



Project: Eddy County
Site: Chamaeleon "BIN" State Com
Well: #1H
Wellbore: OH
Plan: Plan #4 (#1H/OH)



Azimuths to Grid North
True North: -0.10°
Magnetic North: 7.81°

Magnetic Field
Strength: 48495.8nT
Dip Angle: 59.91°
Date: 10/19/2010
Model: IGRF2010

30-015-37942

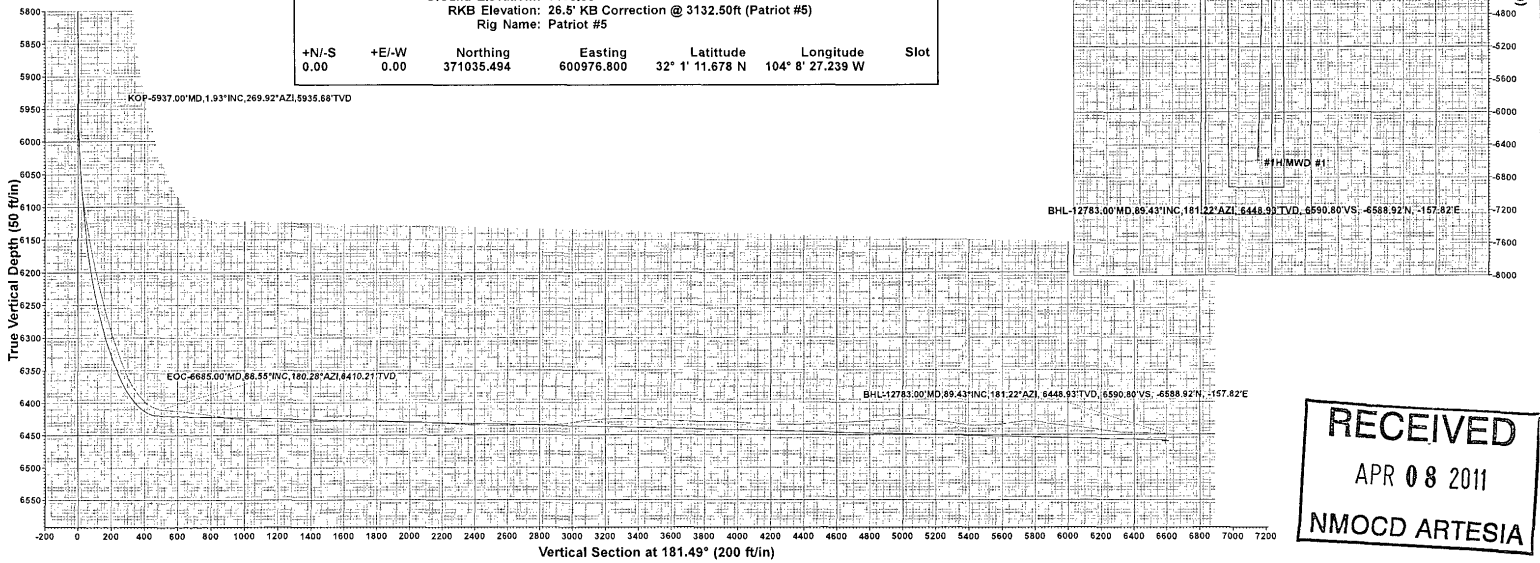
PATHFINDER
A Schlumberger Company

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

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	5944.50	1.94	270.76	5943.17	-3.81	9.59	0.00	0.00	3.56	
2	6691.05	89.64	181.43	6420.00	-477.56	-18.26	12.00	-89.34	477.88	
3	12804.33	89.64	181.43	6458.41	-6588.82	-170.82	0.00	0.00	6591.03	PBHL(Cham#1)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape Point
PBHL(Cham#1)	6460.00	-6588.80	-171.60	364446.694	600805.200	

WELL DETAILS: #1H							
Ground Elevation:: 3106.00							
RKB Elevation: 26.5' KB Correction @ 3132.50ft (Patriot #5)							
Rig Name: Patriot #5							
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot	
0.00	0.00	371035.494	600976.800	32° 1' 11.678 N	104° 8' 27.239 W		



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Yates Petroleum Corp.

Eddy County
Chamaeleon "BIN" State Com
#1H
OH

Survey: MWD #1

Pathfinder X & Y Survey Report

18 November, 2010

PATHFINDER[®]
A Schlumberger Company



Pathfinder
Pathfinder X & Y Survey Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County	TVD Reference:	26.5' KB Correction @ 3132.50ft (Patriot #5)
Site:	Chamaeleon "BIN" State Com	MD Reference:	26.5' KB Correction @ 3132.50ft (Patriot #5)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

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		Chamaeleon "BIN" State Com			
Site Position:		Northing:	371,035.494 ft	Latitude:	32° 1' 11.678 N
From:	Map	Easting:	600,976.800 ft	Longitude:	104° 8' 27.239 W
Position Uncertainty:	2.00 ft	Slot Radius:	6-1/8 "	Grid Convergence:	0.10 °

Well	#1H					
Well Position	+N/-S	0.00 ft	Northing:	371,035.494 ft	Latitude:	32° 1' 11.678 N
	+E/-W	0.00 ft	Easting:	600,976.800 ft	Longitude:	104° 8' 27.239 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,106.00 ft

Wellbore	OH
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/19/10	7.91	59.91	48,496

Design	OH
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Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	181.48	



Pathfinder
Pathfinder X & Y Survey Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County	TVD Reference:	26.5' KB Correction @ 3132.50ft (Patriot #5)
Site:	Chamaeleon "BIN" State Com	MD Reference:	26.5' KB Correction @ 3132.50ft (Patriot #5)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

Survey Program		Date	11/18/10		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
200.00	5,937.00	MWD Pilot Hole (OH)	MWD	MWD - Standard	
5,994.00	12,783.00	MWD #1 (OH)	MWD	MWD - Standard	

Survey	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
	5,937.00	1.93	269.92	5,935.68	2,803.18	-3.82	9.84	3.56	0.00	371,031.68	600,986.64
KOP-5937.00' MD, 1.93° INC, 269.92° AZI, 5935.68' TVD											
	5,994.00	4.13	215.62	5,992.60	2,860.10	-5.49	7.69	5.29	5.94	371,030.01	600,984.49
	6,025.00	9.94	196.99	6,023.36	2,890.86	-8.96	6.26	8.79	19.90	371,026.54	600,983.06
	6,057.00	17.24	192.12	6,054.45	2,921.95	-16.24	4.45	16.12	23.07	371,019.25	600,981.25
	6,088.00	25.41	189.46	6,083.30	2,950.80	-27.31	2.39	27.24	26.53	371,008.18	600,979.19
	6,120.00	32.10	185.05	6,111.34	2,978.84	-42.58	0.51	42.55	21.92	370,992.92	600,977.31
	6,151.00	34.91	181.43	6,137.19	3,004.69	-59.65	-0.44	59.64	11.12	370,975.84	600,976.36
	6,182.00	37.55	180.71	6,162.19	3,029.69	-77.97	-0.78	77.96	8.63	370,957.52	600,976.02
	6,213.00	40.45	181.77	6,186.28	3,053.78	-97.47	-1.20	97.47	9.60	370,938.02	600,975.60
	6,245.00	42.47	182.82	6,210.26	3,077.76	-118.64	-2.06	118.65	6.68	370,916.85	600,974.74
	6,276.00	43.18	182.62	6,233.00	3,100.50	-139.69	-3.06	139.72	2.33	370,895.81	600,973.74
	6,307.00	45.11	182.84	6,255.24	3,122.74	-161.25	-4.08	161.31	6.25	370,874.24	600,972.72
	6,339.00	47.22	182.65	6,277.40	3,144.90	-184.31	-5.19	184.38	6.61	370,851.19	600,971.61
	6,370.00	49.51	181.78	6,298.00	3,165.50	-207.46	-6.08	207.55	7.68	370,828.04	600,970.72
	6,401.00	53.02	180.31	6,317.39	3,184.89	-231.63	-6.51	231.72	11.91	370,803.86	600,970.29
	6,433.00	56.98	180.54	6,335.74	3,203.24	-257.84	-6.71	257.93	12.39	370,777.66	600,970.09
	6,464.00	60.32	180.65	6,351.87	3,219.37	-284.31	-6.99	284.39	10.78	370,751.19	600,969.81
	6,496.00	64.37	181.37	6,366.72	3,234.22	-312.64	-7.49	312.73	12.81	370,722.85	600,969.31
	6,527.00	68.50	182.14	6,379.11	3,246.61	-341.04	-8.36	341.14	13.52	370,694.46	600,968.44
	6,559.00	72.46	182.81	6,389.80	3,257.30	-371.16	-9.67	371.29	12.53	370,664.33	600,967.13



Pathfinder
Pathfinder X & Y Survey Report



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Project: Eddy County
Site: Chamaeleon "BIN" State Com
Well: #1H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #1H
TVD Reference: 26.5' KB Correction @ 3132.50ft (Patriot #5)
MD Reference: 26.5' KB Correction @ 3132.50ft (Patriot #5)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
6,590.00	76.24	182.71	6,398.16	3,265.66	-400.97	-11.10	401.13	12.20	370,634.52	600,965.70	
6,622.00	80.81	181.80	6,404.53	3,272.03	-432.30	-12.33	432.47	14.55	370,603.19	600,964.47	
6,654.00	85.03	180.75	6,408.47	3,275.97	-464.04	-13.04	464.22	13.58	370,571.45	600,963.76	
6,685.00	88.55	180.28	6,410.21	3,277.71	-494.99	-13.32	495.16	11.46	370,540.51	600,963.48	
EOC-6685.00°MD,88.55°INC,180.28°AZI,6410.21°TVD											
6,716.00	88.99	179.86	6,410.87	3,278.37	-525.98	-13.36	526.15	1.96	370,509.52	600,963.44	
6,811.00	88.55	182.18	6,412.91	3,280.41	-620.93	-15.05	621.12	2.49	370,414.56	600,961.75	
6,905.00	87.93	182.00	6,415.80	3,283.30	-714.83	-18.47	715.07	0.69	370,320.67	600,958.33	
7,000.00	88.02	182.01	6,419.16	3,286.66	-809.71	-21.79	810.00	0.10	370,225.78	600,955.01	
7,094.00	87.05	181.85	6,423.20	3,290.70	-903.57	-24.96	903.91	1.05	370,131.93	600,951.84	
7,188.00	88.72	182.00	6,426.67	3,294.17	-997.45	-28.11	997.84	1.78	370,038.05	600,948.69	
7,283.00	89.87	182.10	6,427.84	3,295.34	-1,092.38	-31.51	1,092.83	1.22	369,943.12	600,945.29	
7,377.00	89.78	181.37	6,428.12	3,295.62	-1,186.33	-34.36	1,186.83	0.78	369,849.16	600,942.44	
7,471.00	89.34	182.05	6,428.84	3,296.34	-1,280.29	-37.16	1,280.82	0.86	369,755.20	600,939.64	
7,564.00	90.48	182.07	6,428.99	3,296.49	-1,373.23	-40.50	1,373.82	1.23	369,662.27	600,936.30	
7,659.00	89.96	181.83	6,428.63	3,296.13	-1,468.17	-43.74	1,468.81	0.60	369,567.32	600,933.06	
7,752.00	90.75	181.71	6,428.05	3,295.55	-1,561.12	-46.61	1,561.81	0.86	369,474.37	600,930.19	
7,846.00	89.78	181.67	6,427.62	3,295.12	-1,655.08	-49.38	1,655.80	1.03	369,380.41	600,927.42	
7,940.00	90.13	181.68	6,427.69	3,295.19	-1,749.04	-52.13	1,749.80	0.37	369,286.45	600,924.67	
8,033.00	89.78	181.96	6,427.76	3,295.26	-1,841.99	-55.08	1,842.80	0.48	369,193.50	600,921.72	
8,127.00	89.34	182.15	6,428.48	3,295.98	-1,935.93	-58.45	1,936.79	0.51	369,099.56	600,918.35	
8,222.00	89.52	182.31	6,429.43	3,296.93	-2,030.85	-62.15	2,031.78	0.25	369,004.64	600,914.65	
8,316.00	89.43	181.98	6,430.29	3,297.79	-2,124.78	-65.67	2,125.77	0.36	368,910.71	600,911.13	
8,410.00	88.90	181.79	6,431.66	3,299.16	-2,218.72	-68.76	2,219.76	0.60	368,816.77	600,908.04	
8,504.00	89.16	181.40	6,433.25	3,300.75	-2,312.67	-71.37	2,313.74	0.50	368,722.82	600,905.43	
8,599.00	89.43	181.33	6,434.42	3,301.92	-2,407.64	-73.64	2,408.74	0.29	368,627.86	600,903.16	
8,693.00	89.52	179.93	6,435.28	3,302.78	-2,501.63	-74.67	2,502.72	1.49	368,533.87	600,902.13	



Pathfinder
Pathfinder X & Y Survey Report



Company: Yates Petroleum Corp.
Project: Eddy County
Site: Chamaeleon "BIN" State Com
Well: #1H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #1H
TVD Reference: 26.5' KB Correction @ 3132.50ft (Patriot #5)
MD Reference: 26.5' KB Correction @ 3132.50ft (Patriot #5)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
8,786.00	90.13	180.64	6,435.57	3,303.07	-2,594.62	-75.13	2,595.70	1.01	368,440.87	600,901.67	
8,880.00	91.36	181.78	6,434.34	3,301.84	-2,688.59	-77.12	2,689.69	1.78	368,346.90	600,899.68	
8,974.00	89.52	181.10	6,433.62	3,301.12	-2,782.55	-79.48	2,783.68	2.09	368,252.94	600,897.32	
9,068.00	90.04	179.99	6,433.98	3,301.48	-2,876.55	-80.37	2,877.66	1.30	368,158.95	600,896.43	
9,162.00	92.59	181.93	6,431.83	3,299.33	-2,970.50	-81.95	2,971.62	3.41	368,065.00	600,894.85	
9,257.00	91.80	181.89	6,428.19	3,295.69	-3,065.37	-85.11	3,066.55	0.83	367,970.12	600,891.69	
9,351.00	90.92	182.11	6,425.96	3,293.46	-3,159.29	-88.39	3,160.52	0.96	367,876.20	600,888.41	
9,445.00	90.13	182.69	6,425.09	3,292.59	-3,253.20	-92.33	3,254.50	1.04	367,782.29	600,884.47	
9,539.00	89.78	181.73	6,425.17	3,292.67	-3,347.13	-95.95	3,348.49	1.09	367,688.36	600,880.85	
9,633.00	89.08	181.32	6,426.10	3,293.60	-3,441.09	-98.45	3,442.49	0.86	367,594.40	600,878.35	
9,727.00	89.87	181.52	6,426.96	3,294.46	-3,535.06	-100.78	3,536.48	0.87	367,500.44	600,876.02	
9,821.00	88.90	181.19	6,427.97	3,295.47	-3,629.03	-103.01	3,630.48	1.09	367,406.47	600,873.79	
9,915.00	89.69	181.52	6,429.13	3,296.63	-3,722.99	-105.23	3,724.47	0.91	367,312.50	600,871.57	
10,009.00	90.13	182.07	6,429.28	3,296.78	-3,816.94	-108.17	3,818.46	0.75	367,218.55	600,868.63	
10,104.00	89.78	182.19	6,429.35	3,296.85	-3,911.88	-111.70	3,913.46	0.39	367,123.62	600,865.10	
10,198.00	88.64	182.04	6,430.65	3,298.15	-4,005.80	-115.17	4,007.44	1.22	367,029.69	600,861.63	
10,292.00	88.81	181.07	6,432.74	3,300.24	-4,099.74	-117.72	4,101.42	1.05	366,935.75	600,859.08	
10,386.00	90.31	180.58	6,433.46	3,300.96	-4,193.73	-119.08	4,195.41	1.68	366,841.76	600,857.72	
10,480.00	89.34	179.96	6,433.75	3,301.25	-4,287.73	-119.52	4,289.38	1.22	366,747.77	600,857.28	
10,575.00	90.04	180.38	6,434.26	3,301.76	-4,382.72	-119.80	4,384.36	0.86	366,652.77	600,857.00	
10,693.00	91.01	179.53	6,433.18	3,300.68	-4,500.72	-119.71	4,502.31	1.09	366,534.78	600,857.09	
10,787.00	91.10	179.42	6,431.45	3,298.95	-4,594.70	-118.85	4,596.23	0.15	366,440.80	600,857.95	
10,881.00	90.66	178.89	6,430.01	3,297.51	-4,688.67	-117.46	4,690.14	0.73	366,346.82	600,859.34	
10,975.00	90.66	180.53	6,428.92	3,296.42	-4,782.66	-116.99	4,784.09	1.74	366,252.83	600,859.81	
11,069.00	90.84	180.37	6,427.69	3,295.19	-4,876.65	-117.72	4,878.07	0.26	366,158.84	600,859.08	
11,163.00	90.75	182.45	6,426.39	3,293.89	-4,970.61	-120.04	4,972.05	2.21	366,064.88	600,856.76	
11,243.00	91.01	185.81	6,425.16	3,292.66	-5,050.38	-125.80	5,051.95	4.21	365,985.11	600,851.00	



Pathfinder
Pathfinder X & Y Survey Report



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Project:	Eddy County	TVD Reference:	26.5' KB Correction @ 3132.50ft (Patriot #5)
Site:	Chamaeleon "BIN" State Com	MD Reference:	26.5' KB Correction @ 3132.50ft (Patriot #5)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
11,257.00	90.75	185.71	6,424.95	3,292.45	-5,064.31	-127.20	5,065.90	1.99	365,971.19	600,849.60	
11,351.00	87.76	184.31	6,426.17	3,293.67	-5,157.93	-135.41	5,159.71	3.51	365,877.57	600,841.39	
11,446.00	87.76	182.87	6,429.88	3,297.38	-5,252.67	-141.35	5,254.57	1.51	365,782.83	600,835.45	
11,540.00	87.93	182.04	6,433.42	3,300.92	-5,346.51	-145.38	5,348.49	0.90	365,688.98	600,831.42	
11,635.00	89.43	180.52	6,435.60	3,303.10	-5,441.46	-147.50	5,443.45	2.25	365,594.03	600,829.30	
11,728.00	91.28	179.25	6,435.03	3,302.53	-5,534.45	-147.31	5,536.41	2.41	365,501.04	600,829.49	
11,823.00	91.71	180.33	6,432.55	3,300.05	-5,629.42	-146.96	5,631.33	1.22	365,406.08	600,829.84	
11,918.00	92.51	182.02	6,429.05	3,296.55	-5,724.33	-148.91	5,726.26	1.97	365,311.17	600,827.89	
12,012.00	86.63	179.94	6,429.76	3,297.26	-5,818.27	-150.52	5,820.21	6.63	365,217.23	600,826.28	
12,106.00	88.29	180.30	6,433.92	3,301.42	-5,912.17	-150.71	5,914.09	1.81	365,123.32	600,826.09	
12,200.00	88.11	180.34	6,436.88	3,304.38	-6,006.12	-151.24	6,008.02	0.20	365,029.37	600,825.56	
12,293.00	88.64	180.53	6,439.51	3,307.01	-6,099.08	-151.94	6,100.97	0.61	364,936.41	600,824.86	
12,387.00	87.93	180.05	6,442.33	3,309.83	-6,193.04	-152.42	6,194.91	0.91	364,842.46	600,824.38	
12,481.00	88.37	180.48	6,445.36	3,312.86	-6,286.99	-152.85	6,288.84	0.65	364,748.51	600,823.95	
12,575.00	89.69	180.84	6,446.95	3,314.45	-6,380.96	-153.94	6,382.81	1.46	364,654.53	600,822.86	
12,669.00	89.34	181.04	6,447.75	3,315.25	-6,474.95	-155.48	6,476.80	0.43	364,560.55	600,821.32	
12,725.00	89.43	181.22	6,448.35	3,315.85	-6,530.93	-156.58	6,532.80	0.36	364,504.56	600,820.22	
12,783.00	89.43	181.22	6,448.93	3,316.43	-6,588.92	-157.82	6,590.80	0.00	364,446.58	600,818.98	
BHL-12783.00°MD,89.43°INC,181.22°AZI, 6448.93°TVD, 6590.80°VS, -6588.92°N, -157.82°E											

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
hit/miss target									
Shape									
PBHL(Cham#1)	0.00	0.00	6,460.00	-6,588.80	-171.60	364,446.694	600,805.200	32° 0' 6.476 N	104° 8' 29.368 W
- survey misses target center by 17.68ft at 12783.00ft MD (6448.93 TVD, -6588.92 N, -157.82 E)									
- Point									



Pathfinder
Pathfinder X & Y Survey Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County	TVD Reference:	26.5' KB Correction @ 3132.50ft (Patriot #5)
Site:	Chamaeleon "BIN" State Com	MD Reference:	26.5' KB Correction @ 3132.50ft (Patriot #5)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
5,937.00	5,935.68	-3.82	9.84	KOP-5937.00'MD,1.93"INC,269.92°AZI,5935.68'TVD
6,685.00	6,410.21	-494.99	-13.32	EOC-6685.00'MD,88.55"INC,180.28°AZI,6410.21'TVD
12,783.00	6,448.93	-6,588.92	-157.82	BHL-12783.00'MD,89.43"INC,181.22°AZI, 6448.93'TVD, 6590.80'VS, -

Checked By: _____ Approved By: _____ Date: _____