

Results of Directional Survey

API number:	30-025-40185		
OGRID:		Operator:	MEWBOURNE OIL CO
		Property:	SPYGLASS 17 FEDERAL # 2H

surface	ULSTR:	D	17	T	19S	R	33E
				660	FNL	330	FWL

BH Loc	ULSTR:	A	17	T	19S	R	33E
14414	MD	9972.9	TVD	812	FNL	4923	FWL
						357	FEL

Top Perf/OH	ULSTR:	D	17	T	19S	R	33E
10159	MD	9857.5	TVD	937	FNL	682	FWL

Bot Perf/OH	ULSTR:	A	17	T	19S	R	33E
14370	MD	9971.0	TVD	814	FNL	4879	FWL
						401	FEL

	MD	N/S	E/W	VD
	10083	-248.20	282.60	9846.9
TOP PERFS/OH	10159	-276.96	352.12	9857.52
	10171	-281.50	363.10	9859.20
	14331	-156.20	4510.50	9969.40
BOT PERFS/OH	14370	-154.31	4549.37	9971.04
	14362	-154.70	4541.40	9970.70

NEXT TO LAST	14331	-156.20	4510.50	9969.40
LAST READING	14362	-154.70	4541.40	9970.70
TD	14414	-152.18	4593.23	9972.88

Surface Location	660	FN	330	FW
Projected BHL	812	FN	4923	FW
Location of				
Top Perfs/OH	937	FN	682	FW
Bottom Perfs/OH	814	FN	4879	FW

SUMMARY of Subsurface Locations

Surface Location	D-17-19S-33E	660	FN	330	FW	Vert. Depth
Top Perfs/OH	D-17-19S-33E	937	FN	682	FW	9857.52
Bottom Perfs/OH	A-17-19S-33E	814	FN	4879	FW	9971.04
Projected TD	A-17-19S-33E	812	FN	4923	FW	9972.88

NOV 08 2011

OPERATOR
WELL/LEASE
COUNTY

MEWBOURNE OIL COMPANY
SPYGLASS 17 FED 2H
LEA

HOBBS OCD

OCT 18 2011

STATE OF NEW MEXICO
DEVIATION REPORT

RECEIVED

275	0.32
660	0.18
1,041	0.14
1,452	0.47
1,743	0.32
2,029	0.31
2,314	0.55
2,599	0.97
2,821	1.96
2,946	2.54
3,073	1.55
3,350	0.41
3,418	0.54
3,672	0.92
4,019	0.36
4,429	0.69
4,809	0.56
5,190	0.70
5,633	0.75
6,014	1.31
6,299	0.80
6,680	0.84
7,060	0.00
7,377	0.68
7,757	1.11
8,105	0.84
8,488	0.95
8,869	0.91

SUR: D-17-19s-33e, 660/N & 330/W
BHL: A-17-19s-33e, 812/N & 4923/W
API # 30-025-40185

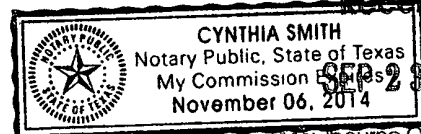
STATE OF TEXAS

BY: Linda Robinson

COUNTY OF MIDLAND

The foregoing instrument was acknowledged before me on 9/21/11, by Linda Robinson on behalf of Patterson-UTI Drilling Company LLC.

Cynthia Smith
Notary Public for Midland County, Texas
My Commission Expires:



Mewbourne Oil Company
Hobbs

SUR: D-17-19s-33e, 660/N & 330/W
BHL: A-17-19s-33e, 812/N & 4923/W
API # 30-025-40185

Mewbourne Oil Co

Lea County, NM

Sec 17-19S-33E

Spyglass 17 Federal Com #2H

Wellbore #1

HOBBS OCD

OCT 18 2011

Survey: MWD

RECEIVED

DDC Survey Report

13 September, 2011



DDC Survey Report



Company: Mewbourne Oil Co
Project: Lea County, NM
Site: Sec.17-19S-33E
Well: Spyglass 17 Federal Com #2H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Spyglass 17 Federal Com #2H
TVD Reference: WELL @ 3670.0usft (Patterson UTI #46)
MD Reference: WELL @ 3670.0usft (Patterson UTI #46)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Project: Lea County, NM
Map System: US State Plane 1927 (Exact solution)
Geo Datum: NAD 1927 (NADCON CONUS)
Map Zone: New Mexico East 3001
System Datum: Mean Sea Level

Site: Sec 17-19S-33E
Site Position: Northing: 606,452.97 usft Latitude: 32° 39' 56.167 N
From: Map Easting: 697,295.52 usft Longitude: 103° 41' 31.979 W
Position Uncertainty: 0.0 usft Slot Radius: 13-3/16 " Grid Convergence: 0 35 °

Well: Spyglass 17 Federal Com #2H
Well Position: +N/-S 0.0 usft Northing: 606,452.97 usft Latitude: 32° 39' 56.167 N
+E/-W 0.0 usft Easting: 697,295.52 usft Longitude: 103° 41' 31.979 W
Position Uncertainty: 0.0 usft Wellhead Elevation: usft Ground Level: 3,652.0 usft

Wellbore: Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/16/2011	7.65	60.57	48,851

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	89.61

Survey Program Date: 9/13/2011

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	9,192.0	GYRO (Wellbore #1)	Good_gyro	Good Gyro
9,228.0	14,414.0	MWD (Wellbore #1)	MWD default	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)
Tie into Gyro									
9,192.0	1.77	274.35	9,190.7	49.6	-66.1	-65.7	0.00	0.00	0.00
9,228.0	2.10	279.40	9,226.7	49.8	-67.3	-66.9	1.03	0.92	14.03
9,260.0	2.10	293.00	9,258.6	50.1	-68.4	-68.0	1.55	0.00	42.50
9,292.0	0.90	188.50	9,290.6	50.1	-69.0	-68.6	7.76	-3.75	-326.56
9,323.0	3.60	135.40	9,321.6	49.2	-68.3	-68.0	10.14	8.71	-171.29
9,355.0	6.50	117.60	9,353.5	47.6	-66.0	-65.7	10.20	9.06	-55.63
9,387.0	6.70	138.80	9,385.3	45.4	-63.2	-62.8	7.60	0.63	66.25
9,419.0	10.40	141.10	9,416.9	41.7	-60.1	-59.8	11.61	11.56	7.19
9,450.0	14.80	141.90	9,447.2	36.4	-55.9	-55.7	14.20	14.19	2.58

DDC Survey Report



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Project: Lea County, NM
Site: Sec 17-19S-33E
Well: Spyglass 17 Federal Com #2H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Spyglass 17 Federal Com #2H
TVD Reference: WELL @ 3670.0usft (Patterson UTI #46)
MD Reference: WELL @ 3670.0usft (Patterson UTI #46)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
9,482.0	18.50	142.20	9,477.8	29.2	-50.3	-50.1	11.57	11.56	0.94
9,513.0	20.60	140.10	9,507.0	21.1	-43.8	-43.6	7.14	6.77	-6.77
9,545.0	24.10	137.60	9,536.6	12.0	-35.7	-35.7	11.33	10.94	-7.81
9,576.0	28.40	138.40	9,564.4	1.8	-26.6	-26.6	13.92	13.87	2.58
9,608.0	32.40	137.70	9,592.0	-10.3	-15.7	-15.8	12.55	12.50	-2.19
9,640.0	35.90	137.50	9,618.5	-23.5	-3.6	-3.8	10.94	10.94	-0.63
Crossed Hard Line @ 9649' MD									
9,649.0	36.97	136.92	9,625.7	-27.4	0.0	-0.2	12.51	11.90	-6.50
9,671.0	39.60	135.60	9,643.0	-37.3	9.4	9.2	12.51	11.95	-5.98
9,703.0	42.90	135.60	9,667.0	-52.4	24.2	23.8	10.31	10.31	0.00
9,735.0	45.50	133.90	9,690.0	-68.1	40.0	39.6	8.93	8.13	-5.31
9,767.0	48.10	132.40	9,711.9	-84.0	57.0	56.5	8.81	8.13	-4.69
9,798.0	49.80	131.40	9,732.2	-99.6	74.4	73.8	6.00	5.48	-3.23
9,830.0	52.30	131.40	9,752.4	-116.1	93.1	92.3	7.81	7.81	0.00
9,862.0	56.40	131.10	9,771.0	-133.2	112.7	111.8	12.84	12.81	-0.94
9,894.0	60.60	129.70	9,787.7	-150.9	133.4	132.4	13.64	13.13	-4.38
9,925.0	65.00	127.50	9,801.9	-168.1	155.0	153.8	15.53	14.19	-7.10
9,957.0	69.50	126.00	9,814.3	-185.7	178.6	177.4	14.71	14.06	-4.69
9,989.0	72.50	123.60	9,824.7	-203.0	203.5	202.1	11.75	9.38	-7.50
10,020.0	74.80	121.10	9,833.4	-218.9	228.6	227.1	10.72	7.42	-8.06
10,052.0	77.60	118.70	9,841.0	-234.4	255.5	253.9	11.38	8.75	-7.50
10,083.0	80.60	115.50	9,846.9	-248.2	282.6	280.9	14.01	9.68	-10.32
10,171.0	83.40	109.40	9,859.2	-281.5	363.1	361.2	7.57	3.18	-6.93
10,203.0	84.50	106.90	9,862.5	-291.4	393.4	391.4	8.50	3.44	-7.81
10,235.0	86.40	104.50	9,865.1	-300.0	424.1	422.0	9.55	5.94	-7.50
10,267.0	87.30	101.20	9,866.8	-307.1	455.2	453.1	10.67	2.81	-10.31
10,298.0	87.50	97.90	9,868.2	-312.3	485.8	483.6	10.65	0.65	-10.65
10,330.0	87.50	95.00	9,869.6	-315.9	517.5	515.4	9.05	0.00	-9.06
10,362.0	87.40	94.30	9,871.1	-318.4	549.4	547.2	2.21	-0.31	-2.19
10,394.0	87.90	92.70	9,872.4	-320.4	581.3	579.1	5.23	1.56	-5.00
10,426.0	88.20	92.20	9,873.5	-321.8	613.2	611.0	1.82	0.94	-1.56
10,457.0	89.80	91.20	9,874.0	-322.7	644.2	642.0	6.09	5.16	-3.23
10,489.0	90.40	90.70	9,873.9	-323.2	676.2	674.0	2.44	1.88	-1.56
10,521.0	90.70	88.60	9,873.6	-323.0	708.2	706.0	6.63	0.94	-6.56
10,553.0	91.20	87.90	9,873.1	-322.0	740.2	738.0	2.69	1.56	-2.19
10,585.0	89.90	87.60	9,872.8	-320.8	772.2	770.0	4.17	-4.06	-0.94
10,616.0	89.80	87.20	9,872.9	-319.4	803.1	800.9	1.33	-0.32	-1.29
10,648.0	89.50	86.60	9,873.1	-317.6	835.1	832.9	2.10	-0.94	-1.88
10,680.0	88.00	85.60	9,873.8	-315.5	867.0	864.8	5.63	-4.69	-3.13
10,712.0	87.80	85.40	9,874.9	-313.0	898.9	896.7	0.88	-0.63	-0.63
10,744.0	87.60	85.40	9,876.2	-310.4	930.8	928.6	0.63	-0.63	0.00
10,776.0	87.50	85.40	9,877.6	-307.8	962.6	960.5	0.31	-0.31	0.00
10,807.0	86.90	85.30	9,879.1	-305.3	993.5	991.4	1.96	-1.94	-0.32

DDC Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Spyglass 17 Federal Com #2H
Project:	Lea County, NM	TVD Reference:	WELL @ 3670.0usft (Patterson UTI #46)
Site:	Sec.17-19S-33E	MD Reference:	WELL @ 3670.0usft (Patterson UTI #46)
Well:	Spyglass 17 Federal Com #2H	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)
10,839.0	86.10	85.40	9,881.1	-302.7	1,025.3	1,023.2	2.52	-2.50	0.31
10,871.0	85.50	85.20	9,883.4	-300.1	1,057.1	1,055.1	1.98	-1.88	-0.63
10,902.0	86.50	85.10	9,885.6	-297.5	1,087.9	1,085.9	3.24	3.23	-0.32
10,934.0	87.70	84.80	9,887.2	-294.7	1,119.8	1,117.7	3.87	3.75	-0.94
10,966.0	87.40	84.50	9,888.6	-291.7	1,151.6	1,149.6	1.33	-0.94	-0.94
10,998.0	87.50	84.70	9,890.0	-288.7	1,183.4	1,181.4	0.70	0.31	0.63
11,029.0	87.30	84.10	9,891.4	-285.7	1,214.3	1,212.3	2.04	-0.65	-1.94
11,061.0	87.40	84.30	9,892.9	-282.5	1,246.1	1,244.1	0.70	0.31	0.63
11,093.0	87.00	83.70	9,894.4	-279.1	1,277.8	1,275.9	2.25	-1.25	-1.88
11,124.0	87.00	83.60	9,896.1	-275.7	1,308.6	1,306.7	0.32	0.00	-0.32
11,156.0	88.10	84.70	9,897.4	-272.4	1,340.4	1,338.5	4.86	3.44	3.44
11,188.0	87.60	84.30	9,898.6	-269.4	1,372.2	1,370.4	2.00	-1.56	-1.25
11,220.0	88.00	84.20	9,899.9	-266.2	1,404.1	1,402.2	1.29	1.25	-0.31
11,252.0	87.80	84.30	9,901.0	-263.0	1,435.9	1,434.1	0.70	-0.63	0.31
11,284.0	87.20	84.10	9,902.4	-259.7	1,467.7	1,465.9	1.98	-1.88	-0.63
11,348.0	86.20	85.10	9,906.1	-253.7	1,531.3	1,529.5	2.21	-1.56	1.56
11,379.0	85.90	85.40	9,908.2	-251.2	1,562.1	1,560.4	1.37	-0.97	0.97
11,411.0	87.30	85.80	9,910.1	-248.7	1,594.0	1,592.2	4.55	4.38	1.25
11,442.0	88.40	86.00	9,911.3	-246.5	1,624.9	1,623.1	3.61	3.55	0.65
11,474.0	88.10	86.10	9,912.3	-244.3	1,656.8	1,655.1	0.99	-0.94	0.31
11,506.0	88.30	86.20	9,913.3	-242.1	1,688.7	1,687.0	0.70	0.63	0.31
11,538.0	88.00	86.20	9,914.3	-240.0	1,720.6	1,718.9	0.94	-0.94	0.00
11,570.0	88.00	85.90	9,915.4	-237.8	1,752.5	1,750.8	0.94	0.00	-0.94
11,602.0	87.80	86.10	9,916.6	-235.6	1,784.4	1,782.8	0.88	-0.63	0.63
11,633.0	87.60	85.90	9,917.9	-233.4	1,815.3	1,813.7	0.91	-0.65	-0.65
11,665.0	87.40	85.80	9,919.2	-231.1	1,847.2	1,845.6	0.70	-0.63	-0.31
11,697.0	88.00	86.10	9,920.5	-228.8	1,879.1	1,877.5	2.10	1.88	0.94
11,729.0	87.80	86.10	9,921.7	-226.7	1,911.0	1,909.4	0.63	-0.63	0.00
11,760.0	87.40	86.00	9,923.0	-224.5	1,941.9	1,940.3	1.33	-1.29	-0.32
11,792.0	87.10	85.60	9,924.5	-222.2	1,973.8	1,972.2	1.56	-0.94	-1.25
11,824.0	88.00	86.10	9,925.9	-219.9	2,005.6	2,004.1	3.22	2.81	1.56
11,856.0	88.20	86.30	9,927.0	-217.8	2,037.6	2,036.0	0.88	0.63	0.63
11,888.0	88.20	86.50	9,928.0	-215.8	2,069.5	2,068.0	0.62	0.00	0.63
11,920.0	88.00	86.60	9,929.0	-213.8	2,101.4	2,099.9	0.70	-0.63	0.31
11,951.0	88.00	86.80	9,930.1	-212.1	2,132.3	2,130.8	0.64	0.00	0.65
11,983.0	88.60	87.40	9,931.1	-210.4	2,164.3	2,162.8	2.65	1.88	1.88
12,047.0	88.30	87.30	9,932.8	-207.5	2,228.2	2,226.7	0.49	-0.47	-0.16
12,110.0	87.60	86.20	9,935.0	-203.9	2,291.0	2,289.6	2.07	-1.11	-1.75
12,174.0	89.30	86.80	9,936.8	-200.0	2,354.9	2,353.5	2.82	2.66	0.94
12,237.0	89.80	87.40	9,937.3	-196.8	2,417.8	2,416.4	1.24	0.79	0.95
12,300.0	89.70	87.40	9,937.5	-194.0	2,480.7	2,479.4	0.16	-0.16	0.00
12,364.0	88.00	87.60	9,938.8	-191.2	2,544.7	2,543.3	2.67	-2.66	0.31
12,427.0	87.90	87.90	9,941.1	-188.7	2,607.6	2,606.2	0.50	-0.16	0.48
12,491.0	88.00	88.00	9,943.4	-186.4	2,671.5	2,670.2	0.22	0.16	0.16

DDC Survey Report



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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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12,555.0	88.00	88.30	9,945.6	-184.3	2,735.4	2,734.1	0.47	0.00	0.47
12,618.0	88.70	89.10	9,947.4	-182.9	2,798.4	2,797.1	1.69	1.11	1.27
12,682.0	88.90	89.30	9,948.8	-182.0	2,862.4	2,861.1	0.44	0.31	0.31
12,745.0	88.70	89.50	9,950.1	-181.4	2,925.3	2,924.0	0.45	-0.32	0.32
12,808.0	88.80	89.70	9,951.5	-180.9	2,988.3	2,987.0	0.35	0.16	0.32
12,871.0	89.60	90.00	9,952.3	-180.8	3,051.3	3,050.0	1.36	1.27	0.48
12,934.0	89.70	90.70	9,952.7	-181.1	3,114.3	3,113.0	1.12	0.16	1.11
12,998.0	89.10	90.50	9,953.4	-181.8	3,178.3	3,177.0	0.99	-0.94	-0.31
13,062.0	89.50	90.30	9,954.2	-182.3	3,242.3	3,241.0	0.70	0.63	-0.31
13,125.0	89.50	89.80	9,954.7	-182.3	3,305.3	3,304.0	0.79	0.00	-0.79
13,189.0	90.50	89.60	9,954.7	-182.0	3,369.3	3,368.0	1.59	1.56	-0.31
13,252.0	90.80	89.10	9,954.0	-181.3	3,432.3	3,431.0	0.93	0.48	-0.79
13,315.0	91.10	88.90	9,953.0	-180.2	3,495.3	3,494.0	0.57	0.48	-0.32
13,379.0	90.50	88.10	9,952.1	-178.5	3,559.2	3,557.9	1.56	-0.94	-1.25
13,442.0	91.00	88.30	9,951.2	-176.5	3,622.2	3,620.9	0.85	0.79	0.32
13,474.0	91.60	88.70	9,950.5	-175.7	3,654.2	3,652.9	2.25	1.88	1.25
13,505.0	90.80	89.00	9,949.9	-175.0	3,685.2	3,683.9	2.76	-2.58	0.97
13,537.0	89.20	88.90	9,949.9	-174.5	3,717.2	3,715.9	5.01	-5.00	-0.31
13,569.0	88.00	88.60	9,950.7	-173.8	3,749.2	3,747.9	3.87	-3.75	-0.94
13,599.0	87.20	88.00	9,951.9	-172.9	3,779.1	3,777.8	3.33	-2.67	-2.00
13,631.0	86.90	88.10	9,953.6	-171.8	3,811.1	3,809.8	0.99	-0.94	0.31
13,663.0	86.50	88.30	9,955.4	-170.8	3,843.0	3,841.7	1.40	-1.25	0.63
13,695.0	87.70	88.60	9,957.0	-169.9	3,874.9	3,873.7	3.87	3.75	0.94
13,727.0	88.40	88.40	9,958.1	-169.1	3,906.9	3,905.7	2.27	2.19	-0.63
13,758.0	87.50	88.30	9,959.2	-168.2	3,937.9	3,936.6	2.92	-2.90	-0.32
13,790.0	86.90	88.30	9,960.8	-167.2	3,969.8	3,968.6	1.88	-1.88	0.00
13,821.0	88.00	88.20	9,962.2	-166.3	4,000.8	3,999.5	3.56	3.55	-0.32
13,853.0	89.10	89.00	9,963.0	-165.5	4,032.7	4,031.5	4.25	3.44	2.50
13,885.0	89.40	89.10	9,963.4	-165.0	4,064.7	4,063.5	0.99	0.94	0.31
13,917.0	90.00	89.10	9,963.6	-164.5	4,096.7	4,095.5	1.88	1.88	0.00
13,949.0	90.50	89.30	9,963.4	-164.0	4,128.7	4,127.5	1.68	1.56	0.63
13,981.0	90.60	89.80	9,963.1	-163.8	4,160.7	4,159.5	1.59	0.31	1.56
14,013.0	90.50	90.00	9,962.8	-163.7	4,192.7	4,191.5	0.70	-0.31	0.63
14,044.0	89.60	90.00	9,962.8	-163.7	4,223.7	4,222.5	2.90	-2.90	0.00
14,076.0	89.10	89.50	9,963.1	-163.6	4,255.7	4,254.5	2.21	-1.56	-1.56
14,108.0	89.30	89.50	9,963.6	-163.3	4,287.7	4,286.5	0.63	0.63	0.00
14,140.0	89.40	89.50	9,963.9	-163.0	4,319.7	4,318.5	0.31	0.31	0.00
14,172.0	89.30	89.40	9,964.3	-162.7	4,351.7	4,350.5	0.44	-0.31	-0.31
14,203.0	88.30	88.00	9,965.0	-162.0	4,382.7	4,381.5	5.55	-3.23	-4.52
14,235.0	88.10	87.60	9,966.0	-160.8	4,414.7	4,413.5	1.40	-0.63	-1.25
14,267.0	88.00	87.30	9,967.1	-159.4	4,446.6	4,445.4	0.99	-0.31	-0.94
14,331.0	87.80	87.10	9,969.4	-156.2	4,510.5	4,509.3	0.44	-0.31	-0.31
14,362.0	87.50	87.30	9,970.7	-154.7	4,541.4	4,540.3	1.16	-0.97	0.65

DDC Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Spyglass 17 Federal Com #2H
Project:	Lea County, NM	TVD Reference:	WELL @ 3670.0usft (Patterson UTI #46)
Site:	Sec 17-19S-33E	MD Reference:	WELL @ 3670.0usft (Patterson UTI #46)
Well:	Spyglass 17 Federal Com #2H	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)
Projection to Bit									
14,414.0	87.50	87.30	9,972.9	-152.3	4,593.3	4,592.2	0.00	0.00	0.00

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
9,192.0	9,190.7	49.6	-66.1	Tie into Gyro
9,649.0	9,625.7	-27.4	0.0	Crossed Hard Line @ 9649' MD
14,414.0	9,972.9	-152.3	4,593.3	Projection to Bit

Checked By: _____ Approved By: _____ Date: _____

Company Name Mewbourne Oil Co
 Spyglass 17 Federal Com #2H
 Lea County, NM
 Rig: Patterson UTI #46
 Created By Shane Robbins
 Date: 9/13/2011

Spyglass 17 Federal Com #2H
 Lea County, NM
 Q110293 WT-11462

MEWBOURNE OIL COMPANY

PROJECT DETAILS: Lea County, NM

Geodetic System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: New Mexico East 3001
 System Datum: Mean Sea Level

WELL DETAILS: Spyglass 17 Federal Com #2H

		Ground Level		3652.0	
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	606452.97	697295.52	32° 39' 56.187 N	103° 41' 31.979 W

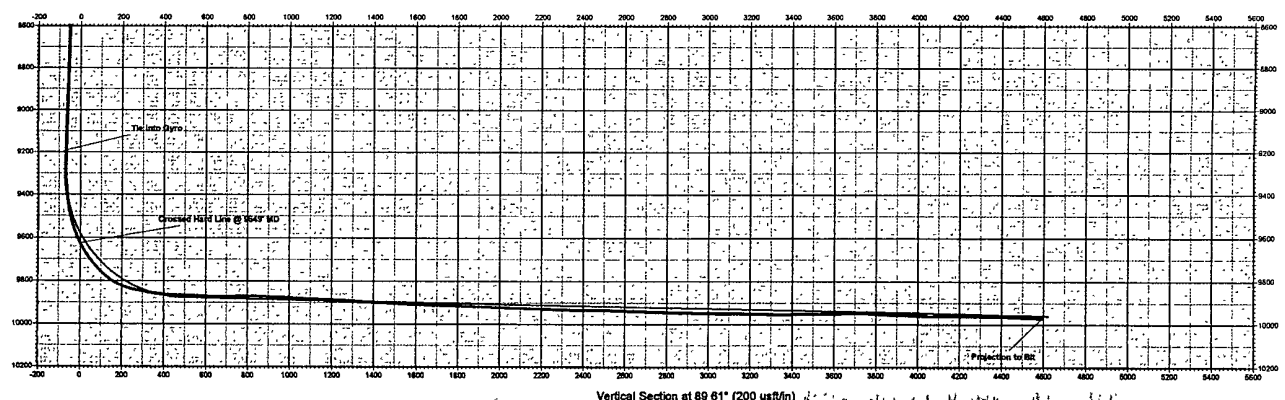
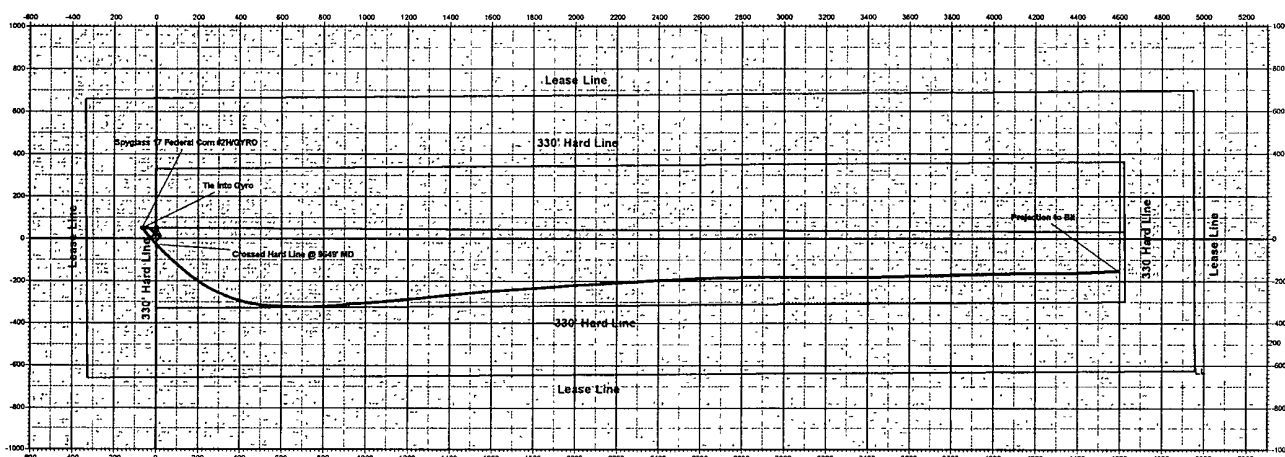
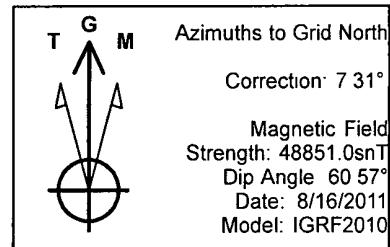
ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect Departure	Annotation
9192.0	1.77	274.35	9190.7	49.6	-66.1	-65.7	The Into Gyro
9649.0	36.97	136.92	9626.7	-27.4	0.0	-0.2	241.9 Crossed Hard Line @ 9649' MD
14414.0	87.50	87.30	9972.8	-152.3	4593.3	4592.2	4929.7 Projection to Bit

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL Spyglass 17 Fed Com #2H	9950.0	31.3	4623.2	606484.27	701918.70	32° 39' 56.198 N	103° 40' 37.897 W

- plan into target center



Vertical Section at 69.61° (200 usf/in)

GTI

GYRO TECHNOLOGIES

Company: Mewbourne
Lease/Well: Spyglass 17 Federal/#2H

Rig Name: Patterson UTI #46

State/County: New Mexico/Lea

Latitude: 32.67

GRID North is 0.35 Degrees East of True North

VS-Azi: 0.00 Degrees

VES

VAUGHN ENERGY SERVICES

SUR: D-17-19s-33e, 660/N & 330/W
BHL: A-17-19s-33e, 812/N & 4923/W
API # 30-025-40185

Depth Reference : RKB 20.5 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: s1pyglass 17 federal #2h_ed.ut

Minimum Curvature Method

Report Date/Time: 9/12/2011 / 10:20

Vaughn Energy Services

Woodward, OK

580-254-5000

Surveyor: Glen McCandless

Spyglass 17 Federal #2H

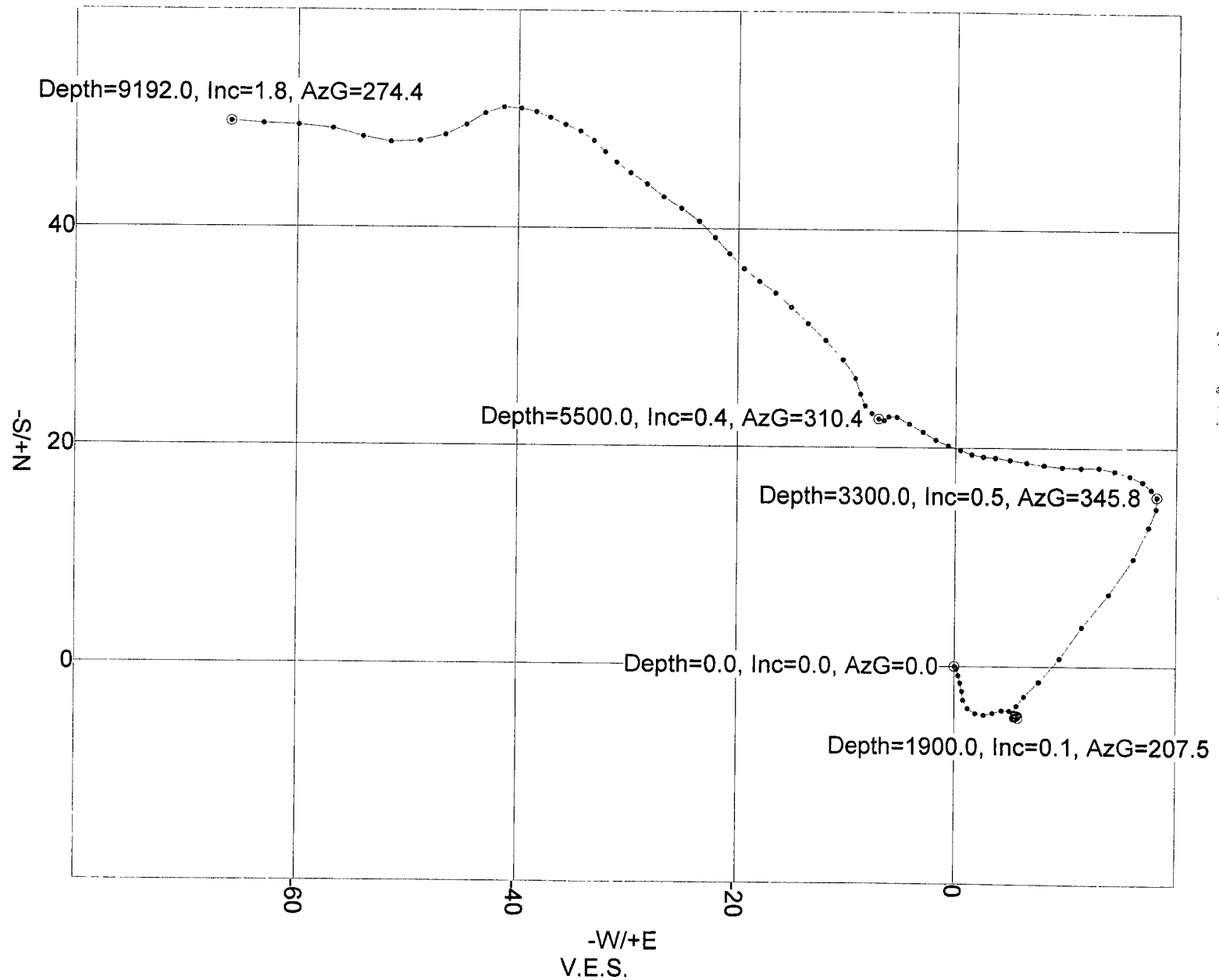
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.35	144.99	100.00	-0.25	0.18	-0.25	0.31	144.99	0.35
200.00	0.37	180.73	200.00	-0.83	0.35	-0.83	0.90	157.19	0.22
300.00	0.48	154.37	299.99	-1.53	0.53	-1.53	1.62	161.04	0.22
400.00	0.42	181.63	399.99	-2.28	0.70	-2.28	2.38	162.93	0.22
500.00	0.53	165.31	499.99	-3.09	0.81	-3.09	3.19	165.37	0.18
600.00	0.51	135.17	599.98	-3.86	1.24	-3.86	4.05	162.18	0.27
700.00	0.47	110.18	699.98	-4.32	1.94	-4.32	4.73	155.77	0.22
800.00	0.43	90.74	799.98	-4.46	2.71	-4.46	5.22	148.75	0.16
900.00	0.52	67.30	899.97	-4.30	3.50	-4.30	5.54	140.80	0.21
1000.00	0.50	80.44	999.97	-4.05	4.35	-4.05	5.94	132.95	0.12
1100.00	0.30	110.73	1099.97	-4.07	5.02	-4.07	6.46	129.01	0.29
1200.00	0.22	108.82	1199.97	-4.22	5.45	-4.22	6.89	127.78	0.08
1300.00	0.04	91.33	1299.97	-4.29	5.66	-4.29	7.10	127.11	0.18
1400.00	0.07	100.22	1399.97	-4.30	5.75	-4.30	7.18	126.75	0.03
1500.00	0.08	127.32	1499.97	-4.35	5.87	-4.35	7.30	126.55	0.04
1600.00	0.06	131.17	1599.97	-4.42	5.96	-4.42	7.42	126.59	0.02
1700.00	0.04	228.47	1699.97	-4.48	5.97	-4.48	7.47	126.85	0.07
1800.00	0.12	215.06	1799.97	-4.58	5.89	-4.58	7.46	127.88	0.09

measured Depth FT	incl Angle Deg	Dir Direction Deg	Dir TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	0.09	207.53	1899.97	-4.74	5.80	-4.74	7.48	129.25	0.04
2000.00	0.21	255.76	1999.97	-4.85	5.59	-4.85	7.40	130.95	0.16
2100.00	0.14	302.30	2099.97	-4.83	5.31	-4.83	7.18	132.27	0.15
2200.00	0.13	39.97	2199.97	-4.68	5.28	-4.68	7.06	131.54	0.20
2300.00	0.37	3.98	2299.96	-4.27	5.38	-4.27	6.87	128.49	0.28
2400.00	0.50	40.34	2399.96	-3.62	5.68	-3.62	6.74	122.47	0.30
2500.00	0.74	38.27	2499.96	-2.77	6.37	-2.77	6.95	113.52	0.24
2600.00	1.44	48.06	2599.94	-1.42	7.70	-1.42	7.83	100.47	0.72
2700.00	1.85	34.46	2699.90	0.75	9.55	0.75	9.58	85.52	0.57
2800.00	2.15	34.24	2799.83	3.63	11.52	3.63	12.08	72.51	0.29
2900.00	2.29	42.82	2899.76	6.64	13.93	6.64	15.44	64.51	0.36
3000.00	2.29	25.38	2999.68	9.91	16.15	9.91	18.95	58.45	0.69
3100.00	1.37	24.96	3099.63	12.80	17.51	12.80	21.69	53.83	0.91
3200.00	0.73	15.91	3199.61	14.50	18.19	14.50	23.26	51.44	0.66
3300.00	0.51	345.84	3299.61	15.54	18.26	15.54	23.98	49.59	0.39
3400.00	0.55	303.43	3399.60	16.23	17.75	16.23	24.05	47.55	0.39
3500.00	0.66	317.86	3499.60	16.93	16.96	16.93	23.96	45.05	0.19
3600.00	0.87	278.30	3599.59	17.47	15.81	17.47	23.56	42.16	0.56
3700.00	0.83	298.15	3699.58	17.92	14.42	17.92	23.00	38.83	0.30
3800.00	0.90	267.86	3799.57	18.23	13.00	18.23	22.39	35.50	0.46
3900.00	0.93	270.71	3899.55	18.21	11.40	18.21	21.48	32.05	0.06
4000.00	1.02	272.96	3999.54	18.26	9.70	18.26	20.68	27.97	0.09
4100.00	0.87	279.18	4099.53	18.43	8.06	18.43	20.12	23.62	0.18
4200.00	0.91	277.22	4199.51	18.65	6.52	18.65	19.76	19.27	0.05
4300.00	0.88	281.91	4299.50	18.91	4.98	18.91	19.55	14.76	0.08
4400.00	0.65	271.69	4399.49	19.08	3.66	19.08	19.43	10.87	0.26
4500.00	0.61	278.42	4499.49	19.18	2.57	19.18	19.35	7.63	0.08
4600.00	0.62	284.03	4599.48	19.39	1.51	19.39	19.45	4.46	0.06
4700.00	0.66	295.87	4699.47	19.77	0.47	19.77	19.78	1.36	0.14
4800.00	0.71	285.38	4799.47	20.19	-0.65	20.19	20.20	358.15	0.14
4900.00	0.75	302.26	4899.46	20.70	-1.80	20.70	20.78	355.02	0.22
5000.00	0.84	300.63	4999.45	21.42	-2.98	21.42	21.63	352.07	0.09
5100.00	0.83	301.11	5099.44	22.17	-4.23	22.17	22.57	349.19	0.01
5200.00	0.68	296.27	5199.43	22.81	-5.39	22.81	23.43	346.71	0.16
5300.00	0.37	224.25	5299.43	22.84	-6.14	22.84	23.65	344.94	0.67
5400.00	0.27	239.05	5399.43	22.49	-6.57	22.49	23.43	343.72	0.13
5500.00	0.45	310.43	5499.42	22.62	-7.06	22.62	23.70	342.66	0.44
5600.00	0.49	307.01	5599.42	23.13	-7.70	23.13	24.38	341.60	0.05
5700.00	0.64	321.27	5699.42	23.82	-8.38	23.82	25.25	340.61	0.21

measured Depth FT	incl Angle Deg	Dirct Direction Deg	Drill TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5800.00	0.76	356.96	5799.41	24.92	-8.77	24.92	26.42	340.61	0.44
5900.00	0.99	329.45	5899.40	26.32	-9.24	26.32	27.90	340.65	0.47
6000.00	1.42	322.03	5999.38	28.05	-10.44	28.05	29.93	339.57	0.46
6100.00	1.30	313.39	6099.35	29.81	-12.04	29.81	32.14	338.01	0.24
6200.00	1.27	313.62	6199.32	31.35	-13.66	31.35	34.20	336.45	0.04
6300.00	1.17	315.44	6299.30	32.84	-15.18	32.84	36.18	335.19	0.10
6400.00	1.04	308.68	6399.28	34.14	-16.61	34.14	37.96	334.06	0.19
6500.00	1.05	303.90	6499.26	35.22	-18.08	35.22	39.58	332.83	0.09
6600.00	1.03	314.26	6599.25	36.35	-19.48	36.35	41.24	331.82	0.19
6700.00	1.15	317.21	6699.23	37.72	-20.81	37.72	43.08	331.12	0.14
6800.00	1.12	319.31	6799.21	39.20	-22.13	39.20	45.01	330.56	0.06
6900.00	1.24	313.12	6899.19	40.68	-23.55	40.68	47.01	329.93	0.18
7000.00	1.07	296.53	6999.17	41.84	-25.18	41.84	48.83	328.96	0.38
7100.00	1.14	309.76	7099.15	42.89	-26.78	42.89	50.56	328.02	0.27
7200.00	1.04	304.92	7199.13	44.05	-28.30	44.05	52.36	327.29	0.14
7300.00	1.03	303.72	7299.12	45.07	-29.79	45.07	54.02	326.54	0.03
7400.00	0.84	309.29	7399.10	46.03	-31.10	46.03	55.55	325.96	0.21
7500.00	0.75	316.71	7499.09	46.97	-32.11	46.97	56.90	325.64	0.14
7600.00	0.92	313.04	7599.08	47.99	-33.15	47.99	58.33	325.37	0.18
7700.00	0.82	294.25	7699.07	48.84	-34.39	48.84	59.73	324.85	0.30
7800.00	0.90	292.53	7799.06	49.43	-35.76	49.43	61.01	324.11	0.09
7900.00	0.83	297.70	7899.05	50.07	-37.13	50.07	62.33	323.44	0.11
8000.00	0.78	285.69	7999.04	50.59	-38.43	50.59	63.53	322.78	0.17
8100.00	0.82	280.96	8099.03	50.91	-39.79	50.91	64.61	321.99	0.08
8200.00	1.00	268.61	8199.02	51.02	-41.37	51.02	65.69	320.97	0.26
8300.00	1.14	236.77	8299.00	50.46	-43.07	50.46	66.34	319.52	0.60
8400.00	1.16	239.20	8398.98	49.40	-44.77	49.40	66.67	317.81	0.05
8500.00	1.26	248.39	8498.96	48.47	-46.66	48.47	67.28	316.09	0.22
8600.00	1.48	263.16	8598.93	47.91	-48.97	47.91	68.51	314.37	0.42
8700.00	1.51	271.82	8698.89	47.80	-51.58	47.80	70.32	312.83	0.23
8800.00	1.45	290.05	8798.86	48.28	-54.08	48.28	72.50	311.75	0.47
8900.00	1.81	281.02	8898.82	49.02	-56.83	49.02	75.05	310.78	0.44
9000.00	1.78	270.45	8998.77	49.33	-59.93	49.33	77.62	309.46	0.33
9100.00	1.89	273.54	9098.72	49.44	-63.12	49.44	80.18	308.07	0.15
9192.00	1.77	274.35	9190.67	49.65	-66.05	49.65	82.63	306.93	0.13



Vaughn Energy Services
Woodward, OK
580-254-5000
Surveyor: Glen McCandless
Spyglass 17 Federal #2H



Do It Once.
Do It Right

Confidential Information - not to be disclosed
outside Mewbourne Oil Company

FINAL

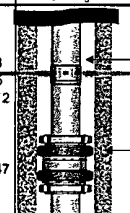
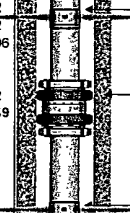
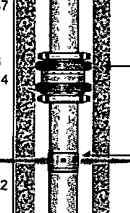
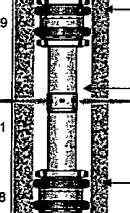
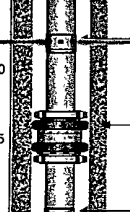
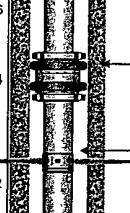
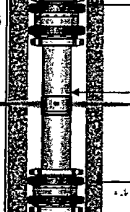
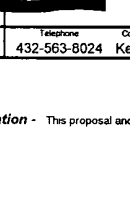
Prepared for Mr. Mickey Young		Company Mewbourne Oil Company	Date 13-Sep-11	
Well Name Spyglass -17- Federal #2H		Type of Installation 20-Stage 4-1/2" StackFRAC® HD	Location Lea County, NM	
Depth	Drawing	Description	OD(in)	ID(in)
			Page 1 of 3	
REV_				
9919.35 SNU0003613 380 bbls	***Drillable FracPORT's to be shipped without handling pups*** Latched Seal Assembly 7" 23-32 ppf x 3.875" Lower Bore x 4.75" Upper Bore SF Liner Hanger Packer PN: 108425-000004 (Shear Pins: 2 @ 482 plus 1 @ 241 - 1,205 psi setting pressure) SF Bottom Guide 7" 26# P-110 LT&C Casing 4-1/2" 11.60# P-110 LTC LINER JOINTS: 6		5.875"	4.750
			5.850"	3.850
Stage 20 10,159 EA1000386 384 bbls	Packers Plus 4-1/2" Drillable FracPORT™ with 3.625" Seat for 3.750" High Pressure Ball PN: 121332-000024 (5 shear pins at 314 psi each; 1,570 psi opening pressure) 4-1/2" 11.60# P-110 LTC LINER JOINTS: 2 6' x 4-1/2" 11 6# P-110 LTC Pup Joint Packers Plus 7" x 4-1/2" RockSEAL® II 10K Centralized Hydraulic Set Open Hole Packer PN: 121381-000001 (6 shear pins at 324 psi each; 1,944 psi setting pressure) 3' x 4-1/2" 11 6# P-110 LTC Pup Joint 4-1/2" 11.60# P-110 LTC LINER JOINTS: 2		5.630"	3.625
			4.500"	4.000
10,245 EA3005593			4.500"	4.000
			5.750"	3.875
Stage 19 10326.75 EA1002282 386 bbls	Packers Plus 4-1/2" Drillable FracPORT™ with 3.500" Seat for 3.625" High Pressure Ball PN: 121332-000023 (5 shear pins at 314 psi each; 1,570 psi opening pressure) 4-1/2" 11.60# P-110 LTC LINER JOINTS: 2 6' x 4-1/2" 11 6# P-110 LTC Pup Joint Packers Plus 7" x 4-1/2" RockSEAL® II 10K Centralized Hydraulic Set Open Hole Packer PN: 121381-000001 (6 shear pins at 324 psi each; 1,944 psi setting pressure) 3' x 4-1/2" 11 6# P-110 LTC Pup Joint 4-1/2" 11.60# P-110 LTC LINER JOINTS: 2		5.630"	3.500
			4.500"	4.000
10410.58 EA3005596			4.500"	4.000
			5.750"	3.875
Stage 18 10533.28 EA1008349 390 bbls	Packers Plus 4-1/2" Drillable FracPORT™ with 3.375" Seat for 3.500" High Pressure Ball PN: 121332-000022 (5 shear pins at 314 psi each; 1,570 psi opening pressure) 4-1/2" 11.60# P-110 LTC LINER JOINTS: 2 6' x 4-1/2" 11 6# P-110 LTC Pup Joint Packers Plus 7" x 4-1/2" RockSEAL® II 10K Centralized Hydraulic Set Open Hole Packer PN: 121381-000001 (6 shear pins at 324 psi each; 1,944 psi setting pressure) 3' x 4-1/2" 11 6# P-110 LTC Pup Joint 4-1/2" 11.60# P-110 LTC LINER JOINTS: 3		5.630"	3.375
			4.500"	4.000
10619.19 EA2002873			4.500"	4.000
			5.750"	3.875
Stage 17 10739.23 EA1007948 393 bbls	Packers Plus 4-1/2" Drillable FracPORT™ with 3.250" Seat for 3.375" High Pressure Ball PN: 121332-000021 (5 shear pins at 314 psi each; 1,570 psi opening pressure) 4-1/2" 11.60# P-110 LTC LINER JOINTS: 3 6' x 4-1/2" 11 6# P-110 LTC Pup Joint Packers Plus 7" x 4-1/2" RockSEAL® II 10K Centralized Hydraulic Set Open Hole Packer PN: 121381-000001 (6 shear pins at 324 psi each; 1,944 psi setting pressure) 3' x 4-1/2" 11 6# P-110 LTC Pup Joint 4-1/2" 11.60# P-110 LTC LINER JOINTS: 3		5.630"	3.250
			4.500"	4.000
10862.22 EA3005612			4.500"	4.000
			5.750"	3.875
Stage 16 10986.73 EA1008326 397 bbls	Packers Plus 4-1/2" Drillable FracPORT™ with 3.125" Seat for 3.250" High Pressure Ball PN: 121332-000020 (5 shear pins at 314 psi each; 1,570 psi opening pressure) 4-1/2" 11.60# P-110 LTC LINER JOINTS: 3 6' x 4-1/2" 11 6# P-110 LTC Pup Joint Packers Plus 7" x 4-1/2" RockSEAL® II 10K Centralized Hydraulic Set Open Hole Packer PN: 121381-000001 (6 shear pins at 324 psi each; 1,944 psi setting pressure) 3' x 4-1/2" 11 6# P-110 LTC Pup Joint 4-1/2" 11.60# P-110 LTC LINER JOINTS: 3		5.630"	3.125
			4.500"	4.000
11110.67 EA3005611			4.500"	4.000
			5.750"	3.875
Stage 15 11292.90 EA1008749 400 bbls	Packers Plus 4-1/2" Drillable FracPORT™ with 3.000" Seat for 3.125" High Pressure Ball PN: 121332-000019 (5 shear pins at 314 psi each; 1,570 psi opening pressure) 4-1/2" 11.60# P-110 LTC LINER JOINTS: 3 6' x 4-1/2" 11 6# P-110 LTC Pup Joint Packers Plus 7" x 4-1/2" RockSEAL® II 10K Centralized Hydraulic Set Open Hole Packer PN: 121381-000001 (6 shear pins at 324 psi each; 1,944 psi setting pressure) 3' x 4-1/2" 11 6# P-110 LTC Pup Joint 4-1/2" 11.60# P-110 LTC LINER JOINTS: 3		5.630"	3.000
			4.500"	4.000
11356.83 EA3005610			4.500"	4.000
			5.750"	3.875
Stage 14 11480.25 EA1009085 404 bbls	Packers Plus 4-1/2" Drillable FracPORT™ with 2.875" Seat for 3.000" High Pressure Ball PN: 121332-000018 (5 shear pins at 314 psi each; 1,570 psi opening pressure) 4-1/2" 11.60# P-110 LTC LINER JOINTS: 3 6' x 4-1/2" 11 6# P-110 LTC Pup Joint Packers Plus 7" x 4-1/2" RockSEAL® II 10K Centralized Hydraulic Set Open Hole Packer PN: 121381-000001 (6 shear pins at 324 psi each; 1,944 psi setting pressure) 3' x 4-1/2" 11 6# P-110 LTC Pup Joint 4-1/2" 11.60# P-110 LTC LINER JOINTS: 3		5.630"	2.875
			4.500"	4.000
11604.25 EA3005609			4.500"	4.000
			5.750"	3.875
			4.500"	4.000
			4.500"	4.000

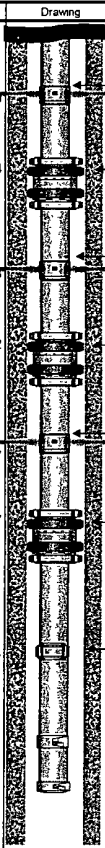
Service Center
Midland, TX

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Contact
Keith Martin

Telephone
Chad Williams 405-255-3223

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Prepared for Mr. Mickey Young		Company Mewbourne Oil Company		Date 13-Sep-11			
Well Name Spyglass -17- Federal #2H		Type of Installation 20-Stage 4-1/2" StackFRAC® HD		Location Lea County, NM			
Depth	Drawing	Description	OD(in)	ID(in)	Length		
Page 2 of 3							
REV_ Stage 13 11726.65 EA1008812 408 bbls 11812.1 EA2002847		Packers Plus 4-1/2" Drillable FracPORT™ with 2.750" Seat for 2.875" High Pressure Ball PN: 121332-000017 (5 shear pins at 314 psi each; 1,570 psi opening pressure) 4-1/2" 11.60# P-110 LTC LINER JOINTS: 2 6' x 4-1/2" 11.6# P-110 LTC Pup Joint Packers Plus 7" x 4-1/2" RockSEAL® II 10K Centralized Hydraulic Set Open Hole Packer PN: 121381-000001 (6 shear pins at 324 psi each; 1,944 psi setting pressure) 3' x 4-1/2" 11.6# P-110 LTC Pup Joint 4-1/2" 11.60# P-110 LTC LINER JOINTS: 3	5 630"	2.750 3.840	2 65	4 500"	4 000 76 71
			4 500"	4 000 6 09		5 750"	3 875 5 25
			4 500"	4 000 3 11		4 500"	4 000 112 06
Stage 12 11932.52 EA1009006 411 bbls 12012.72 EA2002849		Packers Plus 4-1/2" Drillable FracPORT™ with 2.625" Seat for 2.750" High Pressure Ball PN: 121332-000016 (5 shear pins at 314 psi each; 1,570 psi opening pressure) 4-1/2" 11.60# P-110 LTC LINER JOINTS: 2 6' x 4-1/2" 11.6# P-110 LTC Pup Joint Packers Plus 7" x 4-1/2" RockSEAL® II 10K Centralized Hydraulic Set Open Hole Packer PN: 121381-000001 (6 shear pins at 324 psi each; 1,944 psi setting pressure) 3' x 4-1/2" 11.6# P-110 LTC Pup Joint 4-1/2" 11.60# P-110 LTC LINER JOINTS: 3	5 630"	2.625 3.840	2.65	4 500"	4 000 71 46
			4 500"	4 000 6 09		5 750"	3 875 5 25
			4 500"	4 000 3 1		4 500"	4 000 114 22
Stage 11 12135.29 EA1008937 414 bbls 12220.46 EA3005614		Packers Plus 4-1/2" Drillable FracPORT™ with 2.500" Seat for 2.625" High Pressure Ball PN: 121332-000015 (5 shear pins at 314 psi each; 1,570 psi opening pressure) 4-1/2" 11.60# P-110 LTC LINER JOINTS: 2 6' x 4-1/2" 11.6# P-110 LTC Pup Joint Packers Plus 7" x 4-1/2" RockSEAL® II 10K Centralized Hydraulic Set Open Hole Packer PN: 121381-000001 (6 shear pins at 324 psi each; 1,944 psi setting pressure) 3' x 4-1/2" 11.6# P-110 LTC Pup Joint 4-1/2" 11.60# P-110 LTC LINER JOINTS: 3	5 630"	2.500 3.840	2 65	4 500"	4 000 76 42
			4 500"	4 000 6 1		5 750"	3 875 5 25
			4 500"	4 000 3 07		4 500"	4 000 115 01
Stage 10 12343.79 EA1009112 418 bbls 12429.52 EA3005599		Packers Plus 4-1/2" Drillable FracPORT™ with 2.375" Seat for 2.500" High Pressure Ball PN: 121332-000014 (5 shear pins at 314 psi each; 1,570 psi opening pressure) 4-1/2" 11.60# P-110 LTC LINER JOINTS: 2 6' x 4-1/2" 11.6# P-110 LTC Pup Joint Packers Plus 7" x 4-1/2" RockSEAL® II 10K Centralized Hydraulic Set Open Hole Packer PN: 121381-000001 (6 shear pins at 324 psi each; 1,944 psi setting pressure) 3' x 4-1/2" 11.6# P-110 LTC Pup Joint 4-1/2" 11.60# P-110 LTC LINER JOINTS: 3	5 630"	2.375 3.840	2 65	4 500"	4 000 76 99
			4 500"	4 000 6 09		5 750"	3 875 5 25
			4 500"	4 000 3 11		4 500"	4 000 113 95
Stage 9 12551.63 EA1009211 421 bbls 12676.56 EA3005598		Packers Plus 4-1/2" Drillable FracPORT™ with 2.250" Seat for 2.375" High Pressure Ball PN: 121332-000013 (5 shear pins at 314 psi each; 1,570 psi opening pressure) 4-1/2" 11.60# P-110 LTC LINER JOINTS: 3 6' x 4-1/2" 11.6# P-110 LTC Pup Joint Packers Plus 7" x 4-1/2" RockSEAL® II 10K Centralized Hydraulic Set Open Hole Packer PN: 121381-000001 (6 shear pins at 324 psi each; 1,944 psi setting pressure) 3' x 4-1/2" 11.6# P-110 LTC Pup Joint 4-1/2" 11.60# P-110 LTC LINER JOINTS: 3	5 630"	2.250 3.840	2 65	4 500"	4 000 115 98
			4 500"	4 000 6 1		5 750"	3 875 5 25
			4 500"	4 000 3 12		4 500"	4 000 112 19
Stage 8 12797.12 EA1007220 425 bbls 12882.3 EA3005595		Packers Plus 4-1/2" Drillable FracPORT™ with 2.125" Seat for 2.250" High Pressure Ball PN: 121332-000012 (5 shear pins at 314 psi each; 1,570 psi opening pressure) 4-1/2" 11.60# P-110 LTC LINER JOINTS: 2 6' x 4-1/2" 11.6# P-110 LTC Pup Joint Packers Plus 7" x 4-1/2" RockSEAL® II 10K Centralized Hydraulic Set Open Hole Packer PN: 121381-000001 (6 shear pins at 324 psi each; 1,944 psi setting pressure) 3' x 4-1/2" 11.6# P-110 LTC Pup Joint 4-1/2" 11.60# P-110 LTC LINER JOINTS: 3	5 630"	2.125 3.840	2 65	4 500"	4 000 76 44
			4 500"	4 000 6 09		5 750"	3 875 5 25
			4 500"	4 000 3 12		4 500"	4 000 115 38
Stage 7 13006.05 EA1008226 428 bbls 13130.35 EA3005594		Packers Plus 4-1/2" Drillable FracPORT™ with 2.000" Seat for 2.125" High Pressure Ball PN: 121332-000011 (5 shear pins at 314 psi each; 1,570 psi opening pressure) 4-1/2" 11.60# P-110 LTC LINER JOINTS: 3 6' x 4-1/2" 11.6# P-110 LTC Pup Joint Packers Plus 7" x 4-1/2" RockSEAL® II 10K Centralized Hydraulic Set Open Hole Packer PN: 121381-000001 (6 shear pins at 324 psi each; 1,944 psi setting pressure) 3' x 4-1/2" 11.6# P-110 LTC Pup Joint 4-1/2" 11.60# P-110 LTC LINER JOINTS: 3	5 630"	2.000 3.840	2 65	4 500"	4 000 115 56
			4 500"	4 000 6 09		5 750"	3 875 5 25
			4 500"	4 000 3 09		4 500"	4 000 116 79
Stage 6 13255.48 EA1005862 431 bbls 13340.42 EA3005515		Packers Plus 4-1/2" Drillable FracPORT™ with 1.875" Seat for 2.000" High Pressure Ball PN: 121332-000010 (5 shear pins at 314 psi each; 1,570 psi opening pressure) 4-1/2" 11.60# P-110 LTC LINER JOINTS: 2 6' x 4-1/2" 11.6# P-110 LTC Pup Joint Packers Plus 7" x 4-1/2" RockSEAL® II 10K Centralized Hydraulic Set Open Hole Packer PN: 121381-000001 (6 shear pins at 324 psi each; 1,944 psi setting pressure) 3' x 4-1/2" 11.6# P-110 LTC Pup Joint 4-1/2" 11.60# P-110 LTC LINER JOINTS: 2	5 630"	1.875 3.840	2 65	4 500"	4 000 76.71
			4 500"	4 000 5 58		5 750"	3 875 5 25
			4 500"	4 000 3 08		4 500"	4 000 75 57
Stage 5 13424.32 EA1007634 434 bbls 13548.04 EA3005514		Packers Plus 4-1/2" Drillable FracPORT™ with 1.750" Seat for 1.875" High Pressure Ball PN: 121332-000009 (5 shear pins at 314 psi each; 1,570 psi opening pressure) 4-1/2" 11.60# P-110 LTC LINER JOINTS: 3 6' x 4-1/2" 11.6# P-110 LTC Pup Joint Packers Plus 7" x 4-1/2" RockSEAL® II 10K Centralized Hydraulic Set Open Hole Packer PN: 121381-000001 (6 shear pins at 324 psi each; 1,944 psi setting pressure) 3' x 4-1/2" 11.6# P-110 LTC Pup Joint 4-1/2" 11.60# P-110 LTC LINER JOINTS: 4	5 630"	1.750 3.840	2 65	4 500"	4 000 115 45
			4 500"	4 000 5 62		5 750"	3 875 5 25
			4 500"	4 000 3.09		4 500"	4 000 149 52
Service Center Midland, TX			Telephone 432-563-8024			Contact Keith Martin	
						Telephone Chad Williams 405-255-3223	

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Prepared for Mr. Mickey Young		Company Mewbourne Oil Company		Date 13-Sep-11			
Well Name Spyglass -17- Federal #2H		Type of Installation 20-Stage 4-1/2" StackFRAC® HD		Location Lea County, NM			
Depth	Drawing	Description	OD(in)	ID(in)	Length		
Page 2 of 2							
REV_							
Stage 4		Packers Plus 4-1/2" Drillable FracPORT™ with 1.625" Seat for 1.750" High Pressure Ball PN: 121332-000008 (5 shear pins at 314 psi each; 1,570 psi opening pressure)	5 630"	1.625	2 65		
13705.9							
EA1002585							
439 bbls							
13828.24		4-1/2" 11.60# P-110 LTC LINER JOINTS: 3 6' x 4-1/2" 11 6# P-110 LTC Pup Joint	4 500"	4 000	113 59		
EA2002844		Packers Plus 7" x 4-1/2" RockSEAL® II 10K Centralized Hydraulic Set Open Hole Packer PN: 121381-000001 (6 shear pins at 324 psi each; 1,944 psi setting pressure)	4 500"	4 000	6 1		
		3' x 4-1/2" 11 6# P-110 LTC Pup Joint 4-1/2" 11.60# P-110 LTC LINER JOINTS: 3	5 750"	3.875	5 25		
			4 500"	4 000	3 11		
			4 500"	4 000	115 23		
Stage 3		Packers Plus 4-1/2" Drillable FracPORT™ with 1.500" Seat for 1.625" High Pressure Ball PN: 121332-000007 (5 shear pins at 314 psi each; 1,570 psi opening pressure)	5 630"	1.500	2 65		
13951.83							
EA1007679							
442 bbls							
14075.32		4-1/2" 11.60# P-110 LTC LINER JOINTS: 3 6' x 4-1/2" 11 6# P-110 LTC Pup Joint	4 500"	4 000	114 74		
EA2002843		Packers Plus 7" x 4-1/2" RockSEAL® II 10K Centralized Hydraulic Set Open Hole Packer PN: 121381-000001 (6 shear pins at 324 psi each; 1,944 psi setting pressure)	4 500"	4 000	6 1		
		3' x 4-1/2" 11 6# P-110 LTC Pup Joint 4-1/2" 11.60# P-110 LTC LINER JOINTS: 2	5 750"	3.875	5 25		
			4 500"	4 000	3 08		
			4 500"	4 000	74 09		
Stage 2		Packers Plus 4-1/2" Drillable FracPORT™ with 1.375" Seat for 1.500" High Pressure Ball PN: 121332-000006 (5 shear pins at 314 psi each; 1,570 psi opening pressure)	5 630"	1 375	2 65		
14157.74							
EA1005769							
446 bbls							
14281.07		4-1/2" 11.60# P-110 LTC LINER JOINTS: 3 6' x 4-1/2" 11 6# P-110 LTC Pup Joint	4 500"	4 000	114 58		
EA2002870		Packers Plus 7" x 4-1/2" RockSEAL® II 10K Centralized Hydraulic Set Open Hole Packer PN: 121381-000001 (6 shear pins at 324 psi each; 1,944 psi setting pressure)	4 500"	4 000	6 1		
		3' x 4-1/2" 11 6# P-110 LTC Pup Joint 4-1/2" 11.60# P-110 LTC LINER JOINTS: 2	5 750"	3.875	5 25		
			4 500"	4 000	3 09		
			4 500"	4 000	77 59		
Stage 1		6' x 4-1/2" 11 6# P-110 LTC Pup Joint Customer 4-1/2" Pump Off Sub (Pinned above 4000 PSI)			3		
14367							
14370							

Service Center Midland, TX	Telephone 432-563-8024	Contact Keith Martin
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Telephone Chad Williams 405-255-3223
