

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

Form C-104
Revised August 1, 2011

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit one copy to appropriate District Office

☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address Enduring Resources IV LLC. 200 Energy Court Farmington NM 87401		² OGRID Number 372286	
		³ Reason for Filing Code/ Effective Date RT	
⁴ API Number 30-045-38189	⁵ Pool Name LYBROOK MANCOS W		⁶ Pool Code 98157
⁷ Property Code 321259	⁸ Property Name W LYBROOK UNIT		⁹ Well Number #863H

II. ¹⁰ Surface Location

UL or lot no. C	Section 27	Township 23N	Range 9W	Lot Idn	Feet from the 1201'	North/South Line North	Feet from the 2446'	East/West line West	County San Juan
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¹¹ Bottom Hole Location

UL or lot no. D	Section 21	Township 23N	Range 9W	Lot Idn	Feet from the 165'	North/South line North	Feet from the 832'	East/West line West	County San Juan
¹² Lse Code F	¹³ Producing Method Code		¹⁴ Gas Connection Date 7/18/2022		¹⁵ C-129 Permit Number		¹⁶ C-129 Effective Date		¹⁷ C-129 Expiration Date

III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
248440	WESTERN REFINING COMPANY, LLC	O
373888	HARVEST FOUR CORNERS. LLC	G

IV. Well Completion Data

²¹ Spud Date 2/14/2022	²² Ready Date 7/18/2022	²³ TD 13899' MD 4186' TVD	²⁴ PBDT 13794' MD 4184' TVD	²⁵ Perforations ~ 4403' - 13789' MD ~ 4051' -4184' TVD	²⁶ DHC, MC R-14051	
²⁷ Hole Size		²⁸ Casing & Tubing Size		²⁹ Depth Set		³⁰ Sacks Cement
17-1/2"		13-3/8",54.5#, J-55		360.76' MD		350 sx - surface
12-1/4"		9-5/8",36#, J-55		2535' MD		606 sx- surface
8-1/2"		5-1/2",17#, P-110		13899' MD		2124 sx- surface

V. Well Test Data

³¹ Date New Oil	³² Gas Delivery Date	³³ Test Date	³⁴ Test Length	³⁵ Tbg. Pressure	³⁶ Csg. Pressure
³⁷ Choke Size	³⁸ Oil	³⁹ Water	⁴⁰ Gas		⁴¹ Test Method

⁴² I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

Signature:

Kayla White

Printed name:
Kayla White

Title:
Environmental Engineer

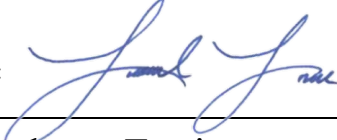
E-mail Address:
kwhite@cdhconsult.com

Date:
5/19/2022

Phone:
720-768-3575

OIL CONSERVATION DIVISION

Approved by:



Title:
Petroleum Engineer

Approval Date:
07/08/22

COA: RT expires on 10/08/22



ENDURING RESOURCES IV LLC

May 19, 2022

Re: W LYBROOK UNIT 863H-30-045-38189

Pursuant to NMOCD rule 19.15.7.16(C) request is herein made to keep all data and accompanying attachments contained in form C-105 confidential.

Sincerely,

A handwritten signature in blue ink, appearing to read "Heather Huntington".

Heather Huntington
Permitting Technician
Enduring Resources, LLC.
hhuntington@enduringresources.com

District I
612 E. 2nd St. Santa Fe, NM 87501
Phone: (505) 393-6161 Fax: (505) 393-0720

District II
811 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

Submit one copy to
Appropriate District Office

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

☐ AMENDED REPORT

AS-DRILLED WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-38189	² Pool Code 98157	³ Pool Name LYBROOK MANCOS W
⁴ Property Code 321259	⁵ Property Name W LYBROOK UNIT	⁶ Well Number 863H
⁷ GRID No. 372286	⁸ Operator Name ENDURING RESOURCES, LLC	⁹ Elevation 6641'

¹⁰ Surface Location

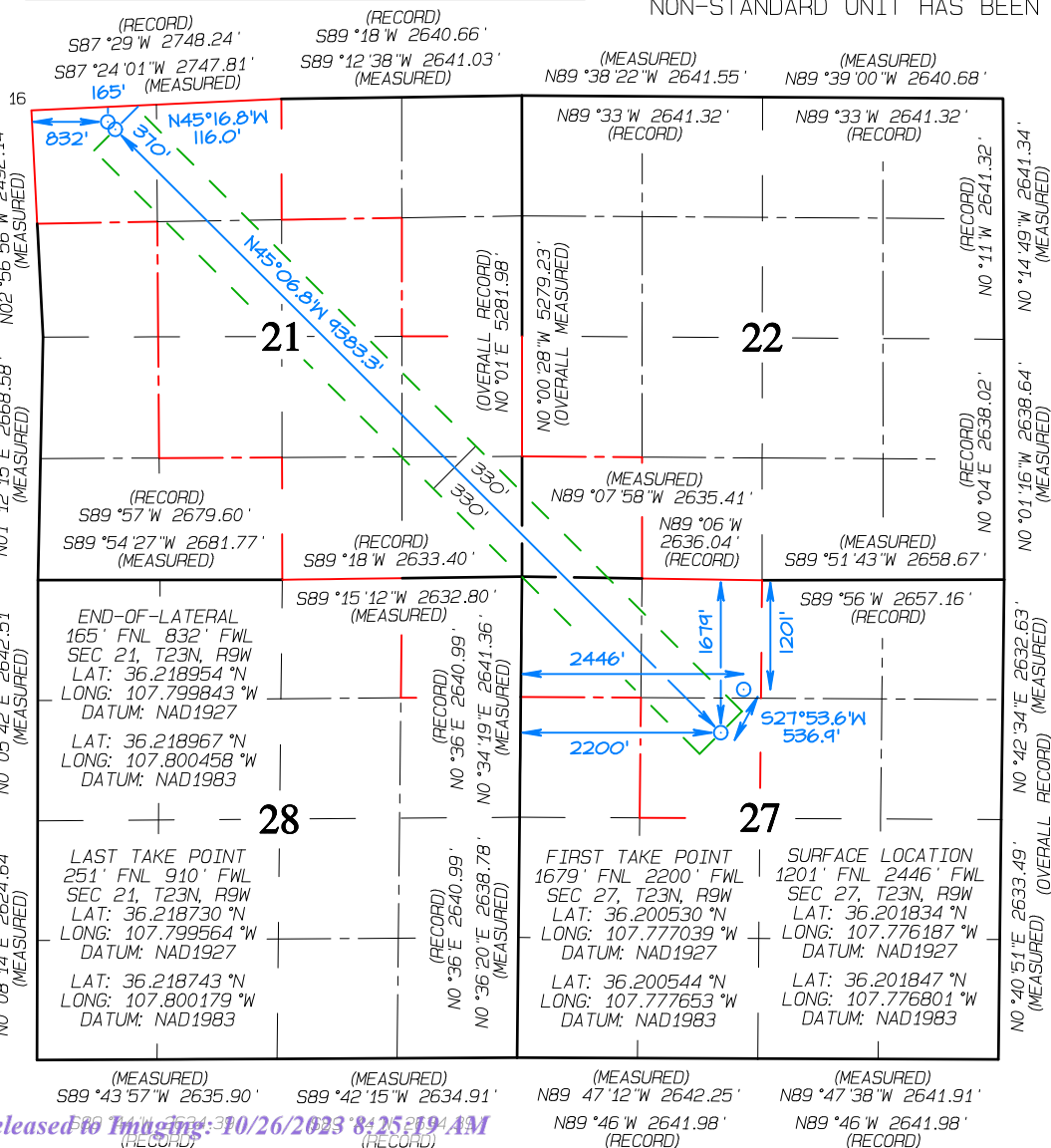
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	27	23N	9W		1201	NORTH	2446	WEST	SAN JUAN

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
D	21	23N	9W		165	NORTH	832	WEST	SAN JUAN

¹² Dedicated Acres 560.00	SE/4 SE/4 - Section 28 SW/4 SW/4 - Section 22 N/2 NW/4, SE/4 NW/4 - Section 27 N/2 NW/4, SE/4 NW/4, SW/4 NE/4 SE/4 SW/4, SE/4 - Section 21	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-14051 - 12,807.24 Acres
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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 Heather Huntington Date 5-10-22
Printed Name hhuntington@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: MAY 4, 2022
Date of Survey: MARCH 10, 2016

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

District I
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 393-6161 Fax: (505) 393-0720

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811 S. First Street, Artesia, NM 88210
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⁴ Property Code 321259	⁵ Property Name W LYBROOK UNIT	⁶ Well Number 863H
⁷ GRID No. 372286	⁸ Operator Name ENDURING RESOURCES, LLC	⁹ Elevation 6641'

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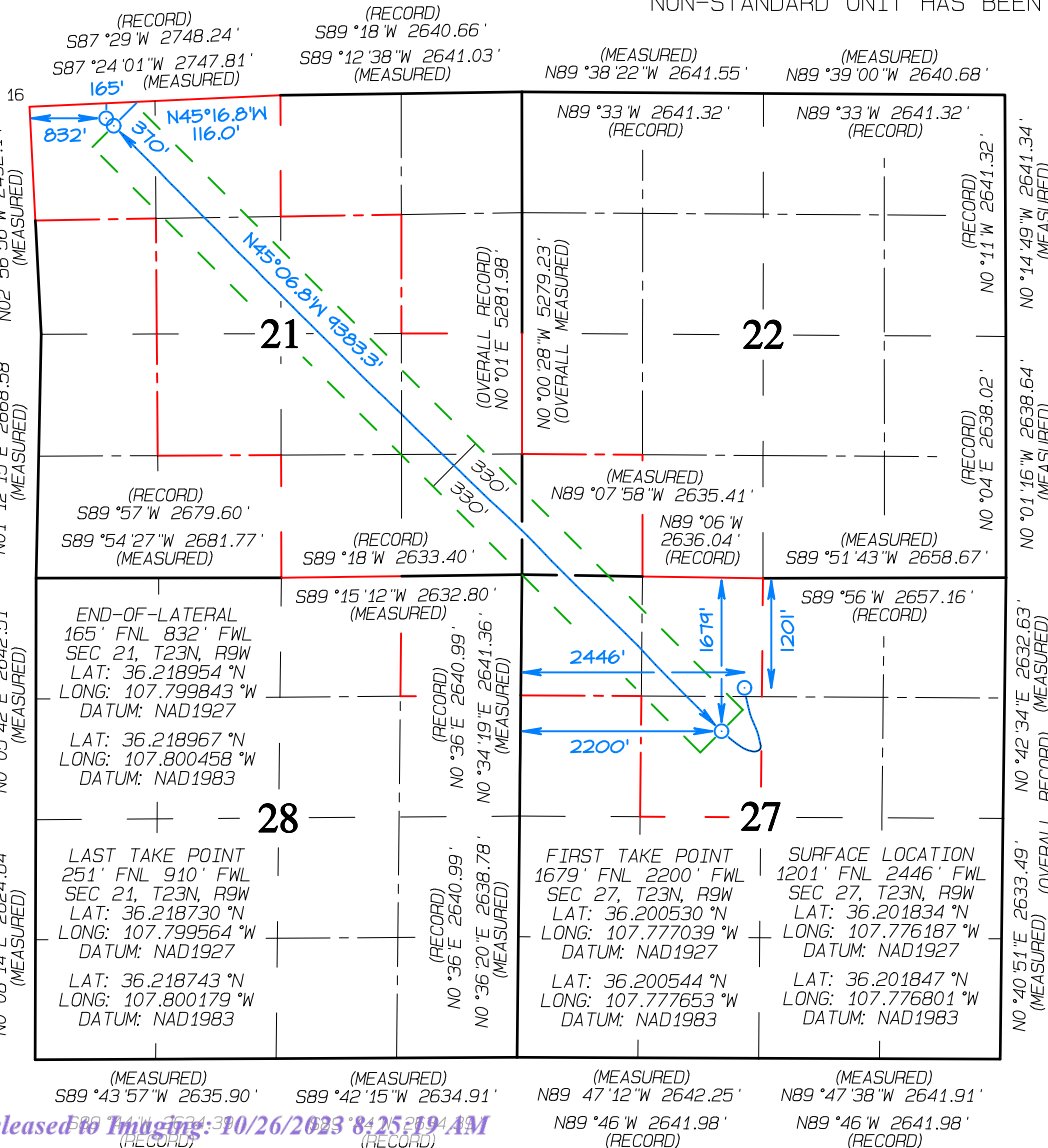
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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Signature: *Heather Huntington* Date: **5-10-22**
Printed Name: **Heather Huntington**
E-mail Address: **hhuntington@enduringresources.com**

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Date Revised: **MAY 4, 2022**
Date of Survey: **MARCH 10, 2016**

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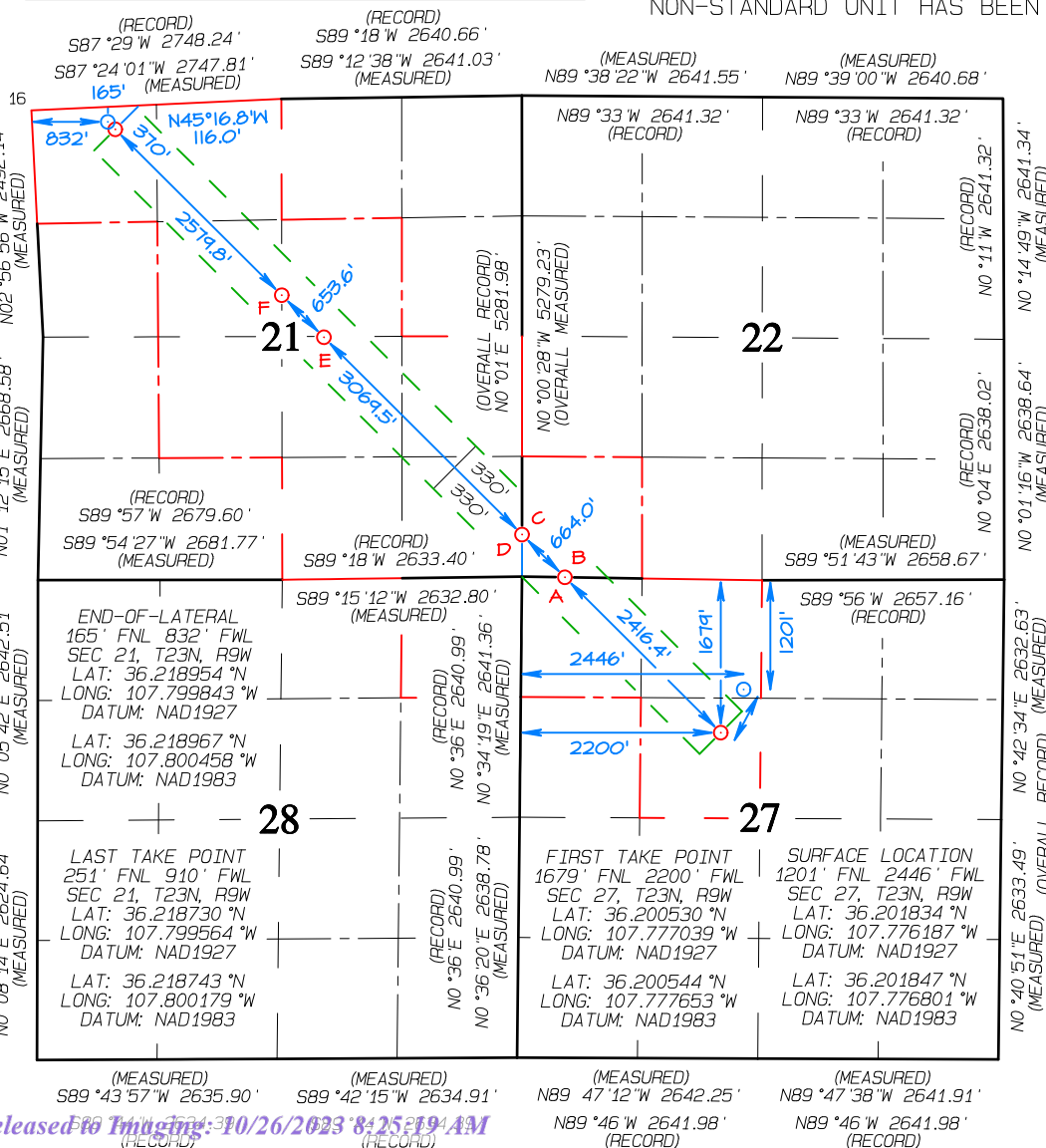
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Signature: Heather Huntington Date: 5-10-22
Printed Name: Heather Huntington
E-mail Address: hhuntington@enduringresources.com

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Date Revised: MAY 4, 2022
Date of Survey: MARCH 10, 2016

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

(A) 0' FNL 470' FWL
SEC 27, T23N, R9W
LAT: 36.205218 °N
LONG: 107.782839 °W
DATUM: NAD1927

LAT: 36.205231 °N
LONG: 107.783453 °W
DATUM: NAD1983

(B) 0' FSL 470' FWL
SEC 22, T23N, R9W
LAT: 36.205218 °N
LONG: 107.782839 °W
DATUM: NAD1927

LAT: 36.205231 °N
LONG: 107.783453 °W
DATUM: NAD1983

(C) 461' FSL 0' FWL
SEC 22, T23N, R9W
LAT: 36.206506 °N
LONG: 107.784433 °W
DATUM: NAD1927

LAT: 36.206519 °N
LONG: 107.785047 °W
DATUM: NAD1983

(D) 461' FSL 0' FEL
SEC 21, T23N, R9W
LAT: 36.206506 °N
LONG: 107.784433 °W
DATUM: NAD1927

LAT: 36.206519 °N
LONG: 107.785047 °W
DATUM: NAD1983

(E) 2656' FSL 2174' FEL
SEC 21, T23N, R9W
LAT: 36.212459 °N
LONG: 107.791801 °W
DATUM: NAD1927

LAT: 36.212472 °N
LONG: 107.792416 °W
DATUM: NAD1983

(F) 2154' FNL 2637' FEL
SEC 21, T23N, R9W
LAT: 36.213727 °N
LONG: 107.793370 °W
DATUM: NAD1927

LAT: 36.213740 °N
LONG: 107.793985 °W
DATUM: NAD1983



Company: Enduring Resources LLC
Well: W Lybrook Unit No. 863H
Site: W Lybrook 730 Pad (730, 763, 830, 861 & 863)
Project: San Juan County, New Mexico NAD83 NM W
Design: rev3
Rig: Ensigen 773

ANNOTATIONS SURVEYS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Annotation
400.00	0.79	326.990	399.99	2.31	-1.50	2.70	MWD surveys
2453.00	25.84	165.630	2411.28	-235.45	47.30	-199.68	Survey @ 2453.00 MD 2411.28 TVD

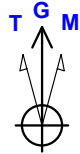
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Western Zone
System Datum: Mean Sea Level
Depth Reference: RKB=6641+28 @ 6669.00ft (Ensigen 773)

Northing 1892774.650 Easting 2739770.503 Latitude 36.201847000 Longitude -107.776801000

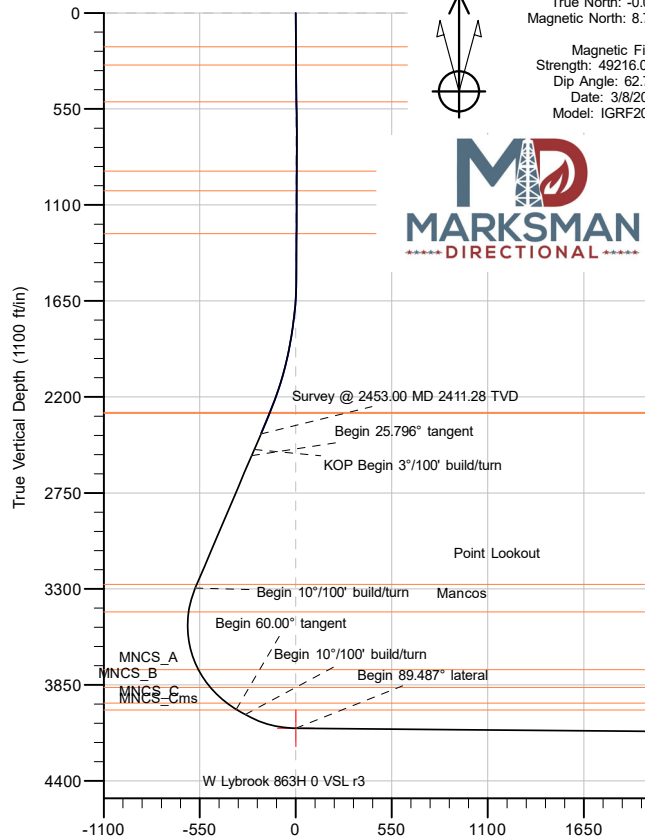
Total Corr (M=>G): To convert a Magnetic Direction to a Grid Direction, Add 8.70°

CASING DETAILS

TVD	MD	Name
350.00	350.01	13 3/8" Casing
2459.00	2506.02	9 5/8" Casing



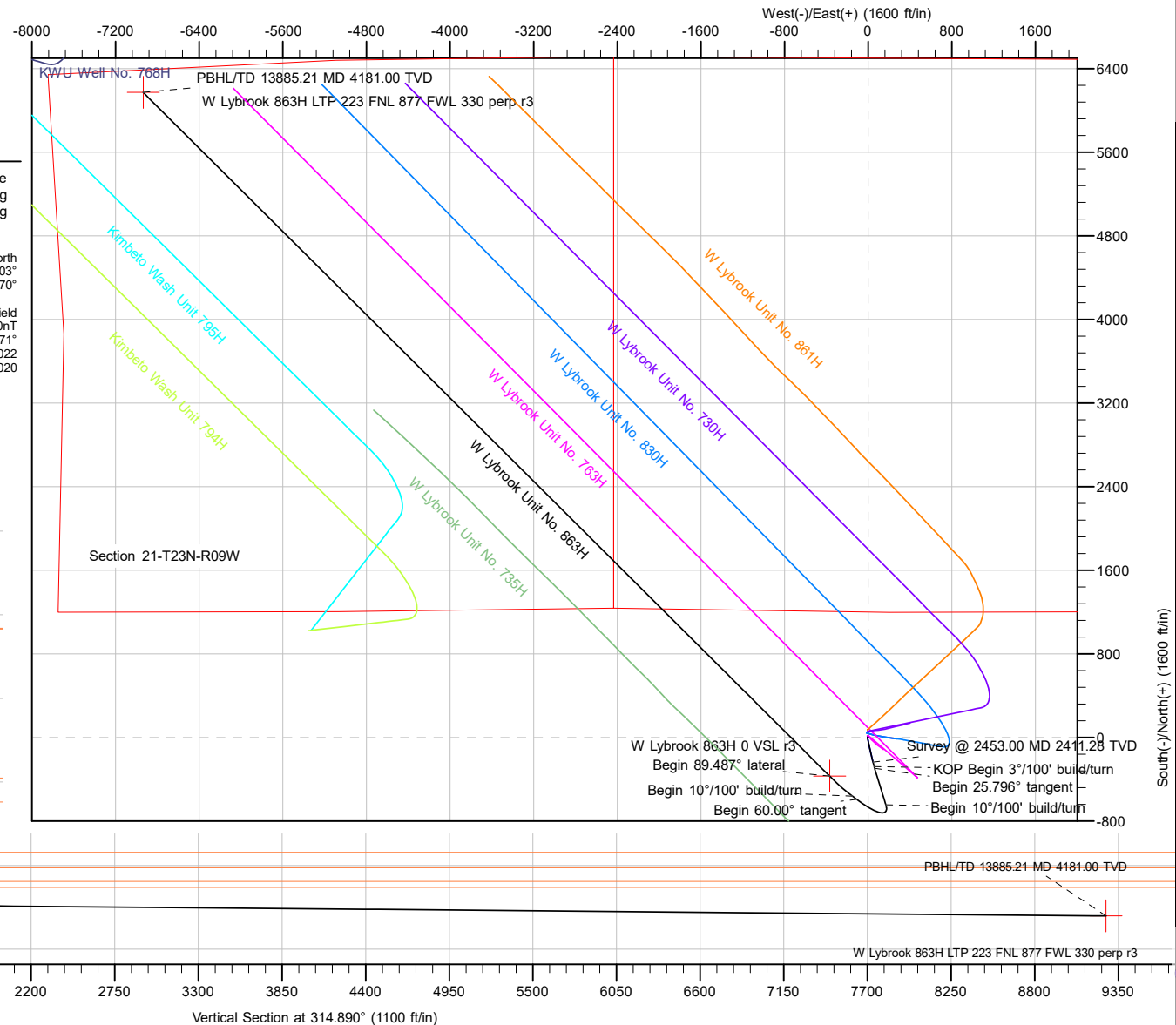
Azimuths to Grid North
True North: -0.03°
Magnetic North: 8.70°
Magnetic Field
Strength: 49216.0nT
Dip Angle: 62.71°
Date: 3/8/2022
Model: IGRF2020



Section Details											
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation	
1, 861 & 863) AD83 NM W	1	2453.00	25.84	165.630	2411.28	-235.45	47.30	0.00	0.00	-199.68	Survey @ 2453.00 MD 2411.28 TVD
	2	2553.00	25.84	165.630	2501.28	-277.67	58.12	0.00	0.00	-237.14	KOP Begin 3°/100' build/turn
	3	2591.81	25.80	162.958	2536.22	-293.94	62.69	3.00	-93.37	-251.86	Begin 25.796° tangent
	4	3434.72	25.80	162.958	3295.13	-644.64	170.19	0.00	0.00	-575.53	Begin 10°/100' build/turn
	5	4251.62	60.00	307.153	3988.79	-591.65	-108.55	10.00	149.20	-340.66	Begin 60.00° tangent
	6	4311.62	60.00	307.153	4018.79	-560.27	-149.96	0.00	0.00	-289.17	Begin 10°/100' build/turn
	7	4615.54	89.49	314.893	4098.00	-369.03	-367.63	10.00	15.44	0.01	Begin 89.487° lateral
	8	13885.21	89.49	314.893	4181.00	6173.15	-6934.19	0.00	0.00	9269.30	PBHL/TD 13885.21 MD 4181.00 TVD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
W Lybrook 863H 0 VSL r3	4098.00	-369.03	-367.63	1892405.620	2739402.874	36.200833821	-107.778047779
W Lybrook 863H LTP 223 FNL 877 FWL 330 perp r3	4181.00	6173.15	-6934.19	1898947.785	2732836.332	36.218814000	-107.800297000



Vertical Section at 314.890° (1100 ft/in)



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well W Lybrook Unit No. 863H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Site:	W Lybrook 730 Pad (730, 763, 830, 861 & 863)	North Reference:	Grid
Well:	W Lybrook Unit No. 863H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Project	San Juan County, New Mexico NAD83 NM W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site	W Lybrook 730 Pad (730, 763, 830, 861 & 863)		
Site Position:		Northing:	1,888,164.052 usft
From:	Lat/Long	Easting:	2,741,098.391 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	36.189179000
		Longitude:	-107.772310000

Well	W Lybrook Unit No. 863H, Surf loc: 1201 FNL 2446 FWL Section 27-T23N-09W			
Well Position	+N/-S	0.00 ft	Northing:	1,892,774.650 usft
	+E/-W	0.00 ft	Easting:	2,739,770.503 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft
Grid Convergence:		0.03 °	Ground Level:	6,641.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	3/8/2022	8.74	62.71	49,216.01313148

Design	rev3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	2,453.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	314.890

Plan Survey Tool Program	Date	3/30/2022		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	400.00	2,453.00	MWD surf (Original Hole)	MWD
				OWSG MWD - Standard
2	2,453.00	13,885.15	rev3 (Original Hole)	MWD
				OWSG MWD - Standard



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well W Lybrook Unit No. 863H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
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Well:	W Lybrook Unit No. 863H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
2,453.00	25.84	165.630	2,411.28	-235.45	47.30	0.00	0.00	0.00	0.00	
2,553.00	25.84	165.630	2,501.28	-277.67	58.12	0.00	0.00	0.00	0.00	
2,591.81	25.80	162.958	2,536.22	-293.94	62.69	3.00	-0.11	-6.88	-93.37	
3,434.72	25.80	162.958	3,295.13	-644.64	170.19	0.00	0.00	0.00	0.00	
4,251.62	60.00	307.153	3,988.79	-591.65	-108.55	10.00	4.19	17.65	149.20	
4,311.62	60.00	307.153	4,018.79	-560.27	-149.96	0.00	0.00	0.00	0.00	
4,615.54	89.49	314.893	4,098.00	-369.03	-367.63	10.00	9.70	2.55	15.44	
13,885.21	89.49	314.893	4,181.00	6,173.15	-6,934.19	0.00	0.00	0.00	0.00	W Lybrook 863H LTP



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well W Lybrook Unit No. 863H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Site:	W Lybrook 730 Pad (730, 763, 830, 861 & 863)	North Reference:	Grid
Well:	W Lybrook Unit No. 863H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.79	326.990	399.99	2.31	-1.50	2.70	0.20	0.20	0.00	
493.00	0.44	318.640	492.98	3.12	-2.09	3.68	0.39	-0.38	-8.98	
584.00	0.88	317.240	583.98	3.89	-2.79	4.73	0.48	0.48	-1.54	
675.00	0.44	311.790	674.97	4.64	-3.53	5.77	0.49	-0.48	-5.99	
766.00	0.53	182.060	765.97	4.45	-3.80	5.84	0.97	0.10	-142.56	
857.00	0.35	182.320	856.97	3.75	-3.83	5.36	0.20	-0.20	0.29	
948.00	0.66	217.300	947.96	3.06	-4.16	5.10	0.47	0.34	38.44	
1,039.00	0.22	204.740	1,038.96	2.48	-4.55	4.98	0.49	-0.48	-13.80	
1,132.00	0.26	210.450	1,131.96	2.14	-4.73	4.86	0.05	0.04	6.14	
1,226.00	0.57	183.640	1,225.96	1.49	-4.87	4.50	0.38	0.33	-28.52	
1,320.00	0.35	223.550	1,319.95	0.81	-5.10	4.18	0.40	-0.23	42.46	
1,414.00	0.57	209.130	1,413.95	0.20	-5.52	4.05	0.26	0.23	-15.34	
1,508.00	0.44	211.860	1,507.95	-0.52	-5.94	3.84	0.14	-0.14	2.90	
1,603.00	2.68	160.350	1,602.91	-2.92	-5.39	1.75	2.56	2.36	-54.22	
1,697.00	5.98	165.630	1,696.63	-9.73	-3.43	-4.44	3.53	3.51	5.62	
1,791.00	9.93	168.530	1,789.70	-22.43	-0.60	-15.40	4.22	4.20	3.09	
1,886.00	12.30	169.840	1,882.91	-40.42	2.81	-30.52	2.51	2.49	1.38	
1,981.00	14.24	168.440	1,975.37	-61.83	6.94	-48.55	2.07	2.04	-1.47	
2,075.00	17.89	166.420	2,065.69	-87.20	12.65	-70.50	3.93	3.88	-2.15	
2,170.00	22.02	166.680	2,154.97	-118.72	20.18	-98.09	4.35	4.35	0.27	
2,264.00	25.40	167.300	2,241.02	-155.55	28.67	-130.09	3.61	3.60	0.66	
2,358.00	25.84	167.300	2,325.78	-195.20	37.61	-164.41	0.47	0.47	0.00	
2,453.00	25.84	165.630	2,411.28	-235.45	47.30	-199.68	0.77	0.00	-1.76	
Survey @ 2453.00 MD 2411.28 TVD										
2,500.00	25.84	165.630	2,453.58	-255.30	52.38	-217.29	0.00	0.00	0.00	
2,553.00	25.84	165.630	2,501.28	-277.67	58.12	-237.14	0.00	0.00	0.00	
KOP Begin 3°/100' build/turn										
2,591.81	25.80	162.958	2,536.22	-293.94	62.69	-251.86	3.00	-0.11	-6.88	
Begin 25.796° tangent										
2,600.00	25.80	162.958	2,543.59	-297.35	63.74	-255.01	0.00	0.00	0.00	
2,700.00	25.80	162.958	2,633.63	-338.96	76.49	-293.41	0.00	0.00	0.00	
2,800.00	25.80	162.958	2,723.66	-380.56	89.24	-331.81	0.00	0.00	0.00	
2,900.00	25.80	162.958	2,813.70	-422.17	102.00	-370.20	0.00	0.00	0.00	
3,000.00	25.80	162.958	2,903.73	-463.77	114.75	-408.60	0.00	0.00	0.00	
3,100.00	25.80	162.958	2,993.77	-505.38	127.50	-447.00	0.00	0.00	0.00	
3,200.00	25.80	162.958	3,083.80	-546.98	140.26	-485.40	0.00	0.00	0.00	
3,300.00	25.80	162.958	3,173.84	-588.59	153.01	-523.80	0.00	0.00	0.00	
3,400.00	25.80	162.958	3,263.87	-630.20	165.76	-562.20	0.00	0.00	0.00	
3,411.25	25.80	162.958	3,274.00	-634.88	167.20	-566.52	0.00	0.00	0.00	
Point Lookout										
3,434.72	25.80	162.958	3,295.13	-644.64	170.19	-575.53	0.00	0.00	0.00	
Begin 10°/100' build/turn										
3,450.00	24.49	164.845	3,308.96	-650.88	171.99	-581.21	10.00	-8.51	12.35	
3,500.00	20.44	172.552	3,355.17	-669.55	175.84	-597.11	10.00	-8.10	15.41	
3,550.00	16.88	183.587	3,402.55	-685.47	176.52	-608.82	10.00	-7.12	22.07	
3,580.64	15.10	192.643	3,432.00	-693.81	175.36	-613.89	10.00	-5.83	29.56	
Mancos										
3,600.00	14.19	199.414	3,450.74	-698.51	174.02	-616.26	10.00	-4.69	34.97	
3,650.00	12.91	220.175	3,499.37	-708.56	168.38	-619.36	10.00	-2.55	41.52	
3,700.00	13.47	242.084	3,548.08	-715.56	159.62	-618.09	10.00	1.10	43.82	
3,750.00	15.65	260.086	3,596.50	-719.45	147.83	-612.48	10.00	4.38	36.00	



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well W Lybrook Unit No. 863H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Site:	W Lybrook 730 Pad (730, 763, 830, 861 & 863)	North Reference:	Grid
Well:	W Lybrook Unit No. 863H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
3,800.00	18.92	272.911	3,644.25	-720.20	133.08	-602.56	10.00	6.53	25.65	
3,850.00	22.80	281.802	3,690.98	-717.81	115.49	-588.41	10.00	7.77	17.78	
3,900.00	27.04	288.130	3,736.32	-712.28	95.19	-570.13	10.00	8.47	12.66	
3,930.33	29.72	291.129	3,763.00	-707.43	81.63	-557.10	10.00	8.83	9.89	
MNCS_A										
3,950.00	31.48	292.822	3,779.93	-703.68	72.34	-547.87	10.00	8.99	8.61	
4,000.00	36.06	296.444	3,821.49	-692.05	47.11	-521.79	10.00	9.16	7.24	
4,050.00	40.73	299.342	3,860.67	-677.50	19.70	-492.10	10.00	9.33	5.80	
4,054.41	41.14	299.571	3,864.00	-676.08	17.18	-489.31	10.00	9.40	5.19	
MNCS_B										
4,100.00	45.45	301.735	3,897.17	-660.12	-9.69	-459.01	10.00	9.46	4.75	
4,150.00	50.22	303.767	3,930.73	-640.06	-40.84	-422.79	10.00	9.54	4.06	
4,187.84	53.85	305.125	3,954.00	-623.18	-65.43	-393.45	10.00	9.59	3.59	
MNCS_C										
4,200.00	55.02	305.534	3,961.07	-617.46	-73.50	-383.70	10.00	9.62	3.37	
4,251.62	60.00	307.153	3,988.79	-591.65	-108.55	-340.66	10.00	9.64	3.14	
Begin 60.00° tangent										
4,262.04	60.00	307.153	3,994.00	-586.20	-115.74	-331.71	0.00	0.00	0.00	
MNCS_Cms										
4,300.00	60.00	307.153	4,012.98	-566.35	-141.94	-299.14	0.00	0.00	0.00	
4,311.62	60.00	307.153	4,018.79	-560.27	-149.96	-289.17	0.00	0.00	0.00	
Begin 10°/100' build/turn										
4,350.00	63.70	308.292	4,036.90	-539.56	-176.72	-255.59	10.00	9.65	2.97	
4,400.00	68.54	309.672	4,057.13	-510.80	-212.24	-210.13	10.00	9.68	2.76	
4,450.00	73.39	310.963	4,073.43	-480.22	-248.27	-163.03	10.00	9.70	2.58	
4,500.00	78.25	312.190	4,085.67	-448.06	-284.52	-114.65	10.00	9.71	2.45	
4,550.00	83.11	313.374	4,093.77	-414.55	-320.72	-65.36	10.00	9.72	2.37	
4,600.00	87.97	314.535	4,097.65	-379.96	-356.59	-15.53	10.00	9.73	2.32	
4,615.54	89.49	314.893	4,098.00	-369.03	-367.63	0.01	10.00	9.73	2.31	
Begin 89.487° lateral										
4,700.00	89.49	314.893	4,098.76	-309.43	-427.46	84.46	0.00	0.00	0.00	
4,800.00	89.49	314.893	4,099.65	-238.85	-498.30	184.46	0.00	0.00	0.00	
4,900.00	89.49	314.893	4,100.55	-168.27	-569.14	284.45	0.00	0.00	0.00	
5,000.00	89.49	314.893	4,101.44	-97.70	-639.98	384.45	0.00	0.00	0.00	
5,100.00	89.49	314.893	4,102.34	-27.12	-710.82	484.45	0.00	0.00	0.00	
5,200.00	89.49	314.893	4,103.23	43.46	-781.65	584.44	0.00	0.00	0.00	
5,300.00	89.49	314.893	4,104.13	114.03	-852.49	684.44	0.00	0.00	0.00	
5,400.00	89.49	314.893	4,105.02	184.61	-923.33	784.43	0.00	0.00	0.00	
5,500.00	89.49	314.893	4,105.92	255.18	-994.17	884.43	0.00	0.00	0.00	
5,600.00	89.49	314.893	4,106.81	325.76	-1,065.01	984.43	0.00	0.00	0.00	
5,700.00	89.49	314.893	4,107.71	396.34	-1,135.85	1,084.42	0.00	0.00	0.00	
5,800.00	89.49	314.893	4,108.60	466.91	-1,206.69	1,184.42	0.00	0.00	0.00	
5,900.00	89.49	314.893	4,109.50	537.49	-1,277.53	1,284.41	0.00	0.00	0.00	
6,000.00	89.49	314.893	4,110.40	608.07	-1,348.37	1,384.41	0.00	0.00	0.00	
6,100.00	89.49	314.893	4,111.29	678.64	-1,419.21	1,484.41	0.00	0.00	0.00	
6,200.00	89.49	314.893	4,112.19	749.22	-1,490.05	1,584.40	0.00	0.00	0.00	
6,300.00	89.49	314.893	4,113.08	819.79	-1,560.89	1,684.40	0.00	0.00	0.00	
6,400.00	89.49	314.893	4,113.98	890.37	-1,631.73	1,784.39	0.00	0.00	0.00	
6,500.00	89.49	314.893	4,114.87	960.95	-1,702.56	1,884.39	0.00	0.00	0.00	
6,600.00	89.49	314.893	4,115.77	1,031.52	-1,773.40	1,984.39	0.00	0.00	0.00	
6,700.00	89.49	314.893	4,116.66	1,102.10	-1,844.24	2,084.38	0.00	0.00	0.00	
6,800.00	89.49	314.893	4,117.56	1,172.68	-1,915.08	2,184.38	0.00	0.00	0.00	



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well W Lybrook Unit No. 863H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Site:	W Lybrook 730 Pad (730, 763, 830, 861 & 863)	North Reference:	Grid
Well:	W Lybrook Unit No. 863H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
6,900.00	89.49	314.893	4,118.45	1,243.25	-1,985.92	2,284.37	0.00	0.00	0.00	
7,000.00	89.49	314.893	4,119.35	1,313.83	-2,056.76	2,384.37	0.00	0.00	0.00	
7,100.00	89.49	314.893	4,120.24	1,384.40	-2,127.60	2,484.37	0.00	0.00	0.00	
7,200.00	89.49	314.893	4,121.14	1,454.98	-2,198.44	2,584.36	0.00	0.00	0.00	
7,300.00	89.49	314.893	4,122.04	1,525.56	-2,269.28	2,684.36	0.00	0.00	0.00	
7,400.00	89.49	314.893	4,122.93	1,596.13	-2,340.12	2,784.35	0.00	0.00	0.00	
7,500.00	89.49	314.893	4,123.83	1,666.71	-2,410.96	2,884.35	0.00	0.00	0.00	
7,600.00	89.49	314.893	4,124.72	1,737.29	-2,481.80	2,984.35	0.00	0.00	0.00	
7,700.00	89.49	314.893	4,125.62	1,807.86	-2,552.63	3,084.34	0.00	0.00	0.00	
7,800.00	89.49	314.893	4,126.51	1,878.44	-2,623.47	3,184.34	0.00	0.00	0.00	
7,900.00	89.49	314.893	4,127.41	1,949.01	-2,694.31	3,284.33	0.00	0.00	0.00	
8,000.00	89.49	314.893	4,128.30	2,019.59	-2,765.15	3,384.33	0.00	0.00	0.00	
8,100.00	89.49	314.893	4,129.20	2,090.17	-2,835.99	3,484.33	0.00	0.00	0.00	
8,200.00	89.49	314.893	4,130.09	2,160.74	-2,906.83	3,584.32	0.00	0.00	0.00	
8,300.00	89.49	314.893	4,130.99	2,231.32	-2,977.67	3,684.32	0.00	0.00	0.00	
8,400.00	89.49	314.893	4,131.89	2,301.90	-3,048.51	3,784.31	0.00	0.00	0.00	
8,500.00	89.49	314.893	4,132.78	2,372.47	-3,119.35	3,884.31	0.00	0.00	0.00	
8,600.00	89.49	314.893	4,133.68	2,443.05	-3,190.19	3,984.31	0.00	0.00	0.00	
8,700.00	89.49	314.893	4,134.57	2,513.62	-3,261.03	4,084.30	0.00	0.00	0.00	
8,800.00	89.49	314.893	4,135.47	2,584.20	-3,331.87	4,184.30	0.00	0.00	0.00	
8,900.00	89.49	314.893	4,136.36	2,654.78	-3,402.71	4,284.29	0.00	0.00	0.00	
9,000.00	89.49	314.893	4,137.26	2,725.35	-3,473.54	4,384.29	0.00	0.00	0.00	
9,100.00	89.49	314.893	4,138.15	2,795.93	-3,544.38	4,484.29	0.00	0.00	0.00	
9,200.00	89.49	314.893	4,139.05	2,866.51	-3,615.22	4,584.28	0.00	0.00	0.00	
9,300.00	89.49	314.893	4,139.94	2,937.08	-3,686.06	4,684.28	0.00	0.00	0.00	
9,400.00	89.49	314.893	4,140.84	3,007.66	-3,756.90	4,784.27	0.00	0.00	0.00	
9,500.00	89.49	314.893	4,141.73	3,078.23	-3,827.74	4,884.27	0.00	0.00	0.00	
9,600.00	89.49	314.893	4,142.63	3,148.81	-3,898.58	4,984.27	0.00	0.00	0.00	
9,700.00	89.49	314.893	4,143.53	3,219.39	-3,969.42	5,084.26	0.00	0.00	0.00	
9,800.00	89.49	314.893	4,144.42	3,289.96	-4,040.26	5,184.26	0.00	0.00	0.00	
9,900.00	89.49	314.893	4,145.32	3,360.54	-4,111.10	5,284.25	0.00	0.00	0.00	
10,000.00	89.49	314.893	4,146.21	3,431.12	-4,181.94	5,384.25	0.00	0.00	0.00	
10,100.00	89.49	314.893	4,147.11	3,501.69	-4,252.78	5,484.25	0.00	0.00	0.00	
10,200.00	89.49	314.893	4,148.00	3,572.27	-4,323.61	5,584.24	0.00	0.00	0.00	
10,300.00	89.49	314.893	4,148.90	3,642.84	-4,394.45	5,684.24	0.00	0.00	0.00	
10,400.00	89.49	314.893	4,149.79	3,713.42	-4,465.29	5,784.23	0.00	0.00	0.00	
10,500.00	89.49	314.893	4,150.69	3,784.00	-4,536.13	5,884.23	0.00	0.00	0.00	
10,600.00	89.49	314.893	4,151.58	3,854.57	-4,606.97	5,984.23	0.00	0.00	0.00	
10,700.00	89.49	314.893	4,152.48	3,925.15	-4,677.81	6,084.22	0.00	0.00	0.00	
10,800.00	89.49	314.893	4,153.37	3,995.73	-4,748.65	6,184.22	0.00	0.00	0.00	
10,900.00	89.49	314.893	4,154.27	4,066.30	-4,819.49	6,284.21	0.00	0.00	0.00	
11,000.00	89.49	314.893	4,155.17	4,136.88	-4,890.33	6,384.21	0.00	0.00	0.00	
11,100.00	89.49	314.893	4,156.06	4,207.45	-4,961.17	6,484.21	0.00	0.00	0.00	
11,200.00	89.49	314.893	4,156.96	4,278.03	-5,032.01	6,584.20	0.00	0.00	0.00	
11,300.00	89.49	314.893	4,157.85	4,348.61	-5,102.85	6,684.20	0.00	0.00	0.00	
11,400.00	89.49	314.893	4,158.75	4,419.18	-5,173.69	6,784.19	0.00	0.00	0.00	
11,500.00	89.49	314.893	4,159.64	4,489.76	-5,244.52	6,884.19	0.00	0.00	0.00	
11,600.00	89.49	314.893	4,160.54	4,560.34	-5,315.36	6,984.19	0.00	0.00	0.00	
11,700.00	89.49	314.893	4,161.43	4,630.91	-5,386.20	7,084.18	0.00	0.00	0.00	
11,800.00	89.49	314.893	4,162.33	4,701.49	-5,457.04	7,184.18	0.00	0.00	0.00	
11,900.00	89.49	314.893	4,163.22	4,772.06	-5,527.88	7,284.17	0.00	0.00	0.00	
12,000.00	89.49	314.893	4,164.12	4,842.64	-5,598.72	7,384.17	0.00	0.00	0.00	
12,100.00	89.49	314.893	4,165.02	4,913.22	-5,669.56	7,484.17	0.00	0.00	0.00	



Planning Report

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Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Site:	W Lybrook 730 Pad (730, 763, 830, 861 & 863)	North Reference:	Grid
Well:	W Lybrook Unit No. 863H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,200.00	89.49	314.893	4,165.91	4,983.79	-5,740.40	7,584.16	0.00	0.00	0.00
12,300.00	89.49	314.893	4,166.81	5,054.37	-5,811.24	7,684.16	0.00	0.00	0.00
12,400.00	89.49	314.893	4,167.70	5,124.95	-5,882.08	7,784.15	0.00	0.00	0.00
12,500.00	89.49	314.893	4,168.60	5,195.52	-5,952.92	7,884.15	0.00	0.00	0.00
12,600.00	89.49	314.893	4,169.49	5,266.10	-6,023.76	7,984.15	0.00	0.00	0.00
12,700.00	89.49	314.893	4,170.39	5,336.67	-6,094.59	8,084.14	0.00	0.00	0.00
12,800.00	89.49	314.893	4,171.28	5,407.25	-6,165.43	8,184.14	0.00	0.00	0.00
12,900.00	89.49	314.893	4,172.18	5,477.83	-6,236.27	8,284.13	0.00	0.00	0.00
13,000.00	89.49	314.893	4,173.07	5,548.40	-6,307.11	8,384.13	0.00	0.00	0.00
13,100.00	89.49	314.893	4,173.97	5,618.98	-6,377.95	8,484.13	0.00	0.00	0.00
13,200.00	89.49	314.893	4,174.86	5,689.55	-6,448.79	8,584.12	0.00	0.00	0.00
13,300.00	89.49	314.893	4,175.76	5,760.13	-6,519.63	8,684.12	0.00	0.00	0.00
13,400.00	89.49	314.893	4,176.66	5,830.71	-6,590.47	8,784.11	0.00	0.00	0.00
13,500.00	89.49	314.893	4,177.55	5,901.28	-6,661.31	8,884.11	0.00	0.00	0.00
13,600.00	89.49	314.893	4,178.45	5,971.86	-6,732.15	8,984.11	0.00	0.00	0.00
13,700.00	89.49	314.893	4,179.34	6,042.44	-6,802.99	9,084.10	0.00	0.00	0.00
13,800.00	89.49	314.893	4,180.24	6,113.01	-6,873.83	9,184.10	0.00	0.00	0.00
13,885.21	89.49	314.893	4,181.00	6,173.15	-6,934.19	9,269.30	0.00	0.00	0.00
PBHL/TD 13885.21 MD 4181.00 TVD									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
W Lybrook 863H 0 VSL I - plan hits target center - Point	0.00	0.005	4,098.00	-369.03	-367.63	1,892,405.621	2,739,402.874	36.200833821	-107.778047779
W Lybrook 863H LTP 22 - plan hits target center - Point	0.00	0.005	4,181.00	6,173.15	-6,934.19	1,898,947.785	2,732,836.332	36.218814000	-107.800297000

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
350.01	350.00	13 3/8" Casing	13-5/8	17-1/2	
2,506.02	2,459.00	9 5/8" Casing	9-5/8	12-1/4	



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well W Lybrook Unit No. 863H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Site:	W Lybrook 730 Pad (730, 763, 830, 861 & 863)	North Reference:	Grid
Well:	W Lybrook Unit No. 863H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
194.00	194.00	Ojo Alamo				
299.01	299.00	Kirtland				
509.02	509.00	Fruitland				
906.04	906.00	Pictured Cliffs				
1,019.04	1,019.00	Lewis				
1,264.05	1,264.00	Chacra				
2,317.17	2,289.00	Cliff House				
2,322.72	2,294.00	Menefee				
3,411.25	3,274.00	Point Lookout				
3,580.64	3,432.00	Mancos				
3,930.33	3,763.00	MNCS_A				
4,054.41	3,864.00	MNCS_B				
4,187.84	3,954.00	MNCS_C				
4,262.04	3,994.00	MNCS_Cms				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2,453.00	2,411.28	-235.45	47.30	Survey @ 2453.00 MD 2411.28 TVD	
2,553.00	2,501.28	-277.67	58.12	KOP Begin 3°/100' build/turn	
2,591.81	2,536.22	-293.94	62.69	Begin 25.796° tangent	
3,434.72	3,295.13	-644.64	170.19	Begin 10°/100' build/turn	
4,251.62	3,988.79	-591.65	-108.55	Begin 60.00° tangent	
4,311.62	4,018.79	-560.27	-149.96	Begin 10°/100' build/turn	
4,615.54	4,098.00	-369.03	-367.63	Begin 89.487° lateral	
13,885.21	4,181.00	6,173.15	-6,934.19	PBHL/TD 13885.21 MD 4181.00 TVD	



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well W Lybrook Unit No. 863H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Site:	W Lybrook 730 Pad (730, 763, 830, 861 & 863)	North Reference:	Grid
Well:	W Lybrook Unit No. 863H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Project	San Juan County, New Mexico NAD83 NM W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site	W Lybrook 730 Pad (730, 763, 830, 861 & 863)		
Site Position:		Northing:	1,888,164.052 usft
From:	Lat/Long	Easting:	2,741,098.391 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	36.189179000
		Longitude:	-107.772310000

Well	W Lybrook Unit No. 863H, Surf loc: 1201 FNL 2446 FWL Section 27-T23N-09W		
Well Position	+N/-S	0.00 ft	Northing: 1,892,774.650 usft
	+E/-W	0.00 ft	Easting: 2,739,770.503 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
Grid Convergence:	0.03 °	Ground Level:	6,641.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	3/8/2022	8.74	62.71	49,216.01313148

Design	rev3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	2,453.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	314.890

Plan Survey Tool Program	Date	3/30/2022		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	400.00	2,453.00 MWD surf (Original Hole)	MWD	
			OWSG MWD - Standard	
2	2,453.00	13,885.15 rev3 (Original Hole)	MWD	
			OWSG MWD - Standard	



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well W Lybrook Unit No. 863H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Site:	W Lybrook 730 Pad (730, 763, 830, 861 & 863)	North Reference:	Grid
Well:	W Lybrook Unit No. 863H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
2,453.00	25.84	165.630	2,411.28	-235.45	47.30	0.00	0.00	0.00	0.00	
2,553.00	25.84	165.630	2,501.28	-277.67	58.12	0.00	0.00	0.00	0.00	
2,591.81	25.80	162.958	2,536.22	-293.94	62.69	3.00	-0.11	-6.88	-93.37	
3,434.72	25.80	162.958	3,295.13	-644.64	170.19	0.00	0.00	0.00	0.00	
4,251.62	60.00	307.153	3,988.79	-591.65	-108.55	10.00	4.19	17.65	149.20	
4,311.62	60.00	307.153	4,018.79	-560.27	-149.96	0.00	0.00	0.00	0.00	
4,615.54	89.49	314.893	4,098.00	-369.03	-367.63	10.00	9.70	2.55	15.44	
13,885.21	89.49	314.893	4,181.00	6,173.15	-6,934.19	0.00	0.00	0.00	0.00	W Lybrook 863H LTP



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well W Lybrook Unit No. 863H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Site:	W Lybrook 730 Pad (730, 763, 830, 861 & 863)	North Reference:	Grid
Well:	W Lybrook Unit No. 863H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.000	0.00	0.00	0.00	1,892,774.650	2,739,770.503	36.201847000	-107.776801000
400.00	0.79	326.990	399.99	2.31	-1.50	1,892,776.962	2,739,769.001	36.201853355	-107.776806088
493.00	0.44	318.640	492.98	3.12	-2.09	1,892,777.768	2,739,768.415	36.201855569	-107.776808070
584.00	0.88	317.240	583.98	3.89	-2.79	1,892,778.543	2,739,767.710	36.201857700	-107.776810459
675.00	0.44	311.790	674.97	4.64	-3.53	1,892,779.289	2,739,766.975	36.201859750	-107.776812948
766.00	0.53	182.060	765.97	4.45	-3.80	1,892,779.101	2,739,766.699	36.201859235	-107.776813883
857.00	0.35	182.320	856.97	3.75	-3.83	1,892,778.403	2,739,766.673	36.201857317	-107.776813974
948.00	0.66	217.300	947.96	3.06	-4.16	1,892,777.708	2,739,766.344	36.201855409	-107.776815090
1,039.00	0.22	204.740	1,038.96	2.48	-4.55	1,892,777.133	2,739,765.953	36.201853828	-107.776816415
1,132.00	0.26	210.450	1,131.96	2.14	-4.73	1,892,776.789	2,739,765.772	36.201852883	-107.776817032
1,226.00	0.57	183.640	1,225.96	1.49	-4.87	1,892,776.138	2,739,765.634	36.201851097	-107.776817500
1,320.00	0.35	223.550	1,319.95	0.81	-5.10	1,892,775.464	2,739,765.407	36.201849244	-107.776818272
1,414.00	0.57	209.130	1,413.95	0.20	-5.52	1,892,774.847	2,739,764.981	36.201847551	-107.776819716
1,508.00	0.44	211.860	1,507.95	-0.52	-5.94	1,892,774.132	2,739,764.563	36.201845587	-107.776821134
1,603.00	2.68	160.350	1,602.91	-2.92	-5.39	1,892,771.730	2,739,765.117	36.201838988	-107.776819260
1,697.00	5.98	165.630	1,696.63	-9.73	-3.43	1,892,764.915	2,739,767.072	36.201820264	-107.776812648
1,791.00	9.93	168.530	1,789.70	-22.43	-0.60	1,892,752.224	2,739,769.900	36.201785395	-107.776803087
1,886.00	12.30	169.840	1,882.91	-40.42	2.81	1,892,734.234	2,739,773.314	36.201735968	-107.776791550
1,981.00	14.24	168.440	1,975.37	-61.83	6.94	1,892,712.824	2,739,777.441	36.201677147	-107.776777605
2,075.00	17.89	166.420	2,065.69	-87.20	12.65	1,892,687.454	2,739,783.150	36.201607445	-107.776758305
2,170.00	22.02	166.680	2,154.97	-118.72	20.18	1,892,655.927	2,739,790.683	36.201520824	-107.776732836
2,264.00	25.40	167.300	2,241.02	-155.55	28.67	1,892,619.102	2,739,799.177	36.201419648	-107.776704118
2,358.00	25.84	167.300	2,325.78	-195.20	37.61	1,892,579.451	2,739,808.113	36.201310708	-107.776673909
2,453.00	25.84	165.630	2,411.28	-235.45	47.30	1,892,539.198	2,739,817.803	36.201200114	-107.776641146
Survey @ 2453.00 MD 2411.28 TVD									
2,500.00	25.84	165.630	2,453.58	-255.30	52.38	1,892,519.354	2,739,822.887	36.201145591	-107.776623953
2,553.00	25.84	165.630	2,501.28	-277.67	58.12	1,892,496.976	2,739,828.620	36.201084108	-107.776604565
KOP Begin 3°/100' build/turn									
2,591.81	25.80	162.958	2,536.22	-293.94	62.69	1,892,480.707	2,739,833.194	36.201039408	-107.776589092
Begin 25.796° tangent									
2,600.00	25.80	162.958	2,543.59	-297.35	63.74	1,892,477.301	2,739,834.238	36.201030050	-107.776585560
2,700.00	25.80	162.958	2,633.63	-338.96	76.49	1,892,435.695	2,739,846.992	36.200915734	-107.776542416
2,800.00	25.80	162.958	2,723.66	-380.56	89.24	1,892,394.089	2,739,859.745	36.200801418	-107.776499272
2,900.00	25.80	162.958	2,813.70	-422.17	102.00	1,892,352.484	2,739,872.499	36.200687102	-107.776456127
3,000.00	25.80	162.958	2,903.73	-463.77	114.75	1,892,310.878	2,739,885.252	36.200572787	-107.776412983
3,100.00	25.80	162.958	2,993.77	-505.38	127.50	1,892,269.272	2,739,898.006	36.200458471	-107.776369839
3,200.00	25.80	162.958	3,083.80	-546.98	140.26	1,892,227.666	2,739,910.759	36.200344155	-107.776326695
3,300.00	25.80	162.958	3,173.84	-588.59	153.01	1,892,186.060	2,739,923.513	36.200229839	-107.776283552
3,400.00	25.80	162.958	3,263.87	-630.20	165.76	1,892,144.455	2,739,936.266	36.200115523	-107.776240408
3,411.25	25.80	162.958	3,274.00	-634.88	167.20	1,892,139.774	2,739,937.701	36.200102663	-107.776235555
Point Lookout									
3,434.72	25.80	162.958	3,295.13	-644.64	170.19	1,892,130.010	2,739,940.694	36.200075835	-107.776225430
Begin 10°/100' build/turn									
3,450.00	24.49	164.845	3,308.96	-650.88	171.99	1,892,123.773	2,739,942.497	36.200058697	-107.776219331
3,500.00	20.44	172.552	3,355.17	-669.55	175.84	1,892,105.097	2,739,946.341	36.200007388	-107.776206339
3,550.00	16.88	183.587	3,402.55	-685.47	176.52	1,892,089.181	2,739,947.019	36.199963664	-107.776204072
3,580.64	15.10	192.643	3,432.00	-693.81	175.36	1,892,080.845	2,739,945.867	36.199940766	-107.776207993
Mancos									
3,600.00	14.19	199.414	3,450.74	-698.51	174.02	1,892,076.146	2,739,944.526	36.199927858	-107.776212548
3,650.00	12.91	220.175	3,499.37	-708.56	168.38	1,892,066.090	2,739,938.881	36.199900244	-107.776231701
3,700.00	13.47	242.084	3,548.08	-715.56	159.62	1,892,059.091	2,739,930.127	36.199881030	-107.776261387
3,750.00	15.65	260.086	3,596.50	-719.45	147.83	1,892,055.202	2,739,918.330	36.199870365	-107.776301379
3,800.00	18.92	272.911	3,644.25	-720.20	133.08	1,892,054.451	2,739,903.580	36.199868327	-107.776351373



Planning Report - Geographic

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Company:	Enduring Resources LLC	TVD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Site:	W Lybrook 730 Pad (730, 763, 830, 861 & 863)	North Reference:	Grid
Well:	W Lybrook Unit No. 863H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
3,850.00	22.80	281.802	3,690.98	-717.81	115.49	1,892,056.846	2,739,885.990	36.199874934	-107.776410988
3,900.00	27.04	288.130	3,736.32	-712.28	95.19	1,892,062.367	2,739,865.693	36.199890135	-107.776479772
3,930.33	29.72	291.129	3,763.00	-707.43	81.63	1,892,067.223	2,739,852.129	36.199903495	-107.776525737
MNCS_A									
3,950.00	31.48	292.822	3,779.93	-703.68	72.34	1,892,070.974	2,739,842.844	36.199913814	-107.776557199
4,000.00	36.06	296.444	3,821.49	-692.05	47.11	1,892,082.599	2,739,817.616	36.199945790	-107.776642682
4,050.00	40.73	299.342	3,860.67	-677.50	19.70	1,892,097.155	2,739,790.202	36.199985821	-107.776735569
4,054.41	41.14	299.571	3,864.00	-676.08	17.18	1,892,098.576	2,739,787.687	36.199989728	-107.776744093
MNCS_B									
4,100.00	45.45	301.735	3,897.17	-660.12	-9.69	1,892,114.531	2,739,760.811	36.200033602	-107.776835153
4,150.00	50.22	303.767	3,930.73	-640.06	-40.84	1,892,134.595	2,739,729.666	36.200088769	-107.776940678
4,187.84	53.85	305.125	3,954.00	-623.18	-65.43	1,892,151.473	2,739,705.074	36.200135173	-107.777023995
MNCS_C									
4,200.00	55.02	305.534	3,961.07	-617.46	-73.50	1,892,157.194	2,739,697.003	36.200150902	-107.777051339
4,251.62	60.00	307.153	3,988.79	-591.65	-108.55	1,892,182.999	2,739,661.958	36.200221848	-107.777170071
Begin 60.00° tangent									
4,262.04	60.00	307.153	3,994.00	-586.20	-115.74	1,892,188.449	2,739,654.765	36.200236832	-107.777194438
MNCS_Cms									
4,300.00	60.00	307.153	4,012.98	-566.35	-141.94	1,892,208.306	2,739,628.561	36.200291421	-107.777283217
4,311.62	60.00	307.153	4,018.79	-560.27	-149.96	1,892,214.381	2,739,620.543	36.200308123	-107.777310380
Begin 10°/100' build/turn									
4,350.00	63.70	308.292	4,036.90	-539.56	-176.72	1,892,235.089	2,739,593.781	36.200365053	-107.777401046
4,400.00	68.54	309.672	4,057.13	-510.80	-212.24	1,892,263.850	2,739,558.258	36.200444117	-107.777521391
4,450.00	73.39	310.963	4,073.43	-480.22	-248.27	1,892,294.428	2,739,522.236	36.200528177	-107.777643428
4,500.00	78.25	312.190	4,085.67	-448.06	-284.52	1,892,326.592	2,739,485.987	36.200616591	-107.777766226
4,550.00	83.11	313.374	4,093.77	-414.55	-320.72	1,892,360.096	2,739,449.788	36.200708687	-107.777888853
4,600.00	87.97	314.535	4,097.65	-379.96	-356.59	1,892,394.686	2,739,413.916	36.200803764	-107.778010374
4,615.54	89.49	314.893	4,098.00	-369.03	-367.63	1,892,405.619	2,739,402.873	36.200833816	-107.778047781
Begin 89.487° lateral									
4,700.00	89.49	314.893	4,098.76	-309.43	-427.46	1,892,465.225	2,739,343.045	36.200997653	-107.778250449
4,800.00	89.49	314.893	4,099.65	-238.85	-498.30	1,892,535.801	2,739,272.206	36.201191643	-107.778490418
4,900.00	89.49	314.893	4,100.55	-168.27	-569.14	1,892,606.377	2,739,201.367	36.201385633	-107.778730387
5,000.00	89.49	314.893	4,101.44	-97.70	-639.98	1,892,676.953	2,739,130.528	36.201579622	-107.778970358
5,100.00	89.49	314.893	4,102.34	-27.12	-710.82	1,892,747.529	2,739,059.689	36.201773610	-107.779210331
5,200.00	89.49	314.893	4,103.23	43.46	-781.65	1,892,818.105	2,738,988.850	36.201967598	-107.779450304
5,300.00	89.49	314.893	4,104.13	114.03	-852.49	1,892,888.681	2,738,918.011	36.202161586	-107.779690278
5,400.00	89.49	314.893	4,105.02	184.61	-923.33	1,892,959.257	2,738,847.171	36.202355573	-107.779930254
5,500.00	89.49	314.893	4,105.92	255.18	-994.17	1,893,029.833	2,738,776.332	36.202549559	-107.780170231
5,600.00	89.49	314.893	4,106.81	325.76	-1,065.01	1,893,100.410	2,738,705.493	36.202743545	-107.780410209
5,700.00	89.49	314.893	4,107.71	396.34	-1,135.85	1,893,170.986	2,738,634.654	36.202937531	-107.780650188
5,800.00	89.49	314.893	4,108.60	466.91	-1,206.69	1,893,241.562	2,738,563.815	36.203131516	-107.780890169
5,900.00	89.49	314.893	4,109.50	537.49	-1,277.53	1,893,312.138	2,738,492.976	36.203325501	-107.781130150
6,000.00	89.49	314.893	4,110.40	608.07	-1,348.37	1,893,382.714	2,738,422.137	36.203519485	-107.781370133
6,100.00	89.49	314.893	4,111.29	678.64	-1,419.21	1,893,453.290	2,738,351.298	36.203713468	-107.781610117
6,200.00	89.49	314.893	4,112.19	749.22	-1,490.05	1,893,523.866	2,738,280.459	36.203907452	-107.781850102
6,300.00	89.49	314.893	4,113.08	819.79	-1,560.89	1,893,594.442	2,738,209.620	36.204101434	-107.782090089
6,400.00	89.49	314.893	4,113.98	890.37	-1,631.73	1,893,665.018	2,738,138.781	36.204295416	-107.782330076
6,500.00	89.49	314.893	4,114.87	960.95	-1,702.56	1,893,735.594	2,738,067.942	36.204489398	-107.782570065
6,600.00	89.49	314.893	4,115.77	1,031.52	-1,773.40	1,893,806.171	2,737,997.103	36.204683379	-107.782810055
6,700.00	89.49	314.893	4,116.66	1,102.10	-1,844.24	1,893,876.747	2,737,926.264	36.204877360	-107.783050046
6,800.00	89.49	314.893	4,117.56	1,172.68	-1,915.08	1,893,947.323	2,737,855.425	36.205071340	-107.783290038
6,900.00	89.49	314.893	4,118.45	1,243.25	-1,985.92	1,894,017.899	2,737,784.586	36.205265320	-107.783530032
7,000.00	89.49	314.893	4,119.35	1,313.83	-2,056.76	1,894,088.475	2,737,713.747	36.205459299	-107.783770026



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well W Lybrook Unit No. 863H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Site:	W Lybrook 730 Pad (730, 763, 830, 861 & 863)	North Reference:	Grid
Well:	W Lybrook Unit No. 863H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
7,100.00	89.49	314.893	4,120.24	1,384.40	-2,127.60	1,894,159.051	2,737,642.908	36.205653278	-107.784010022
7,200.00	89.49	314.893	4,121.14	1,454.98	-2,198.44	1,894,229.627	2,737,572.069	36.205847256	-107.784250019
7,300.00	89.49	314.893	4,122.04	1,525.56	-2,269.28	1,894,300.203	2,737,501.229	36.206041234	-107.784490017
7,400.00	89.49	314.893	4,122.93	1,596.13	-2,340.12	1,894,370.779	2,737,430.390	36.206235211	-107.784730017
7,500.00	89.49	314.893	4,123.83	1,666.71	-2,410.96	1,894,441.355	2,737,359.551	36.206429188	-107.784970017
7,600.00	89.49	314.893	4,124.72	1,737.29	-2,481.80	1,894,511.932	2,737,288.712	36.206623165	-107.785210019
7,700.00	89.49	314.893	4,125.62	1,807.86	-2,552.63	1,894,582.508	2,737,217.873	36.206817140	-107.785450022
7,800.00	89.49	314.893	4,126.51	1,878.44	-2,623.47	1,894,653.084	2,737,147.034	36.207011116	-107.785690026
7,900.00	89.49	314.893	4,127.41	1,949.01	-2,694.31	1,894,723.660	2,737,076.195	36.207205091	-107.785930031
8,000.00	89.49	314.893	4,128.30	2,019.59	-2,765.15	1,894,794.236	2,737,005.356	36.207399065	-107.786170038
8,100.00	89.49	314.893	4,129.20	2,090.17	-2,835.99	1,894,864.812	2,736,934.517	36.207593039	-107.786410046
8,200.00	89.49	314.893	4,130.09	2,160.74	-2,906.83	1,894,935.388	2,736,863.678	36.207787012	-107.786650054
8,300.00	89.49	314.893	4,130.99	2,231.32	-2,977.67	1,895,005.964	2,736,792.839	36.207980985	-107.786890064
8,400.00	89.49	314.893	4,131.89	2,301.90	-3,048.51	1,895,076.540	2,736,722.000	36.208174958	-107.787130076
8,500.00	89.49	314.893	4,132.78	2,372.47	-3,119.35	1,895,147.116	2,736,651.161	36.208368930	-107.787370088
8,600.00	89.49	314.893	4,133.68	2,443.05	-3,190.19	1,895,217.693	2,736,580.322	36.208562901	-107.787610102
8,700.00	89.49	314.893	4,134.57	2,513.62	-3,261.03	1,895,288.269	2,736,509.483	36.208756872	-107.787850116
8,800.00	89.49	314.893	4,135.47	2,584.20	-3,331.87	1,895,358.845	2,736,438.644	36.208950843	-107.788090132
8,900.00	89.49	314.893	4,136.36	2,654.78	-3,402.71	1,895,429.421	2,736,367.805	36.209144813	-107.788330150
9,000.00	89.49	314.893	4,137.26	2,725.35	-3,473.54	1,895,499.997	2,736,296.966	36.209338782	-107.788570168
9,100.00	89.49	314.893	4,138.15	2,795.93	-3,544.38	1,895,570.573	2,736,226.126	36.209532751	-107.788810187
9,200.00	89.49	314.893	4,139.05	2,866.51	-3,615.22	1,895,641.149	2,736,155.287	36.209726720	-107.789050208
9,300.00	89.49	314.893	4,139.94	2,937.08	-3,686.06	1,895,711.725	2,736,084.448	36.209920688	-107.789290230
9,400.00	89.49	314.893	4,140.84	3,007.66	-3,756.90	1,895,782.301	2,736,013.609	36.210114656	-107.789530253
9,500.00	89.49	314.893	4,141.73	3,078.23	-3,827.74	1,895,852.877	2,735,942.770	36.210308623	-107.789770276
9,600.00	89.49	314.893	4,142.63	3,148.81	-3,898.58	1,895,923.454	2,735,871.931	36.210502589	-107.790010302
9,700.00	89.49	314.893	4,143.53	3,219.39	-3,969.42	1,895,994.030	2,735,801.092	36.210696555	-107.790250328
9,800.00	89.49	314.893	4,144.42	3,289.96	-4,040.26	1,896,064.606	2,735,730.253	36.210890521	-107.790490356
9,900.00	89.49	314.893	4,145.32	3,360.54	-4,111.10	1,896,135.182	2,735,659.414	36.211084486	-107.790730385
10,000.00	89.49	314.893	4,146.21	3,431.12	-4,181.94	1,896,205.758	2,735,588.575	36.211278451	-107.790970415
10,100.00	89.49	314.893	4,147.11	3,501.69	-4,252.78	1,896,276.334	2,735,517.736	36.211472415	-107.791210447
10,200.00	89.49	314.893	4,148.00	3,572.27	-4,323.61	1,896,346.910	2,735,446.897	36.211666379	-107.791450479
10,300.00	89.49	314.893	4,148.90	3,642.84	-4,394.45	1,896,417.486	2,735,376.058	36.211860342	-107.791690513
10,400.00	89.49	314.893	4,149.79	3,713.42	-4,465.29	1,896,488.062	2,735,305.219	36.212054305	-107.791930548
10,500.00	89.49	314.893	4,150.69	3,784.00	-4,536.13	1,896,558.638	2,735,234.380	36.212248267	-107.792170584
10,600.00	89.49	314.893	4,151.58	3,854.57	-4,606.97	1,896,629.215	2,735,163.541	36.212442229	-107.792410621
10,700.00	89.49	314.893	4,152.48	3,925.15	-4,677.81	1,896,699.791	2,735,092.702	36.212636190	-107.792650660
10,800.00	89.49	314.893	4,153.37	3,995.73	-4,748.65	1,896,770.367	2,735,021.863	36.212830151	-107.792890700
10,900.00	89.49	314.893	4,154.27	4,066.30	-4,819.49	1,896,840.943	2,734,951.023	36.213024111	-107.793130740
11,000.00	89.49	314.893	4,155.17	4,136.88	-4,890.33	1,896,911.519	2,734,880.184	36.213218071	-107.793370782
11,100.00	89.49	314.893	4,156.06	4,207.45	-4,961.17	1,896,982.095	2,734,809.345	36.213412030	-107.793610826
11,200.00	89.49	314.893	4,156.96	4,278.03	-5,032.01	1,897,052.671	2,734,738.506	36.213605989	-107.793850870
11,300.00	89.49	314.893	4,157.85	4,348.61	-5,102.85	1,897,123.247	2,734,667.667	36.213799947	-107.794090916
11,400.00	89.49	314.893	4,158.75	4,419.18	-5,173.69	1,897,193.823	2,734,596.828	36.213993905	-107.794330962
11,500.00	89.49	314.893	4,159.64	4,489.76	-5,244.52	1,897,264.399	2,734,525.989	36.214187862	-107.794571010
11,600.00	89.49	314.893	4,160.54	4,560.34	-5,315.36	1,897,334.975	2,734,455.150	36.214381819	-107.794811059
11,700.00	89.49	314.893	4,161.43	4,630.91	-5,386.20	1,897,405.552	2,734,384.311	36.214575775	-107.795051110
11,800.00	89.49	314.893	4,162.33	4,701.49	-5,457.04	1,897,476.128	2,734,313.472	36.214769731	-107.795291161
11,900.00	89.49	314.893	4,163.22	4,772.06	-5,527.88	1,897,546.704	2,734,242.633	36.214963687	-107.795531214
12,000.00	89.49	314.893	4,164.12	4,842.64	-5,598.72	1,897,617.280	2,734,171.794	36.215157642	-107.795771268
12,100.00	89.49	314.893	4,165.02	4,913.22	-5,669.56	1,897,687.856	2,734,100.955	36.215351596	-107.796011323
12,200.00	89.49	314.893	4,165.91	4,983.79	-5,740.40	1,897,758.432	2,734,030.116	36.215545550	-107.796251379
12,300.00	89.49	314.893	4,166.81	5,054.37	-5,811.24	1,897,829.008	2,733,959.277	36.215739504	-107.796491437
12,400.00	89.49	314.893	4,167.70	5,124.95	-5,882.08	1,897,899.584	2,733,888.438	36.215933456	-107.796731495



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well W Lybrook Unit No. 863H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Site:	W Lybrook 730 Pad (730, 763, 830, 861 & 863)	North Reference:	Grid
Well:	W Lybrook Unit No. 863H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
12,500.00	89.49	314.893	4,168.60	5,195.52	-5,952.92	1,897,970.160	2,733,817.599	36.216127409	-107.796971555	
12,600.00	89.49	314.893	4,169.49	5,266.10	-6,023.76	1,898,040.736	2,733,746.760	36.216321361	-107.797211616	
12,700.00	89.49	314.893	4,170.39	5,336.67	-6,094.59	1,898,111.313	2,733,675.921	36.216515312	-107.797451678	
12,800.00	89.49	314.893	4,171.28	5,407.25	-6,165.43	1,898,181.889	2,733,605.081	36.216709264	-107.797691742	
12,900.00	89.49	314.893	4,172.18	5,477.83	-6,236.27	1,898,252.465	2,733,534.242	36.216903214	-107.797931806	
13,000.00	89.49	314.893	4,173.07	5,548.40	-6,307.11	1,898,323.041	2,733,463.403	36.217097164	-107.798171872	
13,100.00	89.49	314.893	4,173.97	5,618.98	-6,377.95	1,898,393.617	2,733,392.564	36.217291114	-107.798411939	
13,200.00	89.49	314.893	4,174.86	5,689.55	-6,448.79	1,898,464.193	2,733,321.725	36.217485063	-107.798652007	
13,300.00	89.49	314.893	4,175.76	5,760.13	-6,519.63	1,898,534.769	2,733,250.886	36.217679011	-107.798892076	
13,400.00	89.49	314.893	4,176.66	5,830.71	-6,590.47	1,898,605.345	2,733,180.047	36.217872959	-107.799132147	
13,500.00	89.49	314.893	4,177.55	5,901.28	-6,661.31	1,898,675.921	2,733,109.208	36.218066907	-107.799372218	
13,600.00	89.49	314.893	4,178.45	5,971.86	-6,732.15	1,898,746.497	2,733,038.369	36.218260854	-107.799612291	
13,700.00	89.49	314.893	4,179.34	6,042.44	-6,802.99	1,898,817.074	2,732,967.530	36.218454801	-107.799852365	
13,800.00	89.49	314.893	4,180.24	6,113.01	-6,873.83	1,898,887.650	2,732,896.691	36.218648747	-107.800092440	
13,885.21	89.49	314.893	4,181.00	6,173.15	-6,934.19	1,898,947.785	2,732,836.332	36.218814000	-107.800297000	
PBHL/TD 13885.21 MD 4181.00 TVD										

Design Targets										
Target Name										
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- Shape										
W Lybrook 863H 0 VSL 1	0.00	0.005	4,098.00	-369.03	-367.63	1,892,405.621	2,739,402.874	36.200833821	-107.778047779	
- plan hits target center										
- Point										
W Lybrook 863H LTP 22	0.00	0.005	4,181.00	6,173.15	-6,934.19	1,898,947.785	2,732,836.332	36.218814000	-107.800297000	
- plan hits target center										
- Point										

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")		
350.01	350.00	13 3/8" Casing	13-5/8	17-1/2		
2,506.02	2,459.00	9 5/8" Casing	9-5/8	12-1/4		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,411.25	3,274.00	Point Lookout				
3,580.64	3,432.00	Mancos				
3,930.33	3,763.00	MNCS_A				
4,054.41	3,864.00	MNCS_B				
4,187.84	3,954.00	MNCS_C				
4,262.04	3,994.00	MNCS_Cms				



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well W Lybrook Unit No. 863H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6641+28 @ 6669.00ft (Ensign 773)
Site:	W Lybrook 730 Pad (730, 763, 830, 861 & 863)	North Reference:	Grid
Well:	W Lybrook Unit No. 863H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev3		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,453.00	2,411.28	-235.45	47.30	Survey @ 2453.00 MD 2411.28 TVD
2,553.00	2,501.28	-277.67	58.12	KOP Begin 3°/100' build/turn
2,591.81	2,536.22	-293.94	62.69	Begin 25.796° tangent
3,434.72	3,295.13	-644.64	170.19	Begin 10°/100' build/turn
4,251.62	3,988.79	-591.65	-108.55	Begin 60.00° tangent
4,311.62	4,018.79	-560.27	-149.96	Begin 10°/100' build/turn
4,615.54	4,098.00	-369.03	-367.63	Begin 89.487° lateral
13,885.21	4,181.00	6,173.15	-6,934.19	PBHL/TD 13885.21 MD 4181.00 TVD



ENDURING RESOURCES IV, LLC
6300 S SYRACUSE WAY, SUITE 525
CENTENNIAL, COLORADO 80111

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

WELL INFORMATION:

Name: W LYBROOK UNIT 863H
API Number: 30-045-38189
AFE Number: DV03069
ER Well Number: NM08266.01
State: New Mexico
County: San Juan

Surface Elevation: 6,641 ft ASL (GL) 6,669 ft ASL (KB)
Surface Location: 27-23N-09W Sec-Twn-Rng 1,201 ft FNL 2,446 ft FWL
 36.201847 ° N latitude 107.776801 ° W longitude (NAD 83)
BH Location: 21-23N-09W Sec-Twn-Rng 223 ft FNL 877 ft FWL
 36.218814 ° N latitude 107.800297 ° 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 38.3 miles to MM 113.4, Right (Southwest) on CR #7890 for 0.8 miles to fork, Left (South) remaining on CR #7890 for 1.3 miles to 4-way intersection, Left (Southeast) remaining on CR #7890 for 0.6 miles to fork, Right (Southwest) on CR #7890 for 0.5 miles to fork, Right (West) exiting CR #7890 onto access road for W Lybrook Unit 720H pad for 0.6 miles to fork, Left (West) onto access road for W Lybrook Unit 726H pad for 0.7 miles to fork, Left (West) for 1.4 miles to fork. Left (Southeast) for 0.6 miles to W Lybrook Unit 730H Pad (wells: 730H, 763H, 830H, 861H, 863H).

GEOLOGIC AND RESERVOIR INFORMATION:

Prognosis:	Formation Tops	TVD (ft ASL)	TVD (ft KB)	MD (ft KB)	O / G / W	Pressure
	Ojo Alamo	6,475	194	194	W	normal
	Kirtland	6,370	299	299	W	normal
	Fruitland	6,160	509	509	G, W	sub
	Pictured Cliffs	5,763	906	906	G, W	sub
	Lewis	5,650	1,019	1,019	G, W	normal
	Chacra	5,405	1,264	1,264	G, W	normal
	Cliff House	4,380	2,289	2,313	G, W	sub
	Menefee	4,360	2,309	2,330	G, W	normal
	Point Lookout	3,380	3,289	3,425	G, W	normal
	Mancos	3,225	3,444	3,592	O,G	sub (~0.38)
	Gallup (MNCS_A)	2,900	3,769	3,935	O,G	sub (~0.38)
	MNCS_B	2,795	3,874	4,065	O,G	sub (~0.38)
	MNCS_C	2,705	3,964	4,199	O,G	sub (~0.38)
	MNCS_Cms	2,662	4,007	4,280	O,G	sub (~0.38)
	FTP (LP) TARGET	2,563	4,106	4,624	O,G	sub (~0.38)
	LTP (TD) TARGET	2,491	4,178	13,894	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: 1,800 psi

Maximum anticipated surface pressure, assuming partially evacuated hole: 890 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; 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.
- 3) 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.
- 4) 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.
- 5) 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.
- 6) 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 and fluid program from Newpark. Sufficient weighting agent will be on location to weight up mud system to balance the maximum expected pressure gradient.

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

Procedure: Drill to TD. Use 12-4" bit and open to 17-1/2" if unable to drill with 17-1/2" bit. Run inclination survey in 100' stations from TD to surface. Condition hole and fluid for casing running as required. TOOH. Run casing. Pump cement as detailed below. Monitor returns during cement job and note cement volume to surface. Install cellar and wellhead.

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	536	116,634	116,634
Min. S.F.					7.39	5.09	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)
	Type III	14.6	1.39	6.686	0.6946	100%	0	350

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

Drake Energy Services 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	2,502 ft (MD)	Hole Section Length:	2,152 ft
350 ft (TVD)	to	2,459 ft (TVD)*	Casing Required:	2,502 ft

*TARGET CSG SHOE DEPTH IS 150' TVD BELOW MENEFFEE TOP

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

Hole Size: 12-1/4"

Bit / Motor: PDC w/mud motor

Bit / Motor (Detail): MOTOR: NOV 087840 - 7/8, 4.0, stage, 0.16 rev/gal, 1.83 DEG, 900 GPM, 950 DIFF PSIG

BIT: 5- or 6-BLADE PDC w/16 mm or 19 mm cutters, target TFA 0.65 - 1.0 max); 6 - 14s = 0.902 sq-in TFA

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.

Procedure: Drill to TD following directional plan (20' rat-hole (MAX) past casing setting depth). Steer as needed to keep well on plan. Keep DLS < 3 deg/100' and keep slide length < 10', when possible. Take surveys every stand, at a minimum. Target flow-rates of 750 GPM (higher if able to control return rates). Minimum desired flow-rate is 650 GPM. At TD, condition hole and fluid for casing running. TOOH. Run casing using a CRT and washing / circulating as required. Land casing. ND BOPE. Walk rig to next well. Perform off-line cement job, if possible. Pump cement as detailed below. Monitor returns during cement job and note cement volume to surface.

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					1,074	1,031	178,547	178,547
Min. S.F.					1.88	3.42	3.16	2.54

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 (**FLOAT EQUIPMENT FROM WEATHERFORD**)

Centralizers: 1 centralizers jt stop-banded 10' from float shoe on bottom 1 jt & 1 centralizer floating on bottom joint, 1 centralizer per jt (floating) to KOP ; 1 centralizer per 2 jts (floating) to surface (**CENTRALIZERS FROM ARSENAL - SLIP'N'SLIDE 9-5/8" x 12" SOLID BODY POLYMER**)

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	III:POZ Blend	12.5	2.140	12.05	70%	0	470
Tail	Type III	14.6	1.38	6.64	20%	2,002	136
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

Drake Energy Services Intermediate Cementing Program

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.

2,502 ft (MD)	to	13,894 ft (MD)	Hole Section Length:	11,392 ft
2,459 ft (TVD)	to	4,178 ft (TVD)	Casing Required:	13,894 ft

Estimated KOP:	3,446 ft (MD)	3,307 ft (TVD)
Estimated Landing Point (FTP):	4,624 ft (MD)	4,106 ft (TVD)
Estimated Lateral Length:	9,270 ft (MD)	

Fluid:	Type	MW (ppg)	FL (mL/30')	PV (cp)	YP (lb/100 sqft)	ES	OWR
	OBM	8.7 - 9.0	10 - 15	10 - 20	6 - 10	500+	80:20

Fluids / Solids Notes: OptiDrill OBM system will be built from previous well. Ensure that drying shakers are rigged up after the rig (2nd set) of shakers. Solids control will burn retorts on cuttings samples one per tour to check % ROC. Add diesel and products as required to maintain mud in program specs. Reference Newpark's mud program for additional details.

Hole Size: 8-1/2"

Bit / Motor: PDC w/mud motor

Bit / Motor (Detail): **MOTOR:** NOV 077857 - 7/8, 5.7, stage, 0.23 rev/gal, 1.83 - 2.12 DEG, 750 GPM, 1,580 DIFF PSIG (or similar); on demand friction breaking device(s) as required, bottom tool spaced ~3,000' behind the bit.

BIT: 5-BLADE PDC w/16 mm - 19 mm cutters, matrix body, target TFA = 1.0 - 1.5 sq-in

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.

Procedure: Drill to KOP following directional plan. Target flow-rate is 650 - 700 GPM. Target differential is pressure is 700 - 1,000 psig. Target ROP 500 - 600 ft/hr. Steer as needed to keep well on plan. Keep DLS < 3 deg/100' and keep slide length < 10' until KOP, when feasible. Take surveys every stand, at a minimum. Confirm landing target, planned BUR for curve, and KOP with Geology and Engineering. Drill curve following directional plan and updated landing target. Take survey every joint during curve. Land curve. Continue drilling in lateral section, steering as needed to keep well on plan and in the target window. Keep DLS < 2 deg/100' and keep slide length < 20', when feasible. Take surveys every stand, at a minimum. **Target rotating parameters / performance: flow-rate is 650 - 700 GPM, differential is pressure is 700 - 1,000 psig, ROP 500 - 600 ft/hr, torque 38K ft-lbs (MAX drill pipe MUT).** After reaching TD, perform clean-up cycle to condition hole for casing running. Spot lube as required and TOO H & LD drill pipe (ROOH, if required; should NOT be required with OBM system). Run casing as described below. Use CRT for casing running only if necessary (should NOT be required with OBM). Verify make up torque when running casing. Space out casing getting the toe sleeve as close to LTP as possible. Land casing and test pack-off. Open floatation sub, fill casing, and circulate as required. Pump cement as detailed below. Note cement volume circulated to surface. Nipple down BOPE. Clean pits. RDMO to next pad.

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					2,064	8,891	353,817	353,817
Min. S.F.					3.61	1.20	1.54	1.26

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 150,000 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 w/debris catcher, 1 jt casing, float collar (WFT float equipment), 20' marker joint, toe-initiation sleeve (WFT RD 8,500 psi), casing to KOP with 20' marker joints spaced evenly in lateral every ~2,000', floatation sub (NCS Air-Lock 4,500 psi from WFT), casing to surface. The toe-initiation sleeve shall be placed no closer to the unit boundary than 100' measured along the azimuth of the well or 330' measured perpendicular to the the azimuth of the well. **Note: the LTP is the maximum depth of the toe sleeve and is noted on the Well Plan. Drill past the LTP as required for necessary rat-hole and shoe-track length to place the toe sleeve as close to (but not past) the planned LTP as possible.**

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

Lateral: 1 centralizer per joint

POE to 9-5/8" shoe: 1 centralizer per joint

9-5/8" shoe to surface: 1 centralizer per 2 joints

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	Type III	12.4	2.360	13.40	65%	0	460
Tail	G:POZ blend	13.3	1.560	7.70	10%	3,592	1,664

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

American Cementing Liner & Production Blend

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

Note: This well will not be considered an unorthodox well location as defined by NMAC 19.15.16.15.C.5. As defined in NMAC 19.15.16.15.C.1.a and 19.15.16.15.C.1.b, no point in the completed interval shall be closer to the unit boundary than 100' measured along the azimuth of the well or 330' measured perpendicular to the azimuth well. The boundaries of the completed interval, as defined by NMAC 19.15.16.7.B, are the last take point and first take point, as defined by NMAC 19.15.16.7.E and NMAC 19.15.16.7.J, respectively. In the case of this well, the last take point will be the bottom toe-initiation sleeve, and the first take point will be the top perforation. **Neither the bottom toe-initiation sleeve nor the top perforation shall be closer to the unit boundary than 100' measured along the azimuth of the well or 330' measured perpendicular to the azimuth of the well.**

FINISH WELL: ND BOP, cap well, RDMO.

Procedure: ND BOP. Cap well. Clean pits. Prepare to move to next pad.

COMPLETION AND PRODUCTION PLAN:

Frac: 40 plug-and-perf stages with 280,000 bbls slickwater fluid and 17,000,000 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: 3/11/2022

Completion: 4/30/2022

Production: 6/19/2022

Prepared by: Alec Bridge 1/21/2020

Updated by: Alec Bridge 11/12/2021 - updated BHL and directional plan for combination unit (LL increase 3,095')

Updated by: Alec Bridge 1/20/2022 - updated drilling prog & AFE information for 2022 drilling program

Alec Bridge 3/11/2022 - updated tops & directional plan to final geo-prog; updated 9-5/8" casing point; updated mud system; updated cement volumes

WELL NAME: W LYBROOK UNIT 863H
OBJECTIVE: Drill, complete, and equip single lateral in the Mancos-Cms formation
API Number: 30-045-38189
AFE Number: DV03069
ER Well Number: NM08266.01
State: New Mexico
County: San Juan
Surface Elev.: 6,641 ft ASL (GL) 6,669 ft ASL (KB)
Surface Location: 27-23N-09W Sec-Twn- Rng 1,201 ft FNL 2,446 ft FWL
BH Location: 21-23N-09W Sec-Twn- Rng 223 ft FNL 877 ft FWL
Driving Directions: FROM THE INTERSECTION OF US HWY 550 & US HWY 64 IN BLOOMFIELD, NM:

QUICK REFERENCE	
Sur TD (MD)	350 ft
Int TD (MD)	2,502 ft
KOP (MD)	3,446 ft
KOP (TVD)	3,307 ft
Target (TVD)	4,106 ft
Curve BUR	10 °/100 ft
POE (MD)	4,624 ft
TD (MD)	13,894 ft
Lat Len (ft)	9,270 ft

South on US Hwy 550 for 38.3 miles to MM 113.4, Right (Southwest) on CR #7890 for 0.8 miles to fork, Left (South) remaining on CR #7890 for 1.3 miles to 4-way intersection, Left (Southeast) remaining on CR #7890 for 0.6 miles to fork, Right (Southwest) on CR #7890 for 0.5 miles to fork, Right (West) exiting CR #7890 onto access road for W Lybrook Unit 720H pad for 0.6 miles to fork, Left (West) onto access road for W Lybrook Unit 726H pad for 0.7 miles to fork, Left (West) for 1.4 miles to fork. Left (Southeast) for 0.6 miles to W Lybrook Unit 730H Pad (wells: 730H, 763H, 830H, 861H, 863H).

WELL CONSTRUCTION SUMMARY:

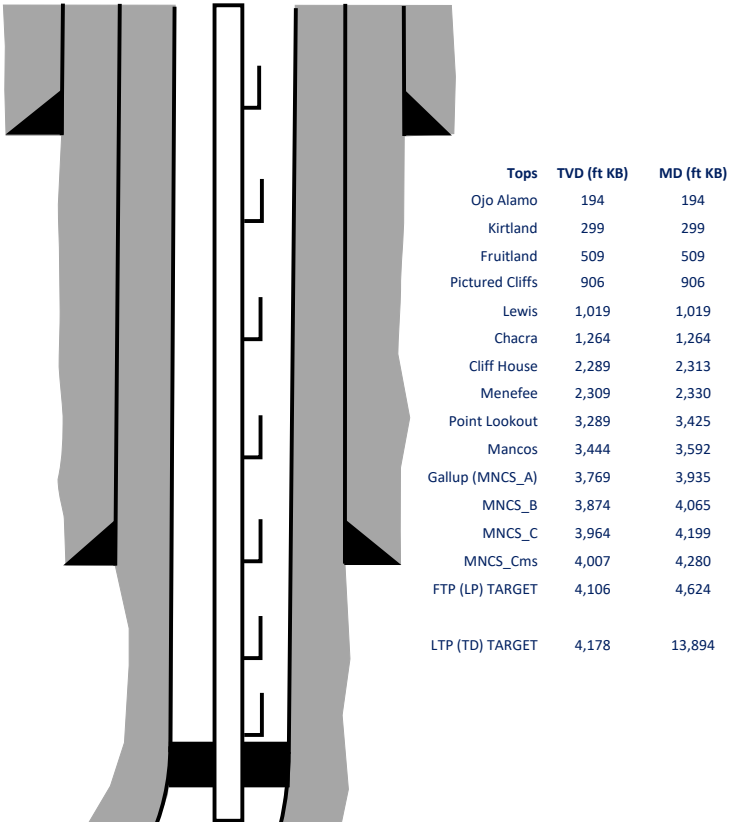
	Hole (in)	TD MD (ft)	Csg (in)	Csg (lb/ft)	Csg (grade)	Csg (conn)	Csg Top (ft)	Csg Bot (ft)
Surface	17.500	350	13.375	54.5	J-55	BTC	0	350
Intermediate	12.250	2,502	9.625	36.0	J-55	LTC	0	2,502
Production	8.500	13,894	5.500	17.0	P-110	LTC	0	13,894

CEMENT PROPERTIES SUMMARY:

	Type	Wt (ppg)	Yd (cuft/sk)	Wtr (gal/sk)	Hole Cap. (cuft/ft)	% Excess	TOC (ft MD)	Total (sx)
Surface	Type III	14.6	1.39	6.686	0.6946	100%	0	350
Inter. (Lead)	III:POZ Blend	12.5	2.14	12.05	0.3627	70%	0	470
Inter. (Tail)	Type III	14.6	1.38	6.64	0.3132	20%	2,002	136
Prod. (Lead)	Type III	12.4	2.360	13.4	0.2691	65%	0	460
Prod. (Tail)	G:POZ blend	13.3	1.560	7.7	0.2291	10%	3,592	1,664

COMPLETION / PRODUCTION SUMMARY:

Frac: 40 plug-and-perf stages with 280,000 bbls slickwater fluid and 17,000,000 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



This document will be submitted with the completion package after the well has been completed.

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

ACKNOWLEDGMENTS

Action 109120

ACKNOWLEDGMENTS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way, Suite 525 Centennial, CO 80111	OGRID: 372286
	Action Number: 109120
	Action Type: [C-104] Tight Hole Completion Packet (C-104CT)

ACKNOWLEDGMENTS

<input checked="" type="checkbox"/>	I hereby certify that the required Water Use Report has been, or will be, submitted for this wells completion.
<input checked="" type="checkbox"/>	I hereby certify that the required FracFocus disclosure has been, or will be, submitted for this wells completion.

District I
1625 N. French Dr., Hobbs, NM 88240
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District III
1000 Rio Brazos Rd., Aztec, NM 87410
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District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

COMMENTS

Action 109120

COMMENTS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way, Suite 525 Centennial, CO 80111	OGRID: 372286
	Action Number: 109120
	Action Type: [C-104] Tight Hole Completion Packet (C-104CT)

COMMENTS

Created By	Comment	Comment Date
llowe	COA: RT expires on 10/08/22	7/8/2022

District I
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Phone:(575) 393-6161 Fax:(575) 393-0720
District II
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District III
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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 109120

CONDITIONS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way, Suite 525 Centennial, CO 80111	OGRID: 372286
	Action Number: 109120
	Action Type: [C-104] Tight Hole Completion Packet (C-104CT)

CONDITIONS

Created By	Condition	Condition Date
plmartinez	RT EXPIRES 10/8/2022.	10/26/2023