

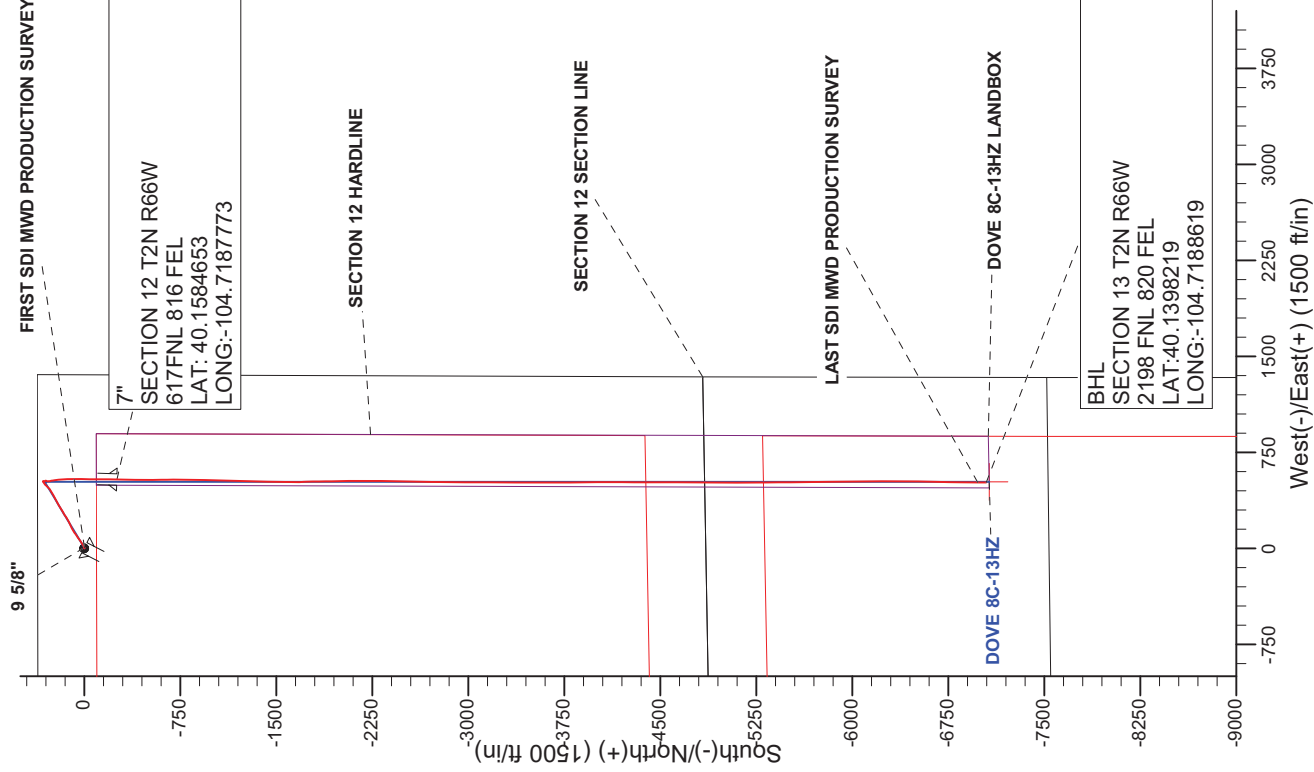
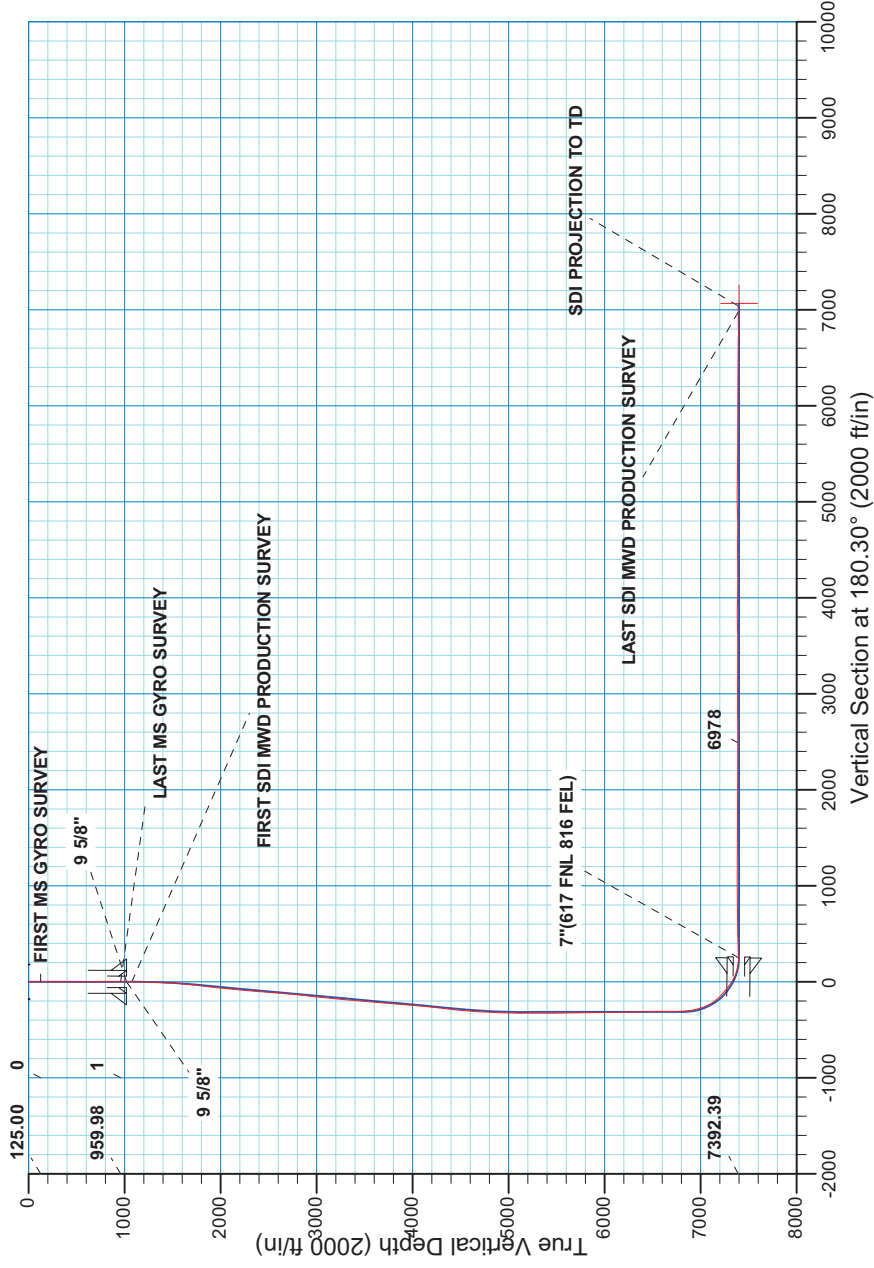


Project: COLORADO NORTHERN ZONE - 83

Site: DOVE 27-12 PAD
Well: DOVE 8C-13HZ
Wellbore: OH
Design: OH



WELL DETAILS: DOVE 8C-13HZ				
GL 4970 & KB 25 @ 4995.00ft (HP 311)				
+N/-S	+E/-W	Northing	Easting	Latitude
0.00	0.00	1301783.37	3217811.07	40.1591630
				Longitude
				-104.7207010





US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

DOVE 27-12 PAD

DOVE 8C-13HZ

OH

Design: OH

Standard Survey Report

08 July, 2013

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well DOVE 8C-13HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4970 & KB 25 @ 4995.00ft (HP 311)
Site:	DOVE 27-12 PAD	MD Reference:	GL 4970 & KB 25 @ 4995.00ft (HP 311)
Well:	DOVE 8C-13HZ	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	DOVE 27-12 PAD, SECTION 12 T2N R66W				
Site Position:		Northing:	1,301,783.37 usft	Latitude:	40.1591630
From:	Lat/Long	Easting:	3,217,811.07 usft	Longitude:	-104.7207010
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.50 °

Well	DOVE 8C-13HZ, 365' FNL 1356' FEL					
Well Position	+N/-S	0.00 ft	Northing:	1,301,783.37 usft	Latitude:	40.1591630
	+E/-W	0.00 ft	Easting:	3,217,811.07 usft	Longitude:	-104.7207010
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,970.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2012	2013/04/16	8.63	66.77	52,718

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	180.30	

Survey Program	Date	2013/07/08			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
25.00	960.00	Survey #1 MS GYRO (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s	
1,076.00	14,547.00	Survey #2 SDI MWD (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	0.43	94.15	125.00	-0.03	0.37	0.03	0.43	0.43	0.00	
FIRST MS GYRO SURVEY										
225.00	0.85	99.70	224.99	-0.18	1.48	0.17	0.42	0.42	5.55	
325.00	0.54	84.72	324.99	-0.26	2.68	0.25	0.36	-0.31	-14.98	
425.00	0.20	93.47	424.98	-0.23	3.32	0.21	0.34	-0.34	8.75	
525.00	0.56	111.63	524.98	-0.42	3.95	0.40	0.38	0.36	18.16	
625.00	0.16	22.39	624.98	-0.47	4.46	0.45	0.58	-0.40	-89.24	
725.00	0.24	79.88	724.98	-0.30	4.72	0.28	0.20	0.08	57.49	

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Site:	DOVE 27-12 PAD	MD Reference:	GL 4970 & KB 25 @ 4995.00ft (HP 311)
Well:	DOVE 8C-13HZ	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)
825.00	0.34	180.09	824.98	-0.56	4.92	0.54	0.45	0.10	100.21
925.00	0.19	228.36	924.98	-0.97	4.80	0.95	0.26	-0.15	48.27
960.00	0.39	41.55	959.98	-0.92	4.84	0.89	1.65	0.57	494.83
LAST MS GYRO SURVEY									
1,022.00	0.27	27.24	1,021.98	-0.63	5.04	0.60	0.23	-0.19	-23.08
9 5/8"									
1,076.00	0.20	2.42	1,075.97	-0.42	5.11	0.40	0.23	-0.14	-45.96
FIRST SDI MWD PRODUCTION SURVEY									
1,130.00	0.99	45.46	1,129.97	0.00	5.44	-0.03	1.58	1.46	79.70
1,228.00	2.66	72.96	1,227.92	1.26	8.22	-1.30	1.88	1.70	28.06
1,318.00	3.70	66.22	1,317.78	3.04	12.87	-3.11	1.23	1.16	-7.49
1,409.00	6.09	58.69	1,408.44	6.74	19.69	-6.84	2.71	2.63	-8.27
1,500.00	7.80	56.10	1,498.77	12.69	28.94	-12.84	1.91	1.88	-2.85
1,591.00	9.38	55.95	1,588.75	20.29	40.21	-20.50	1.74	1.74	-0.16
1,682.00	11.29	57.52	1,678.27	29.22	53.87	-29.50	2.12	2.10	1.73
1,774.00	10.91	54.45	1,768.55	39.12	68.55	-39.48	0.76	-0.41	-3.34
1,864.00	9.60	53.02	1,857.11	48.59	81.47	-49.01	1.48	-1.46	-1.59
1,955.00	10.29	53.46	1,946.74	57.99	94.07	-58.48	0.76	0.76	0.48
2,046.00	10.58	56.85	2,036.24	67.40	107.59	-67.96	0.75	0.32	3.73
2,137.00	9.97	52.79	2,125.78	76.73	120.86	-77.36	1.04	-0.67	-4.46
2,228.00	9.61	56.96	2,215.45	85.64	133.50	-86.33	0.87	-0.40	4.58
2,320.00	9.35	67.73	2,306.20	92.66	146.85	-93.42	1.95	-0.28	11.71
2,410.00	10.60	63.86	2,394.84	99.07	161.05	-99.91	1.58	1.39	-4.30
2,501.00	10.79	62.25	2,484.26	106.73	176.10	-107.65	0.39	0.21	-1.77
2,591.00	10.10	65.62	2,572.77	113.91	190.75	-114.90	1.02	-0.77	3.74
2,682.00	9.96	62.47	2,662.38	120.84	204.99	-121.91	0.62	-0.15	-3.46
2,773.00	10.42	59.63	2,751.95	128.64	219.07	-129.78	0.75	0.51	-3.12
2,867.00	11.05	56.42	2,844.30	137.92	233.91	-139.14	0.92	0.67	-3.41
2,962.00	11.76	58.53	2,937.43	148.01	249.75	-149.31	0.87	0.75	2.22
3,056.00	10.11	56.96	3,029.72	157.51	264.84	-158.89	1.78	-1.76	-1.67
3,151.00	11.07	62.10	3,123.10	166.32	279.89	-167.78	1.42	1.01	5.41
3,245.00	11.42	61.16	3,215.29	175.03	296.02	-176.58	0.42	0.37	-1.00
3,340.00	10.50	59.13	3,308.56	184.01	311.69	-185.64	1.05	-0.97	-2.14
3,434.00	9.93	57.54	3,401.07	192.75	325.88	-194.46	0.68	-0.61	-1.69
3,529.00	9.55	59.13	3,494.70	201.19	339.55	-202.97	0.49	-0.40	1.67
3,623.00	8.90	57.36	3,587.48	209.12	352.37	-210.96	0.75	-0.69	-1.88
3,718.00	9.16	63.49	3,681.31	216.46	365.33	-218.37	1.05	0.27	6.45
3,812.00	9.69	60.36	3,774.04	223.71	378.90	-225.69	0.78	0.56	-3.33
3,907.00	9.95	63.81	3,867.65	231.29	393.21	-233.34	0.68	0.27	3.63
4,001.00	9.95	64.35	3,960.24	238.38	407.82	-240.52	0.10	0.00	0.57
4,096.00	10.37	59.21	4,053.75	246.31	422.56	-248.52	1.05	0.44	-5.41
4,190.00	11.21	61.32	4,146.09	255.03	437.85	-257.32	0.99	0.89	2.24
4,285.00	10.77	54.70	4,239.35	264.59	453.19	-266.96	1.41	-0.46	-6.97
4,379.00	8.97	49.51	4,331.95	274.43	465.94	-276.86	2.13	-1.91	-5.52

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Site:	DOVE 27-12 PAD	MD Reference:	GL 4970 & KB 25 @ 4995.00ft (HP 311)
Well:	DOVE 8C-13HZ	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)
4,474.00	8.32	41.30	4,425.88	284.40	476.11	-286.89	1.47	-0.68	-8.64
4,568.00	8.44	42.12	4,518.87	294.63	485.22	-297.16	0.18	0.13	0.87
4,663.00	6.93	49.15	4,613.02	303.55	494.23	-306.13	1.87	-1.59	7.40
4,757.00	6.21	53.74	4,706.40	310.26	502.62	-312.89	0.95	-0.77	4.88
4,852.00	5.07	58.48	4,800.94	315.50	510.34	-318.16	1.30	-1.20	4.99
4,946.00	3.64	57.88	4,894.67	319.25	516.41	-321.95	1.52	-1.52	-0.64
5,041.00	1.51	87.32	4,989.57	320.92	520.22	-323.64	2.57	-2.24	30.99
5,135.00	0.50	20.60	5,083.56	321.36	521.60	-324.08	1.48	-1.07	-70.98
5,230.00	1.08	3.54	5,178.55	322.64	521.80	-325.37	0.65	0.61	-17.96
5,324.00	0.40	177.00	5,272.54	323.20	521.87	-325.92	1.57	-0.72	184.53
5,419.00	0.62	189.57	5,367.54	322.36	521.80	-325.09	0.26	0.23	13.23
5,513.00	0.27	73.69	5,461.54	321.92	521.93	-324.65	0.83	-0.37	-123.28
5,608.00	0.54	107.49	5,556.53	321.85	522.57	-324.58	0.37	0.28	35.58
5,702.00	0.69	166.40	5,650.53	321.16	523.13	-323.90	0.66	0.16	62.67
5,797.00	0.11	237.97	5,745.53	320.56	523.19	-323.29	0.70	-0.61	75.34
5,892.00	0.68	216.75	5,840.52	320.06	522.77	-322.79	0.61	0.60	-22.34
5,986.00	0.94	171.15	5,934.52	318.85	522.56	-321.58	0.71	0.28	-48.51
6,081.00	1.75	171.64	6,029.49	316.65	522.89	-319.38	0.85	0.85	0.52
6,176.00	1.54	170.70	6,124.45	313.95	523.30	-316.69	0.22	-0.22	-0.99
6,270.00	1.88	140.19	6,218.41	311.52	524.50	-314.26	1.02	0.36	-32.46
6,365.00	0.36	284.36	6,313.40	310.40	525.20	-313.14	2.30	-1.60	151.76
6,459.00	1.36	161.51	6,407.39	309.41	525.27	-312.16	1.69	1.06	-130.69
6,554.00	1.84	154.11	6,502.35	306.97	526.30	-309.72	0.55	0.51	-7.79
6,648.00	0.94	154.36	6,596.32	304.92	527.29	-307.67	0.96	-0.96	0.27
6,743.00	0.29	126.85	6,691.32	304.07	527.82	-306.83	0.73	-0.68	-28.96
6,798.00	0.22	68.38	6,746.31	304.03	528.03	-306.79	0.47	-0.13	-106.31
6,838.00	0.15	133.56	6,786.31	304.02	528.14	-306.78	0.52	-0.18	162.95
6,870.00	3.10	200.43	6,818.30	303.18	527.86	-305.94	9.51	9.22	208.97
6,901.00	6.01	197.81	6,849.20	300.85	527.08	-303.60	9.41	9.39	-8.45
6,933.00	8.61	197.73	6,880.93	296.97	525.83	-299.72	8.13	8.13	-0.25
6,964.00	10.43	191.28	6,911.51	292.01	524.58	-294.75	6.80	5.87	-20.81
6,996.00	12.36	181.59	6,942.88	285.74	523.92	-288.48	8.48	6.03	-30.28
7,027.00	15.79	174.12	6,972.95	278.23	524.26	-280.97	12.50	11.06	-24.10
7,059.00	18.31	171.94	7,003.54	268.92	525.41	-271.67	8.12	7.88	-6.81
7,090.00	21.22	167.66	7,032.71	258.61	527.29	-261.37	10.48	9.39	-13.81
7,122.00	24.42	168.04	7,062.20	246.48	529.90	-249.25	10.01	10.00	1.19
7,153.00	27.82	169.36	7,090.03	233.10	532.56	-235.88	11.13	10.97	4.26
7,185.00	31.66	171.99	7,117.81	217.44	535.11	-220.24	12.67	12.00	8.22
7,216.00	36.17	174.94	7,143.53	200.26	537.05	-203.07	15.48	14.55	9.52
7,248.00	41.69	177.73	7,168.42	180.20	538.31	-183.02	18.10	17.25	8.72
7,280.00	46.20	178.16	7,191.45	158.02	539.10	-160.84	14.12	14.09	1.34
7,311.00	47.98	178.35	7,212.56	135.32	539.79	-138.15	5.76	5.74	0.61
7,343.00	47.07	178.24	7,234.17	111.73	540.50	-114.56	2.86	-2.84	-0.34

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Site:	DOVE 27-12 PAD	MD Reference:	GL 4970 & KB 25 @ 4995.00ft (HP 311)
Well:	DOVE 8C-13HZ	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)
7,374.00	48.96	178.81	7,254.90	88.70	541.09	-91.53	6.25	6.10	1.84
7,406.00	50.46	179.72	7,275.60	64.29	541.40	-67.12	5.16	4.69	2.84
7,437.00	52.93	181.06	7,294.81	39.97	541.23	-42.80	8.66	7.97	4.32
7,469.00	55.47	181.42	7,313.53	14.02	540.66	-16.85	7.99	7.94	1.13
7,500.00	59.37	181.49	7,330.22	-12.09	540.00	9.26	12.58	12.58	0.23
7,532.00	61.66	180.34	7,345.97	-39.94	539.56	37.11	7.81	7.16	-3.59
7,563.00	66.88	178.73	7,359.42	-67.85	539.79	65.02	17.48	16.84	-5.19
7,595.00	72.37	179.26	7,370.56	-97.83	540.32	95.00	17.23	17.16	1.66
7,626.00	75.83	180.88	7,379.05	-127.64	540.28	124.81	12.24	11.16	5.23
7,658.00	79.06	180.98	7,386.00	-158.87	539.77	156.04	10.10	10.09	0.31
7,689.00	81.43	181.32	7,391.26	-189.41	539.16	186.58	7.72	7.65	1.10
7,701.00	83.60	181.13	7,392.82	-201.30	538.90	198.48	18.15	18.08	-1.58
7,754.00	89.49	181.53	7,396.01	-254.17	537.68	251.35	11.13	11.11	0.75
7"(617 FNL 816 FEL)									
7,784.00	92.82	181.75	7,395.41	-284.15	536.82	281.33	11.13	11.11	0.75
7,875.00	91.24	181.16	7,392.19	-375.06	534.51	372.25	1.85	-1.74	-0.65
7,966.00	91.18	179.93	7,390.26	-466.03	533.65	463.23	1.35	-0.07	-1.35
8,057.00	91.11	179.54	7,388.45	-557.01	534.07	554.21	0.44	-0.08	-0.43
8,148.00	91.65	178.40	7,386.25	-647.97	535.70	645.16	1.39	0.59	-1.25
8,239.00	91.69	179.91	7,383.60	-738.92	537.04	736.10	1.66	0.04	1.66
8,330.00	90.67	181.47	7,381.73	-829.89	535.95	827.07	2.05	-1.12	1.71
8,421.00	90.94	181.41	7,380.45	-920.85	533.66	918.04	0.30	0.30	-0.07
8,512.00	89.19	181.43	7,380.35	-1,011.82	531.41	1,009.02	1.92	-1.92	0.02
8,603.00	89.23	180.92	7,381.60	-1,102.79	529.54	1,100.00	0.56	0.04	-0.56
8,695.00	89.80	182.69	7,382.38	-1,194.74	526.64	1,191.96	2.02	0.62	1.92
8,785.00	89.06	181.03	7,383.27	-1,284.68	523.72	1,281.92	2.02	-0.82	-1.84
8,876.00	90.47	181.66	7,383.65	-1,375.65	521.59	1,372.90	1.70	1.55	0.69
8,966.00	89.83	180.95	7,383.41	-1,465.63	519.54	1,462.89	1.06	-0.71	-0.79
9,057.00	89.93	180.67	7,383.60	-1,556.62	518.25	1,553.88	0.33	0.11	-0.31
9,148.00	89.90	180.06	7,383.74	-1,647.62	517.67	1,644.88	0.67	-0.03	-0.67
9,242.00	88.93	177.49	7,384.70	-1,741.58	519.68	1,738.84	2.92	-1.03	-2.73
9,336.00	89.53	179.15	7,385.96	-1,835.53	522.43	1,832.77	1.88	0.64	1.77
9,431.00	89.90	180.18	7,386.43	-1,930.53	522.99	1,927.76	1.15	0.39	1.08
9,525.00	89.63	178.48	7,386.82	-2,024.51	524.09	2,021.74	1.83	-0.29	-1.81
9,620.00	89.16	179.32	7,387.82	-2,119.49	525.91	2,116.71	1.01	-0.49	0.88
9,715.00	90.87	180.20	7,387.80	-2,214.49	526.31	2,211.70	2.02	1.80	0.93
9,809.00	89.63	180.39	7,387.39	-2,308.48	525.83	2,305.70	1.33	-1.32	0.20
9,904.00	90.50	181.36	7,387.28	-2,403.47	524.38	2,400.69	1.37	0.92	1.02
9,998.00	90.27	180.16	7,386.65	-2,497.46	523.13	2,494.68	1.30	-0.24	-1.28
10,092.00	90.03	181.96	7,386.40	-2,591.44	521.39	2,588.67	1.93	-0.26	1.91
10,187.00	90.23	181.32	7,386.19	-2,686.40	518.67	2,683.64	0.71	0.21	-0.67
10,281.00	90.30	181.17	7,385.75	-2,780.37	516.63	2,777.63	0.18	0.07	-0.16
10,376.00	90.64	179.60	7,384.97	-2,875.36	515.99	2,872.62	1.69	0.36	-1.65

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well DOVE 8C-13HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4970 & KB 25 @ 4995.00ft (HP 311)
Site:	DOVE 27-12 PAD	MD Reference:	GL 4970 & KB 25 @ 4995.00ft (HP 311)
Well:	DOVE 8C-13HZ	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)
10,470.00	89.97	180.59	7,384.47	-2,969.36	515.83	2,966.62	1.27	-0.71	1.05
10,565.00	89.97	179.43	7,384.52	-3,064.36	515.82	3,061.62	1.22	0.00	-1.22
10,659.00	89.13	180.62	7,385.26	-3,158.35	515.78	3,155.61	1.55	-0.89	1.27
10,754.00	89.03	179.52	7,386.79	-3,253.34	515.66	3,250.60	1.16	-0.11	-1.16
10,849.00	89.90	180.96	7,387.67	-3,348.33	515.26	3,345.59	1.77	0.92	1.52
10,943.00	90.87	181.46	7,387.04	-3,442.31	513.28	3,439.57	1.16	1.03	0.53
11,038.00	90.64	179.69	7,385.79	-3,537.29	512.32	3,534.56	1.88	-0.24	-1.86
11,132.00	90.44	180.24	7,384.90	-3,631.29	512.38	3,628.55	0.62	-0.21	0.59
11,226.00	90.07	178.11	7,384.48	-3,725.27	513.74	3,722.53	2.30	-0.39	-2.27
11,321.00	91.07	179.70	7,383.54	-3,820.24	515.55	3,817.49	1.98	1.05	1.67
11,416.00	88.32	179.37	7,384.05	-3,915.23	516.32	3,912.47	2.92	-2.89	-0.35
11,510.00	88.99	179.48	7,386.25	-4,009.20	517.26	4,006.43	0.72	0.71	0.12
11,605.00	90.24	179.87	7,386.89	-4,104.19	517.80	4,101.43	1.38	1.32	0.41
11,699.00	90.91	180.52	7,385.95	-4,198.19	517.48	4,195.42	0.99	0.71	0.69
11,793.00	89.90	180.83	7,385.28	-4,292.18	516.38	4,289.41	1.12	-1.07	0.33
11,888.00	89.80	180.42	7,385.53	-4,387.17	515.34	4,384.41	0.44	-0.11	-0.43
11,982.00	89.70	180.09	7,385.94	-4,481.17	514.92	4,478.41	0.37	-0.11	-0.35
12,077.00	90.03	179.88	7,386.16	-4,576.17	514.95	4,573.41	0.41	0.35	-0.22
12,172.00	89.56	179.02	7,386.50	-4,671.16	515.86	4,668.40	1.03	-0.49	-0.91
12,266.00	90.57	179.64	7,386.40	-4,765.15	516.96	4,762.38	1.26	1.07	0.66
12,361.00	91.04	181.90	7,385.06	-4,860.13	515.68	4,857.36	2.43	0.49	2.38
12,456.00	91.34	181.81	7,383.09	-4,955.06	512.61	4,952.31	0.33	0.32	-0.09
12,550.00	90.13	179.85	7,381.88	-5,049.03	511.25	5,046.29	2.45	-1.29	-2.09
12,645.00	89.06	178.48	7,382.56	-5,144.02	512.63	5,141.26	1.83	-1.13	-1.44
12,739.00	89.40	180.09	7,383.82	-5,238.00	513.80	5,235.24	1.75	0.36	1.71
12,834.00	89.40	179.13	7,384.81	-5,332.99	514.45	5,330.22	1.01	0.00	-1.01
12,929.00	89.40	179.06	7,385.81	-5,427.97	515.95	5,425.20	0.07	0.00	-0.07
13,023.00	90.00	180.32	7,386.30	-5,521.97	516.46	5,519.19	1.48	0.64	1.34
13,118.00	90.24	179.94	7,386.10	-5,616.97	516.24	5,614.19	0.47	0.25	-0.40
13,212.00	90.27	179.59	7,385.68	-5,710.97	516.63	5,708.18	0.37	0.03	-0.37
13,307.00	90.67	178.62	7,384.90	-5,805.95	518.11	5,803.16	1.10	0.42	-1.02
13,402.00	89.70	179.06	7,384.60	-5,900.93	520.03	5,898.12	1.12	-1.02	0.46
13,496.00	87.92	178.69	7,386.55	-5,994.89	521.88	5,992.07	1.93	-1.89	-0.39
13,591.00	88.32	178.84	7,389.67	-6,089.81	523.93	6,086.99	0.45	0.42	0.16
13,685.00	89.83	180.30	7,391.18	-6,183.79	524.63	6,180.96	2.23	1.61	1.55
13,780.00	90.20	181.17	7,391.16	-6,278.78	523.41	6,275.96	1.00	0.39	0.92
13,875.00	90.50	180.28	7,390.58	-6,373.77	522.21	6,370.95	0.99	0.32	-0.94
13,969.00	90.60	179.67	7,389.68	-6,467.77	522.25	6,464.95	0.66	0.11	-0.65
14,064.00	88.32	181.73	7,390.57	-6,562.75	521.09	6,559.93	3.23	-2.40	2.17
14,158.00	88.56	180.62	7,393.13	-6,656.69	519.16	6,653.88	1.21	0.26	-1.18
14,253.00	90.23	181.37	7,394.13	-6,751.67	517.52	6,748.86	1.93	1.76	0.79
14,348.00	90.50	181.54	7,393.53	-6,846.63	515.10	6,843.84	0.34	0.28	0.18
14,482.00	90.47	179.75	7,392.39	-6,980.61	513.59	6,977.83	1.34	-0.02	-1.34
LAST SDI MWD PRODUCTION SURVEY									

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well DOVE 8C-13HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4970 & KB 25 @ 4995.00ft (HP 311)
Site:	DOVE 27-12 PAD	MD Reference:	GL 4970 & KB 25 @ 4995.00ft (HP 311)
Well:	DOVE 8C-13HZ	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)
14,547.00	90.47	179.25	7,391.86	-7,045.61	514.16	7,042.82	0.77	0.00	-0.77
SDI PROJECTION TO TD(2198 FNL 820 FEL)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,022.00	1,021.98	9 5/8"	9.625	12.250	
7,754.00	7,396.01	7"(617 FNL 816 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	-0.03	0.37	FIRST MS GYRO SURVEY
960.00	959.98	-0.92	4.84	LAST MS GYRO SURVEY
1,076.00	1,075.97	-0.42	5.11	FIRST SDI MWD PRODUCTION SURVEY
14,482.00	7,392.39	-6,980.61	513.59	LAST SDI MWD PRODUCTION SURVEY
14,547.00	7,391.86	-7,045.61	514.16	SDI PROJECTION TO TD(2198 FNL 820 FEL)

Checked By: _____	Approved By: _____	Date: _____
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