Results of Directional Survey

API number:	30-025-40897			
OGRID:		Operator:	MEWBOURNE OIL CO	
		Property:	RED HILLS WEST 21 DM FEDERAL COM	# 1H

surface	ULSTR:	D	21	T	26S	R	32E
				150	FNL	380	FWL
BH Loc	ULSTR:	M	21	T	26S	R	32E
13730 MD		9273.2 TVD		268	FSL	416	FWL
				5012	FNL		
Top Perf/OH	ULSTR:	D	21	T	26S	R	32E
9692 MD		9254.9 TVD		981	FNL	587	FWL
Bot Perf/OH	ULSTR:	M	21	T	26S	R	32E
13680 MD		9271.2 TVD		318	FSL	417	FWL
				4962	FNL		

	MD	N/S	E/W	VD
	9682	-821.20	206.70	9254.7
TOP PERFS/OH	**9692**	-831.17	206.99	9254.86
	9713	-852.10	207.60	9255.20
	13680	-4812.00	36.90	9271.20
BOT PERFS/OH	**13680**	-4812.00	36.90	9271.20
	13730	-4862.00	36.00	9273.20

NEXT TO LAST	13680	-4812.00	36.90	9271.20
LAST READING	13730	-4862.00	36.00	9273.20
TD	**13730**	-4862.00	36.00	9273.20

Surface Location	150	FN	380	FW
Projected BHL	5012	FN	416	FW
Location of				
Top Perfs/OH	981	FN	587	FW
Bottom Perfs/OH	4962	FN	417	FW

SUMMARY of Subsurface Locations

Surface Location	D-21-26S-32E	150	FN	380	FW	Vert. Depth
Top Perfs/OH	D-21-26S-32E	981	FN	587	FW	9254.86
Bottom Perfs/OH	M-21-26S-32E	4962	FN	417	FW	9271.20
Projected TD	M-21-26S-32E	5012	FN	416	FW	9273.20

OPERATOR MEWBOURNE OIL COMPANY
WELL/LEASE RED HILLS WEST 21 DM FED COM 1H
COUNTY LEA

036-0051

HOBBS OCD

JUL 03 2013

RECEIVED

STATE OF NEW MEXICO
DEVIATION REPORT

386	0.75
645	1.00
1,113	1.67
1,400	1.85
1,685	2.27
1,939	2.46
2,065	2.41
2,224	2.24
2,319	2.26
2,413	2.02
2,603	1.41
2,698	1.60
2,952	1.35
3,206	1.94
3,397	1.73
3,587	1.60
3,870	2.58
4,060	3.45
4,632	2.41
4,759	2.07
4,981	1.19
5,353	0.75
5,740	0.46
6,120	0.88
6,501	1.13
6,912	1.78
7,293	1.34
7,672	1.66
8,081	1.64

BY: Steve Moore

STATE OF TEXAS

COUNTY OF MIDLAND

The foregoing instrument was acknowledged before me on 3/8/13, by Steve Moore on behalf of Patterson-UTI Drilling Company LLC.

Amber Elizabeth Carr
Notary Public for Midland County, Texas
My Commission Expires:

AMBER ELIZABETH CARR
Notary Public, State of Texas
My Commission Expires
September 28, 2016

Company: Mewbourne Oil Company
Lease/Well: Red Hills West 21 DM Fed Com/No 001H

Rig Name: Patterson 36
State/County: New Mexico/Lea
Latitude: 32.04, Longitude: -103.69
GRID North is 0.34 Degrees East of True North
VS-Azi: 179.76 Degrees

Depth Reference : 22 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS
Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 2/21/2013 / 09:40

Vaughn Energy Services
Fort Worth, Texas
817-741-3610
Surveyor: Jason Wilson
Red Hills West 21 DM Fed Com No 001H / API 30-025-40897

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	0.34	65.24	100.00	0.12	0.27	-0.12	0.29	65.24	0.34
200.00	0.70	69.10	200.00	0.46	1.10	-0.46	1.19	67.21	0.36
300.00	2.06	77.87	299.96	1.06	3.43	-1.04	3.59	72.86	1.38
400.00	2.34	93.98	399.89	1.29	7.23	-1.26	7.35	79.85	0.68
500.00	2.39	92.19	499.81	1.07	11.36	-1.03	11.41	84.60	0.09
600.00	2.19	94.94	599.73	0.83	15.35	-0.76	15.37	86.91	0.23
700.00	2.44	95.39	699.64	0.46	19.37	-0.38	19.37	88.63	0.26
800.00	2.67	96.85	799.54	-0.01	23.81	0.11	23.81	90.03	0.24
900.00	2.10	97.50	899.46	-0.53	27.94	0.65	27.94	91.09	0.58
1000.00	1.88	98.70	999.40	-1.02	31.38	1.15	31.39	91.86	0.22
1100.00	2.25	99.53	1099.33	-1.59	34.93	1.74	34.97	92.61	0.37
1200.00	2.24	100.23	1199.25	-2.26	38.79	2.43	38.86	93.34	0.03
1300.00	2.13	102.35	1299.18	-3.01	42.53	3.18	42.63	94.04	0.13
1400.00	2.48	103.43	1399.10	-3.91	46.45	4.10	46.61	94.81	0.36
1500.00	2.63	104.43	1499.00	-4.98	50.78	5.20	51.03	95.61	0.16
1600.00	2.33	105.40	1598.91	-6.10	54.97	6.33	55.31	96.33	0.30
1700.00	2.84	103.12	1698.80	-7.20	59.35	7.45	59.78	96.92	0.52
1800.00	3.02	104.51	1798.67	-8.42	64.31	8.69	64.86	97.46	0.19
1900.00	2.62	106.95	1898.55	-9.75	69.05	10.04	69.73	98.04	0.42
2000.00	2.97	110.48	1998.43	-11.32	73.66	11.63	74.52	98.74	0.39
2100.00	3.09	112.10	2098.29	-13.24	78.58	13.57	79.69	99.56	0.15
2200.00	3.17	115.66	2198.15	-15.45	83.57	15.80	84.99	100.48	0.21

VES Survey Date: 02/10/2013

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
2300.00	2.82	125.17	2298.01	-18.07	88.07	18.43	89.91	101.59	0.61
2400.00	2.75	120.80	2397.89	-20.71	92.14	21.09	94.44	102.67	0.22
2500.00	2.66	121.82	2497.78	-23.16	96.17	23.56	98.92	103.54	0.10
2600.00	2.32	124.17	2597.69	-25.52	99.82	25.94	103.03	104.34	0.36
2700.00	2.33	127.86	2697.60	-27.90	103.10	28.33	106.80	105.14	0.15
2800.00	2.20	128.99	2797.53	-30.35	106.19	30.80	110.44	105.95	0.14
2900.00	1.95	136.03	2897.46	-32.79	108.86	33.24	113.69	106.76	0.36
3000.00	1.87	139.16	2997.40	-35.24	111.11	35.71	116.56	107.60	0.13
3100.00	1.81	134.79	3097.35	-37.59	113.30	38.07	119.37	108.36	0.15
3200.00	1.81	124.57	3197.30	-39.60	115.72	40.09	122.31	108.89	0.32
3300.00	1.81	113.90	3297.25	-41.14	118.47	41.64	125.41	109.15	0.34
3400.00	2.11	110.88	3397.19	-42.44	121.64	42.95	128.83	109.23	0.32
3500.00	1.95	104.61	3497.13	-43.53	125.01	44.05	132.37	109.20	0.28
3600.00	1.67	95.65	3597.08	-44.10	128.11	44.64	135.49	109.00	0.40
3700.00	1.88	97.67	3697.03	-44.46	131.19	45.01	138.52	108.72	0.22
3800.00	2.86	99.65	3796.95	-45.10	135.28	45.67	142.60	108.44	0.98
3900.00	3.51	105.56	3896.79	-46.34	140.69	46.93	148.12	108.23	0.72
4000.00	3.82	115.11	3996.59	-48.58	146.65	49.19	154.49	108.33	0.69
4100.00	3.85	118.14	4096.36	-51.58	152.64	52.22	161.12	108.67	0.21
4200.00	3.88	115.81	4196.14	-54.63	158.64	55.30	167.79	109.00	0.16
4300.00	3.53	116.26	4295.93	-57.47	164.45	58.16	174.21	109.26	0.35
4400.00	2.77	110.43	4395.78	-59.68	169.48	60.39	179.68	109.40	0.83
4500.00	2.53	109.09	4495.67	-61.24	173.83	61.97	184.30	109.41	0.25
4600.00	2.11	107.63	4595.59	-62.52	177.66	63.26	188.34	109.39	0.42
4700.00	2.55	105.56	4695.50	-63.67	181.56	64.43	192.40	109.33	0.45
4800.00	2.10	104.61	4795.42	-64.73	185.48	65.51	196.45	109.24	0.45
4900.00	1.18	107.54	4895.38	-65.51	188.24	66.30	199.31	109.19	0.92
5000.00	1.62	117.73	4995.35	-66.48	190.47	67.27	201.74	109.24	0.50
5100.00	1.28	121.48	5095.32	-67.72	192.67	68.52	204.23	109.36	0.36
5200.00	1.09	122.21	5195.30	-68.80	194.43	69.62	206.24	109.49	0.18
5300.00	1.32	124.50	5295.27	-69.96	196.18	70.79	208.28	109.63	0.23
5400.00	0.69	134.33	5395.26	-71.04	197.56	71.86	209.94	109.78	0.65
5500.00	0.96	155.22	5495.25	-72.22	198.34	73.05	211.08	110.01	0.40
5600.00	0.83	172.19	5595.23	-73.70	198.79	74.53	212.01	110.34	0.30
5700.00	1.19	129.05	5695.22	-75.06	199.69	75.90	213.34	110.60	0.81
5800.00	0.51	138.94	5795.21	-76.05	200.79	76.89	214.71	110.74	0.69
5900.00	1.34	142.37	5895.20	-77.32	201.80	78.16	216.10	110.96	0.83
6000.00	0.59	146.54	5995.18	-78.67	202.80	79.52	217.53	111.20	0.75
6100.00	1.03	144.23	6095.17	-79.84	203.61	80.69	218.70	111.41	0.43
6200.00	0.76	143.44	6195.16	-81.10	204.53	81.95	220.02	111.63	0.27
6300.00	1.75	140.55	6295.13	-82.80	205.89	83.67	221.92	111.91	0.99
6400.00	1.08	155.81	6395.10	-84.84	207.25	85.71	223.94	112.26	0.76

VES Survey Date: 02/10/2013

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
6500.00	1.09	154.18	6495.08	-86.55	208.05	87.42	225.33	112.59	0.03
6600.00	1.59	150.98	6595.06	-88.62	209.13	89.50	227.14	112.97	0.51
6700.00	2.05	168.25	6695.01	-91.59	210.17	92.47	229.26	113.55	0.71
6800.00	1.32	167.84	6794.96	-94.46	210.78	95.34	230.98	114.14	0.72
6900.00	1.90	169.88	6894.92	-97.22	211.31	98.10	232.60	114.71	0.58
7000.00	2.07	169.12	6994.86	-100.62	211.94	101.50	234.61	115.40	0.18
7100.00	1.95	184.97	7094.80	-104.08	212.14	104.97	236.29	116.13	0.57
7200.00	1.41	183.10	7194.76	-107.00	211.92	107.89	237.40	116.79	0.54
7300.00	1.42	179.22	7294.73	-109.47	211.87	110.35	238.48	117.32	0.10
7400.00	1.53	180.36	7394.70	-112.04	211.88	112.93	239.68	117.87	0.11
7500.00	1.54	182.46	7494.66	-114.72	211.82	115.60	240.89	118.44	0.06
7600.00	1.56	185.60	7594.62	-117.42	211.63	118.30	242.02	119.02	0.09
7700.00	1.56	180.73	7694.59	-120.13	211.48	121.01	243.21	119.60	0.13
7800.00	1.93	161.72	7794.54	-123.09	211.99	123.97	245.13	120.14	0.68
7900.00	2.21	165.75	7894.48	-126.56	212.99	127.45	247.75	120.72	0.32
8000.00	1.88	170.96	7994.41	-130.05	213.72	130.94	250.18	121.32	0.38
8100.00	2.12	176.64	8094.35	-133.51	214.09	134.41	252.31	121.95	0.31
8200.00	2.03	191.10	8194.29	-137.09	213.86	137.99	254.03	122.66	0.53
8300.00	1.80	182.71	8294.23	-140.40	213.44	141.29	255.48	123.34	0.36
8400.00	1.12	176.82	8394.20	-142.94	213.42	143.83	256.87	123.81	0.70
8500.00	1.32	224.01	8494.18	-144.74	212.68	145.63	257.26	124.24	0.99
8528.00	1.54	230.13	8522.17	-145.22	212.16	146.10	257.10	124.39	0.97

VES Survey Date: 02/10/2013

Mewbourne Oil Co

Lea County, NM
Section 21-26S-32E
Red Hills West 21 "DM" Fed com #1H

Wellbore #1

Design: Wellbore #1

DDC Survey Report

27 February, 2013

DDC
The DIRECTIONAL DRILLING COMPANY

DDC
Survey Report

Company:	Mewbourne Oil Co	**Local Co-ordinate Reference:**	Well Red Hills West 21 "DM" Fed com #1H
Project:	Lea County, NM	**TVD Reference:**	WELL @ 3171.0usft (Patterson-UTI #41)
Site:	Section 21-26S-32E	**MD Reference:**	WELL @ 3171.0usft (Patterson-UTI #41)
Well:	Red Hills West 21 "DM" Fed com #1H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	EDM 5000.1 Single User Db

Project Lea County, NM

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 Section 21-26S-32E

Site Position:		**Northing:**	376,913.78 usft	**Latitude:**	32° 2' 4.330 N
From:	Map	**Easting:**	704,320.13 usft	**Longitude:**	103° 40' 26.342 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.35 °

Well Red Hills West 21 "DM" Fed com #1H

Well Position	**+N/-S**	0.0 usft	**Northing:**	377,065.34 usfl	**Latitude:**	32° 2' 6.069 N
	+E/-W	0.0 usft	**Easting:**	700,322.26 usfl	**Longitude:**	103° 41' 12.774 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usfl	**Ground Level:**	3,151.0 usfl

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/14/2013	7.43	59.95	48,333

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	124.40

Survey Program Date 2/27/2013

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	8,528.0	Gyro (Wellbore #1)	Good_gyro	Good Gyro
8,633.0	13,730.0	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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.34	65.24	100.0	0.1	0.3	0.2	0.34	0.34	0.00
200.0	0.70	69.10	200.0	0.5	1.1	0.7	0.36	0.36	3.86
300.0	2.06	77.87	300.0	1.1	3.4	2.2	1.37	1.36	8.77
400.0	2.34	93.98	399.9	1.3	7.2	5.2	0.68	0.28	16.11
500.0	2.39	92.19	499.8	1.1	11.4	8.8	0.09	0.05	-1.79
600.0	2.19	94.94	599.7	0.8	15.3	12.2	0.23	-0.20	2.75
700.0	2.44	95.39	699.6	0.5	19.4	15.7	0.25	0.25	0.45
800.0	2.67	96.85	799.5	0.0	23.8	19.6	0.24	0.23	1.46
900.0	2.10	97.50	899.5	-0.5	27.9	23.3	0.57	-0.57	0.65

DDC
Survey Report

Company:	Mewbourne Oil Co	**Local Co-ordinate Reference:**	Well Red Hills West 21 "DM" Fed com #1H
Project:	Lea County, NM	**TVD Reference:**	WELL @ 3171.0usft (Patterson-UTI #41)
Site:	Section 21-26S-32E	**MD Reference:**	WELL @ 3171.0usft (Patterson-UTI #41)
Well:	Red Hills West 21 "DM" Fed com #1H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,000.0	1.88	98.70	999.4	-1.0	31.4	26.4	0.22	-0.22	1.20
1,100.0	2.25	99.53	1,099.3	-1.6	34.9	29.7	0.37	0.37	0.83
1,200.0	2.24	100.23	1,199.3	-2.3	38.8	33.3	0.03	-0.01	0.70
1,300.0	2.13	102.35	1,299.2	-3.0	42.5	36.8	0.14	-0.11	2.12
1,400.0	2.48	103.43	1,399.1	-3.9	46.4	40.5	0.35	0.35	1.08
1,500.0	2.63	104.43	1,499.0	-5.0	50.8	44.7	0.16	0.15	1.00
1,600.0	2.33	105.40	1,598.9	-6.1	54.9	48.8	0.30	-0.30	0.97
1,700.0	2.84	103.12	1,698.8	-7.2	59.3	53.0	0.52	0.51	-2.28
1,800.0	3.02	104.51	1,798.7	-8.4	64.3	57.8	0.19	0.18	1.39
1,900.0	2.62	106.95	1,898.6	-9.7	69.0	62.4	0.42	-0.40	2.44
2,000.0	2.97	110.48	1,998.4	-11.3	73.6	67.1	0.39	0.35	3.53
2,100.0	3.09	112.10	2,098.3	-13.2	78.6	72.3	0.15	0.12	1.62
2,200.0	3.17	115.66	2,198.1	-15.4	83.5	77.7	0.21	0.08	3.56
2,300.0	2.82	125.17	2,298.0	-18.1	88.0	82.8	0.61	-0.35	9.51
2,400.0	2.75	120.80	2,397.9	-20.7	92.1	87.7	0.22	-0.07	-4.37
2,500.0	2.66	121.82	2,497.8	-23.2	96.1	92.4	0.10	-0.09	1.02
2,600.0	2.32	124.17	2,597.7	-25.5	99.8	96.8	0.35	-0.34	2.35
2,700.0	2.33	127.86	2,697.6	-27.9	103.1	100.8	0.15	0.01	3.69
2,800.0	2.20	128.99	2,797.5	-30.4	106.2	104.8	0.14	-0.13	1.13
2,900.0	1.95	136.03	2,897.5	-32.8	108.8	108.3	0.36	-0.25	7.04
3,000.0	1.87	139.16	2,997.4	-35.2	111.1	111.6	0.13	-0.08	3.13
3,100.0	1.81	134.79	3,097.4	-37.6	113.3	114.7	0.15	-0.06	-4.37
3,200.0	1.81	124.57	3,197.3	-39.6	115.7	117.8	0.32	0.00	-10.22
3,300.0	1.81	113.90	3,297.3	-41.1	118.4	121.0	0.34	0.00	-10.67
3,400.0	2.11	110.88	3,397.2	-42.4	121.6	124.3	0.32	0.30	-3.02
3,500.0	1.95	104.61	3,497.1	-43.5	125.0	127.7	0.27	-0.16	-6.27
3,600.0	1.67	95.65	3,597.1	-44.1	128.1	130.6	0.40	-0.28	-8.96
3,700.0	1.88	97.67	3,697.0	-44.5	131.1	133.3	0.22	0.21	2.02
3,800.0	2.86	99.65	3,796.9	-45.1	135.2	137.1	0.98	0.98	1.98
3,900.0	3.51	105.56	3,896.8	-46.3	140.6	142.2	0.73	0.65	5.91
4,000.0	3.82	115.11	3,996.6	-48.6	146.6	148.4	0.68	0.31	9.55
4,100.0	3.85	118.14	4,096.4	-51.6	152.6	155.0	0.20	0.03	3.03
4,200.0	3.88	115.81	4,196.1	-54.6	158.6	161.7	0.16	0.03	-2.33
4,300.0	3.53	116.26	4,295.9	-57.5	164.4	168.1	0.35	-0.35	0.45
4,400.0	2.77	110.43	4,395.8	-59.7	169.4	173.5	0.82	-0.76	-5.83
4,500.0	2.53	109.09	4,495.7	-61.2	173.8	178.0	0.25	-0.24	-1.34
4,600.0	2.11	107.63	4,595.6	-62.5	177.6	181.9	0.42	-0.42	-1.46
4,700.0	2.55	105.56	4,695.5	-63.7	181.5	185.7	0.45	0.44	-2.07
4,800.0	2.10	104.61	4,795.4	-64.7	185.4	189.6	0.45	-0.45	-0.95
4,900.0	1.18	107.54	4,895.4	-65.5	188.2	192.3	0.92	-0.92	2.93
5,000.0	1.62	117.73	4,995.4	-66.5	190.4	194.7	0.50	0.44	10.19
5,100.0	1.28	121.48	5,095.3	-67.7	192.6	197.2	0.35	-0.34	3.75
5,200.0	1.09	122.21	5,195.3	-68.8	194.4	199.2	0.19	-0.19	0.73

Company:	Mewbourne Oil Co	**Local Co-ordinate Reference:**	Well Red Hills West 21 "DM" Fed com #1H
Project:	Lea County, NM	**TVD Reference:**	WELL @ 3171.0usft (Patterson-UTI #41)
Site:	Section 21-26S-32E	**MD Reference:**	WELL @ 3171.0usft (Patterson-UTI #41)
Well:	Red Hills West 21 "DM" Fed com #1H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,300.0	1.32	124.50	5,295.3	-69.9	196.1	201.3	0.23	0.23	2.29
5,400.0	0.69	134.33	5,395.3	-71.0	197.5	203.1	0.65	-0.63	9.83
5,500.0	0.96	155.22	5,495.2	-72.2	198.3	204.4	0.40	0.27	20.89
5,600.0	0.83	172.19	5,595.2	-73.7	198.7	205.6	0.29	-0.13	16.97
5,700.0	1.19	129.05	5,695.2	-75.1	199.6	207.1	0.81	0.36	-43.14
5,800.0	0.51	138.94	5,795.2	-76.0	200.7	208.6	0.69	-0.68	9.89
5,900.0	1.34	142.37	5,895.2	-77.3	201.7	210.1	0.83	0.83	3.43
6,000.0	0.59	146.54	5,995.2	-78.7	202.7	211.7	0.75	-0.75	4.17
6,100.0	1.03	144.23	6,095.2	-79.8	203.6	213.1	0.44	0.44	-2.31
6,200.0	0.76	143.44	6,195.2	-81.1	204.5	214.5	0.27	-0.27	-0.79
6,300.0	1.75	140.55	6,295.1	-82.8	205.8	216.6	0.99	0.99	-2.89
6,400.0	1.08	155.81	6,395.1	-84.8	207.2	218.9	0.76	-0.67	15.26
6,500.0	1.09	154.18	6,495.1	-86.5	208.0	220.5	0.03	0.01	-1.63
6,600.0	1.59	150.98	6,595.1	-88.6	209.1	222.6	0.51	0.50	-3.20
6,700.0	2.05	168.25	6,695.0	-91.6	210.1	225.1	0.71	0.46	17.27
6,800.0	1.32	167.84	6,795.0	-94.5	210.7	227.2	0.73	-0.73	-0.41
6,900.0	1.90	169.88	6,894.9	-97.2	211.3	229.2	0.58	0.58	2.04
7,000.0	2.07	169.12	6,994.9	-100.6	211.9	231.7	0.17	0.17	-0.76
7,100.0	1.95	184.97	7,094.8	-104.1	212.1	233.8	0.57	-0.12	15.85
7,200.0	1.41	183.10	7,194.8	-107.0	211.9	235.3	0.54	-0.54	-1.87
7,300.0	1.42	179.22	7,294.7	-109.5	211.8	236.6	0.10	0.01	-3.88
7,400.0	1.53	180.36	7,394.7	-112.1	211.8	238.1	0.11	0.11	1.14
7,500.0	1.54	182.46	7,494.7	-114.7	211.8	239.6	0.06	0.01	2.10
7,600.0	1.56	185.60	7,594.6	-117.4	211.6	240.9	0.09	0.02	3.14
7,700.0	1.56	180.73	7,694.6	-120.1	211.4	242.3	0.13	0.00	-4.87
7,800.0	1.93	161.72	7,794.5	-123.1	211.9	244.4	0.68	0.37	-19.01
7,900.0	2.21	165.75	7,894.5	-126.6	212.9	247.2	0.32	0.28	4.03
8,000.0	1.88	170.96	7,994.4	-130.1	213.7	249.8	0.38	-0.33	5.21
8,100.0	2.12	176.64	8,094.4	-133.5	214.0	252.0	0.31	0.24	5.68
8,200.0	2.03	191.10	8,194.3	-137.1	213.8	253.9	0.53	-0.09	14.46
8,300.0	1.80	182.71	8,294.2	-140.4	213.4	255.4	0.36	-0.23	-8.39
8,400.0	1.12	176.82	8,394.2	-143.0	213.4	256.8	0.70	-0.68	-5.89
8,500.0	1.32	224.01	8,494.2	-144.8	212.6	257.2	0.99	0.20	47.19
FIRST MWD SURVEY @ 8528' MD / 8522.2' TVD									
8,528.0	1.54	230.13	8,522.2	-145.2	212.1	257.1	0.96	0.79	21.86
8,633.0	1.40	232.00	8,627.1	-146.9	210.0	256.3	0.14	-0.13	1.78
8,665.0	1.50	242.50	8,659.1	-147.4	209.3	256.0	0.89	0.31	32.81
8,697.0	2.30	209.30	8,691.1	-148.1	208.7	255.8	4.15	2.50	-103.75
8,728.0	6.00	184.30	8,722.0	-150.3	208.2	256.7	13.01	11.94	-80.65
8,760.0	9.50	178.10	8,753.7	-154.6	208.2	259.1	11.23	10.94	-19.38
8,792.0	12.40	174.30	8,785.1	-160.7	208.6	262.9	9.33	9.06	-11.88
8,824.0	15.40	172.90	8,816.2	-168.3	209.5	267.9	9.43	9.38	-4.38
8,855.0	18.70	172.80	8,845.8	-177.3	210.6	274.0	10.65	10.65	-0.32

DDC
Survey Report

Company:	Mewbourne Oil Co	**Local Co-ordinate Reference:**	Well Red Hills West 21 "DM" Fed com #1H
Project:	Lea County, NM	**TVD Reference:**	WELL @ 3171.0usft (Patterson-UTI #41)
Site:	Section 21-26S-32E	**MD Reference:**	WELL @ 3171.0usft (Patterson-UTI #41)
Well:	Red Hills West 21 "DM" Fed com #1H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,887.0	21.70	174.70	8,875.9	-188.3	211.8	281.1	9.60	9.38	5.94
8,919.0	24.20	176.90	8,905.3	-200.7	212.7	288.9	8.26	7.81	6.88
8,950.0	27.10	178.20	8,933.3	-214.1	213.3	297.0	9.53	9.35	4.19
8,982.0	30.20	178.40	8,961.3	-229.5	213.7	306.0	9.69	9.69	0.63
9,013.0	33.50	179.40	8,987.7	-245.8	214.0	315.5	10.78	10.65	3.23
9,045.0	36.40	178.30	9,013.9	-264.1	214.4	326.1	9.27	9.06	-3.44
9,076.0	38.90	178.70	9,038.4	-283.1	214.9	337.2	8.10	8.06	1.29
9,108.0	41.50	180.20	9,062.9	-303.7	215.1	349.1	8.67	8.13	4.69
9,140.0	44.30	181.10	9,086.3	-325.5	214.8	361.2	8.96	8.75	2.81
9,171.0	47.20	182.30	9,108.0	-347.7	214.2	373.2	9.76	9.35	3.87
9,203.0	50.00	182.80	9,129.1	-371.7	213.1	385.8	8.83	8.75	1.56
9,234.0	53.40	182.50	9,148.3	-396.0	212.0	398.6	10.99	10.97	-0.97
9,266.0	56.50	182.40	9,166.7	-422.1	210.9	412.5	9.69	9.69	-0.31
9,298.0	60.40	180.50	9,183.4	-449.4	210.2	427.3	13.20	12.19	-5.94
9,330.0	64.20	181.20	9,198.3	-477.7	209.8	443.0	12.03	11.88	2.19
9,360.0	67.20	181.90	9,210.7	-505.0	209.0	457.8	10.22	10.00	2.33
9,392.0	70.60	181.70	9,222.2	-534.9	208.1	473.9	10.64	10.63	-0.63
9,423.0	73.60	183.00	9,231.7	-564.4	206.9	489.5	10.47	9.68	4.19
9,455.0	77.00	181.40	9,239.8	-595.3	205.7	506.0	11.67	10.63	-5.00
9,487.0	80.60	182.00	9,246.0	-626.7	204.8	523.0	11.40	11.25	1.88
9,519.0	83.60	179.90	9,250.4	-658.3	204.2	540.5	11.41	9.38	-6.56
9,550.0	86.50	179.00	9,253.1	-689.2	204.5	558.2	9.79	9.35	-2.90
9,619.0	90.70	179.90	9,254.8	-758.2	205.2	597.7	6.22	6.09	1.30
9,650.0	90.20	177.90	9,254.6	-789.2	205.8	615.7	6.65	-1.61	-6.45
9,682.0	89.20	178.70	9,254.7	-821.2	206.7	634.5	4.00	-3.13	2.50
9,713.0	88.90	178.10	9,255.2	-852.1	207.6	652.7	2.16	-0.97	-1.94
9,745.0	88.00	176.40	9,256.1	-884.1	209.1	672.0	6.01	-2.81	-5.31
9,777.0	87.70	179.10	9,257.3	-916.0	210.4	691.1	8.48	-0.94	8.44
9,808.0	88.20	180.80	9,258.4	-947.0	210.4	708.7	5.71	1.61	5.48
9,871.0	89.60	182.50	9,259.6	-1,010.0	208.6	742.7	3.50	2.22	2.70
9,934.0	89.40	182.30	9,260.2	-1,072.9	206.0	776.1	0.45	-0.32	-0.32
9,998.0	90.50	183.10	9,260.2	-1,136.8	203.0	809.7	2.13	1.72	1.25
10,061.0	90.10	183.00	9,259.9	-1,199.8	199.6	842.5	0.65	-0.63	-0.16
10,125.0	89.10	182.30	9,260.3	-1,263.7	196.6	876.2	1.91	-1.56	-1.09
10,187.0	89.90	184.00	9,260.9	-1,325.6	193.2	908.4	3.03	1.29	2.74
10,251.0	89.60	183.80	9,261.2	-1,389.4	188.9	940.8	0.56	-0.47	-0.31
10,314.0	88.00	182.90	9,262.5	-1,452.3	185.2	973.3	2.91	-2.54	-1.43
10,377.0	89.40	185.80	9,263.9	-1,515.1	180.4	1,004.9	5.11	2.22	4.60
10,441.0	90.20	185.30	9,264.1	-1,578.8	174.2	1,035.8	1.47	1.25	-0.78
10,505.0	90.10	182.30	9,264.0	-1,642.7	170.0	1,068.3	4.69	-0.16	-4.69
10,568.0	89.60	185.00	9,264.1	-1,705.5	166.0	1,100.5	4.36	-0.79	4.29
10,632.0	90.80	184.60	9,263.9	-1,769.3	160.6	1,132.1	1.98	1.88	-0.63
10,695.0	90.30	183.70	9,263.3	-1,832.1	156.1	1,163.9	1.63	-0.79	-1.43
10,759.0	92.00	184.50	9,262.0	-1,895.9	151.5	1,196.2	2.94	2.66	1.25

Company:	Mewbourne Oil Co	**Local Co-ordinate Reference:**	Well Red Hills West 21 "DM" Fed com #1H
Project:	Lea County, NM	**TVD Reference:**	WELL @ 3171.0usft (Patterson-UTI #41)
Site:	Section 21-26S-32E	**MD Reference:**	WELL @ 3171.0usft (Patterson-UTI #41)
Well:	Red Hills West 21 "DM" Fed com #1H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,822.0	89.80	184.80	9,261.0	-1,958.7	146.4	1,227.4	3.52	-3.49	0.48
10,885.0	88.30	184.00	9,262.1	-2,021.5	141.6	1,258.9	2.70	-2.38	-1.27
10,949.0	88.80	184.10	9,263.7	-2,085.3	137.0	1,291.2	0.80	0.78	0.16
11,012.0	89.60	184.20	9,264.6	-2,148.2	132.5	1,323.0	1.28	1.27	0.16
11,075.0	90.30	185.50	9,264.6	-2,211.0	127.2	1,354.1	2.34	1.11	2.06
11,138.0	90.60	185.40	9,264.1	-2,273.7	121.2	1,384.6	0.50	0.48	-0.16
11,202.0	90.00	183.00	9,263.8	-2,337.5	116.5	1,416.7	3.87	-0.94	-3.75
11,266.0	87.60	182.20	9,265.1	-2,401.4	113.6	1,450.5	3.95	-3.75	-1.25
11,329.0	87.80	183.30	9,267.7	-2,464.3	110.6	1,483.5	1.77	0.32	1.75
11,392.0	90.20	184.60	9,268.8	-2,527.1	106.2	1,515.4	4.33	3.81	2.06
11,456.0	91.00	184.90	9,268.1	-2,590.9	100.9	1,547.1	1.33	1.25	0.47
11,520.0	89.50	182.70	9,267.8	-2,654.7	96.7	1,579.6	4.16	-2.34	-3.44
11,584.0	89.10	182.70	9,268.6	-2,718.7	93.7	1,613.3	0.63	-0.63	0.00
11,647.0	89.80	183.30	9,269.2	-2,781.6	90.4	1,646.1	1.46	1.11	0.95
11,679.0	91.30	183.70	9,268.9	-2,813.5	88.4	1,662.5	4.85	4.69	1.25
11,711.0	91.30	183.70	9,268.2	-2,845.4	86.3	1,678.9	0.00	0.00	0.00
11,742.0	91.00	183.30	9,267.5	-2,876.4	84.5	1,694.8	1.61	-0.97	-1.29
11,774.0	90.90	183.40	9,267.0	-2,908.3	82.6	1,711.3	0.44	-0.31	0.31
11,807.0	89.90	182.80	9,266.8	-2,941.3	80.8	1,728.4	3.53	-3.03	-1.82
11,838.0	89.60	182.90	9,266.9	-2,972.2	79.3	1,744.6	1.02	-0.97	0.32
11,870.0	90.70	183.10	9,266.8	-3,004.2	77.6	1,761.3	3.49	3.44	0.63
11,901.0	90.80	182.80	9,266.4	-3,035.1	76.0	1,777.5	1.02	0.32	-0.97
11,964.0	90.40	182.80	9,265.8	-3,098.1	72.9	1,810.5	0.63	-0.63	0.00
12,028.0	89.50	182.50	9,265.8	-3,162.0	70.0	1,844.2	1.48	-1.41	-0.47
12,091.0	90.00	182.30	9,266.1	-3,224.9	67.3	1,877.6	0.85	0.79	-0.32
12,155.0	89.90	181.40	9,266.2	-3,288.9	65.3	1,912.0	1.41	-0.16	-1.41
12,217.0	89.00	180.30	9,266.8	-3,350.9	64.3	1,946.3	2.29	-1.45	-1.77
12,281.0	88.70	178.90	9,268.0	-3,414.9	64.8	1,982.8	2.24	-0.47	-2.19
12,344.0	90.20	179.50	9,268.6	-3,477.9	65.7	2,019.1	2.56	2.38	0.95
12,407.0	88.80	178.70	9,269.2	-3,540.8	66.6	2,055.5	2.56	-2.22	-1.27
12,471.0	91.90	180.10	9,268.8	-3,604.8	67.3	2,092.2	5.31	4.84	2.19
12,534.0	94.80	180.30	9,265.1	-3,667.7	67.1	2,127.6	4.61	4.60	0.32
12,597.0	95.10	183.40	9,259.7	-3,730.4	65.1	2,161.3	4.93	0.48	4.92
12,629.0	93.10	183.80	9,257.4	-3,762.3	63.1	2,177.7	6.37	-6.25	1.25
12,661.0	91.50	183.40	9,256.1	-3,794.2	61.1	2,194.0	5.15	-5.00	-1.25
12,693.0	90.70	183.80	9,255.5	-3,826.1	59.1	2,210.4	2.79	-2.50	1.25
12,724.0	89.20	182.90	9,255.5	-3,857.1	57.2	2,226.4	5.64	-4.84	-2.90
12,756.0	89.30	182.70	9,255.9	-3,889.0	55.7	2,243.2	0.70	0.31	-0.63
12,788.0	88.80	182.50	9,256.5	-3,921.0	54.2	2,260.0	1.68	-1.56	-0.63
12,819.0	88.30	182.60	9,257.3	-3,952.0	52.8	2,276.4	1.64	-1.61	0.32
12,851.0	87.80	183.10	9,258.3	-3,983.9	51.3	2,293.1	2.21	-1.56	1.56
12,883.0	87.60	183.10	9,259.6	-4,015.8	49.5	2,309.7	0.63	-0.63	0.00
12,915.0	88.60	183.40	9,260.7	-4,047.8	47.7	2,326.3	3.26	3.13	0.94

DDC
Survey Report

Company:	Mewbourne Oil Co	**Local Co-ordinate Reference:**	Well Red Hills West 21 "DM" Fed com #1H
Project:	Lea County, NM	**TVD Reference:**	WELL @ 3171.0usft (Patterson-UTI #41)
Site:	Section 21-26S-32E	**MD Reference:**	WELL @ 3171.0usft (Patterson-UTI #41)
Well:	Red Hills West 21 "DM" Fed com #1H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,946.0	88.50	183.50	9,261.5	-4,078.7	45.8	2,342.2	0.46	-0.32	0.32
12,978.0	87.70	183.50	9,262.5	-4,110.6	43.9	2,358.6	2.50	-2.50	0.00
13,010.0	87.30	184.00	9,263.9	-4,142.5	41.8	2,374.9	2.00	-1.25	1.56
13,042.0	88.30	183.50	9,265.2	-4,174.4	39.7	2,391.2	3.49	3.13	-1.56
13,073.0	88.00	183.10	9,266.2	-4,205.4	37.9	2,407.2	1.61	-0.97	-1.29
13,104.0	86.90	182.50	9,267.5	-4,236.3	36.4	2,423.5	4.04	-3.55	-1.94
13,136.0	88.20	181.90	9,268.9	-4,268.2	35.2	2,440.5	4.47	4.06	-1.88
13,167.0	90.20	180.70	9,269.3	-4,299.2	34.5	2,457.4	7.52	6.45	-3.87
13,199.0	90.70	180.30	9,269.1	-4,331.2	34.2	2,475.3	2.00	1.56	-1.25
13,231.0	90.80	180.00	9,268.7	-4,363.2	34.1	2,493.3	0.99	0.31	-0.94
13,263.0	91.10	180.00	9,268.1	-4,395.2	34.1	2,511.4	0.94	0.94	0.00
13,294.0	91.50	178.40	9,267.4	-4,426.2	34.6	2,529.2	5.32	1.29	-5.16
13,326.0	91.20	178.10	9,266.7	-4,458.2	35.5	2,548.1	1.33	-0.94	-0.94
13,357.0	89.50	177.90	9,266.5	-4,489.2	36.6	2,566.5	5.52	-5.48	-0.65
13,389.0	89.40	177.80	9,266.8	-4,521.1	37.8	2,585.6	0.44	-0.31	-0.31
13,421.0	89.60	178.80	9,267.1	-4,553.1	38.8	2,604.4	3.19	0.63	3.13
13,453.0	90.20	179.70	9,267.1	-4,585.1	39.2	2,622.8	3.38	1.88	2.81
13,484.0	90.50	179.60	9,266.9	-4,616.1	39.4	2,640.5	1.02	0.97	-0.32
13,516.0	89.40	179.10	9,267.0	-4,648.1	39.7	2,658.9	3.78	-3.44	-1.56
13,548.0	89.70	180.40	9,267.2	-4,680.1	39.9	2,677.1	4.17	0.94	4.06
13,579.0	88.30	181.10	9,267.8	-4,711.1	39.5	2,694.2	5.05	-4.52	2.26
13,610.0	88.30	181.50	9,268.7	-4,742.1	38.8	2,711.2	1.29	0.00	1.29
13,642.0	88.20	181.70	9,269.7	-4,774.1	37.9	2,728.5	0.70	-0.31	0.63
13,680.0	87.30	181.10	9,271.2	-4,812.0	36.9	2,749.2	2.85	-2.37	-1.58
TD @ 13730' MD / 9273.2' TVD									
13,730.0	88.00	181.10	9,273.2	-4,862.0	36.0	2,776.6	1.40	1.40	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
8,528.0	8,522.2	-145.2	212.1	FIRST MWD SURVEY @ 8528' MD / 8522.2' TVD
13,730.0	9,273.2	-4,862.0	36.0	TD @ 13730' MD / 9273.2' TVD

Checked By: _____ Approved By: _____ Date: _____

Company Name: Mewbourne Oil Co
Red Hills West 21 "DM" Fed com #1H
Lea County, NM
Rig: Patterson-UTI #41
Created By: TIFFANI MIZELL
Date: 2/27/2013

Red Hills West 21 "DM" Fed com #1H
Lea County, NM
Q120686 & WT-13056
Design #2

Mewbourne Oil Company

QDC
The DIRECTIONAL DRILLING COMPANY

T G M

Azimuths to Grid North
True North: -0.34°
Magnetic North: 7.09°

Magnetic Field
Strength: 48333.3snT
Dip Angle: 59.95°
Date: 1/14/2013
Model: IGRF2010

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: Red Hills West 21 "DM" Fed com #1H
Ground Level: 3151.0

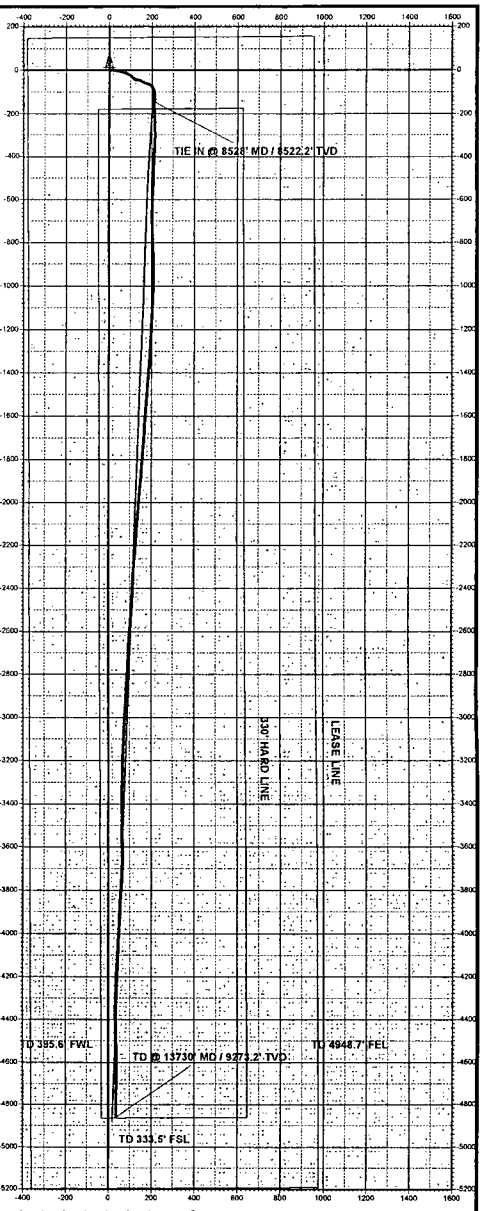
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	377066.34	700322.26	32° 2' 6.069 N	103° 41' 12.774 W

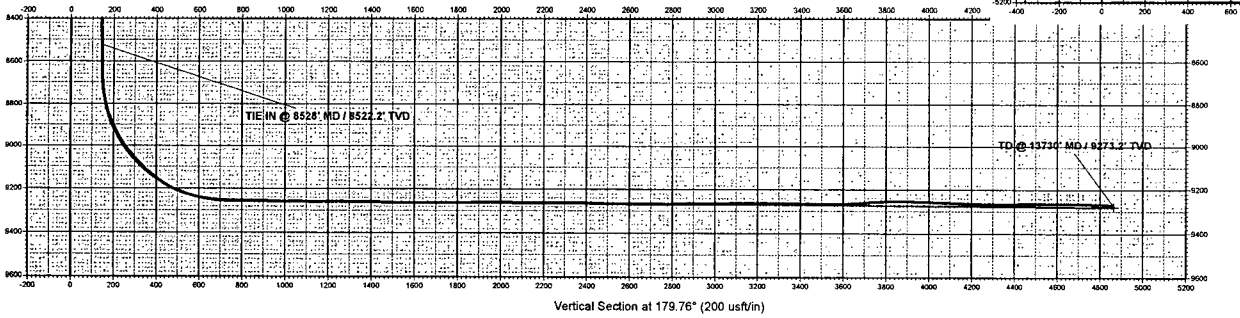
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL Red Hills West 21 DM Fed Com #1H Design #1 - plan hits target center	9281.0	-4865.6	20.3	372199.79	700342.52	32° 1' 17.918 N	103° 41' 12.877 W

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
8528.0	1.54	230.13	8522.2	-145.2	212.1	257.1	294.3	TIE IN @ 8528' MD / 8522.2' TVD
13730.0	88.00	181.10	9273.2	-4862.0	36.0	2776.6	5019.3	TD @ 13730' MD / 9273.2' TVD





Vertical Section at 179.76° (200 usft/in)