



Gyrodata Incorporated
10504 WCR 72
Midland, TX 79707

Main: 432-561-8458
Fax: 432-563-7982

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 4310 feet conducted on the day(s) of 06/28/2017; that this survey was conducted at the request OXY USA for the CALMON 35 FEDERAL Well 171H API No. 30-015-44269 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", is written over a horizontal line.

Kevin Willard
Operations Coordinator

A Gyrodata Directional Survey

FINAL DEFINITIVE COPY

for

OXY USA

Lease: CALMON 35 FEDERAL Well: 171H, 5'
Location: H & P DRILLING RIG # 657, Eddy County, NM

Job Number: MD0617GDM487

Run Date: 29 Jun 2017

Report Generated: 11 Dec 2017 11:22

Surveyor: Paul Petersen

Calculation Method: MINIMUM CURVATURE

Survey surface coordinates obtained from: Company Man

Survey Latitude: 32.267297 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): 26.50

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

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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 TO 4310 FT. RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 5 INCH DRILL PIPE							
ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO H & P DRILLING RIG # 657 WITH R.K.B. HEIGHT OF 26.5 FT.							
81.25	0.47	31.39	0.58	81.25	0.3	31.4	0.28 N 0.17 E
171.12	0.70	21.52	0.28	171.11	1.2	27.1	1.11 N 0.57 E
261.29	0.70	19.92	0.02	261.28	2.3	24.1	2.14 N 0.96 E
350.68	0.67	15.68	0.07	350.66	3.4	22.1	3.16 N 1.28 E
440.69	0.54	1.13	0.22	440.67	4.3	19.3	4.09 N 1.43 E
533.16	0.20	342.72	0.38	533.13	4.9	16.6	4.68 N 1.40 E
625.62	0.15	17.23	0.12	625.59	5.1	15.6	4.95 N 1.38 E
718.07	0.14	344.97	0.09	718.04	5.4	15.0	5.17 N 1.39 E
810.55	0.21	216.34	0.34	810.52	5.3	13.8	5.14 N 1.26 E
903.01	0.45	202.77	0.27	902.98	4.8	12.3	4.67 N 1.02 E
995.47	0.53	200.29	0.09	995.44	4.0	10.5	3.94 N 0.73 E
1087.97	0.38	193.65	0.17	1087.94	3.3	8.9	3.24 N 0.51 E
1182.70	0.16	170.65	0.25	1182.66	2.8	9.3	2.80 N 0.46 E
1277.38	0.12	117.53	0.14	1277.34	2.7	12.2	2.63 N 0.57 E
1372.07	0.16	110.00	0.05	1372.03	2.7	17.1	2.53 N 0.78 E
1466.83	0.18	103.16	0.03	1466.79	2.7	23.1	2.46 N 1.05 E
1561.55	0.20	205.29	0.31	1561.51	2.5	26.3	2.27 N 1.12 E
1656.18	0.21	107.99	0.33	1656.14	2.4	30.4	2.07 N 1.22 E

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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
1750.77	0.21	100.53	0.03	1750.73	2.5 38.0	1.98 N
1845.46	0.21	102.33	0.01	1845.42	2.7 44.6	1.92 N
1940.15	0.19	110.00	0.04	1940.11	2.9 50.4	1.82 N
2034.76	0.14	89.03	0.08	2034.72	3.0 54.4	1.77 N
2129.38	0.10	42.04	0.11	2129.34	3.2 55.2	1.84 N
2223.95	0.13	4.49	0.08	2223.91	3.4 53.5	2.00 N
2318.52	0.14	353.53	0.03	2318.48	3.5 50.5	2.23 N
2413.17	0.20	352.48	0.06	2413.13	3.7 46.8	2.50 N
2508.64	0.38	321.65	0.24	2508.60	3.8 40.0	2.92 N
2604.48	0.58	309.78	0.23	2604.43	4.0 28.4	3.48 N
2700.28	0.67	310.76	0.09	2700.23	4.3 14.6	4.15 N
2796.13	0.69	313.51	0.04	2796.07	4.9 2.8	4.92 N
2890.50	0.47	317.99	0.24	2890.44	5.6 355.6	5.60 N
2985.04	0.50	326.87	0.09	2984.97	6.3 351.6	6.23 N
3079.74	0.57	325.51	0.08	3079.67	7.1 348.6	6.96 N
3174.62	0.54	331.90	0.07	3174.55	8.0 346.3	7.75 N
3269.32	0.53	327.25	0.05	3269.24	8.8 344.7	8.51 N
3363.93	0.56	325.17	0.04	3363.85	9.7 343.0	9.26 N
3458.46	0.62	331.18	0.09	3458.37	10.6 341.6	10.08 N
3553.06	0.50	341.44	0.16	3552.97	11.5 341.2	10.92 N
3647.75	0.08	38.66	0.49	3647.66	12.0 341.5	11.37 N
3742.47	0.33	127.59	0.36	3742.38	11.8 342.5	11.25 N
						1.55 E
						1.89 E
						2.21 E
						2.47 E
						2.64 E
						2.71 E
						2.70 E
						2.67 E
						2.45 E
						1.88 E
						1.08 E
						0.24 E
						0.43 W
						0.92 W
						1.41 W
						1.89 W
						2.33 W
						2.84 W
						3.35 W
						3.72 W
						3.81 W
						3.56 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
3837.14	0.57	144.27	0.29	3837.04	11.1	344.0	10.70 N
3931.69	1.72	154.20	1.23	3931.57	9.3	346.5	9.04 N
4026.49	2.93	157.78	1.28	4026.29	5.6	353.4	5.52 N
4120.74	3.79	160.53	0.93	4120.38	1.4	74.9	0.35 N
4215.27	3.32	155.81	0.59	4214.73	6.2	145.7	5.09 S
4310.07	3.24	155.16	0.09	4309.37	11.5	150.3	10.02 S
							5.72 E

Final Station Closure: Distance: 11.54 ft Az: 150.27 deg.