

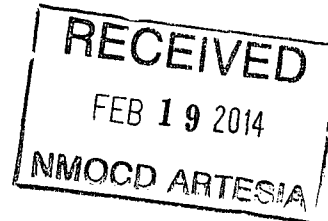


RYAN DIRECTIONAL SERVICES, INC.
A NABORS COMPANY

Ryan Directional Services, Inc.
19510 Oil Center Blvd.
Houston, Texas 77073
Bus: 281.443.1414
Fax: 281.443.1676

Wednesday, December 11, 2013

State of New Mexico
County of Eddy



Subject: **Survey Certification Letter**

Survey Company: **Ryan Directional Services, Inc.**
Job Number: **7104**
Survey Job Type: **Ryan MWD**
Customer: **Oxy**
Well Name: **YESO Viking Federal #5**
Rig Name: **Savannah 415**

Surface: **32.81511222, -104.2568856**
A.P.I. No: **30-015-41260**
Location: **Eddy, NM**
RKB Height: **14'**
Distance to Bit: **63'**

								TD Straight
Surveyor Name	Surveyor Title	Borehole Number	Start Depth	End Depth	Start Date	End Date	Type of	Line Projection
Thad Sanches	MWD Supervisor	OH	436'	4429'	12/11/13	12/15/13	MWD	4518'

The data and calculations for this survey have been check by me and conform to the calibration standards and operational procedures set forth by Ryan Directional Services, Inc. I am authorized and qualified to review the data, calculations and this reports, and the report represents true and correct Directional Survey of this well based on the original data correct to Grid North nd obtained at the well site. Wellbore coordinates are calculated using the minimum curvature method

Thad Sanches
MWD Supervisor
Ryan Directional Services, Inc.



RYAN DIRECTIONAL SERVICES, INC.

Ryan Job # 7104

Date: 16-Dec-13

A NABORS COMPANY

Kit #

SURVEY REPORT

Customer:	OXY Resources
Well Name & No.:	Yeso Viking Federal #5
County, State:	Eddy, Co. Tx.
Rig Contractor & No.:	Savanna 415
Surface Location: Y or Lat:	32.81511222
X or Long	104.2568856
NAD27 or NAD83:	NAD27
Survey Corrected To:	Grid North

MWD Operator:	Staven Lesnett
RKB:	14'
Ground Elevation:	3560
Vertical Section Direction:	0.00
Magnetic Declination:	7.65
Convergence:	0.04
API Number:	30-015-41260

Minimum Curvature Calculation

Sur #	Meas. Depth.	Inc.	Azm.	Course Length	T.V.D.	Ver.Sect.	+N / -S	+E / -W	DLS	ClsD	Cls Az
Tie In to Gyro Surveys											
Tie In	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	435.8	0.70	56.0	435.80	435.79	1.49	1.49	2.21	0.16	2.66	56.00
2	525.2	0.48	65.8	89.40	525.18	1.95	1.95	3.00	0.27	3.58	57.02
3	644.3	0.26	195.6	119.10	644.28	1.89	1.89	3.38	0.57	3.88	60.79
4	705.3	0.18	218.0	61.00	705.28	1.68	1.68	3.29	0.19	3.69	62.89
5	797.6	0.35	287.5	92.30	797.58	1.65	1.65	2.93	0.36	3.36	60.56
6	890.0	0.48	313.0	92.40	889.98	2.00	2.00	2.38	0.24	3.11	49.89
7	981.7	0.40	310.3	91.70	981.68	2.47	2.47	1.85	0.09	3.09	36.85
8	1053.8	0.35	322.7	72.10	1053.78	2.81	2.81	1.53	0.13	3.20	28.52
9	1138.7	0.53	305.6	84.90	1138.67	3.24	3.24	1.05	0.26	3.41	17.94
10	1224.3	0.88	291.4	85.60	1224.27	3.71	3.71	0.12	0.45	3.72	1.79
11	1314.0	0.92	275.4	89.70	1313.96	4.03	4.03	-1.24	0.28	4.22	342.89
12	1400.4	0.88	270.4	86.40	1400.34	4.10	4.10	-2.60	0.10	4.86	327.68
13	1484.7	0.83	268.2	84.30	1484.64	4.09	4.09	-3.85	0.07	5.62	316.70
14	1570.4	0.75	272.6	85.70	1570.33	4.09	4.09	-5.03	0.12	6.49	309.12
15	1670.8	0.75	281.3	100.40	1670.72	4.25	4.25	-6.34	0.11	7.63	303.88
16	1746.0	0.57	296.6	75.20	1745.91	4.52	4.52	-7.15	0.33	8.46	302.28
17	1832.0	0.62	299.7	86.00	1831.91	4.94	4.94	-7.94	0.07	9.35	301.89
18	1917.0	0.88	303.7	85.00	1916.90	5.53	5.53	-8.88	0.31	10.46	301.91
19	2001.2	0.97	306.8	84.20	2001.09	6.31	6.31	-9.99	0.12	11.82	302.30
20	2088.0	0.92	313.9	86.80	2087.88	7.24	7.24	-11.08	0.15	13.24	303.15
21	2173.8	0.88	322.1	85.80	2173.67	8.24	8.24	-11.98	0.16	14.54	304.50
22	2258.4	0.79	322.6	84.60	2258.26	9.21	9.21	-12.73	0.11	15.72	305.88
23	2351.1	0.70	319.1	92.70	2350.95	10.15	10.15	-13.49	0.11	16.88	306.94
24	2437.0	0.70	325.5	85.90	2436.84	10.98	10.98	-14.13	0.09	17.90	307.83
25	2522.1	0.83	331.2	85.10	2521.94	11.95	11.95	-14.73	0.18	18.96	309.05
26	2608.3	0.97	318.3	86.20	2608.13	13.04	13.04	-15.51	0.28	20.26	310.05
27	2696.8	0.88	313.1	88.50	2696.62	14.06	14.06	-16.51	0.14	21.68	310.43
28	2783.2	0.88	313.0	86.40	2783.01	14.97	14.97	-17.48	0.00	23.01	310.58
29	2868.1	0.57	298.4	84.90	2867.90	15.61	15.61	-18.32	0.42	24.07	310.43
30	2954.0	0.62	295.8	85.90	2953.79	16.02	16.02	-19.12	0.07	24.94	309.96
31	3039.1	0.75	302.7	85.10	3038.89	16.52	16.52	-20.00	0.18	25.94	309.55
32	3168.5	0.70	319.0	129.40	3168.28	17.57	17.57	-21.23	0.16	27.56	309.61
33	3254.6	0.53	316.9	86.10	3254.37	18.26	18.26	-21.85	0.20	28.48	309.89
34	3339.6	0.48	307.7	85.00	3339.37	18.77	18.77	-22.40	0.11	29.22	309.95
35	3474.6	0.40	298.2	135.00	3474.37	19.33	19.33	-23.26	0.08	30.25	309.73
36	3560.4	0.31	305.9	85.80	3560.16	19.61	19.61	-23.72	0.12	30.77	309.59
37	3645.7	0.35	313.9	85.30	3645.46	19.93	19.93	-24.09	0.07	31.26	309.60
38	3732.0	0.26	328.7	86.30	3731.76	20.28	20.28	-24.38	0.14	31.71	309.75
39	3816.7	0.26	346.6	84.70	3816.46	20.63	20.63	-24.53	0.10	32.05	310.07
40	3905.5	0.35	330.1	88.80	3905.26	21.06	21.06	-24.71	0.14	32.47	310.44
41	3989.9	0.31	305.1	84.40	3989.66	21.41	21.41	-25.02	0.18	32.94	310.56
42	4076.3	0.35	309.9	86.40	4076.06	21.72	21.72	-25.42	0.06	33.43	310.51
43	4161.2	0.22	359.9	84.90	4160.95	22.05	22.05	-25.62	0.32	33.80	310.72
44	4247.4	0.26	33.1	86.20	4247.15	22.38	22.38	-25.51	0.17	33.93	311.26
45	4337.9	0.26	32.2	90.50	4337.65	22.72	22.72	-25.29	0.00	34.00	311.94
46	4428.6	0.22	9.3	90.70	4428.35	23.07	23.07	-25.15	0.11	34.13	312.53
47	4517.6	0.22	9.30	89.00	4517.35	23.41	23.41	-25.10	0.00	34.32	313.01
#####	#47=PTB			#####	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!