

30-025-43883



McElvain Energy

Lea County, NM (NAD 83)
EK 30 BS2 Federal Com
#2H

HOBBS OCD
JAN 24 2018
RECEIVED

OH

Design: OH Surveys 125'-14810' PTB 14860'

Standard Survey Report

31 October, 2017





Pro Directional Survey Report



Company:	McElvain Energy	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM (NAD 83)	TVD Reference:	Well @ 3919.00usft (GL:3894' + KB:25' (H&P 262))
Site:	EK 30 BS2 Federal Com	MD Reference:	Well @ 3919.00usft (GL:3894' + KB:25' (H&P 262))
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH Surveys 125'-14810' PTB 14860'	Database:	WellPlanner1

Project	Lea County, NM (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	EK 30 BS2 Federal Com		
Site Position:		Northing:	623,529.00 usft
From:	Map	Easting:	768,784.00 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32.7119416
		Longitude:	-103.5938442
		Grid Convergence:	0.40 °

Well	#2H		
Well Position	+N/-S	0.00 usft	Northing: 623,503.60 usft
	+E/-W	0.00 usft	Easting: 768,768.20 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32.7118721
		Longitude:	-103.5938961
		Ground Level:	3,894.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	HDGM	10/12/2017	6.72
		Dip Angle (°)	60.77
		Field Strength (nT)	48,342.00

Design	OH Surveys 125'-14810' PTB 14860'		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
		Direction (°)	359.48

Survey Program	Date 10/31/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
125.00	1,736.00	VES Gyro (OH)	GYRO-NS-CT
1,911.00	14,860.00	ProMWD #1 (OH)	MWD+HDGM
			Description
			OWSG XYZ Accel with XY Static and Continuous
			OWSG MWD + HRGM

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
125.00	0.28	320.66	125.00	0.24	-0.19	0.24	0.22	0.22	0.00	
225.00	0.23	247.41	225.00	0.35	-0.53	0.35	0.31	-0.05	-73.25	
325.00	0.25	326.24	325.00	0.45	-0.84	0.46	0.31	0.02	78.83	
425.00	0.19	344.82	425.00	0.79	-1.01	0.80	0.09	-0.06	18.58	
525.00	0.01	318.98	525.00	0.96	-1.05	0.97	0.18	-0.18	-25.84	
625.00	0.22	243.54	625.00	0.88	-1.23	0.89	0.22	0.21	-75.44	
725.00	0.22	246.38	725.00	0.72	-1.58	0.73	0.01	0.00	2.84	



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Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH Surveys 125'-14810' PTB 14860'	Database:	WellPlanner1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
825.00	0.03	295.42	825.00	0.65	-1.78	0.67	0.20	-0.19	49.04
925.00	0.22	317.17	925.00	0.81	-1.93	0.82	0.19	0.19	21.75
1,025.00	0.20	215.00	1,025.00	0.80	-2.16	0.82	0.33	-0.02	-102.17
1,125.00	0.13	186.40	1,124.99	0.55	-2.28	0.57	0.11	-0.07	-28.60
1,225.00	0.15	72.38	1,224.99	0.47	-2.16	0.49	0.24	0.02	-114.02
1,325.00	0.23	65.95	1,324.99	0.60	-1.86	0.61	0.08	0.08	-6.43
1,425.00	0.20	181.56	1,424.99	0.50	-1.68	0.52	0.36	-0.03	115.61
1,525.00	0.18	1.23	1,524.99	0.49	-1.68	0.50	0.38	-0.02	179.67
1,625.00	0.16	310.28	1,624.99	0.73	-1.78	0.75	0.15	-0.02	-50.95
1,725.00	0.20	351.44	1,724.99	1.00	-1.91	1.01	0.13	0.04	41.16
1,736.00	0.21	20.93	1,735.99	1.03	-1.91	1.05	0.95	0.09	268.09
1,911.00	0.10	26.80	1,910.99	1.47	-1.73	1.49	0.06	-0.06	3.35
2,005.00	0.40	253.50	2,004.99	1.45	-2.00	1.47	0.50	0.32	-141.81
2,100.00	1.70	256.60	2,099.97	1.03	-3.69	1.06	1.37	1.37	3.26
2,194.00	3.90	255.10	2,193.86	-0.12	-8.14	-0.04	2.34	2.34	-1.60
2,289.00	6.30	258.00	2,288.47	-2.03	-16.36	-1.88	2.54	2.53	3.05
2,383.00	8.70	261.20	2,381.66	-4.19	-28.43	-3.93	2.59	2.55	3.40
2,478.00	9.90	264.40	2,475.41	-6.09	-43.66	-5.69	1.37	1.26	3.37
2,572.00	10.40	265.20	2,567.94	-7.59	-60.16	-7.04	0.55	0.53	0.85
2,667.00	11.10	264.90	2,661.27	-9.12	-77.81	-8.41	0.74	0.74	-0.32
2,761.00	10.40	265.80	2,753.62	-10.54	-95.29	-9.68	0.77	-0.74	0.96
2,856.00	9.10	262.20	2,847.25	-12.19	-111.28	-11.18	1.51	-1.37	-3.79
2,950.00	9.00	262.10	2,940.08	-14.21	-125.93	-13.07	0.11	-0.11	-0.11
3,045.00	9.70	263.10	3,033.82	-16.19	-141.24	-14.91	0.76	0.74	1.05
3,139.00	8.40	264.20	3,126.64	-17.84	-155.93	-16.42	1.40	-1.38	1.17
3,234.00	7.70	262.00	3,220.71	-19.42	-169.13	-17.89	0.80	-0.74	-2.32
3,328.00	7.70	264.10	3,313.86	-20.95	-181.63	-19.30	0.30	0.00	2.23
3,423.00	7.70	266.90	3,408.00	-21.95	-194.32	-20.18	0.39	0.00	2.95
3,517.00	7.70	268.40	3,501.16	-22.46	-206.90	-20.58	0.21	0.00	1.60
3,612.00	7.90	269.30	3,595.28	-22.72	-219.79	-20.72	0.25	0.21	0.95
3,706.00	8.80	260.30	3,688.28	-24.01	-233.34	-21.89	1.69	0.96	-9.57
3,801.00	9.40	257.10	3,782.09	-26.97	-248.07	-24.71	0.83	0.63	-3.37
3,896.00	9.20	264.50	3,875.84	-29.43	-263.19	-27.04	1.28	-0.21	7.79
3,990.00	9.40	266.30	3,968.61	-30.64	-278.33	-28.12	0.38	0.21	1.91
4,085.00	9.20	267.30	4,062.36	-31.50	-293.66	-28.83	0.27	-0.21	1.05
4,180.00	8.60	266.40	4,156.22	-32.31	-308.33	-29.51	0.65	-0.63	-0.95
4,274.00	9.10	264.80	4,249.10	-33.42	-322.75	-30.49	0.59	0.53	-1.70
4,368.00	9.80	264.50	4,341.82	-34.86	-338.12	-31.79	0.75	0.74	-0.32
4,463.00	10.70	264.80	4,435.30	-36.43	-354.95	-33.21	0.95	0.95	0.32
4,558.00	9.70	264.90	4,528.80	-37.95	-371.70	-34.57	1.05	-1.05	0.11
4,652.00	8.00	265.30	4,621.68	-39.19	-386.11	-35.68	1.81	-1.81	0.43
4,746.00	8.00	263.90	4,714.76	-40.42	-399.13	-36.79	0.21	0.00	-1.49



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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH Surveys 125'-14810' PTB 14860'	Database:	WellPlanner1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,841.00	8.70	263.70	4,808.76	-41.91	-412.85	-38.16	0.74	0.74	-0.21
4,870.00	8.80	264.50	4,837.42	-42.36	-417.23	-38.57	0.54	0.34	2.76
5,011.00	9.20	265.50	4,976.68	-44.28	-439.21	-40.29	0.30	0.28	0.71
5,105.00	8.80	264.50	5,069.52	-45.56	-453.86	-41.44	0.46	-0.43	-1.06
5,199.00	8.80	265.30	5,162.42	-46.84	-468.18	-42.59	0.13	0.00	0.85
5,294.00	8.60	266.00	5,256.32	-47.93	-482.51	-43.55	0.24	-0.21	0.74
5,388.00	8.40	267.20	5,349.29	-48.75	-496.38	-44.25	0.28	-0.21	1.28
5,482.00	8.50	268.10	5,442.27	-49.32	-510.18	-44.69	0.18	0.11	0.96
5,576.00	8.30	269.00	5,535.26	-49.67	-523.90	-44.91	0.25	-0.21	0.96
5,670.00	7.90	271.30	5,628.33	-49.64	-537.15	-44.76	0.55	-0.43	2.45
5,764.00	7.60	271.20	5,721.47	-49.36	-549.82	-44.37	0.32	-0.32	-0.11
5,858.00	7.50	271.90	5,814.65	-49.03	-562.17	-43.92	0.14	-0.11	0.74
5,953.00	7.20	272.50	5,908.87	-48.56	-574.31	-43.35	0.33	-0.32	0.63
6,047.00	6.80	273.10	6,002.17	-48.01	-585.75	-42.69	0.43	-0.43	0.64
6,141.00	7.70	269.00	6,095.42	-47.81	-597.61	-42.39	1.10	0.96	-4.36
6,235.00	7.80	268.60	6,188.56	-48.08	-610.28	-42.54	0.12	0.11	-0.43
6,328.00	7.20	265.90	6,280.76	-48.65	-622.40	-43.00	0.75	-0.65	-2.90
6,422.00	6.60	263.40	6,374.08	-49.69	-633.64	-43.94	0.71	-0.64	-2.66
6,516.00	8.00	264.20	6,467.32	-50.98	-645.52	-45.11	1.49	1.49	0.85
6,610.00	9.90	263.10	6,560.17	-52.61	-660.05	-46.61	2.03	2.02	-1.17
6,704.00	9.50	261.00	6,652.83	-54.79	-675.73	-48.66	0.57	-0.43	-2.23
6,798.00	9.30	259.50	6,745.56	-57.39	-690.86	-51.12	0.34	-0.21	-1.60
6,893.00	8.80	260.70	6,839.38	-59.96	-705.58	-53.56	0.56	-0.53	1.26
6,987.00	7.90	259.70	6,932.38	-62.28	-719.03	-55.75	0.97	-0.96	-1.06
7,081.00	9.10	259.40	7,025.35	-64.80	-732.70	-58.15	1.28	1.28	-0.32
7,176.00	8.80	259.40	7,119.19	-67.52	-747.22	-60.74	0.32	-0.32	0.00
7,270.00	8.20	258.80	7,212.16	-70.15	-760.87	-63.24	0.65	-0.64	-0.64
7,364.00	7.40	259.60	7,305.29	-72.54	-773.40	-65.52	0.86	-0.85	0.85
7,459.00	6.80	260.30	7,399.56	-74.59	-784.96	-67.47	0.64	-0.63	0.74
7,554.00	7.80	263.90	7,493.79	-76.22	-796.91	-68.99	1.16	1.05	3.79
7,648.00	7.30	263.10	7,586.98	-77.62	-809.18	-70.27	0.54	-0.53	-0.85
7,743.00	6.20	263.20	7,681.32	-78.95	-820.27	-71.51	1.16	-1.16	0.11
7,837.00	6.80	262.00	7,774.71	-80.33	-830.82	-72.78	0.65	0.64	-1.28
7,931.00	7.60	262.50	7,867.97	-81.91	-842.49	-74.26	0.85	0.85	0.53
8,026.00	8.30	260.60	7,962.06	-83.85	-855.49	-76.09	0.79	0.74	-2.00
8,121.00	7.00	260.00	8,056.21	-85.98	-867.95	-78.10	1.37	-1.37	-0.63
8,215.00	6.00	256.70	8,149.60	-88.10	-878.38	-80.13	1.14	-1.06	-3.51
8,310.00	5.30	255.80	8,244.14	-90.32	-887.46	-82.26	0.74	-0.74	-0.95
8,404.00	5.00	253.20	8,337.76	-92.57	-895.59	-84.44	0.40	-0.32	-2.77
8,498.00	3.90	247.60	8,431.48	-94.97	-902.47	-86.78	1.26	-1.17	-5.96
8,593.00	3.30	247.10	8,526.29	-97.27	-907.98	-89.02	0.63	-0.63	-0.53
8,687.00	2.70	248.30	8,620.16	-99.14	-912.52	-90.85	0.64	-0.64	1.28



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8,782.00	2.50	250.30	8,715.06	-100.67	-916.55	-92.34	0.23	-0.21	2.11
8,876.00	2.20	254.30	8,808.98	-101.85	-920.22	-93.49	0.36	-0.32	4.26
8,970.00	1.90	256.60	8,902.92	-102.69	-923.47	-94.31	0.33	-0.32	2.45
9,065.00	1.90	254.30	8,997.87	-103.49	-926.52	-95.07	0.08	0.00	-2.42
9,159.00	1.60	263.30	9,091.83	-104.06	-929.33	-95.62	0.43	-0.32	9.57
9,254.00	1.30	266.70	9,186.80	-104.28	-931.72	-95.82	0.33	-0.32	3.58
9,348.00	1.00	304.90	9,280.78	-103.87	-933.46	-95.39	0.86	-0.32	40.64
9,430.00	1.20	283.00	9,362.76	-103.27	-934.88	-94.78	0.56	0.24	-26.71
9,474.00	1.40	271.20	9,406.75	-103.15	-935.87	-94.65	0.76	0.45	-26.82
9,506.00	3.00	311.00	9,438.73	-102.59	-936.89	-94.09	6.63	5.00	124.38
9,537.00	5.80	339.30	9,469.64	-100.60	-938.06	-92.08	11.17	9.03	91.29
9,569.00	9.40	350.80	9,501.35	-96.50	-939.05	-87.98	12.16	11.25	35.94
9,600.00	13.00	351.60	9,531.76	-90.55	-939.96	-82.02	11.62	11.61	2.58
9,632.00	15.80	355.10	9,562.75	-82.65	-940.86	-74.11	9.16	8.75	10.94
9,663.00	19.10	359.60	9,592.32	-73.37	-941.25	-64.82	11.49	10.65	14.52
9,695.00	22.40	0.60	9,622.24	-62.03	-941.23	-53.49	10.37	10.31	3.13
9,726.00	25.60	359.00	9,650.56	-49.43	-941.28	-40.88	10.53	10.32	-5.16
9,758.00	28.70	357.40	9,679.03	-34.84	-941.75	-26.29	9.95	9.69	-5.00
9,789.00	31.20	355.60	9,705.89	-19.39	-942.70	-10.84	8.57	8.06	-5.81
9,820.00	34.40	354.90	9,731.94	-2.66	-944.10	5.91	10.39	10.32	-2.26
9,852.00	38.20	354.80	9,757.73	16.20	-945.80	24.79	11.88	11.88	-0.31
9,884.00	41.30	352.40	9,782.33	36.53	-948.09	45.13	10.81	9.69	-7.50
9,915.00	44.10	353.10	9,805.11	57.38	-950.74	66.01	9.16	9.03	2.26
9,946.00	47.00	353.90	9,826.82	79.37	-953.24	88.02	9.53	9.35	2.58
9,978.00	50.90	353.90	9,847.83	103.36	-955.81	112.03	12.19	12.19	0.00
10,009.00	55.80	356.00	9,866.33	128.13	-957.98	136.82	16.71	15.81	6.77
10,041.00	60.70	356.90	9,883.16	155.28	-959.66	163.98	15.50	15.31	2.81
10,061.99	64.29	356.63	9,892.85	173.86	-960.71	182.57	17.14	17.10	-1.31
330' Hardline Entry ("FTP"): 10061.99' MD									
10,072.00	66.00	356.50	9,897.06	182.93	-961.26	191.64	17.14	17.10	-1.25
10,104.00	71.70	355.80	9,908.60	212.69	-963.26	221.43	17.93	17.81	-2.19
10,135.00	77.00	356.00	9,916.96	242.46	-965.40	251.21	17.11	17.10	0.65
10,167.00	82.30	355.30	9,922.71	273.83	-967.79	282.61	16.70	16.56	-2.19
10,230.00	90.70	354.50	9,926.55	336.41	-973.37	345.23	13.39	13.33	-1.27
10,324.00	91.50	355.20	9,924.75	430.01	-981.81	438.90	1.13	0.85	0.74
10,419.00	91.90	356.90	9,921.93	524.74	-988.35	533.69	1.84	0.42	1.79
10,513.00	91.70	0.50	9,918.97	618.65	-990.48	627.62	3.83	-0.21	3.83
10,608.00	92.10	359.90	9,915.82	713.60	-990.15	722.56	0.76	0.42	-0.63
10,702.00	92.60	359.60	9,911.97	807.52	-990.56	816.48	0.62	0.53	-0.32
10,770.00	93.10	358.90	9,908.59	875.43	-991.45	884.39	1.26	0.74	-1.03
10,864.00	93.90	1.00	9,902.85	969.25	-991.53	978.21	2.39	0.85	2.23
10,958.00	92.80	2.50	9,897.36	1,063.04	-988.66	1,071.97	1.98	-1.17	1.60



Pro Directional Survey Report



Company:	McElvain Energy	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM (NAD 83)	TVD Reference:	Well @ 3919.00usft (GL:3894' + KB:25' (H&P 262))
Site:	EK 30 BS2 Federal Com	MD Reference:	Well @ 3919.00usft (GL:3894' + KB:25' (H&P 262))
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH Surveys 125'-14810' PTB 14860'	Database:	WellPlanner1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,052.00	92.10	2.80	9,893.34	1,156.85	-984.32	1,165.74	0.81	-0.74	0.32
11,146.00	90.60	2.50	9,891.12	1,250.72	-979.98	1,259.57	1.63	-1.60	-0.32
11,240.00	89.60	0.50	9,890.96	1,344.69	-977.52	1,353.50	2.38	-1.06	-2.13
11,335.00	91.10	0.50	9,890.38	1,439.68	-976.69	1,448.48	1.58	1.58	0.00
11,429.00	90.70	359.00	9,888.90	1,533.66	-977.10	1,542.47	1.65	-0.43	-1.60
11,523.00	92.30	359.30	9,886.44	1,627.62	-978.49	1,636.43	1.73	1.70	0.32
11,617.00	91.10	358.60	9,883.65	1,721.56	-980.21	1,730.38	1.48	-1.28	-0.74
11,711.00	89.10	358.20	9,883.49	1,815.52	-982.84	1,824.36	2.17	-2.13	-0.43
11,805.00	89.70	358.70	9,884.47	1,909.48	-985.38	1,918.34	0.83	0.64	0.53
11,899.00	88.00	358.20	9,886.36	2,003.42	-987.92	2,012.30	1.89	-1.81	-0.53
11,993.00	88.30	359.60	9,889.40	2,097.35	-989.73	2,106.25	1.52	0.32	1.49
12,086.00	89.60	358.50	9,891.10	2,190.32	-991.27	2,199.22	1.83	1.40	-1.18
12,180.00	90.70	357.80	9,890.85	2,284.27	-994.30	2,293.20	1.39	1.17	-0.74
12,274.00	91.10	357.80	9,889.38	2,378.19	-997.91	2,387.14	0.43	0.43	0.00
12,368.00	92.00	357.80	9,886.83	2,472.08	-1,001.52	2,481.07	0.96	0.96	0.00
12,463.00	92.80	357.80	9,882.86	2,566.93	-1,005.16	2,575.94	0.84	0.84	0.00
12,557.00	91.80	357.40	9,879.08	2,660.77	-1,009.09	2,669.82	1.15	-1.06	-0.43
12,651.00	92.50	357.00	9,875.56	2,754.59	-1,013.68	2,763.67	0.86	0.74	-0.43
12,746.00	91.10	356.40	9,872.57	2,849.38	-1,019.15	2,858.51	1.60	-1.47	-0.63
12,840.00	89.80	356.10	9,871.84	2,943.17	-1,025.30	2,952.36	1.42	-1.38	-0.32
12,935.00	90.90	355.70	9,871.25	3,037.93	-1,032.09	3,047.17	1.23	1.16	-0.42
13,029.00	91.70	355.30	9,869.12	3,131.61	-1,039.46	3,140.92	0.95	0.85	-0.43
13,123.00	90.80	355.40	9,867.07	3,225.28	-1,047.08	3,234.65	0.96	-0.96	0.11
13,218.00	90.90	356.30	9,865.66	3,320.02	-1,053.95	3,329.45	0.95	0.11	0.95
13,313.00	90.90	357.90	9,864.17	3,414.88	-1,058.76	3,424.35	1.68	0.00	1.68
13,407.00	91.20	359.50	9,862.45	3,508.84	-1,060.89	3,518.32	1.73	0.32	1.70
13,501.00	92.40	359.20	9,859.49	3,602.79	-1,061.96	3,612.28	1.32	1.28	-0.32
13,596.00	91.30	359.10	9,856.43	3,697.72	-1,063.37	3,707.22	1.16	-1.16	-0.11
13,690.00	91.90	359.10	9,853.80	3,791.68	-1,064.84	3,801.18	0.64	0.64	0.00
13,785.00	92.10	359.20	9,850.49	3,886.61	-1,066.25	3,896.12	0.24	0.21	0.11
13,879.00	93.00	358.90	9,846.31	3,980.50	-1,067.81	3,990.03	1.01	0.96	-0.32
13,974.00	91.70	359.00	9,842.41	4,075.40	-1,069.55	4,084.94	1.37	-1.37	0.11
14,068.00	90.70	359.50	9,840.44	4,169.37	-1,070.78	4,178.92	1.19	-1.06	0.53
14,163.00	90.90	359.40	9,839.12	4,264.36	-1,071.69	4,273.91	0.24	0.21	-0.11
14,257.00	91.40	359.50	9,837.23	4,358.34	-1,072.59	4,367.89	0.54	0.53	0.11
14,352.00	90.00	0.30	9,836.07	4,453.32	-1,072.76	4,462.88	1.70	-1.47	0.84
14,446.00	89.90	0.10	9,836.15	4,547.32	-1,072.43	4,556.87	0.24	-0.11	-0.21
14,541.00	89.90	0.01	9,836.32	4,642.32	-1,072.34	4,651.87	0.10	0.00	-0.10
14,635.00	89.90	359.90	9,836.48	4,736.32	-1,072.42	4,745.86	0.11	0.00	-0.11
14,691.44	89.96	359.72	9,836.55	4,792.76	-1,072.61	4,802.30	0.33	0.11	-0.32
330' Hardline Exit ("LTP"): 14691.44' MD									
14,730.00	90.00	359.60	9,836.56	4,831.32	-1,072.83	4,840.86	0.33	0.11	-0.32



Pro Directional Survey Report



Company:	McElvain Energy	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM (NAD 83)	TVD Reference:	Well @ 3919.00usft (GL:3894' + KB:25' (H&P 262))
Site:	EK 30 BS2 Federal Com	MD Reference:	Well @ 3919.00usft (GL:3894' + KB:25' (H&P 262))
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH Surveys 125'-14810' PTB 14860'	Database:	WellPlanner1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,810.00	89.50	359.80	9,836.91	4,911.32	-1,073.25	4,920.86	0.67	-0.63	0.25
Last Survey: 14810.00' MD, 9836.91' TVD									
14,860.00	89.50	359.80	9,837.35	4,961.32	-1,073.43	4,970.86	0.00	0.00	0.00
PTB: 14860.00' MD, 9837.35' TVD									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,061.99	9,892.85	173.86	-960.71	330' Hardline Entry ("FTP"): 10061.99' MD
14,691.44	9,836.55	4,792.76	-1,072.61	330' Hardline Exit ("LTP"): 14691.44' MD
14,810.00	9,836.91	4,911.32	-1,073.25	Last Survey: 14810.00' MD, 9836.91' TVD
14,860.00	9,837.35	4,961.32	-1,073.43	PTB: 14860.00' MD, 9837.35' TVD

Checked By: _____	Approved By: _____	Date: _____
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Radial Cement Bond
Gamma Ray CCL
Log

Company McElvain Energy Inc.
Well EK 30 BS2 Federal Com #2H
Field EK Bone Spring
County Lea
State New Mexico

Company McElvain Energy Inc.
Well EK 30 BS2 Federal Com #2H
Field EK Bone Spring
County Lea State New Mexico

Location: API # :
230' FNL & 660 FEL
Section 31
SEC TWP RGE
Elevation
Permanent Datum Ground Level Elevation 3894'
Log Measured From KB 25' APD
Drilling Measured From KB
K.B. 3919'
D.F. 3918'
G.L. 3894'

Date	11/15/2017
Run Number	One
Depth Driller	14748'
Depth Logger	10020'
Bottom Logged Interval	10019'
Top Log Interval	1800'
Open Hole Size	7 5/8"
Type Fluid	Water
Density / Viscosity	-
Max. Recorded Temp.	-
Estimated Cement Top	-
Time Well Ready	On Arrival
Time Logger on Bottom	See Log
Equipment Number	WL 821
Location	Hobbs, New Mexico
Recorded By	R. Utajara
Witnessed By	Mr. Brian O Dell

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To

Casing Record		Size	Wgt/Ft	Top	Bottom
Surface String		13 3/8"	54.5#	Surface	1820'
Prot. String		9 5/8"	40#	Surface	4936'
Production String		5 1/2"	20#	Surface	14776'
Liner					
Marker Joint				9278'+ to 9301'-	

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

*****Thank you for using Capitan Corporation*****



Main Pass 5' =100'