



Company: Mewbourne
Lease/Well: Delaware Ranch 11 Fed Com/#2H

Rig Name: Patterson 75
State/County: New Mexico/Eddy
Latitude: 32.06, Longitude: -104.05
GRID North is 0.15 Degrees East of True North
VS-Azi: 0.00 Degrees



30-015-39546

FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB=23 Feet Elevation=2968 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: ...are ranch 11 fed com 2h_ed.ut

Minimum Curvature Method

Report Date/Time: 12/5/2011 / 21:08

Vaughn Energy Services
Midland, TX
432-563-5444
Zach Garcia

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	194.39	100.00	-0.29	-0.07	-0.29	0.30	194.39	0.34
200.00	0.31	236.84	200.00	-0.73	-0.37	-0.73	0.82	207.16	0.24
300.00	0.49	148.89	300.00	-1.24	-0.38	-1.24	1.30	196.95	0.57
400.00	0.45	70.63	399.99	-1.48	0.22	-1.48	1.49	171.71	0.60
500.00	0.69	82.59	499.99	-1.27	1.19	-1.27	1.74	136.87	0.27
600.00	0.86	94.26	599.98	-1.24	2.53	-1.24	2.82	116.18	0.23
700.00	0.74	125.23	699.97	-1.67	3.80	-1.67	4.16	113.73	0.44
800.00	0.44	140.34	799.96	-2.34	4.58	-2.34	5.14	117.08	0.33
900.00	0.14	137.19	899.96	-2.73	4.91	-2.73	5.62	119.07	0.30
1000.00	0.34	135.95	999.96	-3.03	5.20	-3.03	6.02	120.26	0.19
1100.00	0.31	168.16	1099.96	-3.51	5.46	-3.51	6.49	122.75	0.18
1200.00	0.24	157.69	1199.96	-3.97	5.60	-3.97	6.86	125.37	0.09
1300.00	0.55	151.57	1299.96	-4.59	5.90	-4.59	7.48	127.85	0.31
1400.00	0.98	183.65	1399.95	-5.86	6.08	-5.86	8.44	133.96	0.59
1500.00	1.10	183.64	1499.93	-7.67	5.96	-7.67	9.71	142.16	0.13
1600.00	1.02	197.11	1599.92	-9.48	5.64	-9.48	11.03	149.28	0.26
1700.00	0.88	198.94	1699.90	-11.06	5.12	-11.06	12.19	155.15	0.14
1800.00	0.78	197.08	1799.89	-12.44	4.67	-12.44	13.29	159.41	0.10
1900.00	0.80	175.42	1899.88	-13.79	4.53	-13.79	14.52	161.82	0.30
2000.00	1.37	175.06	1999.86	-15.69	4.69	-15.69	16.37	163.36	0.57
2100.00	1.45	165.14	2099.83	-18.10	5.12	-18.10	18.81	164.22	0.25
2200.00	1.59	170.99	2199.80	-20.69	5.66	-20.69	21.45	164.71	0.21
2300.00	1.89	142.12	2299.75	-23.36	6.89	-23.36	24.36	163.57	0.92
2400.00	2.65	127.52	2399.67	-26.08	9.74	-26.08	27.84	159.52	0.95
2500.00	1.81	140.48	2499.60	-28.71	12.58	-28.71	31.34	156.33	0.98
2600.00	1.65	158.61	2599.55	-31.27	14.12	-31.27	34.31	155.71	0.57
2700.00	1.42	170.10	2699.52	-33.84	14.86	-33.84	36.95	156.30	0.39
2800.00	1.36	161.93	2799.49	-36.18	15.44	-36.18	39.34	156.90	0.21
2900.00	1.24	148.69	2899.46	-38.23	16.36	-38.23	41.59	156.83	0.32
3000.00	0.93	154.85	2999.45	-39.89	17.27	-39.89	43.47	156.59	0.33
3100.00	0.99	165.79	3099.43	-41.46	17.83	-41.46	45.13	156.73	0.19
3200.00	0.91	183.35	3199.42	-43.08	17.99	-43.08	46.69	157.33	0.30
3300.00	1.23	185.77	3299.40	-44.94	17.84	-44.94	48.35	158.35	0.33
3400.00	1.08	179.65	3399.38	-46.96	17.73	-46.96	50.20	159.31	0.19

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
3500.00	0.69	198.03	3499.37	-48.48	17.55	-48.48	51.56	160.10	0.48
3600.00	0.39	240.77	3599.36	-49.23	17.07	-49.23	52.10	160.88	0.49
3700.00	0.64	264.65	3699.36	-49.44	16.21	-49.44	52.03	161.85	0.33
3800.00	0.77	259.19	3799.35	-49.62	14.99	-49.62	51.84	163.19	0.14
3900.00	0.78	266.92	3899.34	-49.78	13.65	-49.78	51.62	164.66	0.11
4000.00	0.58	229.51	3999.34	-50.15	12.58	-50.15	51.71	165.92	0.48
4100.00	0.63	254.02	4099.33	-50.63	11.67	-50.63	51.96	167.02	0.26
4200.00	0.69	230.81	4199.32	-51.16	10.68	-51.16	52.27	168.21	0.27
4300.00	1.03	222.09	4299.31	-52.21	9.61	-52.21	53.09	169.57	0.36
4400.00	0.85	243.08	4399.30	-53.22	8.34	-53.22	53.87	171.09	0.38
4500.00	1.01	248.06	4499.29	-53.88	6.86	-53.88	54.32	172.74	0.17
4600.00	0.96	221.23	4599.27	-54.84	5.49	-54.84	55.11	174.28	0.46
4700.00	0.80	221.58	4699.26	-55.98	4.48	-55.98	56.16	175.42	0.16
4800.00	1.23	226.52	4799.24	-57.24	3.25	-57.24	57.33	176.75	0.44
4900.00	0.73	240.01	4899.23	-58.29	1.92	-58.29	58.33	178.11	0.54
5000.00	1.12	201.81	4999.22	-59.52	1.00	-59.52	59.53	179.03	0.71
5100.00	0.90	202.41	5099.20	-61.16	0.34	-61.16	61.16	179.68	0.22
5200.00	1.02	207.46	5199.19	-62.67	-0.37	-62.67	62.67	180.34	0.14
5300.00	1.12	220.05	5299.17	-64.20	-1.40	-64.20	64.22	181.25	0.25
5400.00	1.27	190.01	5399.15	-66.04	-2.22	-66.04	66.07	181.93	0.63
5500.00	1.79	189.66	5499.11	-68.67	-2.68	-68.67	68.72	182.23	0.53
5600.00	1.20	182.73	5599.08	-71.25	-2.99	-71.25	71.32	182.40	0.62
5700.00	1.72	184.89	5699.05	-73.79	-3.17	-73.79	73.86	182.46	0.53
5800.00	1.39	174.54	5799.01	-76.49	-3.18	-76.49	76.56	182.38	0.43
5900.00	1.51	179.93	5898.98	-79.01	-3.06	-79.01	79.07	182.22	0.18
6000.00	1.82	212.12	5998.94	-81.67	-3.90	-81.67	81.76	182.74	0.97
6100.00	1.88	199.18	6098.89	-84.56	-5.29	-84.56	84.72	183.58	0.42
6200.00	1.55	224.08	6198.84	-87.07	-6.76	-87.07	87.34	184.44	0.81
6250.00	1.71	226.10	6248.82	-88.07	-7.77	-88.07	88.42	185.04	0.34

HORIZONTAL DISPLACEMENT IS
88.42 FEET AT 185.04 DEGREES

Mewbourne

Eddy County

Deleware Ranch "11" Fed Com

#2H

OH

Design: OH

Pathfinder X & Y Report

20 December, 2011

PATHFINDER®
A Schlumberger Company

Pathfinder
Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company:	Mewbourne	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	KB = 23' @ 2991.0usft (Original Well Elev)
Site:	Deleware Ranch "11" Fed Com	MD Reference:	KB = 23' @ 2991.0usft (Original Well Elev)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

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

Site:	Deleware Ranch "11" Fed Com		
Site Position:		Northing:	386,801.950 usft
From:	Map	Easting:	586,448.340 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 3' 47.256 N
		Longitude:	104° 3' 15.379 W
		Grid Convergence:	0 15 °

Well:	#2H					
Well Position	+N/-S	0 0 usft	Northing:	386,801 950 usft	Latitude:	32° 3' 47.256 N
	+E/-W	0 0 usft	Easting:	586,448 340 usft	Longitude:	104° 3' 15.379 W
Position Uncertainty	0 0 usft		Wellhead Elevation:	usft	Ground Level:	2,968.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/21/2011	7 74	59 94	48,425

Design:	OH			
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	180 07

Pathfinder
Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company:	Mewbourne	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	KB = 23' @ 2991.0usft (Original Well Elev)
Site:	Deleware Ranch "11" Fed Com	MD Reference:	KB = 23' @ 2991.0usft (Original Well Elev)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey Program	Date	12/20/2011									
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description							
100.0	6,250.0	Gyro #1 (OH)	CB-GYRO-MS	Camera based gyro multishot							
6,342.0	11,114.0	MWD #2 (OH)	MWD	MWD - Standard							

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
0.0	0.00	0.00	0.0	-2,991.0	0.0	0.0	0.0	0.00	386,801.95	586,448.34
100.0	0.34	194.39	100.0	-2,891.0	-0.3	-0.1	0.3	0.34	386,801.66	586,448.27
200.0	0.31	236.84	200.0	-2,791.0	-0.7	-0.4	0.7	0.24	386,801.23	586,447.97
300.0	0.49	148.89	300.0	-2,691.0	-1.2	-0.4	1.2	0.57	386,800.71	586,447.96
400.0	0.45	70.63	400.0	-2,591.0	-1.5	0.2	1.5	0.59	386,800.48	586,448.55
500.0	0.69	82.59	500.0	-2,491.0	-1.3	1.2	1.3	0.27	386,800.69	586,449.52
600.0	0.86	94.26	600.0	-2,391.0	-1.2	2.5	1.2	0.23	386,800.71	586,450.86
700.0	0.74	125.23	700.0	-2,291.0	-1.7	3.8	1.7	0.44	386,800.28	586,452.14
800.0	0.44	140.34	800.0	-2,191.0	-2.3	4.6	2.3	0.34	386,799.61	586,452.91
900.0	0.14	137.19	900.0	-2,091.0	-2.7	4.9	2.7	0.30	386,799.23	586,453.24
1,000.0	0.34	135.95	1,000.0	-1,991.0	-3.0	5.2	3.0	0.20	386,798.92	586,453.53
1,100.0	0.31	168.16	1,100.0	-1,891.0	-3.5	5.5	3.5	0.18	386,798.44	586,453.79
1,200.0	0.24	157.69	1,200.0	-1,791.0	-4.0	5.6	4.0	0.09	386,797.99	586,453.93
1,300.0	0.55	151.57	1,300.0	-1,691.0	-4.6	5.9	4.6	0.31	386,797.37	586,454.24
1,400.0	0.98	183.65	1,399.9	-1,591.1	-5.9	6.1	5.8	0.59	386,796.09	586,454.41
1,500.0	1.10	183.64	1,499.9	-1,491.1	-7.7	6.0	7.7	0.12	386,794.28	586,454.29
1,600.0	1.02	197.11	1,599.9	-1,391.1	-9.5	5.6	9.5	0.26	386,792.47	586,453.97
1,700.0	0.88	198.94	1,699.9	-1,291.1	-11.1	5.1	11.0	0.14	386,790.90	586,453.46
1,800.0	0.78	197.08	1,799.9	-1,191.1	-12.4	4.7	12.4	0.10	386,789.52	586,453.01
1,900.0	0.80	175.42	1,899.9	-1,091.1	-13.8	4.5	13.8	0.30	386,788.17	586,452.87
2,000.0	1.37	175.06	1,999.9	-991.1	-15.7	4.7	15.7	0.57	386,786.29	586,453.03

Pathfinder
Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company:	Mewbourne	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	KB = 23' @ 2991.0usft (Original Well Elev)
Site:	Deleware Ranch "11" Fed Com	MD Reference:	KB = 23' @ 2991.0usft (Original Well Elev)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	D Leg (°/100usft)	Northing (usft)	Easting (usft)
2,100.0	1.45	165.14	2,099.8	-891.2	-18.1	5.1	18.1	0.26	386,783.87	586,453.45
2,200.0	1.59	170.99	2,199.8	-791.2	-20.7	5.7	20.7	0.21	386,781.28	586,453.99
2,300.0	1.89	142.12	2,299.8	-691.2	-23.3	6.9	23.3	0.91	386,778.61	586,455.22
2,400.0	2.65	127.52	2,399.7	-591.3	-26.1	9.7	26.0	0.95	386,775.90	586,458.07
2,500.0	1.81	140.48	2,499.6	-491.4	-28.7	12.6	28.7	0.97	386,773.27	586,460.91
2,600.0	1.65	158.61	2,599.6	-391.4	-31.2	14.1	31.2	0.57	386,770.71	586,462.44
2,700.0	1.42	170.10	2,699.5	-291.5	-33.8	14.8	33.8	0.38	386,768.15	586,463.18
2,800.0	1.36	161.93	2,799.5	-191.5	-36.1	15.4	36.1	0.21	386,765.80	586,463.76
2,900.0	1.24	148.69	2,899.5	-91.5	-38.2	16.3	38.2	0.32	386,763.75	586,464.69
3,000.0	0.93	154.85	2,999.4	8.4	-39.9	17.3	39.8	0.33	386,762.09	586,465.60
3,100.0	0.99	165.79	3,099.4	108.4	-41.4	17.8	41.4	0.19	386,760.52	586,466.15
3,200.0	0.91	183.35	3,199.4	208.4	-43.1	18.0	43.0	0.30	386,758.89	586,466.32
3,300.0	1.23	185.77	3,299.4	308.4	-44.9	17.8	44.9	0.32	386,757.03	586,466.16
3,400.0	1.08	179.65	3,399.4	408.4	-46.9	17.7	46.9	0.19	386,755.02	586,466.06
3,500.0	0.69	198.03	3,499.4	508.4	-48.4	17.5	48.4	0.48	386,753.50	586,465.88
3,600.0	0.39	240.77	3,599.4	608.4	-49.2	17.1	49.2	0.48	386,752.77	586,465.40
3,700.0	0.64	264.65	3,699.4	708.4	-49.4	16.2	49.4	0.32	386,752.55	586,464.55
3,800.0	0.77	259.19	3,799.4	808.4	-49.6	15.0	49.6	0.15	386,752.37	586,463.33
3,900.0	0.78	266.92	3,899.3	908.3	-49.7	13.6	49.7	0.10	386,752.21	586,461.99
4,000.0	0.58	229.51	3,999.3	1,008.3	-50.1	12.6	50.1	0.48	386,751.84	586,460.93
4,100.0	0.63	254.02	4,099.3	1,108.3	-50.6	11.7	50.6	0.26	386,751.36	586,460.01
4,200.0	0.69	230.81	4,199.3	1,208.3	-51.1	10.7	51.1	0.27	386,750.83	586,459.02
4,300.0	1.03	222.09	4,299.3	1,308.3	-52.2	9.6	52.2	0.36	386,749.78	586,457.95
4,400.0	0.85	243.08	4,399.3	1,408.3	-53.2	8.3	53.2	0.39	386,748.78	586,456.68
4,500.0	1.01	248.06	4,499.3	1,508.3	-53.8	6.9	53.8	0.18	386,748.11	586,455.20
4,600.0	0.96	221.23	4,599.3	1,608.3	-54.8	5.5	54.8	0.46	386,747.15	586,453.83
4,700.0	0.80	221.58	4,699.3	1,708.3	-55.9	4.5	55.9	0.16	386,746.00	586,452.82

Pathfinder
Pathfinder X & Y Report

PATHFINDER
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Company:	Mewbourne	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	KB = 23' @ 2991.0usft (Original Well Elev)
Site:	Deleware Ranch "11" Fed Com	MD Reference:	KB = 23' @ 2991.0usft (Original Well Elev)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc. (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
4,800.0	1.23	226.52	4,799.2	1,808.2	-57.2	3.2	57.2	0.44	386,744.74	586,451.58	
4,900.0	0.73	240.01	4,899.2	1,908.2	-58.3	1.9	58.3	0.55	386,743.68	586,450.25	
5,000.0	1.12	201.81	4,999.2	2,008.2	-59.5	1.0	59.5	0.71	386,742.46	586,449.33	
5,100.0	0.90	202.41	5,099.2	2,108.2	-61.1	0.3	61.1	0.22	386,740.83	586,448.67	
5,200.0	1.02	207.46	5,199.2	2,208.2	-62.6	-0.4	62.6	0.15	386,739.31	586,447.96	
5,300.0	1.12	220.05	5,299.2	2,308.2	-64.2	-1.4	64.2	0.25	386,737.77	586,446.92	
5,400.0	1.27	190.01	5,399.2	2,408.2	-66.0	-2.2	66.0	0.64	386,735.93	586,446.10	
5,500.0	1.79	189.66	5,499.1	2,508.1	-68.6	-2.7	68.7	0.52	386,733.30	586,445.64	
5,600.0	1.20	182.73	5,599.1	2,608.1	-71.2	-3.0	71.2	0.62	386,730.72	586,445.33	
5,700.0	1.72	184.89	5,699.0	2,708.0	-73.8	-3.2	73.8	0.52	386,728.17	586,445.15	
5,800.0	1.39	174.54	5,799.0	2,808.0	-76.5	-3.2	76.5	0.43	386,725.47	586,445.14	
5,900.0	1.51	179.93	5,899.0	2,908.0	-79.0	-3.1	79.0	0.18	386,722.95	586,445.26	
6,000.0	1.82	212.12	5,998.9	3,007.9	-81.7	-3.9	81.7	0.97	386,720.28	586,444.42	
6,100.0	1.88	199.18	6,098.9	3,107.9	-84.6	-5.3	84.6	0.42	386,717.39	586,443.03	
6,200.0	1.55	224.08	6,198.8	3,207.8	-87.1	-6.8	87.1	0.81	386,714.87	586,441.55	
6,250.0	1.71	226.10	6,248.8	3,257.8	-88.1	-7.8	88.1	0.34	386,713.87	586,440.55	
6,342.0	2.64	250.34	6,340.8	3,349.8	-89.7	-10.8	89.8	1.40	386,712.20	586,437.56	
6,374.0	3.87	236.46	6,372.7	3,381.7	-90.6	-12.4	90.6	4.54	386,711.36	586,435.97	
6,406.0	8.62	210.18	6,404.5	3,413.5	-93.3	-14.5	93.3	16.95	386,708.68	586,433.86	
6,438.0	13.19	205.34	6,435.9	3,444.9	-98.6	-17.3	98.7	14.55	386,703.31	586,431.09	
6,470.0	17.50	207.45	6,466.8	3,475.8	-106.2	-21.0	106.2	13.58	386,695.74	586,427.31	
6,502.0	19.79	208.51	6,497.1	3,506.1	-115.2	-25.8	115.3	7.23	386,686.71	586,422.50	
6,534.0	21.81	207.98	6,527.0	3,536.0	-125.3	-31.2	125.3	6.34	386,676.69	586,417.13	
6,565.0	23.74	206.49	6,555.6	3,564.6	-135.9	-36.7	136.0	6.50	386,666.02	586,411.64	
6,597.0	26.29	203.67	6,584.6	3,593.6	-148.2	-42.4	148.2	8.79	386,653.76	586,405.92	
6,629.0	28.31	201.39	6,613.0	3,622.0	-161.7	-48.0	161.8	7.11	386,640.21	586,400.31	
6,661.0	30.16	197.17	6,641.0	3,650.0	-176.5	-53.2	176.6	8.65	386,625.46	586,395.17	

Pathfinder
Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company:	Mewbourne	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	KB = 23' @ 2991.0usft (Original Well Elev)
Site:	Deleware Ranch "11" Fed Com	MD Reference:	KB = 23' @ 2991.0usft (Original Well Elev)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
6,693.0	32.18	192.95	6,668.3	3,677.3	-192.5	-57.5	192.5	9.29	386,609.47	586,390.88
6,725.0	34.38	189.52	6,695.1	3,704.1	-209.7	-60.9	209.8	9.05	386,592.25	586,387.48
6,756.0	36.67	186.53	6,720.3	3,729.3	-227.5	-63.4	227.6	9.27	386,574.42	586,384.98
6,788.0	38.87	184.51	6,745.6	3,754.6	-247.0	-65.2	247.1	7.89	386,554.91	586,383.10
6,822.0	40.54	183.37	6,771.8	3,780.8	-268.7	-66.7	268.8	5.36	386,533.25	586,381.61
6,853.0	42.74	182.32	6,794.9	3,803.9	-289.3	-67.7	289.4	7.44	386,512.67	586,380.60
6,885.0	44.85	181.00	6,818.0	3,827.0	-311.4	-68.4	311.5	7.18	386,490.54	586,379.96
6,917.0	47.92	179.15	6,840.1	3,849.1	-334.6	-68.4	334.7	10.47	386,467.38	586,379.94
6,949.0	52.06	177.92	6,860.7	3,869.7	-359.1	-67.8	359.1	13.27	386,442.88	586,380.57
6,981.0	57.33	177.92	6,879.2	3,888.2	-385.2	-66.8	385.2	16.47	386,416.79	586,381.52
7,012.0	61.47	178.71	6,894.9	3,903.9	-411.8	-66.0	411.9	13.53	386,390.13	586,382.30
7,044.0	64.72	179.25	6,909.4	3,918.4	-440.4	-65.5	440.4	10.27	386,361.60	586,382.81
7,076.0	67.97	179.74	6,922.3	3,931.3	-469.7	-65.3	469.7	10.25	386,332.29	586,383.06
7,108.0	70.43	179.90	6,933.6	3,942.6	-499.6	-65.2	499.6	7.70	386,302.38	586,383.16
7,140.0	72.37	180.02	6,943.8	3,952.8	-529.9	-65.2	530.0	6.07	386,272.05	586,383.18
7,172.0	74.13	179.43	6,953.0	3,962.0	-560.5	-65.0	560.6	5.78	386,241.41	586,383.33
7,204.0	76.24	179.28	6,961.2	3,970.2	-591.5	-64.7	591.5	6.61	386,210.48	586,383.67
7,236.0	77.91	178.74	6,968.4	3,977.4	-622.7	-64.1	622.7	5.47	386,179.30	586,384.21
7,267.0	80.72	178.80	6,974.1	3,983.1	-653.1	-63.5	653.2	9.07	386,148.85	586,384.87
7,361.0	91.28	181.13	6,980.7	3,989.7	-746.7	-63.4	746.8	11.50	386,055.21	586,384.91
7,393.0	92.15	181.47	6,979.7	3,988.7	-778.7	-64.2	778.8	2.92	386,023.24	586,384.19
7,456.0	90.66	181.07	6,978.2	3,987.2	-841.7	-65.5	841.8	2.45	385,960.27	586,382.79
7,520.0	89.52	181.02	6,978.1	3,987.1	-905.7	-66.7	905.7	1.78	385,896.28	586,381.62
7,583.0	90.51	181.66	6,978.2	3,987.2	-968.6	-68.2	968.7	1.61	385,833.30	586,380.15
7,647.0	89.67	180.78	6,978.1	3,987.1	-1,032.6	-69.6	1,032.7	1.54	385,769.32	586,378.79
7,709.0	88.99	180.11	6,978.7	3,987.7	-1,094.6	-70.0	1,094.7	1.78	385,707.32	586,378.31
7,773.0	87.85	178.89	6,980.5	3,989.5	-1,158.6	-69.5	1,158.7	2.61	385,643.35	586,378.86

Pathfinder
Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company:	Mewbourne	Local Co-ordinate Reference:	Well #2H.
Project:	Eddy County	TVD Reference:	KB = 23' @ 2991 0usft (Original Well Elev)
Site:	Deleware Ranch "11" Fed Com	MD Reference:	KB = 23' @ 2991 0usft (Original Well Elev)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM:5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (%/100usft)	Northing (usft)	Easting (usft)	
7,837 0	89 43	180.63	6,982 0	3,991 0	-1,222 6	-69.2	1,222 7	3.67	385,579 38	586,379 13	
7,868 0	89 52	180.96	6,982.3	3,991.3	-1,253 6	-69.6	1,253.6	1.10	385,548 38	586,378 70	
7,900 0	89.43	181 17	6,982.5	3,991 5	-1,285.6	-70 2	1,285.6	0 71	385,516 39	586,378.11	
7,964 0	91.89	181 75	6,981.8	3,990 8	-1,349 5	-71 9	1,349.6	3 95	385,452.42	586,376.48	
8,027.0	92.86	181 86	6,979.2	3,988 2	-1,412.4	-73.8	1,412.5	1 55	385,389.50	586,374 49	
8,090 0	93 30	178 87	6,975 8	3,984 8	-1,475 3	-74 2	1,475.4	4.79	385,326 60	586,374.09	
8,154 0	91 36	177 02	6,973 2	3,982 2	-1,539 2	-72 0	1,539 3	4 19	385,262.70	586,376 39	
8,217 0	89.34	177 21	6,972 8	3,981.8	-1,602 2	-68.8	1,602 2	3.22	385,199.79	586,379 56	
8,281 0	88.64	176.37	6,974 0	3,983 0	-1,666 1	-65.2	1,666 1	1 71	385,135.90	586,383 14	
8,344 0	88 29	176.67	6,975 6	3,984.6	-1,728 9	-61.4	1,729.0	0 73	385,073.04	586,386 96	
8,408 0	87.85	176 92	6,977 8	3,986 8	-1,792 8	-57 8	1,792.8	0.79	385,009.17	586,390 54	
8,471 0	87 58	176 68	6,980.3	3,989.3	-1,855 6	-54.3	1,855.7	0.57	384,946.32	586,394 05	
8,534 0	87 85	176.03	6,982 8	3,991 8	-1,918 4	-50 3	1,918.5	1.12	384,883 50	586,398.06	
8,597 0	88 46	176 75	6,984 8	3,993 8	-1,981 3	-46.3	1,981.3	1.50	384,820.66	586,402.02	
8,661.0	88 02	176 92	6,986 8	3,995.8	-2,045 2	-42.8	2,045.2	0.74	384,756 79	586,405.55	
8,725 0	89 43	177 98	6,988 2	3,997 2	-2,109 1	-39 9	2,109 1	2 76	384,692 87	586,408.40	
8,789.0	90 66	178 85	6,988.2	3,997.2	-2,173.1	-38 2	2,173 1	2 35	384,628.89	586,410 17	
8,852 0	91 10	178 25	6,987 2	3,996 2	-2,236 0	-36.6	2,236.1	1 18	384,565.92	586,411 76	
8,915.0	91 71	177 72	6,985.7	3,994 7	-2,299 0	-34 4	2,299 0	1 28	384,502 98	586,413 98	
8,979 0	91 98	177 73	6,983 6	3,992 6	-2,362.9	-31.8	2,362 9	0 42	384,439 06	586,416 52	
9,043 0	91 71	177 99	6,981 6	3,990.6	-2,426 8	-29.4	2,426.8	0 59	384,375 14	586,418 90	
9,107 0	89 16	180.37	6,981 1	3,990 1	-2,490 8	-28.5	2,490 8	5 45	384,311 16	586,419.82	
9,170 0	87 93	182 34	6,982 7	3,991 7	-2,553 7	-30 0	2,553.8	3 69	384,248 20	586,418 33	
9,234 0	87 85	182 85	6,985.0	3,994 0	-2,617 6	-32 9	2,617 7	0 81	384,184 31	586,415 44	
9,297 0	89 08	183 53	6,986 7	3,995 7	-2,680.5	-36.4	2,680.6	2.23	384,121.43	586,411 93	
9,361 0	90 66	184 51	6,986.9	3,995 9	-2,744 4	-40 9	2,744 4	2.91	384,057 59	586,407 44	
9,424 0	90 31	183 67	6,986 3	3,995 3	-2,807 2	-45 4	2,807 2	1.44	383,994 76	586,402.95	

Pathfinder
Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company:	Mewbourne	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	KB = 23' @ 2991.0usft (Original Well Elev)
Site:	Deleware Ranch "11" Fed Com	MD Reference:	KB = 23' @ 2991.0usft (Original Well Elev)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 1 Single User Db

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
9,488.0	90.04	183.95	6,986.1	3,995.1	-2,871.1	-49.6	2,871.1	0.61	383,930.90	586,398.70
9,552.0	90.31	183.68	6,985.9	3,994.9	-2,934.9	-53.9	2,935.0	0.60	383,867.04	586,394.44
9,615.0	90.84	183.91	6,985.3	3,994.3	-2,997.8	-58.1	2,997.8	0.92	383,804.18	586,390.27
9,679.0	90.92	183.61	6,984.3	3,993.3	-3,061.6	-62.3	3,061.7	0.49	383,740.33	586,386.07
9,743.0	90.84	183.44	6,983.3	3,992.3	-3,125.5	-66.2	3,125.6	0.29	383,676.46	586,382.14
9,806.0	91.80	183.30	6,981.9	3,990.9	-3,188.4	-69.9	3,188.4	1.54	383,613.58	586,378.44
9,869.0	92.95	180.58	6,979.3	3,988.3	-3,251.3	-72.0	3,251.3	4.68	383,550.68	586,376.31
9,933.0	91.98	179.17	6,976.5	3,985.5	-3,315.2	-71.9	3,315.3	2.67	383,486.74	586,376.45
9,997.0	91.10	176.78	6,974.8	3,983.8	-3,379.1	-69.6	3,379.2	3.98	383,422.81	586,378.71
10,061.0	89.78	177.41	6,974.3	3,983.3	-3,443.1	-66.4	3,443.1	2.29	383,358.90	586,381.95
10,124.0	89.96	177.63	6,974.5	3,983.5	-3,506.0	-63.7	3,506.1	0.45	383,295.96	586,384.68
10,188.0	89.34	177.88	6,974.8	3,983.8	-3,569.9	-61.2	3,570.0	1.04	383,232.01	586,387.18
10,252.0	88.37	178.82	6,976.1	3,985.1	-3,633.9	-59.3	3,634.0	2.11	383,168.05	586,389.03
10,379.0	88.64	180.58	6,979.4	3,988.4	-3,760.9	-58.6	3,760.9	1.40	383,041.10	586,389.69
10,443.0	88.99	180.05	6,980.8	3,989.8	-3,824.8	-59.0	3,824.9	0.99	382,977.11	586,389.34
10,506.0	90.22	179.42	6,981.2	3,990.2	-3,887.8	-58.7	3,887.9	2.19	382,914.12	586,389.63
10,570.0	90.57	179.02	6,980.8	3,989.8	-3,951.8	-57.8	3,951.9	0.83	382,850.12	586,390.50
10,633.0	90.75	179.05	6,980.0	3,989.0	-4,014.8	-56.8	4,014.9	0.29	382,787.14	586,391.56
10,697.0	91.63	177.76	6,978.7	3,987.7	-4,078.8	-55.0	4,078.8	2.44	382,723.18	586,393.34
10,760.0	91.71	178.21	6,976.9	3,985.9	-4,141.7	-52.8	4,141.8	0.73	382,660.24	586,395.56
10,824.0	90.75	176.17	6,975.5	3,984.5	-4,205.6	-49.6	4,205.7	3.52	382,596.34	586,398.69
10,888.0	90.92	175.58	6,974.6	3,983.6	-4,269.4	-45.0	4,269.5	0.96	382,532.51	586,403.30
10,951.0	89.25	174.94	6,974.5	3,983.5	-4,332.2	-39.8	4,332.3	2.84	382,469.73	586,408.50
11,014.0	88.90	176.13	6,975.5	3,984.5	-4,395.0	-34.9	4,395.1	1.97	382,406.93	586,413.41
11,078.0	89.16	175.94	6,976.6	3,985.6	-4,458.9	-30.5	4,458.9	0.50	382,343.09	586,417.83
11,114.0	89.16	176.30	6,977.1	3,986.1	-4,494.8	-28.1	4,494.8	1.00	382,307.18	586,420.27

Pathfinder
Pathfinder X & Y Report



Company:	Mewbourne	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	KB = 23' @ 2991.0usft (Original Well Elev)
Site:	Deleware Ranch "11" Fed Com	MD Reference:	KB = 23' @ 2991.0usft (Original Well Elev)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Datbase:	EDM 5000.1 Single User Db

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,374.0	6,372.7	-90.6	-12.4	KOP - 6374.0 'MD, 6372.7 'TVD, -90.6 'N, -12.4 'E
7,361.0	6,980.7	-746.7	-63.4	LP - 7361.0 'MD, 6980.7 'TVD, -746.7 'N, -63.4 'E
11,114.0	6,977.1	-4,494.8	-28.1	BHL - 11114.0 'MD, 6977.1 'TVD, -4494.8 'N, -28.1 'E

Checked By: _____	Approved By: _____	Date: _____
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Mewbourne

Project: Eddy County
Site: Delaware Ranch "11" Fed
Well: #2H
Wellbore: OH
Plan: Post Gyro Plan #4 (#2H/OH)



Azimuths to Grid Nor
True North: -0.1
Magnetic North: 7.5

Magnetic Fiel
Strength: 48424.8sr
Dip Angle: 59.9
Date: 11/21/20
Model: IGRF20

PATHFINDER

A Schlumberger Company

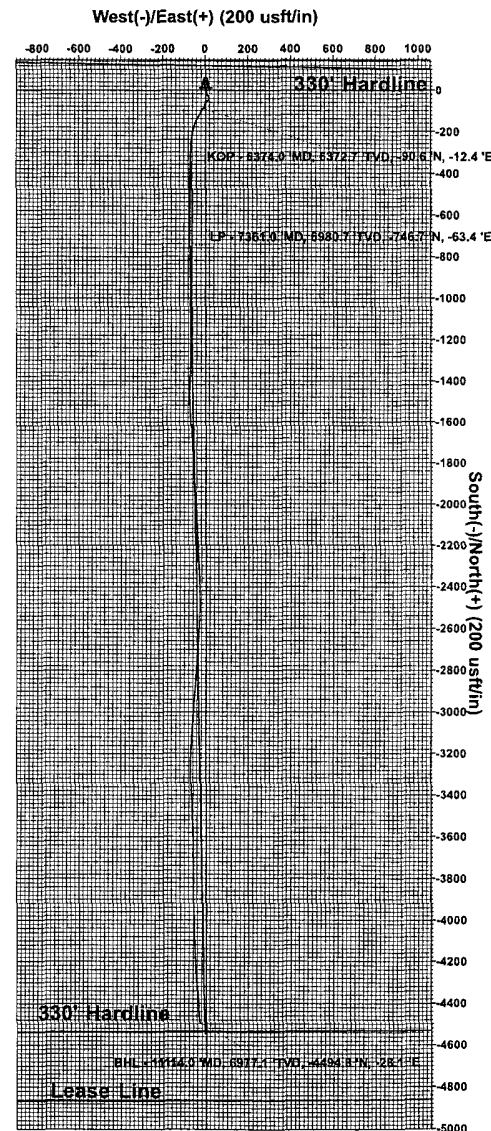
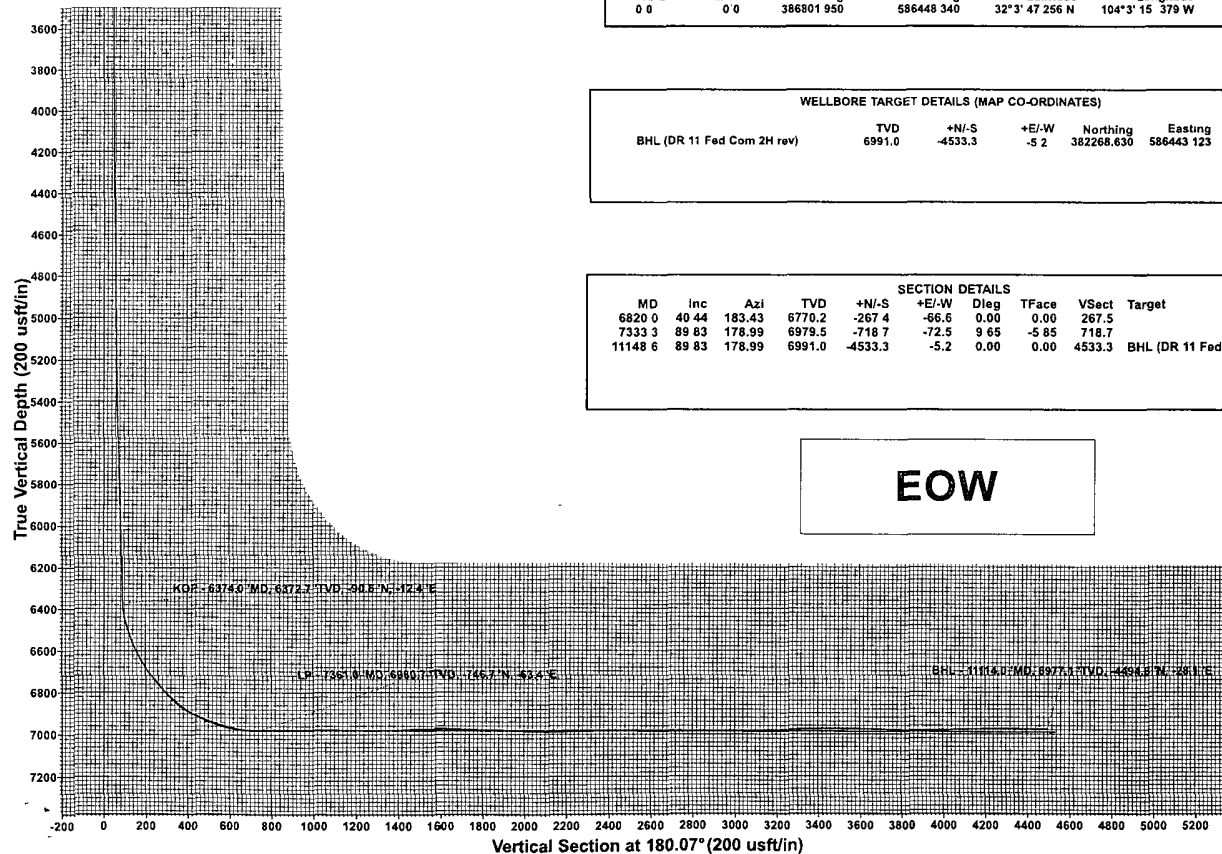
PROJECT DETAILS, Eddy County
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid

WELL DETAILS #2H						
Ground Elevation: 2958.0						
RKB Elevation: KB = 23' @ 2991.0usft (Original Well Elev)						
Rig Name: Original Well Elev						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	386801.950	586448.340	32°3'47.256 N	104°3'15.379 W	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)						
	TVD	+N/-S	+E/-W	Northing	Easting	Shape
BHL (DR 11 Fed Com 2H rev)	6991.0	-4533.3	-5.2	382268.630	586443.123	Point

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
6820.0	40.44	183.43	6770.2	-267.4	-66.6	0.00	0.00	267.5	
7333.3	89.83	178.99	6979.5	-718.7	-72.5	9.65	-5.85	718.7	
11148.6	89.83	178.99	6991.0	-4533.3	-5.2	0.00	0.00	4533.3	BHL (DR 11 Fed Com 2H rev)

EOW



Plan: Post Gyro Plan #4 (#2H/OH)	
Created By: Michael Trout	Date: 9.05, December 20 2011
Checked: _____	Date: _____

Mewbourne
Eddy County
Delaware Ranch "11" Fed Com
RKB
Original Well Elev
RKB
Post Gyro Plan #4