

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

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

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

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

☐ AMENDED REPORT

NMOCD

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-043-21307	Pool Code 98225	Pool Name ESCAVADA W; MANCOS
Property Code 321258	Property Name W ESCAVADA UNIT	Well Number 304H
GRID No. 372286	Operator Name ENDURING RESOURCES, LLC	Elevation 6878'

MAR 26 2019

DISTRICT III

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
P	17	22N	7W		235	SOUTH	248	EAST	SANDOVAL

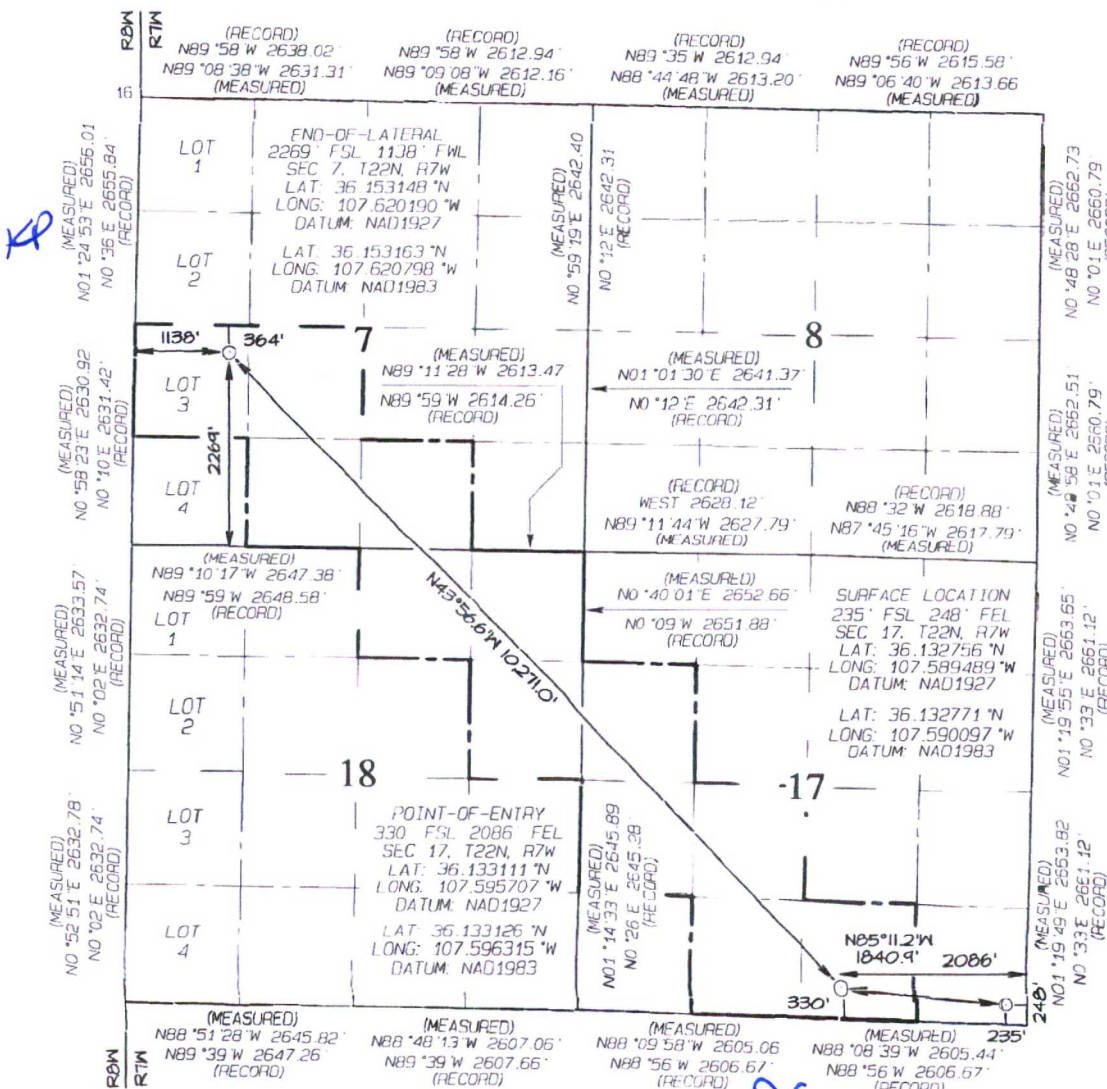
11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West Line	County
L	7	22N	7W	3	2269	SOUTH	1138	WEST	SANDOVAL

Dedicated Acres 480.94	N/2 SW/4, SE/4 SW/4 SW/4 SE/4 - Section 7 N/2 NE/4, SE/4 NE/4 - Section 18 SW/4 NW/4, N/2 SW/4 SE/4 SW/4, SW/4 SE/4 - Section 17	Joint or Infill 13	Consolidation Code 14	Order No. R-14100
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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

CONFIDENTIAL



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 hereinafter entered by the division.

Signature: *Lacey Granillo* Date: 3/26/19

Printed Name: Lacey Granillo

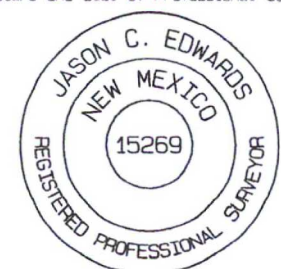
E-mail Address: lgranillo@enduringresources.com

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: AUGUST 30, 2018
Date of Survey: MARCH 3, 2016

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

AV

13



Well: W Escavada Unit Well No. 304H
Site: W Escavada Unit
Project: Sandoval County, New Mexico NAD83 NM C
Design: rev1
Rig: Aztec 1000

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Central Zone

System Datum: Mean Sea Level
Depth Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
Northing: 1870322.87 Easting: 1244693.88 Latitude: 36.13277100 Longitude: -107.59009700

Total Corr (M=>G): To convert a Magnetic Direction to a Grid Direction, Add 9.80°



Azimuths to Grid North
True North: 0.79°
Magnetic North: 9.80°

Magnetic Field
Strength: 49597.4snT
Dip Angle: 62.84°
Date: 7/6/2018
Model: IGRF2015

Section Details

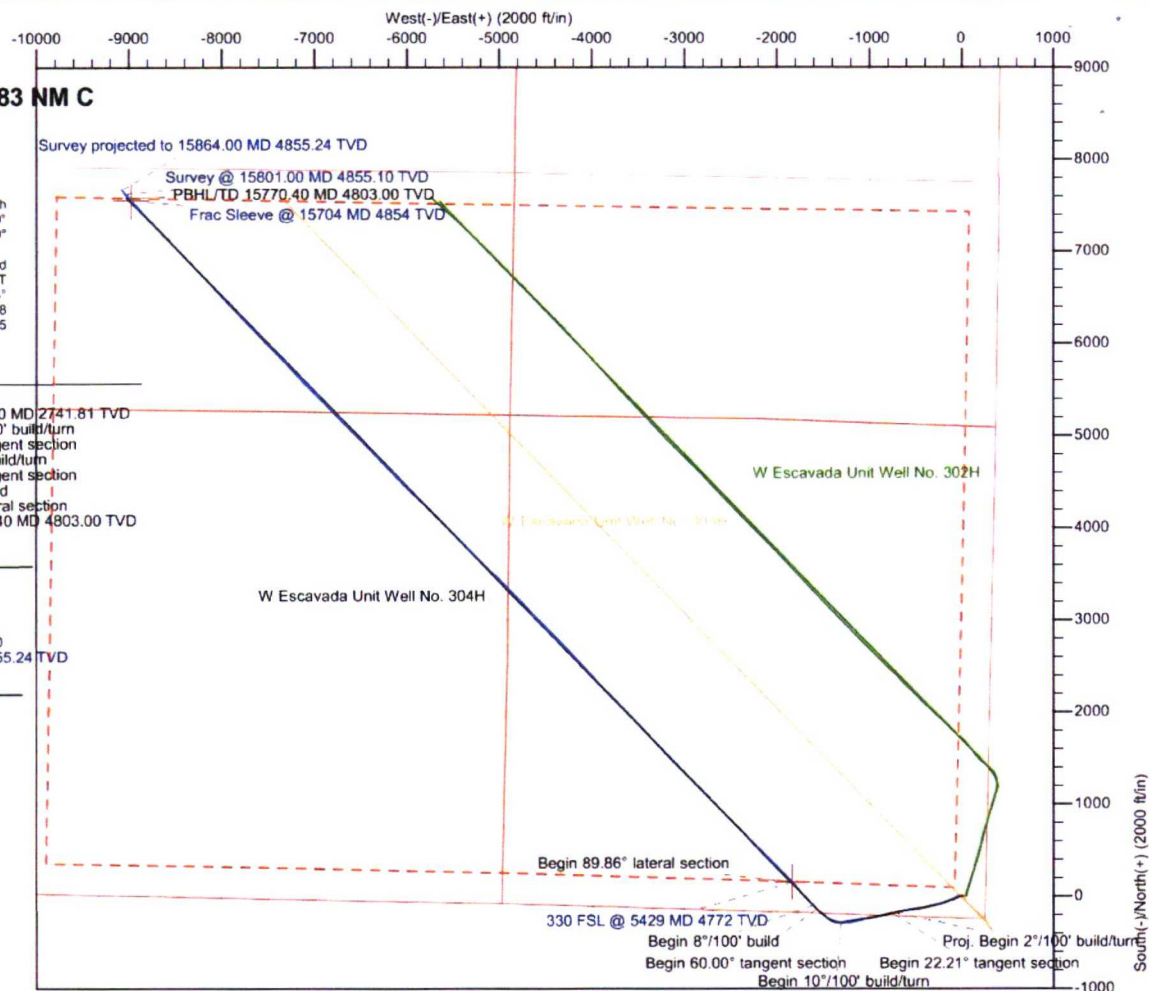
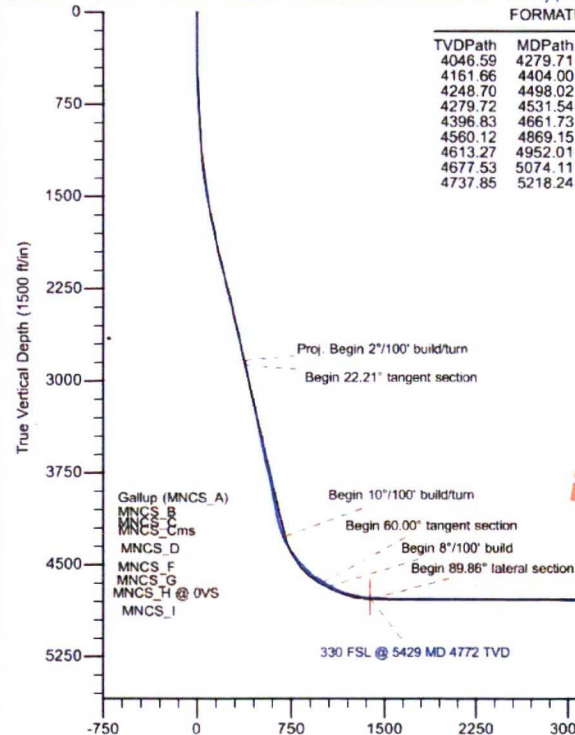
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1	2871.00	21.41	259.30	2741.81	-172.02	-697.61	0.00	0.00	360.21	Survey @ 2871.00 MD 2741.81 TVD
2	2971.00	21.41	259.30	2834.91	-178.80	-733.48	0.00	0.00	380.22	Proj. Begin 2°/100' build/turn
3	3011.22	22.21	259.38	2872.25	-181.57	-748.17	2.00	2.10	388.42	Begin 22.21° tangent section
4	4521.12	22.21	259.38	4270.08	-286.79	-1309.23	0.00	0.00	701.97	Begin 10°/100' build/turn
5	5021.16	60.00	316.06	4651.05	-138.79	-1569.08	10.00	70.85	988.86	Begin 60.00° tangent section
6	5081.16	60.00	316.06	4681.05	-101.37	-1605.14	0.00	0.00	1040.82	Begin 8°/100' build
7	5454.14	89.84	316.06	4777.00	155.02	-1852.24	8.00	-0.01	1396.91	Begin 89.86° lateral section
8	15770.41	89.84	316.06	4806.00	7582.80	-9011.33	0.00	0.00	1713.13	PBHL/TD 15770.40 MD 4803.00 TVD

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Annotation
327.00	0.91	301.75	326.99	1.37	-2.21	2.52	MWD surveys
5429.00	84.24	316.99	4772.18	154.46	-1834.35	1384.09	330 FSL @ 5429 MD 4772 TVD
15704.00	89.18	318.20	4854.31	7549.94	-8961.74	11655.06	Frac Sleeve @ 15704 MD 4854 TVD
15801.00	89.87	318.56	4855.10	7622.46	-9026.16	11751.97	Survey @ 15801.00 MD 4855.10 TVD
15864.00	89.87	318.56	4855.24	7669.68	-9067.86	11814.91	Survey projected to 15864.00 MD 4855.24 TVD

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4046.59	4279.71	Gallup (MNCS_A)
4161.66	4404.00	MNCS_B
4248.70	4498.02	MNCS_C
4279.72	4531.54	MNCS_Cms
4396.83	4661.73	MNCS_D
4560.12	4869.15	MNCS_E
4613.27	4952.01	MNCS_F
4677.53	5074.11	MNCS_G
4737.85	5218.24	MNCS_H @ OVS



DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
304H 330 FSL @ 5429 MD	4772.18	154.46	-1834.35	1870477.33	1242859.53	36.13312556	-107.59631464
304H Frac Sleeve @ 15704 MD	4854.31	7549.94	-8961.74	1877872.80	1235732.16	36.15316266	-107.62079848

Vertical Section at 316.06° (1500 ft/in)



Survey Report

Company: Enduring Resources LLC
Project: Sandoval County, New Mexico NAD83 NM C
Site: W Escavada Unit
Well: W Escavada Unit Well No. 304H
Wellbore: Original Hole
Design: Surveys Original Hole

Local Co-ordinate Reference: Well W Escavada Unit Well No. 304H
TVD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
MD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: DB_Jul2216dt_v14

Project Sandoval County, New Mexico NAD83 NM C

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Central Zone

System Datum: Mean Sea Level

CONFIDENTIAL

Site W Escavada Unit

Site Position: Northing: 1,870,321.60 usft Latitude: 36.13276900
From: Lat/Long Easting: 1,244,733.73 usft Longitude: -107.58996200
Position Uncertainty: 0.00 ft Slot Radius: 13-3/16 " Grid Convergence: -0.79 °

Well W Escavada Unit Well No. 304H

Well Position +N/-S 0.00 ft Northing: 1,870,322.88 usft Latitude: 36.13277100
 +E/-W 0.00 ft Easting: 1,244,693.88 usft Longitude: -107.59009700
Position Uncertainty 0.00 ft Wellhead Elevation: ft Ground Level: 6,878.00 ft

Wellbore Original Hole

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/6/2018	9.01	62.84	49,597.36237097

Design Surveys Original Hole

Audit Notes:

Version: 1.0 **Phase:** ACTUAL **Tie On Depth:** 0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	316.06

Survey Program Date 8/29/2018

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
327.00	15,801.00	MWD (Original Hole)	MWD	OWSG MWD - Standard
15,864.00	15,864.00	Projection (Original Hole)	MWD	OWSG MWD - Standard

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
327.00	0.91	301.75	326.99	1.37	-2.21	2.52	0.28	0.28	0.00
MWD surveys									
388.00	0.95	299.45	387.98	1.87	-3.06	3.47	0.09	0.07	-3.77
480.00	1.00	297.11	479.96	2.61	-4.44	4.96	0.07	0.05	-2.54
570.00	3.87	261.27	569.88	2.51	-8.14	7.45	3.46	3.19	-39.82
660.00	6.07	255.91	659.53	0.89	-15.76	11.57	2.50	2.44	-5.96
752.00	6.48	256.21	750.98	-1.53	-25.52	16.60	0.45	0.45	0.33
843.00	6.33	256.71	841.41	-3.91	-35.39	21.74	0.18	-0.16	0.55
934.00	8.17	250.36	931.68	-7.24	-46.36	26.96	2.20	2.02	-6.98



Survey Report

Company: Enduring Resources LLC
Project: Sandoval County, New Mexico NAD83 NM C
Site: W Escavada Unit
Well: W Escavada Unit Well No. 304H
Wellbore: Original Hole
Design: Surveys Original Hole

Local Co-ordinate Reference: Well W Escavada Unit Well No. 304H
TVD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
MD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: DB_Jul2216dt_v14

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)
1,059.00	10.93	244.11	1,054.94	-15.40	-65.39	34.29	2.36	2.21	-5.00
1,154.00	13.19	245.15	1,147.84	-23.89	-83.33	40.62	2.39	2.38	1.09
1,249.00	16.07	251.04	1,239.76	-32.72	-105.61	49.72	3.41	3.03	6.20
1,343.00	17.04	252.35	1,329.86	-41.12	-131.04	61.32	1.11	1.03	1.39
1,438.00	18.36	250.55	1,420.36	-50.32	-158.41	73.69	1.50	1.39	-1.89
1,533.00	20.46	251.29	1,509.96	-60.63	-188.25	86.97	2.23	2.21	0.78
1,628.00	22.72	252.98	1,598.29	-71.33	-221.52	102.35	2.47	2.38	1.78
1,722.00	23.62	253.07	1,684.70	-82.13	-256.90	119.12	0.96	0.96	0.10
1,817.00	22.97	252.37	1,771.96	-93.28	-292.77	135.98	0.74	-0.68	-0.74
1,912.00	23.28	256.50	1,859.33	-103.28	-328.69	153.71	1.74	0.33	4.35
2,006.00	23.22	259.87	1,945.70	-110.88	-365.00	173.43	1.42	-0.06	3.59
2,101.00	23.36	260.44	2,032.96	-117.30	-402.01	194.49	0.28	0.15	0.60
2,196.00	23.21	260.04	2,120.22	-123.66	-439.02	215.59	0.23	-0.16	-0.42
2,291.00	23.52	259.56	2,207.43	-130.34	-476.10	236.51	0.38	0.33	-0.51
2,385.00	23.15	259.14	2,293.74	-137.22	-512.69	256.95	0.43	-0.39	-0.45
2,480.00	23.15	259.27	2,381.09	-144.21	-549.38	277.37	0.05	0.00	0.14
2,574.00	23.17	259.58	2,467.52	-151.00	-585.72	297.70	0.13	0.02	0.33
2,668.00	23.13	259.40	2,553.95	-157.74	-622.05	318.06	0.09	-0.04	-0.19
2,762.00	22.33	259.19	2,640.65	-164.48	-657.74	337.97	0.86	-0.85	-0.22
2,857.00	21.50	259.38	2,728.78	-171.08	-692.58	357.40	0.88	-0.87	0.20
2,871.00	21.41	259.30	2,741.81	-172.02	-697.61	360.21	0.68	-0.64	-0.57
3,011.00	20.74	260.64	2,872.45	-180.80	-747.18	388.28	0.59	-0.48	0.96
3,105.00	22.54	258.00	2,959.82	-187.25	-781.23	407.26	2.18	1.91	-2.81
3,199.00	22.41	258.35	3,046.68	-194.62	-816.40	426.37	0.20	-0.14	0.37
3,294.00	22.06	257.91	3,134.62	-202.01	-851.58	445.45	0.41	-0.37	-0.46
3,388.00	21.84	257.12	3,221.80	-209.61	-885.89	463.79	0.39	-0.23	-0.84
3,483.00	21.53	256.68	3,310.08	-217.56	-920.08	481.79	0.37	-0.33	-0.46
3,577.00	21.26	254.92	3,397.60	-225.97	-953.32	498.80	0.74	-0.29	-1.87
3,672.00	21.31	256.42	3,486.12	-234.50	-986.73	515.84	0.58	0.05	1.58
3,767.00	22.19	257.82	3,574.36	-242.34	-1,021.04	534.00	1.08	0.93	1.47
3,861.00	23.64	256.86	3,660.94	-250.37	-1,056.75	553.00	1.59	1.54	-1.02
3,955.00	22.14	254.75	3,747.54	-259.32	-1,092.19	571.15	1.82	-1.60	-2.24
4,050.00	23.07	256.77	3,835.24	-268.28	-1,127.59	589.25	1.28	0.98	2.13
4,144.00	21.97	256.59	3,922.07	-276.58	-1,162.62	607.59	1.17	-1.17	-0.19
4,238.00	19.02	254.66	4,010.11	-284.71	-1,194.50	623.86	3.22	-3.14	-2.05
4,333.00	19.81	264.77	4,099.73	-290.27	-1,225.47	641.34	3.63	0.83	10.64
4,427.00	22.19	270.74	4,187.50	-291.50	-1,259.09	663.79	3.40	2.53	6.35
4,522.00	26.54	273.29	4,274.02	-290.05	-1,298.24	692.00	4.71	4.58	2.68
4,553.00	30.62	275.58	4,301.23	-288.88	-1,313.02	703.09	13.63	13.16	7.39
4,585.00	34.18	278.83	4,328.25	-286.71	-1,330.02	716.46	12.38	11.13	10.16
4,616.00	35.28	282.43	4,353.73	-283.44	-1,347.37	730.85	7.51	3.55	11.61
4,648.00	35.68	287.00	4,379.79	-278.73	-1,365.32	746.70	8.38	1.25	14.28
4,680.00	35.81	293.77	4,405.77	-272.22	-1,382.82	763.53	12.36	0.41	21.16



Survey Report

Company: Enduring Resources LLC
Project: Sandoval County, New Mexico NAD83 NM C
Site: W Escavada Unit
Well: W Escavada Unit Well No. 304H
Wellbore: Original Hole
Design: Surveys Original Hole

Local Co-ordinate Reference: Well W Escavada Unit Well No. 304H
TVD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
MD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: DB_Jul2216dt_v14

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)
4,711.00	36.43	298.96	4,430.82	-264.11	-1,399.17	780.72	10.07	2.00	16.74
4,743.00	38.18	300.80	4,456.27	-254.44	-1,415.98	799.34	6.48	5.47	5.75
4,774.00	40.42	302.03	4,480.26	-244.20	-1,432.74	818.34	7.65	7.23	3.97
4,806.00	41.92	303.17	4,504.35	-232.85	-1,450.48	838.83	5.24	4.69	3.56
4,837.00	44.51	304.58	4,526.94	-221.02	-1,468.10	859.57	8.92	8.35	4.55
4,869.00	47.63	306.69	4,549.14	-207.58	-1,486.82	882.24	10.84	9.75	6.59
4,900.00	49.43	308.10	4,569.67	-193.48	-1,505.27	905.20	6.73	5.81	4.55
4,932.00	52.03	310.47	4,589.93	-177.79	-1,524.43	929.79	9.94	8.13	7.41
4,963.00	54.62	313.55	4,608.44	-161.14	-1,542.89	954.59	11.54	8.35	9.94
4,995.00	57.78	315.83	4,626.24	-142.44	-1,561.79	981.17	11.51	9.88	7.13
5,026.00	58.53	316.27	4,642.60	-123.48	-1,580.06	1,007.50	2.70	2.42	1.42
5,058.00	57.65	316.71	4,659.51	-103.78	-1,598.77	1,034.66	2.99	-2.75	1.38
5,090.00	59.15	316.09	4,676.28	-84.04	-1,617.56	1,061.92	4.97	4.69	-1.94
5,121.00	62.05	316.89	4,691.50	-64.46	-1,636.15	1,088.92	9.62	9.35	2.58
5,153.00	65.52	317.68	4,705.63	-43.36	-1,655.62	1,117.62	11.07	10.84	2.47
5,185.00	68.73	317.32	4,718.07	-21.63	-1,675.54	1,147.09	10.08	10.03	-1.13
5,216.00	71.14	318.03	4,728.70	-0.10	-1,695.14	1,176.19	8.07	7.77	2.29
5,248.00	73.38	318.38	4,738.45	22.62	-1,715.45	1,206.65	7.08	7.00	1.09
5,280.00	75.67	318.38	4,746.99	45.67	-1,735.93	1,237.46	7.16	7.16	0.00
5,311.00	77.60	318.20	4,754.16	68.19	-1,756.00	1,267.60	6.25	6.23	-0.58
5,343.00	79.80	318.56	4,760.43	91.64	-1,776.84	1,298.95	6.96	6.88	1.13
5,374.00	81.65	317.50	4,765.42	114.39	-1,797.30	1,329.52	6.86	5.97	-3.42
5,429.00	84.24	316.99	4,772.18	154.46	-1,834.35	1,384.09	4.80	4.72	-0.93
330 FSL @ 5429 MD 4772 TVD									
5,469.00	86.13	316.62	4,775.53	183.52	-1,861.64	1,423.94	4.80	4.72	-0.92
5,563.00	86.74	315.74	4,781.38	251.21	-1,926.59	1,517.76	1.14	0.65	-0.94
5,658.00	88.85	316.01	4,785.03	319.35	-1,992.68	1,612.68	2.24	2.22	0.28
5,753.00	89.42	315.13	4,786.47	387.18	-2,059.18	1,707.67	1.10	0.60	-0.93
5,847.00	89.64	313.55	4,787.24	452.87	-2,126.40	1,801.62	1.70	0.23	-1.68
5,942.00	90.65	315.65	4,787.00	519.57	-2,194.04	1,896.58	2.45	1.06	2.21
6,037.00	91.08	315.30	4,785.56	587.30	-2,260.65	1,991.57	0.58	0.45	-0.37
6,132.00	91.27	313.81	4,783.61	653.93	-2,328.33	2,086.51	1.58	0.20	-1.57
6,225.00	90.57	315.83	4,782.12	719.47	-2,394.28	2,179.47	2.30	-0.75	2.17
6,320.00	91.09	315.83	4,780.74	787.61	-2,460.47	2,274.46	0.55	0.55	0.00
6,414.00	89.73	316.18	4,780.07	855.23	-2,525.76	2,368.46	1.49	-1.45	0.37
6,509.00	90.48	315.74	4,779.90	923.52	-2,591.80	2,463.45	0.92	0.79	-0.46
6,603.00	87.84	314.07	4,781.28	989.86	-2,658.36	2,557.41	3.32	-2.81	-1.78
6,698.00	88.90	316.45	4,783.98	1,057.31	-2,725.20	2,652.36	2.74	1.12	2.51
6,793.00	89.91	316.01	4,784.97	1,125.90	-2,790.91	2,747.35	1.16	1.06	-0.46
6,887.00	90.87	315.30	4,784.33	1,193.12	-2,856.61	2,841.34	1.27	1.02	-0.76
6,982.00	86.79	313.63	4,786.27	1,259.64	-2,924.38	2,936.26	4.64	-4.29	-1.76
7,076.00	87.36	315.65	4,791.06	1,325.60	-2,991.17	3,030.11	2.23	0.61	2.15
7,171.00	89.51	317.68	4,793.66	1,394.66	-3,056.33	3,125.06	3.11	2.26	2.14
7,266.00	90.65	317.76	4,793.52	1,464.95	-3,120.25	3,220.02	1.20	1.20	0.08



Survey Report

Company: Enduring Resources LLC
Project: Sandoval County, New Mexico NAD83 NM C
Site: W Escavada Unit
Well: W Escavada Unit Well No. 304H
Wellbore: Original Hole
Design: Surveys Original Hole

Local Co-ordinate Reference: Well W Escavada Unit Well No. 304H
TVD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
MD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: DB_Jul2216dt_v14

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)
7,361.00	92.06	317.76	4,791.28	1,535.26	-3,184.09	3,314.94	1.48	1.48	0.00
7,455.00	90.70	317.41	4,789.01	1,604.64	-3,247.47	3,408.88	1.49	-1.45	-0.37
7,550.00	88.63	316.89	4,789.57	1,674.28	-3,312.07	3,503.86	2.25	-2.18	-0.55
7,645.00	90.08	317.24	4,790.64	1,743.83	-3,376.78	3,598.83	1.57	1.53	0.37
7,739.00	89.12	317.06	4,791.30	1,812.74	-3,440.70	3,692.81	1.04	-1.02	-0.19
7,834.00	90.00	316.45	4,792.02	1,881.94	-3,505.79	3,787.80	1.13	0.93	-0.64
7,929.00	88.81	315.92	4,793.01	1,950.48	-3,571.55	3,882.80	1.37	-1.25	-0.56
8,023.00	90.30	315.92	4,793.74	2,018.00	-3,636.94	3,976.79	1.59	1.59	0.00
8,118.00	87.93	315.74	4,795.21	2,086.13	-3,703.13	4,071.77	2.50	-2.49	-0.19
8,212.00	88.81	315.22	4,797.88	2,153.13	-3,769.01	4,165.73	1.09	0.94	-0.55
8,307.00	90.43	316.45	4,798.51	2,221.27	-3,835.19	4,260.72	2.14	1.71	1.29
8,402.00	88.06	316.97	4,799.76	2,290.41	-3,900.32	4,355.70	2.55	-2.49	0.55
8,496.00	89.29	316.89	4,801.94	2,359.06	-3,964.49	4,449.66	1.31	1.31	-0.09
8,592.00	88.19	317.06	4,804.05	2,429.22	-4,029.98	4,545.62	1.16	-1.15	0.18
8,686.00	89.56	317.06	4,805.89	2,498.02	-4,094.00	4,639.59	1.46	1.46	0.00
8,804.00	90.74	317.76	4,805.59	2,584.89	-4,173.86	4,757.55	1.16	1.00	0.59
8,899.00	91.58	316.62	4,803.66	2,654.57	-4,238.40	4,852.51	1.49	0.88	-1.20
8,993.00	90.79	317.68	4,801.72	2,723.47	-4,302.31	4,946.47	1.41	-0.84	1.13
9,088.00	88.46	316.18	4,802.34	2,792.86	-4,367.18	5,041.45	2.92	-2.45	-1.58
9,182.00	88.98	315.57	4,804.44	2,860.31	-4,432.61	5,135.43	0.85	0.55	-0.65
9,277.00	90.00	314.43	4,805.29	2,927.49	-4,499.78	5,230.40	1.61	1.07	-1.20
9,372.00	88.64	316.80	4,806.41	2,995.37	-4,566.22	5,325.38	2.88	-1.43	2.49
9,466.00	90.00	316.80	4,807.53	3,063.88	-4,630.56	5,419.37	1.45	1.45	0.00
9,561.00	91.76	316.36	4,806.07	3,132.87	-4,695.85	5,514.35	1.91	1.85	-0.46
9,656.00	89.03	315.04	4,805.41	3,200.85	-4,762.19	5,609.33	3.19	-2.87	-1.39
9,750.00	90.26	315.40	4,806.00	3,267.57	-4,828.40	5,703.32	1.36	1.31	0.38
9,845.00	88.11	314.69	4,807.35	3,334.79	-4,895.51	5,798.29	2.38	-2.26	-0.75
9,939.00	89.03	313.64	4,809.69	3,400.26	-4,962.91	5,892.21	1.48	0.98	-1.12
10,034.00	87.85	316.27	4,812.28	3,467.35	-5,030.11	5,987.14	3.03	-1.24	2.77
10,128.00	88.68	314.34	4,815.13	3,534.14	-5,096.19	6,081.09	2.23	0.88	-2.05
10,222.00	88.73	316.10	4,817.25	3,600.84	-5,162.38	6,175.05	1.87	0.05	1.87
10,317.00	90.53	316.71	4,817.86	3,669.64	-5,227.89	6,270.04	2.00	1.89	0.64
10,411.00	91.54	316.10	4,816.17	3,737.70	-5,292.69	6,364.02	1.26	1.07	-0.65
10,505.00	89.03	315.92	4,815.70	3,805.33	-5,357.97	6,458.01	2.68	-2.67	-0.19
10,600.00	90.13	315.13	4,816.40	3,873.11	-5,424.53	6,553.00	1.43	1.16	-0.83
10,694.00	91.05	314.17	4,815.43	3,939.17	-5,491.39	6,646.97	1.41	0.98	-1.02
10,789.00	89.30	316.10	4,815.14	4,006.49	-5,558.40	6,741.95	2.74	-1.84	2.03
10,884.00	90.31	314.69	4,815.46	4,074.13	-5,625.11	6,836.94	1.83	1.06	-1.48
10,979.00	92.07	314.25	4,813.49	4,140.66	-5,692.89	6,931.88	1.91	1.85	-0.46
11,073.00	89.96	315.57	4,811.82	4,207.01	-5,759.44	7,025.83	2.65	-2.24	1.40
11,168.00	90.53	312.93	4,811.42	4,273.29	-5,827.49	7,120.78	2.84	0.60	-2.78
11,263.00	87.63	312.67	4,812.94	4,337.83	-5,897.17	7,215.60	3.06	-3.05	-0.27
11,357.00	88.15	316.27	4,816.40	4,403.62	-5,964.20	7,309.49	3.87	0.55	3.83



Survey Report

Company: Enduring Resources LLC
Project: Sandoval County, New Mexico NAD83 NM C
Site: W Escavada Unit
Well: W Escavada Unit Well No. 304H
Wellbore: Original Hole
Design: Surveys Original Hole

Local Co-ordinate Reference: Well W Escavada Unit Well No. 304H
TVD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
MD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: DB_Jul2216dt_v14

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)
11,452.00	89.69	315.75	4,818.19	4,471.95	-6,030.16	7,404.47	1.71	1.62	-0.55
11,546.00	91.41	315.13	4,817.29	4,538.93	-6,096.11	7,498.45	1.95	1.83	-0.66
11,640.00	89.60	315.48	4,816.46	4,605.74	-6,162.22	7,592.44	1.96	-1.93	0.37
11,735.00	87.98	316.19	4,818.47	4,673.87	-6,228.39	7,687.41	1.86	-1.71	0.75
11,829.00	89.91	316.63	4,820.20	4,741.94	-6,293.19	7,781.39	2.11	2.05	0.47
11,924.00	91.36	316.19	4,819.15	4,810.74	-6,358.69	7,876.38	1.60	1.53	-0.46
12,018.00	88.77	315.57	4,819.04	4,878.21	-6,424.12	7,970.37	2.83	-2.76	-0.66
12,113.00	88.29	315.31	4,821.48	4,945.88	-6,490.76	8,065.33	0.57	-0.51	-0.27
12,207.00	89.65	314.69	4,823.17	5,012.34	-6,557.21	8,159.30	1.59	1.45	-0.66
12,302.00	91.93	314.34	4,821.86	5,078.93	-6,624.94	8,254.25	2.43	2.40	-0.37
12,397.00	90.57	315.48	4,819.79	5,145.98	-6,692.20	8,349.20	1.87	-1.43	1.20
12,491.00	88.37	317.42	4,820.66	5,214.10	-6,756.96	8,443.19	3.12	-2.34	2.06
12,586.00	89.17	317.15	4,822.69	5,283.88	-6,821.39	8,538.14	0.89	0.84	-0.28
12,680.00	91.01	316.19	4,822.55	5,352.26	-6,885.89	8,632.13	2.21	1.96	-1.02
12,775.00	89.03	316.27	4,822.51	5,420.85	-6,951.60	8,727.13	2.09	-2.08	0.08
12,870.00	87.41	315.40	4,825.46	5,488.97	-7,017.75	8,822.07	1.94	-1.71	-0.92
12,964.00	88.29	313.90	4,828.99	5,554.98	-7,084.58	8,915.98	1.85	0.94	-1.60
13,059.00	88.99	317.51	4,831.25	5,622.94	-7,150.89	9,010.93	3.87	0.74	3.80
13,154.00	91.23	317.15	4,831.06	5,692.79	-7,215.27	9,105.90	2.39	2.36	-0.38
13,248.00	88.81	316.45	4,831.03	5,761.31	-7,279.62	9,199.89	2.68	-2.57	-0.74
13,343.00	90.18	315.22	4,831.87	5,829.45	-7,345.80	9,294.88	1.94	1.44	-1.29
13,437.00	90.22	315.13	4,831.54	5,896.12	-7,412.07	9,388.87	0.10	0.04	-0.10
13,532.00	87.19	316.63	4,833.69	5,964.29	-7,478.17	9,483.83	3.56	-3.19	1.58
13,626.00	87.50	316.10	4,838.04	6,032.25	-7,542.97	9,577.72	0.65	0.33	-0.56
13,720.00	88.37	316.01	4,841.43	6,099.88	-7,608.16	9,671.66	0.93	0.93	-0.10
13,815.00	88.86	316.19	4,843.72	6,168.32	-7,674.01	9,766.63	0.55	0.52	0.19
13,910.00	89.47	316.71	4,845.11	6,237.16	-7,739.46	9,861.62	0.84	0.64	0.55
14,004.00	90.26	316.80	4,845.33	6,305.63	-7,803.86	9,955.61	0.85	0.84	0.10
14,099.00	90.97	317.59	4,844.31	6,375.33	-7,868.41	10,050.59	1.12	0.75	0.83
14,193.00	91.05	316.54	4,842.65	6,444.14	-7,932.43	10,144.56	1.12	0.09	-1.12
14,287.00	88.81	316.98	4,842.77	6,512.61	-7,996.82	10,238.54	2.43	-2.38	0.47
14,382.00	88.77	316.98	4,844.78	6,582.05	-8,061.62	10,333.51	0.04	-0.04	0.00
14,476.00	89.38	317.51	4,846.29	6,651.06	-8,125.42	10,427.48	0.86	0.65	0.56
14,571.00	89.56	317.07	4,847.17	6,720.86	-8,189.86	10,522.45	0.50	0.19	-0.46
14,666.00	89.87	317.07	4,847.64	6,790.42	-8,254.56	10,617.44	0.33	0.33	0.00
14,760.00	90.31	316.54	4,847.50	6,858.95	-8,318.90	10,711.43	0.73	0.47	-0.56
14,854.00	90.79	316.19	4,846.59	6,926.98	-8,383.77	10,805.42	0.63	0.51	-0.37
14,949.00	91.23	315.40	4,844.92	6,995.07	-8,449.99	10,900.40	0.95	0.46	-0.83
15,043.00	89.29	317.50	4,844.49	7,063.19	-8,514.75	10,994.39	3.04	-2.06	2.23
15,138.00	89.38	317.86	4,845.60	7,133.43	-8,578.70	11,089.35	0.39	0.09	0.38
15,232.00	89.60	317.51	4,846.43	7,202.93	-8,641.98	11,183.30	0.44	0.23	-0.37
15,327.00	89.81	316.63	4,846.92	7,272.49	-8,706.69	11,278.29	0.95	0.22	-0.93
15,422.00	90.18	316.98	4,846.93	7,341.74	-8,771.71	11,373.28	0.54	0.39	0.37



Survey Report

Company: Enduring Resources LLC
Project: Sandoval County, New Mexico NAD83 NM C
Site: W Escavada Unit
Well: W Escavada Unit Well No. 304H
Wellbore: Original Hole
Design: Surveys Original Hole

Local Co-ordinate Reference: Well W Escavada Unit Well No. 304H
TVD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
MD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: DB_Jul2216dt_v14

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)
15,517.00	87.93	317.50	4,848.50	7,411.48	-8,836.20	11,468.24	2.43	-2.37	0.55
15,612.00	87.89	317.76	4,851.96	7,481.62	-8,900.18	11,563.14	0.28	-0.04	0.27
15,704.00	89.18	318.20	4,854.31	7,549.94	-8,961.74	11,655.06	1.48	1.40	0.48
Frac Sleeve @ 15704 MD 4854 TVD									
15,706.00	89.21	318.21	4,854.34	7,551.44	-8,963.07	11,657.06	1.48	1.40	0.48
15,801.00	89.87	318.56	4,855.10	7,622.46	-9,026.16	11,751.97	0.79	0.69	0.37
Survey @ 15801.00 MD 4855.10 TVD									
15,864.00	89.87	318.56	4,855.25	7,669.68	-9,067.86	11,814.91	0.00	0.00	0.00
Survey projected to 15864.00 MD 4855.24 TVD									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
304H Frac Sleeve @ 15	0.00	360.00	4,854.31	7,549.94	-8,961.74	1,877,872.80	1,235,732.16	36.15316266	-107.62079849
- actual wellpath hits target center									
- Point									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
327.00	326.99	1.37	-2.21	MWD surveys
5,429.00	4,772.18	154.46	-1,834.35	330 FSL @ 5429 MD 4772 TVD
15,704.00	4,854.31	7,549.94	-8,961.74	Frac Sleeve @ 15704 MD 4854 TVD
15,801.00	4,855.10	7,622.46	-9,026.16	Survey @ 15801.00 MD 4855.10 TVD
15,864.00	4,855.25	7,669.68	-9,067.86	Survey projected to 15864.00 MD 4855.24 TVD



Survey Report - Geographic

Company: Enduring Resources LLC	Local Co-ordinate Reference: Well W Escavada Unit Well No. 304H
Project: Sandoval County, New Mexico NAD83 NM C	TVD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
Site: W Escavada Unit	MD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
Well: W Escavada Unit Well No. 304H	North Reference: Grid
Wellbore: Original Hole	Survey Calculation Method: Minimum Curvature
Design: Surveys Original Hole	Database: DB_Jul2216dt_v14

Project	Sandoval County, New Mexico NAD83 NM C		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	W Escavada Unit		
Site Position:		Northing:	1,870,321.60 usft
From:	Lat/Long	Easting:	1,244,733.73 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	36.13276900
		Longitude:	-107.58996200
		Grid Convergence:	-0.79 °

Well	W Escavada Unit Well No. 304H		
Well Position	+N/-S	0.00 ft	Northing: 1,870,322.88 usft
	+E/-W	0.00 ft	Easting: 1,244,693.88 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
		Latitude:	36.13277100
		Longitude:	-107.59009700
		Ground Level:	6,878.00 ft

Wellbore	Original Hole		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	7/6/2018	9.01
			Dip Angle (°)
			62.84
			Field Strength (nT)
			49,597.36237097

Design	Surveys Original Hole		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction (°)
			316.06

Survey Program	Date 8/29/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name
327.00	15,801.00	MWD (Original Hole)	MWD
15,864.00	15,864.00	Projection (Original Hole)	MWD
			Description
			OWSG MWD - Standard
			OWSG MWD - Standard

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	0.00	0.00	0.00	0.00	1,870,322.88	1,244,693.88	36.13277100	-107.59009700
327.00	0.91	301.75	326.99	1.37	-2.21	1,870,324.24	1,244,691.67	36.13277467	-107.59010454
MWD surveys									
388.00	0.95	299.45	387.98	1.87	-3.06	1,870,324.75	1,244,690.82	36.13277602	-107.59010745
480.00	1.00	297.11	479.96	2.61	-4.44	1,870,325.49	1,244,689.44	36.13277800	-107.59011215
570.00	3.87	261.27	569.88	2.51	-8.14	1,870,325.38	1,244,685.74	36.13277758	-107.59012468
660.00	6.07	255.91	659.53	0.89	-15.76	1,870,323.76	1,244,678.12	36.13277284	-107.59015040
752.00	6.48	256.21	750.98	-1.53	-25.52	1,870,321.34	1,244,668.36	36.13276582	-107.59018333
843.00	6.33	256.71	841.41	-3.91	-35.39	1,870,318.97	1,244,658.49	36.13275892	-107.59021663
934.00	8.17	250.36	931.68	-7.24	-46.36	1,870,315.64	1,244,647.52	36.13274937	-107.59025363
1,059.00	10.93	244.11	1,054.94	-15.40	-65.39	1,870,307.48	1,244,628.49	36.13272623	-107.59031768



Survey Report - Geographic

Company: Enduring Resources LLC
Project: Sandoval County, New Mexico NAD83 NM C
Site: W Escavada Unit
Well: W Escavada Unit Well No. 304H
Wellbore: Original Hole
Design: Surveys Original Hole

Local Co-ordinate Reference: Well W Escavada Unit Well No. 304H
TVD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
MD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: DB_Jul2216dt_v14

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,154.00	13.19	245.15	1,147.84	-23.89	-83.33	1,870,298.99	1,244,610.55	36.13270224	-107.59037802
1,249.00	16.07	251.04	1,239.76	-32.72	-105.61	1,870,290.16	1,244,588.27	36.13267714	-107.59045302
1,343.00	17.04	252.35	1,329.86	-41.12	-131.04	1,870,281.76	1,244,562.84	36.13265310	-107.59053873
1,438.00	18.36	250.55	1,420.36	-50.32	-158.41	1,870,272.55	1,244,535.47	36.13262679	-107.59063097
1,533.00	20.46	251.29	1,509.96	-60.63	-188.25	1,870,262.24	1,244,505.63	36.13259734	-107.59073151
1,628.00	22.72	252.98	1,598.29	-71.33	-221.52	1,870,251.55	1,244,472.36	36.13256670	-107.59084366
1,722.00	23.62	253.07	1,684.70	-82.13	-256.90	1,870,240.75	1,244,436.98	36.13253571	-107.59096292
1,817.00	22.97	252.37	1,771.96	-93.28	-292.77	1,870,229.59	1,244,401.11	36.13250371	-107.59108385
1,912.00	23.28	256.50	1,859.33	-103.28	-328.69	1,870,219.60	1,244,365.19	36.13247489	-107.59120500
2,006.00	23.22	259.87	1,945.70	-110.88	-365.00	1,870,212.00	1,244,328.88	36.13245265	-107.59132756
2,101.00	23.36	260.44	2,032.96	-117.30	-402.01	1,870,205.58	1,244,291.87	36.13243361	-107.59145256
2,196.00	23.21	260.04	2,120.22	-123.66	-439.02	1,870,199.21	1,244,254.86	36.13241472	-107.59157756
2,291.00	23.52	259.56	2,207.43	-130.34	-476.10	1,870,192.54	1,244,217.78	36.13239499	-107.59170279
2,385.00	23.15	259.14	2,293.74	-137.22	-512.69	1,870,185.66	1,244,181.19	36.13237471	-107.59182635
2,480.00	23.15	259.27	2,381.09	-144.21	-549.38	1,870,178.66	1,244,144.50	36.13235410	-107.59195023
2,574.00	23.17	259.58	2,467.52	-151.00	-585.72	1,870,171.88	1,244,108.16	36.13233409	-107.59207296
2,668.00	23.13	259.40	2,553.95	-157.74	-622.05	1,870,165.14	1,244,071.83	36.13231420	-107.59219566
2,762.00	22.33	259.19	2,640.65	-164.48	-657.74	1,870,158.39	1,244,036.14	36.13229432	-107.59231617
2,857.00	21.50	259.38	2,728.78	-171.08	-692.58	1,870,151.80	1,244,001.30	36.13227489	-107.59243381
2,871.00	21.41	259.30	2,741.81	-172.02	-697.61	1,870,150.85	1,243,996.27	36.13227210	-107.59245080
3,011.00	20.74	260.64	2,872.45	-180.80	-747.18	1,870,142.08	1,243,946.70	36.13224611	-107.59261821
3,105.00	22.54	258.00	2,959.82	-187.25	-781.23	1,870,135.62	1,243,912.65	36.13222710	-107.59273318
3,199.00	22.41	258.35	3,046.68	-194.62	-816.40	1,870,128.26	1,243,877.48	36.13220554	-107.59285191
3,294.00	22.06	257.91	3,134.62	-202.01	-851.58	1,870,120.87	1,243,842.30	36.13218390	-107.59297067
3,388.00	21.84	257.12	3,221.80	-209.61	-885.89	1,870,113.27	1,243,807.99	36.13216173	-107.59308646
3,483.00	21.53	256.68	3,310.08	-217.56	-920.08	1,870,105.32	1,243,773.80	36.13213859	-107.59320184
3,577.00	21.26	254.92	3,397.60	-225.97	-953.32	1,870,096.91	1,243,740.56	36.13211423	-107.59331398
3,672.00	21.31	256.42	3,486.12	-234.50	-986.73	1,870,088.37	1,243,707.15	36.13208953	-107.59342669
3,767.00	22.19	257.82	3,574.36	-242.34	-1,021.04	1,870,080.54	1,243,672.84	36.13206670	-107.59354251
3,861.00	23.64	256.86	3,660.94	-250.37	-1,056.75	1,870,072.51	1,243,637.13	36.13204329	-107.59366302
3,955.00	22.14	254.75	3,747.54	-259.32	-1,092.19	1,870,063.56	1,243,601.69	36.13201738	-107.59378260
4,050.00	23.07	256.77	3,835.24	-268.28	-1,127.59	1,870,054.59	1,243,566.29	36.13199140	-107.59390200
4,144.00	21.97	256.59	3,922.07	-276.58	-1,162.62	1,870,046.30	1,243,531.26	36.13196729	-107.59402022
4,238.00	19.02	254.66	4,010.11	-284.71	-1,194.50	1,870,038.17	1,243,499.38	36.13194375	-107.59412779
4,333.00	19.81	264.77	4,099.73	-290.27	-1,225.47	1,870,032.60	1,243,468.41	36.13192729	-107.59423237
4,427.00	22.19	270.74	4,187.50	-291.50	-1,259.09	1,870,031.38	1,243,434.79	36.13192265	-107.59434614
4,522.00	26.54	273.29	4,274.02	-290.05	-1,298.24	1,870,032.83	1,243,395.64	36.13192515	-107.59447874
4,553.00	30.62	275.58	4,301.23	-288.88	-1,313.02	1,870,034.00	1,243,380.86	36.13192779	-107.59452883
4,585.00	34.18	278.83	4,328.25	-286.71	-1,330.02	1,870,036.17	1,243,363.86	36.13193311	-107.59458649
4,616.00	35.28	282.43	4,353.73	-283.44	-1,347.37	1,870,039.43	1,243,346.51	36.13194141	-107.59464538
4,648.00	35.68	287.00	4,379.79	-278.73	-1,365.32	1,870,044.15	1,243,328.56	36.13195369	-107.59470638
4,680.00	35.81	293.77	4,405.77	-272.22	-1,382.82	1,870,050.66	1,243,311.06	36.13197089	-107.59476592
4,711.00	36.43	298.96	4,430.82	-264.11	-1,399.17	1,870,058.77	1,243,294.71	36.13199255	-107.59482168
4,743.00	38.18	300.80	4,456.27	-254.44	-1,415.98	1,870,068.44	1,243,277.90	36.13201846	-107.59487905
4,774.00	40.42	302.03	4,480.26	-244.20	-1,432.74	1,870,078.67	1,243,261.14	36.13204594	-107.59493625
4,806.00	41.92	303.17	4,504.35	-232.85	-1,450.48	1,870,090.03	1,243,243.40	36.13207644	-107.59499685
4,837.00	44.51	304.58	4,526.94	-221.02	-1,468.10	1,870,101.86	1,243,225.78	36.13210827	-107.59505705
4,869.00	47.63	306.69	4,549.14	-207.58	-1,486.82	1,870,115.29	1,243,207.06	36.13214445	-107.59512106
4,900.00	49.43	308.10	4,569.67	-193.48	-1,505.27	1,870,129.40	1,243,188.61	36.13218250	-107.59518418
4,932.00	52.03	310.47	4,589.93	-177.79	-1,524.43	1,870,145.09	1,243,169.45	36.13222486	-107.59524980
4,963.00	54.62	313.55	4,608.44	-161.14	-1,542.89	1,870,161.74	1,243,150.99	36.13226987	-107.59531309
4,995.00	57.78	315.83	4,626.24	-142.44	-1,561.79	1,870,180.44	1,243,132.09	36.13232052	-107.59537793
5,026.00	58.53	316.27	4,642.60	-123.48	-1,580.06	1,870,199.40	1,243,113.82	36.13237190	-107.59544069
5,058.00	57.65	316.71	4,659.51	-103.78	-1,598.77	1,870,219.10	1,243,095.12	36.13242529	-107.59550493
5,090.00	59.15	316.09	4,676.28	-84.04	-1,617.56	1,870,238.83	1,243,076.32	36.13247878	-107.59556949



Survey Report - Geographic

Company: Enduring Resources LLC
Project: Sandoval County, New Mexico NAD83 NM C
Site: W Escavada Unit
Well: W Escavada Unit Well No. 304H
Wellbore: Original Hole
Design: Surveys Original Hole

Local Co-ordinate Reference: Well W Escavada Unit Well No. 304H
TVD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
MD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: DB_Jul2216dt_v14

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,121.00	62.05	316.89	4,691.50	-64.46	-1,636.15	1,870,258.42	1,243,057.73	36.13253186	-107.59563335
5,153.00	65.52	317.68	4,705.63	-43.36	-1,655.62	1,870,279.51	1,243,038.26	36.13258905	-107.59570025
5,185.00	68.73	317.32	4,718.07	-21.63	-1,675.54	1,870,301.25	1,243,018.34	36.13264798	-107.59576870
5,216.00	71.14	318.03	4,728.70	-0.10	-1,695.14	1,870,322.77	1,242,998.74	36.13270636	-107.59583608
5,248.00	73.38	318.38	4,738.45	22.62	-1,715.45	1,870,345.50	1,242,978.43	36.13276799	-107.59590591
5,280.00	75.67	318.38	4,746.99	45.67	-1,735.93	1,870,368.55	1,242,957.95	36.13283052	-107.59597634
5,311.00	77.60	318.20	4,754.16	68.19	-1,756.00	1,870,391.06	1,242,937.88	36.13289159	-107.59604533
5,343.00	79.80	318.56	4,760.43	91.64	-1,776.84	1,870,414.52	1,242,917.04	36.13295522	-107.59611699
5,374.00	81.65	317.50	4,765.42	114.39	-1,797.30	1,870,437.27	1,242,896.58	36.13301691	-107.59618733
5,429.00	84.24	316.99	4,772.18	154.46	-1,834.35	1,870,477.34	1,242,859.53	36.13312556	-107.59631465
330 FSL @ 5429 MD 4772 TVD									
5,469.00	86.13	316.62	4,775.53	183.52	-1,861.64	1,870,506.40	1,242,832.25	36.13320433	-107.59640838
5,563.00	86.74	315.74	4,781.38	251.21	-1,926.59	1,870,574.09	1,242,767.29	36.13338776	-107.59663148
5,658.00	88.85	316.01	4,785.03	319.35	-1,992.68	1,870,642.22	1,242,701.20	36.13357238	-107.59685843
5,753.00	89.42	315.13	4,786.47	387.18	-2,059.18	1,870,710.06	1,242,634.70	36.13375614	-107.59708675
5,847.00	89.64	313.55	4,787.24	452.87	-2,126.40	1,870,775.75	1,242,567.48	36.13393400	-107.59731743
5,942.00	90.65	315.65	4,787.00	519.57	-2,194.04	1,870,842.45	1,242,499.84	36.13411461	-107.59754956
6,037.00	91.08	315.30	4,785.56	587.30	-2,260.65	1,870,910.17	1,242,433.23	36.13429807	-107.59777825
6,132.00	91.27	313.81	4,783.61	653.93	-2,328.33	1,870,976.81	1,242,365.56	36.13447850	-107.59801052
6,225.00	90.57	315.83	4,782.12	719.47	-2,394.28	1,871,042.35	1,242,299.60	36.13465599	-107.59823690
6,320.00	91.09	315.83	4,780.74	787.61	-2,460.47	1,871,110.48	1,242,233.41	36.13484059	-107.59846420
6,414.00	89.73	316.18	4,780.07	855.23	-2,525.76	1,871,178.10	1,242,168.12	36.13502381	-107.59868842
6,509.00	90.48	315.74	4,779.90	923.52	-2,591.80	1,871,246.39	1,242,102.09	36.13520885	-107.59891522
6,603.00	87.84	314.07	4,781.28	989.86	-2,658.36	1,871,312.73	1,242,035.52	36.13538851	-107.59914370
6,698.00	88.90	316.45	4,783.98	1,057.31	-2,725.20	1,871,380.18	1,241,968.69	36.13557120	-107.59937316
6,793.00	89.91	316.01	4,784.97	1,125.90	-2,790.91	1,871,448.78	1,241,902.97	36.13575709	-107.59959888
6,887.00	90.87	315.30	4,784.33	1,193.12	-2,856.61	1,871,516.00	1,241,837.27	36.13593919	-107.59982448
6,982.00	86.79	313.63	4,786.27	1,259.64	-2,924.38	1,871,582.51	1,241,769.50	36.13611929	-107.60005706
7,076.00	87.36	315.65	4,791.06	1,325.60	-2,991.17	1,871,648.47	1,241,702.71	36.13629789	-107.60028631
7,171.00	89.51	317.68	4,793.66	1,394.66	-3,056.33	1,871,717.54	1,241,637.55	36.13648508	-107.60051018
7,266.00	90.65	317.76	4,793.52	1,464.95	-3,120.25	1,871,787.82	1,241,573.64	36.13667568	-107.60072988
7,361.00	92.06	317.76	4,791.28	1,535.26	-3,184.09	1,871,858.13	1,241,509.80	36.13686634	-107.60094935
7,455.00	90.70	317.41	4,789.01	1,604.64	-3,247.47	1,871,927.51	1,241,446.41	36.13705445	-107.60116721
7,550.00	88.63	316.89	4,789.57	1,674.28	-3,312.07	1,871,997.15	1,241,381.81	36.13724325	-107.60138922
7,645.00	90.08	317.24	4,790.64	1,743.83	-3,376.78	1,872,066.70	1,241,317.11	36.13743178	-107.60161158
7,739.00	89.12	317.06	4,791.30	1,812.74	-3,440.70	1,872,135.61	1,241,253.18	36.13761860	-107.60183126
7,834.00	90.00	316.45	4,792.02	1,881.94	-3,505.79	1,872,204.81	1,241,188.10	36.13780616	-107.60205488
7,929.00	88.81	315.92	4,793.01	1,950.48	-3,571.55	1,872,273.35	1,241,122.33	36.13799190	-107.60228079
8,023.00	90.30	315.92	4,793.74	2,018.00	-3,636.94	1,872,340.88	1,241,056.94	36.13817484	-107.60250537
8,118.00	87.93	315.74	4,795.21	2,086.13	-3,703.13	1,872,409.00	1,240,990.76	36.13835942	-107.60273266
8,212.00	88.81	315.22	4,797.88	2,153.13	-3,769.01	1,872,476.00	1,240,924.88	36.13854089	-107.60295888
8,307.00	90.43	316.45	4,798.51	2,221.27	-3,835.19	1,872,544.14	1,240,858.69	36.13872550	-107.60318619
8,402.00	88.06	316.97	4,799.76	2,290.41	-3,900.32	1,872,613.28	1,240,793.56	36.13891289	-107.60340997
8,496.00	89.29	316.89	4,801.94	2,359.06	-3,964.49	1,872,681.93	1,240,729.39	36.13909898	-107.60363049
8,592.00	88.19	317.06	4,804.05	2,429.22	-4,029.98	1,872,752.09	1,240,663.91	36.13928917	-107.60385553
8,686.00	89.56	317.06	4,805.89	2,498.02	-4,094.00	1,872,820.89	1,240,599.88	36.13947567	-107.60407554
8,804.00	90.74	317.76	4,805.59	2,584.89	-4,173.86	1,872,907.76	1,240,520.03	36.13971119	-107.60435002
8,899.00	91.58	316.62	4,803.66	2,654.57	-4,238.40	1,872,977.44	1,240,455.49	36.13990008	-107.60457185
8,993.00	90.79	317.68	4,801.72	2,723.47	-4,302.31	1,873,046.34	1,240,391.57	36.14008686	-107.60479151
9,088.00	88.46	316.18	4,802.34	2,792.86	-4,367.18	1,873,115.73	1,240,326.71	36.14027495	-107.60501442
9,182.00	88.98	315.57	4,804.44	2,860.31	-4,432.61	1,873,183.19	1,240,261.28	36.14045771	-107.60523914
9,277.00	90.00	314.43	4,805.29	2,927.49	-4,499.78	1,873,250.36	1,240,194.11	36.14063961	-107.60546975
9,372.00	88.64	316.80	4,806.41	2,995.37	-4,566.22	1,873,318.24	1,240,127.67	36.14082349	-107.60569791
9,466.00	90.00	316.80	4,807.53	3,063.88	-4,630.56	1,873,386.75	1,240,063.33	36.14100920	-107.60591901
9,561.00	91.76	316.36	4,806.07	3,132.87	-4,695.85	1,873,455.74	1,239,998.04	36.14119617	-107.60614333



Survey Report - Geographic

Company: Enduring Resources LLC
Project: Sandoval County, New Mexico NAD83 NM C
Site: W Escavada Unit
Well: W Escavada Unit Well No. 304H
Wellbore: Original Hole
Design: Surveys Original Hole

Local Co-ordinate Reference: Well W Escavada Unit Well No. 304H
TVD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
MD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: DB_Jul2216dt_v14

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9.656.00	89.03	315.04	4,805.41	3,200.85	-4,762.19	1,873,523.73	1,239,931.70	36.14138033	-107.60637117
9.750.00	90.26	315.40	4,806.00	3,267.57	-4,828.40	1,873,590.45	1,239,865.49	36.14156103	-107.60659851
9.845.00	88.11	314.69	4,807.35	3,334.79	-4,895.51	1,873,657.66	1,239,798.38	36.14174306	-107.60682892
9.939.00	89.03	313.64	4,809.69	3,400.26	-4,962.91	1,873,723.13	1,239,730.97	36.14192028	-107.60706026
10.034.00	87.85	316.27	4,812.28	3,467.35	-5,030.11	1,873,790.22	1,239,663.78	36.14210196	-107.60729096
10.128.00	88.68	314.34	4,815.13	3,534.14	-5,096.19	1,873,857.01	1,239,597.70	36.14228284	-107.60751786
10.222.00	88.73	316.10	4,817.25	3,600.84	-5,162.38	1,873,923.71	1,239,531.51	36.14246350	-107.60774515
10.317.00	90.53	316.71	4,817.86	3,669.64	-5,227.89	1,873,992.51	1,239,466.00	36.14264993	-107.60797020
10.411.00	91.54	316.10	4,816.17	3,737.70	-5,292.69	1,874,060.57	1,239,401.20	36.14283437	-107.60819286
10.505.00	89.03	315.92	4,815.70	3,805.33	-5,357.97	1,874,128.20	1,239,335.92	36.14301759	-107.60841710
10.600.00	90.13	315.13	4,816.40	3,873.11	-5,424.53	1,874,195.98	1,239,269.36	36.14320119	-107.60864566
10.694.00	91.05	314.17	4,815.43	3,939.17	-5,491.39	1,874,262.04	1,239,202.49	36.14338004	-107.60887521
10.789.00	89.30	316.10	4,815.14	4,006.49	-5,558.40	1,874,329.36	1,239,135.48	36.14356237	-107.60910530
10.884.00	90.31	314.69	4,815.46	4,074.13	-5,625.11	1,874,397.00	1,239,068.78	36.14374555	-107.60933438
10.979.00	92.07	314.25	4,813.49	4,140.66	-5,692.89	1,874,463.53	1,239,001.00	36.14392568	-107.60956703
11.073.00	89.96	315.57	4,811.82	4,207.01	-5,759.44	1,874,529.88	1,238,934.44	36.14410534	-107.60979554
11.168.00	90.53	312.93	4,811.42	4,273.29	-5,827.49	1,874,596.16	1,238,866.40	36.14428476	-107.61002907
11.263.00	87.63	312.67	4,812.94	4,337.83	-5,897.17	1,874,660.69	1,238,796.72	36.14445931	-107.61026810
11.357.00	88.15	316.27	4,816.40	4,403.62	-5,964.20	1,874,726.49	1,238,729.69	36.14463743	-107.61049817
11.452.00	89.69	315.75	4,818.19	4,471.95	-6,030.16	1,874,794.82	1,238,663.73	36.14482256	-107.61072478
11.546.00	91.41	315.13	4,817.29	4,538.93	-6,096.11	1,874,861.79	1,238,597.78	36.14500395	-107.61095127
11.640.00	89.60	315.48	4,816.46	4,605.74	-6,162.22	1,874,928.61	1,238,531.67	36.14518491	-107.61117829
11.735.00	87.98	316.19	4,818.47	4,673.87	-6,228.39	1,874,996.74	1,238,465.50	36.14536947	-107.61140559
11.829.00	89.91	316.63	4,820.20	4,741.94	-6,293.19	1,875,064.81	1,238,400.70	36.14555392	-107.61162824
11.924.00	91.36	316.19	4,819.15	4,810.74	-6,358.69	1,875,133.61	1,238,335.20	36.14574035	-107.61185328
12.018.00	88.77	315.57	4,819.04	4,878.21	-6,424.12	1,875,201.08	1,238,269.77	36.14592315	-107.61207805
12.113.00	88.29	315.31	4,821.48	4,945.88	-6,490.76	1,875,268.75	1,238,203.14	36.14610642	-107.61230690
12.207.00	89.65	314.69	4,823.17	5,012.34	-6,557.21	1,875,335.20	1,238,136.68	36.14628637	-107.61253509
12.302.00	91.93	314.34	4,821.86	5,078.93	-6,624.94	1,875,401.80	1,238,068.95	36.14646665	-107.61276760
12.397.00	90.57	315.48	4,819.79	5,145.98	-6,692.20	1,875,468.85	1,238,001.69	36.14664821	-107.61299854
12.491.00	88.37	317.42	4,820.66	5,214.10	-6,756.96	1,875,536.97	1,237,936.93	36.14683279	-107.61322105
12.586.00	89.17	317.15	4,822.69	5,283.88	-6,821.39	1,875,606.75	1,237,872.51	36.14702196	-107.61344254
12.680.00	91.01	316.19	4,822.55	5,352.26	-6,885.89	1,875,675.12	1,237,808.01	36.14720725	-107.61366419
12.775.00	89.03	316.27	4,822.51	5,420.85	-6,951.60	1,875,743.72	1,237,742.29	36.14739311	-107.61388998
12.870.00	87.41	315.40	4,825.46	5,488.97	-7,017.75	1,875,811.83	1,237,676.14	36.14757762	-107.61411723
12.964.00	88.29	313.90	4,828.99	5,554.98	-7,084.58	1,875,877.84	1,237,609.31	36.14775634	-107.61434665
13.059.00	88.99	317.51	4,831.25	5,622.94	-7,150.89	1,875,945.81	1,237,543.00	36.14794044	-107.61457443
13.154.00	91.23	317.15	4,831.06	5,692.79	-7,215.27	1,876,015.65	1,237,478.62	36.14812978	-107.61479578
13.248.00	88.81	316.45	4,831.03	5,761.31	-7,279.62	1,876,084.17	1,237,414.28	36.14831547	-107.61501692
13.343.00	90.18	315.22	4,831.87	5,829.45	-7,345.80	1,876,152.31	1,237,348.09	36.14850006	-107.61524427
13.437.00	90.22	315.13	4,831.54	5,896.12	-7,412.07	1,876,218.98	1,237,281.83	36.14868060	-107.61547184
13.532.00	87.19	316.63	4,833.69	5,964.29	-7,478.17	1,876,287.15	1,237,215.72	36.14886527	-107.61569895
13.626.00	87.50	316.10	4,838.04	6,032.25	-7,542.97	1,876,355.11	1,237,150.92	36.14904941	-107.61592160
13.720.00	88.37	316.01	4,841.43	6,099.88	-7,608.16	1,876,422.75	1,237,085.73	36.14923265	-107.61614557
13.815.00	88.86	316.19	4,843.72	6,168.32	-7,674.01	1,876,491.18	1,237,019.88	36.14941804	-107.61637183
13.910.00	89.47	316.71	4,845.11	6,237.16	-7,739.46	1,876,560.03	1,236,954.43	36.14960459	-107.61659673
14.004.00	90.26	316.80	4,845.33	6,305.63	-7,803.86	1,876,628.50	1,236,890.03	36.14979015	-107.61681808
14.099.00	90.97	317.59	4,844.31	6,375.33	-7,868.41	1,876,698.19	1,236,825.48	36.14997906	-107.61703998
14.193.00	91.05	316.54	4,842.65	6,444.14	-7,932.43	1,876,767.00	1,236,761.47	36.15016556	-107.61726005
14.287.00	88.81	316.98	4,842.77	6,512.61	-7,996.82	1,876,835.47	1,236,697.07	36.15035112	-107.61748136
14.382.00	88.77	316.98	4,844.78	6,582.05	-8,061.62	1,876,904.91	1,236,632.27	36.15053933	-107.61770411
14.476.00	89.38	317.51	4,846.29	6,651.06	-8,125.42	1,876,973.92	1,236,568.47	36.15072639	-107.61792346
14.571.00	89.56	317.07	4,847.17	6,720.86	-8,189.86	1,877,043.73	1,236,504.04	36.15091560	-107.61814499
14.666.00	89.87	317.07	4,847.64	6,790.42	-8,254.56	1,877,113.28	1,236,439.33	36.15110413	-107.61836742
14.760.00	90.31	316.54	4,847.50	6,858.95	-8,318.90	1,877,181.81	1,236,374.99	36.15128984	-107.61858857



Survey Report - Geographic

Company: Enduring Resources LLC
Project: Sandoval County, New Mexico NAD83 NM C
Site: W Escavada Unit
Well: W Escavada Unit Well No. 304H
Wellbore: Original Hole
Design: Surveys Original Hole

Local Co-ordinate Reference: Well W Escavada Unit Well No. 304H
TVD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
MD Reference: RKB=6878+25 @ 6903.00ft (Aztec 1000)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: DB_Jul2216dt_v14

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
14,854.00	90.79	316.19	4,846.59	6,926.98	-8,383.77	1,877,249.84	1,236,310.13	36.15147416	-107.61881147
14,949.00	91.23	315.40	4,844.92	6,995.07	-8,449.99	1,877,317.93	1,236,243.90	36.15165860	-107.61903898
15,043.00	89.29	317.50	4,844.49	7,063.19	-8,514.75	1,877,386.05	1,236,179.15	36.15184318	-107.61926153
15,138.00	89.38	317.86	4,845.60	7,133.43	-8,578.70	1,877,456.29	1,236,115.19	36.15203360	-107.61948147
15,232.00	89.60	317.51	4,846.43	7,202.93	-8,641.98	1,877,525.79	1,236,051.91	36.15222204	-107.61969907
15,327.00	89.81	316.63	4,846.92	7,272.49	-8,706.69	1,877,595.35	1,235,987.21	36.15241056	-107.61992151
15,422.00	90.18	316.98	4,846.93	7,341.74	-8,771.71	1,877,664.61	1,235,922.18	36.15259825	-107.62014502
15,517.00	87.93	317.50	4,848.50	7,411.48	-8,836.20	1,877,734.34	1,235,857.70	36.15278727	-107.62036673
15,612.00	87.89	317.76	4,851.96	7,481.62	-8,900.18	1,877,804.48	1,235,793.72	36.15297742	-107.62058674
15,704.00	89.18	318.20	4,854.31	7,549.94	-8,961.74	1,877,872.81	1,235,732.16	36.15316267	-107.62079848
Frac Sleeve @ 15704 MD 4854 TVD									
15,706.00	89.21	318.21	4,854.34	7,551.44	-8,963.07	1,877,874.30	1,235,730.82	36.15316672	-107.62080307
15,801.00	89.87	318.56	4,855.10	7,622.46	-9,026.16	1,877,945.32	1,235,667.73	36.15335932	-107.62102011
Survey @ 15801.00 MD 4855.10 TVD									
15,864.00	89.87	318.56	4,855.25	7,669.68	-9,067.86	1,877,992.55	1,235,626.04	36.15348741	-107.62116357
Survey projected to 15864.00 MD 4855.24 TVD									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
327.00	326.99	1.37	-2.21	MWD surveys
5,429.00	4,772.18	154.46	-1,834.35	330 FSL @ 5429 MD 4772 TVD
15,704.00	4,854.31	7,549.94	-8,961.74	Frac Sleeve @ 15704 MD 4854 TVD
15,801.00	4,855.10	7,622.46	-9,026.16	Survey @ 15801.00 MD 4855.10 TVD
15,864.00	4,855.25	7,669.68	-9,067.86	Survey projected to 15864.00 MD 4855.24 TVD