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: 10/4/2018
Well information;
Operator Enduring, Well Name and Number W. Lybrook Unit 770H

API# 30-045-35893, Section 23, Township 23 (N)/S, Range 9 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
- o Hold C-104 for NSL, NSP, DHC
- o Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- o 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
- o 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
- o 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.

* OBM may not be used as a contingency for the intermediate

NMOCD Approved by Signature

12/19/18
Date

1220 South St. Francis Drive • Santa Fe, New Mexico 87505
Phone (505) 476-3460 • Fax (505) 476-3462 • www.emnrd.state.nm.us/ocd

17

Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NOG13121862

6. If Indian, Allotee or Tribe Name
EASTERN NAVAJO

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☑ Multiple Zone

7. If Unit or CA Agreement, Name and No.
INITIAL MANCOS PA / NMNM135216A

8. Lease Name and Well No.
W LYBROOK UNIT
770H

2. Name of Operator
ENDURING RESOURCES LLC

9. API Well No.
30-045-35893

3a. Address
1050 17TH ST STE 2500 DENVER CO 80265

3b. Phone No. *(include area code)*
(505)386-8205

10. Field and Pool, or Exploratory
BASIN MANCOS / MANCOS

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface H SENE / 1829 FNL / 759 FEL / LAT 36.214633 / LONG -107.751787

At proposed prod. zone H SENE / 1529 FNL / 330 FEL / LAT 36.20086 / LONG -107.732644

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 23 / T23N / R9W / NMP

14. Distance in miles and direction from nearest town or post office*
37 miles

12. County or Parish
SAN JUAN

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
160

17. Spacing Unit dedicated to this well
360

NMOCD

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
759 feet

19. Proposed Depth
4307 feet / 12702 feet

20. BLM/BIA Bond No. in file
IND: RLB0016899

NOV 21 2018

KP

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
6737 feet

22. Approximate date work will start*
11/01/2018

23. Estimated duration
30 days

DISTRICT III

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.
2. A Drilling Plan.
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).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Lacey Granillo / Ph: (505)636-9743	10/04/2018

Title
Permitting Specialist

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
Title	Office FARMINGTON	11/20/2018

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

(Continued on page 2)

*(Instructions on page 2)

NMOCD

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
30-045-35893	98157	LYBROOK MANCOS W

4 Property Code	5 Property Name	6 Well Number
321259	W LYBROOK UNIT	770H

7 OGRID No.	8 Operator Name	9 Elevation
372286	ENDURING RESOURCES, LLC	6737'

10 Surface Location

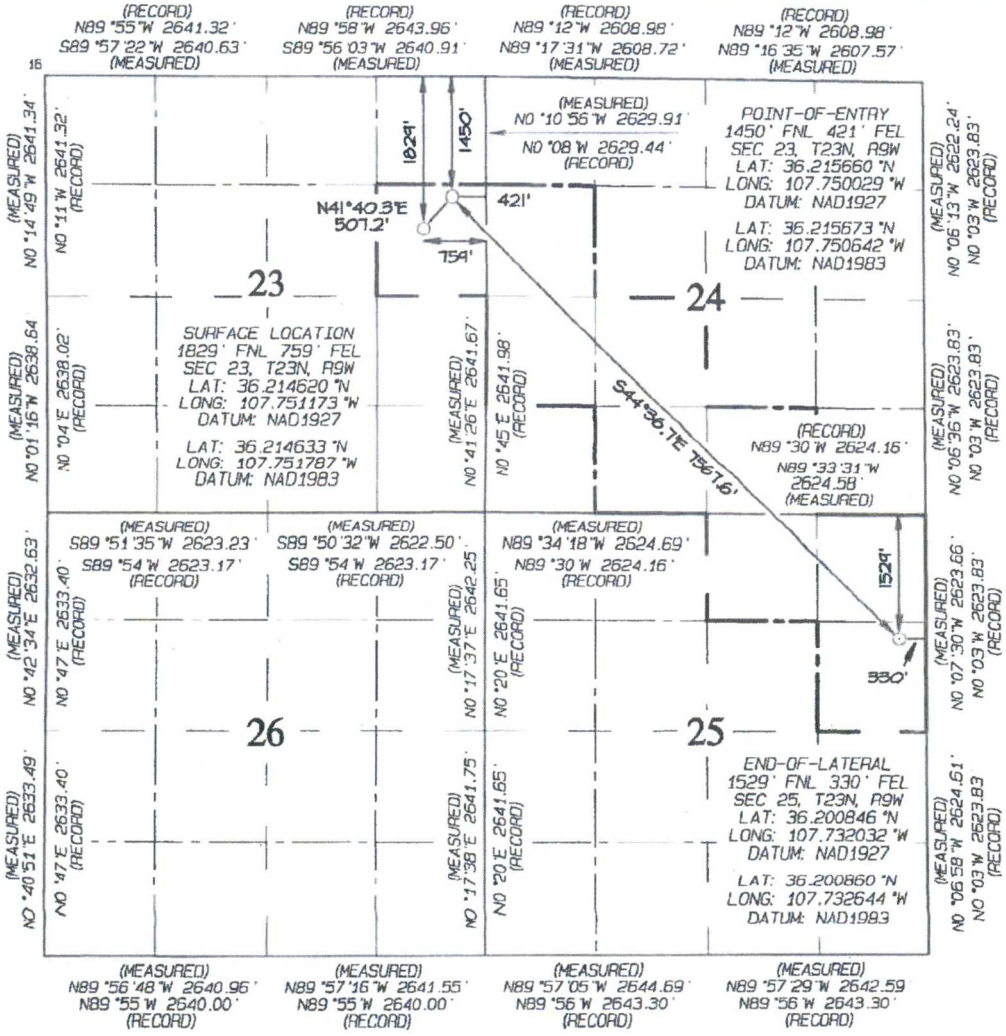
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	23	23N	9W		1829	NORTH	759	EAST	SAN JUAN

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	25	23N	9W		1529	NORTH	330	EAST	SAN JUAN

12 Dedicated Acres		13 Joint or Infill	14 Consolidation Code	15 Order No.
360.0	SE/4 NE/4 - Section 23 SW/4 NW/4, N/2 SW/4 SE/4 SW/4, SW/4 SE/4 - Section 24 N/2 NE/4, SE/4 NE/4 - Section 25			R-14051 - 12,807.24 Acres

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.

Signature — Date: 9/26/18

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: SEPTEMBER 20, 2018
Date of Survey: MAY 16, 2018

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED 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 Silt formation*

WELL INFORMATION:

Name: W Lybrook Unit 770H
API Number: 30-045- 35893
State: New Mexico
County: San Juan
Surface Elevation: 6,737 ft ASL (GL) 6,762 ft ASL (KB)
Surface Location: 23-23N-09W Sec-Twn-Rng 1,829 ft FNL 759 ft FEL
36.214633 ° N latitude 107.751787 ° W longitude (NAD 83)
BH Location: 25-23N-09W Sec-Twn-Rng 1,529 ft FNL 330 ft FEL
36.20086 ° N latitude 107.732644 ° W longitude (NAD 83)
Driving Directions: From the intersection of US HWY 550 and US HWY 64 in Bloomfield, NM: South on US HWY 550 for 38.3 miles to MM 113.4, right (southwest) at on CR #7890 for 0.8 miles to fork; left (south) staying on #7890 for 1.3 miles to 4-way intersection, left (southeast) staying on #7890 for 0.6 miles to fork, right (west) exiting from #7890 onto existing roadway for 0.6 miles to fork in road, right (northwest) for 0.6 miles to beginning of access road on the right, right approximately 0.2 miles to the W Lybrook Unit 768H pad.

GEOLOGIC AND RESERVOIR INFORMATION:

Prognosis:

Formation Tops	TVD (ft ASL)	TVD (ft KB)	MD (ft KB)	O / G / W	Pressure
Ojo Alamo	6,354	408	408	W	normal
Kirtland	6,245	517	517	W	normal
Fruitland	6,047	715	715	G, W	sub
Pictured Cliffs	5,670	1,092	1,096	G, W	sub
Lewis	5,447	1,315	1,326	G, W	normal
Chacra	5,305	1,457	1,475	G, W	normal
Cliff House	4,230	2,532	2,597	G, W	sub
Menefee	4,215	2,547	2,613	G, W	normal
Point Lookout	3,248	3,514	3,623	G, W	normal
Mancos	2,983	3,779	3,896	O,G	sub (~0.38)
Gallup (MNCS_A)	2,762	4,000	4,128	O,G	sub (~0.38)
MNCS_Cms (TARGET)	**2,422**	**4,340**	**5,102**	**O,G**	**sub (~0.38)**
PROJECTED WELL TD	**2,455**	**4,307**	**12,702**	**O,G**	**sub (~0.38)**

Surface: Nacimiento
Oil & Gas Zones: Several gas bearing zones will be encountered; target formation is the Gallup
Pressure: Normal (0.43 psi/ft) or sub-normal pressure gradients anticipated in all formations
Max. pressure gradient: 0.43 psi/ft Evacuated hole gradient: 0.22 psi/ft
Maximum anticipated BH pressure, assuming maximum pressure gradient: 1,870 psi
Maximum anticipated surface pressure, assuming partially evacuated hole: 920 psi
Temperature: **Maximum anticipated BHT is 155° 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 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 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	240 ft (MD)	Hole Section Length:	240 ft
0 ft (TVD)	to	240 ft (TVD)	Casing Required:	240 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					105	570	111,406	111,406
Min. S.F.					10.78	4.79	7.66	8.16

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

MU Torque (ft lbs): *Minumum: 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	284

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.*

240 ft (MD)	to	2,718 ft (MD)	Hole Section Length:	2,478 ft
240 ft (TVD)	to	2,647 ft (TVD)	Casing Required:	2,718 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.

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	453,000
Loading					1,156	1,071	185,328	185,328
Min. S.F.					1.75	3.29	3.04	2.44

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: 3,400 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	489
Tail	Class G	15.8	1.148	4.98	0.3132	10%	2,218	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.*

2,718 ft (MD)	to	12,702 ft (MD)	Hole Section Length:	9,984 ft
2,647 ft (TVD)	to	4,307 ft (TVD)	Casing Required:	12,702 ft

Estimated KOP:	3,734 ft (MD)	3,620 ft (TVD)
Estimated Landing Point (P.O.E.):	5,102 ft (MD)	4,340 ft (TVD)
Estimated Lateral Length:	7,600 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					2,128	8,903	286,331	286,331
Min. S.F.					**3.51**	**1.20**	**1.91**	**1.55**

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 the 330' unit setback.**

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

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	661
Tail	G:POZ blend	13.3	1.354	5.94	0.2291	10%	3,620	1,690

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 with BPV and cap, RDMO.*

COMPLETION AND PRODUCTION PLAN:

Frac: Lateral will be fracture-stimulated in approximately 45 plug-and-perf stages with approximately 225,000 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: 12/1/2018
Completion: 1/31/2019
Production: 3/16/2019

Prepared by: Alec Bridge 9/14/2018

Enduring Resources LLC

San Juan Basin - W Lybrook Unit
768H Pad
770H

Wellbore #1

Plan: Design #1

Standard Planning Report

14 September, 2018

Database:	EDM	**Local Co-ordinate Reference:**	Well 770H
Company:	Enduring Resources LLC	**TVD Reference:**	KB @ 6762.0usft (Original Well Elev)
Project:	San Juan Basin - W Lybrook Unit	**MD Reference:**	KB @ 6762.0usft (Original Well Elev)
Site:	768H Pad	**North Reference:**	Grid
Well:	770H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project San Juan Basin - W Lybrook Unit, San Juan County, New Mexico

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site 768H Pad, San Juan County, New Mexico

Site Position:		**Northing:**	1,897,416.80 usft	**Latitude:**	36.214585°N
From:	Lat/Long	**Easting:**	2,747,156.27 usft	**Longitude:**	107.751754°W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.05 °

Well 770H

Well Position	**+N/-S**	17.5 usft	**Northing:**	1,897,434.27 usft	**Latitude:**	36.214633°N
	+E/-W	-9.7 usft	**Easting:**	2,747,146.52 usft	**Longitude:**	107.751787°W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	6,737.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	9.99	63.06	50,605.72481936

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	131.55

Plan Survey Tool Program **Date** 9/14/2018

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	12,702.4	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	
240.0	0.00	0.00	240.0	0.0	0.0	0.00	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,337.7	16.75	319.22	1,325.8	92.1	-79.4	2.00	2.00	0.00	319.22	
3,733.6	16.75	319.22	3,620.0	615.1	-530.5	0.00	0.00	0.00	0.00	770H - KOP
4,713.2	84.07	105.07	4,318.6	588.5	-21.9	10.00	6.87	14.89	145.68	
5,134.7	90.25	135.39	4,340.0	378.9	337.3	7.33	1.46	7.19	79.51	770H - POE2
12,702.4	90.25	135.39	4,307.0	-5,008.4	5,652.0	0.00	0.00	0.00	0.00	770H - BHL2

Database:	EDM	**Local Co-ordinate Reference:**	Well 770H
Company:	Enduring Resources LLC	**TVD Reference:**	KB @ 6762.0usft (Original Well Elev)
Project:	San Juan Basin - W Lybrook Unit	**MD Reference:**	KB @ 6762.0usft (Original Well Elev)
Site:	768H Pad	**North Reference:**	Grid
Well:	770H	**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
240.0	0.00	0.00	240.0	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
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	2.00	319.22	600.0	1.3	-1.1	-1.7	2.00	2.00	0.00
700.0	4.00	319.22	699.8	5.3	-4.6	-6.9	2.00	2.00	0.00
800.0	6.00	319.22	799.5	11.9	-10.2	-15.6	2.00	2.00	0.00
900.0	8.00	319.22	898.7	21.1	-18.2	-27.6	2.00	2.00	0.00
1,000.0	10.00	319.22	997.5	33.0	-28.4	-43.1	2.00	2.00	0.00
1,100.0	12.00	319.22	1,095.6	47.4	-40.9	-62.0	2.00	2.00	0.00
1,200.0	14.00	319.22	1,193.1	64.4	-55.6	-84.3	2.00	2.00	0.00
1,300.0	16.00	319.22	1,289.6	84.0	-72.5	-110.0	2.00	2.00	0.00
1,337.7	16.75	319.22	1,325.8	92.1	-79.4	-120.5	2.00	2.00	0.00
1,400.0	16.75	319.22	1,385.5	105.7	-91.2	-138.3	0.00	0.00	0.00
1,500.0	16.75	319.22	1,481.2	127.5	-110.0	-166.9	0.00	0.00	0.00
1,600.0	16.75	319.22	1,577.0	149.3	-128.8	-195.4	0.00	0.00	0.00
1,700.0	16.75	319.22	1,672.7	171.2	-147.6	-224.0	0.00	0.00	0.00
1,800.0	16.75	319.22	1,768.5	193.0	-166.5	-252.6	0.00	0.00	0.00
1,900.0	16.75	319.22	1,864.2	214.8	-185.3	-281.2	0.00	0.00	0.00
2,000.0	16.75	319.22	1,960.0	236.7	-204.1	-309.7	0.00	0.00	0.00
2,100.0	16.75	319.22	2,055.8	258.5	-222.9	-338.3	0.00	0.00	0.00
2,200.0	16.75	319.22	2,151.5	280.3	-241.8	-366.9	0.00	0.00	0.00
2,300.0	16.75	319.22	2,247.3	302.1	-260.6	-395.4	0.00	0.00	0.00
2,400.0	16.75	319.22	2,343.0	324.0	-279.4	-424.0	0.00	0.00	0.00
2,500.0	16.75	319.22	2,438.8	345.8	-298.3	-452.6	0.00	0.00	0.00
2,600.0	16.75	319.22	2,534.5	367.6	-317.1	-481.1	0.00	0.00	0.00
2,700.0	16.75	319.22	2,630.3	389.5	-335.9	-509.7	0.00	0.00	0.00
2,800.0	16.75	319.22	2,726.0	411.3	-354.7	-538.3	0.00	0.00	0.00
2,900.0	16.75	319.22	2,821.8	433.1	-373.6	-566.8	0.00	0.00	0.00
3,000.0	16.75	319.22	2,917.6	454.9	-392.4	-595.4	0.00	0.00	0.00
3,100.0	16.75	319.22	3,013.3	476.8	-411.2	-624.0	0.00	0.00	0.00
3,200.0	16.75	319.22	3,109.1	498.6	-430.0	-652.5	0.00	0.00	0.00
3,300.0	16.75	319.22	3,204.8	520.4	-448.9	-681.1	0.00	0.00	0.00
3,400.0	16.75	319.22	3,300.6	542.3	-467.7	-709.7	0.00	0.00	0.00
3,500.0	16.75	319.22	3,396.3	564.1	-486.5	-738.2	0.00	0.00	0.00
3,600.0	16.75	319.22	3,492.1	585.9	-505.4	-766.8	0.00	0.00	0.00
3,700.0	16.75	319.22	3,587.8	607.7	-524.2	-795.4	0.00	0.00	0.00
3,733.6	16.75	319.22	3,620.0	615.1	-530.5	-805.0	0.00	0.00	0.00
3,800.0	11.86	337.72	3,684.4	628.6	-539.3	-820.6	10.00	-7.37	27.86
3,900.0	9.73	32.11	3,782.8	645.4	-538.8	-831.2	10.00	-2.13	54.39
4,000.0	15.71	70.20	3,880.5	657.1	-521.5	-826.1	10.00	5.98	38.09
4,100.0	24.44	84.79	3,974.4	663.6	-488.1	-805.4	10.00	8.73	14.59
4,200.0	33.85	91.83	4,061.7	664.6	-439.5	-769.7	10.00	9.41	7.04
4,300.0	43.50	96.05	4,139.6	660.1	-377.3	-720.1	10.00	9.65	4.22
4,400.0	53.26	98.98	4,206.0	650.2	-303.3	-658.2	10.00	9.76	2.93
4,500.0	63.07	101.25	4,258.7	635.2	-219.8	-585.7	10.00	9.81	2.26
4,600.0	72.92	103.15	4,296.1	615.6	-129.3	-505.0	10.00	9.84	1.90
4,700.0	82.78	104.85	4,317.1	591.9	-34.6	-418.4	10.00	9.86	1.71
4,713.2	84.07	105.07	4,318.6	588.5	-21.9	-406.7	10.00	9.87	1.65
4,800.0	85.27	111.35	4,326.7	561.5	60.2	-327.4	7.33	1.37	7.23
4,900.0	86.71	118.55	4,333.7	519.5	150.5	-231.8	7.33	1.44	7.20

Database:	EDM	**Local Co-ordinate Reference:**	Well 770H
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Site:	768H Pad	**North Reference:**	Grid
Well:	770H	**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)
5,000.0	88.20	125.73	4,338.2	466.4	235.1	-133.4	7.33	1.49	7.18
5,100.0	89.72	132.90	4,340.0	403.1	312.4	-33.5	7.33	1.52	7.17
5,134.7	90.25	135.39	4,340.0	378.9	337.3	1.2	7.33	1.53	7.17
5,200.0	90.25	135.39	4,339.7	332.4	383.1	66.3	0.00	0.00	0.00
5,300.0	90.25	135.39	4,339.3	261.2	453.4	166.1	0.00	0.00	0.00
5,400.0	90.25	135.39	4,338.8	190.0	523.6	265.8	0.00	0.00	0.00
5,500.0	90.25	135.39	4,338.4	118.8	593.8	365.6	0.00	0.00	0.00
5,600.0	90.25	135.39	4,338.0	47.7	664.1	465.4	0.00	0.00	0.00
5,700.0	90.25	135.39	4,337.5	-23.5	734.3	565.2	0.00	0.00	0.00
5,800.0	90.25	135.39	4,337.1	-94.7	804.5	664.9	0.00	0.00	0.00
5,900.0	90.25	135.39	4,336.7	-165.9	874.7	764.7	0.00	0.00	0.00
6,000.0	90.25	135.39	4,336.2	-237.1	945.0	864.5	0.00	0.00	0.00
6,100.0	90.25	135.39	4,335.8	-308.3	1,015.2	964.3	0.00	0.00	0.00
6,200.0	90.25	135.39	4,335.4	-379.5	1,085.4	1,064.0	0.00	0.00	0.00
6,300.0	90.25	135.39	4,334.9	-450.7	1,155.7	1,163.8	0.00	0.00	0.00
6,400.0	90.25	135.39	4,334.5	-521.8	1,225.9	1,263.6	0.00	0.00	0.00
6,500.0	90.25	135.39	4,334.0	-593.0	1,296.1	1,363.4	0.00	0.00	0.00
6,600.0	90.25	135.39	4,333.6	-664.2	1,366.3	1,463.1	0.00	0.00	0.00
6,700.0	90.25	135.39	4,333.2	-735.4	1,436.6	1,562.9	0.00	0.00	0.00
6,800.0	90.25	135.39	4,332.7	-806.6	1,506.8	1,662.7	0.00	0.00	0.00
6,900.0	90.25	135.39	4,332.3	-877.8	1,577.0	1,762.5	0.00	0.00	0.00
7,000.0	90.25	135.39	4,331.9	-949.0	1,647.3	1,862.2	0.00	0.00	0.00
7,100.0	90.25	135.39	4,331.4	-1,020.2	1,717.5	1,962.0	0.00	0.00	0.00
7,200.0	90.25	135.39	4,331.0	-1,091.4	1,787.7	2,061.8	0.00	0.00	0.00
7,300.0	90.25	135.39	4,330.6	-1,162.5	1,857.9	2,161.6	0.00	0.00	0.00
7,400.0	90.25	135.39	4,330.1	-1,233.7	1,928.2	2,261.3	0.00	0.00	0.00
7,500.0	90.25	135.39	4,329.7	-1,304.9	1,998.4	2,361.1	0.00	0.00	0.00
7,600.0	90.25	135.39	4,329.2	-1,376.1	2,068.6	2,460.9	0.00	0.00	0.00
7,700.0	90.25	135.39	4,328.8	-1,447.3	2,138.9	2,560.7	0.00	0.00	0.00
7,800.0	90.25	135.39	4,328.4	-1,518.5	2,209.1	2,660.4	0.00	0.00	0.00
7,900.0	90.25	135.39	4,327.9	-1,589.7	2,279.3	2,760.2	0.00	0.00	0.00
8,000.0	90.25	135.39	4,327.5	-1,660.9	2,349.5	2,860.0	0.00	0.00	0.00
8,100.0	90.25	135.39	4,327.1	-1,732.0	2,419.8	2,959.8	0.00	0.00	0.00
8,200.0	90.25	135.39	4,326.6	-1,803.2	2,490.0	3,059.5	0.00	0.00	0.00
8,300.0	90.25	135.39	4,326.2	-1,874.4	2,560.2	3,159.3	0.00	0.00	0.00
8,400.0	90.25	135.39	4,325.8	-1,945.6	2,630.5	3,259.1	0.00	0.00	0.00
8,500.0	90.25	135.39	4,325.3	-2,016.8	2,700.7	3,358.8	0.00	0.00	0.00
8,600.0	90.25	135.39	4,324.9	-2,088.0	2,770.9	3,458.6	0.00	0.00	0.00
8,700.0	90.25	135.39	4,324.5	-2,159.2	2,841.2	3,558.4	0.00	0.00	0.00
8,800.0	90.25	135.39	4,324.0	-2,230.4	2,911.4	3,658.2	0.00	0.00	0.00
8,900.0	90.25	135.39	4,323.6	-2,301.5	2,981.6	3,757.9	0.00	0.00	0.00
9,000.0	90.25	135.39	4,323.1	-2,372.7	3,051.8	3,857.7	0.00	0.00	0.00
9,100.0	90.25	135.39	4,322.7	-2,443.9	3,122.1	3,957.5	0.00	0.00	0.00
9,200.0	90.25	135.39	4,322.3	-2,515.1	3,192.3	4,057.3	0.00	0.00	0.00
9,300.0	90.25	135.39	4,321.8	-2,586.3	3,262.5	4,157.0	0.00	0.00	0.00
9,400.0	90.25	135.39	4,321.4	-2,657.5	3,332.8	4,256.8	0.00	0.00	0.00
9,500.0	90.25	135.39	4,321.0	-2,728.7	3,403.0	4,356.6	0.00	0.00	0.00
9,600.0	90.25	135.39	4,320.5	-2,799.9	3,473.2	4,456.4	0.00	0.00	0.00
9,700.0	90.25	135.39	4,320.1	-2,871.0	3,543.4	4,556.1	0.00	0.00	0.00
9,800.0	90.25	135.39	4,319.7	-2,942.2	3,613.7	4,655.9	0.00	0.00	0.00
9,900.0	90.25	135.39	4,319.2	-3,013.4	3,683.9	4,755.7	0.00	0.00	0.00
10,000.0	90.25	135.39	4,318.8	-3,084.6	3,754.1	4,855.5	0.00	0.00	0.00
10,100.0	90.25	135.39	4,318.3	-3,155.8	3,824.4	4,955.2	0.00	0.00	0.00
10,200.0	90.25	135.39	4,317.9	-3,227.0	3,894.6	5,055.0	0.00	0.00	0.00

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Site:	768H Pad	**North Reference:**	Grid
Well:	770H	**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	90.25	135.39	4,317.5	-3,298.2	3,964.8	5,154.8	0.00	0.00	0.00
10,400.0	90.25	135.39	4,317.0	-3,369.4	4,035.0	5,254.6	0.00	0.00	0.00
10,500.0	90.25	135.39	4,316.6	-3,440.6	4,105.3	5,354.3	0.00	0.00	0.00
10,600.0	90.25	135.39	4,316.2	-3,511.7	4,175.5	5,454.1	0.00	0.00	0.00
10,700.0	90.25	135.39	4,315.7	-3,582.9	4,245.7	5,553.9	0.00	0.00	0.00
10,800.0	90.25	135.39	4,315.3	-3,654.1	4,316.0	5,653.7	0.00	0.00	0.00
10,900.0	90.25	135.39	4,314.9	-3,725.3	4,386.2	5,753.4	0.00	0.00	0.00
11,000.0	90.25	135.39	4,314.4	-3,796.5	4,456.4	5,853.2	0.00	0.00	0.00
11,100.0	90.25	135.39	4,314.0	-3,867.7	4,526.6	5,953.0	0.00	0.00	0.00
11,200.0	90.25	135.39	4,313.6	-3,938.9	4,596.9	6,052.7	0.00	0.00	0.00
11,300.0	90.25	135.39	4,313.1	-4,010.1	4,667.1	6,152.5	0.00	0.00	0.00
11,400.0	90.25	135.39	4,312.7	-4,081.2	4,737.3	6,252.3	0.00	0.00	0.00
11,500.0	90.25	135.39	4,312.2	-4,152.4	4,807.6	6,352.1	0.00	0.00	0.00
11,600.0	90.25	135.39	4,311.8	-4,223.6	4,877.8	6,451.8	0.00	0.00	0.00
11,700.0	90.25	135.39	4,311.4	-4,294.8	4,948.0	6,551.6	0.00	0.00	0.00
11,800.0	90.25	135.39	4,310.9	-4,366.0	5,018.2	6,651.4	0.00	0.00	0.00
11,900.0	90.25	135.39	4,310.5	-4,437.2	5,088.5	6,751.2	0.00	0.00	0.00
12,000.0	90.25	135.39	4,310.1	-4,508.4	5,158.7	6,850.9	0.00	0.00	0.00
12,100.0	90.25	135.39	4,309.6	-4,579.6	5,228.9	6,950.7	0.00	0.00	0.00
12,200.0	90.25	135.39	4,309.2	-4,650.7	5,299.2	7,050.5	0.00	0.00	0.00
12,300.0	90.25	135.39	4,308.8	-4,721.9	5,369.4	7,150.3	0.00	0.00	0.00
12,400.0	90.25	135.39	4,308.3	-4,793.1	5,439.6	7,250.0	0.00	0.00	0.00
12,500.0	90.25	135.39	4,307.9	-4,864.3	5,509.8	7,349.8	0.00	0.00	0.00
12,600.0	90.25	135.39	4,307.4	-4,935.5	5,580.1	7,449.6	0.00	0.00	0.00
12,700.0	90.25	135.39	4,307.0	-5,006.7	5,650.3	7,549.4	0.00	0.00	0.00
12,702.4	90.25	135.39	4,307.0	-5,008.4	5,652.0	7,551.8	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
770H - KOP - plan hits target center - Point	0.00	0.00	3,620.0	615.1	-530.5	1,898,049.34	2,746,616.02	36.216324°N	107.753584°W
770H - BHL2 - plan hits target center - Point	0.00	0.00	4,307.0	-5,008.4	5,652.0	1,892,425.87	2,752,798.52	36.200860°N	107.732645°W
770H - POE2 - plan hits target center - Point	0.00	0.00	4,340.0	378.9	337.3	1,897,813.14	2,747,483.82	36.215673°N	107.750643°W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
240.0	240.0	13 3/8"	13-3/8	17-1/2
2,717.5	2,647.0	9 5/8"	9-5/8	12-1/4

Database:	EDM	**Local Co-ordinate Reference:**	Well 770H
Company:	Enduring Resources LLC	**TVD Reference:**	KB @ 6762.0usft (Original Well Elev)
Project:	San Juan Basin - W Lybrook Unit	**MD Reference:**	KB @ 6762.0usft (Original Well Elev)
Site:	768H Pad	**North Reference:**	Grid
Well:	770H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Formations

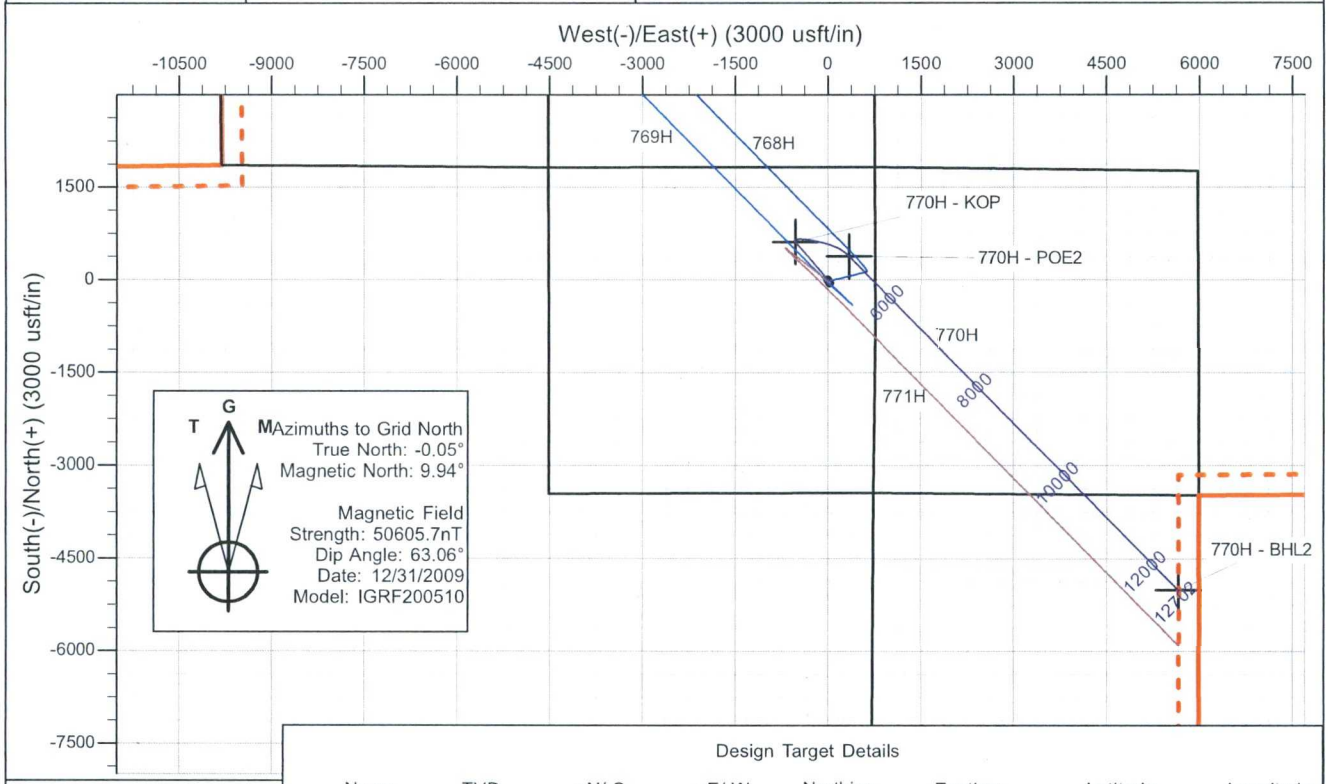
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
408.0	408.0	Ojo Alamo		0.00	
517.0	517.0	Kirtland		0.00	
715.2	715.0	Fruitland		0.00	
1,096.3	1,092.0	Pictured Cliffs		0.00	
1,326.4	1,315.0	Lewis		0.00	
1,474.7	1,457.0	Chacra		0.00	
2,597.4	2,532.0	Cliff House		0.00	
2,613.0	2,547.0	Menefee		0.00	
3,622.9	3,514.0	Point Lookout		0.00	
3,896.1	3,779.0	Mancos		0.00	
4,128.4	4,000.0	Gallup (MNCS_A)		0.00	
4,247.5	4,100.0	MNCS_B		0.00	
4,445.9	4,232.0	MNCS_C		0.00	
4,455.4	4,237.0	MNCS_Cms		0.00	
5,101.9	4,340.0	MNCS_Cms (TARGET)		0.00	

Enduring Resources LLC

Directional Drilling Plan
Plan View & Section View

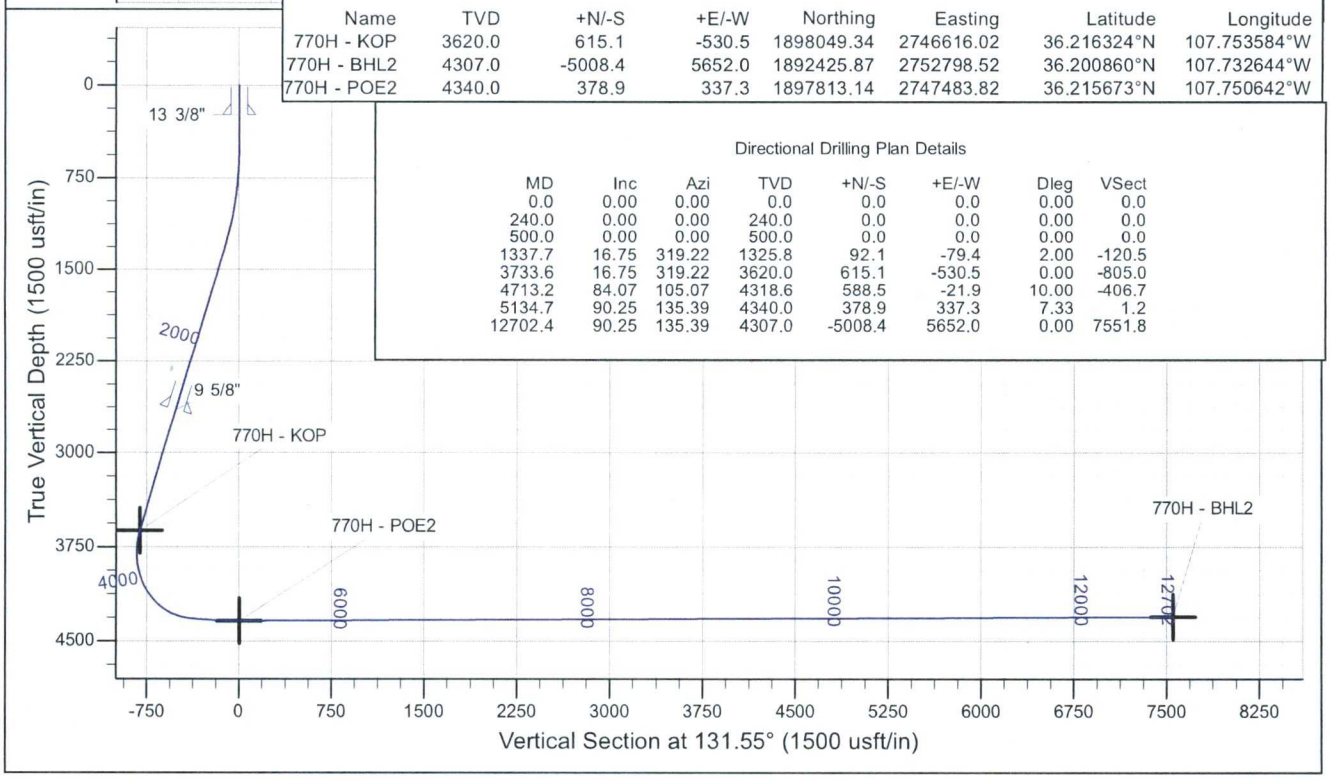
W Lybrook Unit 770H

San Juan County, New Mexico
T23N-R09W-Sec.13
Surface Latitude: 36.214633°N
Surface Longitude: 107.751787°W
Ground Level: 6737.0
Reference Elevation: KB @ 6762.0usft (Original Well Elev)



Design Target Details

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
770H - KOP	3620.0	615.1	-530.5	1898049.34	2746616.02	36.216324°N	107.753584°W
770H - BHL2	4307.0	-5008.4	5652.0	1892425.87	2752798.52	36.200860°N	107.732644°W
770H - POE2	4340.0	378.9	337.3	1897813.14	2747483.82	36.215673°N	107.750642°W

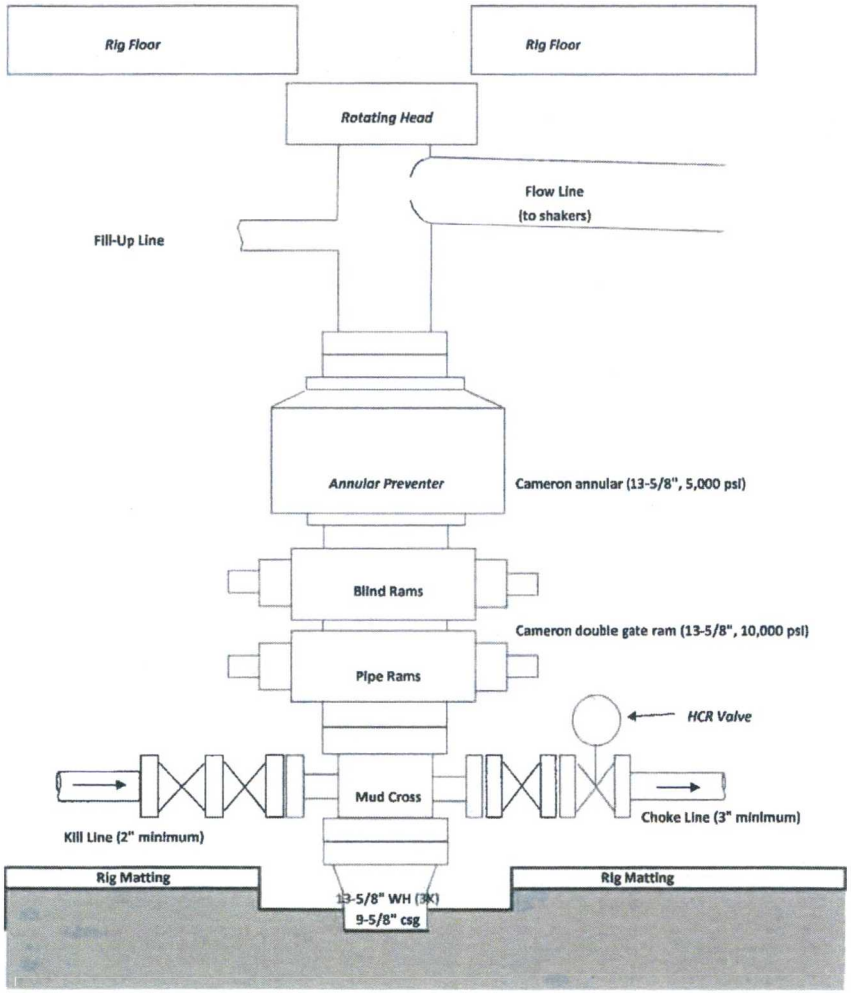


Directional Drilling Plan Details

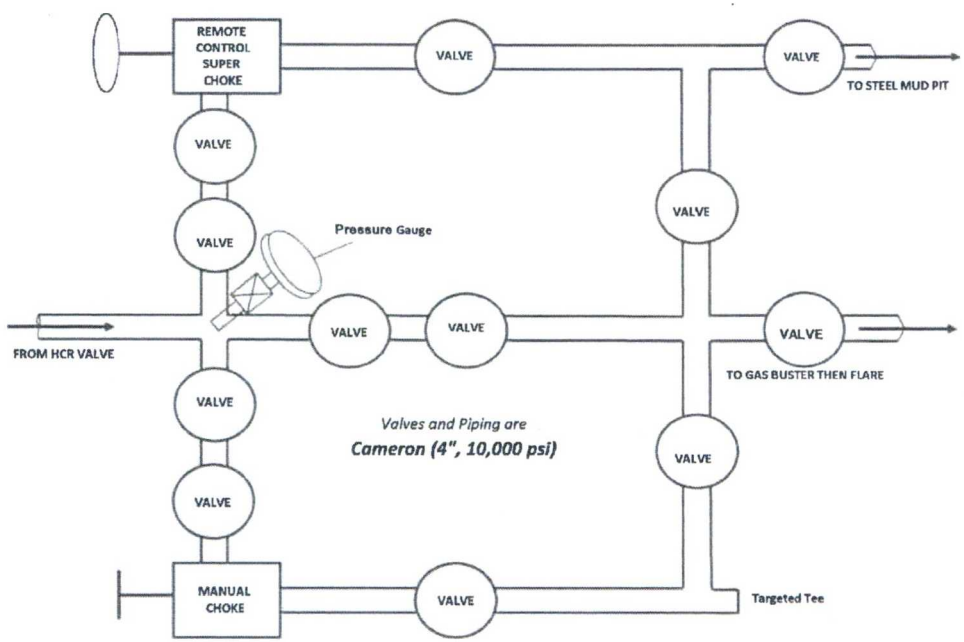
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0
240.0	0.00	0.00	240.0	0.0	0.0	0.00	0.0
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.0
1337.7	16.75	319.22	1325.8	92.1	-79.4	2.00	-120.5
3733.6	16.75	319.22	3620.0	615.1	-530.5	0.00	-805.0
4713.2	84.07	105.07	4318.6	588.5	-21.9	10.00	-406.7
5134.7	90.25	135.39	4340.0	378.9	337.3	7.33	1.2
12702.4	90.25	135.39	4307.0	-5008.4	5652.0	0.00	7551.8

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 W Lybrook Unit #770H

1829' FNL & 759' FEL, Section 23, T23N, R9W, N.M.P.M., San Juan County, NM

Latitude: 36.214537°N Longitude: 107.751721°W Datum: NAD1983

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 38.3 miles to Mile Marker 113.4;

Go Right (South-westerly) on County Road #7890 for 0.8 miles to fork in roadway;

Go Left (Southerly) remaining on County Road #7890 for 1.3 miles to four-way intersection;

Go Left (South-easterly) remaining on County Road #7890 for 0.6 miles to fork in roadway;

Go Right (South-westerly) remaining on County Road #7890 for 0.6 miles to fork in roadway;

Go Right (Westerly) exiting County Road #7890 onto existing roadway for 0.6 miles to fork in roadway;

Go Right (North-westerly) for 0.6 miles to begin proposed access on right-hand side of existing roadway which continues for 1056.1' to staked Enduring W Lybrook Unit #770H location.