

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 / 1141 FNL / 1257 FEL / TWSP: 27N / RANGE: 6W / SECTION: 21 / LAT: 36.563961 / LONG: -107.467833 (TVD: 0 feet, MD: 0 feet)

PPP: NENE / 750 FNL / 1200 FEL / TWSP: 27N / RANGE: 6W / SECTION: 21 / LAT: 36.565037 / LONG: -107.467612 (TVD: 5764 feet, MD: 5850 feet)

BHL: NWNW / 750 FNL / 500 FWL / TWSP: 27N / RANGE: 6W / SECTION: 20 / LAT: 36.564423 / LONG: -107.497656 (TVD: 6746 feet, MD: 16189 feet)

CONFIDENTIAL

District I
1625 North
Phone: (575) 393-6161 Fax: (575) 393-0720
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

17 OPERATOR CER Page 4 of 28
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and 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 such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Khem Suthiwan 4/14/2022
Signature Date
Khem Suthiwan
Printed Name
ksuthiwan@enduringresources.com
E-mail Address

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code	3 Pool Name
		97232	BASIN MANCOS
4 Property Code	5 Property Name		6 Well Number
319957	RINCON UNIT		615H
7 OGRID No.	8 Operator Name		9 Elevation
372286	ENDURING RESOURCES, LLC		6538'

10 Surface Location

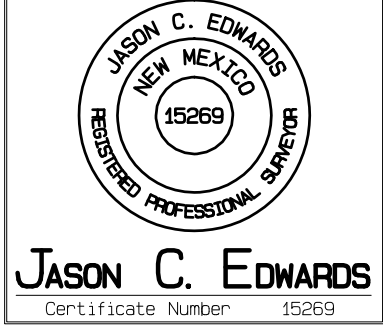
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	21	27N	6W		1141	NORTH	1257	EAST	RIO ARriba

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
A	19	27N	6W	1	402	NORTH	762	EAST	RIO ARriba

12 Dedicated Acres	13 Joint or Infill				14 Consolidation Code	15 Order No.
959.32	N/2 - Section 19 N/2 - Section 20 N/2 - Section 21					

18 SURVEYOR CERTIFICATION
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.
Date Revised: APRIL 13, 2022
Date of Survey: JUNE 17, 2018
Signature and Seal of Professional Surveyor



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

LAST TAKE POINT
402' FNL 762' FWL
SECTION 19, T27N, R6W
LAT: 36.565428°N
LONG: 107.501313°W
DATUM: NAD1927

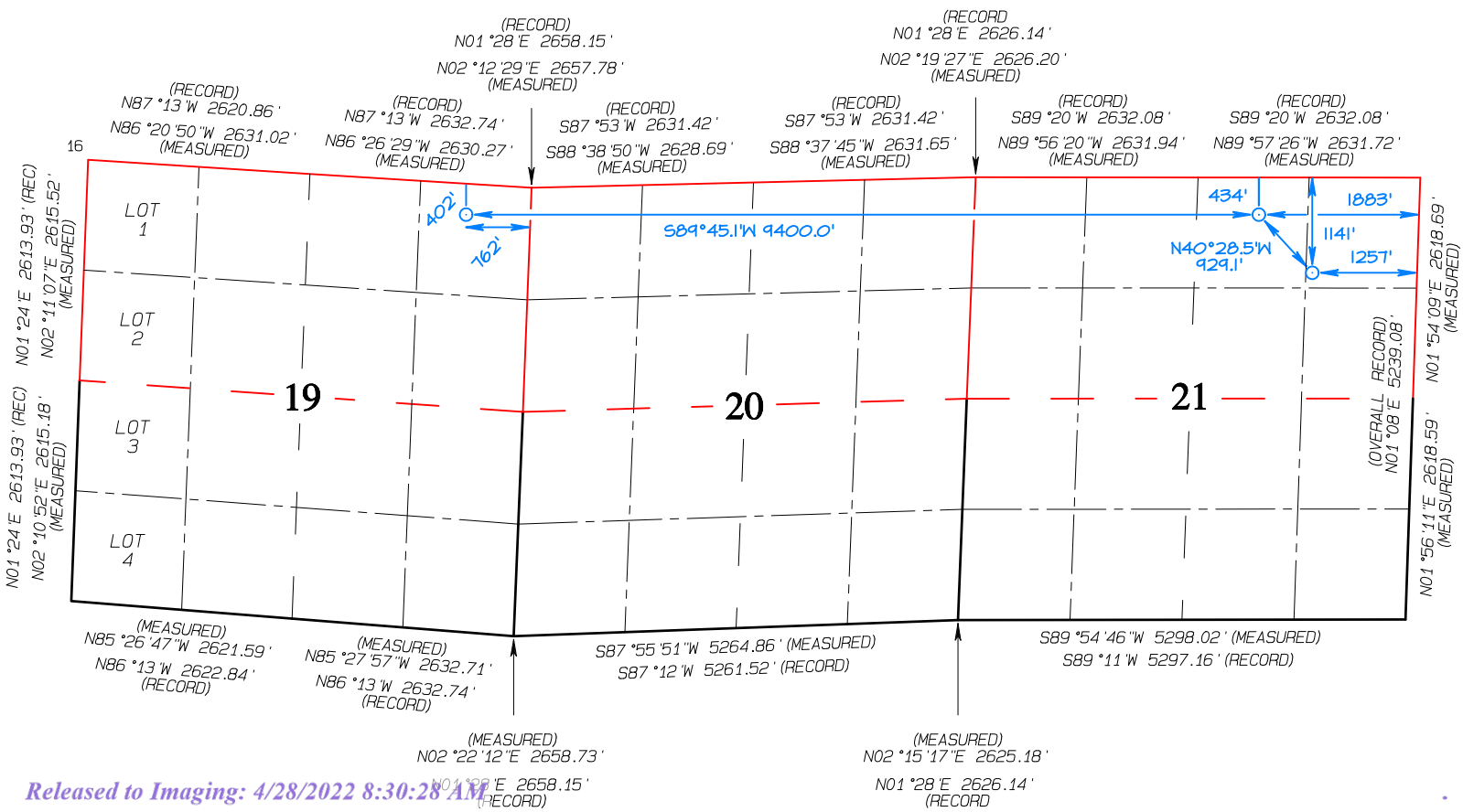
LAT: 36.565437°N
LONG: 107.501917°W
DATUM: NAD1983

FIRST TAKE POINT
434' FNL 1883' FEL
SECTION 21, T27N, R6W
LAT: 36.565872°N
LONG: 107.469313°W
DATUM: NAD1927

LAT: 36.565881°N
LONG: 107.469917°W
DATUM: NAD1983

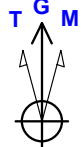
SURFACE LOCATION
1141' FNL 1257' FEL
SECTION 21, T27N, R6W
LAT: 36.563952°N
LONG: 107.467229°W
DATUM: NAD1927

LAT: 36.563961°N
LONG: 107.467833°W
DATUM: NAD1983





Well: Rincon Unit 615H
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: 2024794.459 Easting: 2830427.289 Latitude: 36.563961000 Longitude: -107.467833000

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

Section Details

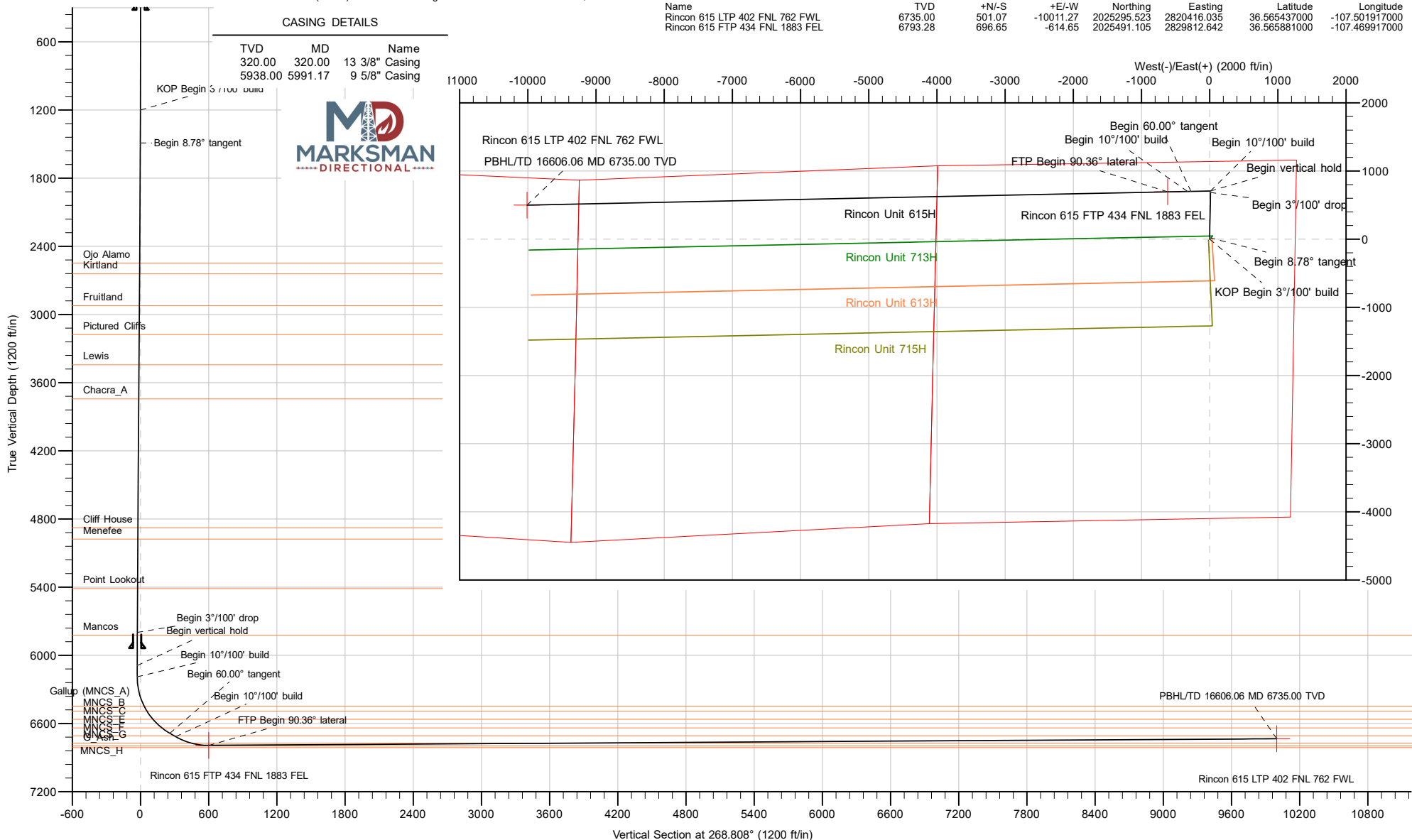
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	
2	1200.00	0.00	0.000	1200.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 3°/100' build
3	1492.60	8.78	1.105	1491.45	22.37	0.43	3.00	1.11	-0.90	Begin 8.78° tangent
4	5851.07	8.78	1.105	5798.88	687.36	13.26	0.00	0.00	-27.56	Begin 3°/100' drop
5	6143.67	0.00	359.057	6090.33	709.73	13.69	3.00	180.00	-28.46	Begin vertical hold
6	6243.67	0.00	359.057	6190.33	709.73	13.69	0.00	359.06	-28.46	Begin 10°/100' build
7	6843.67	60.00	268.808	6686.53	703.77	-272.73	10.00	268.81	258.02	Begin 60.00° tangent
8	6903.67	60.00	268.808	6716.53	702.69	-324.68	0.00	0.00	309.98	Begin 10°/100' build
9	7207.22	90.36	268.808	6793.28	696.65	-614.65	10.00	0.00	600.02	FTP Begin 90.36° lateral
10	16606.06	90.36	268.808	6735.00	501.07	10011.27	0.00	0.00	9998.68	PBHL/TD 16606.06 MD 6735.00 TVD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Rincon 615 LTP 402 FNL 762 FWL	6735.00	501.07	-10011.27	2025295.523	2820416.035	36.565437000	-107.501917000
Rincon 615 FTP 434 FNL 1883 FEL	6793.28	696.65	-614.65	2025491.105	2829812.642	36.565881000	-107.469917000

CASING DETAILS

TVD	MD	Name
320.00	320.00	13 3/8" Casing
5938.00	5991.17	9 5/8" Casing



Vertical Section at 268.808° (1200 ft/in)



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 615H
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 615H	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 615H, Surf loc: 1141 FNL 1257 FEL Section 21-T27N-R06W					
Well Position	+N/-S	0.00 ft	Northing:	2,024,794.459 usft	Latitude:	36.563961000
	+E/-W	0.00 ft	Easting:	2,830,427.289 usft	Longitude:	-107.467833000
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	49,449.13228034

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	268.808	

Plan Survey Tool Program	Date	4/20/2022			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	16,606.06	rev0 (Original Hole)	MWD	
				OWSG MWD - Standard	



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 615H
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 615H	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	
1,200.00	0.00	0.000	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,492.60	8.78	1.105	1,491.45	22.37	0.43	3.00	3.00	0.00	1.11	
5,851.07	8.78	1.105	5,798.88	687.36	13.26	0.00	0.00	0.00	0.00	
6,143.67	0.00	359.057	6,090.33	709.73	13.69	3.00	-3.00	0.00	180.00	
6,243.67	0.00	359.057	6,190.33	709.73	13.69	0.00	0.00	0.00	359.06	
6,843.67	60.00	268.808	6,686.53	703.77	-272.73	10.00	10.00	0.00	268.81	
6,903.67	60.00	268.808	6,716.53	702.69	-324.68	0.00	0.00	0.00	0.00	
7,207.22	90.36	268.808	6,793.28	696.65	-614.65	10.00	10.00	0.00	0.00	
16,606.06	90.36	268.808	6,735.00	501.07	-10,011.27	0.00	0.00	0.00	0.00	Rincon 615 LTP 402 f



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 615H
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 615H	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
1,200.00	0.00	0.000	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP Begin 3°/100' build									
1,300.00	3.00	1.105	1,299.95	2.62	0.05	-0.10	3.00	3.00	0.00
1,400.00	6.00	1.105	1,399.63	10.46	0.20	-0.42	3.00	3.00	0.00
1,492.60	8.78	1.105	1,491.45	22.37	0.43	-0.90	3.00	3.00	0.00
Begin 8.78° tangent									
1,500.00	8.78	1.105	1,498.77	23.49	0.45	-0.94	0.00	0.00	0.00
1,600.00	8.78	1.105	1,597.60	38.75	0.75	-1.55	0.00	0.00	0.00
1,700.00	8.78	1.105	1,696.43	54.01	1.04	-2.17	0.00	0.00	0.00
1,800.00	8.78	1.105	1,795.26	69.27	1.34	-2.78	0.00	0.00	0.00
1,900.00	8.78	1.105	1,894.09	84.53	1.63	-3.39	0.00	0.00	0.00
2,000.00	8.78	1.105	1,992.91	99.78	1.92	-4.00	0.00	0.00	0.00
2,100.00	8.78	1.105	2,091.74	115.04	2.22	-4.61	0.00	0.00	0.00
2,200.00	8.78	1.105	2,190.57	130.30	2.51	-5.22	0.00	0.00	0.00
2,300.00	8.78	1.105	2,289.40	145.56	2.81	-5.84	0.00	0.00	0.00
2,400.00	8.78	1.105	2,388.23	160.81	3.10	-6.45	0.00	0.00	0.00
2,500.00	8.78	1.105	2,487.06	176.07	3.40	-7.06	0.00	0.00	0.00
2,561.66	8.78	1.105	2,548.00	185.48	3.58	-7.44	0.00	0.00	0.00
Ojo Alamo									
2,600.00	8.78	1.105	2,585.89	191.33	3.69	-7.67	0.00	0.00	0.00
2,657.79	8.78	1.105	2,643.00	200.15	3.86	-8.02	0.00	0.00	0.00
Kirtland									
2,700.00	8.78	1.105	2,684.71	206.59	3.98	-8.28	0.00	0.00	0.00
2,800.00	8.78	1.105	2,783.54	221.84	4.28	-8.89	0.00	0.00	0.00
2,900.00	8.78	1.105	2,882.37	237.10	4.57	-9.51	0.00	0.00	0.00
2,941.11	8.78	1.105	2,923.00	243.37	4.69	-9.76	0.00	0.00	0.00
Fruitland									
3,000.00	8.78	1.105	2,981.20	252.36	4.87	-10.12	0.00	0.00	0.00
3,100.00	8.78	1.105	3,080.03	267.62	5.16	-10.73	0.00	0.00	0.00
3,199.13	8.78	1.105	3,178.00	282.74	5.45	-11.34	0.00	0.00	0.00
Pictured Cliffs									
3,200.00	8.78	1.105	3,178.86	282.87	5.46	-11.34	0.00	0.00	0.00
3,300.00	8.78	1.105	3,277.69	298.13	5.75	-11.95	0.00	0.00	0.00
3,400.00	8.78	1.105	3,376.52	313.39	6.04	-12.57	0.00	0.00	0.00
3,467.27	8.78	1.105	3,443.00	323.65	6.24	-12.98	0.00	0.00	0.00
Lewis									
3,500.00	8.78	1.105	3,475.34	328.65	6.34	-13.18	0.00	0.00	0.00
3,600.00	8.78	1.105	3,574.17	343.91	6.63	-13.79	0.00	0.00	0.00
3,700.00	8.78	1.105	3,673.00	359.16	6.93	-14.40	0.00	0.00	0.00
3,770.83	8.78	1.105	3,743.00	369.97	7.14	-14.83	0.00	0.00	0.00
Chacra_A									



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 615H
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 615H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,800.00	8.78	1.105	3,771.83	374.42	7.22	-15.01	0.00	0.00	0.00
3,900.00	8.78	1.105	3,870.66	389.68	7.52	-15.62	0.00	0.00	0.00
4,000.00	8.78	1.105	3,969.49	404.94	7.81	-16.24	0.00	0.00	0.00
4,100.00	8.78	1.105	4,068.32	420.19	8.11	-16.85	0.00	0.00	0.00
4,200.00	8.78	1.105	4,167.15	435.45	8.40	-17.46	0.00	0.00	0.00
4,300.00	8.78	1.105	4,265.97	450.71	8.69	-18.07	0.00	0.00	0.00
4,400.00	8.78	1.105	4,364.80	465.97	8.99	-18.68	0.00	0.00	0.00
4,500.00	8.78	1.105	4,463.63	481.22	9.28	-19.29	0.00	0.00	0.00
4,600.00	8.78	1.105	4,562.46	496.48	9.58	-19.91	0.00	0.00	0.00
4,700.00	8.78	1.105	4,661.29	511.74	9.87	-20.52	0.00	0.00	0.00
4,800.00	8.78	1.105	4,760.12	527.00	10.17	-21.13	0.00	0.00	0.00
4,900.00	8.78	1.105	4,858.95	542.25	10.46	-21.74	0.00	0.00	0.00
4,919.28	8.78	1.105	4,878.00	545.20	10.52	-21.86	0.00	0.00	0.00
Cliff House									
5,000.00	8.78	1.105	4,957.78	557.51	10.75	-22.35	0.00	0.00	0.00
5,020.46	8.78	1.105	4,978.00	560.63	10.81	-22.48	0.00	0.00	0.00
Menefee									
5,100.00	8.78	1.105	5,056.60	572.77	11.05	-22.96	0.00	0.00	0.00
5,200.00	8.78	1.105	5,155.43	588.03	11.34	-23.58	0.00	0.00	0.00
5,300.00	8.78	1.105	5,254.26	603.28	11.64	-24.19	0.00	0.00	0.00
5,400.00	8.78	1.105	5,353.09	618.54	11.93	-24.80	0.00	0.00	0.00
5,460.62	8.78	1.105	5,413.00	627.79	12.11	-25.17	0.00	0.00	0.00
Point Lookout									
5,500.00	8.78	1.105	5,451.92	633.80	12.23	-25.41	0.00	0.00	0.00
5,600.00	8.78	1.105	5,550.75	649.06	12.52	-26.02	0.00	0.00	0.00
5,700.00	8.78	1.105	5,649.58	664.32	12.81	-26.64	0.00	0.00	0.00
5,800.00	8.78	1.105	5,748.41	679.57	13.11	-27.25	0.00	0.00	0.00
5,851.07	8.78	1.105	5,798.88	687.36	13.26	-27.56	0.00	0.00	0.00
Begin 3°/100' drop									
5,875.46	8.05	1.105	5,823.00	690.93	13.33	-27.70	3.00	-3.00	0.00
Mancos									
5,900.00	7.31	1.105	5,847.32	694.21	13.39	-27.83	3.00	-3.00	0.00
6,000.00	4.31	1.105	5,946.80	704.33	13.59	-28.24	3.00	-3.00	0.00
6,100.00	1.31	1.105	6,046.67	709.23	13.68	-28.44	3.00	-3.00	0.00
6,143.67	0.00	359.057	6,090.33	709.73	13.69	-28.46	3.00	-3.00	0.00
Begin vertical hold									
6,200.00	0.00	0.000	6,146.66	709.73	13.69	-28.46	0.00	0.00	0.00
6,243.67	0.00	0.000	6,190.33	709.73	13.69	-28.46	0.00	0.00	0.00
Begin 10°/100' build									
6,250.00	0.63	268.808	6,196.66	709.73	13.65	-28.42	10.00	10.00	0.00
6,300.00	5.63	268.808	6,246.57	709.67	10.92	-25.69	10.00	10.00	0.00
6,350.00	10.63	268.808	6,296.05	709.53	3.85	-18.62	10.00	10.00	0.00
6,400.00	15.63	268.808	6,344.73	709.29	-7.50	-7.26	10.00	10.00	0.00
6,450.00	20.63	268.808	6,392.23	708.97	-23.05	8.30	10.00	10.00	0.00
6,500.00	25.63	268.808	6,438.20	708.56	-42.69	27.93	10.00	10.00	0.00
6,510.92	26.73	268.808	6,448.00	708.46	-47.51	32.75	10.00	10.00	0.00
Gallup (MNCS_A)									
6,550.00	30.63	268.808	6,482.28	708.07	-66.25	51.50	10.00	10.00	0.00
6,562.54	31.89	268.808	6,493.00	707.93	-72.76	58.01	10.00	10.00	0.00
MNCS_B									
6,600.00	35.63	268.808	6,524.13	707.50	-93.57	78.82	10.00	10.00	0.00
6,649.41	40.57	268.808	6,563.00	706.86	-124.04	109.30	10.00	10.00	0.00
MNCS_C									



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 615H
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 615H	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)
6,650.00	40.63	268.808	6,563.45	706.86	-124.42	109.69	10.00	10.00	0.00
6,700.00	45.63	268.808	6,599.93	706.14	-158.59	143.86	10.00	10.00	0.00
6,750.00	50.63	268.808	6,633.29	705.37	-195.81	181.09	10.00	10.00	0.00
6,760.71	51.70	268.808	6,640.00	705.20	-204.15	189.43	10.00	10.00	0.00
MNCS_E									
6,800.00	55.63	268.808	6,663.27	704.54	-235.79	221.08	10.00	10.00	0.00
6,843.67	60.00	268.808	6,686.53	703.77	-272.73	258.02	10.00	10.00	0.00
Begin 60.00° tangent									
6,886.61	60.00	268.808	6,708.00	702.99	-309.91	295.22	0.00	0.00	0.00
MNCS_F									
6,903.67	60.00	268.808	6,716.53	702.69	-324.68	309.98	0.00	0.00	0.00
Begin 10°/100' build									
6,950.00	64.63	268.808	6,738.05	701.83	-365.69	351.00	10.00	10.00	0.00
7,000.00	69.63	268.808	6,757.47	700.88	-411.73	397.06	10.00	10.00	0.00
7,050.00	74.63	268.808	6,772.80	699.89	-459.30	444.63	10.00	10.00	0.00
7,050.74	74.71	268.808	6,773.00	699.87	-460.01	445.35	10.00	10.00	0.00
MNCS_G									
7,100.00	79.63	268.808	6,783.94	698.87	-508.02	493.36	10.00	10.00	0.00
7,150.00	84.63	268.808	6,790.78	697.84	-557.52	542.88	10.00	10.00	0.00
7,200.00	89.63	268.808	6,793.28	696.80	-607.43	592.80	10.00	10.00	0.00
7,207.22	90.36	268.808	6,793.28	696.65	-614.65	600.02	10.00	10.00	0.00
FTP Begin 90.36° lateral									
7,300.00	90.36	268.808	6,792.70	694.72	-707.41	692.80	0.00	0.00	0.00
7,400.00	90.36	268.808	6,792.08	692.64	-807.38	792.79	0.00	0.00	0.00
7,500.00	90.36	268.808	6,791.46	690.56	-907.36	892.79	0.00	0.00	0.00
7,600.00	90.36	268.808	6,790.84	688.48	-1,007.33	992.79	0.00	0.00	0.00
7,700.00	90.36	268.808	6,790.22	686.40	-1,107.31	1,092.79	0.00	0.00	0.00
7,800.00	90.36	268.808	6,789.60	684.32	-1,207.29	1,192.79	0.00	0.00	0.00
7,900.00	90.36	268.808	6,788.98	682.24	-1,307.26	1,292.78	0.00	0.00	0.00
8,000.00	90.36	268.808	6,788.36	680.15	-1,407.24	1,392.78	0.00	0.00	0.00
8,100.00	90.36	268.808	6,787.74	678.07	-1,507.22	1,492.78	0.00	0.00	0.00
8,200.00	90.36	268.808	6,787.12	675.99	-1,607.19	1,592.78	0.00	0.00	0.00
8,300.00	90.36	268.808	6,786.50	673.91	-1,707.17	1,692.78	0.00	0.00	0.00
8,400.00	90.36	268.808	6,785.88	671.83	-1,807.15	1,792.77	0.00	0.00	0.00
8,500.00	90.36	268.808	6,785.26	669.75	-1,907.12	1,892.77	0.00	0.00	0.00
8,600.00	90.36	268.808	6,784.64	667.67	-2,007.10	1,992.77	0.00	0.00	0.00
8,700.00	90.36	268.808	6,784.02	665.59	-2,107.08	2,092.77	0.00	0.00	0.00
8,800.00	90.36	268.808	6,783.40	663.51	-2,207.05	2,192.77	0.00	0.00	0.00
8,900.00	90.36	268.808	6,782.78	661.43	-2,307.03	2,292.77	0.00	0.00	0.00
9,000.00	90.36	268.808	6,782.16	659.34	-2,407.00	2,392.76	0.00	0.00	0.00
9,100.00	90.36	268.808	6,781.54	657.26	-2,506.98	2,492.76	0.00	0.00	0.00
9,200.00	90.36	268.808	6,780.92	655.18	-2,606.96	2,592.76	0.00	0.00	0.00
9,300.00	90.36	268.808	6,780.30	653.10	-2,706.93	2,692.76	0.00	0.00	0.00
9,400.00	90.36	268.808	6,779.68	651.02	-2,806.91	2,792.76	0.00	0.00	0.00
9,500.00	90.36	268.808	6,779.06	648.94	-2,906.89	2,892.75	0.00	0.00	0.00
9,600.00	90.36	268.808	6,778.44	646.86	-3,006.86	2,992.75	0.00	0.00	0.00
9,700.00	90.36	268.808	6,777.82	644.78	-3,106.84	3,092.75	0.00	0.00	0.00
9,800.00	90.36	268.808	6,777.20	642.70	-3,206.82	3,192.75	0.00	0.00	0.00
9,900.00	90.36	268.808	6,776.58	640.62	-3,306.79	3,292.75	0.00	0.00	0.00
10,000.00	90.36	268.808	6,775.96	638.54	-3,406.77	3,392.74	0.00	0.00	0.00
10,100.00	90.36	268.808	6,775.34	636.45	-3,506.75	3,492.74	0.00	0.00	0.00
10,200.00	90.36	268.808	6,774.72	634.37	-3,606.72	3,592.74	0.00	0.00	0.00
10,300.00	90.36	268.808	6,774.10	632.29	-3,706.70	3,692.74	0.00	0.00	0.00



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 615H
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 615H	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)	
10,400.00	90.36	268.808	6,773.48	630.21	-3,806.67	3,792.74	0.00	0.00	0.00	
10,500.00	90.36	268.808	6,772.86	628.13	-3,906.65	3,892.73	0.00	0.00	0.00	
10,600.00	90.36	268.808	6,772.24	626.05	-4,006.63	3,992.73	0.00	0.00	0.00	
10,700.00	90.36	268.808	6,771.62	623.97	-4,106.60	4,092.73	0.00	0.00	0.00	
10,800.00	90.36	268.808	6,771.00	621.89	-4,206.58	4,192.73	0.00	0.00	0.00	
10,900.00	90.36	268.808	6,770.38	619.81	-4,306.56	4,292.73	0.00	0.00	0.00	
11,000.00	90.36	268.808	6,769.76	617.73	-4,406.53	4,392.72	0.00	0.00	0.00	
11,100.00	90.36	268.808	6,769.14	615.64	-4,506.51	4,492.72	0.00	0.00	0.00	
11,200.00	90.36	268.808	6,768.52	613.56	-4,606.49	4,592.72	0.00	0.00	0.00	
11,300.00	90.36	268.808	6,767.90	611.48	-4,706.46	4,692.72	0.00	0.00	0.00	
11,400.00	90.36	268.808	6,767.28	609.40	-4,806.44	4,792.72	0.00	0.00	0.00	
11,500.00	90.36	268.808	6,766.66	607.32	-4,906.42	4,892.72	0.00	0.00	0.00	
11,600.00	90.36	268.808	6,766.04	605.24	-5,006.39	4,992.71	0.00	0.00	0.00	
11,700.00	90.36	268.808	6,765.42	603.16	-5,106.37	5,092.71	0.00	0.00	0.00	
11,800.00	90.36	268.808	6,764.80	601.08	-5,206.34	5,192.71	0.00	0.00	0.00	
11,900.00	90.36	268.808	6,764.18	599.00	-5,306.32	5,292.71	0.00	0.00	0.00	
12,000.00	90.36	268.808	6,763.56	596.92	-5,406.30	5,392.71	0.00	0.00	0.00	
12,100.00	90.36	268.808	6,762.94	594.83	-5,506.27	5,492.70	0.00	0.00	0.00	
12,200.00	90.36	268.808	6,762.32	592.75	-5,606.25	5,592.70	0.00	0.00	0.00	
12,300.00	90.36	268.808	6,761.70	590.67	-5,706.23	5,692.70	0.00	0.00	0.00	
12,400.00	90.36	268.808	6,761.08	588.59	-5,806.20	5,792.70	0.00	0.00	0.00	
12,500.00	90.36	268.808	6,760.46	586.51	-5,906.18	5,892.70	0.00	0.00	0.00	
12,600.00	90.36	268.808	6,759.84	584.43	-6,006.16	5,992.69	0.00	0.00	0.00	
12,700.00	90.36	268.808	6,759.22	582.35	-6,106.13	6,092.69	0.00	0.00	0.00	
12,800.00	90.36	268.808	6,758.60	580.27	-6,206.11	6,192.69	0.00	0.00	0.00	
12,900.00	90.36	268.808	6,757.98	578.19	-6,306.09	6,292.69	0.00	0.00	0.00	
13,000.00	90.36	268.808	6,757.36	576.11	-6,406.06	6,392.69	0.00	0.00	0.00	
13,100.00	90.36	268.808	6,756.74	574.03	-6,506.04	6,492.68	0.00	0.00	0.00	
13,200.00	90.36	268.808	6,756.12	571.94	-6,606.01	6,592.68	0.00	0.00	0.00	
13,300.00	90.36	268.808	6,755.50	569.86	-6,705.99	6,692.68	0.00	0.00	0.00	
13,400.00	90.36	268.808	6,754.88	567.78	-6,805.97	6,792.68	0.00	0.00	0.00	
13,500.00	90.36	268.808	6,754.26	565.70	-6,905.94	6,892.68	0.00	0.00	0.00	
13,600.00	90.36	268.808	6,753.64	563.62	-7,005.92	6,992.67	0.00	0.00	0.00	
13,700.00	90.36	268.808	6,753.02	561.54	-7,105.90	7,092.67	0.00	0.00	0.00	
13,800.00	90.36	268.808	6,752.40	559.46	-7,205.87	7,192.67	0.00	0.00	0.00	
13,900.00	90.36	268.808	6,751.78	557.38	-7,305.85	7,292.67	0.00	0.00	0.00	
14,000.00	90.36	268.808	6,751.16	555.30	-7,405.83	7,392.67	0.00	0.00	0.00	
14,100.00	90.36	268.808	6,750.54	553.22	-7,505.80	7,492.67	0.00	0.00	0.00	
14,200.00	90.36	268.808	6,749.92	551.13	-7,605.78	7,592.66	0.00	0.00	0.00	
14,300.00	90.36	268.808	6,749.30	549.05	-7,705.76	7,692.66	0.00	0.00	0.00	
14,400.00	90.36	268.808	6,748.68	546.97	-7,805.73	7,792.66	0.00	0.00	0.00	
14,500.00	90.36	268.808	6,748.06	544.89	-7,905.71	7,892.66	0.00	0.00	0.00	
14,600.00	90.36	268.808	6,747.44	542.81	-8,005.68	7,992.66	0.00	0.00	0.00	
14,700.00	90.36	268.808	6,746.82	540.73	-8,105.66	8,092.65	0.00	0.00	0.00	
14,800.00	90.36	268.808	6,746.20	538.65	-8,205.64	8,192.65	0.00	0.00	0.00	
14,900.00	90.36	268.808	6,745.58	536.57	-8,305.61	8,292.65	0.00	0.00	0.00	
15,000.00	90.36	268.808	6,744.96	534.49	-8,405.59	8,392.65	0.00	0.00	0.00	
15,100.00	90.36	268.808	6,744.34	532.41	-8,505.57	8,492.65	0.00	0.00	0.00	
15,200.00	90.36	268.808	6,743.72	530.32	-8,605.54	8,592.64	0.00	0.00	0.00	
15,300.00	90.36	268.808	6,743.10	528.24	-8,705.52	8,692.64	0.00	0.00	0.00	
15,400.00	90.36	268.808	6,742.48	526.16	-8,805.50	8,792.64	0.00	0.00	0.00	
15,500.00	90.36	268.808	6,741.86	524.08	-8,905.47	8,892.64	0.00	0.00	0.00	
15,600.00	90.36	268.808	6,741.24	522.00	-9,005.45	8,992.64	0.00	0.00	0.00	
15,700.00	90.36	268.808	6,740.62	519.92	-9,105.43	9,092.63	0.00	0.00	0.00	



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 615H
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 615H	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)
15,800.00	90.36	268.808	6,740.00	517.84	-9,205.40	9,192.63	0.00	0.00	0.00
15,900.00	90.36	268.808	6,739.38	515.76	-9,305.38	9,292.63	0.00	0.00	0.00
16,000.00	90.36	268.808	6,738.76	513.68	-9,405.35	9,392.63	0.00	0.00	0.00
16,100.00	90.36	268.808	6,738.14	511.60	-9,505.33	9,492.63	0.00	0.00	0.00
16,200.00	90.36	268.808	6,737.52	509.52	-9,605.31	9,592.62	0.00	0.00	0.00
16,300.00	90.36	268.808	6,736.90	507.43	-9,705.28	9,692.62	0.00	0.00	0.00
16,400.00	90.36	268.808	6,736.28	505.35	-9,805.26	9,792.62	0.00	0.00	0.00
16,500.00	90.36	268.808	6,735.66	503.27	-9,905.24	9,892.62	0.00	0.00	0.00
16,606.06	90.36	268.808	6,735.00	501.07	-10,011.27	9,998.68	0.00	0.00	0.00
PBHL/TD 16606.06 MD 6735.00 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 615 LTP 402 FNI - plan hits target center - Point	0.00	2.190	6,735.00	501.07	-10,011.27	2,025,295.523	2,820,416.035	36.565437000	-107.501917000
Rincon 615 FTP 434 FN - plan misses target center by 0.01ft at 7207.22ft MD (6793.28 TVD, 696.65 N, -614.65 E) - Point	0.00	2.190	6,793.28	696.65	-614.65	2,025,491.105	2,829,812.642	36.565881000	-107.469917000

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	
5,991.17	5,938.00	9 5/8" Casing	9-5/8	12-1/4	



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 615H
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 615H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,561.66	2,548.00	Ojo Alamo				
2,657.79	2,643.00	Kirtland				
2,941.11	2,923.00	Fruitland				
3,199.13	3,178.00	Pictured Cliffs				
3,467.27	3,443.00	Lewis				
3,770.83	3,743.00	Chacra_A				
4,919.28	4,878.00	Cliff House				
5,020.46	4,978.00	Menefee				
5,460.62	5,413.00	Point Lookout				
5,875.46	5,823.00	Mancos				
6,510.92	6,448.00	Gallup (MNCS_A)				
6,562.54	6,493.00	MNCS_B				
6,649.41	6,563.00	MNCS_C				
6,760.71	6,640.00	MNCS_E				
6,886.61	6,708.00	MNCS_F				
7,050.74	6,773.00	MNCS_G				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,200.00	1,200.00	0.00	0.00	KOP Begin 3°/100' build	
1,492.60	1,491.45	22.37	0.43	Begin 8.78° tangent	
5,851.07	5,798.88	687.36	13.26	Begin 3°/100' drop	
6,143.67	6,090.33	709.73	13.69	Begin vertical hold	
6,243.67	6,190.33	709.73	13.69	Begin 10°/100' build	
6,843.67	6,686.53	703.77	-272.73	Begin 60.00° tangent	
6,903.67	6,716.53	702.69	-324.68	Begin 10°/100' build	
7,207.22	6,793.28	696.65	-614.65	FTP Begin 90.36° lateral	
16,606.06	6,735.00	501.07	-10,011.27	PBHL/TD 16606.06 MD 6735.00 TVD	



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 615H
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 615H	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 615H, Surf loc: 1141 FNL 1257 FEL Section 21-T27N-R06W					
Well Position	+N/-S	0.00 ft	Northing:	2,024,794.459 usft	Latitude:	36.563961000
	+E/-W	0.00 ft	Easting:	2,830,427.289 usft	Longitude:	-107.467833000
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	49,449.13228034

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	268.808

Plan Survey Tool Program	Date	4/20/2022		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,606.06 rev0 (Original Hole)	MWD	
			OWSG MWD - Standard	



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 615H
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 615H	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	
1,200.00	0.00	0.000	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,492.60	8.78	1.105	1,491.45	22.37	0.43	3.00	3.00	0.00	1.11	
5,851.07	8.78	1.105	5,798.88	687.36	13.26	0.00	0.00	0.00	0.00	
6,143.67	0.00	359.057	6,090.33	709.73	13.69	3.00	-3.00	0.00	180.00	
6,243.67	0.00	359.057	6,190.33	709.73	13.69	0.00	0.00	0.00	359.06	
6,843.67	60.00	268.808	6,686.53	703.77	-272.73	10.00	10.00	0.00	268.81	
6,903.67	60.00	268.808	6,716.53	702.69	-324.68	0.00	0.00	0.00	0.00	
7,207.22	90.36	268.808	6,793.28	696.65	-614.65	10.00	10.00	0.00	0.00	
16,606.06	90.36	268.808	6,735.00	501.07	-10,011.27	0.00	0.00	0.00	0.00	Rincon 615 LTP 402 f



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 615H
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 615H	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	2,024,794.459	2,830,427.289	36.563961000	-107.467833000
100.00	0.00	0.000	100.00	0.00	0.00	2,024,794.459	2,830,427.289	36.563961000	-107.467833000
200.00	0.00	0.000	200.00	0.00	0.00	2,024,794.459	2,830,427.289	36.563961000	-107.467833000
300.00	0.00	0.000	300.00	0.00	0.00	2,024,794.459	2,830,427.289	36.563961000	-107.467833000
400.00	0.00	0.000	400.00	0.00	0.00	2,024,794.459	2,830,427.289	36.563961000	-107.467833000
500.00	0.00	0.000	500.00	0.00	0.00	2,024,794.459	2,830,427.289	36.563961000	-107.467833000
600.00	0.00	0.000	600.00	0.00	0.00	2,024,794.459	2,830,427.289	36.563961000	-107.467833000
700.00	0.00	0.000	700.00	0.00	0.00	2,024,794.459	2,830,427.289	36.563961000	-107.467833000
800.00	0.00	0.000	800.00	0.00	0.00	2,024,794.459	2,830,427.289	36.563961000	-107.467833000
900.00	0.00	0.000	900.00	0.00	0.00	2,024,794.459	2,830,427.289	36.563961000	-107.467833000
1,000.00	0.00	0.000	1,000.00	0.00	0.00	2,024,794.459	2,830,427.289	36.563961000	-107.467833000
1,100.00	0.00	0.000	1,100.00	0.00	0.00	2,024,794.459	2,830,427.289	36.563961000	-107.467833000
1,200.00	0.00	0.000	1,200.00	0.00	0.00	2,024,794.459	2,830,427.289	36.563961000	-107.467833000
KOP Begin 3°/100' build									
1,300.00	3.00	1.105	1,299.95	2.62	0.05	2,024,797.076	2,830,427.339	36.563968188	-107.467832795
1,400.00	6.00	1.105	1,399.63	10.46	0.20	2,024,804.919	2,830,427.491	36.563989732	-107.467832178
1,492.60	8.78	1.105	1,491.45	22.37	0.43	2,024,816.824	2,830,427.720	36.564022431	-107.467831242
Begin 8.78° tangent									
1,500.00	8.78	1.105	1,498.77	23.49	0.45	2,024,817.954	2,830,427.742	36.564025533	-107.467831153
1,600.00	8.78	1.105	1,597.60	38.75	0.75	2,024,833.211	2,830,428.036	36.564067441	-107.467829954
1,700.00	8.78	1.105	1,696.43	54.01	1.04	2,024,848.469	2,830,428.331	36.564109349	-107.467828754
1,800.00	8.78	1.105	1,795.26	69.27	1.34	2,024,863.726	2,830,428.625	36.564151256	-107.467827554
1,900.00	8.78	1.105	1,894.09	84.53	1.63	2,024,878.984	2,830,428.919	36.564193164	-107.467826355
2,000.00	8.78	1.105	1,992.91	99.78	1.92	2,024,894.242	2,830,429.214	36.564235072	-107.467825155
2,100.00	8.78	1.105	2,091.74	115.04	2.22	2,024,909.499	2,830,429.508	36.564276979	-107.467823956
2,200.00	8.78	1.105	2,190.57	130.30	2.51	2,024,924.757	2,830,429.802	36.564318887	-107.467822756
2,300.00	8.78	1.105	2,289.40	145.56	2.81	2,024,940.014	2,830,430.097	36.564360795	-107.467821556
2,400.00	8.78	1.105	2,388.23	160.81	3.10	2,024,955.272	2,830,430.391	36.564402702	-107.467820357
2,500.00	8.78	1.105	2,487.06	176.07	3.40	2,024,970.530	2,830,430.685	36.564444610	-107.467819157
2,561.66	8.78	1.105	2,548.00	185.48	3.58	2,024,979.938	2,830,430.867	36.564470452	-107.467818417
Ojo Alamo									
2,600.00	8.78	1.105	2,585.89	191.33	3.69	2,024,985.787	2,830,430.979	36.564486518	-107.467817958
2,657.79	8.78	1.105	2,643.00	200.15	3.86	2,024,994.605	2,830,431.150	36.564510736	-107.467817264
Kirtland									
2,700.00	8.78	1.105	2,684.71	206.59	3.98	2,025,001.045	2,830,431.274	36.564528425	-107.467816758
2,800.00	8.78	1.105	2,783.54	221.84	4.28	2,025,016.302	2,830,431.568	36.564570333	-107.467815558
2,900.00	8.78	1.105	2,882.37	237.10	4.57	2,025,031.560	2,830,431.862	36.564612241	-107.467814359
2,941.11	8.78	1.105	2,923.00	243.37	4.69	2,025,037.832	2,830,431.983	36.564629469	-107.467813866
Fruitland									
3,000.00	8.78	1.105	2,981.20	252.36	4.87	2,025,046.818	2,830,432.157	36.564654148	-107.467813159
3,100.00	8.78	1.105	3,080.03	267.62	5.16	2,025,062.075	2,830,432.451	36.564696056	-107.467811960
3,199.13	8.78	1.105	3,178.00	282.74	5.45	2,025,077.200	2,830,432.743	36.564737600	-107.467810770
Pictured Cliffs									
3,200.00	8.78	1.105	3,178.86	282.87	5.46	2,025,077.333	2,830,432.745	36.564737964	-107.467810760
3,300.00	8.78	1.105	3,277.69	298.13	5.75	2,025,092.590	2,830,433.040	36.564779871	-107.467809560
3,400.00	8.78	1.105	3,376.52	313.39	6.04	2,025,107.848	2,830,433.334	36.564821779	-107.467808361
3,467.27	8.78	1.105	3,443.00	323.65	6.24	2,025,118.112	2,830,433.532	36.564849971	-107.467807554
Lewis									
3,500.00	8.78	1.105	3,475.34	328.65	6.34	2,025,123.105	2,830,433.628	36.564863687	-107.467807161
3,600.00	8.78	1.105	3,574.17	343.91	6.63	2,025,138.363	2,830,433.922	36.564905594	-107.467805961
3,700.00	8.78	1.105	3,673.00	359.16	6.93	2,025,153.621	2,830,434.217	36.564947502	-107.467804762
3,770.83	8.78	1.105	3,743.00	369.97	7.14	2,025,164.427	2,830,434.425	36.564977184	-107.467803912
Chacra_A									
3,800.00	8.78	1.105	3,771.83	374.42	7.22	2,025,168.878	2,830,434.511	36.564989410	-107.467803562



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 615H
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 615H	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	8.78	1.105	3,870.66	389.68	7.52	2,025,184.136	2,830,434.805	36.565031317	-107.467802363
4,000.00	8.78	1.105	3,969.49	404.94	7.81	2,025,199.393	2,830,435.100	36.565073225	-107.467801163
4,100.00	8.78	1.105	4,068.32	420.19	8.11	2,025,214.651	2,830,435.394	36.565115133	-107.467799963
4,200.00	8.78	1.105	4,167.15	435.45	8.40	2,025,229.909	2,830,435.688	36.565157041	-107.467798764
4,300.00	8.78	1.105	4,265.97	450.71	8.69	2,025,245.166	2,830,435.983	36.565198948	-107.467797564
4,400.00	8.78	1.105	4,364.80	465.97	8.99	2,025,260.424	2,830,436.277	36.565240856	-107.467796364
4,500.00	8.78	1.105	4,463.63	481.22	9.28	2,025,275.681	2,830,436.571	36.565282764	-107.467795165
4,600.00	8.78	1.105	4,562.46	496.48	9.58	2,025,290.939	2,830,436.866	36.565324671	-107.467793965
4,700.00	8.78	1.105	4,661.29	511.74	9.87	2,025,306.197	2,830,437.160	36.565366579	-107.467792765
4,800.00	8.78	1.105	4,760.12	527.00	10.17	2,025,321.454	2,830,437.454	36.565408487	-107.467791566
4,900.00	8.78	1.105	4,858.95	542.25	10.46	2,025,336.712	2,830,437.748	36.565450394	-107.467790366
4,919.28	8.78	1.105	4,878.00	545.20	10.52	2,025,339.653	2,830,437.805	36.565458474	-107.467790135
Cliff House									
5,000.00	8.78	1.105	4,957.78	557.51	10.75	2,025,351.969	2,830,438.043	36.565492302	-107.467789167
5,020.46	8.78	1.105	4,978.00	560.63	10.81	2,025,355.092	2,830,438.103	36.565500878	-107.467788921
Menefee									
5,100.00	8.78	1.105	5,056.60	572.77	11.05	2,025,367.227	2,830,438.337	36.565534210	-107.467787967
5,200.00	8.78	1.105	5,155.43	588.03	11.34	2,025,382.484	2,830,438.631	36.565576117	-107.467786767
5,300.00	8.78	1.105	5,254.26	603.28	11.64	2,025,397.742	2,830,438.926	36.565618025	-107.467785568
5,400.00	8.78	1.105	5,353.09	618.54	11.93	2,025,413.000	2,830,439.220	36.565659933	-107.467784368
5,460.62	8.78	1.105	5,413.00	627.79	12.11	2,025,422.249	2,830,439.398	36.565685337	-107.467783641
Point Lookout									
5,500.00	8.78	1.105	5,451.92	633.80	12.23	2,025,428.257	2,830,439.514	36.565701840	-107.467783168
5,600.00	8.78	1.105	5,550.75	649.06	12.52	2,025,443.515	2,830,439.809	36.565743748	-107.467781969
5,700.00	8.78	1.105	5,649.58	664.32	12.81	2,025,458.772	2,830,440.103	36.565785656	-107.467780769
5,800.00	8.78	1.105	5,748.41	679.57	13.11	2,025,474.030	2,830,440.397	36.565827563	-107.467779569
5,851.07	8.78	1.105	5,798.88	687.36	13.26	2,025,481.822	2,830,440.547	36.565848965	-107.467778957
Begin 3°/100' drop									
5,875.46	8.05	1.105	5,823.00	690.93	13.33	2,025,485.389	2,830,440.616	36.565858762	-107.467778676
Mancos									
5,900.00	7.31	1.105	5,847.32	694.21	13.39	2,025,488.667	2,830,440.680	36.565867768	-107.467778418
6,000.00	4.31	1.105	5,946.80	704.33	13.59	2,025,498.787	2,830,440.875	36.565895564	-107.467777623
6,100.00	1.31	1.105	6,046.67	709.23	13.68	2,025,503.688	2,830,440.969	36.565909025	-107.467777237
6,143.67	0.00	359.057	6,090.33	709.73	13.69	2,025,504.187	2,830,440.979	36.565910396	-107.467777198
Begin vertical hold									
6,200.00	0.00	0.000	6,146.66	709.73	13.69	2,025,504.187	2,830,440.979	36.565910396	-107.467777198
6,243.67	0.00	0.000	6,190.33	709.73	13.69	2,025,504.187	2,830,440.979	36.565910396	-107.467777198
Begin 10°/100' build									
6,250.00	0.63	268.808	6,196.66	709.73	13.65	2,025,504.187	2,830,440.944	36.565910394	-107.467777317
6,300.00	5.63	268.808	6,246.57	709.67	10.92	2,025,504.130	2,830,438.212	36.565910266	-107.467786620
6,350.00	10.63	268.808	6,296.05	709.53	3.85	2,025,503.983	2,830,431.142	36.565909936	-107.467810697
6,400.00	15.63	268.808	6,344.73	709.29	-7.50	2,025,503.746	2,830,419.787	36.565909405	-107.467849366
6,450.00	20.63	268.808	6,392.23	708.97	-23.05	2,025,503.423	2,830,404.234	36.565908678	-107.467902333
6,500.00	25.63	268.808	6,438.20	708.56	-42.69	2,025,503.014	2,830,384.601	36.565907761	-107.467969193
6,510.92	26.73	268.808	6,448.00	708.46	-47.51	2,025,502.914	2,830,379.783	36.565907536	-107.467985600
Gallup (MNCS_A)									
6,550.00	30.63	268.808	6,482.28	708.07	-66.25	2,025,502.523	2,830,361.037	36.565906660	-107.468049440
6,562.54	31.89	268.808	6,493.00	707.93	-72.76	2,025,502.388	2,830,354.529	36.565906355	-107.468071604
MNCS_B									
6,600.00	35.63	268.808	6,524.13	707.50	-93.57	2,025,501.955	2,830,333.722	36.565905383	-107.468142460
6,649.41	40.57	268.808	6,563.00	706.86	-124.04	2,025,501.321	2,830,303.250	36.565903958	-107.468246235
MNCS_C									
6,650.00	40.63	268.808	6,563.45	706.86	-124.42	2,025,501.313	2,830,302.864	36.565903940	-107.468247548



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 615H
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 615H	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	
6,700.00	45.63	268.808	6,599.93	706.14	-158.59	2,025,500.601	2,830,268.698	36.565902343	-107.468363903	
6,750.00	50.63	268.808	6,633.29	705.37	-195.81	2,025,499.827	2,830,231.482	36.565900603	-107.468490639	
6,760.71	51.70	268.808	6,640.00	705.20	-204.15	2,025,499.653	2,830,223.143	36.565900214	-107.468519040	
MNCS_E										
6,800.00	55.63	268.808	6,663.27	704.54	-235.79	2,025,498.995	2,830,191.502	36.565898734	-107.468626792	
6,843.67	60.00	268.808	6,686.53	703.77	-272.73	2,025,498.226	2,830,154.563	36.565897007	-107.468752589	
Begin 60.00° tangent										
6,886.61	60.00	268.808	6,708.00	702.99	-309.91	2,025,497.452	2,830,117.377	36.565895268	-107.468879226	
MNCS_F										
6,903.67	60.00	268.808	6,716.53	702.69	-324.68	2,025,497.145	2,830,102.612	36.565894578	-107.468929506	
Begin 10°/100' build										
6,950.00	64.63	268.808	6,738.05	701.83	-365.69	2,025,496.291	2,830,061.602	36.565892660	-107.469069166	
7,000.00	69.63	268.808	6,757.47	700.88	-411.73	2,025,495.333	2,830,015.556	36.565890506	-107.469225975	
7,050.00	74.63	268.808	6,772.80	699.89	-459.30	2,025,494.343	2,829,967.993	36.565888281	-107.469387951	
7,050.74	74.71	268.808	6,773.00	699.87	-460.01	2,025,494.328	2,829,967.281	36.565888248	-107.469390378	
MNCS_G										
7,100.00	79.63	268.808	6,783.94	698.87	-508.02	2,025,493.329	2,829,919.275	36.565886002	-107.469553862	
7,150.00	84.63	268.808	6,790.78	697.84	-557.52	2,025,492.298	2,829,869.772	36.565883686	-107.469722444	
7,200.00	89.63	268.808	6,793.28	696.80	-607.43	2,025,491.259	2,829,819.861	36.565881351	-107.469892415	
7,207.22	90.36	268.808	6,793.28	696.65	-614.65	2,025,491.109	2,829,812.644	36.565881013	-107.469916992	
FTP Begin 90.36° lateral										
7,300.00	90.36	268.808	6,792.70	694.72	-707.41	2,025,489.178	2,829,719.885	36.565876672	-107.470232885	
7,400.00	90.36	268.808	6,792.08	692.64	-807.38	2,025,487.098	2,829,619.909	36.565871992	-107.470573354	
7,500.00	90.36	268.808	6,791.46	690.56	-907.36	2,025,485.017	2,829,519.932	36.565867311	-107.470913823	
7,600.00	90.36	268.808	6,790.84	688.48	-1,007.33	2,025,482.936	2,829,419.956	36.565862630	-107.471254292	
7,700.00	90.36	268.808	6,790.22	686.40	-1,107.31	2,025,480.855	2,829,319.980	36.565857947	-107.471594759	
7,800.00	90.36	268.808	6,789.60	684.32	-1,207.29	2,025,478.774	2,829,220.004	36.565853263	-107.471935228	
7,900.00	90.36	268.808	6,788.98	682.24	-1,307.26	2,025,476.693	2,829,120.028	36.565848578	-107.472275697	
8,000.00	90.36	268.808	6,788.36	680.15	-1,407.24	2,025,474.612	2,829,020.051	36.565843893	-107.472616166	
8,100.00	90.36	268.808	6,787.74	678.07	-1,507.22	2,025,472.531	2,828,920.075	36.565839206	-107.472956635	
8,200.00	90.36	268.808	6,787.12	675.99	-1,607.19	2,025,470.450	2,828,820.099	36.565834519	-107.473297104	
8,300.00	90.36	268.808	6,786.50	673.91	-1,707.17	2,025,468.369	2,828,720.123	36.565829830	-107.473637572	
8,400.00	90.36	268.808	6,785.88	671.83	-1,807.15	2,025,466.288	2,828,620.147	36.565825140	-107.473978041	
8,500.00	90.36	268.808	6,785.26	669.75	-1,907.12	2,025,464.207	2,828,520.170	36.565820450	-107.474318510	
8,600.00	90.36	268.808	6,784.64	667.67	-2,007.10	2,025,462.126	2,828,420.194	36.565815759	-107.474658978	
8,700.00	90.36	268.808	6,784.02	665.59	-2,107.08	2,025,460.045	2,828,320.218	36.565811066	-107.474999447	
8,800.00	90.36	268.808	6,783.40	663.51	-2,207.05	2,025,457.964	2,828,220.242	36.565806373	-107.475339915	
8,900.00	90.36	268.808	6,782.78	661.43	-2,307.03	2,025,455.883	2,828,120.265	36.565801678	-107.475680384	
9,000.00	90.36	268.808	6,782.16	659.34	-2,407.00	2,025,453.802	2,828,020.289	36.565796983	-107.476020852	
9,100.00	90.36	268.808	6,781.54	657.26	-2,506.98	2,025,451.721	2,827,920.313	36.565792287	-107.476361321	
9,200.00	90.36	268.808	6,780.92	655.18	-2,606.96	2,025,449.640	2,827,820.337	36.565787589	-107.476701789	
9,300.00	90.36	268.808	6,780.30	653.10	-2,706.93	2,025,447.559	2,827,720.361	36.565782891	-107.477042258	
9,400.00	90.36	268.808	6,779.68	651.02	-2,806.91	2,025,445.478	2,827,620.384	36.565778192	-107.477382726	
9,500.00	90.36	268.808	6,779.06	648.94	-2,906.89	2,025,443.397	2,827,520.408	36.565773491	-107.477723194	
9,600.00	90.36	268.808	6,778.44	646.86	-3,006.86	2,025,441.316	2,827,420.432	36.565768790	-107.478063662	
9,700.00	90.36	268.808	6,777.82	644.78	-3,106.84	2,025,439.235	2,827,320.456	36.565764088	-107.478404131	
9,800.00	90.36	268.808	6,777.20	642.70	-3,206.82	2,025,437.154	2,827,220.479	36.565759385	-107.478744599	
9,900.00	90.36	268.808	6,776.58	640.62	-3,306.79	2,025,435.073	2,827,120.503	36.565754681	-107.479085067	
10,000.00	90.36	268.808	6,775.96	638.54	-3,406.77	2,025,432.993	2,827,020.527	36.565749976	-107.479425535	
10,100.00	90.36	268.808	6,775.34	636.45	-3,506.75	2,025,430.912	2,826,920.551	36.565745270	-107.479766003	
10,200.00	90.36	268.808	6,774.72	634.37	-3,606.72	2,025,428.831	2,826,820.575	36.565740563	-107.480106471	
10,300.00	90.36	268.808	6,774.10	632.29	-3,706.70	2,025,426.750	2,826,720.598	36.565735855	-107.480446939	
10,400.00	90.36	268.808	6,773.48	630.21	-3,806.67	2,025,424.669	2,826,620.622	36.565731146	-107.480787407	
10,500.00	90.36	268.808	6,772.86	628.13	-3,906.65	2,025,422.588	2,826,520.646	36.565726436	-107.481127875	



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 615H
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 615H	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
10,600.00	90.36	268.808	6,772.24	626.05	-4,006.63	2,025,420.507	2,826,420.670	36.565721725		-107.481468343
10,700.00	90.36	268.808	6,771.62	623.97	-4,106.60	2,025,418.426	2,826,320.694	36.565717013		-107.481808811
10,800.00	90.36	268.808	6,771.00	621.89	-4,206.58	2,025,416.345	2,826,220.717	36.565712300		-107.482149279
10,900.00	90.36	268.808	6,770.38	619.81	-4,306.56	2,025,414.264	2,826,120.741	36.565707586		-107.482489747
11,000.00	90.36	268.808	6,769.76	617.73	-4,406.53	2,025,412.183	2,826,020.765	36.565702871		-107.482830215
11,100.00	90.36	268.808	6,769.14	615.64	-4,506.51	2,025,410.102	2,825,920.789	36.565698155		-107.483170683
11,200.00	90.36	268.808	6,768.52	613.56	-4,606.49	2,025,408.021	2,825,820.812	36.565693439		-107.483511150
11,300.00	90.36	268.808	6,767.90	611.48	-4,706.46	2,025,405.940	2,825,720.836	36.565688721		-107.483851618
11,400.00	90.36	268.808	6,767.28	609.40	-4,806.44	2,025,403.859	2,825,620.860	36.565684002		-107.484192086
11,500.00	90.36	268.808	6,766.66	607.32	-4,906.42	2,025,401.778	2,825,520.884	36.565679283		-107.484532553
11,600.00	90.36	268.808	6,766.04	605.24	-5,006.39	2,025,399.697	2,825,420.908	36.565674562		-107.484873021
11,700.00	90.36	268.808	6,765.42	603.16	-5,106.37	2,025,397.616	2,825,320.931	36.565669840		-107.485213489
11,800.00	90.36	268.808	6,764.80	601.08	-5,206.34	2,025,395.535	2,825,220.955	36.565665118		-107.485553956
11,900.00	90.36	268.808	6,764.18	599.00	-5,306.32	2,025,393.454	2,825,120.979	36.565660394		-107.485894424
12,000.00	90.36	268.808	6,763.56	596.92	-5,406.30	2,025,391.373	2,825,021.003	36.565655670		-107.486234891
12,100.00	90.36	268.808	6,762.94	594.83	-5,506.27	2,025,389.292	2,824,921.026	36.565650944		-107.486575359
12,200.00	90.36	268.808	6,762.32	592.75	-5,606.25	2,025,387.211	2,824,821.050	36.565646218		-107.486915826
12,300.00	90.36	268.808	6,761.70	590.67	-5,706.23	2,025,385.130	2,824,721.074	36.565641490		-107.487256293
12,400.00	90.36	268.808	6,761.08	588.59	-5,806.20	2,025,383.049	2,824,621.098	36.565636762		-107.487596761
12,500.00	90.36	268.808	6,760.46	586.51	-5,906.18	2,025,380.968	2,824,521.122	36.565632032		-107.487937228
12,600.00	90.36	268.808	6,759.84	584.43	-6,006.16	2,025,378.887	2,824,421.145	36.565627302		-107.488277695
12,700.00	90.36	268.808	6,759.22	582.35	-6,106.13	2,025,376.807	2,824,321.169	36.565622571		-107.488618163
12,800.00	90.36	268.808	6,758.60	580.27	-6,206.11	2,025,374.726	2,824,221.193	36.565617838		-107.488958630
12,900.00	90.36	268.808	6,757.98	578.19	-6,306.09	2,025,372.645	2,824,121.217	36.565613105		-107.489299097
13,000.00	90.36	268.808	6,757.36	576.11	-6,406.06	2,025,370.564	2,824,021.240	36.565608371		-107.489639564
13,100.00	90.36	268.808	6,756.74	574.03	-6,506.04	2,025,368.483	2,823,921.264	36.565603635		-107.489980031
13,200.00	90.36	268.808	6,756.12	571.94	-6,606.01	2,025,366.402	2,823,821.288	36.565598899		-107.490320498
13,300.00	90.36	268.808	6,755.50	569.86	-6,705.99	2,025,364.321	2,823,721.312	36.565594162		-107.490660965
13,400.00	90.36	268.808	6,754.88	567.78	-6,805.97	2,025,362.240	2,823,621.336	36.565589424		-107.491001432
13,500.00	90.36	268.808	6,754.26	565.70	-6,905.94	2,025,360.159	2,823,521.359	36.565584685		-107.491341899
13,600.00	90.36	268.808	6,753.64	563.62	-7,005.92	2,025,358.078	2,823,421.383	36.565579945		-107.491682366
13,700.00	90.36	268.808	6,753.02	561.54	-7,105.90	2,025,355.997	2,823,321.407	36.565575204		-107.492022833
13,800.00	90.36	268.808	6,752.40	559.46	-7,205.87	2,025,353.916	2,823,221.431	36.565570462		-107.492363300
13,900.00	90.36	268.808	6,751.78	557.38	-7,305.85	2,025,351.835	2,823,121.455	36.565565718		-107.492703767
14,000.00	90.36	268.808	6,751.16	555.30	-7,405.83	2,025,349.754	2,823,021.478	36.565560975		-107.493044234
14,100.00	90.36	268.808	6,750.54	553.22	-7,505.80	2,025,347.673	2,822,921.502	36.565556230		-107.493384701
14,200.00	90.36	268.808	6,749.92	551.13	-7,605.78	2,025,345.592	2,822,821.526	36.565551484		-107.493725167
14,300.00	90.36	268.808	6,749.30	549.05	-7,705.76	2,025,343.511	2,822,721.550	36.565546737		-107.494065634
14,400.00	90.36	268.808	6,748.68	546.97	-7,805.73	2,025,341.430	2,822,621.573	36.565541989		-107.494406101
14,500.00	90.36	268.808	6,748.06	544.89	-7,905.71	2,025,339.349	2,822,521.597	36.565537240		-107.494746567
14,600.00	90.36	268.808	6,747.44	542.81	-8,005.68	2,025,337.268	2,822,421.621	36.565532490		-107.495087034
14,700.00	90.36	268.808	6,746.82	540.73	-8,105.66	2,025,335.187	2,822,321.645	36.565527739		-107.495427500
14,800.00	90.36	268.808	6,746.20	538.65	-8,205.64	2,025,333.106	2,822,221.669	36.565522988		-107.495767967
14,900.00	90.36	268.808	6,745.58	536.57	-8,305.61	2,025,331.025	2,822,121.692	36.565518235		-107.496108433
15,000.00	90.36	268.808	6,744.96	534.49	-8,405.59	2,025,328.944	2,822,021.716	36.565513481		-107.496448900
15,100.00	90.36	268.808	6,744.34	532.41	-8,505.57	2,025,326.863	2,821,921.740	36.565508726		-107.496789366
15,200.00	90.36	268.808	6,743.72	530.32	-8,605.54	2,025,324.782	2,821,821.764	36.565503971		-107.497129833
15,300.00	90.36	268.808	6,743.10	528.24	-8,705.52	2,025,322.701	2,821,721.787	36.565499214		-107.497470299
15,400.00	90.36	268.808	6,742.48	526.16	-8,805.50	2,025,320.621	2,821,621.811	36.565494456		-107.497810765
15,500.00	90.36	268.808	6,741.86	524.08	-8,905.47	2,025,318.540	2,821,521.835	36.565489698		-107.498151232
15,600.00	90.36	268.808	6,741.24	522.00	-9,005.45	2,025,316.459	2,821,421.859	36.565484938		-107.498491698
15,700.00	90.36	268.808	6,740.62	519.92	-9,105.43	2,025,314.378	2,821,321.883	36.565480178		-107.498832164
15,800.00	90.36	268.808	6,740.00	517.84	-9,205.40	2,025,312.297	2,821,221.906	36.565475416		-107.499172630
15,900.00	90.36	268.808	6,739.38	515.76	-9,305.38	2,025,310.216	2,821,121.930	36.565470654		-107.499513097
16,000.00	90.36	268.808	6,738.76	513.68	-9,405.35	2,025,308.135	2,821,021.954	36.565465890		-107.499853563



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 615H
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 615H	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
16,100.00	90.36	268.808	6,738.14	511.60	-9,505.33	2,025,306.054	2,820,921.978	36.565461126	-107.500194029
16,200.00	90.36	268.808	6,737.52	509.52	-9,605.31	2,025,303.973	2,820,822.002	36.565456361	-107.500534495
16,300.00	90.36	268.808	6,736.90	507.43	-9,705.28	2,025,301.892	2,820,722.025	36.565451594	-107.500874961
16,400.00	90.36	268.808	6,736.28	505.35	-9,805.26	2,025,299.811	2,820,622.049	36.565446827	-107.501215427
16,500.00	90.36	268.808	6,735.66	503.27	-9,905.24	2,025,297.730	2,820,522.073	36.565442059	-107.501555893
16,606.06	90.36	268.808	6,735.00	501.07	-10,011.27	2,025,295.523	2,820,416.035	36.565437000	-107.501917000
PBHL/TD 16606.06 MD 6735.00 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 615 LTP 402 FNI - plan hits target center - Point	0.00	2.190	6,735.00	501.07	-10,011.27	2,025,295.523	2,820,416.035	36.565437000	-107.501917000
Rincon 615 FTP 434 FN - plan misses target center by 0.01ft at 7207.22ft MD (6793.28 TVD, 696.65 N, -614.65 E) - Point	0.00	2.190	6,793.28	696.65	-614.65	2,025,491.105	2,829,812.642	36.565881000	-107.469917000

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	
5,991.17	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 (°)	
2,561.66	2,548.00	Ojo Alamo				
2,657.79	2,643.00	Kirtland				
2,941.11	2,923.00	Fruitland				
3,199.13	3,178.00	Pictured Cliffs				
3,467.27	3,443.00	Lewis				
3,770.83	3,743.00	Chacra_A				
4,919.28	4,878.00	Cliff House				
5,020.46	4,978.00	Menefee				
5,460.62	5,413.00	Point Lookout				
5,875.46	5,823.00	Mancos				
6,510.92	6,448.00	Gallup (MNCS_A)				
6,562.54	6,493.00	MNCS_B				
6,649.41	6,563.00	MNCS_C				
6,760.71	6,640.00	MNCS_E				
6,886.61	6,708.00	MNCS_F				
7,050.74	6,773.00	MNCS_G				



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Rincon Unit 615H
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 615H	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)		
1,200.00	1,200.00	0.00	0.00	KOP Begin 3°/100' build	
1,492.60	1,491.45	22.37	0.43	Begin 8.78° tangent	
5,851.07	5,798.88	687.36	13.26	Begin 3°/100' drop	
6,143.67	6,090.33	709.73	13.69	Begin vertical hold	
6,243.67	6,190.33	709.73	13.69	Begin 10°/100' build	
6,843.67	6,686.53	703.77	-272.73	Begin 60.00° tangent	
6,903.67	6,716.53	702.69	-324.68	Begin 10°/100' build	
7,207.22	6,793.28	696.65	-614.65	FTP Begin 90.36° lateral	
16,606.06	6,735.00	501.07	-10,011.27	PBHL/TD 16606.06 MD 6735.00 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	2,562	W	normal
	Kirtland	3,909	2,643	2,578	W	normal
	Fruitland	3,629	2,923	2,941	G, W	sub
	Pictured Cliffs	3,374	3,178	3,199	G, W	sub
	Lewis	3,109	3,443	3,467	G, W	normal
	Chacra	2,809	3,743	3,771	G, W	normal
	Cliff House	1,674	4,878	4,919	G, W	sub
	Menefee	1,574	4,978	5,020	G, W	normal
	Point Lookout	1,139	5,413	5,461	G, W	sub
	Mancos	729	5,823	5,875	O,G	normal
	Gallup (MNCS_A)	104	6,448	6,511	O,G	normal
	MNCS_B	59	6,493	6,563	O,G	normal
	MNCS_C	-11	6,563	6,649	O,G	normal
	MNCS_E	-88	6,640	6,761	O,G	normal
	MNCS_F	-156	6,708	6,887	O,G	normal
	MNCS_G	-221	6,773	7,051	O,G	normal
	MNCS_G TARGET (POE)	-241	6,793	7,207	O,G	normal
	PROJECTED WELL TD (BHL)	-183	6,735	16,606	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: 2,930 psi

Maximum anticipated surface pressure, assuming partially evacuated hole: 1,440 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 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	909,000
Loading					70	1,518	115,209	115,209
Min. S.F.					16.17	1.80	7.40	7.89

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	5,976 ft (MD)	Hole Section Length:	5,656 ft
320 ft (TVD)	to	5,923 ft (TVD)	Casing Required:	5,976 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	453,000
Loading					1,263	1,800	285,945	285,945
Min. S.F.					1.60	1.96	1.97	1.58

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	1,375
Tail	Type III	14.6	1.38	6.64	20%	5,476	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.

5,976 ft (MD)	to	16,606 ft (MD)	Hole Section Length:	10,630 ft
5,923 ft (TVD)	to	6,735 ft (TVD)	Casing Required:	16,606 ft

Estimated KOP:	6,903 ft (MD)	6,717 ft (TVD)
Estimated Landing Point (P.O.E.):	7,207 ft (MD)	6,793 ft (TVD)
Estimated Lateral Length:	9,399 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					3,356	6,968	343,601	343,601
Min. S.F.					2.22	1.53	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

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	Type III	12.4	2.360	13.40	65%	0	1,108
Tail	G:POZ blend	13.3	1.360	6.00	10%	5,875	1,988

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)	5,976 ft
KOP (MD)	6,903 ft
KOP (TVD)	6,717 ft
Target (TVD)	6,793 ft
Curve BUR	10 °/100 ft
POE (MD)	7,207 ft
TD (MD)	16,606 ft
Lat Len (ft)	9,399 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	5,976	9.625	36	J55	LTC	0	5,976
Production	8.500	16,606	5.500	17.0	P-110	LTC	0	16,606

CEMENT PROPERTIES SUMMARY:

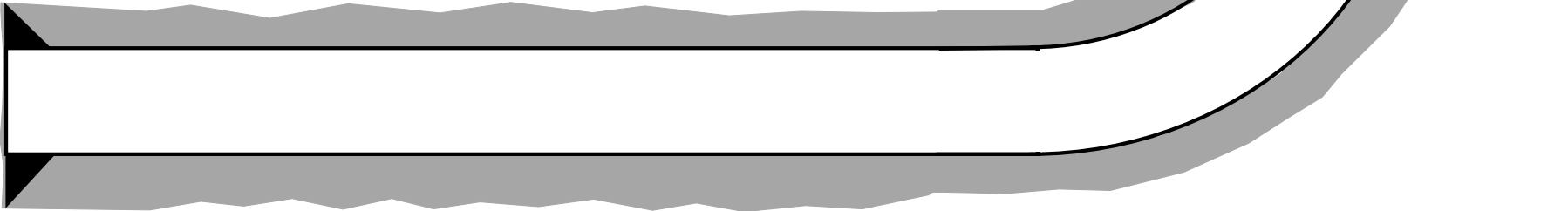
	Type	Wt (ppg)	Yd (cuft/sk)	Wtr (gal/sk)	% Excess	TOC (ft MD)	Total (sx)
Surface	Class G	15.8	1.174	5.15	100%	0	379
Inter. (Lead)	III:POZ Blend	12.5	2.14	12.05	70%	0	1,375
Inter. (Tail)	Type III	14.6	1.38	6.64	20%	5,476	136
Prod. (Lead)	Type III	12.4	2.36	13.4	65%	0	1,108
Prod. (Tail)	G:POZ blend	13.3	1.3602	5.999	10%	5,875	1,988

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 101509

CONDITIONS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way, Suite 525 Centennial, CO 80111	OGRID: 372286
	Action Number: 101509
	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