

A Gyrodata Directional Survey

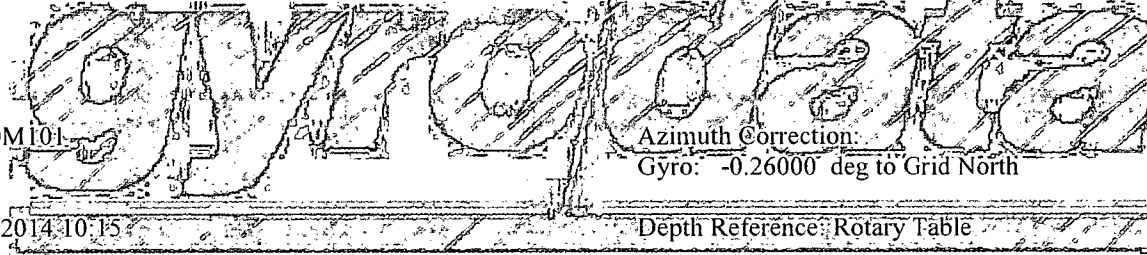
30-015-41841

FINAL DIFINITIVE COPY

For

BOPCO, LP

Lease: BIG EDDY UNIT DI 2 Well: 2H, 5 INCH DRILLPIPE
Location: LATSHAW DRILLING RIG #18, EDDY COUNTY, NEW MEXICO



Job Number: MD0114GDM101

Run Date: 01 Jan 2014

Report Generated: 01 Jan 2014 10:15

Surveyor: Jase Rister

Calculation Method: MINIMUM CURVATURE

Survey surface coordinates obtained from: Well Plan/Plot

Survey Latitude: 32.622281 deg. N Longitude: 103.851900 deg. W

Azimuth Correction:

Gyro: -0.26000 deg to Grid North

Depth Reference: Rotary Table

Air Gap (RKB to Ground / RKB to MSL): 29.50

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

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Job Number: MD1213GDM101

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. feet	AZIMUTH deg.	HORIZONTAL COORDINATES feet
0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.00 N 0.00 E

0 - 2531 FT. RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 5 INCH DRILLPIPE

ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO LATSHAW DRILLING RIG #18 R.K.B. HEIGHT OF 29.5 FT.

71.86	0.34	321.31	0.47	71.86	0.2	321.3	0.17 N 0.13 W
166.48	0.43	329.94	0.11	166.48	0.8	324.9	0.69 N 0.49 W
261.10	0.42	299.08	0.24	261.09	1.5	320.4	1.17 N 0.97 W
355.72	0.57	317.59	0.23	355.71	2.3	316.7	1.68 N 1.59 W
450.34	0.81	314.01	0.26	450.32	3.5	316.3	2.50 N 2.39 W
544.96	1.15	306.91	0.38	544.93	5.1	314.2	3.53 N 3.63 W
639.58	1.82	301.28	0.72	639.52	7.5	310.7	4.88 N 5.67 W
734.20	2.41	298.35	0.63	734.07	10.9	307.2	6.61 N 8.71 W
828.82	2.61	295.73	0.24	828.60	15.0	304.4	8.49 N 12.40 W
923.44	2.73	295.56	0.13	923.12	19.4	302.4	10.39 N 16.37 W
1018.06	2.95	298.76	0.29	1017.62	24.1	301.4	12.54 N 20.54 W
1112.68	2.96	300.36	0.09	1112.12	28.9	301.1	14.94 N 24.78 W
1207.30	2.78	297.51	0.24	1206.62	33.7	300.8	17.24 N 28.92 W
1301.92	1.70	302.38	1.16	1301.17	37.4	300.7	19.05 N 32.14 W
1396.54	1.49	304.56	0.23	1395.75	40.0	300.8	20.50 N 34.34 W
1491.16	1.39	305.61	0.11	1490.34	42.4	301.1	21.87 N 36.29 W
1585.78	1.25	308.37	0.16	1584.93	44.5	301.4	23.18 N 38.03 W
1680.40	1.09	311.53	0.18	1679.53	46.4	301.7	24.41 N 39.51 W

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MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. feet	AZIMUTH deg.	HORIZONTAL COORDINATES feet
1775.02	1.00	315.38	0.12	1774.14	48.1	302.1	25.60 N 40.77 W
1869.64	0.77	327.60	0.31	1868.75	49.5	302.7	26.72 N 41.69 W
1964.26	0.53	44.54	0.88	1963.36	50.0	303.5	27.57 N 41.72 W
2058.88	1.32	87.46	1.06	2057.97	49.1	304.7	27.93 N 40.33 W
2153.50	1.91	98.24	0.70	2152.55	46.8	306.4	27.75 N 37.68 W
2248.12	2.07	102.13	0.22	2247.12	43.9	308.3	27.17 N 34.44 W
2342.74	1.74	101.35	0.35	2341.68	41.1	310.2	26.53 N 31.37 W
2437.36	1.48	99.79	0.28	2436.27	38.8	312.2	26.04 N 28.75 W
2531.98	1.16	100.97	0.34	2530.86	37.0	313.9	25.65 N 26.61 W

Final Station Closure: Distance: 36.96 ft Az: 313.94 deg.

