



PO Box 1370
Artesia, NM 88211-1370
(505) 748-1288

30-015-39348

November 30, 2011

Yates Petroleum Corporation
105 S. 4th
Artesia, NM 88211-1395

RE: Mucho Luck BBW Fed Com #2H
1100' FSL & 330' FEL
Sec. 27, T16S, R27E
Eddy County, New Mexico

Dear Sir,

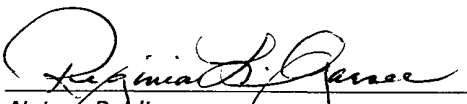
The attached is the Deviation Survey for the above captioned well.

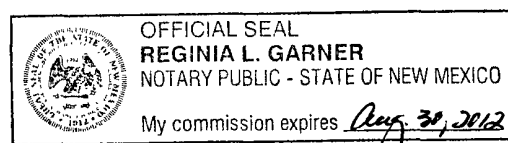
Very truly yours,


Eddie LaRue
Operations Manager

State of New Mexico }
County of Eddy }

The foregoing was acknowledged before me this 30th day of November, 2011.


Regina L. Garner
Notary Public



#	Date	Depth	Deviation	Direction	TVD	Horiz
	11/15/2011	6640	89.87	258.61	6091.90	814.00
	11/15/2011	6734	89.78	258.79	6091.52	908.77
	11/16/2011	6828	89.78	258.44	6092.28	1002.00
	11/17/2011	6922	89.87	258.79	6092.57	1096.57
	11/18/2011	7015	92.68	260.02	6090.55	1187.33
	11/18/2011	7108	95.32	261.25	6084.00	1282.25
	11/18/2011	7201	95.67	261.51	6075.00	1374.00
	11/18/2011	7294	93.74	262.21	6067.00	1467.00
	11/18/2011	7388	93.21	262.57	6061.00	1561.00
	11/19/2011	7482	92.95	262.57	6056.00	1655.14
	11/19/2011	7576	91.89	262.39	6052.00	1749.04
	11/19/2011	7669	91.70	262.48	6050.00	1841.00
	11/19/2011	7763	90.66	263.09	6048.00	1935.00
	11/19/2011	7856	90.75	262.74	6047.00	2028.00
	11/19/2011	7950	89.69	262.30	6046.00	2122.00
	11/20/2011	8043	88.72	262.57	6047.00	2215.81
	11/20/2011	8136	87.58	263.09	6050.00	2308.72
	11/20/2011	8229	88.29	262.83	6054.00	2401.00
	11/20/2011	8321	88.46	263.62	6057.00	2493.00
	11/21/2011	8414	89.43	263.71	6058.00	2586.42
	11/21/2011	8508	89.43	264.32	6059.00	2680.30
	11/21/2011	8602	90.13	263.97	6060.00	2773.00
	11/22/2011	8721	89.87	264.50	6059.00	2893.02
	11/22/2011	8814	90.84	264.59	6059.00	2985.00
	11/22/2011	8909	91.10	263.89	6058.00	3079.00
	11/22/2011	9001	91.10	264.59	605.60	3172.00
	11/22/2011	9095	91.19	264.68	6054.00	3265.00
	11/22/2011	9282	90.84	264.09	6050.00	3452.00
	11/23/2011	9468	90.31	264.59	6047.00	3638.00
	11/23/2011	9562	89.87	264.24	6047.00	3732.48
	11/24/2011	9655	89.78	263.36	6047.00	3825.39
	11/24/2011	6842	89.34	261.69	6049.00	4012.00
	11/24/2011	10029	90.04	1262.00	6050.00	4199.00
	11/24/2011	10122	90.92	261.61	6049.00	4292.29
	11/25/2011	10215	91.63	261.16	6047.00	4385.27
	11/25/2011	10309	91.01	261.16	6045.00	4479.24
	11/25/2011	10379	90.75	261.16	6044.00	4549.00



A Schlumberger Company

DIRECTIONAL SURVEY REPORT

YATES PETROLEUM

MUCHO LUCK BBW FED COM #2H

EDDY COUNTY, NEW MEXICO

PREPARED BY: STEVE BIBB

Pathfinder

6213 WCR 112
Midland, Texas 79706
Tel (432)687-1647
Fax (432)687-1544



DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) SEAN MOORE
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 11-09-11 TO 11-25-11
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: EDDY COUNTY, NM
7. TYPE OF SURVEY(S) PERFORMED: GAMMA-RAY
8. COMPLETE IDENTIFICATION OF WELL:

YATES PETROLEUM
MUCHO LUCK BBW FED COM #2H
EDDY COUNTY, NM
RIG: SILVER OAK 10
9. SURVEY CERTIFIED FROM: 5163 TO 10379 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE
DISPLACED AT 4622.25 FEET ON A BEARING OF 261.39 DEGREES FROM THE
CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 10452 FEET,
ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.



STEVE BIBB
MWD COORDINATOR

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 11/08/2011
Date Completed: 11/25/2011

YATES PETROLEUM
MUCHO LUCK BBW FED COM 2-H
EDDY COUNTY, NEW MEXICO
Rig:SILVER OAK 10
PathFinder Office Supervisor: FRANCISCO SINISTERRA
PathFinder Field Engineers:S.MOORE
S.DOGGETT

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.53.22.0455 N LON:104.15.33.1583 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 564090.0800 Y: 687326.4300
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.86° EAST TO GRID
Vertical Section Plane: 261.23
Survey Vert. Reference: 18.00' Rotary Table To Ground
Altitude:3456.00' Ground To MSL

Measured Depth	10452.00	(feet)
Inclination	90.75	(deg)
Azimuth	261.16	(deg)
True Vertical Depth	6043.53	(feet)
Vertical Section	4622.23	(feet)
Survey X cord	559519.87	(feet)
Survey Y cord	686634.68	(feet)
Survey Lat	32.88756365 N	(deg)
Survey Lon	104.27410060 W	(deg)
Rectangular Corr. N/S	691.73 S	(feet)
Rectangular Corr. E/W	4570.19 W	(feet)
Closure Distance	4622.25	(feet)
Direction of Closure	261.39	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM
MUCHO LUCK BBW FED COM 2-H
EDDY COUNTY, NEW MEXICO

Rig:SILVER OAK 10

PathFinder Office Supervisor: FRANCISCO SINISTERRA *STEVE BIBB*

PathFinder Field Engineers: S.MOORE
S.DOGGETT

Survey Horiz. Reference:WELLHEAD

Ref Coordinates: LAT:32.53.22.0455 N LON:104.15.33.1583 W

GRID Reference:NAD83 new mexico east Transverse Mercator

Ref GRID Coord: X: 564090.0800 Y: 687326.4300

North Aligned To:GRID NORTH

Total Magnetic Correction: 7.86°EAST TO GRID

Vertical Section Plane: 261.23

Survey Vert. Reference: 18.00' Rotary Table To Ground

Altitude:3456.00' Ground To MSL

Survey Calculations by RX4 using Minimum Curvature

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
TIE-IN TO MS SERVICES GYRO SURVEY @ 5000' MD.										
5000.00	0.75	115.27	4999.87	0.00	19.21	11.53 S	17.66 W	21.09@	236.86	0.00
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
5163.00	0.62	147.08	5162.86	163.00	17.97	12.73 S	16.22 W	20.61@	231.88	0.24
5257.00	0.70	139.96	5256.85	94.00	17.46	13.59 S	15.57 W	20.67@	228.88	0.12
5353.00	0.97	121.42	5352.84	96.00	16.54	14.46 S	14.50 W	20.48@	225.07	0.39
5416.00	1.23	105.86	5415.83	63.00	15.51	14.93 S	13.39 W	20.06@	221.90	0.63
5448.00	1.14	109.46	5447.82	32.00	14.92	15.13 S	12.76 W	19.79@	220.16	0.36
5479.00	0.97	135.57	5478.82	31.00	14.50	15.42 S	12.29 W	19.72@	218.56	1.63
5511.00	1.58	204.82	5510.81	32.00	14.58	16.01 S	12.28 W	20.18@	217.50	4.79
5543.00	4.31	225.83	5542.77	32.00	15.81	17.25 S	13.33 W	21.80@	217.70	9.03
5574.00	7.39	234.35	5573.60	31.00	18.54	19.22 S	15.79 W	24.88@	219.40	10.30
5606.00	10.29	238.05	5605.22	32.00	23.00	21.94 S	19.89 W	29.61@	222.19	9.23
5638.00	13.37	240.33	5636.54	32.00	29.08	25.28 S	25.53 W	35.93@	225.28	9.73
5669.00	16.71	242.44	5666.47	31.00	36.65	29.12 S	32.60 W	43.71@	228.22	10.92
5701.00	20.05	242.88	5696.83	32.00	46.22	33.75 S	41.56 W	53.54@	230.92	10.45
5733.00	23.30	243.23	5726.57	32.00	57.45	39.10 S	52.09 W	65.14@	233.11	10.16
5765.00	26.56	244.72	5755.58	32.00	70.33	45.01 S	64.22 W	78.42@	234.97	10.37
5796.00	29.63	248.15	5782.93	31.00	84.44	50.82 S	77.60 W	92.76@	236.78	11.19
5828.00	32.62	251.05	5810.32	32.00	100.64	56.57 S	93.10 W	108.94@	238.72	10.45
5860.00	35.88	253.43	5836.77	32.00	118.43	62.05 S	110.26 W	126.51@	240.63	11.01
5891.00	38.51	255.10	5861.46	31.00	137.03	67.12 S	128.29 W	144.79@	242.38	9.09
5923.00	41.50	256.94	5885.97	32.00	157.51	72.08 S	148.25 W	164.85@	244.07	10.05
5955.00	44.67	258.52	5909.34	32.00	179.32	76.71 S	169.61 W	186.15@	245.66	10.46
5987.00	48.10	260.11	5931.41	32.00	202.47	81.00 S	192.37 W	208.73@	247.17	11.31
6028.00	51.35	260.46	5957.91	41.00	233.75	86.27 S	223.20 W	239.30@	248.87	7.95

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM
MUCHO LUCK BBW FED COM 2-H
EDDY COUNTY, NEW MEXICO
RIG:SILVER OAK 10

Page 02/03

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
6059.00	55.05	260.02	5976.48	31.00	258.56	90.48 S	247.66 W	263.67@	249.93	11.99
6090.00	57.60	259.49	5993.67	31.00	284.35	95.07 S	273.04 W	289.12@	250.80	8.35
6121.00	60.85	259.32	6009.53	31.00	310.97	99.97 S	299.22 W	315.48@	251.53	10.49
6152.00	63.14	258.70	6024.08	31.00	338.31	105.19 S	326.09 W	342.63@	252.12	7.59
6183.00	66.30	258.61	6037.32	31.00	366.31	110.70 S	353.57 W	370.49@	252.61	10.20
6214.00	68.68	258.52	6049.19	31.00	394.92	116.38 S	381.64 W	398.99@	253.04	7.68
6235.00	70.35	258.44	6056.53	21.00	414.57	120.31 S	400.91 W	418.57@	253.30	7.96
6266.00	72.46	258.35	6066.42	31.00	443.91	126.22 S	429.69 W	447.85@	253.63	6.81
6297.00	74.74	258.96	6075.17	31.00	473.62	132.07 S	458.85 W	477.47@	253.94	7.59
6329.00	78.96	258.88	6082.45	32.00	504.75	138.06 S	489.42 W	508.52@	254.25	13.19
6360.00	83.36	258.52	6087.21	31.00	535.34	144.06 S	519.45 W	539.05@	254.50	14.24
6391.00	87.05	258.17	6089.80	31.00	566.19	150.30 S	549.70 W	569.88@	254.71	11.96
6423.00	89.34	257.73	6090.81	32.00	598.12	156.97 S	580.98 W	601.81@	254.88	7.29
6453.00	89.69	258.35	6091.06	30.00	628.07	163.19 S	610.32 W	631.76@	255.03	2.37
6547.00	89.87	258.61	6091.43	94.00	721.96	181.96 S	702.43 W	725.61@	255.48	0.34
6640.00	89.87	258.61	6091.64	93.00	814.86	200.33 S	793.60 W	818.49@	255.83	0.00
6734.00	89.78	258.79	6091.92	94.00	908.77	218.75 S	885.77 W	912.39@	256.13	0.21
6828.00	89.78	258.44	6092.28	94.00	1002.67	237.30 S	977.92 W	1006.30@	256.36	0.37
6922.00	89.87	258.79	6092.57	94.00	1096.57	255.86 S	1070.07 W	1100.24@	256.55	0.38
7015.00	92.68	260.02	6090.50	93.00	1189.49	272.95 S	1161.45 W	1193.10@	256.77	3.30
7108.00	95.32	261.25	6084.02	93.00	1282.25	288.05 S	1252.98 W	1285.66@	257.05	3.13
7201.00	95.67	261.51	6075.11	93.00	1374.82	301.92 S	1344.51 W	1377.99@	257.34	0.47
7294.00	93.74	262.21	6067.48	93.00	1467.50	315.05 S	1436.26 W	1470.40@	257.63	2.21
7388.00	93.21	262.57	6061.78	94.00	1561.31	327.47 S	1529.26 W	1563.93@	257.91	0.68
7482.00	92.95	262.57	6056.73	94.00	1655.14	339.61 S	1622.33 W	1657.50@	258.18	0.28
7576.00	91.89	262.39	6052.76	94.00	1749.04	351.90 S	1715.44 W	1751.16@	258.41	1.14
7669.00	91.71	262.48	6049.84	93.00	1841.97	364.14 S	1807.58 W	1843.90@	258.61	0.22
7763.00	90.66	263.09	6047.90	94.00	1935.91	375.94 S	1900.82 W	1937.64@	258.81	1.29

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM
MUCHO LUCK BBW FED COM 2-H
EDDY COUNTY, NEW MEXICO
RIG:SILVER OAK 10

Page 03/03

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
7856.00	90.75	262.74	6046.75	93.00	2028.87	387.41 S	1993.10 W	2030.40@	259.00	0.39
7950.00	89.69	262.30	6046.39	94.00	2122.84	399.65 S	2086.30 W	2124.23@	259.16	1.22
8043.00	88.72	262.57	6047.68	93.00	2215.81	411.89 S	2178.48 W	2217.08@	259.29	1.08
8136.00	87.58	263.09	6050.69	93.00	2308.72	423.49 S	2270.70 W	2309.86@	259.44	1.35
8229.00	88.20	262.83	6054.11	93.00	2401.62	434.88 S	2362.94 W	2402.62@	259.57	0.72
8321.00	88.46	263.62	6056.79	92.00	2493.52	445.73 S	2454.26 W	2494.40@	259.71	0.90
8414.00	89.43	263.71	6058.50	93.00	2586.42	455.99 S	2546.67 W	2587.17@	259.85	1.05
8508.00	89.43	264.32	6059.44	94.00	2680.30	465.79 S	2640.15 W	2680.93@	259.99	0.65
8602.00	90.13	263.97	6059.80	94.00	2774.18	475.38 S	2733.66 W	2774.69@	260.13	0.83
8721.00	89.87	264.50	6059.80	119.00	2893.02	487.33 S	2852.06 W	2893.40@	260.30	0.50
8814.00	90.84	264.59	6059.22	93.00	2985.86	496.17 S	2944.64 W	2986.15@	260.44	1.05
8908.00	91.10	263.88	6057.63	94.00	3079.72	505.62 S	3038.15 W	3079.93@	260.55	0.81
9001.00	91.10	264.59	6055.85	93.00	3172.57	514.96 S	3130.66 W	3172.73@	260.66	0.76
9095.00	91.19	264.68	6053.97	94.00	3266.39	523.74 S	3224.23 W	3266.49@	260.77	0.14
9197.00	91.10	264.76	6051.93	102.00	3368.18	533.13 S	3325.77 W	3368.23@	260.89	0.12
9282.00	90.84	264.06	6050.49	85.00	3453.03	541.41 S	3410.36 W	3453.06@	260.98	0.88
9375.00	91.28	265.38	6048.77	93.00	3545.84	549.96 S	3502.94 W	3545.85@	261.08	1.50
9468.00	90.31	264.59	6047.48	93.00	3638.63	558.09 S	3595.58 W	3638.63@	261.18	1.34
9562.00	89.87	264.24	6047.33	94.00	3732.48	567.24 S	3689.13 W	3732.49@	261.26	0.60
9655.00	89.78	263.36	6047.62	93.00	3825.39	577.28 S	3781.59 W	3825.39@	261.32	0.95
9748.00	89.34	262.65	6048.33	93.00	3918.34	588.61 S	3873.89 W	3918.35@	261.36	0.90
9842.00	89.34	261.69	6049.41	94.00	4012.32	601.41 S	3967.01 W	4012.34@	261.38	1.02
9935.00	89.60	262.13	6050.27	93.00	4105.31	614.50 S	4059.08 W	4105.33@	261.39	0.55
10029.00	90.04	262.04	6050.57	94.00	4199.30	627.44 S	4152.18 W	4199.32@	261.41	0.48
10122.00	90.92	261.16	6049.79	93.00	4292.29	641.03 S	4244.18 W	4292.31@	261.41	1.34
10215.00	91.63	261.16	6047.72	93.00	4385.27	655.32 S	4336.05 W	4385.29@	261.41	0.76
10309.00	91.01	261.16	6045.56	94.00	4479.24	669.76 S	4428.91 W	4479.26@	261.40	0.66
10379.00	90.75	261.16	6044.48	70.00	4549.24	680.52 S	4498.07 W	4549.26@	261.40	0.37

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM
MUCHO LUCK BBW FED COM 2-H
EDDY COUNTY, NEW MEXICO
RIG:SILVER OAK 10

Page 04/03

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)	Closure Dist Dir (ft) (deg)	DLS (dg/100ft)
STRAIGHT LINE PROJECTION TO BIT @ 10452' MD.								
10452.00	90.75	261.16	6043.53	73.00	4622.23	691.73 S 4570.19 W	4622.25@ 261.39	0.00



A Schlumberger Company

TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	YATES PETROLEUM CORP		
LEASE / WELL No.:	MUCHO LUCK BBW FED COM	#2H	
WELL LOCATION:	EDDY COUNTY		
COUNTY / STATE / COUNTRY:	EDDY	NEW MEXICO	US
RIG:	SILVER OAK 10		
API WELL No:	30-015-39348		
JOB No:	700004178-WT-WT		
P.O. / AFE No.	110200		
DIRECTIONAL COMPANY:	PATHFINDER		

WELL SITE INFORMATION

TOTAL MAGNETIC CORRECTION (TMC):			
On Wall Plat:	7.87	LWD Calculated:	7.86
Agreed Upon:		7.86	
X =	564090 080000	Feet	Y = 687326.430000
		Feet	
SITE LATITUDE:	32.889457 N	SITE LONGITUDE:	104.259211 W
GRID SYSTEM:	TRUE ☒ UTM ☐ LAMBERT ☒	ZONE: NEW MEXICO EASTERN ZONE	
PROPOSED DRIFT DIRECTION:	261.23		
KELLY BUSHING ELEVATION:	18'		
ELEVATION:	3456	Feet	WATER DEPTH: NA
		Feet	

TIE-IN SURVEY

MEASURED DEPTH:	5,000'		
DRIFT ANGLE:	0.75		
DRIFT DIRECTION:	115.27		
TRUE VERTICAL DEPTH:	4999.87		
VERTICAL SECTION:	19.21		
RECTANGULAR COORDINATE (N / S) :	-11.53		
RECTANGULAR COORDINATE (E / W) :	-17.66		
CLOSURE DISTANCE / DIRECTION:	21.09	236.86	
SURVEY CALCULATION METHOD:	AA ☐	MC ☒	RC ☐ BT ☐
SOURCE OF TIE-IN DATA (COMPANY):	MS SERVICES		
COPY OF TIE-IN SURVEY REPORT	☒ YES ☐ NO		

WELL PLAN

KICKOFF DEPTH:	TOTAL DEPTH:	10452
KICKOFF ANGLE:	MAX ANGLE:	

PES Engineers: SEAN MOORE
STEVEN DOGGETT

**Signature of both field engineers required if applicable

Directional Driller: RICHARD HILL

DATE: 25-Nov-2011

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

Yates Petroleum Corporation
Mucho Luck BBW Federal Com #2H
Eddy County, NM
Rig: Silver Oak 10

Thu Oct 27 14:37:46 2011

Coordinates

Latitude: 32.889457 N (32 deg. 53 min. 22.0455 sec.)
Longitude: 104.259211 W (-104 deg. 15 min. 33.1583 sec.)
Elevation: 3474.00 feet.
Calculation Date: Oct/27/2011

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.6731 degrees
Total Magnetic Field: 0.48903 gauss
Magnetic Declination: 7.908193 degrees
Horizontal Intensity: 0.239521 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.908193 Degr

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 564090.0800 feet
Y: 687326.4300 feet
True to Grid: (convergence) -0.040250 degrees
Magnetic to Grid: 7.867943 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.867943 Degr.

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

*Field
Copy*

YATES PETROLEUM CORP.
MUCHO LUCK BBW FED COM #2H
EDDY COUNTY
Rig:SILVER OAK 10

Tue Nov 08 20:21:32 2011

Coordinates

Latitude: 32.889457 N (32 deg. 53 min. 22.0455 sec.)
Longitude: 104.259211 W (-104 deg. 15 min. 33.1583 sec.)
Elevation: 3474.00 feet.
Calculation Date: Nov/08/2011

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.6723 degrees
Total Magnetic Field: 0.48899 gauss
Magnetic Declination: 7.904185 degrees
Horizontal Intensity: 0.239510 gauss

To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.904185 Degr

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 564090.0800 feet
Y: 687326.4300 feet
True to Grid: (convergence) -0.040250 degrees
Magnetic to Grid: 7.863935 degrees

To Convert a Magnetic Dir. to a GRID dir. Add 7.863935 Degr.



Job Number: SVCO-111368
 Company: Yates Petroleum Corporation
 Lease/Well: MUCHO LUCK BBW FED COM 2H
 Location: Eddy County, NM
 Rig Name: Silver Oak #10
 RKB: 18'
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA
 Declination: 7.88°
 Grid: East To Grid
 File name: F:\SURVEY\2011SU-1\YATES\MUCHO2H.SVY
 Date/Time: 07-Nov-11 / 10:40
 Curve Name: Surface - 6171' M.D. (Gyroscopic)

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 261.23
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

We hereby certify that our survey data from
 Surface MD to 6171' MD is, to the best of
 our knowledge a true and accurate account of
 the well bore.
 Dana Jutte 11/8/11
 MS Energy Services Date

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	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
200.00	.50	241.85	200.00	-.41	-.77	.82	.87	241.85	.25
400.00	.75	252.76	399.99	-1.21	-2.79	2.94	3.04	246.52	.14
600.00	.75	248.67	599.97	-2.08	-5.26	5.51	5.65	248.46	.03
800.00	.50	240.58	799.96	-2.98	-7.24	7.61	7.83	247.62	.13
1000.00	.75	260.49	999.94	-3.63	-9.29	9.73	9.97	248.68	.16
1200.00	.50	240.39	1199.93	-4.27	-11.34	11.86	12.12	249.35	.16
1400.00	.25	312.30	1399.93	-4.41	-12.42	12.95	13.18	250.45	.24
1600.00	.25	4.21	1599.93	-3.68	-12.71	13.12	13.23	253.85	.11
1800.00	.25	320.12	1799.93	-2.91	-12.96	13.25	13.28	257.34	.09

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	
2000.00	.25	23.02	1999.92	-2.17	-13.07	13.25	13.25	260.55	.13
2200.00	.25	224.93	2199.92	-2.08	-13.21	13.37	13.37	261.04	.25
2400.00	.50	140.84	2399.92	-3.07	-12.96	13.28	13.32	256.69	.27
2600.00	.50	152.75	2599.91	-4.52	-12.01	12.56	12.83	249.38	.05
2800.00	.25	177.66	2799.91	-5.73	-11.59	12.33	12.93	243.69	.15
3000.00	.25	172.56	2999.91	-6.60	-11.52	12.39	13.28	240.19	.01
3200.00	.25	199.47	3199.90	-7.44	-11.61	12.61	13.79	237.33	.06
3400.00	.50	191.01	3399.90	-8.71	-11.92	13.11	14.77	233.84	.13
3600.00	.50	241.92	3599.89	-9.98	-12.86	14.23	16.28	232.18	.21
3800.00	.50	303.83	3799.89	-9.90	-14.35	15.69	17.44	235.39	.26
4000.00	.25	313.73	3999.88	-9.12	-15.39	16.60	17.89	239.36	.13
4200.00	.50	264.64	4199.88	-8.90	-16.58	17.74	18.81	241.78	.19
4400.00	.25	184.55	4399.88	-9.41	-17.48	18.71	19.85	241.70	.26
4600.00	.25	226.46	4599.87	-10.15	-17.83	19.17	20.52	240.35	.09
4800.00	.25	233.37	4799.87	-10.71	-18.50	19.91	21.37	239.93	.02
5000.00	.75	115.27	4999.87	-11.53	-17.66	19.22	21.09	236.87	.45
5200.00	.75	119.18	5199.85	-12.73	-15.34	17.10	19.93	230.32	.03
5400.00	1.00	115.15	5399.83	-14.11	-12.61	14.62	18.92	221.81	.13
5600.00	1.50	85.13	5599.78	-14.63	-8.43	10.56	16.88	209.95	.40
5800.00	1.25	69.10	5799.72	-13.63	-3.78	5.81	14.14	195.51	.23
6000.00	1.00	74.07	5999.68	-12.37	-.06	1.95	12.37	180.30	.13
Last Survey Depth Recorded									
6171.00	1.00	70.01	6170.66	-11.45	2.77	-.99	11.78	166.38	.04



Yates Petroleum Corp.

Eddy County

Mucho Luck "BBW" Federal Com

#2H

OH

Design: OH

Pathfinder X & Y Report

28 November, 2011

PATHFINDER[®]
A Schlumberger Company



Pathfinder
Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	KB = 18 @ 3474 0usft (Silver Oak 10)
Site:	Mucho Luck "BBW" Federal Com	MD Reference:	KB = 18 @ 3474 0usft (Silver Oak 10)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project	Eddy County		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Mucho Luck "BBW" Federal Com		
Site Position:		Northing:	687,326 430 usft
From:	Map	Easting:	564,090 080 usft
Position Uncertainty:	0 0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 53' 22 045 N
		Longitude:	104° 15' 33.158 W
		Grid Convergence:	0 04 °

Well	#2H		
Well Position	+N/-S	0 0 usft	Northing:
	+E/-W	0 0 usft	Easting:
Position Uncertainty	0 0 usft	Wellhead Elevation:	usft
		Latitude:	32° 53' 22 045 N
		Longitude:	104° 15' 33.158 W
		Ground Level:	3,456 0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010	11/7/2011	7 90
			Dip Angle
			(°)
			60 67
			Field Strength
			(nT)
			48,900

Design	OH		
Audit Notes:			
Version:	1 0	Phase:	ACTUAL
		Tie On Depth:	0 0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0 0	0 0	0 0
			Direction
			(°)
			166 38



Pathfinder
Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	KB = 18 @ 3474 0usft (Silver Oak 10)
Site:	Mucho Luck "BBW" Federal Com	MD Reference:	KB = 18 @ 3474 0usft (Silver Oak 10)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 1 Single User Db

Survey Program		Date	11/28/2011		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
200.0	5,000.0	Gyro #1 (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s	
5,163.0	10,452.0	Mwd #1 (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	-3,474.0	0.0	0.0	0.0	0.00	687,326.43	564,090.08
200.0	0.50	241.85	200.0	-3,274.0	-0.4	-0.8	0.2	0.25	687,326.02	564,089.31
400.0	0.75	252.76	400.0	-3,074.0	-1.2	-2.8	0.5	0.14	687,325.22	564,087.29
600.0	0.75	248.67	600.0	-2,874.0	-2.1	-5.3	0.8	0.03	687,324.35	564,084.82
800.0	0.50	240.58	800.0	-2,674.0	-3.0	-7.2	1.2	0.13	687,323.45	564,082.84
1,000.0	0.75	260.49	999.9	-2,474.1	-3.6	-9.3	1.3	0.16	687,322.80	564,080.79
1,200.0	0.50	240.39	1,199.9	-2,274.1	-4.3	-11.3	1.5	0.16	687,322.16	564,078.74
1,400.0	0.25	312.30	1,399.9	-2,074.1	-4.4	-12.4	1.4	0.24	687,322.02	564,077.66
1,600.0	0.25	4.21	1,599.9	-1,874.1	-3.7	-12.7	0.6	0.11	687,322.75	564,077.37
1,800.0	0.25	320.12	1,799.9	-1,674.1	-2.9	-13.0	-0.2	0.09	687,323.52	564,077.12
2,000.0	0.25	23.02	1,999.9	-1,474.1	-2.2	-13.1	-1.0	0.13	687,324.26	564,077.01
2,200.0	0.25	224.93	2,199.9	-1,274.1	-2.1	-13.2	-1.1	0.25	687,324.35	564,076.87
2,400.0	0.50	140.84	2,399.9	-1,074.1	-3.1	-13.0	-0.1	0.27	687,323.36	564,077.12
2,600.0	0.50	152.75	2,599.9	-874.1	-4.5	-12.0	1.6	0.05	687,321.91	564,078.07
2,800.0	0.25	177.66	2,799.9	-674.1	-5.7	-11.6	2.8	0.15	687,320.70	564,078.49
3,000.0	0.25	172.56	2,999.9	-474.1	-6.6	-11.5	3.7	0.01	687,319.83	564,078.56
3,200.0	0.25	199.47	3,199.9	-274.1	-7.4	-11.6	4.5	0.06	687,318.99	564,078.47
3,400.0	0.50	191.01	3,399.9	-74.1	-8.7	-11.9	5.7	0.13	687,317.72	564,078.16
3,600.0	0.50	241.92	3,599.9	125.9	-10.0	-12.9	6.7	0.21	687,316.45	564,077.22
3,800.0	0.50	303.83	3,799.9	325.9	-9.9	-14.4	6.2	0.26	687,316.53	564,075.73
4,000.0	0.25	313.73	3,999.9	525.9	-9.1	-15.4	5.2	0.13	687,317.31	564,074.69



Pathfinder Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	KB = 18 @ 3474 0usft (Silver Oak 10)
Site:	Mucho Luck "BBW" Federal Com	MD Reference:	KB = 18 @ 3474 0usft (Silver Oak 10)
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)	
4,200 0	0 50	264 64	4,199 9	725 9	-8 9	-16 6	4 7	0 19	687,317 53	564,073 50	
4,400 0	0 25	184 55	4,399 9	925 9	-9 4	-17 5	5 0	0 26	687,317 02	564,072 60	
4,600 0	0 25	226 46	4,599 9	1,125 9	-10 1	-17 8	5 7	0 09	687,316 28	564,072 25	
4,800 0	0 25	233 37	4,799 9	1,325 9	-10 7	-18 5	6 1	0 02	687,315 72	564,071 58	
5,000 0	0 75	115 27	4,999 9	1,525 9	-11 5	-17 7	7 0	0 45	687,314 90	564,072 42	
5,163.0	0 62	147 08	5,162 9	1,688 9	-12 7	-16 2	8 5	0 24	687,313 70	564,073 86	
5,257 0	0 70	139 96	5,256 8	1,782 8	-13 6	-15 6	9 5	0 12	687,312 84	564,074 51	
5,353 0	0 97	121 42	5,352 8	1,878 8	-14 5	-14 5	10 6	0 39	687,311 97	564,075 58	
5,416 0	1 23	105 86	5,415 8	1,941 8	-14 9	-13 4	11 4	0 63	687,311 50	564,076 68	
5,448 0	1 14	109 46	5,447 8	1,973 8	-15 1	-12 8	11 7	0 36	687,311 30	564,077 31	
5,479 0	0 97	135 57	5,478 8	2,004 8	-15 4	-12 3	12 1	1 63	687,311 01	564,077 79	
5,511 0	1 58	204 82	5,510 8	2,036 8	-16 0	-12 3	12 7	4 79	687,310 42	564,077 79	
5,543 0	4 31	225 83	5,542 8	2,068 8	-17 2	-13 3	13 6	9 03	687,309 18	564,076 74	
KOP - 5543.0 MD, 5542.8 TVD, -17.2°N, -13.3°E											
5,574 0	7 39	234 35	5,573 6	2,099 6	-19 2	-15 8	15 0	10 30	687,307 21	564,074 29	
5,606 0	10 29	238 05	5,605 2	2,131 2	-21 9	-19 9	16 6	9 23	687,304 49	564,070 19	
5,638 0	13.37	240 33	5,636 5	2,162 5	-25 3	-25 5	18 6	9 73	687,301 15	564,064 55	
5,669 0	16 71	242 44	5,666.5	2,192 5	-29 1	-32 6	20 6	10 92	687,297 31	564,057 48	
5,701 0	20 05	242 88	5,696 8	2,222 8	-33 7	-41 6	23 0	10 45	687,292 68	564,048 52	
5,733 0	23 30	243 23	5,726 6	2,252 6	-39 1	-52 1	25 7	10 16	687,287 33	564,037 98	
5,765 0	26 56	244 72	5,755 6	2,281 6	-45 0	-64 2	28 6	10 37	687,281 42	564,025 86	
5,796 0	29 63	248 15	5,782 9	2,308 9	-50 8	-77 6	31 1	11 19	687,275 61	564,012 48	
5,828 0	32 62	251 05	5,810 3	2,336 3	-56 6	-93 1	33 1	10 45	687,269 86	563,996 97	
5,860 0	35 88	253 43	5,836 8	2,362 8	-62 0	-110 3	34 3	11 01	687,264 38	563,979 82	
5,891 0	38 51	255 10	5,861 5	2,387 5	-67 1	-128 3	35 0	9 09	687,259 31	563,961 78	
5,923 0	41 50	256 94	5,886 0	2,412 0	-72 1	-148 3	35 2	10 05	687,254 35	563,941 82	
5,955 0	44.67	258 52	5,909 3	2,435 3	-76 7	-169 6	34 6	10 46	687,249 72	563,920 47	



Pathfinder
Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	KB = 18 @ 3474 0usft (Silver Oak 10)
Site:	Mucho Luck "BBW" Federal Com	MD Reference:	KB = 18 @ 3474 0usft (Silver Oak 10)
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)	
5,987 0	48 10	260 11	5,931 4	2,457 4	-81 0	-192 4	33 4	11 31	687,245 43	563,897 70	
6,028 0	51 35	260 46	5,957 9	2,483 9	-86 3	-223 2	31 3	7 95	687,240 16	563,866 87	
6,059 0	55 05	260 02	5,976 5	2,502 5	-90 5	-247 7	29 6	11 99	687,235 95	563,842 42	
6,090 0	57 60	259 49	5,993 7	2,519 7	-95 1	-273 0	28 1	8 35	687,231 36	563,817 03	
6,121 0	60 85	259 32	6,009 5	2,535 5	-100 0	-299 2	26 7	10 49	687,226 46	563,790 85	
6,152 0	63 14	258 70	6,024 1	2,550 1	-105 2	-326 1	25 5	7 60	687,221 24	563,763 99	
6,183 0	66 30	258 61	6,037 3	2,563 3	-110 7	-353 6	24 4	10 20	687,215 73	563,736 51	
6,214 0	68 68	258 52	6,049 2	2,575 2	-116 4	-381 6	23 3	7 68	687,210 05	563,708 44	
6,235 0	70 35	258 44	6,056 5	2,582 5	-120 3	-400 9	22 6	7 96	687,206 12	563,689 17	
6,266 0	72 46	258 35	6,066 4	2,592 4	-126 2	-429 7	21 5	6 81	687,200 21	563,660 39	
6,297 0	74 74	258 96	6,075 2	2,601 2	-132 1	-458 8	20 3	7 59	687,194 36	563,631 23	
6,329 0	78 96	258 88	6,082 4	2,608 4	-138 1	-489 4	19 0	13 19	687,188 37	563,600 66	
6,360 0	83 36	258 52	6,087 2	2,613 2	-144 1	-519 5	17 7	14 24	687,182 37	563,570 63	
6,391 0	87 05	258 17	6,089 8	2,615 8	-150 3	-549 7	16 7	11 96	687,176 13	563,540 38	
6,423 0	89 34	257 73	6,090 8	2,616 8	-157 0	-581 0	15 8	7 29	687,169 46	563,509 10	
LP - 6423.0 MD, 6090.8 TVD, -157.0 N, -581.0 E											
6,453 0	89 69	258 35	6,091 1	2,617 1	-163 2	-610 3	14 9	2 37	687,163 24	563,479 75	
6,547 0	89 87	258 61	6,091 4	2,617 4	-182 0	-702 4	11 5	0 34	687,144 47	563,387 65	
6,640 0	89 87	258 61	6,091 6	2,617 6	-200 3	-793 6	7 9	0 00	687,126 10	563,296 48	
6,734 0	89 78	258 79	6,091 9	2,617 9	-218 7	-885 8	4 1	0 21	687,107 68	563,204 30	
6,828 0	89 78	258 44	6,092 3	2,618 3	-237 3	-977 9	0 4	0 37	687,089 13	563,112 15	
6,922 0	89 87	258 79	6,092 6	2,618 6	-255 9	-1,070 1	-3 2	0 38	687,070 57	563,020 00	
7,015 0	92 68	260 02	6,090 5	2,616 5	-273 0	-1,161 5	-8 1	3 30	687,053 48	562,928 62	
7,108 0	95 32	261 25	6,084 0	2,610 0	-288 0	-1,253 0	-15 0	3 13	687,038 38	562,837 09	
7,201 0	95 67	261 51	6,075 1	2,601 1	-301 9	-1,344 5	-23 1	0 47	687,024 51	562,745 57	
7,294 0	93 74	262 21	6,067 5	2,593 5	-315 0	-1,436 3	-31 9	2 21	687,011 38	562,653 82	
7,388 0	93 21	262 57	6,061 8	2,587 8	-327 5	-1,529 3	-41 7	0 68	686,998 96	562,560 82	



Pathfinder Pathfinder X & Y Report

PATHFINDER

A Schlumberger Company

Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	KB = 18 @ 3474 0usft (Silver Oak 10)
Site:	Mucho Luck "BBW" Federal Com	MD Reference:	KB = 18 @ 3474 0usft (Silver Oak 10)
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)		
7,482 0	92 95	262 57	6,056 7	2,582 7	-339 6	-1,622 3	-51 8	0 28	686,986 82	562,467 74		
7,576 0	91 89	262 39	6,052 8	2,578 8	-351 9	-1,715 4	-61 8	1 14	686,974 53	562,374 64		
7,669 0	91 71	262 48	6,049 8	2,575 8	-364 1	-1,807 6	-71 6	0 22	686,962 29	562,282 49		
7,763 0	90 66	263 09	6,047 9	2,573 9	-375 9	-1,900 8	-82 1	1 29	686,950 49	562,189 26		
7,856 0	90 75	262 74	6,046 8	2,572 8	-387 4	-1,993 1	-92 6	0 39	686,939 02	562,096 98		
7,950 0	89 69	262 30	6,046 4	2,572 4	-399 6	-2,086 3	-102 7	1 22	686,926 78	562,003 78		
8,043 0	88 72	262 57	6,047 7	2,573 7	-411 9	-2,178 5	-112 5	1 08	686,914 54	561,911 60		
8,136 0	87 58	263 09	6,050 7	2,576 7	-423 5	-2,270 7	-122 9	1 35	686,902 94	561,819 37		
8,229 0	88 20	262 83	6,054 1	2,580 1	-434 9	-2,362 9	-133 6	0 72	686,891 55	561,727 14		
8,321 0	88 46	263 62	6,056 8	2,582 8	-445 7	-2,454 3	-144 5	0 90	686,880 70	561,635 82		
8,414 0	89 43	263 71	6,058 5	2,584 5	-456 0	-2,546 7	-156 3	1 05	686,870 44	561,543 40		
8,508 0	89 43	264 32	6,059 4	2,585 4	-465 8	-2,640 2	-168 8	0 65	686,860 64	561,449 92		
8,602 0	90 13	263 97	6,059 8	2,585 8	-475 4	-2,733 7	-181 5	0 83	686,851 05	561,356 41		
8,721 0	89 87	264 50	6,059 8	2,585 8	-487 3	-2,852 1	-197 7	0 50	686,839 10	561,238 02		
8,814 0	90 84	264 59	6,059 2	2,585 2	-496 2	-2,944 6	-210 9	1 05	686,830 26	561,145 44		
8,908 0	91 10	263 88	6,057 6	2,583 6	-505 6	-3,038 1	-223 8	0 80	686,820 82	561,051 93		
9,001 0	91 10	264 59	6,055 8	2,581 8	-515 0	-3,130 7	-236 5	0 76	686,811 48	560,959 42		
9,095 0	91 19	264 68	6,054 0	2,580 0	-523 7	-3,224 2	-250 0	0 14	686,802 69	560,865 85		
9,197 0	91 10	264 76	6,051 9	2,577 9	-533 1	-3,325 8	-264 7	0 12	686,793 30	560,764 30		
9,282 0	90 84	264 06	6,050 5	2,576 5	-541 4	-3,410 4	-276 6	0 88	686,785 03	560,679 72		
9,375 0	91 28	265 38	6,048 8	2,574 8	-550 0	-3,502 9	-290 1	1 50	686,776 47	560,587 13		
9,468 0	90 31	264 59	6,047 5	2,573 5	-558 1	-3,595 6	-304 0	1 35	686,768 34	560,494 50		
9,562 0	89 87	264 24	6,047 3	2,573 3	-567 2	-3,689 1	-317 1	0 60	686,759 19	560,400 94		
9,655 0	89 78	263 36	6,047 6	2,573 6	-577 3	-3,781 6	-329 1	0 95	686,749 15	560,308 49		
9,748 0	89 34	262 65	6,048 3	2,574 3	-588 6	-3,873 9	-339 8	0 90	686,737 82	560,216 19		
9,842 0	89 34	261 69	6,049 4	2,575 4	-601 4	-3,967 0	-349 3	1 02	686,725 02	560,123 07		
9,935 0	89 60	262 13	6,050 3	2,576 3	-614 5	-4,059 1	-358 3	0 55	686,711 93	560,031 00		



Pathfinder
Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	KB = 18 @ 3474 0usft (Silver Oak 10)
Site:	Mucho Luck "BBW" Federal Com	MD Reference:	KB = 18 @ 3474 0usft (Silver Oak 10)
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)
10,029 0	90 04	262 04	6,050 6	2,576 6	-627 4	-4,152 2	-367 6	0 48	686,698 99	559,937 90
10,122 0	90 92	261 16	6,049 8	2,575 8	-641 0	-4,244 2	-376.1	1 34	686,685 40	559,845 90
10,215 0	91 63	261.16	6,047 7	2,573 7	-655 3	-4,336 1	-383 8	0 76	686,671 11	559,754 03
10,309 0	91 01	261 16	6,045 6	2,571 6	-669 8	-4,428 9	-391 6	0 66	686,656 67	559,661.17
10,379 0	90 75	261 16	6,044 5	2,570 5	-680 5	-4,498 1	-397 4	0 37	686,645 92	559,592 01
10,452 0	90 75	261 16	6,043 5	2,569 5	-691 7	-4,570 2	-403 5	0 00	686,634 70	559,519 88
BHL - 10452.0 'MD, 6043.5 'TVD, -691.7 'N, -4570.2 'E										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,543 0	5,542 8	-17.2	-13 3	KOP - 5543 0 'MD, 5542 8 'TVD, -17 2 'N, -13 3 'E
6,423 0	6,090 8	-157 0	-581 0	LP - 6423 0 'MD, 6090 8 'TVD, -157 0 'N, -581 0 'E
10,452 0	6,043 5	-691 7	-4,570 2	BHL - 10452 0 'MD, 6043 5 'TVD, -691 7 'N, -4570 2 'E

Checked By _____ Approved By _____ Date _____



Project: Eddy County
 Site: Mucho Luck "BBW" Federal Com
 Well: #2H
 Wellbore: OH
 Plan: Post Gyro Plan #7 (#2H/OH)

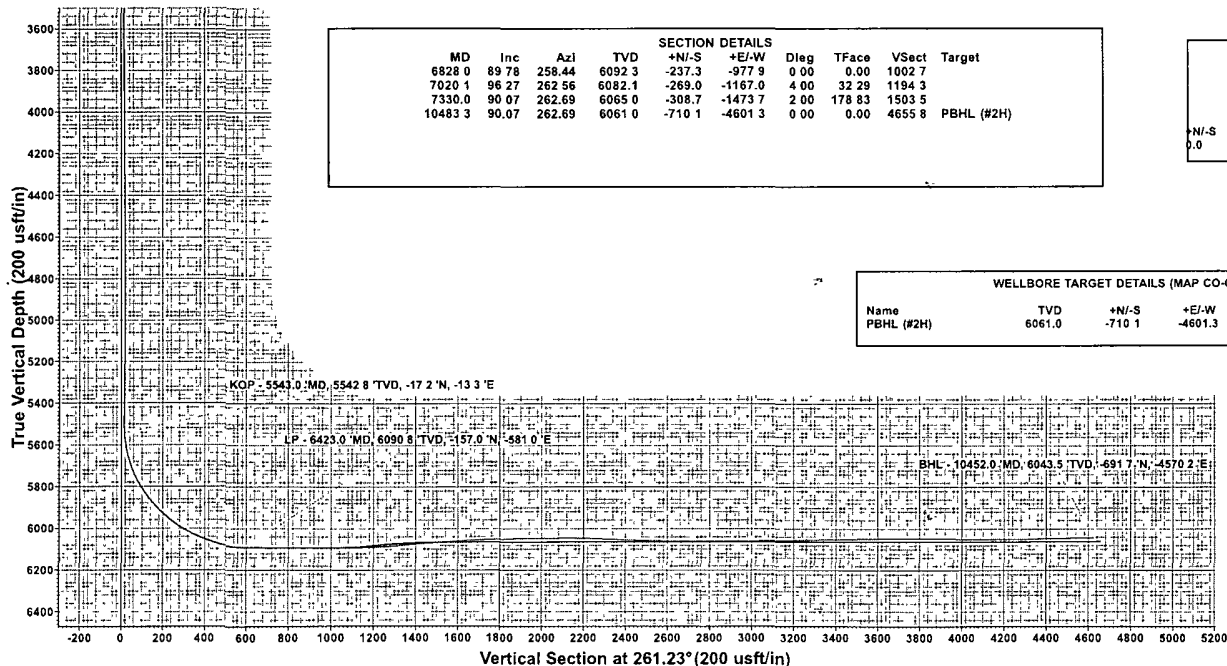
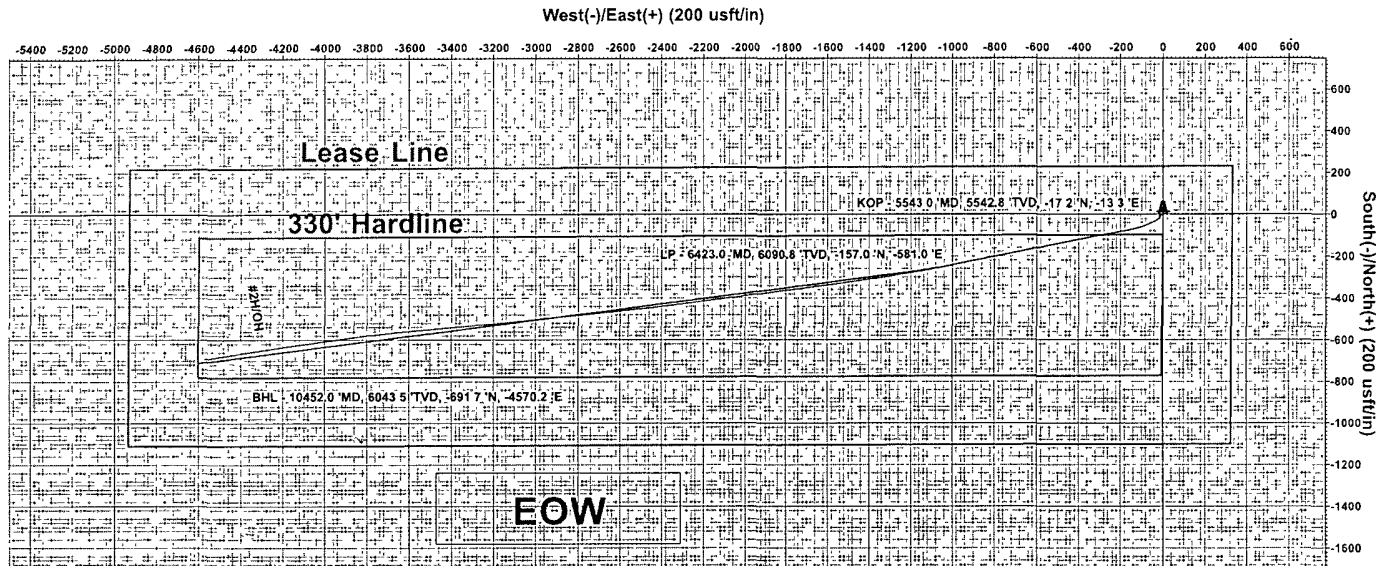
PATHFINDER
 A Schlumberger Company

PROJECT DETAILS: Eddy County
 Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone
 System Datum: Mean Sea Level
 Local North: Grid



Azimuths to Grid North
 True North: -0.04°
 Magnetic North: 7.87°

Magnetic Field
 Strength: 48899.7snT
 Dip Angle: 60.67°
 Date: 11/7/2011
 Model: IGRF2010



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Diag	TFace	VSecl	Target
6828.0	89.78	258.44	6092.3	-237.3	-977.9	0.00	0.00	1002.7	
7020.1	96.27	262.56	6082.1	-269.0	-1167.0	4.00	32.29	1194.3	
7330.0	90.07	262.69	6065.0	-308.7	-1473.7	2.00	178.83	1503.5	
10483.3	90.07	262.69	6061.0	-710.1	-4601.3	0.00	0.00	4655.8	PBHL (#2H)

WELL DETAILS #2H						
Ground Elevation: 3456.0						
RKB Elevation: KB = 18 @ 3474.0usft (Silver Oak 10)						
Rig Name: Silver Oak 10						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slo
0.0	0.0	687326.430	564090.080	32°53'22.045°N	104°15'33.158°W	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape Point
PBHL (#2H)	6061.0	-710.1	-4601.3	686616.370	559488.780	

Plan: Post Gyro Plan #7 (#2H/OH)		
Created By: Sam Bliffe	Date: 16.41, November 28 2011	
Checked: _____	Date: _____	