

A Gyrodata Directional Survey

Field Copy Only, not definitive

for

BTA OIL

Location: KEY #298, EDDY COUNTY, NEW MEXICO
Lease: OGDEN Well: #1H, 7-5/8" CASING

Job Number: MD1009GMS203

Run Date: 10/11/2009 7:46:32 AM

Surveyor: AJ EATON

Calculation Method: MINIMUM CURVATURE

Survey surface coordinates obtained from: Directional Drilling Company

Survey Latitude: 32.277630 deg. N Longitude: 104.107100 deg. W

Azimuth Correction:

Gyro: -0.12000 deg to Grid North

Proposed Well Direction: 178.050 deg

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

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MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
0.00	0.00	0.00	0.0	0.00	0.00	0.0 0.0	0.00 N 0.00 E
0 TO 6800 FT. RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 7-5/8" CASING							
ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO KEY #298 R.K.B. (+17 FT.)							
100.00	0.13	277.77	-0.0	0.13	100.00	0.1 277.8	0.02 N 0.11 W
200.00	0.41	229.06	0.2	0.34	200.00	0.5 247.6	0.20 S 0.50 W
300.00	0.42	227.87	0.7	0.01	300.00	1.2 236.6	0.68 S 1.04 W
400.00	0.38	237.45	1.1	0.08	399.99	1.9 235.1	1.11 S 1.59 W
500.00	0.38	257.85	1.3	0.13	499.99	2.6 238.3	1.36 S 2.19 W
600.00	0.34	252.57	1.4	0.05	599.99	3.2 241.6	1.52 S 2.80 W
700.00	0.66	271.03	1.5	0.35	699.99	4.0 246.5	1.59 S 3.66 W
800.00	0.87	274.33	1.4	0.21	799.98	5.2 253.0	1.53 S 4.99 W
900.00	1.01	279.62	1.1	0.16	899.96	6.7 258.7	1.32 S 6.62 W
1000.00	0.93	284.72	0.7	0.12	999.95	8.3 263.3	0.97 S 8.27 W
1100.00	0.99	287.54	0.2	0.08	1099.93	9.9 267.1	0.50 S 9.88 W
1200.00	0.87	290.80	-0.4	0.13	1199.92	11.4 270.1	0.03 N 11.41 W
1300.00	0.64	285.70	-0.9	0.24	1299.91	12.7 272.0	0.45 N 12.66 W
1400.00	0.65	284.21	-1.2	0.02	1399.91	13.8 273.1	0.74 N 13.75 W
1500.00	0.52	276.82	-1.4	0.15	1499.90	14.8 273.6	0.93 N 14.75 W
1600.00	0.52	266.56	-1.5	0.09	1599.90	15.7 273.5	0.96 N 15.65 W
1700.00	0.56	257.92	-1.4	0.09	1699.89	16.6 272.9	0.83 N 16.58 W
1800.00	0.14	136.84	-1.2	0.64	1799.89	17.0 272.2	0.64 N 16.98 W
1900.00	0.87	115.81	-0.8	0.74	1899.89	16.2 270.8	0.22 N 16.21 W

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2000.00	1.24	122.23	0.2	0.39	1999.87	14.6 267.3	0.69 S 14.61 W
2100.00	1.29	122.45	1.4	0.05	2099.85	12.9 261.7	1.87 S 12.75 W
2200.00	1.71	128.21	3.0	0.45	2199.81	11.2 252.3	3.40 S 10.62 W
2300.00	1.64	130.48	5.0	0.10	2299.77	9.9 237.9	5.25 S 8.36 W
2400.00	1.02	124.33	6.5	0.64	2399.74	9.3 224.4	6.68 S 6.54 W
2500.00	0.66	145.99	7.5	0.47	2499.73	9.4 215.6	7.66 S 5.48 W
2600.00	0.60	138.43	8.4	0.10	2599.72	9.8 209.4	8.53 S 4.81 W
2700.00	0.60	150.17	9.2	0.12	2699.72	10.3 204.2	9.37 S 4.21 W
2800.00	0.65	141.17	10.1	0.11	2799.71	10.9 199.3	10.27 S 3.59 W
2900.00	0.60	147.91	11.1	0.09	2899.71	11.5 194.8	11.16 S 2.96 W
3000.00	0.61	141.00	11.9	0.07	2999.70	12.2 191.0	12.01 S 2.34 W
3100.00	0.54	153.06	12.8	0.14	3099.70	13.0 187.9	12.85 S 1.79 W
3200.00	0.54	145.16	13.6	0.07	3199.69	13.7 185.5	13.65 S 1.31 W
3300.00	0.50	157.02	14.4	0.11	3299.69	14.5 183.5	14.44 S 0.87 W
3400.00	0.44	180.24	15.2	0.20	3399.68	15.2 182.6	15.23 S 0.70 W
3500.00	0.41	195.56	15.9	0.12	3499.68	16.0 182.9	15.96 S 0.80 W
3600.00	0.42	208.67	16.6	0.10	3599.68	16.7 183.7	16.62 S 1.07 W
3700.00	0.39	198.85	17.2	0.08	3699.68	17.3 184.5	17.27 S 1.36 W
3800.00	0.41	209.39	17.8	0.08	3799.67	18.0 185.2	17.90 S 1.64 W
3900.00	0.44	215.64	18.4	0.06	3899.67	18.6 186.3	18.52 S 2.04 W
4000.00	0.39	216.98	19.0	0.05	3999.67	19.3 187.4	19.11 S 2.47 W
4100.00	0.38	207.82	19.6	0.06	4099.67	19.9 188.2	19.67 S 2.83 W
4200.00	0.41	207.92	20.2	0.03	4199.66	20.5 188.8	20.28 S 3.15 W

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4300.00	0.47	220.14	20.8	0.11	4299.66	21.2 189.7	20.91 S 3.58 W
4400.00	0.45	217.44	21.4	0.03	4399.66	21.9 190.7	21.54 S 4.09 W
4500.00	0.35	212.12	21.9	0.11	4499.66	22.6 191.5	22.11 S 4.49 W
4600.00	0.37	214.30	22.5	0.02	4599.65	23.1 192.1	22.63 S 4.83 W
4700.00	0.38	214.43	23.0	0.01	4699.65	23.8 192.7	23.17 S 5.20 W
4800.00	0.30	207.90	23.5	0.09	4799.65	24.3 193.1	23.68 S 5.51 W
4900.00	0.32	206.71	23.9	0.02	4899.65	24.8 193.4	24.16 S 5.76 W
5000.00	0.28	203.93	24.4	0.04	4999.65	25.3 193.7	24.63 S 5.99 W
5100.00	0.29	201.58	24.9	0.02	5099.65	25.8 193.8	25.09 S 6.18 W
5200.00	0.37	187.98	25.4	0.11	5199.64	26.4 193.8	25.65 S 6.32 W
5300.00	0.34	184.49	26.0	0.04	5299.64	27.0 193.7	26.26 S 6.38 W
5400.00	0.34	186.54	26.6	0.01	5399.64	27.6 193.5	26.85 S 6.44 W
5500.00	0.43	202.65	27.3	0.14	5499.64	28.3 193.5	27.49 S 6.62 W
5600.00	0.64	196.71	28.1	0.22	5599.63	29.2 193.7	28.37 S 6.92 W
5700.00	0.52	195.99	29.1	0.12	5699.63	30.2 193.8	29.35 S 7.21 W
5800.00	0.51	197.59	29.9	0.02	5799.62	31.1 193.9	30.21 S 7.47 W
5900.00	0.50	184.70	30.8	0.11	5899.62	32.0 193.8	31.06 S 7.64 W
6000.00	0.55	180.00	31.7	0.07	5999.62	32.9 193.5	31.98 S 7.68 W
6100.00	0.75	128.01	32.6	0.60	6099.61	33.6 192.3	32.86 S 7.16 W
6200.00	0.97	121.87	33.5	0.24	6199.60	34.2 190.0	33.71 S 5.92 W
6300.00	1.02	109.18	34.3	0.23	6299.58	34.7 187.2	34.45 S 4.37 W
6400.00	1.07	103.44	34.9	0.12	6399.57	35.1 184.3	34.96 S 2.62 W
6500.00	1.23	109.09	35.5	0.20	6499.55	35.5 181.1	35.53 S 0.69 W

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6600.00	1.32	108.76	36.3	0.09	6599.52	36.3 177.8	36.25 S 1.41 E
6700.00	1.69	112.20	37.3	0.38	6699.49	37.4 174.1	37.18 S 3.87 E
6800.00	1.97	114.16	38.6	0.29	6799.44	39.0 170.0	38.44 S 6.80 E

Final Station Closure: Distance: 39.04 ft Az: 169.97 deg.