



Job Number: SVCO-120848

Company: Yates Petroleum Corporation

Lease/Well: Kent BSK 1

Location: Eddy County, NM

Rig Name: Felderhoff #25

RKB: 12'

G.L. or M.S.L.: GL

State/Country: New Mexico/USA

Declination: 7.91°

Grid: East To Grid North

File name: F:\SURVEY\2012SU~1\YATES\CONROE\KENTBS~1\1.SVY

Date/Time: 18-Jun-12 / 15:02

Curve Name: Surface - 1900' M.D. (Rate Gyro)

30-015-40161

WINSERVE SURVEY CALCULATIONS
Minimum Curvature Method
Vertical Section Plane 270.47
Vertical Section Referenced to Wellhead
Rectangular Coordinates Referenced to Wellhead

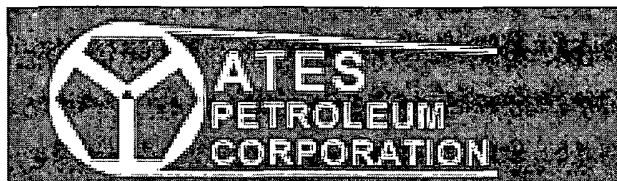
We hereby certify that our survey data from
~~Surface~~ MD to 1900' MD is, to the best of
our knowledge a true and accurate account of
the well bore.

Ryan Lewis 6-18-12
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	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
200.00	.42	271.64	200.00	.02	-.73	.73	.73	271.64	.21
400.00	.39	237.60	399.99	-.32	-2.04	2.04	2.07	261.01	.12
600.00	.45	197.89	599.99	-1.43	-2.86	2.84	3.20	243.33	.15
800.00	.57	189.71	799.98	-3.16	-3.27	3.24	4.55	225.91	.07
1000.00	.82	194.44	999.97	-5.53	-3.79	3.74	6.70	214.43	.13
1200.00	.64	197.46	1199.95	-7.98	-4.48	4.42	9.15	209.32	.09
1400.00	.74	226.48	1399.94	-9.94	-5.75	5.67	11.48	210.07	.18
1600.00	.63	208.56	1599.92	-11.79	-7.22	7.12	13.82	211.47	.12
1800.00	.68	231.01	1799.91	-13.50	-8.66	8.55	16.04	212.68	.13

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	
Last Survey Depth Recorded									
1900.00	.50	219.54	1899.90	-14.21	-9.40	9.29	17.04	213.49	.21

30-015-40161



Yates Petroleum Corp.

Eddy County (NAD 83)

Kent BSK

#1H

OH

Design: OH

PathfinderX & Y Report

05 July, 2012

PATHFINDER[®]

A Schlumberger Company



Pathfinder
PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County (NAD 83)	TVD Reference:	KB = 10' @ 3428.0usft (Felderhoff 25)
Site:	Kent BSK	MD Reference:	KB = 10' @ 3428.0usft (Felderhoff 25)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User.Db

Project:	Eddy County (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:	Kent BSK		
Site Position:		Northing:	628,301.705 usft
From:	Map	Easting:	521,870.839 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32.727
		Longitude:	-104.397
		Grid Convergence:	-0.03 °

Well	#1H					
Well Position	+N/-S	0.0 usft	Northing:	628,301.705 usft	Latitude:	32.727
	+E/-W	0.0 usft	Easting:	521,870.839 usft	Longitude:	-104.397
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,418.0 usft	

Wellbore		OH			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	5/8/2012	7.88	60 51	48,778

Design		OH		
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	270.47



Pathfinder PathfinderX & Y Report

PATHFINDER
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Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County (NAD 83)	TVD Reference:	KB = 10 @ 3428.0usft (Felderhoff 25)
Site:	Kent BSK	MD Reference:	KB = 10 @ 3428.0usft (Felderhoff 25)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey Program		Date: 7/5/2012		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
200.0	1,900.0	Gyro #1 (OH)	CTG-SR-SS	Continuous gyro - surface ref. s/s
1,941.0	7,078.0	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	-3,428.0	0.0	0.0	0.0	0.00	628,301.71	521,870.84
200.0	0.42	271.64	200.0	-3,228.0	0.0	-0.7	0.7	0.21	628,301.73	521,870.11
400.0	0.39	237.60	400.0	-3,028.0	-0.3	-2.0	2.0	0.12	628,301.38	521,868.80
600.0	0.45	197.89	600.0	-2,828.0	-1.4	-2.9	2.8	0.15	628,300.27	521,867.98
800.0	0.57	189.71	800.0	-2,628.0	-3.2	-3.3	3.2	0.07	628,298.54	521,867.57
1,000.0	0.82	194.44	1,000.0	-2,428.0	-5.5	-3.8	3.7	0.13	628,296.18	521,867.05
1,200.0	0.64	197.46	1,199.9	-2,228.1	-8.0	-4.5	4.4	0.09	628,293.72	521,866.36
1,400.0	0.74	226.48	1,399.9	-2,028.1	-9.9	-5.8	5.7	0.18	628,291.77	521,865.09
1,600.0	0.63	208.56	1,599.9	-1,828.1	-11.8	-7.2	7.1	0.12	628,289.91	521,863.62
1,800.0	0.68	231.01	1,799.9	-1,628.1	-13.5	-8.7	8.6	0.13	628,288.20	521,862.18
1,900.0	0.50	219.54	1,899.9	-1,528.1	-14.2	-9.4	9.3	0.21	628,287.49	521,861.44
1,941.0	0.70	239.24	1,940.9	-1,487.1	-14.5	-9.7	9.6	0.69	628,287.23	521,861.11
1,973.0	0.62	242.31	1,972.9	-1,455.1	-14.7	-10.1	9.9	0.27	628,287.05	521,860.79
2,005.0	0.62	241.79	2,004.9	-1,423.1	-14.8	-10.4	10.2	0.02	628,286.88	521,860.48
2,036.0	0.70	211.82	2,035.9	-1,392.1	-15.1	-10.6	10.5	1.13	628,286.64	521,860.23
2,068.0	0.62	241.08	2,067.9	-1,360.1	-15.3	-10.9	10.7	1.07	628,286.39	521,859.98
2,100.0	0.53	235.37	2,099.9	-1,328.1	-15.5	-11.1	11.0	0.33	628,286.23	521,859.70
2,131.0	1.49	255.32	2,130.9	-1,297.1	-15.7	-11.6	11.5	3.25	628,286.04	521,859.20
2,163.0	4.66	262.79	2,162.8	-1,265.2	-15.9	-13.3	13.2	9.96	628,285.77	521,857.50
KOP - 2163.0 'MD, 2162.8 'TVD, -15.9 'N, -13.3 'E										
2,195.0	8.53	264.64	2,194.6	-1,233.4	-16.3	-17.0	16.9	12.11	628,285.39	521,853.85



Pathfinder
PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County (NAD 83)	TVD Reference:	KB = 10 @ 3428.0usft (Felderhoff 25)
Site:	Kent BSK	MD Reference:	KB = 10 @ 3428.0usft (Felderhoff 25)
Well:	#1H	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)	
2,226.0	12.31	267.98	2,225.1	-1,202.9	-16.6	-22.6	22.4	12.34	628,285.06	521,848.26	
2,258.0	16.00	267.63	2,256.1	-1,171.9	-17.0	-30.4	30.3	11.53	628,284.75	521,840.44	
2,289.0	19.96	266.92	2,285.6	-1,142.4	-17.4	-40.0	39.8	12.79	628,284.29	521,830.88	
2,321.0	23.83	267.15	2,315.3	-1,112.7	-18.0	-51.9	51.7	12.10	628,283.68	521,818.97	
2,353.0	27.87	266.90	2,344.1	-1,083.9	-18.8	-65.8	65.6	12.63	628,282.95	521,805.04	
2,384.0	31.83	268.19	2,371.0	-1,057.0	-19.4	-81.2	81.1	12.94	628,282.30	521,789.62	
2,416.0	35.61	269.67	2,397.6	-1,030.4	-19.7	-99.0	98.8	12.09	628,281.98	521,771.87	
2,448.0	38.95	271.43	2,423.0	-1,005.0	-19.5	-118.3	118.2	10.96	628,282.18	521,752.49	
2,479.0	42.03	271.91	2,446.6	-981.4	-18.9	-138.5	138.3	9.99	628,282.77	521,732.37	
2,511.0	45.20	272.16	2,469.8	-958.2	-18.2	-160.5	160.4	9.92	628,283.55	521,710.32	
2,542.0	48.28	271.42	2,491.0	-937.0	-17.5	-183.1	182.9	10.09	628,284.25	521,687.75	
2,574.0	51.62	270.95	2,511.6	-916.4	-16.9	-207.6	207.4	10.50	628,284.76	521,663.27	
2,605.0	54.69	270.49	2,530.2	-897.8	-16.6	-232.4	232.2	9.97	628,285.07	521,638.46	
2,637.0	57.95	270.57	2,547.9	-880.1	-16.4	-259.0	258.9	10.19	628,285.31	521,611.84	
2,669.0	61.03	270.50	2,564.2	-863.8	-16.1	-286.6	286.4	9.63	628,285.57	521,584.28	
2,700.0	63.93	270.52	2,578.5	-849.5	-15.9	-314.1	313.9	9.36	628,285.82	521,556.79	
2,732.0	66.65	270.14	2,591.9	-836.1	-15.7	-343.1	343.0	8.57	628,285.98	521,527.72	
2,763.0	69.56	270.49	2,603.4	-824.6	-15.6	-371.9	371.7	9.45	628,286.14	521,498.96	
2,795.0	72.46	270.33	2,613.8	-814.2	-15.3	-402.1	402.0	9.07	628,286.36	521,468.71	
2,827.0	75.18	270.64	2,622.8	-805.2	-15.1	-432.9	432.7	8.55	628,286.62	521,437.98	
2,858.0	77.65	270.61	2,630.0	-798.0	-14.8	-463.0	462.9	7.97	628,286.95	521,407.85	
2,890.0	80.55	270.53	2,636.1	-791.9	-14.4	-494.4	494.3	9.07	628,287.26	521,376.43	
2,922.0	83.80	270.39	2,640.5	-787.5	-14.2	-526.1	526.0	10.17	628,287.51	521,344.73	
2,953.0	86.44	269.93	2,643.1	-784.9	-14.1	-557.0	556.9	8.64	628,287.60	521,313.85	
2,985.0	88.20	269.68	2,644.6	-783.4	-14.2	-589.0	588.8	5.56	628,287.49	521,281.89	
3,017.0	89.96	269.83	2,645.1	-782.9	-14.4	-620.9	620.8	5.52	628,287.35	521,249.89	

LP: 3017.0, MD: 2645.1, TVD: -14.4 'N', -620.9 'E'



Pathfinder PathfinderX & Y Report

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Site:	Kent BSK	MD Reference:	KB = 10 @ 3428.0usft (Felderhoff 25)
Well:	#1H	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)	
3,081.0	91.01	270.78	2,644.6	-783.4	-14.0	-684.9	684.8	2.21	628,287.69	521,185.90	
3,176.0	91.89	270.65	2,642.2	-785.8	-12.8	-779.9	779.8	0.94	628,288.88	521,090.93	
3,271.0	90.66	271.13	2,640.0	-788.0	-11.3	-874.9	874.7	1.39	628,290.36	520,995.97	
3,366.0	90.48	270.98	2,639.1	-788.9	-9.6	-969.8	969.7	0.25	628,292.10	520,900.99	
3,461.0	90.57	270.93	2,638.2	-789.8	-8.0	-1,064.8	1,064.7	0.11	628,293.69	520,806.01	
3,556.0	90.66	270.56	2,637.2	-790.8	-6.8	-1,159.8	1,159.7	0.40	628,294.92	520,711.02	
3,651.0	90.84	271.20	2,636.0	-792.0	-5.3	-1,254.8	1,254.7	0.70	628,296.38	520,616.04	
3,746.0	90.66	270.55	2,634.7	-793.3	-3.9	-1,349.8	1,349.7	0.71	628,297.83	520,521.06	
3,841.0	91.01	270.56	2,633.3	-794.7	-3.0	-1,444.8	1,444.7	0.37	628,298.75	520,426.08	
3,936.0	91.10	271.12	2,631.6	-796.4	-1.6	-1,539.7	1,539.7	0.60	628,300.14	520,331.10	
4,031.0	91.63	271.20	2,629.3	-798.7	0.4	-1,634.7	1,634.6	0.56	628,302.07	520,236.15	
4,126.0	91.19	270.29	2,627.0	-801.0	1.6	-1,729.6	1,729.6	1.06	628,303.30	520,141.19	
4,221.0	90.13	270.11	2,625.9	-802.1	1.9	-1,824.6	1,824.6	1.13	628,303.63	520,046.20	
4,316.0	90.13	270.24	2,625.7	-802.3	2.2	-1,919.6	1,919.6	0.14	628,303.92	519,951.20	
4,409.0	90.40	270.16	2,625.2	-802.8	2.5	-2,012.6	2,012.6	0.30	628,304.25	519,858.20	
4,503.0	90.57	270.35	2,624.4	-803.6	3.0	-2,106.6	2,106.6	0.27	628,304.67	519,764.20	
4,598.0	90.40	270.09	2,623.6	-804.4	3.3	-2,201.6	2,201.6	0.33	628,305.03	519,669.21	
4,693.0	91.01	270.09	2,622.5	-805.5	3.5	-2,296.6	2,296.6	0.64	628,305.18	519,574.22	
4,788.0	91.01	270.35	2,620.8	-807.2	3.8	-2,391.6	2,391.6	0.27	628,305.55	519,479.23	
4,884.0	90.84	271.05	2,619.2	-808.8	5.0	-2,487.6	2,487.5	0.75	628,306.72	519,383.25	
4,979.0	90.66	271.41	2,618.0	-810.0	7.1	-2,582.6	2,582.5	0.42	628,308.76	519,288.28	
5,073.0	90.75	271.58	2,616.8	-811.2	9.5	-2,676.5	2,676.5	0.20	628,311.21	519,194.32	
5,169.0	90.13	271.58	2,616.1	-811.9	12.2	-2,772.5	2,772.5	0.65	628,313.86	519,098.36	
5,264.0	90.48	271.41	2,615.6	-812.4	14.6	-2,867.4	2,867.5	0.41	628,316.34	519,003.40	
5,359.0	90.66	271.05	2,614.7	-813.3	16.7	-2,962.4	2,962.5	0.42	628,318.37	518,908.42	
5,454.0	89.43	271.23	2,614.6	-813.4	18.6	-3,057.4	3,057.4	1.31	628,320.26	518,813.44	
5,549.0	89.78	271.14	2,615.2	-812.8	20.5	-3,152.4	3,152.4	0.38	628,322.23	518,718.47	



Pathfinder
PathfinderX & Y Report

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5,645.0	90.40	271.14	2,615.1	-812.9	22.4	-3,248.4	3,248.4	0.65	628,324.14	518,622.49	
5,740.0	90.40	270.35	2,614.4	-813.6	23.7	-3,343.3	3,343.4	0.83	628,325.37	518,527.50	
5,834.0	90.92	270.44	2,613.3	-814.7	24.3	-3,437.3	3,437.4	0.56	628,326.02	518,433.51	
5,930.0	90.92	270.35	2,611.8	-816.2	25.0	-3,533.3	3,533.4	0.09	628,326.68	518,337.52	
6,025.0	91.63	270.44	2,609.7	-818.3	25.6	-3,628.3	3,628.4	0.75	628,327.34	518,242.55	
6,120.0	91.10	270.35	2,607.4	-820.6	26.3	-3,723.3	3,723.4	0.57	628,327.99	518,147.58	
6,216.0	90.22	270.97	2,606.3	-821.7	27.4	-3,819.2	3,819.3	1.12	628,329.10	518,051.59	
6,311.0	90.84	271.32	2,605.4	-822.6	29.3	-3,914.2	3,914.3	0.75	628,331.00	517,956.61	
6,407.0	89.87	270.44	2,604.8	-823.2	30.8	-4,010.2	4,010.3	1.36	628,332.47	517,860.63	
6,502.0	90.31	270.35	2,604.7	-823.3	31.4	-4,105.2	4,105.3	0.47	628,333.13	517,765.63	
6,597.0	90.84	270.09	2,603.7	-824.3	31.8	-4,200.2	4,200.3	0.62	628,333.49	517,670.64	
6,692.0	90.22	270.09	2,602.9	-825.1	31.9	-4,295.2	4,295.3	0.65	628,333.64	517,575.64	
6,787.0	90.84	270.00	2,602.0	-826.0	32.0	-4,390.2	4,390.3	0.66	628,333.72	517,480.65	
6,883.0	90.92	270.44	2,600.5	-827.5	32.4	-4,486.2	4,486.3	0.47	628,334.08	517,384.66	
7,010.0	91.19	271.23	2,598.2	-829.8	34.2	-4,613.1	4,613.3	0.66	628,335.93	517,257.70	
7,078.0	91.19	271.23	2,596.8	-831.2	35.7	-4,681.1	4,681.2	0.00	628,337.39	517,189.73	
BHL - 7078.0 'MD, 2596.8 'TVD, 35.7 'N, -4681.1 'E - FNL:916', FWL:360, FSL:395											

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,163.0	2,162.8	-15.9	-13.3	KOP - 2163.0 'MD, 2162.8 'TVD, -15.9 'N, -13.3 'E
3,017.0	2,645.1	-14.4	-620.9	LP - 3017.0 'MD, 2645.1 'TVD, -14.4 'N, -620.9 'E
7,078.0	2,596.8	35.7	-4,681.1	BHL - 7078.0 'MD, 2596.8 'TVD, 35.7 'N, -4681.1 'E
7,078.0	2,596.8	35.7	-4,681.1	FNL 916', FWL:360, FSL:395

Checked By: _____	Approved By: _____	Date: _____
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**ATES
PETROLEUM
CORPORATION**

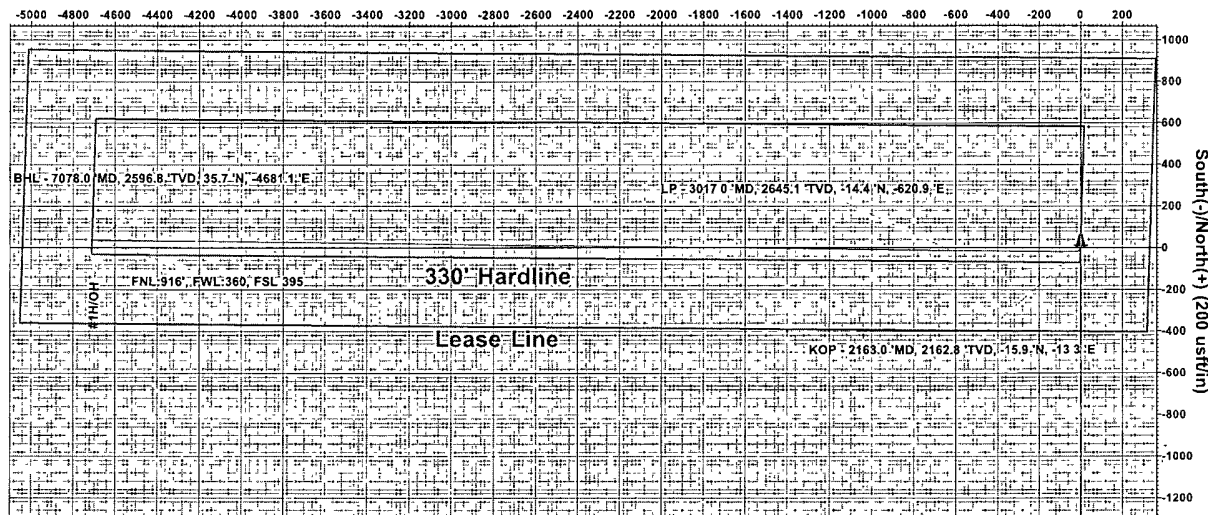
Project: Eddy County (NAD 83)
Site: Kent BSK
Well: #1H
Wellbore: OH
Plan: Post Gyro Plan #4

PROJECT DETAILS Eddy County (NAD 83)
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

PATHFINDER®

A Schlumberger Company

West(-)/East(+) (200 usft/in)

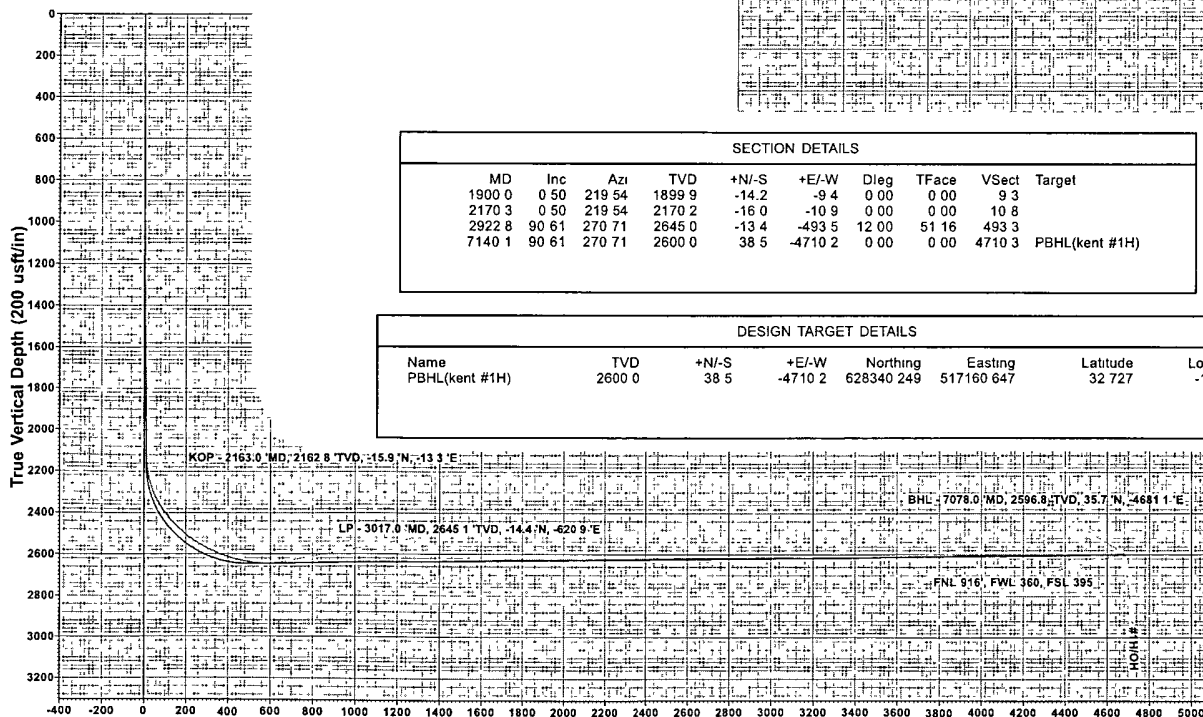


WELL DETAILS: #1H

Ground Elevation: 3418.0
RKB Elevation: KB = 10 @ 3428 0usft (Felderhoff 25)
Rig Name: Felderhoff 25

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	628301.705	521870.839	32.727	-104.597	

EOW



SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1900.0	0.50	219.54	1899.9	-14.2	-9.4	0.00	0.00	9.3	
2170.3	0.50	219.54	2170.2	-16.0	-10.9	0.00	0.00	10.8	
2922.8	90.61	270.71	2645.0	-13.4	-493.5	12.00	51.16	493.3	
7140.1	90.61	270.71	2600.0	38.5	-4710.2	0.00	0.00	4710.3	PBHL(kent #1H)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL(kent #1H)	2600.0	38.5	-4710.2	628340.249	517160.647	32.727	-104.412



Azimuths to Grid North
True North 0.03°
Magnetic North 7.92°

Magnetic Field
Strength 48777.7 nT
Dip Angle 60.51°
Date 5/8/2012
Model IGRF200510

Vertical Section at 270.47° (200 usft/in)

Plan: Post Gyro Plan #4 (#1H/OH)

Created By: Sam Bliffie Date: 10.07, July 05 2012

Checked: _____ Date: _____

Post Gyro Plan #4
Eddy County, NM
Well: #1H
Felderhoff 25
Post Gyro Plan #4



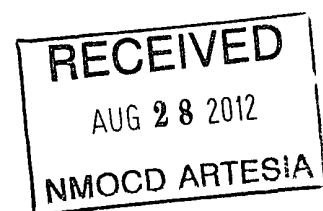
A Schlumberger Company

DIRECTIONAL SURVEY REPORT

YATES PETROLEUM

KENT "BSK" #1H

EDDY COUNTY, NEW MEXICO



PREPARED BY: MARCUS MITCHAM

Pathfinder

6213 WCR 112
Midland, Texas 79706-3725, USA
Tel (432) 687-1647
Fax (432) 687-1544

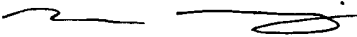


DIRECTIONAL SURVEY COMPANY REPORT:

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: 6-18-12 TO 7-4-12
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
KENT "BSK" #1H
EDDY COUNTY, NM
RIG: FELDERHOFF #25
9. SURVEY CERTIFIED FROM: 1,941 TO 7,010 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE
DISPLACED AT 4,681.25 FEET ON A BEARING OF 270.44 DEGREES FROM THE
CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 7,078 FEET,
ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.



MARCUS MITCHAM
MWD COORDINATOR

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 06/18/2012
Date Completed: 07/04/2012

YATES PETROLEUM CORP.
KENT BSK #1H / 30-015-40161
EDDY COUNTY, NM
Rig:FELDERHOFF #25
PathFinder Office Supervisor: JAUN ALCOCER
PathFinder Field Engineers:S. MOORE
A. CASTILLO
J. GARCIA

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.43.38.0088 N LON:104.23.47.8902 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 521870.8390 Y: 628301.7050
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.91°EAST TO GRID
Vertical Section Plane: 270.47
Survey Vert. Reference: 10.00' Rotary Table To Ground
Altitude:3418.00' Ground To MSL

Measured Depth	7078.00	(feet)
Inclination	91.19	(deg)
Azimuth	271.23	(deg)
True Vertical Depth	2596.76	(feet)
Vertical Section	4681.25	(feet)
Survey X cord	517189.71	(feet)
Survey Y cord	628337.38	(feet)
Survey Lat	32.72731412 N	(deg)
Survey Lon	104.41185860 W	(deg)
Rectangular Corr. N/S	35.69 N	(feet)
Rectangular Corr. E/W	4681.11 W	(feet)
Closure Distance	4681.25	(feet)
Direction of Closure	270.44	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.
KENT BSK #1H / 30-015-40161

EDDY COUNTY, NM

Rig:FELDERHOFF #25

PathFinder Office Supervisor: JAUN ALCOCER

PathFinder Field Engineers: S. MOORE

A. CASTILLO

J. GARCIA

Survey Calculations by RX4 using Minimum Curvature

Survey Horiz. Reference:WELLHEAD

Ref Coordinates: LAT:32.43.38.0088 N LON:104.23.47.8902 W

GRID Reference:NAD83 new mexico east Transverse Mercator

Ref GRID Coord: X: 521870.8390 Y: 628301.7050

North Aligned To:GRID NORTH

Total Magnetic Correction: 7.91°EAST TO GRID

Vertical Section Plane: 270.47

Survey Vert. Reference: 10.00' Rotary Table To Ground

Altitude:3418.00' Ground To MSL

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)
THE FOLLOWING ARE MS ENERGY SERVICES GYRO SURVEYS.										
200.00	0.42	271.64	199.99	0.00	0.73	0.02 N	0.73 W	0.73@	271.89	0.00
400.00	0.39	237.60	399.99	200.00	2.03	0.32 S	2.04 W	2.06@	261.08	0.12
600.00	0.45	197.89	599.99	200.00	2.84	1.43 S	2.85 W	3.19@	243.35	0.14
800.00	0.57	189.71	799.98	200.00	3.24	3.16 S	3.26 W	4.54@	225.92	0.07
1000.00	0.82	194.44	999.96	200.00	3.74	5.53 S	3.79 W	6.70@	214.42	0.13
1200.00	0.64	197.46	1199.95	200.00	4.41	7.98 S	4.48 W	9.15@	209.31	0.09
1400.00	0.74	226.48	1399.93	200.00	5.67	9.93 S	5.75 W	11.48@	210.07	0.18
1600.00	0.63	208.56	1599.92	200.00	7.12	11.79 S	7.21 W	13.82@	211.46	0.12
1800.00	0.68	231.01	1799.91	200.00	8.55	13.50 S	8.66 W	16.04@	212.68	0.13
**	TIED INTO MS ENERGY SERVICES GYRO SURVEY @ 1900.00'MD.									
1900.00	0.50	219.54	1899.90	100.00	9.28	14.21 S	9.40 W	17.04@	213.48	0.21
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
1941.00	0.70	239.24	1940.90	41.00	9.61	14.48 S	9.73 W	17.44@	213.90	0.69
1973.00	0.62	242.31	1972.90	32.00	9.93	14.66 S	10.05 W	17.77@	214.44	0.27
2005.00	0.62	241.79	2004.89	32.00	10.23	14.82 S	10.36 W	18.08@	214.95	0.02
2036.00	0.70	211.82	2035.89	31.00	10.48	15.06 S	10.60 W	18.42@	215.15	1.13
2068.00	0.62	241.08	2067.89	32.00	10.73	15.31 S	10.86 W	18.77@	215.35	1.07
2100.00	0.53	235.37	2099.89	32.00	11.00	15.48 S	11.13 W	19.06@	215.73	0.33
2131.00	1.49	255.32	2130.88	31.00	11.51	15.66 S	11.64 W	19.51@	216.62	3.25
2163.00	4.66	262.79	2162.83	32.00	13.20	15.93 S	13.33 W	20.77@	219.93	9.96
2195.00	8.53	264.64	2194.62	32.00	16.85	16.31 S	16.99 W	23.55@	226.16	12.11
2226.00	12.31	267.98	2225.10	31.00	22.44	16.65 S	22.58 W	28.05@	233.60	12.34
2258.00	16.00	267.63	2256.12	32.00	30.26	16.95 S	30.40 W	34.80@	240.86	11.53
2289.00	19.96	266.92	2285.60	31.00	39.81	17.41 S	39.95 W	43.58@	246.46	12.79
2321.00	23.83	267.15	2315.29	32.00	51.72	18.02 S	51.87 W	54.91@	250.84	12.10

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.
KENT BSK #1H / 30-015-40161
EDDY COUNTY, NM
RIG:FELDERHOFF #25

Page 02/04

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)
2353.00	27.87	266.90	2344.08	32.00	65.64	18.75 S	65.80 W	68.42@	254.09	12.63
2384.00	31.83	268.19	2370.96	31.00	81.05	19.40 S	81.21 W	83.50@	256.56	12.94
2416.00	35.61	269.67	2397.57	32.00	98.80	19.72 S	98.97 W	100.91@	258.73	12.09
2448.00	38.95	271.43	2423.03	32.00	118.18	19.52 S	118.35 W	119.95@	260.63	10.96
2479.00	42.03	271.91	2446.61	31.00	138.30	18.93 S	138.46 W	139.75@	262.21	9.99
2511.00	45.20	272.16	2469.77	32.00	160.37	18.15 S	160.52 W	161.54@	263.55	9.92
2542.00	48.28	271.42	2491.01	31.00	182.93	17.45 S	183.08 W	183.91@	264.56	10.09
2574.00	51.62	270.95	2511.60	32.00	207.42	16.94 S	207.57 W	208.26@	265.33	10.50
2605.00	54.69	270.49	2530.19	31.00	232.23	16.63 S	232.37 W	232.97@	265.91	9.97
2637.00	57.95	270.57	2547.93	32.00	258.85	16.39 S	259.00 W	259.51@	266.38	10.19
2669.00	61.03	270.50	2564.18	32.00	286.42	16.13 S	286.56 W	287.01@	266.78	9.63
2700.00	63.93	270.52	2578.50	31.00	313.91	15.89 S	314.05 W	314.45@	267.10	9.36
2732.00	66.65	270.14	2591.87	32.00	342.98	15.72 S	343.12 W	343.48@	267.38	8.57
2763.00	69.56	270.49	2603.43	31.00	371.74	15.56 S	371.88 W	372.20@	267.60	9.45
2795.00	72.46	270.33	2613.84	32.00	401.99	15.34 S	402.13 W	402.42@	267.81	9.07
2827.00	75.18	270.64	2622.76	32.00	432.72	15.08 S	432.86 W	433.12@	268.00	8.55
2858.00	77.65	270.61	2630.04	31.00	462.85	14.75 S	462.99 W	463.22@	268.17	7.97
2890.00	80.55	270.53	2636.09	32.00	494.27	14.44 S	494.41 W	494.62@	268.33	9.07
2922.00	83.80	270.39	2640.45	32.00	525.97	14.19 S	526.10 W	526.29@	268.46	10.17
2953.00	86.44	269.93	2643.09	31.00	556.85	14.10 S	556.99 W	557.17@	268.55	8.64
2985.00	88.20	269.68	2644.58	32.00	588.81	14.21 S	588.95 W	589.12@	268.62	5.56
3017.00	89.96	269.83	2645.10	32.00	620.81	14.35 S	620.94 W	621.11@	268.68	5.52
3081.00	91.01	270.78	2644.55	64.00	684.80	14.01 S	684.94 W	685.08@	268.83	2.21
3176.00	91.89	270.65	2642.15	95.00	779.77	12.82 S	779.90 W	780.01@	269.06	0.94
3271.00	90.66	271.13	2640.04	95.00	874.74	11.35 S	874.86 W	874.94@	269.26	1.39
3366.00	90.48	270.98	2639.09	95.00	969.73	9.60 S	969.84 W	969.89@	269.43	0.25
3461.00	90.57	270.93	2638.22	95.00	1064.72	8.01 S	1064.83 W	1064.86@	269.57	0.11
3556.00	90.66	270.56	2637.20	95.00	1159.72	6.78 S	1159.81 W	1159.83@	269.67	0.40

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.
KENT BSK #1H / 30-015-40161
EDDY COUNTY, NM
RIG:FELDERHOFF #25

Page 03/04

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)
3651.00	90.84	271.20	2635.96	95.00	1254.71	5.32 S	1254.79 W	1254.80@	269.76	0.70
3746.00	90.66	270.55	2634.71	95.00	1349.70	3.87 S	1349.77 W	1349.78@	269.84	0.71
3841.00	91.01	270.56	2633.33	95.00	1444.69	2.95 S	1444.76 W	1444.76@	269.88	0.37
3936.00	91.10	271.12	2631.58	95.00	1539.67	1.56 S	1539.73 W	1539.73@	269.94	0.60
4031.00	91.63	271.20	2629.32	95.00	1634.63	0.37 N	1634.68 W	1634.68@	270.01	0.56
4126.00	91.19	270.29	2626.98	95.00	1729.60	1.60 N	1729.65 W	1729.65@	270.05	1.06
4221.00	90.13	270.11	2625.89	95.00	1824.59	1.93 N	1824.64 W	1824.64@	270.06	1.13
4316.00	90.13	270.24	2625.67	95.00	1919.59	2.22 N	1919.64 W	1919.64@	270.07	0.14
4409.00	90.40	270.16	2625.24	93.00	2012.59	2.55 N	2012.64 W	2012.64@	270.07	0.30
4503.00	90.57	270.35	2624.44	94.00	2106.58	2.97 N	2106.63 W	2106.63@	270.08	0.27
4598.00	90.40	270.09	2623.64	95.00	2201.58	3.33 N	2201.63 W	2201.63@	270.09	0.33
4693.00	91.01	270.09	2622.47	95.00	2296.57	3.48 N	2296.62 W	2296.62@	270.09	0.64
4788.00	91.01	270.35	2620.80	95.00	2391.56	3.84 N	2391.60 W	2391.61@	270.09	0.27
4884.00	90.84	271.05	2619.25	96.00	2487.54	5.02 N	2487.58 W	2487.59@	270.12	0.75
4979.00	90.66	271.41	2618.00	95.00	2582.52	7.06 N	2582.55 W	2582.56@	270.16	0.42
5073.00	90.75	271.58	2616.85	94.00	2676.50	9.51 N	2676.51 W	2676.53@	270.20	0.20
5169.00	90.13	271.58	2616.11	96.00	2772.48	12.15 N	2772.47 W	2772.50@	270.25	0.65
5264.00	90.48	271.41	2615.60	95.00	2867.46	14.63 N	2867.44 W	2867.48@	270.29	0.41
5359.00	90.66	271.05	2614.66	95.00	2962.45	16.67 N	2962.41 W	2962.46@	270.32	0.42
5454.00	89.43	271.23	2614.58	95.00	3057.44	18.56 N	3057.39 W	3057.45@	270.35	1.31
5549.00	89.78	271.14	2615.24	95.00	3152.43	20.53 N	3152.37 W	3152.44@	270.37	0.38
5645.00	90.40	271.14	2615.09	96.00	3248.43	22.44 N	3248.35 W	3248.43@	270.40	0.65
5740.00	90.40	270.35	2614.42	95.00	3343.42	23.67 N	3343.34 W	3343.42@	270.41	0.83
5834.00	90.92	270.44	2613.34	94.00	3437.42	24.32 N	3437.33 W	3437.42@	270.41	0.56
5930.00	90.92	270.35	2611.80	96.00	3533.40	24.98 N	3533.32 W	3533.40@	270.41	0.09
6025.00	91.63	270.44	2609.69	95.00	3628.38	25.64 N	3628.29 W	3628.38@	270.40	0.75
6120.00	91.10	270.35	2607.42	95.00	3723.35	26.29 N	3723.26 W	3723.35@	270.40	0.57
6216.00	90.22	270.97	2606.32	96.00	3819.34	27.40 N	3819.25 W	3819.34@	270.41	1.12

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.
KENT BSK #1H / 30-015-40161
EDDY COUNTY, NM
RIG:FELDERHOFF #25

Page 04/04

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
6311.00	90.84	271.32	2605.44	95.00	3914.33	29.30 N	3914.22 W	3914.33@	270.43	0.75
6407.00	89.87	270.44	2604.84	96.00	4010.32	30.77 N	4010.21 W	4010.33@	270.44	1.36
6502.00	90.31	270.35	2604.69	95.00	4105.32	31.42 N	4105.20 W	4105.32@	270.44	0.47
6597.00	90.84	270.09	2603.74	95.00	4200.32	31.79 N	4200.20 W	4200.32@	270.43	0.62
6692.00	90.22	270.09	2602.86	95.00	4295.31	31.94 N	4295.19 W	4295.31@	270.43	0.65
6787.00	90.84	270.00	2601.98	95.00	4390.30	32.01 N	4390.19 W	4390.31@	270.42	0.66
6883.00	90.92	270.44	2600.51	96.00	4486.29	32.38 N	4486.18 W	4486.29@	270.41	0.47
7010.00	91.19	271.23	2598.17	127.00	4613.27	34.23 N	4613.14 W	4613.27@	270.43	0.66
STRAIGHT LINE PROJECTION TO BIT @ 7078.00'MD.										
7078.00	91.19	271.23	2596.76	68.00	4681.25	35.69 N	4681.11 W	4681.25@	270.44	0.00

** The survey data at tie-in point was furnished by a recognized survey company and entered as submitted. Survey stations above the tie-in point represent recalculated data by PathFinder Energy Services, Inc. and may reflect minor changes due to rounding differences between survey programs. Only survey stations taken by qualified PathFinder personnel are subject to certification.



A Schlumberger Company

TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	YATES PETROLEUM CORP.		
LEASE / WELL No.:	KENT BSK	#1H	
WELL LOCATION:	EDDY COUNTY		
COUNTY / STATE / COUNTRY:	EDDY	NM	USA
RIG:	FELDERHOFF #25		
API WELL No:	30-015-40161		
JOB No:	12MLD0255		
P.O. / AFE No.	100100		
DIRECTIONAL COMPANY:	P.E.S.		

WELL SITE INFORMATION

TOTAL MAGNETIC CORRECTION (TMC):			
On Wall Plat:	LWD Calculated:	7.913101	Agreed Upon: 7.913101
X = 521870.839000	Feet	Y = 628301.705000	Feet
SITE LATITUDE: 32.727225 N	SITE LONGITUDE: 104.396636 W		
GRID SYSTEM: TRUE ☐ UTM ☐ LAMBERT ☒	ZONE: NEW MEXICO EAST		
PROPOSED DRIFT DIRECTION:	270.47		
KELLY BUSHING ELEVATION:	10		
ALTITUDE: 3418	Feet	WATER DEPTH:	Feet

TIE-IN SURVEY

MEASURED DEPTH:	1900		
DRIFT ANGLE:	0.5		
DRIFT DIRECTION:	219.54		
TRUE VERTICAL DEPTH:	1899.9		
VERTICAL SECTION:	9.28		
RECTANGULAR COORDINATE (N / S):	-14.21		
RECTANGULAR COORDINATE (E / W):	-9.4		
CLOSURE DISTANCE / DIRECTION:	17.04	213.49	
SURVEY CALCULATION METHOD:	AA ☐	MC ☒	RC ☐ BT ☐
SOURCE OF TIE-IN DATA (COMPANY):	MULTI SHOT		
COPY OF TIE-IN SURVEY REPORT	☒ YES ☐ NO		

WELL PLAN

KICKOFF DEPTH:	2167.6	TOTAL DEPTH:	7150.7
KICKOFF ANGLE:	0	MAX ANGLE:	90.61

PES Engineers: SEAN MOORE
ALEX CASTILLO

**Signature of both field engineers required if applicable

Directional Driller: _____

DATE: 18-Jun-2012



Company:	YATES PETROLEUM CORPORATION	Operator:	RYAN LEWIS
Lease / Well:	KENT BSK #1	Job Number:	SVCO-120847
County/Parish:	EDDY COUNTY	Probe Serial #	101
State:	NEW MEXICO	Proposed Direction:	270.47
Date:	2012/06/17	Mag. Declination:	7.91 EAST TO GRID
API#:	N/A	Rig / RKB:	FELDERHOFF 25 / 12 FEET
Dir. Company:	PATHFINDER	Tie-In From:	SURFACE

FIELD USE ONLY, DEFINITIVE SURVEY WILL COME FROM MS Survey OFFICES

TIE-IN Survey					
Measured Depth (ft.)	Inclination	Azimuth Bearing	Vertical Depth	Coordinates (+N/-S)	Coordinates (+E/-W)
0	0.00	0.00	0.00	0.00	0.00

Rate Gyro Survey Report									
Measured Depth (ft.)	Inclination	Azimuth Bearing	Vertical Depth	Vertical Section	Coordinates (+N/-S)	Coordinates (+E/-W)	Dog-Leg / 100 ft.	Closure Distance	Closure Direction
200	0.42	271.64	200.00	0.73	0.02	-0.73	0.21	0.73	271.64°
400	0.39	237.60	399.99	2.04	-0.32	-2.04	0.12	2.07	261.01°
600	0.45	197.89	599.99	2.84	-1.43	-2.86	0.15	3.20	243.33°
800	0.57	189.71	799.98	3.24	-3.16	-3.27	0.07	4.55	225.91°
1000	0.82	194.44	999.97	3.74	-5.53	-3.79	0.13	6.70	214.43°
1200	0.64	197.46	1199.95	4.42	-7.98	-4.48	0.09	9.15	209.32°
1400	0.74	226.48	1399.93	5.67	-9.94	-5.75	0.18	11.48	210.07°
1600	0.63	208.56	1599.92	7.12	-11.79	-7.22	0.12	13.82	211.47°
1800	0.68	231.01	1799.91	8.55	-13.50	-8.66	0.13	16.04	212.68°
1900	0.50	219.54	1899.90	9.29	-14.21	-9.40	0.21	17.04	213.49°

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

YATES PETROLEUM CORP.
KENT BSK #1H
EDDY COUNTY
Rig: FELDERHOFF #25

Mon Jun 18 19:16:39 2012

Field copy

Coordinates

Latitude: 32.727225 N (32 deg. 43 min. 38.0088 sec.)
Longitude: 104.396636 W (-104 deg. 23 min. 47.8902 sec.)
Elevation: 3428.00 feet.
Calculation Date: Jun/18/2012

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.4843 degrees
Total Magnetic Field: 0.48726 gauss
Magnetic Declination: 7.878877 degrees
Horizontal Intensity: 0.240053 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.878877 Degr.

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 521870.8390 feet
Y: 628301.7050 feet
True to Grid: (convergence) 0.034224 degrees
Magnetic to Grid: 7.913101 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.913101 Degr.



A Schlumberger Company

PathFinder Energy Services, Inc. Magnetic & Grid Calculations

YATES PETROLEUM CORP.
KENT BSK #1H
EDDY COUNTY, NEW MEXICO
Rig:FELDERHOFF #25

Thu Jun 14 18:19:45 2012

Coordinates

Latitude: 32.727225 N (32 deg. 43 min. 38.0088 sec.)
Longitude: 104.396636 W (-104 deg. 23 min. 47.8902 sec.)
Elevation: 3428.00 feet.
Calculation Date: Jun/14/2012

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.4846 degrees
Total Magnetic Field: 0.48727 gauss
Magnetic Declination: 7.880213 degrees
Horizontal Intensity: 0.240056 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.880213 Degr

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 521870.8390 feet
Y: 628301.7050 feet
True to Grid: (convergence) 0.034224 degrees
Magnetic to Grid: 7.914437 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.914437 Degr.