

30-015-42488

A Gyrodata Directional Survey

FINAL DEFINITIVE COPY

for

BOPCO, LP

Lease: POKER LAKE UNIT Well: #432H, 8 INCH DRILL COLLARS
Location: MCVAY DRILLING RIG #5, EDDY COUNTY, NEW MEXICO

gyrodata

Job Number: MD0814GDM807

Run Date: 07 Aug 2014

Report Generated: 12 Aug 2014 12:21

Azimuth Correction:

Gyro: -0.25000 deg to Grid North

Depth Reference: Rotary Table

Surveyor: Marlin Willeford

Calculation Method: MINIMUM CURVATURE

Survey surface coordinates obtained from: Well Plan/Plot

Survey Latitude: 32.198483 deg. N Longitude: 103.858847 deg. W

Air Gap (RKB to Ground / RKB to MSL): 17.50

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

 **CONFIDENTIAL**

Provide signature page

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MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
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0.00	0.00	0.00	0.00	0.00	0.0 0.0	0.00 N 0.00 E
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0 - 791 FT. RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 8" DRILL COLLARS

ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO MCVAY DRILLING RIG #5 R.K.B. HEIGHT OF 17.5 FT.

84.70	0.74	161.82	0.87	84.70	0.5 161.8	0.52 S 0.17 E
172.67	1.04	156.28	0.35	172.66	1.9 159.5	1.79 S 0.67 E
260.32	0.80	139.65	0.40	260.30	3.3 155.1	2.98 S 1.39 E
354.18	0.76	133.76	0.10	354.15	4.5 150.0	3.91 S 2.26 E
441.03	0.73	146.17	0.19	440.99	5.6 148.0	4.77 S 2.98 E
528.59	1.40	116.62	0.96	528.53	7.1 143.4	5.72 S 4.25 E
614.91	2.33	115.79	1.08	614.81	9.7 135.8	6.95 S 6.77 E
703.02	2.51	113.33	0.24	702.84	13.2 129.9	8.49 S 10.15 E
791.00	2.72	113.59	0.23	790.73	17.1 126.1	10.09 S 13.83 E

Final Station Closure: Distance: 17.11 ft Az: 126.12 deg.