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Mewbourne Oil Company

Eddy County, New Mexico (Nad 83)

Sec 36, T17S, R30E

Loco Hills 1-2 B2AB Fed Com #1H

Wellbore #1

Design: Wellbore #1

QES Survey Certification Report

31 March, 2019



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-190302	4/2/2019

Lease	Well Name	County & State
SEC 36, T17S, R30E	Loco Hills 1-2 B2AB Fed Com #1H	Eddy County, NM

API No.	Survey Depth Range	Survey Type
30-015-45582	445 feet to 15610 feet MD	MWD

Sidetrack Information	Directional Supervisor/Surveyor
	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
MWD Compliance Manager

Quintana Energy Services

Christopher
Hughes

Digitally signed by Christopher
Hughes
DN: cn=Christopher Hughes,
o=QES, ou=compliance,
email=chrish@qeslp.com, c=US
Date: 2019.04.03 15:54:34 -05'00'



QES Survey Certification Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Loco Hills 1-2 B2AB Fed Com #1H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3620.0usft (Patterson #250)
Site:	Sec 36, T17S, R30E	MD Reference:	WELL @ 3620.0usft (Patterson #250)
Well:	Loco Hills 1-2 B2AB 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	Eddy 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 36, T17S, R30E		
Site Position:		Northing:	649,417.20 usft
From:	Map	Easting:	669,126.10 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"
		Latitude:	32° 47' 4.524 N
		Longitude:	103° 55' 3.064 W
		Grid Convergence:	0.23 °

Well	Loco Hills 1-2 B2AB 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° 47' 4.227 N
		Longitude:	103° 55' 3.065 W
		Ground Level:	3,593.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2015	2/27/2019	6.97
			Dip Angle
			(°)
			60.50
			Field Strength
			(nT)
			48,056.44392928

Design	Wellbore #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			262.67

Survey Program	Date 3/31/2019		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
100.0	445.0	Phoenix Technology Service (Wellbore #1)	GYRO-NS
537.0	15,610.0	QES MWD Surveys (Wellbore #1)	OWSG (Rev2) MWD
			Description
			OWSG Gyrocompass Gyro
			OWSG MWD - Standard

Survey			
MD	Inc	Azi (azimuth)	TVD
(usft)	(°)	(°)	(usft)
445.0	2.73	279.60	444.8
			N/S
			(usft)
			E/W
			(usft)
		Closure Distance	Closure Azimuth
		(usft)	(°)
		9.1	305.44
Gyro Tie-in @ 445.0' MD / 444.8' TVD			
537.0	2.00	267.10	536.7
660.0	2.20	208.20	659.7
846.0	3.20	184.10	845.5
1,034.0	4.60	176.40	1,033.0
1,222.0	5.00	171.80	1,220.4
1,410.0	5.40	161.10	1,407.6
1,599.0	4.20	128.20	1,596.0
1,787.0	4.40	121.50	1,783.4
1,808.0	4.40	121.50	1,804.4
			-7.4
			12.5
			14.8
			17.2
			24.1
			36.5
			51.0
			62.6
			71.1
			72.2
			171.61



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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 (°)	
1,984.0	4.90	135.10	1,979.8	-80.2	21.6	83.1	164.94	
2,173.0	4.80	137.90	2,168.1	-91.8	32.6	97.4	160.46	
2,360.0	5.40	163.60	2,354.4	-106.1	40.3	113.5	159.18	
2,549.0	5.30	166.70	2,542.6	-123.1	44.8	131.0	159.98	
2,737.0	4.80	168.80	2,729.9	-139.3	48.4	147.4	160.85	
2,923.0	4.60	170.90	2,915.2	-154.3	51.1	162.5	161.69	
3,109.0	6.40	150.70	3,100.4	-170.7	57.3	180.0	161.44	
3,295.0	5.30	151.90	3,285.4	-187.3	66.4	198.7	160.47	
3,481.0	4.80	152.50	3,470.7	-201.8	74.1	214.9	159.84	
3,667.0	5.40	152.50	3,656.0	-216.4	81.7	231.3	159.32	
3,853.0	4.50	156.30	3,841.3	-230.9	88.7	247.3	158.99	
4,039.0	4.20	137.50	4,026.7	-242.6	96.2	261.0	158.36	
4,225.0	4.20	128.90	4,212.2	-251.9	106.1	273.3	157.15	
4,412.0	5.30	145.80	4,398.6	-263.3	116.3	287.9	156.17	
4,598.0	5.60	148.60	4,583.8	-278.2	125.9	305.3	155.66	
4,784.0	5.00	153.00	4,769.0	-293.1	134.3	322.4	155.39	
4,972.0	4.90	150.90	4,956.3	-307.5	141.9	338.6	155.23	
5,158.0	5.40	151.10	5,141.5	-322.1	150.0	355.3	155.03	
5,345.0	3.70	149.00	5,327.9	-334.9	157.3	370.1	154.84	
5,531.0	3.90	150.70	5,513.5	-345.6	163.5	382.3	154.68	
5,716.0	4.00	154.80	5,698.1	-356.9	169.4	395.1	154.62	
5,902.0	4.10	156.90	5,883.6	-368.9	174.7	408.2	154.66	
6,087.0	4.00	165.10	6,068.1	-381.2	179.0	421.2	154.85	
6,274.0	2.60	157.90	6,254.8	-391.5	182.3	431.8	155.03	
6,460.0	1.10	137.40	6,440.7	-396.7	185.1	437.7	154.99	
6,647.0	1.40	43.50	6,627.7	-396.4	187.8	438.6	154.64	
6,833.0	0.10	336.30	6,813.7	-394.6	189.3	437.6	154.36	
7,019.0	2.00	183.60	6,999.6	-397.6	189.1	440.3	154.57	
7,206.0	0.70	167.20	7,186.6	-402.0	189.1	444.3	154.81	
7,402.0	0.30	48.90	7,382.6	-402.8	189.8	445.3	154.78	
7,435.0	0.30	17.60	7,415.6	-402.7	189.9	445.2	154.76	
7,467.0	2.20	267.40	7,447.6	-402.7	189.3	444.9	154.82	
7,498.0	5.70	257.60	7,478.5	-403.0	187.2	444.4	155.09	
7,529.0	9.90	254.30	7,509.2	-404.1	183.1	443.6	155.62	
7,560.0	14.60	254.10	7,539.5	-405.9	176.8	442.7	156.46	
7,591.0	19.60	255.10	7,569.1	-408.3	168.0	441.5	157.63	
7,622.0	24.20	258.60	7,597.9	-410.9	156.7	439.7	159.12	
7,653.0	28.00	252.50	7,625.7	-414.3	143.6	438.5	160.89	
7,684.0	30.30	250.40	7,652.8	-419.1	129.2	438.6	162.86	
7,716.0	32.50	246.90	7,680.1	-425.2	113.7	440.2	165.03	
7,747.0	35.00	246.00	7,705.9	-432.1	97.9	443.0	167.23	
7,777.0	38.10	243.50	7,730.0	-439.7	81.8	447.3	169.46	
7,808.0	42.40	243.50	7,753.6	-448.7	63.9	453.2	171.90	
7,840.0	47.60	244.40	7,776.2	-458.6	43.6	460.6	174.57	
7,871.0	52.70	244.60	7,796.1	-468.8	22.1	469.3	177.30	



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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 (°)
7,902.0	57.00	243.90	7,813.9	-479.8	-0.7	479.8	180.09
7,933.0	61.70	243.20	7,829.7	-491.7	-24.6	492.3	182.87
7,964.0	65.50	242.60	7,843.5	-504.4	-49.3	506.8	185.59
7,995.0	69.80	242.50	7,855.3	-517.6	-74.8	522.9	188.22
8,026.0	74.50	242.50	7,864.8	-531.2	-100.9	540.7	190.76
8,057.0	79.50	242.50	7,871.8	-545.1	-127.7	559.9	193.19
8,070.0	81.30	241.90	7,873.9	-551.1	-139.1	568.4	194.16
8,193.0	90.10	238.60	7,883.2	-611.9	-245.4	659.3	201.85
8,286.0	90.80	240.40	7,882.4	-659.1	-325.5	735.1	206.28
8,380.0	91.20	242.10	7,880.8	-704.3	-407.9	813.9	210.08
8,474.0	91.00	245.30	7,879.0	-746.0	-492.2	893.7	213.42
8,567.0	92.80	248.30	7,875.9	-782.6	-577.6	972.6	216.43
8,663.0	92.90	250.20	7,871.1	-816.5	-667.3	1,054.5	219.25
8,756.0	89.20	253.00	7,869.4	-845.9	-755.5	1,134.1	221.77
8,849.0	85.20	256.00	7,874.0	-870.7	-844.9	1,213.3	224.14
8,942.0	86.20	257.40	7,880.9	-892.0	-935.2	1,292.4	226.35
9,035.0	88.70	258.30	7,885.1	-911.6	-1,026.0	1,372.5	228.38
9,129.0	94.00	260.60	7,882.9	-928.8	-1,118.4	1,453.7	230.29
9,222.0	94.30	265.30	7,876.1	-940.2	-1,210.4	1,532.6	232.16
9,315.0	91.90	267.60	7,871.1	-945.9	-1,303.1	1,610.2	234.02
9,408.0	90.00	268.50	7,869.6	-949.1	-1,396.0	1,688.1	235.79
9,501.0	88.00	268.30	7,871.2	-951.7	-1,488.9	1,767.1	237.41
9,594.0	85.60	268.50	7,876.4	-954.3	-1,581.7	1,847.3	238.90
9,687.0	87.00	268.10	7,882.4	-957.0	-1,674.5	1,928.7	240.25
9,780.0	92.20	268.00	7,883.0	-960.2	-1,767.4	2,011.4	241.49
9,874.0	90.50	268.70	7,880.8	-962.9	-1,861.3	2,095.7	242.65
9,967.0	89.30	268.00	7,881.0	-965.6	-1,954.3	2,179.8	243.71
10,060.0	90.70	268.10	7,881.0	-968.7	-2,047.2	2,264.9	244.68
10,153.0	91.00	267.80	7,879.6	-972.1	-2,140.2	2,350.6	245.57
10,246.0	91.40	269.70	7,877.6	-974.1	-2,233.1	2,436.3	246.43
10,339.0	91.80	269.90	7,875.0	-974.4	-2,326.1	2,521.9	247.27
10,432.0	89.30	270.40	7,874.2	-974.2	-2,419.1	2,607.9	248.07
10,524.0	88.60	270.80	7,875.8	-973.2	-2,511.1	2,693.1	248.82
10,618.0	90.40	270.30	7,876.7	-972.3	-2,605.0	2,780.6	249.53
10,711.0	90.70	270.40	7,875.8	-971.7	-2,698.0	2,867.7	250.19
10,804.0	90.10	270.40	7,875.1	-971.1	-2,791.0	2,955.1	250.82
10,897.0	89.80	270.30	7,875.2	-970.5	-2,884.0	3,043.0	251.40
10,990.0	88.60	270.30	7,876.5	-970.0	-2,977.0	3,131.1	251.95
11,084.0	88.00	270.40	7,879.3	-969.5	-3,071.0	3,220.4	252.48
11,177.0	88.60	270.40	7,882.0	-968.8	-3,163.9	3,308.9	252.98
11,270.0	90.20	269.70	7,883.0	-968.7	-3,256.9	3,397.9	253.44
11,363.0	90.00	269.90	7,882.9	-969.1	-3,349.9	3,487.3	253.87
11,457.0	91.60	270.40	7,881.5	-968.8	-3,443.9	3,577.6	254.29
11,552.0	90.70	270.10	7,879.6	-968.4	-3,538.9	3,669.0	254.70



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Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
11,647.0	90.80	270.30	7,878.4	-968.1	-3,633.9	3,760.6	255.08
11,741.0	89.30	269.70	7,878.3	-968.1	-3,727.9	3,851.5	255.44
11,836.0	89.20	269.70	7,879.6	-968.6	-3,822.9	3,943.7	255.78
11,929.0	89.80	270.10	7,880.4	-968.7	-3,915.9	4,033.9	256.10
12,023.0	89.20	270.40	7,881.2	-968.3	-4,009.9	4,125.1	256.42
12,116.0	88.50	269.90	7,883.1	-968.1	-4,102.8	4,215.5	256.72
12,209.0	91.80	270.40	7,882.8	-967.8	-4,195.8	4,306.0	257.01
12,302.0	92.10	269.90	7,879.6	-967.6	-4,288.8	4,396.6	257.29
12,395.0	90.30	269.40	7,877.7	-968.2	-4,381.7	4,487.4	257.54
12,488.0	91.20	269.70	7,876.5	-968.9	-4,474.7	4,578.4	257.78
12,581.0	88.40	270.30	7,876.8	-968.9	-4,567.7	4,669.4	258.02
12,674.0	87.80	270.30	7,879.9	-968.4	-4,660.7	4,760.2	258.26
12,767.0	88.80	270.40	7,882.7	-967.8	-4,753.6	4,851.2	258.49
12,861.0	90.20	270.80	7,883.5	-966.8	-4,847.6	4,943.1	258.72
12,954.0	91.30	271.30	7,882.3	-965.1	-4,940.6	5,034.0	258.95
13,047.0	89.10	270.30	7,881.9	-963.8	-5,033.6	5,125.0	259.16
13,140.0	90.30	270.40	7,882.4	-963.3	-5,126.6	5,216.3	259.36
13,232.0	90.00	269.50	7,882.2	-963.4	-5,218.6	5,306.7	259.54
13,325.0	88.50	269.20	7,883.4	-964.4	-5,311.6	5,398.4	259.71
13,418.0	88.60	269.00	7,885.7	-965.9	-5,404.5	5,490.1	259.87
13,512.0	88.60	269.20	7,888.0	-967.3	-5,498.5	5,582.9	260.02
13,605.0	93.60	269.70	7,886.3	-968.2	-5,591.4	5,674.6	260.18
13,697.0	90.00	269.50	7,883.4	-968.9	-5,683.4	5,765.4	260.33
13,790.0	89.30	268.70	7,883.9	-970.3	-5,776.3	5,857.3	260.46
13,883.0	89.00	268.80	7,885.3	-972.4	-5,869.3	5,949.3	260.59
13,977.0	89.20	268.80	7,886.8	-974.3	-5,963.3	6,042.4	260.72
14,070.0	90.00	269.90	7,887.4	-975.4	-6,056.3	6,134.3	260.85
14,163.0	90.40	269.90	7,887.1	-975.6	-6,149.3	6,226.2	260.99
14,256.0	90.80	270.30	7,886.1	-975.4	-6,242.3	6,318.0	261.12
14,350.0	90.20	270.10	7,885.3	-975.1	-6,336.3	6,410.8	261.25
14,443.0	89.60	270.10	7,885.5	-974.9	-6,429.3	6,502.8	261.38
14,536.0	89.20	270.30	7,886.5	-974.6	-6,522.2	6,594.7	261.50
14,629.0	88.50	269.90	7,888.3	-974.4	-6,615.2	6,686.6	261.62
14,723.0	88.80	269.50	7,890.5	-974.9	-6,709.2	6,779.7	261.73
14,816.0	89.60	269.70	7,891.8	-975.6	-6,802.2	6,871.8	261.84
14,909.0	91.10	269.90	7,891.3	-975.9	-6,895.2	6,963.9	261.94
15,002.0	92.20	270.40	7,888.6	-975.6	-6,988.1	7,055.9	262.05
15,095.0	92.30	270.60	7,884.9	-974.8	-7,081.1	7,147.9	262.16
15,188.0	91.40	270.10	7,881.9	-974.3	-7,174.0	7,239.9	262.27
15,282.0	90.90	269.90	7,880.1	-974.3	-7,268.0	7,333.0	262.37
15,375.0	90.10	269.20	7,879.2	-975.0	-7,361.0	7,425.3	262.45
15,468.0	89.80	269.20	7,879.3	-976.3	-7,454.0	7,517.6	262.54
15,540.0	90.20	269.70	7,879.3	-977.0	-7,526.0	7,589.1	262.60



QES Survey Certification Report

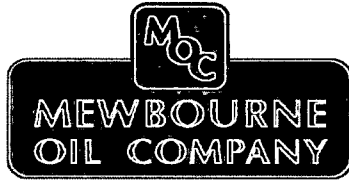


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Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3620.0usft (Patterson #250)
Site:	Sec 36, T17S, R30E	MD Reference:	WELL @ 3620.0usft (Patterson #250)
Well:	Loco Hills 1-2 B2AB Fed Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	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 (°)
15,610.0	90.20	269.70	7,879.1	-977.3	-7,596.0	7,658.6	262.67
TD @ 15610.0' MD / 7879.1' TVD							

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
445.0	444.8	5.3	-7.4	Gyro Tie-in @ 445.0' MD / 444.8' TVD
15,610.0	7,879.1	-977.3	-7,596.0	TD @ 15610.0' MD / 7879.1' TVD

Checked By: _____ Approved By: _____ Date: _____



Mewbourne Oil Company

Eddy County, New Mexico (Nad 83)

Sec 36, T17S, R30E

Loco Hills 1-2 B2AB Fed Com #1H

Wellbore #1

Design: Wellbore #1

QES Survey Report

31 March, 2019





Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Loco Hills 1-2 B2AB Fed Com #1H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3620.0usft (Patterson #250)
Site:	Sec 36, T17S, R30E	MD Reference:	WELL @ 3620.0usft (Patterson #250)
Well:	Loco Hills 1-2 B2AB 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 :	Eddy 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 36, T17S, R30E			
Site Position:		Northing:	649,417.20 usft	Latitude:	32° 47' 4.524 N
From:	Map	Easting:	669,126.10 usft	Longitude:	103° 55' 3.064 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.23 °

Well	Loco Hills 1-2 B2AB Fed Com #1H					
Well Position	+N/-S	0.0 usft	Northing:	649,387.10 usft	Latitude:	32° 47' 4.227 N
	+E/-W	0.0 usft	Easting:	669,126.20 usft	Longitude:	103° 55' 3.065 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,593.0 usft

Wellbore		Wellbore #1			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/27/2019	6.97	60.50	48,056.44392928

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	262.67	

Survey Program		Date	3/31/2019	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	445.0	Phoenix Technology Service (Wellbore #1)	GYRO-NS	OWSG Gyrocompass Gyro
537.0	15,610.0	QES MWD Surveys (Wellbore #1)	OWSG (Rev2) MWD	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	0.42	37.18	100.0	0.3	0.2	-0.3	0.42	0.42	0.00	
200.0	0.64	265.91	200.0	0.5	-0.1	0.0	0.97	0.22	-131.27	
300.0	2.41	304.32	300.0	1.7	-2.4	2.2	1.95	1.77	38.41	
400.0	2.48	315.13	399.9	4.4	-5.7	5.1	0.47	0.07	10.81	
Gyro Tie-in @ 445.0' MD / 444.8' TVD										
445.0	2.73	279.60	444.8	5.3	-7.4	6.7	3.57	0.56	-78.96	
537.0	2.00	267.10	536.7	5.6	-11.2	10.4	0.97	-0.79	-13.59	
660.0	2.20	208.20	659.7	3.4	-14.4	13.9	1.68	0.16	-47.89	
846.0	3.20	184.10	845.5	-5.0	-16.5	17.0	0.80	0.54	-12.96	

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Loco Hills 1-2 B2AB Fed Com #1H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3620.0usft (Patterson #250)
Site:	Sec 36, T17S, R30E	MD Reference:	WELL @ 3620.0usft (Patterson #250)
Well:	Loco Hills 1-2 B2AB 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)
1,034.0	4.60	176.40	1,033.0	-17.7	-16.4	18.5	0.79	0.74	-4.10
1,222.0	5.00	171.80	1,220.4	-33.3	-14.8	18.9	0.30	0.21	-2.45
1,410.0	5.40	161.10	1,407.6	-49.8	-10.7	17.0	0.56	0.21	-5.69
1,599.0	4.20	128.20	1,596.0	-62.5	-2.4	10.4	1.56	-0.63	-17.41
1,787.0	4.40	121.50	1,783.4	-70.5	9.2	-0.1	0.29	0.11	-3.56
1,808.0	4.40	121.50	1,804.4	-71.4	10.5	-1.3	0.00	0.00	0.00
1,984.0	4.90	135.10	1,979.8	-80.2	21.6	-11.2	0.69	0.28	7.73
2,173.0	4.80	137.90	2,168.1	-91.8	32.6	-20.6	0.14	-0.05	1.48
2,360.0	5.40	163.60	2,354.4	-106.1	40.3	-26.5	1.25	0.32	13.74
2,549.0	5.30	166.70	2,542.6	-123.1	44.8	-28.8	0.16	-0.05	1.64
2,737.0	4.80	168.80	2,729.9	-139.3	48.4	-30.2	0.28	-0.27	1.12
2,923.0	4.60	170.90	2,915.2	-154.3	51.1	-31.0	0.14	-0.11	1.13
3,109.0	6.40	150.70	3,100.4	-170.7	57.3	-35.1	1.41	0.97	-10.86
3,295.0	5.30	151.90	3,285.4	-187.3	66.4	-42.0	0.60	-0.59	0.65
3,481.0	4.80	152.50	3,470.7	-201.8	74.1	-47.7	0.27	-0.27	0.32
3,667.0	5.40	152.50	3,656.0	-216.4	81.7	-53.4	0.32	0.32	0.00
3,853.0	4.50	156.30	3,841.3	-230.9	88.7	-58.5	0.51	-0.48	2.04
4,039.0	4.20	137.50	4,026.7	-242.6	96.2	-64.5	0.78	-0.16	-10.11
4,225.0	4.20	128.90	4,212.2	-251.9	106.1	-73.1	0.34	0.00	-4.62
4,412.0	5.30	145.80	4,398.6	-263.3	116.3	-81.8	0.95	0.59	9.04
4,598.0	5.60	148.60	4,583.8	-278.2	125.9	-89.3	0.22	0.16	1.51
4,784.0	5.00	153.00	4,769.0	-293.1	134.3	-95.8	0.39	-0.32	2.37
4,972.0	4.90	150.90	4,956.3	-307.5	141.9	-101.5	0.11	-0.05	-1.12
5,158.0	5.40	151.10	5,141.5	-322.1	150.0	-107.7	0.27	0.27	0.11
5,345.0	3.70	149.00	5,327.9	-334.9	157.3	-113.3	0.91	-0.91	-1.12
5,531.0	3.90	150.70	5,513.5	-345.6	163.5	-118.1	0.12	0.11	0.91
5,716.0	4.00	154.80	5,698.1	-356.9	169.4	-122.4	0.16	0.05	2.22
5,902.0	4.10	156.90	5,883.6	-368.9	174.7	-126.2	0.10	0.05	1.13
6,087.0	4.00	165.10	6,068.1	-381.2	179.0	-128.9	0.32	-0.05	4.43
6,274.0	2.60	157.90	6,254.8	-391.5	182.3	-130.8	0.78	-0.75	-3.85
6,460.0	1.10	137.40	6,440.7	-396.7	185.1	-132.9	0.87	-0.81	-11.02
6,647.0	1.40	43.50	6,627.7	-396.4	187.8	-135.7	0.98	0.16	-50.21
6,833.0	0.10	336.30	6,813.7	-394.6	189.3	-137.5	0.73	-0.70	-36.13
7,019.0	2.00	183.60	6,999.6	-397.6	189.1	-136.8	1.12	1.02	-82.10
7,206.0	0.70	167.20	7,186.6	-402.0	189.1	-136.3	0.72	-0.70	-8.77
7,402.0	0.30	48.90	7,382.6	-402.8	189.8	-136.8	0.45	-0.20	-60.36
7,435.0	0.30	17.60	7,415.6	-402.7	189.9	-136.9	0.49	0.00	-94.85
7,467.0	2.20	267.40	7,447.6	-402.7	189.3	-136.4	7.25	5.94	-344.38
7,498.0	5.70	257.60	7,478.5	-403.0	187.2	-134.2	11.46	11.29	-31.61
7,529.0	9.90	254.30	7,509.2	-404.1	183.1	-130.1	13.62	13.55	-10.65
7,560.0	14.60	254.10	7,539.5	-405.9	176.8	-123.6	15.16	15.16	-0.65
7,591.0	19.60	255.10	7,569.1	-408.3	168.0	-114.5	16.16	16.13	3.23
7,622.0	24.20	258.60	7,597.9	-410.9	156.7	-103.0	15.42	14.84	11.29

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Loco Hills 1-2 B2AB Fed Com #1H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3620.0usft (Patterson #250)
Site:	Sec 36, T17S, R30E	MD Reference:	WELL @ 3620.0usft (Patterson #250)
Well:	Loco Hills 1-2 B2AB 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)
7,653.0	28.00	252.50	7,625.7	-414.3	143.6	-89.5	14.99	12.26	-19.68
7,684.0	30.30	250.40	7,652.8	-419.1	129.2	-74.7	8.12	7.42	-6.77
7,716.0	32.50	246.90	7,680.1	-425.2	113.7	-58.6	8.93	6.88	-10.94
7,747.0	35.00	246.00	7,705.9	-432.1	97.9	-42.0	8.22	8.06	-2.90
7,777.0	38.10	243.50	7,730.0	-439.7	81.8	-25.0	11.46	10.33	-8.33
7,808.0	42.40	243.50	7,753.6	-448.7	63.9	-6.1	13.87	13.87	0.00
7,840.0	47.60	244.40	7,776.2	-458.6	43.6	15.3	16.37	16.25	2.81
7,871.0	52.70	244.60	7,796.1	-468.8	22.1	37.9	16.46	16.45	0.65
7,902.0	57.00	243.90	7,813.9	-479.8	-0.7	62.0	13.99	13.87	-2.26
7,933.0	61.70	243.20	7,829.7	-491.7	-24.6	87.1	15.29	15.16	-2.26
7,964.0	65.50	242.60	7,843.5	-504.4	-49.3	113.3	12.38	12.26	-1.94
7,995.0	69.80	242.50	7,855.3	-517.6	-74.8	140.2	13.87	13.87	-0.32
8,026.0	74.50	242.50	7,864.8	-531.2	-100.9	167.9	15.16	15.16	0.00
8,057.0	79.50	242.50	7,871.8	-545.1	-127.7	196.2	16.13	16.13	0.00
8,070.0	81.30	241.90	7,873.9	-551.1	-139.1	208.2	14.57	13.85	-4.62
8,193.0	90.10	238.60	7,883.2	-611.9	-245.4	321.5	7.64	7.15	-2.68
8,286.0	90.80	240.40	7,882.4	-659.1	-325.5	407.0	2.08	0.75	1.94
8,380.0	91.20	242.10	7,880.8	-704.3	-407.9	494.5	1.86	0.43	1.81
8,474.0	91.00	245.30	7,879.0	-746.0	-492.2	583.3	3.41	-0.21	3.40
8,567.0	92.80	248.30	7,875.9	-782.6	-577.6	672.7	3.76	1.94	3.23
8,663.0	92.90	250.20	7,871.1	-816.5	-667.3	766.0	1.98	0.10	1.98
8,756.0	89.20	253.00	7,869.4	-845.9	-755.5	857.2	4.99	-3.98	3.01
8,849.0	85.20	256.00	7,874.0	-870.7	-844.9	949.1	5.37	-4.30	3.23
8,942.0	86.20	257.40	7,880.9	-892.0	-935.2	1,041.4	1.85	1.08	1.51
9,035.0	88.70	258.30	7,885.1	-911.6	-1,026.0	1,133.9	2.86	2.69	0.97
9,129.0	94.00	260.60	7,882.9	-928.8	-1,118.4	1,227.7	6.15	5.64	2.45
9,222.0	94.30	265.30	7,876.1	-940.2	-1,210.4	1,320.4	5.05	0.32	5.05
9,315.0	91.90	267.60	7,871.1	-945.9	-1,303.1	1,413.1	3.57	-2.58	2.47
9,408.0	90.00	268.50	7,869.6	-949.1	-1,396.0	1,505.7	2.26	-2.04	0.97
9,501.0	88.00	268.30	7,871.2	-951.7	-1,488.9	1,598.2	2.16	-2.15	-0.22
9,594.0	85.60	268.50	7,876.4	-954.3	-1,581.7	1,690.6	2.59	-2.58	0.22
9,687.0	87.00	268.10	7,882.4	-957.0	-1,674.5	1,782.9	1.57	1.51	-0.43
9,780.0	92.20	268.00	7,883.0	-960.2	-1,767.4	1,875.5	5.59	5.59	-0.11
9,874.0	90.50	268.70	7,880.8	-962.9	-1,861.3	1,969.0	1.96	-1.81	0.74
9,967.0	89.30	268.00	7,881.0	-965.6	-1,954.3	2,061.5	1.49	-1.29	-0.75
10,060.0	90.70	268.10	7,881.0	-968.7	-2,047.2	2,154.1	1.51	1.51	0.11
10,153.0	91.00	267.80	7,879.6	-972.1	-2,140.2	2,246.7	0.46	0.32	-0.32
10,246.0	91.40	269.70	7,877.6	-974.1	-2,233.1	2,339.2	2.09	0.43	2.04
10,339.0	91.80	269.90	7,875.0	-974.4	-2,326.1	2,431.4	0.48	0.43	0.22
10,432.0	89.30	270.40	7,874.2	-974.2	-2,419.1	2,523.6	2.74	-2.69	0.54
10,524.0	88.60	270.80	7,875.8	-973.2	-2,511.1	2,614.7	0.88	-0.76	0.43
10,618.0	90.40	270.30	7,876.7	-972.3	-2,605.0	2,707.8	1.99	1.91	-0.53
10,711.0	90.70	270.40	7,875.8	-971.7	-2,698.0	2,800.0	0.34	0.32	0.11

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Site:	Sec 36, T17S, R30E	MD Reference:	WELL @ 3620.0usft (Patterson #250)
Well:	Loco Hills 1-2 B2AB 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)
10,804.0	90.10	270.40	7,875.1	-971.1	-2,791.0	2,892.1	0.65	-0.65	0.00
10,897.0	89.80	270.30	7,875.2	-970.5	-2,884.0	2,984.3	0.34	-0.32	-0.11
10,990.0	88.60	270.30	7,876.5	-970.0	-2,977.0	3,076.5	1.29	-1.29	0.00
11,084.0	88.00	270.40	7,879.3	-969.5	-3,071.0	3,169.6	0.65	-0.64	0.11
11,177.0	88.60	270.40	7,882.0	-968.8	-3,163.9	3,261.7	0.65	0.65	0.00
11,270.0	90.20	269.70	7,883.0	-968.7	-3,256.9	3,353.9	1.88	1.72	-0.75
11,363.0	90.00	269.90	7,882.9	-969.1	-3,349.9	3,446.2	0.30	-0.22	0.22
11,457.0	91.60	270.40	7,881.5	-968.8	-3,443.9	3,539.4	1.78	1.70	0.53
11,552.0	90.70	270.10	7,879.6	-968.4	-3,538.9	3,633.5	1.00	-0.95	-0.32
11,647.0	90.80	270.30	7,878.4	-968.1	-3,633.9	3,727.7	0.24	0.11	0.21
11,741.0	89.30	269.70	7,878.3	-968.1	-3,727.9	3,820.9	1.72	-1.60	-0.64
11,836.0	89.20	269.70	7,879.6	-968.6	-3,822.9	3,915.2	0.11	-0.11	0.00
11,929.0	89.80	270.10	7,880.4	-968.7	-3,915.9	4,007.5	0.78	0.65	0.43
12,023.0	89.20	270.40	7,881.2	-968.3	-4,009.9	4,100.6	0.71	-0.64	0.32
12,116.0	88.50	269.90	7,883.1	-968.1	-4,102.8	4,192.8	0.92	-0.75	-0.54
12,209.0	91.80	270.40	7,882.8	-967.8	-4,195.8	4,285.0	3.59	3.55	0.54
12,302.0	92.10	269.90	7,879.6	-967.6	-4,288.8	4,377.2	0.63	0.32	-0.54
12,395.0	90.30	269.40	7,877.7	-968.2	-4,381.7	4,469.5	2.01	-1.94	-0.54
12,488.0	91.20	269.70	7,876.5	-968.9	-4,474.7	4,561.8	1.02	0.97	0.32
12,581.0	88.40	270.30	7,876.8	-968.9	-4,567.7	4,654.0	3.08	-3.01	0.65
12,674.0	87.80	270.30	7,879.9	-968.4	-4,660.7	4,746.1	0.65	-0.65	0.00
12,767.0	88.80	270.40	7,882.7	-967.8	-4,753.6	4,838.3	1.08	1.08	0.11
12,861.0	90.20	270.80	7,883.5	-966.8	-4,847.6	4,931.4	1.55	1.49	0.43
12,954.0	91.30	271.30	7,882.3	-965.1	-4,940.6	5,023.4	1.30	1.18	0.54
13,047.0	89.10	270.30	7,881.9	-963.8	-5,033.6	5,115.4	2.60	-2.37	-1.08
13,140.0	90.30	270.40	7,882.4	-963.3	-5,126.6	5,207.6	1.29	1.29	0.11
13,232.0	90.00	269.50	7,882.2	-963.4	-5,218.6	5,298.8	1.03	-0.33	-0.98
13,325.0	88.50	269.20	7,883.4	-964.4	-5,311.6	5,391.2	1.64	-1.61	-0.32
13,418.0	88.60	269.00	7,885.7	-965.9	-5,404.5	5,483.6	0.24	0.11	-0.22
13,512.0	88.60	269.20	7,888.0	-967.3	-5,498.5	5,577.0	0.21	0.00	0.21
13,605.0	93.60	269.70	7,886.3	-968.2	-5,591.4	5,669.3	5.40	5.38	0.54
13,697.0	90.00	269.50	7,883.4	-968.9	-5,683.4	5,760.5	3.92	-3.91	-0.22
13,790.0	89.30	268.70	7,883.9	-970.3	-5,776.3	5,852.9	1.14	-0.75	-0.86
13,883.0	89.00	268.80	7,885.3	-972.4	-5,869.3	5,945.4	0.34	-0.32	0.11
13,977.0	89.20	268.80	7,886.8	-974.3	-5,963.3	6,038.9	0.21	0.21	0.00
14,070.0	90.00	269.90	7,887.4	-975.4	-6,056.3	6,131.2	1.46	0.86	1.18
14,163.0	90.40	269.90	7,887.1	-975.6	-6,149.3	6,223.5	0.43	0.43	0.00
14,256.0	90.80	270.30	7,886.1	-975.4	-6,242.3	6,315.7	0.61	0.43	0.43
14,350.0	90.20	270.10	7,885.3	-975.1	-6,336.3	6,408.9	0.67	-0.64	-0.21
14,443.0	89.60	270.10	7,885.5	-974.9	-6,429.3	6,501.1	0.65	-0.65	0.00
14,536.0	89.20	270.30	7,886.5	-974.6	-6,522.2	6,593.3	0.48	-0.43	0.22
14,629.0	88.50	269.90	7,888.3	-974.4	-6,615.2	6,685.5	0.87	-0.75	-0.43
14,723.0	88.80	269.50	7,890.5	-974.9	-6,709.2	6,778.8	0.53	0.32	-0.43
14,816.0	89.60	269.70	7,891.8	-975.6	-6,802.2	6,871.1	0.89	0.86	0.22

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Loco Hills 1-2 B2AB Fed Com #1H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3620.0usft (Patterson #250)
Site:	Sec 36, T17S, R30E	MD Reference:	WELL @ 3620.0usft (Patterson #250)
Well:	Loco Hills 1-2 B2AB 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)	
14,909.0	91.10	269.90	7,891.3	-975.9	-6,895.2	6,963.3	1.63	1.61	0.22	
15,002.0	92.20	270.40	7,888.6	-975.6	-6,988.1	7,055.5	1.30	1.18	0.54	
15,095.0	92.30	270.60	7,884.9	-974.8	-7,081.1	7,147.6	0.24	0.11	0.22	
15,188.0	91.40	270.10	7,881.9	-974.3	-7,174.0	7,239.7	1.11	-0.97	-0.54	
15,282.0	90.90	269.90	7,880.1	-974.3	-7,268.0	7,332.9	0.57	-0.53	-0.21	
15,375.0	90.10	269.20	7,879.2	-975.0	-7,361.0	7,425.2	1.14	-0.86	-0.75	
15,468.0	89.80	269.20	7,879.3	-976.3	-7,454.0	7,517.6	0.32	-0.32	0.00	
15,540.0	90.20	269.70	7,879.3	-977.0	-7,526.0	7,589.1	0.89	0.56	0.69	
TD @ 15610.0' MD / 7879.1' TVD										
15,610.0	90.20	269.70	7,879.1	-977.3	-7,596.0	7,658.6	0.00	0.00	0.00	

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
445.0	444.8	5.3	-7.4	Gyro Tie-in @ 445.0' MD / 444.8' TVD	
15,610.0	7,879.1	-977.3	-7,596.0	TD @ 15610.0' MD / 7879.1' TVD	

Checked By: _____ Approved By: _____ Date: _____