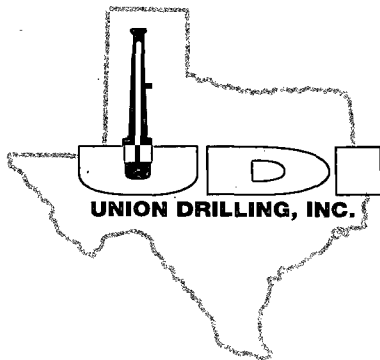


Well Name & Number: Martha "AIK" Federal #9

API Number: 30-015-37512

Location: 810 FSL & 1650 FEL, Lot O Sec. 11, Township 22-S, Range 31-E, Eddy County, New Mexico

Operator: Yates Petroleum Corporation

Drilling Contractor: Union Drilling, Inc.

The undersigned hereby certifies that he is an authorized representative of the drilling Contractor who drilled the above described well and that deviation survey tests were conducted and he obtained the following results:

RECORD OF INCLINATION

*11. Measured Depth (feet)	12. Course Length (Hundreds of feet)	*13. Angle of Inclination (Degrees)	14. Displacement per Hundred Feet (Sine of Angle X100)	15. Course Displacement (feet)	16. Accumulative Displacement (feet)
543	543	.4	0.70	3.79	3.79
1440	897	1.3	2.27	20.35	24.14
2389	949	1.5	2.62	24.84	48.99
3149	760	1.3	2.27	17.24	66.23
4099	950	2.5	4.36	41.45	107.68
4478	379	1.1	1.92	7.28	114.95
7813	3335	4.8	8.38	279.31	394.26
DIRECTIONAL TOOK OVER					

Drilling Contractor: Union Drilling, Inc.

By: Jim Mayfield
Jim Mayfield

Title: Division Manager

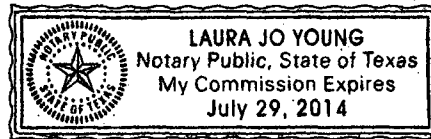
Subscribed and sworn to before me this 14th Day of January, 2013.

Laura Jo Young
Notary Public

My Commission Expires: July 29, 2014

COUNTY OF TAYLOR)

STATE OF TEXAS)





Job Number: SVMO-130007

Company: Yates Petroleum Corporation

Lease/Well: MARTHA AIK FEDERAL 9H

Location: Eddy County, NM

Rig Name: UDI #223

RKB: 27'

G.L. or M.S.L.: GL

State/Country: New Mexico/USA

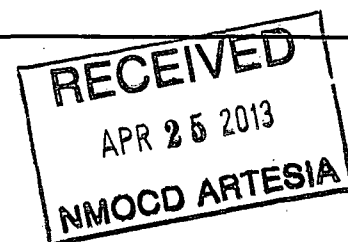
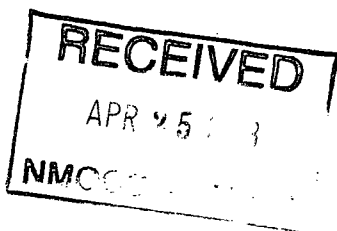
Declination: 7.19°

Grid: East To Grid North

File name: F:\SURVEY\2013SU-1\YATES\MO\MARTHA-1\9H.SVY

Date/Time: 07-Jan-13 / 11:51

Curve Name: Surface - 7690' M.D. (Rate Gyro)



WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 269.61
 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	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
100.00	.05	294.61	100.00	.02	-.04	.04	.04	294.63	.05
200.00	.17	19.24	200.00	.18	-.03	.03	.18	350.21	.17
300.00	.30	52.12	300.00	.48	.23	-.23	.53	25.25	.18
400.00	.24	72.78	400.00	.70	.63	-.64	.94	42.07	.11
500.00	.06	339.82	500.00	.81	.81	-.82	1.15	45.09	.25
600.00	.68	299.52	600.00	1.15	.28	-.29	1.19	13.62	.64
700.00	.72	304.30	699.99	1.80	-.76	.74	1.95	337.21	.07
800.00	.65	284.15	799.98	2.29	-1.83	1.81	2.93	321.47	.25
900.00	.72	271.48	899.97	2.45	-3.00	2.99	3.87	309.17	.17

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	
1000.00	1.13	268.55	999.96	2.44	-4.62	4.60	5.22	297.84	.41
1100.00	1.33	275.87	1099.94	2.53	-6.76	6.74	7.22	290.54	.25
1200.00	1.31	284.24	1199.91	2.93	-9.02	9.00	9.48	288.01	.19
1300.00	1.15	285.08	1299.89	3.47	-11.10	11.07	11.63	287.38	.16
1400.00	1.08	276.97	1399.87	3.85	-13.00	12.97	13.56	286.49	.17
1500.00	1.24	270.00	1499.85	3.96	-15.02	14.99	15.53	284.78	.21
1600.00	1.57	270.84	1599.82	3.98	-17.47	17.44	17.92	282.85	.33
1700.00	1.73	278.48	1699.78	4.23	-20.33	20.30	20.77	281.74	.27
1800.00	1.72	280.59	1799.73	4.72	-23.30	23.27	23.78	281.46	.06
1900.00	1.72	275.88	1899.69	5.15	-26.27	26.23	26.77	281.10	.14
2000.00	1.78	270.46	1999.64	5.32	-29.32	29.28	29.79	280.29	.18
2100.00	1.43	254.08	2099.60	4.99	-32.07	32.03	32.45	278.85	.57
2200.00	1.50	259.62	2199.57	4.41	-34.56	34.52	34.84	277.28	.16
2300.00	1.51	257.62	2299.53	3.89	-37.13	37.10	37.33	275.99	.05
2400.00	1.42	244.22	2399.50	3.07	-39.53	39.51	39.65	274.44	.35
2500.00	1.60	234.54	2499.47	1.72	-41.79	41.77	41.82	272.36	.31
2600.00	1.80	230.92	2599.42	-.08	-44.14	44.14	44.14	269.90	.23
2700.00	1.26	225.89	2699.39	-1.83	-46.15	46.16	46.19	267.73	.56
2800.00	1.17	226.02	2799.36	-3.31	-47.67	47.70	47.79	266.03	.09
2900.00	.99	219.84	2899.35	-4.68	-48.96	48.99	49.19	264.54	.21
3000.00	.99	208.98	2999.33	-6.10	-49.93	49.97	50.31	263.04	.19
3100.00	1.20	203.52	3099.31	-7.81	-50.77	50.82	51.37	261.25	.23
3200.00	1.45	206.75	3199.29	-9.90	-51.76	51.82	52.70	259.17	.26
3300.00	1.78	205.83	3299.25	-12.43	-53.00	53.09	54.44	256.80	.33
3400.00	1.75	209.50	3399.20	-15.16	-54.43	54.53	56.50	254.44	.12
3500.00	1.63	208.08	3499.16	-17.74	-55.85	55.97	58.60	252.38	.13
3600.00	1.22	192.11	3599.13	-20.04	-56.75	56.88	60.18	250.55	.57
3700.00	1.28	182.95	3699.10	-22.19	-57.03	57.18	61.19	248.74	.21
3800.00	1.45	169.36	3799.07	-24.55	-56.85	57.02	61.93	246.64	.36

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	
3900.00	2.31	153.69	3899.02	-27.60	-55.73	55.91	62.19	243.65	.99
4000.00	2.70	151.88	3998.92	-31.49	-53.72	53.93	62.27	239.63	.40
4100.00	2.22	139.28	4098.83	-35.03	-51.35	51.59	62.16	235.70	.72
4200.00	1.57	120.23	4198.78	-37.19	-48.90	49.15	61.44	232.75	.90
4300.00	1.16	107.29	4298.75	-38.18	-46.75	47.01	60.36	230.76	.51
4400.00	1.24	108.05	4398.73	-38.82	-44.76	45.02	59.24	229.07	.08
4500.00	1.34	114.94	4498.70	-39.64	-42.67	42.94	58.24	227.10	.18
4600.00	1.14	129.42	4598.68	-40.77	-40.84	41.11	57.70	225.05	.37
4700.00	.81	135.95	4698.66	-41.91	-39.58	39.86	57.64	223.36	.35
4800.00	.61	128.73	4798.66	-42.75	-38.67	38.96	57.65	222.13	.22
4900.00	.32	116.25	4898.65	-43.21	-38.01	38.30	57.54	221.34	.31
5000.00	.35	93.27	4998.65	-43.35	-37.45	37.74	57.28	220.83	.14
5100.00	.38	102.37	5098.65	-43.44	-36.82	37.12	56.94	220.29	.07
5200.00	.21	93.05	5198.65	-43.52	-36.31	36.61	56.68	219.85	.18
5300.00	.11	145.71	5298.65	-43.61	-36.08	36.37	56.59	219.60	.17
5400.00	.16	250.57	5398.65	-43.73	-36.15	36.45	56.74	219.58	.22
5500.00	.31	335.64	5498.65	-43.53	-36.40	36.69	56.74	219.90	.34
5600.00	.37	21.69	5598.65	-42.98	-36.39	36.68	56.32	220.25	.27
5700.00	.42	44.35	5698.64	-42.42	-36.01	36.30	55.65	220.33	.16
5800.00	.20	60.08	5798.64	-42.07	-35.61	35.89	55.12	220.24	.23
5900.00	.08	72.55	5898.64	-41.97	-35.39	35.67	54.90	220.14	.12
6000.00	.08	236.95	5998.64	-41.98	-35.38	35.67	54.90	220.12	.16
6100.00	.19	291.11	6098.64	-41.96	-35.59	35.88	55.02	220.31	.16
6200.00	.35	318.85	6198.64	-41.67	-35.95	36.23	55.04	220.78	.20
6300.00	.16	336.27	6298.64	-41.31	-36.21	36.49	54.93	221.23	.20
6400.00	.06	64.81	6398.64	-41.16	-36.22	36.50	54.83	221.34	.17
6500.00	.08	99.97	6498.64	-41.15	-36.10	36.38	54.74	221.26	.05
6600.00	.25	218.42	6598.64	-41.34	-36.17	36.45	54.92	221.18	.30
6700.00	.44	246.97	6698.64	-41.66	-36.66	36.94	55.49	221.35	.25

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	
6800.00	.58	266.43	6798.63	-41.84	-37.51	37.80	56.19	221.88	.22
6900.00	.32	255.02	6898.63	-41.94	-38.29	38.57	56.79	222.39	.27
7000.00	.66	248.19	6998.63	-42.23	-39.09	39.38	57.55	222.79	.34
7100.00	.63	275.97	7098.62	-42.39	-40.18	40.46	58.40	223.47	.31
7200.00	.65	239.33	7198.61	-42.62	-41.21	41.50	59.28	224.04	.40
7300.00	.84	252.92	7298.61	-43.12	-42.40	42.69	60.47	224.52	.26
7400.00	.48	276.24	7398.60	-43.29	-43.52	43.81	61.38	225.15	.44
7500.00	.96	249.25	7498.59	-43.54	-44.72	45.01	62.41	225.76	.58
7600.00	1.14	268.53	7598.57	-43.87	-46.49	46.79	63.92	226.67	.39
Last Survey Depth Recorded									
7690.00	.94	263.40	7688.56	-43.97	-48.12	48.42	65.19	227.58	.24



Yates Petroleum

Eddy, NM (NAD-83)

Martha AIK Federal

#9H

OH

Design: Surveys

Standard Survey Report

14 January, 2013



Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #9H
Project:	Eddy, NM (NAD:83)	TVD Reference:	WELL @ 3593.0usft (Union #223)
Site:	Martha AIK Federal	MD Reference:	WELL @ 3593.0usft (Union #223)
Well:	#9H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Houston R5000 Database

Project:		Eddy, NM(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:	Martha AIK Federal				
Site Position:		Northing:	509,750.87 usft	Latitude:	32° 23' 59.928 N
From:	Map	Easting:	724,235.17 usft	Longitude:	103° 44' 26.648 W
Position Uncertainty:	2.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.32 °

Well:	#9H					
Well Position	+N/-S	0.0 usft	Northing:	509,750.87 usft	Latitude:	32° 23' 59.928 N
	+E/-W	0.0 usft	Easting:	724,235.17 usft	Longitude:	103° 44' 26.648 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,568.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	10/26/2012	7.51	60.29	48,566

Design:	Surveys				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	269.61	

Survey Program		Date: 1/14/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	7,690.0	MS Gyro (OH)	Good_gyro	Good Gyro
7,690.0	11,456.7	Crescent MWD (OH)	MWD	MWD - Standard

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.05	294.61	100.0	0.0	0.0	0.0	0.05	0.05	0.00
200.0	0.17	19.24	200.0	0.2	0.0	0.0	0.17	0.12	84.63
300.0	0.30	52.12	300.0	0.5	0.2	-0.2	0.18	0.13	32.88
400.0	0.24	72.78	400.0	0.7	0.6	-0.6	0.11	-0.06	20.66
500.0	0.06	339.82	500.0	0.8	0.8	-0.8	0.25	-0.18	-92.96
600.0	0.68	299.52	600.0	1.2	0.3	-0.3	0.64	0.62	-40.30
700.0	0.72	304.30	700.0	1.8	-0.8	0.7	0.07	0.04	4.78
800.0	0.65	284.15	800.0	2.3	-1.8	1.8	0.25	-0.07	-20.15
900.0	0.72	271.48	900.0	2.4	-3.0	3.0	0.17	0.07	-12.67

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #9H
Project:	Eddy NM (NAD-83)	TVD Reference:	WELL @ 3593.0usft (Union #223)
Site:	Martha AIK Federal	MD Reference:	WELL @ 3593.0usft (Union #223)
Well:	#9H	North Reference:	Grid
Wellbore:	OH	Survey/Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Houston/R5000/Database

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	N-S (usft)	E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,000.0	1.13	268.55	1,000.0	2.4	-4.6	4.6	0.41	0.41	-2.93
1,100.0	1.33	275.87	1,099.9	2.5	-6.8	6.7	0.25	0.20	7.32
1,200.0	1.31	284.24	1,199.9	2.9	-9.0	9.0	0.19	-0.02	8.37
1,300.0	1.15	285.08	1,299.9	3.5	-11.1	11.1	0.16	-0.16	0.84
1,400.0	1.08	276.97	1,399.9	3.8	-13.0	13.0	0.17	-0.07	-8.11
1,500.0	1.24	270.00	1,499.8	4.0	-15.0	15.0	0.21	0.16	-6.97
1,600.0	1.57	270.84	1,599.8	4.0	-17.5	17.4	0.33	0.33	0.84
1,700.0	1.73	278.48	1,699.8	4.2	-20.3	20.3	0.27	0.16	7.64
1,800.0	1.72	280.59	1,799.7	4.7	-23.3	23.3	0.06	-0.01	2.11
1,900.0	1.72	275.88	1,899.7	5.2	-26.3	26.2	0.14	0.00	-4.71
2,000.0	1.78	270.46	1,999.6	5.3	-29.3	29.3	0.18	0.06	-5.42
2,100.0	1.43	254.08	2,099.6	5.0	-32.1	32.0	0.57	-0.35	-16.38
2,200.0	1.50	259.62	2,199.6	4.4	-34.6	34.5	0.16	0.07	5.54
2,300.0	1.51	257.62	2,299.5	3.9	-37.1	37.1	0.05	0.01	-2.00
2,400.0	1.42	244.22	2,399.5	3.1	-39.5	39.5	0.35	-0.09	-13.40
2,500.0	1.60	234.54	2,499.5	1.7	-41.8	41.8	0.31	0.18	-9.68
2,600.0	1.80	230.92	2,599.4	-0.1	-44.1	44.1	0.23	0.20	-3.62
2,700.0	1.26	225.89	2,699.4	-1.8	-46.2	46.2	0.56	-0.54	-5.03
2,800.0	1.17	226.02	2,799.4	-3.3	-47.7	47.7	0.09	-0.09	0.13
2,900.0	0.99	219.84	2,899.3	-4.7	-49.0	49.0	0.21	-0.18	-6.18
3,000.0	0.99	208.98	2,999.3	-6.1	-49.9	50.0	0.19	0.00	-10.86
3,100.0	1.20	203.52	3,099.3	-7.8	-50.8	50.8	0.23	0.21	-5.46
3,200.0	1.45	206.75	3,199.3	-9.9	-51.8	51.8	0.26	0.25	3.23
3,300.0	1.78	205.83	3,299.2	-12.4	-53.0	53.1	0.33	0.33	-0.92
3,400.0	1.75	209.50	3,399.2	-15.2	-54.4	54.5	0.12	-0.03	3.67
3,500.0	1.63	208.08	3,499.1	-17.7	-55.9	56.0	0.13	-0.12	-1.42
3,600.0	1.22	192.11	3,599.1	-20.0	-56.7	56.9	0.57	-0.41	-15.97
3,700.0	1.28	182.95	3,699.1	-22.2	-57.0	57.2	0.21	0.06	-9.16
3,800.0	1.45	169.36	3,799.1	-24.6	-56.9	57.0	0.36	0.17	-13.59
3,900.0	2.31	153.69	3,899.0	-27.6	-55.7	55.9	0.99	0.86	-15.67
4,000.0	2.70	151.88	3,998.9	-31.5	-53.7	53.9	0.40	0.39	-1.81
4,100.0	2.22	139.28	4,098.8	-35.0	-51.3	51.6	0.72	-0.48	-12.60
4,200.0	1.57	120.23	4,198.8	-37.2	-48.9	49.2	0.90	-0.65	-19.05
4,300.0	1.16	107.29	4,298.7	-38.2	-46.8	47.0	0.51	-0.41	-12.94
4,400.0	1.24	108.05	4,398.7	-38.8	-44.8	45.0	0.08	0.08	0.76
4,500.0	1.34	114.94	4,498.7	-39.6	-42.7	42.9	0.18	0.10	6.89
4,600.0	1.14	129.42	4,598.7	-40.8	-40.8	41.1	0.37	-0.20	14.48
4,700.0	0.81	135.95	4,698.7	-41.9	-39.6	39.9	0.35	-0.33	6.53
4,800.0	0.61	128.73	4,798.6	-42.7	-38.7	39.0	0.22	-0.20	-7.22
4,900.0	0.32	116.25	4,898.6	-43.2	-38.0	38.3	0.31	-0.29	-12.48
5,000.0	0.35	93.27	4,998.6	-43.3	-37.4	37.7	0.14	0.03	-22.98
5,100.0	0.38	102.37	5,098.6	-43.4	-36.8	37.1	0.07	0.03	9.10
5,200.0	0.21	93.05	5,198.6	-43.5	-36.3	36.6	0.18	-0.17	-9.32

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #9H
Project:	Eddy NM (NAD-83)	NVD Reference:	WELL @ 13593.0usft (Union #223)
Site:	Martha AIK Federal	MDI Reference:	WELL @ 13593.0usft (Union #223)
Well:	#9H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Houston R5000 Database

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	N/S (usft)	E/W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,300.0	0.11	145.71	5,298.6	-43.6	-36.1	36.4	0.17	-0.10	52.66
5,400.0	0.16	250.57	5,398.6	-43.7	-36.2	36.5	0.22	0.05	104.86
5,500.0	0.31	335.64	5,498.6	-43.5	-36.4	36.7	0.34	0.15	85.07
5,600.0	0.37	21.69	5,598.6	-43.0	-36.4	36.7	0.27	0.06	46.05
5,700.0	0.42	44.35	5,698.6	-42.4	-36.0	36.3	0.16	0.05	22.66
5,800.0	0.20	60.08	5,798.6	-42.1	-35.6	35.9	0.23	-0.22	15.73
5,900.0	0.08	72.55	5,898.6	-42.0	-35.4	35.7	0.12	-0.12	12.47
6,000.0	0.08	236.95	5,998.6	-42.0	-35.4	35.7	0.16	0.00	164.40
6,100.0	0.19	291.11	6,098.6	-42.0	-35.6	35.9	0.16	0.11	54.16
6,200.0	0.35	318.85	6,198.6	-41.7	-36.0	36.2	0.20	0.16	27.74
6,300.0	0.16	336.27	6,298.6	-41.3	-36.2	36.5	0.20	-0.19	17.42
6,400.0	0.06	64.81	6,398.6	-41.2	-36.2	36.5	0.17	-0.10	88.54
6,500.0	0.08	99.97	6,498.6	-41.2	-36.1	36.4	0.05	0.02	35.16
6,600.0	0.25	218.42	6,598.6	-41.3	-36.2	36.4	0.30	0.17	118.45
6,700.0	0.44	246.97	6,698.6	-41.7	-36.7	36.9	0.25	0.19	28.55
6,800.0	0.58	266.43	6,798.6	-41.8	-37.5	37.8	0.22	0.14	19.46
6,900.0	0.32	255.02	6,898.6	-41.9	-38.3	38.6	0.27	-0.26	-11.41
7,000.0	0.66	248.19	6,998.6	-42.2	-39.1	39.4	0.34	0.34	-6.83
7,100.0	0.63	275.97	7,098.6	-42.4	-40.2	40.5	0.31	-0.03	27.78
7,200.0	0.65	239.33	7,198.6	-42.6	-41.2	41.5	0.40	0.02	-36.64
7,300.0	0.84	252.92	7,298.6	-43.1	-42.4	42.7	0.26	0.19	13.59
7,400.0	0.48	276.24	7,398.6	-43.3	-43.5	43.8	0.44	-0.36	23.32
7,500.0	0.96	249.25	7,498.6	-43.5	-44.7	45.0	0.58	0.48	-26.99
7,600.0	1.14	268.53	7,598.6	-43.9	-46.5	46.8	0.39	0.18	19.28
7,690.0	0.94	263.40	7,688.5	-44.0	-48.1	48.4	0.24	-0.22	-5.70
7,718.0	1.10	234.50	7,716.5	-44.2	-48.6	48.9	1.90	0.57	-103.21
7,750.0	1.10	233.60	7,748.5	-44.5	-49.1	49.4	0.05	0.00	-2.81
7,781.0	1.10	239.70	7,779.5	-44.8	-49.6	49.9	0.38	0.00	19.68
7,813.0	4.80	266.30	7,811.5	-45.1	-51.2	51.5	12.03	11.56	83.13
7,845.0	10.40	271.90	7,843.2	-45.1	-55.4	55.7	17.63	17.50	17.50
7,876.0	12.50	271.90	7,873.6	-44.9	-61.5	61.8	6.77	6.77	0.00
7,908.0	15.50	266.50	7,904.6	-45.0	-69.3	69.6	10.22	9.38	-16.88
7,940.0	16.40	265.90	7,935.4	-45.6	-78.0	78.4	2.86	2.81	-1.88
7,972.0	19.20	266.80	7,965.8	-46.2	-87.8	88.1	8.79	8.75	2.81
8,003.0	23.60	267.90	7,994.7	-46.7	-99.1	99.4	14.25	14.19	3.55
8,035.0	27.80	269.10	8,023.5	-47.1	-113.0	113.3	13.22	13.13	3.75
8,067.0	31.70	268.40	8,051.3	-47.4	-128.8	129.2	12.24	12.19	-2.19
8,099.0	35.70	267.90	8,077.9	-48.0	-146.6	146.9	12.53	12.50	-1.56
8,131.0	39.60	267.50	8,103.3	-48.8	-166.1	166.4	12.21	12.19	-1.25
8,163.0	42.20	267.20	8,127.4	-49.8	-187.0	187.4	8.15	8.13	-0.94
8,194.0	45.70	267.50	8,149.8	-50.8	-208.5	208.9	11.31	11.29	0.97
8,226.0	49.40	268.60	8,171.4	-51.6	-232.1	232.5	11.84	11.56	3.44
8,258.0	52.40	270.20	8,191.5	-51.8	-256.9	257.3	10.15	9.38	5.00

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #9H
Project:	Eddy NM (NAD-83)	TVD Reference:	WELL @ 3593.0usft (Union #223)
Site:	Martha AIK Federal	MD Reference:	WELL @ 3593.0usft (Union #223)
Well:	#9H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Houston R5000 Database

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,289.0	54.50	270.50	8,210.0	-51.7	-281.9	282.2	6.82	6.77	0.97
8,321.0	58.40	270.90	8,227.7	-51.3	-308.5	308.9	12.23	12.19	1.25
8,353.0	61.90	270.90	8,243.6	-50.9	-336.3	336.6	10.94	10.94	0.00
8,385.0	66.30	270.20	8,257.6	-50.6	-365.0	365.4	13.89	13.75	-2.19
8,416.0	71.80	269.80	8,268.7	-50.6	-394.0	394.3	17.78	17.74	-1.29
8,448.0	76.20	269.30	8,277.5	-50.9	-424.7	425.1	13.83	13.75	-1.56
8,480.0	80.10	270.00	8,284.0	-51.1	-456.0	456.4	12.37	12.19	2.19
8,513.0	82.00	269.10	8,289.2	-51.3	-488.6	489.0	6.36	5.76	-2.73
8,544.0	83.00	269.30	8,293.2	-51.7	-519.4	519.7	3.29	3.23	0.65
8,576.0	85.50	270.20	8,296.4	-51.9	-551.2	551.5	8.30	7.81	2.81
8,607.0	89.20	270.70	8,297.9	-51.6	-582.2	582.5	12.04	11.94	1.61
8,638.0	92.70	271.40	8,297.3	-51.1	-613.1	613.5	11.51	11.29	2.26
8,670.0	93.10	271.40	8,295.7	-50.3	-645.1	645.4	1.25	1.25	0.00
8,765.0	91.50	272.60	8,291.9	-47.0	-740.0	740.3	2.10	-1.68	1.26
8,861.0	90.10	275.10	8,290.6	-40.5	-835.7	836.0	2.98	-1.46	2.60
8,955.0	90.80	276.70	8,289.8	-30.9	-929.2	929.4	1.86	0.74	1.70
9,049.0	88.30	275.60	8,290.6	-20.8	-1,022.7	1,022.8	2.91	-2.66	-1.17
9,144.0	89.20	276.00	8,292.6	-11.2	-1,117.2	1,117.2	1.04	0.95	0.42
9,239.0	89.60	272.40	8,293.6	-4.2	-1,211.9	1,211.9	3.81	0.42	-3.79
9,334.0	90.30	267.50	8,293.7	-4.3	-1,306.8	1,306.8	5.21	0.74	-5.16
9,428.0	90.30	266.10	8,293.2	-9.6	-1,400.7	1,400.7	1.49	0.00	-1.49
9,522.0	92.40	266.50	8,291.0	-15.6	-1,494.5	1,494.5	2.27	2.23	0.43
9,617.0	91.70	266.10	8,287.6	-21.8	-1,589.2	1,589.3	0.85	-0.74	-0.42
9,711.0	90.80	265.80	8,285.6	-28.4	-1,683.0	1,683.1	1.01	-0.96	-0.32
9,806.0	92.20	266.30	8,283.1	-34.9	-1,777.7	1,777.9	1.56	1.47	0.53
9,901.0	91.00	267.30	8,280.4	-40.2	-1,872.5	1,872.7	1.64	-1.26	1.05
9,996.0	90.30	269.60	8,279.4	-42.8	-1,967.5	1,967.7	2.53	-0.74	2.42
10,091.0	90.10	268.90	8,279.0	-44.1	-2,062.4	2,062.7	0.77	-0.21	-0.74
10,186.0	91.30	270.20	8,277.9	-44.8	-2,157.4	2,157.7	1.86	1.26	1.37
10,281.0	90.80	271.40	8,276.1	-43.5	-2,252.4	2,252.6	1.37	-0.53	1.26
10,375.0	90.80	272.60	8,274.8	-40.2	-2,346.3	2,346.6	1.28	0.00	1.28
10,469.0	89.70	273.00	8,274.4	-35.6	-2,440.2	2,440.4	1.25	-1.17	0.43
10,563.0	89.60	273.30	8,275.0	-30.4	-2,534.1	2,534.2	0.34	-0.11	0.32
10,658.0	89.40	271.60	8,275.8	-26.4	-2,629.0	2,629.1	1.80	-0.21	-1.79
10,753.0	88.70	271.00	8,277.4	-24.2	-2,723.9	2,724.0	0.97	-0.74	-0.63
10,849.0	90.10	271.90	8,278.4	-21.8	-2,819.9	2,820.0	1.73	1.46	0.94
10,944.0	91.50	273.90	8,277.1	-17.0	-2,914.8	2,914.8	2.57	1.47	2.11
11,040.0	88.00	271.70	8,277.5	-12.3	-3,010.6	3,010.6	4.31	-3.65	-2.29
11,135.0	88.20	270.30	8,280.6	-10.6	-3,105.6	3,105.6	1.49	0.21	-1.47
11,231.0	88.20	268.40	8,283.6	-11.7	-3,201.5	3,201.5	1.98	0.00	-1.98
11,325.0	90.30	268.40	8,284.9	-14.4	-3,295.5	3,295.5	2.23	2.23	0.00
11,357.0	92.40	268.80	8,284.1	-15.1	-3,327.4	3,327.5	6.68	6.56	1.25
11,396.0	92.60	268.20	8,282.4	-16.2	-3,366.4	3,366.4	1.62	0.51	-1.54
11,456.7	92.60	268.20	8,279.7	-18.1	-3,427.0	3,427.1	0.00	0.00	0.00

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #9H
Project:	Eddy NM (NAD-83)	TVD Reference:	WELL @ 3593.0usft (Union #223)
Site:	Martha AIK Federal	MD Reference:	WELL @ 3593.0usft (Union #223)
Well:	#9H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Houston R5000 Database

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
TD Projection - 11456.7' MD - 8279.7' TVD - PBHL (M#9H)									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
11,456.7	8,279.7	-18.1	-3,427.0	TD Projection - 11456.7' MD - 8279.7' TVD

Checked By: _____ Approved By: _____ Date: _____