

State of New Mexico  
Energy, Minerals and Natural Resources Department

Susana Martinez  
Governor

Ken McQueen  
Cabinet Secretary

Matthias Sayer  
Deputy Cabinet Secretary

Heather Riley, Division Director  
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-3 APD form.

Operator Signature Date: 9/11/2018

Well information;

Operator Enduring, Well Name and Number Rincon Unit 613H

API# 30-039-31371, Section 21, Township 27 N/S, Range 6 E/W

Conditions of Approval: (See the below checked and handwritten conditions)

- Notify Aztec OCD 24hrs prior to casing & cement.
- Hold C-104 for directional survey & "As Drilled" Plat
- Hold C-104 for NSL, NSP, DHC
- Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
  - A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
  - A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
  - A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- Submit Gas Capture Plan form prior to spudding or initiating recompletion operations
- Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84
- Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.
- Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore Communication to be reported in accordance with 19.15.29.8.

Charles Herr  
NMOCD Approved by Signature

10-22-2018  
Date

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**APPLICATION FOR PERMIT TO DRILL OR REENTER**

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMSF0079052
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No. RINCON / NMNM078406X
2. Name of Operator ENDURING RESOURCES LLC		8. Lease Name and Well No. RINCON UNIT 613H
3a. Address 1050 17TH ST STE 2500 DENVER CO 80265	3b. Phone No. (include area code) (505)386-8205	9. API Well No. <b>30-039-31371</b>
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface <b>N</b> ENE / 1117 FNL / 1225 FEL / LAT 36.564026 / LONG -107.467723 At proposed prod. zone <b>M</b> SWSW / 100 FSL / 500 FWL / LAT 36.56676 / LONG -107.497585		10. Field and Pool, or Exploratory BASIN MANCOS / MANCOS
11. Sec., T. R. M. or Blk. and Survey or Area SEC 21 / T27N / R6W / NMP		12. County or Parish RIO ARRIBA
14. Distance in miles and direction from nearest town or post office* 37 miles		13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 20 feet	16. No of acres in lease 520	17. Spacing Unit dedicated to this well 640
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1117 feet	19. Proposed Depth 6746 feet / 16180 feet	20. BLM/BIA Bond No. in file FED: NMB001492
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6538 feet	22. Approximate date work will start* 10/01/2018	23. Estimated duration 30 days
24. Attachments		

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

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

25. Signature (Electronic Submission)	Name (Printed/Typed) Lacey Granillo / Ph: (505)636-9743	Date 09/11/2018
Title Permitting Specialist		
Approved by (Signature) 	Name (Printed/Typed) Richard A Fields	Date OCT 12 2018
Title Field Manager		
Office FARMINGTON		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

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

**DRILLING OPERATIONS  
AUTHORIZED ARE SUBJECT TO  
COMPLIANCE WITH ATTACHED  
"GENERAL REQUIREMENTS"**

**BLM'S APPROVAL OR ACCEPTANCE OF  
THIS ACTION DOES NOT RELIEVE THE  
LESSEE AND OPERATOR FROM  
OBTAINING ANY OTHER AUTHORIZATION  
REQUIRED FOR OPERATIONS ON  
FEDERAL AND INDIAN LANDS**

This action is subject to technical  
and procedural review pursuant to  
43 CFR 3165.3 and appeal  
pursuant to 43 CFR 3165.4

District I  
1625 N. French Drive, Hobbs, NM 88240  
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

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102  
Revised August 1, 2011

Submit one copy to  
Appropriate District Office

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number <b>30-039-31371</b>		2 Pool Code 97232		3 Pool Name Basin Mancos	
4 Property Code 319957		5 Property Name RINCON UNIT			6 Well Number 613H
7 GRID No. 372286		8 Operator Name ENDURING RESOURCES, LLC			9 Elevation 6538'

10 Surface Location

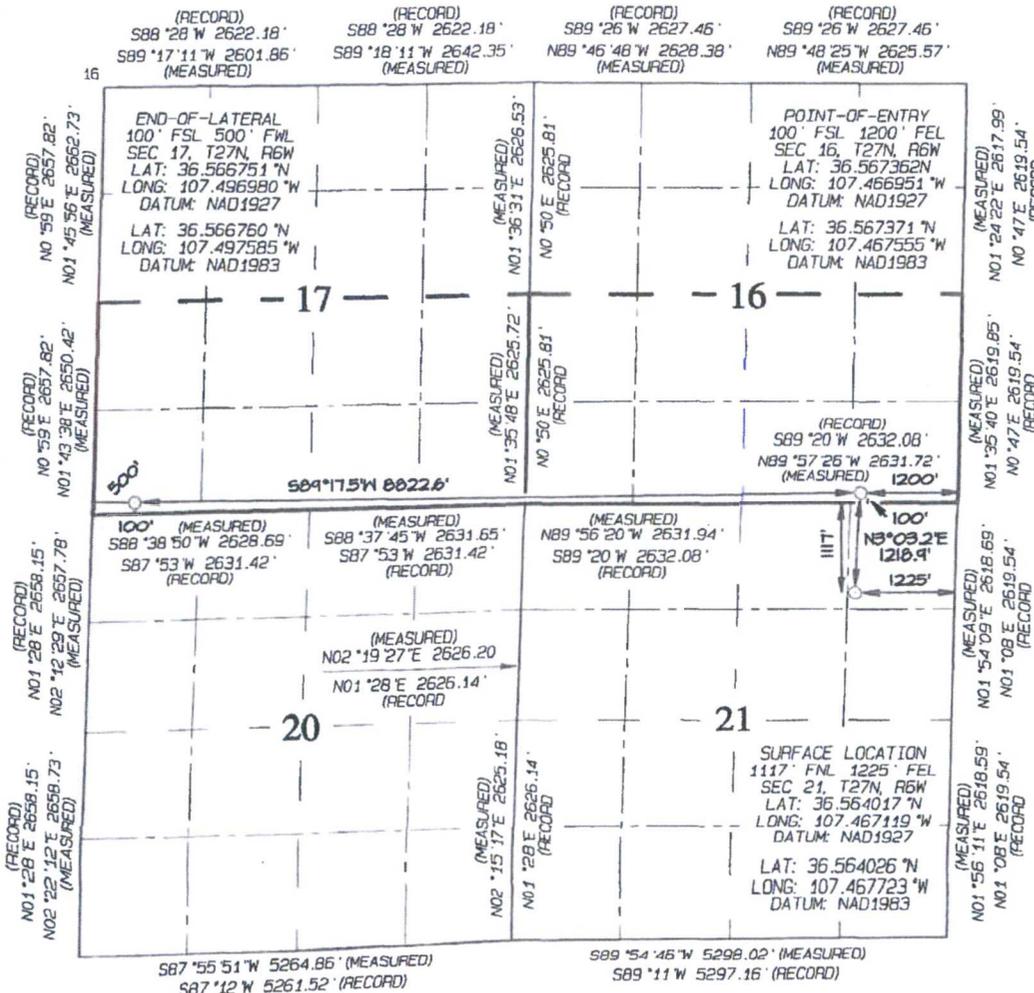
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South Line	Feet from the	East/West line	County
A	21	27N	6W		1117	NORTH	1225	EAST	RIO ARRIBA

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
M	17	27N	6W		100	SOUTH	500	WEST	RIO ARRIBA

12 Dedicated Acres 640.00	S/2 - Section 16 S/2 - Section 17	13 Joint or Infill	14 Consolidation Code	15 Order No. R-12984
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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



17 OPERATOR CERTIFICATION

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 hereinafter entered by the Division.

Signature: *Lacey Granillo* Date: 9/11/18

Printed Name: Lacey Granillo  
E-mail Address: lgranillo@enduringresources.com

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: AUGUST 8, 2018  
Date of Survey: JUNE 17, 2018

Signature and Seal of Professional Surveyor



JASON C. EDWARDS

Certificate Number 15269



**ENDURING RESOURCES IV, LLC**  
**1050 SEVENTEENTH STREET, SUITE 2500**  
**DENVER, COLORADO 80265**

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

**WELL INFORMATION:**

**Name:** Rincon Unit 613H

**API Number:** 30-039-

**State:** New Mexico

**County:** Rio Arriba

**Surface Elevation:** 6,538 ft ASL (GL) 6,563 ft ASL (KB)  
**Surface Location:** 21-27N-06W Sec-Twn-Rng 1,117 ft FNL 1,225 ft FEL  
 36.564026 ° N latitude 107.467723 ° W longitude (NAD 83)  
**BH Location:** 17-27N-06W Sec-Twn-Rng 100 ft FSL 500 ft FWL  
 36.56676 ° N latitude 107.497585 ° 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:**

<b>Prognosis:</b>	<b>Formation Tops</b>	<b>TVD (ft ASL)</b>	<b>TVD (ft KB)</b>	<b>MD (ft KB)</b>	<b>O / G / W</b>	<b>Pressure</b>
	Ojo Alamo	4,200	2,363	2,386	W	normal
	Kirtland	3,900	2,663	2,693	W	normal
	Fruitland	3,560	3,003	3,041	G, W	sub
	Pictured Cliffs	3,390	3,173	3,215	G, W	sub
	Lewis	3,150	3,413	3,461	G, W	normal
	Chacra	2,400	4,163	4,229	G, W	normal
	Cliff House	1,715	4,848	4,931	G, W	sub
	Menefee	1,700	4,863	4,946	G, W	normal
	Point Lookout	1,155	5,408	5,504	G, W	normal
	Mancos	725	5,838	5,945	O,G	normal
	Gallup (MNCS. A)	225	6,338	6,462	O,G	normal
	<b>MNCS. G TARGET</b>	<b>-240</b>	<b>6,803</b>	<b>7,348</b>	<b>O,G</b>	<b>normal</b>
	<b>PROJECTED WELL TD</b>	<b>-183</b>	<b>6,746</b>	<b>16,180</b>	<b>O,G</b>	<b>normal</b>

**Surface:**

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

**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

**H<sub>2</sub>S INFORMATION:**

**H<sub>2</sub>S Zones:** Encountering hydrogen-sulfide bearing zones is **NOT** anticipated.

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

#### LOGGING, CORING, AND TESTING:

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

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

**Open Hole Logs:** None planned

**Testing:** None planned

**Coring:** None planned

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

#### DRILLING RIG INFORMATION:

**Contractor:** Aztec

**Rig No.:** 1000

**Draw Works:** E80 AC 1,500 hp

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

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

**Prime Movers:** 4 - GE Jenbacher Natural Gas Generator

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

**BOPE 1:** Cameron double gate ram (13-5/8", 10,000 psi)

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

**Choke:** Cameron (4", 10,000 psi)

**KB-GL (ft):** 25

#### 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 10 minutes. Additionally, BOP and casing strings will be tested to .22 psi/ft or 1,500 psi, whichever is greater but not exceeding 70% of yield strength of the casing, for 30 minutes, prior to drilling out 13-3/8" and 9-5/8" casing. Rams and hydraulically operated remote choke line valve will be function tested daily at a minimum.
- 4) Remote valve for BOP rams, HCR, and choke shall be placed in a location that is readily available to the driller. The remote BOP valve shall be capable of closing and opening the rams.
- 5) Manual locking devices (hand wheels) shall be installed on rams. A valve will be installed on the annular preventer's closing line as close as possible to the preventer to act as a locking device. The valve will be maintained in the open position and shall only be closed when there is no power to the accumulator.

#### FLUIDS AND SOLIDS CONTROL PROGRAM:

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

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

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

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

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

**DETAILED DRILLING PLAN:**

**SURFACE:** Drill vertically to casing setting depth (plus necessary rathole), 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.

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 while drilling intermediate hole or test pressure with 9.5 ppg fluid inside casing 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)	Hole Cap. (cuft/ft)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
	Class G	15.8	1.174	5.15	0.6946	100%	0	379

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

Halliburton HALCEM surface cementing blend

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

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

320 ft (MD)	to	5,049 ft (MD)	Hole Section Length:	4,729 ft
320 ft (TVD)	to	4,963 ft (TVD)	Casing Required:	5,049 ft

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

**Hole Size:** 12-1/4"

**Bit / Motor:** PDC w/mud motor

**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.

**Note:** The intermediate hole section may be drilled with annular preventer and blind rams (no pipe rams).

Maximum anticipated surface pressure while drilling intermediate hole section is 1,050 psi

Casing Specs:	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	9.625	36.0	J-55	LTC	2,020	3,520	564,000
Loading					1,368	1,784	258,507
Min. S.F.					1.48	1.97	2.18

**Assumptions:** Collapse: partially evacuated casing with 9.5 ppg fluid outside casing

Burst: maximum anticipated surface pressure while drilling production hole or test pressure with 9.5 ppg fluid inside casing 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 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)	Hole Cap. (cuft/ft)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	G:POZ Blend	12.3	1.987	10.16	0.3132	40%	0	1,004
Tail	Class G	15.8	1.148	4.98	0.3132	10%	4,549	150

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

Halliburton ECONOCEM & HALCEM cementing blend

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.

5,049 ft (MD)	to	16,180 ft (MD)	Hole Section Length:	11,131 ft
4,963 ft (TVD)	to	6,746 ft (TVD)	Casing Required:	16,180 ft

<b>Estimated KOP:</b>	6,267 ft (MD)	6,153 ft (TVD)
<b>Estimated Landing Point (P.O.E.):</b>	7,348 ft (MD)	6,803 ft (TVD)
<b>Estimated Lateral Length:</b>	8,832 ft (MD)	

Fluid:	Type	MW (ppg)	FL (mL/30')	PV (cp)	YP (lb/100 sqft)	pH	Comments
	WBM	8.8 - 9.5	20	8 - 14	8 - 14	9.0 - 9.5	OBM as contingency

**Hole Size:** 8-1/2"

**Bit / Motor:** PDC w/mud motor

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

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

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

<b>Casing Specs:</b>	Size (in)	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	5.500	17.0	P-110	LTC	7,460	10,640	546,000	445,000
Loading					3,333	9,131	337,352	337,352
Min. S.F.					2.24	1.17	1.62	1.32

**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 Details:** Float shoe, float collar, 2 jts casing, float collar, 1 jt casing, toe-initiation sleeve, 1 jt casing, toe-initiation sleeve, casing to KOP with 20' marker joints spaced evenly in lateral every 2,000'. Place Floation Sub at KOP (+/-). Continue running casing to surface. **The toe-initiation sleeves must be positioned INSIDE any unit setbacks.**

**Centralizers:** Centralizer count and placement may be adjusted based on well conditions and as-drilled surveys.  
 Lateral: estimated 1 centralizer per joints  
 Curve: estimated 1 centralizer per joint from landing point to KOP  
 Vertical: estimated 1 centralizer per 2 joints from KOP to 9-5/8" shoe, 1 per 3 joints from 9-5/8" shoe to surface

<b>Cement:</b>	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	Hole Cap. (cuft/ft)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	G:POZ blend	12.3	1.987	10.16	0.2691	40%	0	1,136
Tail	G:POZ blend	13.3	1.354	5.94	0.2291	10%	6,153	1,866

Calculated cement volumes assume gauge hole and the excess noted in table  
 Halliburton ECONOCEM & EXTENDACEM cementing blend  
 Notify NMOCD & BLM if cement is not circulated to surface.

**Note:** The lateral may be drilled past applicable setback to maximize the length of the completed interval and to maximize resource recovery. If the well is drilled past the setback, the toe Initiation sleeve and all perforations will be placed inside the setback. An unorthodox location application is not required because the completed interval will be entirely within the setback as defined and allowed by NMAC 19.15.16.7B(1), NMAC 19.15.16.14B(2), NMAC 19.15.16.15B(2) .

**FINISH WELL:** ND BOP, NU WH with BPV and cap, RDMO.

**COMPLETION AND PRODUCTION PLAN:**

**Frac:** Lateral will be fracture-stimulated in approximately 50 plug-and-perf stages with approximately 250,000 bbls slickwater fluid and 16,000,000 lbs of proppant.

**Flowback:** Depending on well pressures, flow back may be either up 5-1/2" casing or 2-7/8" production tubing. Well will be flowed back until proppant volumes are low enough that the well can safely be produced through permanent production facilities.

**Production:** Well will produce up production tubing via gas-lift into permanent production and storage facilities.

**ESTIMATED START DATES:**

**Drilling:** 11/15/2018  
**Completion:** 1/15/2019  
**Production:** 2/28/2019

**Prepared by:** Alec Bridge 9/4/2018



# **Enduring Resources LLC**

San Juan Basin - Rincon Unit  
613H Pad  
613H

Wellbore #1

Plan: Design #1

## **Standard Planning Report**

05 September, 2018



<b>Project</b>	San Juan Basin - Rincon Unit		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	New Mexico Central Zone		

<b>Site</b>	613H Pad, Rio Arriba Co., New Mexico				
<b>Site Position:</b>		<b>Northing:</b>	2,026,844.45 usft	<b>Latitude:</b>	36.564026°N
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,282,809.90 usft	<b>Longitude:</b>	107.467723°W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	-0.73 °

<b>Well</b>	613H					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	2,026,844.45 usft	<b>Latitude:</b>	36.564026°N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	1,282,809.90 usft	<b>Longitude:</b>	107.467723°W
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	6,538.0 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	12/31/2009	9.90	63.43	50,906.07209976

<b>Design</b>	Design #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	277.21

<b>Plan Survey Tool Program</b>	<b>Date</b>	9/5/2018		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.0	16,180.1	Design #1 (Wellbore #1)	MWD OWSG MWD - Standard

<b>Plan Sections</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
350.0	0.00	0.00	350.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,623.3	12.47	37.41	1,618.4	53.7	41.0	2.00	2.00	0.00	37.41	
6,267.4	12.47	37.41	6,153.0	850.0	650.0	0.00	0.00	0.00	0.00	613H - KOP
6,625.9	39.39	331.56	6,477.2	985.2	618.3	10.00	7.51	-18.37	-81.48	
7,357.5	90.37	269.29	6,803.0	1,217.2	64.8	10.00	6.97	-8.51	-67.66	613H - POE
16,180.1	90.37	269.29	6,746.0	1,107.8	-8,757.0	0.00	0.00	0.00	0.00	613H - BHL

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
350.0	0.00	0.00	350.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	2.00	37.41	1,100.0	1.4	1.1	-0.9	2.00	2.00	0.00
1,200.0	4.00	37.41	1,199.8	5.5	4.2	-3.5	2.00	2.00	0.00
1,300.0	6.00	37.41	1,299.5	12.5	9.5	-7.9	2.00	2.00	0.00
1,400.0	8.00	37.41	1,398.7	22.1	16.9	-14.0	2.00	2.00	0.00
1,500.0	10.00	37.41	1,497.5	34.6	26.4	-21.9	2.00	2.00	0.00
1,600.0	12.00	37.41	1,595.6	49.7	38.0	-31.5	2.00	2.00	0.00
1,623.3	12.47	37.41	1,618.4	53.7	41.0	-34.0	2.00	2.00	0.00
1,700.0	12.47	37.41	1,693.3	66.8	51.1	-42.3	0.00	0.00	0.00
1,800.0	12.47	37.41	1,790.9	84.0	64.2	-53.2	0.00	0.00	0.00
1,900.0	12.47	37.41	1,888.6	101.1	77.3	-64.0	0.00	0.00	0.00
2,000.0	12.47	37.41	1,986.2	118.2	90.4	-74.9	0.00	0.00	0.00
2,100.0	12.47	37.41	2,083.9	135.4	103.5	-85.7	0.00	0.00	0.00
2,200.0	12.47	37.41	2,181.5	152.5	116.6	-96.6	0.00	0.00	0.00
2,300.0	12.47	37.41	2,279.1	169.7	129.8	-107.4	0.00	0.00	0.00
2,400.0	12.47	37.41	2,376.8	186.8	142.9	-118.3	0.00	0.00	0.00
2,500.0	12.47	37.41	2,474.4	204.0	156.0	-129.2	0.00	0.00	0.00
2,600.0	12.47	37.41	2,572.1	221.1	169.1	-140.0	0.00	0.00	0.00
2,700.0	12.47	37.41	2,669.7	238.3	182.2	-150.9	0.00	0.00	0.00
2,800.0	12.47	37.41	2,767.4	255.4	195.3	-161.7	0.00	0.00	0.00
2,900.0	12.47	37.41	2,865.0	272.6	208.4	-172.6	0.00	0.00	0.00
3,000.0	12.47	37.41	2,962.6	289.7	221.6	-183.4	0.00	0.00	0.00
3,100.0	12.47	37.41	3,060.3	306.9	234.7	-194.3	0.00	0.00	0.00
3,200.0	12.47	37.41	3,157.9	324.0	247.8	-205.2	0.00	0.00	0.00
3,300.0	12.47	37.41	3,255.6	341.2	260.9	-216.0	0.00	0.00	0.00
3,400.0	12.47	37.41	3,353.2	358.3	274.0	-226.9	0.00	0.00	0.00
3,500.0	12.47	37.41	3,450.8	375.5	287.1	-237.7	0.00	0.00	0.00
3,600.0	12.47	37.41	3,548.5	392.6	300.2	-248.6	0.00	0.00	0.00
3,700.0	12.47	37.41	3,646.1	409.8	313.3	-259.4	0.00	0.00	0.00
3,800.0	12.47	37.41	3,743.8	426.9	326.5	-270.3	0.00	0.00	0.00
3,900.0	12.47	37.41	3,841.4	444.0	339.6	-281.2	0.00	0.00	0.00
4,000.0	12.47	37.41	3,939.1	461.2	352.7	-292.0	0.00	0.00	0.00
4,100.0	12.47	37.41	4,036.7	478.3	365.8	-302.9	0.00	0.00	0.00
4,200.0	12.47	37.41	4,134.3	495.5	378.9	-313.7	0.00	0.00	0.00
4,300.0	12.47	37.41	4,232.0	512.6	392.0	-324.6	0.00	0.00	0.00
4,400.0	12.47	37.41	4,329.6	529.8	405.1	-335.4	0.00	0.00	0.00
4,500.0	12.47	37.41	4,427.3	546.9	418.2	-346.3	0.00	0.00	0.00
4,600.0	12.47	37.41	4,524.9	564.1	431.4	-357.2	0.00	0.00	0.00
4,700.0	12.47	37.41	4,622.6	581.2	444.5	-368.0	0.00	0.00	0.00
4,800.0	12.47	37.41	4,720.2	598.4	457.6	-378.9	0.00	0.00	0.00
4,900.0	12.47	37.41	4,817.8	615.5	470.7	-389.7	0.00	0.00	0.00
5,000.0	12.47	37.41	4,915.5	632.7	483.8	-400.6	0.00	0.00	0.00
5,100.0	12.47	37.41	5,013.1	649.8	496.9	-411.4	0.00	0.00	0.00
5,200.0	12.47	37.41	5,110.8	667.0	510.0	-422.3	0.00	0.00	0.00
5,300.0	12.47	37.41	5,208.4	684.1	523.1	-433.2	0.00	0.00	0.00
5,400.0	12.47	37.41	5,306.0	701.3	536.3	-444.0	0.00	0.00	0.00
5,500.0	12.47	37.41	5,403.7	718.4	549.4	-454.9	0.00	0.00	0.00
5,600.0	12.47	37.41	5,501.3	735.6	562.5	-465.7	0.00	0.00	0.00
5,700.0	12.47	37.41	5,599.0	752.7	575.6	-476.6	0.00	0.00	0.00
5,800.0	12.47	37.41	5,696.6	769.9	588.7	-487.4	0.00	0.00	0.00
5,900.0	12.47	37.41	5,794.3	787.0	601.8	-498.3	0.00	0.00	0.00
6,000.0	12.47	37.41	5,891.9	804.1	614.9	-509.2	0.00	0.00	0.00
6,100.0	12.47	37.41	5,989.5	821.3	628.0	-520.0	0.00	0.00	0.00
6,200.0	12.47	37.41	6,087.2	838.4	641.2	-530.9	0.00	0.00	0.00
6,267.4	12.47	37.41	6,153.0	850.0	650.0	-538.2	0.00	0.00	0.00

## Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,300.0	13.34	23.30	6,184.8	856.3	653.6	-541.0	10.00	2.67	-43.27
6,400.0	19.42	354.42	6,280.8	883.5	656.6	-540.5	10.00	6.09	-28.88
6,500.0	27.81	340.60	6,372.4	922.1	647.2	-526.3	10.00	8.39	-13.82
6,600.0	36.96	333.01	6,456.8	971.0	625.7	-498.9	10.00	9.15	-7.59
6,625.9	39.39	331.56	6,477.2	985.2	618.3	-489.8	10.00	9.38	-5.59
6,700.0	42.67	321.43	6,533.2	1,025.6	591.4	-458.0	10.00	4.42	-13.68
6,800.0	48.29	309.81	6,603.4	1,076.1	541.5	-402.2	10.00	5.62	-11.62
6,900.0	54.89	300.21	6,665.5	1,120.7	477.3	-332.9	10.00	6.60	-9.60
7,000.0	62.13	292.11	6,717.8	1,158.0	400.8	-252.3	10.00	7.24	-8.10
7,100.0	69.77	285.05	6,758.6	1,186.9	314.3	-162.9	10.00	7.65	-7.06
7,200.0	77.68	278.67	6,786.6	1,206.5	220.5	-67.3	10.00	7.90	-6.38
7,300.0	85.72	272.67	6,801.0	1,216.2	122.2	31.4	10.00	8.04	-6.00
7,357.5	90.37	269.29	6,803.0	1,217.2	64.8	88.5	10.00	8.09	-5.88
7,400.0	90.37	269.29	6,802.7	1,216.6	22.2	130.6	0.00	0.00	0.00
7,500.0	90.37	269.29	6,802.1	1,215.4	-77.8	229.7	0.00	0.00	0.00
7,600.0	90.37	269.29	6,801.4	1,214.1	-177.8	328.7	0.00	0.00	0.00
7,700.0	90.37	269.29	6,800.8	1,212.9	-277.8	427.8	0.00	0.00	0.00
7,800.0	90.37	269.29	6,800.1	1,211.7	-377.7	526.8	0.00	0.00	0.00
7,900.0	90.37	269.29	6,799.5	1,210.4	-477.7	625.9	0.00	0.00	0.00
8,000.0	90.37	269.29	6,798.8	1,209.2	-577.7	724.9	0.00	0.00	0.00
8,100.0	90.37	269.29	6,798.2	1,207.9	-677.7	823.9	0.00	0.00	0.00
8,200.0	90.37	269.29	6,797.6	1,206.7	-777.7	923.0	0.00	0.00	0.00
8,300.0	90.37	269.29	6,796.9	1,205.5	-877.7	1,022.0	0.00	0.00	0.00
8,400.0	90.37	269.29	6,796.3	1,204.2	-977.7	1,121.1	0.00	0.00	0.00
8,500.0	90.37	269.29	6,795.6	1,203.0	-1,077.7	1,220.1	0.00	0.00	0.00
8,600.0	90.37	269.29	6,795.0	1,201.7	-1,177.7	1,319.2	0.00	0.00	0.00
8,700.0	90.37	269.29	6,794.3	1,200.5	-1,277.7	1,418.2	0.00	0.00	0.00
8,800.0	90.37	269.29	6,793.7	1,199.3	-1,377.6	1,517.3	0.00	0.00	0.00
8,900.0	90.37	269.29	6,793.0	1,198.0	-1,477.6	1,616.3	0.00	0.00	0.00
9,000.0	90.37	269.29	6,792.4	1,196.8	-1,577.6	1,715.3	0.00	0.00	0.00
9,100.0	90.37	269.29	6,791.7	1,195.5	-1,677.6	1,814.4	0.00	0.00	0.00
9,200.0	90.37	269.29	6,791.1	1,194.3	-1,777.6	1,913.4	0.00	0.00	0.00
9,300.0	90.37	269.29	6,790.4	1,193.1	-1,877.6	2,012.5	0.00	0.00	0.00
9,400.0	90.37	269.29	6,789.8	1,191.8	-1,977.6	2,111.5	0.00	0.00	0.00
9,500.0	90.37	269.29	6,789.2	1,190.6	-2,077.6	2,210.6	0.00	0.00	0.00
9,600.0	90.37	269.29	6,788.5	1,189.3	-2,177.6	2,309.6	0.00	0.00	0.00
9,700.0	90.37	269.29	6,787.9	1,188.1	-2,277.6	2,408.7	0.00	0.00	0.00
9,800.0	90.37	269.29	6,787.2	1,186.9	-2,377.5	2,507.7	0.00	0.00	0.00
9,900.0	90.37	269.29	6,786.6	1,185.6	-2,477.5	2,606.7	0.00	0.00	0.00
10,000.0	90.37	269.29	6,785.9	1,184.4	-2,577.5	2,705.8	0.00	0.00	0.00
10,100.0	90.37	269.29	6,785.3	1,183.1	-2,677.5	2,804.8	0.00	0.00	0.00
10,200.0	90.37	269.29	6,784.6	1,181.9	-2,777.5	2,903.9	0.00	0.00	0.00
10,300.0	90.37	269.29	6,784.0	1,180.7	-2,877.5	3,002.9	0.00	0.00	0.00
10,400.0	90.37	269.29	6,783.3	1,179.4	-2,977.5	3,102.0	0.00	0.00	0.00
10,500.0	90.37	269.29	6,782.7	1,178.2	-3,077.5	3,201.0	0.00	0.00	0.00
10,600.0	90.37	269.29	6,782.1	1,177.0	-3,177.5	3,300.1	0.00	0.00	0.00
10,700.0	90.37	269.29	6,781.4	1,175.7	-3,277.5	3,399.1	0.00	0.00	0.00
10,800.0	90.37	269.29	6,780.8	1,174.5	-3,377.4	3,498.1	0.00	0.00	0.00
10,900.0	90.37	269.29	6,780.1	1,173.2	-3,477.4	3,597.2	0.00	0.00	0.00
11,000.0	90.37	269.29	6,779.5	1,172.0	-3,577.4	3,696.2	0.00	0.00	0.00
11,100.0	90.37	269.29	6,778.8	1,170.8	-3,677.4	3,795.3	0.00	0.00	0.00
11,200.0	90.37	269.29	6,778.2	1,169.5	-3,777.4	3,894.3	0.00	0.00	0.00
11,300.0	90.37	269.29	6,777.5	1,168.3	-3,877.4	3,993.4	0.00	0.00	0.00
11,400.0	90.37	269.29	6,776.9	1,167.0	-3,977.4	4,092.4	0.00	0.00	0.00
11,500.0	90.37	269.29	6,776.2	1,165.8	-4,077.4	4,191.4	0.00	0.00	0.00
11,600.0	90.37	269.29	6,775.6	1,164.6	-4,177.4	4,290.5	0.00	0.00	0.00
11,700.0	90.37	269.29	6,774.9	1,163.3	-4,277.4	4,389.5	0.00	0.00	0.00
11,800.0	90.37	269.29	6,774.3	1,162.1	-4,377.3	4,488.6	0.00	0.00	0.00
11,900.0	90.37	269.29	6,773.7	1,160.8	-4,477.3	4,587.6	0.00	0.00	0.00
12,000.0	90.37	269.29	6,773.0	1,159.6	-4,577.3	4,686.7	0.00	0.00	0.00
12,100.0	90.37	269.29	6,772.4	1,158.4	-4,677.3	4,785.7	0.00	0.00	0.00
12,200.0	90.37	269.29	6,771.7	1,157.1	-4,777.3	4,884.8	0.00	0.00	0.00
12,300.0	90.37	269.29	6,771.1	1,155.9	-4,877.3	4,983.8	0.00	0.00	0.00
12,400.0	90.37	269.29	6,770.4	1,154.6	-4,977.3	5,082.8	0.00	0.00	0.00
12,500.0	90.37	269.29	6,769.8	1,153.4	-5,077.3	5,181.9	0.00	0.00	0.00
12,600.0	90.37	269.29	6,769.1	1,152.2	-5,177.3	5,280.9	0.00	0.00	0.00

**Planned Survey**

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,700.0	90.37	269.29	6,768.5	1,150.9	-5,277.3	5,380.0	0.00	0.00	0.00
12,800.0	90.37	269.29	6,767.8	1,149.7	-5,377.3	5,479.0	0.00	0.00	0.00
12,900.0	90.37	269.29	6,767.2	1,148.4	-5,477.2	5,578.1	0.00	0.00	0.00
13,000.0	90.37	269.29	6,766.5	1,147.2	-5,577.2	5,677.1	0.00	0.00	0.00
13,100.0	90.37	269.29	6,765.9	1,146.0	-5,677.2	5,776.2	0.00	0.00	0.00
13,200.0	90.37	269.29	6,765.3	1,144.7	-5,777.2	5,875.2	0.00	0.00	0.00
13,300.0	90.37	269.29	6,764.6	1,143.5	-5,877.2	5,974.2	0.00	0.00	0.00
13,400.0	90.37	269.29	6,764.0	1,142.2	-5,977.2	6,073.3	0.00	0.00	0.00
13,500.0	90.37	269.29	6,763.3	1,141.0	-6,077.2	6,172.3	0.00	0.00	0.00
13,600.0	90.37	269.29	6,762.7	1,139.8	-6,177.2	6,271.4	0.00	0.00	0.00
13,700.0	90.37	269.29	6,762.0	1,138.5	-6,277.2	6,370.4	0.00	0.00	0.00
13,800.0	90.37	269.29	6,761.4	1,137.3	-6,377.2	6,469.5	0.00	0.00	0.00
13,900.0	90.37	269.29	6,760.7	1,136.0	-6,477.1	6,568.5	0.00	0.00	0.00
14,000.0	90.37	269.29	6,760.1	1,134.8	-6,577.1	6,667.5	0.00	0.00	0.00
14,100.0	90.37	269.29	6,759.4	1,133.6	-6,677.1	6,766.6	0.00	0.00	0.00
14,200.0	90.37	269.29	6,758.8	1,132.3	-6,777.1	6,865.6	0.00	0.00	0.00
14,300.0	90.37	269.29	6,758.1	1,131.1	-6,877.1	6,964.7	0.00	0.00	0.00
14,400.0	90.37	269.29	6,757.5	1,129.8	-6,977.1	7,063.7	0.00	0.00	0.00
14,500.0	90.37	269.29	6,756.9	1,128.6	-7,077.1	7,162.8	0.00	0.00	0.00
14,600.0	90.37	269.29	6,756.2	1,127.4	-7,177.1	7,261.8	0.00	0.00	0.00
14,700.0	90.37	269.29	6,755.6	1,126.1	-7,277.1	7,360.9	0.00	0.00	0.00
14,800.0	90.37	269.29	6,754.9	1,124.9	-7,377.1	7,459.9	0.00	0.00	0.00
14,900.0	90.37	269.29	6,754.3	1,123.6	-7,477.0	7,558.9	0.00	0.00	0.00
15,000.0	90.37	269.29	6,753.6	1,122.4	-7,577.0	7,658.0	0.00	0.00	0.00
15,100.0	90.37	269.29	6,753.0	1,121.2	-7,677.0	7,757.0	0.00	0.00	0.00
15,200.0	90.37	269.29	6,752.3	1,119.9	-7,777.0	7,856.1	0.00	0.00	0.00
15,300.0	90.37	269.29	6,751.7	1,118.7	-7,877.0	7,955.1	0.00	0.00	0.00
15,400.0	90.37	269.29	6,751.0	1,117.4	-7,977.0	8,054.2	0.00	0.00	0.00
15,500.0	90.37	269.29	6,750.4	1,116.2	-8,077.0	8,153.2	0.00	0.00	0.00
15,600.0	90.37	269.29	6,749.7	1,115.0	-8,177.0	8,252.3	0.00	0.00	0.00
15,700.0	90.37	269.29	6,749.1	1,113.7	-8,277.0	8,351.3	0.00	0.00	0.00
15,800.0	90.37	269.29	6,748.5	1,112.5	-8,377.0	8,450.3	0.00	0.00	0.00
15,900.0	90.37	269.29	6,747.8	1,111.2	-8,476.9	8,549.4	0.00	0.00	0.00
16,000.0	90.37	269.29	6,747.2	1,110.0	-8,576.9	8,648.4	0.00	0.00	0.00
16,100.0	90.37	269.29	6,746.5	1,108.8	-8,676.9	8,747.5	0.00	0.00	0.00
16,180.1	90.37	269.29	6,746.0	1,107.8	-8,757.0	8,826.8	0.00	0.00	0.00

**Design Targets**

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
613H - KOP - plan hits target center - Point	0.00	0.00	6,153.0	850.0	650.0	2,027,694.45	1,283,459.90	36.566383°N	107.465547°W
613H - BHL - plan hits target center - Point	0.00	0.00	6,746.0	1,107.8	-8,757.0	2,027,952.21	1,274,052.89	36.566760°N	107.497585°W
613H - POE - plan hits target center - Point	0.00	0.00	6,803.0	1,217.2	64.8	2,028,061.61	1,282,874.66	36.567371°N	107.467555°W

**Casing Points**

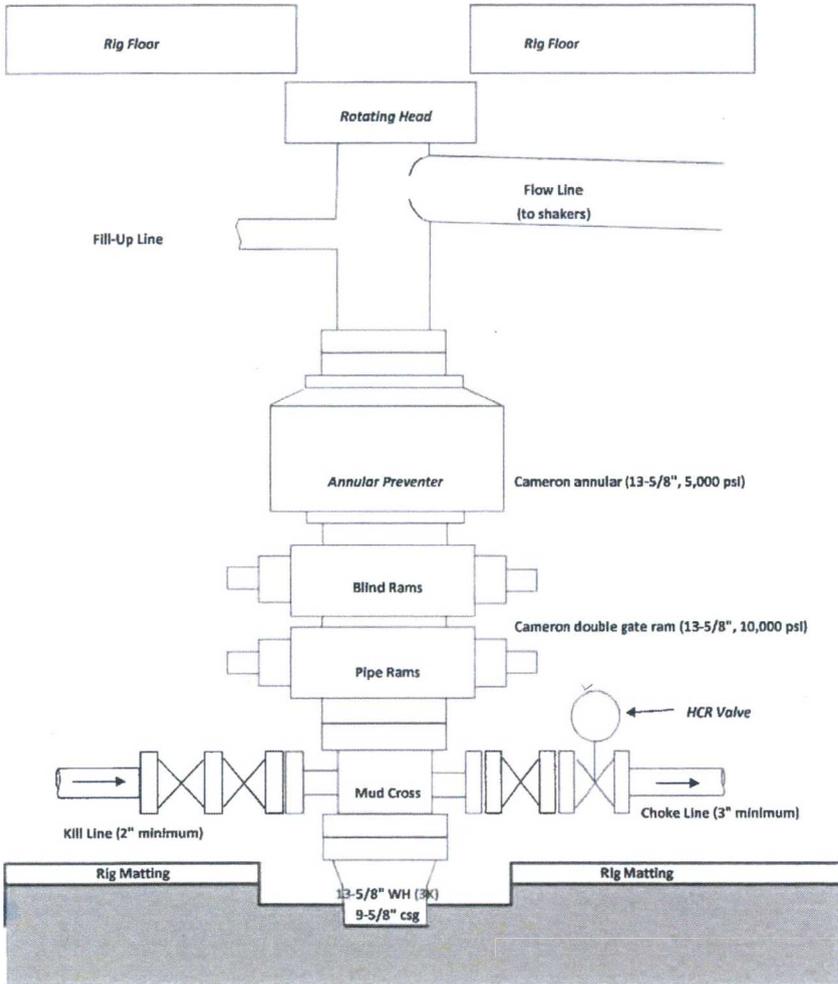
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
320.0	320.0	13 3/8"	13-3/8	17-1/2
5,048.7	4,963.0	9 5/8"	9-5/8	12-1/4

**Formations**

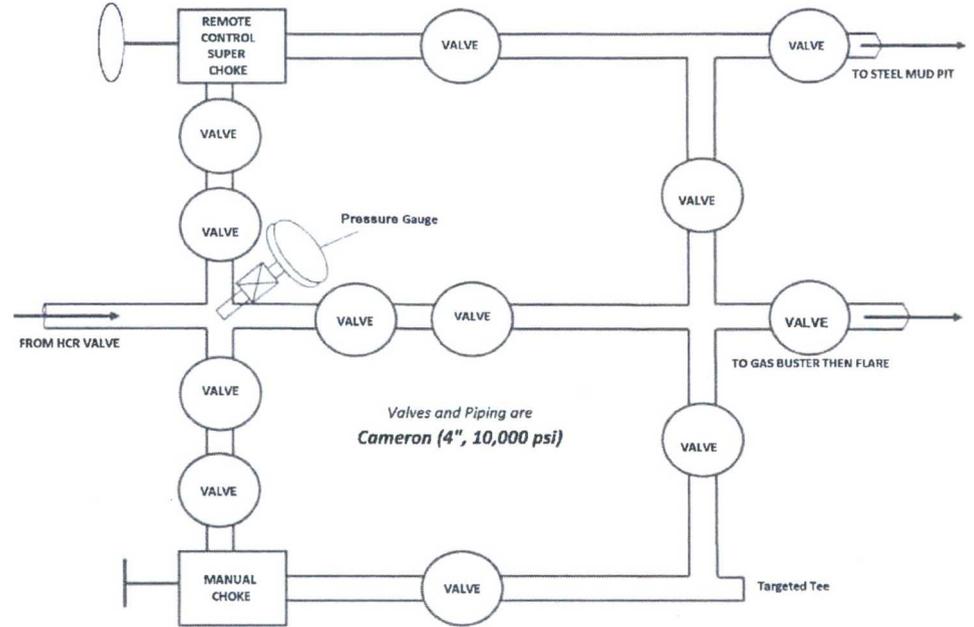
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,385.9	2,363.0	Ojo Alamo		0.00	
2,693.1	2,663.0	Kirtland		0.00	
3,041.3	3,003.0	Fruitland		0.00	
3,215.4	3,173.0	Pictured Cliffs		0.00	
3,461.2	3,413.0	Lewis		0.00	
4,229.3	4,163.0	Chacra		0.00	
4,930.9	4,848.0	Cliff House		0.00	
4,946.3	4,863.0	Menefee		0.00	
5,504.4	5,408.0	Point Lookout		0.00	
5,944.8	5,838.0	Mancos		0.00	
6,461.6	6,338.0	Gallup (MNCS_A)		0.00	
7,348.3	6,803.0	MNCS_G TARGET		0.00	

**BOPE & CHOKE MANIFOLD DIAGRAMS**

**BOPE**



**CHOKE MANIFOLD**



**Directions from the Intersection of US Hwy 550 & US Hwy 64**

**in Bloomfield, NM to Enduring Resources, LLC Rincon Unit #613H**

**1117' FNL & 1225' FEL, Section 21, T27N, R6W, N.M.P.M., Rio Arriba County, NM**

**Latitude: 36.564026°N Longitude: 107.467723°W Datum: NAD1983**

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Easterly on US Hwy 64 for 36.8 miles to General American Road just beyond Gobernador School at Mile Marker 101;

Go Right (Southerly) on General American Road for 1.2 miles to fork in roadway;

Go Right (South-westerly) continuing on General American Road for 3.4 miles to 4-way intersection;

Go Straight (Southerly) continuing on General American Road for 1.1 miles to fork in roadway;

Go Right (South-westerly) along Munoz Wash for 4.3 miles to 4-way intersection;

Go Straight (South-westerly) continuing across Carrizo Wash for 0.3 miles to fork in roadway;

Go Left (South-easterly) which is straight onto County Road #492 for 0.4 miles to fork in roadway;

Go Right (Southerly) continuing on County Road #492 for 1.4 miles to fork in roadway;

Go Right (Northerly) exiting County Road #492 continuing uphill on existing roadway for 0.6 miles to fork in roadway;

Go Left (South-westerly) for 0.8 miles to fork in roadway;

Go Left (South-easterly) for 0.1 mile to fork in roadway;

Go Right (South-westerly) to staked Rincon Unit #613H which overlaps existing roadway.