

Survey Report for Sec. 21-T30N-R7W - Northeast Blanco Unit #407A - MWD Surveys

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0.00	0.000	0.000	0.00	0.00 N	0.00 E	0.00	
341.00	1.500	73.100	340.96	1.30 N	4.27 E	-4.45	0.440
401.00	0.900	23.800	400.95	1.96 N	5.21 E	-5.57	1.900
464.00	1.100	231.900	463.95	2.04 N	4.94 E	-5.34	3.081
523.00	3.600	234.100	522.89	0.60 N	2.99 E	-3.01	4.239
585.00	6.000	234.000	584.67	2.45 S	1.21 W	2.01	3.871
647.00	6.800	232.100	646.28	6.61 S	6.73 W	8.65	1.335
707.00	9.000	244.700	705.71	10.79 S	13.77 W	16.74	4.646
767.00	11.000	244.300	764.80	15.28 S	23.18 W	27.13	3.335
829.00	12.300	253.100	825.53	19.77 S	34.83 W	39.61	3.545
888.00	12.900	252.500	883.10	23.57 S	47.12 W	52.45	1.041
949.00	14.500	255.900	942.37	27.48 S	61.02 W	66.83	2.935
1010.00	15.500	253.800	1001.29	31.62 S	76.26 W	82.53	1.866
1071.00	15.200	253.700	1060.11	36.14 S	91.76 W	98.62	0.494
1133.00	16.000	254.300	1119.83	40.73 S	107.79 W	115.22	1.316
1194.00	15.900	251.800	1178.48	45.61 S	123.82 W	131.94	1.138
1256.00	14.900	252.700	1238.25	50.64 S	139.50 W	148.37	1.658
1317.00	13.800	252.200	1297.35	55.19 S	153.91 W	163.46	1.815
1380.00	14.000	248.300	1358.51	60.31 S	168.15 W	178.58	1.520
1442.00	14.700	249.200	1418.57	65.88 S	182.47 W	193.95	1.185
1505.00	15.200	251.200	1479.44	71.38 S	197.76 W	210.19	1.140
1630.00	14.700	248.600	1600.21	82.44 S	228.04 W	242.43	0.669
1693.00	14.300	246.800	1661.20	88.42 S	242.63 W	258.20	0.956
1755.00	14.100	245.400	1721.31	94.59 S	256.54 W	273.39	0.641
1818.00	14.300	245.700	1782.38	100.98 S	270.61 W	288.81	0.338
1881.00	14.600	245.100	1843.39	107.53 S	284.90 W	304.51	0.532
1944.00	14.000	245.600	1904.44	114.02 S	299.04 W	320.04	0.972
2007.00	14.700	249.000	1965.47	120.03 S	313.44 W	335.64	1.738
2071.00	13.000	248.400	2027.61	125.59 S	327.72 W	350.96	2.666
2134.00	14.000	251.000	2088.87	130.68 S	341.51 W	365.66	1.856
2195.00	13.500	251.200	2148.12	135.38 S	355.23 W	380.15	0.823
2259.00	13.100	247.700	2210.41	140.54 S	369.01 W	394.86	1.404
2322.00	13.800	252.000	2271.68	145.57 S	382.76 W	409.51	1.937
2385.00	13.400	248.800	2332.91	150.53 S	396.72 W	424.31	1.352
2445.00	14.000	252.800	2391.21	155.19 S	410.13 W	438.50	1.868
2507.00	13.500	246.900	2451.43	160.25 S	423.95 W	453.22	2.400
2570.00	14.100	249.800	2512.62	165.78 S	437.92 W	468.24	1.453
2632.00	14.000	248.900	2572.76	171.09 S	452.00 W	483.29	0.388
2696.00	13.200	250.000	2634.97	176.38 S	466.09 W	498.34	1.314
2759.00	12.700	250.900	2696.36	181.10 S	479.40 W	512.45	0.856

HALLIBURTON

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Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
2822.00	10.800	252.600	2758.04	185.13 S	491.57 W	525.26	3.065
2885.00	9.200	255.900	2820.08	188.13 S	502.09 W	536.15	2.697
2947.00	6.600	257.100	2881.49	190.13 S	510.37 W	544.60	4.202
3010.00	4.600	255.800	2944.18	191.56 S	516.35 W	550.69	3.181
3073.00	2.400	225.600	3007.07	193.10 S	519.74 W	554.41	4.443
3136.00	1.600	219.400	3070.03	194.70 S	521.25 W	556.39	1.314
3230.00	2.100	221.000	3163.98	197.02 S	523.21 W	559.05	0.535
3355.00	2.200	221.400	3288.89	200.55 S	526.30 W	563.21	0.081
3385.00	2.200	221.400	3318.87	201.41 S	527.06 W	564.23	0.000

All data is in Feet (US Survey) unless otherwise stated. Directions and coordinates are relative to True North. Vertical depths are relative to Well. Northings and Eastings are relative to Well.

The Dogleg Severity is in Degrees per 100 feet (US Survey).
Vertical Section is from Well and calculated along an Azimuth of 248.886° (True).

Magnetic Declination at Surface is 10.838° (27-Jun-03)

Based upon Minimum Curvature type calculations, at a Measured Depth of 3385.00ft.,
The Bottom Hole Displacement is 564.23ft., in the Direction of 249.086° (True).

Comments

Measured Depth (ft)	Station Coordinates			Comment
	TVD (ft)	Northings (ft)	Eastings (ft)	
3385.00	3318.87	201.41 S	527.06 W	Projection to bit