

30-015-42324

A Gyrodata Directional Survey

FINAL DEFINITIVE COPY

for

BOPCO, LP

Lease: James Ranch UNIT Well: 195H, 4 1/2 DRILL PIPE
Location: LATSHAW DRILLING RIG #4, EDDY COUNTY, NEW MEXICO

gyrodata

Job Number: MD0514GBM460

Azimuth Correction:

Gyro: -0.27000 deg to Grid North

Run Date: 03 May 2014

Report Generated: 08 May 2014 05:07

Depth Reference: Rotary Table

Surveyor: Miguel Ramirez

Air Gap (RKB to Ground / RKB to MSL): 22.00

Calculation Method: MINIMUM CURVATURE

Vertical Section Calculated from Well Head Location

Survey surface coordinates obtained from: Well Plan/Plot

Closure Calculated from Well Head Location

Survey Latitude: 32.343383 deg. N Longitude: 103.830358 deg. W

Horizontal Coordinates Calculated from Well Head Location

NM OIL CONSERVATION
ARTESIA DISTRICT

SEP 18 2014

RECEIVED

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BOPCO, LP

Lease: JANE GRANT UNIT Well: 195H, 4 1/2 DRILL PIPE

Location: LATSHAW DRILLING RIG #4, EDDY COUNTY, NEW MEXICO

Job Number: MD0514GBM460

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 - 540 FT. RATE-GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 4.5" DRILLPIPE							
ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO LATSHAW DRILLING RIG #4 RKB HEIGHT OF 22 FT.							
100.00	0.67	96.69	0.67	100.00	0.6	96.7	0.07 S 0.58 E
200.00	0.63	106.09	0.11	199.99	1.7	99.7	0.29 S 1.69 E
300.00	0.39	103.75	0.25	299.99	2.6	101.6	0.52 S 2.55 E
400.00	0.38	82.36	0.14	399.99	3.3	99.9	0.56 S 3.21 E
500.00	0.16	100.34	0.23	499.98	3.7	98.3	0.54 S 3.68 E
540.00	0.17	121.42	0.15	539.98	3.8	98.7	0.58 S 3.79 E

Final Station Closure: Distance: 3.83 ft Az: 98.71 deg.

