

OPERATOR
WELL/LEASE
COUNTY

MEWBOURNE OIL COMPANY
QUERECHO 28 MD FED 1H
LEA

30-025-40731

047-0097

STATE OF NEW MEXICO
DEVIATION REPORT

265	0.32
590	0.05
920	0.56
1,220	0.86
1,423	0.31
1,740	0.26
1,993	0.25
2,313	1.86
2,440	3.20
2,536	2.36
2,630	2.13
2,828	2.65
2,850	2.01
2,942	1.72
3,196	2.37
3,294	2.76
3,421	2.29
3,548	1.55
3,802	0.71
4,038	0.38
4,310	0.27
4,564	0.43
5,040	0.71
5,358	0.81
5,676	1.88
5,930	1.76
6,058	0.98
6,344	1.03
6,598	0.98
6,914	1.50
7,199	0.50
7,612	0.39
8,024	0.98
8,119	0.57
8,532	0.36

HOBBS OCD

NOV 15 2012

RECEIVED

BY: Steve Moore

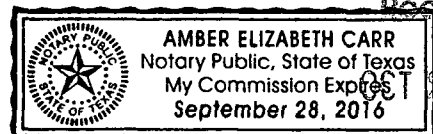
STATE OF TEXAS

COUNTY OF MIDLAND

The foregoing instrument was acknowledged before me on
Steve Moore on behalf of Patterson-UTI Drilling Company LLC.

10/15/2012, by

Amber Elizabeth Carr
Notary Public for Midland County, Texas
My Commission Expires:



Received

Mewbourne Oil Company

Hobbs

NOV 29 2012



Company: Mewbourne Oil Company
Lease/Well: Querecho 28 MD Federal No. / 001H
Location: S28 T18s R32e
Rig Name: Patterson 47
State/County: New Mexico / Lea
Latitude: 32.71, Longitude: 0.00
GRID North is 0.30 Degrees East of True North
VS-Azi: 0.00 Degrees

30-025-40731



RKB : 19'

HOBBS OCD

NOV 15 2012

RECEIVED

DRILLOG HA GYRO SURVEY CALCULATIONS
Filename: ... 28 md fed #1h gyro survey.ut
Minimum Curvature Method
Report Date/Time: 9/28/2012 / 08:19
Vaughn Energy Services
Gardendale, Texas
432-563-5444
Surveyor: Dustin Wedel
Querecho 28 MD Federal No. 001H / API 30-025-40731

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.20	346.59	100.00	0.17	-0.04	0.17	0.17	346.59	0.20
200.00	0.39	333.18	200.00	0.64	-0.23	0.64	0.68	339.88	0.21
300.00	0.44	4.67	300.00	1.32	-0.36	1.32	1.37	344.96	0.23
400.00	0.49	36.17	399.99	2.05	-0.07	2.05	2.05	357.97	0.26
500.00	0.54	53.97	499.99	2.67	0.56	2.67	2.73	11.81	0.17
600.00	0.59	71.77	599.98	3.11	1.42	3.11	3.42	24.60	0.18
700.00	0.59	27.72	699.98	3.73	2.15	3.73	4.30	29.97	0.44
800.00	0.60	343.67	799.97	4.69	2.24	4.69	5.20	25.57	0.45
900.00	0.81	359.95	899.97	5.90	2.09	5.90	6.26	19.56	0.29
1000.00	1.02	16.22	999.95	7.45	2.34	7.45	7.81	17.44	0.33
1100.00	0.88	26.02	1099.94	9.00	2.93	9.00	9.46	18.02	0.21
1200.00	0.74	35.82	1199.93	10.21	3.64	10.21	10.84	19.64	0.19
1300.00	0.63	42.02	1299.92	11.15	4.39	11.15	11.98	21.50	0.14
1400.00	0.51	48.23	1399.92	11.86	5.10	11.86	12.90	23.26	0.13
1500.00	0.43	47.66	1499.92	12.41	5.71	12.41	13.66	24.71	0.08
1600.00	0.35	47.09	1599.91	12.87	6.21	12.87	14.29	25.77	0.08
1700.00	0.44	35.17	1699.91	13.39	6.66	13.39	14.96	26.43	0.12
1800.00	0.52	23.25	1799.91	14.12	7.06	14.12	15.79	26.55	0.13

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	0.57	25.13	1899.90	14.99	7.45	14.99	16.74	26.42	0.06
2000.00	0.62	27.02	1999.90	15.92	7.91	15.92	17.78	26.40	0.06
2100.00	1.31	33.17	2099.88	17.36	8.78	17.36	19.45	26.82	0.69
2200.00	1.99	39.33	2199.84	19.66	10.50	19.66	22.28	28.11	0.70
2300.00	2.28	40.27	2299.77	22.52	12.88	22.52	25.94	29.78	0.30
2400.00	2.58	41.22	2399.68	25.73	15.66	25.73	30.12	31.32	0.30
2500.00	2.42	41.77	2499.59	29.00	18.55	29.00	34.43	32.60	0.16
2600.00	2.26	42.33	2599.50	32.04	21.28	32.04	38.46	33.60	0.16
2700.00	2.13	42.05	2699.43	34.88	23.86	34.88	42.26	34.38	0.13
2800.00	2.00	41.76	2799.36	37.56	26.27	37.56	45.84	34.97	0.13
2900.00	2.09	41.34	2899.30	40.24	28.64	40.24	49.39	35.44	0.09
3000.00	2.18	40.92	2999.23	43.04	31.09	43.04	53.09	35.84	0.09
3100.00	2.33	41.98	3099.15	45.99	33.69	45.99	57.01	36.23	0.16
3200.00	2.49	43.04	3199.06	49.09	36.54	49.09	61.19	36.66	0.16
3300.00	2.28	46.06	3298.98	52.05	39.45	52.05	65.32	37.16	0.24
3400.00	2.07	49.09	3398.90	54.62	42.25	54.62	69.06	37.72	0.24
3500.00	1.74	37.27	3498.85	57.01	44.54	57.01	72.35	38.00	0.52
3600.00	1.40	25.45	3598.81	59.32	45.98	59.32	75.05	37.78	0.47
3700.00	0.93	30.66	3698.79	61.12	46.92	61.12	77.05	37.51	0.48
3800.00	0.47	35.87	3798.78	62.15	47.57	62.15	78.27	37.43	0.47
3900.00	0.58	20.29	3898.78	62.96	47.99	62.96	79.16	37.32	0.18
4000.00	0.69	4.71	3998.77	64.03	48.21	64.03	80.15	36.98	0.21
4100.00	0.68	333.28	4098.77	65.16	48.00	65.16	80.93	36.37	0.37
4200.00	0.66	301.85	4198.76	66.00	47.24	66.00	81.16	35.59	0.36
4300.00	0.49	252.65	4298.76	66.18	46.34	66.18	80.79	35.00	0.50
4400.00	0.31	203.45	4398.75	65.80	45.83	65.80	80.19	34.86	0.37
4500.00	0.29	134.57	4498.75	65.37	45.90	65.37	79.88	35.07	0.34
4600.00	0.27	65.70	4598.75	65.29	46.29	65.29	80.04	35.34	0.31
4700.00	0.44	172.13	4698.75	65.01	46.56	65.01	79.96	35.61	0.57
4800.00	0.61	278.56	4798.75	64.71	46.08	64.71	79.44	35.46	0.85
4900.00	0.82	284.93	4898.74	64.97	44.87	64.97	78.96	34.63	0.22
5000.00	1.03	291.30	4998.73	65.48	43.34	65.48	78.53	33.50	0.23
5100.00	0.91	284.49	5098.71	66.01	41.74	66.01	78.10	32.31	0.16
5200.00	0.79	277.69	5198.70	66.30	40.28	66.30	77.58	31.28	0.15
5300.00	1.25	271.35	5298.69	66.42	38.50	66.42	76.77	30.10	0.47
5400.00	1.71	265.01	5398.65	66.31	35.92	66.31	75.42	28.45	0.49
5500.00	1.77	264.73	5498.61	66.04	32.90	66.04	73.78	26.48	0.06
5600.00	1.83	264.45	5598.56	65.74	29.77	65.74	72.17	24.36	0.06
5700.00	1.79	264.45	5698.51	65.44	26.63	65.44	70.65	22.14	0.04

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5800.00	1.75	264.45	5798.46	65.14	23.55	65.14	69.27	19.88	0.04
5900.00	1.68	273.07	5898.41	65.07	20.57	65.07	68.24	17.54	0.27
6000.00	1.60	281.69	5998.37	65.43	17.74	65.43	67.79	15.17	0.26
6100.00	1.32	269.71	6098.34	65.71	15.23	65.71	67.45	13.05	0.41
6200.00	1.04	257.73	6198.32	65.51	13.19	65.51	66.82	11.38	0.37
6300.00	1.23	259.54	6298.30	65.12	11.24	65.12	66.08	9.79	0.20
6400.00	1.43	261.35	6398.27	64.74	8.95	64.74	65.35	7.87	0.20
6500.00	1.37	263.20	6498.24	64.41	6.54	64.41	64.74	5.79	0.07
6600.00	1.31	265.04	6598.22	64.17	4.21	64.17	64.31	3.75	0.07
6700.00	1.35	262.44	6698.19	63.91	1.90	63.91	63.94	1.70	0.07
6800.00	1.39	259.83	6798.16	63.54	-0.46	63.54	63.55	359.58	0.07
6900.00	1.38	271.49	6898.13	63.36	-2.86	63.36	63.43	357.41	0.28
7000.00	1.36	283.16	6998.10	63.66	-5.22	63.66	63.88	355.31	0.28
7100.00	1.01	271.74	7098.08	63.96	-7.26	63.96	64.37	353.52	0.43
7200.00	0.65	260.33	7198.07	63.89	-8.70	63.89	64.48	352.25	0.39
7300.00	0.61	273.25	7298.07	63.83	-9.79	63.83	64.57	351.28	0.15
7400.00	0.57	286.17	7398.06	64.00	-10.79	64.00	64.90	350.43	0.14
7500.00	0.47	223.02	7498.06	63.84	-11.54	63.84	64.87	349.75	0.55
7600.00	0.37	159.88	7598.05	63.24	-11.71	63.24	64.31	349.51	0.44
7700.00	0.26	148.43	7698.05	62.75	-11.48	62.75	63.79	349.63	0.12
7800.00	0.15	136.99	7798.05	62.46	-11.28	62.46	63.47	349.77	0.11
7900.00	0.64	135.44	7898.05	61.96	-10.79	61.96	62.90	350.12	0.49
8000.00	1.14	133.89	7998.04	60.87	-9.68	60.87	61.64	350.96	0.50
8100.00	1.11	157.91	8098.02	59.29	-8.60	59.29	59.91	351.75	0.47
8200.00	1.09	181.93	8198.00	57.44	-8.27	57.44	58.03	351.81	0.46
8300.00	0.84	221.66	8297.99	55.94	-8.79	55.94	56.63	351.07	0.69
8400.00	0.59	261.38	8397.98	55.32	-9.79	55.32	56.18	349.97	0.54
8500.00	0.56	266.39	8497.98	55.21	-10.79	55.21	56.25	348.94	0.06
8600.00	0.53	271.41	8597.97	55.19	-11.73	55.19	56.42	348.00	0.06
8700.00	0.73	222.16	8697.97	54.73	-12.62	54.73	56.17	347.02	0.55
8738.00	0.80	203.44	8735.96	54.31	-12.89	54.31	55.82	346.65	0.68



Job Number: S12-135
 Company: Mewbourne Oil Company
 Lease/Well: Querecho 28 MD Federal # 1 H
 Location: Lea County
 Rig Name: Patterson # 47
 RKB: N/A
 G.L. or M.S.L.: N/A

30-025-40731
 State/Country: New Mexico / USA
 Declination: 7.264° Corrected To Grid
 Grid: 7.264°
 File name: C:\WINSERVE\DOCS\S12-135.SVY
 Date/Time: 19-Oct-12 / 15:27
 Curve Name: SES MWD SURVEY RAN ON 9-24-12

Stryker Energy Directional Services, LLC.

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 348.65
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
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Tie-In Data Provided by VES Gyro Survey

8738.00	.80	203.44	8735.96	54.31	-12.89	55.78	55.82	346.65	.00
8894.00	2.90	350.00	8891.90	57.20	-14.01	58.84	58.89	346.24	2.30
8926.00	6.40	357.50	8923.79	59.78	-14.23	61.41	61.45	346.61	11.08
8958.00	10.20	351.20	8955.45	64.36	-14.74	66.00	66.03	347.10	12.19
8990.00	13.80	343.70	8986.75	70.83	-16.24	72.64	72.67	347.08	12.24
9021.00	18.20	340.70	9016.54	78.95	-18.88	81.12	81.18	346.55	14.44
9053.00	22.90	341.70	9046.50	89.58	-22.49	92.26	92.36	345.91	14.73
9085.00	26.90	343.50	9075.52	102.44	-26.50	105.65	105.81	345.49	12.72
9116.00	30.40	344.40	9102.72	116.72	-30.61	120.46	120.67	345.31	11.38
9148.00	33.60	344.70	9129.85	133.07	-35.12	137.38	137.62	345.21	10.01
9180.00	36.50	344.70	9156.05	150.79	-39.97	155.71	156.00	345.15	9.06
9211.00	39.50	345.20	9180.47	169.22	-44.92	174.75	175.08	345.13	9.73
9243.00	41.20	346.10	9204.86	189.29	-50.05	195.44	195.80	345.19	5.62
9275.00	43.70	347.90	9228.47	210.33	-54.90	217.03	217.38	345.37	8.69
9306.00	47.50	349.10	9250.16	232.03	-59.31	239.17	239.50	345.66	12.57
9338.00	52.20	350.50	9270.78	256.10	-63.63	263.62	263.89	346.05	15.06
9370.00	56.10	351.00	9289.52	281.70	-67.80	289.53	289.74	346.47	12.25
9401.00	58.70	351.20	9306.22	307.50	-71.84	315.62	315.78	346.85	8.40
9433.00	62.00	351.00	9322.05	334.97	-76.14	343.40	343.51	347.19	10.33
9465.00	65.10	350.70	9336.30	363.25	-80.70	372.03	372.11	347.48	9.72
9494.00	68.70	350.30	9347.68	389.55	-85.10	398.68	398.74	347.68	12.48
9526.00	71.90	350.00	9358.46	419.23	-90.25	428.80	428.84	347.85	10.04
9558.00	76.40	349.80	9367.20	449.53	-95.65	459.57	459.60	347.99	14.08
9587.00	79.50	349.80	9373.25	477.44	-100.67	487.92	487.94	348.09	10.69

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
				FT	FT	FT	Distance FT	Direction Deg	
9616.00	83.40	349.50	9377.57	505.65	-105.82	516.58	516.60	348.18	13.49
9703.00	88.80	357.10	9383.49	591.76	-115.92	603.00	603.01	348.92	10.70
9735.00	88.50	356.20	9384.24	623.70	-117.79	634.68	634.72	349.31	2.96
9767.00	89.20	355.30	9384.89	655.60	-120.16	666.43	666.52	349.61	3.56
9799.00	89.50	354.80	9385.25	687.48	-122.92	698.23	698.38	349.86	1.82
9831.00	89.90	353.90	9385.42	719.32	-126.07	730.07	730.29	350.06	3.08
9863.00	90.80	353.20	9385.22	751.12	-129.67	761.95	762.23	350.21	3.56
9894.00	90.70	352.10	9384.81	781.86	-133.63	792.87	793.20	350.30	3.56
9958.00	90.60	348.30	9384.09	844.91	-144.52	856.83	857.18	350.29	5.94
10021.00	90.50	347.70	9383.48	906.53	-157.62	919.82	920.13	350.14	.97
10085.00	90.20	347.70	9383.09	969.06	-171.26	983.81	984.08	349.98	.47
10149.00	90.00	347.40	9382.98	1031.56	-185.05	1047.80	1048.02	349.83	.56
10212.00	89.70	347.20	9383.15	1093.01	-198.90	1110.78	1110.97	349.69	.57
10276.00	90.00	346.20	9383.31	1155.30	-213.63	1174.75	1174.88	349.52	1.63
10340.00	89.60	345.30	9383.54	1217.33	-229.38	1238.66	1238.75	349.33	1.54
10403.00	90.30	345.50	9383.59	1278.29	-245.26	1301.56	1301.61	349.14	1.16
10467.00	90.80	346.70	9382.98	1340.41	-260.63	1365.49	1365.52	349.00	2.03
10531.00	90.80	347.70	9382.08	1402.82	-274.81	1429.47	1429.48	348.92	1.56
10594.00	90.70	347.60	9381.26	1464.35	-288.28	1492.45	1492.46	348.86	.22
10658.00	89.90	348.60	9380.92	1526.98	-301.48	1556.44	1556.45	348.83	2.00
10721.00	89.40	348.10	9381.31	1588.68	-314.20	1619.44	1619.45	348.81	1.12
10784.00	89.20	348.10	9382.08	1650.32	-327.19	1682.43	1682.44	348.79	.32
10846.00	89.00	347.00	9383.05	1710.85	-340.56	1744.41	1744.42	348.74	1.80
10909.00	90.10	347.40	9383.55	1772.28	-354.51	1807.39	1807.39	348.69	1.86
10973.00	90.10	347.20	9383.44	1834.72	-368.58	1871.37	1871.37	348.64	.31
11036.00	89.70	346.90	9383.55	1896.11	-382.70	1934.35	1934.35	348.59	.79
11100.00	90.70	347.40	9383.32	1958.51	-396.94	1998.33	1998.33	348.54	1.75
11163.00	91.20	349.00	9382.28	2020.17	-409.82	2061.31	2061.32	348.53	2.66
11227.00	90.50	349.00	9381.33	2082.98	-422.03	2125.30	2125.31	348.55	1.09
11290.00	89.70	349.20	9381.22	2144.85	-433.94	2188.30	2188.30	348.56	1.31
11354.00	89.60	348.60	9381.61	2207.65	-446.26	2252.30	2252.30	348.57	.95
11417.00	89.40	348.10	9382.16	2269.35	-458.98	2315.30	2315.30	348.57	.85
11481.00	89.10	348.60	9383.00	2332.02	-471.90	2379.29	2379.29	348.56	.91
11545.00	89.00	348.50	9384.06	2394.74	-484.61	2443.28	2443.28	348.56	.22
11607.00	89.60	349.00	9384.82	2455.55	-496.70	2505.28	2505.28	348.56	1.26
11671.00	89.50	349.20	9385.32	2518.39	-508.80	2569.27	2569.27	348.58	.35
11735.00	89.20	348.50	9386.04	2581.18	-521.18	2633.27	2633.27	348.58	1.19
11797.00	90.00	348.80	9386.48	2641.96	-533.38	2695.26	2695.27	348.59	1.38
11861.00	90.20	348.80	9386.37	2704.74	-545.81	2759.26	2759.27	348.59	.31
11925.00	90.40	348.30	9386.03	2767.47	-558.52	2823.26	2823.26	348.59	.84
11988.00	90.40	347.90	9385.59	2829.11	-571.51	2886.26	2886.26	348.58	.63
12052.00	90.20	349.00	9385.26	2891.81	-584.32	2950.26	2950.26	348.58	1.75
12115.00	90.60	349.30	9384.82	2953.69	-596.18	3013.25	3013.25	348.59	.79
12178.00	90.10	349.70	9384.43	3015.63	-607.66	3076.24	3076.24	348.61	1.02
12241.00	89.80	349.50	9384.49	3077.60	-619.03	3139.23	3139.23	348.63	.57

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
12305.00	90.00	349.00	9384.60	3140.47	-630.97	3203.23	3203.23	348.64	.84
12369.00	90.10	348.60	9384.54	3203.25	-643.40	3267.23	3267.23	348.64	.64
12432.00	89.50	348.60	9384.76	3265.01	-655.85	3330.23	3330.23	348.64	.95
12495.00	89.20	348.10	9385.48	3326.71	-668.57	3393.22	3393.22	348.64	.93
12559.00	89.00	347.90	9386.48	3389.30	-681.88	3457.21	3457.21	348.62	.44
12622.00	89.80	348.30	9387.14	3450.94	-694.87	3520.21	3520.21	348.62	1.42
12685.00	89.80	348.50	9387.36	3512.66	-707.54	3583.20	3583.20	348.61	.32
12748.00	89.70	348.30	9387.64	3574.37	-720.20	3646.20	3646.20	348.61	.35
12811.00	90.10	348.10	9387.75	3636.04	-733.09	3709.20	3709.20	348.60	.71
12874.00	90.30	348.10	9387.53	3697.68	-746.08	3772.20	3772.20	348.59	.32
12938.00	90.30	347.70	9387.19	3760.26	-759.49	3836.19	3836.19	348.58	.62
13001.00	90.20	347.40	9386.92	3821.78	-773.08	3899.18	3899.18	348.56	.50
13065.00	90.70	347.90	9386.41	3884.29	-786.76	3963.17	3963.17	348.55	1.10
13128.00	91.00	349.20	9385.48	3946.03	-799.27	4026.16	4026.16	348.55	2.12
13192.00	90.40	348.80	9384.70	4008.85	-811.48	4090.15	4090.16	348.56	1.13
13255.00	90.30	349.30	9384.31	4070.70	-823.45	4153.15	4153.15	348.56	.81
13318.00	89.70	349.70	9384.31	4132.65	-834.93	4216.14	4216.14	348.58	1.14
13382.00	89.70	349.50	9384.65	4195.59	-846.48	4280.13	4280.13	348.59	.31
13446.00	89.30	349.50	9385.21	4258.52	-858.14	4344.12	4344.12	348.61	.63
13509.00	89.50	349.50	9385.86	4320.46	-869.62	4407.11	4407.11	348.62	.32
13573.00	89.40	349.20	9386.48	4383.36	-881.45	4471.10	4471.10	348.63	.49
13636.00	89.50	349.00	9387.08	4445.22	-893.36	4534.10	4534.10	348.64	.35
13700.00	90.00	349.00	9387.36	4508.04	-905.57	4598.10	4598.10	348.64	.78
13764.00	89.10	349.00	9387.87	4570.86	-917.78	4662.09	4662.09	348.65	1.41
13827.00	89.30	349.00	9388.75	4632.70	-929.80	4725.09	4725.09	348.65	.32
13890.00	89.50	349.30	9389.41	4694.57	-941.66	4788.08	4788.08	348.66	.57
13954.00	89.60	349.20	9389.91	4757.44	-953.60	4852.07	4852.07	348.67	.22
14018.00	89.90	349.20	9390.19	4820.31	-965.59	4916.07	4916.07	348.67	.47
Projection to Total Depth									
14064.00	89.90	349.20	9390.27	4865.49	-974.21	4962.07	4962.07	348.68	.00