



**Gruy Petroleum Management Co.
New Mexico
Eddy County
Sec. 19-T24S-R26E
Estill AD Fed #3 - MWD ST survey**

Halliburton Sperry-Drilling Survey Report

28 November, 2005

Surface Coordinates: 436269.40 N, 501104.70 E (32° 11' 57.9178" N, 104° 19' 47.1431" W)
Grid Coordinate System: NAD27 New Mexico State Planes, Eastern Zone

Surface Coordinates relative to Center of County: 109343.36 S, 1104.70 E (Grid)
Surface Coordinates relative to Wellhead: 1470.00 N, 1939.00 W (Grid)
Kelly Bushing Elevation: 3444.00ft above Mean Sea Level
Kelly Bushing Elevation: 14.00ft above Ground Level

Survey Ref: svy9393

HALLIBURTON
Sperry Drilling Services

Survey Report for Sec. 19-T24S-R26E - Estill AD Fed #3

Measure Depth (ft)	Incl. Angle (Deg)	Drift Direction (Deg)	True Vertical Depth	Vertical Section (ft)	Local Coordinates		Dogleg Severit (°/100ft)	Lease Calls		Global Coordinates	
					N-S (ft)	E-W (ft)		FNL-FSL (ft)	FEL-FWL (ft)	Grid Y (ft)	Grid X (ft)
0.00	0.000	0.000	0.00	0.00	0.00 N	0.00 E		1470.00 FSL	1939.00 FEL	436269.40 N	501104.70 E
100.00	0.163	40.666	100.00	0.04	0.11 N	0.09 E	0.16	1470.11 FSL	1938.91 FEL	436269.51 N	501104.79 E
200.00	0.721	339.020	200.00	0.70	0.80 N	0.04 W	0.66	1470.80 FSL	1939.04 FEL	436270.20 N	501104.66 E
300.00	1.999	334.439	299.97	3.04	2.96 N	1.02 W	1.28	1472.96 FSL	1940.02 FEL	436272.36 N	501103.68 E
400.00	2.399	332.224	399.89	6.85	6.39 N	2.75 W	0.41	1476.39 FSL	1941.75 FEL	436275.79 N	501101.95 E
500.00	2.841	329.983	499.79	11.41	10.39 N	4.96 W	0.45	1480.39 FSL	1943.96 FEL	436279.79 N	501099.74 E
600.00	3.893	327.570	599.61	17.28	15.40 N	8.02 W	1.06	1485.40 FSL	1947.02 FEL	436284.80 N	501096.68 E
700.00	4.633	327.476	699.34	24.71	21.67 N	12.01 W	0.74	1491.67 FSL	1951.01 FEL	436291.07 N	501092.69 E
800.00	4.776	326.804	799.00	32.92	28.56 N	16.46 W	0.15	1498.56 FSL	1955.46 FEL	436297.96 N	501088.24 E
900.00	4.657	326.346	898.66	41.14	35.42 N	20.99 W	0.12	1505.42 FSL	1959.99 FEL	436304.82 N	501083.71 E
1000.00	5.133	324.901	998.30	49.67	42.46 N	25.82 W	0.49	1512.46 FSL	1964.82 FEL	436311.86 N	501078.88 E
1100.00	5.648	320.174	1097.85	59.03	49.90 N	31.54 W	0.68	1519.90 FSL	1970.54 FEL	436319.30 N	501073.16 E
1200.00	5.787	325.946	1197.36	68.95	57.86 N	37.51 W	0.59	1527.86 FSL	1976.51 FEL	436327.26 N	501067.19 E
1300.00	5.718	328.977	1296.85	78.97	66.30 N	42.90 W	0.31	1536.30 FSL	1981.90 FEL	436335.70 N	501061.80 E
1400.00	5.177	328.209	1396.40	88.46	74.41 N	47.85 W	0.55	1544.41 FSL	1986.85 FEL	436343.81 N	501056.85 E
1500.00	4.400	328.800	1496.05	96.81	81.52 N	52.21 W	0.78	1551.52 FSL	1991.21 FEL	436350.92 N	501052.49 E
1600.00	3.591	325.500	1595.81	103.77	87.38 N	55.97 W	0.84	1557.38 FSL	1994.97 FEL	436356.78 N	501048.73 E
1700.00	3.322	323.163	1695.63	109.79	92.28 N	59.48 W	0.30	1562.28 FSL	1998.48 FEL	436361.68 N	501045.22 E
1800.00	2.613	325.447	1795.49	114.96	96.48 N	62.51 W	0.72	1566.48 FSL	2001.51 FEL	436365.88 N	501042.19 E
1900.00	2.438	330.102	1895.39	119.37	100.20 N	64.87 W	0.27	1570.20 FSL	2003.87 FEL	436369.60 N	501039.83 E

deepest gyro survey

1923.00	2.471	326.299	1918.37	120.35	101.04 N	65.39 W	0.72	1571.04 FSL	2004.39 FEL	436370.44 N	501039.31 E
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Measure Depth (ft)	Incl. Angle (Deg)	Drift Direction (Deg)	True Vertical Depth	Vertical Section (ft)	Local Coordinates		Dogleg Severit (°/100ft)	Lease Calls		Global Coordinates	
					N-S (ft)	E-W (ft)		FNL-FSL (ft)	FEL-FWL (ft)	Grid Y (ft)	Grid X (ft)

MWD Survey

1951.00	2.040	324.090	1946.35	121.45	101.94 N	66.01 W	1.57	1571.94 FSL	2005.01 FEL	436371.34 N	501038.69 E
2014.00	2.950	329.910	2009.29	124.19	104.25 N	67.48 W	1.50	1574.25 FSL	2006.48 FEL	436373.65 N	501037.22 E
2077.00	3.940	334.110	2072.18	127.96	107.60 N	69.24 W	1.62	1577.60 FSL	2008.24 FEL	436377.00 N	501035.46 E
2140.00	4.580	334.260	2135.00	132.60	111.82 N	71.28 W	1.02	1581.82 FSL	2010.28 FEL	436381.22 N	501033.42 E
2203.00	5.470	329.970	2197.76	138.09	116.68 N	73.87 W	1.53	1586.68 FSL	2012.87 FEL	436386.08 N	501030.83 E
2266.00	6.160	326.660	2260.44	144.47	122.11 N	77.24 W	1.22	1592.11 FSL	2016.24 FEL	436391.51 N	501027.46 E
2329.00	7.640	326.370	2322.98	152.04	128.42 N	81.41 W	2.35	1598.42 FSL	2020.41 FEL	436397.82 N	501023.29 E
2392.00	8.290	321.430	2385.37	160.75	135.46 N	86.56 W	1.50	1605.46 FSL	2025.56 FEL	436404.86 N	501018.14 E
2455.00	9.380	320.220	2447.62	170.37	142.95 N	92.68 W	1.76	1612.95 FSL	2031.68 FEL	436412.35 N	501012.02 E
2519.00	10.020	318.620	2510.71	181.06	151.14 N	99.70 W	1.09	1621.14 FSL	2038.70 FEL	436420.54 N	501005.00 E
2582.00	11.180	317.540	2572.63	192.50	159.76 N	107.44 W	1.87	1629.76 FSL	2046.44 FEL	436429.16 N	500997.26 E

tie in

2645.00	12.520	318.940	2634.29	205.29	169.41 N	116.05 W	2.18	1639.41 FSL	2055.05 FEL	436438.81 N	500988.65 E
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MWD ST survey

2716.00	11.340	332.570	2703.77	219.86	181.41 N	124.33 W	4.29	1651.41 FSL	2063.33 FEL	436450.81 N	500980.37 E
2770.00	11.520	338.350	2756.70	230.43	191.14 N	128.76 W	2.15	1661.14 FSL	2067.76 FEL	436460.54 N	500975.94 E
2833.00	11.890	342.320	2818.39	242.86	203.17 N	133.05 W	1.41	1673.17 FSL	2072.05 FEL	436472.57 N	500971.65 E
2896.00	12.450	346.580	2879.97	255.51	215.96 N	136.60 W	1.68	1685.96 FSL	2075.60 FEL	436485.36 N	500968.10 E
2959.00	12.670	352.230	2941.47	268.16	229.41 N	139.11 W	1.98	1699.41 FSL	2078.11 FEL	436498.81 N	500965.59 E
3022.00	12.780	350.740	3002.92	280.78	243.13 N	141.17 W	0.55	1713.13 FSL	2080.17 FEL	436512.53 N	500963.53 E
3086.00	12.380	351.470	3065.38	293.51	256.90 N	143.32 W	0.67	1726.90 FSL	2082.32 FEL	436526.30 N	500961.38 E
3150.00	13.760	350.950	3127.72	306.70	271.21 N	145.54 W	2.16	1741.21 FSL	2084.54 FEL	436540.61 N	500959.16 E
3213.00	13.400	348.130	3188.96	320.36	285.75 N	148.22 W	1.20	1755.75 FSL	2087.22 FEL	436555.15 N	500956.48 E
3277.00	13.900	342.080	3251.16	334.69	300.32 N	152.11 W	2.36	1770.32 FSL	2091.11 FEL	436569.72 N	500952.59 E
3384.00	14.980	336.580	3354.78	360.74	325.24 N	161.56 W	1.63	1795.24 FSL	2100.56 FEL	436594.64 N	500943.14 E
3479.00	16.240	335.110	3446.28	386.00	348.56 N	172.03 W	1.39	1818.56 FSL	2111.03 FEL	436617.96 N	500932.67 E
3574.00	16.000	330.650	3537.54	412.21	372.02 N	184.04 W	1.33	1842.02 FSL	2123.04 FEL	436641.42 N	500920.66 E
3669.00	17.230	327.230	3628.58	439.35	395.27 N	198.07 W	1.65	1865.27 FSL	2137.07 FEL	436664.67 N	500906.63 E
3763.00	16.440	322.740	3718.55	466.54	417.56 N	213.66 W	1.62	1887.56 FSL	2152.66 FEL	436686.96 N	500891.04 E

Measure Depth (ft)	Incl. Angle (Deg)	Drift Direction (Deg)	True Vertical Depth	Vertical Section (ft)	Local Coordinates		Dogleg Severit (°/100ft)	Lease Calls		Global Coordinates	
					N-S (ft)	E-W (ft)		FNL-FSL (ft)	FEL-FWL (ft)	Grid Y (ft)	Grid X (ft)
3858.00	15.020	320.800	3809.99	492.18	437.80 N	229.58 W	1.59	1907.80 FSL	2168.58 FEL	436707.20 N	500875.12 E
3953.00	15.120	325.900	3901.73	516.81	457.60 N	244.31 W	1.40	1927.60 FSL	2183.31 FEL	436727.00 N	500860.39 E
4048.00	15.470	327.660	3993.37	541.87	478.57 N	258.04 W	0.61	1948.57 FSL	2197.04 FEL	436747.97 N	500846.66 E
4143.00	16.440	326.250	4084.71	567.98	500.45 N	272.28 W	1.10	1970.45 FSL	2211.28 FEL	436769.85 N	500832.42 E
4237.00	16.080	326.950	4174.95	594.30	522.42 N	286.77 W	0.44	1992.42 FSL	2225.77 FEL	436791.82 N	500817.93 E
4333.00	15.290	327.130	4267.37	620.25	544.20 N	300.89 W	0.82	2014.20 FSL	2239.89 FEL	436813.60 N	500803.81 E
4428.00	16.440	325.900	4358.75	646.22	565.85 N	315.23 W	1.26	2035.85 FSL	2254.23 FEL	436835.25 N	500789.47 E
4522.00	16.000	325.370	4449.01	672.47	587.52 N	330.05 W	0.49	2057.52 FSL	2269.05 FEL	436856.92 N	500774.65 E
4617.00	14.590	325.900	4540.64	697.52	608.20 N	344.20 W	1.49	2078.20 FSL	2283.20 FEL	436877.60 N	500760.50 E
4712.00	14.770	325.720	4632.54	721.59	628.12 N	357.72 W	0.20	2098.12 FSL	2296.72 FEL	436897.52 N	500746.98 E
4807.00	15.120	326.080	4724.33	746.09	648.41 N	371.46 W	0.38	2118.41 FSL	2310.46 FEL	436917.81 N	500733.24 E
4902.00	15.910	325.370	4815.86	771.49	669.40 N	385.77 W	0.86	2139.40 FSL	2324.77 FEL	436938.80 N	500718.93 E
4996.00	14.940	320.800	4906.48	796.42	689.40 N	400.75 W	1.65	2159.40 FSL	2339.75 FEL	436958.80 N	500703.95 E
5091.00	15.910	319.750	4998.06	821.51	708.82 N	416.91 W	1.06	2178.82 FSL	2355.91 FEL	436978.22 N	500687.79 E
5186.00	15.820	319.920	5089.44	847.28	728.67 N	433.66 W	0.11	2198.67 FSL	2372.66 FEL	436998.07 N	500671.04 E
5281.00	14.330	319.040	5181.17	871.78	747.46 N	449.70 W	1.59	2217.46 FSL	2388.70 FEL	437016.86 N	500655.00 E
5375.00	13.800	316.060	5272.35	894.31	764.32 N	465.11 W	0.95	2234.32 FSL	2404.11 FEL	437033.72 N	500639.59 E
5470.00	12.660	318.170	5364.83	915.72	780.23 N	479.91 W	1.30	2250.23 FSL	2418.91 FEL	437049.63 N	500624.79 E
5565.00	10.630	322.610	5457.87	934.75	794.95 N	492.18 W	2.33	2264.95 FSL	2431.18 FEL	437064.35 N	500612.52 E
5659.00	13.270	328.540	5549.83	954.18	811.05 N	503.08 W	3.09	2281.05 FSL	2442.08 FEL	437080.45 N	500601.62 E
5754.00	13.890	328.540	5642.17	976.48	830.07 N	514.72 W	0.65	2300.07 FSL	2453.72 FEL	437099.47 N	500589.98 E
5849.00	14.940	320.800	5734.19	1000.06	849.29 N	528.41 W	2.31	2319.29 FSL	2467.41 FEL	437118.69 N	500576.29 E
5944.00	15.200	319.040	5825.92	1024.57	868.19 N	544.32 W	0.55	2338.19 FSL	2483.32 FEL	437137.59 N	500560.38 E
6039.00	15.820	322.380	5917.46	1049.81	887.85 N	560.38 W	1.14	2357.85 FSL	2499.38 FEL	437157.25 N	500544.32 E
6127.00	15.310	322.100	6002.24	1073.35	906.52 N	574.84 W	0.59	2376.52 FSL	2513.84 FEL	437175.92 N	500529.86 E
6190.00	14.000	322.200	6063.18	1089.23	919.10 N	584.62 W	2.08	2389.10 FSL	2523.62 FEL	437188.50 N	500520.08 E
6253.00	13.200	324.000	6124.42	1104.01	930.94 N	593.52 W	1.44	2400.94 FSL	2532.52 FEL	437200.34 N	500511.18 E
6347.00	13.900	324.000	6215.80	1126.00	948.76 N	606.47 W	0.74	2418.76 FSL	2545.47 FEL	437218.16 N	500498.23 E
6442.00	13.500	323.900	6308.10	1148.47	966.95 N	619.71 W	0.42	2436.95 FSL	2558.71 FEL	437236.35 N	500484.99 E
6537.00	14.100	319.200	6400.36	1171.01	984.67 N	633.80 W	1.34	2454.67 FSL	2572.80 FEL	437254.07 N	500470.90 E

Measure Depth (ft)	Incl. Angle (Deg)	Drift Direction (Deg)	True Vertical Depth	Vertical Section (ft)	Local Coordinates N-S (ft) E-W (ft)		Dogleg Severit (°/100ft)	Lease Calls FNL-FSL (ft) FEL-FWL (ft)		Global Coordinates Grid Y (ft) Grid X (ft)	
6630.00	14.900	319.100	6490.40	1194.08	1002.29 N	649.03 W	0.86	2472.29 FSL	2588.03 FEL	437271.69 N	500455.67 E
6725.00	16.100	320.100	6581.94	1219.25	1021.62 N	665.48 W	1.29	2491.62 FSL	2604.48 FEL	437291.02 N	500439.22 E
6820.00	16.500	319.000	6673.12	1245.69	1041.91 N	682.78 W	0.53	2511.91 FSL	2621.78 FEL	437311.31 N	500421.92 E
6913.00	17.000	318.300	6762.17	1272.21	1062.03 N	700.49 W	0.58	2532.03 FSL	2639.49 FEL	437331.43 N	500404.21 E
6980.00	17.000	318.500	6826.25	1291.58	1076.68 N	713.50 W	0.09	2546.68 FSL	2652.50 FEL	437346.08 N	500391.20 E
7075.00	16.700	320.000	6917.17	1318.87	1097.54 N	731.47 W	0.56	2567.54 FSL	2670.47 FEL	437366.94 N	500373.23 E
7169.00	16.300	319.300	7007.30	1345.35	1117.88 N	748.75 W	0.48	2587.88 FSL	2687.75 FEL	437387.28 N	500355.95 E
7264.00	15.800	320.600	7098.59	1371.41	1137.98 N	765.66 W	0.65	2607.98 FSL	2704.66 FEL	437407.38 N	500339.04 E
7359.00	16.000	320.800	7189.96	1397.28	1158.12 N	782.14 W	0.22	2628.12 FSL	2721.14 FEL	437427.52 N	500322.56 E
7453.00	16.400	321.400	7280.23	1423.37	1178.53 N	798.61 W	0.46	2648.53 FSL	2737.61 FEL	437447.93 N	500306.09 E
7548.00	16.200	318.100	7371.41	1449.81	1198.88 N	815.83 W	1.00	2668.88 FSL	2754.83 FEL	437468.28 N	500288.87 E
7644.00	16.800	316.700	7463.46	1476.70	1218.94 N	834.28 W	0.75	2688.94 FSL	2773.28 FEL	437488.34 N	500270.42 E
7739.00	17.700	318.200	7554.18	1504.48	1239.70 N	853.33 W	1.06	2709.70 FSL	2792.33 FEL	437509.10 N	500251.37 E
7832.00	17.500	317.500	7642.83	1532.24	1260.55 N	872.20 W	0.31	2730.55 FSL	2811.20 FEL	437529.95 N	500232.50 E
7928.00	17.500	319.000	7734.39	1560.78	1282.09 N	891.42 W	0.47	2752.09 FSL	2830.42 FEL	437551.49 N	500213.28 E
8024.00	17.400	321.600	7825.97	1589.36	1304.23 N	909.80 W	0.82	2774.23 FSL	2848.80 FEL	437573.63 N	500194.90 E
8120.00	17.100	322.100	7917.65	1617.72	1326.61 N	927.39 W	0.35	2796.61 FSL	2866.39 FEL	437596.01 N	500177.31 E
8214.00	17.900	320.700	8007.30	1645.85	1348.70 N	945.03 W	0.96	2818.70 FSL	2884.03 FEL	437618.10 N	500159.67 E
8309.00	17.900	321.400	8097.70	1674.89	1371.41 N	963.38 W	0.23	2841.41 FSL	2902.38 FEL	437640.81 N	500141.32 E
8405.00	18.100	320.100	8189.01	1704.38	1394.38 N	982.15 W	0.47	2864.38 FSL	2921.15 FEL	437663.78 N	500122.55 E
8499.00	18.700	319.300	8278.20	1733.81	1417.00 N	1001.35 W	0.69	2887.00 FSL	2940.35 FEL	437686.40 N	500103.35 E
8594.00	17.400	318.300	8368.52	1762.95	1439.16 N	1020.73 W	1.41	2909.16 FSL	2959.73 FEL	437708.56 N	500083.97 E
8689.00	17.000	319.600	8459.27	1790.76	1460.34 N	1039.18 W	0.58	2930.34 FSL	2978.18 FEL	437729.74 N	500065.52 E
8784.00	16.700	320.300	8550.20	1818.09	1481.42 N	1056.90 W	0.38	2951.42 FSL	2995.90 FEL	437750.82 N	500047.80 E
8879.00	16.300	322.700	8641.28	1844.94	1502.52 N	1073.70 W	0.83	2972.52 FSL	3012.70 FEL	437771.92 N	500031.00 E
8974.00	15.300	324.800	8732.69	1870.77	1523.37 N	1089.00 W	1.21	2993.37 FSL	3028.00 FEL	437792.77 N	500015.70 E
9069.00	13.900	324.900	8824.62	1894.69	1542.95 N	1102.79 W	1.47	3012.95 FSL	3041.79 FEL	437812.35 N	500001.91 E
9162.00	13.400	322.100	8915.00	1916.60	1560.59 N	1115.83 W	0.89	3030.59 FSL	3054.83 FEL	437829.99 N	499988.87 E
9257.00	14.700	322.200	9007.15	1939.58	1578.80 N	1129.98 W	1.37	3048.80 FSL	3068.98 FEL	437848.20 N	499974.72 E
9352.00	14.600	321.200	9099.07	1963.50	1597.66 N	1144.87 W	0.29	3067.66 FSL	3083.87 FEL	437867.06 N	499959.83 E

Measure Depth (ft)	Incl. Angle (Deg)	Drift Direction (Deg)	True Vertical Depth	Vertical Section (ft)	Local Coordinates		Dogleg Severit (°/100ft)	Lease Calls		Global Coordinates	
					N-S (ft)	E-W (ft)		FNL-FSL (ft)	FEL-FWL (ft)	Grid Y (ft)	Grid X (ft)
9447.00	15.600	323.900	9190.79	1988.17	1617.31 N	1159.90 W	1.29	3087.31 FSL	3098.90 FEL	437886.71 N	499944.80 E
9541.00	16.400	320.900	9281.15	2013.99	1637.82 N	1175.72 W	1.22	3107.82 FSL	3114.72 FEL	437907.22 N	499928.98 E
9636.00	17.200	320.900	9372.09	2041.29	1659.13 N	1193.03 W	0.84	3129.13 FSL	3132.03 FEL	437928.53 N	499911.67 E
9730.00	17.400	321.400	9461.84	2069.10	1680.90 N	1210.57 W	0.27	3150.90 FSL	3149.57 FEL	437950.30 N	499894.13 E
9826.00	16.000	323.000	9553.79	2096.59	1702.69 N	1227.49 W	1.53	3172.69 FSL	3166.49 FEL	437972.09 N	499877.21 E
9921.00	15.800	323.400	9645.15	2122.56	1723.53 N	1243.08 W	0.24	3193.53 FSL	3182.08 FEL	437992.93 N	499861.62 E
10016.00	14.900	318.500	9736.77	2147.55	1743.06 N	1258.88 W	1.66	3213.06 FSL	3197.88 FEL	438012.46 N	499845.82 E
10110.00	15.300	315.600	9827.52	2171.66	1760.97 N	1275.57 W	0.91	3230.97 FSL	3214.57 FEL	438030.37 N	499829.13 E
10205.00	14.900	317.200	9919.24	2195.99	1778.89 N	1292.64 W	0.61	3248.89 FSL	3231.64 FEL	438048.29 N	499812.06 E
10300.00	15.500	316.800	10010.92	2220.52	1797.10 N	1309.62 W	0.64	3267.10 FSL	3248.62 FEL	438066.50 N	499795.08 E
10395.00	16.000	318.100	10102.35	2245.95	1816.10 N	1327.06 W	0.64	3286.10 FSL	3266.06 FEL	438085.50 N	499777.64 E
10490.00	16.200	320.500	10193.63	2272.05	1836.07 N	1344.23 W	0.73	3306.07 FSL	3283.23 FEL	438105.47 N	499760.47 E
10585.00	17.000	320.000	10284.67	2299.01	1856.94 N	1361.59 W	0.86	3326.94 FSL	3300.59 FEL	438126.34 N	499743.11 E
10679.00	15.900	313.600	10374.82	2325.18	1876.35 N	1379.75 W	2.25	3346.35 FSL	3318.75 FEL	438145.75 N	499724.95 E
10774.00	16.100	314.600	10466.14	2350.70	1894.57 N	1398.55 W	0.36	3364.57 FSL	3337.55 FEL	438163.97 N	499706.15 E
10868.00	16.400	316.900	10556.39	2376.50	1913.41 N	1416.90 W	0.76	3383.41 FSL	3355.90 FEL	438182.81 N	499687.80 E
10963.00	16.800	317.000	10647.43	2403.23	1933.24 N	1435.42 W	0.42	3403.24 FSL	3374.42 FEL	438202.64 N	499669.28 E
11058.00	17.300	317.600	10738.26	2430.69	1953.71 N	1454.31 W	0.56	3423.71 FSL	3393.31 FEL	438223.11 N	499650.39 E
11153.00	16.600	319.000	10829.13	2458.06	1974.39 N	1472.74 W	0.85	3444.39 FSL	3411.74 FEL	438243.79 N	499631.96 E
11246.00	16.600	318.200	10918.25	2484.35	1994.32 N	1490.31 W	0.25	3464.32 FSL	3429.31 FEL	438263.72 N	499614.39 E
11340.00	15.600	319.200	11008.56	2510.14	2013.90 N	1507.52 W	1.10	3483.90 FSL	3446.52 FEL	438283.30 N	499597.18 E
11435.00	15.600	319.700	11100.07	2535.47	2033.31 N	1524.13 W	0.14	3503.31 FSL	3463.13 FEL	438302.71 N	499580.57 E
11530.00	15.500	319.000	11191.59	2560.71	2052.63 N	1540.72 W	0.22	3522.63 FSL	3479.72 FEL	438322.03 N	499563.98 E
11624.00	15.500	319.500	11282.17	2585.61	2071.66 N	1557.11 W	0.14	3541.66 FSL	3496.11 FEL	438341.06 N	499547.59 E
11719.00	14.500	321.500	11373.93	2610.03	2090.62 N	1572.76 W	1.19	3560.62 FSL	3511.76 FEL	438360.02 N	499531.94 E
11813.00	14.500	323.100	11464.94	2633.49	2109.24 N	1587.15 W	0.43	3579.24 FSL	3526.15 FEL	438378.64 N	499517.55 E
11904.00	15.000	323.400	11552.94	2656.61	2127.80 N	1601.02 W	0.56	3597.80 FSL	3540.02 FEL	438397.20 N	499503.68 E
12001.00	14.400	328.800	11646.77	2681.19	2148.20 N	1614.75 W	1.54	3618.20 FSL	3553.75 FEL	438417.60 N	499489.95 E
12093.00	14.800	329.400	11735.80	2704.37	2168.10 N	1626.66 W	0.46	3638.10 FSL	3565.66 FEL	438437.50 N	499478.04 E
12185.00	14.400	331.600	11824.83	2727.51	2188.28 N	1638.08 W	0.74	3658.28 FSL	3577.08 FEL	438457.68 N	499466.62 E

Measure Depth (ft)	Incl. Angle (Deg)	Drift Direction (Deg)	True Vertical Depth	Vertical Section (ft)	Local Coordinates		Dogleg Severit (°/100ft)	Lease Calls		Global Coordinates	
					N-S (ft)	E-W (ft)		FNL-FSL (ft)	FEL-FWL (ft)	Grid Y (ft)	Grid X (ft)
12279.00	14.300	335.200	11915.90	2750.65	2209.10 N	1648.51 W	0.95	3679.10 FSL	3587.51 FEL	438478.50 N	499456.19 E
12373.00	12.400	345.500	12007.36	2771.71	2229.41 N	1655.91 W	3.23	3699.41 FSL	3594.91 FEL	438498.81 N	499448.79 E
last MWD ST survey											
12463.00	10.500	358.300	12095.58	2787.88	2246.97 N	1658.57 W	3.51	3716.97 FSL	3597.57 FEL	438516.37 N	499446.13 E
projection to TD											
12535.00	10.500	358.300	12166.38	2799.09	2260.08 N	1658.96 W	0.00	3730.08 FSL	3597.96 FEL	438529.48 N	499445.74 E

All data is in Feet (US) unless otherwise stated. Directions and coordinates are relative to Grid North.
Vertical depths are relative to RKB(3444'+20' KB). Northings and Eastings are relative to Wellhead.

Based upon Minimum Curvature type calculations, at a Measured Depth of 12535.00ft.,
The Bottom Hole Displacement is 2803.59ft., in the Direction of 323.720° (Grid).

Survey Report for Sec. 19-T24S-R26E - Estill AD Fed #3

Comments

Measured Depth (ft)	Station Coordinates			Comment
	TVD (ft)	Northings (ft)	Eastings (ft)	
1923.00	1918.37	101.04 N	65.39 W	deepest gyro survey
2645.00	2634.29	169.41 N	116.05 W	tie in
12463.00	12095.58	2246.97 N	1658.57 W	last MWD ST survey
12535.00	12166.38	2260.08 N	1658.96 W	projection to TD

North Reference Sheet for Sec. 19-T24S-R26E - Estill AD Fed #3

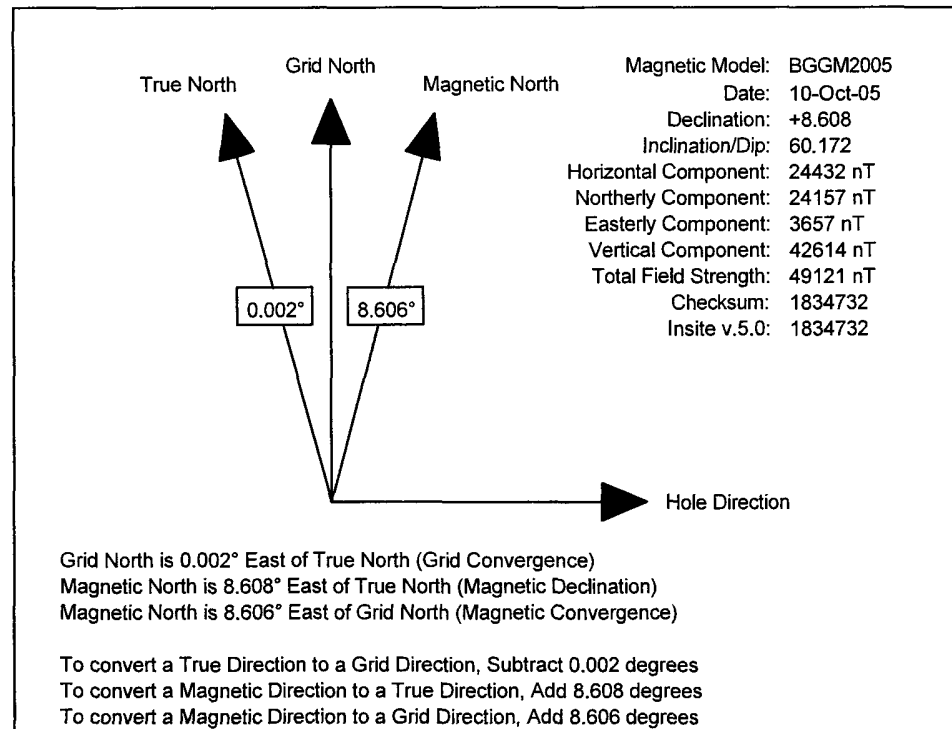
Coordinate System is NAD27 New Mexico State Planes, Eastern Zone, US Foot
Source: Snyder, J.P., 1987, Map Projections - A Working Manual

Datum is North American Datum of 1927 (US48, AK, HI, and Canada)

Spheroid is Clarke - 1866
Equatorial Radius: 6378206.400m.
Polar Radius: 6356583.800m.
Inverse Flattening: 294.978698213901

Projection method is Transverse Mercator or Gauss Kruger Projection
Central Meridian is -104.333°
Longitude Origin: 0.000°
Latitude Origin: 31.000°
False Easting: 152400.00m
False Northing: 0.00m
Scale Reduction: 0.99990909

Grid Coordinates of Well: 436269.40 N, 501104.70 E
Geographical Coordinates of Well: 32° 11' 57.9178" N, 104° 19' 47.1431" W
Surface Elevation of Well: 3444.00ft
Grid Convergence at Surface is +0.002°
Magnetic Convergence at Surface is -8.606° (10 October, 2005)



New Mexico
Eddy County
Sec. 19-T24S-R26E
Estill AD Fed #3

