U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Sundry Print Report

01/27/2023

Well Name: RODEO UNIT

Well Location: T23N / R9W / SEC 25 / SESW / 36.191178 / -107.744935

County or Parish/State: SAN JUAN / NM

Well Number: 513H

Type of Well: OIL WELL

Allottee or Tribe Name: EASTERN NAVAJO

Lease Number: N0G13121859

Unit or CA Name:

Unit or CA Number: NMNM136328A, NMNM136328X

US Well Number: 3004535873

Well Status: Drilling Well

Operator: ENDURING RESOURCES LLC

Notice of Intent

Sundry ID: 2712768

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 01/26/2023

Time Sundry Submitted: 04:47

Date proposed operation will begin: 01/26/2023

Procedure Description: Enduring Resources requests to change the HSU of the Rodeo Unit 513H well per the attached updated C-102 plat. The dedicated acreage is changing from 1121.44 acres to 800.50 acres. See the attached documents for details.

NOI Attachments

Procedure Description

Rodeo_Unit__513H_Detailed_As_Drilled_C_102_Plat___signed_KS_20230126164710.pdf

Enduring_Rodeo__513H_svys_dec2322__12097__20230126105538.pdf

RODU_513H_Drilling_Package_11082022_20230126105533.pdf

RODU_513H_WBD_11082022_20230126105531.pdf

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Unit or CA Name:

Unit or CA Number: NMNM136328A, NMNM136328X

US Well Number: 3004535873

Well Status: Drilling Well

Operator: ENDURING RESOURCES LLC

Operator

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: KAYLA WHITE

Signed on: JAN 26, 2023 04:46 PM

Name: ENDURING RESOURCES LLC

Title: Staff Engineer

Street Address: 9446 CLERMONT ST

City: THORNTON **State:** CO

Phone: (720) 768-3575

Email address: KWHITE@CDHCONSULT.COM

Field

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

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

AS-DRILLED WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-045-35873	97232	BASIN MANCOS

[4] Property Code	[5] Property Name	[6] Well Number
321253	RODEO UNIT	513H

[7] OGRID No.	[8] Operator Name	[9] Elevation
372286	ENDURING RESOURCES, LLC	6798'

[10] Surface Location

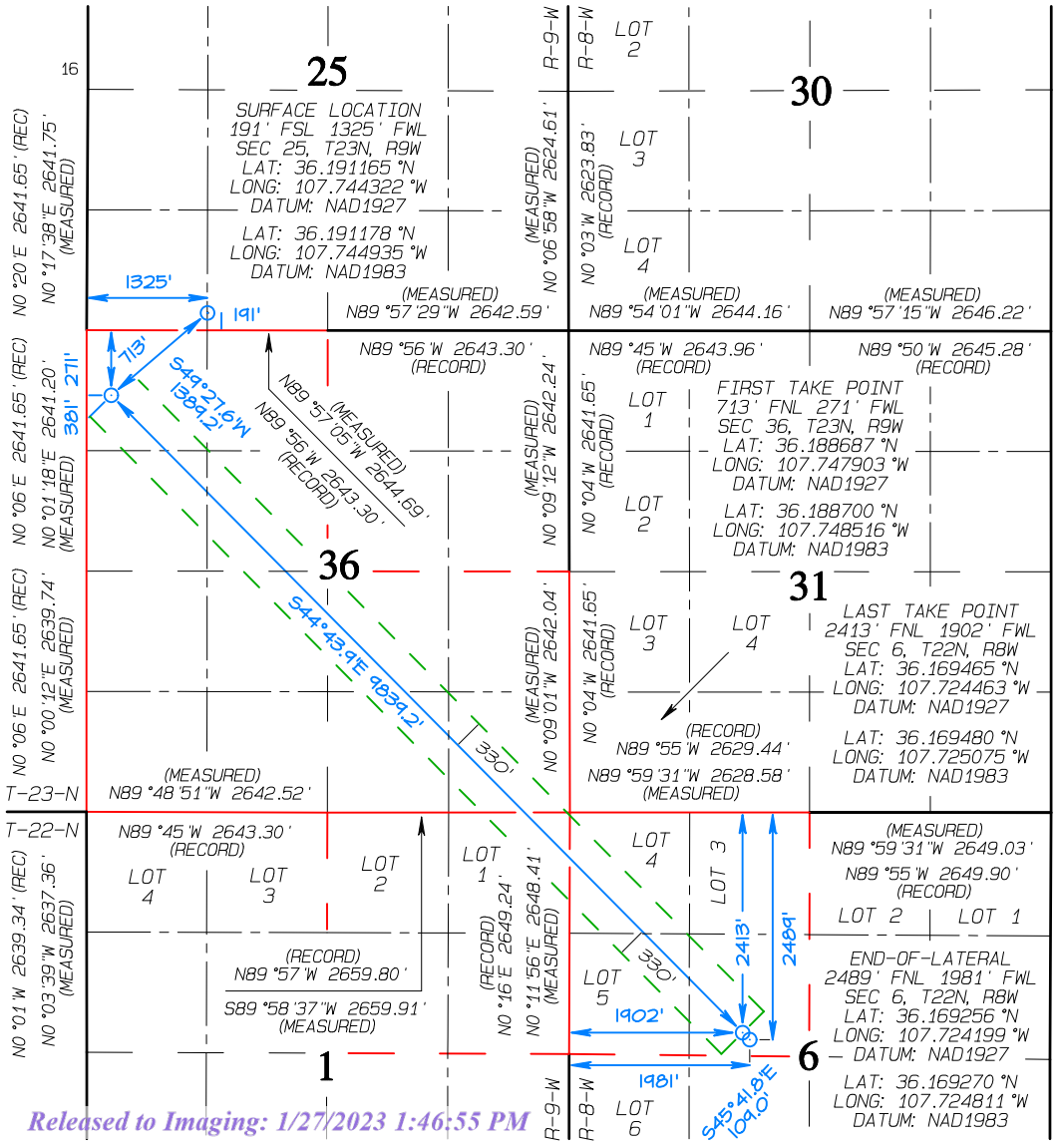
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	25	23N	9W		191	SOUTH	1325	WEST	SAN JUAN

[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
F	6	22N	8W		2489	NORTH	1981	WEST	SAN JUAN

[12] Dedicated Acres		[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
800.50	NE/4 – Sec 1, T22NR9W NW/4 – Sec 6, T22NR8W W/2, NE/4 – Sec 36, T23NR9W			R-14313

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.

Khem Suthiwan 1/26/2023
Signature Date

Khem Suthiwan
Printed Name

ksuthiwan@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: JANUARY 26, 2023
Survey Date: JANUARY 24, 2017

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

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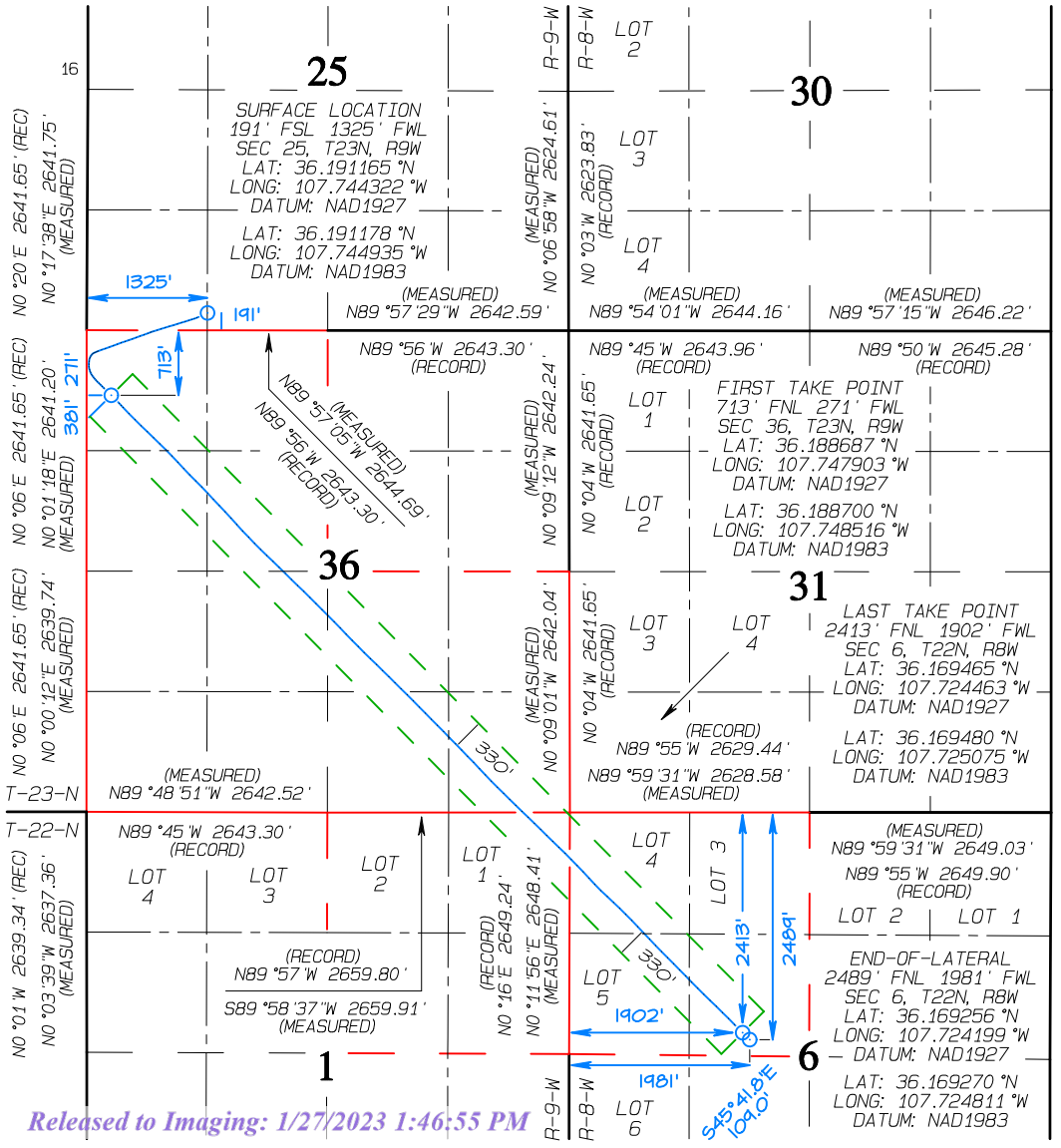

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Khem Suthiwan 1/26/2023
Signature Date

Khem Suthiwan
Printed Name

ksuthiwan@enduringresources.com
E-mail Address

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Date Revised: JANUARY 26, 2023
Survey Date: JANUARY 24, 2017

Signature and Seal of Professional Surveyor

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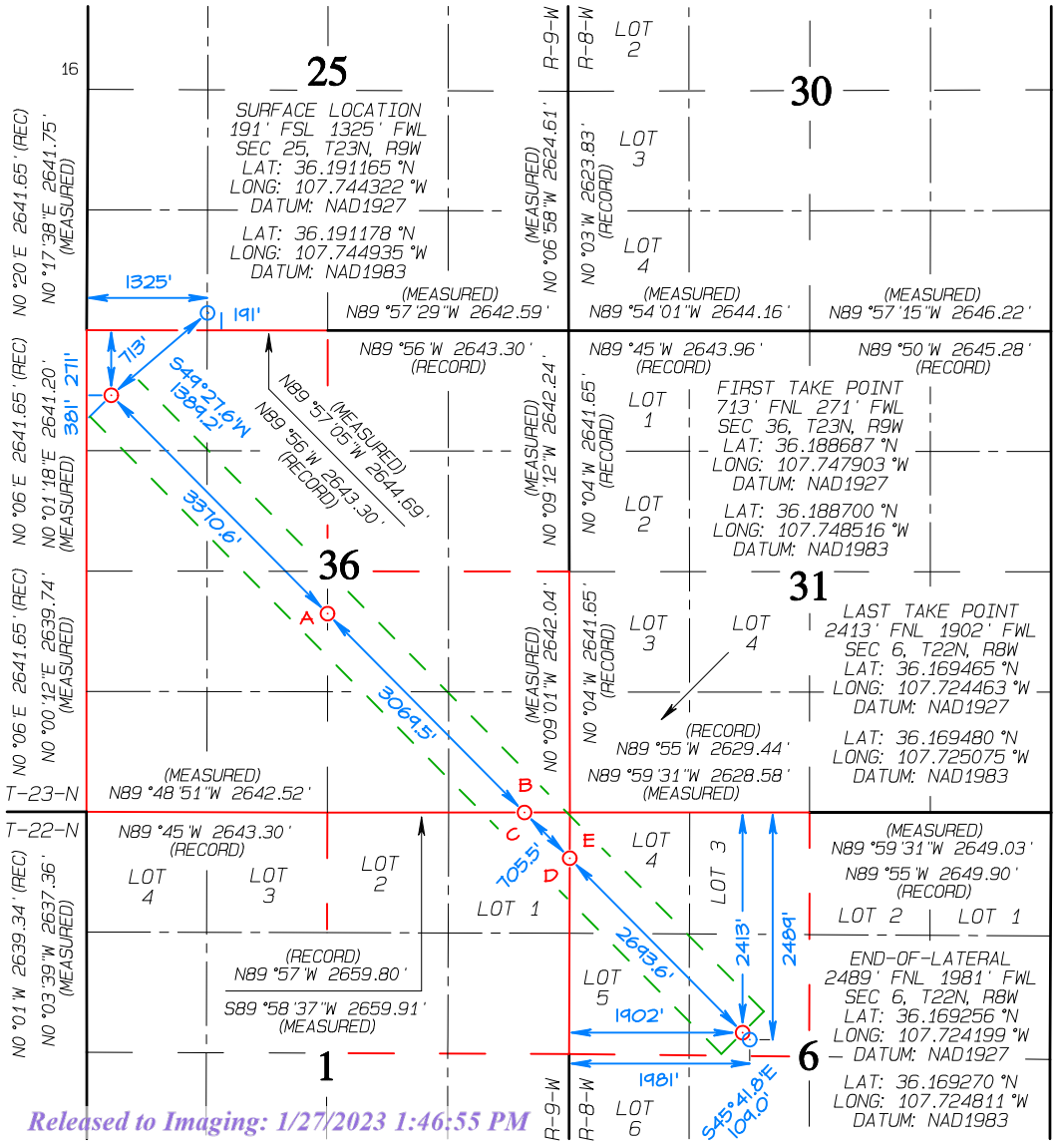

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Printed Name

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Survey Date: JANUARY 24, 2017

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

(A) 2181' FSL 2653' FEL
SEC 36, T23N, R9W
LAT: 36.182103 °N
LONG: 107.739872 °W
DATUM: NAD1927

LAT: 36.182116 °N
LONG: 107.740484 °W
DATUM: NAD1983

(B) 0' FSL 498' FEL
SEC 36, T23N, R9W
LAT: 36.176106 °N
LONG: 107.732559 °W
DATUM: NAD1927

LAT: 36.176120 °N
LONG: 107.733172 °W
DATUM: NAD1983

(C) 0' FNL 498' FEL
SEC 1, T22N, R9W
LAT: 36.176106 °N
LONG: 107.732559 °W
DATUM: NAD1927

LAT: 36.176120 °N
LONG: 107.733172 °W
DATUM: NAD1983

(D) 501' FNL 0' FEL
SEC 1, T22N, R9W
LAT: 36.174728 °N
LONG: 107.730879 °W
DATUM: NAD1927

LAT: 36.174742 °N
LONG: 107.731491 °W
DATUM: NAD1983

(E) 501' FNL 0' FWL
SEC 6, T22N, R8W
LAT: 36.174728 °N
LONG: 107.730879 °W
DATUM: NAD1927

LAT: 36.174742 °N
LONG: 107.731491 °W
DATUM: NAD1983

Well: Rodeo Unit #513H
Site: Rodeo Unit 511 pad (511, 512 & 513)
Project: San Juan County, New Mexico NAD83 NM W
Design: Surveys Original Hole
Rig: Ensign 145

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=6798+13 @ 6811.00ft (Ensign 145)
Surface location:

Northing	Easting	Latitude	Longitude
1888897.946	2749175.527	36.191178000	-107.744935000

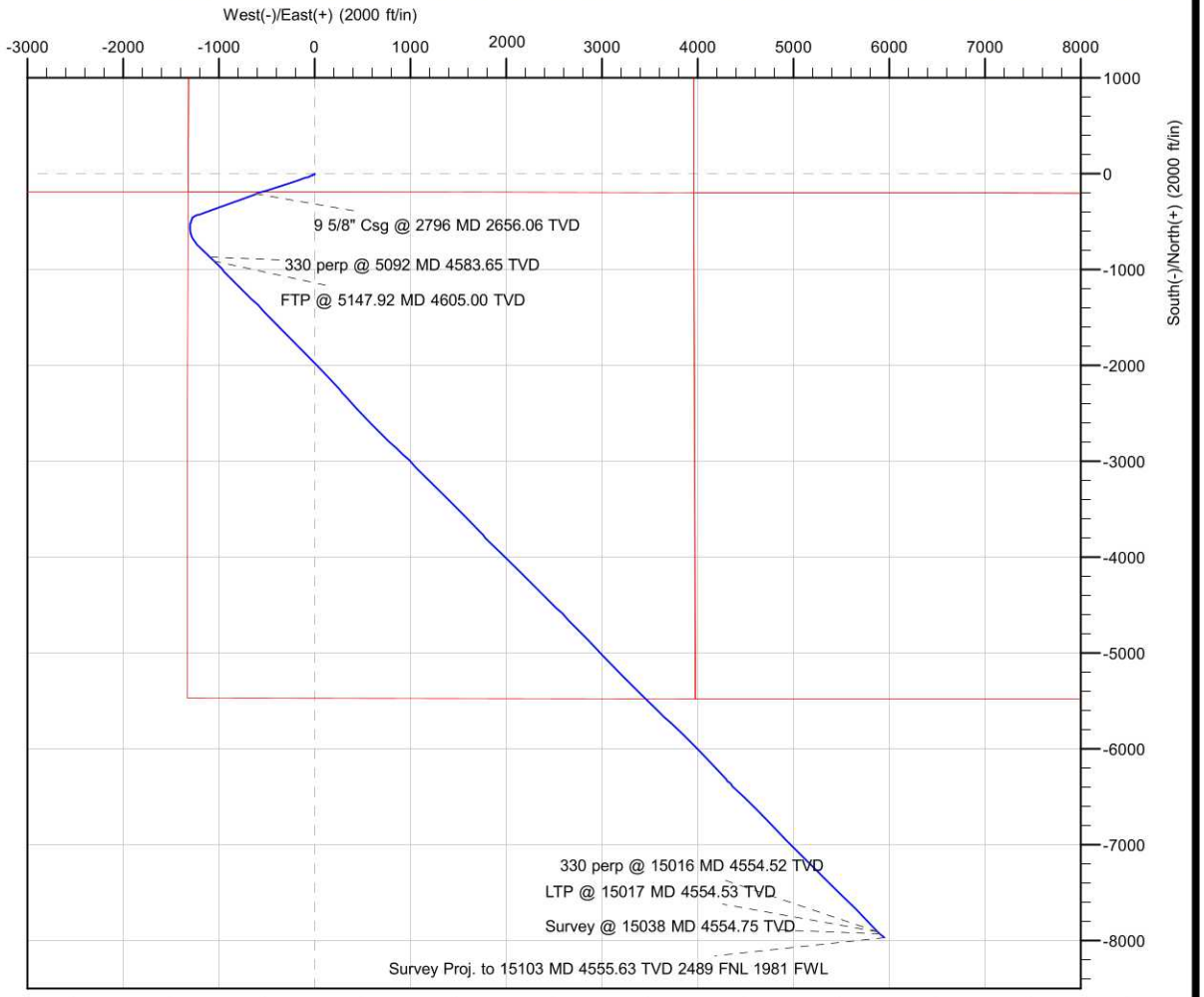
Total Corr (M=>G): To convert a Magnetic Direction to a Grid Direction, Add 8.59°

Azimuths to Grid North
True North: -0.05°
Magnetic North: 8.59°

Magnetic Field
Strength: 49142.1nT
Dip Angle: 62.69°
Date: 11/18/2022
Model: IGRF2020

ANNOTATIONS SURVEYS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Annotation
412.00	0.56	217.700	411.99	-1.59	-1.23	0.26	MWD surveys
2796.00	28.05	251.246	2656.06	-208.59	-615.17	-285.26	9 5/8" Csg @ 2796 MD 2656.06 TVD
5092.00	64.68	134.069	4583.65	-866.78	-1092.80	-154.50	330 perp @ 5092 MD 4583.65 TVD
5147.92	70.15	134.605	4605.00	-902.84	-1055.81	-102.85	FTP @ 5147.92 MD 4605.00 TVD
15016.00	89.56	134.383	4554.52	-7908.12	5884.65	9758.38	330 perp @ 15016 MD 4554.52 TVD
15017.00	89.54	134.377	4554.53	-7908.82	5885.37	9759.38	LTP @ 15017 MD 4554.53 TVD
15038.00	89.23	134.250	4554.75	-7923.49	5900.39	9780.38	Survey @ 15038 MD 4554.75 TVD
15103.00	89.23	134.250	4555.63	-7968.84	5946.95	9845.37	Survey Proj. to 15103 MD 4555.63 TVD 2489 FNL 1981 FWL



Survey Report

Company:	Enduring Resources LLC	**Local Co-ordinate Reference:**	Well Rodeo Unit #513H
Project:	San Juan County, New Mexico NAD83 NM W	**TVD Reference:**	RKB=6798+13 @ 6811.00ft (Ensign 145)
Site:	Rodeo Unit 511 pad (511, 512 & 513)	**MD Reference:**	RKB=6798+13 @ 6811.00ft (Ensign 145)
Well:	Rodeo Unit #513H	**North Reference:**	Grid
Wellbore:	Original Hole	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys Original Hole	**Database:**	DB_Decv0422v16

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 Rodeo Unit 511 pad (511, 512 & 513)

Site Position:		**Northing:**	1,888,898.347 usft	**Latitude:**	36.191179000
From:	Lat/Long	**Easting:**	2,749,215.362 usft	**Longitude:**	-107.744800000
Position Uncertainty:	0.00 ft	**Slot Radius:**	13-3/16 "		

Well Rodeo Unit #513H, Surf loc: 191 FSL 1325 FWL Section 25-T23N-R07W

Well Position	**+N/-S**	0.00 ft	**Northing:**	1,888,897.946 usft	**Latitude:**	36.191178000
	+E/-W	0.00 ft	**Easting:**	2,749,175.527 usft	**Longitude:**	-107.744935000
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	6,798.00 ft
Grid Convergence:		0.05 °				

Wellbore Original Hole

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	11/18/2022	8.65	62.69	49,142.13157349

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	135.220

Survey Program **Date** 12/23/2022

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
412.00	2,654.00	MWD surf (Original Hole)	MWD	OWSG MWD - Standard
2,745.00	15,038.00	MWD (Original Hole)	MWD	OWSG MWD - Standard
15,103.00	15,103.00	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	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
412.00	0.56	217.700	411.99	-1.59	-1.23	0.26	0.14	0.14	0.00
MWD surveys									
503.00	0.68	209.390	502.99	-2.42	-1.77	0.47	0.16	0.13	-9.13
594.00	0.66	207.120	593.98	-3.35	-2.27	0.78	0.04	-0.02	-2.49
685.00	0.73	214.000	684.98	-4.30	-2.84	1.05	0.12	0.08	7.56
776.00	0.62	217.780	775.97	-5.17	-3.46	1.23	0.13	-0.12	4.15
866.00	0.54	226.710	865.96	-5.84	-4.07	1.28	0.13	-0.09	9.92

Survey Report

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Well:	Rodeo Unit #513H	**North Reference:**	Grid
Wellbore:	Original Hole	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys Original Hole	**Database:**	DB_Decv0422v16

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)
957.00	0.40	218.010	956.96	-6.39	-4.58	1.31	0.17	-0.15	-9.56
1,051.00	3.76	250.270	1,050.89	-7.69	-7.68	0.05	3.65	3.57	34.32
1,146.00	6.49	251.960	1,145.50	-10.40	-15.72	-3.69	2.88	2.87	1.78
1,240.00	8.67	249.280	1,238.67	-14.56	-27.40	-8.97	2.35	2.32	-2.85
1,334.00	12.01	247.570	1,331.13	-20.80	-43.07	-15.58	3.57	3.55	-1.82
1,429.00	15.28	245.030	1,423.44	-29.85	-63.56	-23.58	3.50	3.44	-2.67
1,523.00	18.56	246.610	1,513.36	-41.02	-88.52	-33.24	3.52	3.49	1.68
1,617.00	19.01	250.400	1,602.35	-52.10	-116.68	-45.21	1.38	0.48	4.03
1,711.00	18.71	251.500	1,691.31	-62.02	-145.40	-58.39	0.49	-0.32	1.17
1,806.00	19.79	252.270	1,781.00	-71.75	-175.17	-72.46	1.17	1.14	0.81
1,900.00	22.79	252.600	1,868.57	-82.04	-207.71	-88.07	3.19	3.19	0.35
1,994.00	26.21	252.750	1,954.09	-93.65	-244.91	-106.04	3.64	3.64	0.16
2,089.00	28.88	252.990	2,038.32	-106.58	-286.89	-126.43	2.81	2.81	0.25
2,183.00	29.29	252.670	2,120.46	-120.07	-330.55	-147.61	0.47	0.44	-0.34
2,277.00	29.45	252.960	2,202.38	-133.69	-374.59	-168.96	0.23	0.17	0.31
2,371.00	29.64	252.540	2,284.16	-147.44	-418.86	-190.39	0.30	0.20	-0.45
2,466.00	30.00	253.370	2,366.58	-161.28	-464.03	-212.37	0.58	0.38	0.87
2,560.00	29.36	253.130	2,448.25	-174.70	-508.60	-234.25	0.69	-0.68	-0.26
2,654.00	28.15	252.500	2,530.66	-188.05	-551.80	-255.20	1.33	-1.29	-0.67
2,745.00	27.84	252.040	2,611.01	-201.06	-592.48	-274.62	0.42	-0.34	-0.51
2,796.00	28.05	251.246	2,656.06	-208.59	-615.17	-285.26	0.84	0.42	-1.56
9 5/8" Csg @ 2796 MD 2656.06 TVD									
2,823.00	28.17	250.830	2,679.87	-212.72	-627.20	-290.80	0.84	0.43	-1.54
2,887.00	28.82	250.190	2,736.12	-222.91	-655.98	-303.84	1.12	1.02	-1.00
2,981.00	27.88	248.440	2,818.85	-238.67	-697.74	-322.07	1.33	-1.00	-1.86
3,075.00	28.83	251.100	2,901.57	-254.08	-739.63	-340.63	1.68	1.01	2.83
3,170.00	28.58	249.960	2,984.90	-269.29	-782.64	-360.14	0.63	-0.26	-1.20
3,263.00	27.49	249.060	3,066.98	-284.59	-823.59	-378.12	1.26	-1.17	-0.97
3,358.00	28.25	252.080	3,150.97	-299.34	-865.46	-397.14	1.69	0.80	3.18
3,452.00	26.80	251.520	3,234.33	-312.90	-906.73	-416.59	1.57	-1.54	-0.60
3,547.00	29.00	250.610	3,318.28	-327.34	-948.77	-435.95	2.36	2.32	-0.96
3,641.00	26.57	248.200	3,401.44	-342.71	-989.79	-453.93	2.85	-2.59	-2.56
3,735.00	29.93	250.090	3,484.23	-358.51	-1,031.37	-472.01	3.70	3.57	2.01
3,830.00	30.31	250.660	3,566.40	-374.52	-1,076.27	-492.27	0.50	0.40	0.60
3,924.00	27.82	249.760	3,648.56	-389.97	-1,119.24	-511.57	2.69	-2.65	-0.96
4,018.00	28.17	251.250	3,731.56	-404.69	-1,160.83	-530.42	0.83	0.37	1.59
4,112.00	22.79	249.290	3,816.39	-418.27	-1,198.90	-547.60	5.79	-5.72	-2.09
4,143.00	21.08	249.090	3,845.15	-422.38	-1,209.73	-552.30	5.52	-5.52	-0.65
4,174.00	21.69	247.930	3,874.01	-426.52	-1,220.24	-556.77	2.39	1.97	-3.74
4,206.00	23.79	247.390	3,903.52	-431.23	-1,231.68	-561.49	6.59	6.56	-1.69
4,237.00	24.63	243.830	3,931.80	-436.48	-1,243.25	-565.91	5.43	2.71	-11.48
4,268.00	25.17	235.570	3,959.92	-443.06	-1,254.49	-569.16	11.34	1.74	-26.65
4,300.00	25.88	226.370	3,988.81	-451.73	-1,265.17	-570.52	12.57	2.22	-28.75
4,331.00	26.70	217.090	4,016.62	-461.96	-1,274.27	-569.67	13.51	2.65	-29.94

Survey Report

Company:	Enduring Resources LLC	**Local Co-ordinate Reference:**	Well Rodeo Unit #513H
Project:	San Juan County, New Mexico NAD83 NM W	**TVD Reference:**	RKB=6798+13 @ 6811.00ft (Ensign 145)
Site:	Rodeo Unit 511 pad (511, 512 & 513)	**MD Reference:**	RKB=6798+13 @ 6811.00ft (Ensign 145)
Well:	Rodeo Unit #513H	**North Reference:**	Grid
Wellbore:	Original Hole	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys Original Hole	**Database:**	DB_Decv0422v16

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)
4,363.00	27.66	208.900	4,045.09	-474.20	-1,282.19	-566.57	12.06	3.00	-25.59
4,394.00	28.93	202.630	4,072.39	-487.42	-1,288.56	-561.66	10.42	4.10	-20.23
4,426.00	29.99	197.150	4,100.26	-502.21	-1,293.90	-554.92	9.05	3.31	-17.13
4,457.00	31.01	192.280	4,126.98	-517.42	-1,297.88	-546.94	8.62	3.29	-15.71
4,488.00	32.07	187.720	4,153.40	-533.38	-1,300.68	-537.58	8.42	3.42	-14.71
4,520.00	33.03	183.110	4,180.38	-550.51	-1,302.30	-526.56	8.31	3.00	-14.41
4,551.00	33.93	178.420	4,206.24	-567.60	-1,302.52	-514.59	8.83	2.90	-15.13
4,583.00	34.57	174.740	4,232.69	-585.57	-1,301.44	-501.07	6.77	2.00	-11.50
4,614.00	35.21	170.040	4,258.12	-603.13	-1,299.09	-486.95	8.91	2.06	-15.16
4,646.00	35.83	165.300	4,284.17	-621.28	-1,295.11	-471.26	8.82	1.94	-14.81
4,677.00	36.32	160.900	4,309.23	-638.74	-1,289.81	-455.14	8.50	1.58	-14.19
4,709.00	37.02	155.330	4,334.91	-656.45	-1,282.68	-437.54	10.62	2.19	-17.41
4,740.00	37.99	150.000	4,359.51	-673.20	-1,274.01	-419.55	10.92	3.13	-17.19
4,771.00	38.45	145.010	4,383.87	-689.36	-1,263.72	-400.82	10.07	1.48	-16.10
4,803.00	39.63	141.230	4,408.72	-705.47	-1,251.62	-380.87	8.30	3.69	-11.81
4,834.00	41.86	139.170	4,432.21	-721.01	-1,238.66	-360.71	8.40	7.19	-6.65
4,866.00	44.09	137.190	4,455.62	-737.26	-1,224.11	-338.93	8.15	6.97	-6.19
4,897.00	46.81	135.770	4,477.37	-753.27	-1,208.90	-316.85	9.36	8.77	-4.58
4,929.00	49.73	134.770	4,498.67	-770.23	-1,192.09	-292.97	9.42	9.13	-3.13
4,960.00	53.03	133.990	4,518.01	-787.17	-1,174.78	-268.76	10.83	10.65	-2.52
4,991.00	57.21	133.860	4,535.74	-804.80	-1,156.47	-243.34	13.49	13.48	-0.42
5,023.00	61.38	134.500	4,552.07	-823.98	-1,136.74	-215.83	13.14	13.03	2.00
5,054.00	62.52	134.280	4,566.65	-843.11	-1,117.19	-188.48	3.73	3.68	-0.71
5,085.00	63.93	134.040	4,580.62	-862.39	-1,097.34	-160.81	4.60	4.55	-0.77
5,092.00	64.68	134.069	4,583.65	-866.78	-1,092.80	-154.50	10.79	10.78	0.42
330 perp @ 5092 MD 4583.65 TVD									
5,117.00	67.38	134.170	4,593.80	-882.68	-1,076.41	-131.66	10.79	10.78	0.40
5,147.92	70.15	134.605	4,605.00	-902.84	-1,055.81	-102.85	9.06	8.97	1.41
FTP @ 5147.92 MD 4605.00 TVD									
5,149.00	70.25	134.620	4,605.37	-903.56	-1,055.09	-101.83	9.06	8.97	1.38
5,180.00	73.62	135.210	4,614.98	-924.36	-1,034.22	-72.36	11.02	10.87	1.90
5,212.00	76.50	135.040	4,623.23	-946.27	-1,012.41	-41.45	9.01	9.00	-0.53
5,243.00	79.58	135.340	4,629.65	-967.78	-991.04	-11.13	9.98	9.94	0.97
5,274.00	82.75	135.950	4,634.41	-989.68	-969.63	19.50	10.41	10.23	1.97
5,306.00	86.80	136.780	4,637.33	-1,012.74	-947.64	51.35	12.92	12.66	2.59
5,337.00	88.97	136.950	4,638.47	-1,035.35	-926.46	82.32	7.02	7.00	0.55
5,431.00	91.27	136.460	4,638.27	-1,103.76	-862.01	176.28	2.50	2.45	-0.52
5,525.00	89.96	135.190	4,637.26	-1,171.17	-796.51	270.27	1.94	-1.39	-1.35
5,619.00	90.25	133.970	4,637.09	-1,237.15	-729.56	364.26	1.33	0.31	-1.30
5,714.00	92.23	133.010	4,635.04	-1,302.51	-660.66	459.19	2.32	2.08	-1.01
5,809.00	89.53	134.660	4,633.58	-1,368.29	-592.15	554.14	3.33	-2.84	1.74
5,903.00	89.39	134.700	4,634.46	-1,434.38	-525.31	648.13	0.15	-0.15	0.04
5,997.00	89.74	134.070	4,635.18	-1,500.13	-458.13	742.11	0.77	0.37	-0.67

Survey Report

Company:	Enduring Resources LLC	**Local Co-ordinate Reference:**	Well Rodeo Unit #513H
Project:	San Juan County, New Mexico NAD83 NM W	**TVD Reference:**	RKB=6798+13 @ 6811.00ft (Ensign 145)
Site:	Rodeo Unit 511 pad (511, 512 & 513)	**MD Reference:**	RKB=6798+13 @ 6811.00ft (Ensign 145)
Well:	Rodeo Unit #513H	**North Reference:**	Grid
Wellbore:	Original Hole	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys Original Hole	**Database:**	DB_Decv0422v16

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)
6,092.00	90.52	136.810	4,634.96	-1,567.81	-391.48	837.10	3.00	0.82	2.88
6,186.00	92.95	137.590	4,632.11	-1,636.75	-327.65	931.00	2.71	2.59	0.83
6,281.00	89.91	136.270	4,629.74	-1,706.11	-262.81	1,025.91	3.49	-3.20	-1.39
6,375.00	89.72	135.320	4,630.05	-1,773.50	-197.27	1,119.91	1.03	-0.20	-1.01
6,470.00	91.29	134.970	4,629.21	-1,840.84	-130.27	1,214.90	1.69	1.65	-0.37
6,564.00	88.96	136.120	4,629.01	-1,907.93	-64.44	1,308.89	2.76	-2.48	1.22
6,658.00	91.19	137.060	4,628.88	-1,976.21	0.15	1,402.85	2.57	2.37	1.00
6,751.00	88.21	136.810	4,629.37	-2,044.15	63.65	1,495.80	3.22	-3.20	-0.27
6,845.00	87.61	136.500	4,632.80	-2,112.46	128.13	1,589.71	0.72	-0.64	-0.33
6,939.00	90.19	136.770	4,634.60	-2,180.78	192.65	1,683.65	2.76	2.74	0.29
7,034.00	89.72	137.260	4,634.68	-2,250.27	257.42	1,778.61	0.71	-0.49	0.52
7,129.00	88.90	138.630	4,635.82	-2,320.80	321.05	1,873.49	1.68	-0.86	1.44
7,223.00	89.99	136.820	4,636.73	-2,390.35	384.28	1,967.39	2.25	1.16	-1.93
7,317.00	90.94	135.780	4,635.97	-2,458.30	449.22	2,061.37	1.50	1.01	-1.11
7,412.00	90.55	136.270	4,634.73	-2,526.66	515.17	2,156.35	0.66	-0.41	0.52
7,506.00	90.86	133.650	4,633.58	-2,593.08	581.68	2,250.33	2.81	0.33	-2.79
7,601.00	89.80	134.070	4,633.03	-2,658.90	650.17	2,345.30	1.20	-1.12	0.44
7,695.00	88.96	134.630	4,634.05	-2,724.60	717.39	2,439.29	1.07	-0.89	0.60
7,789.00	91.40	133.780	4,633.75	-2,790.14	784.76	2,533.26	2.75	2.60	-0.90
7,883.00	90.85	134.410	4,631.91	-2,855.53	852.26	2,627.23	0.89	-0.59	0.67
7,978.00	89.76	134.750	4,631.40	-2,922.21	919.92	2,722.22	1.20	-1.15	0.36
8,072.00	90.93	134.220	4,630.83	-2,988.08	986.98	2,816.21	1.37	1.24	-0.56
8,167.00	90.00	134.260	4,630.06	-3,054.35	1,055.04	2,911.19	0.98	-0.98	0.04
8,261.00	91.32	134.540	4,628.98	-3,120.12	1,122.20	3,005.17	1.44	1.40	0.30
8,355.00	90.69	134.990	4,627.33	-3,186.30	1,188.93	3,099.15	0.82	-0.67	0.48
8,449.00	89.36	135.290	4,627.29	-3,252.93	1,255.23	3,193.15	1.45	-1.41	0.32
8,543.00	91.05	134.940	4,626.95	-3,319.53	1,321.56	3,287.15	1.84	1.80	-0.37
8,638.00	91.74	135.130	4,624.64	-3,386.72	1,388.67	3,382.12	0.75	0.73	0.20
8,732.00	91.33	136.050	4,622.12	-3,453.85	1,454.43	3,476.08	1.07	-0.44	0.98
8,826.00	90.79	136.680	4,620.38	-3,521.87	1,519.28	3,570.04	0.88	-0.57	0.67
8,921.00	90.82	135.020	4,619.05	-3,590.02	1,585.45	3,665.02	1.75	0.03	-1.75
9,015.00	90.13	135.270	4,618.27	-3,656.66	1,651.74	3,759.02	0.78	-0.73	0.27
9,109.00	89.68	135.670	4,618.43	-3,723.67	1,717.66	3,853.02	0.64	-0.48	0.43
9,204.00	90.72	133.770	4,618.09	-3,790.51	1,785.16	3,948.01	2.28	1.09	-2.00
9,298.00	90.38	133.990	4,617.19	-3,855.66	1,852.91	4,041.98	0.43	-0.36	0.23
9,392.00	90.13	134.490	4,616.77	-3,921.24	1,920.26	4,135.96	0.59	-0.27	0.53
9,487.00	89.70	135.100	4,616.91	-3,988.17	1,987.67	4,230.96	0.79	-0.45	0.64
9,582.00	90.88	134.370	4,616.43	-4,055.04	2,055.15	4,325.95	1.46	1.24	-0.77
9,676.00	90.28	134.700	4,615.48	-4,120.96	2,122.15	4,419.94	0.73	-0.64	0.35
9,771.00	91.29	134.810	4,614.18	-4,187.84	2,189.61	4,514.93	1.07	1.06	0.12
9,865.00	90.82	135.060	4,612.45	-4,254.22	2,256.14	4,608.91	0.57	-0.50	0.27
9,960.00	90.25	135.360	4,611.56	-4,321.64	2,323.07	4,703.91	0.68	-0.60	0.32
10,054.00	89.80	136.110	4,611.52	-4,388.95	2,388.68	4,797.90	0.93	-0.48	0.80
10,148.00	91.16	134.860	4,610.73	-4,455.97	2,454.57	4,891.89	1.97	1.45	-1.33

Survey Report

Company:	Enduring Resources LLC	**Local Co-ordinate Reference:**	Well Rodeo Unit #513H
Project:	San Juan County, New Mexico NAD83 NM W	**TVD Reference:**	RKB=6798+13 @ 6811.00ft (Ensign 145)
Site:	Rodeo Unit 511 pad (511, 512 & 513)	**MD Reference:**	RKB=6798+13 @ 6811.00ft (Ensign 145)
Well:	Rodeo Unit #513H	**North Reference:**	Grid
Wellbore:	Original Hole	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys Original Hole	**Database:**	DB_Decv0422v16

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)
10,242.00	90.79	135.020	4,609.13	-4,522.36	2,521.10	4,985.88	0.43	-0.39	0.17
10,337.00	90.33	135.700	4,608.21	-4,589.96	2,587.85	5,080.87	0.86	-0.48	0.72
10,432.00	89.76	136.240	4,608.13	-4,658.26	2,653.88	5,175.86	0.83	-0.60	0.57
10,526.00	90.39	135.070	4,608.01	-4,725.48	2,719.58	5,269.86	1.41	0.67	-1.24
10,621.00	89.86	135.780	4,607.80	-4,793.15	2,786.25	5,364.86	0.93	-0.56	0.75
10,715.00	91.96	135.670	4,606.31	-4,860.44	2,851.86	5,458.84	2.24	2.23	-0.12
10,809.00	91.67	136.580	4,603.33	-4,928.17	2,916.98	5,552.78	1.02	-0.31	0.97
10,904.00	90.97	136.910	4,601.14	-4,997.34	2,982.06	5,647.72	0.81	-0.74	0.35
10,998.00	89.85	136.580	4,600.47	-5,065.80	3,046.47	5,741.68	1.24	-1.19	-0.35
11,093.00	90.84	135.330	4,599.90	-5,134.08	3,112.51	5,836.67	1.68	1.04	-1.32
11,187.00	90.11	135.080	4,599.12	-5,200.78	3,178.74	5,930.66	0.82	-0.78	-0.27
11,282.00	91.46	134.630	4,597.82	-5,267.78	3,246.08	6,025.65	1.50	1.42	-0.47
11,376.00	90.84	134.520	4,595.93	-5,333.74	3,313.02	6,119.62	0.67	-0.66	-0.12
11,470.00	90.05	133.960	4,595.20	-5,399.32	3,380.36	6,213.61	1.03	-0.84	-0.60
11,565.00	90.79	134.100	4,594.50	-5,465.34	3,448.66	6,308.58	0.79	0.78	0.15
11,659.00	89.17	133.460	4,594.54	-5,530.38	3,516.53	6,402.55	1.85	-1.72	-0.68
11,754.00	90.86	134.430	4,594.51	-5,596.30	3,584.93	6,497.52	2.05	1.78	1.02
11,848.00	90.17	134.830	4,593.67	-5,662.33	3,651.82	6,591.51	0.85	-0.73	0.43
11,943.00	92.10	134.180	4,591.79	-5,728.91	3,719.56	6,686.48	2.14	2.03	-0.68
12,036.00	91.78	134.330	4,588.64	-5,793.77	3,786.13	6,779.41	0.38	-0.34	0.16
12,131.00	91.65	134.320	4,585.79	-5,860.12	3,854.06	6,874.36	0.14	-0.14	-0.01
12,225.00	92.11	134.220	4,582.71	-5,925.70	3,921.33	6,968.30	0.50	0.49	-0.11
12,320.00	90.76	135.630	4,580.33	-5,992.77	3,988.57	7,063.26	2.05	-1.42	1.48
12,414.00	90.45	135.920	4,579.34	-6,060.12	4,054.13	7,157.25	0.45	-0.33	0.31
12,508.00	90.60	136.740	4,578.48	-6,128.11	4,119.03	7,251.23	0.89	0.16	0.87
12,603.00	89.14	136.950	4,578.69	-6,197.41	4,184.01	7,346.19	1.55	-1.54	0.22
12,697.00	88.88	137.400	4,580.32	-6,266.35	4,247.90	7,440.12	0.55	-0.28	0.48
12,792.00	90.08	134.410	4,581.18	-6,334.56	4,313.99	7,535.10	3.39	1.26	-3.15
12,887.00	88.12	131.950	4,582.67	-6,399.55	4,383.25	7,630.01	3.31	-2.06	-2.59
12,981.00	89.94	133.970	4,584.26	-6,463.60	4,452.02	7,723.92	2.89	1.94	2.15
13,076.00	89.92	134.250	4,584.38	-6,529.72	4,520.24	7,818.90	0.30	-0.02	0.29
13,170.00	91.44	135.190	4,583.26	-6,595.86	4,587.02	7,912.88	1.90	1.62	1.00
13,264.00	90.84	135.580	4,581.39	-6,662.76	4,653.03	8,006.86	0.76	-0.64	0.41
13,359.00	90.27	136.100	4,580.47	-6,730.91	4,719.21	8,101.85	0.81	-0.60	0.55
13,453.00	89.88	137.040	4,580.35	-6,799.17	4,783.83	8,195.83	1.08	-0.41	1.00
13,547.00	90.35	136.080	4,580.16	-6,867.42	4,848.46	8,289.80	1.14	0.50	-1.02
13,642.00	89.64	136.670	4,580.17	-6,936.19	4,914.00	8,384.78	0.97	-0.75	0.62
13,735.00	91.03	135.060	4,579.63	-7,002.93	4,978.76	8,477.77	2.29	1.49	-1.73
13,830.00	90.42	135.100	4,578.42	-7,070.19	5,045.83	8,572.76	0.64	-0.64	0.04
13,924.00	91.54	135.060	4,576.82	-7,136.74	5,112.20	8,666.74	1.19	1.19	-0.04
14,018.00	90.62	135.800	4,575.04	-7,203.69	5,178.15	8,760.72	1.26	-0.98	0.79
14,113.00	91.41	135.220	4,573.36	-7,271.45	5,244.72	8,855.71	1.03	0.83	-0.61
14,207.00	90.77	135.950	4,571.57	-7,338.58	5,310.49	8,949.69	1.03	-0.68	0.78

Survey Report

Company:	Enduring Resources LLC	**Local Co-ordinate Reference:**	Well Rodeo Unit #513H
Project:	San Juan County, New Mexico NAD83 NM W	**TVD Reference:**	RKB=6798+13 @ 6811.00ft (Ensign 145)
Site:	Rodeo Unit 511 pad (511, 512 & 513)	**MD Reference:**	RKB=6798+13 @ 6811.00ft (Ensign 145)
Well:	Rodeo Unit #513H	**North Reference:**	Grid
Wellbore:	Original Hole	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys Original Hole	**Database:**	DB_Decv0422v16

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)
14,301.00	90.92	134.840	4,570.19	-7,405.50	5,376.49	9,043.67	1.19	0.16	-1.18
14,396.00	90.11	135.060	4,569.33	-7,472.61	5,443.72	9,138.67	0.88	-0.85	0.23
14,490.00	92.05	133.820	4,567.56	-7,538.41	5,510.82	9,232.64	2.45	2.06	-1.32
14,585.00	92.62	134.230	4,563.69	-7,604.38	5,579.07	9,327.54	0.74	0.60	0.43
14,680.00	91.98	134.850	4,559.88	-7,670.96	5,646.73	9,422.45	0.94	-0.67	0.65
14,774.00	91.27	135.000	4,557.21	-7,737.31	5,713.25	9,516.41	0.77	-0.76	0.16
14,868.00	90.84	135.150	4,555.48	-7,803.86	5,779.62	9,610.40	0.48	-0.46	0.16
14,962.00	90.37	134.710	4,554.49	-7,870.24	5,846.17	9,704.39	0.68	-0.50	-0.47
15,016.00	89.56	134.383	4,554.52	-7,908.12	5,884.65	9,758.38	1.62	-1.50	-0.61
330 perp @ 15016 MD 4554.52 TVD									
15,017.00	89.55	134.377	4,554.53	-7,908.82	5,885.37	9,759.38	1.62	-1.50	-0.61
LTP @ 15017 MD 4554.53 TVD									
15,038.00	89.23	134.250	4,554.75	-7,923.49	5,900.39	9,780.38	1.62	-1.50	-0.61
Survey @ 15038 MD 4554.75 TVD									
15,103.00	89.23	134.250	4,555.63	-7,968.84	5,946.95	9,845.37	0.00	0.00	0.00
Survey Proj. to 15103 MD 4555.63 TVD 2489 FNL 1981 FWL									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
412.00	411.99	-1.59	-1.23	MWD surveys
2,796.00	2,656.06	-208.59	-615.17	9 5/8" Csg @ 2796 MD 2656.06 TVD
5,092.00	4,583.65	-866.78	-1,092.80	330 perp @ 5092 MD 4583.65 TVD
5,147.92	4,605.00	-902.84	-1,055.81	FTP @ 5147.92 MD 4605.00 TVD
15,016.00	4,554.52	-7,908.12	5,884.65	330 perp @ 15016 MD 4554.52 TVD
15,017.00	4,554.53	-7,908.82	5,885.37	LTP @ 15017 MD 4554.53 TVD
15,038.00	4,554.75	-7,923.49	5,900.39	Survey @ 15038 MD 4554.75 TVD
15,103.00	4,555.63	-7,968.84	5,946.95	Survey Proj. to 15103 MD 4555.63 TVD 2489 FNL 1981 FWL

Checked By: _____ Approved By: _____ Date: _____

Survey Report - Geographic

Company:	Enduring Resources LLC	**Local Co-ordinate Reference:**	Well Rodeo Unit #513H
Project:	San Juan County, New Mexico NAD83 NM W	**TVD Reference:**	RKB=6798+13 @ 6811.00ft (Ensign 145)
Site:	Rodeo Unit 511 pad (511, 512 & 513)	**MD Reference:**	RKB=6798+13 @ 6811.00ft (Ensign 145)
Well:	Rodeo Unit #513H	**North Reference:**	Grid
Wellbore:	Original Hole	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys Original Hole	**Database:**	DB_Decv0422v16

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 Rodeo Unit 511 pad (511, 512 & 513)

Site Position:		**Northing:**	1,888,898.347 usft	**Latitude:**	36.191179000
From:	Lat/Long	**Easting:**	2,749,215.362 usft	**Longitude:**	-107.744800000
Position Uncertainty:	0.00 ft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.05 °

Well Rodeo Unit #513H, Surf loc: 191 FSL 1325 FWL Section 25-T23N-R07W

Well Position	**+N/-S**	0.00 ft	**Northing:**	1,888,897.946 usft	**Latitude:**	36.191178000
	+E/-W	0.00 ft	**Easting:**	2,749,175.527 usft	**Longitude:**	-107.744935000
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	6,798.00 ft

Wellbore Original Hole

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	11/18/2022	8.65	62.69	49,142.13157349

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	135.220

Survey Program **Date** 12/23/2022

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
412.00	2,654.00	MWD surf (Original Hole)	MWD	OWSG MWD - Standard
2,745.00	15,038.00	MWD (Original Hole)	MWD	OWSG MWD - Standard
15,103.00	15,103.00	Projection (Original Hole)	MWD	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	0.000	0.00	0.00	0.00	1,888,897.946	2,749,175.527	36.191178000	-107.744935000
412.00	0.56	217.700	411.99	-1.59	-1.23	1,888,896.353	2,749,174.296	36.191173626	-107.744939178
MWD surveys									
503.00	0.68	209.390	502.99	-2.42	-1.77	1,888,895.531	2,749,173.759	36.191171369	-107.744941000
594.00	0.66	207.120	593.98	-3.35	-2.27	1,888,894.594	2,749,173.255	36.191168796	-107.744942711
685.00	0.73	214.000	684.98	-4.30	-2.84	1,888,893.647	2,749,172.692	36.191166196	-107.744944622
776.00	0.62	217.780	775.97	-5.17	-3.46	1,888,892.777	2,749,172.066	36.191163808	-107.744946745
866.00	0.54	226.710	865.96	-5.84	-4.07	1,888,892.101	2,749,171.459	36.191161953	-107.744948805
957.00	0.40	218.010	956.96	-6.39	-4.58	1,888,891.557	2,749,170.952	36.191160459	-107.744950527
1,051.00	3.76	250.270	1,050.89	-7.69	-7.68	1,888,890.258	2,749,167.847	36.191156898	-107.744961051

Survey Report - Geographic

Company:	Enduring Resources LLC	**Local Co-ordinate Reference:**	Well Rodeo Unit #513H
Project:	San Juan County, New Mexico NAD83 NM W	**TVD Reference:**	RKB=6798+13 @ 6811.00ft (Ensign 145)
Site:	Rodeo Unit 511 pad (511, 512 & 513)	**MD Reference:**	RKB=6798+13 @ 6811.00ft (Ensign 145)
Well:	Rodeo Unit #513H	**North Reference:**	Grid
Wellbore:	Original Hole	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys Original Hole	**Database:**	DB_Decv0422v16

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,146.00	6.49	251.960	1,145.50	-10.40	-15.72	1,888,887.543	2,749,159.809	36.191149460	-107.744988302
1,240.00	8.67	249.280	1,238.67	-14.56	-27.40	1,888,883.391	2,749,148.130	36.191138082	-107.745027896
1,334.00	12.01	247.570	1,331.13	-20.80	-43.07	1,888,877.151	2,749,132.458	36.191120980	-107.745081025
1,429.00	15.28	245.030	1,423.44	-29.85	-63.56	1,888,868.093	2,749,111.969	36.191096147	-107.745150493
1,523.00	18.56	246.610	1,513.36	-41.02	-88.52	1,888,856.922	2,749,087.003	36.191065522	-107.745235137
1,617.00	19.01	250.400	1,602.35	-52.10	-116.68	1,888,845.847	2,749,058.849	36.191035168	-107.745330585
1,711.00	18.71	251.500	1,691.31	-62.02	-145.40	1,888,835.927	2,749,030.129	36.191007990	-107.745427947
1,806.00	19.79	252.270	1,781.00	-71.75	-175.17	1,888,826.195	2,749,000.360	36.190981327	-107.745528864
1,900.00	22.79	252.600	1,868.57	-82.04	-207.71	1,888,815.902	2,748,967.823	36.190953134	-107.745639163
1,994.00	26.21	252.750	1,954.09	-93.65	-244.91	1,888,804.299	2,748,930.615	36.190921350	-107.745765296
2,089.00	28.88	252.990	2,038.32	-106.58	-286.89	1,888,791.364	2,748,888.634	36.190885921	-107.745907608
2,183.00	29.29	252.670	2,120.46	-120.07	-330.55	1,888,777.874	2,748,844.977	36.190848971	-107.746055602
2,277.00	29.45	252.960	2,202.38	-133.69	-374.59	1,888,764.253	2,748,800.933	36.190811662	-107.746204907
2,371.00	29.64	252.540	2,284.16	-147.44	-418.86	1,888,750.508	2,748,756.667	36.190774010	-107.746354968
2,466.00	30.00	253.370	2,366.58	-161.28	-464.03	1,888,736.662	2,748,711.501	36.190736087	-107.746508076
2,560.00	29.36	253.130	2,448.25	-174.70	-508.60	1,888,723.249	2,748,666.931	36.190699349	-107.746659162
2,654.00	28.15	252.500	2,530.66	-188.05	-551.80	1,888,709.894	2,748,623.730	36.190662766	-107.746805611
2,745.00	27.84	252.040	2,611.01	-201.06	-592.48	1,888,696.887	2,748,583.044	36.190627134	-107.746943534
2,796.00	28.05	251.246	2,656.06	-208.59	-615.17	1,888,689.359	2,748,560.360	36.190606509	-107.747020434
9 5/8" Csg @ 2796 MD 2656.06 TVD									
2,823.00	28.17	250.830	2,679.87	-212.72	-627.20	1,888,685.225	2,748,548.328	36.190595182	-107.747061222
2,887.00	28.82	250.190	2,736.12	-222.91	-655.98	1,888,675.036	2,748,519.545	36.190567263	-107.747158796
2,981.00	27.88	248.440	2,818.85	-238.67	-697.74	1,888,659.281	2,748,477.787	36.190524083	-107.747300360
3,075.00	28.83	251.100	2,901.57	-254.08	-739.63	1,888,643.862	2,748,435.902	36.190481828	-107.747442354
3,170.00	28.58	249.960	2,984.90	-269.29	-782.64	1,888,628.656	2,748,392.884	36.190440159	-107.747588186
3,263.00	27.49	249.060	3,066.98	-284.59	-823.59	1,888,613.361	2,748,351.938	36.190398244	-107.747726997
3,358.00	28.25	252.080	3,150.97	-299.34	-865.46	1,888,598.607	2,748,310.066	36.190357812	-107.747868944
3,452.00	26.80	251.520	3,234.33	-312.90	-906.73	1,888,585.044	2,748,268.798	36.190320654	-107.748008839
3,547.00	29.00	250.610	3,318.28	-327.34	-948.77	1,888,570.608	2,748,226.758	36.190281099	-107.748151354
3,641.00	26.57	248.200	3,401.44	-342.71	-989.79	1,888,555.234	2,748,185.738	36.190238962	-107.748290415
3,735.00	29.93	250.090	3,484.23	-358.51	-1,031.37	1,888,539.436	2,748,144.158	36.190195664	-107.748431377
3,830.00	30.31	250.660	3,566.40	-374.52	-1,076.27	1,888,523.426	2,748,099.255	36.190151791	-107.748583598
3,924.00	27.82	249.760	3,648.56	-389.97	-1,119.24	1,888,507.980	2,748,056.286	36.190109462	-107.748729262
4,018.00	28.17	251.250	3,731.56	-404.69	-1,160.83	1,888,493.259	2,748,014.695	36.190069122	-107.748870257
4,112.00	22.79	249.290	3,816.39	-418.27	-1,198.90	1,888,479.678	2,747,976.626	36.190031905	-107.748999310
4,143.00	21.08	249.090	3,845.15	-422.38	-1,209.73	1,888,475.565	2,747,965.802	36.190020632	-107.749036006
4,174.00	21.69	247.930	3,874.01	-426.52	-1,220.24	1,888,471.423	2,747,955.285	36.190009278	-107.749071659
4,206.00	23.79	247.390	3,903.52	-431.23	-1,231.68	1,888,466.719	2,747,943.846	36.189996383	-107.749110440
4,237.00	24.63	243.830	3,931.80	-436.48	-1,243.25	1,888,461.466	2,747,932.275	36.189981980	-107.749149667
4,268.00	25.17	235.570	3,959.92	-443.06	-1,254.49	1,888,454.888	2,747,921.037	36.189963936	-107.749187773
4,300.00	25.88	226.370	3,988.81	-451.73	-1,265.17	1,888,446.218	2,747,910.365	36.189940144	-107.749223965
4,331.00	26.70	217.090	4,016.62	-461.96	-1,274.27	1,888,435.990	2,747,901.264	36.189912068	-107.749254838
4,363.00	27.66	208.900	4,045.09	-474.20	-1,282.19	1,888,423.748	2,747,893.336	36.189878457	-107.749281742
4,394.00	28.93	202.630	4,072.39	-487.42	-1,288.56	1,888,410.524	2,747,886.972	36.189842146	-107.749303349
4,426.00	29.99	197.150	4,100.26	-502.21	-1,293.90	1,888,395.735	2,747,881.634	36.189801531	-107.749321481
4,457.00	31.01	192.280	4,126.98	-517.42	-1,297.88	1,888,380.527	2,747,877.650	36.189759761	-107.749335026
4,488.00	32.07	187.720	4,153.40	-533.38	-1,300.68	1,888,364.566	2,747,874.846	36.189715922	-107.749344577
4,520.00	33.03	183.110	4,180.38	-550.51	-1,302.30	1,888,347.436	2,747,873.231	36.189668869	-107.749350099
4,551.00	33.93	178.420	4,206.24	-567.60	-1,302.52	1,888,330.348	2,747,873.011	36.189621927	-107.749350894
4,583.00	34.57	174.740	4,232.69	-585.57	-1,301.44	1,888,312.378	2,747,874.090	36.189572559	-107.749347292
4,614.00	35.21	170.040	4,258.12	-603.13	-1,299.09	1,888,294.815	2,747,876.442	36.189524305	-107.749339371
4,646.00	35.83	165.300	4,284.17	-621.28	-1,295.11	1,888,276.666	2,747,880.416	36.189474437	-107.749325959
4,677.00	36.32	160.900	4,309.23	-638.74	-1,289.81	1,888,259.211	2,747,885.723	36.189426475	-107.749308024
4,709.00	37.02	155.330	4,334.91	-656.45	-1,282.68	1,888,241.497	2,747,892.847	36.189377795	-107.749283934
4,740.00	37.99	150.000	4,359.51	-673.20	-1,274.01	1,888,224.749	2,747,901.515	36.189331766	-107.749254607

Survey Report - Geographic

Company:	Enduring Resources LLC	**Local Co-ordinate Reference:**	Well Rodeo Unit #513H
Project:	San Juan County, New Mexico NAD83 NM W	**TVD Reference:**	RKB=6798+13 @ 6811.00ft (Ensign 145)
Site:	Rodeo Unit 511 pad (511, 512 & 513)	**MD Reference:**	RKB=6798+13 @ 6811.00ft (Ensign 145)
Well:	Rodeo Unit #513H	**North Reference:**	Grid
Wellbore:	Original Hole	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys Original Hole	**Database:**	DB_Decv0422v16

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,771.00	38.45	145.010	4,383.87	-689.36	-1,263.72	1,888,208.586	2,747,911.815	36.189287341	-107.749219749
4,803.00	39.63	141.230	4,408.72	-705.47	-1,251.62	1,888,192.476	2,747,923.913	36.189243055	-107.749178798
4,834.00	41.86	139.170	4,432.21	-721.01	-1,238.66	1,888,176.939	2,747,936.868	36.189200342	-107.749134938
4,866.00	44.09	137.190	4,455.62	-737.26	-1,224.11	1,888,160.690	2,747,951.417	36.189155672	-107.749085682
4,897.00	46.81	135.770	4,477.37	-753.27	-1,208.90	1,888,144.677	2,747,966.632	36.189111647	-107.749034167
4,929.00	49.73	134.770	4,498.67	-770.23	-1,192.09	1,888,127.717	2,747,983.440	36.189065015	-107.748977256
4,960.00	53.03	133.990	4,518.01	-787.17	-1,174.78	1,888,110.782	2,748,000.751	36.189018452	-107.748918641
4,991.00	57.21	133.860	4,535.74	-804.80	-1,156.47	1,888,093.145	2,748,019.064	36.188969956	-107.748856632
5,023.00	61.38	134.500	4,552.07	-823.98	-1,136.74	1,888,073.972	2,748,038.788	36.188917240	-107.748789843
5,054.00	62.52	134.280	4,566.65	-843.11	-1,117.19	1,888,054.834	2,748,058.339	36.188864619	-107.748723646
5,085.00	63.93	134.040	4,580.62	-862.39	-1,097.34	1,888,035.554	2,748,078.193	36.188811606	-107.748656418
5,092.00	64.68	134.069	4,583.65	-866.78	-1,092.80	1,888,031.168	2,748,082.727	36.188799546	-107.748641068
330 perp @ 5092 MD 4583.65 TVD									
5,117.00	67.38	134.170	4,593.80	-882.68	-1,076.41	1,888,015.266	2,748,099.125	36.188755823	-107.748585544
5,147.92	70.15	134.605	4,605.00	-902.84	-1,055.81	1,887,995.107	2,748,119.718	36.188700394	-107.748515815
FTP @ 5147.92 MD 4605.00 TVD									
5,149.00	70.25	134.620	4,605.37	-903.56	-1,055.09	1,887,994.393	2,748,120.441	36.188698432	-107.748513366
5,180.00	73.62	135.210	4,614.98	-924.36	-1,034.22	1,887,973.586	2,748,141.308	36.188641224	-107.748442713
5,212.00	76.50	135.040	4,623.23	-946.27	-1,012.41	1,887,951.679	2,748,163.120	36.188580989	-107.748368857
5,243.00	79.58	135.340	4,629.65	-967.78	-991.04	1,887,930.166	2,748,184.491	36.188521838	-107.748296500
5,274.00	82.75	135.950	4,634.41	-989.68	-969.63	1,887,908.265	2,748,205.902	36.188461625	-107.748224003
5,306.00	86.80	136.780	4,637.33	-1,012.74	-947.64	1,887,885.206	2,748,227.887	36.188398225	-107.748149568
5,337.00	88.97	136.950	4,638.47	-1,035.35	-926.46	1,887,862.601	2,748,249.067	36.188336075	-107.748077860
5,431.00	91.27	136.460	4,638.27	-1,103.76	-862.01	1,887,794.190	2,748,313.523	36.188147987	-107.747859630
5,525.00	89.96	135.190	4,637.26	-1,171.17	-796.51	1,887,726.778	2,748,379.020	36.187962642	-107.747637869
5,619.00	90.25	133.970	4,637.09	-1,237.15	-729.56	1,887,660.801	2,748,445.972	36.187781233	-107.747411176
5,714.00	92.23	133.010	4,635.04	-1,302.51	-660.66	1,887,595.439	2,748,514.873	36.187601507	-107.747177877
5,809.00	89.53	134.660	4,633.58	-1,368.29	-592.15	1,887,529.659	2,748,583.383	36.187420637	-107.746945906
5,903.00	89.39	134.700	4,634.46	-1,434.38	-525.31	1,887,463.566	2,748,650.218	36.187238909	-107.746719612
5,997.00	89.74	134.070	4,635.18	-1,500.13	-458.13	1,887,397.818	2,748,717.393	36.187058127	-107.746492167
6,092.00	90.52	136.810	4,634.96	-1,567.81	-391.48	1,887,330.136	2,748,784.044	36.186872034	-107.746266507
6,186.00	92.95	137.590	4,632.11	-1,636.75	-327.65	1,887,261.203	2,748,847.877	36.186682510	-107.746050398
6,281.00	89.91	136.270	4,629.74	-1,706.11	-262.81	1,887,191.836	2,748,912.723	36.186491790	-107.745830860
6,375.00	89.72	135.320	4,630.05	-1,773.50	-197.27	1,887,124.453	2,748,978.261	36.186306521	-107.745608971
6,470.00	91.29	134.970	4,629.21	-1,840.84	-130.27	1,887,057.113	2,749,045.261	36.186121364	-107.745382129
6,564.00	88.96	136.120	4,629.01	-1,907.93	-64.44	1,886,990.022	2,749,111.088	36.185936893	-107.745159262
6,658.00	91.19	137.060	4,628.88	-1,976.21	0.15	1,886,921.741	2,749,175.681	36.185749155	-107.744940581
6,751.00	88.21	136.810	4,629.37	-2,044.15	63.65	1,886,853.806	2,749,239.175	36.185562371	-107.744725623
6,845.00	87.61	136.500	4,632.80	-2,112.46	128.13	1,886,785.492	2,749,303.653	36.185374543	-107.744507337
6,939.00	90.19	136.770	4,634.60	-2,180.78	192.65	1,886,717.173	2,749,368.179	36.185186701	-107.744288884
7,034.00	89.72	137.260	4,634.68	-2,250.27	257.42	1,886,647.678	2,749,432.951	36.184995628	-107.744069608
7,129.00	88.90	138.630	4,635.82	-2,320.80	321.05	1,886,577.147	2,749,496.579	36.184801713	-107.743854208
7,223.00	89.99	136.820	4,636.73	-2,390.35	384.28	1,886,507.602	2,749,559.805	36.184610504	-107.743640169
7,317.00	90.94	135.780	4,635.97	-2,458.30	449.22	1,886,439.647	2,749,624.744	36.184423659	-107.743420323
7,412.00	90.55	136.270	4,634.73	-2,526.66	515.17	1,886,371.287	2,749,690.701	36.184235699	-107.743197030
7,506.00	90.86	133.650	4,633.58	-2,593.08	581.68	1,886,304.877	2,749,757.204	36.184053092	-107.742971879
7,601.00	89.80	134.070	4,633.03	-2,658.90	650.17	1,886,239.054	2,749,825.700	36.183872094	-107.742739976
7,695.00	88.96	134.630	4,634.05	-2,724.60	717.39	1,886,173.349	2,749,892.913	36.183691423	-107.742512421
7,789.00	91.40	133.780	4,633.75	-2,790.14	784.76	1,886,107.815	2,749,960.291	36.183511222	-107.742284308
7,883.00	90.85	134.410	4,631.91	-2,855.53	852.26	1,886,042.419	2,750,027.787	36.183331397	-107.742055795
7,978.00	89.76	134.750	4,631.40	-2,922.21	919.92	1,885,975.740	2,750,095.450	36.183148048	-107.741826720
8,072.00	90.93	134.220	4,630.83	-2,988.08	986.98	1,885,909.875	2,750,162.510	36.182966935	-107.741599687
8,167.00	90.00	134.260	4,630.06	-3,054.35	1,055.04	1,885,843.600	2,750,230.567	36.182784693	-107.741369278
8,261.00	91.32	134.540	4,628.98	-3,120.12	1,122.20	1,885,777.837	2,750,297.721	36.182603862	-107.741141928
8,355.00	90.69	134.990	4,627.33	-3,186.30	1,188.93	1,885,711.653	2,750,364.451	36.182421873	-107.740916021

Survey Report - Geographic

Company:	Enduring Resources LLC	**Local Co-ordinate Reference:**	Well Rodeo Unit #513H
Project:	San Juan County, New Mexico NAD83 NM W	**TVD Reference:**	RKB=6798+13 @ 6811.00ft (Ensign 145)
Site:	Rodeo Unit 511 pad (511, 512 & 513)	**MD Reference:**	RKB=6798+13 @ 6811.00ft (Ensign 145)
Well:	Rodeo Unit #513H	**North Reference:**	Grid
Wellbore:	Original Hole	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys Original Hole	**Database:**	DB_Decv0422v16

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,449.00	89.36	135.290	4,627.29	-3,252.93	1,255.23	1,885,645.025	2,750,430.754	36.182238663	-107.740691558
8,543.00	91.05	134.940	4,626.95	-3,319.53	1,321.56	1,885,578.426	2,750,497.086	36.182055537	-107.740467003
8,638.00	91.74	135.130	4,624.64	-3,386.72	1,388.67	1,885,511.231	2,750,564.199	36.181870766	-107.740239799
8,732.00	91.33	136.050	4,622.12	-3,453.85	1,454.43	1,885,444.107	2,750,629.955	36.181686196	-107.740017199
8,826.00	90.79	136.680	4,620.38	-3,521.87	1,519.28	1,885,376.087	2,750,694.809	36.181499166	-107.739797658
8,921.00	90.82	135.020	4,619.05	-3,590.02	1,585.45	1,885,307.932	2,750,760.971	36.181311761	-107.739573684
9,015.00	90.13	135.270	4,618.27	-3,656.66	1,651.74	1,885,241.298	2,750,827.268	36.181128537	-107.739349251
9,109.00	89.68	135.670	4,618.43	-3,723.67	1,717.66	1,885,174.288	2,750,893.188	36.180944276	-107.739126097
9,204.00	90.72	133.770	4,618.09	-3,790.51	1,785.16	1,885,107.446	2,750,960.686	36.180760475	-107.738897597
9,298.00	90.38	133.990	4,617.19	-3,855.66	1,852.91	1,885,042.294	2,751,028.437	36.180581311	-107.738668234
9,392.00	90.13	134.490	4,616.77	-3,921.24	1,920.26	1,884,976.714	2,751,095.780	36.180400977	-107.738440257
9,487.00	89.70	135.100	4,616.91	-3,988.17	1,987.67	1,884,909.780	2,751,163.194	36.180216921	-107.738212043
9,582.00	90.88	134.370	4,616.43	-4,055.04	2,055.15	1,884,842.919	2,751,230.677	36.180033065	-107.737983600
9,676.00	90.28	134.700	4,615.48	-4,120.96	2,122.15	1,884,776.997	2,751,297.678	36.179851787	-107.737756784
9,771.00	91.29	134.810	4,614.18	-4,187.84	2,189.61	1,884,710.117	2,751,365.132	36.179667878	-107.737528438
9,865.00	90.82	135.060	4,612.45	-4,254.22	2,256.14	1,884,643.736	2,751,431.664	36.179485342	-107.737303217
9,960.00	90.25	135.360	4,611.56	-4,321.64	2,323.07	1,884,576.318	2,751,498.589	36.179299956	-107.737076668
10,054.00	89.80	136.110	4,611.52	-4,388.95	2,388.68	1,884,509.004	2,751,564.198	36.179114857	-107.736854579
10,148.00	91.16	134.860	4,610.73	-4,455.97	2,454.57	1,884,441.981	2,751,630.096	36.178930558	-107.736631512
10,242.00	90.79	135.020	4,609.13	-4,522.36	2,521.10	1,884,375.592	2,751,696.624	36.178747999	-107.736406310
10,337.00	90.33	135.700	4,608.21	-4,589.96	2,587.85	1,884,307.999	2,751,763.371	36.178562133	-107.736180366
10,432.00	89.76	136.240	4,608.13	-4,658.26	2,653.88	1,884,239.697	2,751,829.399	36.178374318	-107.735956867
10,526.00	90.39	135.070	4,608.01	-4,725.48	2,719.58	1,884,172.476	2,751,895.101	36.178189471	-107.735734467
10,621.00	89.86	135.780	4,607.80	-4,793.15	2,786.25	1,884,104.805	2,751,961.775	36.178003388	-107.735508777
10,715.00	91.96	135.670	4,606.31	-4,860.44	2,851.86	1,884,037.514	2,752,027.385	36.177818350	-107.735286694
10,809.00	91.67	136.580	4,603.33	-4,928.17	2,916.98	1,883,969.788	2,752,092.501	36.177632120	-107.735066283
10,904.00	90.97	136.910	4,601.14	-4,997.34	2,982.06	1,883,900.618	2,752,157.582	36.177441920	-107.734846001
10,998.00	89.85	136.580	4,600.47	-5,065.80	3,046.47	1,883,832.159	2,752,221.992	36.177253678	-107.734627989
11,093.00	90.84	135.330	4,599.90	-5,134.08	3,112.51	1,883,763.878	2,752,288.035	36.177065915	-107.734404445
11,187.00	90.11	135.080	4,599.12	-5,200.78	3,178.74	1,883,697.175	2,752,354.262	36.176882491	-107.734180274
11,282.00	91.46	134.630	4,597.82	-5,267.78	3,246.08	1,883,630.178	2,752,421.599	36.176698254	-107.733952343
11,376.00	90.84	134.520	4,595.93	-5,333.74	3,313.02	1,883,564.219	2,752,488.544	36.176516868	-107.733725737
11,470.00	90.05	133.960	4,595.20	-5,399.32	3,380.36	1,883,498.641	2,752,555.885	36.176336528	-107.733497790
11,565.00	90.79	134.100	4,594.50	-5,465.34	3,448.66	1,883,432.615	2,752,624.185	36.176154955	-107.733266594
11,659.00	89.17	133.460	4,594.54	-5,530.38	3,516.53	1,883,367.580	2,752,692.050	36.175976104	-107.733036870
11,754.00	90.86	134.430	4,594.51	-5,596.30	3,584.93	1,883,301.657	2,752,760.448	36.175794810	-107.732805348
11,848.00	90.17	134.830	4,593.67	-5,662.33	3,651.82	1,883,235.622	2,752,827.340	36.175613216	-107.732578926
11,943.00	92.10	134.180	4,591.79	-5,728.91	3,719.56	1,883,169.047	2,752,895.076	36.175430132	-107.732349649
12,036.00	91.78	134.330	4,588.64	-5,793.77	3,786.13	1,883,104.184	2,752,961.648	36.175251756	-107.732124311
12,131.00	91.65	134.320	4,585.79	-5,860.12	3,854.06	1,883,037.835	2,753,029.579	36.175069293	-107.731894374
12,225.00	92.11	134.220	4,582.71	-5,925.70	3,921.33	1,882,972.254	2,753,096.852	36.174888943	-107.731666665
12,320.00	90.76	135.630	4,580.33	-5,992.77	3,988.57	1,882,905.191	2,753,164.090	36.174704520	-107.731439080
12,414.00	90.45	135.920	4,579.34	-6,060.12	4,054.13	1,882,837.835	2,753,229.649	36.174519294	-107.731217187
12,508.00	90.60	136.740	4,578.48	-6,128.11	4,119.03	1,882,769.845	2,753,294.553	36.174332332	-107.730997517
12,603.00	89.14	136.950	4,578.69	-6,197.41	4,184.01	1,882,700.544	2,753,359.529	36.174141767	-107.730777611
12,697.00	88.88	137.400	4,580.32	-6,266.35	4,247.90	1,882,631.612	2,753,423.416	36.173952217	-107.730561389
12,792.00	90.08	134.410	4,581.18	-6,334.56	4,313.99	1,882,563.397	2,753,489.511	36.173764629	-107.730337690
12,887.00	88.12	131.950	4,582.67	-6,399.55	4,383.25	1,882,498.405	2,753,558.768	36.173585887	-107.730103264
12,981.00	89.94	133.970	4,584.26	-6,463.60	4,452.02	1,882,434.360	2,753,627.543	36.173409747	-107.729870468
13,076.00	89.92	134.250	4,584.38	-6,529.72	4,520.24	1,882,368.237	2,753,695.753	36.173227899	-107.729639596
13,170.00	91.44	135.190	4,583.26	-6,595.86	4,587.02	1,882,302.102	2,753,762.538	36.173046023	-107.729413554
13,264.00	90.84	135.580	4,581.39	-6,662.76	4,653.03	1,882,235.202	2,753,828.544	36.172862049	-107.729190154
13,359.00	90.27	136.100	4,580.47	-6,730.91	4,719.21	1,882,167.053	2,753,894.723	36.172674641	-107.728966172
13,453.00	89.88	137.040	4,580.35	-6,799.17	4,783.83	1,882,098.790	2,753,959.344	36.172486924	-107.728747472
13,547.00	90.35	136.080	4,580.16	-6,867.42	4,848.46	1,882,030.539	2,754,023.977	36.172299237	-107.728528734

Survey Report - Geographic

Company:	Enduring Resources LLC	**Local Co-ordinate Reference:**	Well Rodeo Unit #513H
Project:	San Juan County, New Mexico NAD83 NM W	**TVD Reference:**	RKB=6798+13 @ 6811.00ft (Ensign 145)
Site:	Rodeo Unit 511 pad (511, 512 & 513)	**MD Reference:**	RKB=6798+13 @ 6811.00ft (Ensign 145)
Well:	Rodeo Unit #513H	**North Reference:**	Grid
Wellbore:	Original Hole	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys Original Hole	**Database:**	DB_Decv0422v16

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
13,642.00	89.64	136.670	4,580.17	-6,936.19	4,914.00	1,881,961.772	2,754,089.520	36.172110132	-107.728306914
13,735.00	91.03	135.060	4,579.63	-7,002.93	4,978.76	1,881,895.031	2,754,154.276	36.171926594	-107.728087755
13,830.00	90.42	135.100	4,578.42	-7,070.19	5,045.83	1,881,827.768	2,754,221.351	36.171741615	-107.727860740
13,924.00	91.54	135.060	4,576.82	-7,136.74	5,112.20	1,881,761.218	2,754,287.715	36.171558597	-107.727636133
14,018.00	90.62	135.800	4,575.04	-7,203.69	5,178.15	1,881,694.266	2,754,353.670	36.171374475	-107.727412917
14,113.00	91.41	135.220	4,573.36	-7,271.45	5,244.72	1,881,626.507	2,754,420.233	36.171188135	-107.727187642
14,207.00	90.77	135.950	4,571.57	-7,338.58	5,310.49	1,881,559.377	2,754,486.006	36.171003523	-107.726965043
14,301.00	90.92	134.840	4,570.19	-7,405.50	5,376.49	1,881,492.461	2,754,552.006	36.170819498	-107.726741676
14,396.00	90.11	135.060	4,569.33	-7,472.61	5,443.72	1,881,425.348	2,754,619.236	36.170634927	-107.726514142
14,490.00	92.05	133.820	4,567.56	-7,538.41	5,510.82	1,881,359.548	2,754,686.334	36.170453967	-107.726287053
14,585.00	92.62	134.230	4,563.69	-7,604.38	5,579.07	1,881,293.582	2,754,754.585	36.170272541	-107.726056057
14,680.00	91.98	134.850	4,559.88	-7,670.96	5,646.73	1,881,227.002	2,754,822.242	36.170089435	-107.725827079
14,774.00	91.27	135.000	4,557.21	-7,737.31	5,713.25	1,881,160.649	2,754,888.769	36.169906951	-107.725601927
14,868.00	90.84	135.150	4,555.48	-7,803.86	5,779.62	1,881,094.105	2,754,955.139	36.169723946	-107.725377312
14,962.00	90.37	134.710	4,554.49	-7,870.24	5,846.17	1,881,027.723	2,755,021.684	36.169541382	-107.725152103
15,016.00	89.56	134.383	4,554.52	-7,908.12	5,884.65	1,880,989.843	2,755,060.168	36.169437204	-107.725021859
330 perp @ 15016 MD 4554.52 TVD									
15,017.00	89.55	134.377	4,554.53	-7,908.82	5,885.37	1,880,989.143	2,755,060.883	36.169435281	-107.725019441
LTP @ 15017 MD 4554.53 TVD									
15,038.00	89.23	134.250	4,554.75	-7,923.49	5,900.39	1,880,974.474	2,755,075.908	36.169394936	-107.724968590
Survey @ 15038 MD 4554.75 TVD									
15,103.00	89.23	134.250	4,555.63	-7,968.84	5,946.95	1,880,929.122	2,755,122.463	36.169270206	-107.724811029
Survey Proj. to 15103 MD 4555.63 TVD 2489 FNL 1981 FWL									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
412.00	411.99	-1.59	-1.23	MWD surveys
2,796.00	2,656.06	-208.59	-615.17	9 5/8" Csg @ 2796 MD 2656.06 TVD
5,092.00	4,583.65	-866.78	-1,092.80	330 perp @ 5092 MD 4583.65 TVD
5,147.92	4,605.00	-902.84	-1,055.81	FTP @ 5147.92 MD 4605.00 TVD
15,016.00	4,554.52	-7,908.12	5,884.65	330 perp @ 15016 MD 4554.52 TVD
15,017.00	4,554.53	-7,908.82	5,885.37	LTP @ 15017 MD 4554.53 TVD
15,038.00	4,554.75	-7,923.49	5,900.39	Survey @ 15038 MD 4554.75 TVD
15,103.00	4,555.63	-7,968.84	5,946.95	Survey Proj. to 15103 MD 4555.63 TVD 2489 FNL 1981 FWL

Checked By: _____ Approved By: _____ Date: _____

WELL NAME: RODEO UNIT 513H

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

API Number: 30-045-35873

State: New Mexico

County: San Juan

Surface Elev.: 6,798 ft ASL (GL) 6,811 ft ASL (KB)

Surface Location: 25-23N-09W Sec-Twn- Rng 191 ft FSL 1,325 ft FWL

BH Location: 6-22N-08W Sec-Twn- Rng 2433 ft FNL 1917 ft FWL

Driving Directions: **FROM THE INTERSECTION OF US HWY 550 & US HWY 64 IN BLOOMFIELD, NM:**

South on US Hwy 550 for 37.8 miles to MM 113.4; Right (Southwest) on CR #7890 for 0.8 miles to fork; Left (South) remaining on CR #7890 for 1.3 miles to 4-way intersectionl; Left (Southeast) remaining on CR #7890 for 0.6 miles to fork; Right (Southwest) on CR #7890 for 1.5 miles to access road; Left on access road for 0.5 mile to Rodeo Unit 511H Pad (three wells planned to be drilled: 511H, 512H, 513H).

QUICK REFERENCE		
Sur TD (MD)	360	ft
Int TD (MD)	2,806	ft
KOP (MD)	4,283	ft
KOP (TVD)	3,973	ft
Target (TVD)	4,666	ft
Curve BUR	10	°/100 ft
POE (MD)	5,201	ft
TD (MD)	15,103	ft
Lat Len (ft)	9,907	ft

WELL CONSTRUCTION SUMMARY:

	Hole (in)	TD MD (ft)	Csg (in)	Csg (lb/ft)	Csg (grade)	Csg (conn)	Csg Top (ft)	Csg Bot (ft)
Surface	17.500	360	13.375	54.5	J-55	BTC	0	360
Intermediate	12.250	2,806	9.625	36.0	J-55	LTC	0	2,806
Production	8.500	15,103	5.500	17.0	P-110	LTC	0	15,103

CEMENT PROPERTIES SUMMARY:

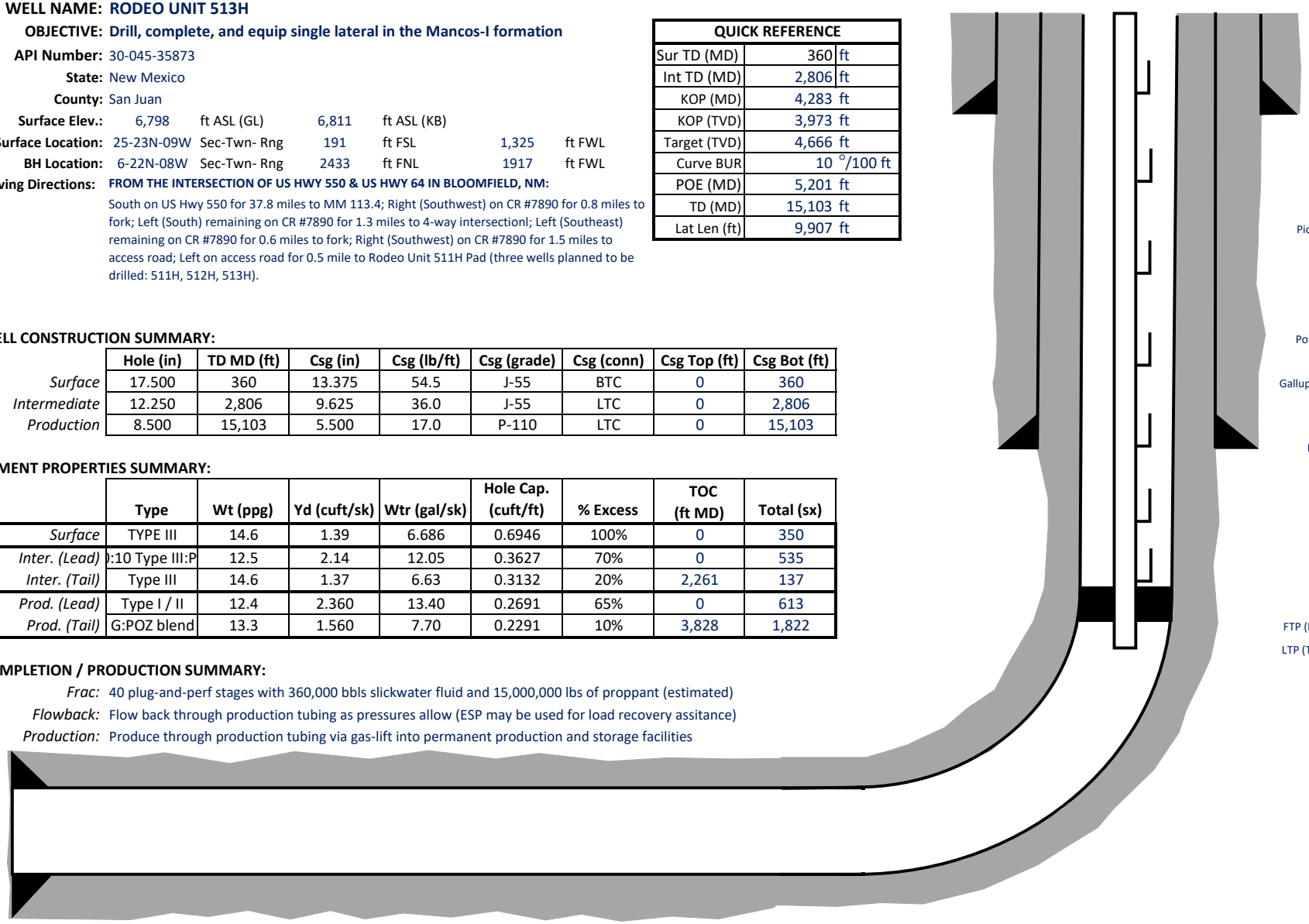
	Type	Wt (ppg)	Yd (cuft/sk)	Wtr (gal/sk)	Hole Cap. (cuft/ft)	% Excess	TOC (ft MD)	Total (sx)
Surface	TYPE III	14.6	1.39	6.686	0.6946	100%	0	350
Inter. (Lead)	0:10 Type III:P	12.5	2.14	12.05	0.3627	70%	0	535
Inter. (Tail)	Type III	14.6	1.37	6.63	0.3132	20%	2,261	137
Prod. (Lead)	Type I / II	12.4	2.360	13.40	0.2691	65%	0	613
Prod. (Tail)	G:POZ blend	13.3	1.560	7.70	0.2291	10%	3,828	1,822

COMPLETION / PRODUCTION SUMMARY:

Frac: 40 plug-and-perf stages with 360,000 bbls slickwater fluid and 15,000,000 lbs of proppant (estimated)

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

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



Tops	TVD (ft KB)	MD (ft KB)
Ojo Alamo	356	356
Kirtland	441	441
Fruitland	671	671
Pictured Cliffs	1,021	1,021
Lewis	1,146	1,146
Chacra	1,406	1,409
Cliff House	2,431	2,540
Menefee	2,466	2,580
Point Lookout	3,416	3,658
Mancos	3,566	3,828
Gallup (MNCS_A)	3,901	4,208
MNCS_B	4,006	4,327
MNCS_C	4,091	4,420
MNCS_Cms	4,131	4,464
MNCS_D	4,256	4,601
MNCS_E	4,406	4,776
MNCS_F	4,461	4,849
MNCS_G	4,531	4,953
MNCS_H	4,576	5,033
MNCS_I	4,626	5,135
FTP (LP) TARGET	4,666	5,201
LTP (TD) TARGET	4,582	15,108

ENDURING RESOURCES IV, LLC
6300 S SYRACUSE WAY, SUITE 525
CENTENNIAL, COLORADO 80211

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

WELL INFORMATION:

Name: **RODEO UNIT 513H**
API Number: **30-045-35873**
AFE Number: **DV03089**
ER Well Number: **NM08213**
State: New Mexico
County: San Juan
Surface Elevation: 6,798 ft ASL (GL) 6,811 ft ASL (KB)
Surface Location: 25-23N-09W Sec-Twn-Rng 191 ft FSL 1,325 ft FWL
36.191178 ° N latitude 107.744935 ° W longitude (NAD 83)
BH Location (LTP): 6-22N-08W Sec-Twn-Rng 2,433 ft FNL 1,917 ft FWL
36.169425 ° N latitude 107.725026 ° W longitude (NAD 83)
Driving Directions: **FROM THE INTERSECTION OF US HWY 550 & US HWY 64 IN BLOOMFIELD, NM:**
South on US Hwy 550 for 37.8 miles to MM 113.4; Right (Southwest) on CR #7890 for 0.8 miles to fork; Left (South) remaining on CR #7890 for 1.3 miles to 4-way intersectionl; Left (Southeast) remaining on CR #7890 for 0.6 miles to fork; Right (Southwest) on CR #7890 for 1.5 miles to access road; Left on access road for 0.5 mile to Rodeo Unit 511H Pad (three wells planned to be drilled: 511H, 512H, 513H).

GEOLOGIC AND RESERVOIR INFORMATION:

Prognosis:

Formation Tops	TVD (ft ASL)	TVD (ft KB)	MD (ft KB)	O / G / W	Pressure
Ojo Alamo	6,455	356	356	W	normal
Kirtland	6,370	441	441	W	normal
Fruitland	6,140	671	671	G, W	sub
Pictured Cliffs	5,790	1,021	1,021	G, W	sub
Lewis	5,665	1,146	1,146	G, W	normal
Chacra	5,405	1,406	1,409	G, W	normal
Cliff House	4,380	2,431	2,540	G, W	sub
Menefee	4,345	2,466	2,580	G, W	normal
Point Lookout	3,395	3,416	3,658	G, W	normal
Mancos	3,245	3,566	3,828	O,G	sub (~0.38)
Gallup (MNCS_A)	2,910	3,901	4,208	O,G	sub (~0.38)
MNCS_B	2,805	4,006	4,327	O,G	sub (~0.38)
MNCS_C	2,720	4,091	4,420	O,G	sub (~0.38)
MNCS_Cms	2,680	4,131	4,464	O,G	sub (~0.38)
MNCS_D	2,555	4,256	4,601	O,G	sub (~0.38)
MNCS_E	2,405	4,406	4,776	O,G	sub (~0.38)
MNCS_F	2,350	4,461	4,849	O,G	sub (~0.38)
MNCS_G	2,280	4,531	4,953	O,G	sub (~0.38)
MNCS_H	2,235	4,576	5,033	O,G	sub (~0.38)
MNCS_I	2,185	4,626	5,135	O,G	sub (~0.38)
FTP (LP) TARGET	**2,145**	**4,666**	**5,201**	**O,G**	**sub (~0.38)**
LTP (TD) TARGET	**2,229**	**4,582**	**15,108**	**O,G**	**sub (~0.38)**

Surface: Nacimiento
Oil & Gas Zones: Several gas bearing zones will be encountered; target formation is the Gallup
Pressure: Normal (0.43 psi/ft) or sub-normal pressure gradients anticipated in all formations
Max. pressure gradient: 0.43 psi/ft Evacuated hole gradient: 0.22 psi/ft
Maximum anticipated BH pressure, assuming maximum pressure gradient: 2,010 psi
Maximum anticipated surface pressure, assuming partially evacuated hole: 990 psi
Temperature: **Maximum anticipated BHT is 125° F or less**

H_2S INFORMATION:

H_2S Zones: Encountering hydrogen-sulfide bearing zones is **NOT** anticipated.
Safety: Sensors and alarms will be placed in the substructure, on the rig floor, above the pits, and at the shakers.

LOGGING, CORING, AND TESTING:

Mud Logs: None planned; gas detection from drill out of 13-3/8" casing to TD; remote geo-steering from drill out of 9-5/8" casing to TD.
MWD / LWD: MWD surveys with inclination and azimuth in 100' stations (minimum) from drill out of 13-3/8" casing to TD; Gamma Ray from drill out of 9-5/8" casing to TD; Gamma Ray optional in 12-1/4" intermediate hole
Open Hole Logs: None planned
Testing: None planned

Coring: None planned
Cased Hole Logs: CBL on 5-1/2" casing from deepest free-fall depth to surface

DRILLING RIG INFORMATION:

Contractor: Ensign
Rig No.: 145
Draw Works: Lewco LDS 1500K (1,000 hp)
Mast: ADR 1000 Cantilever Triple (134 ft, 500,000 lbs)
Top Drive: Tesco 350-EXI-600 (250 ton)
Prime Movers: 2 - CAT 3512 (1,350 hp), 1 -CAT C32 (1,100 hp)
Pumps: 2 - Mudder MD11 (5,000 psi)
BOPE 1: T3 Annular & Shaffer double gate ram (13-5/8", 5,000 psi)
Int Hole BOPE 2: T3 annular(13-5/8", 5,000 psi)
Prod Hole BOPE 2: T3 annular/ Townsend Double gate(11", 5,000 psi)
Choke 3", 5,000 psi
KB-GL (ft): 13
Note: Actual drilling rig may vary depending on availability at time the well is scheduled to be drilled.
Note: BOPE 2 are alternate stacks to be used only if problems with rig height and BOP 1 height are encountered. Intermediate hole BOPE 2 is designed for 2,000 psi permit requirements.

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 intalled on rams. A valve will be installed on the annular preventer's closing line as close as possible to the preventer to act as a locking device.The valve will be maintained in the open position and shall only be closed when the there is no power to the accumulator.

FLUIDS AND SOLIDS CONTROL PROGRAM:

Fluid Measurement: Pumps shall be equipped with stroke counters with displays in the dog-house. Slow pump speed shall be recorded daily and after mudding up, at a minimum, on the drilling report. A Pit Volume Totalizer will be installed and the readout will be displayed in the dog-house. Gas-detecting equipment will be installed at the shakers, and readouts will be available in the dog-house and the in the geologist's work-station (if geologist or mud-logger is on-site).

Closed-Loop System: A fully, closed-loop system will be utilized. The system will consist of above-ground piping and above-ground storage tanks and bins. The system will not entail any earthen pits, below-grade storage, or drying pads. All equipment will be disassembled and removed from the site when drilling operations cease. The system will be capable of storing all fluids and generated cuttings and of preventing uncontrolled releases of the same. The system will be operated in an efficient manner to allow the recycling and reuse of as much fluid as possible and to minimimize the amount of fluids and solids that require disposal.

Fluid Disposal : Fluids that cannot be reused, recycled, or returned to the supplier will be hauled to and disposed of at an approved disposal site (Industrial Ecosystem, Inc. or Envirotech, Inc.).

Solids Disposal : Drilling solids will be stored (until haul-off) on-site in separate containers with no other waste, debris, or garbage products. Waste solids will be hauled to and disposed of at an approved disposal site (Industrial Ecosystem, Inc. or Envirotech, Inc.).

Fluid Program: See "Detailed Drilling Plan" section for specifics 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	571	116,634	116,634
Min. S.F.					**7.39**	**4.78**	**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): *Minumum: N/A Optimum: N/A Maximum: N/A*
Make-up as per API Buttress Connection running procedure.
Casing Details: Float shoe, 1 jt casing, float collar, casing to surface
Centralizers: 2 centralizers per jt stop-banded 10' from each collar on bottom 3 jts, 1 centralizer per 2 jts to surface

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	Hole Cap. (cuft/ft)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
	TYPE III	14.6	1.39	6.686	0.6946	100%	0	350

Drake Energy Services: Calculated cement volumes assume gauge hole and the excess noted in table

		Calcium Chloride	D-CD2 .2% BWOC
	ASTM Type III	.5% BWOC	Dispersant/Friction
Tail	*Blend*	Accelerator	reducer

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**	**2,761 ft (MD)**	**Hole Section Length:**	**2,411 ft**
350 ft (TVD)	**to**	**2,626 ft (TVD)**	**Casing Required:**	**2,761 ft**

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

Fluid:	Type	MW (ppg)	FL (mL/30 min)	PV (cp)	YP (lb/100 sqft)	pH	Comments
	LSND (KCl)	8.8 - 9.5	20	8 - 14	8 - 14	9.0 - 9.5	No OBM

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 surveys with inclination and azimuth in 100' stations (minimum), GR optional
Logging: None
Pressure Test: NU BOPE and test (as noted above); pressure test 13-3/8" casing to **1,500** psi for 30 minutes.
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 and 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					1,147	1,140	186,678	186,678
Min. S.F.					**1.76**	**3.09**	**3.02**	**2.43**

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

MU Torque (ft lbs): *Minumum: 3,900 Optimum: 5,200 Maximum: 6,500*
Casing Summary: Float shoe, 1 jt casing, float collar, casing to surface

Centralizers: 1 centralizers jt stop-banded 10' from float shoe on bottom 1 jt & 1 centralizer floating on bottom joint, 1 centralizer per 3 jts to surface

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	90:10 Type III:POZ	12.5	2.140	12.05	70%	0	535
Tail	Type III	14.6	1.370	6.63	20%	2,261	137
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*				

Drake Energy Services: Calculated cement volumes assume gauge hole and the excess noted in table

Spacer	*D-Mud Breaker*	SAPP						
Lead	*ASTM Type III 90/10 Poz*	D-CSE 1 5.0% BWOC Strength Enhancer	D-MPA-1 .4% BWOC Fluid Loss & Gas Migration Control	D-SA 1 1.4% BWOC Na Metasilicate	D-CD 2 .4% BWOC Dispersant	Cello Flace LCM .25 lb/sx	D-FP 1 .5% BWOC Defoamer	D-R1 .5% Retarder
Tail	*ASTM Type III Blend*		D-MPA-1 .4% BWOC Fluid Loss & Gas Migration Control	Cello Flace LCM .25 lb/sx				

Drake 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.***

2,761	ft (MD)	to	15,108	ft (MD)	Hole Section Length: 12,347 ft
2,626	ft (TVD)	to	4,582	ft (TVD)	Casing Required: 15,108 ft

Estimated KOP:	4,283	ft (MD)	3,973	ft (TVD)
Estimated Landing Point (FTP):	5,201	ft (MD)	4,666	ft (TVD)
Estimated Lateral Length:	9,907	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: Newpark OptiDrill OBM system. 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. No asphalt products are to be added to the OBM system. **Any changes to the mud systems are to be discussed with engineering prior to application.**

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 surveys with inclination and azimuth in 100' stations (minimum) before KOP, every joint from KOP to POE, every 100' (minimum) from POE to TD; Gamma Ray from drill out of 9-5/8" shoe to TD

Logging: MWD Gamma Ray for entire section, no mud-log or cuttings sampling, no OH WL logs

Pressure Test: NU BOPE and test (as noted above); pressure test 9-5/8" casing to **1,500** psi for 30 minutes.

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 TOOH (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. Nipple down BOPE, walk rig to next well, and perform off-line cement job (unless on final well on the pad). Pump cement as detailed below. Note cement volume circulated to surface.

Casing Specs:	Size (in)	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	5.500	20.0	HCP-110	TCBC-HT	12,200	12,360	641,000	667,000
Loading					2,264	8,929	410,737	410,737
Min. S.F.					**5.39**	**1.38**	**1.56**	**1.62**

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): *Minumum: 10,000 Optimum: 13,500 Maximum: 18,500*

Casing Summary: Float shoe, 1 float collar, 1 jt casing, float collar, 20' marker joint, toe-intitiation sleeve , casing to KOP with 20' marker joints spaced evenly in lateral every ~2,000', floatation sub at KOP (+/-), 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 and Curve: 1 centralizer per 3 joints
Top of curve to 9-5/8" shoe: 1 centralizer per 5 joints
9-5/8" shoe to surface: 1 centralizer per 5 joints

Cement:	**Type**	**Weight (ppg)**	**Yield (cuft/sk)**	**Water (gal/sk)**	**% Excess**	**Planned TOC (ft MD)**	**Total Cmt (sx)**
Spacer	IntegraGuard EZ II LCM	11		30.7 gpb			60 bbls
Lead	Type I / II	12.4	2.360	13.40	65%	0	613
Tail	G:POZ blend	13.3	1.560	7.70	10%	3,828	1,822

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

Spacer	*Cmt, Fly Ash 170.903 lbs/bbl*	Avis 616 viscosifier 11.6 lb/bbl	FP24 Defoamer .5 lb/bbl	IntegraGuard Star Plus 3K LCM 15 lb/bbl	SS201 Surfactant 1 gal/bbl			
Lead	*ASTM Type I/II*	BA90 Bonding Agent 5.0 lb/sx	Bentonite Viscosifier 8% BWOB	FL24 Fluid Loss .5% BWOB	IntegraGuard GW86 Viscosifier .1% BWOB	IntegraSeal Poli LCM .25 lb/sx	R7C Retarder .2% BWOB	FP24 Defoamer 0.3% BWOB, Anti-Static .01 lb/sx R3 Retarder .5% BWOB FP24
Tail	*Type G 50%*	Pozzolan Fly Ash Extender 50%	BA90 Bonding Agent 3.0 lb/sx	Bentonite Viscosifier 4% BWOB	FL24 Fluid Loss .4% BWOB	IntegraGuard GW86 Viscosifier .1% BWOB	IntegraSeal Poli LCM .25 lb/sx	Defoamer .3% BWOB

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 definted by NMAC19.15.16.15.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 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. RDMO Drilling Rig.***
Procedure: ND BOP. Walk rig to next well. Cement off-line. Cap well.

COMPLETION AND PRODUCTION PLAN:

Frac: 40 plug-and-perf stages with 360,000 bbls slickwater fluid and 15,000,000 lbs of proppant (estimated)
Flowback: Flow back through production tubing as pressures allow (ESP may be used for load recovery assitance)
Production: Produce through production tubing via gas-lift into permanent production and storage facilities

ESTIMATED START DATES:

Drilling: 7/1/2022
Completion: 8/15/2022
Production: 9/29/2022

Prepared by: **Alec Bridge** **2/7/2020**
Updated by: **Alec Bridge** **3/31/2022** *- updated drilling prog & directional plans for new development plan & current program*
Greg Olson **10/17/2022** *- updated drilling prog & directional plans for new development plan & current program*

WELL NAME: RODEO UNIT 513H

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

API Number: 30-045-35873

State: New Mexico

County: San Juan

Surface Elev.:	6,798	ft ASL (GL)	6,811	ft ASL (KB)		
Surface Location:	25-23N-09W	Sec-Twn- Rng	191	ft FSL	1,325	ft FWL
BH Location:	6-22N-08W	Sec-Twn- Rng	2433	ft FNL	1917	ft FWL

Driving Directions: **FROM THE INTERSECTION OF US HWY 550 & US HWY 64 IN BLOOMFIELD, NM:**

South on US Hwy 550 for 37.8 miles to MM 113.4; Right (Southwest) on CR #7890 for 0.8 miles to fork; Left (South) remaining on CR #7890 for 1.3 miles to 4-way intersectionl; Left (Southeast) remaining on CR #7890 for 0.6 miles to fork; Right (Southwest) on CR #7890 for 1.5 miles to access road; Left on access road for 0.5 mile to Rodeo Unit 511H Pad (three wells planned to be drilled: 511H, 512H, 513H).

QUICK REFERENCE		
Sur TD (MD)	350	ft
Int TD (MD)	2,761	ft
KOP (MD)	4,283	ft
KOP (TVD)	3,973	ft
Target (TVD)	4,666	ft
Curve BUR	10	°/100 ft
POE (MD)	5,201	ft
TD (MD)	15,108	ft
Lat Len (ft)	9,907	ft

WELL CONSTRUCTION SUMMARY:

	Hole (in)	TD MD (ft)	Csg (in)	Csg (lb/ft)	Csg (grade)	Csg (conn)	Csg Top (ft)	Csg Bot (ft)
Surface	17.500	350	13.375	54.5	J-55	BTC	0	350
Intermediate	12.250	2,761	9.625	36.0	J-55	LTC	0	2,761
Production	8.500	15,108	5.500	20.0	HCP-110	TCBC-HT	0	15,108

CEMENT PROPERTIES SUMMARY:

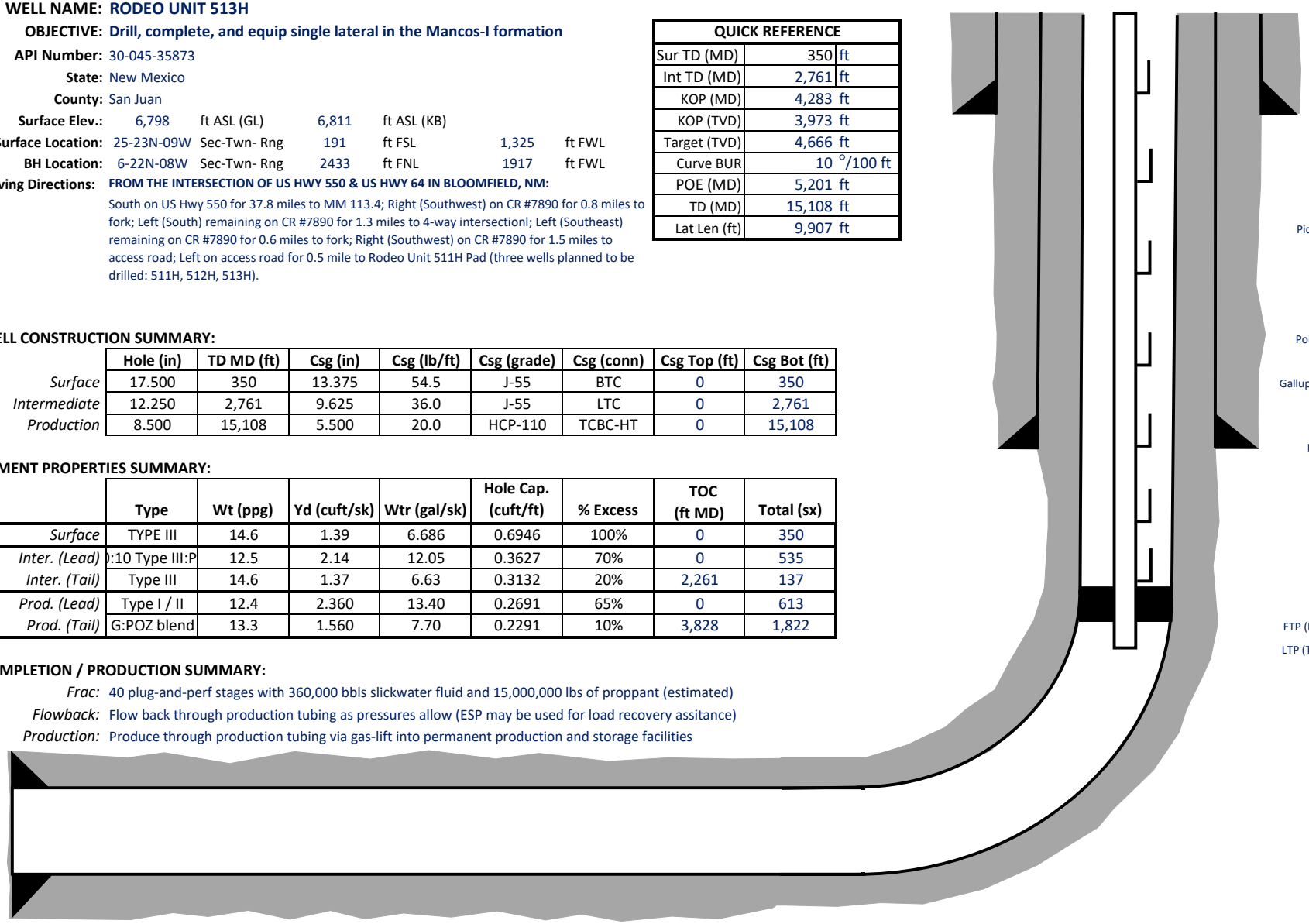
	Type	Wt (ppg)	Yd (cuft/sk)	Wtr (gal/sk)	Hole Cap. (cuft/ft)	% Excess	TOC (ft MD)	Total (sx)
Surface	TYPE III	14.6	1.39	6.686	0.6946	100%	0	350
Inter. (Lead)	0:10 Type III:P	12.5	2.14	12.05	0.3627	70%	0	535
Inter. (Tail)	Type III	14.6	1.37	6.63	0.3132	20%	2,261	137
Prod. (Lead)	Type I / II	12.4	2.360	13.40	0.2691	65%	0	613
Prod. (Tail)	G:POZ blend	13.3	1.560	7.70	0.2291	10%	3,828	1,822

COMPLETION / PRODUCTION SUMMARY:

Frac: 40 plug-and-perf stages with 360,000 bbls slickwater fluid and 15,000,000 lbs of proppant (estimated)

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

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

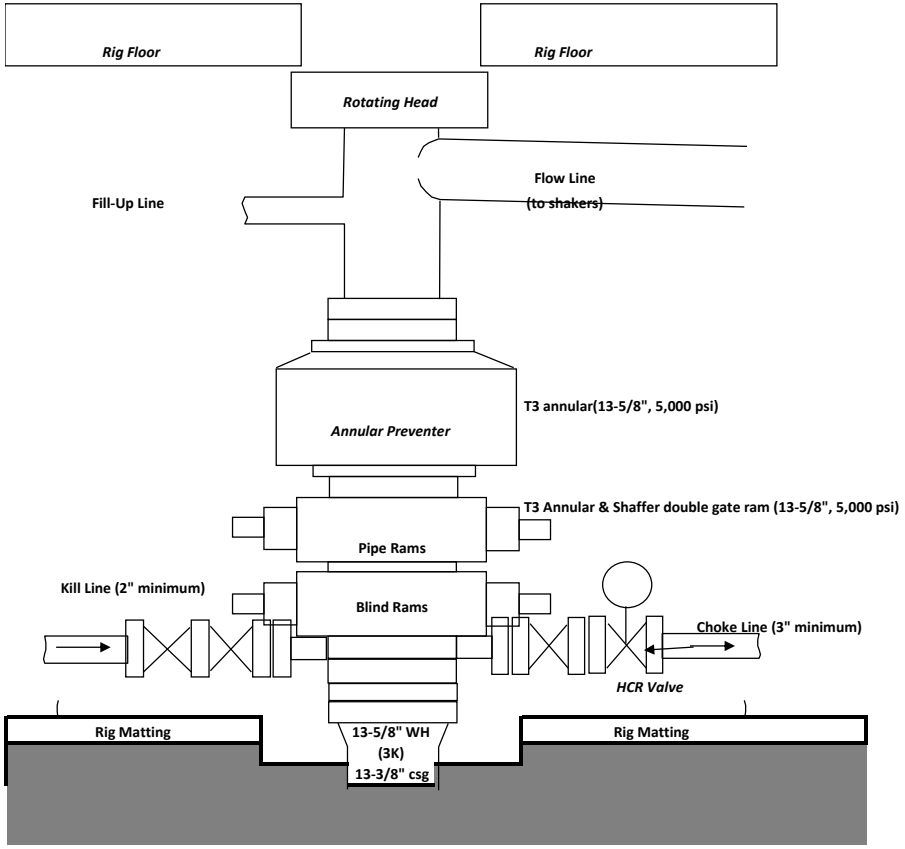


Tops	TVD (ft KB)	MD (ft KB)
Ojo Alamo	356	356
Kirtland	441	441
Fruitland	671	671
Pictured Cliffs	1,021	1,021
Lewis	1,146	1,146
Chacra	1,406	1,409
Cliff House	2,431	2,540
Menefee	2,466	2,580
Point Lookout	3,416	3,658
Mancos	3,566	3,828
Gallup (MNCS_A)	3,901	4,208
MNCS_B	4,006	4,327
MNCS_C	4,091	4,420
MNCS_Cms	4,131	4,464
MNCS_D	4,256	4,601
MNCS_E	4,406	4,776
MNCS_F	4,461	4,849
MNCS_G	4,531	4,953
MNCS_H	4,576	5,033
MNCS_I	4,626	5,135
FTP (LP) TARGET	4,666	5,201
LTP (TD) TARGET	4,582	15,108

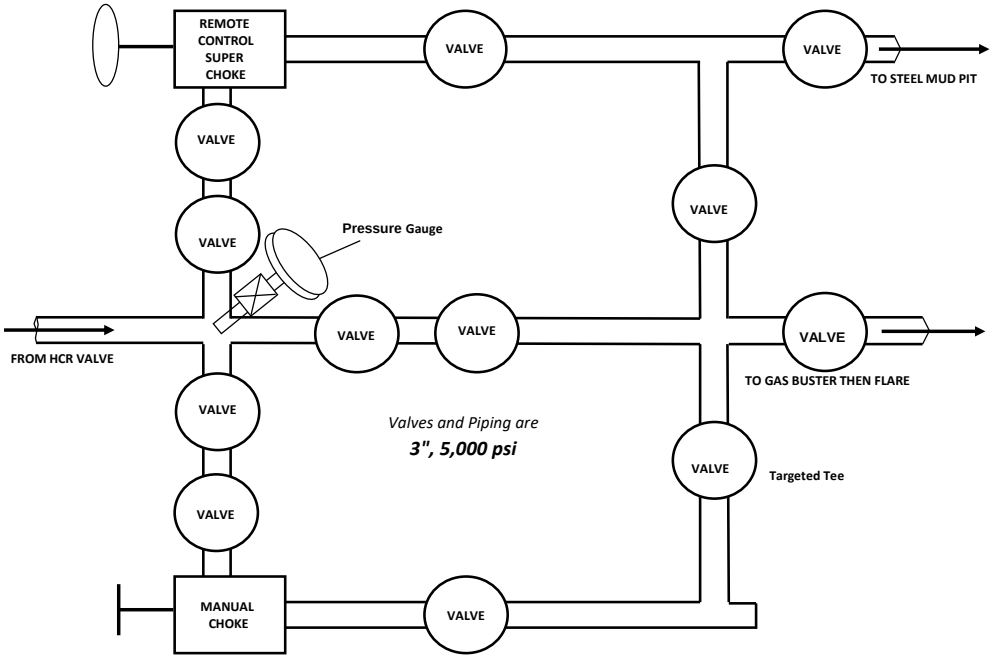
BOPE & CHOKE MANIFOLD DIAGRAMS

NOTE: EXACT BOPE AND CHOKE CONFIRGURATION AND COMPONENTS MAY DIFFER FROM WHAT IS DEPICTED IN THE DIGRAMS BELOW DEPENDING ON THE RIG AND ITS ASSOCIATED EQUIPMENT. RAM PREVENTERS, ANNULAR PREVENTERS, AND CHOKE MANIFOLD AND COMPONENTS WILL BE RATED TO 3,000 PSI MINIMUM.

BOPE



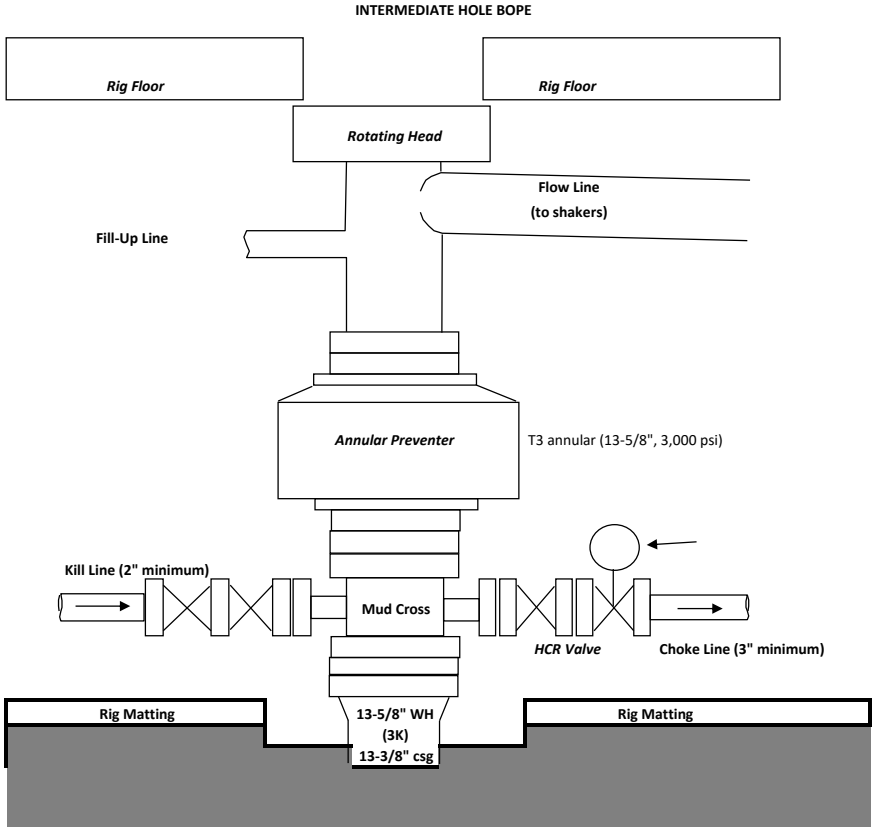
CHOKE MANIFOLD



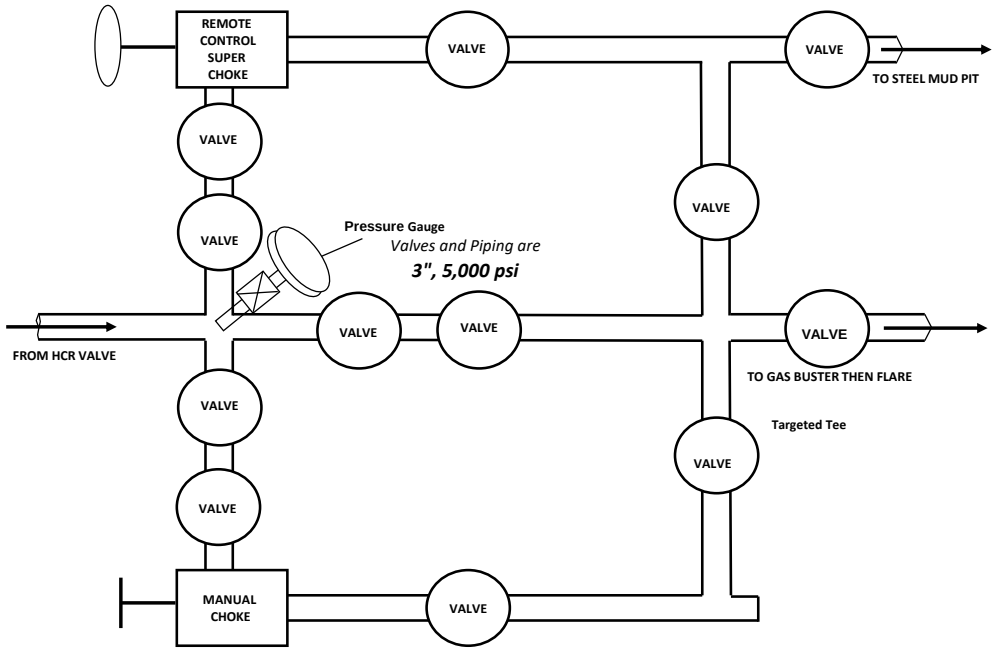
ALTERNATE, INTERMEDIATE HOLE ONLY, BOPE & CHOKE MANIFOLD DIAGRAMS

NOTE: EXACT BOPE AND CHOKE CONFIRGURATION AND COMPONENTS MAY DIFFER FROM WHAT IS DEPICTED IN THE DIGRAMS BELOW DEPENDING ON THE RIG AND ITS ASSOCIATED EQUIPMENT. RAM PREVENTERS, ANNULAR PREVENTERS, AND CHOKE MANIFOLD AND COMPONENTS WILL BE RATED TO 2,000 PSI MINIMUM. THIS BOPE SETUP IS AN ALTERNATE ONLY, DESIGNED FOR ANY POSSIBLE FUTURE DRILLING RIG WITH SUBSTRUCTURE HEIGHT THAT IS TOO SHORT TO ACCOMADATE A FULL 13-5/8" 3,000 PSI BOP STACK

BOPE



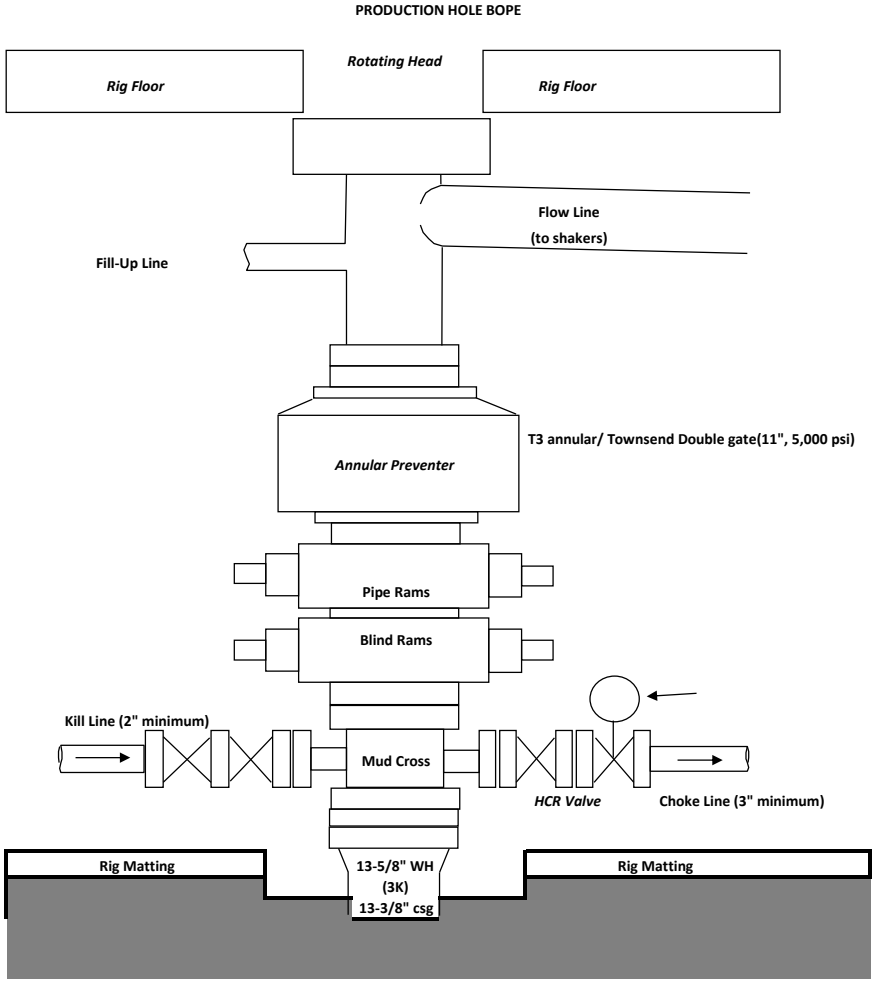
CHOKE MANIFOLD



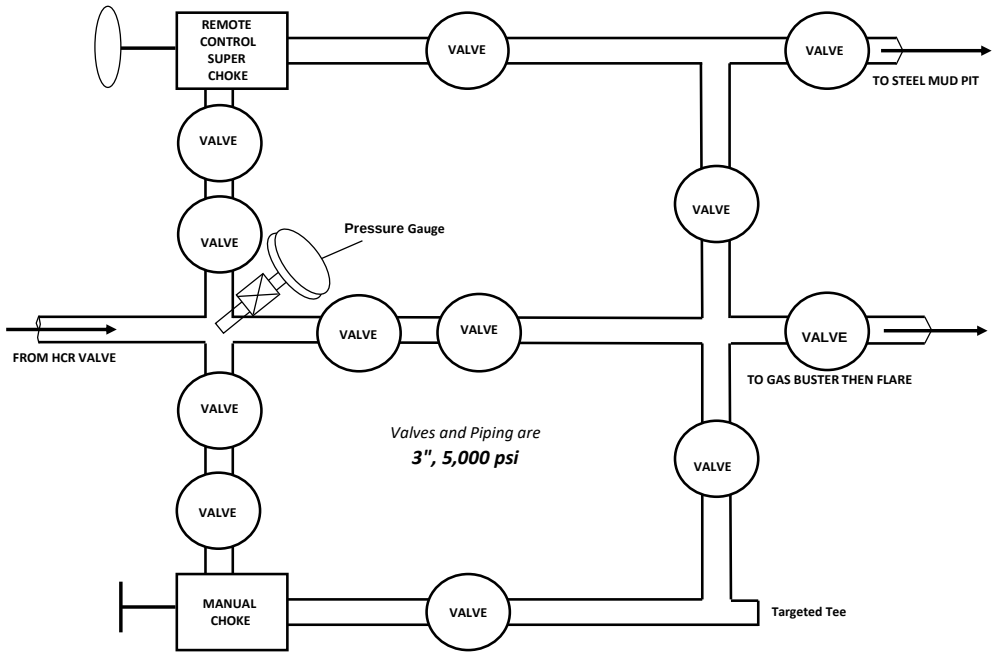
ALTERNATE, PRODUCTION HOLE ONLY, BOPE & CHOKE MANIFOLD DIAGRAMS

NOTE: EXACT BOPE AND CHOKE CONFIRGURATION AND COMPONENTS MAY DIFFER FROM WHAT IS DEPICTED IN THE DIGRAMS BELOW DEPENDING ON THE RIG AND ITS ASSOCIATED EQUIPMENT. RAM PREVENTERS, ANNULAR PREVENTERS, AND CHOKE MANIFOLD AND COMPONENTS WILL BE RATED TO 3,000 PSI MINIMUM. THIS BOPE SETUP IS AN ALTERNATE ONLY, DESIGNED FOR ANY POSSIBLE FUTURE DRILLING RIG WITH SUBSTRUCTURE HEIGHT THAT IS TOO SHORT TO ACCOMADATE A FULL 13-5/8" 3,000 PSI BOP STACK

BOPE



CHOKE MANIFOLD



WELL NAME: RODEO UNIT 513H
API NUMBER: 30-045-35873
AFE NUMBER: DV03089
ER WELL NUMBER: NM08213
WELL LOCATION: 191 ft FSL & 1325 ft FWL 25-23N-09W
AFE SUMMARY: Drill, complete, and equip single lateral in the Mancos-I formation
TD (FT MD): 15,108
LAT LEN (FT MD): 9,907

DRILLING SUMMARY

Drill Surface: ***Mo-Te will pre-drill surface hole***
Prep hole for casing, run 13-3/8" casing, cement casing: Mo-Te will pre-set surface casing
MIRU Drilling Rig to pad (mob rate)
Walk Rig, NU BOPE, TIH w/BHA (operating rate)
Drill Intmeredіate to casing point (into Menefee)
Prep hole for casing, run 9-5/8" casing, cement casing, walk rig for production section, NU BOPE, PU BHA & TIH
Drill to KOP
Drill Curve to landing point
Drill lateral to TD
Prep hole for casing, run 5-1/2" casing, cement casing

	Sec. Days	Cum. Drlg. Days	Ttl. Dep. (ft MD)	Sec. Ftg. (ft MD)	Avg. ROP (ft/day)
Drill Surface:	0.50	0.50	350	350	700
Surface Casing:	0.50	1.00	350	N/A	N/A
MIRU:	0.00	0.00	300	N/A	N/A
Test & PU BHA:	0.75	0.00	350	N/A	N/A
Drill Intermediate:	0.75	0.75	2,761	2411	3215
Inter. Casing:	1.50	2.25	2,761	N/A	N/A
Drill Veritcal:	0.50	2.75	4,283	1522	3044
Drill Curve:	0.75	3.50	5,201	918	1224
Drill Lateral:	1.75	5.25	15,108	9907	5661
Prod Casing:	1.50	6.75	15,108	N/A	N/A
DO SURF TO RR:		**6.75**			
TOTAL BIG RIG DAYS:		**7.50**	(Total Operating Rate Days)		
TOTAL BIG RIG DAYS:		**7.50**	(Total Days Operating + Mobilization)		

NEW WELLS: 5
EXISTING WELLS: 0
STAGE LENGTH: 235
STAGES: 43

795H is first well on pad

CODE 1	CODE 2	COST DESCRIPTION & DETAILS	RATE & QUANTITY DETAILS Rate	units	Count	desc.	Count	desc.	ITEM SUBTOTAL	CODE TOTAL
830	10	IDC - PERMITS & SURVEYS								$58,500
		Permits w/BLM & NMOCD	$10,000	$/ea	1	ea			$10,000	
		Air Quality Management Services	$4,000	$/ea	1	ea			$4,000	
		NEPA Services	$3,000	$/ea	1	ea			$3,000	
		Archaelogy	$1,500	$/ea	1	ea			$1,500	
		Survey & Mapping	$20,000	$/ea	1	ea			$20,000	
		ROW & SUA	$20,000	$/ea	1	ea			$20,000	
830	15	IDC - CONDUCTOR/RAT/MOUSE HOLE								$9,000
		install cellar w/Adobe (8' diameter x 8' deep & backfilled to no more than 6' deep after WH is installed)	$5,000	$/ea	1	ea			$5,000	
		Drill Mousehole w/MOTE	$4,000	$/ea	1	ea			$4,000	
830	20	IDC - DRILLING TITLE OPINION								$0
		N/A							$0	
830	30	IDC - LOCATION AND ROADS								$45,000
		Build pad & access road ($150,000 pad total, split evenly between CTB & D&C AFEs)	$75,000	$/pad	3	wells			$25,000	
		Interim reclamation	$60,000	$/pad	3	wells			$20,000	
830	50	IDC - RIG MOBILIZATION								$98,400
		mobilize rig from W Lybrook Unit 726H Pad	$200,000	$/mob	1	mob	3	wells	$66,667	
		mobilize other rig equipment (camps, solids control, drill pipe, etc.)	$95,000	$/mob	1	mob	3	wells	$31,667	
830	60	IDC - DAYRATE DRILLING								$228,600
		Ensign 145 (mobilization rate - 85% op rate)	$17,850	$/day	2.0	days			$35,700	
		Ensign 145 (operating - $18,600/day + $2400/day 6th man)	$21,000	$/day	7.50	days			$157,500	
		Ensign 145 (crew per diem - $35/day + tax)	$35	$/day/man	7.50	days	13	men	$3,413	
		Ensign Edge drilling software ($600/day - used + tax)	$600	$/day	7.50	days			$4,500	
		Forklift + Manlift ($380/day + tax)	$380	$/day	7.50	days			$2,850	
		Ensign 145 (OBM pay) = $400/day + $35/day/man, 8.5 section only	$35	$/day/man	4.50	days	13	men	$4,005	
		drill pipe credit	$0	$/day	7.50	days			$0	
		Boiler (winter only)	$750	$/day	7.50	days			$5,625	
830	65	IDC - FISHING SERVICES								$0
		N/A							$0	
830	70	IDC - FOOTAGE DRILLING								$28,000
		Mo-Te to drill surface hole & set surface casing	$28,000	$/ea	1	ea			$28,000	
830	75	IDC - DIRECTIONAL SERVICES								$123,900
		MWD & DD operating charges: including motor rentals	$11,180	$/day	7.50	days			$83,850	
		MWD & DD operating charges: standby	$5,000	$/day	1.0	day			$5,000	
		Other charges: trucking, inspections, battery disposal, motor inspections / relines, well planning, etc	$35,000	$/ea	1	ea			$35,000	
830	90	IDC - BITS								$25,000
		12-1/4" bit rental	$12,500	$/ea	1	ea			$12,500	
		8-1/2" bit rental	$12,500	$/ea	1	ea			$12,500	
830	92	IDC - MOTORS/AGITATORS								$20,000
		third party motor rentals	$15,000	$/run	0	runs			$0	
		motor re-lines & inspections	$6,000	$/ea	0	ea			$0	
		agitator rentals & inspection	$20,000	$/ea	1	ea			$20,000	
830	95	IDC - BRINE MUD, CHEM & TRUCK								$14,000
		20% KCl base fluid + trucking	$40.00	$/bbl	350	bbls			$14,000	
830	100	IDC - MUD & CHEMICALS								$28,900
		engineer	$5,000	$/day	3.00	days			$15,000	
		mud products	$5	$/ft	2761	ft			$13,805	
830	105	IDC - OILBASE MUD, CHEM & TRUCKING								$146,900
		mud products (not including lubricant) & mud engineer	$8,000	$/day	4.50	days			$36,000	
		add'l chem usage	$6.00	$/ft	4,851	ft			$29,106	
		diesel make up for OBM	1.50	gal/ lat ft	9907	ft	$5.50	gal	$81,733	
830	106	IDC - MUD HANDLING EQUIP RENTAL								$45,400
		solids control package & mud storage (equipment, personnel, materials)	$4,200	$/day	7.50	days			$31,500	
		mud storage tanks & cuttings bins	$1,500	$/day	7.50	days			$11,250	
		solids control loader	$350	$/day	7.50	days			$2,625	
830	110	IDC - FUEL & POWER								$165,000
		Rig Diesel (operating)	$5.50	$/gal	3,500	gal/day	7.50	days	$144,375	
		Boiler diesel	$5.50	$/day	500	gal/day	7.50	days	$20,625	
		Rig Diesel (mobilization)	$5.50	$/gal	1,000	gal	0.0	days	$0	
830	120	IDC - RIG WATER								$37,800
		Water for cement jobs & rig (including trucking)	$5.00	$/bbl	0.50	bbls/ft	15108.0	ft	$37,770	
830	121	IDC - WATER FOR DRILLING FLUIDS								$0
		all charged to 830.120							$0	
830	130	IDC - CEMENT & CEMENT SERVICES								$216,700
		13-3/8" casing cement job	$36,000	$/job					$36,000	
		9-5/8" casing cement job	$50,000	$/job					$50,000	
		5-1/2" casing cement job	$40,000	$/job	$6.00	$/ft	15,108	ft	$130,648	
830	135	IDC - CASING CREW/SERVICES								$60,000
		Run 13-3/8" casing	$4,500	$/job	1	job			$4,500	
		Rack, clean, drift 9-5/8" casing	$1.50	$/ft	2,761	ft			$4,142	
		Run 9-5/8" casing + CRT rental	$2.50	$/ft	2,761	ft			$6,903	
		9-5/8" CRT	$6,000	$/job	1	job			$6,000	
		Rack, clean, drift 5-1/2" casing	$0.50	$/ft	15,108	ft			$7,554	
		Run 5-1/2" casing	$1.25	$/ft	15,108	ft			$18,885	
		5-1/2" CRT & Torque Turn	$12,000	$/job	1	job			$12,000	
830	140	IDC - OPEN HOLE LOGS								$0
		N/A							$0	
830	160	IDC - CORING								$0
		N/A							$0	
830	165	IDC - WELDING								$0
		N/A							$0	
830	180	IDC - RENTAL EQUIPMENT								$28,500
		misc surface rentals (pipe racks, light towers, flare stack, etc.)	$1,500	$/day	7.50	days			$11,250	
		Loader	$300	$/day	7.50	days			$2,250	
		BOPE	$900	$/day	7.50	days			$6,750	
		Pason PVT equipment	$1,100	$/day	7.50	days			$8,250	
830	181	IDC - DRILL STRING RENTAL								$31,100
		5" HWDP Drill-pipe (intermediate section only)	$350	$/day	3.0	days			$1,050	
		5" Drill-Pipe rental	$2,000	$/day	7.50	days			$15,000	

		Inspection / repair /recut (DP rental included in rig's day rate)	$15,000	*$/well*	1	*well*			**$15,000**		
830	**183**	**IDC - BOPE RENTALS**									**$3,800**
		Rotating Head Rental + rubbers	$150	*$/day*	7.50	*days*	$1,500	*$/well*	**$2,625**		
		Choke & flare	$150	*$/day*	7.50	*days*			**$1,125**		
830	**190**	**IDC - TRANSPORTATION**									**$10,000**
		misc. transporation & hot shot							**$5,000**		
		transport rig camp, drill pipe, mud handling equipment							**$5,000**		
830	**200**	**IDC - COMMUNICATIONS**									**$2,400**
		internet for rig	$150	*$/day*	7.5	*days*			**$1,125**		
		hand-held radios, phones, printer/scanner/fax	$170	*$/day*	7.5	*days*			**$1,275**		
830	**210**	**IDC - CONTRACT LABOR**									**$41,700**
		drilling consultant	$1,850	*$/ea/day*	7.50	*days*	2	ea.	**$27,750**		
		drilling superintendent	$1,850	*$/ea/day*	7.50	*days*	1	ea.	**$13,875**		
830	**215**	**IDC - CREW QUARTERS**									**$9,400**
		trailer houses (includes servicing) for on-site personnel	$1,250	*$/day/ea*	7.50	*days*			**$9,375**		
830	**220**	**IDC - CONSULTING ENGINEER**									**$0**
		Moblize Drilling Analytics	$0	*$/day/ea*	7.50	*days*			**$0**		
830	**230**	**IDC - CONSULTING GEOLOGIST**									**$1,800**
		TD Geo Steering	$600	*$/day/ea*	3.00	*days*			**$1,800**		
830	**260**	**IDC - MISCELLANEOUS**									**$20,000**
		pit cleaning, other misc services							**$20,000**		
830	**270**	**IDC - PLUGGING & ABANDOMENT**									**$0**
		N/A							**$0**		
830	**280**	**IDC - SURFACE DAMAGES**									**$0**
		N/A							**$0**		
830	**310**	**IDC - LAYDOWN MACHINE**									**$0**
		N/A							**$0**		
830	**320**	**IDC - NU/ND/BOP TEST/WH SERV.**									**$20,000**
		BOP test	$5,000	*$/test*	2	*tests*			**$10,000**		
		Service tech to land 9-5/8" and 5-1/2" casings	$5,000	*$/job*	2	*jobs*			**$10,000**		
830	**330**	**IDC - GYRO**									**$0**

		N/A								$0	
830	480	IDC - CUTTINGS DISPOSAL									$74,300
		dispose of cuttings (including dillution of high chlorides & OBM Charges)	$20.00	$/yd	714	yds				$14,285	
		trucking & truck clean outs	$1,250	$/load	48	loads				$60,000	
830	481	IDC - LIQUIDS DISPOSAL									$16,300
		dispose of fluids (including dillution of high chlorides)	$20.00	$/bbl	500	bbls				$10,000	
		trucking & truck clean outs	$1,250	$/load	5	loads				$6,250	
830	482	IDC - OTHER DISPOSAL									$12,300
		dispose of cement returns	$14.00	$/bbl	250	bbls				$3,500	
			$1,250	$/load	3	loads				$3,750	
		Other misc disposal (trash, etc.)								$5,000	
830	290	IDC - CONTINGENCIES									$0
		0%								$0	
									830 INTANGIBLE DRILLING COSTS TOTAL		$1,622,700
850	10	TDC - CONDUCTOR PIPE									$0
		none								$0	
850	20	TDC - SURFACE CASING									$30,900
		13-3/8", 54.5#, J55, STC casing	$82.00	$/ft	350	ft				$28,700	
850	25	TDC - INTERMEDIATE CASING									$157,400
		9-5/8", 36.0#, J-55, LTC casing	$53.00	$/ft	2,761	ft				$146,333	
850	30	TDC - LINERS									$0
		N/A								$0	
850	40	TDC - PRODUCTION CASING									$703,900
		5-1/2", 20.0#, P110, GBCD	$43.00	$/ft	15,108	ft				$649,644	
		marker jts	$780.00	$/ea	6.0	ea				$5,101	
850	50	TDC - CASING HEADS & SPOOLS									$65,000
		13-3/8" x 9-5/8" x 5-1/2" (Antelope Uni-Head assembly)	$65,000	$/ea	1	ea				$65,000	
850	60	TDC - LINERS & HANGERS									$0
		N/A								$0	
850	90	TDC - MISCELLANEOUS EQUIPMENT									$0
		N/A								$0	
850	100	TDC - FLOAT EQUIPMENT									$52,800
		13-3/8" float equipment	$3,000	$/ea	1	ea				$3,000	
		13-3/8" centralizers (average 1 per jt)	$65	$/ea	8	ea				$520	
		9-5/8" float equipment	$1,500	$/ea	1	ea				$1,500	
		9-5/8" centralizers (average 1 per jt)	$50	$/ea	70	ea				$3,500	
		5-1/2" centralizers (average 1 per jt)	$40	$/ea	350	ea				$14,000	
		5-1/2" toe-initiation sleeve	$10,000	$/ea	1	ea				$10,000	
		5-1/2" float equipment	$5,200	$/ea	1	ea				$5,200	
		5-1/2" casing floatation sub	$10,000	$/ea	1	ea				$10,000	
		service tech for toe sleeves & floatation sub	$5,000	$/ea	1	ea				$5,000	
850	13	TDC - CONTINGENCIES									$0
		0%								$0	
									850 TANGIBLE DRILLING COSTS TOTAL		$1,010,000
840	30	ICC - LOCATION & ROADS									$8,000
1		Traffic control duirng frac operations + 3 days	$1,000	$/day	8	days				$8,000	
840	50	ICC - RIG MOBILIZATION									$16,000
		mob running production	$4,000	$/mob	1	mob				$4,000	
		AD 980 mobilization	$60,000	$/day	1	mob	5	wells		$12,000	
840	55	ICC - COMPLETION RIG									$133,500
		Run production (well Service Rig)	$4,500	$/day	1	days				$4,500	
		Drill out plugs (AD 980) 15 plugs / day + 2 days ($14K/day + ancillary charges)	$18,000	$/day	5	days				$90,000	
		Drill out (AD 980), mob time (3 days first/last well, 1 day middle wells)	$13,000	$/day	3	days				$39,000	
840	70	ICC - FISHING SERVICES									$0
		none								$0	
840	90	ICC - TANK RENTAL									$32,000
1		mob and de-mob frac tanks	$25,000	$/pad	5	wells				$5,000	
1		AST trucking, install, rental (rental per tank per pad)	$60,000	$/tank	2	tanks	5	wells		$24,000	
0.5		tank rental during pre frac, frac, drill-out (7 days between frac & drill-out)	$500	$/day	30.0	days	5	wells		$3,000	
840	100	ICC - WIRELINE SERVICES									$180,600
1		perforate & set frac plugs	$4,200	$/stage	43	stages				$180,600	
840	110	ICC - FUEL & POWER									$276,600
		Diesel fuel for AD 980	$3.50	$/gal	2,000	gal/day	8	days		$56,000	
1		Diesel fuel for frac spread (8,000 gal/day)	$3.50	$/gal	8,000	gal/day	5	days		$140,000	
		Diesel for camp equipment	$3.50	$/gal	300	gal/day	57	days		$59,850	
1		frac shack fuel distribution	$4,150	$/day	5	days				$20,750	
840	120	ICC - WATER/HAULING									$1,183,100
1		Water for frac (frac pond)	$2.52	$/bbl	9,000	bbl/stage	43	stages		$975,240	
1		Water transfer pre-frac (equipment, pumps, line)	$15,000	$/day	10	days/pad	5	wells/pad		$30,000	
1		Vac truck rental on pad (during frac)	$2,650	$/day	5	days/pad				$13,250	
1		Water transfer during frac (equipment, pumps, line)	$23,000	$/day	10	stg/day	5	days*		$115,000	
1		Water transfer during flowback (equipment, pumps, line)	$15,000	$/day	14	days	5	wells/pad		$42,000	
		Water for drill-outs (frac pond / WSW)	$2.52	$/bbl	1,000	bbls/well	1	well		$2,520	
1		Fresh water for testing lay-flat (includes trucking)	$5.00	$/bbl	5,000	bbls	5	wells/pad		$5,000	
840	150	ICC - DIRT WORK									$0
		none								$0	
840	160	ICC - WELDING									$0
		none								$0	
840	170	ICC - FIELD SUPERVISOR									$94,400
1		well site supervisor (pre-frac)	$1,850	$/day	2	ea.	3	days		$11,100	
1		well site supervisor (frac)	$1,850	$/day	4	ea.	5	days		$37,000	
		well-site supervisor consultant & superintendent (drill-out)	$1,850	$/day	3	ea.	8	days		$44,400	
		well-site supervisor (run production)	$1,850	$/day	1	ea.	1	days		$1,850	
840	180	ICC - RENTAL EQUIPMENT									$166,900
		Motors, bits, tools, personnel for cleanout BHA (daily rental)	$2,500	$/day	5	days				$12,500	
		Motors, bits, tools, personnel for cleanout BHA (repair, redress, mileage, other one-time charges)	$15,000	$/well	1	well				$15,000	
		Agitator Rental	$18,000	$/ea	0	ea				$0	
		HZT pipe rental	$3,500	$/day	5	days				$17,500	
		solids control equipment, tanks, & transfer pumps during drillout	$3,000	$/day	8	days				$24,000	
		Other misc rentals for drill-out ops (light plants, BOPE, containment, loader, Pason EDR, valves, etc.)	$5,500	$/day	8	days				$44,000	
1		Other rentals for frac, water transfer, flowback ops (light towers, forklift, porta-potty, etc.)	$5,500	$/day	49	days	5	wells/pad		$53,900	
840	181	ICC - FRAC HD RENTALS & SERVICE									$97,500
1		Frac head, valve, zipper manifold, greasing (frac + 3 days)	$16,500	$/day	5	days				$82,500	
1		Frac head, valve, zipper manifold - Repairs & damages	$15,000	$/well	1	well				$15,000	
840	184	ICC - FOAM/NITROGEN UNITS									$0
		None								$0	
840	185	ICC - RENTAL PUMP EQUIPMENT									$0
		None								$0	
840	190	ICC - TRANSPORTATION									$0
		None - use 840.420								$0	
840	200	ICC - COMMUNICATION									$2,300
0.33		Internet and communications	$200	$/day	57	days	5	wells/pad		$2,280	
840	210	ICC - CONTRACT LABOR									$28,300
1		Operate Transfer Pumps & Monitor Lay-Flat (pre-frac & frac & post frac)	$2,000	$/day	49	days	5	wells/pad		$19,600	
		WH Techs for landing tbg hangers	$1,200	$/job	1	job				$1,200	
		Misc. labor for wellhead hook-ups, etc	$7,500	$/job	1	job				$7,500	
840	215	ICC - CREW QUARTERS									$8,600
0.33		Housing & Offices	$750	$/day	57	days	5	wells/pad		$8,550	
840	260	ICC - MISCELLANEOUS									$0
		None								$0	
840	310	ICC - CTU / SWAB UNIT									$0
1		None								$0	

840	320	ICC - CASING CREWS & SERVICES		$0
		None		$0

840	330	ICC - PERFORATING									$0
		none - use 840.100								$0	
840	340	ICC - ACIDIZING									$0
		none								$0	
840	345	ICC - CHEMICAL TREATING									$80,000
		Horizon Aphron system drill-out (including all treatment chemicals)	$15,000	$/day	5	days				$75,000	
		H2S scavenger (production)	$5,000	$/well	1	lat ft				$5,000	
840	350	ICC - FRACTURING									$1,741,500
1		slickwater	$40,500	$/stage	43	stages				$1,741,500	
840	360	ICC - SQUEEZING & PLUG BACK									$0
		none								$0	
840	370	ICC - TUBULAR INSPECTION									$15,200
		HZT inspection & repairs	$1.00	$/ft	15,108	ft				$15,108	
840	380	ICC - PRODUCTION TESTING									$73,000
1		flowback: equpment & personnel	$10,000	$/day	14	days	5	wells		$28,000	
		flowback: equipment & personnel (during drill-out operations)	$5,000	$/day	8	days				$40,000	
		flowback iron replacement (from drill-out ops)	$5,000	$/well	1	well				$5,000	
840	400	ICC - ROUSTABOUT SERVICES									$2,500
0.5		misc. services								$2,500	
840	410	ICC - PUMPING SERVICES									$6,500
1		Pump down services during toe prep	$6,500	$/day	1	days				$6,500	
840	420	ICC - TRUCKING									$34,000
1		trucking for rental lay flat	$40,000	$/pad	5	wells				$8,000	
0.5		misc. hot shot services								$15,000	
0.5		trucking for flowback equipment	$15,000	$/pad	5	wells				$3,000	
0.5		trucking for housing & other equipment	$15,000	$/pad	5	wells				$3,000	
1		trucking for dill-out equipment	$25,000	$/pad	5	wells				$5,000	
840	430	ICC - TANK RENTAL & TRANSPORT									$0
		None - use 840.090								$0	
840	470	ICC - CASED HOLE LOGS									$6,800
		CBL on 5-1/2"								$6,800	
840	480	ICC - DISPOSAL									$20,300
		solids disposal (0.7 lateral casing volume)	$10.50	$/yd	34	yd				$352	
		solids disposal (trucking, 14 yds/load)	$850	$/load	3	loads				$2,550	
		liquids trucking & disposal (0.5 bbls/lateral ft to disposal, process rest 1.0 bbl/ft through CTB)	$3.50	$/bbl	4,954	bbls				$17,337	
840	490	ICC - BRIDGE PLUGS									$35,700
1		frac plugs (composite)	$800	$/ea	43	ea				$34,400	
1		kill plug	$1,250	$/ea	1	ea				$1,250	
840	500	ICC - PUMPING UNIT SERVICE&REP									$0
										$0	
840	510	ICC - SUCKER ROD REPAIR									$0
										$0	
840	520	ICC - ROD PUMP & REPAIR									$0
										$0	
840	13	ICC - CONTINGENCIES									$0
		0%								0	
									840 INTANGIBLE COMPLETION COSTS TOTAL		$4,243,300
860	25	TCC - ELECTRICAL DIST. SYSTEMS									$0
1										$0	
860	70	TCC - OTHER WELLHEAD EQUIPMENT									$4,500

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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 180356

CONDITIONS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way, Suite 525 Centennial, CO 80111	OGRID: 372286
	Action Number: 180356
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
kpickford	Adhere to previous NMOCD Conditions of Approval	1/27/2023