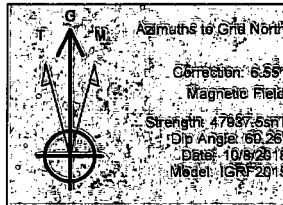


Company Name: Mewbourne Oil Company
Cape 28/29 B2CN Fed Com #1H
Lea County, New Mexico (Nad 83)
Rig: Patterson #259
Creditor: Shams Robinson
Date: 11/16/2018

Cape 28/29 B2CN Fed Com #1H
Lea County, New Mexico (Nad 83)
Q181384 & WT-181164
Design #3

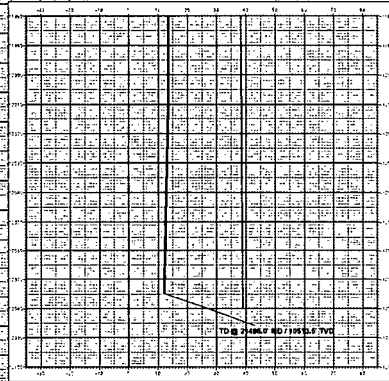


PROJECT DETAILS: Lea County, New Mexico (Nad 83)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Elevation: GDS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

WELL DETAILS: Cape 28/29 B2CN Fed Com #1H						
Well	UW	Waters	Waters	Waters	Waters	Waters
1100.0	6.00	197.70	1980.0	1.0	6.0	6.0
1100.0	6.00	197.70	1980.0	1.0	6.0	6.0

DESIGN ANNOTATIONS									
MD	Inc	Alt	TVD	+N-S	+E-W	Viscosity	Annotation	Annotation	Annotation
1100.0	6.00	0.00	1980.0	0.0	0.0	0.0	0.0	0.0	0.0
1100.0	6.00	197.70	1980.0	1.0	6.0	6.0	6.0	6.0	6.0

ANNOTATIONS									
MD	Inc	Alt	TVD	+N-S	+E-W	Viscosity	Annotation	Annotation	Annotation
1100.0	6.00	0.00	1980.0	0.0	0.0	0.0	0.0	0.0	0.0
1100.0	6.00	197.70	1980.0	1.0	6.0	6.0	6.0	6.0	6.0

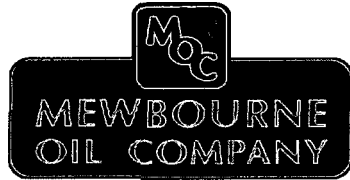


Vertical Section at 179.82° (200 us/in)

Vertical Section at 179.82° (200 us/in)

Vertical Section at 179.82° (200 us/in)

HOBBSCO
FEB 21 2019
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Mewbourne Oil Company

Lea County, New Mexico (Nad 83)

Sec 17, T21S, R32E

Caper 20/29 B2CN Fed Com #1H

Wellbore #1

Design: Wellbore #1

QES Survey Report

15 November, 2018



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Caper 20/29 B2CN Fed Com #1H
Project:	Lea County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3664.0usft (Patterson #250)
Site:	Sec 17, T21S, R32E	MD Reference:	WELL @ 3664.0usft (Patterson #250)
Well:	Caper 20/29 B2CN Fed Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Lea County, New Mexico (Nad 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 17, T21S, R32E		
Site Position:		Northing:	537,432.50 usft
From:	Map	Easting:	736,986.90 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 28' 33.117 N
		Longitude:	103° 41' 56.000 W
		Grid Convergence:	0.34 °

Well	Caper 20/29 B2CN Fed Com #1H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 28' 33.117 N
		Longitude:	103° 41' 56.000 W
		Ground Level:	3,637.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	10/8/2018	6.89
			Dip Angle (°)
			60.26
			Field Strength (nT)
			47,937.53765777

Design	Wellbore #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.0	0.0	0.0
			Direction (°)
			179.82

Survey Program	Date 11/15/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
100.0	1,000.0	Phoenix Tech Gyro's (Wellbore #1)	GYRO-NS
1,126.0	21,495.0	QES MWD Surveys (Wellbore #1)	OWSG (Rev2) MWD
			Description
			OWSG Gyrocompass Gyro
			OWSG MWD - Standard

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
100.0	0.34	253.16	100.0	-0.1	-0.3	0.1	0.34	0.34	0.00	
200.0	0.37	267.45	200.0	-0.2	-0.9	0.2	0.09	0.03	14.29	
300.0	0.20	340.25	300.0	0.0	-1.3	0.0	0.36	-0.17	72.80	
400.0	0.19	294.46	400.0	0.2	-1.5	-0.2	0.15	-0.01	-45.79	
500.0	0.12	230.81	500.0	0.2	-1.7	-0.2	0.17	-0.07	-63.65	
600.0	0.47	270.78	600.0	0.1	-2.2	-0.1	0.39	0.35	39.97	
700.0	0.53	238.48	700.0	-0.1	-3.0	0.1	0.28	0.06	-32.30	
800.0	0.53	242.37	800.0	-0.6	-3.8	0.5	0.04	0.00	3.89	
900.0	0.62	232.05	900.0	-1.1	-4.7	1.1	0.14	0.09	-10.32	

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Caper 20/29 B2CN Fed Com #1H
Project:	Lea County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3664.0usft (Patterson #250)
Site:	Sec 17, T21S, R32E	MD Reference:	WELL @ 3664.0usft (Patterson #250)
Well:	Caper 20/29 B2CN Fed Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Gyro Tie-in @ 1000.0' MD / 1000.0' TVD									
1,000.0	0.40	197.70	1,000.0	-1.8	-5.2	1.8	0.37	-0.22	-34.35
1,126.0	1.90	225.20	1,125.9	-3.7	-6.8	3.6	1.24	1.19	21.83
1,311.0	5.70	179.90	1,310.5	-15.0	-9.0	15.0	2.47	2.05	-24.49
1,497.0	6.60	180.40	1,495.5	-34.9	-9.0	34.9	0.48	0.48	0.27
1,685.0	7.10	182.30	1,682.1	-57.4	-9.6	57.3	0.29	0.27	1.01
1,871.0	5.00	184.80	1,867.1	-76.9	-10.7	76.9	1.14	-1.13	1.34
2,057.0	5.40	186.00	2,052.3	-93.7	-12.3	93.7	0.22	0.22	0.65
2,243.0	5.50	180.60	2,237.5	-111.3	-13.3	111.3	0.28	0.05	-2.90
2,429.0	5.40	170.70	2,422.6	-128.9	-12.0	128.8	0.51	-0.05	-5.32
2,615.0	5.20	161.10	2,607.8	-145.5	-7.8	145.5	0.49	-0.11	-5.16
2,801.0	5.30	153.00	2,793.1	-161.1	-1.2	161.1	0.40	0.05	-4.35
2,988.0	5.20	161.90	2,979.3	-176.9	5.3	176.9	0.44	-0.05	4.76
3,174.0	5.00	173.00	3,164.6	-192.9	9.0	192.9	0.54	-0.11	5.97
3,361.0	5.50	186.00	3,350.8	-209.9	9.0	209.9	0.69	0.27	6.95
3,547.0	5.50	191.60	3,535.9	-227.5	6.3	227.5	0.29	0.00	3.01
3,733.0	5.20	192.50	3,721.1	-244.5	2.7	244.5	0.17	-0.16	0.48
3,918.0	5.00	196.80	3,905.4	-260.4	-1.5	260.4	0.23	-0.11	2.32
4,105.0	5.00	191.80	4,091.7	-276.2	-5.5	276.1	0.23	0.00	-2.67
4,165.0	4.80	190.40	4,151.4	-281.2	-6.5	281.2	0.39	-0.33	-2.33
4,308.0	5.20	190.90	4,293.9	-293.4	-8.8	293.4	0.28	0.28	0.35
4,494.0	5.40	191.10	4,479.1	-310.3	-12.1	310.3	0.11	0.11	0.11
4,680.0	5.30	179.70	4,664.3	-327.5	-13.7	327.4	0.57	-0.05	-6.13
4,865.0	5.90	178.10	4,848.4	-345.5	-13.3	345.5	0.34	0.32	-0.86
5,052.0	6.20	178.50	5,034.4	-365.2	-12.8	365.2	0.16	0.16	0.21
5,239.0	5.90	182.20	5,220.3	-384.9	-12.9	384.9	0.26	-0.16	1.98
5,425.0	6.20	180.90	5,405.3	-404.5	-13.4	404.5	0.18	0.16	-0.70
5,613.0	6.10	180.60	5,592.2	-424.7	-13.7	424.6	0.06	-0.05	-0.16
5,799.0	6.10	181.60	5,777.2	-444.4	-14.0	444.4	0.06	0.00	0.54
5,986.0	6.50	183.00	5,963.0	-464.9	-14.9	464.9	0.23	0.21	0.75
6,172.0	5.30	183.40	6,148.0	-484.0	-15.9	484.0	0.65	-0.65	0.22
6,359.0	5.40	186.70	6,334.2	-501.4	-17.5	501.3	0.17	0.05	1.76
6,545.0	4.70	172.00	6,519.5	-517.6	-17.4	517.5	0.79	-0.38	-7.90
6,732.0	4.20	183.70	6,706.0	-532.0	-16.8	532.0	0.55	-0.27	6.26
6,920.0	4.00	186.00	6,893.5	-545.4	-17.9	545.4	0.14	-0.11	1.22
7,107.0	4.90	182.20	7,079.9	-559.9	-18.9	559.8	0.51	0.48	-2.03
7,293.0	4.30	182.90	7,265.3	-574.8	-19.6	574.7	0.32	-0.32	0.38
7,481.0	4.80	181.80	7,452.7	-589.7	-20.2	589.6	0.27	0.27	-0.59
7,668.0	5.50	180.60	7,639.0	-606.5	-20.5	606.4	0.38	0.37	-0.64
7,855.0	5.40	183.00	7,825.1	-624.2	-21.1	624.1	0.13	-0.05	1.28
8,042.0	4.90	183.00	8,011.4	-641.0	-22.0	640.9	0.27	-0.27	0.00
8,228.0	4.80	183.90	8,196.7	-656.7	-22.9	656.6	0.07	-0.05	0.48
8,415.0	4.90	184.60	8,383.0	-672.4	-24.1	672.4	0.06	0.05	0.37

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Caper 20/29 B2CN Fed Com #1H
Project:	Lea County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3664.0usft (Patterson #250)
Site:	Sec 17, T21S, R32E	MD Reference:	WELL @ 3664.0usft (Patterson #250)
Well:	Caper 20/29 B2CN Fed Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,602.0	3.70	173.70	8,569.5	-686.4	-24.1	686.3	0.77	-0.64	-5.83
8,788.0	4.80	178.60	8,755.0	-700.1	-23.2	700.1	0.62	0.59	2.63
8,974.0	4.20	182.30	8,940.4	-714.7	-23.3	714.7	0.36	-0.32	1.99
9,161.0	4.00	188.70	9,126.9	-728.0	-24.5	727.9	0.27	-0.11	3.42
9,347.0	3.30	196.40	9,312.6	-739.6	-27.0	739.5	0.46	-0.38	4.14
9,535.0	3.70	182.20	9,500.2	-750.8	-28.8	750.7	0.51	0.21	-7.55
9,721.0	3.60	183.60	9,685.8	-762.7	-29.4	762.6	0.07	-0.05	0.75
9,909.0	3.00	191.80	9,873.5	-773.4	-30.8	773.3	0.41	-0.32	4.36
9,962.0	4.80	185.00	9,926.4	-776.9	-31.3	776.8	3.50	3.40	-12.83
9,993.0	9.80	178.30	9,957.1	-780.9	-31.3	780.8	16.33	16.13	-21.61
10,024.0	15.30	173.70	9,987.4	-787.6	-30.8	787.5	18.02	17.74	-14.84
10,055.0	19.00	173.20	10,017.0	-796.6	-29.7	796.5	11.94	11.94	-1.61
10,087.0	22.60	174.80	10,046.9	-807.9	-28.5	807.8	11.39	11.25	5.00
10,117.0	26.60	177.40	10,074.2	-820.4	-27.7	820.3	13.81	13.33	8.67
10,149.0	29.90	179.50	10,102.4	-835.5	-27.3	835.4	10.77	10.31	6.56
10,180.0	33.10	175.80	10,128.8	-851.7	-26.6	851.6	12.06	10.32	-11.94
10,211.0	36.40	179.30	10,154.3	-869.4	-25.9	869.3	12.44	10.65	11.29
10,242.0	40.70	179.20	10,178.5	-888.7	-25.6	888.6	13.87	13.87	-0.32
10,273.0	43.00	179.30	10,201.6	-909.3	-25.4	909.3	7.42	7.42	0.32
10,304.0	46.30	180.20	10,223.6	-931.1	-25.3	931.0	10.84	10.65	2.90
10,335.0	49.90	180.90	10,244.3	-954.2	-25.5	954.1	11.73	11.61	2.26
10,366.0	53.00	181.60	10,263.7	-978.4	-26.0	978.3	10.15	10.00	2.26
10,398.0	56.30	182.30	10,282.2	-1,004.5	-26.9	1,004.4	10.47	10.31	2.19
10,429.0	59.60	182.90	10,298.6	-1,030.8	-28.1	1,030.7	10.77	10.65	1.94
10,459.0	63.10	183.20	10,313.0	-1,057.0	-29.5	1,056.9	11.70	11.67	1.00
10,476.0	65.10	182.90	10,320.4	-1,072.3	-30.3	1,072.2	11.87	11.76	-1.76
10,550.0	72.40	181.80	10,347.2	-1,141.2	-33.1	1,141.1	9.96	9.86	-1.49
10,581.0	77.20	181.40	10,355.4	-1,171.1	-34.0	1,171.0	15.53	15.48	-1.29
10,612.0	81.70	180.80	10,361.0	-1,201.5	-34.6	1,201.4	14.64	14.52	-1.94
10,644.0	83.50	180.60	10,365.2	-1,233.3	-35.0	1,233.1	5.66	5.63	-0.63
10,737.0	87.40	181.30	10,372.5	-1,325.9	-36.5	1,325.8	4.26	4.19	0.75
10,830.0	89.70	180.40	10,374.9	-1,418.9	-37.9	1,418.8	2.66	2.47	-0.97
10,923.0	88.80	180.40	10,376.1	-1,511.9	-38.5	1,511.8	0.97	-0.97	0.00
11,016.0	87.00	179.50	10,379.5	-1,604.8	-38.4	1,604.7	2.16	-1.94	-0.97
LL Crossed @ 11026.7' MD / 10380.0' TVD									
11,026.7	87.47	179.50	10,380.0	-1,615.5	-38.3	1,615.4	4.35	4.35	0.00
11,108.0	91.00	179.50	10,381.1	-1,696.8	-37.6	1,696.7	4.35	4.35	0.00
100' FNL Crossed @ 11126.7' MD / 10380.8' TVD									
11,126.7	91.06	179.72	10,380.8	-1,715.5	-37.5	1,715.3	1.23	0.32	1.18
11,201.0	91.30	180.60	10,379.2	-1,789.8	-37.7	1,789.6	1.23	0.32	1.18
11,294.0	90.70	182.00	10,377.6	-1,882.7	-39.8	1,882.6	1.64	-0.65	1.51
11,387.0	88.70	183.40	10,378.1	-1,975.6	-44.2	1,975.5	2.63	-2.15	1.51
11,480.0	87.90	183.00	10,380.9	-2,068.4	-49.4	2,068.3	0.96	-0.86	-0.43
11,572.0	87.40	180.90	10,384.6	-2,160.3	-52.5	2,160.1	2.34	-0.54	-2.28

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Site:	Sec 17, T21S, R32E	MD Reference:	WELL @ 3664.0usft (Patterson #250)
Well:	Caper 20/29 B2CN Fed Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,665.0	90.20	180.40	10,386.6	-2,253.2	-53.6	2,253.1	3.06	3.01	-0.54
11,759.0	92.00	180.40	10,384.8	-2,347.2	-54.2	2,347.0	1.91	1.91	0.00
11,850.0	91.30	180.80	10,382.2	-2,438.2	-55.2	2,438.0	0.89	-0.77	0.44
11,942.0	90.20	182.30	10,381.0	-2,530.1	-57.7	2,529.9	2.02	-1.20	1.63
12,035.0	88.60	179.70	10,381.9	-2,623.1	-59.3	2,622.9	3.28	-1.72	-2.80
12,128.0	85.90	179.70	10,386.4	-2,716.0	-58.8	2,715.8	2.90	-2.90	0.00
12,221.0	87.20	178.60	10,392.0	-2,808.8	-57.4	2,808.6	1.83	1.40	-1.18
12,314.0	85.90	179.00	10,397.6	-2,901.6	-55.5	2,901.4	1.46	-1.40	0.43
12,407.0	87.30	178.10	10,403.1	-2,994.4	-53.1	2,994.2	1.79	1.51	-0.97
12,500.0	91.10	177.20	10,404.4	-3,087.3	-49.3	3,087.1	4.20	4.09	-0.97
12,593.0	91.80	178.60	10,402.1	-3,180.2	-45.9	3,180.1	1.68	0.75	1.51
12,686.0	90.90	179.90	10,399.9	-3,273.2	-44.7	3,273.0	1.70	-0.97	1.40
12,779.0	87.10	179.30	10,401.5	-3,366.1	-44.1	3,366.0	4.14	-4.09	-0.65
12,873.0	89.90	177.60	10,403.9	-3,460.1	-41.5	3,459.9	3.48	2.98	-1.81
12,966.0	91.20	177.20	10,403.1	-3,553.0	-37.3	3,552.8	1.46	1.40	-0.43
13,059.0	88.50	177.40	10,403.3	-3,645.9	-32.9	3,645.7	2.91	-2.90	0.22
13,151.0	87.80	177.40	10,406.3	-3,737.7	-28.7	3,737.6	0.76	-0.76	0.00
13,244.0	90.00	177.60	10,408.0	-3,830.6	-24.7	3,830.5	2.38	2.37	0.22
13,337.0	90.60	178.50	10,407.6	-3,923.5	-21.5	3,923.5	1.16	0.65	0.97
13,430.0	90.80	179.90	10,406.4	-4,016.5	-20.2	4,016.4	1.52	0.22	1.51
13,523.0	90.70	180.90	10,405.2	-4,109.5	-20.9	4,109.4	1.08	-0.11	1.08
13,616.0	88.20	178.80	10,406.1	-4,202.5	-20.6	4,202.4	3.51	-2.69	-2.26
13,709.0	87.40	180.20	10,409.7	-4,295.4	-19.8	4,295.3	1.73	-0.86	1.51
13,802.0	87.50	179.00	10,413.8	-4,388.3	-19.2	4,388.2	1.29	0.11	-1.29
13,895.0	88.90	179.30	10,416.7	-4,481.3	-17.8	4,481.2	1.54	1.51	0.32
13,988.0	89.70	179.20	10,417.9	-4,574.2	-16.6	4,574.2	0.87	0.86	-0.11
14,081.0	85.80	178.80	10,421.5	-4,667.1	-15.0	4,667.1	4.22	-4.19	-0.43
14,175.0	93.00	177.60	10,422.5	-4,761.0	-12.0	4,761.0	7.77	7.66	-1.28
14,268.0	89.30	177.90	10,420.6	-4,853.9	-8.4	4,853.9	3.99	-3.98	0.32
14,362.0	88.70	177.80	10,422.3	-4,947.8	-4.8	4,947.8	0.65	-0.64	-0.11
14,455.0	89.40	177.60	10,423.8	-5,040.8	-1.1	5,040.7	0.78	0.75	-0.22
14,548.0	88.60	177.40	10,425.4	-5,133.6	3.0	5,133.6	0.89	-0.86	-0.22
14,641.0	88.50	177.90	10,427.8	-5,226.5	6.8	5,226.5	0.55	-0.11	0.54
14,734.0	90.20	179.00	10,428.8	-5,319.5	9.3	5,319.5	2.18	1.83	1.18
14,827.0	88.30	178.80	10,430.1	-5,412.5	11.1	5,412.5	2.05	-2.04	-0.22
14,920.0	92.60	181.10	10,429.3	-5,505.4	11.2	5,505.4	5.24	4.62	2.47
15,012.0	91.30	181.40	10,426.2	-5,597.4	9.1	5,597.4	1.45	-1.41	0.33
15,105.0	88.60	182.00	10,426.3	-5,690.3	6.4	5,690.3	2.97	-2.90	0.65
15,198.0	88.10	182.00	10,429.0	-5,783.2	3.1	5,783.2	0.54	-0.54	0.00
15,292.0	88.10	182.30	10,432.1	-5,877.1	-0.4	5,877.1	0.32	0.00	0.32
15,385.0	86.70	180.90	10,436.3	-5,970.0	-3.0	5,969.9	2.13	-1.51	-1.51
15,478.0	88.00	178.10	10,440.6	-6,062.8	-2.2	6,062.8	3.32	1.40	-3.01
15,572.0	90.10	176.90	10,442.2	-6,156.7	1.9	6,156.7	2.57	2.23	-1.28



Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Caper 20/29 B2CN Fed Com #1H
Project:	Lea County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3664.0usft (Patterson #250)
Site:	Sec 17, T21S, R32E	MD Reference:	WELL @ 3664.0usft (Patterson #250)
Well:	Caper 20/29 B2CN Fed Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,665.0	90.00	176.70	10,442.1	-6,249.6	7.1	6,249.6	0.24	-0.11	-0.22
15,758.0	87.60	176.20	10,444.0	-6,342.4	12.9	6,342.4	2.64	-2.58	-0.54
15,852.0	91.70	178.30	10,444.6	-6,436.2	17.4	6,436.3	4.90	4.36	2.23
15,945.0	91.60	177.90	10,441.9	-6,529.2	20.5	6,529.2	0.44	-0.11	-0.43
16,038.0	90.30	177.90	10,440.4	-6,622.1	23.9	6,622.1	1.40	-1.40	0.00
16,132.0	90.70	179.30	10,439.6	-6,716.0	26.2	6,716.1	1.55	0.43	1.49
16,226.0	90.00	180.90	10,439.0	-6,810.0	26.0	6,810.1	1.86	-0.74	1.70
16,320.0	89.70	180.40	10,439.2	-6,904.0	24.9	6,904.1	0.62	-0.32	-0.53
16,414.0	86.70	179.70	10,442.2	-6,998.0	24.9	6,998.0	3.28	-3.19	-0.74
16,508.0	89.60	181.30	10,445.2	-7,091.9	24.0	7,092.0	3.52	3.09	1.70
16,602.0	94.60	181.60	10,441.8	-7,185.8	21.7	7,185.8	5.33	5.32	0.32
16,696.0	90.10	181.40	10,437.9	-7,279.7	19.2	7,279.7	4.79	-4.79	-0.21
16,791.0	88.10	181.10	10,439.4	-7,374.6	17.1	7,374.6	2.13	-2.11	-0.32
16,885.0	86.90	182.00	10,443.5	-7,468.5	14.6	7,468.5	1.60	-1.28	0.96
16,979.0	88.00	180.90	10,447.7	-7,562.4	12.2	7,562.4	1.65	1.17	-1.17
17,073.0	87.00	180.60	10,451.8	-7,656.3	11.0	7,656.3	1.11	-1.06	-0.32
17,166.0	90.40	181.10	10,453.9	-7,749.2	9.6	7,749.2	3.70	3.66	0.54
17,261.0	90.90	182.00	10,452.8	-7,844.2	7.0	7,844.2	1.08	0.53	0.95
17,355.0	90.30	182.70	10,451.8	-7,938.1	3.2	7,938.1	0.98	-0.64	0.74
17,449.0	88.20	182.30	10,453.1	-8,032.0	-0.9	8,031.9	2.27	-2.23	-0.43
17,543.0	87.10	182.00	10,456.9	-8,125.8	-4.4	8,125.8	1.21	-1.17	-0.32
17,637.0	88.60	180.80	10,460.5	-8,219.7	-6.7	8,219.7	2.04	1.60	-1.28
17,730.0	87.40	180.10	10,463.7	-8,312.7	-7.5	8,312.6	1.49	-1.29	-0.75
17,824.0	91.30	179.20	10,464.8	-8,406.6	-6.9	8,406.6	4.26	4.15	-0.96
17,918.0	86.00	175.60	10,467.0	-8,500.5	-2.6	8,500.4	6.81	-5.64	-3.83
18,013.0	89.30	177.90	10,470.9	-8,595.2	2.8	8,595.2	4.23	3.47	2.42
18,107.0	88.90	177.80	10,472.4	-8,689.1	6.3	8,689.1	0.44	-0.43	-0.11
18,201.0	90.20	178.50	10,473.1	-8,783.1	9.3	8,783.1	1.57	1.38	0.74
18,295.0	90.00	178.60	10,472.9	-8,877.1	11.7	8,877.1	0.24	-0.21	0.11
18,388.0	88.60	178.50	10,474.1	-8,970.0	14.0	8,970.0	1.51	-1.51	-0.11
18,482.0	89.80	179.30	10,475.4	-9,064.0	15.8	9,064.0	1.53	1.28	0.85
18,576.0	88.40	178.80	10,476.9	-9,158.0	17.4	9,158.0	1.58	-1.49	-0.53
18,670.0	90.40	178.50	10,477.8	-9,251.9	19.6	9,251.9	2.15	2.13	-0.32
18,764.0	90.10	179.00	10,477.4	-9,345.9	21.7	9,345.9	0.62	-0.32	0.53
18,860.0	89.70	178.10	10,477.6	-9,441.9	24.1	9,441.9	1.03	-0.42	-0.94
18,955.0	92.00	178.60	10,476.2	-9,536.8	26.8	9,536.9	2.48	2.42	0.53
19,050.0	92.20	179.20	10,472.7	-9,631.7	28.7	9,631.8	0.67	0.21	0.63
19,145.0	89.90	178.30	10,471.0	-9,726.7	30.7	9,726.7	2.60	-2.42	-0.95
19,240.0	89.00	178.10	10,471.9	-9,821.6	33.7	9,821.7	0.97	-0.95	-0.21
19,335.0	87.90	178.80	10,474.4	-9,916.6	36.3	9,916.6	1.37	-1.16	0.74
19,430.0	87.80	179.50	10,478.0	-10,011.5	37.7	10,011.6	0.74	-0.11	0.74
19,525.0	87.70	180.10	10,481.7	-10,106.4	38.0	10,106.5	0.64	-0.11	0.63
19,620.0	87.50	181.10	10,485.7	-10,201.3	37.0	10,201.4	1.07	-0.21	1.05



Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Caper 20/29 B2CN Fed Com #1H
Project:	Lea County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3664.0usft (Patterson #250)
Site:	Sec 17, T21S, R32E	MD Reference:	WELL @ 3664.0usft (Patterson #250)
Well:	Caper 20/29 B2CN Fed Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
19,715.0	87.90	182.50	10,489.5	-10,296.2	34.0	10,296.3	1.53	0.42	1.47
19,809.0	90.00	181.30	10,491.3	-10,390.1	30.9	10,390.2	2.57	2.23	-1.28
19,904.0	89.60	181.60	10,491.6	-10,485.1	28.5	10,485.1	0.53	-0.42	0.32
19,999.0	89.50	181.80	10,492.3	-10,580.1	25.7	10,580.1	0.24	-0.11	0.21
20,094.0	89.20	182.30	10,493.4	-10,675.0	22.3	10,675.0	0.61	-0.32	0.53
20,189.0	89.40	180.10	10,494.6	-10,769.9	20.3	10,770.0	2.33	0.21	-2.32
20,284.0	90.50	182.50	10,494.7	-10,864.9	18.2	10,864.9	2.78	1.16	2.53
20,379.0	92.20	182.30	10,492.4	-10,959.8	14.2	10,959.8	1.80	1.79	-0.21
20,474.0	91.50	182.50	10,489.3	-11,054.7	10.2	11,054.6	0.77	-0.74	0.21
20,569.0	91.40	182.30	10,486.9	-11,149.6	6.2	11,149.5	0.24	-0.11	-0.21
20,664.0	91.40	181.60	10,484.6	-11,244.5	3.0	11,244.4	0.74	0.00	-0.74
20,759.0	88.20	178.80	10,485.0	-11,339.4	2.7	11,339.4	4.48	-3.37	-2.95
20,854.0	87.30	179.30	10,488.7	-11,434.4	4.2	11,434.3	1.08	-0.95	0.53
20,948.0	86.30	179.50	10,493.9	-11,528.2	5.2	11,528.2	1.08	-1.06	0.21
21,043.0	88.80	178.30	10,498.0	-11,623.1	7.1	11,623.1	2.92	2.63	-1.26
21,138.0	89.40	178.30	10,499.5	-11,718.0	9.9	11,718.0	0.63	0.63	0.00
21,233.0	89.30	179.00	10,500.6	-11,813.0	12.1	11,813.0	0.74	-0.11	0.74
21,328.0	87.60	179.00	10,503.1	-11,908.0	13.8	11,907.9	1.79	-1.79	0.00
21,423.0	86.10	181.10	10,508.4	-12,002.8	13.7	12,002.8	2.71	-1.58	2.21
21,435.0	85.90	181.30	10,509.2	-12,014.8	13.4	12,014.8	2.35	-1.67	1.67
TD @ 21495.0' MD / 10513.5' TVD									
21,495.0	85.90	181.30	10,513.5	-12,074.6	12.1	12,074.6	0.00	0.00	0.00

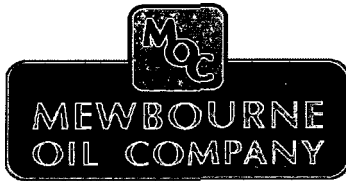
Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,000.0	1,000.0	-1.8	-5.2	Gyro Tie-in @ 1000.0' MD / 1000.0' TVD
11,026.7	10,380.0	-1,615.5	-38.3	LL Crossed @ 11026.7' MD / 10380.0' TVD
11,126.7	10,380.8	-1,715.5	-37.5	100' FNL Crossed @ 11126.7' MD / 10380.8' TVD
21,495.0	10,513.5	-12,074.6	12.1	TD @ 21495.0' MD / 10513.5' TVD

Checked By: _____

Approved By: _____

Date: _____



Mewbourne Oil Company

Lea County, New Mexico (Nad 83)

Sec 17, T21S, R32E

Caper 20/29 B2CN Fed Com #1H

Wellbore #1

Design: Wellbore #1

QES Survey Certification Report

15 November, 2018



Quintana Energy Services

11390 FM 830

Willis, TX 77318

Phone: (936) 856-4332

Fax: (936) 856-8678

**Survey Certification Sheet**

Company	Job Number	Date
Mewbourne Oil Company	WT-181164	11/21/2018

Lease	Well Name	County & State
SEC 17, T-21S, R32E	Caper 20-29 B2CN Fed Com #1H	Lea County,

API No.	Survey Depth Range	Survey Type
35-025-45087	1000 feet to 21495 feet MD	MWD

Sidetrack Information	Directional Supervisor/Surveyor
Click here to enter text.	Brad Reed

Certification Statement

The data and calculations for this survey have been checked by me and conform to the standards and procedures set forth by Quintana Energy Services (QES). This report represents a true and correct directional survey of this well based on the original data obtained at the well site. Wellbore coordinates are calculated using minimum curvature.

Christopher Hughes

Digitally signed by Christopher Hughes
DN: cn=Christopher Hughes, o=QES,
ou=compliance,
email=chrish@qeslp.com, c=US
Date: 2019.01.16 15:00:27 -06'00'

Christopher Hughes
MWD Compliance Manager

Quintana Energy Services

11390 FM 830

Willis, TX 77318

Phone: (936) 856-4332

Fax: (936) 856-8678

Quintana Energy Services





QES Survey Certification Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Caper 20/29 B2CN Fed Com #1H
Project:	Lea County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3664.0usft (Patterson #250)
Site:	Sec 17, T21S, R32E	MD Reference:	WELL @ 3664.0usft (Patterson #250)
Well:	Caper 20/29 B2CN Fed Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Lea County, New Mexico (Nad 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 17, T21S, R32E			
Site Position:		Northing:	537,432.50 usft	Latitude: 32° 28' 33.117 N
From:	Map	Easting:	736,986.90 usft	Longitude: 103° 41' 56.000 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence: 0.34 °

Well	Caper 20/29 B2CN Fed Com #1H			
Well Position	+N/-S	0.0 usft	Northing:	537,432.49 usft
	+E/-W	0.0 usft	Easting:	736,986.90 usft
Position Uncertainty	0.0 usft		Wellhead Elevation:	usft
			Ground Level:	3,637.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/8/2018	6.89	60.26	47,937.53765778

Design	Wellbore #1			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	179.82

Survey Program	Date 11/15/2018				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	1,000.0	Phoenix Tech Gyro's (Wellbore #1)	GYRO-NS	OWSG Gyrocompass Gyro	
1,126.0	21,495.0	QES MWD Surveys (Wellbore #1)	OWSG (Rev2) MWD	OWSG MWD - Standard	

Survey	MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
	1,000.0	0.40	197.70	1,000.0	-1.8	-5.2	5.5	251.18
Gyro Tie-in @ 1000.0' MD / 1000.0' TVD								
	1,126.0	1.90	225.20	1,125.9	-3.7	-6.8	7.7	241.72
	1,311.0	5.70	179.90	1,310.5	-15.0	-9.0	17.5	210.83
	1,497.0	6.60	180.40	1,495.5	-34.9	-9.0	36.1	194.47
	1,685.0	7.10	182.30	1,682.1	-57.4	-9.6	58.1	189.46
	1,871.0	5.00	184.80	1,867.1	-76.9	-10.7	77.7	187.92
	2,057.0	5.40	186.00	2,052.3	-93.7	-12.3	94.5	187.47
	2,243.0	5.50	180.60	2,237.5	-111.3	-13.3	112.1	186.81
	2,429.0	5.40	170.70	2,422.6	-128.9	-12.0	129.4	185.31
	2,615.0	5.20	161.10	2,607.8	-145.5	-7.8	145.7	183.08



QES Survey Certification Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Caper 20/29 B2CN Fed Com #1H
Project:	Lea County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3664.0usft (Patterson #250)
Site:	Sec 17, T21S, R32E	MD Reference:	WELL @ 3664.0usft (Patterson #250)
Well:	Caper 20/29 B2CN Fed Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
2,801.0	5.30	153.00	2,793.1	-161.1	-1.2	161.1	180.43
2,988.0	5.20	161.90	2,979.3	-176.9	5.3	176.9	178.27
3,174.0	5.00	173.00	3,164.6	-192.9	9.0	193.1	177.34
3,361.0	5.50	186.00	3,350.8	-209.9	9.0	210.1	177.54
3,547.0	5.50	191.60	3,535.9	-227.5	6.3	227.6	178.42
3,733.0	5.20	192.50	3,721.1	-244.5	2.7	244.5	179.37
3,918.0	5.00	196.80	3,905.4	-260.4	-1.5	260.4	180.32
4,105.0	5.00	191.80	4,091.7	-276.2	-5.5	276.2	181.14
4,165.0	4.80	190.40	4,151.4	-281.2	-6.5	281.3	181.32
4,308.0	5.20	190.90	4,293.9	-293.4	-8.8	293.6	181.72
4,494.0	5.40	191.10	4,479.1	-310.3	-12.1	310.5	182.23
4,680.0	5.30	179.70	4,664.3	-327.5	-13.7	327.8	182.40
4,865.0	5.90	178.10	4,848.4	-345.5	-13.3	345.8	182.21
5,052.0	6.20	178.50	5,034.4	-365.2	-12.8	365.4	182.00
5,239.0	5.90	182.20	5,220.3	-384.9	-12.9	385.1	181.91
5,425.0	6.20	180.90	5,405.3	-404.5	-13.4	404.7	181.90
5,613.0	6.10	180.60	5,592.2	-424.7	-13.7	424.9	181.84
5,799.0	6.10	181.60	5,777.2	-444.4	-14.0	444.6	181.81
5,986.0	6.50	183.00	5,963.0	-464.9	-14.9	465.2	181.83
6,172.0	5.30	183.40	6,148.0	-484.0	-15.9	484.3	181.89
6,359.0	5.40	186.70	6,334.2	-501.4	-17.5	501.7	182.00
6,545.0	4.70	172.00	6,519.5	-517.6	-17.4	517.9	181.93
6,732.0	4.20	183.70	6,706.0	-532.0	-16.8	532.3	181.81
6,920.0	4.00	186.00	6,893.5	-545.4	-17.9	545.7	181.88
7,107.0	4.90	182.20	7,079.9	-559.9	-18.9	560.2	181.94
7,293.0	4.30	182.90	7,265.3	-574.8	-19.6	575.1	181.95
7,481.0	4.80	181.80	7,452.7	-589.7	-20.2	590.0	181.96
7,668.0	5.50	180.60	7,639.0	-606.5	-20.5	606.8	181.94
7,855.0	5.40	183.00	7,825.1	-624.2	-21.1	624.6	181.93
8,042.0	4.90	183.00	8,011.4	-641.0	-22.0	641.4	181.96
8,228.0	4.80	183.90	8,196.7	-656.7	-22.9	657.1	182.00
8,415.0	4.90	184.60	8,383.0	-672.4	-24.1	672.9	182.05
8,602.0	3.70	173.70	8,569.5	-686.4	-24.1	686.8	182.01
8,788.0	4.80	178.60	8,755.0	-700.1	-23.2	700.5	181.90
8,974.0	4.20	182.30	8,940.4	-714.7	-23.3	715.1	181.87
9,161.0	4.00	188.70	9,126.9	-728.0	-24.5	728.4	181.93
9,347.0	3.30	196.40	9,312.6	-739.6	-27.0	740.1	182.09
9,535.0	3.70	182.20	9,500.2	-750.8	-28.8	751.4	182.20
9,721.0	3.60	183.60	9,685.8	-762.7	-29.4	763.2	182.21
9,909.0	3.00	191.80	9,873.5	-773.4	-30.8	774.0	182.28
9,962.0	4.80	185.00	9,926.4	-776.9	-31.3	777.6	182.30
9,993.0	9.80	178.30	9,957.1	-780.9	-31.3	781.5	182.29
10,024.0	15.30	173.70	9,987.4	-787.6	-30.8	788.2	182.24
10,055.0	19.00	173.20	10,017.0	-796.6	-29.7	797.2	182.14
10,087.0	22.60	174.80	10,046.9	-807.9	-28.5	808.4	182.02



QES Survey Certification Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Caper 20/29 B2CN Fed Com #1H
Project:	Lea County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3664.0usft (Patterson #250)
Site:	Sec 17, T21S, R32E	MD Reference:	WELL @ 3664.0usft (Patterson #250)
Well:	Caper 20/29 B2CN Fed Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
10,117.0	26.60	177.40	10,074.2	-820.4	-27.7	820.9	181.93
10,149.0	29.90	179.50	10,102.4	-835.5	-27.3	836.0	181.87
10,180.0	33.10	175.80	10,128.8	-851.7	-26.6	852.1	181.79
10,211.0	36.40	179.30	10,154.3	-869.4	-25.9	869.7	181.71
10,242.0	40.70	179.20	10,178.5	-888.7	-25.6	889.0	181.65
10,273.0	43.00	179.30	10,201.6	-909.3	-25.4	909.7	181.60
10,304.0	46.30	180.20	10,223.6	-931.1	-25.3	931.5	181.56
10,335.0	49.90	180.90	10,244.3	-954.2	-25.5	954.5	181.53
10,366.0	53.00	181.60	10,263.7	-978.4	-26.0	978.8	181.52
10,398.0	56.30	182.30	10,282.2	-1,004.5	-26.9	1,004.9	181.54
10,429.0	59.60	182.90	10,298.6	-1,030.8	-28.1	1,031.1	181.56
10,459.0	63.10	183.20	10,313.0	-1,057.0	-29.5	1,057.5	181.60
10,476.0	65.10	182.90	10,320.4	-1,072.3	-30.3	1,072.7	181.62
10,550.0	72.40	181.80	10,347.2	-1,141.2	-33.1	1,141.7	181.66
10,581.0	77.20	181.40	10,355.4	-1,171.1	-34.0	1,171.6	181.66
10,612.0	81.70	180.80	10,361.0	-1,201.5	-34.6	1,202.0	181.65
10,644.0	83.50	180.60	10,365.2	-1,233.3	-35.0	1,233.8	181.62
10,737.0	87.40	181.30	10,372.5	-1,325.9	-36.5	1,326.4	181.58
10,830.0	89.70	180.40	10,374.9	-1,418.9	-37.9	1,419.4	181.53
10,923.0	88.80	180.40	10,376.1	-1,511.9	-38.5	1,512.4	181.46
11,016.0	87.00	179.50	10,379.5	-1,604.8	-38.4	1,605.3	181.37
11,108.0	91.00	179.50	10,381.1	-1,696.8	-37.6	1,697.2	181.27
11,201.0	91.30	180.60	10,379.2	-1,789.8	-37.7	1,790.2	181.21
11,294.0	90.70	182.00	10,377.6	-1,882.7	-39.8	1,883.1	181.21
11,387.0	88.70	183.40	10,378.1	-1,975.6	-44.2	1,976.1	181.28
11,480.0	87.90	183.00	10,380.9	-2,068.4	-49.4	2,069.0	181.37
11,572.0	87.40	180.90	10,384.6	-2,160.3	-52.5	2,160.9	181.39
11,665.0	90.20	180.40	10,386.6	-2,253.2	-53.6	2,253.9	181.36
11,759.0	92.00	180.40	10,384.8	-2,347.2	-54.2	2,347.8	181.32
11,850.0	91.30	180.80	10,382.2	-2,438.2	-55.2	2,438.8	181.30
11,942.0	90.20	182.30	10,381.0	-2,530.1	-57.7	2,530.8	181.31
12,035.0	88.60	179.70	10,381.9	-2,623.1	-59.3	2,623.8	181.30
12,128.0	85.90	179.70	10,386.4	-2,716.0	-58.8	2,716.6	181.24
12,221.0	87.20	178.60	10,392.0	-2,808.8	-57.4	2,809.4	181.17
12,314.0	85.90	179.00	10,397.6	-2,901.6	-55.5	2,902.1	181.10
12,407.0	87.30	178.10	10,403.1	-2,994.4	-53.1	2,994.9	181.02
12,500.0	91.10	177.20	10,404.4	-3,087.3	-49.3	3,087.7	180.92
12,593.0	91.80	178.60	10,402.1	-3,180.2	-45.9	3,180.5	180.83
12,686.0	90.90	179.90	10,399.9	-3,273.2	-44.7	3,273.5	180.78
12,779.0	87.10	179.30	10,401.5	-3,366.1	-44.1	3,366.4	180.75
12,873.0	89.90	177.60	10,403.9	-3,460.1	-41.5	3,460.3	180.69
12,966.0	91.20	177.20	10,403.1	-3,553.0	-37.3	3,553.2	180.60
13,059.0	88.50	177.40	10,403.3	-3,645.9	-32.9	3,646.0	180.52
13,151.0	87.80	177.40	10,406.3	-3,737.7	-28.7	3,737.8	180.44



QES Survey Certification Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Caper 20/29 B2CN Fed Com #1H
Project:	Lea County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3664.0usft (Patterson #250)
Site:	Sec 17, T21S, R32E	MD Reference:	WELL @ 3664.0usft (Patterson #250)
Well:	Caper 20/29 B2CN Fed Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
13,244.0	90.00	177.60	10,408.0	-3,830.6	-24.7	3,830.7	180.37
13,337.0	90.60	178.50	10,407.6	-3,923.5	-21.5	3,923.6	180.31
13,430.0	90.80	179.90	10,406.4	-4,016.5	-20.2	4,016.6	180.29
13,523.0	90.70	180.90	10,405.2	-4,109.5	-20.9	4,109.6	180.29
13,616.0	88.20	178.80	10,406.1	-4,202.5	-20.6	4,202.5	180.28
13,709.0	87.40	180.20	10,409.7	-4,295.4	-19.8	4,295.5	180.26
13,802.0	87.50	179.00	10,413.8	-4,388.3	-19.2	4,388.4	180.25
13,895.0	88.90	179.30	10,416.7	-4,481.3	-17.8	4,481.3	180.23
13,988.0	89.70	179.20	10,417.9	-4,574.2	-16.6	4,574.3	180.21
14,081.0	85.80	178.80	10,421.5	-4,667.1	-15.0	4,667.2	180.18
14,175.0	93.00	177.60	10,422.5	-4,761.0	-12.0	4,761.0	180.14
14,268.0	89.30	177.90	10,420.6	-4,853.9	-8.4	4,853.9	180.10
14,362.0	88.70	177.80	10,422.3	-4,947.8	-4.8	4,947.8	180.06
14,455.0	89.40	177.60	10,423.8	-5,040.8	-1.1	5,040.8	180.01
14,548.0	88.60	177.40	10,425.4	-5,133.6	3.0	5,133.7	179.97
14,641.0	88.50	177.90	10,427.8	-5,226.5	6.8	5,226.5	179.93
14,734.0	90.20	179.00	10,428.8	-5,319.5	9.3	5,319.5	179.90
14,827.0	88.30	178.80	10,430.1	-5,412.5	11.1	5,412.5	179.88
14,920.0	92.60	181.10	10,429.3	-5,505.4	11.2	5,505.4	179.88
15,012.0	91.30	181.40	10,426.2	-5,597.4	9.1	5,597.4	179.91
15,105.0	88.60	182.00	10,426.3	-5,690.3	6.4	5,690.3	179.94
15,198.0	88.10	182.00	10,429.0	-5,783.2	3.1	5,783.2	179.97
15,292.0	88.10	182.30	10,432.1	-5,877.1	-0.4	5,877.1	180.00
15,385.0	86.70	180.90	10,436.3	-5,970.0	-3.0	5,970.0	180.03
15,478.0	88.00	178.10	10,440.6	-6,062.8	-2.2	6,062.8	180.02
15,572.0	90.10	176.90	10,442.2	-6,156.7	1.9	6,156.7	179.98
15,665.0	90.00	176.70	10,442.1	-6,249.6	7.1	6,249.6	179.93
15,758.0	87.60	176.20	10,444.0	-6,342.4	12.9	6,342.4	179.88
15,852.0	91.70	178.30	10,444.6	-6,436.2	17.4	6,436.3	179.85
15,945.0	91.60	177.90	10,441.9	-6,529.2	20.5	6,529.2	179.82
16,038.0	90.30	177.90	10,440.4	-6,622.1	23.9	6,622.1	179.79
16,132.0	90.70	179.30	10,439.6	-6,716.0	26.2	6,716.1	179.78
16,226.0	90.00	180.90	10,439.0	-6,810.0	26.0	6,810.1	179.78
16,320.0	89.70	180.40	10,439.2	-6,904.0	24.9	6,904.1	179.79
16,414.0	86.70	179.70	10,442.2	-6,998.0	24.9	6,998.0	179.80
16,508.0	89.60	181.30	10,445.2	-7,091.9	24.0	7,092.0	179.81
16,602.0	94.60	181.60	10,441.8	-7,185.8	21.7	7,185.8	179.83
16,696.0	90.10	181.40	10,437.9	-7,279.7	19.2	7,279.7	179.85
16,791.0	88.10	181.10	10,439.4	-7,374.6	17.1	7,374.6	179.87
16,885.0	86.90	182.00	10,443.5	-7,468.5	14.6	7,468.5	179.89
16,979.0	88.00	180.90	10,447.7	-7,562.4	12.2	7,562.4	179.91
17,073.0	87.00	180.60	10,451.8	-7,656.3	11.0	7,656.3	179.92
17,166.0	90.40	181.10	10,453.9	-7,749.2	9.6	7,749.2	179.93
17,261.0	90.90	182.00	10,452.8	-7,844.2	7.0	7,844.2	179.95



QES Survey Certification Report



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Project:	Lea County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3664.0usft (Patterson #250)
Site:	Sec 17, T21S, R32E	MD Reference:	WELL @ 3664.0usft (Patterson #250)
Well:	Caper 20/29 B2CN Fed Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
17,355.0	90.30	182.70	10,451.8	-7,938.1	3.2	7,938.1	179.98
17,449.0	88.20	182.30	10,453.1	-8,032.0	-0.9	8,032.0	180.01
17,543.0	87.10	182.00	10,456.9	-8,125.8	-4.4	8,125.8	180.03
17,637.0	88.60	180.80	10,460.5	-8,219.7	-6.7	8,219.7	180.05
17,730.0	87.40	180.10	10,463.7	-8,312.7	-7.5	8,312.7	180.05
17,824.0	91.30	179.20	10,464.8	-8,406.7	-6.9	8,406.7	180.05
17,918.0	86.00	175.60	10,467.0	-8,500.5	-2.6	8,500.5	180.02
18,013.0	89.30	177.90	10,470.9	-8,595.2	2.8	8,595.2	179.98
18,107.0	88.90	177.80	10,472.4	-8,689.1	6.3	8,689.2	179.96
18,201.0	90.20	178.50	10,473.1	-8,783.1	9.3	8,783.1	179.94
18,295.0	90.00	178.60	10,472.9	-8,877.1	11.7	8,877.1	179.92
18,388.0	88.60	178.50	10,474.1	-8,970.0	14.0	8,970.0	179.91
18,482.0	89.80	179.30	10,475.4	-9,064.0	15.8	9,064.0	179.90
18,576.0	88.40	178.80	10,476.9	-9,158.0	17.4	9,158.0	179.89
18,670.0	90.40	178.50	10,477.8	-9,251.9	19.6	9,252.0	179.88
18,764.0	90.10	179.00	10,477.4	-9,345.9	21.7	9,345.9	179.87
18,860.0	89.70	178.10	10,477.6	-9,441.9	24.1	9,441.9	179.85
18,955.0	92.00	178.60	10,476.2	-9,536.8	26.8	9,536.9	179.84
19,050.0	92.20	179.20	10,472.7	-9,631.7	28.7	9,631.8	179.83
19,145.0	89.90	178.30	10,471.0	-9,726.7	30.7	9,726.7	179.82
19,240.0	89.00	178.10	10,471.9	-9,821.6	33.7	9,821.7	179.80
19,335.0	87.90	178.80	10,474.4	-9,916.6	36.3	9,916.6	179.79
19,430.0	87.80	179.50	10,478.0	-10,011.5	37.7	10,011.6	179.78
19,525.0	87.70	180.10	10,481.7	-10,106.4	38.0	10,106.5	179.78
19,620.0	87.50	181.10	10,485.7	-10,201.3	37.0	10,201.4	179.79
19,715.0	87.90	182.50	10,489.5	-10,296.2	34.0	10,296.3	179.81
19,809.0	90.00	181.30	10,491.3	-10,390.1	30.9	10,390.2	179.83
19,904.0	89.60	181.60	10,491.6	-10,485.1	28.5	10,485.1	179.84
19,999.0	89.50	181.80	10,492.3	-10,580.1	25.7	10,580.1	179.86
20,094.0	89.20	182.30	10,493.4	-10,675.0	22.3	10,675.0	179.88
20,189.0	89.40	180.10	10,494.6	-10,769.9	20.3	10,770.0	179.89
20,284.0	90.50	182.50	10,494.7	-10,864.9	18.2	10,864.9	179.90
20,379.0	92.20	182.30	10,492.4	-10,959.8	14.2	10,959.8	179.93
20,474.0	91.50	182.50	10,489.3	-11,054.7	10.2	11,054.7	179.95
20,569.0	91.40	182.30	10,486.9	-11,149.6	6.2	11,149.6	179.97
20,664.0	91.40	181.60	10,484.6	-11,244.5	3.0	11,244.5	179.98
20,759.0	88.20	178.80	10,485.0	-11,339.4	2.7	11,339.4	179.99
20,854.0	87.30	179.30	10,488.7	-11,434.4	4.2	11,434.4	179.98
20,948.0	86.30	179.50	10,493.9	-11,528.2	5.2	11,528.2	179.97
21,043.0	88.80	178.30	10,498.0	-11,623.1	7.1	11,623.1	179.97
21,138.0	89.40	178.30	10,499.5	-11,718.0	9.9	11,718.0	179.95
21,233.0	89.30	179.00	10,500.6	-11,813.0	12.1	11,813.0	179.94
21,328.0	87.60	179.00	10,503.1	-11,908.0	13.8	11,908.0	179.93
21,423.0	86.10	181.10	10,508.4	-12,002.8	13.7	12,002.8	179.93



QES Survey Certification Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Caper 20/29 B2CN Fed Com #1H
Project:	Lea County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3664.0usft (Patterson #250)
Site:	Sec 17, T21S, R32E	MD Reference:	WELL @ 3664.0usft (Patterson #250)
Well:	Caper 20/29 B2CN Fed Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
21,435.0	85.90	181.30	10,509.2	-12,014.8	13.4	12,014.8	179.94
21,495.0	85.90	181.30	10,513.5	-12,074.6	12.1		

TD @ 21495.0' MD / 10513.5' TVD

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,000.0	1,000.0	-1.8	-5.2	Gyro Tie-in @ 1000.0' MD / 1000.0' TVD
21,495.0	10,513.5	-12,074.6	12.1	TD @ 21495.0' MD / 10513.5' TVD

Checked By: _____	Approved By: _____	Date: _____
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