

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

MAY 31 2019

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. NMNM136267
1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
2. Name of Operator Enduring Resources IV LLC		7. If Unit of CA/Agreement, Name and/or No. NMNM135255A
3a. Address 200 Energy Court Farmington NM 87401	3b. Phone No. (include area code) 505-636-9743	8. Well Name and No. KIMBETO WASH UNIT 774H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) SHL: 181' FNL & 2337' FWL SEC 28 23N 9W BHL: 226' FSL & 860' FWL SEC 17 23N 9W		9. API Well No. 30-045-35823
		10. Field and Pool or Exploratory Area Basin Mancos
		11. Country or Parish, State San Juan, 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 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	<u>Change in</u>
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	<u>Plans</u>

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

Enduring Resources request a change in plans per attached updated:

- C102
- Drilling program & casing program/Ops plan
- BHL & POE
- Directional plans
- Wellbore

**ADHERE TO PREVIOUS NMOCD
CONDITIONS OF APPROVAL**

NMOCD

JUN 05 2019

DISTRICT III

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed) Lacey Granillo	Title Permit Specialist
Signature	Date 5/31/19

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by	Petroleum Engineer Title	4-Jun-2019 Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office FFO	

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

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District I
1625 N. French Drive, Hobbs, NM 88240
Phone: (505) 393-6161 Fax: (505) 393-0720

District II
611 S. First Street, Artesia, NM 88210
Phone: (505) 748-1283 Fax: (505) 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

*API Number 30-045-35823		*Pool Code 97232	*Pool Name BASIN MANCOS
*Property Code 321239	*Property Name KIMBETO WASH UNIT		*Well Number 774H
*GRID No. 372286	*Operator Name ENDURING RESOURCES, LLC		*Elevation 6534'

¹⁰ Surface Location

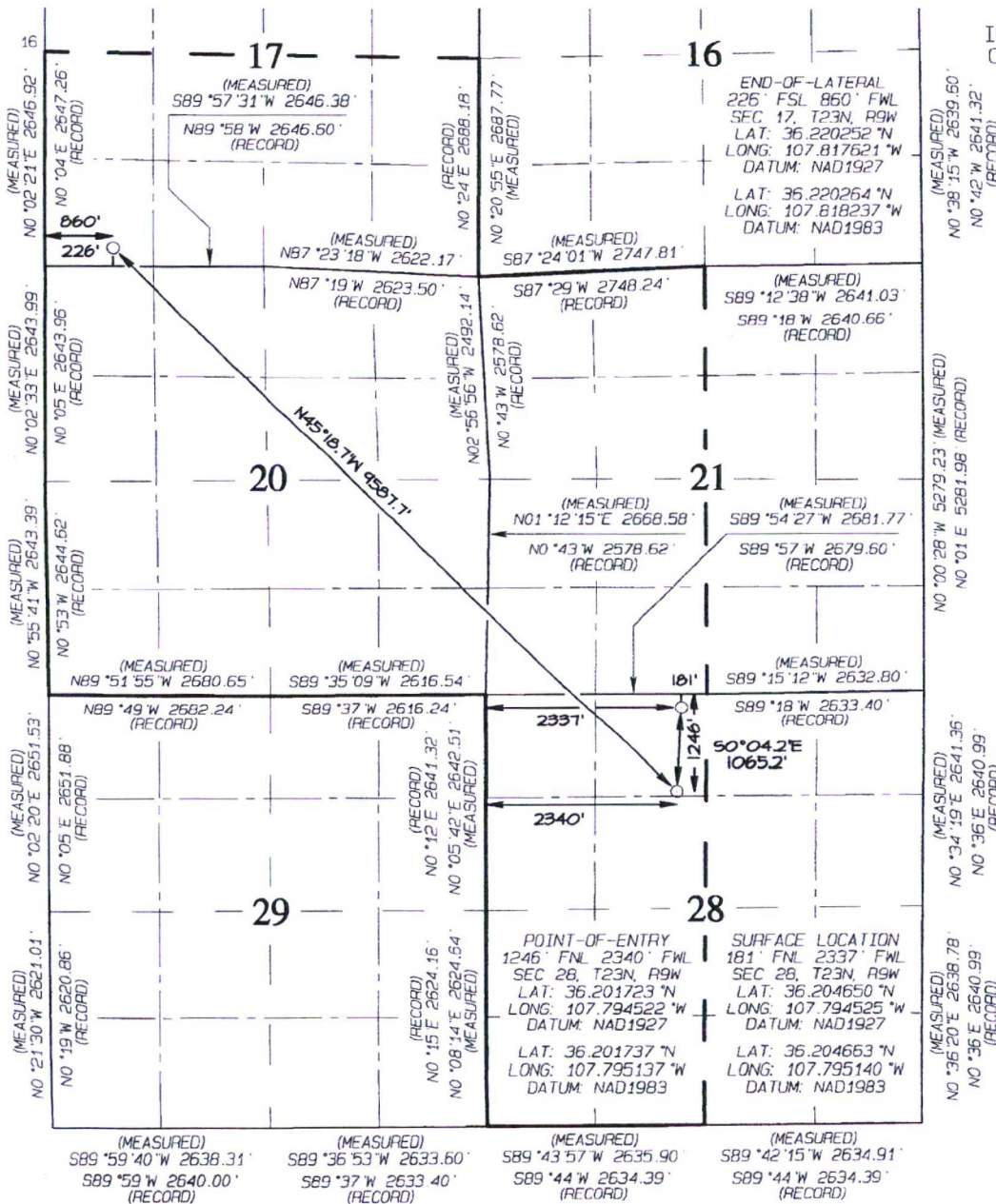
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	28	23N	9W		181	NORTH	2337	WEST	SAN JUAN

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
M	17	23N	9W		226	SOUTH	860	WEST	SAN JUAN

¹² Dedicated Acres 1600.00	S/2 - Section 17 Entire Section 20 W/2 - Section 21 W/2 - Section 28	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-14084
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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: 5/31/19
Printed Name: *[Name]*
Email Address: *[Email]*

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: MAY 29, 2019
Survey Date: OCTOBER 2, 2015

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-I formation*

WELL INFORMATION:

Name: KIMBETO WASH UNIT 774H

API Number: 30-045-35823

State: New Mexico

County: San Juan

Surface Elevation: 6,534 ft ASL (GL)

6,562 ft ASL (KB)

Surface Location: 28-23N-09W Sec-Twn-Rng

181 ft FNL

2,337 ft FWL

36.204663 ° N latitude

107.79514 ° W longitude

(NAD 83)

BH Location: 19-23N-09W Sec-Twn-Rng

226 ft FSL

860 ft FWL

36.220264 ° N latitude

107.818237 ° 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 37.8 miles to MM 113.4; Right (SW) on CR 7890 for 0.8 miles to fork; Left (S) remaining on 7890 for 1.3 miles to 4-way intersection; Left (SE) on 7890 for 0.6 miles to fork; Right (SW) remaining on 7890 for 0.5 miles; Right (W) on access road for W Lybrook Unit 720H location for 0.6 miles to fork; Left (W) on access road for W Lybrook Unit 726H location for 0.7 miles to fork; Left (W) on access road for W Lybrook Unit 730H location for 1.9 miles; Right (N) on access road for 0.4 miles to Kimbeto Wash Unit 736H Pad (Wells: KWU 772H, 774H, 793H, 794H, 795H).

GEOLOGIC AND RESERVOIR INFORMATION:

Prognosis:	Formation Tops	TVD (ft ASL)	TVD (ft KB)	MD (ft KB)	O / G / W	Pressure
	Ojo Alamo	6,488	74	74	W	normal
	Kirtland	6,391	171	171	W	normal
	Fruitland	6,131	431	431	G, W	sub
	Pictured Cliffs	5,781	781	782	G, W	sub
	Lewis	5,576	986	991	G, W	normal
	Chacra	5,391	1,171	1,186	G, W	normal
	Cliff House	4,386	2,176	2,324	G, W	sub
	Menefee	4,371	2,191	2,342	G, W	normal
	Point Lookout	3,381	3,181	3,474	G, W	normal
	Mancos	3,105	3,457	3,789	O,G	sub (~0.38)
	Gallup (MNCS_A)	2,904	3,658	4,014	O,G	sub (~0.38)
	MNCS_I	2,190	4,372	4,929	O,G	sub (~0.38)
	P.O.E. TARGET	2,168	4,394	5,087	O,G	sub (~0.38)
	B.H.L. TARGET	2,113	4,449	14,710	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: 1,920 psi

Maximum anticipated surface pressure, assuming partially evacuated hole: 950 psi

Temperature: Maximum anticipated BHT is 125° 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; gas detection from drill out of 13-3/8" casing to TD; remote geo-steering from drill out of 9-5/8" casing to TD.

MWD / LWD: MWD surveys with inclination and azimuth in 100' stations (minimum) from drill out of 13-3/8" casing to TD; Gamma Ray from drill out of 9-5/8" casing to TD; Gamma Ray optional in 12-1/4" intermediate hole

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 & double gate ram (13-5/8", 10,000 psi)

BOPE 2: Cameron annular (13-5/8", 10,000 psi)

Choke 3", 10,000 psi

KB-Gl (ft): 28

Note: Actual drilling rig may vary depending on availability at time the well is scheduled to be drilled.

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	300 ft (MD)	Hole Section Length:	300 ft
0 ft (TVD)	to	300 ft (TVD)	Casing Required:	300 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					131	647	114,258	114,258
Min. S.F.					8.62	4.22	7.47	7.96

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	1.180	5.24	0.6946	100%	0	353

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 (estimated minimum WOC time is 6 hours).

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

300 ft (MD)	to	3,267 ft (MD)	Hole Section Length:	2,967 ft
300 ft (TVD)	to	3,000 ft (TVD)	Casing Required:	3,267 ft

Fluid:	Type	MW (ppg)	FL (mL/30 min)	PV (cp)	YP (lb/100 sqft)	pH	Comments
	LSND	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 surveys with inclination and azimuth in 100' stations (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: Specs Loading Min. S.F.		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
	9.625	36.0	J-55	LTC	2,020	3,520	564,000	453,000
					1,310	1,122	202,563	202,563
					1.54	3.14	2.78	2.24

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: 3,900 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)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	G:POZ Blend	12.3	1.960	10.12	70%	0	765
Tail	Class G	15.8	1.148	4.98	20%	2,767	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 (estimated minimum WOC time for tail slurry is 6 hours).

PRODUCTION: Drill to TD following directional plan, run casing, cement casing to surface.

3,267 ft (MD)	to	14,710 ft (MD)	Hole Section Length:	11,443 ft
3,000 ft (TVD)	to	4,449 ft (TVD)	Casing Required:	14,710 ft

Estimated KOP:	3,907 ft (MD)	3,560 ft (TVD)
Estimated Landing Point (P.O.E.):	5,087 ft (MD)	4,394 ft (TVD)
Estimated Lateral Length:	9,623 ft (MD)	

Fluid:	Type	MW (ppg)	FL (mL/30')	PV (cp)	YP (lb/100 sqft)	pH	Comments
	LSND	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 surveys with inclination and azimuth in 100' stations (minimum) before KOP, every joint from KOP to POE, every 100' (minimum) from POE to TD; Gamma Ray from drill out of 9-5/8" shoe to TD

Logging: MWD Gamma Ray 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					2,198	8,916	315,788	315,788
Min. S.F.					3.39	1.19	1.73	1.41

*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: 3,400 Optimum: 4,530 Maximum: 5,660

Casing Details: Float shoe, float collar, 2 jts 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'. 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: 1 centralizer per joint

POE to KOP: 1 centralizer per joint from landing point to KOP

KOP to surface: 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)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	G:POZ blend	12.3	1.960	10.11	50%	0	804
Tail	G:POZ blend	13.3	1.354	5.94	10%	4,014	1,991

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) . Kimbeto Wash Unit Order Number is R-14084.

FINISH WELL: ND BOP. RDMO Drilling Rig.

COMPLETION AND PRODUCTION PLAN:

Frac: 55 plug-and-perf stages with 220,000 bbls slickwater fluid and 18,000,000 lbs of proppant (estimated)

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

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

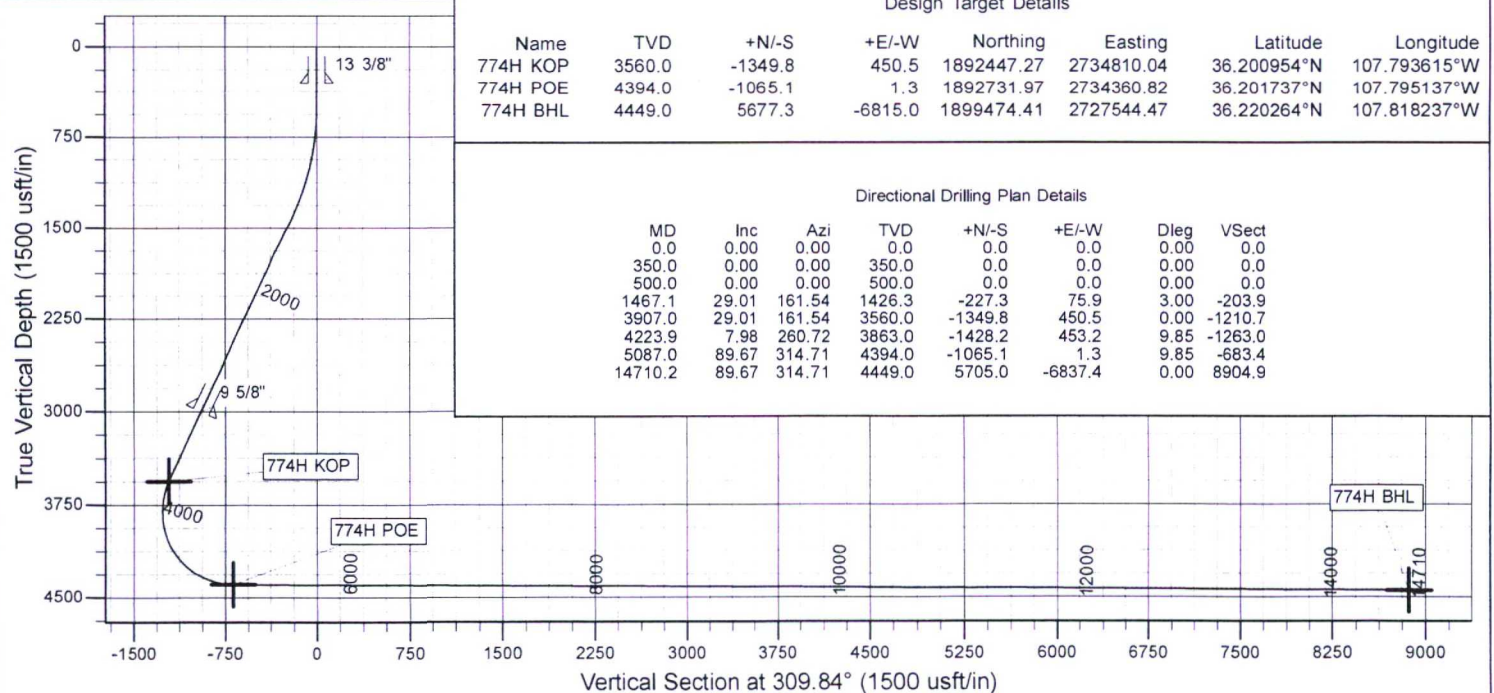
ESTIMATED START DATES:

Drilling: 7/1/2019

Completion: 8/15/2019

Production: 9/14/2019

Prepared by: Alec Bridge 5/6/2019





Enduring Resources LLC

San Juan Basin - Kimbeto Wash Unit

736H Pad

774H

Wellbore #1

Plan: Design #1

Standard Planning Report

03 May, 2019



Planning Report

Database: EDM
Company: Enduring Resources LLC
Project: San Juan Basin - Kimbeto Wash Unit
Site: 736H Pad
Well: 774H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well 774H
TVD Reference: KB @ 6562.0usft (Original Well Elev)
MD Reference: KB @ 6562.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	San Juan Basin - Kimbeto Wash Unit		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site	736H Pad, San Juan County, New Mexico			
Site Position:		Northing:	1,893,797.11 usft	Latitude: 36.204663°N
From:	Lat/Long	Easting:	2,734,399.63 usft	Longitude: 107.795004°W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.02 °

Well	774H			
Well Position	+N/-S	0.0 usft	Northing:	1,893,797.09 usft
	+E/-W	-40.1 usft	Easting:	2,734,359.51 usft
Position Uncertainty	0.0 usft		Wellhead Elevation:	Ground Level: 6,534.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	10.00	63.04	50,595.58043880

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	309.84

Plan Survey Tool Program	Date 5/3/2019			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	14,710.2	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	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,467.1	29.01	161.54	1,426.3	-227.3	75.9	3.00	3.00	0.00	161.54	
3,907.0	29.01	161.54	3,560.0	-1,349.8	450.5	0.00	0.00	0.00	0.00	774H KOP
4,223.9	7.98	260.72	3,863.0	-1,428.2	453.2	9.85	-6.64	31.29	164.66	
5,087.0	89.67	314.71	4,394.0	-1,065.1	1.3	9.85	9.46	6.26	54.29	774H POE
14,710.2	89.67	314.71	4,449.0	5,705.0	-6,837.4	0.00	0.00	0.00	0.00	774H BHL



Planning Report

Database: EDM
Company: Enduring Resources LLC
Project: San Juan Basin - Kimbeto Wash Unit
Site: 736H Pad
Well: 774H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well 774H
TVD Reference: KB @ 6562.0usft (Original Well Elev)
MD Reference: KB @ 6562.0usft (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
74.0	0.00	0.00	74.0	0.0	0.0	0.0	0.00	0.00	0.00
Ojo Alamo									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
171.0	0.00	0.00	171.0	0.0	0.0	0.0	0.00	0.00	0.00
Kirtland									
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
13 3/8"									
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
431.0	0.00	0.00	431.0	0.0	0.0	0.0	0.00	0.00	0.00
Fruitland									
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	3.00	161.54	600.0	-2.5	0.8	-2.2	3.00	3.00	0.00
700.0	6.00	161.54	699.6	-9.9	3.3	-8.9	3.00	3.00	0.00
782.0	8.46	161.54	781.0	-19.7	6.6	-17.7	3.00	3.00	0.00
Pictured Cliffs									
800.0	9.00	161.54	798.8	-22.3	7.4	-20.0	3.00	3.00	0.00
900.0	12.00	161.54	897.1	-39.6	13.2	-35.5	3.00	3.00	0.00
991.4	14.74	161.54	986.0	-59.6	19.9	-53.5	3.00	3.00	0.00
Lewis									
1,000.0	15.00	161.54	994.3	-61.7	20.6	-55.4	3.00	3.00	0.00
1,100.0	18.00	161.54	1,090.2	-88.7	29.6	-79.5	3.00	3.00	0.00
1,185.6	20.57	161.54	1,171.0	-115.5	38.5	-103.6	3.00	3.00	0.00
Chacra									
1,200.0	21.00	161.54	1,184.4	-120.3	40.2	-107.9	3.00	3.00	0.00
1,300.0	24.00	161.54	1,276.8	-156.6	52.3	-140.5	3.00	3.00	0.00
1,400.0	27.00	161.54	1,367.1	-197.5	65.9	-177.1	3.00	3.00	0.00
1,467.1	29.01	161.54	1,426.3	-227.3	75.9	-203.9	3.00	3.00	0.00
1,500.0	29.01	161.54	1,455.1	-242.5	80.9	-217.5	0.00	0.00	0.00
1,600.0	29.01	161.54	1,542.5	-288.5	96.3	-258.7	0.00	0.00	0.00
1,700.0	29.01	161.54	1,630.0	-334.5	111.6	-300.0	0.00	0.00	0.00
1,800.0	29.01	161.54	1,717.4	-380.5	127.0	-341.3	0.00	0.00	0.00
1,900.0	29.01	161.54	1,804.9	-426.5	142.4	-382.5	0.00	0.00	0.00
2,000.0	29.01	161.54	1,892.3	-472.5	157.7	-423.8	0.00	0.00	0.00
2,100.0	29.01	161.54	1,979.8	-518.5	173.1	-465.1	0.00	0.00	0.00
2,200.0	29.01	161.54	2,067.2	-564.5	188.4	-506.3	0.00	0.00	0.00
2,300.0	29.01	161.54	2,154.7	-610.5	203.8	-547.6	0.00	0.00	0.00
2,324.4	29.01	161.54	2,176.0	-621.7	207.5	-557.7	0.00	0.00	0.00
Cliff House									
2,341.5	29.01	161.54	2,191.0	-629.6	210.2	-564.7	0.00	0.00	0.00
Menefee									
2,400.0	29.01	161.54	2,242.1	-656.5	219.1	-588.9	0.00	0.00	0.00
2,500.0	29.01	161.54	2,329.6	-702.5	234.5	-630.1	0.00	0.00	0.00
2,600.0	29.01	161.54	2,417.0	-748.5	249.8	-671.4	0.00	0.00	0.00
2,700.0	29.01	161.54	2,504.5	-794.5	265.2	-712.7	0.00	0.00	0.00
2,800.0	29.01	161.54	2,591.9	-840.5	280.6	-753.9	0.00	0.00	0.00
2,900.0	29.01	161.54	2,679.4	-886.6	295.9	-795.2	0.00	0.00	0.00
3,000.0	29.01	161.54	2,766.8	-932.6	311.3	-836.4	0.00	0.00	0.00
3,100.0	29.01	161.54	2,854.3	-978.6	326.6	-877.7	0.00	0.00	0.00
3,200.0	29.01	161.54	2,941.7	-1,024.6	342.0	-919.0	0.00	0.00	0.00
3,266.6	29.01	161.54	3,000.0	-1,055.2	352.2	-946.5	0.00	0.00	0.00



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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)
9 5/8"									
3,300.0	29.01	161.54	3,029.2	-1,070.6	357.3	-960.2	0.00	0.00	0.00
3,400.0	29.01	161.54	3,116.6	-1,116.6	372.7	-1,001.5	0.00	0.00	0.00
3,473.6	29.01	161.54	3,181.0	-1,150.4	384.0	-1,031.9	0.00	0.00	0.00
Point Lookout									
3,500.0	29.01	161.54	3,204.1	-1,162.6	388.0	-1,042.8	0.00	0.00	0.00
3,600.0	29.01	161.54	3,291.5	-1,208.6	403.4	-1,084.0	0.00	0.00	0.00
3,700.0	29.01	161.54	3,379.0	-1,254.6	418.7	-1,125.3	0.00	0.00	0.00
3,789.2	29.01	161.54	3,457.0	-1,295.6	432.4	-1,162.1	0.00	0.00	0.00
Mancos									
3,800.0	29.01	161.54	3,466.4	-1,300.6	434.1	-1,166.6	0.00	0.00	0.00
3,900.0	29.01	161.54	3,553.9	-1,346.6	449.5	-1,207.8	0.00	0.00	0.00
3,907.0	29.01	161.54	3,560.0	-1,349.8	450.5	-1,210.7	0.00	0.00	0.00
4,000.0	20.31	168.51	3,644.5	-1,387.1	460.9	-1,242.6	9.85	-9.35	7.49
4,014.4	19.00	170.12	3,658.0	-1,391.9	461.8	-1,246.3	9.85	-9.10	11.18
Gallup (MNCS_A)									
4,100.0	11.72	186.65	3,740.6	-1,414.3	463.2	-1,261.7	9.85	-8.51	19.31
4,132.0	9.48	198.82	3,772.0	-1,420.0	462.0	-1,264.5	9.85	-6.98	38.03
MNCS_B									
4,200.0	7.41	243.60	3,839.3	-1,427.3	456.2	-1,264.7	9.85	-3.05	65.85
4,223.9	7.98	260.72	3,863.0	-1,428.2	453.2	-1,263.0	9.85	2.41	71.61
4,250.2	9.71	273.19	3,889.0	-1,428.4	449.2	-1,260.0	9.78	6.56	47.44
MNCS_Cms									
4,300.0	13.76	287.15	3,937.8	-1,426.4	439.3	-1,251.2	9.88	8.14	28.02
4,385.3	21.52	298.02	4,019.0	-1,416.0	415.8	-1,226.4	9.85	9.10	12.75
MNCS_D									
4,400.0	22.91	299.17	4,032.6	-1,413.4	410.9	-1,221.0	9.85	9.40	7.78
4,500.0	32.45	304.47	4,121.1	-1,388.6	371.7	-1,175.0	9.85	9.54	5.30
4,539.9	36.30	305.86	4,154.0	-1,375.7	353.3	-1,152.6	9.85	9.65	3.49
MNCS_E									
4,600.0	42.12	307.54	4,200.6	-1,352.9	322.9	-1,114.7	9.85	9.69	2.79
4,626.8	44.72	308.17	4,220.0	-1,341.7	308.3	-1,096.3	9.85	9.71	2.35
MNCS_F									
4,700.0	51.85	309.63	4,268.7	-1,307.3	265.8	-1,041.7	9.85	9.73	2.00
4,728.9	54.67	310.13	4,286.0	-1,292.5	248.1	-1,018.5	9.85	9.75	1.73
MNCS_G									
4,800.0	61.61	311.23	4,323.5	-1,253.1	202.3	-958.2	9.85	9.76	1.54
4,825.2	64.07	311.58	4,335.0	-1,238.3	185.5	-935.8	9.85	9.77	1.40
MNCS_H									
4,900.0	71.38	312.56	4,363.3	-1,191.9	134.2	-866.6	9.85	9.77	1.30
4,929.3	74.24	312.91	4,372.0	-1,172.9	113.6	-838.7	9.85	9.78	1.22
MNCS_I									
5,000.0	81.16	313.74	4,387.1	-1,125.6	63.4	-769.8	9.85	9.78	1.16
5,087.0	89.67	314.71	4,394.0	-1,065.1	1.3	-683.4	9.85	9.78	1.12
5,100.0	89.67	314.71	4,394.1	-1,056.0	-7.9	-670.4	0.00	0.00	0.00
5,200.0	89.67	314.71	4,394.6	-985.6	-79.0	-570.8	0.00	0.00	0.00
5,300.0	89.67	314.71	4,395.2	-915.3	-150.1	-471.2	0.00	0.00	0.00
5,400.0	89.67	314.71	4,395.8	-844.9	-221.1	-371.5	0.00	0.00	0.00
5,500.0	89.67	314.71	4,396.4	-774.6	-292.2	-271.9	0.00	0.00	0.00
5,600.0	89.67	314.71	4,396.9	-704.2	-363.3	-172.3	0.00	0.00	0.00
5,700.0	89.67	314.71	4,397.5	-633.9	-434.3	-72.6	0.00	0.00	0.00
5,800.0	89.67	314.71	4,398.1	-563.5	-505.4	27.0	0.00	0.00	0.00



Planning Report

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Company: Enduring Resources LLC
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Site: 736H Pad
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Local Co-ordinate Reference: Well 774H
TVD Reference: KB @ 6562.0usft (Original Well Elev)
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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)
5,900.0	89.67	314.71	4,398.6	-493.2	-576.4	126.7	0.00	0.00	0.00
6,000.0	89.67	314.71	4,399.2	-422.8	-647.5	226.3	0.00	0.00	0.00
6,100.0	89.67	314.71	4,399.8	-352.5	-718.6	325.9	0.00	0.00	0.00
6,200.0	89.67	314.71	4,400.4	-282.1	-789.6	425.6	0.00	0.00	0.00
6,300.0	89.67	314.71	4,400.9	-211.8	-860.7	525.2	0.00	0.00	0.00
6,400.0	89.67	314.71	4,401.5	-141.4	-931.8	624.8	0.00	0.00	0.00
6,500.0	89.67	314.71	4,402.1	-71.1	-1,002.8	724.5	0.00	0.00	0.00
6,600.0	89.67	314.71	4,402.6	-0.7	-1,073.9	824.1	0.00	0.00	0.00
6,700.0	89.67	314.71	4,403.2	69.7	-1,145.0	923.8	0.00	0.00	0.00
6,800.0	89.67	314.71	4,403.8	140.0	-1,216.0	1,023.4	0.00	0.00	0.00
6,900.0	89.67	314.71	4,404.4	210.4	-1,287.1	1,123.0	0.00	0.00	0.00
7,000.0	89.67	314.71	4,404.9	280.7	-1,358.2	1,222.7	0.00	0.00	0.00
7,100.0	89.67	314.71	4,405.5	351.1	-1,429.2	1,322.3	0.00	0.00	0.00
7,200.0	89.67	314.71	4,406.1	421.4	-1,500.3	1,421.9	0.00	0.00	0.00
7,300.0	89.67	314.71	4,406.6	491.8	-1,571.4	1,521.6	0.00	0.00	0.00
7,400.0	89.67	314.71	4,407.2	562.1	-1,642.4	1,621.2	0.00	0.00	0.00
7,500.0	89.67	314.71	4,407.8	632.5	-1,713.5	1,720.9	0.00	0.00	0.00
7,600.0	89.67	314.71	4,408.4	702.8	-1,784.5	1,820.5	0.00	0.00	0.00
7,700.0	89.67	314.71	4,408.9	773.2	-1,855.6	1,920.1	0.00	0.00	0.00
7,800.0	89.67	314.71	4,409.5	843.5	-1,926.7	2,019.8	0.00	0.00	0.00
7,900.0	89.67	314.71	4,410.1	913.9	-1,997.7	2,119.4	0.00	0.00	0.00
8,000.0	89.67	314.71	4,410.6	984.2	-2,068.8	2,219.0	0.00	0.00	0.00
8,100.0	89.67	314.71	4,411.2	1,054.6	-2,139.9	2,318.7	0.00	0.00	0.00
8,200.0	89.67	314.71	4,411.8	1,124.9	-2,210.9	2,418.3	0.00	0.00	0.00
8,300.0	89.67	314.71	4,412.4	1,195.3	-2,282.0	2,518.0	0.00	0.00	0.00
8,400.0	89.67	314.71	4,412.9	1,265.6	-2,353.1	2,617.6	0.00	0.00	0.00
8,500.0	89.67	314.71	4,413.5	1,336.0	-2,424.1	2,717.2	0.00	0.00	0.00
8,600.0	89.67	314.71	4,414.1	1,406.3	-2,495.2	2,816.9	0.00	0.00	0.00
8,700.0	89.67	314.71	4,414.6	1,476.7	-2,566.3	2,916.5	0.00	0.00	0.00
8,800.0	89.67	314.71	4,415.2	1,547.1	-2,637.3	3,016.1	0.00	0.00	0.00
8,900.0	89.67	314.71	4,415.8	1,617.4	-2,708.4	3,115.8	0.00	0.00	0.00
9,000.0	89.67	314.71	4,416.4	1,687.8	-2,779.5	3,215.4	0.00	0.00	0.00
9,100.0	89.67	314.71	4,416.9	1,758.1	-2,850.5	3,315.1	0.00	0.00	0.00
9,200.0	89.67	314.71	4,417.5	1,828.5	-2,921.6	3,414.7	0.00	0.00	0.00
9,300.0	89.67	314.71	4,418.1	1,898.8	-2,992.7	3,514.3	0.00	0.00	0.00
9,400.0	89.67	314.71	4,418.7	1,969.2	-3,063.7	3,614.0	0.00	0.00	0.00
9,500.0	89.67	314.71	4,419.2	2,039.5	-3,134.8	3,713.6	0.00	0.00	0.00
9,600.0	89.67	314.71	4,419.8	2,109.9	-3,205.8	3,813.2	0.00	0.00	0.00
9,700.0	89.67	314.71	4,420.4	2,180.2	-3,276.9	3,912.9	0.00	0.00	0.00
9,800.0	89.67	314.71	4,420.9	2,250.6	-3,348.0	4,012.5	0.00	0.00	0.00
9,900.0	89.67	314.71	4,421.5	2,320.9	-3,419.0	4,112.2	0.00	0.00	0.00
10,000.0	89.67	314.71	4,422.1	2,391.3	-3,490.1	4,211.8	0.00	0.00	0.00
10,100.0	89.67	314.71	4,422.7	2,461.6	-3,561.2	4,311.4	0.00	0.00	0.00
10,200.0	89.67	314.71	4,423.2	2,532.0	-3,632.2	4,411.1	0.00	0.00	0.00
10,300.0	89.67	314.71	4,423.8	2,602.3	-3,703.3	4,510.7	0.00	0.00	0.00
10,400.0	89.67	314.71	4,424.4	2,672.7	-3,774.4	4,610.3	0.00	0.00	0.00
10,500.0	89.67	314.71	4,424.9	2,743.0	-3,845.4	4,710.0	0.00	0.00	0.00
10,600.0	89.67	314.71	4,425.5	2,813.4	-3,916.5	4,809.6	0.00	0.00	0.00
10,700.0	89.67	314.71	4,426.1	2,883.7	-3,987.6	4,909.2	0.00	0.00	0.00
10,800.0	89.67	314.71	4,426.7	2,954.1	-4,058.6	5,008.9	0.00	0.00	0.00
10,900.0	89.67	314.71	4,427.2	3,024.5	-4,129.7	5,108.5	0.00	0.00	0.00
11,000.0	89.67	314.71	4,427.8	3,094.8	-4,200.8	5,208.2	0.00	0.00	0.00
11,100.0	89.67	314.71	4,428.4	3,165.2	-4,271.8	5,307.8	0.00	0.00	0.00
11,200.0	89.67	314.71	4,428.9	3,235.5	-4,342.9	5,407.4	0.00	0.00	0.00



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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)
11,300.0	89.67	314.71	4,429.5	3,305.9	-4,413.9	5,507.1	0.00	0.00	0.00
11,400.0	89.67	314.71	4,430.1	3,376.2	-4,485.0	5,606.7	0.00	0.00	0.00
11,500.0	89.67	314.71	4,430.7	3,446.6	-4,556.1	5,706.3	0.00	0.00	0.00
11,600.0	89.67	314.71	4,431.2	3,516.9	-4,627.1	5,806.0	0.00	0.00	0.00
11,700.0	89.67	314.71	4,431.8	3,587.3	-4,698.2	5,905.6	0.00	0.00	0.00
11,800.0	89.67	314.71	4,432.4	3,657.6	-4,769.3	6,005.3	0.00	0.00	0.00
11,900.0	89.67	314.71	4,432.9	3,728.0	-4,840.3	6,104.9	0.00	0.00	0.00
12,000.0	89.67	314.71	4,433.5	3,798.3	-4,911.4	6,204.5	0.00	0.00	0.00
12,100.0	89.67	314.71	4,434.1	3,868.7	-4,982.5	6,304.2	0.00	0.00	0.00
12,200.0	89.67	314.71	4,434.7	3,939.0	-5,053.5	6,403.8	0.00	0.00	0.00
12,300.0	89.67	314.71	4,435.2	4,009.4	-5,124.6	6,503.4	0.00	0.00	0.00
12,400.0	89.67	314.71	4,435.8	4,079.7	-5,195.7	6,603.1	0.00	0.00	0.00
12,500.0	89.67	314.71	4,436.4	4,150.1	-5,266.7	6,702.7	0.00	0.00	0.00
12,600.0	89.67	314.71	4,436.9	4,220.4	-5,337.8	6,802.4	0.00	0.00	0.00
12,700.0	89.67	314.71	4,437.5	4,290.8	-5,408.9	6,902.0	0.00	0.00	0.00
12,800.0	89.67	314.71	4,438.1	4,361.1	-5,479.9	7,001.6	0.00	0.00	0.00
12,900.0	89.67	314.71	4,438.7	4,431.5	-5,551.0	7,101.3	0.00	0.00	0.00
13,000.0	89.67	314.71	4,439.2	4,501.9	-5,622.1	7,200.9	0.00	0.00	0.00
13,100.0	89.67	314.71	4,439.8	4,572.2	-5,693.1	7,300.5	0.00	0.00	0.00
13,200.0	89.67	314.71	4,440.4	4,642.6	-5,764.2	7,400.2	0.00	0.00	0.00
13,300.0	89.67	314.71	4,440.9	4,712.9	-5,835.2	7,499.8	0.00	0.00	0.00
13,400.0	89.67	314.71	4,441.5	4,783.3	-5,906.3	7,599.5	0.00	0.00	0.00
13,500.0	89.67	314.71	4,442.1	4,853.6	-5,977.4	7,699.1	0.00	0.00	0.00
13,600.0	89.67	314.71	4,442.7	4,924.0	-6,048.4	7,798.7	0.00	0.00	0.00
13,700.0	89.67	314.71	4,443.2	4,994.3	-6,119.5	7,898.4	0.00	0.00	0.00
13,800.0	89.67	314.71	4,443.8	5,064.7	-6,190.6	7,998.0	0.00	0.00	0.00
13,900.0	89.67	314.71	4,444.4	5,135.0	-6,261.6	8,097.6	0.00	0.00	0.00
14,000.0	89.67	314.71	4,444.9	5,205.4	-6,332.7	8,197.3	0.00	0.00	0.00
14,100.0	89.67	314.71	4,445.5	5,275.7	-6,403.8	8,296.9	0.00	0.00	0.00
14,200.0	89.67	314.71	4,446.1	5,346.1	-6,474.8	8,396.6	0.00	0.00	0.00
14,300.0	89.67	314.71	4,446.7	5,416.4	-6,545.9	8,496.2	0.00	0.00	0.00
14,400.0	89.67	314.71	4,447.2	5,486.8	-6,617.0	8,595.8	0.00	0.00	0.00
14,500.0	89.67	314.71	4,447.8	5,557.1	-6,688.0	8,695.5	0.00	0.00	0.00
14,600.0	89.67	314.71	4,448.4	5,627.5	-6,759.1	8,795.1	0.00	0.00	0.00
14,700.0	89.67	314.71	4,448.9	5,697.8	-6,830.2	8,894.7	0.00	0.00	0.00
14,710.2	89.67	314.71	4,449.0	5,705.0	-6,837.4	8,904.9	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
774H KOP - plan hits target center - Point	0.00	359.98	3,560.0	-1,349.8	450.5	1,892,447.27	2,734,810.04	36.200954°N	107.793615°W
774H POE - plan hits target center - Point	0.00	359.98	4,394.0	-1,065.1	1.3	1,892,731.97	2,734,360.82	36.201737°N	107.795137°W
774H BHL - plan misses target center by 4.0usft at 14674.8usft MD (4448.8 TVD, 5680.1 N, -6812.3 E) - Point	0.00	359.99	4,449.0	5,677.3	-6,815.0	1,899,474.41	2,727,544.48	36.220264°N	107.818237°W



Planning Report

Database: EDM
Company: Enduring Resources LLC
Project: San Juan Basin - Kimbeto Wash Unit
Site: 736H Pad
Well: 774H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well 774H
TVD Reference: KB @ 6562.0usft (Original Well Elev)
MD Reference: KB @ 6562.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
300.0	300.0	13 3/8"	13-3/8	17-1/2
3,266.6	3,000.0	9 5/8"	9-5/8	12-1/4

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
74.0	74.0	Ojo Alamo		0.00	
171.0	171.0	Kirtland		0.00	
431.0	431.0	Fruitland		0.00	
782.0	781.0	Pictured Cliffs		0.00	
991.4	986.0	Lewis		0.00	
1,185.6	1,171.0	Chacra		0.00	
2,324.4	2,176.0	Cliff House		0.00	
2,341.5	2,191.0	Menefee		0.00	
3,473.6	3,181.0	Point Lookout		0.00	
3,789.2	3,457.0	Mancos		0.00	
4,014.4	3,658.0	Gallup (MNCS_A)		0.00	
4,132.0	3,772.0	MNCS_B		0.00	
4,250.2	3,889.0	MNCS_Cms		0.00	
4,385.3	4,019.0	MNCS_D		0.00	
4,539.9	4,154.0	MNCS_E		0.00	
4,626.8	4,220.0	MNCS_F		0.00	
4,728.9	4,286.0	MNCS_G		0.00	
4,825.2	4,335.0	MNCS_H		0.00	
4,929.3	4,372.0	MNCS_I		0.00	

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

in Bloomfield, NM to Enduring Resources, LLC Kimbeto Wash Unit #774H

181' FNL & 2337' FWL, Section 28, T23N, R9W, N.M.P.M., San Juan County, NM

Latitude: 36.204663°N Longitude: 107.795140°W Datum: NAD1983

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 37.8 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 0.5 miles to begin Enduring W Lybrook Unit #720H existing access on right-hand side of County Road;

Go Right (Westerly) exiting County Road #7890 onto Enduring W Lybrook Unit #720H existing access for 0.6 miles to fork in roadway;

Go Left (Westerly) which is straight, onto Enduring W Lybrook Unit #726H existing access for 0.7 miles to fork in roadway;

Go Left (Westerly) which is straight, onto Enduring W Lybrook Unit #730H existing access for 1.9 miles to proposed access on right-hand side of roadway which continues for 2093.2' to staked Enduring Kimbeto Wash Unit #774H location.

WELL NAME: KIMBETO WASH UNIT 774H**OBJECTIVE:** Drill, complete, and equip single lateral in the Mancos-I formation**API Number:** 30-045-35823**State:** New Mexico**County:** San Juan**Surface Elev.:** 6,534 ft ASL (GL) 6,562 ft ASL (KB)**Surface Location:** 28-23N-09W Sec-Twn- Rng 181 ft FNL 2,337 ft FWL**BH Location:** 19-23N-09W Sec-Twn- Rng 226 ft FSL 860 ft FWL

Driving Directions: FROM THE INTERSECTION OF US HWY 550 & US HWY 64 IN BLOOMFIELD, NM: South on US Hwy 550 for 37.8 miles to MM 113.4; Right (SW) on CR 7890 for 0.8 miles to fork; Left (S) remaining on 7890 for 1.3 miles to 4-way intersection; Left (SE) on 7890 for 0.6 miles to fork; Right (SW) remaining on 7890 for 0.5 miles; Right (W) on access road for W Lybrook Unit 720H location for 0.6 miles to fork; Left (W) on access road for W Lybrook Unit 726H location for 0.7 miles to fork; Left (W) on access road for W Lybrook Unit 730H location for 1.9 miles; Right (N) on access road for 0.4 miles to Kimbeto Wash Unit 736H Pad (Wells: KWU 772H, 774H, 793H, 794H, 795H).

QUICK REFERENCE

Sur TD (MD)	300 ft
Int TD (MD)	3,267 ft
KOP (MD)	3,907 ft
KOP (TVD)	3,560 ft
Target (TVD)	4,394 ft
Curve BUR	10 °/100 ft
POE (MD)	5,087 ft
TD (MD)	14,710 ft
Lat Len (ft)	9,623 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	300	13.375	54.5	J-55	BTC	0	300
Intermediate	12.250	3,267	9.625	36.0	J-55	LTC	0	3,267
Production	8.500	14,710	5.500	17.0	P-110	LTC	0	14,710

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	1.18	5.24	0.6946	100%	0	353
Inter. (Lead)	G:POZ Blend	12.3	1.96	10.12	0.3627	70%	0	765
Inter. (Tail)	Class G	15.8	1.148	4.98	0.3132	20%	2,767	164
Prod. (Lead)	G:POZ blend	12.3	1.960	10.11	0.2691	50%	0	804
Prod. (Tail)	G:POZ blend	13.3	1.354	5.94	0.2291	10%	4,014	1,991

COMPLETION / PRODUCTION SUMMARY:**Frac:** 55 plug-and-perf stages with 220,000 bbls slickwater fluid and 18,000,000 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