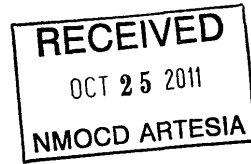




30-015-37211

Yates Petroleum Corp.

Eddy County
Federal AB
#13H
OH



Design: OH

Pathfinder X&Y Report

01 September, 2011

PATHFINDER®

A Schlumberger Company



Pathfinder
Pathfinder X&Y Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well #13H
Project:	Eddy County	TVD Reference:	KB=18.5' @ 3621.50usft (Patterson,101)
Site:	Federal AB	MD Reference:	KB=18.5' @ 3621.50usft (Patterson,101)
Well:	#13H	North Reference:	Gnd
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:		Federal AB			
Site Position:		Northing:	617,922.951 usft	Latitude:	32° 41' 54.914 N
From:	Map	Easting:	486,800.629 usft	Longitude:	104° 30' 38.242 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.10 °

Well	#13H					
Well Position	+N/-S	0.00 usft	Northing:	617,922.951 usft	Latitude:	32° 41' 54.914 N
	+E/-W	0.00 usft	Easting:	486,800.629 usft	Longitude:	104° 30' 38.242 W
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft	Ground Level:	3,603.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/22/2011	8.04	60.46	48,784

Design:		OH			
Audit Notes:					
Version:		1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:		Depth From (TVD)	+N/-S	+E/-W	Direction
		(usft)	(usft)	(usft)	(°)
		0.00	0.00	0.00	0.00



Pathfinder
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Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #13H
Project:	Eddy County	TVD Reference:	KB=18.5' @ 3621.50usft (Patterson 101)
Site:	Federal AB	MD Reference:	KB=18.5' @ 3621.50usft (Patterson 101)
Well:	#13H	North Reference:	Grd
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey Program		Date	9/1/2011		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
200.00	2,000.00	Gyro Survey (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s	
2,027.00	4,036.00	Survey #2 - MWD (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)
0.00	0.00	0.00	0.00	-3,621.50	0.00	0.00	0.00	0.00	617,922.95	486,800.63
200.00	0.50	267.33	200.00	-3,421.50	-0.04	-0.87	-0.04	0.25	617,922.91	486,799.76
400.00	0.25	244.11	399.99	-3,221.51	-0.27	-2.14	-0.27	0.14	617,922.68	486,798.49
600.00	0.50	149.90	599.99	-3,021.51	-1.22	-2.09	-1.22	0.29	617,921.73	486,798.54
800.00	0.25	96.68	799.99	-2,821.51	-2.02	-1.22	-2.02	0.20	617,920.93	486,799.41
1,000.00	0.50	92.46	999.98	-2,621.52	-2.11	0.09	-2.11	0.13	617,920.84	486,800.71
1,200.00	0.50	98.69	1,199.97	-2,421.53	-2.28	1.82	-2.28	0.03	617,920.67	486,802.45
1,400.00	0.50	92.47	1,399.97	-2,221.53	-2.45	3.55	-2.45	0.03	617,920.50	486,804.18
1,600.00	0.75	133.26	1,599.96	-2,021.54	-3.38	5.38	-3.38	0.25	617,919.57	486,806.01
1,800.00	0.75	132.04	1,799.94	-1,821.56	-5.16	7.30	-5.16	0.01	617,917.79	486,807.93
2,000.00	0.75	110.60	1,999.92	-1,621.58	-6.50	9.50	-6.50	0.14	617,916.46	486,810.13
2,027.00	0.79	154.46	2,026.92	-1,594.58	-6.73	9.75	-6.73	2.13	617,916.23	486,810.38
2,058.00	0.82	105.79	2,057.92	-1,563.58	-6.96	10.00	-6.96	1.94	617,915.99	486,810.63
2,090.00	2.20	35.11	2,089.91	-1,531.59	-6.51	10.52	-6.51	6.50	617,916.44	486,811.15
KOP - 2090.00' MD, 2089.91' TVD, -6.51° N, 10.52° E										
2,122.00	5.63	21.34	2,121.83	-1,499.67	-4.54	11.45	-4.54	11.04	617,918.41	486,812.08
2,154.00	10.11	18.05	2,153.52	-1,467.98	-0.41	12.89	-0.41	14.06	617,922.54	486,813.52
2,186.00	15.30	15.08	2,184.73	-1,436.77	6.34	14.86	6.34	16.34	617,929.29	486,815.49
2,217.00	20.31	13.97	2,214.23	-1,407.27	15.52	17.22	15.52	16.20	617,938.47	486,817.85
2,249.00	24.27	12.65	2,243.83	-1,377.67	27.33	20.00	27.33	12.47	617,950.28	486,820.63
2,281.00	27.61	10.64	2,272.61	-1,348.89	41.04	22.82	41.04	10.79	617,963.99	486,823.44



Pathfinder
Pathfinder X&Y Report



Company: Yates Petroleum Corp
Project: Eddy County
Site: Federal AB
Well: #13H
Wellbore: OH
Design: OH

Local Co-ordinate Reference:
TVD Reference: KB=18.5' @ 3621.50usft (Patterson 101)
MD Reference: KB=18.5' @ 3621.50usft (Patterson 101)
North Reference: Gnd.
Survey Calculation Method: Minimum Curvature
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)	
2,313.00	30.95	9.15	2,300.52	-1,320.98	56.45	25.49	56.45	10.68	617,979.41	486,826.12	
2,344.00	34.73	8.03	2,326.56	-1,294.94	73.08	28.00	73.08	12.35	617,996.03	486,828.62	
2,376.00	38.69	6.79	2,352.21	-1,269.29	92.04	30.45	92.04	12.59	618,014.99	486,831.08	
2,407.00	42.30	5.10	2,375.78	-1,245.72	112.06	32.53	112.06	12.17	618,035.01	486,833.16	
2,438.00	45.31	3.44	2,398.05	-1,223.45	133.55	34.12	133.55	11.92	618,056.50	486,834.75	
2,470.00	50.30	1.48	2,419.44	-1,202.06	157.32	35.13	157.32	14.75	618,080.27	486,835.76	
2,501.00	53.99	1.34	2,438.46	-1,183.04	181.79	35.73	181.79	11.91	618,104.74	486,836.36	
2,532.00	57.33	1.58	2,455.94	-1,165.56	207.37	36.38	207.37	10.79	618,130.32	486,837.01	
2,564.00	61.11	1.05	2,472.32	-1,149.18	234.85	37.01	234.85	11.90	618,157.80	486,837.64	
2,596.00	64.37	0.77	2,486.97	-1,134.53	263.29	37.46	263.29	10.22	618,186.24	486,838.09	
2,628.00	67.27	1.31	2,500.08	-1,121.42	292.48	37.99	292.48	9.19	618,215.43	486,838.62	
2,659.00	70.70	1.32	2,511.19	-1,110.31	321.40	38.66	321.40	11.06	618,244.35	486,839.29	
2,691.00	73.69	1.19	2,520.98	-1,100.52	351.86	39.32	351.86	9.35	618,274.81	486,839.95	
2,723.00	76.06	1.15	2,529.33	-1,092.17	382.74	39.95	382.74	7.41	618,305.69	486,840.58	
2,755.00	80.37	0.92	2,535.86	-1,085.64	414.05	40.52	414.05	13.49	618,337.00	486,841.15	
2,787.00	83.10	0.84	2,540.46	-1,081.04	445.71	41.01	445.71	8.53	618,368.67	486,841.63	
2,864.00	89.08	0.02	2,545.71	-1,075.79	522.50	41.58	522.50	7.84	618,445.45	486,842.21	
2,896.00	90.92	359.98	2,545.71	-1,075.79	554.50	41.58	554.50	5.75	618,477.45	486,842.21	
LP - 2896.00' MD, 2545.71' TVD, 554.50' N, 41.58' E											
2,928.00	91.10	359.77	2,545.14	-1,076.36	586.49	41.51	586.49	0.86	618,509.44	486,842.14	
2,960.00	89.69	0.15	2,544.92	-1,076.58	618.49	41.49	618.49	4.56	618,541.44	486,842.12	
2,991.00	88.11	0.51	2,545.52	-1,075.98	649.48	41.67	649.48	5.23	618,572.43	486,842.30	
3,022.00	87.85	0.98	2,546.61	-1,074.89	680.46	42.07	680.46	1.73	618,603.41	486,842.70	
3,054.00	88.20	1.57	2,547.71	-1,073.79	712.43	42.78	712.43	2.14	618,635.38	486,843.41	
3,086.00	89.08	1.58	2,548.47	-1,073.03	744.41	43.66	744.41	2.75	618,667.36	486,844.29	
3,118.00	89.25	1.59	2,548.94	-1,072.56	776.40	44.55	776.40	0.53	618,699.35	486,845.17	
3,149.00	88.72	0.70	2,549.49	-1,072.01	807.38	45.16	807.38	3.34	618,730.34	486,845.79	



Pathfinder
Pathfinder X&Y Report



Company: Yates Petroleum Corp.
Project: Eddy County
Site: Federal AB
Well: #13H
Wellbore: OH
Design: OH

Local Co-ordinate Reference
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #13H
KB=18.5 @ 3621.50usft (Patterson 101)
KB=18.5 @ 3621.50usft (Patterson 101)
Gnd
Minimum Curvature
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)	
3,181.00	88.20	359.38	2,550.35	-1,071.15	839.37	45.19	839.37	4.43	618,762.32	486,845.82	
3,213.00	88.29	359.31	2,551.33	-1,070.17	871.36	44.82	871.36	0.36	618,794.31	486,845.45	
3,245.00	88.11	359.31	2,552.33	-1,069.17	903.34	44.44	903.34	0.56	618,826.29	486,845.07	
3,277.00	87.85	359.67	2,553.46	-1,068.04	935.32	44.15	935.32	1.39	618,858.27	486,844.78	
3,308.00	87.93	359.99	2,554.60	-1,066.90	966.29	44.06	966.29	1.06	618,889.25	486,844.69	
3,340.00	88.11	358.94	2,555.71	-1,065.79	998.27	43.76	998.27	3.33	618,921.22	486,844.39	
3,371.00	88.11	358.84	2,556.73	-1,064.77	1,029.25	43.16	1,029.25	0.32	618,952.20	486,843.79	
3,403.00	88.29	358.91	2,557.74	-1,063.76	1,061.23	42.53	1,061.23	0.60	618,984.18	486,843.16	
3,466.00	88.46	359.02	2,559.52	-1,061.98	1,124.19	41.40	1,124.19	0.32	619,047.14	486,842.02	
3,530.00	89.43	358.94	2,560.70	-1,060.80	1,188.17	40.26	1,188.17	1.52	619,111.12	486,840.89	
3,594.00	89.43	359.03	2,561.34	-1,060.16	1,252.16	39.12	1,252.16	0.14	619,175.11	486,839.75	
3,657.00	89.69	358.80	2,561.82	-1,059.68	1,315.15	37.93	1,315.15	0.55	619,238.10	486,838.56	
3,720.00	89.78	359.19	2,562.11	-1,059.39	1,378.13	36.82	1,378.13	0.64	619,301.09	486,837.45	
3,783.00	89.25	359.17	2,562.65	-1,058.85	1,441.13	35.92	1,441.13	0.84	619,364.08	486,836.55	
3,847.00	87.57	359.54	2,564.37	-1,057.13	1,505.10	35.20	1,505.10	2.54	619,428.05	486,835.83	
3,911.00	86.70	358.44	2,567.51	-1,053.99	1,569.01	34.08	1,569.01	2.29	619,491.96	486,834.71	
3,974.00	86.61	358.63	2,571.18	-1,050.32	1,631.88	32.47	1,631.88	0.33	619,554.83	486,833.10	
4,036.00	86.44	359.23	2,574.94	-1,046.56	1,693.75	31.31	1,693.75	1.00	619,616.71	486,831.94	
BHL - 4036.00' MD, 2574.94' TVD, 1693.75' N, 31.31' E - BHL (Fed AB 14)											

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		N/S (usft)	E/W (usft)	
2,090.00	2,089.91	-6.51	10.52	KOP - 2090.00' MD, 2089.91' TVD, -6.51' N, 10.52' E
2,896.00	2,545.71	554.50	41.58	LP - 2896.00' MD, 2545.71' TVD, 554.50' N, 41.58' E
4,036.00	2,574.94	1,693.75	31.31	BHL - 4036.00' MD, 2574.94' TVD, 1693.75' N, 31.31' E



Pathfinder
Pathfinder X&Y Report



Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well #13H
Project:	Eddy County	TVD Reference:	KB=18.5' @ 3621.50usft (Patterson:101)
Site:	Federal AB	MD Reference:	KB=18.5' @ 3621.50usft (Patterson:101)
Well:	#13H	North Reference:	Gnd
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Checked By:	_____	Approved By:	_____	Date:	_____
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Project: Eddy County
Site: Federal AB
Well: #13H
Wellbore: OH
Plan: Plan #3 (#13H/OH)



We A Schlumberger Company

