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OCT 29 2018

Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

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.

SUBMIT IN TRIPLICATE - *Other instructions on page 2*

5. Lease Serial No.
NMSF079366

6. If Indian, Allottee or Tribe Name

7. If Unit of CA/Agreement, Name and/or No.
NMNM078406X

1. Type of Well
☒Oil Well ☐Gas Well ☐Other

8. Well Name and No.
RINCON UNIT #615H

2. Name of Operator
Enduring Resources IV, LLC

9. API Well No.
30-039-31372

3a. Address
200 Energy Court Farmington NM 87401

3b. Phone No. *(include area code)*
505-636-9743

10. Field and Pool or Exploratory Area
Basin Mancos

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)*
SHL: 1141' FNL & 1257' FEL SEC 21 27N 6W
BHL: 1024' FNL & 763' FWL SEC 19 27N 6W

11. Country or Parish, State
Rio Arriba NM

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 ShutOff
☐Subsequent Report	☐Alter Casing	☐Hydraulic Fracturing	☐Reclamation	☐Well Integrity
☐Final Abandonment Notice	☐Casing Repair	☐New Construction	☐Recomplete	☒Other **Lateral Length Change/withdraw pilot hole**
	☐Change Plans	☐Plug and Abandon	☐Temporarily Abandon	
	☐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 worybk and approximate duration thereof. If the proposal is to deepen directionally or recomplete 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 perfonned 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 recompletion 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.)

NMOCD

NOV 07 2018

DISTRICT III

Enduring Resources requests a lateral length change and also to withdraw the pilot hole design on the above mentioned well per the attached updated C102, Wellbore, Ops plan and Drill plan.

Notify NMOCD 24 hrs prior to beginning operations

ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

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

Title: Permit Specialist

Signature

Date: 10/29/18

THE SPACE FOR FEDERAL OR STATE OFICE USE

Approved by

Title PE

Date 11/7/18

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 FTO

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.

NMOCD

18

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

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

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-039-31372	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
D	19	27N	6W	1	1024	NORTH	763	WEST	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			

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 heretofore entered by the division.

10/29/18
Signature Date

Lacey Granillo
Printed Name

lgranillo@enduringresources.com
E-mail Address

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: OCTOBER 25, 2018
Date of Survey: JUNE 17, 2018

Signature and Seal of Professional Surveyor

JASON C. EDWARDS NEW MEXICO 15269 REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

NMOCD
NOV 07 2018
DISTRICT III

END-OF-LATERAL
1024' FNL 763' FWL
SECTION 19, T27N, R6W
LAT: 36.564235 °N
LONG: 107.514073 °W
DATUM: NAD1927

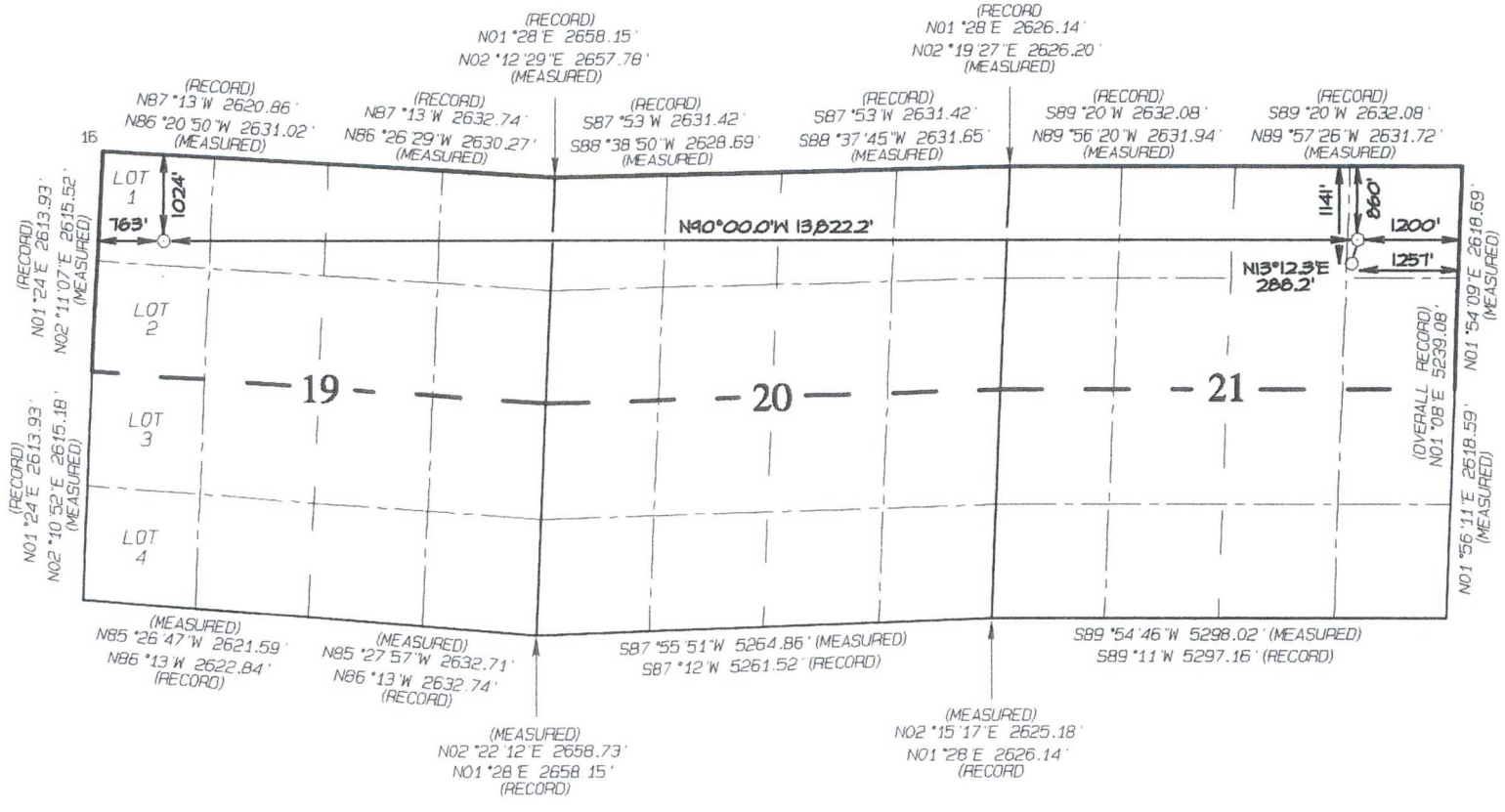
LAT: 36.564244 °N
LONG: 107.514678 °W
DATUM: NAD1983

POINT-OF-ENTRY
860' FNL 1200' FEL
SECTION 21, T27N, R6W
LAT: 36.564724 °N
LONG: 107.467017 °W
DATUM: NAD1927

LAT: 36.564734 °N
LONG: 107.467621 °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 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) 6,563 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)	5,001	ft
KOP (MD)	6,200	ft
KOP (TVD)	6,150	ft
Target (TVD)	6,803	ft
Curve BUR	10	°/100 ft
POE (MD)	7,261	ft
TD (MD)	21,083	ft
Lat Len (ft)	13,822	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	300
Intermediate	12.250	5,001	9.625	40.0	J-55	LTC	0	5,001
Production	8.500	21,083	5.500	17.0	P-110	LTC	0	21,083

CEMENT PROPERTIES SUMMARY:

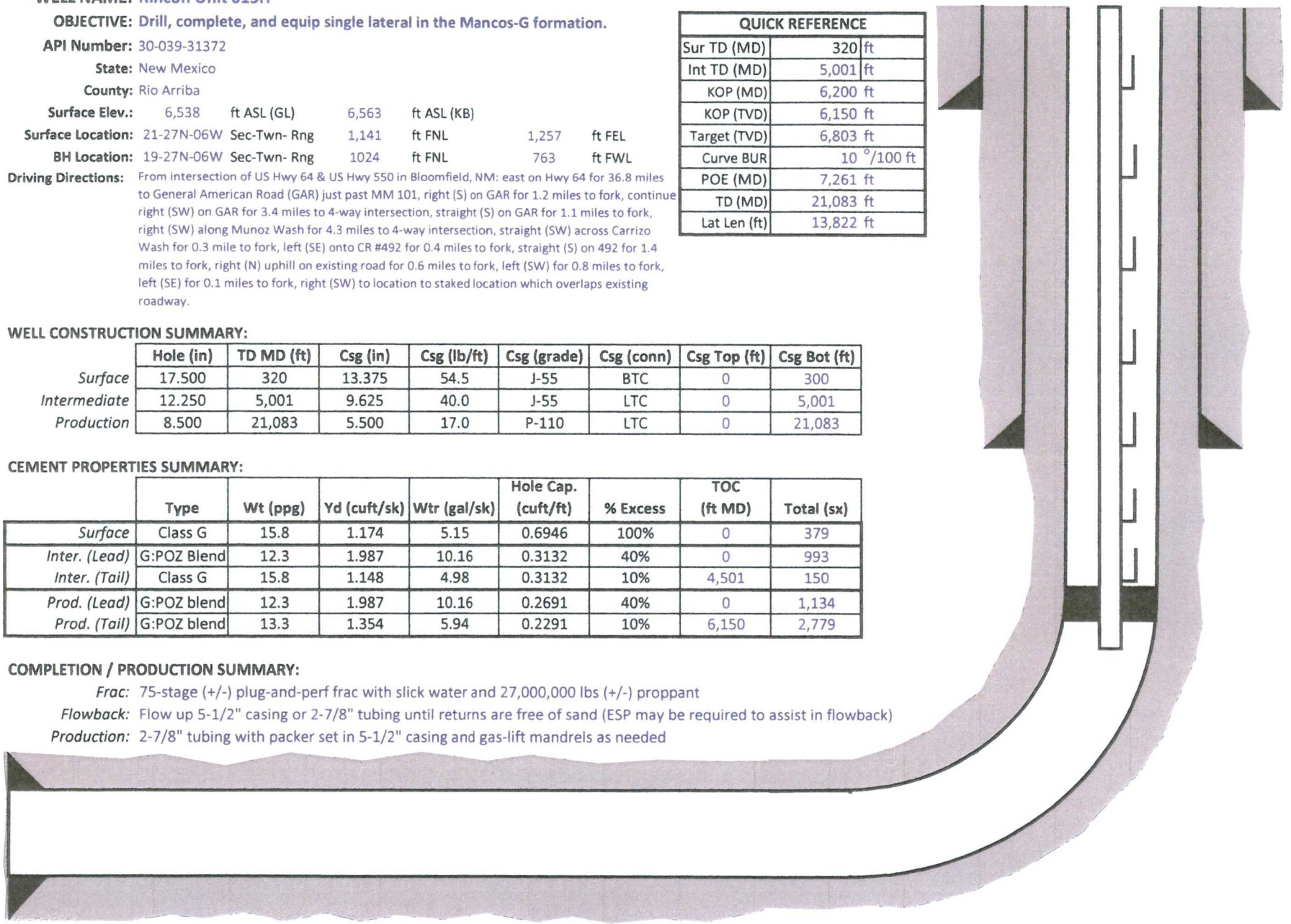
	Type	Wt (ppg)	Yd (cuft/sk)	Wtr (gal/sk)	Hole Cap. (cuft/ft)	% Excess	TOC (ft MD)	Total (sx)
Surface	Class G	15.8	1.174	5.15	0.6946	100%	0	379
Inter. (Lead)	G:POZ Blend	12.3	1.987	10.16	0.3132	40%	0	993
Inter. (Tail)	Class G	15.8	1.148	4.98	0.3132	10%	4,501	150
Prod. (Lead)	G:POZ blend	12.3	1.987	10.16	0.2691	40%	0	1,134
Prod. (Tail)	G:POZ blend	13.3	1.354	5.94	0.2291	10%	6,150	2,779

COMPLETION / PRODUCTION SUMMARY:

Frac: 75-stage (+/-) plug-and-perf frac with slick water and 27,000,000 lbs (+/-) proppant

Flowback: Flow up 5-1/2" casing or 2-7/8" tubing until returns are free of sand (ESP may be required to assist in flowback)

Production: 2-7/8" tubing with packer set in 5-1/2" casing and gas-lift mandrels as needed

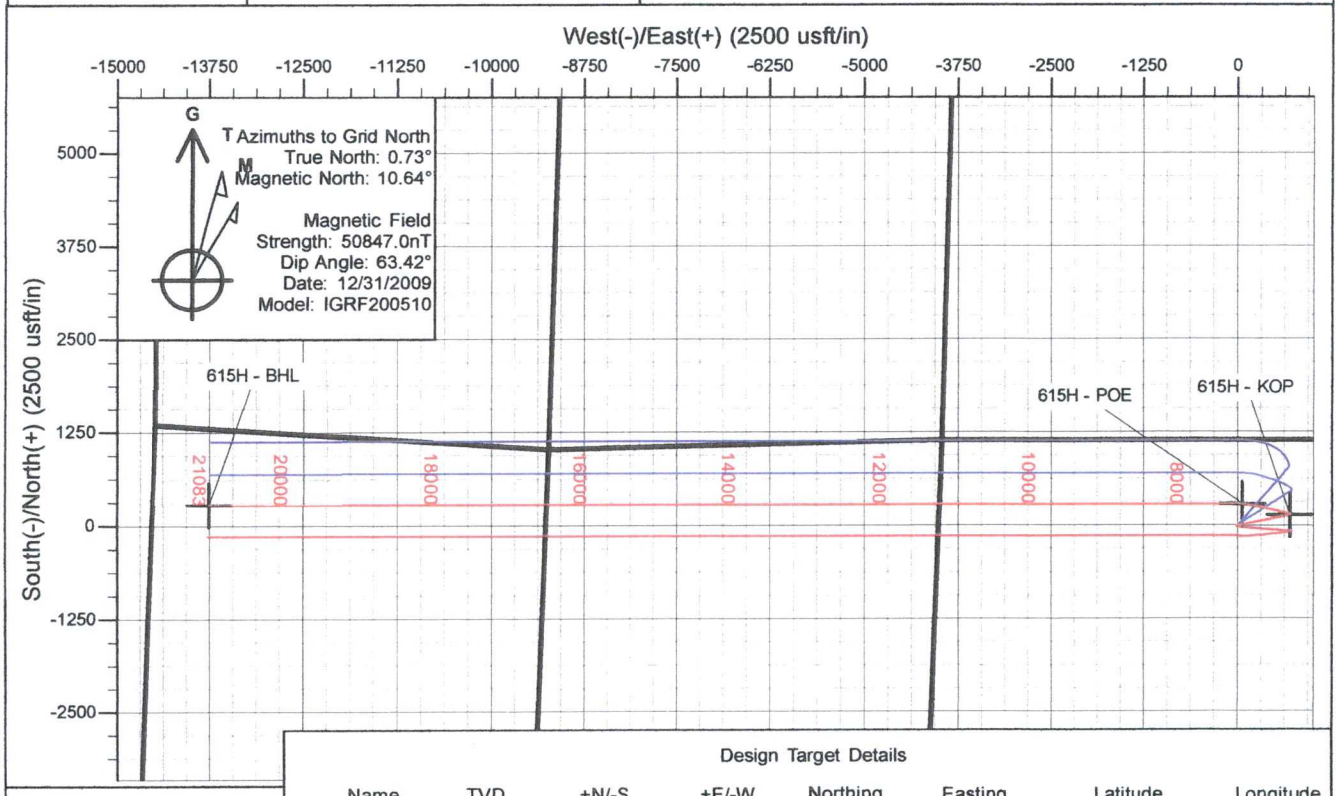


Enduring Resources LLC

Directional Drilling Plan
Plan View & Section View

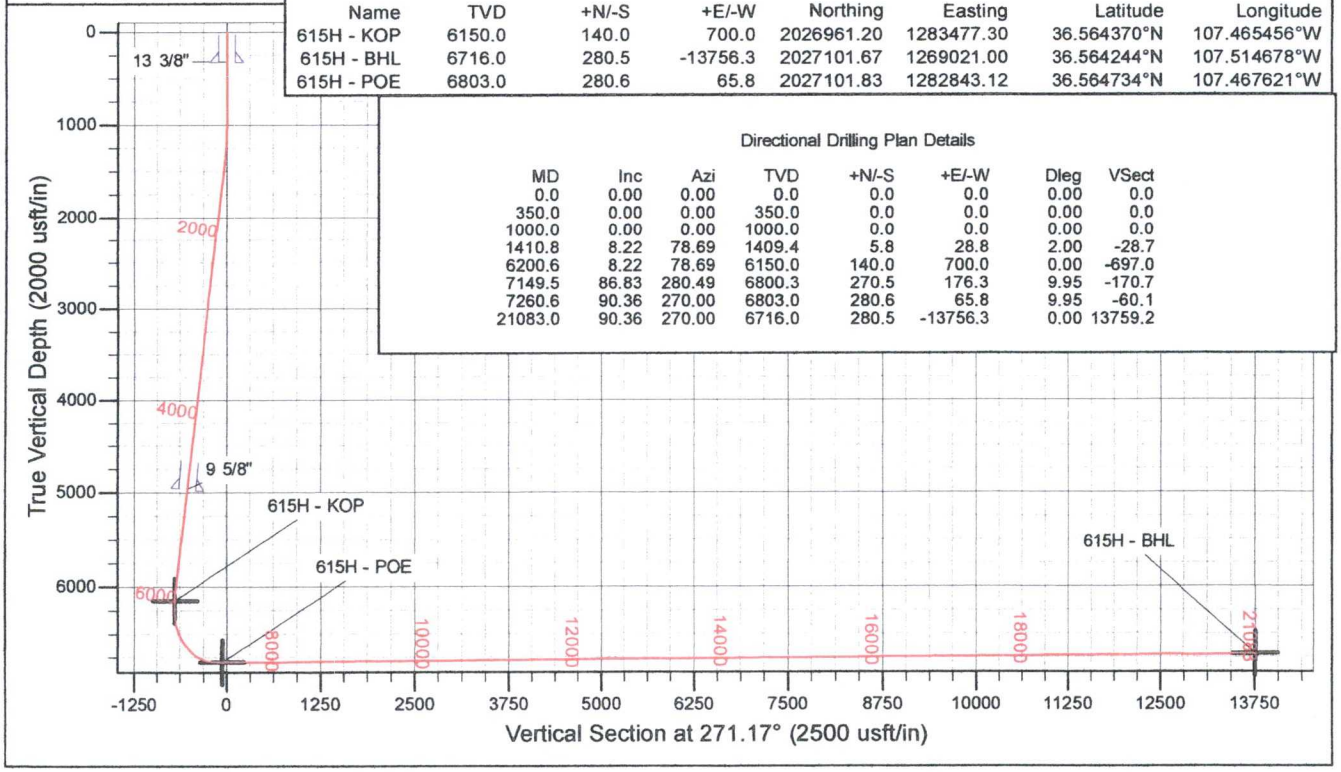
Rincon Unit 615H - Pilot Hole

Rio Arriba Co., New Mexico
T27N-R06W-Sec.21-Lot A
Surface Latitude: 36.563961°N
Surface Longitude: 107.467833°W
Ground Level: 6538.0
Reference Elevation: KB @ 6563.0usft (Original Well Elev)



Design Target Details

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
615H - KOP	6150.0	140.0	700.0	2026961.20	1283477.30	36.564370°N	107.465456°W
615H - BHL	6716.0	280.5	-13756.3	2027101.67	1269021.00	36.564244°N	107.514678°W
615H - POE	6803.0	280.6	65.8	2027101.83	1282843.12	36.564734°N	107.467621°W



Directional Drilling Plan Details

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0
350.0	0.00	0.00	350.0	0.0	0.0	0.00	0.0
1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.0
1410.8	8.22	78.69	1409.4	5.8	28.8	2.00	-28.7
6200.6	8.22	78.69	6150.0	140.0	700.0	0.00	-697.0
7149.5	86.83	280.49	6800.3	270.5	176.3	9.95	-170.7
7260.6	90.36	270.00	6803.0	280.6	65.8	9.95	-60.1
21083.0	90.36	270.00	6716.0	280.5	-13756.3	0.00	13759.2

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 615H
API Number: 30-039-31372
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 1,141 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	4,200	2,363	2,374	W	normal
Kirtland	3,900	2,663	2,663	W	normal
Fruitland	3,560	3,003	3,021	G, W	sub
Pictured Cliffs	3,390	3,173	3,193	G, W	sub
Lewis	3,150	3,413	3,435	G, W	normal
Chacra	2,400	4,163	4,193	G, W	normal
Cliff House	1,715	4,848	4,885	G, W	sub
Menefee	1,700	4,863	4,900	G, W	normal
Point Lookout	1,155	5,408	5,451	G, W	normal
Mancos	725	5,838	5,885	O,G	normal
Gallup (MNCS. A)	225	6,338	6,390	O,G	normal
MNCS. G TARGET	**-240**	**6,803**	**7,261**	**O,G**	**normal**
PROJECTED WELL TD	**-153**	**6,716**	**21,083**	**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**

H_2S INFORMATION:

H_2S Zones: Encountering hydrogen-sulfide bearing zones is **NOT** anticipated.

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

LOGGING, CORING, AND TESTING:

Mud Logs: None planned; remote geo-steering from drill out of 9-5/8" casing to TD; gas 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", 3,000 psi)

BOPE 2: Cameron annular (13-5/8", 2,500 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 5 minutes. Additionally, BOP and casing strings will be tested to .22 psi/ft or 1,500 psi, whichever is greater but not exceeding 70% of yield strength of the casing, for 30 minutes, prior to drilling out 13-3/8" and 9-5/8" casing. Rams and hydraulically operated remote choke line valve will be function tested daily at a minimum.
4) Remote valve for BOP rams, HCR, and choke shall be placed in a location that is readily available to the driller. The remote BOP valve shall be capable of closing and opening the rams.
5) Manual locking devices (hand wheels) shall be intalled on rams. A valve will be installed on the annular preventer's closing line as close as possible to the preventer to act as a locking device.The valve will be maintained in the open position and shall only be closed when the there is no power to the accumulator.

FLUIDS AND SOLIDS CONTROL PROGRAM:

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

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

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

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

Fluid Program: See "Detailed Drilling Plan" section for 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	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): *Minumum: 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 NMOCD & BLM if cement is not circulated to surface. Cement must achieve 500 psi compressive strength before drilling out.

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

320 ft (MD)	to	5,001 ft (MD)	Hole Section Length:	4,681 ft
320 ft (TVD)	to	4,963 ft (TVD)	Casing Required:	5,001 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.
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	40.0	J-55	LTC	2,570	3,950	630,000	520,000
Loading					2,168	1,784	274,445	274,445
Min. S.F.					**1.19**	**2.21**	**2.30**	**1.89**

Assumptions: Collapse: fully evacuated casing with 8.4 ppg equivalent external pressure gradient
Burst: maximum anticipated surface pressure with 9.5 ppg fluid inside casing while drilling production hole and 8.4 ppg equivalent external pressure gradient
Tension: buoyed weight in 8.4 ppg fluid with 100,000 lbs over-pull

MU Torque (ft lbs): *Minumum: 3,900 Optimum: 5,200 Maximum: 6,500*

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	993
Tail	Class G	15.8	1.148	4.98	0.3132	10%	4,501	150

Calculated 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.*

5,001 ft (MD)	to	21,083 ft (MD)	Hole Section Length:	16,082 ft
4,963 ft (TVD)	to	6,716 ft (TVD)	Casing Required:	21,083 ft

Estimated KOP:	6,200 ft (MD)	6,150 ft (TVD)		
Estimated Landing Point (P.O.E.):	7,261 ft (MD)	6,803 ft (TVD)		
Estimated Lateral Length:	13,822 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.

Casing Specs:	Size (in)	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	5.500	17.0	P-110	LTC	7,460	10,640	546,000	445,000
Loading					3,318	9,129	409,276	409,276
Min. S.F.					**2.25**	**1.17**	**1.33**	**1.09**

Assumptions: Collapse: fully evacuated casing with 9.5 ppg fluid in the annulus (floating casing during running)
Burst: 8,500 psi maximum surface treating pressure with 10.2 ppg equivalent mud weight sand laden fluid with 8.4 ppg equivalent external pressure gradient
Tension: buoyed weight in 9.0 ppg fluid with 100,000 lbs over-pull

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

Casing Details: Float shoe, float collar, 2 jts casing, float collar, 1 jt casing, toe-intitiation sleeve, 1 jt casing, toe-initiation sleeve, casing to KOP with 20' marker joints spaced evenly in lateral every 2,000'. Place Floatation 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 joint
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

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	0.2691	40%	0	1,134
Tail	G:POZ blend	13.3	1.354	5.94	0.2291	10%	6,150	2,779

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 applicaple 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, RDMO.*

COMPLETION AND PRODUCTION PLAN:

Frac: Lateral will be fracture-stimulated in approximately 75 plug-and-perf stages with approximately 375,000 bbls slickwater fluid and 27,000,000 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 the well can be produced through permanent production facilities. An ESP may be installed temporarily to assist in load water recovery.

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**
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*

Enduring Resources LLC

San Juan Basin - Rincon Unit
613H Pad
615H

Wellbore #1

Plan: Design #1

Standard Planning Report

26 October, 2018

Database:	EDM	**Local Co-ordinate Reference:**	Well 615H
Company:	Enduring Resources LLC	**TVD Reference:**	KB @ 6563.0usft (Original Well Elev)
Project:	San Juan Basin - Rincon Unit	**MD Reference:**	KB @ 6563.0usft (Original Well Elev)
Site:	613H Pad	**North Reference:**	Grid
Well:	615H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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

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

Well	615H					
Well Position	**+N/-S**	-23.3 usft	**Northing:**	2,026,821.19 usft	**Latitude:**	36.563961°N
	+E/-W	-32.6 usft	**Easting:**	1,282,777.30 usft	**Longitude:**	107.467833°W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	6,538.0 usft

Wellbore	Wellbore #1			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF200510	12/31/2009	9.91	63.42	50,847.03958061

Design	Design #1				
Audit Notes:					
Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.0	0.0	0.0	271.17	

Plan Survey Tool Program **Date** 10/26/2018

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	21,083.0	Design #1 (Wellbore #1)	MWD	
				OWSG MWD - Standard	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
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	
1,410.8	8.22	78.69	1,409.4	5.8	28.8	2.00	2.00	0.00	78.69	
6,200.6	8.22	78.69	6,150.0	140.0	700.0	0.00	0.00	0.00	0.00	615H - KOP
7,149.5	86.83	280.49	6,800.3	270.5	176.3	9.95	8.28	-16.67	-158.17	
7,260.6	90.36	270.00	6,803.0	280.6	65.8	9.95	3.18	-9.44	-71.57	615H - POE
21,083.0	90.36	270.00	6,716.0	280.5	-13,756.3	0.00	0.00	0.00	0.00	615H - BHL

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Site:	613H Pad	**North Reference:**	Grid
Well:	615H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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	78.69	1,100.0	0.3	1.7	-1.7	2.00	2.00	0.00
1,200.0	4.00	78.69	1,199.8	1.4	6.8	-6.8	2.00	2.00	0.00
1,300.0	6.00	78.69	1,299.5	3.1	15.4	-15.3	2.00	2.00	0.00
1,400.0	8.00	78.69	1,398.7	5.5	27.3	-27.2	2.00	2.00	0.00
1,410.8	8.22	78.69	1,409.4	5.8	28.8	-28.7	2.00	2.00	0.00
1,500.0	8.22	78.69	1,497.7	8.3	41.3	-41.2	0.00	0.00	0.00
1,600.0	8.22	78.69	1,596.7	11.1	55.3	-55.1	0.00	0.00	0.00
1,700.0	8.22	78.69	1,695.6	13.9	69.4	-69.1	0.00	0.00	0.00
1,800.0	8.22	78.69	1,794.6	16.7	83.4	-83.0	0.00	0.00	0.00
1,900.0	8.22	78.69	1,893.6	19.5	97.4	-97.0	0.00	0.00	0.00
2,000.0	8.22	78.69	1,992.5	22.3	111.4	-110.9	0.00	0.00	0.00
2,100.0	8.22	78.69	2,091.5	25.1	125.4	-124.9	0.00	0.00	0.00
2,200.0	8.22	78.69	2,190.5	27.9	139.4	-138.8	0.00	0.00	0.00
2,300.0	8.22	78.69	2,289.5	30.7	153.4	-152.8	0.00	0.00	0.00
2,400.0	8.22	78.69	2,388.4	33.5	167.4	-166.7	0.00	0.00	0.00
2,500.0	8.22	78.69	2,487.4	36.3	181.5	-180.7	0.00	0.00	0.00
2,600.0	8.22	78.69	2,586.4	39.1	195.5	-194.6	0.00	0.00	0.00
2,700.0	8.22	78.69	2,685.4	41.9	209.5	-208.6	0.00	0.00	0.00
2,800.0	8.22	78.69	2,784.3	44.7	223.5	-222.5	0.00	0.00	0.00
2,900.0	8.22	78.69	2,883.3	47.5	237.5	-236.5	0.00	0.00	0.00
3,000.0	8.22	78.69	2,982.3	50.3	251.5	-250.4	0.00	0.00	0.00
3,100.0	8.22	78.69	3,081.3	53.1	265.5	-264.4	0.00	0.00	0.00
3,200.0	8.22	78.69	3,180.2	55.9	279.5	-278.3	0.00	0.00	0.00
3,300.0	8.22	78.69	3,279.2	58.7	293.6	-292.3	0.00	0.00	0.00
3,400.0	8.22	78.69	3,378.2	61.5	307.6	-306.3	0.00	0.00	0.00
3,500.0	8.22	78.69	3,477.2	64.3	321.6	-320.2	0.00	0.00	0.00
3,600.0	8.22	78.69	3,576.1	67.1	335.6	-334.2	0.00	0.00	0.00
3,700.0	8.22	78.69	3,675.1	69.9	349.6	-348.1	0.00	0.00	0.00
3,800.0	8.22	78.69	3,774.1	72.7	363.6	-362.1	0.00	0.00	0.00
3,900.0	8.22	78.69	3,873.0	75.5	377.6	-376.0	0.00	0.00	0.00
4,000.0	8.22	78.69	3,972.0	78.3	391.6	-390.0	0.00	0.00	0.00
4,100.0	8.22	78.69	4,071.0	81.1	405.7	-403.9	0.00	0.00	0.00
4,200.0	8.22	78.69	4,170.0	83.9	419.7	-417.9	0.00	0.00	0.00
4,300.0	8.22	78.69	4,268.9	86.7	433.7	-431.8	0.00	0.00	0.00
4,400.0	8.22	78.69	4,367.9	89.5	447.7	-445.8	0.00	0.00	0.00
4,500.0	8.22	78.69	4,466.9	92.3	461.7	-459.7	0.00	0.00	0.00
4,600.0	8.22	78.69	4,565.9	95.1	475.7	-473.7	0.00	0.00	0.00
4,700.0	8.22	78.69	4,664.8	97.9	489.7	-487.6	0.00	0.00	0.00
4,800.0	8.22	78.69	4,763.8	100.7	503.7	-501.6	0.00	0.00	0.00
4,900.0	8.22	78.69	4,862.8	103.6	517.8	-515.5	0.00	0.00	0.00
5,000.0	8.22	78.69	4,961.8	106.4	531.8	-529.5	0.00	0.00	0.00
5,100.0	8.22	78.69	5,060.7	109.2	545.8	-543.4	0.00	0.00	0.00

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Site:	613H Pad	**North Reference:**	Grid
Well:	615H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
5,200.0	8.22	78.69	5,159.7	112.0	559.8	-557.4	0.00	0.00	0.00
5,300.0	8.22	78.69	5,258.7	114.8	573.8	-571.3	0.00	0.00	0.00
5,400.0	8.22	78.69	5,357.7	117.6	587.8	-585.3	0.00	0.00	0.00
5,500.0	8.22	78.69	5,456.6	120.4	601.8	-599.3	0.00	0.00	0.00
5,600.0	8.22	78.69	5,555.6	123.2	615.8	-613.2	0.00	0.00	0.00
5,700.0	8.22	78.69	5,654.6	126.0	629.9	-627.2	0.00	0.00	0.00
5,800.0	8.22	78.69	5,753.5	128.8	643.9	-641.1	0.00	0.00	0.00
5,900.0	8.22	78.69	5,852.5	131.6	657.9	-655.1	0.00	0.00	0.00
6,000.0	8.22	78.69	5,951.5	134.4	671.9	-669.0	0.00	0.00	0.00
6,100.0	8.22	78.69	6,050.5	137.2	685.9	-683.0	0.00	0.00	0.00
6,200.0	8.22	78.69	6,149.4	140.0	699.9	-696.9	0.00	0.00	0.00
6,200.6	8.22	78.69	6,150.0	140.0	700.0	-697.0	0.00	0.00	0.00
6,300.0	3.79	333.67	6,249.1	144.4	705.5	-702.4	9.95	-4.45	-105.62
6,400.0	12.59	294.10	6,348.0	151.8	694.1	-690.8	9.95	8.79	-39.56
6,500.0	22.37	287.75	6,443.3	162.1	665.9	-662.5	9.95	9.78	-6.36
6,600.0	32.25	285.15	6,532.0	174.9	621.9	-618.3	9.95	9.88	-2.59
6,700.0	42.17	283.68	6,611.6	189.8	563.4	-559.4	9.95	9.91	-1.47
6,800.0	52.10	282.69	6,679.5	206.5	492.1	-487.8	9.95	9.93	-0.99
6,900.0	62.03	281.94	6,733.8	224.3	410.2	-405.6	9.95	9.93	-0.76
7,000.0	71.97	281.31	6,772.8	242.8	320.2	-315.2	9.95	9.94	-0.63
7,100.0	81.91	280.75	6,795.4	261.4	224.7	-219.3	9.95	9.94	-0.56
7,149.5	86.83	280.49	6,800.3	270.5	176.3	-170.7	9.95	9.94	-0.53
7,200.0	88.43	275.72	6,802.4	277.6	126.4	-120.7	9.95	3.16	-9.45
7,260.6	90.36	270.00	6,803.0	280.6	65.8	-60.1	9.95	3.19	-9.43
7,300.0	90.36	270.00	6,802.8	280.6	26.5	-20.7	0.00	0.00	0.00
7,400.0	90.36	270.00	6,802.1	280.6	-73.5	79.2	0.00	0.00	0.00
7,500.0	90.36	270.00	6,801.5	280.6	-173.5	179.2	0.00	0.00	0.00
7,600.0	90.36	270.00	6,800.9	280.6	-273.5	279.2	0.00	0.00	0.00
7,700.0	90.36	270.00	6,800.2	280.6	-373.5	379.2	0.00	0.00	0.00
7,800.0	90.36	270.00	6,799.6	280.6	-473.5	479.1	0.00	0.00	0.00
7,900.0	90.36	270.00	6,799.0	280.6	-573.5	579.1	0.00	0.00	0.00
8,000.0	90.36	270.00	6,798.3	280.6	-673.5	679.1	0.00	0.00	0.00
8,100.0	90.36	270.00	6,797.7	280.6	-773.5	779.1	0.00	0.00	0.00
8,200.0	90.36	270.00	6,797.1	280.6	-873.5	879.1	0.00	0.00	0.00
8,300.0	90.36	270.00	6,796.5	280.6	-973.5	979.0	0.00	0.00	0.00
8,400.0	90.36	270.00	6,795.8	280.6	-1,073.5	1,079.0	0.00	0.00	0.00
8,500.0	90.36	270.00	6,795.2	280.6	-1,173.5	1,179.0	0.00	0.00	0.00
8,600.0	90.36	270.00	6,794.6	280.6	-1,273.5	1,279.0	0.00	0.00	0.00
8,700.0	90.36	270.00	6,793.9	280.6	-1,373.5	1,378.9	0.00	0.00	0.00
8,800.0	90.36	270.00	6,793.3	280.6	-1,473.5	1,478.9	0.00	0.00	0.00
8,900.0	90.36	270.00	6,792.7	280.6	-1,573.5	1,578.9	0.00	0.00	0.00
9,000.0	90.36	270.00	6,792.1	280.6	-1,673.5	1,678.9	0.00	0.00	0.00
9,100.0	90.36	270.00	6,791.4	280.6	-1,773.5	1,778.8	0.00	0.00	0.00
9,200.0	90.36	270.00	6,790.8	280.6	-1,873.5	1,878.8	0.00	0.00	0.00
9,300.0	90.36	270.00	6,790.2	280.6	-1,973.5	1,978.8	0.00	0.00	0.00
9,400.0	90.36	270.00	6,789.5	280.6	-2,073.5	2,078.8	0.00	0.00	0.00
9,500.0	90.36	270.00	6,788.9	280.6	-2,173.5	2,178.8	0.00	0.00	0.00
9,600.0	90.36	270.00	6,788.3	280.6	-2,273.5	2,278.7	0.00	0.00	0.00
9,700.0	90.36	270.00	6,787.6	280.6	-2,373.5	2,378.7	0.00	0.00	0.00
9,800.0	90.36	270.00	6,787.0	280.6	-2,473.5	2,478.7	0.00	0.00	0.00
9,900.0	90.36	270.00	6,786.4	280.6	-2,573.5	2,578.7	0.00	0.00	0.00
10,000.0	90.36	270.00	6,785.8	280.6	-2,673.5	2,678.6	0.00	0.00	0.00
10,100.0	90.36	270.00	6,785.1	280.6	-2,773.5	2,778.6	0.00	0.00	0.00
10,200.0	90.36	270.00	6,784.5	280.6	-2,873.5	2,878.6	0.00	0.00	0.00

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Company:	Enduring Resources LLC	**TVD Reference:**	KB @ 6563.0usft (Original Well Elev)
Project:	San Juan Basin - Rincon Unit	**MD Reference:**	KB @ 6563.0usft (Original Well Elev)
Site:	613H Pad	**North Reference:**	Grid
Well:	615H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
10,300.0	90.36	270.00	6,783.9	280.6	-2,973.5	2,978.6	0.00	0.00	0.00
10,400.0	90.36	270.00	6,783.2	280.6	-3,073.5	3,078.6	0.00	0.00	0.00
10,500.0	90.36	270.00	6,782.6	280.6	-3,173.5	3,178.5	0.00	0.00	0.00
10,600.0	90.36	270.00	6,782.0	280.6	-3,273.5	3,278.5	0.00	0.00	0.00
10,700.0	90.36	270.00	6,781.4	280.6	-3,373.5	3,378.5	0.00	0.00	0.00
10,800.0	90.36	270.00	6,780.7	280.6	-3,473.5	3,478.5	0.00	0.00	0.00
10,900.0	90.36	270.00	6,780.1	280.6	-3,573.5	3,578.4	0.00	0.00	0.00
11,000.0	90.36	270.00	6,779.5	280.6	-3,673.5	3,678.4	0.00	0.00	0.00
11,100.0	90.36	270.00	6,778.8	280.6	-3,773.5	3,778.4	0.00	0.00	0.00
11,200.0	90.36	270.00	6,778.2	280.6	-3,873.5	3,878.4	0.00	0.00	0.00
11,300.0	90.36	270.00	6,777.6	280.6	-3,973.5	3,978.3	0.00	0.00	0.00
11,400.0	90.36	270.00	6,776.9	280.6	-4,073.4	4,078.3	0.00	0.00	0.00
11,500.0	90.36	270.00	6,776.3	280.6	-4,173.4	4,178.3	0.00	0.00	0.00
11,600.0	90.36	270.00	6,775.7	280.6	-4,273.4	4,278.3	0.00	0.00	0.00
11,700.0	90.36	270.00	6,775.1	280.6	-4,373.4	4,378.3	0.00	0.00	0.00
11,800.0	90.36	270.00	6,774.4	280.6	-4,473.4	4,478.2	0.00	0.00	0.00
11,900.0	90.36	270.00	6,773.8	280.6	-4,573.4	4,578.2	0.00	0.00	0.00
12,000.0	90.36	270.00	6,773.2	280.6	-4,673.4	4,678.2	0.00	0.00	0.00
12,100.0	90.36	270.00	6,772.5	280.6	-4,773.4	4,778.2	0.00	0.00	0.00
12,200.0	90.36	270.00	6,771.9	280.6	-4,873.4	4,878.1	0.00	0.00	0.00
12,300.0	90.36	270.00	6,771.3	280.6	-4,973.4	4,978.1	0.00	0.00	0.00
12,400.0	90.36	270.00	6,770.7	280.6	-5,073.4	5,078.1	0.00	0.00	0.00
12,500.0	90.36	270.00	6,770.0	280.6	-5,173.4	5,178.1	0.00	0.00	0.00
12,600.0	90.36	270.00	6,769.4	280.6	-5,273.4	5,278.0	0.00	0.00	0.00
12,700.0	90.36	270.00	6,768.8	280.6	-5,373.4	5,378.0	0.00	0.00	0.00
12,800.0	90.36	270.00	6,768.1	280.6	-5,473.4	5,478.0	0.00	0.00	0.00
12,900.0	90.36	270.00	6,767.5	280.6	-5,573.4	5,578.0	0.00	0.00	0.00
13,000.0	90.36	270.00	6,766.9	280.6	-5,673.4	5,678.0	0.00	0.00	0.00
13,100.0	90.36	270.00	6,766.2	280.6	-5,773.4	5,777.9	0.00	0.00	0.00
13,200.0	90.36	270.00	6,765.6	280.6	-5,873.4	5,877.9	0.00	0.00	0.00
13,300.0	90.36	270.00	6,765.0	280.6	-5,973.4	5,977.9	0.00	0.00	0.00
13,400.0	90.36	270.00	6,764.4	280.6	-6,073.4	6,077.9	0.00	0.00	0.00
13,500.0	90.36	270.00	6,763.7	280.6	-6,173.4	6,177.8	0.00	0.00	0.00
13,600.0	90.36	270.00	6,763.1	280.6	-6,273.4	6,277.8	0.00	0.00	0.00
13,700.0	90.36	270.00	6,762.5	280.6	-6,373.4	6,377.8	0.00	0.00	0.00
13,800.0	90.36	270.00	6,761.8	280.6	-6,473.4	6,477.8	0.00	0.00	0.00
13,900.0	90.36	270.00	6,761.2	280.6	-6,573.4	6,577.8	0.00	0.00	0.00
14,000.0	90.36	270.00	6,760.6	280.6	-6,673.4	6,677.7	0.00	0.00	0.00
14,100.0	90.36	270.00	6,760.0	280.6	-6,773.4	6,777.7	0.00	0.00	0.00
14,200.0	90.36	270.00	6,759.3	280.6	-6,873.4	6,877.7	0.00	0.00	0.00
14,300.0	90.36	270.00	6,758.7	280.5	-6,973.4	6,977.7	0.00	0.00	0.00
14,400.0	90.36	270.00	6,758.1	280.5	-7,073.4	7,077.6	0.00	0.00	0.00
14,500.0	90.36	270.00	6,757.4	280.5	-7,173.4	7,177.6	0.00	0.00	0.00
14,600.0	90.36	270.00	6,756.8	280.5	-7,273.4	7,277.6	0.00	0.00	0.00
14,700.0	90.36	270.00	6,756.2	280.5	-7,373.4	7,377.6	0.00	0.00	0.00
14,800.0	90.36	270.00	6,755.5	280.5	-7,473.4	7,477.5	0.00	0.00	0.00
14,900.0	90.36	270.00	6,754.9	280.5	-7,573.4	7,577.5	0.00	0.00	0.00
15,000.0	90.36	270.00	6,754.3	280.5	-7,673.4	7,677.5	0.00	0.00	0.00
15,100.0	90.36	270.00	6,753.7	280.5	-7,773.4	7,777.5	0.00	0.00	0.00
15,200.0	90.36	270.00	6,753.0	280.5	-7,873.4	7,877.5	0.00	0.00	0.00
15,300.0	90.36	270.00	6,752.4	280.5	-7,973.4	7,977.4	0.00	0.00	0.00
15,400.0	90.36	270.00	6,751.8	280.5	-8,073.4	8,077.4	0.00	0.00	0.00
15,500.0	90.36	270.00	6,751.1	280.5	-8,173.4	8,177.4	0.00	0.00	0.00
15,600.0	90.36	270.00	6,750.5	280.5	-8,273.4	8,277.4	0.00	0.00	0.00

Database:	EDM	**Local Co-ordinate Reference:**	Well 615H
Company:	Enduring Resources LLC	**TVD Reference:**	KB @ 6563.0usft (Original Well Elev)
Project:	San Juan Basin - Rincon Unit	**MD Reference:**	KB @ 6563.0usft (Original Well Elev)
Site:	613H Pad	**North Reference:**	Grid
Well:	615H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
15,700.0	90.36	270.00	6,749.9	280.5	-8,373.4	8,377.3	0.00	0.00	0.00
15,800.0	90.36	270.00	6,749.3	280.5	-8,473.4	8,477.3	0.00	0.00	0.00
15,900.0	90.36	270.00	6,748.6	280.5	-8,573.4	8,577.3	0.00	0.00	0.00
16,000.0	90.36	270.00	6,748.0	280.5	-8,673.4	8,677.3	0.00	0.00	0.00
16,100.0	90.36	270.00	6,747.4	280.5	-8,773.4	8,777.3	0.00	0.00	0.00
16,200.0	90.36	270.00	6,746.7	280.5	-8,873.4	8,877.2	0.00	0.00	0.00
16,300.0	90.36	270.00	6,746.1	280.5	-8,973.4	8,977.2	0.00	0.00	0.00
16,400.0	90.36	270.00	6,745.5	280.5	-9,073.4	9,077.2	0.00	0.00	0.00
16,500.0	90.36	270.00	6,744.8	280.5	-9,173.3	9,177.2	0.00	0.00	0.00
16,600.0	90.36	270.00	6,744.2	280.5	-9,273.3	9,277.1	0.00	0.00	0.00
16,700.0	90.36	270.00	6,743.6	280.5	-9,373.3	9,377.1	0.00	0.00	0.00
16,800.0	90.36	270.00	6,743.0	280.5	-9,473.3	9,477.1	0.00	0.00	0.00
16,900.0	90.36	270.00	6,742.3	280.5	-9,573.3	9,577.1	0.00	0.00	0.00
17,000.0	90.36	270.00	6,741.7	280.5	-9,673.3	9,677.0	0.00	0.00	0.00
17,100.0	90.36	270.00	6,741.1	280.5	-9,773.3	9,777.0	0.00	0.00	0.00
17,200.0	90.36	270.00	6,740.4	280.5	-9,873.3	9,877.0	0.00	0.00	0.00
17,300.0	90.36	270.00	6,739.8	280.5	-9,973.3	9,977.0	0.00	0.00	0.00
17,400.0	90.36	270.00	6,739.2	280.5	-10,073.3	10,077.0	0.00	0.00	0.00
17,500.0	90.36	270.00	6,738.6	280.5	-10,173.3	10,176.9	0.00	0.00	0.00
17,600.0	90.36	270.00	6,737.9	280.5	-10,273.3	10,276.9	0.00	0.00	0.00
17,700.0	90.36	270.00	6,737.3	280.5	-10,373.3	10,376.9	0.00	0.00	0.00
17,800.0	90.36	270.00	6,736.7	280.5	-10,473.3	10,476.9	0.00	0.00	0.00
17,900.0	90.36	270.00	6,736.0	280.5	-10,573.3	10,576.8	0.00	0.00	0.00
18,000.0	90.36	270.00	6,735.4	280.5	-10,673.3	10,676.8	0.00	0.00	0.00
18,100.0	90.36	270.00	6,734.8	280.5	-10,773.3	10,776.8	0.00	0.00	0.00
18,200.0	90.36	270.00	6,734.1	280.5	-10,873.3	10,876.8	0.00	0.00	0.00
18,300.0	90.36	270.00	6,733.5	280.5	-10,973.3	10,976.8	0.00	0.00	0.00
18,400.0	90.36	270.00	6,732.9	280.5	-11,073.3	11,076.7	0.00	0.00	0.00
18,500.0	90.36	270.00	6,732.3	280.5	-11,173.3	11,176.7	0.00	0.00	0.00
18,600.0	90.36	270.00	6,731.6	280.5	-11,273.3	11,276.7	0.00	0.00	0.00
18,700.0	90.36	270.00	6,731.0	280.5	-11,373.3	11,376.7	0.00	0.00	0.00
18,800.0	90.36	270.00	6,730.4	280.5	-11,473.3	11,476.6	0.00	0.00	0.00
18,900.0	90.36	270.00	6,729.7	280.5	-11,573.3	11,576.6	0.00	0.00	0.00
19,000.0	90.36	270.00	6,729.1	280.5	-11,673.3	11,676.6	0.00	0.00	0.00
19,100.0	90.36	270.00	6,728.5	280.5	-11,773.3	11,776.6	0.00	0.00	0.00
19,200.0	90.36	270.00	6,727.9	280.5	-11,873.3	11,876.5	0.00	0.00	0.00
19,300.0	90.36	270.00	6,727.2	280.5	-11,973.3	11,976.5	0.00	0.00	0.00
19,400.0	90.36	270.00	6,726.6	280.5	-12,073.3	12,076.5	0.00	0.00	0.00
19,500.0	90.36	270.00	6,726.0	280.5	-12,173.3	12,176.5	0.00	0.00	0.00
19,600.0	90.36	270.00	6,725.3	280.5	-12,273.3	12,276.5	0.00	0.00	0.00
19,700.0	90.36	270.00	6,724.7	280.5	-12,373.3	12,376.4	0.00	0.00	0.00
19,800.0	90.36	270.00	6,724.1	280.5	-12,473.3	12,476.4	0.00	0.00	0.00
19,900.0	90.36	270.00	6,723.4	280.5	-12,573.3	12,576.4	0.00	0.00	0.00
20,000.0	90.36	270.00	6,722.8	280.5	-12,673.3	12,676.4	0.00	0.00	0.00
20,100.0	90.36	270.00	6,722.2	280.5	-12,773.3	12,776.3	0.00	0.00	0.00
20,200.0	90.36	270.00	6,721.6	280.5	-12,873.3	12,876.3	0.00	0.00	0.00
20,300.0	90.36	270.00	6,720.9	280.5	-12,973.3	12,976.3	0.00	0.00	0.00
20,400.0	90.36	270.00	6,720.3	280.5	-13,073.3	13,076.3	0.00	0.00	0.00
20,500.0	90.36	270.00	6,719.7	280.5	-13,173.3	13,176.2	0.00	0.00	0.00
20,600.0	90.36	270.00	6,719.0	280.5	-13,273.3	13,276.2	0.00	0.00	0.00
20,700.0	90.36	270.00	6,718.4	280.5	-13,373.3	13,376.2	0.00	0.00	0.00
20,800.0	90.36	270.00	6,717.8	280.5	-13,473.3	13,476.2	0.00	0.00	0.00
20,900.0	90.36	270.00	6,717.2	280.5	-13,573.3	13,576.2	0.00	0.00	0.00
21,000.0	90.36	270.00	6,716.5	280.5	-13,673.3	13,676.1	0.00	0.00	0.00

Database:	EDM	**Local Co-ordinate Reference:**	Well 615H
Company:	Enduring Resources LLC	**TVD Reference:**	KB @ 6563.0usft (Original Well Elev)
Project:	San Juan Basin - Rincon Unit	**MD Reference:**	KB @ 6563.0usft (Original Well Elev)
Site:	613H Pad	**North Reference:**	Grid
Well:	615H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
21,083.0	90.36	270.00	6,716.0	280.5	-13,756.3	13,759.2	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
615H - KOP - plan hits target center - Point	0.00	360.00	6,150.0	140.0	700.0	2,026,961.19	1,283,477.30	36.564370°N	107.465456°W
615H - BHL - plan hits target center - Point	0.00	360.00	6,716.0	280.5	-13,756.3	2,027,101.67	1,269,021.00	36.564244°N	107.514679°W
615H - POE - plan hits target center - Point	0.00	360.00	6,803.0	280.6	65.8	2,027,101.82	1,282,843.12	36.564734°N	107.467621°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
5,001.3	4,963.0	9 5/8"	9-5/8	12-1/4

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,374.3	2,363.0	Ojo Alamo		0.00	
2,677.4	2,663.0	Kirtland		0.00	
3,020.9	3,003.0	Fruitland		0.00	
3,192.7	3,173.0	Pictured Cliffs		0.00	
3,435.2	3,413.0	Lewis		0.00	
4,193.0	4,163.0	Chacra		0.00	
4,885.1	4,848.0	Cliff House		0.00	
4,900.2	4,863.0	Menefee		0.00	
5,450.9	5,408.0	Point Lookout		0.00	
5,885.3	5,838.0	Mancos		0.00	
6,389.8	6,338.0	Gallup (MNCS_A)		0.00	
6,457.1	6,403.0	MNCS_B		0.00	
6,637.4	6,563.0	MNCS_C		0.00	
6,736.8	6,638.0	MNCS_E		0.00	
6,847.3	6,707.0	MNCS_F		0.00	
6,985.0	6,768.0	MNCS_G		0.00	

Pickford, Katherine, EMNRD

From: Alec Bridge <ABridge@enduringresources.com>
Sent: Thursday, November 8, 2018 9:54 AM
To: Jack Savage; Pickford, Katherine, EMNRD
Cc: Andrea Felix; Lacey Granillo
Subject: [EXT] updated Rincon 615H WBD
Attachments: RINU 615H_WBD.pdf

Katherine,

As you noted there was an inconsistency on the Rincon 615H well-bore diagram. The surface casing depth should be 320'. On the casing table it, was listed as 300'. That was incorrect. The attached WBD has been corrected. My apologies for the mistake and associated confusion.

Let me know if you have any other questions.

Thanks,
AB

Alec Bridge
Operations Engineer
Enduring Resources
303-350-5112 (O), 720-244-9083 (C)

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

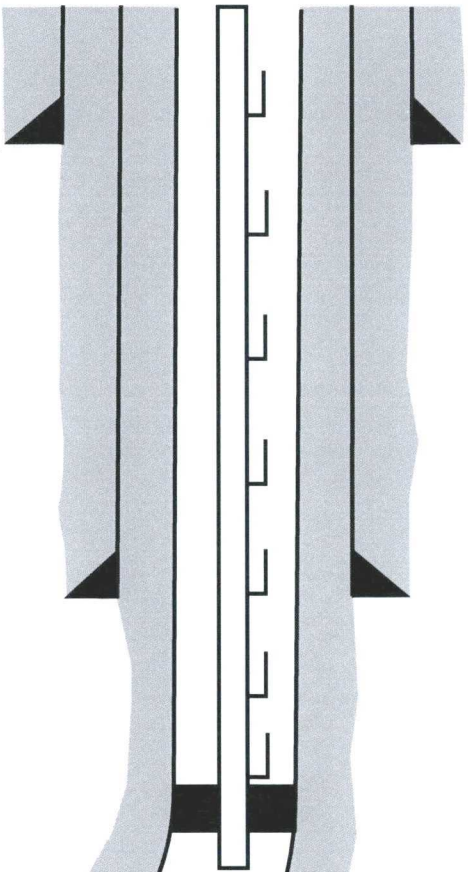
Surface Elev.: 6,538 ft ASL (GL) 6,563 ft ASL (KB)

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)	5,001	ft
KOP (MD)	6,200	ft
KOP (TVD)	6,150	ft
Target (TVD)	6,803	ft
Curve BUR	10	°/100 ft
POE (MD)	7,261	ft
TD (MD)	21,083	ft
Lat Len (ft)	13,822	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	5,001	9.625	40.0	J-55	LTC	0	5,001
Production	8.500	21,083	5.500	17.0	P-110	LTC	0	21,083

CEMENT PROPERTIES SUMMARY:

	Type	Wt (ppg)	Yd (cuft/sk)	Wtr (gal/sk)	Hole Cap. (cuft/ft)	% Excess	TOC (ft MD)	Total (sx)
Surface	Class G	15.8	1.174	5.15	0.6946	100%	0	379
Inter. (Lead)	G:POZ Blend	12.3	1.987	10.16	0.3132	40%	0	993
Inter. (Tail)	Class G	15.8	1.148	4.98	0.3132	10%	4,501	150
Prod. (Lead)	G:POZ blend	12.3	1.987	10.16	0.2691	40%	0	1,134
Prod. (Tail)	G:POZ blend	13.3	1.354	5.94	0.2291	10%	6,150	2,779

COMPLETION / PRODUCTION SUMMARY:

Frac: 75-stage (+/-) plug-and-perf frac with slick water and 27,000,000 lbs (+/-) proppant

Flowback: Flow up 5-1/2" casing or 2-7/8" tubing until returns are free of sand (ESP may be required to assist in flowback)

Production: 2-7/8" tubing with packer set in 5-1/2" casing and gas-lift mandrels as needed