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SD Survey Report

**NM OIL CONSERVATION
ARTESIA DISTRICT**

FEB 14 2019

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**MEWBOURNE
OIL COMPANY**

30-015-45070 **SD Survey Report**

Mewbourne Oil Company

Field Name: *Mewbourne Oil Company (Nad 83 NMEZ)*

Site Name: *Sumideros 12 W1PA Pad*

Well Name: *Sumideros 12 W1PA Federal Com 1H*

File number: *13362420*

Survey: *Definitive survey*

29 October 2018



Weatherford®



Sumideros 12 W1PA Federal Com 1H

Field Name: Mewbourne Oil Company (Nad 83 NMEZ)	Map Units: US ft		Company Name: Mewbourne Oil Company	
	Vertical Reference Datum (VRD): Mean Sea Level			
	Projected Coordinate System: NAD83 / New Mexico East (ftUS)			
	Comment:			
Site: Sumideros 12 W1PA Pad	Units: US ft	North Reference: Grid	Convergence Angle: 0.32	
	Position:	Northing: 382721.90 US ft	Latitude: 32.050718590	
		Easting: 730080.00 US ft	Longitude: -103.724132590	
	Elevation above MSL: 3209.00 US ft			
Comment: Eddy Co., NM				
Slot: Sumideros 12 W1PA Federal Com 1H	Position (Relative to Site Centre)			
	+N/-S: 0.00 US ft	Northing: 382721.90 US ft	Latitude: 32.050718590	
	+E/-W: 0.00 US ft	Easting: 730080.00 US ft	Longitude: -103.724132590	
	Slot TVD Reference: Ground Elevation			
	Elevation above MSL: 3209.00 US ft			
	Comment:			
Well: Sumideros 12 W1PA Federal Com 1H	Type: Main well		UWI:	
	File Number: 13362420	Comment: Patterson 217		
	Closure Distance: 4813.98US ft		Closure Azimuth: 359.32°	
	Vertical Section: Position of Origin (Relative to Slot centre)			
	+N/-S: 0.00 US ft	+E/-W: 0.00 US ft	Az: 359.67°	

Drill floor: Survey Name: Definitive Survey

Rig Height (Drill Floor): 27.00 US ft **Elevation above MSL:** 3236.00 US ft **Inclination:** 0.00° **Azimuth:** 0.00°

Survey Name: Definitive Survey

Date: 10/Aug/2018

Survey Tool: See Survey Tool Ranges below.

Comment:

Company:

Magnetic Model:

Model Name: bggm2018

Date: 10/Sep/2018

Field Strength: 47728.0 nT

Declination: 6.96° **Dip:** 59.81°

Tie Point:

MD: 0.00 US ft

Inclination: 0.00°

Azimuth: 0.00°

TVD: 0.00 US ft

North Offset: 0.00 US ft

East Offset: 0.00 US ft

Survey Tool Ranges:

Name	Start MD(USFt)	End MD(USFt)	Source Survey
MWD	0.00	1397.00	MWD - True Shot
MWD	1397.00	4213.00	MWD 1
MWD	4213.00	9975.00	MWD 2

5D Survey Report

Survey Tool Ranges:			
Name	Start MD(USFt)	End MD(USFt)	Source Survey
MWD	9975.00	11330.00	MWD 3
MWD	11330.00	12147.00	MWD 4
MWD	12147.00	14855.00	MWD 5
MWD	14855.00	16720.00	MWD 6

Wellpath created using minimum curvature.

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)										
BD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N. Offset (US ft)	E. Offset (US ft)	DLS (%/1000 US ft)	Northing (US ft)	Easting (US ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	382721.90	730080.00	
195.00	0.10	174.50	195.00	-0.17	-0.17	0.02	0.05	382721.73	730080.02	
362.00	0.60	252.40	362.00	-0.57	-0.58	-0.80	0.35	382721.32	730079.20	
562.00	0.50	244.20	561.99	-1.26	-1.28	-2.59	0.06	382720.62	730077.41	
762.00	0.50	80.40	761.98	-1.50	-1.51	-2.51	0.50	382720.39	730077.49	
936.00	4.50	15.50	935.80	5.20	5.20	0.06	2.48	382727.10	730080.06	
1031.00	4.20	19.50	1030.52	12.06	12.07	2.22	0.45	382733.97	730082.22	
1126.00	3.90	22.20	1125.28	18.31	18.34	4.60	0.37	382740.24	730084.60	
1220.00	3.90	21.20	1219.07	24.24	24.28	6.96	0.07	382746.18	730086.96	
1397.00	3.30	30.70	1395.72	34.20	34.27	11.74	0.48	382756.17	730091.74	Tie on Trueshot MWD
1527.00	3.45	35.90	1525.49	40.57	40.66	15.95	0.26	382762.56	730095.95	First WFT MWD Svy
1621.00	3.21	36.49	1619.33	44.95	45.06	19.17	0.26	382766.96	730099.17	
1716.00	1.26	38.17	1714.26	47.90	48.02	21.40	2.05	382769.92	730101.40	
1905.00	1.49	45.38	1903.20	51.24	51.38	24.43	0.15	382773.28	730104.43	
2094.00	0.60	139.70	2092.18	52.20	52.36	26.82	0.87	382774.26	730106.82	
2284.00	0.95	169.07	2282.16	49.89	50.05	27.76	0.27	382771.95	730107.76	
2474.00	2.49	208.56	2472.08	44.73	44.88	26.09	0.98	382766.78	730106.09	
2663.00	2.24	197.23	2660.92	37.61	37.74	23.03	0.28	382759.64	730103.03	
2853.00	3.91	208.49	2850.64	28.39	28.50	18.84	0.93	382750.40	730098.84	
3042.00	3.15	203.68	3039.28	18.01	18.08	13.68	0.43	382739.98	730093.68	
3232.00	2.55	196.73	3229.04	9.20	9.26	10.37	0.36	382731.16	730090.37	
3422.00	1.17	180.14	3418.94	3.21	3.27	9.15	0.77	382725.17	730089.15	
3611.00	1.40	113.53	3607.90	0.35	0.42	11.26	0.75	382722.32	730091.26	
3801.00	1.39	83.54	3797.85	-0.34	-0.25	15.68	0.38	382721.65	730095.68	
3991.00	0.85	154.22	3987.82	-1.37	-1.26	18.58	0.72	382720.64	730098.58	
4180.00	3.23	216.28	4176.70	-6.91	-6.82	16.04	1.55	382715.08	730096.04	
4213.00	2.93	218.32	4209.65	-8.31	-8.23	14.96	0.97	382713.67	730094.96	
4288.00	2.46	221.35	4284.57	-11.01	-10.94	12.71	0.65	382710.96	730092.71	
4477.00	2.49	221.50	4473.39	-17.10	-17.06	7.31	0.02	382704.84	730087.31	
4666.00	2.17	220.45	4662.23	-22.87	-22.86	2.27	0.17	382699.04	730082.27	
4856.00	2.81	196.84	4852.06	-30.04	-30.05	-1.41	0.63	382691.85	730078.59	
5045.00	2.78	193.28	5040.83	-38.93	-38.95	-3.81	0.09	382682.95	730076.19	
5235.00	2.74	193.49	5230.61	-47.81	-47.85	-5.93	0.02	382674.05	730074.07	
5425.00	2.41	188.45	5420.42	-56.17	-56.22	-7.57	0.21	382665.68	730072.43	
5615.00	2.31	196.73	5610.26	-63.78	-63.83	-9.26	0.19	382658.07	730070.74	
5805.00	2.58	147.74	5800.11	-71.07	-71.12	-8.08	1.07	382650.78	730071.92	
5994.00	0.91	159.46	5989.01	-76.09	-76.12	-5.28	0.90	382645.78	730074.72	
6184.00	1.31	159.00	6178.98	-79.54	-79.56	-3.98	0.21	382642.34	730076.02	
6373.00	0.60	214.76	6367.95	-82.37	-82.39	-3.77	0.58	382639.51	730076.23	
6564.00	0.90	242.98	6558.94	-83.86	-83.89	-5.67	0.24	382638.01	730074.33	
6754.00	1.20	223.62	6748.91	-85.96	-86.01	-8.37	0.24	382635.89	730071.63	
6943.00	1.91	198.80	6937.84	-90.36	-90.43	-10.75	0.51	382631.47	730069.25	
7133.00	1.53	217.07	7127.75	-95.37	-95.45	-13.30	0.35	382626.45	730066.70	
7323.00	2.42	188.72	7317.64	-101.35	-101.44	-15.44	0.68	382620.46	730064.56	
7513.00	2.26	187.02	7507.48	-109.02	-109.12	-16.51	0.09	382612.78	730063.49	
7702.00	2.16	178.91	7696.34	-116.28	-116.38	-16.89	0.17	382605.52	730063.11	
7891.00	1.73	146.38	7885.24	-122.23	-122.32	-15.25	0.62	382599.58	730064.75	
8080.00	1.62	156.53	8074.16	-127.07	-127.14	-12.60	0.17	382594.76	730067.40	

SD Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)											
HP (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	DLS (%/100US ft)	Northng (US ft)	Eastng (US ft)	Elevation	
8270.00	0.78	182.40	8264.12	-130.83	-130.90	-11.59	0.52	382591.00	730068.41		
8459.00	1.04	235.36	8453.10	-133.08	-133.16	-13.05	0.45	382588.74	730066.95		
8648.00	2.08	248.98	8642.02	-135.26	-135.37	-17.67	0.58	382586.53	730062.33		
8837.00	2.55	219.09	8830.88	-139.72	-139.86	-23.52	0.68	382582.04	730056.48		
9026.00	0.93	226.53	9019.78	-144.02	-144.18	-27.28	0.86	382577.72	730052.72		
9216.00	1.00	234.86	9209.76	-146.02	-146.19	-29.76	0.08	382575.71	730050.24		
9406.00	1.59	181.85	9399.71	-149.60	-149.78	-31.20	0.67	382572.12	730048.80		
9595.00	1.89	116.33	9588.64	-153.62	-153.79	-28.49	1.01	382568.11	730051.51		
9785.00	1.05	161.89	9778.58	-156.68	-156.83	-25.14	0.72	382565.07	730054.86		
9975.00	0.75	149.71	9968.56	-159.42	-159.56	-23.97	0.19	382562.34	730056.03		
10165.00	1.12	234.31	10158.54	-161.57	-161.72	-24.85	0.68	382560.18	730055.15		
10355.00	1.21	236.32	10348.50	-163.75	-163.91	-28.03	0.05	382557.99	730051.97		
10545.00	1.48	209.51	10538.45	-166.98	-167.16	-30.91	0.36	382554.74	730049.09		
10735.00	1.66	202.21	10728.38	-171.65	-171.84	-33.16	0.14	382550.06	730046.84		
10924.00	1.29	160.08	10917.32	-176.18	-176.38	-33.47	0.59	382545.52	730046.53		
11113.00	1.83	94.74	11106.27	-178.45	-178.63	-29.74	0.92	382543.27	730050.26		
11303.00	1.38	109.76	11296.19	-179.51	-179.65	-24.56	0.32	382542.25	730055.44		
11330.00	1.36	111.13	11323.18	-179.74	-179.88	-23.95	0.14	382542.02	730056.05		
11390.00	1.25	74.57	11383.17	-179.83	-179.96	-22.66	1.38	382541.94	730057.34		
11422.00	3.78	23.77	11415.14	-178.77	-178.90	-21.90	9.82	382543.00	730058.10		
11453.00	7.34	15.34	11445.99	-175.93	-176.05	-20.96	11.75	382545.85	730059.04		
11484.00	11.17	11.07	11476.58	-171.08	-171.20	-19.86	12.54	382550.70	730060.14		
11516.00	14.85	7.58	11507.75	-163.98	-164.09	-18.72	11.75	382557.81	730061.28		
11547.00	18.73	1.76	11537.43	-155.06	-155.17	-18.05	13.63	382566.73	730061.95		
11579.00	22.41	3.48	11567.38	-143.84	-143.94	-17.52	11.65	382577.96	730062.48		
11610.00	25.76	3.54	11595.68	-131.22	-131.32	-16.74	10.81	382590.58	730063.26		
11641.00	27.80	1.67	11623.35	-117.27	-117.37	-16.12	7.12	382604.53	730063.88		
11673.00	30.11	2.53	11651.35	-101.80	-101.89	-15.55	7.33	382620.01	730064.45		
11705.00	31.93	1.61	11678.78	-85.32	-85.41	-14.95	5.88	382636.49	730065.05		
11736.00	34.22	1.34	11704.75	-68.41	-68.50	-14.52	7.40	382653.40	730065.48		
11768.00	37.02	359.66	11730.76	-49.78	-49.86	-14.37	9.27	382672.04	730065.63		
11800.00	39.59	0.35	11755.87	-29.95	-30.03	-14.36	8.14	382691.87	730065.64		
11831.00	41.84	0.45	11779.37	-9.73	-9.81	-14.22	7.26	382712.09	730065.78		
11862.00	44.71	359.30	11801.93	11.52	11.44	-14.27	9.60	382733.34	730065.73		
11893.00	46.25	358.92	11823.67	33.62	33.54	-14.62	5.04	382755.44	730065.38		
11925.00	49.72	359.49	11845.08	57.39	57.31	-14.94	10.92	382779.21	730065.06		
11956.00	53.60	359.92	11864.31	81.70	81.62	-15.06	12.56	382803.52	730064.94		
11988.00	55.62	2.01	11882.84	107.78	107.69	-14.62	8.26	382829.59	730065.38		
12019.00	59.08	2.88	11899.57	133.84	133.77	-13.50	11.41	382855.67	730066.50		
12051.00	62.05	3.89	11915.29	161.65	161.58	-11.85	9.68	382883.48	730068.15		
12082.00	65.36	2.35	11929.02	189.39	189.33	-10.35	11.57	382911.23	730069.65		
12114.00	68.51	0.61	11941.56	218.81	218.76	-9.59	11.04	382940.66	730070.41		
12147.00	71.57	358.69	11952.82	249.82	249.77	-9.79	10.76	382971.67	730070.21		
12231.00	76.57	359.56	11975.87	330.57	330.51	-11.01	6.04	383052.41	730068.99		
12263.00	79.24	359.73	11982.58	361.85	361.79	-11.20	8.36	383083.69	730068.80		
12293.00	81.58	359.30	11987.57	391.43	391.37	-11.46	7.93	383113.27	730068.54		
12324.00	83.56	358.43	11991.58	422.17	422.10	-12.06	6.97	383144.00	730067.94		
12356.00	84.96	358.30	11994.78	454.00	453.93	-12.97	4.39	383175.83	730067.03		
12387.00	85.86	358.03	11997.26	484.89	484.81	-13.96	3.03	383206.71	730066.04		
12419.00	86.64	357.84	11999.36	516.80	516.72	-15.11	2.51	383238.62	730064.89		
12482.00	88.95	357.63	12001.78	579.72	579.62	-17.60	3.68	383301.52	730062.40		
12576.00	87.70	356.32	12004.53	673.57	673.45	-22.56	1.93	383395.35	730057.44		
12672.00	88.81	358.46	12007.45	769.44	769.30	-26.93	2.51	383491.20	730053.07		
12766.00	89.86	1.18	12008.54	863.42	863.28	-27.22	3.10	383585.18	730052.78		
12861.00	89.44	0.58	12009.12	958.40	958.27	-25.76	0.77	383680.17	730054.24		
12956.00	89.16	1.17	12010.28	1053.37	1053.25	-24.31	0.69	383775.15	730055.69		
13051.00	87.69	0.05	12012.89	1148.32	1148.20	-23.30	1.95	383870.10	730056.70		
13146.00	90.21	358.55	12014.63	1243.29	1243.17	-24.46	3.09	383965.07	730055.54		
13241.00	89.86	358.92	12014.58	1338.28	1338.15	-26.56	0.54	384060.05	730053.44		

SD Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)										
RL (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N. Offset (US ft)	E. Offset (US ft)	OLS (%TDBUS ft)	Runing (US ft)	Easting (US ft)	Comment
13335.00	87.62	358.57	12016.64	1432.24	1432.10	-28.62	2.41	384154.00	730051.38	
13429.00	89.65	1.17	12018.88	1526.20	1526.06	-28.83	3.51	384247.96	730051.17	
13525.00	89.72	0.70	12019.41	1622.17	1622.04	-27.26	0.49	384343.94	730052.74	
13619.00	88.81	359.78	12020.62	1716.16	1716.03	-26.87	1.38	384437.93	730053.13	
13714.00	89.23	359.16	12022.24	1811.14	1811.01	-27.75	0.79	384532.91	730052.25	
13809.00	92.45	0.38	12020.85	1906.12	1905.99	-28.13	3.62	384627.89	730051.87	
13904.00	92.31	0.72	12016.90	2001.02	2000.90	-27.22	0.39	384722.80	730052.78	
13999.00	91.40	0.98	12013.83	2095.95	2095.84	-25.81	1.00	384817.74	730054.19	
14094.00	86.78	359.54	12015.34	2190.91	2190.80	-25.38	5.09	384912.70	730054.62	
14189.00	87.27	358.56	12020.27	2285.77	2285.65	-26.95	1.15	385007.55	730053.05	
14284.00	86.78	358.50	12025.20	2380.63	2380.50	-29.39	0.52	385102.40	730050.61	
14379.00	87.55	358.48	12029.90	2475.49	2475.35	-31.89	0.81	385197.25	730048.11	
14475.00	91.33	357.07	12030.84	2571.41	2571.25	-35.61	4.20	385293.15	730044.39	
14570.00	91.54	356.92	12028.46	2666.28	2666.09	-40.59	0.27	385387.99	730039.41	
14665.00	90.63	355.74	12026.66	2761.10	2760.87	-46.67	1.57	385482.77	730033.33	
14760.00	90.91	355.61	12025.38	2855.86	2855.59	-53.83	0.32	385577.49	730026.17	
14855.00	89.72	354.73	12024.86	2950.56	2950.25	-61.83	1.56	385672.15	730018.17	
14949.00	89.86	354.66	12025.20	3044.21	3043.85	-70.52	0.17	385765.75	730009.48	
15043.00	92.38	358.84	12023.36	3138.04	3137.65	-75.85	5.19	385859.55	730004.15	
15138.00	92.24	0.87	12019.54	3232.95	3232.57	-76.09	2.14	385954.47	730003.91	
15233.00	92.87	1.23	12015.30	3327.83	3327.46	-74.35	0.76	386049.36	730005.65	
15328.00	90.77	1.07	12012.28	3422.75	3422.39	-72.45	2.22	386144.29	730007.55	
15423.00	91.40	1.32	12010.48	3517.70	3517.35	-70.47	0.71	386239.25	730009.53	
15518.00	88.81	1.82	12010.31	3612.63	3612.30	-67.86	2.78	386334.20	730012.14	
15644.00	86.57	0.44	12015.39	3738.48	3738.17	-65.38	2.09	386460.07	730014.62	
15708.00	86.50	0.65	12019.26	3802.36	3802.05	-64.77	0.35	386523.95	730015.23	
15803.00	88.88	0.30	12023.09	3897.26	3896.96	-63.99	2.53	386618.86	730016.01	
15898.00	90.63	1.76	12023.49	3992.23	3991.94	-62.28	2.40	386713.84	730017.72	
15993.00	91.89	1.97	12021.40	4087.13	4086.86	-59.19	1.34	386808.76	730020.81	
16088.00	91.68	0.59	12018.44	4182.05	4181.79	-57.07	1.47	386903.69	730022.93	
16279.00	91.12	359.62	12013.78	4372.98	4372.73	-56.72	0.59	387094.63	730023.28	
16374.00	91.82	359.93	12011.34	4467.95	4467.70	-57.09	0.81	387189.60	730022.91	
16469.00	90.56	359.86	12009.37	4562.93	4562.67	-57.26	1.33	387284.57	730022.74	
16564.00	91.19	0.86	12007.92	4657.91	4657.66	-56.67	1.24	387379.56	730023.33	
16654.00	89.02	359.32	12007.75	4747.90	4747.65	-56.53	2.96	387469.55	730023.47	Last WFT MWD Svy
16720.00	89.02	359.32	12008.88	4813.89	4813.64	-57.31	0.00	387535.54	730022.69	TD @ 16720.0 / FTB