

Yates Petroleum Corp.

Eddy County
Cottonwood "KI" Fed Com #2H
Cottonwood KI Fed #2
ST1

Survey: MWD

Pathfinder X & Y Survey Report

31 December, 2008

30.015.36403

Pathfinder Energy Services
Pathfinder X & Y Survey Report

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well Cottonwood KI Fed #2
Project:	Eddy County	TVD Reference:	Well @ 3550.00ft
Site:	Cottonwood "KI" Fed Com #2H	MD Reference:	Well @ 3550.00ft
Well:	Cottonwood KI Fed #2	North Reference:	True
Wellbore:	ST1	Survey Calculation Method:	Minimum Curvature
Design:	ST1	Database:	EDM 2003.16 Single User:Db

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

Site:	Cottonwood "KI" Fed Com #2H				
Site Position:		Northing:	700,376.188 ft	Latitude:	32° 55' 30.766 N
From:	Map	Easting:	484,969.341 ft	Longitude:	104° 31' 1.350 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	-0.10 °

Well:	Cottonwood KI Fed #2					
Well Position	+N/-S	0.00 ft	Northing:	700,376.188 ft	Latitude:	32° 55' 30.766 N
	+E/-W	0.00 ft	Easting:	484,969.341 ft	Longitude:	104° 31' 1.350 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,550.00 ft

Wellbore:	ST1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF200510	12/21/2008	(°)	(°)	(nT)
			8.36	60.74	49,204

Design:	ST1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	5,257.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	270.22	

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Survey Program	Date	From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
	12/31/2008	96.00	4,200.00	GYRO (Pilot Hole)	NS-GYRO-MS	North sensing gyrocompassing m/s
		4,252.00	5,257.00	MWD (OH)	MWD	MWD - Standard
		5,350.00	7,389.00	MWD (ST1)	MWD	MWD - Standard

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
5,257.00	88.37	269.96	4,790.07	1,240.07	15.73	-681.93	681.99	0.00	700,393.10	484,287.44
5,350.00	86.17	271.77	4,794.50	1,244.50	17.13	-774.81	774.87	3.06	700,394.67	484,194.57
5,443.00	86.17	278.31	4,800.72	1,250.72	25.28	-867.19	867.28	7.02	700,402.98	484,102.20
5,536.00	90.75	278.47	4,803.21	1,253.21	38.84	-959.14	959.28	4.93	700,416.70	484,010.27
5,629.00	92.51	277.60	4,800.57	1,250.57	51.83	-1,051.18	1,051.37	2.11	700,429.85	483,918.25
5,722.00	93.21	277.74	4,795.93	1,245.93	64.23	-1,143.23	1,143.47	0.77	700,442.41	483,826.22
5,815.00	92.86	277.12	4,791.00	1,241.00	76.24	-1,235.32	1,235.61	0.76	700,454.58	483,734.15
5,908.00	94.35	276.11	4,785.16	1,235.16	86.93	-1,327.52	1,327.84	1.93	700,465.43	483,641.98
6,001.00	95.06	276.26	4,777.53	1,227.53	96.92	-1,419.66	1,420.03	0.78	700,475.58	483,549.85
6,094.00	95.58	275.61	4,768.91	1,218.91	106.49	-1,511.77	1,512.16	0.89	700,485.31	483,457.76
6,187.00	94.97	274.62	4,760.36	1,210.36	114.75	-1,604.00	1,604.43	1.25	700,493.73	483,365.54
6,280.00	93.83	273.49	4,753.22	1,203.22	121.30	-1,696.49	1,696.95	1.72	700,500.45	483,273.06
6,374.00	94.53	273.35	4,746.37	1,196.37	126.90	-1,790.08	1,790.55	0.76	700,506.20	483,179.49
6,470.00	92.15	273.04	4,740.78	1,190.78	132.24	-1,885.76	1,886.25	2.50	700,511.71	483,083.82
6,565.00	93.56	274.04	4,736.04	1,186.04	138.09	-1,980.45	1,980.97	1.82	700,517.73	482,989.13
6,660.00	90.13	270.68	4,732.99	1,182.99	142.00	-2,075.30	2,075.83	5.05	700,521.80	482,894.30
6,755.00	91.54	271.22	4,731.60	1,181.60	143.57	-2,170.27	2,170.81	1.59	700,523.55	482,799.32
6,850.00	90.75	269.46	4,729.70	1,179.70	144.14	-2,265.25	2,265.78	2.03	700,524.27	482,704.35
6,945.00	91.63	268.30	4,727.73	1,177.73	142.28	-2,360.20	2,360.73	1.53	700,522.58	482,609.39
7,040.00	90.75	266.37	4,725.76	1,175.76	137.87	-2,455.08	2,455.59	2.23	700,518.33	482,514.51

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Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
7,136.00	90.13	265.91	4,725.02	1,175.02	131.40	-2,550.85	2,551.34	0.80	700,512.04	482,418.72	
7,231.00	91.19	265.85	4,723.93	1,173.93	124.58	-2,645.60	2,646.06	1.12	700,505.38	482,323.96	
7,389.00	91.19	265.85	4,720.64	1,170.64	113.15	-2,803.15	2,803.57	0.00	700,494.22	482,166.39	
Projection to Bit @ 7389' MD											

Targets									
Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	
PBHL(Cottonwood #2		0.00	0.00	4,719.00	17.23	-4,403.03	700,401.088	480,566.345	
- survey misses by 1602.75ft at 7389.00ft MD (4720.64 TVD, 113.15 N, -2803.15 E)									
- Point									

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
7,389.00	4,720.64	113.15	-2,803.15	Projection to Bit @ 7389' MD

Checked By: _____ Approved By: _____ Date: _____