



Company: **ENERGEN RES. CORP.**
Field: **W LOVINGTON STRAWN**
Cty/Blk/Par: **LEA CO., NM**
Well Name: **WLSU #20**
Rig: **KEY ENERGY #36**

Job Number: **294553**
Magnetic Decl.: **8.69**
Grid Corr.: **0.00**
Total Survey Corr.: **8.69**
Calculation Method: **Proposed Azimuth**
Depth Reference: **RKB**
Tie Into: **BHI Gyro**
Minimum Curvature: **139.14**
Target Info: **tvd: 11600 vs. 489.0 370.0 S 320.0 E 30' radius**

No.	Tool Type	Survey Depth (ft)	Incl (°)	Azimuth (°)	Course Lgth (ft)	TVD (ft)	VS (ft)	Coordinates		Closure Dist (ft)	DLS (°/100')	Bid Rate (°/100')	Wlk Rate (°/100')
								N/S (ft)	E/W (ft)				
0	Tiein	8100	0.40	28.56		8098.53		15.10 N	64.69 W				
1	MWD	8118	1.0	124.4	18	8116.53	-53.61	15.07 N	64.53 W	66.27	283.14	6.19	3.3
2	MWD	8150	2.0	150.0	32	8148.52	-52.79	14.43 N	64.02 W	65.63	282.70	3.69	3.1
3	MWD	8182	3.1	145.5	32	8180.49	-51.38	13.23 N	63.25 W	64.62	281.81	3.49	3.4
4	MWD	8214	4.4	150.0	32	8212.42	-49.32	11.45 N	62.15 W	63.19	280.44	4.16	4.1
5	MWD	8246	5.6	151.1	32	8244.29	-46.59	9.02 N	60.78 W	61.45	278.44	3.76	3.8
6	MWD	8278	6.9	149.3	32	8276.10	-43.17	6.00 N	59.04 W	59.35	275.80	4.11	4.1
7	MWD	8310	7.4	147.9	32	8307.85	-39.24	2.60 N	56.97 W	57.03	272.62	1.65	1.6
8	MWD	8342	7.6	144.4	32	8339.58	-35.09	0.86 S	54.64 W	54.65	269.10	1.56	0.6
9	MWD	8406	9.1	133.8	64	8402.90	-25.84	7.81 S	48.52 W	49.15	260.86	3.35	2.3
10	MWD	8469	8.5	139.5	63	8465.16	-16.22	14.80 S	41.90 W	44.44	250.55	1.68	-1.0
11	MWD	8533	8.3	138.8	64	8528.48	-6.87	21.87 S	35.79 W	41.94	238.57	0.35	-0.3
12	MWD	8597	9.2	139.1	64	8591.73	2.86	29.21 S	29.40 W	41.44	225.18	1.41	1.4
13	MWD	8661	8.4	133.8	64	8654.98	12.63	36.31 S	22.67 W	42.81	211.98	1.78	-1.3
14	MWD	8725	8.8	132.8	64	8718.26	22.15	42.88 S	15.71 W	45.66	200.12	0.67	0.6
15	MWD	8789	8.6	132.1	64	8781.52	31.77	49.41 S	8.56 W	50.15	189.83	0.35	-0.3
16	MWD	8853	8.7	131.0	64	8844.79	41.31	55.79 S	1.36 W	55.81	181.40	0.30	0.2
17	MWD	8916	8.3	132.4	63	8907.10	50.54	61.99 S	5.59 E	62.24	174.84	0.71	-0.6
18	MWD	8980	8.9	131.0	64	8970.38	60.03	68.35 S	12.74 E	69.53	169.44	0.99	0.9
19	MWD	9044	9.1	132.4	64	9033.59	69.96	75.01 S	20.22 E	77.69	164.92	0.46	0.3
20	MWD	9108	8.6	131.4	64	9096.83	79.72	81.59 S	27.54 E	86.11	161.35	0.82	-0.8
21	MWD	9172	9.3	132.8	64	9160.05	89.61	88.27 S	34.93 E	94.92	158.41	1.15	1.1
22	MWD	9235	9.1	131.7	63	9222.24	99.60	95.04 S	42.38 E	104.06	155.97	0.42	-0.3
23	MWD	9299	9.1	129.3	64	9285.44	109.61	101.61 S	50.08 E	113.28	153.76	0.59	0.0
24	MWD	9370	9.9	130.1	71	9355.46	121.17	109.10 S	59.09 E	124.07	151.56	1.14	1.1
25	MWD	9434	9.1	134.9	64	9418.59	131.65	116.21 S	66.88 E	134.09	150.08	1.76	-1.3
26	MWD	9498	9.1	133.1	64	9481.78	141.73	123.25 S	74.16 E	143.84	148.96	0.44	0.0
27	MWD	9561	9.2	136.7	63	9543.98	151.72	130.31 S	81.26 E	153.57	148.06	0.92	0.2
28	MWD	9625	9.1	137.4	64	9607.17	161.89	137.76 S	88.19 E	163.57	147.37	0.23	-0.2
29	MWD	9689	9.8	139.1	64	9670.30	172.39	145.61 S	95.18 E	173.96	146.83	1.18	1.1
30	MWD	9753	8.9	137.1	64	9733.45	182.79	153.34 S	102.12 E	184.24	146.34	1.50	-1.4
31	MWD	9817	9.1	136.3	64	9796.66	192.79	160.62 S	109.00 E	194.11	145.84	0.36	0.3
32	MWD	9881	8.4	136.7	64	9859.91	202.51	167.68 S	115.70 E	203.73	145.39	1.10	-1.1
33	MWD	9945	9.4	138.4	64	9923.14	212.41	175.00 S	122.38 E	213.54	145.03	1.62	1.6
34	MWD	10009	9.2	136.3	64	9986.30	222.75	182.60 S	129.38 E	223.79	144.68	0.62	-0.3
35	MWD	10073	8.7	134.5	64	10049.52	232.68	189.69 S	136.37 E	233.62	144.29	0.90	-0.8
36	MWD	10137	8.8	135.3	64	10112.78	242.39	196.57 S	143.26 E	243.23	143.91	0.25	0.2

SUR: F-34-15s-35e, 1980/N & 1980/W
BHL: F-34-15s-35e, 2352/N & 2300/W
API # 30-025-35586



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Depth Reference: RKB
Tie Info: BHI Gyro
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Rig: KEY ENERGY #36														
No.	Tool Type	Survey Depth (ft)	Incl (°)	Azimuth (°)	Course Lgth (ft)	TVD (ft)	VS (ft)	Coordinates		Closure		DLS (°/100')	Bld Rate (°/100')	Wlk Rate (°/100')
								N/S (ft)	E/W (ft)	Dist (ft)	Ang (°)			
37	MWD	10201	8.8	134.5	64	10176.02	252.15	203.48 S	150.20 E	252.91	143.57	0.19	0.0	-1.3
38	MWD	10265	8.3	132.4	64	10239.31	261.62	210.02 S	157.10 E	262.28	143.20	0.92	-0.8	-3.3
39	MWD	10329	8.6	134.2	64	10302.62	270.98	216.47 S	163.94 E	271.55	142.86	0.62	0.5	2.8
40	MWD	10393	8.4	136.3	64	10365.91	280.41	223.19 S	170.60 E	280.93	142.61	0.58	-0.3	3.3
41	MWD	10456	8.4	139.8	63	10428.24	289.61	230.03 S	176.75 E	290.10	142.46	0.81	0.0	5.6
42	MWD	10520	8.3	136.7	64	10491.56	298.90	236.96 S	182.94 E	299.36	142.33	0.72	-0.2	-4.8
43	MWD	10584	8.1	137.4	64	10554.91	308.02	243.65 S	189.16 E	308.45	142.18	0.35	-0.3	1.1
44	MWD	10616	8.3	138.1	32	10586.58	312.58	247.02 S	192.23 F	313.01	142.11	0.70	0.6	2.2
45	MWD	10648	8.4	138.8	32	10618.24	317.23	250.50 S	195.31 E	317.64	142.06	0.45	0.3	2.2
46	MWD	10680	8.9	140.2	32	10649.87	322.04	254.16 S	198.43 F	322.45	142.02	1.70	1.6	4.4
47	MWD	10712	9.5	140.2	32	10681.46	327.16	258.09 S	201.71 E	327.56	141.99	1.87	1.9	0.0
48	MWD	10776	9.5	133.5	64	10744.59	337.70	265.79 S	208.92 E	338.07	141.83	1.73	0.0	-10.5
49	MWD	10839	9.7	131.0	63	10806.71	348.12	272.85 S	216.70 E	348.43	141.54	0.73	0.3	-4.0
50	MWD	10903	9.1	132.4	64	10869.85	358.49	279.80 S	224.50 E	358.73	141.26	1.00	-0.9	2.2
51	MWD	10967	8.6	131.4	64	10933.08	368.25	286.37 S	231.83 E	368.45	141.01	0.82	-0.8	-1.6
52	MWD	11031	8.3	131.7	64	10996.39	377.58	292.61 S	238.87 E	377.73	140.77	0.47	-0.5	0.5
53	MWD	11063	8.3	132.1	32	11028.05	382.16	295.70 S	242.31 E	382.30	140.67	0.18	0.0	1.3
54	MWD	11127	8.8	134.9	64	11091.34	391.63	302.25 S	249.20 E	391.74	140.49	1.02	0.8	4.4
55	MWD	11191	8.1	136.3	64	11154.65	401.01	308.96 S	255.79 E	401.11	140.38	1.14	-1.1	2.2
56	MWD	11255	8.5	133.5	64	11217.98	410.22	315.48 S	262.33 E	410.30	140.26	0.89	0.6	-4.4
57	MWD	11319	8.0	135.6	64	11281.31	419.37	321.92 S	268.88 E	419.44	140.13	0.91	-0.8	3.3
58	MWD	11383	7.8	137.0	64	11344.71	428.16	328.28 S	274.96 E	428.21	140.05	0.43	-0.3	2.2
59	MWD	11446	6.2	134.9	63	11407.09	436.91	334.57 S	281.05 E	436.96	139.97	0.79	0.6	-3.3
60	MWD	11510	8.5	132.4	64	11470.42	446.16	340.99 S	287.78 E	446.19	139.84	0.74	0.5	-3.9
61	MWD	11574	7.9	134.5	64	11533.76	455.24	347.26 S	294.41 E	455.26	139.71	1.05	-0.9	3.3
62	MWD	11638	8.4	133.8	64	11597.12	464.28	353.58 S	300.92 E	464.30	139.60	0.80	0.8	1.1
63	MWD	11702	7.9	132.1	64	11660.47	473.30	359.76 S	307.56 F	473.31	139.47	0.87	-0.8	-2.7
64	MWD	11783	7.8	132.8	84	11740.71	484.26	367.23 S	315.32 F	484.29	139.31	0.1	0.1	3.9
65	RT	11830	7.8	132.8	47	11781.27	490.63	371.56 S	319.40 F	490.63	139.23	0.00	0.0	6.0