

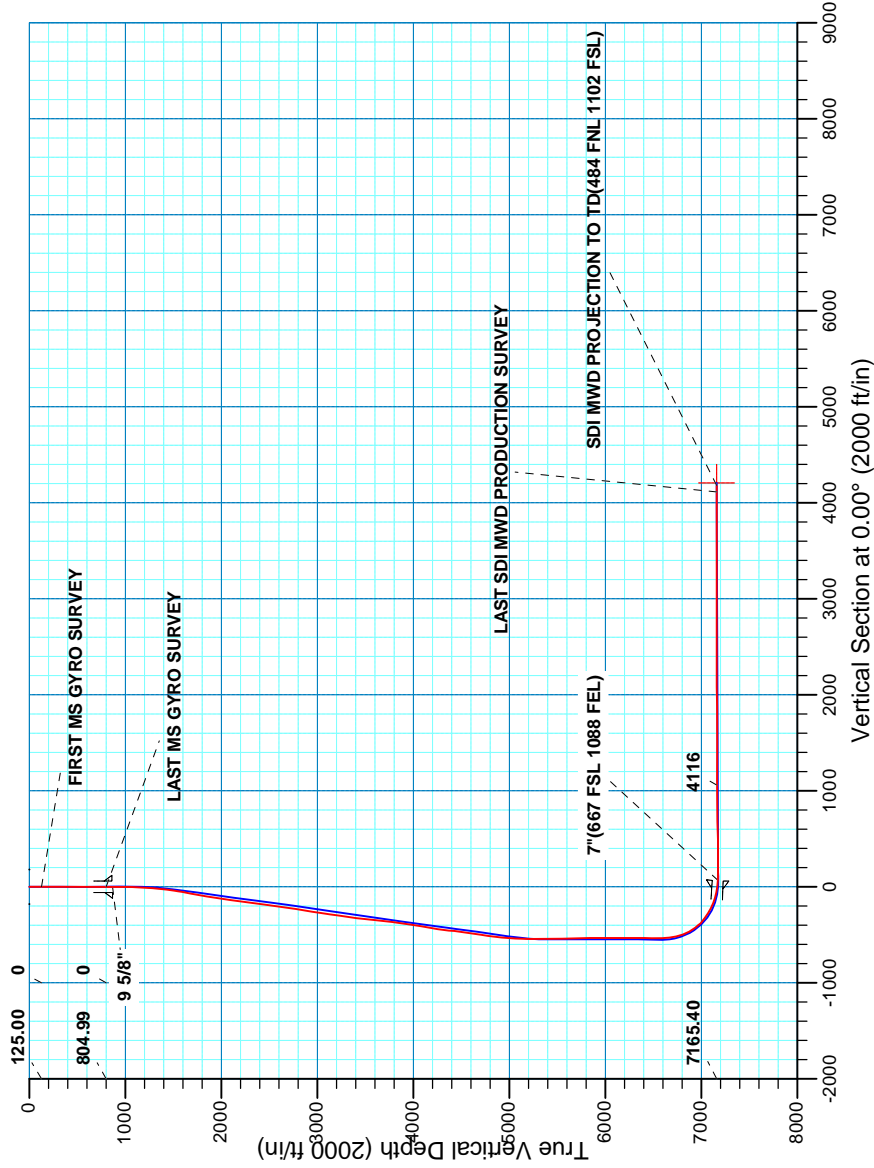
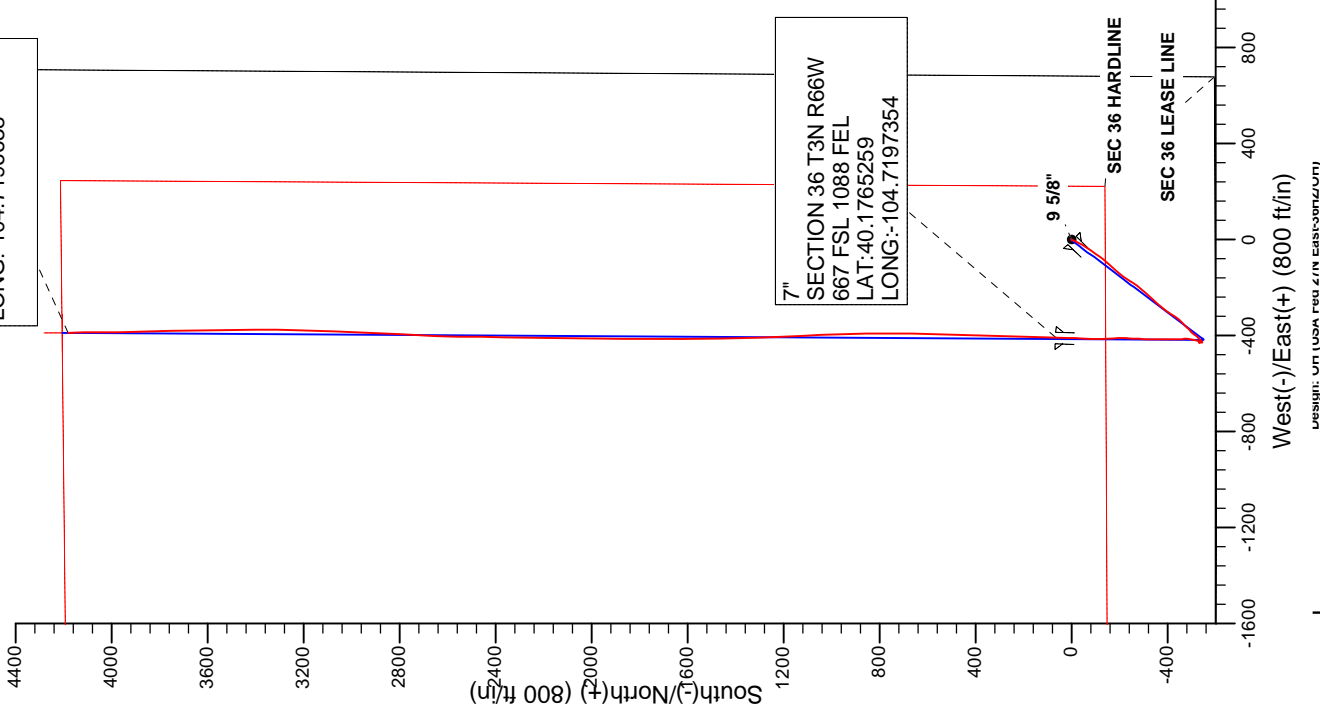


WELL DETAILS: USA Fed 27N East-36HZ					
GL 4985 & KB 25 @ 5010.00ft (HP 311)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1308047.43	3218434.78	40.1763429	-104.7182720

Project: COLORADO NORTHERN ZONE - 83
Site: USA FED 16-36-HZ PAD
Well: USA Fed 27N East-36HZ
Wellbore: OH
Design: OH



BHL
SECTION 36 T3N R66W
460 FNL 1095 FEL
LAT:40.1878227
LONG:-104.7196638





Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

USA FED 16-36-HZ PAD

USA Fed 27N East-36HZ

OH

Design: OH

Standard Survey Report

29 July, 2013

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well USA Fed 27N East-36HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4985 & KB 25 @ 5010.00ft (HP 311)
Site:	USA FED 16-36-HZ PAD	MD Reference:	GL 4985 & KB 25 @ 5010.00ft (HP 311)
Well:	USA Fed 27N East-36HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM5000-RobertS-Local

Project	COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	USA FED 16-36-HZ PAD, SECTION 36 T3N R66W				
Site Position:		Northing:	1,308,056.82 usft	Latitude:	40.1763680
From:	Lat/Long	Easting:	3,218,463.48 usft	Longitude:	-104.7181690
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.51 °

Well	USA Fed 27N East-36HZ, 599' FSL 681' FEL					
Well Position	+N/-S	0.00 ft	Northing:	1,308,047.43 usft	Latitude:	40.1763429
	+E/-W	0.00 ft	Easting:	3,218,434.78 usft	Longitude:	-104.7182720
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,985.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	2013/05/07	8.59	66.80	52,753

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

Survey Program	Date	2013/07/29			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
25.00	805.00	Survey #1 MS GYRO (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s	
962.00	11,705.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI_MWD+CRUST_1.0	SDI MWD + Crustal anomaly, Version 1.0	

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
25.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	
125.00	0.32	248.86	125.00	-0.10	-0.26	-0.10	0.32	0.32	0.00	
FIRST MS GYRO SURVEY										
225.00	0.22	210.74	225.00	-0.37	-0.62	-0.37	0.20	-0.10	-38.12	
325.00	0.27	210.22	325.00	-0.74	-0.84	-0.74	0.05	0.05	-0.52	
425.00	0.27	274.31	425.00	-0.92	-1.19	-0.92	0.29	0.00	64.09	
525.00	0.33	263.14	525.00	-0.94	-1.71	-0.94	0.08	0.06	-11.17	
625.00	0.23	278.13	624.99	-0.94	-2.19	-0.94	0.12	-0.10	14.99	
725.00	0.43	322.93	724.99	-0.62	-2.62	-0.62	0.31	0.20	44.80	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well USA Fed 27N East-36HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4985 & KB 25 @ 5010.00ft (HP 311)
Site:	USA FED 16-36-HZ PAD	MD Reference:	GL 4985 & KB 25 @ 5010.00ft (HP 311)
Well:	USA Fed 27N East-36HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM5000-RobertS-Local

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)	
805.00	0.13	333.59	804.99	-0.30	-2.84	-0.30	0.38	-0.38	13.33	
LAST MS GYRO SURVEY										
868.00	0.15	44.93	867.99	-0.17	-2.81	-0.17	0.26	0.03	113.24	
9 5/8"										
962.00	0.36	75.63	961.99	-0.01	-2.44	-0.01	0.26	0.22	32.66	
FIRST SDI MWD PRODUCTION SURVEY										
1,054.00	1.29	206.22	1,053.98	-0.87	-2.62	-0.87	1.68	1.01	141.95	
1,146.00	2.75	197.40	1,145.92	-3.91	-3.74	-3.91	1.62	1.59	-9.59	
1,236.00	5.41	205.85	1,235.69	-9.79	-6.23	-9.79	3.02	2.96	9.39	
1,327.00	7.03	202.78	1,326.15	-18.78	-10.26	-18.78	1.82	1.78	-3.37	
1,419.00	7.70	204.58	1,417.39	-29.58	-15.00	-29.58	0.77	0.73	1.96	
1,511.00	9.35	211.18	1,508.37	-41.58	-21.44	-41.58	2.08	1.79	7.17	
1,602.00	10.70	211.29	1,597.98	-55.12	-29.65	-55.12	1.48	1.48	0.12	
1,694.00	12.09	215.14	1,688.17	-70.30	-39.63	-70.30	1.72	1.51	4.18	
1,785.00	12.42	215.04	1,777.09	-86.10	-50.74	-86.10	0.36	0.36	-0.11	
1,877.00	12.13	217.43	1,866.99	-101.88	-62.29	-101.88	0.64	-0.32	2.60	
1,969.00	10.52	212.93	1,957.20	-116.61	-72.74	-116.61	2.00	-1.75	-4.89	
2,060.00	10.82	221.05	2,046.63	-130.02	-82.86	-130.02	1.68	0.33	8.92	
2,150.00	9.89	216.12	2,135.16	-142.64	-92.97	-142.64	1.43	-1.03	-5.48	
2,241.00	10.02	223.34	2,224.80	-154.71	-103.01	-154.71	1.38	0.14	7.93	
2,331.00	10.71	222.10	2,313.33	-166.61	-113.99	-166.61	0.81	0.77	-1.38	
2,422.00	9.32	223.72	2,402.94	-178.21	-124.75	-178.21	1.56	-1.53	1.78	
2,514.00	9.70	222.61	2,493.68	-189.29	-135.14	-189.29	0.46	0.41	-1.21	
2,605.00	9.88	220.88	2,583.35	-200.84	-145.44	-200.84	0.38	0.20	-1.90	
2,696.00	9.91	217.07	2,673.00	-212.99	-155.27	-212.99	0.72	0.03	-4.19	
2,788.00	10.24	208.22	2,763.59	-226.51	-163.91	-226.51	1.72	0.36	-9.62	
2,882.00	10.35	212.13	2,856.07	-241.03	-172.36	-241.03	0.75	0.12	4.16	
2,977.00	11.31	211.19	2,949.38	-256.22	-181.72	-256.22	1.03	1.01	-0.99	
3,071.00	11.82	217.05	3,041.47	-271.79	-192.29	-271.79	1.36	0.54	6.23	
3,165.00	11.40	222.14	3,133.55	-286.37	-204.33	-286.37	1.18	-0.45	5.41	
3,260.00	10.51	220.43	3,226.82	-299.92	-216.25	-299.92	1.00	-0.94	-1.80	
3,354.00	10.07	225.15	3,319.31	-312.24	-227.63	-312.24	1.01	-0.47	5.02	
3,448.00	10.75	222.13	3,411.76	-324.54	-239.34	-324.54	0.93	0.72	-3.21	
3,542.00	8.74	222.89	3,504.40	-336.28	-250.08	-336.28	2.14	-2.14	0.81	
3,636.00	8.20	223.56	3,597.38	-346.37	-259.56	-346.37	0.58	-0.57	0.71	
3,730.00	8.68	221.38	3,690.36	-356.55	-268.87	-356.55	0.61	0.51	-2.32	
3,825.00	9.57	219.13	3,784.16	-368.05	-278.59	-368.05	1.01	0.94	-2.37	
3,919.00	9.70	217.81	3,876.83	-380.37	-288.38	-380.37	0.27	0.14	-1.40	
4,013.00	10.61	217.45	3,969.36	-393.50	-298.50	-393.50	0.97	0.97	-0.38	
4,107.00	10.65	213.73	4,061.74	-407.59	-308.58	-407.59	0.73	0.04	-3.96	
4,202.00	11.21	208.89	4,155.02	-422.98	-317.92	-422.98	1.13	0.59	-5.09	
4,296.00	11.32	214.50	4,247.22	-438.58	-327.56	-438.58	1.17	0.12	5.97	
4,390.00	10.21	223.81	4,339.57	-452.20	-338.55	-452.20	2.19	-1.18	9.90	
4,485.00	10.48	228.89	4,433.02	-463.95	-350.89	-463.95	1.00	0.28	5.35	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well USA Fed 27N East-36HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4985 & KB 25 @ 5010.00ft (HP 311)
Site:	USA FED 16-36-HZ PAD	MD Reference:	GL 4985 & KB 25 @ 5010.00ft (HP 311)
Well:	USA Fed 27N East-36HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM5000-RobertS-Local

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)
4,579.00	10.10	227.23	4,525.51	-475.17	-363.38	-475.17	0.51	-0.40	-1.77
4,673.00	10.10	222.63	4,618.06	-486.83	-375.01	-486.83	0.86	0.00	-4.89
4,767.00	10.68	221.35	4,710.52	-499.44	-386.35	-499.44	0.66	0.62	-1.36
4,862.00	9.89	218.15	4,803.99	-512.46	-397.21	-512.46	1.03	-0.83	-3.37
4,956.00	8.52	224.62	4,896.78	-523.77	-407.09	-523.77	1.82	-1.46	6.88
5,051.00	6.58	223.73	4,990.95	-532.71	-415.79	-532.71	2.05	-2.04	-0.94
5,145.00	4.68	223.92	5,084.49	-539.36	-422.18	-539.36	2.02	-2.02	0.20
5,240.00	2.82	241.87	5,179.29	-543.26	-426.92	-543.26	2.29	-1.96	18.89
5,334.00	1.32	286.89	5,273.23	-544.03	-430.00	-544.03	2.24	-1.60	47.89
5,429.00	1.01	4.72	5,368.22	-542.88	-430.98	-542.88	1.56	-0.33	81.93
5,523.00	0.99	1.51	5,462.20	-541.24	-430.89	-541.24	0.06	-0.02	-3.41
5,618.00	1.28	1.43	5,557.18	-539.36	-430.84	-539.36	0.31	0.31	-0.08
5,712.00	1.07	8.63	5,651.16	-537.45	-430.68	-537.45	0.27	-0.22	7.66
5,807.00	1.50	35.30	5,746.14	-535.55	-429.83	-535.55	0.76	0.45	28.07
5,901.00	1.31	350.93	5,840.11	-533.49	-429.29	-533.49	1.14	-0.20	-47.20
5,996.00	1.39	328.51	5,935.09	-531.43	-430.06	-531.43	0.56	0.08	-23.60
6,090.00	0.50	125.73	6,029.08	-530.70	-430.33	-530.70	1.98	-0.95	167.26
6,185.00	0.75	152.57	6,124.07	-531.49	-429.70	-531.49	0.40	0.26	28.25
6,280.00	0.54	182.39	6,219.07	-532.49	-429.43	-532.49	0.41	-0.22	31.39
6,374.00	0.48	238.75	6,313.07	-533.14	-429.79	-533.14	0.52	-0.06	59.96
6,468.00	1.17	115.63	6,407.06	-533.76	-429.26	-533.76	1.58	0.73	-130.98
6,562.00	0.78	135.10	6,501.05	-534.63	-427.94	-534.63	0.54	-0.41	20.71
6,595.00	0.63	144.56	6,534.04	-534.94	-427.68	-534.94	0.57	-0.45	28.67
6,626.00	0.89	103.76	6,565.04	-535.13	-427.35	-535.13	1.88	0.84	-131.61
6,657.00	0.98	41.25	6,596.04	-534.99	-426.94	-534.99	3.14	0.29	-201.65
6,689.00	3.31	19.87	6,628.01	-533.91	-426.44	-533.91	7.57	7.28	-66.81
6,720.00	6.41	16.99	6,658.90	-531.42	-425.63	-531.42	10.03	10.00	-9.29
6,752.00	8.70	17.34	6,690.62	-527.40	-424.39	-527.40	7.16	7.16	1.09
6,783.00	11.61	16.62	6,721.13	-522.17	-422.80	-522.17	9.40	9.39	-2.32
6,815.00	14.80	14.22	6,752.28	-515.12	-420.87	-515.12	10.11	9.97	-7.50
6,846.00	17.87	11.75	6,782.02	-506.62	-418.93	-506.62	10.15	9.90	-7.97
6,878.00	21.18	8.95	6,812.18	-496.10	-417.03	-496.10	10.75	10.34	-8.75
6,909.00	24.14	5.04	6,840.79	-484.25	-415.60	-484.25	10.71	9.55	-12.61
6,940.00	27.85	0.08	6,868.65	-470.69	-415.04	-470.69	13.86	11.97	-16.00
6,972.00	31.92	357.73	6,896.39	-454.76	-415.36	-454.76	13.23	12.72	-7.34
7,003.00	35.58	357.53	6,922.16	-437.55	-416.08	-437.55	11.81	11.81	-0.65
7,034.00	37.66	359.24	6,947.04	-419.07	-416.59	-419.07	7.47	6.71	5.52
7,066.00	40.68	0.57	6,971.85	-398.86	-416.62	-398.86	9.80	9.44	4.16
7,098.00	43.56	1.74	6,995.58	-377.41	-416.18	-377.41	9.33	9.00	3.66
7,129.00	47.83	0.86	7,017.23	-355.23	-415.68	-355.23	13.92	13.77	-2.84
7,160.00	52.99	0.35	7,036.98	-331.35	-415.43	-331.35	16.69	16.65	-1.65
7,192.00	57.24	0.59	7,055.28	-305.11	-415.22	-305.11	13.30	13.28	0.75
7,223.00	59.28	1.75	7,071.58	-278.76	-414.67	-278.76	7.31	6.58	3.74

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well USA Fed 27N East-36HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4985 & KB 25 @ 5010.00ft (HP 311)
Site:	USA FED 16-36-HZ PAD	MD Reference:	GL 4985 & KB 25 @ 5010.00ft (HP 311)
Well:	USA Fed 27N East-36HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM5000-RobertS-Local

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)
7,255.00	60.06	2.09	7,087.74	-251.15	-413.75	-251.15	2.60	2.44	1.06
7,286.00	61.85	1.95	7,102.79	-224.07	-412.79	-224.07	5.79	5.77	-0.45
7,318.00	65.29	359.67	7,117.03	-195.42	-412.40	-195.42	12.50	10.75	-7.13
7,349.00	69.32	358.60	7,128.99	-166.83	-412.83	-166.83	13.38	13.00	-3.45
7,381.00	72.12	358.46	7,139.56	-136.64	-413.61	-136.64	8.76	8.75	-0.44
7,412.00	74.33	359.42	7,148.50	-106.97	-414.16	-106.97	7.72	7.13	3.10
7,444.00	77.14	1.01	7,156.39	-75.96	-414.04	-75.96	10.01	8.78	4.97
7,475.00	79.94	2.01	7,162.55	-45.59	-413.23	-45.59	9.57	9.03	3.23
7,506.00	82.63	1.94	7,167.24	-14.97	-412.18	-14.97	8.68	8.68	-0.23
7,538.00	84.82	2.44	7,170.74	16.82	-410.96	16.82	7.02	6.84	1.56
7,588.00	87.24	2.24	7,174.20	66.65	-408.93	66.65	4.85	4.84	-0.40
7"(667 FSL 1088 FEL)									
7,623.00	88.93	2.10	7,175.37	101.60	-407.60	101.60	4.85	4.84	-0.40
7,718.00	89.60	1.80	7,176.59	196.54	-404.37	196.54	0.77	0.71	-0.32
7,812.00	89.77	1.16	7,177.11	290.51	-401.94	290.51	0.70	0.18	-0.68
7,906.00	90.20	1.04	7,177.13	384.49	-400.14	384.49	0.47	0.46	-0.13
8,000.00	90.80	2.16	7,176.31	478.45	-397.51	478.45	1.35	0.64	1.19
8,095.00	91.88	1.63	7,174.09	573.37	-394.37	573.37	1.27	1.14	-0.56
8,188.00	91.75	0.85	7,171.15	666.30	-392.36	666.30	0.85	-0.14	-0.84
8,283.00	91.31	0.23	7,168.61	761.26	-391.47	761.26	0.80	-0.46	-0.65
8,377.00	90.44	358.81	7,167.18	855.24	-392.25	855.24	1.77	-0.93	-1.51
8,471.00	90.44	358.09	7,166.45	949.20	-394.80	949.20	0.77	0.00	-0.77
8,566.00	90.10	357.60	7,166.01	1,044.14	-398.37	1,044.14	0.63	-0.36	-0.52
8,660.00	89.19	358.02	7,166.59	1,138.06	-401.96	1,138.06	1.07	-0.97	0.45
8,754.00	89.29	357.24	7,167.84	1,231.97	-405.85	1,231.97	0.84	0.11	-0.83
8,848.00	89.73	357.38	7,168.64	1,325.87	-410.26	1,325.87	0.49	0.47	0.15
8,943.00	89.93	359.47	7,168.92	1,420.83	-412.87	1,420.83	2.21	0.21	2.20
9,037.00	90.77	359.23	7,168.35	1,514.82	-413.94	1,514.82	0.93	0.89	-0.26
9,131.00	90.03	358.82	7,167.69	1,608.80	-415.54	1,608.80	0.90	-0.79	-0.44
9,225.00	89.93	0.72	7,167.72	1,702.80	-415.91	1,702.80	2.02	-0.11	2.02
9,320.00	90.03	0.66	7,167.76	1,797.79	-414.77	1,797.79	0.12	0.11	-0.06
9,414.00	90.00	0.83	7,167.73	1,891.78	-413.55	1,891.78	0.18	-0.03	0.18
9,509.00	90.57	0.29	7,167.26	1,986.77	-412.62	1,986.77	0.83	0.60	-0.57
9,603.00	91.85	1.05	7,165.27	2,080.74	-411.52	2,080.74	1.58	1.36	0.81
9,698.00	91.11	0.82	7,162.82	2,175.70	-409.97	2,175.70	0.82	-0.78	-0.24
9,792.00	90.87	0.50	7,161.20	2,269.68	-408.89	2,269.68	0.43	-0.26	-0.34
9,887.00	90.20	0.64	7,160.31	2,364.67	-407.94	2,364.67	0.72	-0.71	0.15
9,981.00	90.67	1.04	7,159.60	2,458.66	-406.56	2,458.66	0.66	0.50	0.43
10,076.00	89.09	1.66	7,159.79	2,553.63	-404.33	2,553.63	1.79	-1.66	0.65
10,170.00	89.19	1.76	7,161.21	2,647.57	-401.52	2,647.57	0.15	0.11	0.11
10,265.00	89.76	3.19	7,162.08	2,742.48	-397.42	2,742.48	1.62	0.60	1.51
10,359.00	90.10	2.39	7,162.19	2,836.37	-392.84	2,836.37	0.92	0.36	-0.85
10,454.00	90.50	2.80	7,161.69	2,931.27	-388.54	2,931.27	0.60	0.42	0.43

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well USA Fed 27N East-36HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4985 & KB 25 @ 5010.00ft (HP 311)
Site:	USA FED 16-36-HZ PAD	MD Reference:	GL 4985 & KB 25 @ 5010.00ft (HP 311)
Well:	USA Fed 27N East-36HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM5000-RobertS-Local

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)	
10,548.00	89.50	1.72	7,161.69	3,025.19	-384.84	3,025.19	1.57	-1.06	-1.15	
10,643.00	89.80	1.87	7,162.27	3,120.14	-381.86	3,120.14	0.35	0.32	0.16	
10,738.00	89.97	2.32	7,162.46	3,215.08	-378.39	3,215.08	0.51	0.18	0.47	
10,832.00	89.97	0.41	7,162.51	3,309.05	-376.15	3,309.05	2.03	0.00	-2.03	
10,926.00	90.84	359.59	7,161.85	3,403.04	-376.15	3,403.04	1.27	0.93	-0.87	
11,020.00	89.63	358.76	7,161.46	3,497.03	-377.50	3,497.03	1.56	-1.29	-0.88	
11,115.00	89.87	358.84	7,161.88	3,592.01	-379.49	3,592.01	0.27	0.25	0.08	
11,209.00	90.44	359.92	7,161.62	3,686.00	-380.51	3,686.00	1.30	0.61	1.15	
11,303.00	88.96	358.96	7,162.12	3,779.99	-381.43	3,779.99	1.88	-1.57	-1.02	
11,398.00	89.16	358.37	7,163.67	3,874.95	-383.64	3,874.95	0.66	0.21	-0.62	
11,492.00	89.60	359.15	7,164.69	3,968.92	-385.67	3,968.92	0.95	0.47	0.83	
11,586.00	89.80	359.14	7,165.18	4,062.91	-387.08	4,062.91	0.21	0.21	-0.01	
11,639.00	89.73	359.14	7,165.40	4,115.91	-387.87	4,115.91	0.13	-0.13	0.00	
LAST SDI MWD PRODUCTION SURVEY										
11,705.00	89.73	359.14	7,165.71	4,181.90	-388.86	4,181.90	0.00	0.00	0.00	
SDI MWD PROJECTION TO TD(484 FNL 1102 FSL)										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
868.00	867.99	9 5/8"	9.625	12.250	
7,588.00	7,174.20	7"(667 FSL 1088 FEL)	7.000	7.500	

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
125.00	125.00	-0.10	-0.26	FIRST MS GYRO SURVEY	
805.00	804.99	-0.30	-2.84	LAST MS GYRO SURVEY	
962.00	961.99	-0.01	-2.44	FIRST SDI MWD PRODUCTION SURVEY	
11,639.00	7,165.40	4,115.91	-387.87	LAST SDI MWD PRODUCTION SURVEY	
11,705.00	7,165.71	4,181.90	-388.86	SDI MWD PROJECTION TO TD(484 FNL 1102 FSL)	

Checked By: _____ Approved By: _____ Date: _____