



Company: Mewbourne Oil Company
Lease/Well: Burton 4 IL Federal Com/ No. 001H



Rig Name: Patterson 45
State/County: New Mexico/Eddy
Latitude: 32.60, Longitude: -104.07
GRID North is 0.14 Degrees East of True North
VS-Azi: 269.72 Degrees

Depth Reference : RKB = 17.5ft

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: final.ut

Minimum Curvature Method

Report Date/Time: 5/24/2013 / 09:19

Vaughn Energy Services

Fort Worth, Texas

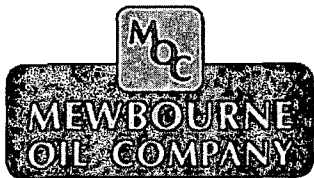
817-741-3610

Survey Engineer: Jay Carroll

Burton 4 IL Federal Com No. 001H / API 30-015-41156

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	0.59	203.71	100.00	-0.47	-0.21	0.21	0.51	203.71	0.59
200.00	0.18	237.79	200.00	-1.02	-0.55	0.55	1.16	208.07	0.45
300.00	0.83	23.57	299.99	-0.44	-0.39	-0.39	0.59	221.32	0.99
400.00	2.29	15.98	399.95	2.15	0.45	-0.46	2.19	11.90	1.47
500.00	2.61	3.70	499.86	6.35	1.15	-1.18	6.45	10.28	0.61
600.00	2.80	4.02	599.75	11.06	1.47	-1.52	11.15	7.57	0.19
700.00	3.02	12.52	699.62	16.07	2.21	-2.29	16.22	7.84	0.48
800.00	3.38	25.15	799.47	21.31	4.04	-4.14	21.69	10.72	0.79
900.00	3.52	36.66	899.29	26.44	7.12	-7.25	27.38	15.07	0.71
1000.00	3.36	48.82	999.11	30.83	11.16	-11.31	32.78	19.89	0.75
1100.00	3.02	50.43	1098.95	34.43	15.39	-15.56	37.72	24.08	0.35
1200.00	2.62	51.98	1198.83	37.52	19.23	-19.41	42.16	27.13	0.40
1300.00	2.40	59.65	1298.74	39.99	22.84	-23.03	46.05	29.73	0.40
1400.00	1.56	69.78	1398.68	41.52	25.93	-26.13	48.95	31.98	0.91
1500.00	1.22	101.94	1498.65	41.77	28.25	-28.45	50.43	34.07	0.84
1600.00	1.35	102.23	1598.62	41.30	30.44	-30.64	51.31	36.39	0.12
1700.00	1.42	111.99	1698.59	40.59	32.74	-32.94	52.15	38.89	0.25
1800.00	1.33	129.25	1798.56	39.39	34.79	-34.98	52.56	41.45	0.42

30015-41156



Mewbourne Oil Company

Eddy County, New Mexico

Burton 4 IL Federal Com

Burton 4 IL Federal Com # 1H

OH

Design: OH

Standard Survey Report

10 June, 2013



Survey Report

Company:	Mebourne Oil Company	Local Co-ordinate Reference:	Well Burton 4 IL Federal Com # 1H
Project:	Eddy County New Mexico	TVD Reference:	RKB = 20' @ 3349.00usft (Patterson #45)
Site:	Burton 4 IL Federal Com	MD Reference:	RKB = 20' @ 3349.00usft (Patterson #45)
Well:	Burton 4 IL Federal Com # 1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Stryker

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

Site		Burton 4 IL Federal Com			
Site Position:		Northing:	582,178.46 usft	Latitude:	32° 36' 0.866 N
From:	Map	Easting:	580,652.10 usft	Longitude:	104° 4' 17.187 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.14 °

Well	Burton 4 IL Federal Com # 1H					
Well Position	+N/-S	0.00 usft	Northing:	582,178.46 usft	Latitude:	32° 36' 0.866 N
	+E/-W	0.00 usft	Easting:	580,652.10 usft	Longitude:	104° 4' 17.187 W
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,329.00 usft	

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/10/2013	7.60	60.40	48,590

Design:		OH			
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	269.72	

Survey Program		Date	6/10/2013	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.00	7,349.00	Survey #1 (OH)	GyroFlex	
7,374.00	12,550.00	Survey #2 (OH)	MWD	MWD - Standard

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.59	203.71	100.00	-0.47	-0.21	0.21	0.59	0.59	0.00
200.00	0.18	237.79	200.00	-1.03	-0.55	0.55	0.45	-0.41	34.08
300.00	0.83	23.57	299.99	-0.45	-0.39	0.39	0.98	0.65	145.78
400.00	2.29	15.98	399.95	2.14	0.45	-0.46	1.47	1.46	-7.59
500.00	2.61	3.70	499.86	6.33	1.15	-1.18	0.61	0.32	-12.28
600.00	2.80	4.02	599.75	11.04	1.46	-1.52	0.19	0.19	0.32
700.00	3.02	12.52	699.62	16.05	2.21	-2.29	0.48	0.22	8.50
800.00	3.38	25.15	799.47	21.29	4.03	-4.13	0.79	0.36	12.63
900.00	3.52	36.66	899.29	26.42	7.12	-7.25	0.71	0.14	11.51



Survey Report

Company:	Mewbourne Oil Company	Local/Co-ordinate Reference:	Well Burton 4 IL Federal Com # 1H
Project:	Eddy County, New Mexico	TVD Reference:	RKB = 20' @ 3349.00usft (Patterson #45)
Site:	Burton 4 IL Federal Com	MD Reference:	RKB = 20' @ 3349.00usft (Patterson #45)
Well:	Burton 4 IL Federal Com # 1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Stryker

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,000.00	3.36	48.82	999.11	30.81	11.16	-11.31	0.75	-0.16	12.16
1,100.00	3.02	50.43	1,098.95	34.42	15.39	-15.56	0.35	-0.34	1.61
1,200.00	2.62	51.98	1,198.83	37.50	19.22	-19.41	0.41	-0.40	1.55
1,300.00	2.40	59.65	1,298.74	39.97	22.83	-23.02	0.40	-0.22	7.67
1,400.00	1.56	69.78	1,398.68	41.50	25.91	-26.12	0.91	-0.84	10.13
1,500.00	1.22	101.94	1,498.65	41.75	28.23	-28.44	0.84	-0.34	32.16
1,600.00	1.35	102.23	1,598.62	41.28	30.43	-30.63	0.13	0.13	0.29
1,700.00	1.42	111.99	1,698.59	40.57	32.73	-32.92	0.25	0.07	9.76
1,800.00	1.33	129.25	1,798.57	39.37	34.77	-34.97	0.42	-0.09	17.26
1,900.00	2.01	151.55	1,898.52	37.09	36.51	-36.69	0.93	0.68	22.30
2,000.00	3.76	161.87	1,998.39	32.43	38.36	-38.52	1.82	1.75	10.32
2,100.00	4.60	169.11	2,098.13	25.38	40.14	-40.27	0.99	0.84	7.24
2,200.00	4.74	179.63	2,197.80	17.31	40.93	-41.01	0.87	0.14	10.52
2,300.00	3.41	181.51	2,297.54	10.20	40.87	-40.92	1.34	-1.33	1.88
2,400.00	2.64	191.72	2,397.40	4.98	40.33	-40.35	0.94	-0.77	10.21
2,500.00	1.96	210.14	2,497.32	1.24	39.00	-39.01	1.00	-0.68	18.42
2,600.00	0.42	246.14	2,597.30	-0.38	37.81	-37.81	1.64	-1.54	36.00
2,700.00	0.61	312.51	2,697.30	-0.17	37.08	-37.08	0.59	0.19	66.37
2,800.00	0.57	350.13	2,797.29	0.68	36.60	-36.61	0.38	-0.04	37.62
2,900.00	1.24	161.04	2,897.28	0.14	36.87	-36.87	1.81	0.67	170.91
3,000.00	1.21	156.30	2,997.26	-1.85	37.64	-37.64	0.11	-0.03	-4.74
3,100.00	1.27	168.30	3,097.24	-3.90	38.29	-38.27	0.27	0.06	12.00
3,200.00	1.32	171.79	3,197.21	-6.12	38.68	-38.65	0.09	0.05	3.49
3,300.00	1.01	161.07	3,297.19	-8.10	39.13	-39.09	0.38	-0.31	-10.72
3,400.00	0.89	154.33	3,397.18	-9.63	39.76	-39.71	0.16	-0.12	-6.74
3,500.00	0.96	155.38	3,497.17	-11.09	40.44	-40.39	0.07	0.07	1.05
3,600.00	0.83	155.44	3,597.15	-12.51	41.09	-41.03	0.13	-0.13	0.06
3,700.00	0.55	155.78	3,697.15	-13.61	41.59	-41.52	0.28	-0.28	0.34
3,800.00	0.43	201.27	3,797.14	-14.40	41.65	-41.58	0.39	-0.12	45.49
3,900.00	0.30	233.21	3,897.14	-14.90	41.30	-41.23	0.24	-0.13	31.94
4,000.00	0.79	250.10	3,997.14	-15.30	40.45	-40.37	0.51	0.49	16.89
4,100.00	0.68	268.15	4,097.13	-15.55	39.20	-39.13	0.25	-0.11	18.05
4,200.00	1.01	255.42	4,197.12	-15.79	37.76	-37.68	0.38	0.33	-12.73
4,300.00	1.17	258.39	4,297.10	-16.22	35.91	-35.83	0.17	0.16	2.97
4,400.00	0.99	262.94	4,397.08	-16.53	34.05	-33.97	0.20	-0.18	4.55
4,500.00	0.74	264.72	4,497.07	-16.69	32.55	-32.47	0.25	-0.25	1.78
4,600.00	1.09	268.14	4,597.06	-16.79	30.95	-30.87	0.35	0.35	3.42
4,700.00	1.42	280.21	4,697.03	-16.60	28.78	-28.70	0.42	0.33	12.07
4,800.00	0.83	272.13	4,797.01	-16.35	26.84	-26.76	0.61	-0.59	-8.08
4,900.00	0.79	272.58	4,897.00	-16.29	25.43	-25.35	0.04	-0.04	0.45
5,000.00	0.57	282.69	4,997.00	-16.15	24.25	-24.18	0.25	-0.22	10.11
5,100.00	0.53	270.82	5,096.99	-16.04	23.31	-23.23	0.12	-0.04	-11.87
5,200.00	0.40	297.33	5,196.99	-15.87	22.53	-22.46	0.25	-0.13	26.51



Survey Report

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Burton 4 IL Federal Com # 1H
Project:	Eddy County, New Mexico	TVD Reference:	RKB = 20' @ 3349.00usft (Patterson #45)
Site:	Burton 4 IL Federal Com:	MD Reference:	RKB = 20' @ 3349.00usft (Patterson #45)
Well:	Burton 4 IL Federal Com # 1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Stryker

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,300.00	0.57	278.65	5,296.99	-15.63	21.73	-21.66	0.23	0.17	-18.68
5,400.00	0.52	282.68	5,396.98	-15.46	20.80	-20.72	0.06	-0.05	4.03
5,500.00	0.85	272.82	5,496.97	-15.32	19.61	-19.54	0.35	0.33	-9.86
5,600.00	1.54	259.44	5,596.95	-15.53	17.55	-17.48	0.74	0.69	-13.38
5,700.00	0.79	262.66	5,696.93	-15.87	15.55	-15.47	0.75	-0.75	3.22
5,800.00	0.72	277.14	5,796.92	-15.88	14.24	-14.16	0.20	-0.07	14.48
5,900.00	0.47	277.81	5,896.92	-15.74	13.21	-13.13	0.25	-0.25	0.67
6,000.00	1.03	303.22	5,996.91	-15.20	12.05	-11.98	0.64	0.56	25.41
6,100.00	0.83	318.97	6,096.89	-14.16	10.83	-10.76	0.32	-0.20	15.75
6,200.00	1.21	312.25	6,196.88	-12.90	9.57	-9.51	0.40	0.38	-6.72
6,300.00	0.98	278.15	6,296.86	-12.07	7.94	-7.88	0.68	-0.23	-34.10
6,400.00	0.30	238.63	6,396.85	-12.08	6.87	-6.81	0.77	-0.68	-39.52
6,500.00	0.53	317.46	6,496.85	-11.88	6.33	-6.28	0.56	0.23	78.83
6,600.00	0.53	317.83	6,596.85	-11.20	5.71	-5.66	0.00	0.00	0.37
6,700.00	0.70	301.65	6,696.84	-10.53	4.88	-4.83	0.24	0.17	-16.18
6,800.00	0.70	294.58	6,796.83	-9.96	3.80	-3.76	0.09	0.00	-7.07
6,900.00	0.51	336.79	6,896.83	-9.29	3.07	-3.03	0.47	-0.19	42.21
7,000.00	0.50	240.53	6,996.83	-9.10	2.52	-2.47	0.75	-0.01	-96.26
7,100.00	0.54	216.97	7,096.82	-9.69	1.86	-1.81	0.22	0.04	-23.56
7,200.00	0.84	198.51	7,196.82	-10.76	1.34	-1.29	0.37	0.30	-18.46
7,300.00	1.16	196.98	7,296.80	-12.43	0.81	-0.75	0.32	0.32	-1.53
7,349.00	1.30	191.42	7,345.79	-13.45	0.56	-0.49	0.38	0.29	-11.35
Gyro Tie In: 7349.00' MD / 7345.79' TVD									
7,374.00	2.70	180.50	7,370.77	-14.31	0.49	-0.42	5.78	5.60	-43.68
First Stryker MWD: 7374.00' MD / 7370.77' TVD									
7,406.00	3.40	184.80	7,402.73	-16.01	0.41	-0.33	2.30	2.19	13.44
7,438.00	5.50	210.70	7,434.63	-18.28	-0.45	0.54	8.93	6.56	80.94
7,469.00	8.80	222.60	7,465.39	-21.30	-2.82	2.92	11.61	10.65	38.39
7,501.00	12.70	226.60	7,496.82	-25.52	-7.03	7.16	12.40	12.19	12.50
7,533.00	16.30	230.90	7,527.80	-30.77	-13.08	13.23	11.73	11.25	13.44
7,565.00	18.60	234.10	7,558.32	-36.60	-20.70	20.87	7.79	7.19	10.00
7,596.00	20.00	238.60	7,587.58	-42.26	-29.23	29.43	6.59	4.52	14.52
7,628.00	21.50	245.80	7,617.51	-47.51	-39.25	39.48	9.24	4.69	22.50
7,660.00	23.20	253.90	7,647.11	-51.67	-50.66	50.91	10.98	5.31	25.31
7,692.00	25.50	259.50	7,676.27	-54.67	-63.49	63.75	10.18	7.19	17.50
7,723.00	29.10	263.90	7,703.81	-56.69	-77.55	77.83	13.31	11.61	14.19
7,755.00	32.70	266.40	7,731.27	-58.06	-93.92	94.20	11.94	11.25	7.81
7,787.00	37.10	268.20	7,757.51	-58.91	-112.20	112.49	14.12	13.75	5.62
7,819.00	40.80	269.00	7,782.39	-59.39	-132.31	132.60	11.67	11.56	2.50
7,851.00	43.60	270.40	7,806.09	-59.50	-153.80	154.09	9.23	8.75	4.37
7,882.00	46.20	271.50	7,828.05	-59.13	-175.68	175.97	8.75	8.39	3.55
7,914.00	49.40	273.10	7,849.54	-58.17	-199.36	199.64	10.66	10.00	5.00
7,946.00	51.60	274.00	7,869.90	-56.64	-224.00	224.28	7.21	6.87	2.81
7,978.00	53.40	273.90	7,889.38	-54.89	-249.33	249.59	5.63	5.62	-0.31



Survey Report

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Burton 4 IL Federal Com # 1H
Project:	Eddy County, New Mexico	TVD Reference:	RKB = 20' @ 3349.00usft (Patterson #45)
Site:	Burton 4 IL Federal Com	MD Reference:	RKB = 20' @ 3349.00usft (Patterson #45)
Well:	Burton 4 IL Federal Com # 1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Stryker

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,009.00	56.40	274.10	7,907.20	-53.12	-274.63	274.88	9.69	9.68	0.65
8,041.00	60.60	274.20	7,923.92	-51.15	-301.83	302.08	13.13	13.12	0.31
8,073.00	64.20	274.30	7,938.74	-49.04	-330.11	330.35	11.25	11.25	0.31
8,104.00	67.60	274.50	7,951.40	-46.87	-358.32	358.54	10.98	10.97	0.65
8,136.00	71.00	274.40	7,962.71	-44.55	-388.16	388.37	10.63	10.62	-0.31
8,168.00	74.20	274.40	7,972.27	-42.21	-418.60	418.80	10.00	10.00	0.00
8,200.00	77.20	274.10	7,980.18	-39.91	-449.52	449.71	9.42	9.37	-0.94
8,232.00	80.50	273.70	7,986.36	-37.78	-480.84	481.02	10.39	10.31	-1.25
8,263.00	84.80	273.40	7,990.33	-35.87	-511.52	511.69	13.90	13.87	-0.97
8,346.00	91.40	275.70	7,993.08	-29.29	-594.16	594.30	8.42	7.95	2.77
8,377.00	91.40	275.00	7,992.32	-26.40	-625.02	625.14	2.26	0.00	-2.26
8,408.00	91.10	274.60	7,991.65	-23.81	-655.90	656.01	1.61	-0.97	-1.29
8,440.00	91.00	274.50	7,991.06	-21.27	-687.79	687.89	0.44	-0.31	-0.31
8,471.00	90.90	274.20	7,990.55	-18.92	-718.70	718.78	1.02	-0.32	-0.97
8,503.00	90.30	272.60	7,990.21	-17.02	-750.64	750.71	5.34	-1.87	-5.00
8,535.00	90.00	272.20	7,990.13	-15.68	-782.61	782.68	1.56	-0.94	-1.25
8,567.00	89.60	271.90	7,990.24	-14.54	-814.59	814.65	1.56	-1.25	-0.94
8,599.00	90.50	272.40	7,990.21	-13.34	-846.57	846.62	3.22	2.81	1.56
8,630.00	90.40	272.50	7,989.97	-12.01	-877.54	877.59	0.46	-0.32	0.32
8,662.00	90.20	272.50	7,989.80	-10.62	-909.51	909.55	0.62	-0.62	0.00
8,693.00	90.40	271.10	7,989.64	-9.64	-940.49	940.53	4.56	0.65	-4.52
8,725.00	90.30	270.70	7,989.44	-9.14	-972.49	972.52	1.29	-0.31	-1.25
8,756.00	89.90	270.40	7,989.39	-8.84	-1,003.49	1,003.52	1.61	-1.29	-0.97
8,788.00	89.60	270.10	7,989.53	-8.70	-1,035.48	1,035.52	1.33	-0.94	-0.94
8,820.00	90.90	269.70	7,989.39	-8.76	-1,067.48	1,067.51	4.25	4.06	-1.25
8,852.00	90.90	269.50	7,988.88	-8.98	-1,099.48	1,099.51	0.62	0.00	-0.62
8,883.00	90.50	269.30	7,988.51	-9.31	-1,130.47	1,130.51	1.44	-1.29	-0.65
8,915.00	90.40	269.40	7,988.25	-9.67	-1,162.47	1,162.51	0.44	-0.31	0.31
8,947.00	90.40	269.00	7,988.03	-10.12	-1,194.47	1,194.50	1.25	0.00	-1.25
8,978.00	91.50	268.90	7,987.52	-10.69	-1,225.46	1,225.50	3.56	3.55	-0.32
9,010.00	91.40	268.90	7,986.71	-11.30	-1,257.44	1,257.48	0.31	-0.31	0.00
9,042.00	91.30	268.80	7,985.95	-11.94	-1,289.43	1,289.47	0.44	-0.31	-0.31
9,074.00	91.10	268.40	7,985.28	-12.72	-1,321.41	1,321.46	1.40	-0.62	-1.25
9,105.00	90.80	268.30	7,984.77	-13.62	-1,352.39	1,352.44	1.02	-0.97	-0.32
9,137.00	90.60	267.90	7,984.38	-14.68	-1,384.37	1,384.43	1.40	-0.62	-1.25
9,200.00	90.90	267.50	7,983.55	-17.21	-1,447.32	1,447.38	0.79	0.48	-0.63
9,264.00	90.90	267.50	7,982.55	-20.00	-1,511.25	1,511.33	0.00	0.00	0.00
9,327.00	90.60	267.20	7,981.72	-22.91	-1,574.17	1,574.27	0.67	-0.48	-0.48
9,391.00	90.80	268.00	7,980.94	-25.59	-1,638.11	1,638.22	1.29	0.31	1.25
9,454.00	90.70	267.90	7,980.12	-27.84	-1,701.07	1,701.18	0.22	-0.16	-0.16
9,517.00	90.70	268.60	7,979.35	-29.77	-1,764.03	1,764.16	1.11	0.00	1.11
9,581.00	90.30	268.20	7,978.79	-31.55	-1,828.01	1,828.14	0.88	-0.62	-0.62
9,645.00	90.90	269.10	7,978.12	-33.06	-1,891.98	1,892.12	1.69	0.94	1.41



Survey Report

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Burton 4 IL-Federal Com # 1H
Project:	Eddy County, New Mexico	TVD Reference:	RKB = 20' @ 3349.00usft (Patterson #45)
Site:	Burton 4 IL-Federal Com	MD Reference:	RKB = 20' @ 3349.00usft (Patterson #45)
Well:	Burton 4 IL-Federal Com # 1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Stryker

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,708.00	91.00	270.80	7,977.07	-33.12	-1,954.97	1,955.11	2.70	0.16	2.70
9,772.00	90.50	271.00	7,976.24	-32.11	-2,018.96	2,019.09	0.84	-0.78	0.31
9,835.00	90.00	270.90	7,975.96	-31.07	-2,081.95	2,082.08	0.81	-0.79	-0.16
9,898.00	91.00	270.70	7,975.41	-30.19	-2,144.94	2,145.06	1.62	1.59	-0.32
9,961.00	90.80	270.70	7,974.42	-29.42	-2,207.93	2,208.04	0.32	-0.32	0.00
10,025.00	90.40	270.40	7,973.75	-28.80	-2,271.92	2,272.03	0.78	-0.62	-0.47
10,088.00	89.90	270.00	7,973.59	-28.58	-2,334.92	2,335.03	1.02	-0.79	-0.63
10,152.00	90.80	270.40	7,973.20	-28.36	-2,398.92	2,399.03	1.54	1.41	0.62
10,215.00	90.60	270.00	7,972.43	-28.14	-2,461.91	2,462.02	0.71	-0.32	-0.63
10,277.00	90.00	269.70	7,972.10	-28.30	-2,523.91	2,524.02	1.08	-0.97	-0.48
10,341.00	90.40	270.60	7,971.88	-28.13	-2,587.91	2,588.02	1.54	0.62	1.41
10,404.00	89.90	270.90	7,971.71	-27.31	-2,650.90	2,651.01	0.93	-0.79	0.48
10,467.00	90.60	271.00	7,971.44	-26.27	-2,713.89	2,713.99	1.12	1.11	0.16
10,531.00	90.50	270.50	7,970.82	-25.43	-2,777.88	2,777.98	0.80	-0.16	-0.78
10,594.00	90.70	270.50	7,970.17	-24.88	-2,840.88	2,840.97	0.32	0.32	0.00
10,657.00	90.50	270.60	7,969.51	-24.27	-2,903.87	2,903.96	0.35	-0.32	0.16
10,720.00	90.40	270.60	7,969.01	-23.61	-2,966.87	2,966.95	0.16	-0.16	0.00
10,784.00	90.20	270.60	7,968.68	-22.94	-3,030.86	3,030.94	0.31	-0.31	0.00
10,847.00	90.30	270.40	7,968.40	-22.39	-3,093.86	3,093.93	0.35	0.16	-0.32
10,911.00	90.90	269.70	7,967.73	-22.34	-3,157.86	3,157.93	1.44	0.94	-1.09
10,974.00	90.50	269.50	7,966.96	-22.78	-3,220.85	3,220.92	0.71	-0.63	-0.32
11,037.00	91.00	270.10	7,966.14	-23.00	-3,283.84	3,283.92	1.24	0.79	0.95
11,101.00	90.90	269.70	7,965.07	-23.11	-3,347.83	3,347.91	0.64	-0.16	-0.62
11,164.00	90.20	268.70	7,964.47	-23.99	-3,410.82	3,410.90	1.94	-1.11	-1.59
11,228.00	90.40	269.10	7,964.14	-25.22	-3,474.81	3,474.89	0.70	0.31	0.62
11,291.00	91.90	269.60	7,962.87	-25.93	-3,537.79	3,537.88	2.51	2.38	0.79
11,354.00	92.00	269.10	7,960.73	-26.65	-3,600.75	3,600.84	0.81	0.16	-0.79
11,418.00	92.20	269.00	7,958.38	-27.71	-3,664.70	3,664.79	0.35	0.31	-0.16
11,481.00	91.90	268.40	7,956.13	-29.14	-3,727.64	3,727.74	1.06	-0.48	-0.95
11,544.00	91.60	268.00	7,954.20	-31.11	-3,790.58	3,790.69	0.79	-0.48	-0.63
11,607.00	91.30	267.00	7,952.61	-33.86	-3,853.50	3,853.62	1.66	-0.48	-1.59
11,670.00	91.10	267.50	7,951.29	-36.88	-3,916.41	3,916.55	0.85	-0.32	0.79
11,734.00	90.70	267.00	7,950.29	-39.95	-3,980.33	3,980.48	1.00	-0.62	-0.78
11,797.00	90.30	266.30	7,949.74	-43.63	-4,043.22	4,043.39	1.28	-0.63	-1.11
11,861.00	90.10	265.70	7,949.51	-48.10	-4,107.07	4,107.25	0.99	-0.31	-0.94
11,924.00	90.10	266.00	7,949.40	-52.66	-4,169.90	4,170.11	0.48	0.00	0.48
11,987.00	90.40	266.90	7,949.13	-56.56	-4,232.78	4,233.00	1.51	0.48	1.43
12,050.00	90.20	266.90	7,948.80	-59.96	-4,295.68	4,295.93	0.32	-0.32	0.00
12,113.00	89.50	266.40	7,948.96	-63.65	-4,358.58	4,358.84	1.37	-1.11	-0.79
12,176.00	89.80	266.40	7,949.35	-67.60	-4,421.45	4,421.73	0.48	0.48	0.00
12,240.00	90.20	266.50	7,949.35	-71.56	-4,485.33	4,485.62	0.64	0.62	0.16
12,303.00	91.00	266.60	7,948.69	-75.36	-4,548.21	4,548.52	1.28	1.27	0.16
12,366.00	91.00	266.10	7,947.59	-79.37	-4,611.07	4,611.40	0.79	0.00	-0.79



Survey Report

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Burton 4 IL Federal Com # 1H
Project:	Eddy County, New Mexico	TVD Reference:	RKB = 20' @ 3349.00usft (Patterson #45)
Site:	Burton 4 IL Federal Com	MD Reference:	RKB = 20' @ 3349.00usft (Patterson #45)
Well:	Burton 4 IL Federal Com # 1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Stryker

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,430.00	90.70	265.50	7,946.64	-84.05	-4,674.89	4,675.25	1.05	-0.47	-0.94
12,493.00	90.40	265.40	7,946.03	-89.05	-4,737.69	4,738.07	0.50	-0.48	-0.16
12,548.24	90.40	265.40	7,945.65	-93.48	-4,792.75	4,793.15	0.00	0.00	0.00
Burton 4 IL Federal Com # 1H: PBHL									
12,550.00	90.40	265.40	7,945.64	-93.62	-4,794.51	4,794.91	0.00	0.00	0.00
Bit Projection: 12550.00' MD / 7945.64' TVD - TD: X= 575857.59 / Y= 582084.84 - TD: Lat= 32° 36' 0.053 N / Long.=104° 5' 13.236 W - Final									

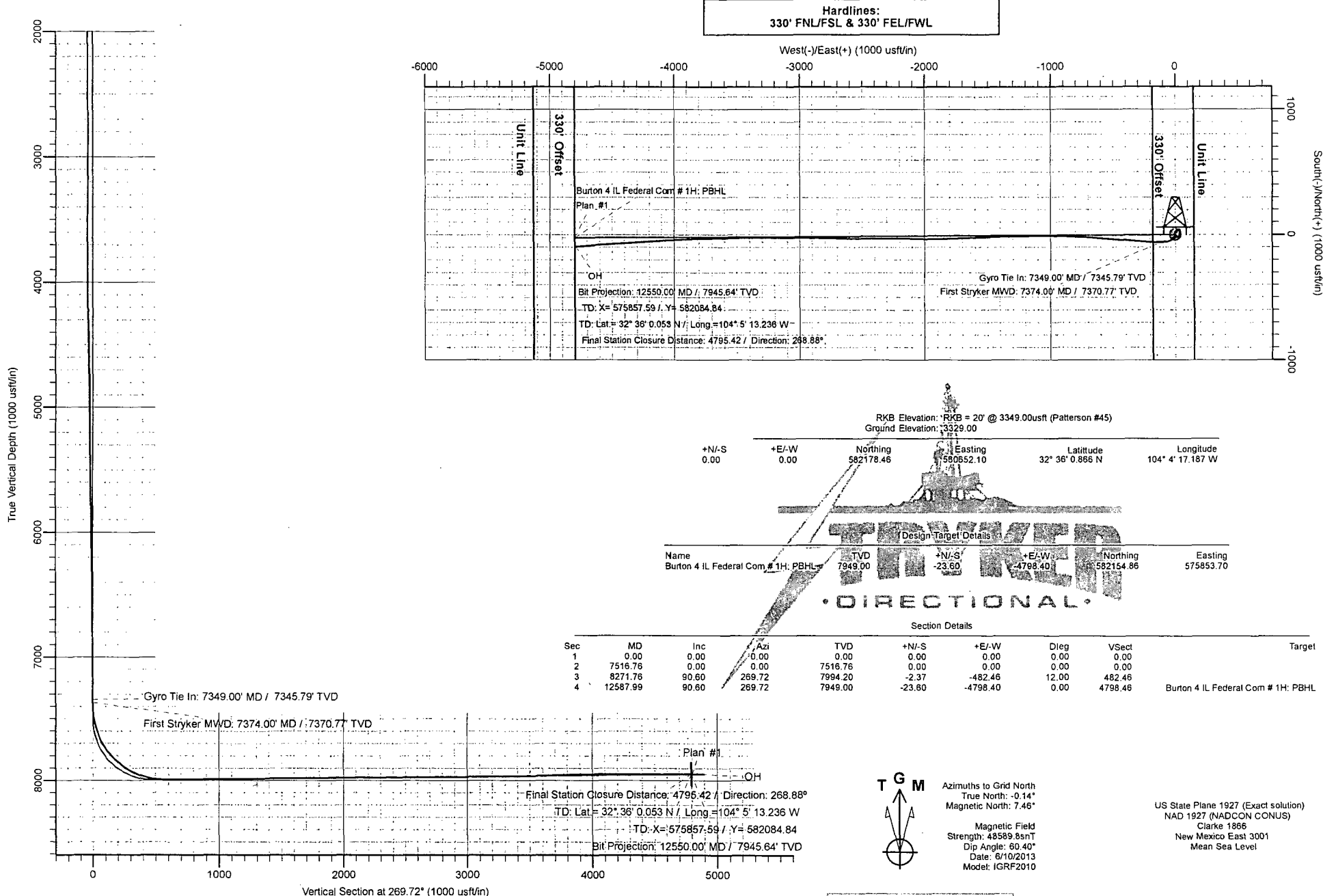
Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Burton 4 IL Federal Com	0.00	0.00	7,945.64	-93.62	-4,794.51	582,084.84	575,857.59	32° 36' 0.053 N	104° 5' 13.236 W
- actual wellpath misses target center by 0.01usft at 12550.00usft MD (7945.64 TVD, -93.62 N, -4794.51 E)									
- Point									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
7,349.00	7,345.79	-13.45	0.56	Gyro Tie In: 7349.00' MD / 7345.79' TVD	
7,374.00	7,370.77	-14.31	0.49	First Stryker MWD: 7374.00' MD / 7370.77' TVD	
12,550.00	7,945.64	-93.62	-4,794.51	Bit Projection: 12550.00' MD / 7945.64' TVD	
12,550.00	7,945.64	-93.62	-4,794.51	TD: X= 575857.59 / Y= 582084.84	
12,550.00	7,945.64	-93.62	-4,794.51	TD: Lat= 32° 36' 0.053 N / Long.=104° 5' 13.236 W	
12,550.00	7,945.64	-93.62	-4,794.51	Final Station Closure Distance: 4795.42 / Direction: 268.88°	

Checked By: _____ Approved By: _____ Date: _____



Mewbourne Oil Company
Eddy County, New Mexico
Burton 4 IL Federal Com
Burton 4 IL Federal Com # 1H
Plan #1
Patterson #45



Note: All bore lines and hard lines are estimates only and are subject to customers approval.

Created By: Matthew May Date: 13:06, June 10 2013

Operating Company Mewbourne
 Well Name & Number Burton 4II Fed Com 1H
 Sales Ticket Number 0005537412-1

Company Rep Kyle Russell
 Field
 BOT Service Rep Charles Mosley



Date 5/29/2013

District Location Odessa, Texas, USA

	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse
Casing	7.000	26.00	P-110	6.276	6.151	LT&C	0.03826	8,323.00	9,960	6,230
Top Liner	4.500	13.50	338000	3.920	3.795	LT&C	0.01492	4,394.64	4,525	10,680
Bott Liner										

TVD	7,992.70	KOP	7,417.00	Open Hole	6.125	Casing Vol. (bbl)	310.1
-----	----------	-----	----------	-----------	-------	-------------------	-------

Carry Fluid Weight (ppg)	8.5	Propan Content (ppa)		Max Drill Out Size	0
--------------------------	-----	----------------------	--	--------------------	---

	Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press	Max Rate (BPM)	Displ (BBL)
Liner Top	1	JR Setting Sleeve RH Profile	8105.36							

Zone Length		JR Sleeve S3 Hyd Set Packer	8105.36	4.64	5.813	3.875				
		4-1/2-13.5 LTC Nipple	8110.00	5.77	5.000	3.920				
		8 Joints of 4-1/2-13.5 LTC Casing	8115.77	305.63	5.000	3.920				
	20	3.625 EX Frac Sleeve	8421.40	2.40	5.750		3.525	2286	308	310
		3 Joint of 4-1/2-13.5 LTC Casing	8423.80	73.93	5.000	3.920				
		Baker Open Hole Packer	8497.73	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	8501.62	113.55	5.000	3.920				
	19	3.500 EX Frac Sleeve	8615.17	2.40	5.750		3.400	2286	287	310
		2 Joint of 4-1/2-13.5 LTC Casing	8617.57	75.78	5.000	3.920				
		Baker Open Hole Packer	8693.35	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	8697.24	113.72	5.000	3.920				
	18	3.375 EX Frac Sleeve	8810.96	2.40	5.750		3.275	2286	266	310
		3 Joint of 4-1/2-13.5 LTC Casing	8813.36	114.61	5.000	3.920				
		Baker Open Hole Packer	8927.97	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	8931.86	115.56	5.000	3.920				
	17	3.250 EX Frac Sleeve	9047.42	2.40	5.750		3.150	2286	246	310
		2 Joint of 4-1/2-13.5 LTC Casing	9049.82	76.50	5.000	3.920				
		Baker Open Hole Packer	9126.32	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	9130.21	76.47	5.000	3.920				
	16	3.125 EX Frac Sleeve	9206.68	2.40	5.750		3.025	2286	227	310
		3 Joints of 4-1/2-13.5 LTC Casing	9209.08	113.89	5.000	3.920				
		Baker Open Hole Packer	9322.97	3.89	5.820	3.875		2154		

Operating Company Mewbourne
 Well Name & Number Burton 4II Fed Com 1H
 Sales Ticket Number 0005537412-1
 Date 5/29/2013

Company Rep Kyle Russell
 Field
 BOT Service Rep Charles Mosley
 District Location Odessa, Texas, USA



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse	
Casing	7.000	26.00	2P-110	6.276	6.151	LT&C	0.03826	8,323.00	9,960	6,230	
Top Liner	4.500	13.50	338000	3.920	3.795	LT&C	0.01492	4,394.64	4,525	10,680	
Bott Liner											
TVD	7,992.70		KOP		7,417.00		Open Hole	6.125	Casing Vol. (bbl)	310.1	
Carry Fluid Weight (ppg)			8.5		Propant Content (ppa)				Max Drill Out Size		0

	Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press	Max Rate (BPM)	Displ (BBL)
		3 Joints of 4-1/2-13.5 LTC Casing	9326.86	114.52	5.000	3.920				
	15	3.000 EX Frac sleeve	9441.38	2.40	5.750		2.900	2286	209	310
		3 Joint of 4-1/2-13.5 LTC Casing	9443.78	115.60	5.000	3.920				
		Baker Open Hole Packer	9559.68	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	9563.27	114.26	5.000	3.920				
	14	2.875 EX Frac Sleeve	9677.53	2.40	5.750		2.775	2286	191	310
		2 Joints of 4-1/2-13.5 LTC Casing	9679.93	76.61	5.000	3.920				
		Baker Open Hole Packer	9756.64	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	9760.43	115.25	5.000	3.920				
	13	2.750 EX Frac Sleeve	9875.68	2.40	5.750		2.650	2286	174	310
		3 Joint of 4-1/2-13.5 LTC Casing	9878.08	114.02	5.000	3.920				
		Baker Open Hole Packer	9992.10	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	9995.99	75.36	5.000	3.920				
	12	2.625 EX Frac Sleeve	10071.35	2.40	5.750		2.525	2286	158	310
		3 Joints of 4-1/2-13.5 LTC Casing	10073.75	115.26	5.000	3.920				
		Baker Open Hole Packer	10189.01	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	10192.90	113.55	5.000	3.920				
	11	2.500 EX Frac Sleeve	10306.45	2.40	5.750		2.400	2286	143	310
		2 Joint of 4-1/2-13.5 LTC Casing	10308.85	75.72	5.000	3.920				
		Baker Open Hole Packer	10384.57	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	10388.46	113.30	5.000	3.920				
	10	2.375 EX Frac Sleeve	10501.76	2.40	5.750		2.275	2286	128	310
		3 Joints of 4-1/2-13.5 LTC Casing	10504.16	114.41	5.000	3.920				
		Baker Open Hole Packer	10618.57	3.89	5.820	3.875		2154		
		3 Joint of 4-1/2-13.5 LTC Casing	10622.46	112.93	5.000	3.920				
	9	2.250 EX Frac Sleeve	10735.39	2.40	5.750		2.150	2286	115	310

Operating Company Mewbourne
 Well Name & Number Burton 4II Fed Com 1H
 Sales Ticket Number 0005537412-1
 Date 5/29/2013

Company Rep Kyle Russell
 Field
 BOT Service Rep Charles Mosley
 District Location Odessa, Texas, USA



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse
Casing	7.000	26.00	P-110	6.276	6.151	LT&C	0.03826	8,323.00	9,960	6,230
Top Liner	4.500	13.50	338000	3.920	3.795	LT&C	0.01492	4,394.64	4,525	10,680
Bott Liner										
TVD	7,992.70		KOP		7,417.00		Open Hole	6.125	Casing Vol. (bbl)	310.1
Carry Fluid Weight (ppg)	8.5		Propant Content (ppa)				Max Drill Out Size		0	

	Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press.	Max Rate (BPM)	Displ (BBL)
		3 Joints of 4-1/2-13.5 LTC Casing	10737.79	113.14	5.000	3.920				
		Baker Open Hole Packer	10850.93	3.89	5.820	3.875		2154		
		3 Joint of 4-1/2-13.5 LTC Casing	10854.82	112.33	5.000	3.920				
8		2.125 EX Frac Sleeve	10967.15	2.40	5.750		2.025	2286	102	310
		2 Joints of 4-1/2-13.5 LTC Casing	10969.55	75.91	5.000	3.920				
		Baker Open Hole Packer	11045.48	3.89	5.820	3.875		2154		
		2 Joint of 4-1/2-13.5 LTC Casing	11049.35	111.94	5.000	3.920				
7		2.000 EX Frac Sleeve	11161.29	2.40	5.750		1.900	2286	90	310
		3 Joints of 4-1/2-13.5 LTC Casing	11163.69	76.61	5.000	3.920				
		Baker Open Hole Packer	11240.30	3.89	5.820	3.875		2154		
		3 Joint of 4-1/2-13.5 LTC Casing	11244.19	113.59	5.000	3.920				
6		1.875 EX Frac Sleeve	11357.78	2.40	5.750		1.775	2286	78	310
		2 Joints of 4-1/2-13.5 LTC Casing	11360.18	74.83	5.000	3.920				
		Baker Open Hole Packer	11435.01	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	11438.90	112.30	5.000	3.920				
5		1.750 EX Frac Sleeve	11551.20	2.40	5.750		1.650	2286	68	310
		3 Joint of 4-1/2-13.5 LTC Casing	11553.60	114.09	5.000	3.920				
		Baker Open Hole Packer	11667.69	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	11671.58	114.47	5.000	3.920				
4		1.625 EX Frac Sleeve	11786.05	2.40	5.750		1.525	2286	58	310
		3 Joints of 4-1/2-13.5 LTC Casing	11788.45	115.30	5.000	3.920				
		Baker Open Hole Packer	11903.75	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	11907.64	113.56	5.000	3.920				
3		1.500 DBL Ball Frac Sleeve	12021.20	2.40	5.750		1.400	2286	49	310
		3 Joint of 4-1/2-13.5 LTC Casing	12023.60	114.60	5.000	3.920				
		Baker Open Hole Packer	12138.20	3.89	5.820	3.875		2154		

Company Rep	Kyle Russell
Field	
BOT Service Rep	charles Mosley
District Location	Odessa, Texas, USA



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse	
Casing	7.000	26.00	P-110	6.276	6.151	LT&C	0.03826	8,323.00	9,960	6,230	
Top Liner	4.500	13.50	338000	3.920	3.795	LT&C	0.01492	4,394.64	4,525	10,680	
Bott Liner											
TVD		7,992.70		KOP		7,417.00		Open Hole	6.125	Casing Vol. (bbl)	310.1
Carry Fluid Weight (ppg)			8.5		Propan Content (ppa)				Max Drill Out Size		0

[illegible]