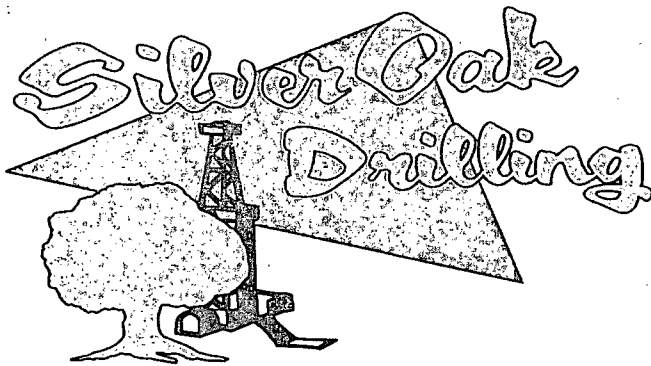




PO Box 1370
Artesia, NM 88211-1370
(505) 748-1288

30 015 40731

February 11, 2013

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

RE: Anthill AAK State Com #4H
435' FNL & 330' FWL
Sec. 2, T20S, R29E
Eddy County, New Mexico

Dear Sir,

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

Very truly yours,

A handwritten signature in cursive script, appearing to read "Chris Graham".

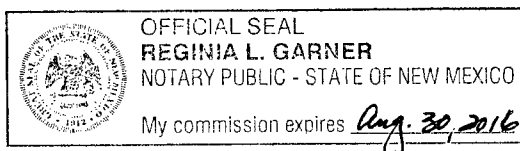
Chris Graham
Drilling Superintendent

State of New Mexico }
County of Eddy }

The foregoing was acknowledged before me this 11th day of February, 2013.

A handwritten signature in cursive script, appearing to read "Regina L. Garner".

Notary Public



Pason DataHub Deviation Survey

Well Dossier 1358007798 - ANTHILL AAK STATE COM #4H

# Date	Depth	Deviation	Direction	TVD	Horiz
1/13/2013	354	0.40	0.00	0.00	0.00
1/16/2013	655	0.00	0.00	0.00	0.00
1/16/2013	961	2.30	0.00	0.00	0.00
1/16/2013	1088	2.80	0.00	0.00	0.00
1/16/2013	1214	3.30	0.00	0.00	0.00
1/17/2013	1341	2.50	0.00	0.00	0.00
1/17/2013	1486	1.90	0.00	0.00	0.00
1/17/2013	1561	2.20	0.00	0.00	0.00
1/18/2013	1688	1.90	0.00	0.00	0.00
1/18/2013	1862	1.40	0.00	0.00	0.00
1/18/2013	1973	1.10	0.00	0.00	0.00
1/19/2013	2100	0.70	0.00	0.00	0.00
1/19/2013	2226	0.70	0.00	0.00	0.00
1/19/2013	2388	1.70	0.00	0.00	0.00
1/24/2013	2908	1.00	0.00	0.00	0.00
1/24/2013	3219	0.50	0.00	0.00	0.00
1/25/2013	3539	0.40	0.00	0.00	0.00
1/25/2013	3855	0.40	0.00	0.00	0.00
1/25/2013	4174	0.30	0.00	0.00	0.00
1/25/2013	4490	0.20	0.00	0.00	0.00
1/25/2013	4777	0.30	0.00	0.00	0.00
1/25/2013	5126	0.40	0.00	0.00	0.00
1/25/2013	5494	0.60	0.00	0.00	0.00
1/26/2013	5729	0.80	0.00	0.00	0.00
1/26/2013	6047	0.80	0.00	0.00	0.00
1/26/2013	6390	0.80	0.00	0.00	0.00
1/26/2013	6706	0.60	0.00	0.00	0.00
1/26/2013	6987	0.90	0.00	0.00	0.00
1/27/2013	7271	2.00	0.00	0.00	0.00
1/28/2013	7579	0.79	176.54	7577.51	0.00
1/28/2013	7704	2.02	126.35	7702.47	0.00
1/28/2013	7766	1.32	115.37	7764.44	9.04
1/28/2013	7797	2.29	258.28	7795.43	8.75
1/28/2013	7828	6.68	268.21	7826.30	6.34
1/28/2013	7859	11.70	271.02	7856.92	1.39
1/29/2013	7890	16.80	270.49	7886.96	16.46
1/29/2013	7921	20.93	270.14	2916.00	16.25
1/29/2013	7953	24.27	270.67	7945.00	28.55
1/29/2013	7984	27.70	271.37	7973.00	42.13
1/29/2013	8016	31.48	272.43	80.01	16.25
1/29/2013	8078	38.16	272.25	8052.00	93.00
1/29/2013	8110	41.06	272.16	8076.95	113.77

# Date	Depth	Deviation	Direction	TVD	Horiz
1/29/2013	8141	44.23	271.90	8099.75	134.75
1/29/2013	8172	48.19	271.46	8121.20	157.12
1/29/2013	8203	51.97	270.58	8141.09	180.89
1/29/2013	8234	54.87	270.32	8159.56	205.78
1/29/2013	8265	57.68	270.23	8176.77	231.56
1/29/2013	8297	60.50	270.32	8193.20	259.01
1/30/2013	8328	63.31	271.37	8207.80	286.35
1/30/2013	8359	65.42	271.67	8221.21	314.29
1/30/2013	8390	68.15	271.73	8233.43	342.76
1/30/2013	8421	71.40	271.46	8244.15	371.84
1/30/2013	8452	74.48	271.46	8253.00	401.00
1/30/2013	8483	77.58	271.02	8260.00	431.00
1/30/2013	8515	80.64	270.85	8266.00	462.00
1/30/2013	8546	83.36	270.85	8271.09	493.64
1/30/2013	8577	86.09	270.76	8273.94	524.50
2/1/2013	8635	91.45	271.29	827.19	582.46
2/1/2013	8728	91.10	270.05	8273.12	675.42
2/1/2013	8822	90.40	269.38	8271.00	769.00
2/1/2013	8915	90.40	269.65	8271.00	862.00
2/1/2013	9008	90.40	269.36	8270.00	955.00
2/1/2013	9102	90.04	268.33	8270.23	1049.38
2/1/2013	9164	90.40	268.24	8270.19	1111.35
2/1/2013	9258	91.01	267.89	8269.32	1205.29
2/2/2013	9351	91.19	267.89	8267.54	1298.21
2/2/2013	9445	91.36	267.98	8265.45	1392.13
2/2/2013	9538	92.15	267.63	8262.60	1485.01
2/2/2013	9631	92.33	267.54	8258.96	1577.86
2/2/2013	9725	92.51	267.36	8254.99	1671.68
2/2/2013	9819	91.54	266.31	8251.67	1765.48
2/2/2013	9912	91.36	266.31	8249.32	1858.25
2/2/2013	10005	91.54	266.40	8246.97	1951.03
2/2/2013	10099	9.36	266.48	8444.59	2044.82
2/2/2013	10192	91.54	267.01	8243.00	2137.00
2/2/2013	10285	91.36	268.77	8239.00	2230.00
2/3/2013	10378	91.01	268.77	8237.96	2323.50
2/3/2013	10472	91.45	269.91	8235.94	2417.47
2/3/2013	10565	91.54	270.00	8233.51	2510.44
2/3/2013	10658	91.54	270.00	8231.01	2603.41
2/3/2013	10752	91.36	269.74	8228.64	2697.38
2/3/2013	10845	91.19	269.91	8226.57	2790.35
2/3/2013	10938	90.92	269.82	8224.85	2883.34
2/3/2013	11031	90.75	269.65	8223.50	2976.33
2/3/2013	11126	90.66	269.30	8222.33	3071.31
2/3/2013	11219	91.45	269.82	8220.61	3164.29
2/4/2013	11312	92.24	270.88	8217.62	3257.24

#	Date	Depth	Deviation	Direction	TVD	Horiz
	2/4/2013	11405	92.15	270.97	8214.00	3350.00
	2/4/2013	11498	92.07	271.32	8210.63	3443.08
	2/4/2013	11591	92.07	271.23	8207.27	3536.00
	2/4/2013	11684	91.89	271.41	8204.05	3628.92
	2/4/2013	11778	91.71	271.23	8201.11	3722.85
	2/4/2013	11871	91.89	271.49	8198.18	3815.77
	2/4/2013	11965	91.71	270.53	8195.23	3909.71
	2/4/2013	12059	91.45	270.44	8192.64	4003.67
	2/5/2013	12152	91.54	269.21	8190.21	4096.64
	2/5/2013	12245	91.28	269.03	8187.93	4189.60
	2/5/2013	12339	91.90	269.30	8185.33	4283.55
	2/5/2013	12433	91.89	269.12	8182.22	4377.49
	2/5/2013	12526	91.80	269.12	8179.23	4470.43
	2/5/2013	12602	91.71	269.30	8176.90	4546.35

EOF



A Schlumberger Company

Yates Petroleum Corp.

Eddy County (NAD 83)

Anthill "AAK" State Com

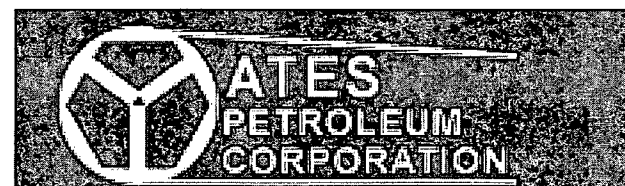
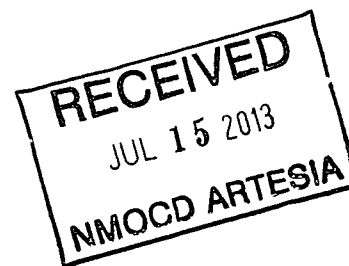
#4H

OH

Design: OH

Pathfinder X&Y Report

12 February, 2013



30015 40731



A Schlumberger Company

Pathfinder

Pathfinder X&Y Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #4H
Project:	Eddy County (NAD 83)	TVD Reference:	WELL @ 3314.0usft (Original Well Elev)
Site:	Anthill "AAK" State Com	MD Reference:	WELL @ 3314.0usft (Original Well Elev)
Well:	#4H	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	Anthill "AAK" State Com		
Site Position:		Northing:	582,373.960 usft
From:	Map	Easting:	632,245.160 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32.600652
		Longitude:	-104.038131
		Grid Convergence:	0.16 °

Well	#4H		
Well Position	+N/-S	0.0 usft	Northing: 580,829.360 usft
	+E/-W	0.0 usft	Easting: 632,242.310 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32.596406
		Longitude:	-104.038155
		Ground Level:	3,296.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF200510	9/14/2012	7.67
			(°)
			60.45
			48,706

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	
		(°)	270.01



A Schlumberger Company

Pathfinder

Pathfinder X&Y Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #4H
Project:	Eddy County (NAD 83)	TVD Reference:	WELL @ 3314.0usft (Original Well Elev)
Site:	Anthill "AAK" State Com	MD Reference:	WELL @ 3314.0usft (Original Well Elev)
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey Program		Date	2/12/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
200.0	7,400.0	Gyro #1 (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s	
7,579.0	12,682.0	MWD #2 (OH)	MWD	MWD - Standard	

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)	
0.0	0.00	0.00	0.0	-3,314.0	0.0	0.0	0.0	0.00	580,829.36	632,242.31	
200.0	0.51	236.24	200.0	-3,114.0	-0.5	-0.7	0.7	0.25	580,828.87	632,241.57	
400.0	0.81	249.60	400.0	-2,914.0	-1.5	-2.8	2.8	0.17	580,827.88	632,239.50	
600.0	0.28	79.91	600.0	-2,714.0	-1.9	-3.6	3.6	0.54	580,827.47	632,238.66	
800.0	1.43	75.63	800.0	-2,514.0	-1.2	-0.8	0.7	0.58	580,828.18	632,241.56	
1,000.0	2.54	68.88	999.8	-2,314.2	1.0	5.8	-5.8	0.57	580,830.39	632,248.11	
1,200.0	3.10	69.33	1,199.6	-2,114.4	4.5	15.0	-15.0	0.28	580,833.90	632,257.31	
1,400.0	2.09	55.95	1,399.4	-1,914.6	8.5	23.1	-23.1	0.59	580,837.85	632,265.39	
1,600.0	1.85	30.61	1,599.3	-1,714.7	13.3	27.7	-27.7	0.45	580,842.67	632,270.05	
1,800.0	1.47	32.80	1,799.2	-1,514.8	18.2	30.8	-30.8	0.19	580,847.60	632,273.09	
2,000.0	0.60	17.39	1,999.1	-1,314.9	21.4	32.5	-32.5	0.45	580,850.76	632,274.79	
2,200.0	0.67	350.23	2,199.1	-1,114.9	23.6	32.6	-32.6	0.15	580,852.91	632,274.90	
2,400.0	1.79	6.76	2,399.1	-914.9	27.8	32.8	-32.8	0.58	580,857.17	632,275.07	
2,600.0	1.64	2.42	2,599.0	-715.0	33.8	33.3	-33.2	0.10	580,863.13	632,275.56	
2,800.0	1.20	354.92	2,798.9	-515.1	38.7	33.2	-33.2	0.24	580,868.07	632,275.50	
3,000.0	1.02	353.57	2,998.9	-315.1	42.6	32.8	-32.8	0.09	580,871.93	632,275.11	
3,200.0	0.75	354.21	3,198.9	-115.1	45.6	32.5	-32.5	0.14	580,875.00	632,274.78	
3,400.0	0.47	5.19	3,398.9	84.9	47.8	32.4	-32.4	0.15	580,877.12	632,274.72	
3,600.0	0.33	336.40	3,598.9	284.9	49.1	32.3	-32.2	0.12	580,878.46	632,274.57	
3,800.0	0.46	266.72	3,798.9	484.9	49.6	31.2	-31.2	0.23	580,878.94	632,273.53	
4,000.0	0.42	288.02	3,998.8	684.8	49.8	29.7	-29.7	0.08	580,879.13	632,272.04	

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #4H
Project:	Eddy County (NAD 83)	TVD Reference:	WELL @ 3314.0usft (Original Well Elev)
Site:	Anthill "AAK" State Com	MD Reference:	WELL @ 3314.0usft (Original Well Elev)
Well:	#4H	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	0.24	281.51	4,198.8	884.8	50.1	28.6	-28.6	0.09	580,879.44	632,270.93
4,400.0	0.35	276.50	4,398.8	1,084.8	50.2	27.6	-27.6	0.06	580,879.59	632,269.91
4,600.0	0.39	306.59	4,598.8	1,284.8	50.7	26.4	-26.4	0.10	580,880.06	632,268.76
4,800.0	0.28	300.29	4,798.8	1,484.8	51.4	25.5	-25.5	0.06	580,880.72	632,267.79
5,000.0	0.61	337.72	4,998.8	1,684.8	52.6	24.7	-24.6	0.21	580,881.95	632,266.96
5,200.0	0.46	343.30	5,198.8	1,884.8	54.3	24.0	-24.0	0.08	580,883.70	632,266.33
5,400.0	0.78	330.17	5,398.8	2,084.8	56.3	23.1	-23.1	0.17	580,885.65	632,265.42
5,600.0	0.57	323.81	5,598.8	2,284.8	58.3	21.8	-21.8	0.11	580,887.64	632,264.16
5,800.0	1.07	343.33	5,798.8	2,484.8	60.9	20.7	-20.7	0.28	580,890.23	632,263.03
6,000.0	0.94	347.42	5,998.7	2,684.7	64.3	19.8	-19.8	0.07	580,893.62	632,262.14
6,200.0	0.80	315.18	6,198.7	2,884.7	66.8	18.5	-18.5	0.25	580,896.21	632,260.80
6,400.0	0.10	347.84	6,398.7	3,084.7	68.0	17.5	-17.5	0.36	580,897.37	632,259.78
6,600.0	0.44	171.00	6,598.7	3,284.7	67.4	17.6	-17.5	0.27	580,896.78	632,259.86
6,800.0	0.89	203.18	6,798.7	3,484.7	65.2	17.1	-17.0	0.28	580,894.60	632,259.37
7,000.0	1.46	214.63	6,998.7	3,684.7	61.7	15.0	-15.0	0.31	580,891.07	632,257.31
7,200.0	1.60	236.93	7,198.6	3,884.6	58.1	11.2	-11.2	0.30	580,887.45	632,253.52
7,400.0	1.15	244.60	7,398.5	4,084.5	55.7	7.1	-7.0	0.24	580,885.07	632,249.37
7,579.0	0.79	176.54	7,577.5	4,263.5	53.7	5.5	-5.5	0.63	580,883.06	632,247.82
7,704.0	2.02	126.35	7,702.5	4,388.5	51.5	7.3	-7.3	1.30	580,880.90	632,249.65
7,735.0	1.93	115.37	7,733.5	4,419.5	51.0	8.2	-8.2	1.25	580,880.35	632,250.56
7,766.0	1.32	115.37	7,764.4	4,450.4	50.6	9.0	-9.0	1.97	580,879.97	632,251.35
7,797.0	2.29	258.28	7,795.4	4,481.4	50.3	8.8	-8.7	11.09	580,879.70	632,251.07
KOP - 7797.0 MD, 7795.4 TVD, 50.3°N, 8.8°E										
7,828.0	6.68	268.21	7,826.3	4,512.3	50.2	6.4	-6.3	14.33	580,879.51	632,248.66
7,859.0	11.70	271.02	7,856.9	4,542.9	50.2	1.4	-1.4	16.25	580,879.51	632,243.71
7,890.0	16.80	270.49	7,887.0	4,573.0	50.2	-6.2	6.2	16.46	580,879.61	632,236.08
7,921.0	20.93	270.14	7,916.3	4,602.3	50.3	-16.2	16.3	13.33	580,879.66	632,226.06

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #4H
Project:	Eddy County (NAD 83)	TVD Reference:	WELL @ 3314.0usft (Original Well Elev)
Site:	Anthill "AAK" State Com	MD Reference:	WELL @ 3314.0usft (Original Well Elev)
Well:	#4H	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)	
7,953.0	24.27	270.67	7,945.8	4,631.8	50.4	-28.5	28.6	10.46	580,879.75	632,213.77	
7,984.0	27.70	271.37	7,973.7	4,659.7	50.6	-42.1	42.1	11.11	580,880.00	632,200.19	
8,016.0	31.48	272.43	8,001.5	4,687.5	51.2	-57.9	57.9	11.92	580,880.53	632,184.40	
8,047.0	35.09	272.69	8,027.4	4,713.4	51.9	-74.9	74.9	11.65	580,881.29	632,167.41	
8,078.0	38.16	272.25	8,052.3	4,738.3	52.7	-93.4	93.4	9.94	580,882.08	632,148.93	
8,110.0	41.06	272.16	8,076.9	4,762.9	53.5	-113.8	113.8	9.06	580,882.87	632,128.55	
8,141.0	44.23	271.90	8,099.7	4,785.7	54.3	-134.7	134.8	10.24	580,883.61	632,107.56	
8,172.0	48.19	271.46	8,121.2	4,807.2	54.9	-157.1	157.1	12.82	580,884.26	632,085.20	
8,203.0	51.97	270.58	8,141.1	4,827.1	55.3	-180.9	180.9	12.39	580,884.68	632,061.43	
8,234.0	54.87	270.32	8,159.6	4,845.6	55.5	-205.8	205.8	9.38	580,884.88	632,036.54	
8,265.0	57.68	270.23	8,176.8	4,862.8	55.6	-231.5	231.6	9.07	580,885.00	632,010.76	
8,297.0	60.50	270.32	8,193.2	4,879.2	55.8	-259.0	259.0	8.82	580,885.13	631,983.31	
8,328.0	63.31	271.37	8,207.8	4,893.8	56.2	-286.3	286.4	9.54	580,885.54	631,955.97	
8,359.0	65.42	271.64	8,221.2	4,907.2	56.9	-314.3	314.3	6.85	580,886.27	631,928.03	
8,390.0	68.15	271.73	8,233.4	4,919.4	57.8	-342.8	342.8	8.81	580,887.11	631,899.56	
8,421.0	71.40	271.46	8,244.1	4,930.1	58.6	-371.8	371.8	10.52	580,887.92	631,870.48	
8,452.0	74.48	271.46	8,253.2	4,939.2	59.3	-401.4	401.5	9.94	580,888.68	631,840.86	
8,483.0	77.56	271.02	8,260.7	4,946.7	60.0	-431.5	431.5	10.03	580,889.33	631,810.79	
8,515.0	80.64	270.85	8,266.8	4,952.8	60.5	-462.9	462.9	9.64	580,889.84	631,779.38	
8,546.0	83.36	270.85	8,271.1	4,957.1	60.9	-493.6	493.6	8.77	580,890.29	631,748.68	
8,577.0	86.09	270.76	8,273.9	4,959.9	61.4	-524.5	524.5	8.81	580,890.73	631,717.82	
8,635.0	91.45	271.29	8,275.2	4,961.2	62.4	-582.4	582.5	9.29	580,891.76	631,659.86	
LP - 8635.0 MD: 8275.2 TVD: 62.4 'N' -582.4 'E'											
8,728.0	91.10	270.05	8,273.1	4,959.1	63.5	-675.4	675.4	1.39	580,892.85	631,566.90	
8,822.0	90.40	269.38	8,271.9	4,957.9	63.0	-769.4	769.4	1.03	580,892.38	631,472.91	
8,915.0	90.40	269.65	8,271.2	4,957.2	62.2	-862.4	862.4	0.29	580,891.60	631,379.91	
9,008.0	90.40	269.38	8,270.6	4,956.6	61.4	-955.4	955.4	0.29	580,890.81	631,286.92	

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #4H
Project:	Eddy County (NAD 83)	TVD Reference:	WELL @ 3314.0usft (Original Well Elev)
Site:	Anthill "AAK" State Com	MD Reference:	WELL @ 3314.0usft (Original Well Elev)
Well:	#4H	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)	
9,102.0	90.04	268.33	8,270.2	4,956.2	59.6	-1,049.4	1,049.4	1.18	580,888.93	631,192.94	
9,164.0	90.04	268.24	8,270.2	4,956.2	57.7	-1,111.3	1,111.4	0.15	580,887.08	631,130.97	
9,258.0	91.01	267.89	8,269.3	4,955.3	54.5	-1,205.3	1,205.3	1.10	580,883.90	631,037.03	
9,351.0	91.19	267.89	8,267.5	4,953.5	51.1	-1,298.2	1,298.2	0.19	580,880.48	630,944.11	
9,445.0	91.36	267.98	8,265.4	4,951.4	47.7	-1,392.1	1,392.1	0.20	580,877.09	630,850.19	
9,538.0	92.15	267.63	8,262.6	4,948.6	44.2	-1,485.0	1,485.0	0.93	580,873.53	630,757.30	
9,631.0	92.33	267.54	8,259.0	4,945.0	40.3	-1,577.9	1,577.9	0.22	580,869.62	630,664.46	
9,725.0	92.51	267.36	8,255.0	4,941.0	36.1	-1,671.7	1,671.7	0.27	580,865.44	630,570.63	
9,819.0	91.54	266.31	8,251.7	4,937.7	30.9	-1,765.5	1,765.5	1.52	580,860.25	630,476.84	
9,912.0	91.36	266.31	8,249.3	4,935.3	24.9	-1,858.2	1,858.3	0.19	580,854.27	630,384.06	
10,005.0	91.54	266.40	8,247.0	4,933.0	19.0	-1,951.0	1,951.0	0.22	580,848.36	630,291.28	
10,099.0	91.36	266.48	8,244.6	4,930.6	13.2	-2,044.8	2,044.8	0.21	580,842.52	630,197.49	
10,192.0	91.54	267.01	8,242.2	4,928.2	7.9	-2,137.6	2,137.6	0.60	580,837.24	630,104.67	
10,285.0	91.36	268.77	8,239.9	4,925.9	4.5	-2,230.5	2,230.5	1.90	580,833.82	630,011.77	
10,378.0	91.01	268.77	8,238.0	4,924.0	2.5	-2,323.5	2,323.5	0.38	580,831.82	629,918.81	
10,472.0	91.45	269.91	8,235.9	4,921.9	1.4	-2,417.5	2,417.5	1.30	580,830.74	629,824.84	
10,565.0	91.54	270.00	8,233.5	4,919.5	1.3	-2,510.4	2,510.4	0.14	580,830.67	629,731.87	
10,658.0	91.54	270.00	8,231.0	4,917.0	1.3	-2,603.4	2,603.4	0.00	580,830.67	629,638.90	
10,752.0	91.36	269.74	8,228.6	4,914.6	1.1	-2,697.4	2,697.4	0.34	580,830.46	629,544.93	
10,845.0	91.19	269.91	8,226.6	4,912.6	0.8	-2,790.4	2,790.4	0.26	580,830.17	629,451.96	
10,938.0	90.92	269.82	8,224.9	4,910.9	0.6	-2,883.3	2,883.3	0.31	580,829.95	629,358.97	
11,031.0	90.75	269.65	8,223.5	4,909.5	0.2	-2,976.3	2,976.3	0.26	580,829.52	629,265.98	
11,125.0	90.66	269.30	8,222.3	4,908.3	-0.7	-3,070.3	3,070.3	0.38	580,828.66	629,171.99	
11,219.0	91.45	269.82	8,220.6	4,906.6	-1.4	-3,164.3	3,164.3	1.01	580,827.94	629,078.01	
11,312.0	92.24	270.88	8,217.6	4,903.6	-0.9	-3,257.2	3,257.2	1.42	580,828.51	628,985.07	
11,405.0	92.15	270.97	8,214.1	4,900.1	0.6	-3,350.2	3,350.2	0.14	580,830.01	628,892.15	
11,498.0	92.07	271.32	8,210.6	4,896.6	2.5	-3,443.1	3,443.1	0.39	580,831.86	628,799.23	



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Pathfinder

Pathfinder X&Y Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #4H
Project:	Eddy County (NAD 83)	TVD Reference:	WELL @ 3314.0usft (Original Well Elev)
Site:	Anthill "AAK" State Com	MD Reference:	WELL @ 3314.0usft (Original Well Elev)
Well:	#4H	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)	
11,591.0	92.07	271.23	8,207.3	4,893.3	4.6	-3,536.0	3,536.0	0.10	580,833.93	628,706.31	
11,684.0	91.89	271.41	8,204.1	4,890.1	6.7	-3,628.9	3,628.9	0.27	580,836.07	628,613.39	
11,778.0	91.71	271.23	8,201.1	4,887.1	8.9	-3,722.8	3,722.8	0.27	580,838.24	628,519.46	
11,871.0	91.89	271.49	8,198.2	4,884.2	11.1	-3,815.8	3,815.8	0.34	580,840.44	628,426.54	
11,965.0	91.71	270.53	8,195.2	4,881.2	12.7	-3,909.7	3,909.7	1.04	580,842.10	628,332.60	
12,059.0	91.45	270.44	8,192.6	4,878.6	13.5	-4,003.7	4,003.7	0.29	580,842.90	628,238.64	
12,152.0	91.54	269.21	8,190.2	4,876.2	13.3	-4,096.6	4,096.6	1.33	580,842.61	628,145.67	
12,245.0	91.28	269.03	8,187.9	4,873.9	11.8	-4,189.6	4,189.6	0.34	580,841.18	628,052.71	
12,339.0	91.89	269.30	8,185.3	4,871.3	10.5	-4,283.6	4,283.6	0.71	580,839.81	627,958.76	
12,433.0	91.89	269.12	8,182.2	4,868.2	9.2	-4,377.5	4,377.5	0.19	580,838.52	627,864.82	
12,526.0	91.80	269.12	8,179.2	4,865.2	7.7	-4,470.4	4,470.4	0.10	580,837.09	627,771.88	
12,602.0	91.71	269.30	8,176.9	4,862.9	6.7	-4,546.4	4,546.4	0.26	580,836.04	627,695.92	
12,682.0	91.71	269.30	8,174.5	4,860.5	5.7	-4,626.3	4,626.4	0.00	580,835.07	627,615.96	
PROJECTED BHL - 12682.0 'MD, 8174.5 'TVD, 5.7 'N, -4626.3 'E - PBHL(Anthill AAK State Com #4H)											

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,797.0	7,795.4	50.3	8.8	KOP - 7797.0 'MD, 7795.4 'TVD, 50.3 'N, 8.8 'E
8,635.0	8,275.2	62.4	-582.4	LP - 8635.0 'MD, 8275.2 'TVD, 62.4 'N, -582.4 'E
12,682.0	8,174.5	5.7	-4,626.3	PROJECTED BHL - 12682.0 'MD, 8174.5 'TVD, 5.7 'N, -4626.3 'E

Checked By: _____	Approved By: _____	Date: _____
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Project: Eddy County (NAD 83)
 Site: Anthill "AAK" State Com
 Well: #4H
 Wellbore: OH
 Plan: Post Gyro Plan #2

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

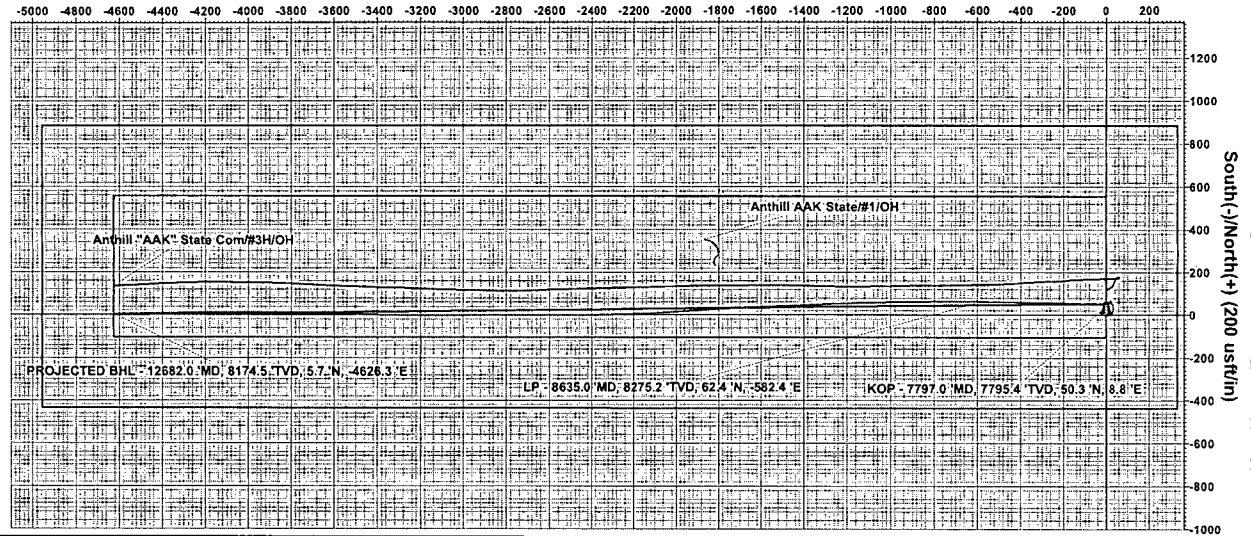
PATHFINDER
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WELL DETAILS: #4H

Ground Elevation: 3295.0
 RKB Elevation: WELL @ 3314.0usft (Original Well Elev)
 Rig Name: Original Well Elev

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	580829.360	632242.310	32.596406	-104.038155	

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



SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
7400.0	1.15	244.60	7398.5	55.7	7.1	0.00	0.00	-7.0	
7814.2	0.00	0.00	7812.7	53.9	3.3	0.28	180.00	-3.3	
8577.6	91.60	269.35	8290.0	48.3	-487.5	12.00	269.35	487.5	
12719.2	91.60	269.35	8174.0	1.2	-4627.2	0.00	0.00	4627.2	PBHL(Anthill AAK State Com #4H)

DESIGN TARGET DETAILS

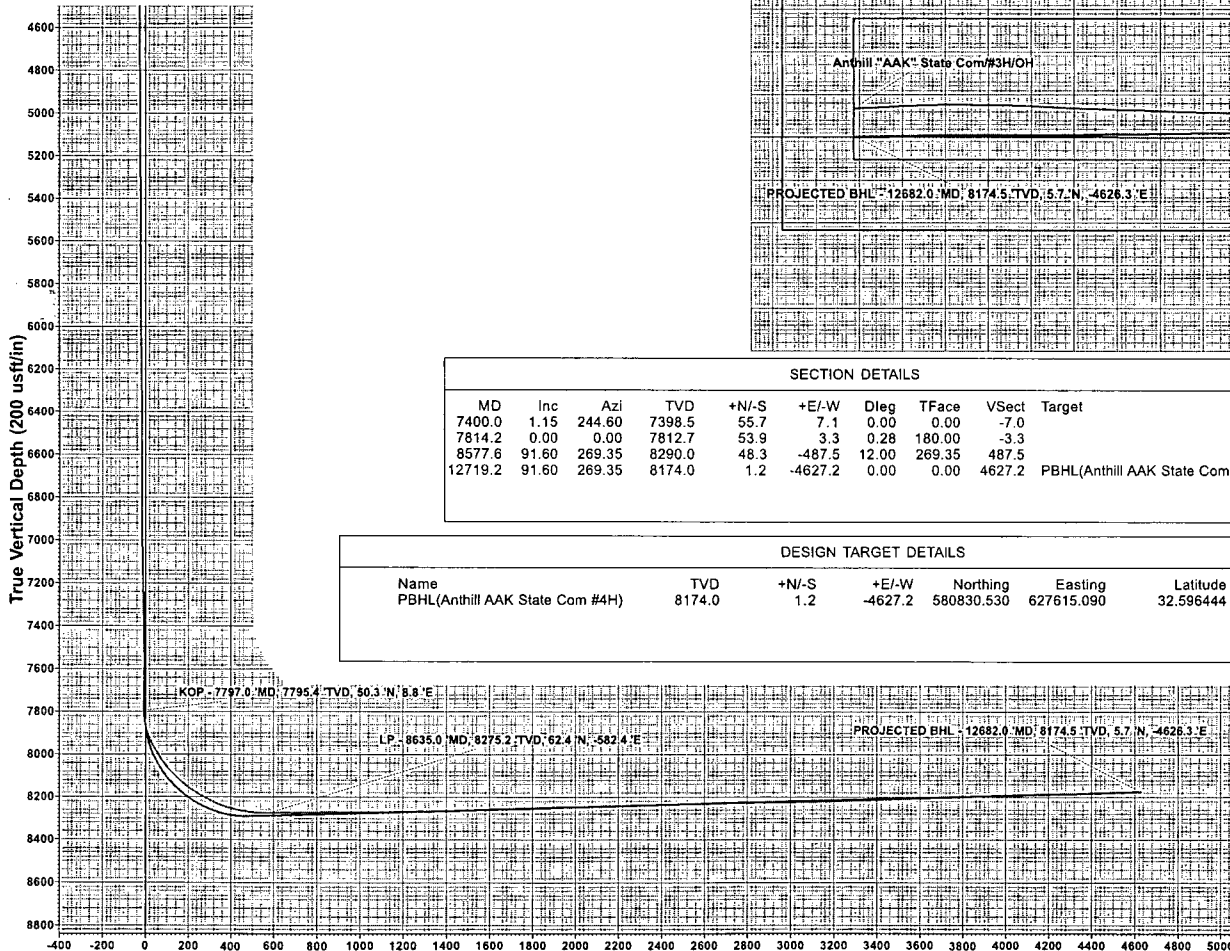
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL(Anthill AAK State Com #4H)	8174.0	+N/-S 1.2	+E/-W -4627.2	580830.530	627615.090	32.596444	-104.053180

EOW



Azimuths to Grid North
 True North: -0.16°
 Magnetic North: 7.51°

Magnetic Field
 Strength: 48706.4snT
 Dip Angle: 60.45°
 Date: 9/14/2012
 Model: IGRF200510



Vertical Section at 270.01° (200 usft/in)

Plan: Post Gyro Plan #2 (#4H/OH)

Created By: Michael Trout Date: 9:05, February 12 2013

Checked: _____ Date: _____

Pathfinder 6.0
 Eddy County, NM
 AAK State Com #4H
 Original Plan
 Post Gyro Plan #2



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DIRECTIONAL SURVEY REPORT

RECEIVED

JUL 15 2013

NMOCD ARTESIA

YATES PETROLEUM

ANTHILL "AAK" STATE COM #4H

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



February 14, 2013

YATES PETROLEUM
105 S 4th ST
Artesia, NM 88210-2177

RE: Yates Petroleum
ANTHILL "AAK" STATE COM #4H
API: 30-015-40731
Eddy County, NM
Rig: Silver Oak 10
Field: Parkway; Bone Spring
PES FILE NO.: 12MLD0643

To whom it may concern:

We hereby certify that the enclosed Original Field Survey Data contained in this report represents to the best of our knowledge, a true and accurate survey of the well at the time the survey was run.

DIRECTIONAL SURVEY DATA
1 – Original survey report
2 – Survey report copies

We appreciate the opportunity to work with you and we look forward to your business support. If you have any questions, I can be reached at (432) 687-1647

Sincerely,

A handwritten signature in black ink, appearing to read "Marcus Mitcham".

MARCUS MITCHAM
MWD Coordinator
PathFinder Energy Services

ML:sh

DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) BILL KITCHENS
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 01-28-13 TO 02-05-13
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: EDDY COUNTY, NM
7. TYPE OF SURVEY(S) PERFORMED: MWD
8. COMPLETE IDENTIFICATION OF WELL:

YATES PETROLEUM
ANTHILL "AAK" STATE COM #4H
EDDY COUNTY, NM
RIG: SILVER OAK 10

9. SURVEY CERTIFIED FROM: 7,579 TO 12,602 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE
DISPLACED AT 4546.40 FEET ON A BEARING OF 270.08 DEGREES FROM THE
CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 12,682 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: 01/27/2013
Date Completed: 02/05/2013

YATES PETROLEUM CORP.
ANTHILL AAK STATE COM #4H API#: 30-015-40731
EDDY COUNTY, NM
Rig: SILVER OAK DRILLING #10
PathFinder Office Supervisor: MARCUS MITCHAM
PathFinder Field Engineers: BILL KITCHENS
TAY NGUYEN

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.35.47.0614 N LON: 104.2.17.3565 W
GRID Reference: NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 632242.3100 Y: 580829.3600
North Aligned To: GRID NORTH
Total Magnetic Correction: 7.47° EAST TO GRID
Vertical Section Plane: 270.01
Survey Vert. Reference: 18.00' Rotary Table To Ground
Altitude: 3296.00' Ground To MSL

Measured Depth	12682.00	(feet)
Inclination	91.71	(deg)
Azimuth	269.30	(deg)
True Vertical Depth	8174.52	(feet)
Vertical Section	4626.35	(feet)
Survey X cord	627615.94	(feet)
Survey Y cord	580835.05	(feet)
Survey Lat	32.59645598 N	(deg)
Survey Lon	104.05317676 W	(deg)
Rectangular Corr. N/S	5.71 N	(feet)
Rectangular Corr. E/W	4626.35 W	(feet)
Closure Distance	4626.35	(feet)
Direction of Closure	270.07	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.
 ANTHILL AAK STATE COM #4H API#: 30-015-40731
 EDDY COUNTY, NM
 Rig: SILVER OAK DRILLING #10
 PathFinder Office Supervisor: MARCUS MITCHAM
 PathFinder Field Engineers: BILL KITCHENS
 TAY NGUYEN

Survey Horiz. Reference: WELLHEAD
 Ref Coordinates: LAT: 32.35.47.0614 N LON: 104.2.17.3565 W
 GRID Reference: NAD83 new mexico east Transverse Mercator
 Ref GRID Coord: X: 632242.3100 Y: 580829.3600
 North Aligned To: GRID NORTH
 Total Magnetic Correction: 7.47° EAST TO GRID
 Vertical Section Plane: 270.01
 Survey Vert. Reference: 18.00' Rotary Table To Ground
 Altitude: 3296.00' 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		Closure		DLS (dg/100ft)
						Rectangular (ft)	Offsets (ft)	Dist (ft)	Dir (deg)	
THE FOLLOWING ARE MS ENERGY SERVICES GYRO SURVEYS.										
200.00	0.51	236.20	200.00	0.00	0.73	0.47 S	0.73 W	0.87@	236.91	0.00
400.00	0.81	249.60	399.98	200.00	2.79	1.46 S	2.79 W	3.15@	242.36	0.17
600.00	0.28	79.91	599.98	200.00	3.64	1.87 S	3.64 W	4.09@	242.79	0.54
800.00	1.43	75.63	799.95	200.00	0.74	1.16 S	0.74 W	1.38@	212.36	0.58
1000.00	2.54	68.88	999.83	200.00	-5.81	1.05 N	5.81 E	5.91@	79.74	0.57
1200.00	3.10	69.33	1199.59	200.00	-15.01	4.56 N	15.01 E	15.68@	73.11	0.28
1400.00	2.09	55.95	1399.38	200.00	-23.09	8.51 N	23.09 E	24.61@	69.77	0.59
1600.00	1.85	30.61	1599.27	200.00	-27.75	13.33 N	27.75 E	30.79@	64.35	0.45
1800.00	1.47	32.80	1799.18	200.00	-30.79	18.26 N	30.79 E	35.80@	59.32	0.19
2000.00	0.60	17.39	1999.15	200.00	-32.49	21.42 N	32.49 E	38.92@	56.61	0.45
2200.00	0.67	350.20	2199.14	200.00	-32.60	23.57 N	32.61 E	40.23@	54.14	0.15
2400.00	1.79	6.76	2399.09	200.00	-32.77	27.83 N	32.77 E	42.99@	49.67	0.58
2600.00	1.64	2.42	2599.00	200.00	-33.26	33.79 N	33.26 E	47.41@	44.55	0.10
2800.00	1.20	354.90	2798.94	200.00	-33.19	38.73 N	33.20 E	51.01@	40.60	0.24
3000.00	1.02	353.50	2998.90	200.00	-32.80	42.59 N	32.81 E	53.76@	37.61	0.09
3200.00	0.75	354.20	3198.87	200.00	-32.47	45.66 N	32.48 E	56.03@	35.42	0.13
3400.00	0.47	5.19	3398.86	200.00	-32.41	47.78 N	32.42 E	57.74@	34.16	0.15
3600.00	0.33	336.40	3598.86	200.00	-32.25	49.12 N	32.26 E	58.77@	33.30	0.12
3800.00	0.46	266.70	3798.85	200.00	-31.22	49.60 N	31.23 E	58.62@	32.19	0.23
4000.00	0.42	288.00	3998.85	200.00	-29.72	49.78 N	29.73 E	57.99@	30.85	0.08
4200.00	0.24	281.50	4198.85	200.00	-28.61	50.09 N	28.62 E	57.69@	29.74	0.09
4400.00	0.35	276.50	4398.84	200.00	-27.60	50.25 N	27.60 E	57.33@	28.78	0.06
4600.00	0.39	306.50	4598.84	200.00	-26.44	50.72 N	26.45 E	57.20@	27.54	0.10
4800.00	0.28	300.20	4798.84	200.00	-25.47	51.37 N	25.48 E	57.34@	26.38	0.06

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.
 ANTHILL AAK STATE COM #4H API#: 30-015-40731
 EDDY COUNTY, NM
 RIG: SILVER OAK DRILLING #10

Page 02/05

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets		Closure Dist Dir		DLS
						(ft)	(ft)	(ft)	(deg)	(dg/100ft)
5000.00	0.61	337.70	4998.83	200.00	-24.65	52.60 N	24.65 E	58.09@	25.11	0.21
5200.00	0.46	343.30	5198.82	200.00	-24.01	54.36 N	24.02 E	59.43@	23.84	0.08
5400.00	0.78	330.10	5398.81	200.00	-23.10	56.31 N	23.11 E	60.86@	22.32	0.17
5600.00	0.57	323.80	5598.80	200.00	-21.83	58.29 N	21.84 E	62.25@	20.54	0.11
5800.00	1.07	343.30	5798.77	200.00	-20.71	60.88 N	20.72 E	64.31@	18.80	0.28
6000.00	0.94	347.40	5998.74	200.00	-19.81	64.27 N	19.83 E	67.26@	17.14	0.08
6200.00	0.80	315.10	6198.72	200.00	-18.47	66.86 N	18.48 E	69.37@	15.45	0.25
6400.00	0.10	347.80	6398.71	200.00	-17.45	68.02 N	17.46 E	70.22@	14.40	0.36
6600.00	0.44	171.00	6598.71	200.00	-17.53	67.43 N	17.54 E	69.68@	14.58	0.27
6800.00	0.89	203.10	6798.70	200.00	-17.04	65.24 N	17.05 E	67.44@	14.65	0.28
7000.00	1.46	214.60	6998.66	200.00	-14.99	61.72 N	15.00 E	63.51@	13.66	0.31
7200.00	1.60	236.90	7198.59	200.00	-11.20	58.10 N	11.21 E	59.17@	10.92	0.30
** TIED INTO MS ENERGY SERVICES GYRO SURVEY AT 7400' MD.										
7400.00	1.15	244.60	7398.53	200.00	-7.05	55.71 N	7.06 E	56.16@	7.22	0.24
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
7579.00	0.79	176.54	7577.51	179.00	-5.50	53.71 N	5.51 E	53.99@	5.86	0.63
7704.00	2.02	126.35	7702.47	125.00	-7.33	51.54 N	7.34 E	52.06@	8.10	1.30
7735.00	1.93	115.37	7733.45	31.00	-8.24	50.99 N	8.25 E	51.66@	9.19	1.25
7766.00	1.32	115.37	7764.44	31.00	-9.04	50.62 N	9.04 E	51.42@	10.13	1.97
7797.00	2.29	258.28	7795.43	31.00	-8.75	50.34 N	8.76 E	51.10@	9.87	11.08
7828.00	6.68	268.21	7826.33	31.00	-6.34	50.16 N	6.35 E	50.56@	7.22	14.33
7859.00	11.70	271.02	7856.92	31.00	-1.39	50.16 N	1.40 E	50.18@	1.60	16.25
7890.00	16.80	270.49	7886.96	31.00	6.23	50.25 N	6.23 W	50.63@	352.94	16.46
7921.00	20.93	270.14	7916.29	31.00	16.25	50.30 N	16.25 W	52.86@	342.10	13.33
7953.00	24.27	270.67	7945.83	32.00	28.55	50.39 N	28.54 W	57.91@	330.47	10.46
7984.00	27.70	271.37	7973.69	31.00	42.13	50.64 N	42.12 W	65.87@	320.25	11.11
8016.00	31.48	272.43	8001.51	32.00	57.92	51.17 N	57.91 W	77.28@	311.47	11.92
8047.00	35.09	272.69	8027.42	31.00	74.91	51.93 N	74.90 W	91.14@	304.74	11.65
8078.00	38.16	272.25	8052.30	31.00	93.38	52.73 N	93.38 W	107.23@	299.45	9.94
8110.00	41.06	272.16	8076.95	32.00	113.77	53.51 N	113.76 W	125.72@	295.19	9.06

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.
 ANTHILL AAK STATE COM #4H API#: 30-015-40731
 EDDY COUNTY, NM
 RIG: SILVER OAK DRILLING #10

Page 03/05

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets		Closure Dist Dir		DLS (dg/100ft)
(ft)	(deg)	(deg)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(deg)	(dg/100ft)
8141.00	44.23	271.90	8099.75	31.00	134.75	54.25 N	134.75 W	145.26@	291.93	10.24
8172.00	48.19	271.46	8121.20	31.00	157.12	54.91 N	157.11 W	166.43@	289.26	12.81
8203.00	51.97	270.58	8141.09	31.00	180.89	55.33 N	180.88 W	189.15@	287.01	12.39
8234.00	54.87	270.32	8159.56	31.00	205.78	55.52 N	205.77 W	213.13@	285.10	9.38
8265.00	57.68	270.23	8176.77	31.00	231.56	55.64 N	231.55 W	238.14@	283.51	9.07
8297.00	60.50	270.32	8193.20	32.00	259.01	55.78 N	259.00 W	264.94@	282.15	8.82
8328.00	63.31	271.37	8207.80	31.00	286.35	56.18 N	286.34 W	291.80@	281.10	9.54
8359.00	65.42	271.64	8221.21	31.00	314.29	56.92 N	314.28 W	319.39@	280.27	6.85
8390.00	68.15	271.73	8233.43	31.00	342.76	57.76 N	342.75 W	347.58@	279.56	8.81
8421.00	71.40	271.46	8244.15	31.00	371.84	58.56 N	371.83 W	376.41@	278.95	10.51
8452.00	74.48	271.46	8253.24	31.00	401.46	59.32 N	401.45 W	405.81@	278.41	9.94
8483.00	77.56	271.02	8260.73	31.00	431.53	59.97 N	431.52 W	435.67@	277.91	10.03
8515.00	80.64	270.85	8266.78	32.00	462.94	60.48 N	462.93 W	466.87@	277.44	9.64
8546.00	83.36	270.85	8271.09	31.00	493.64	60.94 N	493.63 W	497.37@	277.04	8.77
8577.00	86.09	270.76	8273.94	31.00	524.50	61.37 N	524.49 W	528.07@	276.67	8.81
8635.00	91.45	271.29	8275.19	58.00	582.46	62.41 N	582.44 W	585.78@	276.12	9.29
8728.00	91.10	270.05	8273.12	93.00	675.42	63.49 N	675.41 W	678.39@	275.37	1.38
8822.00	90.40	269.38	8271.89	94.00	769.41	63.03 N	769.40 W	771.98@	274.68	1.03
8915.00	90.40	269.65	8271.24	93.00	862.41	62.24 N	862.40 W	864.64@	274.13	0.29
9008.00	90.40	269.38	8270.59	93.00	955.40	61.45 N	955.39 W	957.37@	273.68	0.29
9102.00	90.04	268.33	8270.23	94.00	1049.38	59.57 N	1049.37 W	1051.06@	273.25	1.18
9164.00	90.04	268.24	8270.19	62.00	1111.35	57.72 N	1111.34 W	1112.84@	272.97	0.14
9258.00	91.01	267.89	8269.32	94.00	1205.29	54.55 N	1205.28 W	1206.52@	272.59	1.10
9351.00	91.19	267.89	8267.54	93.00	1298.21	51.12 N	1298.20 W	1299.21@	272.26	0.19
9445.00	91.36	267.98	8265.45	94.00	1392.13	47.74 N	1392.12 W	1392.94@	271.96	0.20
9538.00	92.15	267.63	8262.60	93.00	1485.01	44.18 N	1485.01 W	1485.66@	271.70	0.93
9631.00	92.33	267.54	8258.96	93.00	1577.86	40.26 N	1577.85 W	1578.37@	271.46	0.22
9725.00	92.51	267.36	8254.99	94.00	1671.68	36.08 N	1671.68 W	1672.07@	271.24	0.27
9819.00	91.54	266.31	8251.67	94.00	1765.48	30.89 N	1765.47 W	1765.74@	271.00	1.52
9912.00	91.36	266.31	8249.32	93.00	1858.25	24.91 N	1858.25 W	1858.42@	270.77	0.19

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.
 ANTHILL AAK STATE COM #4H API#: 30-015-40731
 EDDY COUNTY, NM
 RIG: SILVER OAK DRILLING #10

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets		Closure Dist Dir		DLS (dg/100ft)
(ft)	(deg)	(deg)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(deg)	(dg/100ft)
10005.00	91.54	266.40	8246.97	93.00	1951.03	19.00 N	1951.03 W	1951.12@	270.56	0.22
10099.00	91.36	266.48	8244.59	94.00	2044.82	13.17 N	2044.82 W	2044.86@	270.37	0.21
10192.00	91.54	267.01	8242.23	93.00	2137.64	7.89 N	2137.64 W	2137.65@	270.21	0.60
10285.00	91.36	268.77	8239.88	93.00	2230.54	4.46 N	2230.54 W	2230.55@	270.11	1.90
10378.00	91.01	268.77	8237.96	93.00	2323.50	2.47 N	2323.50 W	2323.50@	270.06	0.38
10472.00	91.45	269.91	8235.94	94.00	2417.47	1.39 N	2417.47 W	2417.47@	270.03	1.30
10565.00	91.54	270.00	8233.51	93.00	2510.44	1.31 N	2510.44 W	2510.44@	270.03	0.14
10658.00	91.54	270.00	8231.01	93.00	2603.41	1.31 N	2603.41 W	2603.41@	270.03	0.00
10752.00	91.36	269.74	8228.64	94.00	2697.38	1.10 N	2697.38 W	2697.38@	270.02	0.34
10845.00	91.19	269.91	8226.57	93.00	2790.35	0.82 N	2790.35 W	2790.35@	270.02	0.26
10938.00	90.92	269.82	8224.85	93.00	2883.34	0.60 N	2883.34 W	2883.34@	270.01	0.31
11031.00	90.75	269.65	8223.50	93.00	2976.33	0.17 N	2976.33 W	2976.33@	270.00	0.26
11125.00	90.66	269.30	8222.34	94.00	3070.31	0.70 S	3070.31 W	3070.31@	269.99	0.38
11219.00	91.45	269.82	8220.61	94.00	3164.29	1.42 S	3164.30 W	3164.30@	269.97	1.01
11312.00	92.24	270.88	8217.62	93.00	3257.24	0.85 S	3257.24 W	3257.24@	269.99	1.42
11405.00	92.15	270.97	8214.06	93.00	3350.16	0.65 N	3350.16 W	3350.16@	270.01	0.14
11498.00	92.07	271.32	8210.63	93.00	3443.08	2.51 N	3443.08 W	3443.08@	270.04	0.39
11591.00	92.07	271.23	8207.27	93.00	3536.00	4.58 N	3536.00 W	3536.00@	270.07	0.10
11684.00	91.89	271.41	8204.06	93.00	3628.92	6.72 N	3628.92 W	3628.92@	270.11	0.27
11778.00	91.71	271.23	8201.11	94.00	3722.85	8.88 N	3722.85 W	3722.86@	270.14	0.27
11871.00	91.89	271.49	8198.18	93.00	3815.77	11.09 N	3815.77 W	3815.79@	270.17	0.34
11965.00	91.71	270.53	8195.23	94.00	3909.71	12.74 N	3909.71 W	3909.73@	270.19	1.04
12059.00	91.45	270.44	8192.64	94.00	4003.67	13.54 N	4003.67 W	4003.69@	270.19	0.29
12152.00	91.54	269.21	8190.21	93.00	4096.64	13.26 N	4096.64 W	4096.66@	270.19	1.33
12245.00	91.28	269.03	8187.93	93.00	4189.60	11.83 N	4189.60 W	4189.62@	270.16	0.34
12339.00	91.89	269.30	8185.33	94.00	4283.55	10.46 N	4283.55 W	4283.57@	270.14	0.71
12433.00	91.89	269.12	8182.22	94.00	4377.49	9.16 N	4377.49 W	4377.50@	270.12	0.19
12526.00	91.80	269.12	8179.23	93.00	4470.43	7.73 N	4470.43 W	4470.44@	270.10	0.10
12602.00	91.71	269.30	8176.90	76.00	4546.39	6.69 N	4546.39 W	4546.40@	270.08	0.27
STRAIGHT LINE PROJECTION TO BIT DEPTH AT 12682' MD.										
12682.00	91.71	269.30	8174.52	80.00	4626.35	5.71 N	4626.35 W	4626.35@	270.07	0.00

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.
ANTHILL AAK STATE COM #4H API#: 30-015-40731
EDDY COUNTY, NM
RIG:SILVER OAK DRILLING #10

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** 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.:	ANTHILL AAK STATE COM	4H	
WELL LOCATION:	EDDY COUNTY, NM		
COUNTY / STATE / COUNTRY:	EDDY	NM	USA
RIG:	SILVER OAK DRILLING #10		
API WELL No:	30-015-40731		
JOB No:	12MLD0643		
P.O. / AFE No.			
DIRECTIONAL COMPANY:	PATHFINDER		

WELL SITE INFORMATION

TOTAL MAGNETIC CORRECTION (TMC):			
On Wall Plat:	7.35209	LWD Calculated:	7.471226
Agreed Upon:		7.47	
X =	580828.360000	Feet	Y = 632242.310000
		Feet	
SITE LATITUDE:	32.596406	SITE LONGITUDE:	-104.053155
GRID SYSTEM:	TRUE ☐ UTM ☐ LAMBERT ☒	ZONE:	NEW MEXICO EAST
PROPOSED DRIFT DIRECTION:	270.01		
KELLY BUSHING ELEVATION:	18		
ALTITUDE:	3296	Feet	WATER DEPTH:
		Feet	

TIE-IN SURVEY

MEASURED DEPTH:	7400		
DRIFT ANGLE:	1.15		
DRIFT DIRECTION:	244.6		
TRUE VERTICAL DEPTH:	7398.53		
VERTICAL SECTION:	55.71		
RECTANGULAR COORDINATE (N / S):	55.71		
RECTANGULAR COORDINATE (E / W):	7.06		
CLOSURE DISTANCE / DIRECTION:	56.15	7.22	
SURVEY CALCULATION METHOD:	AA ☐	MC ☒	RC ☐ BT ☐
SOURCE OF TIE-IN DATA (COMPANY):	MULTI-SHOT GYRO SURVEYS		
COPY OF TIE-IN SURVEY REPORT	☒ YES ☐ NO		

WELL PLAN

KICKOFF DEPTH:	7813'	TOTAL DEPTH:	12714'
KICKOFF ANGLE:	0	MAX ANGLE:	

PES Engineers:

BILL KITCHENS

**Signature of both field engineers required if applicable

TAY NGUYEN

Directional Driller: ROBERT HILL / RAFAEL DONARUMMA

DATE: 27-Jan-2013



Company: Yates Petroleum Corporation Lease / Well: Anthill AAK State Com 4H County/Parish: Eddy County State: NM Date: 1/27/2013 API#: 30-015-40731 Dir. Company: N/A	Operator: J.Garner Job Number: SVM0-130046 Gyro Serial #: 134 Proposed Direction: 0 Mag. Declination: 7.5 EAST TO GRID Rig/RKB: Silver Oak 10 Tie-in Company: SURFACE
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18 ft.

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) (+E/-W)	
0.00	0.00	0.00	0.00	0.00	0.00

Digital Multi-Shot Survey Report									
Measured Depth (ft.)	Inclination	Azimuth Bearing	Vertical Depth	Vertical Section	Coordinates (+N/-S) (+E/-W)		Dog-Leg / 100 ft.	Closure Distance	Closure Direction
200.00	0.51	236.24	200.00	-0.49	-0.49	-0.74	0.26	0.89	236.24
400.00	0.81	249.60	399.98	-1.48	-1.48	-2.81	0.17	3.17	242.15
600.00	0.28	79.91	599.98	-1.89	-1.89	-3.65	0.54	4.11	242.63
800.00	1.43	75.63	799.95	-1.18	-1.18	-0.75	0.58	1.40	212.35
1000.00	2.54	68.88	999.83	1.03	1.03	5.80	0.57	5.89	79.91
1200.00	3.10	69.33	1199.59	4.54	4.54	15.00	0.28	15.67	73.16
1400.00	2.09	55.95	1399.38	8.49	8.49	23.08	0.59	24.59	69.80
1600.00	1.85	30.61	1599.27	13.31	13.31	27.74	0.45	30.77	64.37
1800.00	1.47	32.80	1799.18	18.24	18.24	30.78	0.19	35.78	59.34
2000.00	0.60	17.39	1999.15	21.40	21.40	32.48	0.45	38.90	56.62
2200.00	0.67	350.23	2199.14	23.55	23.55	32.59	0.15	40.21	54.15
2400.00	1.79	6.76	2399.09	27.81	27.81	32.76	0.58	42.97	49.68
2600.00	1.64	2.42	2599.00	33.77	33.77	33.25	0.10	47.39	44.56
2800.00	1.20	354.92	2798.94	38.71	38.71	33.19	0.24	50.99	40.60
3000.00	1.02	353.57	2998.90	42.57	42.57	32.80	0.09	53.74	37.62
3200.00	0.75	354.21	3198.87	45.64	45.64	32.47	0.14	56.01	35.43
3400.00	0.47	5.19	3398.86	47.76	47.76	32.41	0.15	57.72	34.16
3600.00	0.33	336.40	3598.86	49.10	49.10	32.26	0.12	58.75	33.30
3800.00	0.46	266.72	3798.85	49.58	49.58	31.22	0.23	58.60	32.20
4000.00	0.42	288.02	3998.85	49.77	49.77	29.73	0.08	57.97	30.85
4200.00	0.24	281.51	4198.84	50.08	50.08	28.62	0.09	57.68	29.75
4400.00	0.35	276.50	4398.84	50.23	50.23	27.60	0.06	57.31	28.79
4600.00	0.39	306.59	4598.84	50.70	50.70	26.45	0.10	57.19	27.55
4800.00	0.28	300.29	4798.83	51.36	51.36	25.48	0.06	57.33	26.39
5000.00	0.61	337.72	4998.83	52.59	52.59	24.65	0.21	58.08	25.12
5200.00	0.46	343.30	5198.82	54.34	54.34	24.02	0.08	59.41	23.85
5400.00	0.78	330.17	5398.81	56.29	56.29	23.11	0.17	60.85	22.32
5600.00	0.57	323.81	5598.79	58.28	58.28	21.85	0.11	62.24	20.55
5800.00	1.07	343.33	5798.77	60.87	60.87	20.72	0.28	64.30	18.80
6000.00	0.94	347.42	5998.74	64.26	64.26	19.83	0.07	67.25	17.15
6200.00	0.80	315.18	6198.72	66.85	66.85	18.49	0.25	69.36	15.46
6400.00	0.10	347.84	6398.71	68.01	68.01	17.47	0.36	70.22	14.40
6600.00	0.44	171.00	6598.71	67.42	67.42	17.55	0.27	69.67	14.59
6800.00	0.89	203.18	6798.70	65.24	65.24	17.06	0.28	67.43	14.66
7000.00	1.46	214.63	6998.65	61.71	61.71	15.00	0.31	63.51	13.66
7200.00	1.60	236.93	7198.59	58.09	58.09	11.21	0.30	59.16	10.92
7400.00	1.15	244.60	7398.53	55.71	55.71	7.06	0.24	56.15	7.22
0.00	0.00	0.00							
0.00	0.00	0.00							
0.00	0.00	0.00							
0.00	0.00	0.00							
0.00	0.00	0.00							

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

YATES PETROLEUM CORP.
ANTHILL AAK STATE COM #4H
2ND BONE SPRINGS SAND
Rig:SILVER OAK DRILLING #10

Fri Feb 01 09:13:32 2013

Coordinates

Latitude: 32.596406 N (32 deg. 35 min. 47.0614 sec.)
Longitude: 104.038155 W (-104 deg. 2 min. 17.3565 sec.)
Elevation: 3314.00 feet.
Calculation Date: Jan/27/2013

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.4114 degrees
Total Magnetic Field: 0.48628 gauss
Magnetic Declination: 7.630245 degrees
Horizontal Intensity: 0.240110 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.630245 Degr

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 632242.3100 feet
Y: 580829.3600 feet
True to Grid: (convergence) -0.159019 degrees
Magnetic to Grid: 7.471226 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.471226 Degr.

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

YATES

ANTHILL AAK STATE COM 4H, API 30-015-40731

EDDY COUNTY, NEW MEXICO

Rig: SILVER OAK 10

Wed Jan 02 14:58:34 2013

Coordinates

Latitude: 32.596444 N (32 deg. 35 min. 47.1968 sec.)
Longitude: 104.053180 W (-104 deg. 3 min. 11.4464 sec.)
Elevation: 3314.00 feet.
Calculation Date: Jan/02/2013

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.4105 degrees
Total Magnetic Field: 0.48633 gauss
Magnetic Declination: 7.645552 degrees
Horizontal Intensity: 0.240142 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.645552 Degs

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 627615.0900 feet
Y: 580830.5300 feet
True to Grid: (convergence) -0.150925 degrees
Magnetic to Grid: 7.494627 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.494627 Degs.



Job Number: SVMO-130046
 Company: Yates Petroleum Corporation
 Lease/Well: ANTHILL AAK STATE COM 4H
 Location: Eddy County, NM
 Rig Name: Silver Oak #10
 RKB: 18'
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA
 Declination: 7.50°
 Grid: East To Grid North
 File name: F:\SURVEY\2013SU~1\YATES\MO\ANTHIL~1\4H.SVY
 Date/Time: 28-Jan-13 / 11:40
 Curve Name: Surface - 7400' M.D. (Rate Gyro)

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane .00
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

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	.51	236.20	200.00	-.50	-.74	-.50	.89	236.20	.26
400.00	.81	249.55	399.98	-1.48	-2.80	-1.48	3.17	242.11	.17
600.00	.28	79.84	599.98	-1.89	-3.65	-1.89	4.11	242.58	.54
800.00	1.43	75.53	799.95	-1.18	-.75	-1.18	1.40	212.39	.58
1000.00	2.54	68.70	999.83	1.05	5.80	1.05	5.89	79.72	.57
1200.00	3.10	69.14	1199.59	4.59	14.98	4.59	15.66	72.97	.28
1400.00	2.09	55.75	1399.38	8.57	23.05	8.57	24.59	69.61	.59
1600.00	1.85	30.21	1599.27	13.41	27.69	13.41	30.76	64.16	.45
1800.00	1.47	32.21	1799.18	18.37	30.68	18.37	35.76	59.09	.19

Depth FT			True Vertical Depth FT	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
2000.00	.60					21.54	38.86	56.34	.45
2200.00	.67	349.45	2399.00	21.54	32.35	23.69	40.17	53.85	.15
2400.00	1.79	5.86	2599.00	26.69	32.43	27.95	42.89	49.34	.58
2600.00	1.64	1.40	2798.94	38.86	32.54	33.92	47.27	44.15	.10
2800.00	1.20	353.70			32.93	38.86	50.83	40.14	.24
3000.00	1.02	352.22	2998.90	42.71	32.30	42.71	53.54	37.10	.09
3200.00	.75	352.70	3198.87	45.77	31.89	45.77	55.78	34.87	.14
3400.00	.47	3.52	3398.86	47.89	31.77	47.89	57.47	33.56	.15
3600.00	.33	334.55	3598.86	49.23	31.58	49.23	58.48	32.68	.12
3800.00	.46	264.67	3798.85	49.67	30.53	49.67	58.30	31.58	.23
4000.00	.42	285.93	3998.85	49.80	29.02	49.80	57.64	30.24	.08
4200.00	.24	279.32	4198.85	50.07	27.91	50.07	57.32	29.13	.09
4400.00	.35	274.28	4398.84	50.18	26.88	50.18	56.93	28.18	.06
4600.00	.39	304.31	4598.84	50.61	25.71	50.61	56.77	26.93	.10
4800.00	.28	297.79	4798.84	51.22	24.72	51.22	56.87	25.76	.06
5000.00	.61	335.14	4998.83	52.41	23.84	52.41	57.58	24.46	.21
5200.00	.46	340.68	5198.82	54.14	23.12	54.14	58.87	23.13	.08
5400.00	.78	327.47	5398.81	56.04	22.13	56.04	60.25	21.54	.17
5600.00	.57	320.93	5598.80	57.96	20.77	57.96	61.57	19.71	.11
5800.00	1.07	340.33	5798.77	60.49	19.51	60.49	63.56	17.88	.28
6000.00	.94	344.36	5998.74	63.83	18.44	63.83	66.44	16.11	.07
6200.00	.80	312.07	6198.72	66.35	16.96	66.35	68.48	14.34	.25
6400.00	.10	344.68	6398.71	67.45	15.88	67.45	69.30	13.25	.36
6600.00	.44	167.79	6598.71	66.87	16.00	66.87	68.76	13.45	.27
6800.00	.89	199.96	6798.70	64.66	15.63	64.66	66.52	13.59	.28
7000.00	1.46	211.38	6998.66	61.02	13.77	61.02	62.56	12.72	.31
7200.00	1.60	233.65	7198.59	57.19	10.20	57.19	58.10	10.11	.30
Last Survey Depth Recorded									
7400.00	1.15	241.30	7398.53	54.58	6.19	54.58	54.92	6.47	.24