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NM OIL CONSERVATION
ARTESIA DISTRICT

DEC 18 2017

RECEIVED

I, Kevin Willard, certify that; I am employed by Gyrodata Inc.; that I am authorized and qualified to review the Gyroscopic Multishot survey from a depth of 0 feet to a depth of 4032 feet conducted on the day(s) of 12/04/2016; that this survey was conducted at the request OXY US for the CAL-MON 35 FEDERAL Well 41H API No. 30-015-43140 in Eddy County, NM; that the data is true, correct, complete, and within the limitations of the tool as set forth by Gyrodata Inc.; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Gyrodata Inc.

A handwritten signature in black ink, appearing to read "Kevin Willard", written over a horizontal line.

Kevin Willard
Operations Coordinator

A Gyrodata Directional Survey

FINAL DEFINITIVE COPY

for

OXY USA

Lease: CAL-MON 35 FEDERAL Well: 41H, 5 INCH DRILLPIPE
Location: H&P DRILLING RIG #617, EDDY COUNTY, NEW MEXICO

Job Number: MD1216GDM690

Run Date: 05 Dec 2016

Report Generated: 11 Dec 2017 12:45

Surveyor: Michael Robles

Calculation Method: MINIMUM CURVATURE

Survey surface coordinates obtained from: Well Plan/Plot

Survey Latitude: 32.267500 deg. N

Longitude: 103.754825 deg. W

Azimuth Correction:

Gyro: -0.31000 deg to Grid North

Depth Reference: Rotary Table

Air Gap (RKB to Ground / RKB to MSL): 29.60

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

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Location: H&P DRILLING RIG #617, EDDY COUNTY, NEW MEXICO

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MEASURED DEPTH	INCL	AZIMUTH	DOGLEG SEVERITY	VERTICAL DEPTH	CLOSURE DIST.	AZIMUTH deg.	HORIZONTAL COORDINATES feet
feet	deg.	deg.	deg./ 100 ft.	feet	feet	deg.	feet
0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.00 N 0.00 E
0 TO 4,032 FT. RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 5 INCH DRILLPIPE							
ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO H&P DRILLING RIG #617 WITH R.K.B. HEIGHT OF 29.6 FT.							
95.60	0.57	353.33	0.60	95.60	0.5	353.3	0.47 N 0.06 W
124.72	0.58	350.78	0.09	124.72	0.8	352.8	0.76 N 0.10 W
214.27	0.51	342.63	0.12	214.26	1.6	349.8	1.59 N 0.29 W
304.75	0.46	327.12	0.15	304.74	2.4	345.1	2.28 N 0.60 W
395.23	0.44	309.25	0.16	395.22	3.0	339.1	2.80 N 1.07 W
485.71	0.33	289.45	0.19	485.69	3.5	333.0	3.11 N 1.59 W
576.19	0.21	225.15	0.34	576.17	3.6	327.7	3.08 N 1.95 W
666.67	0.29	198.89	0.15	666.65	3.5	322.1	2.75 N 2.14 W
757.15	0.43	185.09	0.18	757.13	3.1	314.3	2.19 N 2.24 W
847.63	0.57	186.05	0.16	847.61	2.7	301.2	1.41 N 2.32 W
942.13	0.62	182.34	0.07	942.10	2.4	280.1	0.43 N 2.39 W
1036.56	0.55	175.33	0.11	1036.53	2.4	257.3	0.53 S 2.38 W
1131.10	0.32	142.77	0.35	1131.07	2.5	241.2	1.20 S 2.18 W
1225.46	0.28	92.75	0.27	1225.42	2.3	231.6	1.42 S 1.79 W
1319.97	0.27	66.86	0.13	1319.93	1.9	225.3	1.34 S 1.35 W
1414.30	0.18	30.12	0.18	1414.26	1.6	223.7	1.13 S 1.08 W
1508.63	0.16	347.63	0.13	1508.59	1.3	229.8	0.87 S 1.03 W
1603.06	0.16	339.59	0.02	1603.02	1.3	240.8	0.62 S 1.10 W

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Lease: CAL-MON 35 FEDERAL Well: 4IH, 5 INCH DRILLPIPE

Location: H&P DRILLING RIG #617, EDDY COUNTY, NEW MEXICO

Job Number: MD1216GDM690

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. feet	AZIMUTH deg.	HORIZONTAL COORDINATES feet
1697.59	0.15	336.74	0.01	1697.55	1.3	252.4	0.38 S
1792.14	0.14	353.77	0.05	1792.10	1.3	263.2	0.15 S
1886.53	0.10	15.72	0.06	1886.49	1.3	272.0	0.04 N
1981.05	0.09	32.34	0.03	1981.01	1.2	278.9	0.19 N
2075.40	0.15	357.41	0.10	2075.36	1.2	287.8	0.37 N
2169.92	0.19	345.88	0.06	2169.88	1.4	298.4	0.65 N
2264.51	0.21	338.28	0.04	2264.47	1.6	306.4	0.96 N
2358.99	0.19	330.24	0.04	2358.95	1.9	311.1	1.26 N
2453.47	0.16	327.92	0.03	2453.43	2.2	313.4	1.50 N
2547.95	0.15	325.81	0.01	2547.91	2.4	314.8	1.72 N
2642.39	0.17	333.33	0.03	2642.35	2.7	316.3	1.95 N
2737.01	0.21	335.10	0.04	2736.97	3.0	318.1	2.23 N
2831.40	0.27	328.43	0.07	2831.36	3.4	319.6	2.58 N
2925.87	0.36	340.26	0.12	2925.82	3.9	321.7	3.04 N
3020.30	0.42	339.58	0.06	3020.25	4.5	324.3	3.65 N
3114.67	0.40	338.23	0.02	3114.62	5.2	326.2	4.28 N
3209.27	0.37	339.16	0.03	3209.22	5.8	327.5	4.87 N
3303.55	0.36	325.63	0.09	3303.50	6.4	328.0	5.40 N
3397.92	0.37	323.89	0.02	3397.86	7.0	327.7	5.89 N
3492.31	0.38	328.33	0.03	3492.25	7.6	327.6	6.40 N
3586.45	0.18	21.14	0.33	3586.39	8.0	328.5	6.81 N
3680.90	0.53	127.58	0.64	3680.84	7.7	330.5	6.68 N
							3.78 W
							4.18 W
							4.07 W
							3.72 W
							3.37 W

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MEASURED DEPTH	INCL	AZIMUTH	DOGLEG SEVERITY	VERTICAL DEPTH	CLOSURE DIST.	AZIMUTH	HORIZONTAL COORDINATES
feet	deg.	deg.	deg./ 100 ft.	feet	feet	deg.	feet
3775.40	0.80	137.83	0.31	3775.33	6.6	333.2	5.92 N 2.99 W
3869.78	0.74	145.17	0.12	3869.71	5.4	336.0	4.93 N 2.20 W
3964.18	0.87	150.64	0.16	3964.10	4.1	338.5	3.81 N 1.50 W
4032.00	0.99	154.58	0.20	4031.91	3.0	340.7	2.83 N 0.99 W

Final Station Closure: Distance: 3.00 ft Az: 340.66 deg.