



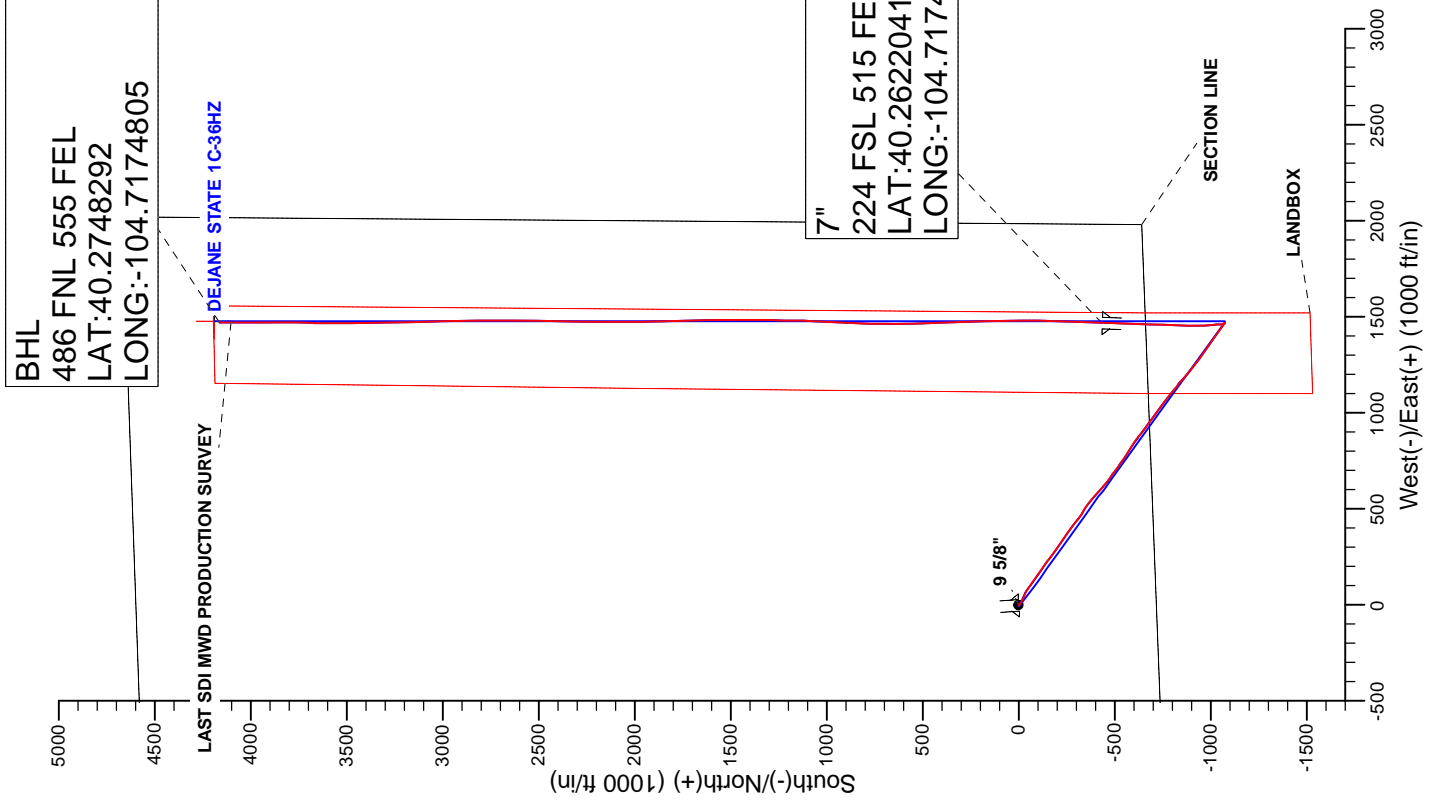
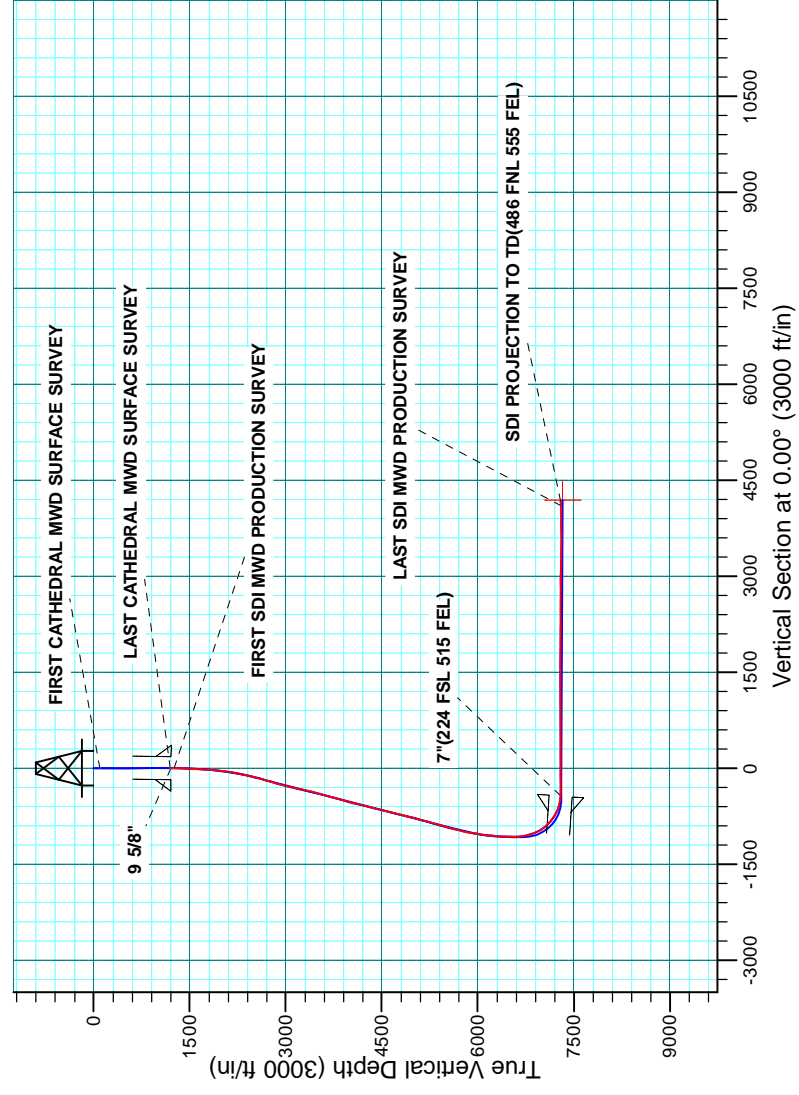
Project: COLORADO NORTHERN ZONE - 83  
 Site: DEJANE STATE 15-36 HZ PAD  
 Well: DEJANE STATE 1C-36HZ  
 Wellbore: OH  
 Design: OH



WELL DETAILS: DEJANE STATE 1C-36HZ			
GL 4865 & KB 25' @ 4890.00ft (HP 311)			
+N/-S	+E/-W	Northing	Longitude
0.00	0.00	1339749.07	-104.7227580
		Easting	Latitude
		3216903.34	40.2634009

PROJECT DETAILS: COLORADO NORTHERN ZONE - 83	
Geodetic System: US State Plane 1983	
Datum: North American Datum 1983	
Ellipsoid: GRS 1980	
Zone: Colorado Northern Zone	
Location: SEC 36 14N R66W	
System Datum: Mean Sea Level	

CASING DETAILS	
TVD	Name
1212.96	7"
7296.60	9 5/8"
	7989.00
	7"
	7,000





**Scientific Drilling**

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**DEJANE STATE 15-36 HZ PAD**

**DEJANE STATE 1C-36HZ**

**OH**

**Design: OH**

## **Standard Survey Report**

**13 January, 2015**

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well DEJANE STATE 1C-36HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	GL 4865 & KB 25' @ 4890.00ft (HP 311)
<b>Site:</b>	DEJANE STATE 15-36 HZ PAD	<b>MD Reference:</b>	GL 4865 & KB 25' @ 4890.00ft (HP 311)
<b>Well:</b>	DEJANE STATE 1C-36HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Denver Sales

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

<b>Site</b>	DEJANE STATE 15-36 HZ PAD, SEC 36 T4N R66W				
<b>Site Position:</b>		<b>Northing:</b>	1,339,808.39 usft	<b>Latitude:</b>	40.2635640
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,216,894.17 usft	<b>Longitude:</b>	-104.7227890
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.50 °

<b>Well</b>	DEJANE STATE 1C-36HZ, 716 FSL 1987 FEL					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	1,339,749.07 usft	<b>Latitude:</b>	40.2634010
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	3,216,903.34 usft	<b>Longitude:</b>	-104.7227580
<b>Position Uncertainty</b>		3.28 ft	<b>Wellhead Elevation:</b>	0.00 ft	<b>Ground Level:</b>	4,890.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2014	10/31/2014	8.47	66.82	52,600

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	193.83	

<b>Survey Program</b>	<b>Date</b>	1/13/2015			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
19.00	1,197.00	Survey #1 CATHEDRAL SURFACE MWD	MWD	MWD - Standard	
1,257.00	12,590.00	Survey #2 - SDI MWD PRODUCTION (OH)	SDI_MWD+CRUST_1.0	SDI MWD + Crustal anomaly, Version 1.0	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19.00	0.00	0.00	19.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
101.00	0.10	318.20	101.00	0.05	-0.05	-0.04	0.12	0.12	0.00	
<b>FIRST CATHEDRAL MWD SURFACE SURVEY</b>										
181.00	0.20	197.30	181.00	-0.03	-0.14	0.06	0.33	0.13	-151.13	
260.00	0.40	278.10	260.00	-0.12	-0.45	0.22	0.53	0.25	102.28	
340.00	0.30	271.70	340.00	-0.08	-0.94	0.30	0.13	-0.13	-8.00	
420.00	0.30	306.10	420.00	0.05	-1.31	0.26	0.22	0.00	43.00	
500.00	0.40	311.30	499.99	0.36	-1.69	0.05	0.13	0.13	6.50	
580.00	0.60	301.10	579.99	0.76	-2.26	-0.20	0.27	0.25	-12.75	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well DEJANE STATE 1C-36HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	GL 4865 & KB 25' @ 4890.00ft (HP 311)
<b>Site:</b>	DEJANE STATE 15-36 HZ PAD	<b>MD Reference:</b>	GL 4865 & KB 25' @ 4890.00ft (HP 311)
<b>Well:</b>	DEJANE STATE 1C-36HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Denver Sales

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
660.00	0.60	255.90	659.99	0.88	-3.03	-0.13	0.58	0.00	-56.50	
740.00	0.30	96.20	739.99	0.75	-3.22	0.04	1.11	-0.38	-199.63	
820.00	0.30	75.20	819.99	0.78	-2.81	-0.09	0.14	0.00	-26.25	
900.00	0.70	90.10	899.98	0.84	-2.12	-0.30	0.52	0.50	18.63	
980.00	0.70	83.10	979.98	0.89	-1.15	-0.59	0.11	0.00	-8.75	
1,060.00	0.70	155.60	1,059.97	0.51	-0.46	-0.38	1.03	0.00	90.63	
1,140.00	0.60	177.50	1,139.97	-0.36	-0.24	0.40	0.33	-0.13	27.38	
1,197.00	0.60	181.10	1,196.96	-0.95	-0.23	0.98	0.07	0.00	6.32	
<b>LAST CATHEDRAL MWD SURFACE SURVEY</b>										
1,213.00	0.74	175.68	1,212.96	-1.14	-0.23	1.16	0.95	0.87	-33.88	
<b>9 5/8"</b>										
1,257.00	1.14	167.82	1,256.96	-1.85	-0.11	1.82	0.95	0.91	-17.86	
<b>FIRST SDI MWD PRODUCTION SURVEY</b>										
1,348.00	2.39	113.29	1,347.92	-3.49	1.82	2.95	2.16	1.37	-59.92	
1,439.00	5.14	120.51	1,438.71	-6.31	7.08	4.43	3.06	3.02	7.93	
1,531.00	6.24	123.33	1,530.26	-11.15	14.80	7.28	1.23	1.20	3.07	
1,622.00	7.04	119.91	1,620.65	-16.64	23.77	10.48	0.98	0.88	-3.76	
1,714.00	7.86	112.67	1,711.87	-21.88	34.46	13.01	1.35	0.89	-7.87	
1,805.00	9.06	112.95	1,801.88	-27.07	46.80	15.10	1.32	1.32	0.31	
1,897.00	9.59	117.55	1,892.67	-33.44	60.27	18.07	0.99	0.58	5.00	
1,989.00	11.84	121.72	1,983.06	-41.95	75.09	22.79	2.59	2.45	4.53	
2,083.00	13.65	126.45	2,074.74	-53.61	92.22	30.02	2.22	1.93	5.03	
2,178.00	16.45	125.13	2,166.47	-68.01	112.24	39.22	2.97	2.95	-1.39	
2,272.00	20.02	124.43	2,255.74	-84.77	136.40	49.72	3.80	3.80	-0.74	
2,366.00	20.89	122.39	2,343.81	-102.85	163.83	60.72	1.20	0.93	-2.17	
2,461.00	22.49	124.72	2,432.08	-122.27	193.07	72.59	1.91	1.68	2.45	
2,555.00	24.10	129.29	2,518.42	-144.67	222.70	87.26	2.57	1.71	4.86	
2,649.00	23.10	127.01	2,604.56	-167.92	252.28	102.77	1.44	-1.06	-2.43	
2,744.00	25.63	126.28	2,691.10	-191.30	283.73	117.96	2.68	2.66	-0.77	
2,838.00	26.45	124.85	2,775.55	-215.30	317.30	133.23	1.10	0.87	-1.52	
2,932.00	27.06	123.53	2,859.49	-239.07	352.31	147.95	0.91	0.65	-1.40	
3,121.00	22.61	128.20	3,030.98	-285.31	416.73	177.46	2.57	-2.35	2.47	
3,215.00	21.73	127.44	3,118.03	-307.07	444.75	191.88	0.98	-0.94	-0.81	
3,309.00	21.49	122.37	3,205.44	-326.86	473.11	204.33	2.00	-0.26	-5.39	
3,404.00	20.93	121.82	3,294.00	-345.13	502.23	215.11	0.63	-0.59	-0.58	
3,498.00	19.82	126.24	3,382.12	-363.40	529.35	226.37	2.02	-1.18	4.70	
3,593.00	20.69	131.72	3,471.26	-384.09	554.87	240.37	2.20	0.92	5.77	
3,687.00	23.10	131.89	3,558.47	-407.46	580.99	256.81	2.56	2.56	0.18	
3,781.00	23.12	130.87	3,644.93	-431.85	608.68	273.88	0.43	0.02	-1.09	
3,876.00	23.80	129.52	3,732.07	-456.25	637.57	290.67	0.91	0.72	-1.42	
3,970.00	24.57	124.94	3,817.83	-479.52	668.22	305.93	2.16	0.82	-4.87	
4,064.00	27.81	126.31	3,902.17	-503.70	701.92	321.36	3.51	3.45	1.46	
4,158.00	26.35	124.81	3,985.86	-528.59	736.72	337.22	1.71	-1.55	-1.60	
4,253.00	25.22	124.53	4,071.40	-552.10	770.70	351.93	1.20	-1.19	-0.29	

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<b>Well:</b>	DEJANE STATE 1C-36HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Denver Sales

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,347.00	22.28	120.36	4,157.44	-572.47	802.59	364.08	3.60	-3.13	-4.44
4,441.00	22.52	122.48	4,244.35	-591.14	833.15	374.91	0.90	0.26	2.26
4,536.00	24.33	130.80	4,331.54	-613.71	863.32	389.61	3.96	1.91	8.76
4,630.00	21.69	127.00	4,418.06	-636.82	891.86	405.23	3.22	-2.81	-4.04
4,724.00	21.29	125.44	4,505.52	-657.17	919.64	418.36	0.74	-0.43	-1.66
4,913.00	24.98	125.63	4,679.29	-700.33	980.05	445.83	1.95	1.95	0.10
5,007.00	22.19	125.24	4,765.43	-722.13	1,010.68	459.68	2.97	-2.97	-0.41
5,101.00	22.37	127.12	4,852.41	-743.17	1,039.45	473.24	0.78	0.19	2.00
5,195.00	22.45	128.79	4,939.32	-765.21	1,067.70	487.89	0.68	0.09	1.78
5,289.00	22.72	125.52	5,026.11	-787.00	1,096.46	502.17	1.37	0.29	-3.48
5,383.00	23.98	129.49	5,112.42	-809.70	1,125.98	517.16	2.14	1.34	4.22
5,478.00	23.75	133.39	5,199.30	-835.12	1,154.79	534.96	1.68	-0.24	4.11
5,572.00	22.78	128.38	5,285.66	-859.42	1,182.81	551.86	2.34	-1.03	-5.33
5,666.00	24.13	130.28	5,371.90	-883.15	1,211.74	567.98	1.65	1.44	2.02
5,760.00	23.66	130.36	5,457.84	-907.78	1,240.77	584.97	0.50	-0.50	0.09
5,855.00	23.09	128.43	5,545.04	-931.71	1,269.89	601.24	1.00	-0.60	-2.03
5,949.00	22.72	126.34	5,631.63	-953.92	1,298.95	615.87	0.95	-0.39	-2.22
6,043.00	22.80	124.83	5,718.31	-975.08	1,328.52	629.35	0.63	0.09	-1.61
6,137.00	20.29	123.34	5,805.74	-994.44	1,357.09	641.32	2.73	-2.67	-1.59
6,231.00	17.91	124.19	5,894.56	-1,011.53	1,382.67	651.80	2.55	-2.53	0.90
6,326.00	16.06	126.52	5,985.41	-1,027.56	1,405.31	661.95	2.07	-1.95	2.45
6,420.00	11.85	124.20	6,076.62	-1,040.73	1,423.75	670.33	4.52	-4.48	-2.47
6,515.00	9.74	125.64	6,169.93	-1,050.89	1,438.35	676.71	2.24	-2.22	1.52
6,609.00	7.02	124.19	6,262.92	-1,058.75	1,449.57	681.67	2.90	-2.89	-1.54
6,703.00	5.36	126.58	6,356.37	-1,064.60	1,457.85	685.36	1.79	-1.77	2.54
6,797.00	4.26	124.07	6,450.04	-1,069.17	1,464.26	688.27	1.19	-1.17	-2.67
6,892.00	1.34	188.16	6,544.93	-1,072.25	1,467.03	690.60	4.07	-3.07	67.46
6,986.00	4.49	339.41	6,638.85	-1,069.89	1,465.58	688.65	6.07	3.35	160.90
7,080.00	10.26	357.91	6,732.04	-1,058.07	1,463.98	677.56	6.56	6.14	19.68
7,174.00	17.04	354.20	6,823.34	-1,035.97	1,462.28	656.51	7.27	7.21	-3.95
7,268.00	24.15	353.36	6,911.27	-1,003.13	1,458.66	625.48	7.57	7.56	-0.89
7,363.00	33.28	357.91	6,994.51	-957.68	1,455.45	582.11	9.88	9.61	4.79
7,457.00	41.39	2.38	7,069.20	-900.75	1,455.80	526.75	9.09	8.63	4.76
7,551.00	49.96	2.10	7,134.82	-833.62	1,458.42	460.94	9.12	9.12	-0.30
7,645.00	56.17	1.10	7,191.28	-758.55	1,460.49	387.55	6.66	6.61	-1.06
7,739.00	64.14	1.63	7,238.02	-677.10	1,462.44	308.00	8.49	8.48	0.56
7,834.00	73.70	0.82	7,272.15	-588.59	1,464.32	221.60	10.09	10.06	-0.85
7,928.00	83.03	2.53	7,291.09	-496.66	1,467.03	131.69	10.08	9.93	1.82
7,989.00	86.61	2.18	7,296.60	-435.97	1,469.52	72.16	5.89	5.86	-0.58
<b>7"(224 FSL 515 FEL)</b>									
8,008.00	87.72	2.07	7,297.54	-417.01	1,470.23	53.58	5.89	5.86	-0.57
8,039.00	87.85	2.29	7,298.74	-386.06	1,471.40	23.24	0.82	0.42	0.71
8,133.00	89.70	2.50	7,300.75	-292.16	1,475.33	-68.87	1.98	1.97	0.22

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<b>Site:</b>	DEJANE STATE 15-36 HZ PAD	<b>MD Reference:</b>	GL 4865 & KB 25' @ 4890.00ft (HP 311)
<b>Well:</b>	DEJANE STATE 1C-36HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Denver Sales

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,227.00	90.34	1.40	7,300.71	-198.22	1,478.53	-160.86	1.35	0.68	-1.17	
8,321.00	90.17	1.26	7,300.29	-104.25	1,480.71	-252.63	0.23	-0.18	-0.15	
8,416.00	89.97	359.75	7,300.18	-9.25	1,481.55	-345.07	1.60	-0.21	-1.59	
8,510.00	90.84	358.87	7,299.51	84.74	1,480.42	-436.06	1.32	0.93	-0.94	
8,604.00	90.91	358.47	7,298.08	178.70	1,478.24	-526.78	0.43	0.07	-0.43	
8,699.00	91.04	358.67	7,296.46	273.66	1,475.87	-618.42	0.25	0.14	0.21	
8,793.00	91.14	357.62	7,294.67	367.59	1,472.82	-708.91	1.12	0.11	-1.12	
8,888.00	90.27	356.76	7,293.51	462.47	1,468.17	-799.92	1.29	-0.92	-0.91	
8,982.00	90.17	359.65	7,293.14	556.41	1,465.22	-890.44	3.08	-0.11	3.07	
9,076.00	89.23	359.69	7,293.64	650.41	1,464.68	-981.58	1.00	-1.00	0.04	
9,170.00	89.77	0.62	7,294.46	744.40	1,464.94	-1,072.91	1.14	0.57	0.99	
9,265.00	90.91	2.58	7,293.89	839.36	1,467.59	-1,165.75	2.39	1.20	2.06	
9,359.00	91.01	3.11	7,292.32	933.23	1,472.25	-1,258.02	0.57	0.11	0.56	
9,453.00	91.51	3.34	7,290.25	1,027.05	1,477.54	-1,350.39	0.59	0.53	0.24	
9,547.00	90.67	1.72	7,288.46	1,120.94	1,481.69	-1,442.55	1.94	-0.89	-1.72	
9,641.00	89.73	0.56	7,288.13	1,214.92	1,483.56	-1,534.25	1.59	-1.00	-1.23	
9,735.00	88.86	0.45	7,289.29	1,308.91	1,484.39	-1,625.71	0.93	-0.93	-0.12	
9,830.00	89.06	0.05	7,291.02	1,403.89	1,484.80	-1,718.04	0.47	0.21	-0.42	
9,924.00	89.50	359.23	7,292.20	1,497.88	1,484.21	-1,809.17	0.99	0.47	-0.87	
10,018.00	90.13	359.53	7,292.50	1,591.87	1,483.19	-1,900.20	0.74	0.67	0.32	
10,112.00	89.63	359.11	7,292.70	1,685.87	1,482.08	-1,991.20	0.69	-0.53	-0.45	
10,207.00	87.18	357.67	7,295.34	1,780.78	1,479.41	-2,082.73	2.99	-2.58	-1.52	
10,301.00	89.26	359.03	7,298.26	1,874.69	1,476.71	-2,173.27	2.64	2.21	1.45	
10,395.00	89.26	359.42	7,299.48	1,968.67	1,475.43	-2,264.23	0.41	0.00	0.41	
10,489.00	89.80	0.30	7,300.25	2,062.67	1,475.20	-2,355.44	1.10	0.57	0.94	
10,584.00	90.20	0.81	7,300.25	2,157.66	1,476.13	-2,447.91	0.68	0.42	0.54	
10,678.00	89.77	0.22	7,300.27	2,251.66	1,476.97	-2,539.38	0.78	-0.46	-0.63	
10,772.00	90.03	1.11	7,300.43	2,345.65	1,478.06	-2,630.91	0.99	0.28	0.95	
10,866.00	89.87	0.66	7,300.52	2,439.64	1,479.51	-2,722.52	0.51	-0.17	-0.48	
10,961.00	90.30	0.23	7,300.38	2,534.64	1,480.25	-2,814.94	0.64	0.45	-0.45	
11,055.00	89.73	0.52	7,300.35	2,628.64	1,480.87	-2,906.36	0.68	-0.61	0.31	
11,149.00	90.50	0.51	7,300.16	2,722.63	1,481.71	-2,997.84	0.82	0.82	-0.01	
11,243.00	90.54	359.38	7,299.31	2,816.63	1,481.62	-3,089.09	1.20	0.04	-1.20	
11,338.00	90.87	359.38	7,298.14	2,911.61	1,480.59	-3,181.08	0.35	0.35	0.00	
11,432.00	87.89	357.94	7,299.16	3,005.57	1,478.40	-3,271.78	3.52	-3.17	-1.53	
11,526.00	89.09	358.79	7,301.63	3,099.49	1,475.71	-3,362.35	1.56	1.28	0.90	
11,621.00	88.93	358.41	7,303.28	3,194.45	1,473.39	-3,454.00	0.43	-0.17	-0.40	
11,715.00	88.49	358.69	7,305.39	3,288.40	1,471.02	-3,544.65	0.55	-0.47	0.30	
11,809.00	88.79	359.50	7,307.62	3,382.36	1,469.53	-3,635.54	0.92	0.32	0.86	
11,903.00	89.50	359.54	7,309.03	3,476.34	1,468.74	-3,726.61	0.76	0.76	0.04	
11,997.00	90.44	0.21	7,309.08	3,570.34	1,468.54	-3,817.84	1.23	1.00	0.71	
12,091.00	91.48	1.01	7,307.50	3,664.32	1,469.54	-3,909.33	1.40	1.11	0.85	
12,185.00	91.91	1.51	7,304.72	3,758.26	1,471.61	-4,001.04	0.70	0.46	0.53	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well DEJANE STATE 1C-36HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	GL 4865 & KB 25' @ 4890.00ft (HP 311)
<b>Site:</b>	DEJANE STATE 15-36 HZ PAD	<b>MD Reference:</b>	GL 4865 & KB 25' @ 4890.00ft (HP 311)
<b>Well:</b>	DEJANE STATE 1C-36HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Denver Sales

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
12,280.00	89.33	359.95	7,303.69	3,853.23	1,472.82	-4,093.55	3.17	-2.72	-1.64	
12,374.00	89.80	359.80	7,304.41	3,947.23	1,472.61	-4,184.78	0.52	0.50	-0.16	
12,468.00	90.70	0.31	7,304.00	4,041.23	1,472.70	-4,276.07	1.10	0.96	0.54	
12,528.00	90.47	359.81	7,303.38	4,101.22	1,472.76	-4,334.35	0.92	-0.38	-0.83	
<b>LAST SDI MWD PRODUCTION SURVEY</b>										
12,590.00	90.47	359.81	7,302.87	4,163.22	1,472.56	-4,394.50	0.00	0.00	0.00	
<b>SDI PROJECTION TO TD(486 FNL 555 FEL)</b>										

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)		
1,213.00	1,212.96	9 5/8"	9.625	13.500		
7,989.00	7,296.60	7"(224 FSL 515 FEL)	7.000	8.750		

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
101.00	101.00	0.05	-0.05	FIRST CATHEDRAL MWD SURFACE SURVEY	
1,197.00	1,196.96	-0.95	-0.23	LAST CATHEDRAL MWD SURFACE SURVEY	
1,257.00	1,256.96	-1.85	-0.11	FIRST SDI MWD PRODUCTION SURVEY	
12,528.00	7,303.38	4,101.22	1,472.76	LAST SDI MWD PRODUCTION SURVEY	
12,590.00	7,302.87	4,163.22	1,472.56	SDI PROJECTION TO TD(486 FNL 555 FEL)	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_