

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM 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.*5. Lease Serial No.
NMNM1192816. If Indian, Allottee or Tribe Name
EASTERN NAVAJO7. If Unit or CA/Agreement, Name and/or No.
NMNM130812A8. Well Name and No.
S ESCAVADA UNIT 364H9. API Well No.
30-043-21315-00-X110. Field and Pool or Exploratory Area
BASIN MANCOS
RUSTY GALLUP11. County or Parish, State
SANDOVAL COUNTY, NM**SUBMIT IN TRIPLICATE - Other instructions on page 2**1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other2. Name of Operator
ENDURING RESOURCES LLC
Contact: LACEY GRANILLO
E-Mail: lgranillo@enduringresources.com3a. Address
1050 17TH STREET SUITE 2500
DENVER, CO 802653b. Phone No. (include area code)
Ph: 505-636-9743

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

Sec 21 T22N R6W NWSW 2516FSL 145FWL
36.123331 N Lat, 107.482638 W Lon**12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

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

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or 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 determined that the site is ready for final inspection.

CHANGE IN PLANS

A summary of the requested changes to the approved APD is outlined below. Please reference the attachments for additional details.

C102
Moved BHL from section 18 to section 18
Moved POE from section 20 to section 20
Drilling Program
Directional plan updated based on new POE and BHL
Casing program change
Surface: 9-5/8" to 13-3/8"

ADHERE TO PREVIOUS NMOC
CONDITIONS OF APPROVAL
FEB 26 2020
DISTRICT III

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #501418 verified by the BLM Well Information System
For ENDURING RESOURCES LLC, sent to the Farmington
Committed to AFMSS for processing by JOE KILLINS on 02/24/2020 (20JK0136SE)

Name (Printed/Typed) LACEY GRANILLO

Title PERMITTING SPECIALIST

Signature (Electronic Submission)

Date 01/30/2020

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By JOE KILLINS

Title PETROLEUM ENGINEER

Date 02/24/2020

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 Farmington

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

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ******NMOC**

Additional data for EC transaction #501418 that would not fit on the form

32. Additional remarks, continued

Intermediate: 7? to 9-5/8?

Production: 4-1/2? liner to 5-1/2? long-string

Frac Program

Fluid type: change from nitrogen foam to slick-water

Water volume: increase from not provided bbls to 300,000 bbls (estimated)

Sand weight: increase from 8.5 million lbs to 14.0 million lbs (estimated)

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

*API Number 30.043-21315		*Pool Code 52860	*Pool Name RUSTY GALLUP OIL POOL
*Property Code 322151	*Property Name S ESCAVADA UNIT		*Well Number 364H
*OGRI No. 372286	*Operator Name ENDURING RESOURCES, LLC		*Elevation 7126'

¹⁰ Surface Location

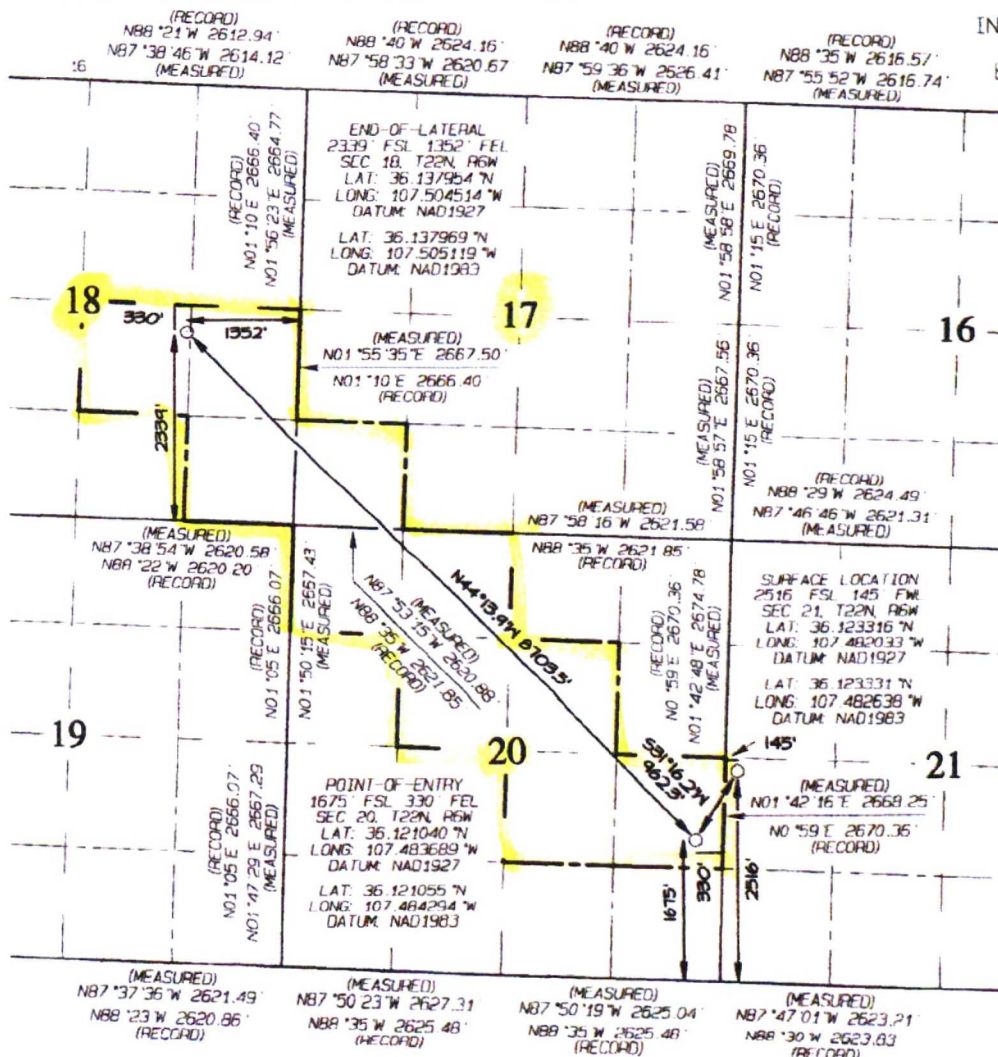
UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	21	22N	6W		2516	SOUTH	145	WEST	SANDOVAL

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
J	18	22N	6W		2339	SOUTH	1352	EAST	SANDOVAL

*Dedicated Acres 400.00		SW/4 SW/4 - Section 17 N/2 NW/4, SE/4 NW/4 SW/4 NE/4, N/2 SE/4 - Section 20 N/2 SE/4, SE/4 SE/4 - Section 18	*Joint or Infill	*Consolidation Code	*Order No. R-14347
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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 heretofore entered by the division.

Signature: *[Signature]* Date: 1/8/20
Printed Name: *[Name]*

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: DECEMBER 5, 2019
Date of Survey: MARCH 1, 2017

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-H formation*

WELL INFORMATION:

Name: S ESCAVADA UNIT 364H

API Number: 30-043-21315

AFE Number: not yet assigned

ER Well Number: not yet assigned

State: New Mexico

County: Sandoval

Surface Elevation: 7,126 ft ASL (GL)

7,154 ft ASL (KB)

Surface Location: 21-22N-06W Sec-Twn-Rng

2,516 ft FSL

145 ft FWL

36.123331 ° N latitude

107.482638 ° W longitude

(NAD 83)

BH Location: 18-22N-06W Sec-Twn-Rng

2,339 ft FSL

1,352 ft FEL

36.137969 ° N latitude

107.505119 ° W longitude

(NAD 83)

Driving Directions: FROM THE INTERSECTION OF US HWY 550 & US HWY 64 IN BLOOMFIELD, NM: South on US Hwy 550 for 54.4 miles to MM 97.5; Right (South) on Indian Service Route #46 for 3.5 miles to fork; Right (South) on ISR #36 for 1.1 miles to fork; Left (South) on ISR #46 for 0.2 miles to fork; Right (South) on ISR #46 for 2.6 miles; Right on access road into S Escavada Unit 364H Pad (Wells: SEU 364H, SEU 365H, SEU 366H, TWCA 380H, TWCA 382H).

GEOLOGIC AND RESERVOIR INFORMATION:

Prognosis:	Formation Tops	TVD (ft ASL)	TVD (ft KB)	MD (ft KB)	O / G / W	Pressure
	Ojo Alamo	6,124	1,030	1,030	W	normal
	Kirtland	5,989	1,165	1,165	W	normal
	Fruitland	5,826	1,328	1,328	G, W	sub
	Pictured Cliffs	5,537	1,617	1,617	G, W	sub
	Lewis	5,399	1,755	1,756	G, W	normal
	Chacra	5,146	2,008	2,014	G, W	normal
	Cliff House	4,069	3,085	3,170	G, W	sub
	Menefee	4,020	3,134	3,222	G, W	normal
	Point Lookout	3,140	4,014	4,170	G, W	normal
	Mancos	3,018	4,136	4,301	O,G	sub (~0.38)
	Gallup (MNCS_A)	2,705	4,449	4,638	O,G	sub (~0.38)
	MNCS_B	2,595	4,559	4,756	O,G	sub (~0.38)
	MNCS_C	2,510	4,644	4,845	O,G	sub (~0.38)
	MNCS_Cms	2,473	4,681	4,883	O,G	sub (~0.38)
	MNCS_D	2,340	4,814	5,025	O,G	sub (~0.38)
	MNCS_E	2,195	4,959	5,197	O,G	sub (~0.38)
	MNCS_F	2,140	5,014	5,272	O,G	sub (~0.38)
	MNCS_G	2,075	5,079	5,378	O,G	sub (~0.38)
	MNCS_H	2,010	5,144	5,529	O,G	sub (~0.38)
	P.O.E. TARGET	1,980	5,174	5,738	O,G	sub (~0.38)
	PROJECTED TD	1,910	5,244	14,442	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:

2,260 psi

Maximum anticipated surface pressure, assuming partially evacuated hole: 1,110 psi
Temperature: Maximum anticipated BHT is 130° F or less

H₂S INFORMATION:

H₂S Zones: Encountering hydrogen-sulfide bearing zones is **NOT** anticipated.

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

LOGGING, CORING, AND TESTING:

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

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

Open Hole Logs: None planned

Testing: None planned

Coring: None planned

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

DRILLING RIG INFORMATION:

Contractor: Ensign

Rig No.: 773

Draw Works: Pacific Rim 1500AC

Mast: ADR 1500S Cantilever Triple (142 ft, 800,000 lbs, 12 lines)

Top Drive: Tesco 500-ESI-1350 (500 ton, 1,350 hp)

Prime Movers: 3 - CAT 3512 (1,475 hp)

Pumps: 3 - Gardner-Denver PZ11 (7,500 psi)

BOPE 1: Cameron single gate ram (pipe) & double gate ram (pipe & blind) (13-5/8", 10,000 psi)

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

Choke 3", 10,000 psi

KB-Gl (ft): 28

NOTE: A different rig may be used to drill the well depending on rig availability

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 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	350 ft (MD)	Hole Section Length:	350 ft
0 ft (TVD)	to	350 ft (TVD)	Casing Required:	350 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, deviation survey

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					153	699	116,634	116,634
Min. S.F.					7.39	3.90	7.31	7.79

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): Minimum: N/A Optimum: N/A Maximum: N/A

Make-up as per API Buttress Connection running procedure.

Casing Summary: 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	414

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.

350 ft (MD)	to	3,330 ft (MD)	Hole Section Length:	2,980 ft
350 ft (TVD)	to	3,234 ft (TVD)	Casing Required:	3,330 ft

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

Hole Size: 12-1/4"**Bit / Motor:** PDC w/mud motor**MWD / Survey:** MWD Survey with inclination and azimuth survey (every 100' at a minimum), GR optional**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					1,413	1,295	204,541	204,541
Min. S.F.					1.43	2.72	2.76	2.21

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): Minimum: 3,400 Optimum: 4,530 Maximum: 5,660**Casing Summary:** Float shoe, 1 jt casing, float collar, casing to surface**Centralizers:** 2 centralizers per jt stop-banded 10' from each collar on bottom 3 jts, 1 centralizer per 2 jts to surface

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	G:POZ Blend	12.3	1.987	10.16	70%	0	773
Tail	Class G	15.8	1.148	4.98	20%	2,830	164

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

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

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

Halliburton ECONOCHEM & 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.**

3,330 ft (MD)	to	14,442 ft (MD)	Hole Section Length:	11,112 ft
3,234 ft (TVD)	to	5,244 ft (TVD)	Casing Required:	14,442 ft

Estimated KOP:	4,693 ft (MD)	4,500 ft (TVD)
Estimated Landing Point (P.O.E.):	5,738 ft (MD)	5,174 ft (TVD)
Estimated Lateral Length:	8,704 ft (MD)	

Fluid:	Type	MW (ppg)	FL (mL/30')	PV (cp)	YP (lb/100 sqft)	pH	Comments
	LSND (FW)	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					2,591	8,991	311,856	311,856
Min. S.F.					2.88	1.18	1.75	1.43

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

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

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

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

Casing Summary: Float shoe, 1 jt casing, float collar, 1 jt casing, float collar, 1 jt casing, toe-initiation sleeve, 20' marker joint, toe-initiation sleeve, casing to KOP with 20' marker joints spaced evenly in lateral every 2,000', floatation sub, casing to surface. **The toe-initiation sleeves must be positioned INSIDE the 330' unit setback.**

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

Lateral: 1 centralizer per joint

Curve: 1 centralizer per joint from landing point to KOP

KOP to surf: 1 centralizer per 2 joints

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	G:POZ blend	12.4	1.907	9.981	50%	0	941
Tail	G:POZ blend	13.3	1.360	5.999	10%	4,638	1,816

Annular Capacity 0.2691 cuft/ft 5-1/2" casing x 9-5/8" casing annulus

0.2291 cuft/ft 5-1/2" casing x 8-1/2" hole annulus

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

Halliburton ECONOCEM & EXTENDACEM cementing blend

Notify NMOCD & BLM if cement is not circulated to surface.

Note: The lateral may be drilled outside the applicable unit setback to maximize the length of the completed interval and to maximize resource recovery. If the well is drilled outside the setback, the toe initiation sleeve(s) 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). S Escavada Unit Order Number is R-14347.

FINISH WELL: ND BOP, cap well, RDMO.

COMPLETION AND PRODUCTION PLAN:

Frac: 50 plug-and-perf stages with 300,000 bbls slickwater fluid and 14,000,000 lbs of proppant (estimated)

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

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

ESTIMATED START DATES:

Drilling: TBD

Completion: TBD

Production: TBD

Prepared by: Alec Bridge 1/2/2020

WELL NAME: S ESCAVADA UNIT 364H

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

API Number: 30-043-21315

AFE Number: not yet assigned

ER Well Number: not yet assigned

State: New Mexico

County: Sandoval

Surface Elev.: 7,126 ft ASL (GL) 7,154 ft ASL (KB)

Surface Location: 21-22N-06W Sec-Twn- Rng 2,516 ft FSL 145 ft FWL

BH Location: 18-22N-06W Sec-Twn- Rng 2339 ft FSL 1352 ft FEL

Driving Directions: FROM THE INTERSECTION OF US HWY 550 & US HWY 64 IN BLOOMFIELD, NM: South on US Hwy 550 for 54.4 miles to MM 97.5; Right (South) on Indian Service Route #46 for 3.5 miles to fork; Right (South) on ISR #36 for 1.1 miles to fork; Left (South) on ISR #46 for 0.2 miles to fork; Right (South) on ISR #46 for 2.6 miles; Right on access road into S Escavada Unit 364H Pad (Wells: SEU 364H, SEU 365H, SEU 366H, TWCA 380H, TWCA 382H)

QUICK REFERENCE	
Sur TD (MD)	350 ft
Int TD (MD)	3,330 ft
KOP (MD)	4,693 ft
KOP (TVD)	4,500 ft
Target (TVD)	5,174 ft
Curve BUR	10 °/100 ft
POE (MD)	5,738 ft
TD (MD)	14,442 ft
Lat Len (ft)	8,704 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	350	13.375	54.5	J-55	BTC	0	350
Intermediate	12.250	3,330	9.625	36.0	J-55	LTC	0	3,330
Production	8.500	14,442	5.500	17.0	P-110	LTC	0	14,442

CEMENT PROPERTIES SUMMARY:

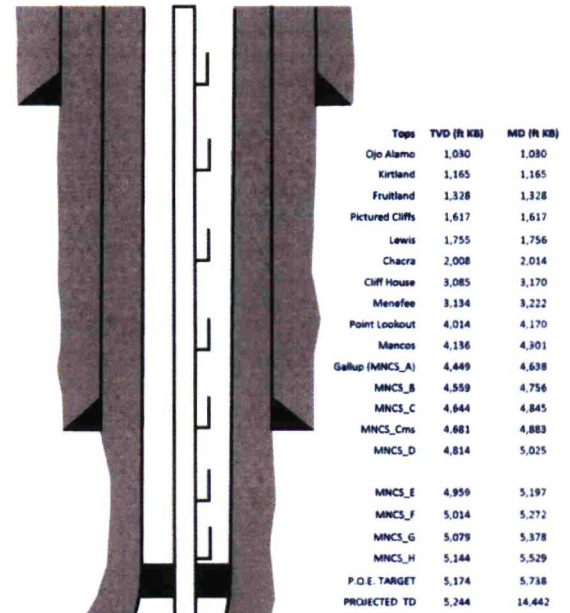
	Type	Wt (ppg)	Yd (cuft/sk)	Wtr (gal/sk)	Hole Cap. (cuft/ft)	% Excess	TOC (ft MD)	Total (sx)
Surface	Class G	15.8	1.174	5.15	0.6946	100%	0	414
Inter. (Lead)	G:POZ Blend	12.3	1.987	10.16	0.3627	70%	0	773
Inter. (Tail)	Class G	15.8	1.148	4.98	0.3132	20%	2,830	164
Prod. (Lead)	G:POZ blend	12.4	1.907	9.981	0.2691	50%	0	941
Prod. (Tail)	G:POZ blend	13.3	1.360	5.999	0.2291	10%	4,638	1,816

COMPLETION / PRODUCTION SUMMARY:

Frac: 50 plug-and-perf stages with 300,000 bbls slickwater fluid and 14,000,000 lbs of proppant (estimated)

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

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



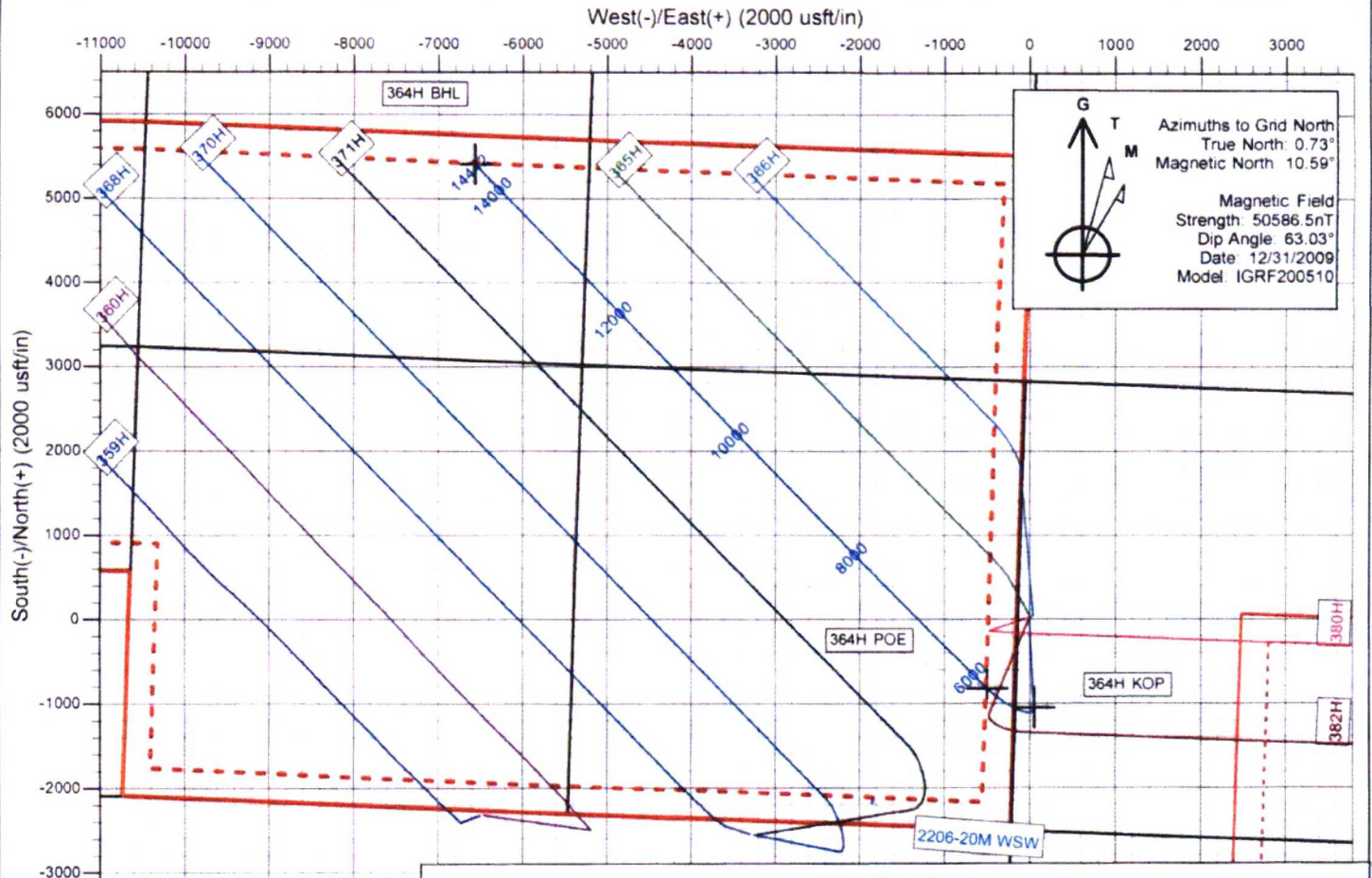


Enduring Resources LLC

Directional Drilling Plan
Plan View & Section View

S Escavada Unit 364H

Sandoval Co., New Mexico
T22N, R06W, Sec.21, Lot L
Surface Latitude: 36.123331°N
Surface Longitude: 107.482638°W
Ground Level: 7126.0
Reference Elevation: KB @ 7154.0usft (Original Well Elev)

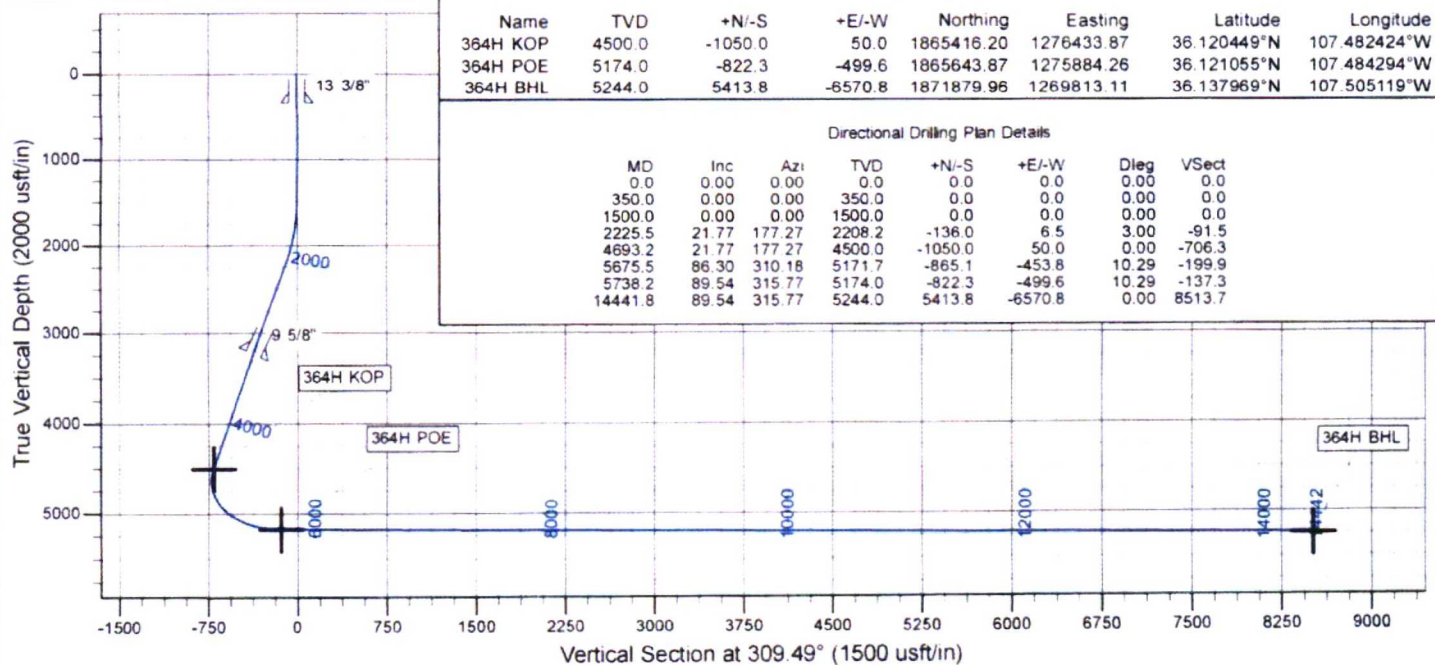


Design Target Details

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
364H KOP	4500.0	-1050.0	50.0	1865416.20	1276433.87	36.120449°N	107.482424°W
364H POE	5174.0	-822.3	-499.6	1865643.87	1275884.26	36.121055°N	107.484294°W
364H BHL	5244.0	5413.8	-6570.8	1871879.96	1269813.11	36.137969°N	107.505119°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
1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.0
2225.5	21.77	177.27	2208.2	-136.0	6.5	3.00	-91.5
4693.2	21.77	177.27	4500.0	-1050.0	50.0	0.00	-706.3
5675.5	86.30	310.18	5171.7	-865.1	-453.8	10.29	-199.9
5738.2	89.54	315.77	5174.0	-822.3	-499.6	10.29	-137.3
14441.8	89.54	315.77	5244.0	5413.8	-6570.8	0.00	8513.7





Enduring Resources LLC

San Juan Basin - S Escavada Unit & Terra Wash CA

364H Pad

364H

Wellbore #1

Plan: Design #1

Standard Planning Report

30 December, 2019



Planning Report

Database:	EDM	Local Co-ordinate Reference:	Well 364H
Company:	Enduring Resources LLC	TVD Reference:	KB @ 7154.0usft (Original Well Elev)
Project:	San Juan Basin - S Escavada Unit & Terra Wash CA	MD Reference:	KB @ 7154.0usft (Original Well Elev)
Site:	364H Pad	North Reference:	Grid
Well:	364H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	San Juan Basin - S Escavada Unit & Terra Wash CA		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	364H Pad, Sandoval Co., New Mexico		
Site Position:		Northing:	1,866,466.20 usft
From:	Lat/Long	Easting:	1,276,383.87 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"
		Latitude:	36 123331"N
		Longitude:	107 482638"W
		Grid Convergence:	-0.73°

Well	364H		
Well Position	+N/-S	0.0 usft	Northing: 1,866,466.20 usft
	+E/-W	0.0 usft	Easting: 1,276,383.87 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	Latitude: 36 123331"N
			Longitude: 107 482638"W
			Ground Level: 7,126.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	9.86	63.03	50,586.47517476

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	309.49

Plan Survey Tool Program	Date 12/27/2019			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	14,441.8	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	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,225.5	21.77	177.27	2,208.2	-136.0	6.5	3.00	3.00	0.00	177.27	
4,693.2	21.77	177.27	4,500.0	-1,050.0	50.0	0.00	0.00	0.00	0.00	364H KOP
5,675.5	86.30	310.18	5,171.7	-865.1	-453.8	10.29	6.57	13.53	131.86	
5,738.2	89.54	315.77	5,174.0	-822.3	-499.6	10.29	5.15	8.91	60.05	364H POE
14,441.8	89.54	315.77	5,244.0	5,413.8	-6,570.8	0.00	0.00	0.00	0.00	



Planning Report

Database: EDM
Company: Enduring Resources LLC
Project: San Juan Basin - S Escavada Unit & Terra Wash CA
Site: 364H Pad
Well: 364H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well 364H
TVD Reference: KB @ 7154.0usft (Original Well Elev)
MD Reference: KB @ 7154.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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
13 3/8"									
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
1,030.0	0.00	0.00	1,030.0	0.0	0.0	0.0	0.00	0.00	0.00
Ojo Alamo									
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,165.0	0.00	0.00	1,165.0	0.0	0.0	0.0	0.00	0.00	0.00
Kirtland									
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,328.0	0.00	0.00	1,328.0	0.0	0.0	0.0	0.00	0.00	0.00
Fruitland									
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	3.00	177.27	1,600.0	-2.6	0.1	-1.8	3.00	3.00	0.00
1,617.1	3.51	177.27	1,617.0	-3.6	0.2	-2.4	3.00	3.00	0.00
Pictured Cliffs									
1,700.0	6.00	177.27	1,699.6	-10.5	0.5	-7.0	3.00	3.00	0.00
1,755.8	7.67	177.27	1,755.0	-17.1	0.8	-11.5	3.00	3.00	0.00
Lewis									
1,800.0	9.00	177.27	1,798.8	-23.5	1.1	-15.8	3.00	3.00	0.00
1,900.0	12.00	177.27	1,897.1	-41.7	2.0	-28.0	3.00	3.00	0.00
2,000.0	15.00	177.27	1,994.3	-65.0	3.1	-43.7	3.00	3.00	0.00
2,014.2	15.43	177.27	2,008.0	-68.7	3.3	-46.2	3.00	3.00	0.00
Chacra									
2,100.0	18.00	177.27	2,090.2	-93.4	4.4	-62.8	3.00	3.00	0.00
2,200.0	21.00	177.27	2,184.4	-126.7	6.0	-85.2	3.00	3.00	0.00
2,225.5	21.77	177.27	2,208.2	-136.0	6.5	-91.5	3.00	3.00	0.00
2,300.0	21.77	177.27	2,277.4	-163.6	7.8	-110.0	0.00	0.00	0.00
2,400.0	21.77	177.27	2,370.2	-200.6	9.6	-134.9	0.00	0.00	0.00
2,500.0	21.77	177.27	2,463.1	-237.7	11.3	-159.9	0.00	0.00	0.00
2,600.0	21.77	177.27	2,556.0	-274.7	13.1	-184.8	0.00	0.00	0.00
2,700.0	21.77	177.27	2,648.9	-311.7	14.8	-209.7	0.00	0.00	0.00
2,800.0	21.77	177.27	2,741.7	-348.8	16.6	-234.6	0.00	0.00	0.00
2,900.0	21.77	177.27	2,834.6	-385.8	18.4	-259.5	0.00	0.00	0.00
3,000.0	21.77	177.27	2,927.5	-422.9	20.1	-284.4	0.00	0.00	0.00
3,100.0	21.77	177.27	3,020.3	-459.9	21.9	-309.3	0.00	0.00	0.00
3,169.6	21.77	177.27	3,085.0	-485.7	23.1	-326.7	0.00	0.00	0.00
Cliff House									
3,200.0	21.77	177.27	3,113.2	-496.9	23.7	-334.3	0.00	0.00	0.00
3,222.4	21.77	177.27	3,134.0	-505.2	24.1	-339.8	0.00	0.00	0.00
Menefee									



Planning Report

Database: EDM
Company: Enduring Resources LLC
Project: San Juan Basin - S Escavada Unit & Terra Wash CA
Site: 364H Pad
Well: 364H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Well 364H
 KB @ 7154.0usft (Original Well Elev)
 KB @ 7154.0usft (Original Well Elev)
 Grid
 Minimum Curvature

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)
3.300 0	21 77	177 27	3.206 1	-534 0	25 4	-359 2	0 00	0 00	0 00
3.330 1	21 77	177 27	3.234 0	-545 1	26 0	-366 7	0 00	0 00	0 00
9 5/8"									
3.400 0	21 77	177 27	3.298 9	-571 0	27 2	-384 1	0 00	0 00	0 00
3.500 0	21 77	177 27	3.391 8	-608 0	29 0	-409 0	0 00	0 00	0 00
3.600 0	21 77	177 27	3.484 7	-645 1	30 7	-433 9	0 00	0 00	0 00
3.700 0	21 77	177 27	3.577 6	-682 1	32 5	-458 8	0 00	0 00	0 00
3.800 0	21 77	177 27	3.670 4	-719 2	34 2	-483 7	0 00	0 00	0 00
3.900 0	21 77	177 27	3.763 3	-756 2	36 0	-508 6	0 00	0 00	0 00
4.000 0	21 77	177 27	3.856 2	-793 2	37 8	-533 6	0 00	0 00	0 00
4.100 0	21 77	177 27	3.949 0	-830 3	39 5	-558 5	0 00	0 00	0 00
4.169 9	21 77	177 27	4.014 0	-856 2	40 8	-575 9	0 00	0 00	0 00
Point Lookout									
4.200 0	21 77	177 27	4.041 9	-867 3	41 3	-583 4	0 00	0 00	0 00
4.300 0	21 77	177 27	4.134 8	-904 4	43 1	-608 3	0 00	0 00	0 00
4.301 3	21 77	177 27	4.136 0	-904 8	43 1	-608 6	0 00	0 00	0 00
Mancos									
4.400 0	21 77	177 27	4.227 7	-941 4	44 8	-633 2	0 00	0 00	0 00
4.500 0	21 77	177 27	4.320 5	-978 4	46 6	-658 1	0 00	0 00	0 00
4.600 0	21 77	177 27	4.413 4	-1.015 5	48 4	-683 0	0 00	0 00	0 00
4.638 3	21 77	177 27	4.449 0	-1.029 7	49 0	-692 6	0 00	0 00	0 00
Gallup (MNCS A)									
4.693 2	21 77	177 27	4.500 0	-1.050 0	50 0	-706 3	0 00	0 00	0 00
4.700 0	21 31	178 70	4.506 3	-1.052 5	50 1	-707 9	10 29	-6 78	21 09
4.756 0	18 08	192 93	4.559 0	-1.071 1	48 4	-718 4	10 29	-5 77	25 42
MNCS_B									
4.800 0	16 50	207 26	4.601 1	-1.083 3	44 0	-722 8	10 29	-3 59	32 56
4.844 7	16 05	223 66	4.644 0	-1.093 5	36 8	-723 7	10 29	-1 01	36 67
MNCS_C									
4.883 2	16 67	237 60	4.681 0	-1.100 3	28 5	-721 6	10 29	1 62	36 16
MNCS_Cms									
4.900 0	17 22	243 21	4.697 0	-1.102 7	24 2	-719 9	10 29	3 25	33 52
5.000 0	22 95	268 51	4.791 1	-1.109 9	-8 6	-699 1	10 29	5 74	25 30
5.025 1	24 84	272 87	4.814 0	-1.109 7	-18 7	-691 2	10 29	7 52	17 36
MNCS_D									
5.100 0	31 04	282 72	4.880 2	-1.104 7	-53 3	-661 3	10 29	8 27	13 15
5.196 7	39 76	291 04	4.959 0	-1.088 1	-106 7	-609 6	10 29	9 02	8 60
MNCS_E									
5.200 0	40 07	291 26	4.961 5	-1.087 3	-108 6	-607 6	10 29	9 29	6 90
5.272 3	46 88	295 63	5.014 0	-1.067 4	-154 2	-559 7	10 29	9 42	6 04
MNCS_F									
5.300 0	49 53	297 05	5.032 4	-1.058 3	-172 7	-539 7	10 29	9 56	5 12
5.377 9	57 05	300 51	5.079 0	-1.028 1	-227 3	-478 3	10 29	9 66	4 44
MNCS_G									
5.400 0	59 20	301 38	5.090 6	-1.018 5	-243 4	-459 8	10 29	9 73	3 94
5.500 0	68 99	304 90	5.134 3	-969 3	-318 6	-370 5	10 29	9 79	3 53
5.529 0	71 84	305 83	5.144 0	-953 5	-340 8	-343 3	10 29	9 84	3 20
MNCS_H									
5.600 0	78 84	307 99	5.162 0	-912 2	-395 7	-274 7	10 29	9 86	3 04
5.675 5	86 30	310 18	5.171 7	-865 1	-453 8	-199 9	10 29	9 88	2 89
5.700 0	87 57	312 36	5.173 0	-848 9	-472 1	-175 4	10 29	5 14	8 92
5.738 2	89 54	315 77	5.174 0	-822 3	-499 6	-137 3	10 29	5 16	8 90



Planning Report

Database:	EDM	Local Co-ordinate Reference:	Well 364H
Company:	Enduring Resources LLC	TVD Reference:	KB @ 7154.0usft (Original Well Elev)
Project:	San Juan Basin - S Escavada Unit & Terra Wash CA	MD Reference:	KB @ 7154.0usft (Original Well Elev)
Site:	364H Pad	North Reference:	Grid
Well:	364H	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)
5,800.0	89.54	315.77	5,174.5	-778.1	-542.7	-75.9	0.00	0.00	0.00
5,900.0	89.54	315.77	5,175.3	-706.4	-612.4	23.5	0.00	0.00	0.00
6,000.0	89.54	315.77	5,176.1	-634.8	-682.2	122.9	0.00	0.00	0.00
6,100.0	89.54	315.77	5,176.9	-563.1	-752.0	222.3	0.00	0.00	0.00
6,200.0	89.54	315.77	5,177.7	-491.5	-821.7	321.6	0.00	0.00	0.00
6,300.0	89.54	315.77	5,178.5	-419.8	-891.5	421.0	0.00	0.00	0.00
6,400.0	89.54	315.77	5,179.3	-348.2	-961.2	520.4	0.00	0.00	0.00
6,500.0	89.54	315.77	5,180.1	-276.5	-1,031.0	619.8	0.00	0.00	0.00
6,600.0	89.54	315.77	5,180.9	-204.9	-1,100.7	719.2	0.00	0.00	0.00
6,700.0	89.54	315.77	5,181.7	-133.2	-1,170.5	818.6	0.00	0.00	0.00
6,800.0	89.54	315.77	5,182.5	-61.6	-1,240.2	918.0	0.00	0.00	0.00
6,900.0	89.54	315.77	5,183.3	10.1	-1,310.0	1,017.4	0.00	0.00	0.00
7,000.0	89.54	315.77	5,184.1	81.7	-1,379.7	1,116.8	0.00	0.00	0.00
7,100.0	89.54	315.77	5,185.0	153.4	-1,449.5	1,216.2	0.00	0.00	0.00
7,200.0	89.54	315.77	5,185.8	225.0	-1,519.3	1,315.6	0.00	0.00	0.00
7,300.0	89.54	315.77	5,186.6	296.7	-1,589.0	1,415.0	0.00	0.00	0.00
7,400.0	89.54	315.77	5,187.4	368.3	-1,658.8	1,514.4	0.00	0.00	0.00
7,500.0	89.54	315.77	5,188.2	440.0	-1,728.5	1,613.8	0.00	0.00	0.00
7,600.0	89.54	315.77	5,189.0	511.6	-1,798.3	1,713.2	0.00	0.00	0.00
7,700.0	89.54	315.77	5,189.8	583.3	-1,868.0	1,812.6	0.00	0.00	0.00
7,800.0	89.54	315.77	5,190.6	654.9	-1,937.8	1,912.0	0.00	0.00	0.00
7,900.0	89.54	315.77	5,191.4	726.6	-2,007.5	2,011.4	0.00	0.00	0.00
8,000.0	89.54	315.77	5,192.2	798.2	-2,077.3	2,110.8	0.00	0.00	0.00
8,100.0	89.54	315.77	5,193.0	869.9	-2,147.0	2,210.2	0.00	0.00	0.00
8,200.0	89.54	315.77	5,193.8	941.5	-2,216.8	2,309.6	0.00	0.00	0.00
8,300.0	89.54	315.77	5,194.6	1,013.2	-2,286.5	2,409.0	0.00	0.00	0.00
8,400.0	89.54	315.77	5,195.4	1,084.8	-2,356.3	2,508.4	0.00	0.00	0.00
8,500.0	89.54	315.77	5,196.2	1,156.5	-2,426.1	2,607.8	0.00	0.00	0.00
8,600.0	89.54	315.77	5,197.0	1,228.1	-2,495.8	2,707.2	0.00	0.00	0.00
8,700.0	89.54	315.77	5,197.8	1,299.7	-2,565.6	2,806.6	0.00	0.00	0.00
8,800.0	89.54	315.77	5,198.6	1,371.4	-2,635.3	2,906.0	0.00	0.00	0.00
8,900.0	89.54	315.77	5,199.4	1,443.0	-2,705.1	3,005.3	0.00	0.00	0.00
9,000.0	89.54	315.77	5,200.2	1,514.7	-2,774.8	3,104.7	0.00	0.00	0.00
9,100.0	89.54	315.77	5,201.0	1,586.3	-2,844.6	3,204.1	0.00	0.00	0.00
9,200.0	89.54	315.77	5,201.8	1,658.0	-2,914.3	3,303.5	0.00	0.00	0.00
9,300.0	89.54	315.77	5,202.6	1,729.6	-2,984.1	3,402.9	0.00	0.00	0.00
9,400.0	89.54	315.77	5,203.5	1,801.3	-3,053.8	3,502.3	0.00	0.00	0.00
9,500.0	89.54	315.77	5,204.3	1,872.9	-3,123.6	3,601.7	0.00	0.00	0.00
9,600.0	89.54	315.77	5,205.1	1,944.6	-3,193.4	3,701.1	0.00	0.00	0.00
9,700.0	89.54	315.77	5,205.9	2,016.2	-3,263.1	3,800.5	0.00	0.00	0.00
9,800.0	89.54	315.77	5,206.7	2,087.9	-3,332.9	3,899.9	0.00	0.00	0.00
9,900.0	89.54	315.77	5,207.5	2,159.5	-3,402.6	3,999.3	0.00	0.00	0.00
10,000.0	89.54	315.77	5,208.3	2,231.2	-3,472.4	4,098.7	0.00	0.00	0.00
10,100.0	89.54	315.77	5,209.1	2,302.8	-3,542.1	4,198.1	0.00	0.00	0.00
10,200.0	89.54	315.77	5,209.9	2,374.5	-3,611.9	4,297.5	0.00	0.00	0.00
10,300.0	89.54	315.77	5,210.7	2,446.1	-3,681.6	4,396.9	0.00	0.00	0.00
10,400.0	89.54	315.77	5,211.5	2,517.8	-3,751.4	4,496.3	0.00	0.00	0.00
10,500.0	89.54	315.77	5,212.3	2,589.4	-3,821.1	4,595.7	0.00	0.00	0.00
10,600.0	89.54	315.77	5,213.1	2,661.1	-3,890.9	4,695.1	0.00	0.00	0.00
10,700.0	89.54	315.77	5,213.9	2,732.7	-3,960.7	4,794.5	0.00	0.00	0.00
10,800.0	89.54	315.77	5,214.7	2,804.4	-4,030.4	4,893.9	0.00	0.00	0.00
10,900.0	89.54	315.77	5,215.5	2,876.0	-4,100.2	4,993.3	0.00	0.00	0.00
11,000.0	89.54	315.77	5,216.3	2,947.7	-4,169.9	5,092.7	0.00	0.00	0.00



Planning Report

Database: EDM
Company: Enduring Resources LLC
Project: San Juan Basin - S Escavada Unit & Terra Wash CA
Site: 364H Pad
Well: 364H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well 364H
TVD Reference: KB @ 7154.0usft (Original Well Elev)
MD Reference: KB @ 7154.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
11,100.0	89.54	315.77	5,217.1	3,019.3	-4,239.7	5,192.1	0.00	0.00	0.00
11,200.0	89.54	315.77	5,217.9	3,091.0	-4,309.4	5,291.5	0.00	0.00	0.00
11,300.0	89.54	315.77	5,218.7	3,162.6	-4,379.2	5,390.9	0.00	0.00	0.00
11,400.0	89.54	315.77	5,219.5	3,234.3	-4,448.9	5,490.3	0.00	0.00	0.00
11,500.0	89.54	315.77	5,220.3	3,305.9	-4,518.7	5,589.7	0.00	0.00	0.00
11,600.0	89.54	315.77	5,221.1	3,377.6	-4,588.4	5,689.0	0.00	0.00	0.00
11,700.0	89.54	315.77	5,221.9	3,449.2	-4,658.2	5,788.4	0.00	0.00	0.00
11,800.0	89.54	315.77	5,222.8	3,520.9	-4,728.0	5,887.8	0.00	0.00	0.00
11,900.0	89.54	315.77	5,223.6	3,592.5	-4,797.7	5,987.2	0.00	0.00	0.00
12,000.0	89.54	315.77	5,224.4	3,664.2	-4,867.5	6,086.6	0.00	0.00	0.00
12,100.0	89.54	315.77	5,225.2	3,735.8	-4,937.2	6,186.0	0.00	0.00	0.00
12,200.0	89.54	315.77	5,226.0	3,807.5	-5,007.0	6,285.4	0.00	0.00	0.00
12,300.0	89.54	315.77	5,226.8	3,879.1	-5,076.7	6,384.8	0.00	0.00	0.00
12,400.0	89.54	315.77	5,227.6	3,950.8	-5,146.5	6,484.2	0.00	0.00	0.00
12,500.0	89.54	315.77	5,228.4	4,022.4	-5,216.2	6,583.6	0.00	0.00	0.00
12,600.0	89.54	315.77	5,229.2	4,094.1	-5,286.0	6,683.0	0.00	0.00	0.00
12,700.0	89.54	315.77	5,230.0	4,165.7	-5,355.7	6,782.4	0.00	0.00	0.00
12,800.0	89.54	315.77	5,230.8	4,237.4	-5,425.5	6,881.8	0.00	0.00	0.00
12,900.0	89.54	315.77	5,231.6	4,309.0	-5,495.3	6,981.2	0.00	0.00	0.00
13,000.0	89.54	315.77	5,232.4	4,380.7	-5,565.0	7,080.6	0.00	0.00	0.00
13,100.0	89.54	315.77	5,233.2	4,452.3	-5,634.8	7,180.0	0.00	0.00	0.00
13,200.0	89.54	315.77	5,234.0	4,524.0	-5,704.5	7,279.4	0.00	0.00	0.00
13,300.0	89.54	315.77	5,234.8	4,595.6	-5,774.3	7,378.8	0.00	0.00	0.00
13,400.0	89.54	315.77	5,235.6	4,667.3	-5,844.0	7,478.2	0.00	0.00	0.00
13,500.0	89.54	315.77	5,236.4	4,738.9	-5,913.8	7,577.6	0.00	0.00	0.00
13,600.0	89.54	315.77	5,237.2	4,810.6	-5,983.5	7,677.0	0.00	0.00	0.00
13,700.0	89.54	315.77	5,238.0	4,882.2	-6,053.3	7,776.4	0.00	0.00	0.00
13,800.0	89.54	315.77	5,238.8	4,953.9	-6,123.0	7,875.8	0.00	0.00	0.00
13,900.0	89.54	315.77	5,239.6	5,025.5	-6,192.8	7,975.2	0.00	0.00	0.00
14,000.0	89.54	315.77	5,240.4	5,097.2	-6,262.6	8,074.6	0.00	0.00	0.00
14,100.0	89.54	315.77	5,241.3	5,168.8	-6,332.3	8,174.0	0.00	0.00	0.00
14,200.0	89.54	315.77	5,242.1	5,240.5	-6,402.1	8,273.4	0.00	0.00	0.00
14,300.0	89.54	315.77	5,242.9	5,312.1	-6,471.8	8,372.7	0.00	0.00	0.00
14,400.0	89.54	315.77	5,243.7	5,383.8	-6,541.6	8,472.1	0.00	0.00	0.00
14,441.8	89.54	315.77	5,244.0	5,413.8	-6,570.8	8,513.7	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
364H KOP - plan hits target center - Point	0.00	360.00	4,500.0	-1,050.0	50.0	1,865,416.20	1,276,433.87	36.120449°N	107.482424°W
364H POE - plan hits target center - Point	0.00	360.00	5,174.0	-822.3	-499.6	1,865,643.87	1,275,884.25	36.121055°N	107.484294°W
364H BHL - plan hits target center - Point	0.00	360.00	5,244.0	5,413.8	-6,570.8	1,871,879.96	1,269,813.11	36.137969°N	107.505119°W



Planning Report

Database: EDM
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Site: 364H Pad
Well: 364H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well 364H
TVD Reference: KB @ 7154.0usft (Original Well Elev)
MD Reference: KB @ 7154.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
350.0	350.0	13 3/8"	13-3/8	17-1/2
3,330.1	3,234.0	9 5/8"	9-5/8	12-1/4

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,030.0	1,030.0	Ojo Alamo		0.00	
1,165.0	1,165.0	Kirtland		0.00	
1,328.0	1,328.0	Fruitland		0.00	
1,617.1	1,617.0	Pictured Cliffs		0.00	
1,755.8	1,755.0	Lewis		0.00	
2,014.2	2,008.0	Chacra		0.00	
3,169.6	3,085.0	Cliff House		0.00	
3,222.4	3,134.0	Menefee		0.00	
4,169.9	4,014.0	Point Lookout		0.00	
4,301.3	4,136.0	Mancos		0.00	
4,638.3	4,449.0	Gallup (MNCS A)		0.00	
4,756.0	4,559.0	MNCS_B		0.00	
4,844.7	4,644.0	MNCS_C		0.00	
4,883.2	4,681.0	MNCS_Cms		0.00	
5,025.1	4,814.0	MNCS_D		0.00	
5,196.7	4,959.0	MNCS_E		0.00	
5,272.3	5,014.0	MNCS_F		0.00	
5,377.9	5,079.0	MNCS_G		0.00	
5,529.0	5,144.0	MNCS_H		0.00	