

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised July 16, 2010
Submit one copy to appropriate
District Office
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-37644	² Pool Code 11520	³ Pool Name Cedar Canyon; Bone Spring
⁴ Property Code 38062	⁵ Property Name Morning Federal	
⁷ OGRID No. 14049	⁸ Operator Name Marbob Energy Corporation	
		⁶ Well Number 1H
		⁹ Elevation 3010'

¹⁰ Surface Location

UL or lot no. E	Section 8	Township 24S	Range 29E	Lot Idn E	Feet from the 1980	North/South line North	Feet from the 330	East/West line West	County Eddy
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. H	Section 8	Township 24S	Range 29E	Lot Idn H	Feet from the 2332	North/South line North	Feet from the 325	East/West line East	County Eddy
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¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

¹⁶ 	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: <i>Stormi Davis</i> Date: 9/10/10 Printed Name: Stormi Davis Title: Production Assistant	
	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 of Survey: Signature and Seal of Professional Surveyor: REFER TO ORIGINAL PLAT Certificate Number:	

CSH



Marbob
Eddy County
Morning Federal
#1
OH

Plan: Plan #1

Pathfinder X & Y Planning Report

16 December, 2009

PATHFINDER

CSH



Pathfinder Energy Services

Pathfinder X & Y Planning Report



Company: Marbob
 Project: Eddy County
 Site: Morning Federal
 Well: #1
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference:
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:
 Database:

Well #1
 WELL @ 3032.00ft (Original Well Elev)
 WELL @ 3032.00ft (Original Well Elev)
 Grid
 Minimum Curvature
 Midland Database

Project: Eddy County
 Map System: US State Plane 1927 (Exact solution)
 Geo Datum: NAD 1927 (NADCON CONUS)
 Map Zone: New Mexico East 3001
 System Datum: Mean Sea Level

Site: Morning Federal
 Site Position: Northing: 448,995.300 ft
 From: Easting: 598,855.800 ft
 Position Uncertainty: Map 0.00 ft
 Slot Radius: Latitude: 32° 14' 2.403 N
 Longitude: 104° 0' 49.048 W
 Grid Convergence: 0.17°

Well: #1
 Well Position: +N/-S 0.00 ft
 +E/-W 0.00 ft
 Position Uncertainty: 0.00 ft
 Wellhead Elevation: Northing: 448,995.300 ft
 Easting: 598,855.800 ft
 Latitude: 32° 14' 2.403 N
 Longitude: 104° 0' 49.048 W
 Ground Level: 3,010.00 ft

Wellbore: OH
 Magnetics: Model Name: IGRF200510
 Sample Date: 12/16/2009
 Declination (°): 7.96
 Dip Angle (°): 60.17
 Field Strength (nT): 48,755

Design: Plan #1
 Audit Notes:
 Version:
 Vertical Section: Phase: PLAN
 Depth From (TVD) (ft): 0.00
 Tie On Depth: 0.00
 +N/-S (ft): 0.00
 +E/-W (ft): 0.00
 Direction (°): 94.39

Survey Tool Program: Date: 12/16/2009
 From (ft): 0.00
 To (ft): 12,146.44
 Survey (Wellbore): Plan #1 (OH)
 Tool Name: MWD
 Description: MWD - Standard



Pathfinder Energy Services

Pathfinder X & Y Planning Report



Company: Marbob
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Wellbore: OH
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Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #1
WELL @ 3032.00ft (Original Well Elev)
WELL @ 3032.00ft (Original Well Elev)
Grid
Minimum Curvature
Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
0.00	0.00	0.00	0.00	-3,032.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
100.00	0.00	0.00	100.00	-2,932.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
200.00	0.00	0.00	200.00	-2,832.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
300.00	0.00	0.00	300.00	-2,732.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
400.00	0.00	0.00	400.00	-2,632.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
500.00	0.00	0.00	500.00	-2,532.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
600.00	0.00	0.00	600.00	-2,432.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
700.00	0.00	0.00	700.00	-2,332.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
800.00	0.00	0.00	800.00	-2,232.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
900.00	0.00	0.00	900.00	-2,132.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
1,000.00	0.00	0.00	1,000.00	-2,032.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
1,100.00	0.00	0.00	1,100.00	-1,932.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
1,200.00	0.00	0.00	1,200.00	-1,832.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
1,300.00	0.00	0.00	1,300.00	-1,732.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
1,400.00	0.00	0.00	1,400.00	-1,632.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
1,500.00	0.00	0.00	1,500.00	-1,532.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
1,600.00	0.00	0.00	1,600.00	-1,432.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
1,700.00	0.00	0.00	1,700.00	-1,332.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
1,800.00	0.00	0.00	1,800.00	-1,232.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
1,900.00	0.00	0.00	1,900.00	-1,132.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
2,000.00	0.00	0.00	2,000.00	-1,032.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
2,100.00	0.00	0.00	2,100.00	-932.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
2,200.00	0.00	0.00	2,200.00	-832.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
2,300.00	0.00	0.00	2,300.00	-732.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
2,400.00	0.00	0.00	2,400.00	-632.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
2,500.00	0.00	0.00	2,500.00	-532.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
2,600.00	0.00	0.00	2,600.00	-432.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80



Pathfinder Energy Services

Pathfinder X & Y Planning Report



Company: Marathon
Project: Eddy County
Site: Morning Federal
Well: #1
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #1
WELL @ 3032.00ft (Original Well Elev)
WELL @ 3032.00ft (Original Well Elev)
Grid
Minimum Curvature
Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
2,700.00	0.00	0.00	2,700.00	-332.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
2,800.00	0.00	0.00	2,800.00	-232.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
2,900.00	0.00	0.00	2,900.00	-132.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
3,000.00	0.00	0.00	3,000.00	-32.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
3,100.00	0.00	0.00	3,100.00	68.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
3,200.00	0.00	0.00	3,200.00	168.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
3,300.00	0.00	0.00	3,300.00	268.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
3,400.00	0.00	0.00	3,400.00	368.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
3,500.00	0.00	0.00	3,500.00	468.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
3,600.00	0.00	0.00	3,600.00	568.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
3,700.00	0.00	0.00	3,700.00	668.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
3,800.00	0.00	0.00	3,800.00	768.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
3,900.00	0.00	0.00	3,900.00	868.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
4,000.00	0.00	0.00	4,000.00	968.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
4,100.00	0.00	0.00	4,100.00	1,068.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
4,200.00	0.00	0.00	4,200.00	1,168.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
4,300.00	0.00	0.00	4,300.00	1,268.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
4,400.00	0.00	0.00	4,400.00	1,368.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
4,500.00	0.00	0.00	4,500.00	1,468.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
4,600.00	0.00	0.00	4,600.00	1,568.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
4,700.00	0.00	0.00	4,700.00	1,668.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
4,800.00	0.00	0.00	4,800.00	1,768.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
4,900.00	0.00	0.00	4,900.00	1,868.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
5,000.00	0.00	0.00	5,000.00	1,968.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
5,100.00	0.00	0.00	5,100.00	2,068.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
5,200.00	0.00	0.00	5,200.00	2,168.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
5,300.00	0.00	0.00	5,300.00	2,268.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80



Pathfinder Energy Services

Pathfinder X & Y Planning Report



Company: Marbob
Project: Eddy County
Site: Morning Federal
Well: #1
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #1
WELL @ 3032.00ft (Original Well Elev)
WELL @ 3032.00ft (Original Well Elev)
Grid
Minimum Curvature
Midland Database

Planned Survey										
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
5,400.00	0.00	0.00	5,400.00	2,368.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
5,500.00	0.00	0.00	5,500.00	2,468.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
5,600.00	0.00	0.00	5,600.00	2,568.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
5,700.00	0.00	0.00	5,700.00	2,668.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
5,800.00	0.00	0.00	5,800.00	2,768.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
5,900.00	0.00	0.00	5,900.00	2,868.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
6,000.00	0.00	0.00	6,000.00	2,968.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
6,100.00	0.00	0.00	6,100.00	3,068.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
6,200.00	0.00	0.00	6,200.00	3,168.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
6,300.00	0.00	0.00	6,300.00	3,268.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
6,400.00	0.00	0.00	6,400.00	3,368.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
6,500.00	0.00	0.00	6,500.00	3,468.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
6,600.00	0.00	0.00	6,600.00	3,568.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
6,700.00	0.00	0.00	6,700.00	3,668.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
6,800.00	0.00	0.00	6,800.00	3,768.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
6,900.00	0.00	0.00	6,900.00	3,868.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
7,000.00	0.00	0.00	7,000.00	3,968.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
7,100.00	0.00	0.00	7,100.00	4,068.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
7,200.00	0.00	0.00	7,200.00	4,168.00	0.00	0.00	0.00	0.00	448,995.30	598,855.80
7,222.50	0.00	0.00	7,222.50	4,190.50	0.00	0.00	0.00	0.00	448,995.30	598,855.80
7,225.00	0.30	94.39	7,225.00	4,193.00	0.00	0.01	0.01	12.00	448,995.30	598,855.81
7,250.00	3.30	94.39	7,249.98	4,217.98	-0.06	0.79	0.79	12.00	448,995.24	598,855.59
7,275.00	6.30	94.39	7,274.89	4,242.89	-0.22	2.87	2.88	12.00	448,995.08	598,853.87
7,300.00	9.30	94.39	7,299.66	4,267.66	-0.48	6.26	6.28	12.00	448,994.82	598,862.06
7,325.00	12.30	94.39	7,324.21	4,292.21	-0.84	10.93	10.96	12.00	448,994.46	598,866.73
7,350.00	15.30	94.39	7,348.49	4,316.49	-1.30	16.87	16.92	12.00	448,994.00	598,872.57
7,375.00	18.30	94.39	7,372.42	4,340.42	-1.85	24.07	24.15	12.00	448,993.45	598,879.87



Pathfinder Energy Services

Pathfinder X & Y Planning Report



Company: Marbob
Project: Eddy County
Site: Morning Federal
Well: #1
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:
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Well #1
WELL @ 3032.00ft (Original Well Elev)
WELL @ 3032.00ft (Original Well Elev)
Grid
Minimum Curvature
Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
7,400.00	21.30	94.39	7,395.94	4,363.94	-2.50	32.52	32.61	12.00	448,992.80	598,888.32
7,425.00	24.30	94.39	7,418.98	4,386.98	-3.24	42.17	42.30	12.00	448,992.06	598,897.97
7,450.00	27.30	94.39	7,441.49	4,409.49	-4.07	53.02	53.18	12.00	448,991.23	598,908.82
7,475.00	30.30	94.39	7,463.40	4,431.40	-4.99	65.03	65.22	12.00	448,990.31	598,920.83
7,500.00	33.30	94.39	7,484.64	4,452.64	-6.00	78.16	78.39	12.00	448,989.30	598,933.96
7,525.00	36.30	94.39	7,505.17	4,473.17	-7.09	92.38	92.66	12.00	448,988.21	598,948.18
7,550.00	39.30	94.39	7,524.92	4,492.92	-8.27	107.66	107.98	12.00	448,987.03	598,963.46
7,575.00	42.30	94.39	7,543.84	4,511.84	-9.52	123.94	124.31	12.00	448,985.78	598,979.74
7,600.00	45.30	94.39	7,561.89	4,529.89	-10.84	141.19	141.61	12.00	448,984.46	598,996.99
7,625.00	48.30	94.39	7,579.00	4,547.00	-12.23	159.36	159.83	12.00	448,983.07	599,015.16
7,650.00	51.30	94.39	7,595.14	4,563.14	-13.70	178.40	178.92	12.00	448,981.60	599,034.20
7,675.00	54.30	94.39	7,610.25	4,578.25	-15.22	198.25	198.83	12.00	448,980.08	599,054.05
7,700.00	57.30	94.39	7,624.30	4,592.30	-16.80	218.86	219.51	12.00	448,978.50	599,074.66
7,725.00	60.30	94.39	7,637.25	4,606.25	-18.44	240.18	240.89	12.00	448,976.86	599,095.98
7,750.00	63.30	94.39	7,649.07	4,617.07	-20.12	262.14	262.92	12.00	448,975.18	599,117.94
7,775.00	66.30	94.39	7,659.71	4,627.71	-21.86	284.69	285.53	12.00	448,973.44	599,140.49
7,800.00	69.29	94.39	7,669.16	4,637.16	-23.63	307.77	308.68	12.00	448,971.67	599,163.57
7,825.00	72.29	94.39	7,677.38	4,645.38	-25.43	331.31	332.28	12.00	448,969.87	599,187.11
7,850.00	75.29	94.39	7,684.36	4,652.36	-27.27	355.24	356.29	12.00	448,968.03	599,211.04
7,875.00	78.29	94.39	7,690.07	4,658.07	-29.13	379.51	380.62	12.00	448,966.17	599,235.31
7,900.00	81.29	94.39	7,694.50	4,662.50	-31.02	404.03	405.22	12.00	448,964.28	599,259.83
7,925.00	84.29	94.39	7,697.63	4,665.63	-32.92	428.76	430.02	12.00	448,962.38	599,284.56
7,950.00	87.29	94.39	7,699.47	4,667.47	-34.82	453.62	454.95	12.00	448,960.48	599,309.42
7,972.56	90.00	94.39	7,700.00	4,668.00	-36.55	476.10	477.50	12.00	448,958.75	599,331.90
8,000.00	90.00	94.39	7,700.00	4,668.00	-38.65	503.46	504.94	0.00	448,956.65	599,359.26
8,100.00	90.00	94.39	7,700.00	4,668.00	-46.31	603.17	604.94	0.00	448,948.99	599,458.97
8,200.00	90.00	94.39	7,700.00	4,668.00	-53.96	702.88	704.94	0.00	448,941.34	599,558.68



Pathfinder Energy Services

Pathfinder X & Y Planning Report



Company: Marbob
Project: Eddy County
Site: Morning Federal
Well: #1
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #1
WELL @ 3032.00ft (Original Well Elev)
WELL @ 3032.00ft (Original Well Elev)
Grid
Minimum Curvature
Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	D/Leg (°/100ft)	Northing (ft)	Easting (ft)
8,300.00	90.00	94.39	7,700.00	4,668.00	-61.61	802.58	804.94	0.00	448,933.69	599,658.38
8,400.00	90.00	94.39	7,700.00	4,668.00	-69.27	902.29	904.94	0.00	448,926.03	599,758.09
8,500.00	90.00	94.39	7,700.00	4,668.00	-76.92	1,002.00	1,004.94	0.00	448,918.38	599,857.80
8,600.00	90.00	94.39	7,700.00	4,668.00	-84.58	1,101.70	1,104.94	0.00	448,910.72	599,957.50
8,700.00	90.00	94.39	7,700.00	4,668.00	-92.23	1,201.41	1,204.94	0.00	448,903.07	600,057.21
8,800.00	90.00	94.39	7,700.00	4,668.00	-99.89	1,301.12	1,304.94	0.00	448,895.41	600,156.92
8,900.00	90.00	94.39	7,700.00	4,668.00	-107.54	1,400.82	1,404.94	0.00	448,887.76	600,256.62
9,000.00	90.00	94.39	7,700.00	4,668.00	-115.20	1,500.53	1,504.94	0.00	448,880.10	600,356.33
9,100.00	90.00	94.39	7,700.00	4,668.00	-122.85	1,600.24	1,604.94	0.00	448,872.45	600,456.04
9,200.00	90.00	94.39	7,700.00	4,668.00	-130.51	1,699.94	1,704.94	0.00	448,864.79	600,555.74
9,300.00	90.00	94.39	7,700.00	4,668.00	-138.16	1,799.65	1,804.94	0.00	448,857.14	600,655.45
9,400.00	90.00	94.39	7,700.00	4,668.00	-145.81	1,899.36	1,904.94	0.00	448,849.49	600,755.16
9,500.00	90.00	94.39	7,700.00	4,668.00	-153.47	1,999.06	2,004.94	0.00	448,841.83	600,854.86
9,600.00	90.00	94.39	7,700.00	4,668.00	-161.12	2,098.77	2,104.94	0.00	448,834.18	600,954.57
9,700.00	90.00	94.39	7,700.00	4,668.00	-168.78	2,198.48	2,204.94	0.00	448,826.52	601,054.28
9,800.00	90.00	94.39	7,700.00	4,668.00	-176.43	2,298.18	2,304.94	0.00	448,818.87	601,153.98
9,900.00	90.00	94.39	7,700.00	4,668.00	-184.09	2,397.89	2,404.94	0.00	448,811.21	601,253.69
10,000.00	90.00	94.39	7,700.00	4,668.00	-191.74	2,497.60	2,504.94	0.00	448,803.56	601,353.40
10,100.00	90.00	94.39	7,700.00	4,668.00	-199.40	2,597.30	2,604.94	0.00	448,795.90	601,453.10
10,200.00	90.00	94.39	7,700.00	4,668.00	-207.05	2,697.01	2,704.94	0.00	448,788.25	601,552.81
10,300.00	90.00	94.39	7,700.00	4,668.00	-214.70	2,796.72	2,804.94	0.00	448,780.60	601,652.52
10,400.00	90.00	94.39	7,700.00	4,668.00	-222.36	2,896.42	2,904.94	0.00	448,772.94	601,752.22
10,500.00	90.00	94.39	7,700.00	4,668.00	-230.01	2,996.13	3,004.94	0.00	448,765.29	601,851.93
10,600.00	90.00	94.39	7,700.00	4,668.00	-237.67	3,095.84	3,104.94	0.00	448,757.63	601,951.64
10,700.00	90.00	94.39	7,700.00	4,668.00	-245.32	3,195.54	3,204.94	0.00	448,749.98	602,051.34
10,800.00	90.00	94.39	7,700.00	4,668.00	-252.98	3,295.25	3,304.94	0.00	448,742.32	602,151.05
10,900.00	90.00	94.39	7,700.00	4,668.00	-260.63	3,394.96	3,404.94	0.00	448,734.67	602,250.76



Pathfinder Energy Services

Pathfinder X & Y Planning Report



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Survey Calculation Method:
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Well #1
WELL @ 3032.00ft (Original Well Elev)
WELL @ 3032.00ft (Original Well Elev)
Grid
Minimum Curvature
Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	D Leg (°/100ft)	Northing (ft)	Easting (ft)
11,000.00	90.00	94.39	7,700.00	4,668.00	-268.29	3,494.66	3,504.94	0.00	448,727.01	602,350.46
11,100.00	90.00	94.39	7,700.00	4,668.00	-275.94	3,594.37	3,604.94	0.00	448,719.36	602,450.17
11,200.00	90.00	94.39	7,700.00	4,668.00	-283.60	3,694.07	3,704.94	0.00	448,711.70	602,549.87
11,300.00	90.00	94.39	7,700.00	4,668.00	-291.25	3,793.78	3,804.94	0.00	448,704.05	602,649.58
11,400.00	90.00	94.39	7,700.00	4,668.00	-298.90	3,893.49	3,904.94	0.00	448,696.40	602,749.29
11,500.00	90.00	94.39	7,700.00	4,668.00	-306.56	3,993.19	4,004.94	0.00	448,688.74	602,848.99
11,600.00	90.00	94.39	7,700.00	4,668.00	-314.21	4,092.90	4,104.94	0.00	448,681.09	602,948.70
11,700.00	90.00	94.39	7,700.00	4,668.00	-321.87	4,192.61	4,204.94	0.00	448,673.43	603,048.41
11,800.00	90.00	94.39	7,700.00	4,668.00	-329.52	4,292.31	4,304.94	0.00	448,665.78	603,148.11
11,900.00	90.00	94.39	7,700.00	4,668.00	-337.18	4,392.02	4,404.94	0.00	448,658.12	603,247.82
12,000.00	90.00	94.39	7,700.00	4,668.00	-344.83	4,491.73	4,504.94	0.00	448,650.47	603,347.53
12,100.00	90.00	94.39	7,700.00	4,668.00	-352.49	4,591.43	4,604.94	0.00	448,642.81	603,447.23
12,146.44	90.00	94.39	7,700.00	4,668.00	-356.04	4,637.74	4,651.38	0.00	448,639.26	603,493.54

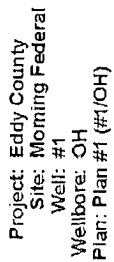
Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/S (ft)	+E/W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
hit/miss target									
- Shape									
PBHL(MF#1)	0.00	0.00	7,700.00	-355.20	4,637.80	448,640.100	603,493.600	32° 13' 58.748 N	103° 59' 55.064 W
- plan hits target									
- Point									

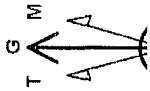
Checked By: _____

Approved By: _____

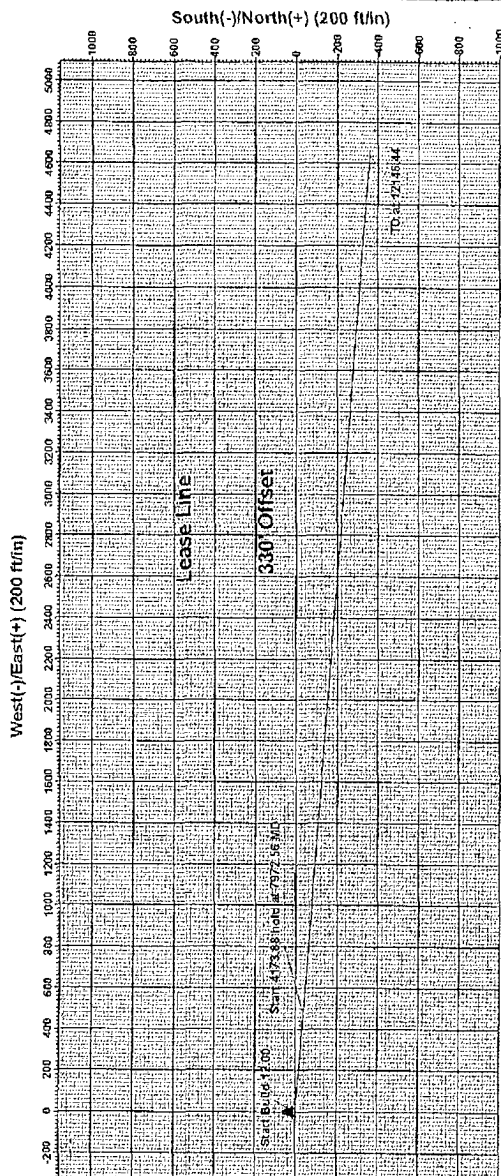
Date: _____



Azimuths to Grid North
True North: -0.17°
Magnetic North: 7.78°
Magnetic Field
Strength: 48755.0 nT
Dir. Angle: 50.47°



RATTLER



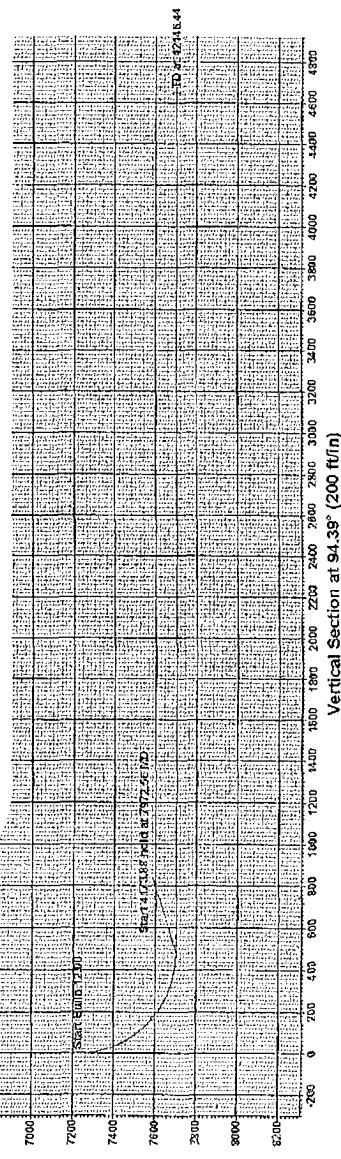
		SECTION DETAILS										
		Sec	MD	Inc	A ₂₁	TVO	W _{MS}	W _{MS}	D _{leg}	T _{Face}	V _{Sec}	Target
1		1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2		2	7222.50	0.00	0.00	7222.50	0.00	0.00	0.00	0.00	0.00	
3		3	7272.46	90.00	94.39	7700.00	-356.54	476.10	12.90	94.39	477.50	
4		4	12146.44	90.00	94.39	7700.00	-356.54	463.97	7.00	0.00	4651.38	PBH (INF#1)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)			
	+N-S	+E-W	Northing
TVD	-355.20	4637.80	448540.100
7700.00			60

WELL DETAILS: #1

Ground Elevation:: 3010.00
RAB Elevation:: WELL @ 3032.00ft (Original Well Elev)

	+N/-S	+E/-W	Northings	Eastings	Latitude	Longitude	Spot
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PROJECT DETAILS: Eddy County
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid

Plan: Plan 41 (25/04)

Coated By: Notation
Date: 16-07-2023 16:28:39

Vertical Section at 94.39° (200 ft/in)