	-6,322.17	1,905,885.86	1,232,799.02	36.22998224	-107.63208287
11,400.00	89.73	315.074	5,347.85	4,847.28	-6,392.79	1,905,956.66	1,232,728.40	36.23017392	-107.63232567
11,500.00	89.73	315.074	5,348.32	4,918.08	-6,463.41	1,906,027.46	1,232,657.78	36.23036559	-107.63256847
11,600.00	89.73	315.074	5,348.80	4,988.88	-6,534.03	1,906,098.26	1,232,587.16	36.23055727	-107.63281128
11,700.00	89.73	315.074	5,349.27	5,059.68	-6,604.65	1,906,169.06	1,232,516.54	36.23074894	-107.63305409
11,800.00	89.73	315.074	5,349.74	5,130.48	-6,675.27	1,906,239.86	1,232,445.92	36.23094062	-107.63329689
11,900.00	89.73	315.074	5,350.22	5,201.28	-6,745.88	1,906,310.66	1,232,375.31	36.23113229	-107.63353970
12,000.00	89.73	315.074	5,350.69	5,272.08	-6,816.50	1,906,381.46	1,232,304.69	36.23132396	-107.63378251
12,100.00	89.73	315.074	5,351.17	5,342.88	-6,887.12	1,906,452.26	1,232,234.07	36.23151563	-107.63402533
12,200.00	89.73	315.074	5,351.64	5,413.68	-6,957.74	1,906,523.06	1,232,163.45	36.23170730	-107.63426814
12,300.00	89.73	315.074	5,352.11	5,484.48	-7,028.36	1,906,593.86	1,232,092.83	36.23189898	-107.63451095
12,400.00	89.73	315.074	5,352.59	5,555.28	-7,098.98	1,906,664.66	1,232,022.21	36.23209065	-107.63475377
12,500.00	89.73	315.074	5,353.06	5,626.08	-7,169.60	1,906,735.46	1,231,951.59	36.23228232	-107.63499658
12,600.00	89.73	315.074	5,353.54	5,696.89	-7,240.22	1,906,806.26	1,231,880.97	36.23247399	-107.63523940
12,700.00	89.73	315.074	5,354.01	5,767.69	-7,310.84	1,906,877.06	1,231,810.35	36.23266565	-107.63548222
12,800.00	89.73	315.074	5,354.48	5,838.49	-7,381.46	1,906,947.86	1,231,739.73	36.23285732	-107.63572504
12,900.00	89.73	315.074	5,354.96	5,909.29	-7,452.08	1,907,018.66	1,231,669.12	36.23304899	-107.63596786
13,000.00	89.73	315.074	5,355.43	5,980.09	-7,522.69	1,907,089.46	1,231,598.50	36.23324066	-107.63621068
13,100.00	89.73	315.074	5,355.91	6,050.89	-7,593.31	1,907,160.26	1,231,527.88	36.23343233	-107.63645350
13,200.00	89.73	315.074	5,356.38	6,121.69	-7,663.93	1,907,231.06	1,231,457.26	36.23362399	-107.63669633
13,300.00	89.73	315.074	5,356.85	6,192.49	-7,734.55	1,907,301.87	1,231,386.64	36.23381566	-107.63693916
13,400.00	89.73	315.074	5,357.33	6,263.29	-7,805.17	1,907,372.67	1,231,316.02	36.23400732	-107.63718198
13,500.00	89.73	315.074	5,357.80	6,334.09	-7,875.79	1,907,443.47	1,231,245.40	36.23419899	-107.63742481
13,600.00	89.73	315.074	5,358.27	6,404.89	-7,946.41	1,907,514.27	1,231,174.78	36.23439065	-107.63766764
13,700.00	89.73	315.074	5,358.75	6,475.69	-8,017.03	1,907,585.07	1,231,104.16	36.23458232	-107.63791047
13,800.00	89.73	315.074	5,359.22	6,546.49	-8,087.65	1,907,655.87	1,231,033.55	36.23477398	-107.63815330
13,900.00	89.73	315.074	5,359.70	6,617.29	-8,158.27	1,907,726.67	1,230,962.93	36.23496564	-107.63839613
14,000.00	89.73	315.074	5,360.17	6,688.09	-8,228.89	1,907,797.47	1,230,892.31	36.23515730	-107.63863897
14,100.00	89.73	315.074	5,360.64	6,758.89	-8,299.50	1,907,868.27	1,230,821.69	36.23534896	-107.63888180
14,200.00	89.73	315.074	5,361.12	6,829.69	-8,370.12	1,907,939.07	1,230,751.07	36.23554063	-107.63912464
14,300.00	89.73	315.074	5,361.59	6,900.49	-8,440.74	1,908,009.87	1,230,680.45	36.23573229	-107.63936748
14,400.00	89.73	315.074	5,362.07	6,971.30	-8,511.36	1,908,080.67	1,230,609.83	36.23592395	-107.63961032
14,500.00	89.73	315.074	5,362.54	7,042.10	-8,581.98	1,908,151.47	1,230,539.21	36.23611561	-107.63985316
14,600.00	89.73	315.074	5,363.01	7,112.90	-8,652.60	1,908,222.27	1,230,468.59	36.23630727	-107.64009600
14,700.00	89.73	315.074	5,363.49	7,183.70	-8,723.22	1,908,293.07	1,230,397.97	36.23649892	-107.64033884
14,800.00	89.73	315.074	5,363.96	7,254.50	-8,793.84	1,908,363.87	1,230,327.36	36.23669058	-107.64058168
14,900.00	89.73	315.074	5,364.44	7,325.30	-8,864.46	1,908,434.67	1,230,256.74	36.23688224	-107.64082453
15,000.00	89.73	315.074	5,364.91	7,396.10	-8,935.08	1,908,505.47	1,230,186.12	36.23707390	-107.64106737
15,100.00	89.73	315.074	5,365.38	7,466.90	-9,005.70	1,908,576.27	1,230,115.50	36.23726555	-107.64131022
15,200.00	89.73	315.074	5,365.86	7,537.70	-9,076.31	1,908,647.07	1,230,044.88	36.23745721	-107.64155307
15,300.00	89.73	315.074	5,366.33	7,608.50	-9,146.93	1,908,717.87	1,229,974.26	36.23764886	-107.64179592



Planning Report - Geographic

Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Bettonnie Tsosie Wash Unit 105 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site:	Bettonnie Tsosie Wash (101,103,105 & 107)	North Reference:	Grid
Well:	Bettonnie Tsosie Wash Unit 105 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
15,400.00	89.73	315.074	5,366.81	7,679.30	-9,217.55	1,908,788.67	1,229,903.64	36.23784052	-107.64203877
15,500.00	89.73	315.074	5,367.28	7,750.10	-9,288.17	1,908,859.47	1,229,833.02	36.23803217	-107.64228162
15,600.00	89.73	315.074	5,367.75	7,820.90	-9,358.79	1,908,930.27	1,229,762.40	36.23822383	-107.64252447
15,700.00	89.73	315.074	5,368.23	7,891.70	-9,429.41	1,909,001.08	1,229,691.79	36.23841548	-107.64276733
15,800.00	89.73	315.074	5,368.70	7,962.50	-9,500.03	1,909,071.88	1,229,621.17	36.23860713	-107.64301018
15,900.00	89.73	315.074	5,369.17	8,033.30	-9,570.65	1,909,142.68	1,229,550.55	36.23879878	-107.64325304
16,000.00	89.73	315.074	5,369.65	8,104.10	-9,641.27	1,909,213.48	1,229,479.93	36.23899044	-107.64349590
16,100.00	89.73	315.074	5,370.12	8,174.90	-9,711.89	1,909,284.28	1,229,409.31	36.23918209	-107.64373875
16,200.00	89.73	315.074	5,370.60	8,245.71	-9,782.51	1,909,355.08	1,229,338.69	36.23937374	-107.64398161
16,300.00	89.73	315.074	5,371.07	8,316.51	-9,853.12	1,909,425.88	1,229,268.07	36.23956539	-107.64422448
16,400.00	89.73	315.074	5,371.54	8,387.31	-9,923.74	1,909,496.68	1,229,197.45	36.23975704	-107.64446734
16,500.00	89.73	315.074	5,372.02	8,458.11	-9,994.36	1,909,567.48	1,229,126.83	36.23994869	-107.64471020
16,600.00	89.73	315.074	5,372.49	8,528.91	-10,064.98	1,909,638.28	1,229,056.21	36.24014033	-107.64495307
16,700.00	89.73	315.074	5,372.97	8,599.71	-10,135.60	1,909,709.08	1,228,985.60	36.24033198	-107.64519593
16,800.00	89.73	315.074	5,373.44	8,670.51	-10,206.22	1,909,779.88	1,228,914.98	36.24052363	-107.64543880
16,900.00	89.73	315.074	5,373.91	8,741.31	-10,276.84	1,909,850.68	1,228,844.36	36.24071528	-107.64568167
17,000.00	89.73	315.074	5,374.39	8,812.11	-10,347.46	1,909,921.48	1,228,773.74	36.24090692	-107.64592454
17,100.00	89.73	315.074	5,374.86	8,882.91	-10,418.08	1,909,992.28	1,228,703.12	36.24109857	-107.64616741
17,200.00	89.73	315.074	5,375.34	8,953.71	-10,488.70	1,910,063.08	1,228,632.50	36.24129021	-107.64641028
17,300.00	89.73	315.074	5,375.81	9,024.51	-10,559.32	1,910,133.88	1,228,561.88	36.24148186	-107.64665315
17,400.00	89.73	315.074	5,376.28	9,095.31	-10,629.93	1,910,204.68	1,228,491.26	36.24167350	-107.64689603
17,500.00	89.73	315.074	5,376.76	9,166.11	-10,700.55	1,910,275.48	1,228,420.64	36.24186515	-107.64713890
17,600.00	89.73	315.074	5,377.23	9,236.91	-10,771.17	1,910,346.28	1,228,350.03	36.24205679	-107.64738178
17,700.00	89.73	315.074	5,377.71	9,307.71	-10,841.79	1,910,417.08	1,228,279.41	36.24224843	-107.64762466
17,800.00	89.73	315.074	5,378.18	9,378.51	-10,912.41	1,910,487.88	1,228,208.79	36.24244008	-107.64786754
17,900.00	89.73	315.074	5,378.65	9,449.31	-10,983.03	1,910,558.68	1,228,138.17	36.24263172	-107.64811042
18,000.00	89.73	315.074	5,379.13	9,520.12	-11,053.65	1,910,629.48	1,228,067.55	36.24282336	-107.64835330
18,100.00	89.73	315.074	5,379.60	9,590.92	-11,124.27	1,910,700.29	1,227,996.93	36.24301500	-107.64859618
18,200.00	89.73	315.074	5,380.08	9,661.72	-11,194.89	1,910,771.09	1,227,926.31	36.24320664	-107.64883906
18,300.00	89.73	315.074	5,380.55	9,732.52	-11,265.51	1,910,841.89	1,227,855.69	36.24339828	-107.64908195
18,400.00	89.73	315.074	5,381.02	9,803.32	-11,336.13	1,910,912.69	1,227,785.07	36.24358992	-107.64932483
18,500.00	89.73	315.074	5,381.50	9,874.12	-11,406.74	1,910,983.49	1,227,714.45	36.24378156	-107.64956772
18,600.00	89.73	315.074	5,381.97	9,944.92	-11,477.36	1,911,054.29	1,227,643.84	36.24397319	-107.64981061
18,700.00	89.73	315.074	5,382.44	10,015.72	-11,547.98	1,911,125.09	1,227,573.22	36.24416483	-107.65005350
18,800.00	89.73	315.074	5,382.92	10,086.52	-11,618.60	1,911,195.89	1,227,502.60	36.24435647	-107.65029639
18,900.00	89.73	315.074	5,383.39	10,157.32	-11,689.22	1,911,266.69	1,227,431.98	36.24454810	-107.65053928
19,000.00	89.73	315.074	5,383.87	10,228.12	-11,759.84	1,911,337.49	1,227,361.36	36.24473974	-107.65078218
19,100.00	89.73	315.074	5,384.34	10,298.92	-11,830.46	1,911,408.29	1,227,290.74	36.24493138	-107.65102507
19,200.00	89.73	315.074	5,384.81	10,369.72	-11,901.08	1,911,479.09	1,227,220.12	36.24512301	-107.65126797
19,300.00	89.73	315.074	5,385.29	10,440.52	-11,971.70	1,911,549.89	1,227,149.50	36.24531465	-107.65151086
19,400.00	89.73	315.074	5,385.76	10,511.32	-12,042.32	1,911,620.69	1,227,078.88	36.24550628	-107.65175376
19,500.00	89.73	315.074	5,386.24	10,582.12	-12,112.94	1,911,691.49	1,227,008.27	36.24569791	-107.65199666
19,600.00	89.73	315.074	5,386.71	10,652.92	-12,183.55	1,911,762.29	1,226,937.65	36.24588954	-107.65223956
19,700.00	89.73	315.074	5,387.18	10,723.72	-12,254.17	1,911,833.09	1,226,867.03	36.24608118	-107.65248246
19,800.00	89.73	315.074	5,387.66	10,794.53	-12,324.79	1,911,903.89	1,226,796.41	36.24627281	-107.65272536
19,900.00	89.73	315.074	5,388.13	10,865.33	-12,395.41	1,911,974.69	1,226,725.79	36.24646444	-107.65296827
20,000.00	89.73	315.074	5,388.61	10,936.13	-12,466.03	1,912,045.49	1,226,655.17	36.24665607	-107.65321117
20,100.00	89.73	315.074	5,389.08	11,006.93	-12,536.65	1,912,116.29	1,226,584.55	36.24684770	-107.65345408
20,200.00	89.73	315.074	5,389.55	11,077.73	-12,607.27	1,912,187.09	1,226,513.93	36.24703933	-107.65369699
20,294.28	89.73	315.074	5,390.00	11,144.48	-12,673.85	1,912,253.85	1,226,447.35	36.24722000	-107.65392600
PBHL/TD @ 20294.28 MD 5390.00 TVD									



Planning Report - Geographic

Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site:	Betonnie Tsosie Wash (101,103,105 & 107)	North Reference:	Grid
Well:	Betonnie Tsosie Wash Unit 105 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
BTW 105 vs=0 - plan misses target center by 2317.35ft at 4612.19ft MD (3938.74 TVD, 798.98 N, -1780.90 E) - Point	0.00	0.000	5,310.00	-778.96	-780.97	1,900,330.43	1,238,340.21	36.21494057	-107.61303476
BTW 105 FTP 358 FSL - plan misses target center by 17.89ft at 6502.91ft MD (5293.02 TVD, 1382.72 N, -2937.11 E) - Point	0.00	0.000	5,310.00	1,378.72	-2,933.12	1,902,488.11	1,236,188.06	36.22078300	-107.62043200
BTW 105 LTP 660 FNL - plan hits target center - Point	0.00	0.000	5,390.00	11,144.48	-12,673.85	1,912,253.85	1,226,447.35	36.24722000	-107.65392600

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
350.00	350.00	9-5/8" Surface Casing	9-5/8	12-1/4	
6,646.91	5,323.37	7" Intermediate Casing	7	8-3/4	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,066.02	1,066.00	Ojo Alamo		0.170	315.074	
1,186.32	1,186.03	Kirtland		0.170	315.074	
1,358.19	1,356.09	Fruitland		0.170	315.074	
1,707.43	1,691.36	Pictured Cliffs		0.170	315.074	
1,877.05	1,846.55	Lewis		0.170	315.074	
2,168.51	2,096.96	Chacra		0.170	315.074	
3,614.26	3,189.58	Cliff House		0.170	315.074	
4,375.40	3,760.98	Menefee		0.170	315.074	
4,782.68	4,066.72	Point Lookout		0.170	315.074	
5,063.10	4,277.24	Mancos		0.170	315.074	
5,510.44	4,613.05	MNCS_A		0.170	315.074	
5,650.65	4,718.31	MNCS_B		0.170	315.074	
5,764.15	4,803.52	MNCS_C		0.170	315.074	
5,817.57	4,843.62	MNCS_Cms		0.170	315.074	
5,991.16	4,973.94	MNCS_D		0.170	315.074	
6,144.72	5,089.22	MNCS_E		0.170	315.074	
6,220.12	5,144.36	MNCS_F		0.170	315.074	
6,339.53	5,219.63	MNCS_G		0.170	315.074	
6,466.60	5,279.96	MNCS_H		0.170	315.074	
6,525.56	5,300.12	MNCS_I		0.170	315.074	



Planning Report - Geographic

Database:	DT_Jul1724_v17	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site:	Betonnie Tsosie Wash (101,103,105 & 107)	North Reference:	Grid
Well:	Betonnie Tsosie Wash Unit 105 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,000.00	1,000.00	0.00	0.00	KOP Begin 3°/100' build
2,378.28	2,261.72	194.89	-434.40	Begin 41.35° tangent
6,164.81	5,104.29	1,218.84	-2,716.75	Begin 10°/100' build/turn
6,496.91	5,291.00	1,378.72	-2,933.12	Begin 10°/100' build
6,694.20	5,325.55	1,515.54	-3,069.59	Begin 89.73° lateral
20,294.28	5,390.00	11,144.48	-12,673.85	PBHL/TD @ 20294.28 MD 5390.00 TVD



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Reference Site:	Betonnie Tsosie Wash (101,103,105 & 107)	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Betonnie Tsosie Wash Unit 105 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Reference	rev0		
Filter type:	GLOBAL FILTER APPLIED: All wellpaths within 200'+ 100/1000 of reference		
Interpolation Method:	MD Interval 100.00ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 2,229.43ft	Error Surface:	Ellipsoid Separation
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	1/26/2025		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	20,293.54	rev0 (Original Hole)	MWD	OWSG MWD - Standard	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Betonnie Tsosie Wash (101,103,105 & 107)						
Betonnie Tsosie Wash Unit 101 H - Original Hole - rev0	1,000.00	1,000.00	40.02	33.02	5.716	CC
Betonnie Tsosie Wash Unit 101 H - Original Hole - rev0	1,100.00	1,098.53	40.30	32.59	5.232	ES
Betonnie Tsosie Wash Unit 101 H - Original Hole - rev0	1,200.00	1,196.07	43.46	35.08	5.186	SF
Betonnie Tsosie Wash Unit 103 H - Original Hole - rev0	1,000.00	1,000.00	19.87	12.86	2.838	CC, ES
Betonnie Tsosie Wash Unit 103 H - Original Hole - rev0	1,100.00	1,099.07	20.60	12.90	2.675	SF
Betonnie Tsosie Wash Unit 107 H - Original Hole - rev0	704.45	704.83	17.06	12.18	3.497	CC, ES, SF
Betonnie Tsosie Wash Unit 731						
Betonnie Tsosie Wash Unit 731H - Original Hole - Survey	10,194.48	15,587.00	1,238.10	854.90	3.231	CC
Betonnie Tsosie Wash Unit 731H - Original Hole - Survey	10,300.00	15,539.43	1,241.67	854.21	3.205	ES, SF
North Alamito Unit (102 & 106)						
North Alamito Unit 102 H - Original Hole - MWD surveys	913.75	913.79	58.29	52.73	10.494	CC
North Alamito Unit 102 H - Original Hole - MWD surveys	1,000.00	999.30	58.85	52.68	9.547	ES
North Alamito Unit 102 H - Original Hole - MWD surveys	2,200.00	2,175.67	144.28	125.57	7.711	SF
North Alamito Unit 106 H - Original Hole - MWD surveys	0.00	0.00	79.82			
North Alamito Unit 106 H - Original Hole - MWD surveys	500.00	499.80	80.22	77.55	30.054	ES
North Alamito Unit 106 H - Original Hole - MWD surveys	3,500.00	3,361.33	324.46	273.32	6.345	SF

Offset Design:	Betonnie Tsosie Wash (101,103,105 & 107) - Betonnie Tsosie Wash Unit 101 H - Original Hole - rev0												Offset Site Error:	0.00 ft
Survey Program:	0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-12.408	39.08	-8.60	40.02					
100.00	100.00	100.00	100.00	0.27	0.27	-12.408	39.08	-8.60	40.02	39.47	0.55	72.960		
200.00	200.00	200.00	200.00	0.63	0.63	-12.408	39.08	-8.60	40.02	38.75	1.27	31.623		
300.00	300.00	300.00	300.00	0.99	0.99	-12.408	39.08	-8.60	40.02	38.03	1.98	20.186		
400.00	400.00	400.00	400.00	1.35	1.35	-12.408	39.08	-8.60	40.02	37.32	2.70	14.825		
500.00	500.00	500.00	500.00	1.71	1.71	-12.408	39.08	-8.60	40.02	36.60	3.42	11.713		
600.00	600.00	600.00	600.00	2.07	2.07	-12.408	39.08	-8.60	40.02	35.88	4.13	9.682		
700.00	700.00	700.00	700.00	2.43	2.43	-12.408	39.08	-8.60	40.02	35.17	4.85	8.251		
800.00	800.00	800.00	800.00	2.78	2.78	-12.408	39.08	-8.60	40.02	34.45	5.57	7.188		
900.00	900.00	900.00	900.00	3.14	3.14	-12.408	39.08	-8.60	40.02	33.73	6.28	6.368		

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



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Reference Site:	Betonnie Tsosie Wash (101,103,105 & 107)	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Betonnie Tsosie Wash Unit 105 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Betonnie Tsosie Wash (101,103,105 & 107) - Betonnie Tsosie Wash Unit 101 H - Original Hole - rev0													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
1,000.00	1,000.00	1,000.00	1,000.00	3.50	3.50	-12.408		39.08	-8.60	40.02	33.02	7.00	5.716 CC	
1,004.45	1,004.45	1,004.39	1,004.39	3.52	3.52	53.441		39.09	-8.60	40.02	32.98	7.03	5.690	
1,100.00	1,099.95	1,098.53	1,098.48	3.85	3.85	59.170		41.07	-7.02	40.30	32.59	7.70	5.232 ES	
1,200.00	1,199.63	1,196.07	1,195.73	4.21	4.20	74.947		46.97	-2.36	43.46	35.08	8.38	5.186 SF	
1,300.00	1,298.77	1,291.69	1,290.56	4.57	4.55	94.018		56.52	5.19	54.56	45.52	9.03	6.039	
1,400.00	1,397.08	1,384.55	1,381.95	4.96	4.90	108.747		69.34	15.34	76.24	66.57	9.67	7.882	
1,500.00	1,494.31	1,473.88	1,469.04	5.37	5.26	117.945		84.95	27.69	107.79	97.48	10.31	10.453	
1,600.00	1,590.18	1,559.11	1,551.15	5.82	5.62	123.387		102.81	41.81	147.79	136.85	10.94	13.504	
1,700.00	1,684.43	1,644.27	1,632.37	6.33	6.01	126.905		122.92	57.72	194.52	182.86	11.66	16.686	
1,800.00	1,776.81	1,729.44	1,713.51	6.90	6.42	129.591		143.21	73.77	245.13	232.70	12.43	19.716	
1,900.00	1,867.06	1,812.22	1,792.38	7.56	6.83	131.659		162.93	89.37	299.37	286.15	13.22	22.638	
2,000.00	1,954.93	1,892.39	1,868.76	8.30	7.24	133.260		182.03	104.48	357.21	343.18	14.03	25.463	
2,100.00	2,040.18	1,969.73	1,942.44	9.14	7.65	134.480		200.45	119.05	418.59	403.75	14.84	28.202	
2,200.00	2,122.59	2,044.02	2,013.23	10.09	8.04	135.368		218.15	133.05	483.44	467.78	15.66	30.871	
2,300.00	2,201.91	2,115.07	2,080.92	11.15	8.43	135.950		235.08	146.44	551.66	535.18	16.48	33.482	
2,400.00	2,278.03	2,182.76	2,145.41	12.33	8.80	136.706		251.21	159.20	623.06	605.77	17.29	36.037	
2,500.00	2,353.10	2,249.37	2,208.87	13.57	9.16	138.754		267.07	171.75	695.77	677.68	18.09	38.462	
2,600.00	2,428.17	2,315.97	2,272.33	14.84	9.53	140.433		282.94	184.30	768.83	749.94	18.90	40.689	
2,700.00	2,503.24	2,382.58	2,335.79	16.14	9.91	141.832		298.81	196.86	842.16	822.46	19.71	42.736	
2,800.00	2,578.31	2,449.19	2,399.25	17.46	10.28	143.014		314.68	209.41	915.70	895.18	20.52	44.620	
2,900.00	2,653.38	2,515.79	2,462.71	18.79	10.66	144.026		330.55	221.96	989.39	968.05	21.34	46.357	
3,000.00	2,728.45	2,582.40	2,526.17	20.14	11.04	144.900		346.42	234.51	1,063.21	1,041.04	22.17	47.959	
3,100.00	2,803.52	2,649.01	2,589.63	21.49	11.42	145.664		362.28	247.06	1,137.13	1,114.13	23.00	49.440	
3,200.00	2,878.59	2,715.61	2,653.09	22.86	11.81	146.336		378.15	259.62	1,211.13	1,187.29	23.84	50.812	
3,300.00	2,953.66	2,782.22	2,716.55	24.23	12.19	146.931		394.02	272.17	1,285.20	1,260.52	24.67	52.085	
3,400.00	3,028.73	2,848.83	2,780.01	25.60	12.58	147.463		409.89	284.72	1,359.32	1,333.81	25.52	53.270	
3,500.00	3,103.80	2,915.43	2,843.46	26.99	12.96	147.941		425.76	297.27	1,433.50	1,407.14	26.36	54.375	
3,600.00	3,178.88	2,982.04	2,906.92	28.37	13.35	148.372		441.62	309.83	1,507.71	1,480.50	27.21	55.407	
3,700.00	3,253.95	3,048.65	2,970.38	29.76	13.74	148.764		457.49	322.38	1,581.96	1,553.90	28.06	56.371	
3,800.00	3,329.02	3,115.25	3,033.84	31.16	14.13	149.120		473.36	334.93	1,656.24	1,627.33	28.92	57.274	
3,900.00	3,404.09	3,181.86	3,097.30	32.55	14.52	149.446		489.23	347.48	1,730.55	1,700.78	29.78	58.121	
4,000.00	3,479.16	3,248.47	3,160.76	33.95	14.91	149.746		505.10	360.03	1,804.88	1,774.25	30.63	58.916	
4,100.00	3,554.23	3,315.07	3,224.22	35.35	15.31	150.022		520.97	372.59	1,879.23	1,847.74	31.50	59.665	
4,200.00	3,629.30	3,381.68	3,287.68	36.75	15.70	150.277		536.83	385.14	1,953.60	1,921.24	32.36	60.371	
4,300.00	3,704.37	3,448.29	3,351.14	38.16	16.09	150.514		552.70	397.69	2,027.99	1,994.76	33.23	61.037	
4,400.00	3,779.44	3,514.89	3,414.60	39.56	16.49	150.734		568.57	410.24	2,102.39	2,068.29	34.09	61.666	
4,500.00	3,854.51	3,581.50	3,478.06	40.97	16.88	150.939		584.44	422.80	2,176.80	2,141.84	34.96	62.262	

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



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Bettonnie Tsosie Wash Unit 105 H
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Reference Site:	Bettonnie Tsosie Wash (101,103,105 & 107)	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Bettonnie Tsosie Wash Unit 105 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Bettonnie Tsosie Wash (101,103,105 & 107) - Bettonnie Tsosie Wash Unit 103 H - Original Hole - rev0												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
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	-12.942	19.36	-4.45	19.87				
100.00	100.00	100.00	100.00	0.27	0.27	-12.942	19.36	-4.45	19.87	19.32	0.55	36.220	
200.00	200.00	200.00	200.00	0.63	0.63	-12.942	19.36	-4.45	19.87	18.60	1.27	15.699	
300.00	300.00	300.00	300.00	0.99	0.99	-12.942	19.36	-4.45	19.87	17.88	1.98	10.021	
400.00	400.00	400.00	400.00	1.35	1.35	-12.942	19.36	-4.45	19.87	17.17	2.70	7.359	
500.00	500.00	500.00	500.00	1.71	1.71	-12.942	19.36	-4.45	19.87	16.45	3.42	5.815	
600.00	600.00	600.00	600.00	2.07	2.07	-12.942	19.36	-4.45	19.87	15.73	4.13	4.806	
700.00	700.00	700.00	700.00	2.43	2.43	-12.942	19.36	-4.45	19.87	15.02	4.85	4.096	
800.00	800.00	800.00	800.00	2.78	2.78	-12.942	19.36	-4.45	19.87	14.30	5.57	3.568	
900.00	900.00	900.00	900.00	3.14	3.14	-12.942	19.36	-4.45	19.87	13.58	6.28	3.161	
1,000.00	1,000.00	1,000.00	1,000.00	3.50	3.50	-12.942	19.36	-4.45	19.87	12.86	7.00	2.838 CC, ES	
1,100.00	1,099.95	1,099.07	1,099.03	3.85	3.85	55.314	21.31	-6.12	20.60	12.90	7.70	2.675 SF	
1,200.00	1,199.63	1,198.07	1,197.72	4.21	4.21	61.576	27.15	-11.13	23.01	14.62	8.39	2.743	
1,300.00	1,298.77	1,296.93	1,295.73	4.57	4.57	69.367	36.85	-19.44	27.47	18.39	9.09	3.024	
1,400.00	1,397.08	1,395.56	1,392.74	4.96	4.95	76.616	50.36	-31.00	34.29	24.47	9.82	3.492	
1,500.00	1,494.31	1,493.91	1,488.42	5.37	5.35	82.406	67.59	-45.77	43.55	32.94	10.62	4.102	
1,600.00	1,590.18	1,591.91	1,582.48	5.82	5.78	86.706	88.46	-63.65	55.20	43.72	11.49	4.806	
1,700.00	1,684.43	1,689.50	1,674.62	6.33	6.26	89.803	112.86	-84.55	69.15	56.70	12.45	5.552	
1,800.00	1,776.81	1,787.61	1,765.87	6.90	6.79	92.686	140.24	-108.00	84.95	71.39	13.56	6.266	
1,900.00	1,867.06	1,885.86	1,857.12	7.56	7.36	97.275	167.89	-131.69	101.62	86.83	14.79	6.872	
2,000.00	1,954.93	1,983.47	1,947.78	8.30	7.94	102.825	195.36	-155.22	119.93	103.84	16.09	7.453	
2,100.00	2,040.18	2,080.16	2,037.59	9.14	8.54	108.689	222.57	-178.54	140.83	123.41	17.42	8.086	
2,200.00	2,122.59	2,175.68	2,126.31	10.09	9.15	114.422	249.45	-201.57	165.12	146.40	18.72	8.823	
2,300.00	2,201.91	2,269.76	2,213.69	11.15	9.76	119.741	275.93	-224.25	193.40	173.45	19.96	9.692	
2,400.00	2,278.03	2,362.19	2,299.53	12.33	10.37	124.673	301.94	-246.54	226.02	204.89	21.13	10.699	
2,500.00	2,353.10	2,454.06	2,384.86	13.57	10.98	129.161	327.80	-268.69	261.09	238.83	22.26	11.732	
2,600.00	2,428.17	2,545.93	2,470.19	14.84	11.60	132.604	353.65	-290.84	297.27	273.89	23.38	12.714	
2,700.00	2,503.24	2,637.80	2,555.52	16.14	12.22	135.310	379.51	-312.99	334.21	309.70	24.51	13.635	
2,800.00	2,578.31	2,729.67	2,640.84	17.46	12.85	137.485	405.36	-335.14	371.68	346.03	25.65	14.490	
2,900.00	2,653.38	2,821.54	2,726.17	18.79	13.48	139.265	431.22	-357.29	409.52	382.72	26.80	15.282	
3,000.00	2,728.45	2,913.40	2,811.50	20.14	14.12	140.747	457.07	-379.44	447.65	419.70	27.95	16.015	
3,100.00	2,803.52	3,005.27	2,896.82	21.49	14.75	141.998	482.93	-401.59	486.00	456.89	29.12	16.692	
3,200.00	2,878.59	3,097.14	2,982.15	22.86	15.39	143.067	508.78	-423.74	524.52	494.24	30.29	17.318	
3,300.00	2,953.66	3,189.01	3,067.48	24.23	16.04	143.991	534.64	-445.89	563.18	531.72	31.47	17.898	
3,400.00	3,028.73	3,280.88	3,152.81	25.60	16.68	144.797	560.50	-468.04	601.95	569.30	32.65	18.436	
3,500.00	3,103.80	3,372.75	3,238.13	26.99	17.33	145.505	586.35	-490.19	640.80	606.96	33.84	18.937	
3,600.00	3,178.88	3,464.62	3,323.46	28.37	17.98	146.134	612.21	-512.34	679.73	644.70	35.03	19.402	
3,700.00	3,253.95	3,556.48	3,408.79	29.76	18.63	146.694	638.06	-534.49	718.72	682.49	36.23	19.837	
3,800.00	3,329.02	3,648.35	3,494.12	31.16	19.28	147.197	663.92	-556.64	757.77	720.33	37.44	20.242	
3,900.00	3,404.09	3,740.22	3,579.44	32.55	19.93	147.651	689.77	-578.79	796.86	758.21	38.64	20.622	
4,000.00	3,479.16	3,832.09	3,664.77	33.95	20.59	148.062	715.63	-600.94	835.98	796.13	39.85	20.978	
4,100.00	3,554.23	3,923.96	3,750.10	35.35	21.24	148.437	741.48	-623.09	875.14	834.08	41.06	21.312	
4,200.00	3,629.30	4,015.83	3,835.42	36.75	21.90	148.780	767.34	-645.24	914.33	872.06	42.28	21.626	
4,300.00	3,704.37	4,107.70	3,920.75	38.16	22.55	149.094	793.19	-667.39	953.55	910.05	43.50	21.923	
4,400.00	3,779.44	4,199.57	4,006.08	39.56	23.21	149.384	819.05	-689.54	992.79	948.07	44.72	22.202	
4,500.00	3,854.51	4,291.43	4,091.41	40.97	23.87	149.652	844.90	-711.69	1,032.05	986.11	45.94	22.466	
4,600.00	3,929.58	4,383.30	4,176.73	42.38	24.52	149.900	870.76	-733.84	1,071.32	1,024.16	47.16	22.716	
4,700.00	4,004.65	4,475.17	4,262.06	43.79	25.18	150.131	896.61	-755.99	1,110.61	1,062.22	48.39	22.952	
4,800.00	4,079.72	4,567.04	4,347.39	45.20	25.84	150.346	922.47	-778.14	1,149.92	1,100.30	49.62	23.177	
4,900.00	4,154.79	4,658.91	4,432.72	46.61	26.50	150.547	948.32	-800.29	1,189.24	1,138.39	50.84	23.390	
5,000.00	4,229.87	4,750.78	4,518.04	48.02	27.16	150.735	974.18	-822.44	1,228.57	1,176.49	52.07	23.592	

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



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Bettonnie Tsosie Wash Unit 105 H
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Reference Site:	Bettonnie Tsosie Wash (101,103,105 & 107)	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Bettonnie Tsosie Wash Unit 105 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Bettonnie Tsosie Wash (101,103,105 & 107) - Bettonnie Tsosie Wash Unit 103 H - Original Hole - rev0													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,100.00	4,304.94	4,842.65	4,603.37	49.43	27.82	150.911	1,000.03	-844.59	1,267.91	1,214.60	53.31	23.785		
5,200.00	4,380.01	4,934.51	4,688.70	50.84	28.48	151.077	1,025.89	-866.74	1,307.26	1,252.72	54.54	23.969		
5,300.00	4,455.08	5,021.82	5,331.40	52.26	45.92	132.184	1,682.54	-1,519.71	1,308.12	1,235.47	72.65	18.005		
5,400.00	4,530.15	5,264.21	5,331.58	53.67	47.16	129.986	1,725.83	-1,564.64	1,276.50	1,198.73	77.77	16.413		
5,500.00	4,605.22	5,326.60	5,331.77	55.09	48.41	127.745	1,769.12	-1,609.56	1,248.98	1,165.95	83.03	15.043		
5,600.00	4,680.29	5,389.00	5,331.95	56.50	49.67	125.466	1,812.41	-1,654.49	1,225.83	1,137.47	88.36	13.873		
5,700.00	4,755.36	5,451.39	5,332.14	57.92	50.94	123.155	1,855.70	-1,699.42	1,207.30	1,113.61	93.69	12.886		
5,800.00	4,830.43	5,513.78	5,332.32	59.33	52.22	120.819	1,898.99	-1,744.35	1,193.61	1,094.67	98.94	12.064		
5,900.00	4,905.50	5,576.17	5,332.51	60.75	53.51	118.466	1,942.28	-1,789.27	1,184.93	1,080.92	104.01	11.393		
6,000.00	4,980.57	5,638.56	5,332.70	62.17	54.81	116.103	1,985.57	-1,834.20	1,181.36	1,072.54	108.82	10.856		
6,019.08	4,994.90	5,650.46	5,332.73	62.44	55.06	115.652	1,993.83	-1,842.77	1,181.27	1,071.57	109.70	10.768		
6,100.00	5,055.64	5,700.95	5,332.88	63.58	56.11	113.739	2,028.86	-1,879.13	1,182.96	1,069.67	113.28	10.442		
6,200.00	5,130.13	5,764.15	5,333.07	65.02	57.44	108.846	2,072.72	-1,924.64	1,189.39	1,072.02	117.37	10.134		
6,300.00	5,196.55	5,837.08	5,333.29	66.63	58.98	100.941	2,123.32	-1,977.16	1,196.31	1,074.96	121.35	9.858		
6,400.00	5,251.08	5,902.41	5,333.53	68.41	60.75	95.190	2,181.14	-2,037.16	1,200.56	1,075.19	125.37	9.576		
6,500.00	5,292.05	5,965.10	5,333.81	70.30	62.70	91.497	2,244.41	-2,102.82	1,200.17	1,070.72	129.46	9.271		
6,600.00	5,317.38	6,028.26	5,334.09	72.26	64.77	90.598	2,311.48	-2,172.43	1,197.65	1,064.00	133.64	8.962		
6,700.00	5,325.57	6,091.80	5,334.39	74.28	66.92	90.417	2,380.55	-2,244.11	1,195.59	1,057.67	137.91	8.669		
6,800.00	5,326.05	6,154.78	5,334.69	76.30	69.09	90.409	2,449.93	-2,316.11	1,193.60	1,051.39	142.21	8.393		
6,900.00	5,326.52	6,217.76	5,334.98	78.34	71.27	90.402	2,519.30	-2,388.10	1,191.62	1,045.09	146.53	8.132		
7,000.00	5,327.00	6,280.74	5,335.28	80.40	73.45	90.394	2,588.67	-2,460.10	1,189.63	1,038.77	150.86	7.886		
7,100.00	5,327.47	6,343.72	5,335.58	82.47	75.65	90.386	2,658.04	-2,532.09	1,187.65	1,032.44	155.21	7.652		
7,200.00	5,327.94	6,406.70	5,335.88	84.55	77.85	90.378	2,727.42	-2,604.09	1,185.67	1,026.09	159.58	7.430		
7,300.00	5,328.42	6,469.68	5,336.18	86.64	80.06	90.370	2,796.79	-2,676.08	1,183.68	1,019.73	163.96	7.220		
7,400.00	5,328.89	6,532.66	5,336.47	88.74	82.27	90.362	2,866.16	-2,748.08	1,181.70	1,013.35	168.35	7.019		
7,500.00	5,329.37	6,595.64	5,336.77	90.85	84.49	90.354	2,935.54	-2,820.08	1,179.71	1,006.96	172.75	6.829		
7,600.00	5,329.84	6,658.62	5,337.07	92.97	86.72	90.346	3,004.91	-2,892.07	1,177.73	1,000.56	177.17	6.648		
7,700.00	5,330.31	6,721.60	5,337.37	95.10	88.95	90.338	3,074.28	-2,964.07	1,175.75	994.15	181.59	6.475		
7,800.00	5,330.79	6,784.58	5,337.66	97.24	91.18	90.330	3,143.66	-3,036.06	1,173.76	987.73	186.03	6.310		
7,900.00	5,331.26	6,847.56	5,337.96	99.39	93.42	90.322	3,213.03	-3,108.06	1,171.78	981.30	190.47	6.152		
8,000.00	5,331.74	6,910.54	5,338.26	101.54	95.66	90.314	3,282.40	-3,180.05	1,169.79	974.87	194.93	6.001		
8,100.00	5,332.21	6,973.53	5,338.56	103.70	97.91	90.306	3,351.77	-3,252.05	1,167.81	968.42	199.39	5.857		
8,200.00	5,332.68	7,036.51	5,338.85	105.86	100.16	90.298	3,421.15	-3,324.04	1,165.83	961.97	203.85	5.719		
8,300.00	5,333.16	7,099.49	5,339.15	108.03	102.41	90.290	3,490.52	-3,396.04	1,163.84	955.51	208.33	5.587		
8,400.00	5,333.63	7,162.47	5,339.45	110.21	104.67	90.282	3,559.89	-3,468.03	1,161.86	949.05	212.81	5.460		
8,500.00	5,334.11	7,225.45	5,339.75	112.39	106.92	90.273	3,629.27	-3,540.03	1,159.87	942.58	217.30	5.338		
8,600.00	5,334.58	7,288.43	5,340.04	114.58	109.19	90.265	3,698.64	-3,612.03	1,157.89	936.10	221.79	5.221		
8,700.00	5,335.05	7,351.41	5,340.34	116.77	111.45	90.257	3,768.01	-3,684.02	1,155.91	929.62	226.28	5.108		
8,800.00	5,335.53	7,414.39	5,340.64	118.96	113.71	90.248	3,837.39	-3,756.02	1,153.92	923.14	230.79	5.000		
8,900.00	5,336.00	7,477.37	5,340.94	121.16	115.98	90.240	3,906.76	-3,828.01	1,151.94	916.65	235.29	4.896		
9,000.00	5,336.47	7,540.35	5,341.23	123.37	118.25	90.232	3,976.13	-3,900.01	1,149.96	910.15	239.80	4.795		
9,100.00	5,336.95	7,603.33	5,341.53	125.57	120.52	90.223	4,045.50	-3,972.00	1,147.97	903.65	244.32	4.699		
9,200.00	5,337.42	7,666.31	5,341.83	127.78	122.79	90.215	4,114.88	-4,044.00	1,145.99	897.15	248.84	4.605		
9,300.00	5,337.90	7,729.29	5,342.13	130.00	125.07	90.207	4,184.25	-4,115.99	1,144.00	890.64	253.36	4.515		
9,400.00	5,338.37	7,792.27	5,342.42	132.21	127.34	90.198	4,253.62	-4,187.99	1,142.02	884.13	257.89	4.428		
9,500.00	5,338.84	7,855.25	5,342.72	134.43	129.62	90.190	4,323.00	-4,259.98	1,140.04	877.62	262.42	4.344		
9,600.00	5,339.32	7,918.23	5,343.02	136.66	131.90	90.181	4,392.37	-4,331.98	1,138.05	871.10	266.95	4.263		
9,700.00	5,339.79	7,981.21	5,343.32	138.88	134.18	90.172	4,461.74	-4,403.97	1,136.07	864.58	271.49	4.185		
9,800.00	5,340.27	8,044.19	5,343.61	141.11	136.46	90.164	4,531.11	-4,475.97	1,134.09	858.06	276.03	4.109		
9,900.00	5,340.74	8,107.17	5,343.91	143.34	138.75	90.155	4,600.49	-4,547.97	1,132.10	851.54	280.57	4.035		
10,000.00	5,341.21	8,170.15	5,344.21	145.57	141.03	90.147	4,669.86	-4,619.96	1,130.12	845.01	285.11	3.964		

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



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Reference Site:	Betonnie Tsosie Wash (101,103,105 & 107)	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Betonnie Tsosie Wash Unit 105 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Betonnie Tsosie Wash (101,103,105 & 107) - Betonnie Tsosie Wash Unit 103 H - Original Hole - rev0													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
10,100.00	5,341.69	10,607.13	5,344.51	147.81	143.32	90.138	4,739.23	-4,691.96	1,128.14	838.48	289.66	3.895		
10,200.00	5,342.16	10,707.11	5,344.81	150.04	145.60	90.129	4,808.61	-4,763.95	1,126.15	831.95	294.21	3.828		
10,300.00	5,342.64	10,807.09	5,345.10	152.28	147.89	90.120	4,877.98	-4,835.95	1,124.17	825.41	298.76	3.763		
10,400.00	5,343.11	10,907.07	5,345.40	154.52	150.18	90.112	4,947.35	-4,907.94	1,122.19	818.88	303.31	3.700		
10,500.00	5,343.58	11,007.05	5,345.70	156.77	152.47	90.103	5,016.73	-4,979.94	1,120.20	812.34	307.87	3.639		
10,600.00	5,344.06	11,107.03	5,346.00	159.01	154.76	90.094	5,086.10	-5,051.93	1,118.22	805.80	312.42	3.579		
10,700.00	5,344.53	11,207.01	5,346.29	161.26	157.05	90.085	5,155.47	-5,123.93	1,116.24	799.25	316.98	3.521		
10,800.00	5,345.01	11,306.99	5,346.59	163.50	159.34	90.076	5,224.84	-5,195.92	1,114.25	792.71	321.54	3.465		
10,900.00	5,345.48	11,406.97	5,346.89	165.75	161.63	90.067	5,294.22	-5,267.92	1,112.27	786.17	326.10	3.411		
11,000.00	5,345.95	11,506.95	5,347.19	168.01	163.92	90.058	5,363.59	-5,339.92	1,110.29	779.62	330.67	3.358		
11,100.00	5,346.43	11,606.93	5,347.48	170.26	166.22	90.049	5,432.96	-5,411.91	1,108.30	773.07	335.23	3.306		
11,200.00	5,346.90	11,706.91	5,347.78	172.51	168.51	90.040	5,502.34	-5,483.91	1,106.32	766.52	339.80	3.256		
11,300.00	5,347.37	11,806.89	5,348.08	174.77	170.81	90.031	5,571.71	-5,555.90	1,104.34	759.97	344.37	3.207		
11,400.00	5,347.85	11,906.87	5,348.38	177.02	173.10	90.022	5,641.08	-5,627.90	1,102.35	753.41	348.94	3.159		
11,500.00	5,348.32	12,006.85	5,348.67	179.28	175.40	90.013	5,710.46	-5,699.89	1,100.37	746.86	353.51	3.113		
11,600.00	5,348.80	12,106.83	5,348.97	181.54	177.70	90.004	5,779.83	-5,771.89	1,098.39	740.31	358.08	3.067		
11,700.00	5,349.27	12,206.81	5,349.27	183.80	180.00	89.995	5,849.20	-5,843.88	1,096.41	733.75	362.66	3.023		
11,800.00	5,349.74	12,306.79	5,349.57	186.06	182.29	89.985	5,918.57	-5,915.88	1,094.42	727.19	367.23	2.980		
11,900.00	5,350.22	12,406.77	5,349.86	188.32	184.59	89.976	5,987.95	-5,987.87	1,092.44	720.63	371.81	2.938		
11,967.24	5,350.54	12,452.36	5,350.00	189.84	185.64	89.972	6,019.58	-6,020.70	1,091.32	717.53	373.79	2.920		
12,000.00	5,350.69	12,452.36	5,350.00	190.59	185.64	89.972	6,019.58	-6,020.70	1,091.81	718.58	373.23	2.925		
12,100.00	5,351.17	12,452.36	5,350.00	192.85	185.64	89.972	6,019.58	-6,020.70	1,099.37	730.84	368.52	2.983		
12,200.00	5,351.64	12,452.36	5,350.00	195.11	185.64	89.972	6,019.58	-6,020.70	1,115.87	756.11	359.76	3.102		
12,300.00	5,352.11	12,452.36	5,350.00	197.38	185.64	89.972	6,019.58	-6,020.70	1,140.93	793.13	347.80	3.280		
12,400.00	5,352.59	12,452.36	5,350.00	199.65	185.64	89.972	6,019.58	-6,020.70	1,174.00	840.36	333.64	3.519		
12,500.00	5,353.06	12,452.36	5,350.00	201.92	185.64	89.972	6,019.58	-6,020.70	1,214.42	896.18	318.24	3.816		
12,600.00	5,353.54	12,452.36	5,350.00	204.18	185.64	89.972	6,019.58	-6,020.70	1,261.50	959.08	302.41	4.171		
12,700.00	5,354.01	12,452.36	5,350.00	206.45	185.64	89.972	6,019.58	-6,020.70	1,314.50	1,027.78	286.73	4.584		
12,800.00	5,354.48	12,452.36	5,350.00	208.72	185.64	89.972	6,019.58	-6,020.70	1,372.76	1,101.17	271.59	5.055		
12,900.00	5,354.96	12,452.36	5,350.00	210.99	185.64	89.972	6,019.58	-6,020.70	1,435.63	1,178.39	257.23	5.581		
13,000.00	5,355.43	12,452.36	5,350.00	213.27	185.64	89.972	6,019.58	-6,020.70	1,502.52	1,258.73	243.79	6.163		
13,100.00	5,355.91	12,452.36	5,350.00	215.54	185.64	89.972	6,019.58	-6,020.70	1,572.94	1,341.64	231.30	6.800		
13,200.00	5,356.38	12,452.36	5,350.00	217.81	185.64	89.972	6,019.58	-6,020.70	1,646.42	1,426.64	219.77	7.491		
13,300.00	5,356.85	12,452.36	5,350.00	220.08	185.64	89.972	6,019.58	-6,020.70	1,722.57	1,513.41	209.16	8.236		
13,400.00	5,357.33	12,452.36	5,350.00	222.36	185.64	89.972	6,019.58	-6,020.70	1,801.05	1,601.65	199.40	9.032		
13,500.00	5,357.80	12,452.36	5,350.00	224.63	185.64	89.972	6,019.58	-6,020.70	1,881.58	1,691.13	190.45	9.880		
13,600.00	5,358.27	12,452.36	5,350.00	226.91	185.64	89.972	6,019.58	-6,020.70	1,963.90	1,781.66	182.24	10.777		
13,700.00	5,358.75	12,452.36	5,350.00	229.18	185.64	89.972	6,019.58	-6,020.70	2,047.79	1,873.10	174.69	11.722		
13,800.00	5,359.22	12,452.36	5,350.00	231.46	185.64	89.972	6,019.58	-6,020.70	2,133.07	1,965.31	167.77	12.715		
13,900.00	5,359.70	12,452.36	5,350.00	233.74	185.64	89.972	6,019.58	-6,020.70	2,219.58	2,058.19	161.40	13.752		

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



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Reference Site:	Betonnie Tsosie Wash (101,103,105 & 107)	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Betonnie Tsosie Wash Unit 105 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Betonnie Tsosie Wash (101,103,105 & 107) - Betonnie Tsosie Wash Unit 107 H - Original Hole - rev0												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
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	167.303	-19.72	4.44	20.22				
100.00	100.00	100.00	100.00	0.27	0.27	167.303	-19.72	4.44	20.22	19.67	0.55	36.865	
200.00	200.00	200.00	200.00	0.63	0.63	167.303	-19.72	4.44	20.22	18.95	1.27	15.978	
300.00	300.00	300.00	300.00	0.99	0.99	167.303	-19.72	4.44	20.22	18.24	1.98	10.200	
400.00	400.00	400.00	400.00	1.35	1.35	167.303	-19.72	4.44	20.22	17.52	2.70	7.491	
500.00	500.00	500.00	500.00	1.71	1.71	167.303	-19.72	4.44	20.22	16.80	3.42	5.919	
600.00	600.00	600.48	600.43	2.07	2.06	174.065	-18.83	1.96	18.94	14.81	4.13	4.585	
700.00	700.00	700.40	700.04	2.43	2.42	-161.403	-16.17	-5.44	17.06	12.21	4.84	3.521	
704.45	704.45	704.83	704.44	2.44	2.44	-159.829	-16.01	-5.88	17.06	12.18	4.88	3.497	CC, ES, SF
800.00	800.00	799.24	798.02	2.78	2.79	-123.896	-11.80	-17.57	21.26	15.71	5.55	3.830	
900.00	900.00	896.49	893.65	3.14	3.18	-99.709	-5.84	-34.14	35.22	29.00	6.21	5.667	
1,000.00	1,000.00	991.70	986.29	3.50	3.60	-88.343	1.59	-54.79	56.50	49.64	6.86	8.239	
1,100.00	1,099.95	1,085.19	1,076.07	3.85	4.06	-17.003	10.39	-79.26	81.03	73.56	7.47	10.844	
1,200.00	1,199.63	1,177.58	1,163.46	4.21	4.57	-14.273	20.54	-107.47	105.66	97.60	8.06	13.109	
1,300.00	1,298.77	1,268.95	1,248.34	4.57	5.14	-12.740	31.98	-139.25	130.08	121.44	8.64	15.054	
1,400.00	1,397.08	1,359.32	1,330.62	4.96	5.77	-11.826	44.63	-174.41	154.15	144.94	9.22	16.725	
1,500.00	1,494.31	1,448.77	1,410.22	5.37	6.47	-11.272	58.43	-212.78	177.80	168.01	9.79	18.166	
1,600.00	1,590.18	1,537.33	1,487.07	5.82	7.24	-10.945	73.32	-254.18	200.96	190.60	10.36	19.404	
1,700.00	1,684.43	1,625.06	1,561.11	6.33	8.08	-10.772	89.25	-298.45	223.57	212.65	10.93	20.460	
1,800.00	1,776.81	1,712.00	1,632.27	6.90	9.00	-10.707	106.16	-345.43	245.60	234.10	11.50	21.351	
1,900.00	1,867.06	1,800.00	1,701.91	7.56	10.01	-10.725	124.36	-396.04	267.00	254.87	12.13	22.007	
2,000.00	1,954.93	1,883.69	1,765.78	8.30	11.07	-10.797	142.67	-446.93	287.73	275.04	12.69	22.672	
2,100.00	2,040.18	1,968.54	1,828.05	9.14	12.22	-10.921	162.18	-501.15	307.76	294.45	13.31	23.122	
2,200.00	2,122.59	2,052.77	1,887.27	10.09	13.44	-11.083	182.45	-557.50	327.06	313.11	13.95	23.443	
2,300.00	2,201.91	2,136.43	1,943.42	11.15	14.72	-11.278	203.45	-615.84	345.60	330.98	14.62	23.643	
2,400.00	2,278.03	2,219.53	1,996.45	12.33	16.07	-11.520	225.10	-676.04	363.47	348.16	15.31	23.739	
2,500.00	2,353.10	2,300.00	2,045.11	13.57	17.45	-11.770	246.80	-736.34	384.01	368.03	15.98	24.028	
2,600.00	2,428.17	2,381.96	2,091.85	14.84	18.93	-11.922	269.59	-799.69	408.64	391.90	16.74	24.414	
2,700.00	2,503.24	2,469.66	2,139.15	16.14	20.57	-11.997	294.59	-869.17	436.73	419.04	17.69	24.689	
2,800.00	2,578.31	2,565.49	2,190.48	17.46	22.39	-12.061	321.99	-945.32	465.29	446.40	18.89	24.625	
2,900.00	2,653.38	2,661.33	2,241.81	18.79	24.22	-12.117	349.39	-1,021.47	493.85	473.73	20.12	24.550	
3,000.00	2,728.45	2,757.16	2,293.14	20.14	26.07	-12.167	376.78	-1,097.62	522.41	501.06	21.35	24.469	
3,100.00	2,803.52	2,853.00	2,344.47	21.49	27.92	-12.212	404.18	-1,173.77	550.96	528.37	22.59	24.384	
3,200.00	2,878.59	2,948.83	2,395.80	22.86	29.78	-12.253	431.58	-1,249.92	579.52	555.67	23.85	24.299	
3,300.00	2,953.66	3,044.67	2,447.13	24.23	31.65	-12.290	458.98	-1,326.07	608.08	582.97	25.11	24.215	
3,400.00	3,028.73	3,140.50	2,498.46	25.60	33.53	-12.323	486.37	-1,402.22	636.64	610.26	26.38	24.132	
3,500.00	3,103.80	3,236.34	2,549.79	26.99	35.40	-12.354	513.77	-1,478.37	665.20	637.54	27.66	24.052	
3,600.00	3,178.88	3,332.17	2,601.12	28.37	37.29	-12.382	541.17	-1,554.52	693.76	664.82	28.94	23.974	
3,700.00	3,253.95	3,428.01	2,652.45	29.76	39.17	-12.407	568.57	-1,630.67	722.32	692.09	30.22	23.900	
3,800.00	3,329.02	3,523.84	2,703.78	31.16	41.06	-12.431	595.96	-1,706.82	750.87	719.36	31.51	23.829	
3,900.00	3,404.09	3,619.68	2,755.11	32.55	42.95	-12.453	623.36	-1,782.97	779.43	746.63	32.80	23.760	
4,000.00	3,479.16	3,715.51	2,806.45	33.95	44.84	-12.474	650.76	-1,859.12	807.99	773.89	34.10	23.695	
4,100.00	3,554.23	3,811.35	2,857.78	35.35	46.74	-12.493	678.16	-1,935.27	836.55	801.15	35.40	23.633	
4,200.00	3,629.30	3,907.18	2,909.11	36.75	48.63	-12.511	705.55	-2,011.42	865.11	828.41	36.70	23.573	
4,300.00	3,704.37	4,003.01	2,960.44	38.16	50.53	-12.528	732.95	-2,087.57	893.67	855.67	38.00	23.516	
4,400.00	3,779.44	4,098.85	3,011.77	39.56	52.43	-12.544	760.35	-2,163.72	922.23	882.92	39.31	23.462	
4,500.00	3,854.51	4,194.68	3,063.10	40.97	54.33	-12.558	787.75	-2,239.87	950.79	910.18	40.62	23.410	
4,600.00	3,929.58	4,290.52	3,114.43	42.38	56.23	-12.572	815.14	-2,316.02	979.35	937.43	41.92	23.360	
4,700.00	4,004.65	4,386.35	3,165.76	43.79	58.13	-12.585	842.54	-2,392.17	1,007.91	964.68	43.23	23.313	
4,800.00	4,079.72	4,482.19	3,217.09	45.20	60.03	-12.598	869.94	-2,468.32	1,036.47	991.93	44.55	23.268	
4,900.00	4,154.79	4,578.02	3,268.42	46.61	61.94	-12.609	897.34	-2,544.47	1,065.03	1,019.17	45.86	23.224	

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



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Reference Site:	Betonnie Tsosie Wash (101,103,105 & 107)	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Betonnie Tsosie Wash Unit 105 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Betonnie Tsosie Wash (101,103,105 & 107) - Betonnie Tsosie Wash Unit 107 H - Original Hole - rev0													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,000.00	4,229.87	4,673.86	3,319.75	48.02	63.84	-12.621	924.73	-2,620.62	1,093.59	1,046.42	47.17	23.183		
5,100.00	4,304.94	4,769.69	3,371.08	49.43	65.75	-12.631	952.13	-2,696.77	1,122.15	1,073.66	48.49	23.143		
5,200.00	4,380.01	4,865.53	3,422.41	50.84	67.65	-12.641	979.53	-2,772.92	1,150.71	1,100.91	49.80	23.105		
5,300.00	4,455.08	4,961.36	3,473.74	52.26	69.56	-12.651	1,006.93	-2,849.07	1,179.27	1,128.15	51.12	23.068		
5,400.00	4,530.15	5,057.20	3,525.07	53.67	71.46	-12.660	1,034.33	-2,925.22	1,207.83	1,155.39	52.44	23.033		
5,500.00	4,605.22	5,153.03	3,576.40	55.09	73.37	-12.668	1,061.72	-3,001.37	1,236.39	1,182.63	53.76	22.999		
5,600.00	4,680.29	5,248.87	3,627.74	56.50	75.28	-12.677	1,089.12	-3,077.52	1,264.95	1,209.87	55.08	22.966		
5,700.00	4,755.36	5,344.70	3,679.07	57.92	77.18	-12.685	1,116.52	-3,153.67	1,293.51	1,237.11	56.40	22.935		
5,800.00	4,830.43	5,440.53	3,730.40	59.33	79.09	-12.692	1,143.92	-3,229.82	1,322.07	1,264.35	57.72	22.905		
5,900.00	4,905.50	5,536.37	3,781.73	60.75	81.00	-12.699	1,171.31	-3,305.97	1,350.63	1,291.59	59.04	22.876		
6,000.00	4,980.57	5,632.20	3,833.06	62.17	82.91	-12.706	1,198.71	-3,382.12	1,379.19	1,318.83	60.36	22.848		
6,100.00	5,055.64	5,728.04	3,884.39	63.58	84.82	-12.713	1,226.11	-3,458.27	1,407.75	1,346.07	61.69	22.821		
6,200.00	5,130.13	5,824.05	3,935.81	65.02	86.73	-14.278	1,253.56	-3,534.56	1,435.65	1,372.61	63.04	22.772		
6,300.00	5,196.55	5,921.38	3,987.94	66.63	88.67	-18.112	1,281.38	-3,611.90	1,454.89	1,390.05	64.84	22.440		
6,400.00	5,251.08	6,017.86	4,039.62	68.41	90.59	-21.600	1,308.96	-3,688.56	1,463.00	1,395.79	67.22	21.766		
6,500.00	5,292.05	6,110.57	4,089.28	70.30	92.44	-25.099	1,335.47	-3,762.23	1,460.39	1,390.13	70.26	20.785		
6,600.00	5,317.38	6,197.90	4,136.05	72.26	94.18	-27.397	1,360.43	-3,831.62	1,445.46	1,371.51	73.95	19.546		
6,700.00	5,325.57	6,278.29	4,179.11	74.28	95.78	-30.552	1,383.42	-3,895.50	1,417.15	1,338.91	78.24	18.114		
6,800.00	5,326.05	6,354.90	4,220.15	76.30	97.31	-32.494	1,405.32	-3,956.38	1,384.47	1,301.37	83.10	16.661		
6,900.00	5,326.52	6,431.51	4,261.18	78.34	98.83	-34.494	1,427.22	-4,017.25	1,354.05	1,265.52	88.53	15.295		
7,000.00	5,327.00	6,508.12	4,302.21	80.40	100.36	-36.551	1,449.12	-4,078.12	1,326.05	1,231.51	94.54	14.026		
7,100.00	5,327.47	6,584.73	4,343.25	82.47	101.89	-38.660	1,471.02	-4,139.00	1,300.63	1,199.49	101.13	12.861		
7,200.00	5,327.94	6,661.34	4,384.28	84.55	103.42	-40.819	1,492.92	-4,199.87	1,277.93	1,169.66	108.28	11.802		
7,300.00	5,328.42	6,737.94	4,425.31	86.64	104.94	-43.023	1,514.82	-4,260.74	1,258.12	1,142.18	115.94	10.851		
7,400.00	5,328.89	6,814.55	4,466.34	88.74	106.47	-45.265	1,536.73	-4,321.61	1,241.32	1,117.24	124.08	10.004		
7,500.00	5,329.37	6,891.16	4,507.38	90.85	108.00	-47.541	1,558.63	-4,382.49	1,227.66	1,095.04	132.62	9.257		
7,600.00	5,329.84	6,967.77	4,548.41	92.97	109.53	-49.844	1,580.53	-4,443.36	1,217.25	1,075.76	141.49	8.603		
7,700.00	5,330.31	7,044.38	4,589.44	95.10	111.05	-52.167	1,602.43	-4,504.23	1,210.16	1,059.58	150.58	8.037		
7,800.00	5,330.79	7,120.99	4,630.47	97.24	112.58	-54.501	1,624.33	-4,565.11	1,206.46	1,046.66	159.80	7.550		
7,858.20	5,331.06	7,165.57	4,654.35	98.49	113.47	-55.862	1,637.08	-4,600.53	1,205.88	1,040.69	165.19	7.300		
7,900.00	5,331.26	7,197.59	4,671.51	99.39	114.11	-56.840	1,646.23	-4,625.98	1,206.18	1,037.13	169.05	7.135		
8,000.00	5,331.74	7,274.20	4,712.54	101.54	115.64	-59.176	1,668.13	-4,686.85	1,209.32	1,031.12	178.20	6.786		
8,100.00	5,332.21	7,350.81	4,753.57	103.70	117.16	-61.501	1,690.03	-4,747.72	1,215.85	1,028.69	187.16	6.496		
8,200.00	5,332.68	7,427.42	4,794.61	105.86	118.69	-63.808	1,711.93	-4,808.60	1,225.73	1,029.88	195.84	6.259		
8,300.00	5,333.16	7,504.03	4,835.64	108.03	120.22	-66.089	1,733.84	-4,869.47	1,238.86	1,034.70	204.16	6.068		
8,400.00	5,333.63	7,580.64	4,876.67	110.21	121.75	-68.337	1,755.74	-4,930.34	1,255.16	1,043.11	212.05	5.919		
8,500.00	5,334.11	7,657.24	4,917.70	112.39	123.28	-70.547	1,777.64	-4,991.21	1,274.49	1,055.02	219.46	5.807		
8,600.00	5,334.58	7,733.85	4,958.74	114.58	124.81	-72.714	1,799.54	-5,052.09	1,296.72	1,070.34	226.38	5.728		
8,700.00	5,335.05	7,810.46	4,999.77	116.77	126.33	-74.832	1,821.44	-5,112.96	1,321.70	1,088.92	232.79	5.678		
8,800.00	5,335.53	7,887.07	5,040.80	118.96	127.86	-76.897	1,843.34	-5,173.83	1,349.29	1,110.60	238.69	5.653		
8,900.00	5,336.00	7,963.68	5,081.83	121.16	129.39	-78.907	1,865.24	-5,234.71	1,379.32	1,135.23	244.10	5.651		
9,000.00	5,336.47	8,040.29	5,122.87	123.37	130.92	-80.859	1,887.14	-5,295.58	1,411.64	1,162.60	249.04	5.668		
9,100.00	5,336.95	8,116.89	5,163.90	125.57	132.45	-82.750	1,909.04	-5,356.45	1,446.10	1,192.55	253.55	5.703		
9,200.00	5,337.42	8,193.50	5,205.00	127.78	134.00	-84.699	1,931.27	-5,417.32	1,483.18	1,227.46	257.72	5.800		
9,300.00	5,337.90	8,270.11	5,246.11	130.00	135.57	-86.699	1,953.50	-5,478.19	1,524.36	1,266.18	261.88	5.904		
9,400.00	5,338.37	8,346.72	5,287.22	132.21	137.14	-88.699	1,975.73	-5,539.06	1,569.59	1,312.19	266.00	6.098		
9,500.00	5,338.84	8,423.33	5,328.33	134.43	138.71	-90.699	1,997.96	-5,600.00	1,618.75	1,360.90	270.12	6.278		
9,600.00	5,339.32	8,500.00	5,369.44	136.66	140.28	-92.699	1,990.88	-5,660.88	1,671.56	1,414.35	274.22	6.499		
9,700.00	5,339.79	8,576.61	5,410.55	138.88	141.85	-94.699	1,994.23	-5,721.75	1,727.64	1,471.10	278.32	6.734		
9,800.00	5,340.27	8,653.22	5,451.66	141.11	143.42	-96.699	1,997.58	-5,782.62	1,788.75	1,530.80	282.42	6.981		
9,900.00	5,340.74	8,729.83	5,492.77	143.34	145.00	-98.699	1,997.27	-5,843.50	1,848.71	1,595.70	286.52	7.307		

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



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Reference Site:	Betonnie Tsosie Wash (101,103,105 & 107)	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Betonnie Tsosie Wash Unit 105 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Betonnie Tsosie Wash (101,103,105 & 107) - Betonnie Tsosie Wash Unit 107 H - Original Hole - rev0													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Distance Between Centres (ft)		Minimum Separation (ft)	Separation Factor	Warning	
10,000.00	5,341.21	8,350.00	5,271.09	145.57	137.34	-87.471	1,950.39	-5,557.62	1,913.14	1,658.97	254.17	7.527		
10,100.00	5,341.69	8,350.00	5,271.09	147.81	137.34	-87.471	1,950.39	-5,557.62	1,979.48	1,728.48	250.99	7.887		
10,200.00	5,342.16	8,400.00	5,286.71	150.04	138.44	-88.121	1,951.43	-5,605.09	2,047.86	1,795.61	252.25	8.118		
10,300.00	5,342.64	8,464.16	5,300.61	152.28	139.90	-88.686	1,952.75	-5,667.67	2,116.77	1,861.87	254.89	8.305		
10,400.00	5,343.11	8,531.37	5,307.57	154.52	141.45	-88.969	1,954.17	-5,734.48	2,185.92	1,928.05	257.87	8.477		



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Reference Site:	Betonnie Tsosie Wash (101,103,105 & 107)	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Betonnie Tsosie Wash Unit 105 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Betonnie Tsosie Wash Unit 731 - Betonnie Tsosie Wash Unit 731H - Original Hole - Surveys													Offset Site Error:	0.00 ft
Survey Program: 440-MWD													Offset Well Error:	0.00 ft
Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Reference	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
8,400.00	5,333.63	15,587.00	5,255.05	110.21	239.48	-87.242	3,120.64	-6,417.23	2,180.15	2,038.84	141.31	15.428		
8,500.00	5,334.11	15,587.00	5,255.05	112.39	239.48	-87.242	3,120.64	-6,417.23	2,098.61	1,949.45	149.16	14.070		
8,600.00	5,334.58	15,587.00	5,255.05	114.58	239.48	-87.242	3,120.64	-6,417.23	2,018.73	1,860.99	157.74	12.798		
8,700.00	5,335.05	15,587.00	5,255.05	116.77	239.48	-87.242	3,120.64	-6,417.23	1,940.71	1,773.58	167.13	11.612		
8,800.00	5,335.53	15,587.00	5,255.05	118.96	239.48	-87.242	3,120.64	-6,417.23	1,864.79	1,687.42	177.38	10.513		
8,900.00	5,336.00	15,587.00	5,255.05	121.16	239.48	-87.242	3,120.64	-6,417.23	1,791.25	1,602.70	188.54	9.500		
9,000.00	5,336.47	15,587.00	5,255.05	123.37	239.48	-87.242	3,120.64	-6,417.23	1,720.37	1,519.68	200.69	8.572		
9,100.00	5,336.95	15,587.00	5,255.05	125.57	239.48	-87.242	3,120.64	-6,417.23	1,652.50	1,438.67	213.84	7.728		
9,200.00	5,337.42	15,587.00	5,255.05	127.78	239.48	-87.242	3,120.64	-6,417.23	1,588.04	1,360.02	228.03	6.964		
9,300.00	5,337.90	15,587.00	5,255.05	130.00	239.48	-87.242	3,120.64	-6,417.23	1,527.41	1,284.18	243.23	6.280		
9,400.00	5,338.37	15,587.00	5,255.05	132.21	239.48	-87.242	3,120.64	-6,417.23	1,471.08	1,211.71	259.38	5.672		
9,500.00	5,338.84	15,587.00	5,255.05	134.43	239.48	-87.242	3,120.64	-6,417.23	1,419.57	1,143.23	276.34	5.137		
9,600.00	5,339.32	15,587.00	5,255.05	136.66	239.48	-87.242	3,120.64	-6,417.23	1,373.42	1,079.54	293.89	4.673		
9,700.00	5,339.79	15,587.00	5,255.05	138.88	239.48	-87.242	3,120.64	-6,417.23	1,333.19	1,021.52	311.66	4.278		
9,800.00	5,340.27	15,587.00	5,255.05	141.11	239.48	-87.242	3,120.64	-6,417.23	1,299.42	970.22	329.20	3.947		
9,900.00	5,340.74	15,587.00	5,255.05	143.34	239.48	-87.242	3,120.64	-6,417.23	1,272.64	926.76	345.87	3.679		
10,000.00	5,341.21	15,587.00	5,255.05	145.57	239.48	-87.242	3,120.64	-6,417.23	1,253.28	892.29	360.99	3.472		
10,100.00	5,341.69	15,587.00	5,255.05	147.81	239.48	-87.242	3,120.64	-6,417.23	1,241.70	867.90	373.80	3.322		
10,194.48	5,342.14	15,587.00	5,255.05	149.92	239.48	-87.242	3,120.64	-6,417.23	1,238.10	854.90	383.20	3.231 CC		
10,200.00	5,342.16	15,587.00	5,255.05	150.04	239.48	-87.242	3,120.64	-6,417.23	1,238.11	854.45	383.66	3.227		
10,300.00	5,342.64	15,539.43	5,255.94	152.28	238.37	-87.277	3,152.68	-6,452.38	1,241.67	854.21	387.47	3.205 ES, SF		
10,400.00	5,343.11	15,436.26	5,257.89	154.52	235.98	-87.355	3,222.22	-6,528.57	1,246.29	859.05	387.24	3.218		
10,500.00	5,343.58	15,326.71	5,260.05	156.77	233.44	-87.439	3,296.51	-6,609.05	1,250.35	863.75	386.59	3.234		
10,600.00	5,344.06	15,219.31	5,261.87	159.01	230.95	-87.507	3,369.94	-6,687.40	1,253.65	867.58	386.07	3.247		
10,700.00	5,344.53	15,111.98	5,263.85	161.26	228.48	-87.580	3,443.77	-6,765.28	1,256.38	870.85	385.54	3.259		
10,800.00	5,345.01	15,010.46	5,266.06	163.50	226.14	-87.664	3,513.70	-6,838.85	1,258.97	873.55	385.43	3.266		
10,900.00	5,345.48	14,888.73	5,269.69	165.75	223.35	-87.805	3,598.86	-6,925.75	1,259.93	876.12	383.81	3.283		
11,000.00	5,345.95	14,775.00	5,274.04	168.01	220.76	-87.979	3,678.89	-7,006.43	1,260.38	877.64	382.74	3.293		
11,068.07	5,346.28	14,712.79	5,276.64	169.54	219.35	-88.084	3,723.08	-7,050.14	1,260.03	876.78	383.25	3.288		
11,100.00	5,346.43	14,688.06	5,277.43	170.26	218.78	-88.115	3,740.52	-7,067.66	1,260.12	876.28	383.83	3.283		
11,200.00	5,346.90	14,581.43	5,280.19	172.51	216.35	-88.218	3,815.41	-7,143.51	1,260.83	877.51	383.32	3.289		
11,300.00	5,347.37	14,495.85	5,281.93	174.77	214.40	-88.279	3,875.68	-7,204.24	1,261.32	876.85	384.46	3.281		
11,400.00	5,347.85	14,412.22	5,282.01	177.02	212.48	-88.267	3,933.79	-7,264.38	1,263.17	877.53	385.64	3.275		
11,500.00	5,348.32	14,291.07	5,282.93	179.28	209.71	-88.286	4,017.83	-7,351.63	1,265.24	881.19	384.05	3.294		
11,600.00	5,348.80	14,173.26	5,285.70	181.54	207.03	-88.386	4,100.99	-7,435.03	1,265.47	882.85	382.63	3.307		
11,700.00	5,349.27	14,052.31	5,286.42	183.80	204.30	-88.391	4,187.96	-7,519.09	1,263.86	883.06	380.80	3.319		
11,781.97	5,349.66	13,998.74	5,286.82	185.65	203.09	-88.396	4,226.58	-7,556.19	1,262.53	879.29	383.24	3.294		
11,800.00	5,349.74	13,991.11	5,286.90	186.06	202.92	-88.398	4,231.97	-7,561.61	1,262.60	878.54	384.06	3.287		
11,900.00	5,350.22	13,944.00	5,287.54	188.32	201.84	-88.419	4,264.17	-7,595.97	1,265.73	878.02	387.71	3.265		
12,000.00	5,350.69	13,865.86	5,288.68	190.59	200.02	-88.460	4,315.88	-7,654.54	1,271.94	883.03	388.91	3.271		
12,100.00	5,351.17	13,762.87	5,289.66	192.85	197.62	-88.490	4,383.78	-7,731.98	1,278.60	889.90	388.69	3.289		
12,200.00	5,351.64	13,643.61	5,289.69	195.11	194.85	-88.474	4,463.36	-7,820.79	1,284.19	896.64	387.55	3.314		
12,300.00	5,352.11	13,537.52	5,289.69	197.38	192.39	-88.458	4,534.91	-7,899.12	1,288.85	901.70	387.14	3.329		
12,400.00	5,352.59	13,429.63	5,289.03	199.65	189.90	-88.411	4,608.03	-7,978.47	1,293.09	906.49	386.60	3.345		
12,500.00	5,353.06	13,322.76	5,287.67	201.92	187.44	-88.333	4,681.02	-8,056.51	1,296.61	910.50	386.11	3.358		
12,600.00	5,353.54	13,197.73	5,287.94	204.18	184.58	-88.323	4,767.49	-8,146.79	1,298.88	914.51	384.37	3.379		
12,700.00	5,354.01	13,098.87	5,290.95	206.45	182.33	-88.437	4,836.36	-8,217.65	1,300.36	915.89	384.48	3.382		
12,800.00	5,354.48	12,995.08	5,294.27	208.72	179.96	-88.563	4,908.78	-8,291.92	1,301.68	917.45	384.23	3.388		
12,900.00	5,354.96	12,882.62	5,297.79	210.99	177.41	-88.695	4,987.62	-8,372.04	1,302.58	919.24	383.34	3.398		
13,000.00	5,355.43	12,800.45	5,299.99	213.27	175.54	-88.775	5,045.49	-8,430.33	1,303.10	918.43	384.67	3.388		
13,100.00	5,355.91	12,695.41	5,299.76	215.54	173.15	-88.746	5,118.20	-8,506.14	1,305.36	921.07	384.29	3.397		

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



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Reference Site:	Betonnie Tsosie Wash (101,103,105 & 107)	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Betonnie Tsosie Wash Unit 105 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Betonnie Tsosie Wash Unit 731 - Betonnie Tsosie Wash Unit 731H - Original Hole - Surveys												Offset Site Error:	0.00 ft
Survey Program: 440-MWD												Offset Well Error:	0.00 ft
Reference Measured Depth (ft)	Vertical Depth (ft)	Offset Measured Depth (ft)	Vertical Depth (ft)	Semi Major Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning
							+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
13,200.00	5,356.38	12,593.21	5,300.67	217.81	170.83	-88.765	5,190.01	-8,578.85	1,306.10	921.97	384.13	3.400	
13,300.00	5,356.85	12,523.17	5,301.63	220.08	169.23	-88.794	5,238.58	-8,629.30	1,308.16	921.98	386.17	3.387	
13,400.00	5,357.33	12,451.82	5,302.72	222.36	167.59	-88.830	5,286.71	-8,681.96	1,312.71	924.85	387.85	3.385	
13,500.00	5,357.80	12,332.11	5,303.76	224.63	164.83	-88.857	5,366.50	-8,771.19	1,318.59	931.89	386.69	3.410	
13,600.00	5,358.27	12,205.10	5,307.10	226.91	161.93	-88.978	5,454.04	-8,863.15	1,321.02	936.05	384.97	3.431	
13,700.00	5,358.75	12,123.00	5,307.89	229.18	160.06	-88.997	5,510.75	-8,922.50	1,323.46	937.32	386.14	3.427	
13,800.00	5,359.22	12,032.00	5,307.77	231.46	157.97	-88.976	5,572.63	-8,989.22	1,327.33	940.66	386.67	3.433	
13,900.00	5,359.70	11,937.51	5,307.44	233.74	155.80	-88.946	5,636.36	-9,058.98	1,331.96	945.01	386.96	3.442	
14,000.00	5,360.17	11,837.10	5,307.04	236.02	153.49	-88.912	5,704.23	-9,132.98	1,336.42	949.52	386.90	3.454	
14,100.00	5,360.64	11,727.88	5,307.54	238.29	150.99	-88.915	5,778.57	-9,212.99	1,340.20	953.86	386.34	3.469	
14,200.00	5,361.12	11,635.04	5,307.51	240.57	148.87	-88.897	5,841.66	-9,281.10	1,344.16	957.41	386.74	3.476	
14,300.00	5,361.59	11,536.06	5,306.97	242.85	146.60	-88.858	5,908.67	-9,353.95	1,348.47	961.70	386.77	3.486	
14,400.00	5,362.07	11,428.00	5,306.58	245.13	144.14	-88.823	5,982.07	-9,433.24	1,352.48	966.20	386.28	3.501	
14,500.00	5,362.54	11,349.86	5,306.44	247.41	142.35	-88.805	6,035.14	-9,490.61	1,356.61	969.13	387.48	3.501	
14,600.00	5,363.01	11,215.97	5,305.48	249.69	139.28	-88.744	6,124.85	-9,589.96	1,362.27	976.76	385.51	3.534	
14,700.00	5,363.49	11,065.79	5,309.21	251.97	135.91	-88.872	6,230.19	-9,696.93	1,363.09	980.97	382.13	3.567	
14,800.00	5,363.96	10,955.95	5,309.26	254.26	133.48	-88.851	6,309.12	-9,773.31	1,361.56	980.16	381.40	3.570	
14,857.95	5,364.24	10,920.23	5,309.29	255.58	132.68	-88.845	6,334.68	-9,798.25	1,360.99	977.92	383.07	3.553	
14,900.00	5,364.44	10,898.54	5,309.17	256.54	132.19	-88.835	6,349.93	-9,813.68	1,361.30	976.82	384.48	3.541	
15,000.00	5,364.91	10,828.85	5,308.02	258.82	130.62	-88.775	6,397.56	-9,864.53	1,364.48	978.13	386.35	3.532	
15,100.00	5,365.38	10,686.58	5,305.32	261.10	127.43	-88.636	6,496.52	-9,966.70	1,366.10	982.45	383.65	3.561	
15,200.00	5,365.86	10,609.31	5,304.42	263.39	125.70	-88.584	6,550.62	-10,021.87	1,367.32	982.17	385.15	3.550	
15,300.00	5,366.33	10,510.07	5,301.97	265.67	123.47	-88.464	6,618.85	-10,093.89	1,370.22	985.04	385.17	3.557	
15,400.00	5,366.81	10,397.41	5,300.03	267.95	120.95	-88.363	6,697.28	-10,174.75	1,371.91	987.56	384.35	3.569	
15,500.00	5,367.28	10,283.08	5,298.74	270.24	118.41	-88.288	6,777.47	-10,256.21	1,372.88	989.49	383.39	3.581	
15,600.00	5,367.75	10,147.01	5,298.85	272.52	115.42	-88.263	6,875.00	-10,351.10	1,371.54	990.78	380.76	3.602	
15,700.00	5,368.23	10,041.64	5,300.00	274.81	113.14	-88.287	6,951.42	-10,423.63	1,369.04	988.65	380.39	3.599	
15,800.00	5,368.70	9,966.02	5,300.93	277.09	111.49	-88.309	7,006.15	-10,475.81	1,366.89	984.57	382.31	3.575	
15,827.62	5,368.83	9,950.19	5,301.07	277.72	111.14	-88.312	7,017.40	-10,486.94	1,366.77	983.59	383.17	3.567	
15,900.00	5,369.17	9,915.22	5,301.28	279.38	110.38	-88.314	7,041.96	-10,511.83	1,367.56	981.91	385.66	3.546	
16,000.00	5,369.65	9,791.41	5,302.42	281.66	107.64	-88.340	7,128.21	-10,600.65	1,369.07	984.89	384.18	3.564	
16,100.00	5,370.12	9,714.19	5,303.22	283.95	105.93	-88.360	7,181.88	-10,656.16	1,370.88	985.22	385.66	3.555	
16,200.00	5,370.60	9,600.87	5,303.67	286.23	103.43	-88.359	7,260.42	-10,737.85	1,372.96	988.09	384.87	3.567	
16,300.00	5,371.07	9,503.96	5,303.36	288.52	101.30	-88.329	7,327.83	-10,807.46	1,374.72	989.63	385.09	3.570	
16,400.00	5,371.54	9,409.01	5,302.43	290.81	99.21	-88.274	7,393.60	-10,875.94	1,376.91	991.48	385.42	3.572	
16,500.00	5,372.02	9,301.87	5,301.57	293.09	96.87	-88.220	7,468.00	-10,953.03	1,378.84	993.84	385.00	3.581	
16,600.00	5,372.49	9,193.59	5,301.36	295.38	94.51	-88.192	7,543.42	-11,030.72	1,380.48	995.97	384.51	3.590	
16,700.00	5,372.97	9,078.53	5,301.68	297.67	92.03	-88.183	7,624.47	-11,112.39	1,380.99	997.43	383.56	3.600	
16,800.00	5,373.44	8,973.13	5,302.53	299.96	89.78	-88.197	7,699.22	-11,186.70	1,380.81	997.55	383.26	3.603	
16,843.99	5,373.65	8,933.66	5,302.98	300.96	88.93	-88.208	7,727.22	-11,214.51	1,380.70	997.10	383.61	3.599	
16,900.00	5,373.91	8,888.10	5,303.67	302.25	87.96	-88.228	7,759.34	-11,246.81	1,380.92	996.56	384.36	3.593	
17,000.00	5,374.39	8,778.80	5,306.06	304.53	85.63	-88.307	7,836.12	-11,324.57	1,381.66	997.83	383.83	3.600	
17,100.00	5,374.86	8,662.07	5,309.63	306.82	83.18	-88.431	7,919.26	-11,406.42	1,380.90	998.12	382.78	3.608	
17,162.55	5,375.16	8,615.03	5,310.59	308.25	82.19	-88.462	7,952.73	-11,439.46	1,380.55	996.61	383.93	3.596	
17,200.00	5,375.34	8,591.39	5,310.79	309.11	81.69	-88.465	7,969.44	-11,456.19	1,380.66	995.77	384.89	3.587	
17,300.00	5,375.81	8,469.35	5,311.41	311.40	79.14	-88.467	8,055.72	-11,542.48	1,380.77	997.27	383.49	3.600	
17,400.00	5,376.28	8,363.23	5,313.62	313.69	76.96	-88.537	8,131.40	-11,616.85	1,379.99	996.80	383.19	3.601	
17,500.00	5,376.76	8,260.03	5,316.79	315.98	74.85	-88.647	8,205.33	-11,688.79	1,378.69	995.58	383.10	3.599	
17,600.00	5,377.23	8,170.88	5,318.16	318.27	73.04	-88.686	8,269.03	-11,751.14	1,377.72	993.72	384.00	3.588	
17,638.85	5,377.42	8,138.65	5,318.38	319.16	72.38	-88.688	8,291.90	-11,773.84	1,377.63	993.13	384.50	3.583	
17,700.00	5,377.71	8,090.16	5,318.53	320.56	71.40	-88.685	8,326.10	-11,808.22	1,377.88	992.48	385.41	3.575	

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



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Reference Site:	Betonnie Tsosie Wash (101,103,105 & 107)	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Betonnie Tsosie Wash Unit 105 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: Betonnie Tsosie Wash Unit 731 - Betonnie Tsosie Wash Unit 731H - Original Hole - Surveys													Offset Site Error:	0.00 ft	
Survey Program:		440-MWD		Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Offset Well Error:	0.00 ft
Reference	Vertical	Measured	Vertical	Reference	Offset	Highside				Distance	Between	Minimum	Separation	Warning	
Depth	Depth	Depth	Depth			Toolface	+N/-S	+E/-W		Between	Ellipses	Separation	Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)		Centres	(ft)	(ft)	(ft)		
17,800.00	5,378.18	8,014.00	5,318.58	322.85	69.84	-88.674	8,378.99	-11,863.01	1,379.76	992.79	386.97	3.566			
17,900.00	5,378.65	7,928.09	5,318.80	325.14	68.08	-88.669	8,437.79	-11,925.64	1,383.02	995.15	387.86	3.566			
18,000.00	5,379.13	7,860.61	5,319.10	327.43	66.69	-88.671	8,483.27	-11,975.49	1,387.77	998.20	389.56	3.562			
18,100.00	5,379.60	7,779.98	5,318.84	329.72	65.03	-88.650	8,536.21	-12,036.31	1,394.76	1,004.29	390.46	3.572			
18,200.00	5,380.08	7,630.35	5,317.61	332.01	61.99	-88.579	8,635.46	-12,148.25	1,401.18	1,012.89	388.30	3.609			
18,300.00	5,380.55	7,500.60	5,318.94	334.30	59.47	-88.612	8,724.66	-12,242.46	1,404.06	1,017.21	386.84	3.630			
18,400.00	5,381.02	7,377.22	5,321.27	336.60	57.15	-88.684	8,811.38	-12,330.20	1,404.69	1,019.04	385.65	3.642			
18,500.00	5,381.50	7,230.34	5,326.05	338.89	54.54	-88.849	8,917.21	-12,431.91	1,402.65	1,019.91	382.74	3.665			
18,600.00	5,381.97	7,140.26	5,330.20	341.18	53.00	-88.999	8,982.65	-12,493.68	1,399.80	1,016.01	383.79	3.647			
18,700.00	5,382.44	7,071.00	5,333.08	343.47	51.84	-89.102	9,032.89	-12,541.27	1,397.52	1,011.32	386.19	3.619			
18,748.07	5,382.67	7,028.41	5,334.48	344.57	51.12	-89.151	9,063.41	-12,570.93	1,396.93	1,010.24	386.69	3.613			
18,800.00	5,382.92	7,000.79	5,335.20	345.76	50.65	-89.176	9,082.78	-12,590.60	1,397.38	1,009.09	388.29	3.599			
18,900.00	5,383.39	6,883.00	5,338.52	348.06	48.70	-89.290	9,164.57	-12,675.30	1,399.35	1,011.73	387.63	3.610			
19,000.00	5,383.87	6,827.08	5,340.40	350.35	47.79	-89.357	9,203.39	-12,715.51	1,401.30	1,010.96	390.34	3.590			
19,100.00	5,384.34	6,746.48	5,341.97	352.64	46.50	-89.407	9,257.41	-12,775.30	1,406.31	1,014.74	391.56	3.592			
19,200.00	5,384.81	6,608.93	5,344.56	354.93	44.42	-89.488	9,351.28	-12,875.80	1,409.78	1,019.56	390.22	3.613			
19,300.00	5,385.29	6,459.00	5,349.78	357.23	42.42	-89.671	9,456.98	-12,981.99	1,410.00	1,021.87	388.14	3.633			
19,363.05	5,385.59	6,413.00	5,351.25	358.67	41.86	-89.722	9,489.73	-13,014.25	1,409.61	1,020.10	389.51	3.619			
19,400.00	5,385.76	6,392.42	5,351.34	359.52	41.61	-89.722	9,504.21	-13,028.88	1,409.83	1,019.22	390.60	3.609			
19,500.00	5,386.24	6,338.00	5,349.11	361.81	40.95	-89.621	9,541.69	-13,068.25	1,412.52	1,019.27	393.25	3.592			
19,600.00	5,386.71	6,283.29	5,345.09	364.10	40.27	-89.449	9,578.01	-13,108.96	1,418.45	1,023.10	395.35	3.588			
19,700.00	5,387.18	6,219.00	5,340.42	366.40	39.50	-89.250	9,618.93	-13,158.32	1,427.73	1,031.04	396.70	3.599			
19,800.00	5,387.66	6,154.96	5,334.97	368.69	38.74	-89.023	9,658.52	-13,208.36	1,439.39	1,041.64	397.74	3.619			
19,900.00	5,388.13	6,079.63	5,326.67	370.99	37.89	-88.686	9,704.11	-13,267.76	1,452.78	1,054.36	398.41	3.646			
20,000.00	5,388.61	6,005.02	5,317.12	373.28	37.10	-88.304	9,748.27	-13,327.12	1,467.79	1,068.87	398.92	3.679			
20,100.00	5,389.08	5,952.00	5,307.25	375.57	36.57	-87.917	9,778.80	-13,369.32	1,484.78	1,085.80	398.98	3.721			
20,200.00	5,389.55	5,888.77	5,291.56	377.87	35.96	-87.310	9,813.52	-13,419.76	1,504.44	1,105.75	398.69	3.773			
20,294.28	5,390.00	5,832.51	5,274.29	380.03	35.44	-86.654	9,842.52	-13,464.76	1,525.91	1,127.98	397.93	3.835			

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



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Bettonnie Tsosie Wash Unit 105 H
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Reference Site:	Bettonnie Tsosie Wash (101,103,105 & 107)	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Bettonnie Tsosie Wash Unit 105 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design:		North Alamito Unit (102 & 106) - North Alamito Unit 102 H - Original Hole - MWD surveys												Offset Site Error:		0.00 ft	
Survey Program:		485-MWD, 5977-MWD, 15067-MWD								Rule Assigned:				Offset Well Error:		0.00 ft	
Reference		Offset		Semi Major Axis		Offset Wellbore Centre			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning				
0.00	0.00	0.00	0.00	0.00	0.00	-12.859	58.45	-13.34	59.95								
100.00	100.00	100.03	100.03	0.27	0.17	-12.765	58.45	-13.24	59.93	59.48	0.44	134.684					
200.00	200.00	200.05	200.05	0.63	0.34	-12.483	58.45	-12.94	59.86	58.89	0.97	61.452					
300.00	300.00	300.08	300.07	0.99	0.51	-12.011	58.45	-12.44	59.76	58.25	1.50	39.750					
400.00	400.00	400.10	400.09	1.35	0.68	-11.347	58.45	-11.73	59.62	57.58	2.03	29.331					
500.00	500.00	500.10	500.09	1.71	0.88	-10.488	58.46	-10.82	59.45	56.86	2.59	22.953					
600.00	600.00	600.03	600.01	2.07	1.24	-9.352	58.57	-9.65	59.36	56.05	3.31	17.950					
622.58	622.58	622.60	622.58	2.15	1.32	-9.075	58.61	-9.36	59.36	55.89	3.47	17.111					
700.00	700.00	700.05	700.03	2.43	1.60	-8.131	58.77	-8.40	59.37	55.34	4.02	14.752					
800.00	800.00	800.45	800.41	2.78	1.96	-6.964	58.66	-7.16	59.09	54.35	4.74	12.461					
900.00	900.00	900.17	900.13	3.14	2.32	-5.789	58.01	-5.88	58.30	52.85	5.46	10.685					
913.75	913.75	913.79	913.75	3.19	2.36	-5.660	58.00	-5.75	58.29	52.73	5.55	10.494	CC				
1,000.00	1,000.00	999.30	999.26	3.50	2.66	-5.115	58.61	-5.25	58.85	52.68	6.16	9.547	ES				
1,100.00	1,099.95	1,097.05	1,096.95	3.85	3.00	61.885	61.33	-6.45	60.47	53.62	6.85	8.832					
1,200.00	1,199.63	1,194.12	1,193.64	4.21	3.33	63.714	68.04	-11.48	64.07	56.56	7.51	8.529					
1,300.00	1,298.77	1,291.10	1,289.58	4.57	3.68	65.829	78.91	-20.46	69.90	61.72	8.18	8.541					
1,400.00	1,397.08	1,388.26	1,384.78	4.96	4.05	68.090	93.45	-33.24	77.50	68.61	8.89	8.719					
1,500.00	1,494.31	1,485.87	1,479.33	5.37	4.46	70.383	111.01	-49.83	86.22	76.56	9.66	8.927					
1,600.00	1,590.18	1,584.97	1,573.93	5.82	4.92	71.873	130.57	-71.92	94.67	84.14	10.54	8.986					
1,700.00	1,684.43	1,682.34	1,665.65	6.33	5.43	73.716	151.52	-96.95	103.08	91.58	11.50	8.966					
1,800.00	1,776.81	1,781.10	1,756.72	6.90	6.01	75.081	174.96	-127.07	111.75	99.14	12.61	8.860					
1,900.00	1,867.06	1,880.64	1,847.23	7.56	6.67	76.935	198.97	-160.84	119.08	105.17	13.91	8.563					
2,000.00	1,954.93	1,978.44	1,936.45	8.30	7.33	81.429	223.77	-192.29	127.30	111.93	15.37	8.282					
2,100.00	2,040.18	2,079.23	2,029.19	9.14	8.03	88.380	247.60	-223.76	134.79	117.75	17.04	7.910					
2,200.00	2,122.59	2,175.67	2,117.74	10.09	8.71	95.968	270.36	-254.44	144.28	125.57	18.71	7.711	SF				
2,300.00	2,201.91	2,271.95	2,205.56	11.15	9.42	103.645	294.51	-285.63	158.21	137.88	20.33	7.783					
2,400.00	2,278.03	2,367.36	2,292.63	12.33	10.13	111.471	318.18	-316.62	176.44	154.67	21.77	8.106					
2,500.00	2,353.10	2,463.03	2,379.85	13.57	10.85	118.500	341.96	-347.92	198.24	175.23	23.02	8.613					
2,600.00	2,428.17	2,556.62	2,465.56	14.84	11.56	124.283	364.40	-378.09	222.45	198.35	24.10	9.230					
2,700.00	2,503.24	2,652.47	2,552.77	16.14	12.31	128.660	388.87	-409.44	248.61	223.40	25.21	9.862					
2,800.00	2,578.31	2,746.69	2,638.35	17.46	13.05	132.097	413.06	-440.55	275.64	249.34	26.29	10.483					
2,900.00	2,653.38	2,839.87	2,722.96	18.79	13.79	134.819	437.53	-470.95	303.96	276.58	27.38	11.100					
3,000.00	2,728.45	2,931.00	2,805.94	20.14	14.50	137.045	461.72	-499.82	333.81	305.36	28.45	11.733					
3,100.00	2,803.52	3,020.52	2,888.07	21.49	15.19	139.058	484.86	-526.91	365.31	335.86	29.45	12.403					
3,200.00	2,878.59	3,113.59	2,973.69	22.86	15.89	140.887	508.68	-554.52	397.73	367.24	30.49	13.046					
3,300.00	2,953.66	3,212.03	3,064.09	24.23	16.65	142.496	534.01	-584.11	430.11	398.51	31.60	13.610					
3,400.00	3,028.73	3,312.46	3,154.89	25.60	17.46	143.471	562.67	-616.06	461.31	428.40	32.91	14.019					
3,500.00	3,103.80	3,407.51	3,240.82	26.99	18.24	144.301	589.53	-646.51	492.36	458.20	34.15	14.417					
3,600.00	3,178.88	3,505.52	3,328.88	28.37	19.06	144.934	618.09	-678.68	522.78	487.30	35.48	14.735					
3,700.00	3,253.95	3,598.97	3,413.14	29.76	19.83	145.550	644.67	-709.15	553.43	516.70	36.73	15.067					
3,800.00	3,329.02	3,703.99	3,507.61	31.16	20.72	146.143	674.67	-743.81	583.76	545.63	38.13	15.310					
3,900.00	3,404.09	3,793.49	3,587.15	32.55	21.50	146.420	701.77	-774.62	612.82	573.38	39.44	15.538					
4,000.00	3,479.16	3,879.65	3,664.83	33.95	22.22	146.821	726.56	-802.46	643.87	603.24	40.62	15.849					
4,100.00	3,554.23	3,983.51	3,758.74	35.35	23.08	147.333	755.67	-835.88	675.10	633.10	42.00	16.075					
4,200.00	3,629.30	4,079.81	3,844.58	36.75	23.92	147.531	785.08	-868.18	705.07	661.66	43.40	16.245					
4,300.00	3,704.37	4,176.76	3,931.32	38.16	24.75	147.791	813.82	-900.58	735.14	690.35	44.78	16.415					
4,400.00	3,779.44	4,265.41	4,011.07	39.56	25.50	148.105	838.97	-929.97	765.44	719.45	46.00	16.641					
4,500.00	3,854.51	4,360.59	4,097.56	40.97	26.28	148.595	863.80	-961.00	796.27	749.09	47.18	16.878					
4,600.00	3,929.58	4,434.03	4,164.75	42.38	26.86	148.997	882.41	-984.09	828.30	780.24	48.06	17.234					
4,700.00	4,004.65	4,506.86	4,232.06	43.79	27.41	149.415	900.49	-1,005.17	862.81	813.93	48.88	17.652					
4,800.00	4,079.72	4,629.06	4,345.42	45.20	28.32	150.110	930.15	-1,039.84	898.24	847.96	50.28	17.865					

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



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Reference Site:	Betonnie Tsosie Wash (101,103,105 & 107)	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Betonnie Tsosie Wash Unit 105 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design:	North Alamito Unit (102 & 106) - North Alamito Unit 102 H - Original Hole - MWD surveys												Offset Site Error:	0.00 ft
Survey Program:	485-MWD, 5977-MWD, 15067-MWD												Offset Well Error:	0.00 ft
Reference	Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,900.00	4,154.79	4,720.00	4,429.08	46.61	29.02	150.606	951.67	-1,068.27	930.61	879.31	51.30	18.140		
5,000.00	4,229.87	4,783.50	4,488.09	48.02	29.48	151.016	965.52	-1,087.19	964.72	912.79	51.92	18.580		
5,100.00	4,304.94	4,832.22	4,534.26	49.43	29.80	151.404	974.89	-1,099.53	1,002.96	950.73	52.23	19.202		
5,200.00	4,380.01	4,891.00	4,590.88	50.84	30.13	151.969	984.40	-1,112.13	1,044.91	992.39	52.52	19.894		
5,300.00	4,455.08	4,927.79	4,626.64	52.26	30.32	152.342	989.79	-1,118.90	1,090.18	1,037.73	52.45	20.785		
5,400.00	4,530.15	4,959.63	4,657.91	53.67	30.46	152.680	994.03	-1,123.11	1,139.97	1,087.76	52.21	21.834		
5,500.00	4,605.22	4,989.00	4,686.94	55.09	30.58	152.999	997.62	-1,125.70	1,193.85	1,141.99	51.86	23.020		
5,600.00	4,680.29	5,033.00	4,730.73	56.50	30.71	153.539	1,001.46	-1,127.35	1,251.64	1,199.98	51.66	24.227		
5,700.00	4,755.36	5,033.00	4,730.73	57.92	30.71	153.539	1,001.46	-1,127.35	1,312.67	1,261.93	50.74	25.870		
5,800.00	4,830.43	5,078.00	4,775.69	59.33	30.79	154.214	1,002.40	-1,126.39	1,376.61	1,326.15	50.46	27.282		
5,900.00	4,905.50	5,078.00	4,775.69	60.75	30.79	154.214	1,002.40	-1,126.39	1,443.90	1,394.40	49.50	29.169		
6,000.00	4,980.57	5,123.00	4,820.43	62.17	30.83	154.997	1,000.21	-1,122.30	1,513.71	1,464.53	49.18	30.779		
6,100.00	5,055.64	5,123.00	4,820.43	63.58	30.83	154.997	1,000.21	-1,122.30	1,585.88	1,537.61	48.26	32.859		
6,200.00	5,130.13	5,142.59	4,839.72	65.02	30.84	149.374	998.37	-1,119.43	1,660.80	1,613.17	47.62	34.873		
6,300.00	5,196.55	5,168.00	4,864.53	66.63	30.84	132.659	995.35	-1,114.85	1,741.05	1,694.00	47.06	37.000		
6,400.00	5,251.08	5,168.00	4,864.53	68.41	30.84	114.391	995.35	-1,114.85	1,824.56	1,778.38	46.18	39.511		
6,500.00	5,292.05	5,168.00	4,864.53	70.30	30.84	96.875	995.35	-1,114.85	1,909.16	1,863.80	45.36	42.090		
6,600.00	5,317.38	5,168.00	4,864.53	72.26	30.84	80.628	995.35	-1,114.85	1,994.40	1,949.71	44.70	44.622		
6,700.00	5,325.57	5,168.00	4,864.53	74.28	30.84	65.995	995.35	-1,114.85	2,079.55	2,035.31	44.24	47.005		
6,800.00	5,326.05	5,168.00	4,864.53	76.30	30.84	65.995	995.35	-1,114.85	2,164.68	2,120.77	43.91	49.295		

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



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Bettonnie Tsosie Wash Unit 105 H
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Reference Site:	Bettonnie Tsosie Wash (101,103,105 & 107)	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Bettonnie Tsosie Wash Unit 105 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: North Alamito Unit (102 & 106) - North Alamito Unit 106 H - Original Hole - MWD surveys												Offset Site Error:	0.00 ft
Survey Program: 440-MWD, 6091-MWD, 18454-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Reference Vertical Depth (ft)	Measured Depth (ft)	Offset Vertical Depth (ft)	Reference	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-12.880	77.81	-17.79	79.82				
100.00	100.00	99.97	99.97	0.27	0.17	-12.897	77.82	-17.82	79.83	79.39	0.44	179.854	
200.00	200.00	199.95	199.95	0.63	0.34	-12.950	77.85	-17.90	79.88	78.91	0.97	82.186	
300.00	300.00	299.92	299.92	0.99	0.51	-13.037	77.91	-18.04	79.97	78.47	1.50	53.310	
400.00	400.00	399.89	399.89	1.35	0.68	-13.158	77.99	-18.23	80.09	78.06	2.03	39.488	
500.00	500.00	499.80	499.80	1.71	0.96	-13.313	78.06	-18.47	80.22	77.55	2.67	30.054 ES	
600.00	600.00	598.26	598.20	2.07	1.32	-15.288	78.34	-21.41	81.23	77.85	3.38	24.011	
700.00	700.00	695.15	694.73	2.43	1.68	-20.281	79.99	-29.56	85.43	81.34	4.10	20.847	
800.00	800.00	791.27	789.91	2.78	2.05	-27.140	82.94	-42.51	93.74	88.93	4.82	19.462	
900.00	900.00	885.67	882.49	3.14	2.46	-34.842	86.90	-60.49	107.32	101.79	5.53	19.404	
1,000.00	1,000.00	978.32	972.17	3.50	2.90	-42.498	90.96	-83.35	126.47	120.25	6.22	20.324	
1,100.00	1,099.95	1,067.69	1,057.30	3.85	3.39	16.639	94.93	-110.22	149.18	142.32	6.86	21.732	
1,200.00	1,199.63	1,154.46	1,138.12	4.21	3.94	11.321	99.62	-141.40	173.95	166.50	7.45	23.339	
1,300.00	1,298.77	1,240.94	1,216.52	4.57	4.57	6.628	104.10	-177.59	200.17	192.16	8.01	24.978	
1,400.00	1,397.08	1,332.69	1,298.02	4.96	5.31	2.484	108.88	-219.45	226.13	217.46	8.67	26.074	
1,500.00	1,494.31	1,431.53	1,386.06	5.37	6.15	-1.149	113.18	-264.16	247.27	237.84	9.44	26.207	
1,600.00	1,590.18	1,527.26	1,471.01	5.82	6.98	-4.246	117.01	-308.13	264.69	254.53	10.16	26.063	
1,700.00	1,684.43	1,628.72	1,561.15	6.33	7.88	-7.327	120.48	-354.57	277.38	266.41	10.97	25.287	
1,800.00	1,776.81	1,727.26	1,649.15	6.90	8.74	-10.383	122.82	-398.84	284.51	272.75	11.76	24.200	
1,900.00	1,867.06	1,813.60	1,725.51	7.56	9.54	-13.086	125.28	-439.06	289.33	276.93	12.39	23.346	
2,000.00	1,954.93	1,906.44	1,805.38	8.30	10.46	-16.303	127.57	-486.31	294.66	281.47	13.19	22.341	
2,100.00	2,040.18	2,008.06	1,893.35	9.14	11.47	-20.383	128.33	-537.20	295.20	280.95	14.25	20.718	
2,200.00	2,122.59	2,108.30	1,980.50	10.09	12.45	-24.801	129.34	-586.69	291.63	276.17	15.46	18.866	
2,300.00	2,201.91	2,207.82	2,067.54	11.15	13.41	-29.815	130.63	-634.93	284.20	267.28	16.93	16.790	
2,400.00	2,278.03	2,296.92	2,144.98	12.33	14.30	-34.634	133.66	-678.89	275.23	256.67	18.56	14.833	
2,500.00	2,353.10	2,391.41	2,226.09	13.57	15.27	-39.793	137.72	-727.18	269.05	248.39	20.66	13.024	
2,600.00	2,428.17	2,495.11	2,315.51	14.84	16.33	-45.565	143.04	-779.41	264.33	241.02	23.31	11.341	
2,700.00	2,503.24	2,591.62	2,399.37	16.14	17.30	-51.095	148.68	-826.84	260.66	234.51	26.15	9.968	
2,751.58	2,541.96	2,639.24	2,440.63	16.82	17.78	-53.864	151.31	-850.46	260.11	232.42	27.69	9.395	
2,800.00	2,578.31	2,684.45	2,479.58	17.46	18.25	-56.428	153.87	-873.27	260.57	231.39	29.18	8.931	
2,900.00	2,653.38	2,779.46	2,561.26	18.79	19.23	-61.789	158.72	-921.56	264.05	231.64	32.42	8.145	
3,000.00	2,728.45	2,877.31	2,645.65	20.14	20.24	-67.280	163.17	-970.88	270.09	234.26	35.83	7.538	
3,100.00	2,803.52	2,978.69	2,732.70	21.49	21.29	-72.342	169.81	-1,022.42	277.37	238.15	39.21	7.073	
3,200.00	2,878.59	3,075.83	2,817.26	22.86	22.27	-77.307	176.13	-1,069.81	285.41	242.93	42.49	6.717	
3,300.00	2,953.66	3,170.16	2,899.40	24.23	23.21	-81.909	181.56	-1,115.86	296.21	250.67	45.55	6.503	
3,400.00	3,028.73	3,265.66	2,982.37	25.60	24.18	-86.186	186.75	-1,162.88	309.42	260.98	48.44	6.388	
3,500.00	3,103.80	3,361.33	3,065.47	26.99	25.14	-90.124	191.78	-1,210.02	324.46	273.32	51.14	6.345 SF	
3,600.00	3,178.88	3,458.24	3,149.49	28.37	26.13	-93.712	196.86	-1,258.03	341.06	287.36	53.69	6.352	
3,700.00	3,253.95	3,553.79	3,231.38	29.76	27.13	-96.619	202.38	-1,306.94	358.77	302.68	56.09	6.396	
3,800.00	3,329.02	3,647.00	3,311.63	31.16	28.10	-99.313	207.08	-1,354.12	377.92	319.63	58.29	6.483	
3,900.00	3,404.09	3,740.62	3,392.26	32.55	29.08	-101.780	210.98	-1,401.54	398.72	338.32	60.40	6.601	
4,000.00	3,479.16	3,834.50	3,472.34	33.95	30.08	-103.814	214.52	-1,450.40	420.73	358.25	62.49	6.733	
4,100.00	3,554.23	3,923.92	3,549.37	35.35	31.01	-105.764	216.56	-1,495.75	444.57	380.23	64.33	6.911	
4,200.00	3,629.30	4,034.89	3,644.83	36.75	32.16	-107.901	220.73	-1,552.18	467.46	400.74	66.72	7.006	
4,300.00	3,704.37	4,129.44	3,726.29	38.16	33.14	-109.588	225.49	-1,599.92	489.61	420.99	68.62	7.135	
4,400.00	3,779.44	4,227.26	3,811.65	39.56	34.13	-111.419	229.63	-1,647.52	513.01	442.55	70.47	7.280	
4,500.00	3,854.51	4,326.14	3,897.16	40.97	35.13	-112.962	235.29	-1,696.84	535.30	462.95	72.35	7.399	
4,600.00	3,929.58	4,418.41	3,977.48	42.38	36.08	-114.384	239.82	-1,742.03	558.82	484.80	74.02	7.549	
4,700.00	4,004.65	4,517.39	4,062.08	43.79	37.13	-115.474	244.31	-1,793.21	582.68	506.69	75.98	7.668	
4,800.00	4,079.72	4,611.98	4,141.60	45.20	38.18	-116.191	248.57	-1,844.25	606.43	528.46	77.97	7.778	
4,900.00	4,154.79	4,692.07	4,209.93	46.61	39.02	-116.919	251.30	-1,885.90	631.66	552.23	79.43	7.952	

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



Anticollision Report

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Reference Well:	Betonnie Tsosie Wash Unit 105 H	Survey Calculation Method:	Minimum Curvature
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Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design:		North Alamito Unit (102 & 106) - North Alamito Unit 106 H - Original Hole - MWD surveys											Offset Site Error:		0.00 ft	
Survey Program:		440-MWD, 6091-MWD, 18454-MWD					Rule Assigned:							Offset Well Error:		0.00 ft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning			
5,000.00	4,229.87	4,780.48	4,288.33	48.02	39.86	-118.178	252.92	-1,926.73	659.44	578.64	80.79	8.162				
5,100.00	4,304.94	4,886.96	4,383.21	49.43	40.85	-119.669	255.62	-1,974.98	687.11	604.59	82.52	8.327				
5,200.00	4,380.01	4,955.98	4,444.50	50.84	41.49	-120.527	257.15	-2,006.65	715.40	632.06	83.34	8.585				
5,300.00	4,455.08	5,005.84	4,489.73	52.26	41.90	-121.254	256.20	-2,027.58	748.67	665.35	83.33	8.985				
5,400.00	4,530.15	5,049.52	4,530.65	53.67	42.20	-122.100	253.19	-2,042.52	788.22	705.53	82.69	9.532				
5,500.00	4,605.22	5,101.79	4,580.80	55.09	42.47	-123.340	248.20	-2,056.34	832.77	750.79	81.97	10.159				
5,600.00	4,680.29	5,150.53	4,628.21	56.50	42.67	-124.623	242.59	-2,066.12	881.53	800.61	80.92	10.893				
5,700.00	4,755.36	5,190.86	4,667.75	57.92	42.79	-125.765	237.12	-2,071.81	934.62	855.14	79.48	11.759				
5,800.00	4,830.43	5,228.21	4,704.41	59.33	42.88	-126.844	230.98	-2,075.42	992.06	914.16	77.90	12.735				
5,900.00	4,905.50	5,257.00	4,732.69	60.75	42.93	-127.699	225.81	-2,076.99	1,053.28	977.22	76.07	13.847				
6,000.00	4,980.57	5,301.00	4,775.75	62.17	42.98	-129.029	216.80	-2,077.21	1,118.26	1,043.55	74.72	14.967				
6,100.00	5,055.64	5,315.75	4,790.10	63.58	42.99	-129.482	213.46	-2,076.63	1,186.44	1,113.85	72.59	16.345				
6,200.00	5,130.13	5,346.00	4,819.41	65.02	43.00	-131.891	206.38	-2,074.22	1,258.45	1,187.43	71.02	17.720				
6,300.00	5,196.55	5,360.37	4,833.26	66.63	43.00	-133.771	202.96	-2,072.48	1,340.96	1,271.48	69.48	19.301				
6,400.00	5,251.08	5,373.47	4,845.85	68.41	43.00	-130.157	199.89	-2,070.55	1,432.76	1,364.26	68.50	20.916				
6,500.00	5,292.05	5,391.00	4,862.61	70.30	42.99	-110.877	195.84	-2,067.44	1,530.18	1,462.00	68.18	22.443				
6,600.00	5,317.38	5,391.00	4,862.61	72.26	42.99	-49.851	195.84	-2,067.44	1,629.01	1,561.12	67.89	23.993				
6,700.00	5,325.57	5,370.50	4,843.00	74.28	43.00	-25.021	200.59	-2,071.02	1,725.74	1,658.25	67.49	25.572				
6,800.00	5,326.05	5,361.18	4,834.04	76.30	43.00	-24.556	202.77	-2,072.37	1,821.20	1,753.78	67.43	27.010				
6,900.00	5,326.52	5,346.00	4,819.41	78.34	43.00	-23.797	206.38	-2,074.22	1,917.04	1,849.80	67.24	28.510				
7,000.00	5,327.00	5,346.00	4,819.41	80.40	43.00	-23.797	206.38	-2,074.22	2,013.12	1,945.77	67.35	29.889				
7,100.00	5,327.47	5,346.00	4,819.41	82.47	43.00	-23.797	206.38	-2,074.22	2,109.56	2,042.12	67.44	31.279				
7,200.00	5,327.94	5,346.00	4,819.41	84.55	43.00	-23.797	206.38	-2,074.22	2,206.32	2,138.80	67.53	32.674				

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



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Reference Site:	Betonnie Tsosie Wash (101,103,105 & 107)	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Betonnie Tsosie Wash Unit 105 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB=6962+23.5 @ 6985.50ft

Offset Depths are relative to Offset Datum

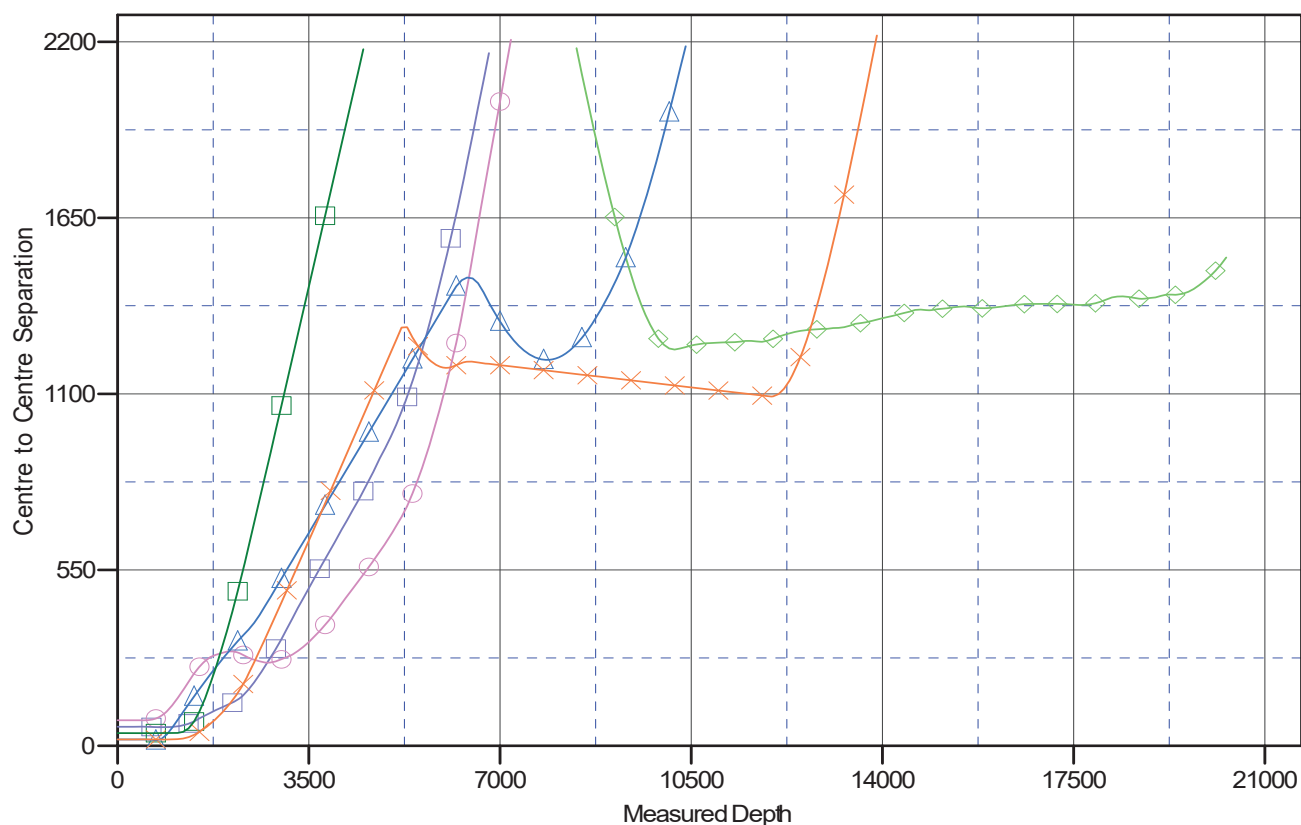
Central Meridian is -106.25000000

Coordinates are relative to: Betonnie Tsosie Wash Unit 105 H

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

Grid Convergence at Surface is: -0.804°

Ladder Plot



LEGEND

- Betonnie Tsosie Wash Unit 731H Original Hole, Survey V0
- ▲— North Arriba Unit 102H Original Hole, MW Data rev V0
- Betonnie Tsosie Wash Unit 107H Original Hole, rev V0
- ×— Betonnie Tsosie Wash Unit 103H Original Hole, rev V0

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



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well Betonnie Tsosie Wash Unit 105 H
Project:	Rio Arriba, Sandoval & San Juan Counties, NM NAD83	TVD Reference:	RKB=6962+23.5 @ 6985.50ft
Reference Site:	Betonnie Tsosie Wash (101,103,105 & 107)	MD Reference:	RKB=6962+23.5 @ 6985.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Betonnie Tsosie Wash Unit 105 H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Jul1724_v17
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB=6962+23.5 @ 6985.50ft

Offset Depths are relative to Offset Datum

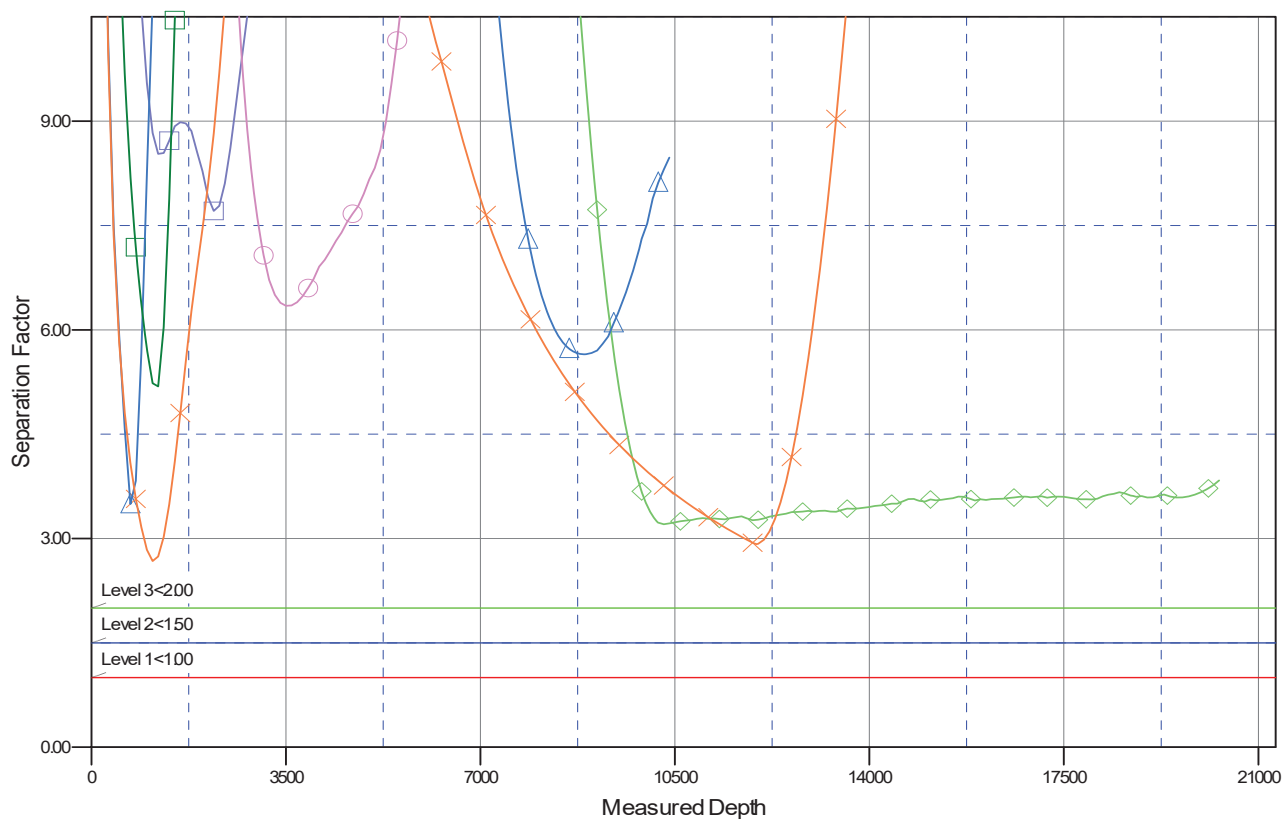
Central Meridian is -106.25000000

Coordinates are relative to: Betonnie Tsosie Wash Unit 105 H

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

Grid Convergence at Surface is: -0.804°

Separation Factor Plot



LEGEND

	Betonnie Tsosie Wash Unit 731 H Original Hole, Survey V0		North Arriba Unit 106 H Original Hole, MW Dauney V0		Betonnie Tsosie Wash Unit 101 H Original Hole, rev0 V0
	North Arriba Unit 102 H Original Hole, MW Dauney V0		Betonnie Tsosie Wash Unit 107 H Original Hole, rev0 V0		Betonnie Tsosie Wash Unit 103 H Original Hole, rev0 V0

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



United States Department of the Interior

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



In Reply Refer To:
3162.3-1(NMF0110)

* ENDURING RESOURCES LLC
#105H BETONNIE TSOSIE WASH UNIT
Lease: NMNM136161 Agreement: NMNM135219A

SH: NE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 19, T. 23N., R. 07W.
Sandoval County, New Mexico
BH: NE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 11, T. 23N., R. 08W.
San Juan County, New Mexico
***Above Data Required on Well Sign**

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

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

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

INTERIOR REGION 7 • UPPER COLORADO BASIN

COLORADO, NEW MEXICO, UTAH, WYOMING

I. GENERAL

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

VII. PHONE NUMBERS

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

Virgil Lucero (505) 793-1836
Kenneth Rennick (505) 564-7742
Matthew Kade (505) 564-7736

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

ACKNOWLEDGMENTS

Action 510209

ACKNOWLEDGMENTS

Operator: DJR OPERATING, LLC 200 Energy Court Farmington, NM 87401	OGRID: 371838
	Action Number: 510209
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

ACKNOWLEDGMENTS

☒	I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well.
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Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

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

CONDITIONS

Action 510209

CONDITIONS

Operator: DJR OPERATING, LLC 200 Energy Court Farmington, NM 87401	OGRID: 371838
	Action Number: 510209
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
scrues76	Cement is required to circulate on both surface and intermediate1 strings of casing.	9/29/2025
scrues76	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	9/29/2025
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	10/8/2025
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	10/8/2025
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.	10/8/2025
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.	10/8/2025
ward.rikala	Administrative order required for non-standard spacing unit prior to production.	10/14/2025