

PathFinder Energy Services, Inc.

BHL Report

Page 01/01

Tie-in Date: 06/02/2007

Date Completed: 06/21/2007

MEWBOURNE OIL CO.
 ST1 WOOD DRAW 35 FED #3
 EDDY COUNTY, NM
 Rig:PATTERSON 48
 PathFinder Office Supervisor:
 PathFinder Field Engineers:G. DAVILA
 C. DAVILA

Survey Horiz. Reference:WELLHEAD
 Ref Coordinates: LAT:32.9.56.7972 N LON:103.57.20.5704 W
 GRID Reference:NAD27 new mexico east Transverse Mercator
 Ref GRID Coord: X: 616849.2545 Y: 424235.5837
 North Aligned To:TRUE NORTH
 Total Magnetic Correction: 8.03° EAST TO TRUE
 Vertical Section Plane: 0.00
 Survey Vert. Reference:3055.00' Kelly Bushing To Ground

Measured Depth	7000.00	(feet)
Inclination	89.16	(deg)
Azimuth	3.02	(deg)
True Vertical Depth	5291.07	(feet)
Vertical Section	1884.48	(feet)
Survey X cord	616818.53	(feet)
Survey Y cord	426119.87	(feet)
Survey Lat	32.17095712 N	(deg)
Survey Lon	103.95579194 W	(deg)
Rectangular Corr. N/S	1884.48 N	(feet)
Rectangular Corr. E/W	30.69 W	(feet)
Closure Distance	1884.73	(feet)
Direction of Closure	359.07	(deg)
Dogleg Severity	0.00	(deg/100ft)

FINDER

ENERGY SERVICES

TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	Mewbourne Oil Co.		
LEASE / WELL No.:	WoodDraw	35 FED. #3	
WELL LOCATION:	Eddy County		
COUNTY / STATE / COUNTRY:	Eddy County	NM	USA
RIG:	Patterson # 48		
API WELL No:	30-015-35568		
JOB No:	101006414 WT-WT		
P.O. / AFE No.	N/A		
DIRECTIONAL COMPANY:	Pathfinder Energy		

WELL SITE INFORMATION

MAGNETIC DECLINATION:			
On Wall Plat:	8.03	LWD Calculated:	8.025042
		Agreed Upon:	8.03
X =	616849.238000	Feet	Y = 424235.402000
			Feet
SITE LATITUDE:	32.165777 N	SITE LONGITUDE:	103.955714 W
GRID SYSTEM:	TRUE ☐ UTM ☒ LAMBERT ☐ ZONE:		
PROPOSED DRIFT DIRECTION:	0		
KELLY BUSHING ELEVATION:	18.5		
ALTITUDE:	3055	Feet	WATER DEPTH:
			Feet

TIE-IN SURVEY

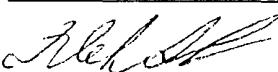
MEASURED DEPTH:	4550		
DRIFT ANGLE:	0.13		
DRIFT DIRECTION:	242.94		
TRUE VERTICAL DEPTH:	4548.59		
VERTICAL SECTION:	0		
RECTANGULAR COORDINATE (N / S) :	-79.92		
RECTANGULAR COORDINATE (E / W) :	8.48		
CLOSURE DISTANCE / DIRECTION:	80.37		173.94
SURVEY CALCULATION METHOD:	AA ☐ MC ☒ RC ☐ BT ☐		
SOURCE OF TIE-IN DATA (COMPANY):	Scientific Drilling Controls		
COPY OF TIE-IN SURVEY REPORT	☒ YES ☐ NO		

WELL PLAN

KICKOFF DEPTH:	4683'	TOTAL DEPTH:	7683.28
KICKOFF ANGLE:	0.13	MAX ANGLE:	90.43

PES Engineers: _____

**Signature of both field engineers required if applicable

Directional Driller: 

DATE: _____

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MEWBOURNE OIL CO.
ST1 WOOD DRAW 35 FED #3
EDDY COUNTY, NM
Rig:PATTERSON 48
PathFinder Office Supervisor:
PathFinder Field Engineers: G. DAVILA
C. DAVILA

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.9.56.7972 N LON:103.57.20.5704 W
Reference:NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 616849.2545 Y: 424235.5837
North Aligned To:TRUE NORTH
Total Magnetic Correction: 8.03° EAST TO TRUE
Vertical Section Plane: 0.00
Survey Vert. Reference:3055.00' Kelly Bushing To Ground

Survey Calculations by RX5 V5.11D using Minimum Curvature

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Retangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
TIE IN PROVIDED BY SCIENTIFIC DRILLING @ 4550' MD.										
4550.00	0.13	242.94	4548.59	0.00	-79.92	79.92 S	8.48 E	80.37@	173.94	0.00
THE FOLLOWING ARE PATHFINDER MWD SURVEYS										
4635.00	0.18	214.31	4633.59	85.00	-80.07	80.07 S	8.32 E	80.51@	174.07	0.11
4667.00	0.09	339.82	4665.59	32.00	-80.09	80.09 S	8.28 E	80.52@	174.10	0.76
4698.00	2.55	356.96	4696.58	31.00	-79.38	79.38 S	8.24 E	79.81@	174.08	7.95
4730.00	6.07	353.53	4728.48	32.00	-76.99	76.99 S	8.01 E	77.40@	174.06	11.02
4762.00	9.41	353.35	4760.19	32.00	-72.71	72.71 S	7.51 E	73.09@	174.10	10.44
4793.00	12.75	354.32	4790.61	31.00	-66.78	66.78 S	6.88 E	67.14@	174.12	10.79
4825.00	15.65	355.73	4821.62	32.00	-58.96	58.96 S	6.21 E	59.29@	173.99	9.13
4857.00	18.73	356.43	4852.19	32.00	-49.53	49.53 S	5.57 E	49.84@	173.58	9.65
4889.00	21.37	356.78	4882.25	32.00	-38.58	38.58 S	4.92 E	38.89@	172.73	8.26
4920.00	23.83	357.75	4910.87	31.00	-26.68	26.68 S	4.36 E	27.03@	170.72	8.03
4952.00	26.29	356.96	4939.85	32.00	-13.14	13.14 S	3.73 E	13.66@	164.16	7.76
4984.00	28.58	355.90	4968.25	32.00	1.57	1.57 N	2.81 E	3.22@	60.77	7.32
5016.00	31.22	355.99	4995.99	32.00	17.48	17.48 N	1.68 E	17.56@	5.49	8.25
5047.00	33.68	356.43	5022.15	31.00	34.08	34.08 N	0.58 E	34.08@	0.98	7.97
5079.00	36.23	356.69	5048.37	32.00	52.38	52.38 N	0.52 W	52.38@	359.43	7.98
5111.00	38.16	357.04	5073.86	32.00	71.69	71.69 N	1.57 W	71.71@	358.74	6.07
5143.00	40.36	357.83	5098.64	32.00	91.92	91.92 N	2.48 W	91.95@	358.46	7.05
5174.00	43.26	357.92	5121.74	31.00	112.57	112.57 N	3.24 W	112.62@	358.35	9.36
5206.00	46.08	357.83	5144.50	32.00	135.05	135.05 N	4.08 W	135.11@	358.27	8.81
5238.00	49.15	357.48	5166.07	32.00	158.66	158.66 N	5.05 W	158.74@	358.18	9.63
5270.00	52.76	355.99	5186.22	32.00	183.47	183.47 N	6.47 W	183.58@	357.98	11.85

PathFinder Energy Services, Inc.

Survey Report

MEWBOURNE OIL CO.
ST1 WOOD DRAW 35 FED #3
EDDY COUNTY, NM
RIG:PATTERSON 48

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Retangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
5302.00	56.10	356.13	5204.83	32.00	209.43	209.43 N	8.26 W	209.60@	357.74	10.44
5334.00	59.00	356.46	5222.00	32.00	236.38	236.38 N	10.00 W	236.59@	357.58	9.10
5366.00	61.64	356.92	5237.84	32.00	264.13	264.13 N	11.60 W	264.39@	357.48	8.34
5397.00	64.10	357.01	5251.98	31.00	291.68	291.68 N	13.06 W	291.97@	357.44	7.94
5429.00	66.57	357.29	5265.33	32.00	320.72	320.72 N	14.51 W	321.05@	357.41	7.76
5460.00	70.17	357.50	5276.76	31.00	349.50	349.50 N	15.82 W	349.86@	357.41	11.63
5492.00	74.22	357.48	5286.54	32.00	379.94	379.94 N	17.15 W	380.32@	357.42	12.66
5524.00	77.21	357.47	5294.44	32.00	410.91	410.91 N	18.52 W	411.33@	357.42	9.34
5556.00	80.37	357.88	5300.66	32.00	442.27	442.27 N	19.79 W	442.71@	357.44	9.95
5587.00	83.54	359.15	5304.99	31.00	472.95	472.95 N	20.58 W	473.40@	357.51	11.00
5619.00	86.17	0.03	5307.86	32.00	504.82	504.82 N	20.81 W	505.25@	357.64	8.66
5651.00	87.14	0.85	5309.73	32.00	536.76	536.76 N	20.57 W	537.16@	357.81	3.97
5679.00	87.93	0.38	5310.93	28.00	564.74	564.74 N	20.27 W	565.10@	357.94	3.28
5711.00	86.70	358.80	5312.43	32.00	596.70	596.70 N	20.50 W	597.05@	358.03	6.25
5743.00	86.88	357.48	5314.23	32.00	628.63	628.63 N	21.53 W	629.00@	358.04	4.16
5774.00	87.14	356.43	5315.84	31.00	659.54	659.54 N	23.18 W	659.95@	357.99	3.49
5869.00	89.60	358.63	5318.55	95.00	754.40	754.40 N	27.27 W	754.90@	357.93	3.47
5884.00	89.87	357.57	5318.61	15.00	769.40	769.40 N	27.76 W	769.90@	357.93	7.29
5901.00	90.13	357.75	5318.61	17.00	786.38	786.38 N	28.46 W	786.90@	357.93	1.86
5933.00	90.31	358.98	5318.49	32.00	818.37	818.37 N	29.37 W	818.89@	357.94	3.88
5965.00	90.48	358.80	5318.27	32.00	850.36	850.36 N	29.99 W	850.89@	357.98	0.77
5996.00	90.57	358.80	5317.99	31.00	881.35	881.35 N	30.64 W	881.88@	358.01	0.29
6028.00	90.84	358.63	5317.59	32.00	913.34	913.34 N	31.36 W	913.88@	358.03	1.00
6060.00	91.01	358.27	5317.08	32.00	945.33	945.33 N	32.22 W	945.87@	358.05	1.24
6092.00	91.28	358.71	5316.44	32.00	977.31	977.31 N	33.07 W	977.87@	358.06	1.61
6124.00	91.45	358.80	5315.67	32.00	1009.29	1009.29 N	33.76 W	1009.86@	358.08	0.60
6155.00	91.71	358.98	5314.82	31.00	1040.27	1040.27 N	34.36 W	1040.84@	358.11	1.02

PathFinder Energy Services, Inc.

Survey Report

MEWBOURNE OIL CO.
ST1 WOOD DRAW 35 FED #3
EDDY COUNTY, NM
RIG:PATTERSON 48

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Retangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
6187.00	90.75	359.42	5314.13	32.00	1072.26	1072.26 N	34.81 W	1072.83@	358.14	3.30
6219.00	91.01	359.07	5313.64	32.00	1104.26	1104.26 N	35.23 W	1104.82@	358.17	1.36
6251.00	91.45	359.42	5312.95	32.00	1136.25	1136.25 N	35.65 W	1136.81@	358.20	1.76
6282.00	90.57	359.68	5312.41	31.00	1167.24	1167.24 N	35.90 W	1167.79@	358.24	2.96
6314.00	90.66	359.59	5312.06	32.00	1199.24	1199.24 N	36.10 W	1199.78@	358.28	0.40
6346.00	90.84	359.59	5311.65	32.00	1231.23	1231.23 N	36.33 W	1231.77@	358.31	0.56
6378.00	90.75	359.24	5311.20	32.00	1263.23	1263.23 N	36.66 W	1263.76@	358.34	1.13
6410.00	90.22	359.07	5310.93	32.00	1295.22	1295.22 N	37.13 W	1295.76@	358.36	1.74
6441.00	90.13	359.33	5310.84	31.00	1326.22	1326.22 N	37.56 W	1326.75@	358.38	0.89
6473.00	90.04	358.63	5310.79	32.00	1358.22	1358.22 N	38.13 W	1358.75@	358.39	2.21
6505.00	90.84	358.80	5310.54	32.00	1390.21	1390.21 N	38.85 W	1390.75@	358.40	2.55
6536.00	91.80	359.07	5309.83	31.00	1421.19	1421.19 N	39.42 W	1421.74@	358.41	3.22
6568.00	92.51	358.98	5308.63	32.00	1453.16	1453.16 N	39.97 W	1453.71@	358.42	2.24
6600.00	92.68	359.51	5307.18	32.00	1485.13	1485.13 N	40.39 W	1485.68@	358.44	1.74
6632.00	92.51	0.30	5305.73	32.00	1517.10	1517.10 N	40.44 W	1517.64@	358.47	2.52
6663.00	92.77	0.03	5304.30	31.00	1548.06	1548.06 N	40.35 W	1548.59@	358.51	1.21
6695.00	93.12	0.03	5302.66	32.00	1580.02	1580.02 N	40.34 W	1580.54@	358.54	1.09
6727.00	92.77	1.26	5301.01	32.00	1611.98	1611.98 N	39.98 W	1612.47@	358.58	3.99
6759.00	93.03	1.70	5299.39	32.00	1643.92	1643.92 N	39.15 W	1644.39@	358.64	1.60
6790.00	94.18	1.26	5297.44	31.00	1674.85	1674.85 N	38.35 W	1675.29@	358.69	3.97
6816.00	94.70	1.00	5295.43	26.00	1700.77	1700.77 N	37.84 W	1701.19@	358.73	2.24
6848.00	93.21	1.70	5293.22	32.00	1732.68	1732.68 N	37.09 W	1733.08@	358.77	5.14
6880.00	91.80	1.70	5291.83	32.00	1764.64	1764.64 N	36.14 W	1765.01@	358.83	4.41
6912.00	91.89	1.97	5290.79	32.00	1796.60	1796.60 N	35.12 W	1796.95@	358.88	0.89
6943.00	89.87	3.20	5290.32	31.00	1827.57	1827.57 N	33.72 W	1827.88@	358.94	7.63
6957.00	89.16	3.02	5290.44	14.00	1841.55	1841.55 N	32.96 W	1841.84@	358.97	5.23
STRAIGHT LINE PROJECTION TO BIT @ 7000' MD.										
7000.00	89.16	3.02	5291.07	43.00	1884.48	1884.48 N	30.69 W	1884.73@	359.07	0.00

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

MEWBOURNE OIL
WOOD DRAW 35 FED #3H
EDDY COUNTY, NEW MEXICO
Rig: PATTERSON #48

Mon May 28 10:16:08 2007

Coordinates

Latitude:	32.165777 N (32 deg. 9 min. 56.7954 sec.)
Longitude:	103.955714 W (-103 deg. 57 min. 20.5706 sec.)
Elevation:	3055.00 feet.
Calculation Date:	May/28/2007

Magnetic Calculations

Model:	IGRF2005
Dip Angle:	60.1714 degrees
Total Magnetic Field:	0.48965 gauss
Magnetic Declination:	8.226078 degrees
Horizontal Intensity:	0.243557 gauss

To Convert a Magnetic Dir. to a TRUE North Dir. Add 8.226078 Degs

Transverse Mercator Grid Calculations NAD27

Grid System:	Transverse Mercator: new mexico east
Ellipsoid:	Clarke 1866
X:	616849.2380 feet
Y:	424235.4020 feet
True to Grid: (convergence)	-0.201036 degrees
Magnetic to Grid:	8.025042 degrees

To Convert a Magnetic Dir. to a GRID dir. Add 8.025042 Degs.

OPERATOR MEWBOURNE OIL CO.
WELL/LEASE WOOD DRAW 35 FED. 3
COUNTY EDDY

048-0050

STATE OF NEW MEXICO
DEVIATION REPORT

233	0.50
474	1.00
756	0.75
1,021	0.75
1,259	1.50
1,513	2.00
1,736	2.50
1,863	2.75
1,926	2.75
2,021	2.75
2,122	2.75
2,195	2.50
2,328	2.50
2,386	2.50
2,479	2.00
2,575	1.50
2,670	1.25
2,766	1.50
2,860	1.50
2,960	1.50
3,056	1.00
3,175	0.25
3,304	0.50
3,404	0.25
3,653	0.25
3,912	0.25
4,130	0.25
4,161	0.50
4,389	0.25
4,683	0.25

STATE OF TEXAS

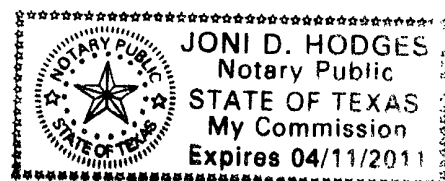
COUNTY OF MIDLAND

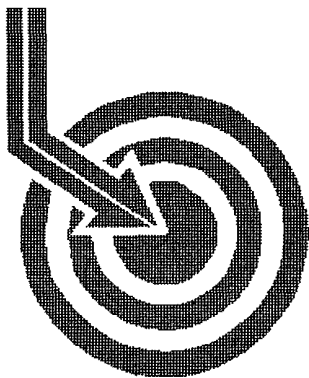
BY: Steve Moore

The foregoing instrument was acknowledged before me on
Moore on behalf of Patterson-UTL Drilling Company LLC.

July 3, 2007, by Steve

Joni D. Hodges
Notary Public for Midland County, Texas
My Commission Expires: 4/11/11





Scientific Drilling

MEWBOURNE OIL

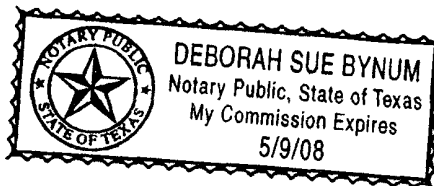
Field: Corral Canyon
Site: Eddy County, NM
Well: Wood Draw 35 Fed #3H
Wellpath: VH - Job #32K0607447
Survey: 06/01/07

This survey is correct to the best of my knowledge
and is supported by actual field data.

.....*Bhavan*.....Company Representative

Notorized this date 11th of July, 2007.

Deborah Sue Bynum
Notary Signature
County of Midland
State of Texas





Scientific Drilling International

Survey Report

Company: MEWBOURNE OIL
Field: Corral Canyon
Site: Eddy County, NM
Well: Wood Draw 35 Fed #3H
Wellpath: VH - Job #32K0607447

Date: 06/26/2007
Co-ordinate(NE) Reference: Site: Eddy County, NM - Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,352.69Azi)
Survey Calculation Method: Minimum Curvature **Db:** Sybase

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Survey: 06/01/07
Company: Scientific Drilling Internatio
Tool: Keeper;Keeper Gyro

Start Date: 06/01/2007
Engineer: Rehders/Lilja w/GeoGyro
Tied-to: From Surface

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.38	190.21	100.00	-0.32	-0.33	-0.06	0.38	0.33	190.21
200.00	0.29	178.31	200.00	-0.88	-0.91	-0.11	0.11	0.91	186.93
300.00	0.70	178.99	299.99	-1.74	-1.77	-0.09	0.41	1.77	182.97
400.00	0.90	171.74	399.98	-3.14	-3.16	0.03	0.22	3.16	179.42
500.00	0.95	176.99	499.97	-4.75	-4.76	0.19	0.10	4.77	177.74
600.00	0.69	170.29	599.96	-6.18	-6.18	0.33	0.28	6.19	176.92
700.00	0.52	133.05	699.96	-7.13	-7.09	0.77	0.42	7.13	173.83
800.00	0.81	136.58	799.95	-8.05	-7.91	1.58	0.29	8.07	168.68
900.00	0.88	138.07	899.94	-9.25	-8.99	2.58	0.07	9.36	163.98
1000.00	0.87	133.43	999.93	-10.47	-10.09	3.65	0.07	10.73	160.12
1100.00	1.05	146.90	1099.91	-11.88	-11.38	4.70	0.29	12.31	157.56
1200.00	1.39	145.73	1199.89	-13.79	-13.15	5.88	0.34	14.40	155.90
1300.00	1.80	151.12	1299.85	-16.33	-15.53	7.32	0.44	17.17	154.74
1400.00	1.95	155.10	1399.80	-19.41	-18.44	8.80	0.20	20.43	154.50
1500.00	2.28	161.93	1499.73	-22.99	-21.88	10.13	0.41	24.11	155.15
1600.00	2.33	167.78	1599.65	-26.97	-25.76	11.18	0.24	28.08	156.54
1700.00	2.36	172.80	1699.56	-31.05	-29.78	11.87	0.21	32.06	158.28
1800.00	2.61	183.38	1799.47	-35.35	-34.10	11.99	0.52	36.15	160.63
1900.00	2.77	182.26	1899.36	-39.97	-38.79	11.76	0.17	40.53	163.13
2000.00	2.58	187.33	1999.25	-44.53	-43.43	11.38	0.30	44.90	165.32
2100.00	2.51	194.78	2099.15	-48.74	-47.78	10.53	0.34	48.93	167.57
2200.00	2.50	200.99	2199.06	-52.69	-51.94	9.19	0.27	52.75	169.96
2300.00	2.33	207.06	2298.97	-56.28	-55.78	7.49	0.31	56.28	172.35
2400.00	2.30	210.19	2398.89	-59.55	-59.33	5.55	0.13	59.59	174.65
2500.00	1.82	196.30	2498.82	-62.60	-62.59	4.10	0.69	62.72	176.25
2600.00	1.60	181.87	2598.78	-65.43	-65.51	3.61	0.48	65.61	176.85
2700.00	1.76	175.00	2698.74	-68.35	-68.43	3.70	0.26	68.53	176.91
2800.00	1.67	162.07	2798.69	-71.31	-71.35	4.28	0.40	71.48	176.57
2900.00	1.59	152.80	2898.65	-74.05	-73.97	5.36	0.28	74.16	175.85
3000.00	1.42	143.30	2998.62	-76.43	-76.20	6.74	0.30	76.49	174.95
3100.00	0.65	152.04	3098.60	-78.04	-77.69	7.74	0.78	78.08	174.31
3200.00	0.22	134.57	3198.60	-78.73	-78.33	8.15	0.45	78.75	174.06
3300.00	0.22	117.90	3298.60	-78.99	-78.55	8.45	0.06	79.00	173.86
3400.00	0.20	132.50	3398.60	-79.23	-78.76	8.75	0.06	79.24	173.66
3500.00	0.18	131.08	3498.60	-79.48	-78.98	9.00	0.02	79.49	173.50
3600.00	0.07	77.40	3598.59	-79.59	-79.07	9.18	0.15	79.60	173.38
3700.00	0.04	12.97	3698.59	-79.56	-79.02	9.24	0.06	79.56	173.33
3800.00	0.02	275.12	3798.59	-79.52	-78.99	9.23	0.05	79.52	173.33
3900.00	0.08	198.99	3898.59	-79.58	-79.05	9.19	0.08	79.58	173.37
4000.00	0.06	191.17	3998.59	-79.69	-79.17	9.16	0.02	79.70	173.40
4100.00	0.12	210.79	4098.59	-79.82	-79.31	9.10	0.07	79.83	173.46
4200.00	0.12	194.31	4198.59	-80.00	-79.50	9.02	0.03	80.01	173.53
4300.00	0.10	241.10	4298.59	-80.13	-79.64	8.91	0.09	80.14	173.61
4400.00	0.11	251.84	4398.59	-80.18	-79.72	8.75	0.02	80.20	173.74
4500.00	0.15	220.22	4498.59	-80.29	-79.85	8.57	0.08	80.31	173.87
4550.00	0.13	242.94	4548.59	-80.35	-79.92	8.48	0.12	80.37	173.94



Scientific
Drilling

Field: Corral Canyon
Site: Eddy County, NM
Well: Wood Draw 35 Fed #3H
Wellpath: VH - Job #32K0607447
Survey: 06/01/07

