

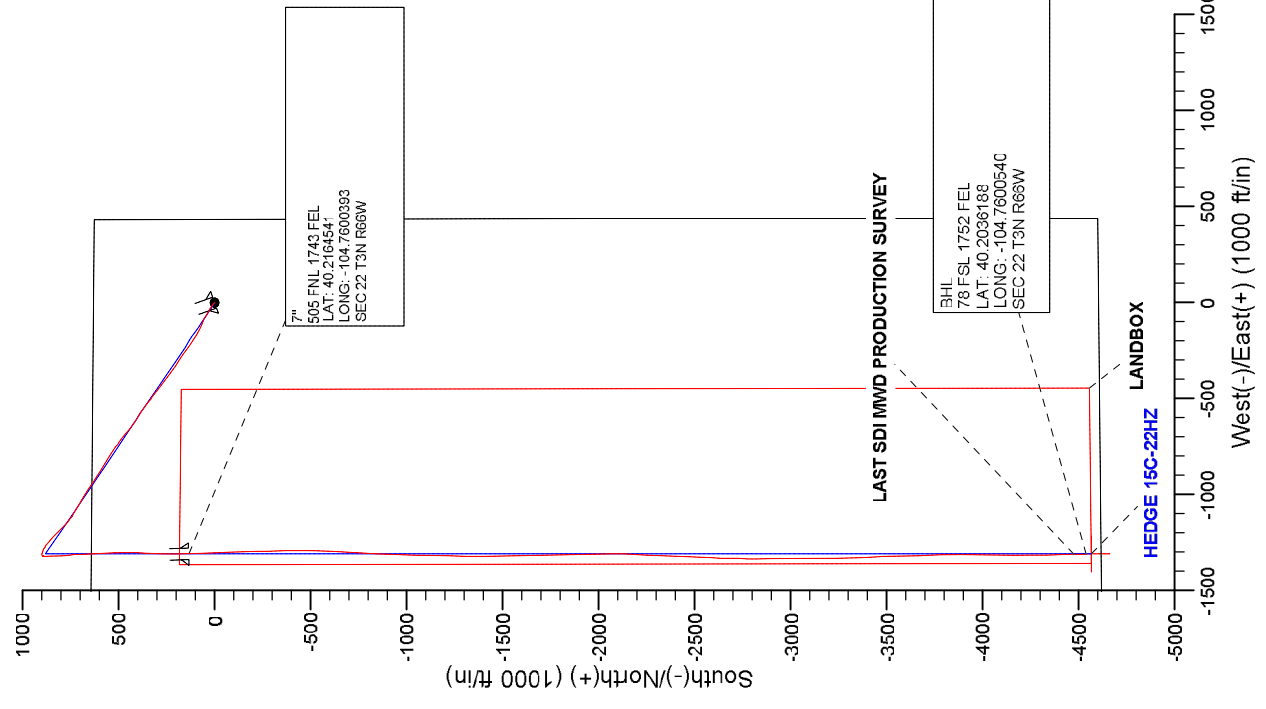
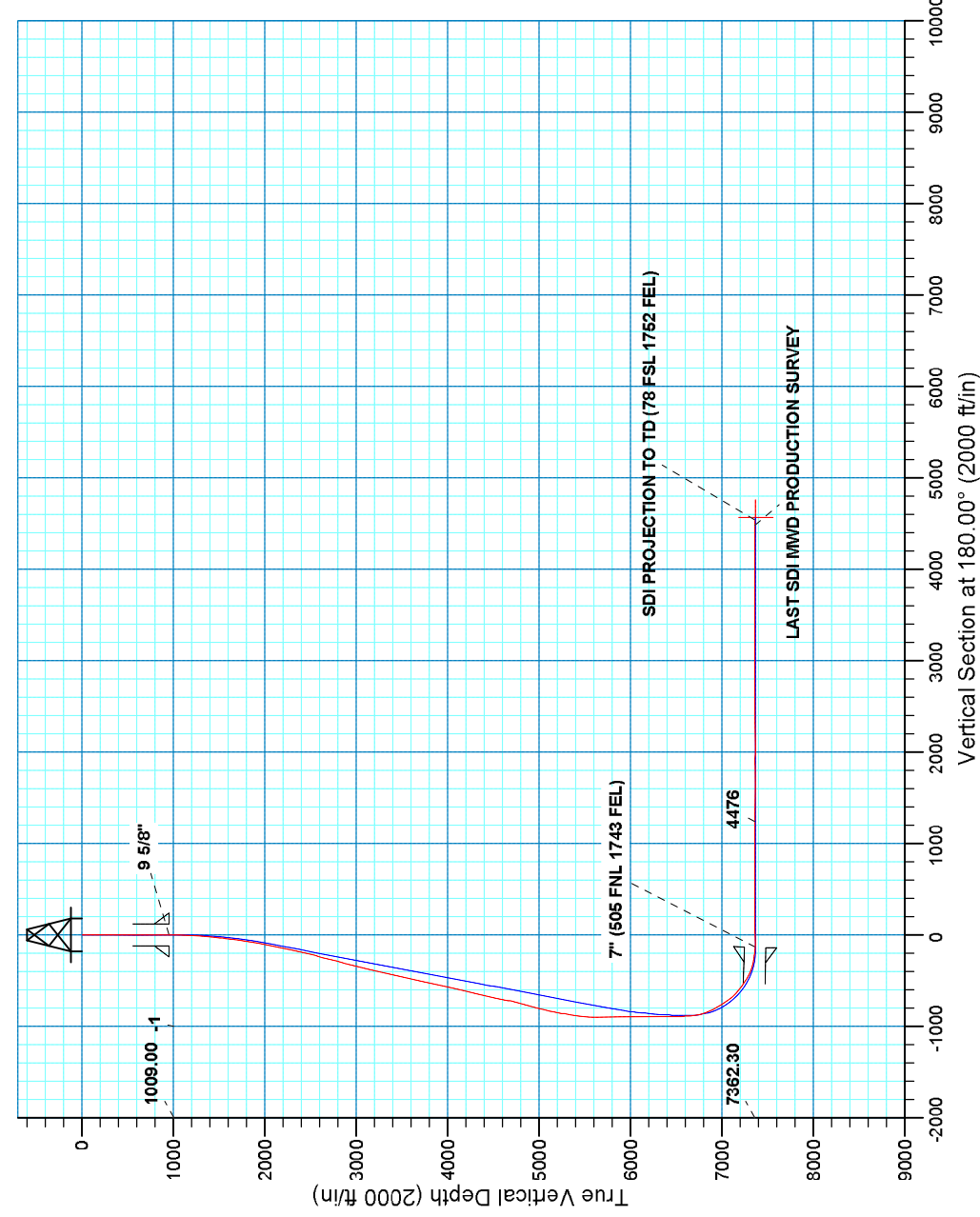


Project: COLORADO NORTHERN ZONE - 83
 Site: HEDGE 1-22HZ PAD
 Well: HEDGE 15C-22HZ
 Wellbore: OH
 Design: OH



WELL DETAILS: HEDGE 15C-22HZ			
GL 4905 & KB 25 @ 4930.00R (HP 311)			
+N/-S	+E/-W	Northing	Eastng
0.00	0.00	1322433.98	3207951.53
Latitude	Longitude		
40.2160819	-104.7553550		

CASING DETAILS	
TVD	Name Size
955.00	9 5/8" 9.625
7366.06	7" 7.000





Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

HEDGE 1-22HZ PAD

HEDGE 15C-22HZ

OH

Design: OH

Standard Survey Report

25 September, 2013



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well HEDGE 15C-22HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4905 & KB 25 @ 4930.00ft (HP 311)
Site:	HEDGE 1-22HZ PAD	MD Reference:	GL 4905 & KB 25 @ 4930.00ft (HP 311)
Well:	HEDGE 15C-22HZ	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	HEDGE 1-22HZ PAD, NENE SECTION 22 T3N R66W				
Site Position:		Northing:	1,322,434.03 usft	Latitude:	40.2160800
From:	Lat/Long	Easting:	3,208,041.18 usft	Longitude:	-104.7550340
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.48 °

Well	HEDGE 15C-22HZ					
Well Position	+N/-S	0.00 ft	Northing:	1,322,433.98 usft	Latitude:	40.2160819
	+E/-W	0.00 ft	Easting:	3,207,951.53 usft	Longitude:	-104.7553550
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,905.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	07/29/13	8.59	66.82	52,743

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	180.00	

Survey Program	Date	09/25/13			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
25.00	895.00	Survey #1 MS GYRO (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s	
1,009.00	12,753.00	Survey #2 SDI MWD PRODUCTION (OH)	MWD+IFR+MS	MWD + IFR + Multi Station	

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	0.00
25.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125.00	0.11	27.15	125.00	0.09	0.04	-0.09	0.11	0.11	0.00	0.00
225.00	0.11	105.99	225.00	0.14	0.18	-0.14	0.14	0.00	0.00	78.84
325.00	0.12	171.93	325.00	0.01	0.29	-0.01	0.13	0.01	0.01	65.94
425.00	0.19	349.12	425.00	0.07	0.27	-0.07	0.31	0.07	0.07	177.19
525.00	0.25	351.63	525.00	0.45	0.21	-0.45	0.06	0.06	0.06	2.51
625.00	0.16	306.59	625.00	0.75	0.06	-0.75	0.18	-0.09	-0.09	-45.04
725.00	0.14	75.31	725.00	0.87	0.07	-0.87	0.27	-0.02	-0.02	128.72
825.00	0.05	143.46	825.00	0.86	0.21	-0.86	0.13	-0.09	-0.09	68.15

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well HEDGE 15C-22HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4905 & KB 25 @ 4930.00ft (HP 311)
Site:	HEDGE 1-22HZ PAD	MD Reference:	GL 4905 & KB 25 @ 4930.00ft (HP 311)
Well:	HEDGE 15C-22HZ	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)	
895.00	0.21	166.47	895.00	0.71	0.26	-0.71	0.24	0.23	32.87	
955.00	0.05	159.82	955.00	0.58	0.30	-0.58	0.26	-0.26	-11.08	
9 5/8"										
1,009.00	0.09	353.89	1,009.00	0.60	0.30	-0.60	0.26	0.07	-307.29	
FIRST SDI MWD PRODUCTION SURVEY										
1,058.00	0.11	129.00	1,058.00	0.61	0.33	-0.61	0.38	0.04	275.73	
1,241.00	5.89	308.59	1,240.68	6.36	-6.88	-6.36	3.28	3.16	98.14	
1,332.00	8.82	310.52	1,330.92	13.80	-15.83	-13.80	3.23	3.22	2.12	
1,423.00	9.82	302.59	1,420.72	22.52	-27.67	-22.52	1.79	1.10	-8.71	
1,514.00	11.99	300.48	1,510.08	31.49	-42.36	-31.49	2.42	2.38	-2.32	
1,604.00	14.57	300.20	1,597.66	41.93	-60.20	-41.93	2.87	2.87	-0.31	
1,695.00	16.29	297.69	1,685.38	53.62	-81.40	-53.62	2.03	1.89	-2.76	
1,786.00	18.19	292.19	1,772.29	64.92	-105.85	-64.92	2.75	2.09	-6.04	
1,878.00	19.34	295.83	1,859.40	76.98	-132.86	-76.98	1.78	1.25	3.96	
1,970.00	20.68	300.66	1,945.85	91.90	-160.55	-91.90	2.31	1.46	5.25	
2,061.00	19.79	301.77	2,031.24	108.21	-187.47	-108.21	1.07	-0.98	1.22	
2,152.00	20.52	303.17	2,116.67	125.05	-213.92	-125.05	0.96	0.80	1.54	
2,244.00	21.52	307.29	2,202.55	144.09	-240.85	-144.09	1.94	1.09	4.48	
2,336.00	22.81	307.04	2,287.75	165.06	-268.51	-165.06	1.41	1.40	-0.27	
2,428.00	21.51	302.12	2,372.96	184.77	-297.03	-184.77	2.46	-1.41	-5.35	
2,519.00	21.80	303.60	2,457.53	202.99	-325.23	-202.99	0.68	0.32	1.63	
2,610.00	23.49	304.57	2,541.52	222.63	-354.24	-222.63	1.90	1.86	1.07	
2,702.00	24.14	307.96	2,625.69	244.61	-384.17	-244.61	1.65	0.71	3.68	
2,793.00	23.61	304.96	2,708.90	266.50	-413.78	-266.50	1.46	-0.58	-3.30	
2,888.00	23.67	310.37	2,795.94	289.76	-443.91	-289.76	2.28	0.06	5.69	
2,982.00	23.34	307.48	2,882.14	313.31	-473.06	-313.31	1.28	-0.35	-3.07	
3,077.00	23.02	305.02	2,969.48	335.42	-503.21	-335.42	1.07	-0.34	-2.59	
3,171.00	23.50	305.98	3,055.84	356.98	-533.42	-356.98	0.65	0.51	1.02	
3,265.00	22.34	304.98	3,142.41	378.23	-563.23	-378.23	1.30	-1.23	-1.06	
3,359.00	21.82	301.36	3,229.52	397.57	-592.79	-397.57	1.55	-0.55	-3.85	
3,454.00	21.42	302.86	3,317.84	416.17	-622.43	-416.17	0.72	-0.42	1.58	
3,548.00	21.17	309.45	3,405.44	436.27	-649.96	-436.27	2.56	-0.27	7.01	
3,642.00	18.86	310.46	3,493.75	456.91	-674.63	-456.91	2.48	-2.46	1.07	
3,736.00	20.03	307.93	3,582.39	476.67	-698.89	-476.67	1.53	1.24	-2.69	
3,831.00	20.01	308.14	3,671.65	496.71	-724.51	-496.71	0.08	-0.02	0.22	
3,926.00	21.13	304.81	3,760.60	516.52	-751.35	-516.52	1.70	1.18	-3.51	
4,020.00	20.50	305.65	3,848.46	535.79	-778.64	-535.79	0.74	-0.67	0.89	
4,114.00	22.07	301.40	3,936.05	554.58	-807.09	-554.58	2.34	1.67	-4.52	
4,208.00	24.66	298.53	4,022.34	573.16	-839.40	-573.16	3.01	2.76	-3.05	
4,302.00	25.34	304.39	4,107.54	593.89	-873.23	-593.89	2.73	0.72	6.23	
4,396.00	24.47	302.48	4,192.80	615.70	-906.26	-615.70	1.26	-0.93	-2.03	
4,491.00	22.23	301.71	4,280.02	635.72	-938.15	-635.72	2.38	-2.36	-0.81	
4,585.00	21.07	304.63	4,367.39	654.67	-967.18	-654.67	1.68	-1.23	3.11	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well HEDGE 15C-22HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4905 & KB 25 @ 4930.00ft (HP 311)
Site:	HEDGE 1-22HZ PAD	MD Reference:	GL 4905 & KB 25 @ 4930.00ft (HP 311)
Well:	HEDGE 15C-22HZ	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)	
4,680.00	21.96	302.85	4,455.77	674.01	-996.15	-674.01	1.16	0.94	-1.87	
4,774.00	23.16	301.53	4,542.57	693.21	-1,026.68	-693.21	1.39	1.28	-1.40	
4,868.00	22.09	297.70	4,629.34	711.09	-1,058.08	-711.09	1.94	-1.14	-4.07	
4,963.00	23.44	301.75	4,716.95	729.34	-1,089.97	-729.34	2.18	1.42	4.26	
5,057.00	24.04	307.18	4,803.00	750.75	-1,121.13	-750.75	2.41	0.64	5.78	
5,152.00	22.39	313.23	4,890.32	774.84	-1,149.73	-774.84	3.05	-1.74	6.37	
5,246.00	19.81	315.54	4,978.01	798.48	-1,173.94	-798.48	2.88	-2.74	2.46	
5,341.00	18.19	315.07	5,067.83	820.47	-1,195.69	-820.47	1.71	-1.71	-0.49	
5,435.00	16.86	311.33	5,157.47	839.86	-1,216.29	-839.86	1.85	-1.41	-3.98	
5,529.00	16.31	310.14	5,247.56	857.37	-1,236.61	-857.37	0.69	-0.59	-1.27	
5,624.00	14.33	307.73	5,339.18	873.17	-1,256.11	-873.17	2.19	-2.08	-2.54	
5,718.00	12.90	306.42	5,430.54	886.52	-1,273.76	-886.52	1.56	-1.52	-1.39	
5,812.00	11.04	288.63	5,522.52	895.62	-1,290.74	-895.62	4.37	-1.98	-18.93	
5,907.00	6.50	284.54	5,616.39	899.88	-1,304.57	-899.88	4.82	-4.78	-4.31	
6,001.00	4.68	269.17	5,709.94	901.16	-1,313.55	-901.16	2.49	-1.94	-16.35	
6,096.00	4.13	221.85	5,804.69	898.56	-1,319.71	-898.56	3.76	-0.58	-49.81	
6,190.00	1.25	129.99	5,898.60	895.38	-1,321.19	-895.38	4.63	-3.06	-97.72	
6,285.00	1.15	91.51	5,993.58	894.68	-1,319.44	-894.68	0.84	-0.11	-40.51	
6,473.00	0.29	196.98	6,181.57	894.18	-1,317.69	-894.18	0.67	-0.46	56.10	
6,662.00	0.76	220.99	6,370.56	892.78	-1,318.65	-892.78	0.27	0.25	12.70	
6,820.00	0.98	237.90	6,528.54	891.27	-1,320.49	-891.27	0.21	0.14	10.70	
6,851.00	0.98	244.17	6,559.54	891.01	-1,320.95	-891.01	0.35	0.00	20.23	
6,898.00	2.64	191.76	6,606.51	889.78	-1,321.53	-889.78	4.65	3.53	-111.51	
6,946.00	4.85	184.16	6,654.41	886.67	-1,321.90	-886.67	4.71	4.60	-15.83	
6,993.00	8.73	175.18	6,701.07	881.13	-1,321.75	-881.13	8.53	8.26	-19.11	
7,040.00	12.72	177.67	6,747.24	872.40	-1,321.24	-872.40	8.54	8.49	5.30	
7,087.00	17.84	179.38	6,792.57	860.03	-1,320.95	-860.03	10.93	10.89	3.64	
7,134.00	21.31	180.64	6,836.84	844.28	-1,320.97	-844.28	7.44	7.38	2.68	
7,181.00	24.78	179.25	6,880.09	825.89	-1,320.93	-825.89	7.47	7.38	-2.96	
7,229.00	29.00	177.69	6,922.89	804.19	-1,320.33	-804.19	8.91	8.79	-3.25	
7,276.00	31.52	173.60	6,963.48	780.59	-1,318.50	-780.59	6.92	5.36	-8.70	
7,323.00	31.27	174.26	7,003.60	756.25	-1,315.91	-756.25	0.90	-0.53	1.40	
7,370.00	33.46	175.82	7,043.30	731.18	-1,313.75	-731.18	4.99	4.66	3.32	
7,417.00	36.71	176.63	7,081.76	704.23	-1,311.98	-704.23	6.99	6.91	1.72	
7,464.00	40.82	176.45	7,118.39	674.86	-1,310.20	-674.86	8.75	8.74	-0.38	
7,511.00	45.46	175.66	7,152.68	642.81	-1,307.98	-642.81	9.94	9.87	-1.68	
7,558.00	49.17	177.16	7,184.54	608.34	-1,305.83	-608.34	8.23	7.89	3.19	
7,606.00	52.99	177.48	7,214.69	571.04	-1,304.09	-571.04	7.98	7.96	0.67	
7,653.00	56.58	178.00	7,241.79	532.68	-1,302.58	-532.68	7.69	7.64	1.11	
7,700.00	59.21	179.44	7,266.77	492.88	-1,301.70	-492.88	6.17	5.60	3.06	
7,747.00	61.94	181.18	7,289.86	451.95	-1,301.93	-451.95	6.64	5.81	3.70	
7,794.00	67.39	182.89	7,309.96	409.52	-1,303.45	-409.52	12.05	11.60	3.64	
7,841.00	72.65	182.30	7,326.02	365.41	-1,305.44	-365.41	11.25	11.19	-1.26	
7,888.00	76.03	181.30	7,338.70	320.18	-1,306.86	-320.18	7.48	7.19	-2.13	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well HEDGE 15C-22HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4905 & KB 25 @ 4930.00ft (HP 311)
Site:	HEDGE 1-22HZ PAD	MD Reference:	GL 4905 & KB 25 @ 4930.00ft (HP 311)
Well:	HEDGE 15C-22HZ	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)
7,935.00	77.91	180.59	7,349.30	274.40	-1,307.62	-274.40	4.26	4.00	-1.51
7,983.00	81.24	180.66	7,357.98	227.20	-1,308.13	-227.20	6.94	6.94	0.15
8,019.00	84.35	180.29	7,362.50	191.49	-1,308.43	-191.49	8.70	8.64	-1.03
8,075.00	88.34	179.20	7,366.06	135.62	-1,308.18	-135.62	7.39	7.13	-1.95
7" (505 FNL 1743 FEL)									
8,110.00	90.84	178.52	7,366.31	100.63	-1,307.48	-100.63	7.39	7.13	-1.94
8,205.00	91.58	177.34	7,364.31	5.71	-1,304.05	-5.71	1.47	0.78	-1.24
8,299.00	91.58	177.67	7,361.71	-88.16	-1,299.96	88.16	0.35	0.00	0.35
8,393.00	90.34	179.36	7,360.14	-182.11	-1,297.52	182.11	2.23	-1.32	1.80
8,488.00	89.66	177.74	7,360.14	-277.08	-1,295.12	277.08	1.85	-0.72	-1.71
8,582.00	89.19	178.61	7,361.08	-371.02	-1,292.13	371.02	1.05	-0.50	0.93
8,676.00	89.83	180.07	7,361.89	-465.01	-1,291.04	465.01	1.70	0.68	1.55
8,771.00	90.47	182.35	7,361.64	-559.98	-1,293.05	559.98	2.49	0.67	2.40
8,865.00	90.60	182.90	7,360.76	-653.88	-1,297.35	653.88	0.60	0.14	0.59
8,959.00	88.79	183.48	7,361.26	-747.73	-1,302.59	747.73	2.02	-1.93	0.62
9,053.00	88.19	182.32	7,363.74	-841.57	-1,307.34	841.57	1.39	-0.64	-1.23
9,147.00	89.76	182.04	7,365.42	-935.49	-1,310.91	935.49	1.70	1.67	-0.30
9,242.00	90.13	181.73	7,365.51	-1,030.44	-1,314.04	1,030.44	0.51	0.39	-0.33
9,336.00	89.97	181.37	7,365.43	-1,124.40	-1,316.58	1,124.40	0.42	-0.17	-0.38
9,430.00	90.44	181.38	7,365.09	-1,218.37	-1,318.84	1,218.37	0.50	0.50	0.01
9,524.00	90.07	180.47	7,364.67	-1,312.36	-1,320.35	1,312.36	1.05	-0.39	-0.97
9,618.00	89.56	179.81	7,364.98	-1,406.36	-1,320.58	1,406.36	0.89	-0.54	-0.70
9,713.00	89.29	179.03	7,365.93	-1,501.35	-1,319.62	1,501.35	0.87	-0.28	-0.82
9,807.00	89.46	178.52	7,366.96	-1,595.32	-1,317.61	1,595.32	0.57	0.18	-0.54
9,901.00	90.34	179.01	7,367.12	-1,689.30	-1,315.59	1,689.30	1.07	0.94	0.52
9,996.00	90.30	178.05	7,366.59	-1,784.26	-1,313.15	1,784.26	1.01	-0.04	-1.01
10,090.00	90.60	179.07	7,365.85	-1,878.23	-1,310.79	1,878.23	1.13	0.32	1.09
10,185.00	88.72	178.84	7,366.41	-1,973.21	-1,309.06	1,973.21	1.99	-1.98	-0.24
10,279.00	90.24	180.11	7,367.27	-2,067.19	-1,308.19	2,067.19	2.11	1.62	1.35
10,374.00	91.38	182.51	7,365.92	-2,162.15	-1,310.37	2,162.15	2.80	1.20	2.53
10,468.00	90.71	183.29	7,364.21	-2,256.01	-1,315.12	2,256.01	1.09	-0.71	0.83
10,563.00	91.07	182.18	7,362.73	-2,350.89	-1,319.65	2,350.89	1.23	0.38	-1.17
10,657.00	90.03	182.01	7,361.83	-2,444.82	-1,323.09	2,444.82	1.12	-1.11	-0.18
10,752.00	90.17	182.98	7,361.67	-2,539.73	-1,327.22	2,539.73	1.03	0.15	1.02
10,847.00	90.64	181.67	7,361.00	-2,634.65	-1,331.08	2,634.65	1.46	0.49	-1.38
10,941.00	89.93	181.26	7,360.53	-2,728.62	-1,333.48	2,728.62	0.87	-0.76	-0.44
11,036.00	89.73	179.92	7,360.81	-2,823.61	-1,334.46	2,823.61	1.43	-0.21	-1.41
11,130.00	89.83	179.36	7,361.17	-2,917.61	-1,333.87	2,917.61	0.61	0.11	-0.60
11,224.00	89.46	179.06	7,361.75	-3,011.60	-1,332.57	3,011.60	0.51	-0.39	-0.32
11,319.00	90.17	180.04	7,362.06	-3,106.59	-1,331.83	3,106.59	1.27	0.75	1.03
11,413.00	90.87	180.09	7,361.21	-3,200.59	-1,331.93	3,200.59	0.75	0.74	0.05
11,508.00	90.60	178.65	7,359.99	-3,295.57	-1,330.89	3,295.57	1.54	-0.28	-1.52
11,602.00	89.66	178.01	7,359.77	-3,389.53	-1,328.15	3,389.53	1.21	-1.00	-0.68

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well HEDGE 15C-22HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4905 & KB 25 @ 4930.00ft (HP 311)
Site:	HEDGE 1-22HZ PAD	MD Reference:	GL 4905 & KB 25 @ 4930.00ft (HP 311)
Well:	HEDGE 15C-22HZ	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)	
11,696.00	89.63	176.23	7,360.36	-3,483.40	-1,323.43	3,483.40	1.89	-0.03	-1.89	
11,791.00	89.70	178.85	7,360.91	-3,578.31	-1,319.35	3,578.31	2.76	0.07	2.76	
11,885.00	89.97	177.86	7,361.18	-3,672.27	-1,316.65	3,672.27	1.09	0.29	-1.05	
11,980.00	89.66	177.98	7,361.49	-3,767.20	-1,313.20	3,767.20	0.35	-0.33	0.13	
12,074.00	89.83	179.75	7,361.91	-3,861.18	-1,311.34	3,861.18	1.89	0.18	1.88	
12,169.00	89.39	181.42	7,362.55	-3,956.17	-1,312.31	3,956.17	1.82	-0.46	1.76	
12,263.00	90.07	181.10	7,363.00	-4,050.14	-1,314.38	4,050.14	0.80	0.72	-0.34	
12,358.00	90.64	180.29	7,362.41	-4,145.13	-1,315.53	4,145.13	1.04	0.60	-0.85	
12,452.00	89.30	179.58	7,362.46	-4,239.13	-1,315.42	4,239.13	1.61	-1.43	-0.76	
12,546.00	89.90	179.67	7,363.11	-4,333.13	-1,314.81	4,333.13	0.65	0.64	0.10	
12,641.00	90.34	178.94	7,362.92	-4,428.12	-1,313.66	4,428.12	0.90	0.46	-0.77	
12,689.00	91.14	179.55	7,362.30	-4,476.11	-1,313.02	4,476.11	2.10	1.67	1.27	
LAST SDI MWD PRODUCTION SURVEY										
12,753.00	91.14	179.55	7,361.02	-4,540.10	-1,312.52	4,540.10	0.00	0.00	0.00	
SDI PROJECTION TO TD (78 FSL 1752 FEL)										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
955.00	955.00	9 5/8"	9.625	12.250	
8,075.00	7,366.067"	(505 FNL 1743 FEL)	7.000	7.500	

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,009.00	1,009.00	0.60	0.30	FIRST SDI MWD PRODUCTION SURVEY	
12,689.00	7,362.30	-4,476.11	-1,313.02	LAST SDI MWD PRODUCTION SURVEY	
12,753.00	7,361.02	-4,540.10	-1,312.52	SDI PROJECTION TO TD (78 FSL 1752 FEL)	

Checked By: _____ Approved By: _____ Date: _____