

30-015-42439

A Gyrodata Directional Survey

FINAL DEFINITIVE COPY

for

BOPCO, LP

Lease: PLU CVX JV PB Well: 007H, 13 3/8" CASING
Location: MCVAY DRILLING RIG #1, EDDY COUNTY, NEW MEXICO

Job Number: MD1114GVCW1150	Azimuth Correction:
Run Date: 30 Nov 2014	Gyro: -0.28000 deg to Grid North
Report Generated: 08 Dec 2014 03:00	Proposed Well Direction: 179.740-deg
Surveyor: John Macer, Christopher Ellis	Depth Reference: Rotary Table
Calculation Method: MINIMUM CURVATURE	Air Gap (RKB to Ground / RKB to MSL): 20.00
Survey surface coordinates obtained from: Well Plan/Plot	Vertical Section Calculated from Well Head Location
Survey Latitude: 32.121575 deg N	Closure Calculated from Well Head Location
Longitude: 103.806300 deg W	Horizontal Coordinates Calculated from Well Head Location

A Gyrodata Directional Survey

BOPCO, LP

Lease: POKER LAKE FIELD Well: 007H, 13 3/8" CASING

Location: MCVAY DRILLING RIG #1, EDDY COUNTY, NEW MEXICO

Job Number: MD1114GVCW1150

MEASURED DEPTH	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 TO 1,012 FT. RATE GYROSCOPIC VERTICAL CONTINUOUS SURVEY RUN INSIDE 13 3/8" DRILLPIPE							
ALL MEASURED DEPTHS AND COORDINATES ARE REFERENCED TO MCVAY DRILLING RIG # 1 AND R.K.B. HEIGHT OF 20 FT.							
100.00	0.57	223.21	0.57	100.00	0.5	223.2	0.36 S 0.34 W
200.00	0.49	203.04	0.20	199.99	1.4	217.2	1.12 S 0.85 W
300.00	0.59	229.43	0.27	299.99	2.3	217.4	1.84 S 1.41 W
400.00	0.47	216.70	0.17	399.99	3.2	219.2	2.51 S 2.05 W
500.00	0.20	260.38	0.35	499.98	3.8	220.6	2.86 S 2.46 W
600.00	1.09	352.37	1.11	599.98	3.4	234.7	1.95 S 2.75 W
700.00	1.34	353.23	0.25	699.96	3.0	272.9	0.15 N 3.02 W
800.00	1.54	5.73	0.37	799.92	4.0	311.3	2.65 N 3.02 W
900.00	2.17	359.41	0.67	899.87	6.6	333.7	5.88 N 2.91 W
1000.00	2.38	5.03	0.30	999.79	10.2	344.4	9.84 N 2.74 W
1011.00	2.45	5.49	0.70	1010.78	10.7	345.3	10.30 N 2.70 W

Final Station Closure: Distance: 10.65 ft Az: 345.31 deg.