

30-015-39339

COG Operating, LLC

Eddy County, NM

Foster Eddy #26

Foster Eddy #26

Wellbore #1

Survey: MWD Survey #1

Standard Survey Report

14 December, 2011

SHL : 1400' FNL & 1783' FWL

Top of Paddock: 1706' FNL 1706' FWL, 4900' TVD, 4918.55' MD

Survey Report

Company:	COG Operating, LLC	Local Co-ordinate Reference	Site Foster Eddy #26
Project:	Eddy County, NM	TVD Reference:	KB @ 3727 00ft (Silver Oak #6)
Site:	Foster Eddy #26	MD Reference:	KB @ 3727 00ft (Silver Oak #6)
Well:	Foster Eddy #26	North Reference:	Grnd
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000 1 Black Viper

Project:	Eddy County, NM		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site: Foster Eddy #26, Sec 17, T-17-S, R-31-E					
Site Position:		Northing:	668,788 20 ft	Latitude:	32° 50' 16 117 N
From:	Map	Easting:	634,892 10 ft	Longitude:	103° 53' 38 961 W
Position Uncertainty:	0 00 ft	Slot Radius:	13 200 in	Grid Convergence:	0 24 °

Well		Foster Eddy #26				
Well Position	+N/-S	0 00 ft	Northing:	668,788 20 ft	Latitude:	32° 50' 16 117 N
	+E/-W	0 00 ft	Easting:	634,892 10 ft	Longitude:	103° 53' 38 961 W
Position Uncertainty		0 00 ft	Wellhead Elevation:	3,727 00 ft	Ground Level:	3,710 00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/22/2011	7 73	60 69	48,904

Design:		Wellbore #1			
Audit Notes:					
Version:		1.0	Phase:	ACTUAL	Tie On Depth: 1,782 00
Vertical Section:		Depth From (TVD)	+N/-S	+E/-W	Direction
		(ft)	(ft)	(ft)	(°)
		0 00	0 00	0 00	188 12

Survey Program		Date 12/14/2011		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
100 00	1,782 00	Gyro Survey #1 (OH)	Gyro	
1,782 00	5,396 00	MWD Survey #1 (Wellbore #1)		

Survey										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn	
Depth	(°)	(°)	Depth	(ft)	(ft)	Section	Rate	Rate	Rate	
(ft)			(ft)			(ft)	(°/100ft)	(°/100ft)	(°/100ft)	
1,782 00	0 87	95 95	1,781 88	-10 52	13 15	8 56	0 00	0 00	0 00	
1,869 00	0 40	89 10	1,868 87	-10 59	14 11	8 49	0 55	-0 54	-7 87	
First MWD Survey										
1,931 00	0 50	214 50	1,930 87	-10 80	14 18	8 69	1 29	0 16	202 26	
2,025 00	1 90	218 60	2,024 85	-12 36	12 97	10 40	1 49	1 49	4 36	
2,118 00	3 00	210 80	2,117 76	-15 66	10 76	13 98	1 23	1 18	-8 39	
2,212 00	4 40	208 50	2,211 56	-20 94	7 78	19 63	1 50	1 49	-2 45	
2,305 00	5 40	205 60	2,304 22	-28 02	4 19	27 15	1 11	1 08	-3 12	
2,398 00	6 90	200 60	2,396 68	-37 20	0 33	36 78	1 71	1 61	-5 38	
2,492 00	6 80	197 10	2,490 01	-47 80	-3 29	47 79	0 46	-0 11	-3 72	

Survey Report

Company:	COG Operating, LLC	Local Co-ordinate Reference:	Site Foster Eddy #26
Project:	Eddy County, NM	TVD Reference:	KB @ 3727 00ft (Silver Oak #6)
Site:	Foster Eddy #26	MD Reference:	KB @ 3727 00ft (Silver Oak #6)
Well:	Foster Eddy #26	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000-1 Black Viper

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
2,585 00	6 90	195 20	2,582 35	-58 45	-6 37	58 77	0 27	0 11	-2 04	
2,678 00	7 40	194 60	2,674 63	-69 64	-9 35	70 26	0 54	0 54	-0 65	
2,772 00	7 90	193 10	2,767 79	-81 79	-12 34	82 71	0 57	0 53	-1 60	
2,865 00	8 30	196 30	2,859 86	-94 46	-15 67	95 72	0 65	0 43	3 44	
2,959 00	7 80	192 20	2,952 94	-107 20	-18 92	108 80	0 81	-0 53	-4 36	
3,052 00	8 30	193 20	3,045 02	-119 91	-21 79	121 78	0 56	0 54	1 08	
3,145 00	7 90	191 60	3,137 09	-132 70	-24 61	134 85	0 49	-0 43	-1 72	
3,239 00	7 60	190 80	3,230 23	-145 14	-27 07	147 51	0 34	-0 32	-0 85	
3,332 00	7 30	194 00	3,322 45	-156 91	-29 65	159 53	0 55	-0 32	3 44	
3,426 00	7 30	197 00	3,415 69	-168 42	-32 84	171 37	0 41	0 00	3 19	
3,519 00	7 70	196 70	3,507 89	-180 04	-36 36	183 37	0 43	0 43	-0 32	
3,612 00	6 60	194 20	3,600 17	-191 18	-39 46	194 84	1 23	-1 18	-2 69	
3,705 00	7 00	194 90	3,692 51	-201 84	-42 23	205 78	0 44	0 43	0 75	
3,799 00	7 30	195 60	3,785 78	-213 13	-45 31	217 39	0 33	0 32	0 74	
3,893 00	6 90	199 90	3,879 06	-224 19	-48 84	228 84	0 71	-0 43	4 57	
3,986 00	7 50	198 30	3,971 33	-235 21	-52 64	240 28	0 68	0 65	-1 72	
4,079 00	7 20	196 60	4,063 56	-246 55	-56 22	252 02	0 40	-0 32	-1 83	
4,173 00	6 90	196 70	4,156 85	-257 61	-59 52	263 43	0 32	-0 32	0 11	
4,266 00	6 60	197 80	4,249 21	-268 05	-62 76	274 22	0 35	-0 32	1 18	
4,359 00	6 70	198 50	4,341 58	-278 28	-66 11	284 83	0 14	0 11	0 75	
4,453 00	5 30	200 50	4,435 07	-287 55	-69 38	294 46	1 51	-1 49	2 13	
4,546 00	4 00	198 90	4,527 76	-294 64	-71 93	301 85	1 40	-1 40	-1 72	
4,639 00	3 20	203 70	4,620 57	-300 09	-74 02	307 53	0 92	-0 86	5 16	
4,733 00	1 80	203 60	4,714 48	-303 84	-75 67	311 48	1 49	-1 49	-0 11	
4,826 00	0 80	191 20	4,807 46	-305 82	-76 38	313 54	1 11	-1 08	-13 33	
4,918 50	0 21	158 89	4,899 95	-306 61	-76 45	314 33	0 69	-0 64	-34 93	
Top of Paddock [FE#26]										
4,918 52	0 21	158 89	4,899 97	-306 61	-76 45	314 33	0 00	0 00	0 00	
PBHL#1[FE#26H]										
4,918 55	0 21	158 89	4,900 00	-306 61	-76 45	314 33	0 00	0 00	0 00	
Top of Paddock										
4,920 00	0 20	156 90	4,901 45	-306 61	-76 44	314 33	0 71	-0 52	-137 14	
5,013 00	0 40	99 10	4,994 45	-306 81	-76 06	314 48	0 36	0 22	-62 15	
5,107 00	0 40	81 80	5,088 45	-306 82	-75 41	314 39	0 13	0 00	-18 40	
5,200 00	0 30	95 30	5,181 45	-306 79	-74 85	314 29	0 14	-0 11	14 52	
5,294 00	0 30	105 10	5,275 45	-306 88	-74 36	314 31	0 05	0 00	10 43	
5,356 00	0 30	128 10	5,337 45	-307 02	-74 08	314 41	0 19	0 00	37 10	
5,396 00	0 30	128 10	5,377 44	-307 15	-73 92	314 51	0 00	0 00	0 00	
Last MWD Survey										

Survey Report

Company:	COG Operating, LLC	Local Co-ordinate Reference:	Site Foster Eddy #26
Project:	Eddy County, NM	TVD Reference:	KB @ 3727 00ft (Silver Oak #6)
Site:	Foster Eddy #26	MD Reference:	KB @ 3727 00ft (Silver Oak #6)
Well:	Foster Eddy #26	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000 1 Black Viper

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
Top of Paddock	0 00	0 00	4,900 00	-306 61	-76 45	668,481 60	634,815.66	32° 50' 13 086 N	103° 53' 39 872 W
- survey hits target center									
- Point									

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
1,869 00	1,868 87	-10.59	14 11	First MWD Survey
5,396 00	5,377 44	-307 15	-73 92	Last MWD Survey

Checked By _____ Approved By _____ Date: _____



PO Box 1370
Artesia, NM 88211-1370
(575) 748-1288

December 17, 2011

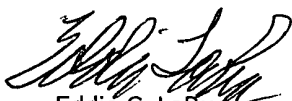
COG, LLC
Fasken Center, Tower II
550 West Texas Ave, Suite 1300
Midland, TX 79701

RE: Foster Eddy #26
1440' FNL & 1783' FWL
Sec. 17, T17S, R31E
Eddy County, New Mexico

Dear Sir,

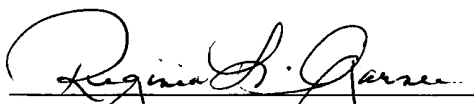
The attached is the Deviation Survey for the above captioned well.

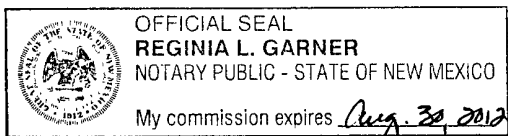
Very truly yours,


Eddie C. LaRue
Operations Manager

State of New Mexico }
County of Eddy }

The foregoing was acknowledged before me this 17th day of December, 2011.


Regina L. Garner
Notary Public



Foster Eddy #26

Date	Depth	Dev/Inc	Dir/AZ	TVD
12/5/2011	177	0.60		217
12/5/2011	265	1.20		305
12/5/2011	351	0.60		
12/5/2011	410	0.70		
12/8/2011	635	0.70		692
12/8/2011	1009	1.20		
12/8/2011	1164	0.60		
12/8/2011	1506	0.90		
12/9/2011	1787	0.40		1833
12/10/2011	1869	0.40	89.10	1909
12/10/2011	1931	0.50	214.50	1971
12/10/2011	2025	1.90	218.60	2065
12/10/2011	2118	3.00	210.80	2117
12/10/2011	2212	4.40	208.50	2211
12/11/2011	2398	6.90	200.60	2396
12/11/2011	2492	6.80	197.10	
12/11/2011	2585	6.90	195.20	
12/11/2011	2678	7.40	194.60	
12/11/2011	2772	7.90	193.10	
12/11/2011	2865	8.30	196.30	2859
12/11/2011	2959	7.80	192.20	2952
12/11/2011	3052	8.30	193.20	3045
12/11/2011	3332	7.30	194.00	3322
12/11/2011	3612	6.60	194.20	3602
12/11/2011	3426	7.30	197.00	3416
12/11/2011	3905	7.00	194.90	3695
12/11/2011	3514	7.70	196.70	3509
12/12/2011	3799	7.30	195.60	3828
12/12/2011	3893	6.90	199.90	3922
12/12/2011	3986	7.50	198.30	3975
12/12/2011	4079	7.20	196.60	4067
12/12/2011	4173	6.90	196.70	4161
12/12/2011	4266	6.60	197.80	4256
12/12/2011	4359	6.70	198.50	4347
12/12/2011	4453	5.30	700.50	4443
12/13/2011	4546	4.30	198.90	4521
12/13/2011	4640	3.20	203.70	4615.00
12/13/2011	4733	1.80	203.60	4708.00
12/13/2011	4826	0.80	191.20	4916.00
12/13/2011	4920	0.20	156.90	4930.00
12/13/2011	5013	0.40	99.10	5003.00
12/13/2011	5200	1.30	95.30	5185.00
12/13/2011	5294	0.30	105.10	5279.00
12/13/2011	5356	0.30	128.10	5341.00
12/14/2011	5484	0.40		5555.00
12/14/2011	5609	0.40		5680.00
12/14/2011	5734	0.40		5805.00
12/14/2011	5889	0.30		
12/15/2011	6298	0.30		



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

January 26, 2012

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

RE: Marcel BMM Federal #1N
1090' FNL & 200' FEL
Sec. 1, T16S, R29E
Eddy County, New Mexico

Dear Sir,

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

Very truly yours,

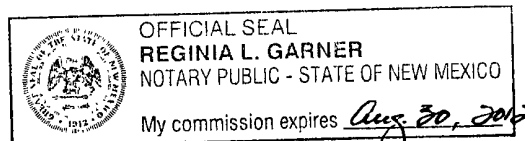
A handwritten signature in cursive script, appearing to read "Eddie LaRue".

Eddie LaRue
Operations Manager

State of New Mexico }
County of Eddy }

The foregoing was acknowledged before me this 26th day of January, 2012.

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

Notary Public

Marcel BMM Federal #1H

Date	Depth	Deviation	Inclination	TVD	Horiz Disp
12/1/2011	183	0.05	0	0	0
12/1/2011	357	1.30	0	0	0
12/9/2011	668	0.60	0	0	0
12/9/2011	992	1.40	0	0	0
12/10/2011	1277	0.40	0	0	0
12/10/2011	1563	0.40	0	0	0
12/10/2011	1847	0.50	0	0	0
12/11/2011	2147	0.40	0	0	0
12/11/2011	2545	0.50	0	0	0
12/14/2011	2798	0.20	0	0	0
12/14/2011	3052	0.20	0	0	0
12/15/2011	3337	0.01	0	0	0
12/15/2011	3661	0.40	0	0	0
12/16/2011	4256	0.90	0	0	0
12/17/2011	4541	0.90	0	0	0
12/17/2011	4808	0.50	0	0	0
12/18/2011	5156	0.40	0	0	0
12/19/2011	5759	0.30	0	0	0
12/20/2011	6080	0.50	0	0	0
12/20/2011	6407	1.20	0	0	0
12/20/2011	6646	0.30	0	0	0
12/21/2011	6936	1.40	0	0	0
12/21/2011	7211	1.30	0	0	0
12/28/2011	6838	1.67	94.80	6837.00	37.64
12/29/2011	6870	1.32	90.04	6869.00	-38.00
12/29/2011	6901	1.67	95.60	6900.00	-39.00
12/29/2011	6932	2.29	376.74	6931.00	-39.11
12/29/2011	6963	6.86	276.48	6962.00	34.00
12/29/2011	6994	11.43	275.83	6992.00	31.64
12/29/2011	7026	15.74	270.75	7023.00	13.80
12/30/2011	7057	19.96	269.40	7053.00	0
12/30/2011	1088	23.57	270.73	7082.00	0
12/30/2011	7119	27.00	273.14	7110.00	0
12/30/2011	7182	33.41	280.68	7164.00	12.60
12/30/2011	7244	39.57	284.91	7114.00	77.00
12/30/2011	7275	42.56	284.84	7238.00	98.17
12/31/2011	7306	46.96	283.87	7260.00	119.90
12/31/2011	7337	50.83	282.62	7280.00	143.19
12/31/2011	7399	56.19	278.17	7317.00	193.00
12/31/2011	7430	5927.00	277.32	733.00	219.00
12/31/2011	7461	62.87	277.29	7348.00	246.00
12/31/2011	7492	66.30	277.47	7362.00	274.00
12/31/2011	7524	69.56	278.12	7374.00	304.00

Date	Depth	Deviation	Inclination	TVD	Horiz Disp
12/31/2011	7555	72.02	278.61	7384.00	333.00
1/1/2012	7586	74.22	279.59	7393.00	363.00
1/1/2012	7648	80.46	282.06	7407.00	423.00
1/1/2012	7679	83.80	282.56	7411.00	453.00
1/1/2012	7511	85.56	283.08	7414.00	485.00
1/1/2012	7743	88.37	282.42	7416.00	517.00
1/1/2012	7773	91.10	282.06	7416.00	547.00
1/1/2012	7804	92.07	282.02	7915.00	578.00
1/2/2012	7835	92.59	282.09	7414.00	609.00
1/6/2012	7883	92.13	280.12	7412.00	657.00
1/7/2012	7976	91.74	278.48	7409.00	750.00
1/8/2012	8064	91.79	278.23	7406.00	838.00
1/8/2012	8157	90.78	278.19	7404.00	931.00
1/8/2012	8250	89.61	276.09	7404.00	1024.00
1/8/2012	8344	89.55	275.65	7405.00	1118.00
1/10/2012	8468	91.23	278.64	7398.00	1242.00
1/10/2012	8526	89.94	279.21	7397.00	1336.00
1/10/2012	8655	90.06	279.23	7397.00	1429.00
1/11/2012	8748	89.72	279.92	7398.00	1522.00
1/11/2012	8841	89.61	280.53	7398.00	1615.00
1/11/2012	8934	89.55	280.79	7399.00	1708.00
1/11/2012	9027	89.44	281.06	7399.00	1800.00
1/12/2012	9121	89.33	281.44	7401.00	1895.00
1/12/2012	9215	89.22	281.00	7402.00	1989.00
1/12/2012	9308	90.45	280.40	7402.00	2082.00
1/12/2012	9400	91.34	281.29	7401.00	2174.00
1/12/2012	9494	90.84	280.97	7399.00	2268.00
1/13/2012	9587	91.40	281.27	7397.00	2361.00
1/13/2012	9681	92.18	279.51	7394.00	2454.00
1/13/2012	9774	91.90	278.19	7390.00	2598.00
1/14/2012	9867	91.62	277.93	7388.00	2640.00
1/14/2012	9960	90.28	277.41	7386.00	2733.00
1/14/2012	10053	89.89	277.41	73.86	2826.00
1/15/2012	10240	89.66	278.42	7387.00	3013.00
1/15/2012	10334	89.66	277.60	7387.00	3107.00
1/15/2012	10425	89.44	277.78	7388.00	3198.00
1/16/2012	10519	89.78	276.86	7389.00	3292.00
1/16/2012	10612	90.50	276.65	7389.00	3385.00
1/17/2012	10684	90.84	278.17	7387.00	3457.00
1/17/2012	10778	92.68	277.27	7384.00	3550.00
1/18/2012	10871	95.06	276.39	7878.00	3643.00
1/18/2012	10964	95.06	277.20	7370.00	3736.00
1/18/2012	11057	94.26	277.92	7363.00	3829.00
1/19/2012	11151	92.77	278.26	7357.00	3922.00
1/19/2012	11243	93.47	278.30	7352.00	4015.00

Date	Depth	Deviation	Inclination	TVD	Horiz Disp
1/20/2012	11337	92.24	280.17	7347.00	4108.00
1/20/2012	11430	92.95	280.20	7343.00	4201.00
1/20/2012	11523	92.68	281.10	7339.00	4294.00
1/21/2012	11616	93.12	280.75	7334.00	4387.00
1/21/2012	11710	92.24	280.12	7329.00	4481.00
1/21/2012	11803	92.42	280.03	7326.00	4574.00
1/22/2012	11896	92.68	280.05	7321.00	4667.00
1/22/2012	11928	92.77	279.91	7320.00	4698.00

PathFinder Energy Services, Inc.

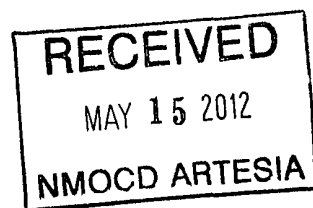
BHL Report

Page 01/01
Tie-in Date: 12/27/2011
Date Completed: 01/22/2012

30-015-36845

YATES PETROLEUM CORPORATION
MARCEL BMM FEDERAL 1H
EDDY COUNTY, NM
Rig:SILVER OAK 10
PathFinder Office Supervisor: STEVE BIBB
PathFinder Field Engineers:RAFAEL DONARUMMA
DAVID BAKER

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.57.44.4044 N LON:104.1.12.9776 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 637355.8540 Y: 713975.5650
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.61° EAST TO GRID
Vertical Section Plane: 279.11
Survey Vert. Reference: 18.00' Kelly Bushing To Ground
Altitude:3791.00' Ground To MSL



Measured Depth	12000.00	(feet)
Inclination	92.77	(deg)
Azimuth	279.91	(deg)
True Vertical Depth	7316.57	(feet)
Vertical Section	4770.50	(feet)
Survey X cord	632645.33	(feet)
Survey Y cord	714729.75	(feet)
Survey Lat	32.96444500 N	(deg)
Survey Lon	104.03562280 W	(deg)
Rectangular Corr. N/S	754.21 N	(feet)
Rectangular Corr. E/W	4710.51 W	(feet)
Closure Distance	4770.50	(feet)
Direction of Closure	279.10	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION

MARCEL BMM FEDERAL 1H

EDDY COUNTY, NM

Rig:SILVER OAK 10

PathFinder Office Supervisor: STEVE BIBB

PathFinder Field Engineers: RAFAEL DONARUMMA

DAVID BAKER

Survey Horiz. Reference:WELLHEAD

Ref Coordinates: LAT:32.57.44.4044 N LON:104.1.12.9776 W

GRID Reference:NAD83 new mexico east Transverse Mercator

Ref GRID Coord: X: 637355.8540 Y: 713975.5650

North Aligned To:GRID NORTH

Total Magnetic Correction: 7.61° EAST TO GRID

Vertical Section Plane: 279.11

Survey Vert. Reference: 18.00' Kelly Bushing To Ground

Altitude:3791.00' 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 Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
THE FOLLOWING ARE MS ENERGY SERVICES GYRO SURVEYS.										
200.00	0.75	195.42	200.00	0.00	0.14	1.26 S	0.35 W	1.31@	195.29	0.00
400.00	1.50	144.30	399.96	200.00	-1.56	4.65 S	0.83 E	4.73@	169.84	0.59
600.00	1.25	121.07	599.90	200.00	-5.43	7.90 S	4.23 E	8.96@	151.84	0.30
800.00	1.00	55.90	799.87	200.00	-8.72	8.05 S	7.54 E	11.03@	136.86	0.61
1000.00	1.25	67.67	999.83	200.00	-11.86	6.24 S	11.01 E	12.65@	119.56	0.17
1200.00	1.00	24.51	1199.80	200.00	-14.18	3.83 S	13.75 E	14.27@	105.55	0.43
1400.00	1.00	43.36	1399.77	200.00	-15.63	0.97 S	15.67 E	15.70@	93.54	0.16
1600.00	0.75	9.13	1599.75	200.00	-16.61	1.59 N	17.08 E	17.15@	84.68	0.28
1800.00	0.50	42.98	1799.74	200.00	-17.10	3.52 N	17.88 E	18.22@	78.86	0.22
2000.00	0.50	347.82	1999.73	200.00	-17.27	5.01 N	18.29 E	18.97@	74.67	0.23
2200.00	0.25	318.99	2199.72	200.00	-16.61	6.20 N	17.82 E	18.87@	70.83	0.15
2400.00	0.25	347.78	2399.72	200.00	-16.12	6.95 N	17.44 E	18.78@	68.27	0.06
2600.00	0.50	91.62	2599.72	200.00	-16.83	7.35 N	18.22 E	19.65@	68.02	0.31
2800.00	0.25	8.47	2799.72	200.00	-17.69	7.76 N	19.16 E	20.67@	67.95	0.27
3000.00	0.50	101.31	2999.71	200.00	-18.56	8.02 N	20.08 E	21.62@	68.22	0.28
3200.00	0.25	81.10	3199.71	200.00	-19.84	7.92 N	21.37 E	22.78@	69.67	0.14
3400.00	0.25	100.95	3399.71	200.00	-20.69	7.90 N	22.22 E	23.59@	70.43	0.04
3600.00	0.25	169.79	3599.71	200.00	-21.27	7.39 N	22.73 E	23.90@	71.99	0.14
3800.00	0.50	148.66	3799.70	200.00	-21.98	6.21 N	23.26 E	24.08@	75.04	0.14
4000.00	1.00	176.55	3999.68	200.00	-22.93	3.73 N	23.82 E	24.11@	81.11	0.30
4200.00	1.00	165.46	4199.65	200.00	-24.01	0.30 N	24.36 E	24.37@	89.30	0.10
4400.00	0.50	176.31	4399.64	200.00	-24.90	2.26 S	24.86 E	24.96@	95.20	0.26
4600.00	0.75	168.22	4599.62	200.00	-25.56	4.42 S	25.18 E	25.57@	99.95	0.13
4800.00	0.75	217.11	4799.61	200.00	-25.42	6.74 S	24.66 E	25.56@	105.29	0.31
5000.00	0.25	226.97	4999.60	200.00	-24.53	8.08 S	23.55 E	24.90@	108.94	0.25

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
MARCEL BMM FEDERAL 1H
EDDY COUNTY, NM
RIG:SILVER OAK 10

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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)
5200.00	0.00	0.00	5199.60	200.00	-24.26	8.38 S	23.23 E	24.70@	109.84	0.13
5400.00	0.75	196.35	5399.59	200.00	-24.10	9.64 S	22.86 E	24.81@	112.86	0.38
5600.00	0.25	228.25	5599.59	200.00	-23.66	11.18 S	22.17 E	24.83@	116.77	0.28
5800.00	0.50	227.12	5799.58	200.00	-22.85	12.07 S	21.20 E	24.40@	119.65	0.13
6000.00	0.25	140.03	5999.58	200.00	-22.64	13.00 S	20.84 E	24.56@	121.94	0.27
6200.00	1.00	114.95	6199.57	200.00	-24.65	14.07 S	22.71 E	26.71@	121.78	0.39
6400.00	1.00	95.87	6399.54	200.00	-28.07	14.98 S	26.03 E	30.03@	119.93	0.17
6600.00	1.25	81.78	6599.50	200.00	-31.89	14.85 S	29.92 E	33.40@	116.39	0.19
** TIED INTO MS ENERGY SERVICES GYRO SURVEY @ 6800'MD.										
6800.00	1.50	85.70	6799.44	200.00	-36.52	14.34 S	34.69 E	37.54@	112.46	0.13
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
6838.00	1.67	94.80	6837.43	38.00	-37.56	14.35 S	35.74 E	38.51@	111.88	0.80
6870.00	1.32	90.04	6869.41	32.00	-38.39	14.39 S	36.57 E	39.30@	111.48	1.16
6901.00	1.67	95.60	6900.40	31.00	-39.19	14.43 S	37.38 E	40.07@	111.11	1.22
6932.00	2.29	276.74	6931.40	31.00	-39.02	14.40 S	37.21 E	39.90@	111.16	12.77
6963.00	6.86	276.48	6962.29	31.00	-36.55	14.12 S	34.76 E	37.52@	112.11	14.74
6994.00	11.43	275.38	6992.89	31.00	-31.64	13.63 S	29.86 E	32.82@	114.53	14.75
7026.00	15.74	270.75	7023.99	32.00	-24.17	13.27 S	22.36 E	26.00@	120.69	13.88
7057.00	19.96	269.40	7053.49	31.00	-14.79	13.27 S	12.86 E	18.48@	135.91	13.68
7088.00	23.57	270.73	7082.27	31.00	-3.44	13.25 S	1.36 E	13.32@	174.12	11.75
7119.00	27.00	273.14	7110.30	31.00	9.69	12.78 S	11.86 W	17.44@	222.87	11.55
7150.00	30.07	276.41	7137.53	31.00	24.45	11.53 S	26.61 W	29.00@	246.58	11.11
7182.00	33.41	280.68	7164.75	32.00	41.27	9.00 S	43.24 W	44.17@	258.24	12.57
7213.00	36.23	283.26	7190.20	31.00	58.95	5.32 S	60.55 W	60.79@	264.98	10.26
7244.00	39.57	284.91	7214.65	31.00	77.91	0.67 S	79.02 W	79.02@	269.51	11.26
7275.00	42.56	284.84	7238.02	31.00	98.17	4.55 N	98.70 W	98.80@	272.64	9.65
7306.00	46.96	283.87	7260.03	31.00	119.90	9.96 N	119.84 W	120.25@	274.75	14.36
7337.00	50.83	282.62	7280.41	31.00	143.20	15.30 N	142.57 W	143.39@	276.12	12.85

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
MARCEL BMM FEDERAL 1H
EDDY COUNTY, NM
RIG:SILVER OAK 10

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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)
7368.00	53.46	280.03	7299.43	31.00	167.65	20.10 N	166.57 W	167.78@	276.88	10.75
7399.00	56.19	278.17	7317.29	31.00	192.98	24.10 N	191.59 W	193.09@	277.17	10.08
7430.00	59.27	277.32	7333.84	31.00	219.19	27.62 N	217.56 W	219.30@	277.24	10.20
7461.00	62.87	277.29	7348.83	31.00	246.30	31.07 N	244.46 W	246.43@	277.24	11.61
7492.00	66.30	277.47	7362.14	31.00	274.28	34.67 N	272.23 W	274.42@	277.26	11.08
7524.00	69.56	278.12	7374.16	32.00	303.92	38.69 N	301.60 W	304.07@	277.31	10.36
7555.00	72.02	278.61	7384.36	31.00	333.19	42.95 N	330.56 W	333.34@	277.40	8.08
7586.00	74.22	279.59	7393.36	31.00	362.86	47.65 N	359.85 W	362.99@	277.54	7.71
7617.00	76.94	281.14	7401.08	31.00	392.87	53.05 N	389.38 W	392.98@	277.76	10.02
7648.00	80.46	282.06	7407.15	31.00	423.23	59.16 N	419.15 W	423.31@	278.03	11.72
7679.00	83.80	282.56	7411.39	31.00	453.89	65.71 N	449.15 W	453.93@	278.32	10.89
7711.00	85.56	283.08	7414.36	32.00	485.68	72.78 N	480.22 W	485.70@	278.62	5.73
7743.00	88.37	282.42	7416.06	32.00	517.57	79.83 N	511.38 W	517.57@	278.87	9.02
7773.00	91.10	282.06	7416.19	30.00	547.52	86.19 N	540.70 W	547.52@	279.06	9.18
7804.00	92.07	282.02	7415.34	31.00	578.47	92.65 N	571.00 W	578.47@	279.22	3.13
7835.00	92.59	282.09	7414.08	31.00	609.40	99.12 N	601.29 W	609.41@	279.36	1.69
7883.00	92.13	280.12	7412.10	48.00	657.33	108.36 N	648.35 W	657.34@	279.49	4.21
7976.00	91.74	278.48	7408.96	93.00	750.27	123.38 N	740.07 W	750.29@	279.46	1.81
8064.00	91.79	278.23	7406.25	88.00	838.22	136.16 N	827.10 W	838.23@	279.35	0.29
8157.00	90.78	278.19	7404.16	93.00	931.19	149.44 N	919.12 W	931.19@	279.23	1.09
8246.00	90.92	277.66	7402.84	89.00	1020.16	161.71 N	1007.26 W	1020.16@	279.12	0.62
8340.00	91.10	277.72	7401.19	94.00	1114.12	174.28 N	1100.40 W	1114.12@	279.00	0.20
8400.00	91.28	277.81	7399.94	60.00	1174.09	182.39 N	1159.84 W	1174.09@	278.94	0.34
8468.00	91.23	278.64	7398.45	68.00	1242.06	192.11 N	1227.12 W	1242.07@	278.90	1.22
8562.00	89.94	279.26	7397.49	94.00	1336.05	206.74 N	1319.97 W	1336.06@	278.90	1.52
8655.00	90.06	279.23	7397.49	93.00	1429.05	221.68 N	1411.76 W	1429.06@	278.92	0.13
8748.00	89.72	279.92	7397.67	93.00	1522.05	237.15 N	1503.47 W	1522.05@	278.96	0.83
8841.00	89.61	280.53	7398.21	93.00	1615.03	253.65 N	1594.99 W	1615.03@	279.04	0.67

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
MARCEL BMM FEDERAL 1H
EDDY COUNTY, NM
RIG:SILVER OAK 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)
8934.00	89.55	280.79	7398.89	93.00	1707.99	270.86 N	1686.38 W	1707.99@	279.12	0.29
9027.00	89.44	281.06	7399.71	93.00	1800.94	288.48 N	1777.69 W	1800.95@	279.22	0.31
9121.00	89.33	281.44	7400.72	94.00	1894.87	306.82 N	1869.88 W	1894.88@	279.32	0.42
9215.00	89.22	281.00	7401.91	94.00	1988.80	325.11 N	1962.07 W	1988.83@	279.41	0.48
9308.00	90.45	280.40	7402.18	93.00	2081.76	342.37 N	2053.46 W	2081.80@	279.47	1.47
9400.00	91.34	281.29	7400.74	92.00	2173.71	359.68 N	2143.80 W	2173.76@	279.52	1.37
9494.00	90.84	280.97	7398.96	94.00	2267.63	377.82 N	2236.01 W	2267.71@	279.59	0.63
9587.00	91.40	281.27	7397.14	93.00	2360.56	395.76 N	2327.25 W	2360.66@	279.65	0.68
9681.00	92.18	279.51	7394.20	94.00	2454.48	412.70 N	2419.66 W	2454.60@	279.68	2.05
9774.00	91.90	278.19	7390.89	93.00	2547.42	427.00 N	2511.49 W	2547.53@	279.65	1.45
9867.00	91.62	277.93	7388.03	93.00	2640.36	440.03 N	2603.53 W	2640.45@	279.59	0.41
9960.00	90.28	277.41	7386.49	93.00	2733.31	452.44 N	2695.68 W	2733.39@	279.53	1.55
10053.00	89.89	277.41	7386.35	93.00	2826.27	464.44 N	2787.91 W	2826.33@	279.46	0.42
10147.00	89.89	277.53	7386.53	94.00	2920.24	476.66 N	2881.11 W	2920.27@	279.39	0.13
10240.00	89.66	278.42	7386.90	93.00	3013.21	489.56 N	2973.21 W	3013.24@	279.35	0.99
10334.00	89.66	277.60	7387.46	94.00	3107.20	502.66 N	3066.29 W	3107.21@	279.31	0.87
10425.00	89.44	277.78	7388.17	91.00	3198.16	514.84 N	3156.47 W	3198.18@	279.26	0.31
10519.00	89.78	276.86	7388.81	94.00	3292.12	526.81 N	3249.70 W	3292.12@	279.21	1.04
10612.00	90.50	276.75	7388.59	93.00	3385.04	537.83 N	3342.04 W	3385.04@	279.14	0.78
10684.00	90.84	278.17	7387.74	72.00	3457.00	547.18 N	3413.42 W	3457.00@	279.11	2.03
10778.00	92.68	277.27	7384.86	94.00	3550.93	559.80 N	3506.52 W	3550.93@	279.07	2.18
10871.00	95.06	276.39	7378.58	93.00	3643.63	570.83 N	3598.64 W	3643.64@	279.01	2.73
10964.00	95.06	277.20	7370.38	93.00	3736.19	581.79 N	3690.63 W	3736.21@	278.96	0.87
11057.00	94.26	277.92	7362.82	93.00	3828.85	593.99 N	3782.52 W	3828.87@	278.92	1.16
11151.00	92.77	278.26	7357.06	94.00	3922.66	607.19 N	3875.40 W	3922.68@	278.90	1.63
11243.00	93.47	278.30	7352.05	92.00	4014.51	620.42 N	3966.31 W	4014.54@	278.89	0.76
11337.00	92.24	280.17	7347.37	94.00	4108.39	635.49 N	4058.97 W	4108.42@	278.90	2.38
11430.00	92.95	280.20	7343.16	93.00	4201.27	651.92 N	4150.41 W	4201.30@	278.93	0.76

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
MARCEL BMM FEDERAL 1H
EDDY COUNTY, NM
RIG:SILVER OAK 10

Page 05/05

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)	(ft)	(ft)	(deg)	
11523.00	92.68	281.10	7338.59	93.00	4294.13	669.08 N	4241.70 W	4294.14@	278.96	1.01
11616.00	93.12	280.75	7333.89	93.00	4386.96	686.69 N	4332.89 W	4386.97@	279.01	0.60
11710.00	92.24	280.21	7329.49	94.00	4480.83	703.77 N	4425.22 W	4480.83@	279.04	1.10
11803.00	92.42	280.03	7325.71	93.00	4573.74	720.09 N	4516.70 W	4573.74@	279.06	0.27
11896.00	92.68	280.05	7321.57	93.00	4666.64	736.29 N	4608.19 W	4666.64@	279.08	0.28
11928.00	92.77	279.91	7320.05	32.00	4698.59	741.83 N	4639.66 W	4698.60@	279.08	0.52
STRAIGHT LINE PROJECTION TO BIT DEPTH @12000'MD.										
12000.00	92.77	279.91	7316.57	72.00	4770.50	754.21 N	4710.51 W	4770.50@	279.10	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.:	MARCEL "BMM" FEDERAL	1H	
WELL LOCATION:	EDDY COUNTY, NM		
COUNTY / STATE / COUNTRY:	EDDY	NM	USA
RIG:	SILVER OAK 10		
API WELL No:	30-015-36845		
JOB No:	700004510-WT-WT		
P.O. / AFE No.	01-251-0		
DIRECTIONAL COMPANY:	PES		

WELL SITE INFORMATION

TOTAL MAGNETIC CORRECTION (TMC):			
On Wall Plat:	7.62	LWD Calculated:	7.62
Agreed Upon:		7.62	
X =	637355.854000	Feet	Y = 713975.565000
		Feet	
SITE LATITUDE:	32.962335 N	SITE LONGITUDE:	104.020272 W
GRID SYSTEM:	TRUE ☐ UTM ☒ LAMBERT ☐	ZONE:	NEW MEXICO EAST
PROPOSED DRIFT DIRECTION:	279.11°		
KELLY BUSHING ELEVATION:	18'		
ALTITUDE:	3791	Feet	WATER DEPTH:
		N/A	
		Feet	

TIE-IN SURVEY

MEASURED DEPTH:	6800'		
DRIFT ANGLE:	1.5°		
DRIFT DIRECTION:	85.7°		
TRUE VERTICAL DEPTH:	6799.44'		
VERTICAL SECTION:	-36.52		
RECTANGULAR COORDINATE (N / S) :	-14.34		
RECTANGULAR COORDINATE (E / W) :	34.69		
CLOSURE DISTANCE / DIRECTION:	37.54'	112.46°	
SURVEY CALCULATION METHOD:	AA ☐	MC ☒	RC ☐ BT ☐
SOURCE OF TIE-IN DATA (COMPANY):	GyroData MS ENERGY SERVICES		
COPY OF TIE-IN SURVEY REPORT	☒ YES		☐ NO

WELL PLAN

KICKOFF DEPTH:	6926.5'	TOTAL DEPTH:	12009.8'
KICKOFF ANGLE:	0°	MAX ANGLE:	91.55°

PES Engineers: RAFAEL DONARUMMA **Signature of both field engineers required if applicable
DAVID BAKER

Directional Driller: RICHARD HILL / JAY FULTON

DATE: 26-Dec-2011



Job Number: SVCO-111584
 Company: Yates Petroleum Corporation
 Lease/Well: MARCEL BMM FEDERAL 1H
 Location: Eddy County, NM
 Rig Name: Silver Oak #10
 RKB: 18'
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA
 Declination: 7.62°
 Grid: East To Grid
 File name: F:\SURVEY\2011SU-1\YATES\MARCEL1H.SVY
 Date/Time: 22-Dec-11 / 12:09
 Curve Name: Surface - 7520' M.D. (Gyroscopic)

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 279.11
 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	.75	195.42	199.99	-1.26	-.35	.14	1.31	195.42	.38
400.00	1.50	144.30	399.96	-4.65	.83	-1.56	4.72	169.86	.59
600.00	1.25	121.07	599.90	-7.90	4.23	-5.43	8.96	151.85	.30
800.00	1.00	55.90	799.87	-8.05	7.54	-8.72	11.03	136.86	.61
1000.00	1.25	67.67	999.83	-6.24	11.00	-11.85	12.65	119.56	.17
1200.00	1.00	24.51	1199.80	-3.82	13.75	-14.18	14.27	105.55	.43
1400.00	1.00	43.36	1399.77	-.97	15.67	-15.62	15.70	93.53	.16
1600.00	.75	9.13	1599.75	1.59	17.07	-16.61	17.15	84.67	.28
1800.00	.50	42.98	1799.73	3.52	17.88	-17.09	18.22	78.85	.22

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
				FT	FT	FT	Distance FT	Direction Deg	
2000.00	.50	347.82	1999.73	5.02	18.29	-17.26	18.96	74.66	.23
2200.00	.25	318.99	2199.72	6.20	17.82	-16.61	18.86	70.82	.15
2400.00	.25	347.78	2399.72	6.95	17.44	-16.12	18.77	68.26	.06
2600.00	.50	91.62	2599.72	7.36	18.22	-16.82	19.65	68.01	.31
2800.00	.25	8.47	2799.71	7.76	19.16	-17.68	20.67	67.94	.27
3000.00	.50	101.31	2999.71	8.02	20.08	-18.55	21.62	68.22	.28
3200.00	.25	81.10	3199.71	7.92	21.36	-19.84	22.78	69.66	.14
3400.00	.25	100.95	3399.71	7.90	22.22	-20.69	23.59	70.42	.04
3600.00	.25	169.79	3599.70	7.39	22.73	-21.27	23.90	71.98	.14
3800.00	.50	148.66	3799.70	6.22	23.26	-21.98	24.08	75.04	.14
4000.00	1.00	176.55	3999.68	3.73	23.82	-22.93	24.11	81.10	.30
4200.00	1.00	165.46	4199.65	.30	24.36	-24.01	24.36	89.30	.10
4400.00	.50	176.31	4399.63	-2.26	24.86	-24.90	24.96	95.20	.26
4600.00	.75	168.22	4599.62	-4.41	25.18	-25.56	25.56	99.94	.13
4800.00	.75	217.11	4799.61	-6.74	24.66	-25.41	25.56	105.29	.31
5000.00	.25	226.97	4999.60	-8.08	23.55	-24.53	24.90	108.94	.25
5200.00	.00	.00	5199.60	-8.38	23.23	-24.26	24.69	109.84	.12
5400.00	.75	196.35	5399.59	-9.64	22.86	-24.10	24.81	112.85	.38
5600.00	.25	228.25	5599.58	-11.18	22.17	-23.66	24.83	116.77	.28
5800.00	.50	227.12	5799.58	-12.07	21.20	-22.84	24.39	119.65	.13
6000.00	.25	140.03	5999.58	-12.99	20.84	-22.64	24.56	121.94	.27
6200.00	1.00	114.95	6199.56	-14.06	22.70	-24.64	26.71	121.78	.39
6400.00	1.00	95.87	6399.53	-14.98	26.02	-28.07	30.03	119.93	.17
6600.00	1.25	81.78	6599.50	-14.85	29.92	-31.89	33.40	116.39	.19
6800.00	1.50	85.70	6799.44	-14.34	34.69	-36.52	37.53	112.46	.13
7000.00	2.00	78.42	6999.34	-13.44	40.72	-42.33	42.88	108.27	.27
7200.00	1.25	54.98	7199.26	-11.49	45.92	-47.16	47.34	104.05	.49
7400.00	1.50	63.48	7399.21	-9.07	50.05	-50.86	50.87	100.27	.16
Last Survey Depth Recorded									
7520.00	1.25	44.04	7519.17	-7.43	52.37	-52.88	52.89	98.07	.44

Surface - 7520 M.D. (Gyroscopic) File: F:\SURVEY\2011SU-11\ATIES\MARCELTH.SVY

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

Yates Petroleum Corporation
Marcel BMM Federal #1H
Eddy County, NM
Rig: Silver Oak 10

Mon Dec 05 14:19:33 2011

Coordinates

Latitude: 32.962335 N (32 deg. 57 min. 44.4044 sec.)
Longitude: 104.020272 W (-104 deg. 1 min. 12.9776 sec.)
Elevation: 3809.00 feet.
Calculation Date: Dec/05/2011

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.7792 degrees
Total Magnetic Field: 0.48960 gauss
Magnetic Declination: 7.791332 degrees
Horizontal Intensity: 0.239014 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.791332 Degr

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 637355.8540 feet
Y: 713975.5650 feet
True to Grid: (convergence) -0.170334 degrees
Magnetic to Grid: 7.620998 degrees

To Convert a Magnetic Dir. to a GRID dir. Add 7.620998 Degr.



Job Number: SVCO-111584
 Company: Yates Petroleum Corporation
 Lease/Well: MARCEL BMM FEDERAL 1H
 Location: Eddy County, NM
 Rig Name: Silver Oak #10
 RKB: 18'
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA
 Declination: 7.62°
 Grid: East To Grid
 File name: F:\SURVEY\2011\SU~1\YATES\MARCEL1H.SVY
 Date/Time: 22-Dec-11 / 12:09
 Curve Name: Surface - 7520' M.D. (Gyroscopic)

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 279.11
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

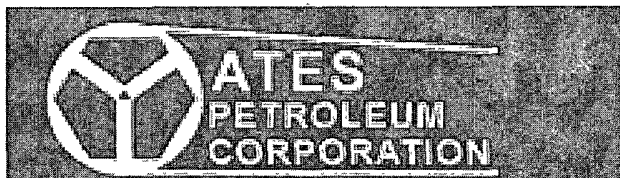
We hereby certify that our survey data from
 Surface MD to 7520 MD is, to the best of
 our knowledge a true and accurate account of the
 well bore.
 Dana Jutte 12/29/11
 MS Energy Services Date

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	.75	195.42	199.99	-1.26	-.35	.14	1.31	195.42	.38
400.00	1.50	144.30	399.96	-4.65	.83	-1.56	4.72	169.86	.59
600.00	1.25	121.07	599.90	-7.90	4.23	-5.43	8.96	151.85	.30
800.00	1.00	55.90	799.87	-8.05	7.54	-8.72	11.03	136.86	.61
1000.00	1.25	67.67	999.83	-6.24	11.00	-11.85	12.65	119.56	.17
1200.00	1.00	24.51	1199.80	-3.82	13.75	-14.18	14.27	105.55	.43
1400.00	1.00	43.36	1399.77	-.97	15.67	-15.62	15.70	93.53	.16
1600.00	.75	9.13	1599.75	1.59	17.07	-16.61	17.15	84.67	.28
1800.00	50	42.98	1799.73	3.52	17.88	-17.09	18.22	78.85	.22

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	
2000.00	.50	347.82	1999.73	5.02	18.29	-17.26	18.96	74.66	.23
2200.00	.25	318.99	2199.72	6.20	17.82	-16.61	18.86	70.82	.15
2400.00	.25	347.78	2399.72	6.95	17.44	-16.12	18.77	68.26	.06
2600.00	.50	91.62	2599.72	7.36	18.22	-16.82	19.65	68.01	.31
2800.00	.25	8.47	2799.71	7.76	19.16	-17.68	20.67	67.94	.27
3000.00	.50	101.31	2999.71	8.02	20.08	-18.55	21.62	68.22	.28
3200.00	.25	81.10	3199.71	7.92	21.36	-19.84	22.78	69.66	.14
3400.00	.25	100.95	3399.71	7.90	22.22	-20.69	23.59	70.42	.04
3600.00	.25	169.79	3599.70	7.39	22.73	-21.27	23.90	71.98	.14
3800.00	.50	148.66	3799.70	6.22	23.26	-21.98	24.08	75.04	.14
4000.00	1.00	176.55	3999.68	3.73	23.82	-22.93	24.11	81.10	.30
4200.00	1.00	165.46	4199.65	.30	24.36	-24.01	24.36	89.30	.10
4400.00	.50	176.31	4399.63	-2.26	24.86	-24.90	24.96	95.20	.26
4600.00	.75	168.22	4599.62	-4.41	25.18	-25.56	25.56	99.94	.13
4800.00	.75	217.11	4799.61	-6.74	24.66	-25.41	25.56	105.29	.31
5000.00	.25	226.97	4999.60	-8.08	23.55	-24.53	24.90	108.94	.25
5200.00	.00	.00	5199.60	-8.38	23.23	-24.26	24.69	109.84	.12
5400.00	.75	196.35	5399.59	-9.64	22.86	-24.10	24.81	112.85	.38
5600.00	.25	228.25	5599.58	-11.18	22.17	-23.66	24.83	116.77	.28
5800.00	.50	227.12	5799.58	-12.07	21.20	-22.84	24.39	119.65	.13
6000.00	.25	140.03	5999.58	-12.99	20.84	-22.64	24.56	121.94	.27
6200.00	1.00	114.95	6199.56	-14.06	22.70	-24.64	26.71	121.78	.39
6400.00	1.00	95.87	6399.53	-14.98	26.02	-28.07	30.03	119.93	.17
6600.00	1.25	81.78	6599.50	-14.85	29.92	-31.89	33.40	116.39	.19
6800.00	1.50	85.70	6799.44	-14.34	34.69	-36.52	37.53	112.46	.13
7000.00	2.00	78.42	6999.34	-13.44	40.72	-42.33	42.88	108.27	.27
7200.00	1.25	54.98	7199.26	-11.49	45.92	-47.16	47.34	104.05	.49
7400.00	1.50	63.48	7399.21	-9.07	50.05	-50.86	50.87	100.27	.16

Last Survey Depth Recorded

7520.00	1.25	44.04	7519.17	-7.43	Page 2	52.37	-52.88	52.89	98.07	.44
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Yates Petroleum Corp.

Eddy County (NAD 83)

Marcel "BMM" Federal

#1H

OH

Design: OH

PathfinderX & Y Report

23 January, 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 = 18 @ 3809 0usft (Silver Oak 10)
Site:	Marcel "BMM" Federal	MD Reference:	KB = 18 @ 3809 0usft (Silver Oak 10)
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	Marcel "BMM" Federal				
Site Position:		Northing:	713,975 565 usft	Latitude:	32° 57' 44 404 N
From:	Map	Easting:	637,355 854 usft	Longitude:	104° 1' 12.978 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0 17 °

Well	#1H					
Well Position	+N/-S	0.0 usft	Northing:	713,975.565 usft	Latitude:	32° 57' 44.404 N
	+E/-W	0.0 usft	Easting:	637,355.854 usft	Longitude:	104° 1' 12.978 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,791.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/22/2011	7 77	60 80	48,994

Design	OH			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0 0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0 0	0 0	279 11



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 = 18 @ 3809.0usft (Silver Oak 10)
Site:	Marcel "BMM" Federal	MD Reference:	KB = 18 @ 3809.0usft (Silver Oak 10)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey Program		Date	1/23/2012		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
200.0	6,400.0	Gyro #1 (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s	
6,543.0	12,000.0	MWD #1 (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	-3,809.0	0.0	0.0	0.0	0.00	713,975.57	637,355.85	
200.0	0.75	195.42	200.0	-3,609.0	-1.3	-0.3	0.1	0.37	713,974.30	637,355.51	
400.0	1.50	144.30	400.0	-3,409.0	-4.6	0.8	-1.6	0.59	713,970.92	637,356.69	
600.0	1.25	121.07	599.9	-3,209.1	-7.9	4.2	-5.4	0.30	713,967.66	637,360.08	
800.0	1.00	55.90	799.9	-3,009.1	-8.0	7.5	-8.7	0.61	713,967.52	637,363.40	
1,000.0	1.25	67.67	999.8	-2,809.2	-6.2	11.0	-11.9	0.17	713,969.32	637,366.86	
1,200.0	1.00	24.51	1,199.8	-2,609.2	-3.8	13.7	-14.2	0.43	713,971.74	637,369.60	
1,400.0	1.00	43.36	1,399.8	-2,409.2	-1.0	15.7	-15.6	0.16	713,974.60	637,371.52	
1,600.0	0.75	9.13	1,599.7	-2,209.3	1.6	17.1	-16.6	0.28	713,977.16	637,372.93	
1,800.0	0.50	42.98	1,799.7	-2,009.3	3.5	17.9	-17.1	0.22	713,979.09	637,373.73	
2,000.0	0.50	347.82	1,999.7	-1,809.3	5.0	18.3	-17.3	0.23	713,980.58	637,374.14	
2,200.0	0.25	318.99	2,199.7	-1,609.3	6.2	17.8	-16.6	0.15	713,981.76	637,373.67	
2,400.0	0.25	347.78	2,399.7	-1,409.3	7.0	17.4	-16.1	0.06	713,982.52	637,373.29	
2,600.0	0.50	91.62	2,599.7	-1,209.3	7.4	18.2	-16.8	0.31	713,982.92	637,374.07	
2,800.0	0.25	8.47	2,799.7	-1,009.3	7.8	19.2	-17.7	0.27	713,983.33	637,375.01	
3,000.0	0.50	101.31	2,999.7	-809.3	8.0	20.1	-18.6	0.28	713,983.59	637,375.93	
3,200.0	0.25	81.10	3,199.7	-609.3	7.9	21.4	-19.8	0.14	713,983.48	637,377.22	
3,400.0	0.25	100.95	3,399.7	-409.3	7.9	22.2	-20.7	0.04	713,983.47	637,378.08	
3,600.0	0.25	169.79	3,599.7	-209.3	7.4	22.7	-21.3	0.14	713,982.96	637,378.58	
3,800.0	0.50	148.66	3,799.7	-9.3	6.2	23.3	-22.0	0.14	713,981.78	637,379.11	
4,000.0	1.00	176.55	3,999.7	190.7	3.7	23.8	-22.9	0.30	713,979.29	637,379.67	



Pathfinder
PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company: Yates Petroleum Corp
Project: Eddy County (NAD 83)
Site: Marcel "BMM" Federal
Well: #1H
Wellbore: OH
Design: OH

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

Well #1H
KB = 18 @ 3809 0usft (Silver Oak 10)
KB = 18 @ 3809 0usft (Silver Oak 10)
Grid:
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)
4,200.0	1.00	165.46	4,199.7	390.7	0.3	24.4	-24.0	0.10	713,975.86	637,380.21
4,400.0	0.50	176.31	4,399.6	590.6	-2.3	24.9	-24.9	0.26	713,973.30	637,380.71
4,600.0	0.75	168.22	4,599.6	790.6	-4.4	25.2	-25.6	0.13	713,971.15	637,381.03
4,800.0	0.75	217.11	4,799.6	990.6	-6.7	24.7	-25.4	0.31	713,968.83	637,380.51
5,000.0	0.25	226.97	4,999.6	1,190.6	-8.1	23.5	-24.5	0.25	713,967.48	637,379.40
5,200.0	0.00	0.00	5,199.6	1,390.6	-8.4	23.2	-24.3	0.12	713,967.19	637,379.08
5,400.0	0.75	196.35	5,399.6	1,590.6	-9.6	22.9	-24.1	0.37	713,965.93	637,378.71
5,600.0	0.25	228.25	5,599.6	1,790.6	-11.2	22.2	-23.7	0.28	713,964.38	637,378.02
5,800.0	0.50	227.12	5,799.6	1,990.6	-12.1	21.2	-22.8	0.13	713,963.50	637,377.05
6,000.0	0.25	140.03	5,999.6	2,190.6	-13.0	20.8	-22.6	0.27	713,962.57	637,376.70
6,200.0	1.00	114.95	6,199.6	2,390.6	-14.1	22.7	-24.6	0.39	713,961.50	637,378.56
6,400.0	1.00	95.87	6,399.5	2,590.5	-15.0	26.0	-28.1	0.17	713,960.59	637,381.88
6,800.0	1.50	85.70	6,799.4	2,990.4	-14.9	34.7	-36.6	0.14	713,960.62	637,390.57
6,838.0	1.67	94.80	6,837.4	3,028.4	-15.0	35.8	-37.7	0.80	713,960.61	637,391.62
6,870.0	1.32	90.04	6,869.4	3,060.4	-15.0	36.6	-38.5	1.16	713,960.57	637,392.45
6,901.0	1.67	95.60	6,900.4	3,091.4	-15.0	37.4	-39.3	1.22	713,960.53	637,393.26
6,932.0	2.29	276.74	6,931.4	3,122.4	-15.0	37.2	-39.1	12.77	713,960.56	637,393.09
KOP = 6932.0 MD: 6931.4 TVD: -14.4 N: 37.2 E										
6,963.0	6.86	276.48	6,962.3	3,153.3	-14.7	34.8	-36.7	14.74	713,960.84	637,390.64
6,994.0	11.43	275.38	6,992.9	3,183.9	-14.2	29.9	-31.8	14.75	713,961.34	637,385.74
7,026.0	15.74	270.75	7,024.0	3,215.0	-13.9	22.4	-24.3	13.88	713,961.69	637,378.24
7,057.0	19.96	269.40	7,053.5	3,244.5	-13.9	12.9	-14.9	13.68	713,961.69	637,368.74
7,088.0	23.57	270.73	7,082.3	3,273.3	-13.9	1.4	-3.6	11.75	713,961.71	637,357.24
7,119.0	27.00	273.14	7,110.3	3,301.3	-13.4	-11.8	9.6	11.55	713,962.18	637,344.02
7,150.0	30.07	276.41	7,137.5	3,328.5	-12.1	-26.6	24.3	11.11	713,963.43	637,329.27
7,182.0	33.41	280.68	7,164.7	3,355.7	-9.6	-43.2	41.2	12.57	713,965.96	637,312.64
7,213.0	36.23	283.26	7,190.2	3,381.2	-5.9	-60.5	58.8	10.26	713,969.64	637,295.33



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 = 18 @ 3809.0usft (Silver Oak 10)
Site:	Marcel "BMM" Federal	MD Reference:	KB = 18 @ 3809.0usft (Silver Oak 10)
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)	
7,244.0	39.57	284.91	7,214.7	3,405.7	-1.3	-79.0	77.8	11.26	713,974.29	637,276.86	
7,275.0	42.56	284.84	7,238.0	3,429.0	3.9	-98.7	98.1	9.65	713,979.51	637,257.18	
7,306.0	46.96	283.87	7,260.0	3,451.0	9.4	-119.8	119.8	14.36	713,984.92	637,236.04	
7,337.0	50.83	282.62	7,280.4	3,471.4	14.7	-142.5	143.1	12.85	713,990.26	637,213.31	
7,368.0	53.46	280.03	7,299.4	3,490.4	19.5	-166.5	167.5	10.75	713,995.06	637,189.31	
7,399.0	56.19	278.17	7,317.3	3,508.3	23.5	-191.6	192.9	10.08	713,999.06	637,164.29	
7,430.0	59.27	277.32	7,333.8	3,524.8	27.0	-217.5	219.1	10.20	714,002.58	637,138.32	
7,461.0	62.87	277.29	7,348.8	3,539.8	30.5	-244.4	246.2	11.61	714,006.03	637,111.42	
7,492.0	66.30	277.47	7,362.1	3,553.1	34.1	-272.2	274.2	11.08	714,009.63	637,083.65	
7,524.0	69.56	278.12	7,374.2	3,565.2	38.1	-301.6	303.8	10.36	714,013.65	637,054.28	
7,555.0	72.02	278.61	7,384.4	3,575.4	42.3	-330.5	333.1	8.07	714,017.91	637,025.32	
7,586.0	74.22	279.59	7,393.4	3,584.4	47.0	-359.8	362.7	7.71	714,022.61	636,996.03	
7,617.0	76.94	281.14	7,401.1	3,592.1	52.4	-389.4	392.7	10.02	714,028.01	636,966.50	
7,648.0	80.46	282.06	7,407.1	3,598.1	58.6	-419.1	423.1	11.72	714,034.12	636,936.73	
7,679.0	83.80	282.56	7,411.4	3,602.4	65.1	-449.1	453.8	10.89	714,040.67	636,906.73	
7,711.0	85.56	283.08	7,414.4	3,605.4	72.2	-480.2	485.6	5.73	714,047.74	636,875.66	
7,743.0	88.37	282.42	7,416.1	3,607.1	79.2	-511.4	517.4	9.02	714,054.79	636,844.50	
7,773.0	91.10	282.06	7,416.2	3,607.2	85.6	-540.7	547.4	9.18	714,061.15	636,815.18	
LP - 7773.0 'MD, 7416.2 'TVD, 86.2 'N, -540.7 'E											
7,804.0	92.07	282.02	7,415.3	3,606.3	92.0	-571.0	578.3	3.13	714,067.61	636,784.88	
7,835.0	92.59	282.09	7,414.1	3,605.1	98.5	-601.3	609.3	1.69	714,074.08	636,754.59	
7,883.0	92.13	280.12	7,412.1	3,603.1	107.8	-648.3	657.2	4.21	714,083.32	636,707.53	
7,976.0	91.74	278.48	7,409.0	3,600.0	122.8	-740.0	750.2	1.81	714,098.34	636,615.81	
8,064.0	91.79	278.23	7,406.2	3,597.2	135.6	-827.1	838.1	0.29	714,111.12	636,528.78	
8,157.0	90.78	278.19	7,404.2	3,595.2	148.8	-919.1	931.1	1.09	714,124.40	636,436.76	
8,246.0	90.92	277.66	7,402.8	3,593.8	161.1	-1,007.2	1,020.0	0.62	714,136.67	636,348.62	
8,340.0	91.10	277.72	7,401.2	3,592.2	173.7	-1,100.4	1,114.0	0.20	714,149.24	636,255.48	



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 = 18 @ 3809 0usft (Silver Oak 10)
Site:	Marcel "BMM" Federal	MD Reference:	KB = 18 @ 3809 0usft (Silver Oak 10)
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)	
8,400.0	91.28	277.81	7,399.9	3,590.9	181.8	-1,159.8	1,174.0	0.34	714,157.35	636,196.04	
8,468.0	91.23	278.64	7,398.4	3,589.4	191.5	-1,227.1	1,241.9	1.22	714,167.07	636,128.76	
8,562.0	89.94	279.26	7,397.5	3,588.5	206.1	-1,319.9	1,335.9	1.52	714,181.70	636,035.91	
8,655.0	90.06	279.23	7,397.5	3,588.5	221.1	-1,411.7	1,428.9	0.13	714,196.64	635,944.12	
8,748.0	89.72	279.92	7,397.7	3,588.7	236.5	-1,503.4	1,521.9	0.83	714,212.11	635,852.41	
8,841.0	89.61	280.53	7,398.2	3,589.2	253.1	-1,595.0	1,614.9	0.67	714,228.62	635,760.89	
8,934.0	89.55	280.79	7,398.9	3,589.9	270.3	-1,686.4	1,707.9	0.29	714,245.82	635,669.50	
9,027.0	89.44	281.06	7,399.7	3,590.7	287.9	-1,777.7	1,800.8	0.31	714,263.44	635,578.19	
9,121.0	89.33	281.44	7,400.7	3,591.7	306.2	-1,869.9	1,894.8	0.42	714,281.78	635,486.00	
9,215.0	89.22	281.00	7,401.9	3,592.9	324.5	-1,962.0	1,988.7	0.48	714,300.07	635,393.81	
9,308.0	90.45	280.40	7,402.2	3,593.2	341.8	-2,053.4	2,081.6	1.47	714,317.34	635,302.42	
9,400.0	91.34	281.29	7,400.7	3,591.7	359.1	-2,143.8	2,173.6	1.37	714,334.64	635,212.08	
9,494.0	90.84	280.97	7,399.0	3,590.0	377.2	-2,236.0	2,267.5	0.63	714,352.79	635,119.87	
9,587.0	91.40	281.27	7,397.1	3,588.1	395.2	-2,327.2	2,360.4	0.68	714,370.72	635,028.63	
9,681.0	92.18	279.51	7,394.2	3,585.2	412.1	-2,419.6	2,454.4	2.05	714,387.66	634,936.22	
9,774.0	91.90	278.19	7,390.9	3,581.9	426.4	-2,511.5	2,547.3	1.45	714,401.96	634,844.39	
9,867.0	91.62	277.93	7,388.0	3,579.0	439.4	-2,603.5	2,640.2	0.41	714,414.99	634,752.35	
9,960.0	90.28	277.41	7,386.5	3,577.5	451.8	-2,695.7	2,733.2	1.55	714,427.40	634,660.20	
10,053.0	89.89	277.41	7,386.4	3,577.4	463.8	-2,787.9	2,826.2	0.42	714,439.40	634,567.97	
10,147.0	89.89	277.53	7,386.5	3,577.5	476.1	-2,881.1	2,920.1	0.13	714,451.62	634,474.77	
10,240.0	89.66	278.42	7,386.9	3,577.9	489.0	-2,973.2	3,013.1	0.99	714,464.52	634,382.67	
10,334.0	89.66	277.60	7,387.5	3,578.5	502.1	-3,066.3	3,107.1	0.87	714,477.62	634,289.59	
10,425.0	89.44	277.78	7,388.2	3,579.2	514.2	-3,156.4	3,198.0	0.31	714,489.80	634,199.41	
10,519.0	89.78	276.86	7,388.8	3,579.8	526.2	-3,249.7	3,292.0	1.04	714,501.77	634,106.18	
10,612.0	90.50	276.75	7,388.6	3,579.6	537.2	-3,342.0	3,384.9	0.78	714,512.79	634,013.84	
10,684.0	90.84	278.17	7,387.7	3,578.7	546.6	-3,413.4	3,456.9	2.03	714,522.14	633,942.46	
10,778.0	92.68	277.27	7,384.9	3,575.9	559.2	-3,506.5	3,550.8	2.18	714,534.76	633,849.36	



Pathfinder
PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company: Yates Petroleum Corp
Project: Eddy County (NAD 83)
Site: Marcel "BMM" Federal
Well: #1H
Wellbore: OH
Design: OH

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

Well #1H
KB = 18 @ 3809.0usft (Silver Oak 10)
KB = 18 @ 3809.0usft (Silver Oak 10)
Grid:
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)	
10,871.0	95.06	276.39	7,378.6	3,569.6	570.2	-3,598.6	3,643.5	2.73	714,545.80	633,757.24	
10,964.0	95.06	277.20	7,370.4	3,561.4	581.2	-3,690.6	3,736.1	0.87	714,556.76	633,665.25	
11,057.0	94.26	277.92	7,362.8	3,553.8	593.4	-3,782.5	3,828.7	1.16	714,568.95	633,573.36	
11,151.0	92.77	278.26	7,357.1	3,548.1	606.6	-3,875.4	3,922.5	1.63	714,582.15	633,480.48	
11,243.0	93.47	278.30	7,352.0	3,543.0	619.8	-3,966.3	4,014.4	0.76	714,595.38	633,389.57	
11,337.0	92.24	280.17	7,347.4	3,538.4	634.9	-4,058.9	4,108.3	2.38	714,610.45	633,296.91	
11,430.0	92.95	280.20	7,343.2	3,534.2	651.3	-4,150.4	4,201.2	0.76	714,626.88	633,205.47	
11,523.0	92.68	281.10	7,338.6	3,529.6	668.5	-4,241.7	4,294.0	1.01	714,644.04	633,114.18	
11,616.0	93.12	280.75	7,333.9	3,524.9	686.1	-4,332.9	4,386.8	0.60	714,661.65	633,022.99	
11,710.0	92.24	280.21	7,329.5	3,520.5	703.2	-4,425.2	4,480.7	1.10	714,678.73	632,930.66	
11,803.0	92.42	280.03	7,325.7	3,516.7	719.5	-4,516.7	4,573.6	0.27	714,695.05	632,839.18	
11,896.0	92.68	280.05	7,321.6	3,512.6	735.7	-4,608.2	4,666.5	0.28	714,711.25	632,747.70	
11,928.0	92.77	279.91	7,320.0	3,511.0	741.2	-4,639.6	4,698.5	0.52	714,716.79	632,716.21	
12,000.0	92.77	279.91	7,316.6	3,507.6	753.6	-4,710.5	4,770.4	0.00	714,729.17	632,645.37	
BHL - 12000.0 'MD, 7316.6 'TVD, 754.2 'N, -4710.5 'E											

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		
		+N/-S (usft)	+E/-W (usft)	Comment
6,932.0	6,931.4	-15.0	37.2	KOP - 6932.0 'MD, 6931.4 'TVD, -14.4 'N, 37.2 'E
7,773.0	7,416.2	85.6	-540.7	LP - 7773.0 'MD, 7416.2 'TVD, 86.2 'N, -540.7 'E
12,000.0	7,316.6	753.6	-4,710.5	BHL - 12000.0 'MD, 7316.6 'TVD, 754.2 'N, -4710.5 'E

Checked By: _____ Approved By: _____ Date: _____



**ATES
PETROLEUM
CORPORATION**

Project Eddy County (NAD 83)
Site: Marcel "BMM" Federal
Well: #1H
Wellbore: OH
Plan: Post Gyro Plan #6

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

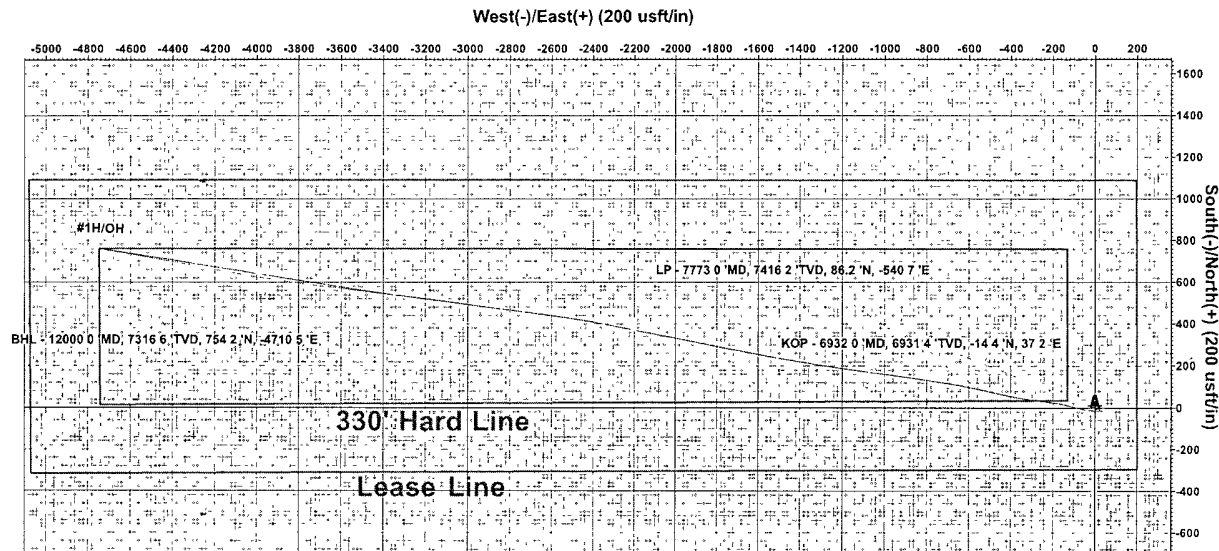
WELL DETAILS #1H

Ground Elevation 3791.0
RKB Elevation KB = 18 @ 3809 Dufft (Silver Oak 10)
Rig Name Silver Oak 10

+N-S	+E-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	713975.565	637355.854	32° 57' 44.404 N	104° 1' 12.978 W	

EOW

Project: Eddy County (NAD 83)
Site: Marcel "BMM" Federal
Well: #1H
Wellbore: OH
Plan: Post Gyro Plan #6 (#1H/OH)

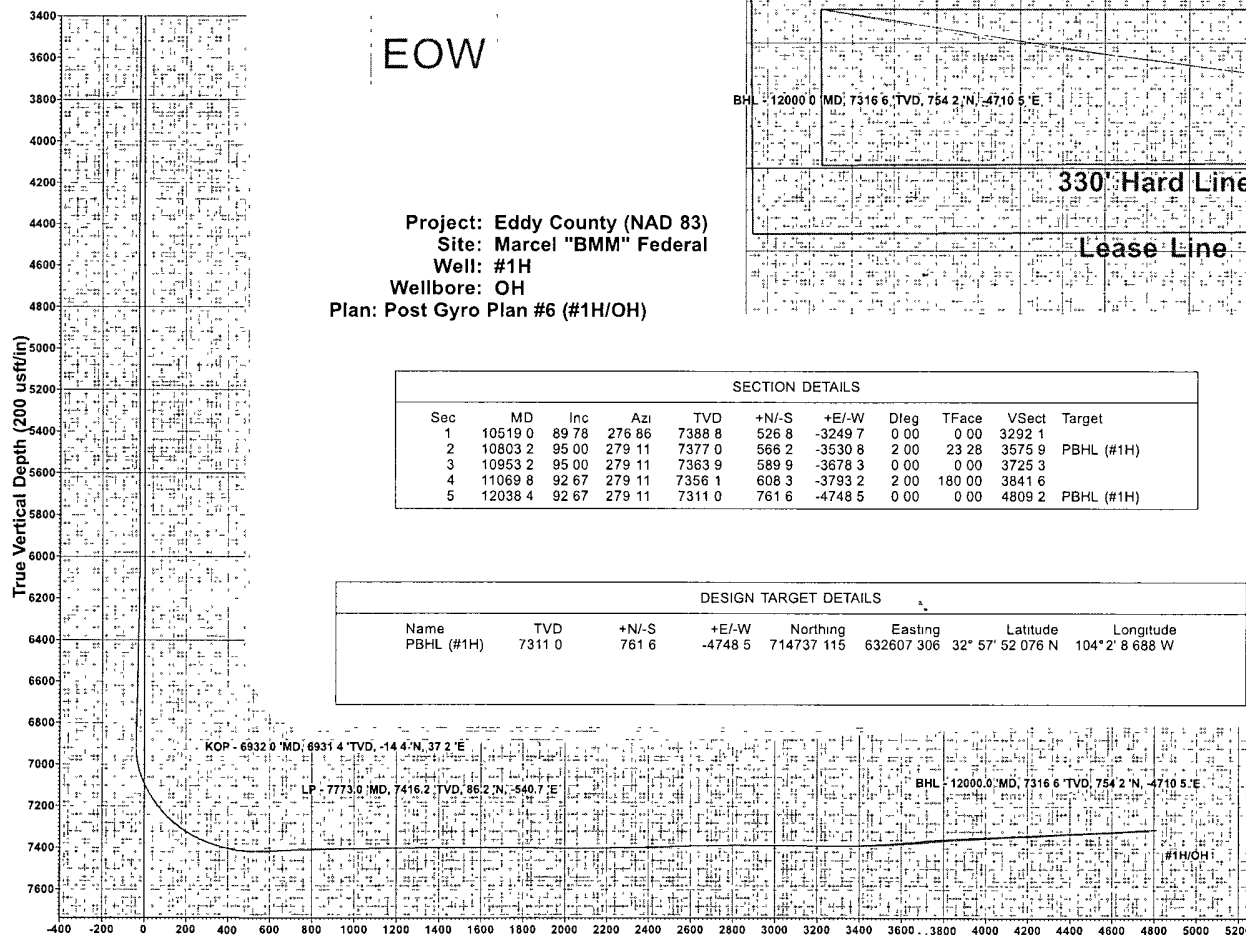


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	Vsect	Target
1	10519.0	89.78	276.86	7388.8	526.8	-3249.7	0.00	0.00	3292.1	
2	10803.2	95.00	279.11	7377.0	566.2	-3530.8	2.00	23.28	3575.9	PBHL (#1H)
3	10953.2	95.00	279.11	7363.9	589.9	-3678.3	0.00	0.00	3725.3	
4	11069.8	92.67	279.11	7356.1	608.3	-3793.2	2.00	180.00	3841.6	
5	12038.4	92.67	279.11	7311.0	761.6	-4748.5	0.00	0.00	4809.2	PBHL (#1H)

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
PBHL (#1H)	7311.0	761.6	-4748.5	714737.115	632607.306	32° 57' 52.076 N	104° 2' 8.688 W



Vertical Section at 279.11° (200 usft/in)



Azimuths to Grid North
True North -0.17°
Magnetic North 7.60°

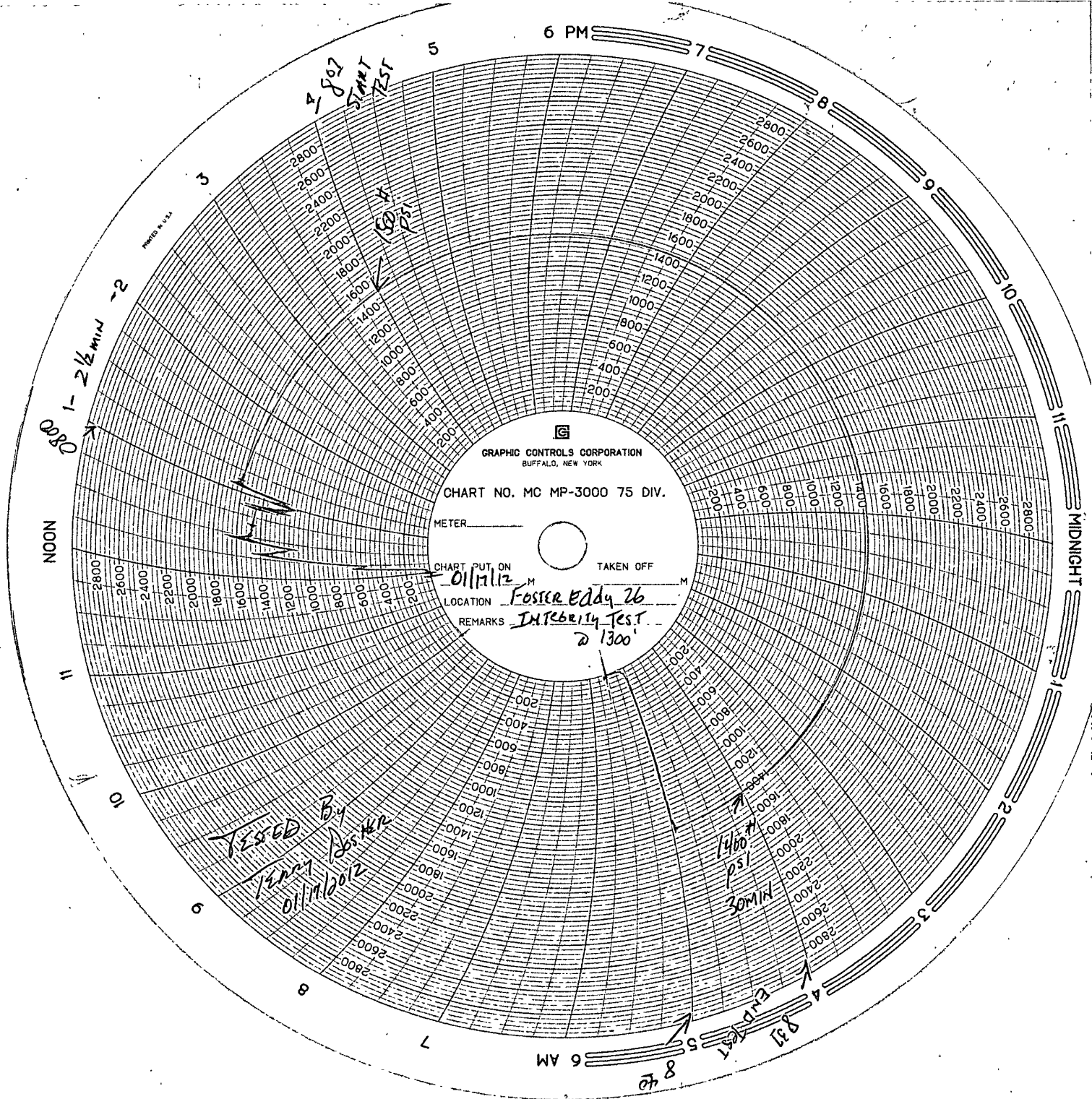
Magnetic Field
Strength 48993.5 nT
Dip Angle 60.80°
Date 12/22/2011
Model IGRF200510

Plan: Post Gyro Plan #6 (#1H/OH)

Created By Sam Biffle Date 8/43, January 23 2012

Checked _____ Date _____

ATES Petroleum Corp.
Eddy County (NAD 83)
Marcel "BMM" Federal
Well: #1H
Post Gyro Plan #6



GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK

CHART NO. MC MP-3000 75 DIV.

METER _____

CHART PUT ON

TAKEN OFF

01/11/02

LOCATION

FOSLER Eddy 26

REMARKS

INTEGRITY TEST

@ 1300'

TESTED BY
TERRY DOSTER
01/11/02

1460 PSI
30 MIN

END TEST

8:40

8:51