

Results of Directional Survey

API number:	30-025-40588		
OGRID:		Operator:	MEWBORNE OIL CO
		Property:	NORTE 13 HE FEDERAL # 1H

surface	ULSTR:	H	13	T 19S	R 32E
				1780 FNL	330 FEL

BH Loc	ULSTR:	E	13	T 19S	R 32E
14120	MD	9610.0	TVD	1794 FNL	341 FWL
					4939 FEL

Top Perf/OH	ULSTR:	H	13	T 19S	R 32E
10077	MD	9689.3	TVD	1780 FNL	496 FEL

Bot Perf/OH	ULSTR:	E	13	T 19S	R 32E
14090	MD	9610.3	TVD	1793 FNL	371 FWL
					4909 FEL

	MD	N/S	E/W	VD
	10067	1.36	27.00	9689.54
TOP PERFS/OH	10077	0.46	-165.67	9689.29
	10099	-1.51	-589.54	9688.73
	14063	-13.17	-4552.07	9610.52
BOT PERFS/OH	14090	-13.41	-4579.07	9610.28
	14120	-13.67	-4609.07	9610.02

NEXT TO LAST	14063	-13.17	-4552.07	9610.52
LAST READING	14120	-13.67	-4609.07	9610.02
TD	14120	-13.67	-4609.07	9610.02

Surface Location	1780	FN	330	FE
Projected BHL	1794	FN	4939	FE
Location of				
Top Perfs/OH	1780	FN	496	FE
Bottom Perfs/OH	1793	FN	4909	FE

SUMMARY of Subsurface Locations

Surface Location	H-13-19S-32E	1780	FN	330	FE	Vert. Depth
Top Perfs/OH	H-13-19S-32E	1780	FN	496	FE	9689.29
Bottom Perfs/OH	E-13-19S-32E	1793	FN	4909	FE	9610.28
Projected TD	E-13-19S-32E	1794	FN	4939	FE	9610.02

NOV 05 2012

OPERATOR
WELL/LEASE
COUNTY

MEWBOURNE OIL COMPANY
NORTE 13 HE FED #1H
LEA

047-0095

STATE OF NEW MEXICO
DEVIATION REPORT

267	0.25
563	0.41
872	0.49
1,378	0.28
1,661	0.66
1,978	0.63
2,293	0.79
2,642	0.70
2,895	1.25
3,210	1.58
3,559	1.97
3,904	1.80
4,218	1.12
4,322	1.28
4,640	1.26
4,956	0.79
5,401	1.22
5,717	0.83
6,129	0.22
6,541	2.20
6,668	2.09
6,793	1.97
6,951	2.02
7,109	1.53
7,301	1.53
7,585	1.73
7,839	1.61
8,092	1.88
8,219	1.38
8,536	1.01

HOBBS OCD

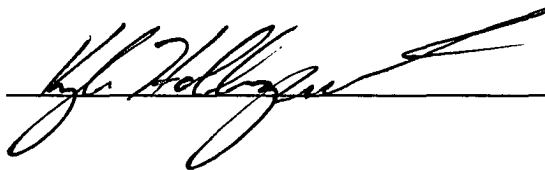
OCT 02 2012

RECEIVED

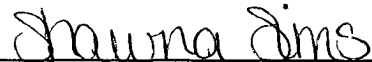
SUR: H-13-19s-32e, 1780/N & 330/E
BHL: E-13-19s-32e, 1794/N & 4939/E
API # 30-025-40588

STATE OF TEXAS

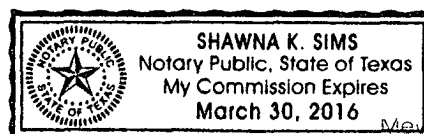
COUNTY OF MIDLAND

BY: 

The foregoing instrument was acknowledged before me on 8/10/12, by
Kyle Hollingsworth on behalf of Patterson-UTI Drilling Company LLC.



Notary Public for Midland County, Texas
My Commission Expires:



Received

AUG 16 2012

Mewbourne Oil Company
Hobbs

VES

VAUGHN ENERGY SERVICES

Company: MEWBOURNE OIL CO.

Well: NORTE 13 HE FED 1H

HOBBS OCD

Rig Name: PATTERSON 47

State/County: NEW MEXICO/LEE

SEP 21 2012

Latitude: 32.66

GRID North is 0.34 Degrees East of True North

VS-Azi: 269.81 Degrees

RECEIVED

GTI

GYRO TECHNOLOGIES, INC.

Service Company : VAUGHN ENERGY SERVICES

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: NORTE13HEFED1H.ut

Minimum Curvature Method

Report Date/Time: 7/22/2012 / 18:56

Vaughn Energy Services

Corpus Christi, Tx

800-606-4976

Surveyor:

SHANE NELSON

SUR: H-13-19s-32e, 1780/N & 330/E
 BHL: E-13-19s-32e, 1794/N & 4939/E
 API # 30-025-40588

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	0.30	354.59	100.00	0.26	-0.02	0.02	0.26	354.59	0.30
200.00	0.36	31.26	200.00	0.79	0.11	-0.12	0.80	8.12	0.21
300.00	0.24	358.02	300.00	1.27	0.27	-0.27	1.30	11.92	0.20
400.00	0.27	22.80	400.00	1.70	0.35	-0.36	1.74	11.73	0.11
500.00	0.23	2.54	499.99	2.12	0.45	-0.46	2.17	12.09	0.10
600.00	0.32	343.12	599.99	2.59	0.38	-0.39	2.61	8.41	0.13
700.00	0.28	344.14	699.99	3.09	0.23	-0.25	3.10	4.35	0.04
800.00	0.23	314.35	799.99	3.46	0.03	-0.04	3.46	0.44	0.14
900.00	0.10	288.81	899.99	3.63	-0.20	0.19	3.63	356.84	0.14
1000.00	0.16	254.28	999.99	3.62	-0.42	0.41	3.64	353.35	0.10
1100.00	0.20	202.98	1099.99	3.42	-0.63	0.61	3.48	349.64	0.16
1200.00	0.28	181.78	1199.99	3.02	-0.70	0.69	3.10	346.94	0.12
1300.00	0.33	168.16	1299.99	2.50	-0.65	0.64	2.58	345.43	0.09
1400.00	0.44	160.65	1399.99	1.85	-0.46	0.46	1.91	345.98	0.12
1500.00	0.60	153.60	1499.98	1.02	-0.10	0.10	1.02	354.32	0.18
1600.00	0.56	165.12	1599.98	0.08	0.26	-0.26	0.27	73.20	0.13
1700.00	0.61	142.88	1699.97	-0.82	0.70	-0.70	1.08	139.24	0.23
1800.00	0.47	141.80	1799.97	-1.56	1.27	-1.27	2.01	140.72	0.14
1900.00	0.52	137.56	1899.96	-2.21	1.83	-1.83	2.87	140.37	0.06
2000.00	0.52	131.58	1999.96	-2.85	2.48	-2.47	3.78	138.98	0.05
2100.00	0.53	125.67	2099.95	-3.42	3.19	-3.18	4.68	136.96	0.06
2200.00	0.68	98.55	2199.95	-3.78	4.16	-4.14	5.62	132.28	0.32
2300.00	0.91	96.42	2299.94	-3.96	5.53	-5.51	6.80	125.59	0.23
2400.00	1.32	85.76	2399.92	-3.96	7.46	-7.44	8.44	117.96	0.46
2500.00	1.71	72.95	2499.89	-3.44	10.03	-10.02	10.60	108.92	0.52
2600.00	2.28	79.44	2599.83	-2.64	13.41	-13.40	13.67	101.12	0.61
2700.00	2.65	83.22	2699.73	-2.00	17.66	-17.66	17.78	96.45	0.41
2800.00	2.64	79.75	2799.63	-1.31	22.23	-22.22	22.27	93.38	0.16
2900.00	2.02	87.16	2899.54	-0.82	26.26	-26.26	26.27	91.78	0.69

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
3000.00	1.74	101.19	2999.49	-1.02	29.51	-29.51	29.53	91.99	0.54
3100.00	1.71	101.06	3099.44	-1.60	32.47	-32.46	32.51	92.83	0.03
3200.00	1.46	118.36	3199.41	-2.49	35.05	-35.04	35.14	94.07	0.54
3300.00	1.55	123.39	3299.37	-3.84	37.29	-37.28	37.49	95.88	0.16
3400.00	1.77	129.69	3399.33	-5.57	39.61	-39.59	40.00	98.00	0.28
3500.00	1.89	125.45	3499.28	-7.51	42.14	-42.11	42.80	100.10	0.18
3600.00	1.94	126.79	3599.22	-9.48	44.84	-44.80	45.83	101.94	0.07
3700.00	1.99	126.22	3699.16	-11.52	47.59	-47.56	48.97	103.61	0.05
3800.00	1.96	115.68	3799.11	-13.29	50.53	-50.49	52.25	104.73	0.36
3900.00	2.03	117.76	3899.05	-14.85	53.64	-53.59	55.65	105.47	0.10
4000.00	1.87	118.23	3998.99	-16.45	56.64	-56.59	58.98	106.19	0.16
4100.00	1.59	119.10	4098.94	-17.89	59.29	-59.23	61.94	106.79	0.29
4200.00	1.71	117.92	4198.90	-19.27	61.83	-61.76	64.76	107.31	0.13
4300.00	1.75	116.71	4298.85	-20.65	64.51	-64.44	67.73	107.75	0.05
4400.00	1.71	99.85	4398.81	-21.59	67.34	-67.26	70.71	107.78	0.51
4500.00	1.48	91.42	4498.77	-21.88	70.10	-70.02	73.43	107.33	0.32
4600.00	1.35	85.05	4598.74	-21.81	72.56	-72.49	75.77	106.73	0.21
4700.00	0.96	85.92	4698.72	-21.65	74.57	-74.50	77.65	106.19	0.38
4800.00	0.95	79.53	4798.71	-21.44	76.22	-76.15	79.18	105.71	0.11
4900.00	0.88	75.59	4898.69	-21.10	77.78	-77.71	80.59	105.17	0.09
5000.00	0.80	72.39	4998.68	-20.69	79.20	-79.13	81.86	104.64	0.09
5100.00	0.90	49.08	5098.67	-19.97	80.46	-80.39	82.90	103.94	0.36
5200.00	1.04	35.41	5198.66	-18.72	81.58	-81.51	83.69	102.92	0.27
5300.00	1.29	23.87	5298.64	-16.95	82.56	-82.50	84.28	101.60	0.35
5400.00	1.39	21.12	5398.61	-14.79	83.45	-83.40	84.75	100.05	0.12
5500.00	1.48	16.85	5498.58	-12.42	84.26	-84.22	85.17	98.38	0.14
5600.00	1.39	27.03	5598.55	-10.10	85.19	-85.15	85.78	96.76	0.27
5700.00	1.36	24.33	5698.52	-7.95	86.22	-86.20	86.59	95.27	0.07
5800.00	1.33	19.48	5798.49	-5.77	87.10	-87.08	87.29	93.79	0.12
5900.00	0.93	27.03	5898.47	-3.96	87.85	-87.84	87.94	92.58	0.43
6000.00	0.50	19.03	5998.46	-2.83	88.36	-88.35	88.40	91.83	0.44
6100.00	0.42	351.36	6098.46	-2.06	88.45	-88.44	88.47	91.33	0.23
6200.00	0.50	325.71	6198.46	-1.34	88.15	-88.14	88.16	90.87	0.22
6300.00	1.01	321.12	6298.45	-0.29	87.35	-87.34	87.35	90.19	0.51
6400.00	1.95	322.75	6398.41	1.75	85.76	-85.77	85.78	88.83	0.94
6500.00	2.13	314.60	6498.35	4.41	83.41	-83.42	83.52	86.97	0.34
6600.00	2.22	312.80	6598.28	7.04	80.66	-80.68	80.96	85.01	0.11
6700.00	2.13	318.09	6698.21	9.74	77.99	-78.02	78.60	82.88	0.22
6800.00	2.17	303.00	6798.14	12.16	75.16	-75.20	76.14	80.81	0.57
6900.00	1.95	307.00	6898.07	14.22	72.21	-72.26	73.60	78.86	0.27
7000.00	1.77	318.32	6998.02	16.39	69.83	-69.88	71.73	76.79	0.41
7100.00	1.59	319.33	7097.98	18.60	67.90	-67.96	70.40	74.68	0.19
7200.00	1.59	323.70	7197.94	20.76	66.18	-66.24	69.36	72.58	0.12
7300.00	1.56	324.14	7297.90	22.98	64.56	-64.63	68.53	70.40	0.03
7400.00	1.71	324.90	7397.86	25.31	62.90	-62.99	67.80	68.09	0.14
7500.00	1.81	324.20	7497.81	27.80	61.13	-61.22	67.15	65.54	0.10
7600.00	1.63	325.88	7597.77	30.26	59.41	-59.51	66.67	63.01	0.18
7700.00	1.62	320.04	7697.73	32.52	57.70	-57.81	66.23	60.60	0.17
7800.00	1.42	312.72	7797.69	34.43	55.89	-56.00	65.65	58.36	0.28
7900.00	1.54	324.33	7897.66	36.37	54.20	-54.32	65.27	56.14	0.32
8000.00	2.05	336.46	7997.61	39.10	52.70	-52.83	65.62	53.43	0.63
8100.00	1.82	349.14	8097.55	42.29	51.69	-51.83	66.78	50.71	0.49
8200.00	1.54	322.73	8197.51	44.92	50.57	-50.72	67.64	48.39	0.81
8300.00	0.89	296.04	8297.49	46.33	49.06	-49.21	67.48	46.64	0.85

<i>Measured Depth FT</i>	<i>Incl Angle Deg</i>	<i>Drift Direction Deg</i>	<i>TVD FT</i>	<i>+N/-S FT</i>	<i>+E/-W FT</i>	<i>Vertical Section FT</i>	<i>Closure Distance FT</i>	<i>Closure Direction Deg</i>	<i>Dogleg Severity Deg/100</i>
8400.00	1.01	295.21	8397.48	47.05	47.57	-47.73	66.90	45.32	0.13
8500.00	1.07	291.42	8497.46	47.77	45.90	-46.06	66.24	43.86	0.09
8600.00	0.79	311.43	8597.45	48.56	44.51	-44.67	65.87	42.51	0.43
8700.00	0.52	318.66	8697.44	49.36	43.69	-43.85	65.92	41.51	0.28
8800.00	0.50	273.58	8797.44	49.73	42.95	-43.12	65.71	40.81	0.39
8900.00	0.92	271.13	8897.43	49.78	41.71	-41.88	64.95	39.96	0.41
8970.00	0.91	263.41	8967.42	49.72	40.60	-40.77	64.20	39.23	0.18

HORIZONTAL DISPLACEMENT IS
64.20 FEET AT 39.23 DEGREES



Job Number: S12-102
 Company: Mewbourne Oil Company
 Lease/Well: Norte "13" HE Federal # 1 H
 Location: Lea County
 Rig Name: Patterson # 47
 RKB: N/A
 G.L. or M.S.L.: N/A

State/Country: New Mexico / USA
 Declination: 7.23° Corrected to Grid
 Grid: 7.23°
 File name: C:\WINSERVE\DOCS\S12-102.SVY
 Date/Time: 15-Aug-12 / 15:51
 Curve Name: SES MWD SURVEY RAN ON 7-21-12

Stryker Energy Directional Services, LLC

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 269.81
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

SUR: H-13-19s-32e, 1780/N & 330/E
 BHL: E-13-19s-32e, 1794/N & 4939/E
 API # 30-025-40588

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
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Tie-In Data Provided by VES Gyro Survey

8970.00	.91	263.41	8967.42	49.72	40.60	-40.76	64.19	39.23	.00
9212.00	3.30	270.70	9209.24	49.58	31.72	-31.89	58.87	32.61	.99
9243.00	7.30	272.60	9240.10	49.68	28.86	-29.03	57.46	30.15	12.91
9275.00	11.10	274.40	9271.68	50.01	23.76	-23.93	55.37	25.41	11.91
9307.00	14.00	273.90	9302.92	50.51	16.83	-16.99	53.24	18.42	9.07
9338.00	17.50	271.80	9332.75	50.91	8.42	-8.59	51.61	9.39	11.44
9370.00	20.90	269.80	9362.96	51.05	-2.10	1.93	51.09	357.65	10.82
9402.00	23.50	267.70	9392.59	50.77	-14.18	14.01	52.71	344.39	8.49
9434.00	27.30	268.10	9421.49	50.27	-27.90	27.73	57.49	330.97	11.89
9465.00	31.00	268.30	9448.56	49.80	-42.99	42.82	65.78	319.20	11.94
9494.00	34.50	268.60	9472.95	49.38	-58.67	58.50	76.68	310.09	12.08
9526.00	38.80	268.30	9498.61	48.86	-77.76	77.59	91.83	302.14	13.45
9558.00	41.80	267.40	9523.02	48.07	-98.44	98.28	109.55	296.03	9.55
9589.00	45.10	264.90	9545.52	46.63	-119.70	119.54	128.46	291.28	12.00
9621.00	49.70	264.00	9567.17	44.35	-143.14	142.99	149.85	287.21	14.52
9653.00	53.60	262.10	9587.03	41.30	-168.04	167.90	173.04	283.81	13.05
9684.00	57.60	262.60	9604.54	37.90	-193.39	193.26	197.06	281.09	12.97
9716.00	61.90	262.80	9620.65	34.39	-220.80	220.68	223.46	278.85	13.45
9748.00	64.00	262.80	9635.21	30.81	-249.07	248.97	250.97	277.05	6.56
9779.00	66.30	262.80	9648.23	27.29	-276.98	276.89	278.32	275.63	7.42
9811.00	70.70	263.20	9659.96	23.66	-306.52	306.44	307.43	274.41	13.80
9842.00	73.50	264.20	9669.48	20.43	-335.84	335.77	336.46	273.48	9.54
9874.00	75.60	265.10	9678.01	17.55	-366.55	366.49	366.97	272.74	7.10
9905.00	79.40	265.80	9684.72	15.16	-396.71	396.66	397.00	272.19	12.45

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
Distance FT	Direction Deg								
9937.00	84.50	266.00	9689.20	12.89	-428.30	428.26	428.50	271.72	15.95
10003.00	91.70	265.00	9691.38	7.72	-494.02	493.99	494.08	270.90	11.01
10035.00	91.60	263.90	9690.46	4.62	-525.86	525.84	525.88	270.50	3.45
10067.00	91.70	264.40	9689.54	1.36	-557.68	557.67	557.68	270.14	1.59
10099.00	91.20	265.30	9688.73	-1.51	-589.54	589.54	589.54	269.85	3.22
10131.00	91.00	265.60	9688.12	-4.05	-621.43	621.44	621.44	269.63	1.13
10162.00	91.20	267.00	9687.52	-6.05	-652.36	652.38	652.39	269.47	4.56
10194.00	91.20	267.00	9686.85	-7.72	-684.31	684.33	684.35	269.35	.00
10226.00	91.10	268.60	9686.21	-8.95	-716.28	716.30	716.33	269.28	5.01
10257.00	91.30	268.60	9685.56	-9.71	-747.26	747.29	747.32	269.26	.65
10289.00	91.40	268.30	9684.81	-10.57	-779.24	779.27	779.31	269.22	.99
10321.00	90.70	269.00	9684.22	-11.32	-811.23	811.26	811.31	269.20	3.09
10353.00	90.50	269.10	9683.89	-11.86	-843.22	843.25	843.30	269.19	.70
10385.00	90.50	269.10	9683.61	-12.36	-875.21	875.25	875.30	269.19	.00
10448.00	90.60	269.70	9683.00	-13.02	-938.21	938.25	938.30	269.21	.97
10512.00	90.90	270.20	9682.16	-13.07	-1002.20	1002.24	1002.29	269.25	.91
10576.00	91.10	269.50	9681.05	-13.24	-1066.19	1066.23	1066.27	269.29	1.14
10639.00	90.40	268.60	9680.22	-14.29	-1129.18	1129.22	1129.27	269.28	1.81
10703.00	90.80	268.60	9679.55	-15.85	-1193.15	1193.20	1193.26	269.24	.63
10767.00	91.50	269.70	9678.27	-16.80	-1257.13	1257.18	1257.24	269.23	2.04
10830.00	90.60	269.10	9677.11	-17.46	-1320.12	1320.17	1320.23	269.24	1.72
10893.00	90.80	269.80	9676.34	-18.06	-1383.11	1383.16	1383.23	269.25	1.16
10956.00	91.40	270.90	9675.13	-17.68	-1446.10	1446.15	1446.20	269.30	1.99
11020.00	90.80	270.70	9673.90	-16.78	-1510.08	1510.12	1510.17	269.36	.99
11084.00	91.80	270.70	9672.45	-16.00	-1574.06	1574.10	1574.14	269.42	1.56
11147.00	91.40	270.20	9670.69	-15.51	-1637.03	1637.07	1637.10	269.46	1.02
11210.00	91.80	270.20	9668.93	-15.29	-1700.00	1700.04	1700.07	269.48	.63
11274.00	91.70	270.20	9666.98	-15.06	-1763.97	1764.01	1764.04	269.51	.16
11338.00	91.50	270.20	9665.19	-14.84	-1827.95	1827.99	1828.01	269.53	.31
11401.00	91.10	269.50	9663.76	-15.01	-1890.93	1890.97	1890.99	269.55	1.28
11465.00	90.70	269.70	9662.76	-15.45	-1954.92	1954.96	1954.98	269.55	.70
11528.00	91.50	269.30	9661.55	-16.00	-2017.91	2017.95	2017.97	269.55	1.42
11592.00	91.70	268.80	9659.76	-17.06	-2081.87	2081.92	2081.94	269.53	.84
11655.00	91.50	268.40	9658.00	-18.60	-2144.83	2144.88	2144.91	269.50	.71
11719.00	91.50	267.70	9656.33	-20.78	-2208.77	2208.83	2208.87	269.46	1.09
11782.00	91.20	268.80	9654.84	-22.70	-2271.72	2271.78	2271.84	269.43	1.81
11846.00	91.10	269.50	9653.56	-23.65	-2335.70	2335.77	2335.82	269.42	1.10
11910.00	90.50	270.20	9652.67	-23.82	-2399.69	2399.76	2399.81	269.43	1.44
11973.00	90.20	270.70	9652.28	-23.32	-2462.69	2462.75	2462.80	269.46	.93
12037.00	90.00	270.20	9652.17	-22.82	-2526.69	2526.75	2526.79	269.48	.84
12101.00	91.10	270.20	9651.55	-22.60	-2590.68	2590.74	2590.78	269.50	1.72
12164.00	92.10	270.70	9649.80	-22.10	-2653.66	2653.72	2653.75	269.52	1.77
12228.00	92.10	270.40	9647.45	-21.49	-2717.61	2717.67	2717.70	269.55	.47
12291.00	91.70	269.70	9645.36	-21.43	-2780.58	2780.63	2780.66	269.56	1.28
12355.00	91.20	269.80	9643.74	-21.71	-2844.55	2844.61	2844.64	269.56	.80

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
12418.00	90.70	269.80	9642.70	-21.93	-2907.54	2907.60	2907.63	269.57	.79
12482.00	90.50	269.70	9642.03	-22.21	-2971.54	2971.60	2971.62	269.57	.35
12545.00	90.70	270.70	9641.37	-21.99	-3034.54	3034.59	3034.62	269.58	1.62
12609.00	91.20	270.50	9640.31	-21.32	-3098.52	3098.58	3098.60	269.61	.84
12672.00	91.20	270.20	9638.99	-20.94	-3161.51	3161.56	3161.58	269.62	.48
12735.00	90.90	270.20	9637.83	-20.72	-3224.50	3224.55	3224.56	269.63	.48
12799.00	90.70	270.20	9636.94	-20.50	-3288.49	3288.54	3288.55	269.64	.31
12863.00	90.50	269.70	9636.27	-20.55	-3352.49	3352.54	3352.55	269.65	.84
12926.00	91.20	270.00	9635.33	-20.72	-3415.48	3415.53	3415.54	269.65	1.21
12990.00	91.50	270.40	9633.83	-20.49	-3479.46	3479.51	3479.52	269.66	.78
13053.00	91.70	270.50	9632.07	-20.00	-3542.43	3542.48	3542.49	269.68	.35
13117.00	91.90	269.80	9630.06	-19.83	-3606.40	3606.45	3606.46	269.68	1.14
13180.00	91.60	269.80	9628.13	-20.05	-3669.37	3669.42	3669.43	269.69	.48
13243.00	90.00	269.70	9627.25	-20.33	-3732.36	3732.41	3732.42	269.69	2.54
13307.00	90.30	270.00	9627.09	-20.49	-3796.36	3796.41	3796.42	269.69	.66
13371.00	90.60	270.70	9626.58	-20.10	-3860.36	3860.40	3860.41	269.70	1.19
13435.00	91.50	271.10	9625.41	-19.10	-3924.34	3924.38	3924.39	269.72	1.54
13498.00	91.80	271.40	9623.60	-17.72	-3987.30	3987.34	3987.34	269.75	.67
13562.00	91.80	271.20	9621.59	-16.27	-4051.25	4051.28	4051.28	269.77	.31
13625.00	91.60	271.20	9619.72	-14.95	-4114.21	4114.24	4114.24	269.79	.32
13688.00	91.60	270.90	9617.96	-13.80	-4177.17	4177.20	4177.20	269.81	.48
13752.00	91.70	270.90	9616.12	-12.79	-4241.14	4241.16	4241.16	269.83	.16
13816.00	91.60	270.20	9614.27	-12.18	-4305.11	4305.13	4305.13	269.84	1.10
13879.00	91.10	270.00	9612.79	-12.07	-4368.09	4368.11	4368.11	269.84	.85
13943.00	90.70	269.70	9611.78	-12.24	-4432.08	4432.10	4432.10	269.84	.78
14006.00	90.60	269.50	9611.07	-12.68	-4495.08	4495.10	4495.10	269.84	.35
14063.00	90.50	269.50	9610.52	-13.17	-4552.07	4552.09	4552.09	269.83	.18
Projection to Bit									
14120.00	90.50	269.50	9610.02	-13.67	-4609.07	4609.09	4609.09	269.83	.00

Operating Company Mewbourne
 Well Name & Number Norte 13 HE Fed # 1H
 Sales Ticket Number

Company Rep Brian Reede
 Field
 BOT Service Rep Ricky Harper
 District Location Odessa, Texas, USA



Date 8/4/2012

	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse
Casing	7.000	26.00	P-110	6.276	6.151		0.03826	9,993.00	9,960	6,230
Top Liner	4.500	13.50	110000	3.920	3.795	LT&C	0.01492	4,337.45	12,410	10,680
Bott Liner										

TVD	9,200.00	KOP	8,970.00	Open Hole	6.125	Casing Vol. (bbl)	373.1
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Carry Fluid Weight (ppg)	8.4	Propan Content (ppa)		Max Drill Out Size	0
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	Comm. Number	Description	Depth	Length	OD	ID	Ball Seal ID	Shear Press	Max Rate (BPM)	Disp (BBL)
Liner Top	1	JR Setting Sleeve_RH Profile	9752.55	4.00	5.750	4.000				

		S3 Hyd Set Packer	9756.55	4.65	5.875	3.875				
		4-1/2-13.5 LTC Nipple	9761.20	8.11	5.000	3.920				
		8 Joints of 4-1/2-13.5 LTC Casing	9769.31	307.73	5.000	3.920				
20	20	3'625' Frac Sleeve	10077.04	3.90	5'625		3'525	2286	310	373
		2 Joints of 4-1/2-13.5 LTC Casing	10080.94	76.68	5.000	3.920				
		Baker Open Hole Packer	10157.62	3.89	5'820	3'875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	10161.51	115.12	5.000	3.920				
19	19	3'500' EX Frac Sleeve	10276.63	3.90	5'625		3'400	2286	289	373
		2 Joints of 4-1/2-13.5 LTC Casing	10280.53	77.15	5.000	3.920				
		Baker Open Hole Packer	10357.68	3.89	5'820	3'875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	10361.57	114.53	5.000	3.920				
18	18	3'375' EX Frac Sleeve	10476.10	3.90	5'625		3'275	2286	268	373
		2 Joints of 4-1/2-13.5 LTC Casing	10480.00	76.71	5.000	3.920				
		Baker Open Hole Packer	10556.71	3.89	5'820	3'875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	10560.60	115.10	5.000	3.920				
17	17	3'250' EX Frac Sleeve	10675.70	3.90	5'625		3'150	2286	248	373
		2 Joints of 4-1/2-13.5 LTC Casing	10679.60	77.12	5.000	3.920				
		Baker Open Hole Packer	10756.72	3.89	5'820	3'875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	10760.61	115.06	5.000	3.920				
16	16	3'125' Frac Sleeve	10875.67	3.90	5'625		3'025	2286	228	373
		3 Joints of 4-1/2-13.5 LTC Casing	10879.57	115.27	5.000	3.920				
		Baker Open Hole Packer	10994.84	3.89	5'820	3'875		2154		

Operating Company Mewbourne
Well Name & Number Norte 13 HE Fed # 1H
Sales Ticket Number
Date 8/4/2012

Company Rep Brian Reede
Field
BOT Service Rep Ricky Harper
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		0.03826	9,993.00	9,960	6,230	
Top Liner	4.500	13.50	110000	3.920	3.795	LT&C	0.01492	4,337.45	12,410	10,680	
Bott Liner											
TVD		9,200.00		KOP		8,970.00		Open Hole	6.125	Casing Vol. (bbl)	373.1
Carry Fluid Weight (ppg)		8.4		Propan Content (ppa)					Max Drill Out Size		0

	Comm. Number	Description	Depth	Length	OD	ID	Ball Seal ID	Shear Press	Max Rate (BPM)	Displ (BBL)
		3 Joints of 4-1/2-13.5 LTC Casing	10998.73	116.16	5.000	3.920				
15	15	3.000 Frac sleeve	11114.89	3.90	5.625		2.900	2286	210	373
		2 Joints of 4-1/2-13.5 LTC Casing	11118.79	77.13	5.000	3.920				
		Baker Open Hole Packer	11195.92	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	11199.81	115.04	5.000	3.920				
14	14	2.875 Frac Sleeve	11314.85	3.90	5.625		2.775	2286	192	373
		3 Joints of 4-1/2-13.5 LTC Casing	11318.75	115.40	5.000	3.920				
		Baker Open Hole Packer	11434.15	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	11438.04	116.22	5.000	3.920				
13	13	2.750 Frac Sleeve	11554.26	3.90	5.625		2.650	2286	175	373
		2 Joints of 4-1/2-13.5 LTC Casing	11558.16	76.59	5.000	3.920				
		Baker Open Hole Packer	11634.75	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	11638.64	75.69	5.000	3.920				
12	12	2.625 Frac Sleeve	11714.33	3.90	5.625		2.525	2286	159	373
		3 Joints of 4-1/2-13.5 LTC Casing	11718.23	115.33	5.000	3.920				
		Baker Open Hole Packer	11833.56	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	11837.45	115.47	5.000	3.920				
11	11	2.500 Frac Sleeve	11952.92	3.90	5.625		2.400	2286	144	373
		2 Joints of 4-1/2-13.5 LTC Casing	11956.82	76.54	5.000	3.920				
		Baker Open Hole Packer	12033.36	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	12037.25	76.57	5.000	3.920				
10	10	2.375 Frac Sleeve	12113.82	3.90	5.625		2.275	2286	129	373
		3 Joints of 4-1/2-13.5 LTC Casing	12117.72	114.99	5.000	3.920				
		Baker Open Hole Packer	12232.71	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	12236.60	77.13	5.000	3.920				
9	9	2.250 Frac Sleeve	12313.73	3.90	5.625		2.150	2286	115	373

Operating Company Mewbourne
 Well Name & Number Norte 13 HE Fed # 1H
 Sales Ticket Number _____
 Date 8/4/2012

Company Rep Brian Reede
 Field _____
 BOT Service Rep Ricky Harper
 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		0.03826	9,993.00	9,960	6,230
Top Liner	4.500	13.50	110000	3.920	3.795	LT&C	0.01492	4,337.45	12,410	10,680
Bott Liner										
TVD		9,200.00	KOP		8,970.00	Open Hole		6.125	Casing Vol. (bbl)	373.1
Carry Fluid Weight (ppg)		8.4	Propant Content (ppa)					Max Drill Out Size		0

	Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press	Max Rate (BPM)	Disp (BBL)
		3 Joints of 4-1/2-13.5 LTC Casing	12317.63	114.17	5.000	3.920				
		Baker Open Hole Packer	12431.80	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	12435.69	76.96	5.000	3.920				
8	8	2.125 Frac Sleeve	12512.65	3.90	5.625		2.025	2286	102	373
		3 Joints of 4-1/2-13.5 LTC Casing	12516.55	116.06	5.000	3.920				
		Baker Open Hole Packer	12632.61	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	12636.50	115.23	5.000	3.920				
7	7	2.000 Frac Sleeve	12751.73	3.90	5.625		1.900	2286	90	373
		3 Joints of 4-1/2-13.5 LTC Casing	12755.63	114.30	5.000	3.920				
		Baker Open Hole Packer	12869.93	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	12873.82	114.53	5.000	3.920				
6	6	1.875 Frac Sleeve	12988.35	3.90	5.625		1.775	2286	79	373
		3 Joints of 4-1/2-13.5 LTC Casing	12992.25	114.82	5.000	3.920				
		Baker Open Hole Packer	13107.07	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	13110.96	115.08	5.000	3.920				
5	5	1.750 Frac Sleeve	13226.04	3.90	5.625		1.650	2286	68	373
		2 Joints of 4-1/2-13.5 LTC Casing	13229.94	76.84	5.000	3.920				
		Baker Open Hole Packer	13306.78	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	13310.67	114.63	5.000	3.920				
4	4	1.625 Frac Sleeve	13425.30	3.90	5.625		1.525	2286	58	373
		3 Joints of 4-1/2-13.5 LTC Casing	13429.20	114.85	5.000	3.920				
		Baker Open Hole Packer	13544.05	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	13547.94	76.49	5.000	3.920				
3	3	1.500 DBL Ball Frac Sleeve	13624.43	3.90	5.625		1.400	2286	49	373
		3 Joints of 4-1/2-13.5 LTC Casing	13628.33	114.36	5.000	3.920				
		Baker Open Hole Packer	13742.69	3.89	5.820	3.875		2154		

Company Rep	Brian Reede
Field	
BOT Service Rep	Ricky Harper
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		0.03826	9,993.00	9,960	6,230
Top Liner	4.500	13.50	110000	3.920	3.795	LT&C	0.01492	4,337.45	12,410	10,680
Bott Liner										
TVD	9,200.00		KOP		8,970.00		Open Hole	6.125	Casing Vol. (bbl)	373.1
Carry Fluid Weight (ppg)			8.4		Propant Content (ppa)				Max Drill Out Size	0

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