

Form 3160-5
(June 2019)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2021**SUNDRY NOTICES AND REPORTS ON WELLS**
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No.

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☐ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

3a. Address

3b. Phone No. (include area code)

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

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

8. Well Name and No.

9. API Well No.

10. Field and Pool or Exploratory Area

11. Country or Parish, State

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION				
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off	
	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity	
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other	
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon		
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal		

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)

Title

Signature

Date

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

Conditions of approval, if any, are attached. Approval of this notice 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.

Office

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.

(Instructions on page 2)

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law 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, are either shown below, will be issued by or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. 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 the 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., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

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

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

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 Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

Additional Information

Location of Well

0. SHL: NENE / 1152 FNL / 1273 FEL / TWSP: 27N / RANGE: 6W / SECTION: 21 / LAT: 36.563928 / LONG: -107.467888 (TVD: 0 feet, MD: 0 feet)

PPP: NENE / 1170 FNL / 1200 FEL / TWSP: 27N / RANGE: 6W / SECTION: 21 / LAT: 36.563881 / LONG: -107.467642 (TVD: 5933 feet, MD: 5982 feet)

BHL: NWNW / 1170 FNL / 500 FWL / TWSP: 27N / RANGE: 6W / SECTION: 20 / LAT: 36.563268 / LONG: -107.497693 (TVD: 6518 feet, MD: 15870 feet)

CONFIDENTIAL

District II
811 S. First Street, Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

OIL CONSERVATION DIVISION
1220 South St. Francis Drive
Santa Fe, NM 87505

Submit one copy to
Appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1API Number		2Pool Code 97232		3Pool Name BASIN MANCOS	
4Property Code 319957		5Property Name RINCON UNIT			6Well Number 715H
7GRID No. 372286		8Operator Name ENDURING RESOURCES, LLC			9Elevation 6538 '

¹⁰ Surface Location

UL or Lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	21	27N	6W		1152	NORTH	1273	EAST	RIO ARRIBA

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	19	27N	6W		2382	NORTH	693	EAST	RIO ARRIBA

¹² Dedicated Acres	Entire Section 19	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
1918.72	Entire Section 20			
	Entire Section 21			

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

END-OF-LATERAL
2382' FNL 693' FEL
SECTION 19, T27N, R6W
LAT: 36.559990°N
LONG: 107.501251°W
DATUM: NAD1927

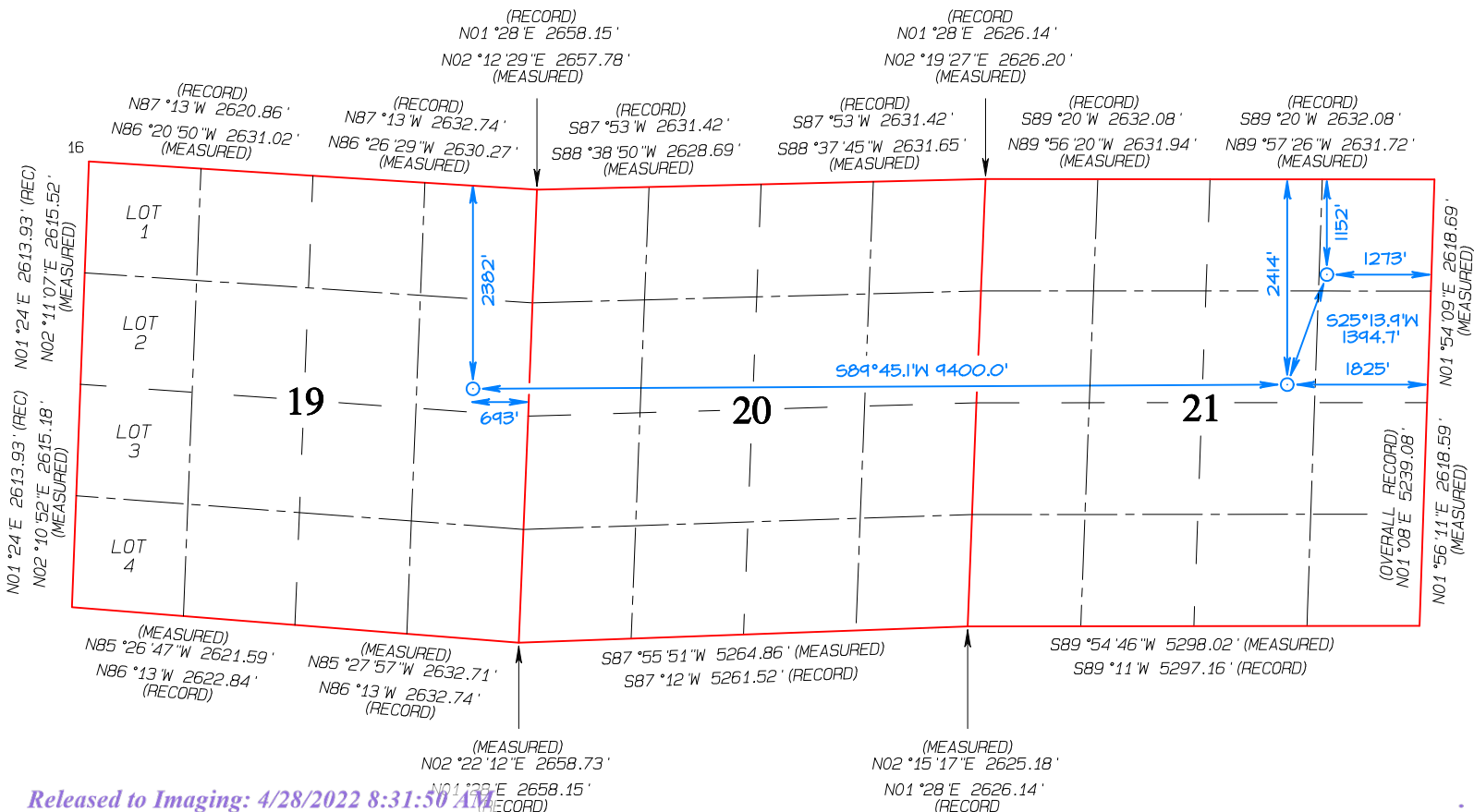
LAT: 36.559999 °N
LONG: 107.501856 °W
DATUM: NAD1983

POINT-OF-ENTRY
2414' FNL 1825' FEL
SECTION 21, T27N, R6W
LAT: 36.-560433 °N
LONG: 107.469253 °W
DATUM: NAD1927

LAT: 36.560443 °N
LONG: 107.469857 °W
DATUM: NAD1983

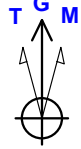
SURFACE LOCATION
1152' FNL 1273' FEL
SECTION 21, T27N, R6W
LAT: 36.563919 °N
LONG: 107.467284 °W
DATUM: NAD1927

LAT: 36.563928 °N
LONG: 107.467888 °W
DATUM: NAD1983





Well: Rincon Unit 715H
Site: Rincon pad (613, 615, 713 & 715)
Project: Rio Arriba County, New Mexico NAD83 NM W
Design: rev0
Rig:



Azimuths to Grid North
 True North: -0.22°
 Magnetic North: 8.42°

Magnetic Field
 Strength: 49449.1nT
 Dip Angle: 63.07°
 Date: 4/19/2022
 Model: IGRF2020

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Western Zone
 System Datum: Mean Sea Level
 Depth Reference: RKB=6538+25 @ 6563.00ft
 Surface location:
 Northing 2024782.384 Easting 2830411.183 Latitude 36.563928000 Longitude -107.467888000

Total Corr (M=>G): To convert a Magnetic Direction to a Grid Direction, Add 8.42°

Section Details

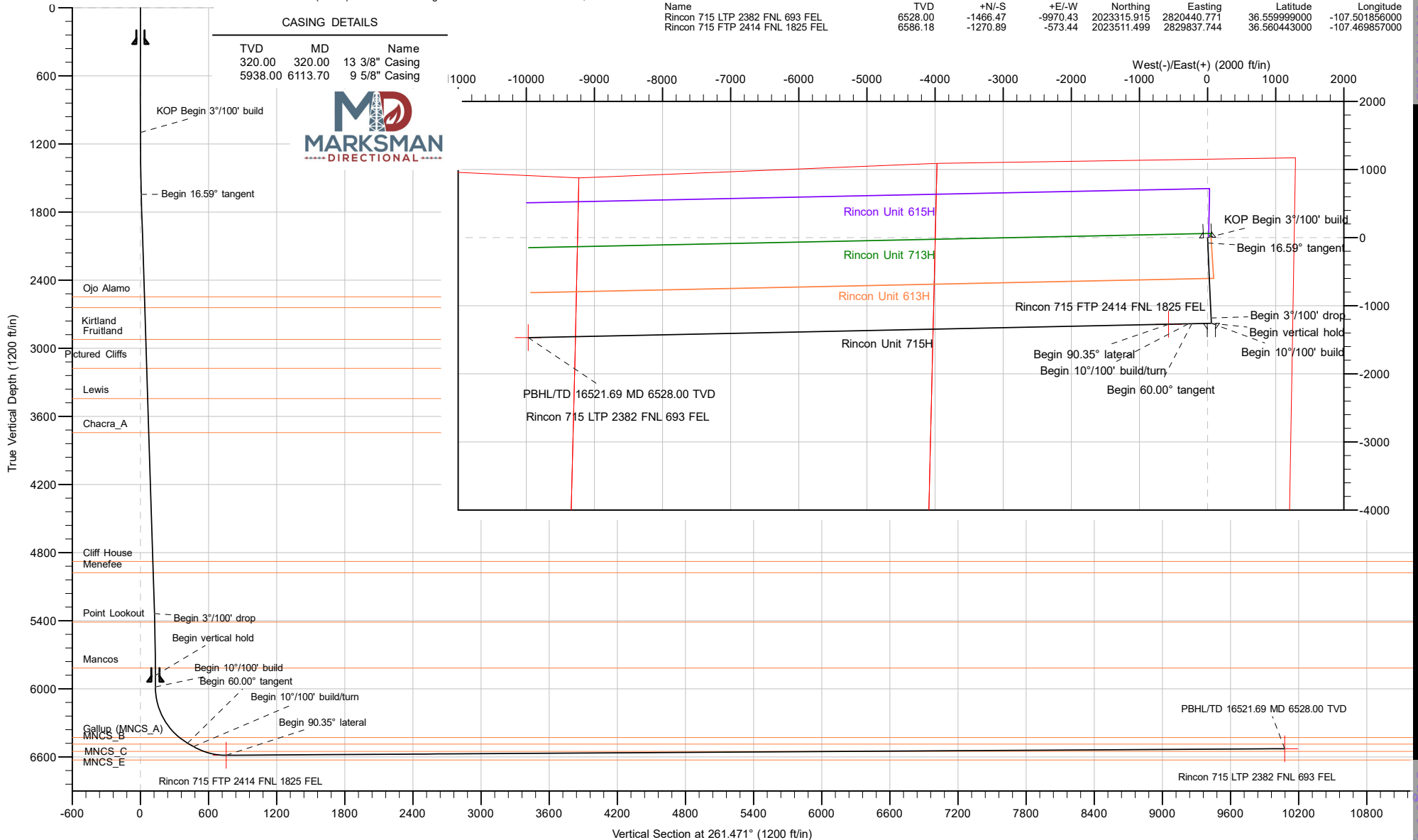
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	
2	1100.00	0.00	0.000	1100.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 3°/100' build
3	1652.86	16.59	177.501	1645.18	-79.39	3.46	3.00	177.50	8.35	Begin 16.59° tangent
4	5506.07	16.59	177.501	5338.05	-1178.25	51.43	0.00	0.00	123.90	Begin 3°/100' drop
5	6058.93	0.00	359.057	5883.23	-1257.64	54.89	3.00	180.00	132.25	Begin vertical hold
6	6158.93	0.00	359.057	5983.23	-1257.64	54.89	0.00	359.06	132.25	Begin 10°/100' build
7	6758.93	60.00	268.787	6479.43	-1263.71	-231.52	10.00	268.79	416.39	Begin 60.00° tangent
8	6818.93	60.00	268.787	6509.43	-1264.81	-283.47	0.00	0.00	467.93	Begin 10°/100' build/turn
9	7122.48	90.35	268.808	6586.18	-1270.89	-573.44	10.00	0.04	755.59	Begin 90.35° lateral
10	16521.69	90.35	268.808	6528.00	-1466.47	-9970.43	0.00	0.0010077.66		PBHL/TD 16521.69 MD 6528.00 TVD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Rincon 715 LTP 2382 FNL 693 FEL	6528.00	-1466.47	-9970.43	2023315.915	2820440.771	36.559999000	-107.501856000
Rincon 715 FTP 2414 FNL 1825 FEL	6586.18	-1270.89	-573.44	2023511.499	2829837.744	36.560443000	-107.469857000

CASING DETAILS

TVD	MD	Name
320.00	320.00	13 3/8" Casing
5938.00	6113.70	9 5/8" Casing





Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 715H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6538+25 @ 6563.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM W	MD Reference:	RKB=6538+25 @ 6563.00ft
Site:	Rincon pad (613, 615, 713 & 715)	North Reference:	Grid
Well:	Rincon Unit 715H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

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

Site	Rincon pad (613, 615, 713 & 715)				
Site Position:		Northing:	2,024,818.244 usft	Latitude:	36.564026000
From:	Lat/Long	Easting:	2,830,459.503 usft	Longitude:	-107.467723000
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Rincon Unit 715H, Surf loc: 1152 FNL 1273 FEL Section 21-T27N-R06					
Well Position	+N/-S	0.00 ft	Northing:	2,024,782.384 usft	Latitude:	36.563928000
	+E/-W	0.00 ft	Easting:	2,830,411.183 usft	Longitude:	-107.467888000
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,538.00 ft
Grid Convergence:		0.22 °				

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	4/19/2022	8.64	63.07	49,449.10674070

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	261.471	

Plan Survey Tool Program	Date	4/20/2022			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	16,521.68 rev0 (Original Hole)	MWD		
			OWSG MWD - Standard		



Planning Report

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Project:	Rio Arriba County, New Mexico NAD83 NM W	MD Reference:	RKB=6538+25 @ 6563.00ft
Site:	Rincon pad (613, 615, 713 & 715)	North Reference:	Grid
Well:	Rincon Unit 715H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,100.00	0.00	0.000	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,652.86	16.59	177.501	1,645.18	-79.39	3.46	3.00	3.00	0.00	177.50	
5,506.07	16.59	177.501	5,338.05	-1,178.25	51.43	0.00	0.00	0.00	0.00	
6,058.93	0.00	359.057	5,883.23	-1,257.64	54.89	3.00	-3.00	0.00	180.00	
6,158.93	0.00	359.057	5,983.23	-1,257.64	54.89	0.00	0.00	0.00	359.06	
6,758.93	60.00	268.787	6,479.43	-1,263.71	-231.52	10.00	10.00	0.00	268.79	
6,818.93	60.00	268.787	6,509.43	-1,264.81	-283.47	0.00	0.00	0.00	0.00	
7,122.48	90.35	268.808	6,586.18	-1,270.89	-573.44	10.00	10.00	0.01	0.04	
16,521.69	90.35	268.808	6,528.00	-1,466.47	-9,970.43	0.00	0.00	0.00	0.00	Rincon 715 LTP 2382



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 715H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6538+25 @ 6563.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM W	MD Reference:	RKB=6538+25 @ 6563.00ft
Site:	Rincon pad (613, 615, 713 & 715)	North Reference:	Grid
Well:	Rincon Unit 715H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.000	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.000	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.000	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.000	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,100.00	0.00	0.000	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
KOP Begin 3°/100' build										
1,200.00	3.00	177.501	1,199.95	-2.61	0.11	0.27	3.00	3.00	0.00	
1,300.00	6.00	177.501	1,299.63	-10.45	0.46	1.10	3.00	3.00	0.00	
1,400.00	9.00	177.501	1,398.77	-23.49	1.03	2.47	3.00	3.00	0.00	
1,500.00	12.00	177.501	1,497.08	-41.70	1.82	4.38	3.00	3.00	0.00	
1,600.00	15.00	177.501	1,594.31	-65.01	2.84	6.84	3.00	3.00	0.00	
1,652.86	16.59	177.501	1,645.18	-79.39	3.46	8.35	3.00	3.00	0.00	
Begin 16.59° tangent										
1,700.00	16.59	177.501	1,690.35	-92.83	4.05	9.76	0.00	0.00	0.00	
1,800.00	16.59	177.501	1,786.19	-121.35	5.30	12.76	0.00	0.00	0.00	
1,900.00	16.59	177.501	1,882.03	-149.87	6.54	15.76	0.00	0.00	0.00	
2,000.00	16.59	177.501	1,977.87	-178.39	7.79	18.76	0.00	0.00	0.00	
2,100.00	16.59	177.501	2,073.71	-206.90	9.03	21.76	0.00	0.00	0.00	
2,200.00	16.59	177.501	2,169.55	-235.42	10.28	24.76	0.00	0.00	0.00	
2,300.00	16.59	177.501	2,265.39	-263.94	11.52	27.75	0.00	0.00	0.00	
2,400.00	16.59	177.501	2,361.22	-292.46	12.76	30.75	0.00	0.00	0.00	
2,500.00	16.59	177.501	2,457.06	-320.98	14.01	33.75	0.00	0.00	0.00	
2,594.88	16.59	177.501	2,548.00	-348.04	15.19	36.60	0.00	0.00	0.00	
Ojo Alamo										
2,600.00	16.59	177.501	2,552.90	-349.49	15.25	36.75	0.00	0.00	0.00	
2,694.01	16.59	177.501	2,643.00	-376.30	16.42	39.57	0.00	0.00	0.00	
Kirtland										
2,700.00	16.59	177.501	2,648.74	-378.01	16.50	39.75	0.00	0.00	0.00	
2,800.00	16.59	177.501	2,744.58	-406.53	17.74	42.75	0.00	0.00	0.00	
2,900.00	16.59	177.501	2,840.42	-435.05	18.99	45.75	0.00	0.00	0.00	
2,986.16	16.59	177.501	2,923.00	-459.62	20.06	48.33	0.00	0.00	0.00	
Fruitland										
3,000.00	16.59	177.501	2,936.26	-463.57	20.23	48.75	0.00	0.00	0.00	
3,100.00	16.59	177.501	3,032.10	-492.09	21.48	51.74	0.00	0.00	0.00	
3,200.00	16.59	177.501	3,127.94	-520.60	22.72	54.74	0.00	0.00	0.00	
3,252.23	16.59	177.501	3,178.00	-535.50	23.37	56.31	0.00	0.00	0.00	
Pictured Cliffs										
3,300.00	16.59	177.501	3,223.78	-549.12	23.97	57.74	0.00	0.00	0.00	
3,400.00	16.59	177.501	3,319.62	-577.64	25.21	60.74	0.00	0.00	0.00	
3,500.00	16.59	177.501	3,415.46	-606.16	26.46	63.74	0.00	0.00	0.00	
3,528.74	16.59	177.501	3,443.00	-614.35	26.81	64.60	0.00	0.00	0.00	
Lewis										
3,600.00	16.59	177.501	3,511.30	-634.68	27.70	66.74	0.00	0.00	0.00	
3,700.00	16.59	177.501	3,607.13	-663.19	28.95	69.74	0.00	0.00	0.00	
3,800.00	16.59	177.501	3,702.97	-691.71	30.19	72.74	0.00	0.00	0.00	
3,841.76	16.59	177.501	3,743.00	-703.62	30.71	73.99	0.00	0.00	0.00	



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 715H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6538+25 @ 6563.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM W	MD Reference:	RKB=6538+25 @ 6563.00ft
Site:	Rincon pad (613, 615, 713 & 715)	North Reference:	Grid
Well:	Rincon Unit 715H	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)	
Chacra_A										
3,900.00	16.59	177.501	3,798.81	-720.23	31.43	75.73	0.00	0.00	0.00	
4,000.00	16.59	177.501	3,894.65	-748.75	32.68	78.73	0.00	0.00	0.00	
4,100.00	16.59	177.501	3,990.49	-777.27	33.92	81.73	0.00	0.00	0.00	
4,200.00	16.59	177.501	4,086.33	-805.79	35.17	84.73	0.00	0.00	0.00	
4,300.00	16.59	177.501	4,182.17	-834.30	36.41	87.73	0.00	0.00	0.00	
4,400.00	16.59	177.501	4,278.01	-862.82	37.66	90.73	0.00	0.00	0.00	
4,500.00	16.59	177.501	4,373.85	-891.34	38.90	93.73	0.00	0.00	0.00	
4,600.00	16.59	177.501	4,469.69	-919.86	40.15	96.73	0.00	0.00	0.00	
4,700.00	16.59	177.501	4,565.53	-948.38	41.39	99.73	0.00	0.00	0.00	
4,800.00	16.59	177.501	4,661.37	-976.89	42.64	102.72	0.00	0.00	0.00	
4,900.00	16.59	177.501	4,757.21	-1,005.41	43.88	105.72	0.00	0.00	0.00	
5,000.00	16.59	177.501	4,853.05	-1,033.93	45.13	108.72	0.00	0.00	0.00	
5,026.04	16.59	177.501	4,878.00	-1,041.36	45.45	109.50	0.00	0.00	0.00	
Cliff House										
5,100.00	16.59	177.501	4,948.88	-1,062.45	46.37	111.72	0.00	0.00	0.00	
5,130.38	16.59	177.501	4,978.00	-1,071.11	46.75	112.63	0.00	0.00	0.00	
Menefee										
5,200.00	16.59	177.501	5,044.72	-1,090.97	47.62	114.72	0.00	0.00	0.00	
5,300.00	16.59	177.501	5,140.56	-1,119.49	48.86	117.72	0.00	0.00	0.00	
5,400.00	16.59	177.501	5,236.40	-1,148.00	50.10	120.72	0.00	0.00	0.00	
5,506.07	16.59	177.501	5,338.05	-1,178.25	51.43	123.90	0.00	0.00	0.00	
Begin 3°/100' drop										
5,583.81	14.25	177.501	5,413.00	-1,198.90	52.33	126.07	3.00	-3.00	0.00	
Point Lookout										
5,600.00	13.77	177.501	5,428.70	-1,202.82	52.50	126.48	3.00	-3.00	0.00	
5,700.00	10.77	177.501	5,526.41	-1,224.04	53.42	128.71	3.00	-3.00	0.00	
5,800.00	7.77	177.501	5,625.09	-1,240.13	54.13	130.40	3.00	-3.00	0.00	
5,900.00	4.77	177.501	5,724.48	-1,251.04	54.60	131.55	3.00	-3.00	0.00	
5,993.69	1.96	177.501	5,818.00	-1,256.53	54.84	132.13	3.00	-3.00	0.00	
Mancos										
6,000.00	1.77	177.501	5,824.31	-1,256.73	54.85	132.15	3.00	-3.00	0.00	
6,058.93	0.00	359.057	5,883.23	-1,257.64	54.89	132.25	3.00	-3.00	0.00	
Begin vertical hold										
6,100.00	0.00	0.000	5,924.30	-1,257.64	54.89	132.25	0.00	0.00	0.00	
6,158.93	0.00	0.000	5,983.23	-1,257.64	54.89	132.25	0.00	0.00	0.00	
Begin 10°/100' build										
6,200.00	4.11	268.787	6,024.26	-1,257.67	53.42	133.70	10.00	10.00	0.00	
6,250.00	9.11	268.787	6,073.92	-1,257.79	47.67	139.41	10.00	10.00	0.00	
6,300.00	14.11	268.787	6,122.88	-1,258.01	37.61	149.38	10.00	10.00	0.00	
6,350.00	19.11	268.787	6,170.78	-1,258.31	23.33	163.55	10.00	10.00	0.00	
6,400.00	24.11	268.787	6,217.25	-1,258.70	4.93	181.81	10.00	10.00	0.00	
6,450.00	29.11	268.787	6,261.94	-1,259.17	-17.45	204.01	10.00	10.00	0.00	
6,500.00	34.11	268.787	6,304.51	-1,259.73	-43.64	230.00	10.00	10.00	0.00	
6,550.00	39.11	268.787	6,344.64	-1,260.36	-73.44	259.56	10.00	10.00	0.00	
6,600.00	44.11	268.787	6,382.01	-1,261.06	-106.62	292.48	10.00	10.00	0.00	
6,650.00	49.11	268.787	6,416.35	-1,261.83	-142.94	328.51	10.00	10.00	0.00	
6,671.32	51.24	268.787	6,430.00	-1,262.18	-159.30	344.74	10.00	10.00	0.00	
Gallup (MNCS_A)										
6,700.00	54.11	268.787	6,447.39	-1,262.66	-182.10	367.36	10.00	10.00	0.00	
6,750.00	59.11	268.787	6,474.90	-1,263.54	-223.83	408.76	10.00	10.00	0.00	
6,758.93	60.00	268.787	6,479.43	-1,263.71	-231.52	416.39	10.00	10.00	0.00	
Begin 60.00° tangent										



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 715H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6538+25 @ 6563.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM W	MD Reference:	RKB=6538+25 @ 6563.00ft
Site:	Rincon pad (613, 615, 713 & 715)	North Reference:	Grid
Well:	Rincon Unit 715H	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)
6,776.08	60.00	268.787	6,488.00	-1,264.02	-246.37	431.12	0.00	0.00	0.00
MNCS_B									
6,800.00	60.00	268.787	6,499.96	-1,264.46	-267.08	451.67	0.00	0.00	0.00
6,818.93	60.00	268.787	6,509.43	-1,264.81	-283.47	467.93	0.00	0.00	0.00
Begin 10°/100' build/turn									
6,850.00	63.11	268.789	6,524.22	-1,265.38	-310.78	495.02	10.00	10.00	0.01
6,900.00	68.11	268.793	6,544.87	-1,266.34	-356.30	540.17	10.00	10.00	0.01
6,917.08	69.82	268.794	6,551.00	-1,266.68	-372.24	555.99	10.00	10.00	0.01
MNCS_C									
6,950.00	73.11	268.796	6,561.46	-1,267.34	-403.43	586.94	10.00	10.00	0.01
7,000.00	78.11	268.800	6,573.89	-1,268.35	-451.84	634.96	10.00	10.00	0.01
7,050.00	83.11	268.803	6,582.05	-1,269.38	-501.14	683.87	10.00	10.00	0.01
7,100.00	88.11	268.806	6,585.88	-1,270.42	-550.97	733.30	10.00	10.00	0.01
7,122.48	90.35	268.808	6,586.18	-1,270.89	-573.44	755.59	10.00	10.00	0.01
Begin 90.35° lateral									
7,200.00	90.35	268.808	6,585.70	-1,272.50	-650.94	832.47	0.00	0.00	0.00
7,300.00	90.35	268.808	6,585.08	-1,274.59	-750.92	931.65	0.00	0.00	0.00
7,400.00	90.35	268.808	6,584.46	-1,276.67	-850.89	1,030.83	0.00	0.00	0.00
7,500.00	90.35	268.808	6,583.84	-1,278.75	-950.87	1,130.01	0.00	0.00	0.00
7,600.00	90.35	268.808	6,583.22	-1,280.83	-1,050.85	1,229.19	0.00	0.00	0.00
7,700.00	90.35	268.808	6,582.60	-1,282.91	-1,150.82	1,328.37	0.00	0.00	0.00
7,800.00	90.35	268.808	6,581.98	-1,284.99	-1,250.80	1,427.55	0.00	0.00	0.00
7,900.00	90.35	268.808	6,581.36	-1,287.07	-1,350.78	1,526.73	0.00	0.00	0.00
8,000.00	90.35	268.808	6,580.75	-1,289.15	-1,450.75	1,625.91	0.00	0.00	0.00
8,100.00	90.35	268.808	6,580.13	-1,291.23	-1,550.73	1,725.09	0.00	0.00	0.00
8,200.00	90.35	268.808	6,579.51	-1,293.31	-1,650.71	1,824.27	0.00	0.00	0.00
8,300.00	90.35	268.808	6,578.89	-1,295.39	-1,750.68	1,923.45	0.00	0.00	0.00
8,400.00	90.35	268.808	6,578.27	-1,297.47	-1,850.66	2,022.63	0.00	0.00	0.00
8,500.00	90.35	268.808	6,577.65	-1,299.55	-1,950.63	2,121.81	0.00	0.00	0.00
8,600.00	90.35	268.808	6,577.03	-1,301.64	-2,050.61	2,220.99	0.00	0.00	0.00
8,700.00	90.35	268.808	6,576.41	-1,303.72	-2,150.59	2,320.16	0.00	0.00	0.00
8,800.00	90.35	268.808	6,575.79	-1,305.80	-2,250.56	2,419.34	0.00	0.00	0.00
8,900.00	90.35	268.808	6,575.17	-1,307.88	-2,350.54	2,518.52	0.00	0.00	0.00
9,000.00	90.35	268.808	6,574.56	-1,309.96	-2,450.52	2,617.70	0.00	0.00	0.00
9,100.00	90.35	268.808	6,573.94	-1,312.04	-2,550.49	2,716.88	0.00	0.00	0.00
9,200.00	90.35	268.808	6,573.32	-1,314.12	-2,650.47	2,816.06	0.00	0.00	0.00
9,300.00	90.35	268.808	6,572.70	-1,316.20	-2,750.45	2,915.24	0.00	0.00	0.00
9,400.00	90.35	268.808	6,572.08	-1,318.28	-2,850.42	3,014.42	0.00	0.00	0.00
9,500.00	90.35	268.808	6,571.46	-1,320.36	-2,950.40	3,113.60	0.00	0.00	0.00
9,600.00	90.35	268.808	6,570.84	-1,322.44	-3,050.38	3,212.78	0.00	0.00	0.00
9,700.00	90.35	268.808	6,570.22	-1,324.52	-3,150.35	3,311.96	0.00	0.00	0.00
9,800.00	90.35	268.808	6,569.60	-1,326.61	-3,250.33	3,411.14	0.00	0.00	0.00
9,900.00	90.35	268.808	6,568.99	-1,328.69	-3,350.30	3,510.32	0.00	0.00	0.00
10,000.00	90.35	268.808	6,568.37	-1,330.77	-3,450.28	3,609.50	0.00	0.00	0.00
10,100.00	90.35	268.808	6,567.75	-1,332.85	-3,550.26	3,708.67	0.00	0.00	0.00
10,200.00	90.35	268.808	6,567.13	-1,334.93	-3,650.23	3,807.85	0.00	0.00	0.00
10,300.00	90.35	268.808	6,566.51	-1,337.01	-3,750.21	3,907.03	0.00	0.00	0.00
10,400.00	90.35	268.808	6,565.89	-1,339.09	-3,850.19	4,006.21	0.00	0.00	0.00
10,500.00	90.35	268.808	6,565.27	-1,341.17	-3,950.16	4,105.39	0.00	0.00	0.00
10,600.00	90.35	268.808	6,564.65	-1,343.25	-4,050.14	4,204.57	0.00	0.00	0.00
10,700.00	90.35	268.808	6,564.03	-1,345.33	-4,150.12	4,303.75	0.00	0.00	0.00
10,800.00	90.35	268.808	6,563.41	-1,347.41	-4,250.09	4,402.93	0.00	0.00	0.00
10,900.00	90.35	268.808	6,562.80	-1,349.49	-4,350.07	4,502.11	0.00	0.00	0.00



Planning Report

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Company:	Enduring Resources LLC	TVD Reference:	RKB=6538+25 @ 6563.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM W	MD Reference:	RKB=6538+25 @ 6563.00ft
Site:	Rincon pad (613, 615, 713 & 715)	North Reference:	Grid
Well:	Rincon Unit 715H	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)
11,000.00	90.35	268.808	6,562.18	-1,351.58	-4,450.05	4,601.29	0.00	0.00	0.00
11,100.00	90.35	268.808	6,561.56	-1,353.66	-4,550.02	4,700.47	0.00	0.00	0.00
11,200.00	90.35	268.808	6,560.94	-1,355.74	-4,650.00	4,799.65	0.00	0.00	0.00
11,300.00	90.35	268.808	6,560.32	-1,357.82	-4,749.98	4,898.83	0.00	0.00	0.00
11,400.00	90.35	268.808	6,559.70	-1,359.90	-4,849.95	4,998.01	0.00	0.00	0.00
11,500.00	90.35	268.808	6,559.08	-1,361.98	-4,949.93	5,097.19	0.00	0.00	0.00
11,600.00	90.35	268.808	6,558.46	-1,364.06	-5,049.90	5,196.36	0.00	0.00	0.00
11,700.00	90.35	268.808	6,557.84	-1,366.14	-5,149.88	5,295.54	0.00	0.00	0.00
11,800.00	90.35	268.808	6,557.23	-1,368.22	-5,249.86	5,394.72	0.00	0.00	0.00
11,900.00	90.35	268.808	6,556.61	-1,370.30	-5,349.83	5,493.90	0.00	0.00	0.00
12,000.00	90.35	268.808	6,555.99	-1,372.38	-5,449.81	5,593.08	0.00	0.00	0.00
12,100.00	90.35	268.808	6,555.37	-1,374.46	-5,549.79	5,692.26	0.00	0.00	0.00
12,200.00	90.35	268.808	6,554.75	-1,376.55	-5,649.76	5,791.44	0.00	0.00	0.00
12,300.00	90.35	268.808	6,554.13	-1,378.63	-5,749.74	5,890.62	0.00	0.00	0.00
12,400.00	90.35	268.808	6,553.51	-1,380.71	-5,849.72	5,989.80	0.00	0.00	0.00
12,500.00	90.35	268.808	6,552.89	-1,382.79	-5,949.69	6,088.98	0.00	0.00	0.00
12,600.00	90.35	268.808	6,552.27	-1,384.87	-6,049.67	6,188.16	0.00	0.00	0.00
12,700.00	90.35	268.808	6,551.65	-1,386.95	-6,149.65	6,287.34	0.00	0.00	0.00
12,800.00	90.35	268.808	6,551.04	-1,389.03	-6,249.62	6,386.52	0.00	0.00	0.00
12,900.00	90.35	268.808	6,550.42	-1,391.11	-6,349.60	6,485.70	0.00	0.00	0.00
13,000.00	90.35	268.808	6,549.80	-1,393.19	-6,449.57	6,584.88	0.00	0.00	0.00
13,100.00	90.35	268.808	6,549.18	-1,395.27	-6,549.55	6,684.05	0.00	0.00	0.00
13,200.00	90.35	268.808	6,548.56	-1,397.35	-6,649.53	6,783.23	0.00	0.00	0.00
13,300.00	90.35	268.808	6,547.94	-1,399.43	-6,749.50	6,882.41	0.00	0.00	0.00
13,400.00	90.35	268.808	6,547.32	-1,401.52	-6,849.48	6,981.59	0.00	0.00	0.00
13,500.00	90.35	268.808	6,546.70	-1,403.60	-6,949.46	7,080.77	0.00	0.00	0.00
13,600.00	90.35	268.808	6,546.08	-1,405.68	-7,049.43	7,179.95	0.00	0.00	0.00
13,700.00	90.35	268.808	6,545.47	-1,407.76	-7,149.41	7,279.13	0.00	0.00	0.00
13,800.00	90.35	268.808	6,544.85	-1,409.84	-7,249.39	7,378.31	0.00	0.00	0.00
13,900.00	90.35	268.808	6,544.23	-1,411.92	-7,349.36	7,477.49	0.00	0.00	0.00
14,000.00	90.35	268.808	6,543.61	-1,414.00	-7,449.34	7,576.67	0.00	0.00	0.00
14,100.00	90.35	268.808	6,542.99	-1,416.08	-7,549.32	7,675.85	0.00	0.00	0.00
14,200.00	90.35	268.808	6,542.37	-1,418.16	-7,649.29	7,775.03	0.00	0.00	0.00
14,300.00	90.35	268.808	6,541.75	-1,420.24	-7,749.27	7,874.21	0.00	0.00	0.00
14,400.00	90.35	268.808	6,541.13	-1,422.32	-7,849.24	7,973.39	0.00	0.00	0.00
14,500.00	90.35	268.808	6,540.51	-1,424.40	-7,949.22	8,072.56	0.00	0.00	0.00
14,600.00	90.35	268.808	6,539.89	-1,426.49	-8,049.20	8,171.74	0.00	0.00	0.00
14,700.00	90.35	268.808	6,539.28	-1,428.57	-8,149.17	8,270.92	0.00	0.00	0.00
14,800.00	90.35	268.808	6,538.66	-1,430.65	-8,249.15	8,370.10	0.00	0.00	0.00
14,900.00	90.35	268.808	6,538.04	-1,432.73	-8,349.13	8,469.28	0.00	0.00	0.00
15,000.00	90.35	268.808	6,537.42	-1,434.81	-8,449.10	8,568.46	0.00	0.00	0.00
15,100.00	90.35	268.808	6,536.80	-1,436.89	-8,549.08	8,667.64	0.00	0.00	0.00
15,200.00	90.35	268.808	6,536.18	-1,438.97	-8,649.06	8,766.82	0.00	0.00	0.00
15,300.00	90.35	268.808	6,535.56	-1,441.05	-8,749.03	8,866.00	0.00	0.00	0.00
15,400.00	90.35	268.808	6,534.94	-1,443.13	-8,849.01	8,965.18	0.00	0.00	0.00
15,500.00	90.35	268.808	6,534.32	-1,445.21	-8,948.99	9,064.36	0.00	0.00	0.00
15,600.00	90.35	268.808	6,533.70	-1,447.29	-9,048.96	9,163.54	0.00	0.00	0.00
15,700.00	90.35	268.808	6,533.09	-1,449.37	-9,148.94	9,262.72	0.00	0.00	0.00
15,800.00	90.35	268.808	6,532.47	-1,451.46	-9,248.91	9,361.90	0.00	0.00	0.00
15,900.00	90.35	268.808	6,531.85	-1,453.54	-9,348.89	9,461.08	0.00	0.00	0.00
16,000.00	90.35	268.808	6,531.23	-1,455.62	-9,448.87	9,560.25	0.00	0.00	0.00
16,100.00	90.35	268.808	6,530.61	-1,457.70	-9,548.84	9,659.43	0.00	0.00	0.00
16,200.00	90.35	268.808	6,529.99	-1,459.78	-9,648.82	9,758.61	0.00	0.00	0.00
16,300.00	90.35	268.808	6,529.37	-1,461.86	-9,748.80	9,857.79	0.00	0.00	0.00



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 715H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6538+25 @ 6563.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM W	MD Reference:	RKB=6538+25 @ 6563.00ft
Site:	Rincon pad (613, 615, 713 & 715)	North Reference:	Grid
Well:	Rincon Unit 715H	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)
16,400.00	90.35	268.808	6,528.75	-1,463.94	-9,848.77	9,956.97	0.00	0.00	0.00
16,500.00	90.35	268.808	6,528.13	-1,466.02	-9,948.75	10,056.15	0.00	0.00	0.00
16,521.69	90.35	268.808	6,528.00	-1,466.47	-9,970.43	10,077.66	0.00	0.00	0.00
PBHL/TD 16521.69 MD 6528.00 TVD									

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
Rincon 715 LTP 2382 Ft - plan hits target center - Point	0.00	2.189	6,528.00	-1,466.47	-9,970.43	2,023,315.915	2,820,440.772	36.559999000	-107.501856000
Rincon 715 FTP 2414 Ft - plan hits target center - Point	0.00	2.190	6,586.18	-1,270.89	-573.44	2,023,511.499	2,829,837.743	36.560443000	-107.469857000

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
320.00	320.00	13 3/8" Casing	13-5/8	17-1/2	
6,113.70	5,938.00	9 5/8" Casing	9-5/8	12-1/4	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,594.88	2,548.00	Ojo Alamo				
2,694.01	2,643.00	Kirtland				
2,986.16	2,923.00	Fruitland				
3,252.23	3,178.00	Pictured Cliffs				
3,528.74	3,443.00	Lewis				
3,841.76	3,743.00	Chacra_A				
5,026.04	4,878.00	Cliff House				
5,130.38	4,978.00	Menefee				
5,583.81	5,413.00	Point Lookout				
5,993.69	5,818.00	Mancos				
6,671.32	6,430.00	Gallup (MNCS_A)				
6,776.08	6,488.00	MNCS_B				
6,917.08	6,551.00	MNCS_C				



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 715H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6538+25 @ 6563.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM W	MD Reference:	RKB=6538+25 @ 6563.00ft
Site:	Rincon pad (613, 615, 713 & 715)	North Reference:	Grid
Well:	Rincon Unit 715H	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)		
1,100.00	1,100.00	0.00	0.00	KOP Begin 3°/100' build	
1,652.86	1,645.18	-79.39	3.46	Begin 16.59° tangent	
5,506.07	5,338.05	-1,178.25	51.43	Begin 3°/100' drop	
6,058.93	5,883.23	-1,257.64	54.89	Begin vertical hold	
6,158.93	5,983.23	-1,257.64	54.89	Begin 10°/100' build	
6,758.93	6,479.43	-1,263.71	-231.52	Begin 60.00° tangent	
6,818.93	6,509.43	-1,264.81	-283.47	Begin 10°/100' build/turn	
7,122.48	6,586.18	-1,270.89	-573.44	Begin 90.35° lateral	
16,521.69	6,528.00	-1,466.47	-9,970.43	PBHL/TD 16521.69 MD 6528.00 TVD	



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 715H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6538+25 @ 6563.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM W	MD Reference:	RKB=6538+25 @ 6563.00ft
Site:	Rincon pad (613, 615, 713 & 715)	North Reference:	Grid
Well:	Rincon Unit 715H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

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

Site		Rincon pad (613, 615, 713 & 715)			
Site Position:		Northing:	2,024,818.244 usft	Latitude:	36.564026000
From:	Lat/Long	Easting:	2,830,459.503 usft	Longitude:	-107.467723000
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Rincon Unit 715H, Surf loc: 1152 FNL 1273 FEL Section 21-T27N-R06					
Well Position	+N/-S	0.00 ft	Northing:	2,024,782.384 usft	Latitude:	36.563928000
	+E/-W	0.00 ft	Easting:	2,830,411.183 usft	Longitude:	-107.467888000
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,538.00 ft
Grid Convergence:		0.22 °				

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	4/19/2022	8.64	63.07	49,449.10674070

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	261.471

Plan Survey Tool Program	Date	4/20/2022		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,521.68 rev0 (Original Hole)	MWD	
			OWSG MWD - Standard	



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 715H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6538+25 @ 6563.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM W	MD Reference:	RKB=6538+25 @ 6563.00ft
Site:	Rincon pad (613, 615, 713 & 715)	North Reference:	Grid
Well:	Rincon Unit 715H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,100.00	0.00	0.000	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,652.86	16.59	177.501	1,645.18	-79.39	3.46	3.00	3.00	0.00	177.50	
5,506.07	16.59	177.501	5,338.05	-1,178.25	51.43	0.00	0.00	0.00	0.00	
6,058.93	0.00	359.057	5,883.23	-1,257.64	54.89	3.00	-3.00	0.00	180.00	
6,158.93	0.00	359.057	5,983.23	-1,257.64	54.89	0.00	0.00	0.00	359.06	
6,758.93	60.00	268.787	6,479.43	-1,263.71	-231.52	10.00	10.00	0.00	268.79	
6,818.93	60.00	268.787	6,509.43	-1,264.81	-283.47	0.00	0.00	0.00	0.00	
7,122.48	90.35	268.808	6,586.18	-1,270.89	-573.44	10.00	10.00	0.01	0.04	
16,521.69	90.35	268.808	6,528.00	-1,466.47	-9,970.43	0.00	0.00	0.00	0.00	Rincon 715 LTP 2382



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 715H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6538+25 @ 6563.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM W	MD Reference:	RKB=6538+25 @ 6563.00ft
Site:	Rincon pad (613, 615, 713 & 715)	North Reference:	Grid
Well:	Rincon Unit 715H	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	2,024,782.384	2,830,411.183	36.563928000	-107.467888000
100.00	0.00	0.000	100.00	0.00	0.00	2,024,782.384	2,830,411.183	36.563928000	-107.467888000
200.00	0.00	0.000	200.00	0.00	0.00	2,024,782.384	2,830,411.183	36.563928000	-107.467888000
300.00	0.00	0.000	300.00	0.00	0.00	2,024,782.384	2,830,411.183	36.563928000	-107.467888000
400.00	0.00	0.000	400.00	0.00	0.00	2,024,782.384	2,830,411.183	36.563928000	-107.467888000
500.00	0.00	0.000	500.00	0.00	0.00	2,024,782.384	2,830,411.183	36.563928000	-107.467888000
600.00	0.00	0.000	600.00	0.00	0.00	2,024,782.384	2,830,411.183	36.563928000	-107.467888000
700.00	0.00	0.000	700.00	0.00	0.00	2,024,782.384	2,830,411.183	36.563928000	-107.467888000
800.00	0.00	0.000	800.00	0.00	0.00	2,024,782.384	2,830,411.183	36.563928000	-107.467888000
900.00	0.00	0.000	900.00	0.00	0.00	2,024,782.384	2,830,411.183	36.563928000	-107.467888000
1,000.00	0.00	0.000	1,000.00	0.00	0.00	2,024,782.384	2,830,411.183	36.563928000	-107.467888000
1,100.00	0.00	0.000	1,100.00	0.00	0.00	2,024,782.384	2,830,411.183	36.563928000	-107.467888000
KOP Begin 3°/100' build									
1,200.00	3.00	177.501	1,199.95	-2.61	0.11	2,024,779.769	2,830,411.297	36.563920816	-107.467887646
1,300.00	6.00	177.501	1,299.63	-10.45	0.46	2,024,771.931	2,830,411.639	36.563899284	-107.467886582
1,400.00	9.00	177.501	1,398.77	-23.49	1.03	2,024,758.893	2,830,412.208	36.563863462	-107.467884813
1,500.00	12.00	177.501	1,497.08	-41.70	1.82	2,024,740.689	2,830,413.003	36.563813449	-107.467882343
1,600.00	15.00	177.501	1,594.31	-65.01	2.84	2,024,717.369	2,830,414.020	36.563749383	-107.467879179
1,652.86	16.59	177.501	1,645.18	-79.39	3.46	2,024,702.995	2,830,414.648	36.563709893	-107.467877229
Begin 16.59° tangent									
1,700.00	16.59	177.501	1,690.35	-92.83	4.05	2,024,689.553	2,830,415.234	36.563672963	-107.467875405
1,800.00	16.59	177.501	1,786.19	-121.35	5.30	2,024,661.035	2,830,416.479	36.563594615	-107.467871536
1,900.00	16.59	177.501	1,882.03	-149.87	6.54	2,024,632.517	2,830,417.724	36.563516266	-107.467867667
2,000.00	16.59	177.501	1,977.87	-178.39	7.79	2,024,603.999	2,830,418.968	36.563437917	-107.467863797
2,100.00	16.59	177.501	2,073.71	-206.90	9.03	2,024,575.481	2,830,420.213	36.563359568	-107.467859928
2,200.00	16.59	177.501	2,169.55	-235.42	10.28	2,024,546.963	2,830,421.458	36.563281219	-107.467856059
2,300.00	16.59	177.501	2,265.39	-263.94	11.52	2,024,518.445	2,830,422.702	36.563202870	-107.467852189
2,400.00	16.59	177.501	2,361.22	-292.46	12.76	2,024,489.926	2,830,423.947	36.563124522	-107.467848320
2,500.00	16.59	177.501	2,457.06	-320.98	14.01	2,024,461.408	2,830,425.192	36.563046173	-107.467844451
2,594.88	16.59	177.501	2,548.00	-348.04	15.19	2,024,434.349	2,830,426.373	36.562971832	-107.467840780
Ojo Alamo									
2,600.00	16.59	177.501	2,552.90	-349.49	15.25	2,024,432.890	2,830,426.437	36.562967824	-107.467840582
2,694.01	16.59	177.501	2,643.00	-376.30	16.42	2,024,406.081	2,830,427.607	36.562894169	-107.467836944
Kirtland									
2,700.00	16.59	177.501	2,648.74	-378.01	16.50	2,024,404.372	2,830,427.681	36.562889475	-107.467836712
2,800.00	16.59	177.501	2,744.58	-406.53	17.74	2,024,375.854	2,830,428.926	36.562811126	-107.467832843
2,900.00	16.59	177.501	2,840.42	-435.05	18.99	2,024,347.336	2,830,430.171	36.562732777	-107.467828974
2,986.16	16.59	177.501	2,923.00	-459.62	20.06	2,024,322.763	2,830,431.243	36.562665268	-107.467825640
Fruitland									
3,000.00	16.59	177.501	2,936.26	-463.57	20.23	2,024,318.818	2,830,431.415	36.562654428	-107.467825105
3,100.00	16.59	177.501	3,032.10	-492.09	21.48	2,024,290.300	2,830,432.660	36.562576080	-107.467821235
3,200.00	16.59	177.501	3,127.94	-520.60	22.72	2,024,261.782	2,830,433.905	36.562497731	-107.467817366
3,252.23	16.59	177.501	3,178.00	-535.50	23.37	2,024,246.885	2,830,434.555	36.562456805	-107.467815345
Pictured Cliffs									
3,300.00	16.59	177.501	3,223.78	-549.12	23.97	2,024,233.263	2,830,435.149	36.562419382	-107.467813497
3,400.00	16.59	177.501	3,319.62	-577.64	25.21	2,024,204.745	2,830,436.394	36.562341033	-107.467809628
3,500.00	16.59	177.501	3,415.46	-606.16	26.46	2,024,176.227	2,830,437.639	36.562262684	-107.467805759
3,528.74	16.59	177.501	3,443.00	-614.35	26.81	2,024,168.031	2,830,437.996	36.562240167	-107.467804647
Lewis									
3,600.00	16.59	177.501	3,511.30	-634.68	27.70	2,024,147.709	2,830,438.883	36.562184335	-107.467801890
3,700.00	16.59	177.501	3,607.13	-663.19	28.95	2,024,119.191	2,830,440.128	36.562105986	-107.467798020
3,800.00	16.59	177.501	3,702.97	-691.71	30.19	2,024,090.673	2,830,441.373	36.562027637	-107.467794151
3,841.76	16.59	177.501	3,743.00	-703.62	30.71	2,024,078.763	2,830,441.892	36.561994916	-107.467792535
Chacra_A									



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 715H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6538+25 @ 6563.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM W	MD Reference:	RKB=6538+25 @ 6563.00ft
Site:	Rincon pad (613, 615, 713 & 715)	North Reference:	Grid
Well:	Rincon Unit 715H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
3,900.00	16.59	177.501	3,798.81	-720.23	31.43	2,024,062.155	2,830,442.617	36.561949289	-107.467790282	
4,000.00	16.59	177.501	3,894.65	-748.75	32.68	2,024,033.637	2,830,443.862	36.561870940	-107.467786413	
4,100.00	16.59	177.501	3,990.49	-777.27	33.92	2,024,005.118	2,830,445.107	36.561792591	-107.467782544	
4,200.00	16.59	177.501	4,086.33	-805.79	35.17	2,023,976.600	2,830,446.351	36.561714242	-107.467778675	
4,300.00	16.59	177.501	4,182.17	-834.30	36.41	2,023,948.082	2,830,447.596	36.561635893	-107.467774805	
4,400.00	16.59	177.501	4,278.01	-862.82	37.66	2,023,919.564	2,830,448.841	36.561557544	-107.467770936	
4,500.00	16.59	177.501	4,373.85	-891.34	38.90	2,023,891.046	2,830,450.085	36.561479195	-107.467767067	
4,600.00	16.59	177.501	4,469.69	-919.86	40.15	2,023,862.528	2,830,451.330	36.561400846	-107.467763198	
4,700.00	16.59	177.501	4,565.53	-948.38	41.39	2,023,834.010	2,830,452.575	36.561322498	-107.467759329	
4,800.00	16.59	177.501	4,661.37	-976.89	42.64	2,023,805.492	2,830,453.819	36.561244149	-107.467755460	
4,900.00	16.59	177.501	4,757.21	-1,005.41	43.88	2,023,776.973	2,830,455.064	36.561165800	-107.467751591	
5,000.00	16.59	177.501	4,853.05	-1,033.93	45.13	2,023,748.455	2,830,456.309	36.561087451	-107.467747722	
5,026.04	16.59	177.501	4,878.00	-1,041.36	45.45	2,023,741.030	2,830,456.633	36.561067050	-107.467746714	
Cliff House										
5,100.00	16.59	177.501	4,948.88	-1,062.45	46.37	2,023,719.937	2,830,457.554	36.561009102	-107.467743853	
5,130.38	16.59	177.501	4,978.00	-1,071.11	46.75	2,023,711.273	2,830,457.932	36.560985300	-107.467742677	
Menefee										
5,200.00	16.59	177.501	5,044.72	-1,090.97	47.62	2,023,691.419	2,830,458.798	36.560930753	-107.467739984	
5,300.00	16.59	177.501	5,140.56	-1,119.49	48.86	2,023,662.901	2,830,460.043	36.560852404	-107.467736115	
5,400.00	16.59	177.501	5,236.40	-1,148.00	50.10	2,023,634.383	2,830,461.288	36.560774055	-107.467732245	
5,506.07	16.59	177.501	5,338.05	-1,178.25	51.43	2,023,604.135	2,830,462.608	36.560690955	-107.467728142	
Begin 3°/100' drop										
5,583.81	14.25	177.501	5,413.00	-1,198.90	52.33	2,023,583.483	2,830,463.509	36.560634218	-107.467725340	
Point Lookout										
5,600.00	13.77	177.501	5,428.70	-1,202.82	52.50	2,023,579.569	2,830,463.680	36.560623463	-107.467724809	
5,700.00	10.77	177.501	5,526.41	-1,224.04	53.42	2,023,558.343	2,830,464.606	36.560565149	-107.467721929	
5,800.00	7.77	177.501	5,625.09	-1,240.13	54.13	2,023,542.255	2,830,465.308	36.560520950	-107.467719747	
5,900.00	4.77	177.501	5,724.48	-1,251.04	54.60	2,023,531.349	2,830,465.784	36.560490987	-107.467718267	
5,993.69	1.96	177.501	5,818.00	-1,256.53	54.84	2,023,525.860	2,830,466.024	36.560475906	-107.467717522	
Mancos										
6,000.00	1.77	177.501	5,824.31	-1,256.73	54.85	2,023,525.655	2,830,466.033	36.560475343	-107.467717494	
6,058.93	0.00	359.057	5,883.23	-1,257.64	54.89	2,023,524.746	2,830,466.073	36.560472848	-107.467717371	
Begin vertical hold										
6,100.00	0.00	0.000	5,924.30	-1,257.64	54.89	2,023,524.746	2,830,466.073	36.560472848	-107.467717371	
6,158.93	0.00	0.000	5,983.23	-1,257.64	54.89	2,023,524.746	2,830,466.073	36.560472848	-107.467717371	
Begin 10°/100' build										
6,200.00	4.11	268.787	6,024.26	-1,257.67	53.42	2,023,524.715	2,830,464.602	36.560472777	-107.467722380	
6,250.00	9.11	268.787	6,073.92	-1,257.79	47.67	2,023,524.594	2,830,458.852	36.560472503	-107.467741960	
6,300.00	14.11	268.787	6,122.88	-1,258.01	37.61	2,023,524.381	2,830,448.797	36.560472023	-107.467776198	
6,350.00	19.11	268.787	6,170.78	-1,258.31	23.33	2,023,524.078	2,830,434.515	36.560471341	-107.467824834	
6,400.00	24.11	268.787	6,217.25	-1,258.70	4.93	2,023,523.688	2,830,416.113	36.560470462	-107.467887497	
6,450.00	29.11	268.787	6,261.94	-1,259.17	-17.45	2,023,523.214	2,830,393.732	36.560469394	-107.467963711	
6,500.00	34.11	268.787	6,304.51	-1,259.73	-43.64	2,023,522.660	2,830,367.542	36.560468143	-107.468052896	
6,550.00	39.11	268.787	6,344.64	-1,260.36	-73.44	2,023,522.028	2,830,337.742	36.560466720	-107.468154373	
6,600.00	44.11	268.787	6,382.01	-1,261.06	-106.62	2,023,521.326	2,830,304.559	36.560465136	-107.468267369	
6,650.00	49.11	268.787	6,416.35	-1,261.83	-142.94	2,023,520.556	2,830,268.246	36.560463402	-107.468391025	
6,671.32	51.24	268.787	6,430.00	-1,262.18	-159.30	2,023,520.210	2,830,251.879	36.560462620	-107.468446757	
Gallup (MNCS_A)										
6,700.00	54.11	268.787	6,447.39	-1,262.66	-182.10	2,023,519.727	2,830,229.078	36.560461531	-107.468524400	
6,750.00	59.11	268.787	6,474.90	-1,263.54	-223.83	2,023,518.843	2,830,187.355	36.560459538	-107.468666478	
6,758.93	60.00	268.787	6,479.43	-1,263.71	-231.52	2,023,518.680	2,830,179.659	36.560459171	-107.468692688	
Begin 60.00° tangent										



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 715H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6538+25 @ 6563.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM W	MD Reference:	RKB=6538+25 @ 6563.00ft
Site:	Rincon pad (613, 615, 713 & 715)	North Reference:	Grid
Well:	Rincon Unit 715H	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
6,776.08	60.00	268.787	6,488.00	-1,264.02	-246.37	2,023,518.366	2,830,164.811	36.560458461	-107.468743247
MNCS_B									
6,800.00	60.00	268.787	6,499.96	-1,264.46	-267.08	2,023,517.927	2,830,144.099	36.560457472	-107.468813778
6,818.93	60.00	268.787	6,509.43	-1,264.81	-283.47	2,023,517.580	2,830,127.709	36.560456689	-107.468869591
Begin 10°/100' build/turn									
6,850.00	63.11	268.789	6,524.22	-1,265.38	-310.78	2,023,517.002	2,830,100.400	36.560455386	-107.468962585
6,900.00	68.11	268.793	6,544.87	-1,266.34	-356.30	2,023,516.042	2,830,054.888	36.560453221	-107.469117566
6,917.08	69.82	268.794	6,551.00	-1,266.68	-372.24	2,023,515.706	2,830,038.947	36.560452465	-107.469171849
MNCS_C									
6,950.00	73.11	268.796	6,561.46	-1,267.34	-403.43	2,023,515.050	2,830,007.750	36.560450988	-107.469278082
7,000.00	78.11	268.800	6,573.89	-1,268.35	-451.84	2,023,514.034	2,829,959.345	36.560448701	-107.469442913
7,050.00	83.11	268.803	6,582.05	-1,269.38	-501.14	2,023,513.003	2,829,910.042	36.560446380	-107.469610803
7,100.00	88.11	268.806	6,585.88	-1,270.42	-550.97	2,023,511.963	2,829,860.216	36.560444042	-107.469780474
7,122.48	90.35	268.808	6,586.18	-1,270.89	-573.44	2,023,511.495	2,829,837.748	36.560442990	-107.469856984
Begin 90.35° lateral									
7,200.00	90.35	268.808	6,585.70	-1,272.50	-650.94	2,023,509.882	2,829,760.243	36.560439363	-107.470120909
7,300.00	90.35	268.808	6,585.08	-1,274.59	-750.92	2,023,507.801	2,829,660.267	36.560434684	-107.470461354
7,400.00	90.35	268.808	6,584.46	-1,276.67	-850.89	2,023,505.721	2,829,560.290	36.560430004	-107.470801799
7,500.00	90.35	268.808	6,583.84	-1,278.75	-950.87	2,023,503.640	2,829,460.314	36.560425322	-107.471142245
7,600.00	90.35	268.808	6,583.22	-1,280.83	-1,050.85	2,023,501.559	2,829,360.338	36.560420640	-107.471482689
7,700.00	90.35	268.808	6,582.60	-1,282.91	-1,150.82	2,023,499.478	2,829,260.362	36.560415957	-107.471823134
7,800.00	90.35	268.808	6,581.98	-1,284.99	-1,250.80	2,023,497.397	2,829,160.386	36.560411273	-107.472163579
7,900.00	90.35	268.808	6,581.36	-1,287.07	-1,350.78	2,023,495.317	2,829,060.409	36.560406588	-107.472504024
8,000.00	90.35	268.808	6,580.75	-1,289.15	-1,450.75	2,023,493.236	2,828,960.433	36.560401902	-107.472844469
8,100.00	90.35	268.808	6,580.13	-1,291.23	-1,550.73	2,023,491.155	2,828,860.457	36.560397215	-107.473184914
8,200.00	90.35	268.808	6,579.51	-1,293.31	-1,650.71	2,023,489.074	2,828,760.481	36.560392527	-107.473525358
8,300.00	90.35	268.808	6,578.89	-1,295.39	-1,750.68	2,023,486.993	2,828,660.504	36.560387838	-107.473865803
8,400.00	90.35	268.808	6,578.27	-1,297.47	-1,850.66	2,023,484.912	2,828,560.528	36.560383148	-107.474206248
8,500.00	90.35	268.808	6,577.65	-1,299.55	-1,950.63	2,023,482.832	2,828,460.552	36.560378457	-107.474546693
8,600.00	90.35	268.808	6,577.03	-1,301.64	-2,050.61	2,023,480.751	2,828,360.576	36.560373765	-107.474887138
8,700.00	90.35	268.808	6,576.41	-1,303.72	-2,150.59	2,023,478.670	2,828,260.599	36.560369072	-107.475227582
8,800.00	90.35	268.808	6,575.79	-1,305.80	-2,250.56	2,023,476.589	2,828,160.623	36.560364379	-107.475568027
8,900.00	90.35	268.808	6,575.17	-1,307.88	-2,350.54	2,023,474.508	2,828,060.647	36.560359684	-107.475908472
9,000.00	90.35	268.808	6,574.56	-1,309.96	-2,450.52	2,023,472.428	2,827,960.671	36.560354988	-107.476248916
9,100.00	90.35	268.808	6,573.94	-1,312.04	-2,550.49	2,023,470.347	2,827,860.695	36.560350291	-107.476589361
9,200.00	90.35	268.808	6,573.32	-1,314.12	-2,650.47	2,023,468.266	2,827,760.718	36.560345594	-107.476929805
9,300.00	90.35	268.808	6,572.70	-1,316.20	-2,750.45	2,023,466.185	2,827,660.742	36.560340895	-107.477270250
9,400.00	90.35	268.808	6,572.08	-1,318.28	-2,850.42	2,023,464.104	2,827,560.766	36.560336195	-107.477610695
9,500.00	90.35	268.808	6,571.46	-1,320.36	-2,950.40	2,023,462.023	2,827,460.790	36.560331495	-107.477951139
9,600.00	90.35	268.808	6,570.84	-1,322.44	-3,050.38	2,023,459.943	2,827,360.813	36.560326793	-107.478291583
9,700.00	90.35	268.808	6,570.22	-1,324.52	-3,150.35	2,023,457.862	2,827,260.837	36.560322090	-107.478632028
9,800.00	90.35	268.808	6,569.60	-1,326.61	-3,250.33	2,023,455.781	2,827,160.861	36.560317387	-107.478972472
9,900.00	90.35	268.808	6,568.99	-1,328.69	-3,350.30	2,023,453.700	2,827,060.885	36.560312682	-107.479312916
10,000.00	90.35	268.808	6,568.37	-1,330.77	-3,450.28	2,023,451.619	2,826,960.909	36.560307977	-107.479653361
10,100.00	90.35	268.808	6,567.75	-1,332.85	-3,550.26	2,023,449.538	2,826,860.932	36.560303270	-107.479993805
10,200.00	90.35	268.808	6,567.13	-1,334.93	-3,650.23	2,023,447.458	2,826,760.956	36.560298563	-107.480334249
10,300.00	90.35	268.808	6,566.51	-1,337.01	-3,750.21	2,023,445.377	2,826,660.980	36.560293855	-107.480674693
10,400.00	90.35	268.808	6,565.89	-1,339.09	-3,850.19	2,023,443.296	2,826,561.004	36.560289145	-107.481015138
10,500.00	90.35	268.808	6,565.27	-1,341.17	-3,950.16	2,023,441.215	2,826,461.027	36.560284435	-107.481355582
10,600.00	90.35	268.808	6,564.65	-1,343.25	-4,050.14	2,023,439.134	2,826,361.051	36.560279723	-107.481696026
10,700.00	90.35	268.808	6,564.03	-1,345.33	-4,150.12	2,023,437.054	2,826,261.075	36.560275011	-107.482036470
10,800.00	90.35	268.808	6,563.41	-1,347.41	-4,250.09	2,023,434.973	2,826,161.099	36.560270298	-107.482376914
10,900.00	90.35	268.808	6,562.80	-1,349.49	-4,350.07	2,023,432.892	2,826,061.122	36.560265584	-107.482717358
11,000.00	90.35	268.808	6,562.18	-1,351.58	-4,450.05	2,023,430.811	2,825,961.146	36.560260868	-107.483057802



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 715H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6538+25 @ 6563.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM W	MD Reference:	RKB=6538+25 @ 6563.00ft
Site:	Rincon pad (613, 615, 713 & 715)	North Reference:	Grid
Well:	Rincon Unit 715H	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
11,100.00	90.35	268.808	6,561.56	-1,353.66	-4,550.02	2,023,428.730	2,825,861.170	36.560256152		-107.483398246
11,200.00	90.35	268.808	6,560.94	-1,355.74	-4,650.00	2,023,426.649	2,825,761.194	36.560251435		-107.483738690
11,300.00	90.35	268.808	6,560.32	-1,357.82	-4,749.98	2,023,424.569	2,825,661.218	36.560246717		-107.484079133
11,400.00	90.35	268.808	6,559.70	-1,359.90	-4,849.95	2,023,422.488	2,825,561.241	36.560241998		-107.484419577
11,500.00	90.35	268.808	6,559.08	-1,361.98	-4,949.93	2,023,420.407	2,825,461.265	36.560237278		-107.484760021
11,600.00	90.35	268.808	6,558.46	-1,364.06	-5,049.90	2,023,418.326	2,825,361.289	36.560232557		-107.485100465
11,700.00	90.35	268.808	6,557.84	-1,366.14	-5,149.88	2,023,416.245	2,825,261.313	36.560227835		-107.485440909
11,800.00	90.35	268.808	6,557.23	-1,368.22	-5,249.86	2,023,414.165	2,825,161.336	36.560223112		-107.485781352
11,900.00	90.35	268.808	6,556.61	-1,370.30	-5,349.83	2,023,412.084	2,825,061.360	36.560218388		-107.486121796
12,000.00	90.35	268.808	6,555.99	-1,372.38	-5,449.81	2,023,410.003	2,824,961.384	36.560213663		-107.486462239
12,100.00	90.35	268.808	6,555.37	-1,374.46	-5,549.79	2,023,407.922	2,824,861.408	36.560208937		-107.486802683
12,200.00	90.35	268.808	6,554.75	-1,376.55	-5,649.76	2,023,405.841	2,824,761.431	36.560204210		-107.487143127
12,300.00	90.35	268.808	6,554.13	-1,378.63	-5,749.74	2,023,403.760	2,824,661.455	36.560199482		-107.487483570
12,400.00	90.35	268.808	6,553.51	-1,380.71	-5,849.72	2,023,401.680	2,824,561.479	36.560194753		-107.487824014
12,500.00	90.35	268.808	6,552.89	-1,382.79	-5,949.69	2,023,399.599	2,824,461.503	36.560190024		-107.488164457
12,600.00	90.35	268.808	6,552.27	-1,384.87	-6,049.67	2,023,397.518	2,824,361.527	36.560185293		-107.488504901
12,700.00	90.35	268.808	6,551.65	-1,386.95	-6,149.65	2,023,395.437	2,824,261.550	36.560180561		-107.488845344
12,800.00	90.35	268.808	6,551.04	-1,389.03	-6,249.62	2,023,393.356	2,824,161.574	36.560175828		-107.489185787
12,900.00	90.35	268.808	6,550.42	-1,391.11	-6,349.60	2,023,391.275	2,824,061.598	36.560171095		-107.489526231
13,000.00	90.35	268.808	6,549.80	-1,393.19	-6,449.57	2,023,389.195	2,823,961.622	36.560166360		-107.489866674
13,100.00	90.35	268.808	6,549.18	-1,395.27	-6,549.55	2,023,387.114	2,823,861.645	36.560161624		-107.490207117
13,200.00	90.35	268.808	6,548.56	-1,397.35	-6,649.53	2,023,385.033	2,823,761.669	36.560156888		-107.490547560
13,300.00	90.35	268.808	6,547.94	-1,399.43	-6,749.50	2,023,382.952	2,823,661.693	36.560152150		-107.490888004
13,400.00	90.35	268.808	6,547.32	-1,401.52	-6,849.48	2,023,380.871	2,823,561.717	36.560147412		-107.491228447
13,500.00	90.35	268.808	6,546.70	-1,403.60	-6,949.46	2,023,378.791	2,823,461.741	36.560142672		-107.491568890
13,600.00	90.35	268.808	6,546.08	-1,405.68	-7,049.43	2,023,376.710	2,823,361.764	36.560137932		-107.491909333
13,700.00	90.35	268.808	6,545.47	-1,407.76	-7,149.41	2,023,374.629	2,823,261.788	36.560133190		-107.492249776
13,800.00	90.35	268.808	6,544.85	-1,409.84	-7,249.39	2,023,372.548	2,823,161.812	36.560128448		-107.492590219
13,900.00	90.35	268.808	6,544.23	-1,411.92	-7,349.36	2,023,370.467	2,823,061.836	36.560123704		-107.492930662
14,000.00	90.35	268.808	6,543.61	-1,414.00	-7,449.34	2,023,368.386	2,822,961.859	36.560118960		-107.493271105
14,100.00	90.35	268.808	6,542.99	-1,416.08	-7,549.32	2,023,366.306	2,822,861.883	36.560114215		-107.493611548
14,200.00	90.35	268.808	6,542.37	-1,418.16	-7,649.29	2,023,364.225	2,822,761.907	36.560109468		-107.493951991
14,300.00	90.35	268.808	6,541.75	-1,420.24	-7,749.27	2,023,362.144	2,822,661.931	36.560104721		-107.494292433
14,400.00	90.35	268.808	6,541.13	-1,422.32	-7,849.24	2,023,360.063	2,822,561.954	36.560099973		-107.494632876
14,500.00	90.35	268.808	6,540.51	-1,424.40	-7,949.22	2,023,357.982	2,822,461.978	36.560095223		-107.494973319
14,600.00	90.35	268.808	6,539.89	-1,426.49	-8,049.20	2,023,355.902	2,822,362.002	36.560090473		-107.495313762
14,700.00	90.35	268.808	6,539.28	-1,428.57	-8,149.17	2,023,353.821	2,822,262.026	36.560085722		-107.495654205
14,800.00	90.35	268.808	6,538.66	-1,430.65	-8,249.15	2,023,351.740	2,822,162.050	36.560080970		-107.495994647
14,900.00	90.35	268.808	6,538.04	-1,432.73	-8,349.13	2,023,349.659	2,822,062.073	36.560076217		-107.496335090
15,000.00	90.35	268.808	6,537.42	-1,434.81	-8,449.10	2,023,347.578	2,821,962.097	36.560071463		-107.496675532
15,100.00	90.35	268.808	6,536.80	-1,436.89	-8,549.08	2,023,345.497	2,821,862.121	36.560066708		-107.497015975
15,200.00	90.35	268.808	6,536.18	-1,438.97	-8,649.06	2,023,343.417	2,821,762.145	36.560061951		-107.497356418
15,300.00	90.35	268.808	6,535.56	-1,441.05	-8,749.03	2,023,341.336	2,821,662.168	36.560057194		-107.497696860
15,400.00	90.35	268.808	6,534.94	-1,443.13	-8,849.01	2,023,339.255	2,821,562.192	36.560052436		-107.498037303
15,500.00	90.35	268.808	6,534.32	-1,445.21	-8,948.99	2,023,337.174	2,821,462.216	36.560047677		-107.498377745
15,600.00	90.35	268.808	6,533.70	-1,447.29	-9,048.96	2,023,335.093	2,821,362.240	36.560042918		-107.498718187
15,700.00	90.35	268.808	6,533.09	-1,449.37	-9,148.94	2,023,333.012	2,821,262.264	36.560038157		-107.499058630
15,800.00	90.35	268.808	6,532.47	-1,451.46	-9,248.91	2,023,330.932	2,821,162.287	36.560033395		-107.499399072
15,900.00	90.35	268.808	6,531.85	-1,453.54	-9,348.89	2,023,328.851	2,821,062.311	36.560028632		-107.499739514
16,000.00	90.35	268.808	6,531.23	-1,455.62	-9,448.87	2,023,326.770	2,820,962.335	36.560023868		-107.500079957
16,100.00	90.35	268.808	6,530.61	-1,457.70	-9,548.84	2,023,324.689	2,820,862.359	36.560019103		-107.500420399
16,200.00	90.35	268.808	6,529.99	-1,459.78	-9,648.82	2,023,322.608	2,820,762.382	36.560014337		-107.500760841
16,300.00	90.35	268.808	6,529.37	-1,461.86	-9,748.80	2,023,320.528	2,820,662.406	36.560009571		-107.501101283
16,400.00	90.35	268.808	6,528.75	-1,463.94	-9,848.77	2,023,318.447	2,820,562.430	36.560004803		-107.501441725
16,500.00	90.35	268.808	6,528.13	-1,466.02	-9,948.75	2,023,316.366	2,820,462.454	36.560000034		-107.501782167



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 715H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6538+25 @ 6563.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM W	MD Reference:	RKB=6538+25 @ 6563.00ft
Site:	Rincon pad (613, 615, 713 & 715)	North Reference:	Grid
Well:	Rincon Unit 715H	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
16,521.69	90.35	268.808	6,528.00	-1,466.47	-9,970.43	2,023,315.915	2,820,440.772	36.559999000	-107.501856000
PBHL/TD 16521.69 MD 6528.00 TVD									

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	
Rincon 715 LTP 2382 Ft - plan hits target center - Point	0.00	2.189	6,528.00	-1,466.47	-9,970.43	2,023,315.915	2,820,440.772	36.559999000	-107.501856000	
Rincon 715 FTP 2414 Ft - plan hits target center - Point	0.00	2.190	6,586.18	-1,270.89	-573.44	2,023,511.499	2,829,837.743	36.560443000	-107.469857000	

Casing Points							Casing Diameter (")	Hole Diameter (")
Measured Depth (ft)	Vertical Depth (ft)	Name						
320.00	320.00	13 3/8" Casing					13-5/8	17-1/2
6,113.70	5,938.00	9 5/8" Casing					9-5/8	12-1/4

Formations							Dip (°)	Dip Direction (°)
Measured Depth (ft)	Vertical Depth (ft)	Name		Lithology				
2,594.88	2,548.00	Ojo Alamo						
2,694.01	2,643.00	Kirtland						
2,986.16	2,923.00	Fruitland						
3,252.23	3,178.00	Pictured Cliffs						
3,528.74	3,443.00	Lewis						
3,841.76	3,743.00	Chacra_A						
5,026.04	4,878.00	Cliff House						
5,130.38	4,978.00	Menefee						
5,583.81	5,413.00	Point Lookout						
5,993.69	5,818.00	Mancos						
6,671.32	6,430.00	Gallup (MNCS_A)						
6,776.08	6,488.00	MNCS_B						
6,917.08	6,551.00	MNCS_C						



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 715H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6538+25 @ 6563.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM W	MD Reference:	RKB=6538+25 @ 6563.00ft
Site:	Rincon pad (613, 615, 713 & 715)	North Reference:	Grid
Well:	Rincon Unit 715H	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)		
1,100.00	1,100.00	0.00	0.00	KOP Begin 3°/100' build	
1,652.86	1,645.18	-79.39	3.46	Begin 16.59° tangent	
5,506.07	5,338.05	-1,178.25	51.43	Begin 3°/100' drop	
6,058.93	5,883.23	-1,257.64	54.89	Begin vertical hold	
6,158.93	5,983.23	-1,257.64	54.89	Begin 10°/100' build	
6,758.93	6,479.43	-1,263.71	-231.52	Begin 60.00° tangent	
6,818.93	6,509.43	-1,264.81	-283.47	Begin 10°/100' build/turn	
7,122.48	6,586.18	-1,270.89	-573.44	Begin 90.35° lateral	
16,521.69	6,528.00	-1,466.47	-9,970.43	PBHL/TD 16521.69 MD 6528.00 TVD	



ENDURING RESOURCES IV, LLC
6300 S SYRACUSE WAY, SUITE 525
CENTENNIAL, CO 80111

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

WELL INFORMATION:

Name: RINCON UNIT 615H

API Number: 30-039-31372

State: New Mexico

County: Rio Arriba

Surface Elevation: 6,538 ft ASL (GL) 6,552 ft ASL (KB)

Surface Location: 21-27N-06W Sec-Twn-Rng 1,141 ft FNL 1,257 ft FEL

36.563961 ° N latitude 107.467833 ° W longitude (NAD 83)

BH Location: 19-27N-06W Sec-Twn-Rng 1,024 ft FNL 763 ft FWL

36.564244 ° N latitude 107.514678 ° W longitude (NAD 83)

Driving Directions: From intersection of US Hwy 64 & US Hwy 550 in Bloomfield, NM: east on Hwy 64 for 36.8 miles to General American Road (GAR) just past MM 101, right (S) on GAR for 1.2 miles to fork, continue right (SW) on GAR for 3.4 miles to 4-way intersection, straight (S) on GAR for 1.1 miles to fork, right (SW) along Munoz Wash for 4.3 miles to 4-way intersection, straight (SW) across Carrizo Wash for 0.3 mile to fork, left (SE) onto CR #492 for 0.4 miles to fork, straight (S) on 492 for 1.4 miles to fork, right (N) uphill on existing road for 0.6 miles to fork, left (SW) for 0.8 miles to fork, left (SE) for 0.1 miles to fork, right (SW) to location to staked location which overlaps existing roadway.

GEOLOGIC AND RESERVOIR INFORMATION:

Prognosis:	Formation Tops	TVD (ft ASL)	TVD (ft KB)	MD (ft KB)	O / G / W	Pressure
	Ojo Alamo	4,004	2,548	2,595	W	normal
	Kirtland	3,909	2,643	2,694	W	normal
	Fruitland	3,629	2,923	2,986	G, W	sub
	Pictured Cliffs	3,374	3,178	3,252	G, W	sub
	Lewis	3,109	3,443	3,529	G, W	normal
	Chacra	2,809	3,743	3,842	G, W	normal
	Cliff House	1,674	4,878	5,026	G, W	sub
	Menefee	1,574	4,978	5,130	G, W	normal
	Point Lookout	1,139	5,413	5,884	G, W	sub
	Mancos	734	5,818	5,994	O,G	normal
	Gallup (MNCS_A)	122	6,430	6,671	O,G	normal
	MNCS_B	64	6,488	6,776	O,G	normal
	MNCS_C	1	6,551	6,917	O,G	normal
	MNCS_E	-76	6,628	NA	O,G	normal
	MNCS_C TARGET (POE)	-34	6,586	7,122	O,G	normal
	PROJECTED WELL TD (BHL)	24	6,528	16,522	O,G	normal

Surface: San Jose

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

Pressure: Normal pressure gradient (0.43 psi/ft) 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: 2,840 psi

Maximum anticipated surface pressure, assuming partially evacuated hole: 1,400 psi

Temperature: Maximum anticipated BHT is 185° 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: Requested; remote geo-steering from drill out of 9-5/8" casing to TD; gas detection from drillout of 13-3/8" casing to TD.

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

Open Hole Logs: None planned

Testing: None planned

Coring: None planned

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

DRILLING RIG INFORMATION:**Contractor:** Ensign**Rig No.:** 145**Draw Works:** ADR 1000AC**Mast:** ADR 1000 Cantilever Triple (134 ft, 500,000 lbs, 12 lines)**Top Drive:** Tesco 350-EXI-600 (350 ton, 600 hp)**Prime Movers:** 3 - CAT 3512 (1,475 hp)**Pumps:** 2 - Mudder MD-11 5,000 psi**BOPE 1:** T3 Annular & Shaffer double gate ram (13-5/8", 5,000 psi)**Int Hole BOPE 2:** T3 annular(13-5/8", 5,000 psi)**Prod Hole BOPE 2:** T3 annular/ Townsend Double gate(11", 5,000 psi)**Choke** 3", 5,000 psi**KB-GL (ft):** 14**Note:** Actual drilling rig may vary depending on availability at time the well is scheduled to be drilled.**Note:** BOPE 2 are alternate stacks to be used only if problems with rig height and BOP 1 height are encountered. Intermediate hole BOPE 2 is designed for 2,000 psi permit requirements.**BOPE REQUIREMENTS:***See attached diagram for details regarding BOPE specifications and configuration.*

- 1) Rig will be equipped with upper and lower kelly cocks with handles available.
- 2) Inside BOP and TIW valves will be available to use on all sizes and threads of drill pipe used while drilling the well.
- 2) BOP accumulator will have enough capacity to open the HCR valve, close all rams and annular preventer, and retain minimum of 200 psi above precharge on the closing manifold without the use of closing pumps. The fluid reservoir capacity shall be at least double the usable fluid volume of the accumulator system capacity, and the fluid level shall be maintained at manufacturer's recommendation. There will be two additional sources of power for the closing pumps (electric and air). Sufficient nitrogen bottles will be available and will be recharged when pressure falls below manufacturer's recommended minimum.
- 3) BOP testing shall be conducted (a) when initially installed, (b) whenever any seal is broken or repaired, (c) if the time since the previous test exceeds 30 days. Tests will be conducted using a test plug. BOP ram preventers will be tested to 3,000 psig for 10 minutes, and the annular preventer will be tested to 1,500 psi for 10 minutes. Ram and annular preventers will be tested to 250 psi for 5 minutes. Additionally, BOP and casing strings will be tested to .22 psi/ft or 1,500 psi, whichever is greater but not exceeding 70% of yield strength of the casing, for 30 minutes, prior to drilling out 13-3/8" and 9-5/8" casing. Rams and hydraulically operated remote choke line valve will be function tested daily at a minimum. If alternate intermediate hole BOPE 2 is needed, testing of annular will be to 1,500 psi/ 10 min, 250 psi/5 min. Prod hole BOPE 2 will be tested same as BOPE 1
- 4) Remote valve for BOP rams, HCR, and choke shall be placed in a location that is readily available to the driller. The remote BOP valve shall be capable of closing and opening the rams.
- 5) Manual locking devices (hand wheels) shall be intalled on rams. A valve will be installed on the annular preventer's closing line as close as possible to the preventer to act as a locking device. The valve will be maintained in the open position and shall only be closed when there is no power to the accumulator.

FLUIDS AND SOLIDS CONTROL PROGRAM:**Fluid Measurement:**

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

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

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

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

Fluid Program: See "Detailed Drilling Plan" section for specifics.

DETAILED DRILLING PLAN:

SURFACE: Drill vertically to casing setting depth, run casing, cement casing to surface.

0 ft (MD)	to	320 ft (MD)	Hole Section Length:	320 ft
0 ft (TVD)	to	320 ft (TVD)	Casing Required:	320 ft

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

Update: Surface section was drilled, cased, cemented in November 2018

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

Hole Size: 17-1/2"

Bit / Motor: Mill Tooth or PDC, no motor

MWD / Survey: No MWD, run deviation survey after drilling

Logging: None

Casing Specs:	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	13.375	54.5	J-55	BTC	1,130	2,730	853,000
Loading					70	1,518	115,209
Min. S.F.					16.17	1.80	7.40

Assumptions: Collapse: partially evacuated casing with 8.4 ppg fluid outside casing

Burst: maximum anticipated surface pressure with 9.5 ppg fluid inside casing while drilling

intermediate hole and 8.4 ppg equivalent external pressure gradient

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

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

Make-up as per API Buttress Connection running procedure.

Casing Details: 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)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
	Class G	15.8	1.174	5.15	100%	0	379

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

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

Halliburton HALCEM surface cementing blend

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

before drilling out. NOTE: cement was circulated to surface Nov 15, 2018

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

320 ft (MD)	to	6,094 ft (MD)	Hole Section Length:	5,774 ft
320 ft (TVD)	to	5,918 ft (TVD)	Casing Required:	6,094 ft

Fluid:	Type	MW (ppg)	FL (mL/30 min)	PV (cp)	YP (lb/100 sqft)	pH	Comments
	LSND (KCI)	8.8 - 9.5	20	8 - 14	8 - 14	9.0 - 9.5	

Interm Hole Mud: Losses may occur around 5,400' TVD. Maintain minimum mud weights. Pre-treat with gilsonite and medium LCM products, 60% fibrous, 20% platey, 20% granular. If needed, reduce gpm

Hole Size: 12-1/4"

Bit / Motor: PDC w/mud motor

Bit / Motor (Detail): MOTOR: NOV 087840 - 7/8, 4.0, stage, 0.16 rev/gal, 1.83 DEG, 900 GPM, 950 DIFF PSIG

BIT: 5- or 6-BLADE PDC w/16 mm or 19 mm cutters, target TFA 0.65 - 1.0 max); 6 - 14s = 0.902 sq-in TFA

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

Logging: None

Pressure Test: NU BOPE and test (as noted above); pressure test 13-3/8" casing to 1,500 psi for 30 minutes.
Maximum anticipated surface pressure while drilling intermediate hole section is 1,250 psi

Casing Specs:	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	9.625	36.0	J55	LTC	2,020	3,520	564,000
Loading					1,261	1,760	285,788
Min. S.F.					1.60	2.00	1.97

Assumptions: Collapse: evacuated casing with 8.33 ppg equiv external pressure gradient, .22 psi/ft backup

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

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

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

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

Centralizers: 1 centralizers jt stop-banded 10' from float shoe on bottom 1 jt & 1 centralizer floating on bottom joint, 1 centralizer per jt (floating) to KOP ; 1 centralizer per 2 jts (floating) to surface (**CENTRALIZERS FROM ARSENAL - SLIP'N'SLIDE 9-5/8" x 12" SOLID BODY POLYMER**)

Casing Contingency: Hole conditions encountered during the drilling of the 12-1/4" intermediate hole section may warrant the use of an ECP and/or a DV Tool to ensure that cement can be successfully circulated to surface. Anticipated placement tool placement is ~100' above the Point Lookout top. Actual drilling conditions will determine if a tools are needed and their exact placement.

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	III:POZ Blend	12.5	2.140	12.05	70%	0	1,404
Tail	Type III	14.6	1.38	6.64	20%	5,594	136

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

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

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

Drake Energy Services 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.

6,094 ft (MD)	to	16,522 ft (MD)	Hole Section Length:	10,428 ft
5,918 ft (TVD)	to	6,528 ft (TVD)	Casing Required:	16,522 ft

Estimated KOP:	6,819 ft (MD)	6,509 ft (TVD)
Estimated Landing Point (P.O.E.):	7,122 ft (MD)	6,586 ft (TVD)
Estimated Lateral Length:	9,400 ft (MD)	

Fluid:	Type	MW (ppg)	FL (mL/30')	PV (cp)	YP (lb/100 sqft)	ES	OWR	Comment
	OBM	8.7 - 9.0	10 - 15	10 - 20	6 - 10	500+	80:20	WBM as contingency

Hole Size: 8-1/2"

Bit / Motor: PDC w/mud motor

Bit / Motor (Detail): **MOTOR:** NOV 077857 - 6.5" 7/8, 5.0 stage, 0.23 rev/gal, 1.83 deg, 750 GPM, 1,580 DIFF PSIG (or similar); on demand friction breaking device(s) as required, bottom tool spaced ~3,000' behind the bit.

BIT: 5-BLADE PDC w/16 mm - 19 mm cutters, matrix body, target TFA = 1.0 - 1.5 sq-in

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

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

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

Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	5.500	17.0	P-110	LTC	7,460	10,640	546,000	445,000
Loading					3,253	7,045	342,369	342,369
Min. S.F.					2.29	1.51	1.59	1.30

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

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

Tension: buoyed weight in 9.0 ppg fluid with 100,000 lbs over-pull

MU Torque (ft lbs): Minimum: 3,470 Optimum: 4,620 Maximum: 5,780

Casing Summary: Float shoe, 1 jt casing, float collar w/debris catcher, 1 jt casing, float collar (**WFT float equipment**), 20' marker joint, toe-initiation sleeve (**WFT RD 9,500 psi**), 20' marker joint, toe-initiation sleeve (Weatherford RD 10,500 psi), casing to KOP with 20' marker joints spaced evenly in lateral every ~2,000', floatation sub (**NCS Air-Lock 4,500 psi from WFT**), casing to surface. The toe-initiation sleeve shall be placed no closer to the unit boundary than 100' measured along the azimuth of the well or 330' measured perpendicular to the the azimuth of the well. **Note: the LTP is the maximum depth of the toe sleeve and is noted on the Well Plan. Drill past the LTP as required for necessary rat-hole and shoe-track length to place the toe sleeve as close to (but not past) the planned LTP as possible.**

Centralizers: Centralizer count and placement may be adjusted based on well conditions and as-drilled surveys (**ARSENAL**)

Lateral: 1 centralizer per joint

POE to 9-5/8" shoe: 1 centralizer per joint

9-5/8" shoe to surface: 1 centralizer per 2 joints

Casing Summary: Float shoe, 1 jt casing, float collar, 1 jt casing, float collar, 1 jt casing, toe-initiation sleeve, 20' marker joint, toe-initiation sleeve, casing to KOP with 20' marker joints spaced evenly in lateral every 2,000', floatation sub, casing to surface. **The toe-initiation sleeves must be positioned INSIDE any unit setback.**

Casing Details: Float shoe, 1 jt casing, float collar, NCS debris catcher, 1 jt casing, float collar, 1 jt casing, toe-initiation sleeve (**WFT RD 9,500 psi**), 20' marker joint, toe-initiation sleeve (**Weatherford RD 10,500 psi**), casing to KOP with 20' marker joints spaced evenly in lateral every 2,000'. Place **NCS Floatation Sub** (opening pressure 3,000 psi - 3,500 psi applied) at KOP (+/-), casing to surface. Run **Arsenal Slip N Slide 8" x 5-1/2" polymer centralizers** on casing as noted below. **The toe-initiation sleeves must be positioned INSIDE the 330' unit setback.**

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

Lateral: 1 centralizer per joint

Curve: 1 centralizer per joint from landing point to KOP

KOP to surf: 1 centralizer per 2 joints

	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Cement:							
Lead	Type III	12.4	2.360	13.40	65%	0	1,131
Tail	G:POZ blend	13.3	1.360	6.00	10%	5,994	1,951
Annular Capacity	0.2691	cuft/ft	5-1/2" casing x 9-5/8" casing annulus				
	0.2291	cuft/ft	5-1/2" casing x 8-1/2" hole annulus				

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

American Cementing Liner & Production Blend

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 bottom 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:

Frac: 40 plug-and-perf stages with 300,000 bbls slickwater fluid and 24,000,000 lbs of proppant (estimated)

Flowback: Flow back through production tubing as pressures allow (ESP may be used for load recovery assistance)

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

ESTIMATED START DATES:

Drilling: 7/11/2022

Completion: 10/10/2022

Production: 12/9/2022

Prepared by: Alec Bridge 9/4/2018

Updated by: Alec Bridge 10/5/2018 - changed 9-5/8" casing weight to 40#, updated AFE-information

Alec Bridge 10/18/2018 - eliminated pilot hole, lengthened lateral by ~5,000', updated BOPE information

Alec Bridge 10/26/2018 - updated directional plan based on final plats, updated AFE-information

Alec Bridge 3/6/2019 - lowered 9-5/8" casing point into the Mancos, added contingency ECP and/or DV Tool in 9-5/8" casing string, modified directional plan for AC (COMPASS Design #2)

Alec Bridge 7/29/2019 - updated AFE information, updated rig information, updated BOPE schematic

Alec Bridge 2/7/2022 - updated AFE information for 10K LL

Greg Olson 4/21/2022 updated geology, directional, mud, casing, rig, BOPE, cement

WELL NAME: RINCON UNIT 615H

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

API Number: 30-039-31372

State: New Mexico

County: Rio Arriba

Surface Elev.: 6,538 ft ASL (GL) 6,552 ft ASL (KB)

Surface Location: 21-27N-06W Sec-Twn- Rng 1,141 ft FNL 1,257 ft FEL

BH Location: 19-27N-06W Sec-Twn- Rng 1024 ft FNL 763 ft FWL

Driving Directions: From intersection of US Hwy 64 & US Hwy 550 in Bloomfield, NM: east on Hwy 64 for 36.8 miles to General American Road (GAR) just past MM 101, right (S) on GAR for 1.2 miles to fork, continue right (SW) on GAR for 3.4 miles to 4-way intersection, straight (S) on GAR for 1.1 miles to fork, right (SW) along Munoz Wash for 4.3 miles to 4-way intersection, straight (SW) across Carrizo Wash for 0.3 mile to fork, left (SE) onto CR #492 for 0.4 miles to fork, straight (S) on 492 for 1.4 miles to fork, right (N) uphill on existing road for 0.6 miles to fork, left (SW) for 0.8 miles to fork, left (SE) for 0.1 miles to fork, right (SW) to location to staked location which overlaps existing roadway.

QUICK REFERENCE	
Sur TD (MD)	320 ft
Int TD (MD)	6,094 ft
KOP (MD)	6,819 ft
KOP (TVD)	6,509 ft
Target (TVD)	6,586 ft
Curve BUR	10 °/100 ft
POE (MD)	7,122 ft
TD (MD)	16,522 ft
Lat Len (ft)	9,400 ft

WELL CONSTRUCTION SUMMARY:

	Hole (in)	TD MD (ft)	Csg (in)	Csg (lb/ft)	Csg (grade)	Csg (conn)	Csg Top (ft)	Csg Bot (ft)
Surface	17.500	320	13.375	54.5	J-55	BTC	0	320
Intermediate	12.250	6,094	9.625	36	J55	LTC	0	6,094
Production	8.500	16,522	5.500	17.0	P-110	LTC	0	16,522

CEMENT PROPERTIES SUMMARY:

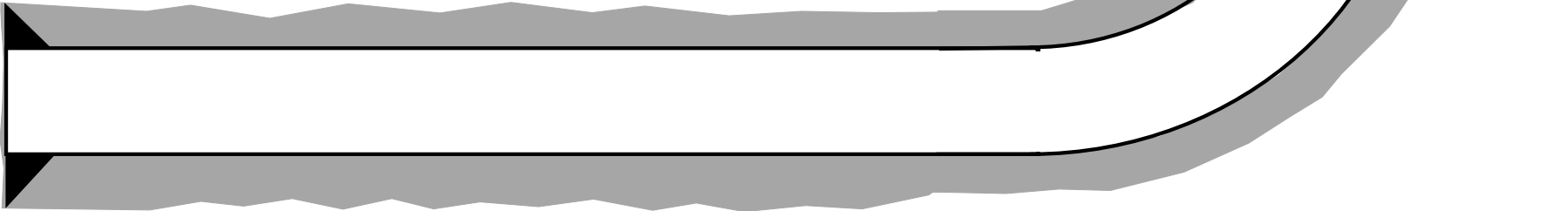
	Type	Wt (ppg)	Yd (cuft/sk)	Wtr (gal/sk)	% Excess	TOC (ft MD)	Total (sx)
Surface	Class G	15.8	1.174	5.15	100%	0	379
Inter. (Lead)	III:POZ Blend	12.5	2.14	12.05	70%	0	1,404
Inter. (Tail)	Type III	14.6	1.38	6.64	20%	5,594	136
Prod. (Lead)	Type III	12.4	2.36	13.4	65%	0	1,131
Prod. (Tail)	G:POZ blend	13.3	1.3602	5.999	10%	5,994	1,951

COMPLETION / PRODUCTION SUMMARY:

Frac: 40 plug-and-perf stages with 300,000 bbls slickwater fluid and 24,000,000 lbs of proppant (estimated)

Flowback: Flow back through production tubing as pressures allow (ESP may be used for load recovery assistance)

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



District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 101513

CONDITIONS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way, Suite 525 Centennial, CO 80111	OGRID: 372286
	Action Number: 101513
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
kpickford	Adhere to previous NMOCD Conditions of Approval	4/28/2022