

30-025-40361

A Gyrodata Directional Survey

for

FASKEN OIL AND RANCH LTD

Lease: QUAIL STATE 16 COM Well: 3H, 4-1/2" XH DRILLPIPE
Location: PRECISION DRILLING RIG #75, LEA COUNTY, NEW MEXICO

Job Number: MD0512GVC323

Run Date: 5/18/2012 4:40:19 AM

Surveyor: Steve Winther

Calculation Method: MINIMUM CURVATURE

Survey surface coordinates obtained from: Well Plan/Plot

Survey Latitude: 32.717722 deg. N Longitude: 103.572789 deg. W

Azimuth Correction:

Gyro: -0.41000 deg to Grid North

Proposed Well Direction: 10.200 deg

Depth Reference: Rotary Table

Rotary Table Elevation: 21.00

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	INCL 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 10382.94 FT. RATE GYROSCOPIC VERTICAL CONTINUOUS SURVEY RUN INSIDE 4-1/2" XH DRILLPIPE							
ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO PRECISION DRILLING RIG #75 AND R.K.B HEIGHT OF 21 FT.							

100.00	0.39	13.45	0.3	0.39	100.00	0.3 13.5	0.33 N 0.08 E
200.00	0.42	35.21	1.0	0.16	200.00	1.0 21.0	0.97 N 0.37 E
300.00	0.40	87.58	1.4	0.36	299.99	1.6 35.9	1.28 N 0.93 E
400.00	0.53	26.73	1.9	0.48	399.99	2.3 41.0	1.71 N 1.48 E
500.00	0.73	37.50	3.0	0.24	499.99	3.3 38.4	2.62 N 2.08 E
600.00	0.42	161.81	3.2	1.03	599.98	3.8 42.8	2.78 N 2.58 E
700.00	0.59	221.98	2.4	0.52	699.98	3.1 48.8	2.06 N 2.35 E
800.00	0.42	225.76	1.7	0.17	799.98	2.3 50.9	1.42 N 1.75 E
900.00	0.29	186.54	1.2	0.27	899.97	1.7 57.8	0.92 N 1.46 E
1000.00	0.48	167.41	0.5	0.23	999.97	1.5 80.2	0.26 N 1.52 E
1100.00	0.78	195.42	-0.5	0.42	1099.97	1.6 119.3	0.80 S 1.43 E
1200.00	0.42	233.66	-1.5	0.52	1199.96	1.9 150.4	1.67 S 0.95 E
1300.00	0.45	193.27	-2.1	0.30	1299.96	2.3 166.0	2.27 S 0.57 E
1400.00	0.68	354.19	-2.0	1.11	1399.96	2.1 168.6	2.06 S 0.42 E
1500.00	0.53	217.92	-1.8	1.12	1499.95	1.8 177.7	1.84 S 0.07 E
1600.00	1.11	181.07	-3.2	0.75	1599.94	3.2 184.1	3.17 S 0.23 W
1700.00	0.67	343.32	-3.6	1.76	1699.94	3.6 186.6	3.57 S 0.41 W
1800.00	0.54	194.42	-3.5	1.16	1799.94	3.5 191.3	3.47 S 0.70 W

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1900.00	0.61	123.60	-4.2	0.66	1899.93	4.2 185.0	4.21 S 0.37 W
2000.00	0.42	183.04	-4.8	0.53	1999.93	4.9 179.4	4.87 S 0.05 E
2100.00	0.37	322.33	-4.9	0.74	2099.93	5.0 181.9	4.98 S 0.17 W
2200.00	0.50	99.25	-4.7	0.81	2199.93	4.8 179.2	4.80 S 0.07 E
2300.00	0.51	125.97	-4.9	0.23	2299.92	5.2 170.5	5.13 S 0.86 E
2400.00	1.04	139.90	-5.7	0.56	2399.91	6.3 163.5	6.08 S 1.80 E
2500.00	0.85	67.99	-5.8	1.12	2499.90	7.2 154.7	6.50 S 3.07 E
2600.00	1.25	81.79	-5.1	0.47	2599.89	7.8 141.5	6.06 S 4.83 E
2700.00	1.54	67.37	-4.0	0.46	2699.86	9.0 127.0	5.39 S 7.15 E
2800.00	2.46	62.57	-2.0	0.94	2799.80	11.0 110.7	3.88 S 10.30 E
2900.00	2.68	70.70	0.5	0.42	2899.69	14.6 98.4	2.12 S 14.41 E
3000.00	2.65	69.48	2.8	0.06	2999.59	18.8 91.6	0.54 S 18.78 E
3100.00	2.82	66.10	5.4	0.24	3099.47	23.2 86.9	1.27 N 23.20 E
3200.00	2.66	68.75	8.0	0.21	3199.36	27.8 83.6	3.11 N 27.61 E
3300.00	2.48	67.53	10.3	0.19	3299.26	32.1 81.5	4.78 N 31.77 E
3400.00	2.04	71.25	12.4	0.46	3399.18	36.0 80.1	6.17 N 35.45 E
3500.00	1.59	78.29	13.7	0.49	3499.13	39.1 79.7	7.03 N 38.50 E
3600.00	1.37	54.52	15.1	0.65	3599.10	41.6 78.9	8.00 N 40.83 E
3700.00	1.09	88.20	16.2	0.76	3699.08	43.6 78.5	8.73 N 42.76 E
3800.00	0.76	45.19	16.9	0.75	3799.06	45.1 78.2	9.22 N 44.18 E
3900.00	0.78	60.79	17.9	0.21	3899.05	46.3 77.5	10.02 N 45.24 E
4000.00	0.64	5.72	18.9	0.67	3999.05	47.2 76.6	10.91 N 45.89 E

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4100.00	0.89	66.05	19.9	0.80	4099.04	48.1 75.8	11.79 N 46.66 E
4200.00	0.80	93.22	20.4	0.41	4199.03	49.6 75.9	12.06 N 48.07 E
4300.00	1.07	46.48	21.2	0.78	4299.02	51.0 75.6	12.67 N 49.45 E
4400.00	0.80	296.45	22.2	1.54	4399.01	51.3 74.6	13.62 N 49.50 E
4500.00	1.20	44.93	23.2	1.64	4499.00	51.7 73.5	14.68 N 49.61 E
4600.00	0.74	320.53	24.5	1.35	4598.99	52.4 72.3	15.92 N 49.94 E
4700.00	0.92	287.45	25.0	0.50	4698.98	51.5 71.1	16.66 N 48.76 E
4800.00	1.15	243.17	24.5	0.81	4798.97	49.9 70.8	16.45 N 47.10 E
4900.00	1.23	291.22	24.1	0.97	4898.95	48.1 70.1	16.38 N 45.21 E
5000.00	1.13	292.51	24.5	0.10	4998.93	46.6 68.4	17.15 N 43.30 E
5100.00	0.93	288.99	24.9	0.21	5098.91	45.3 66.9	17.79 N 41.63 E
5200.00	1.25	283.71	25.1	0.34	5198.89	43.8 65.3	18.31 N 39.80 E
5300.00	1.20	294.81	25.4	0.24	5298.87	42.3 63.3	19.01 N 37.78 E
5400.00	1.13	249.65	25.2	0.90	5398.85	40.7 62.0	19.11 N 35.90 E
5500.00	1.31	289.06	24.8	0.84	5498.83	38.9 60.5	19.14 N 33.89 E
5600.00	1.22	306.77	25.5	0.40	5598.80	37.8 57.8	20.15 N 31.95 E
5700.00	1.07	288.69	26.1	0.39	5698.78	36.8 55.1	21.09 N 30.21 E
5800.00	1.21	302.19	26.6	0.30	5798.76	35.9 52.3	21.95 N 28.44 E
5900.00	1.45	263.75	26.7	0.91	5898.74	34.5 49.6	22.37 N 26.29 E
6000.00	1.26	302.12	26.7	0.91	5998.71	33.2 46.6	22.82 N 24.10 E
6100.00	1.00	307.17	27.5	0.27	6098.69	32.8 43.2	23.93 N 22.47 E
6200.00	1.16	304.86	28.4	0.16	6198.68	32.6 39.9	25.03 N 20.94 E
6300.00	0.93	314.59	29.2	0.29	6298.66	32.7 36.7	26.18 N 19.54 E

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6400.00	0.63	31.52	30.2	1.00	6398.65	33.3 35.3	27.22 N 19.25 E
6500.00	0.66	319.71	31.1	0.76	6498.65	34.0 34.3	28.13 N 19.17 E
6600.00	0.83	291.73	31.6	0.40	6598.64	34.1 32.1	28.84 N 18.12 E
6700.00	0.54	278.17	31.7	0.33	6698.63	33.8 30.2	29.17 N 16.98 E
6800.00	0.86	8.69	32.5	1.02	6798.63	34.3 29.0	29.98 N 16.63 E
6900.00	0.39	46.20	33.5	0.60	6898.62	35.3 28.8	30.96 N 16.99 E
7000.00	0.39	310.88	33.9	0.57	6998.62	35.7 28.4	31.41 N 16.98 E
7100.00	0.51	342.87	34.5	0.27	7098.62	36.1 27.4	32.06 N 16.60 E
7200.00	0.30	187.22	34.6	0.79	7198.62	36.2 27.0	32.22 N 16.43 E
7300.00	0.43	2.42	34.7	0.74	7298.62	36.3 26.9	32.33 N 16.42 E
7400.00	0.54	99.23	35.1	0.73	7398.61	36.8 27.4	32.64 N 16.90 E
7500.00	0.68	260.29	34.9	1.20	7498.61	36.5 27.3	32.46 N 16.78 E
7600.00	0.52	11.15	35.2	0.99	7598.61	36.6 26.4	32.81 N 16.28 E
7700.00	0.47	332.87	36.0	0.33	7698.60	37.3 25.7	33.62 N 16.18 E
7800.00	0.22	24.56	36.5	0.38	7798.60	37.7 25.2	34.16 N 16.07 E
7900.00	0.36	59.73	36.9	0.22	7898.60	38.2 25.5	34.49 N 16.42 E
8000.00	0.50	23.33	37.5	0.30	7998.60	38.9 25.7	35.04 N 16.86 E
8100.00	0.78	152.22	37.4	1.16	8098.60	38.9 26.5	34.84 N 17.35 E
8200.00	0.62	154.30	36.4	0.16	8198.59	38.2 27.9	33.75 N 17.90 E
8300.00	0.58	150.65	35.6	0.06	8298.58	37.6 29.3	32.82 N 18.39 E
8400.00	0.80	179.49	34.5	0.41	8398.58	36.8 30.5	31.68 N 18.64 E
8500.00	0.66	184.14	33.2	0.16	8498.57	35.6 31.5	30.41 N 18.60 E

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8600.00	0.85	162.65	32.0	0.34	8598.56	34.7 32.8	29.13 N 18.78 E
8700.00	0.99	180.61	30.5	0.32	8698.55	33.5 34.6	27.56 N 18.99 E
8800.00	1.45	179.04	28.4	0.46	8798.52	31.7 36.8	25.43 N 19.01 E
8900.00	1.06	180.13	26.2	0.39	8898.50	30.0 39.3	23.24 N 19.03 E
9000.00	1.11	200.98	24.4	0.40	8998.48	28.4 41.1	21.41 N 18.68 E
9100.00	1.36	204.32	22.3	0.26	9098.46	26.4 42.6	19.42 N 17.84 E
9200.00	1.15	222.00	20.3	0.44	9198.43	24.2 43.5	17.59 N 16.68 E
9300.00	0.98	240.70	18.9	0.39	9298.42	22.4 42.9	16.42 N 15.26 E
9400.00	1.85	249.83	17.5	0.90	9398.39	20.2 40.1	15.45 N 12.99 E
9500.00	1.80	245.58	15.8	0.15	9498.34	17.4 35.2	14.24 N 10.05 E
9600.00	1.78	240.36	13.9	0.16	9598.29	14.7 29.6	12.83 N 7.28 E
9700.00	1.83	236.79	11.8	0.12	9698.24	12.1 22.3	11.19 N 4.60 E
9800.00	1.54	225.92	9.6	0.43	9798.19	9.7 13.7	9.38 N 2.29 E
9900.00	1.54	233.51	7.6	0.20	9898.16	7.6 1.8	7.64 N 0.25 E
10000.00	1.28	240.45	5.9	0.31	9998.13	6.5 344.0	6.30 N 1.80 W
10100.00	1.47	230.54	4.2	0.30	10098.10	6.2 322.7	4.93 N 3.76 W
10200.00	1.09	265.56	3.0	0.85	10198.08	7.0 305.4	4.05 N 5.69 W
10300.00	0.66	259.40	2.5	0.44	10298.06	8.2 298.2	3.87 N 7.21 W
10382.94	0.60	251.47	2.1	0.13	10381.00	8.9 294.3	3.64 N 8.09 W

Final Station Closure: Distance: 8.87 ft Az: 294.25 deg.