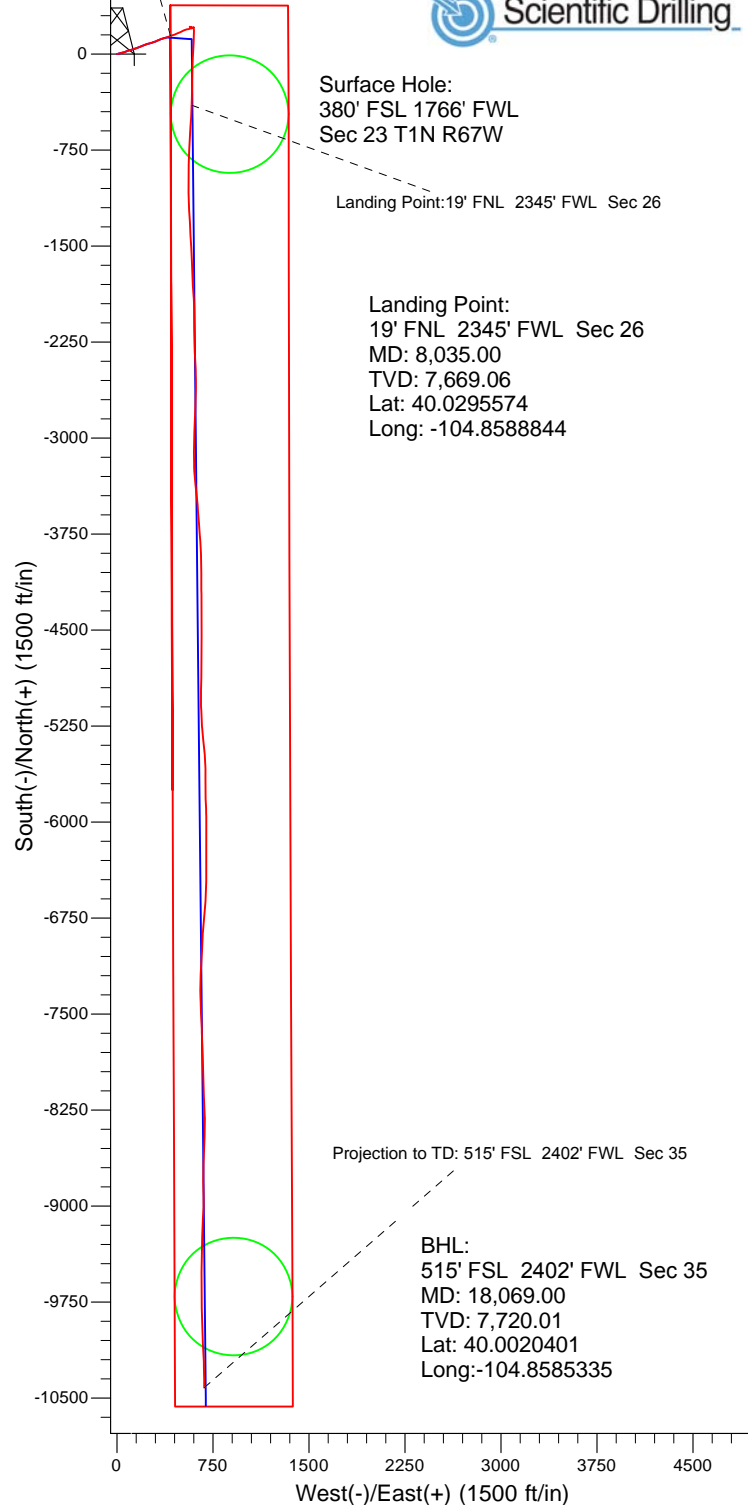
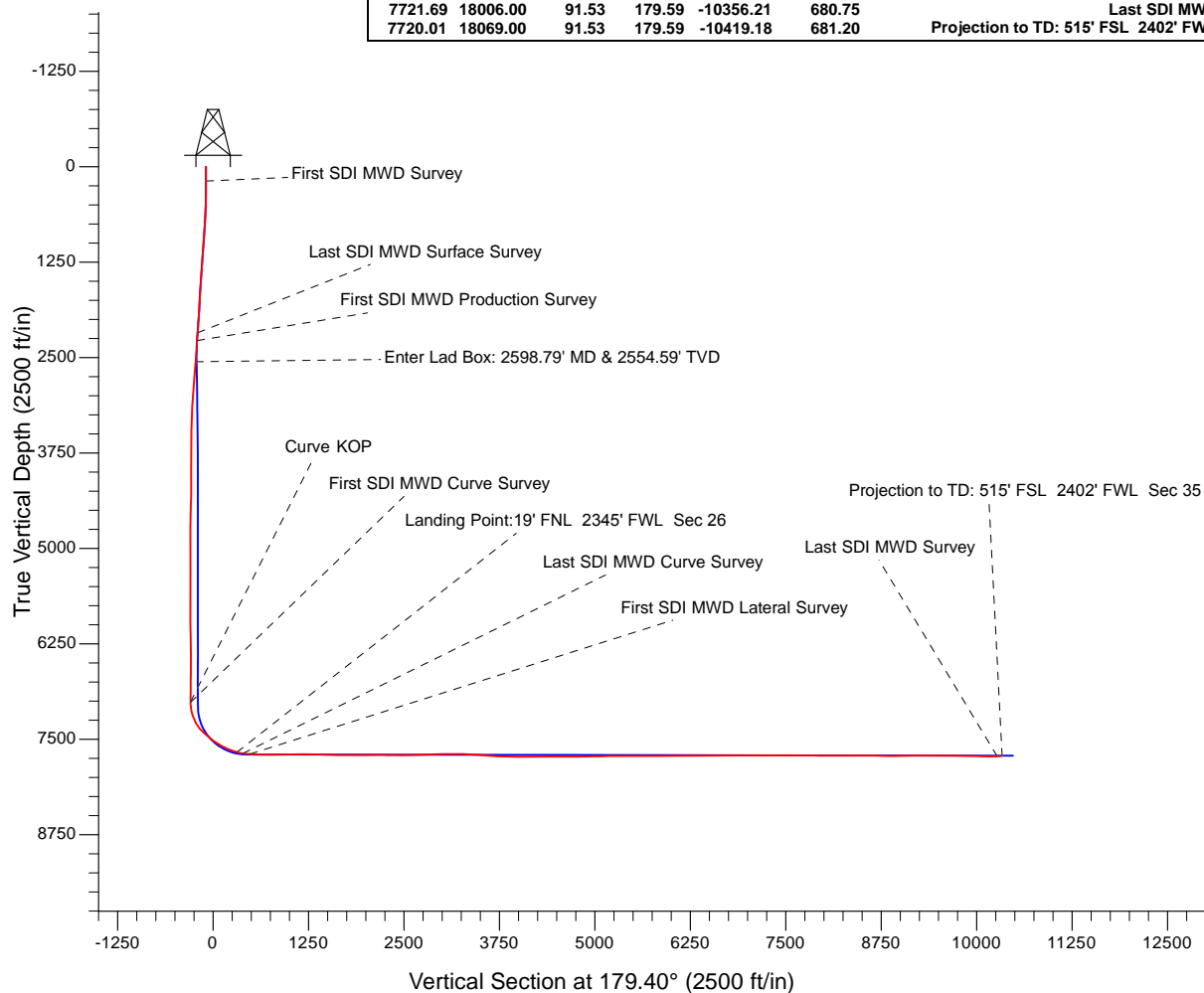


WELL DETAILS: Jaguar 36C-35HZ				PROJECT DETAILS: US Rockies Wattenberg Planning UTM83	
GL 4993' & KB 17' @ 5010.00ft		4993.00		Geodetic System: Universal Transverse Mercator (US Survey Feet) Datum: North American Datum 1983 Ellipsoid: GRS 1980 Zone: Zone 13N (108 W to 102 W) System Datum: Mean Sea Level Local North: True	
Northing	Easting	Latitude	Longitude		
14537835.57	1679336.00	40.0304050	-104.8609660		
Design: OH (Jaguar 36C-35HZ/OH)					
Created By: Seth Burstad Date: 1-3-2017					

ANNOTATIONS							Annotation
TVD	MD	Inc	Azi	+N/-S	+E/-W		
187.00	187.00	0.29	250.90	-0.15	-0.45		First SDI MWD Survey
2173.73	2209.00	11.60	69.37	114.45	340.06		Last SDI MWD Surface Survey
2276.53	2314.00	11.89	72.65	121.40	360.26		First SDI MWD Production Survey
2554.59	2598.79	14.53	71.57	140.74	418.43		Enter Lad Box: 2598.79' MD & 2554.59' TVD
7010.55	7071.00	0.54	135.83	209.44	599.34		Curve KOP
7017.55	7078.00	0.63	141.92	209.38	599.39		First SDI MWD Curve Survey
7669.06	8035.00	74.34	181.74	-398.97	582.69		Landing Point: 19' FNL 2345' FWL Sec 26 Last
7685.05	8113.00	81.97	182.13	-475.21	580.11		SDI MWD Curve Survey
7695.50	8207.00	85.27	184.07	-568.47	575.05		First SDI MWD Lateral Survey
7721.69	18006.00	91.53	179.59	-10356.21	680.75		Last SDI MWD Survey
7720.01	18069.00	91.53	179.59	-10419.18	681.20		Projection to TD: 515' FSL 2402' FWL Sec 35





US ROCKIES REGION PLANNING

US Rockies Wattenberg Planning UTM83

Jaguar 14-23HZ Pad 1N-67W-23

Jaguar 36C-35HZ

OH

Design: OH

Standard Survey Report

06 January, 2017



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Site Jaguar 14-23HZ Pad 1N-67W-23
Project:	US Rockies Wattenberg Planning UTM83	TVD Reference:	GL 4993' & KB 17' @ 5010.00ft
Site:	Jaguar 14-23HZ Pad 1N-67W-23	MD Reference:	GL 4993' & KB 17' @ 5010.00ft
Well:	Jaguar 36C-35HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

Project	US Rockies Wattenberg Planning UTM83		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)		

Site		Jaguar 14-23HZ Pad 1N-67W-23			
Site Position:		Northing:	14,537,925.88 usft	Latitude:	40.0306530
From:	Lat/Long	Easting:	1,679,335.86 usft	Longitude:	-104.8609660
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.09 °

Well	Jaguar 36C-35HZ, 380' FSL 1766' FWL Sec 23 T1N R67W					
Well Position	+N/-S	-90.31 ft	Northing:	14,537,835.57 usft	Latitude:	40.0304050
	+E/-W	0.00 ft	Easting:	1,679,336.00 usft	Longitude:	-104.8609660
Position Uncertainty		3.28 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,993.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/5/2015	8.33	66.59	52,490
	BGGM2016	11/2/2016	8.47	66.60	52,251
	User Defined	11/20/2016	8.50	66.40	52,385

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	-90.31	0.00	179.40	

Survey Program	Date	1/6/2017			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
187.00	2,209.00	Survey #4 - Surface (OH)	APC_ISCWSA REV 2 MWD+	Fixed:v2:crustal field declination	
2,314.00	18,069.00	Survey #5 - Production (OH)	APC_ISCWSA REV 2 MWD+	Fixed:v2:Rockies, crustal dec + 3-axis correction	

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)	
0.00	0.00	0.00	0.00	0.00	0.00	-90.30	0.00	0.00	0.00	
187.00	0.29	250.90	187.00	-0.15	-0.45	-90.15	0.16	0.16	0.00	
First SDI MWD Survey										
220.00	0.17	140.98	220.00	-0.22	-0.50	-90.09	1.16	-0.36	-333.09	
313.00	3.06	83.85	312.95	-0.06	2.06	-90.22	3.19	3.11	-61.43	
406.00	5.98	77.28	405.65	1.27	9.26	-91.48	3.18	3.14	-7.06	
498.00	8.15	74.57	496.95	4.06	20.22	-94.15	2.39	2.36	-2.95	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Site Jaguar 14-23HZ Pad 1N-67W-23
Project:	US Rockies Wattenberg Planning UTM83	TVD Reference:	GL 4993' & KB 17' @ 5010.00ft
Site:	Jaguar 14-23HZ Pad 1N-67W-23	MD Reference:	GL 4993' & KB 17' @ 5010.00ft
Well:	Jaguar 36C-35HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

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)
591.00	9.55	75.17	588.84	7.79	34.03	-97.74	1.51	1.51	0.65
683.00	10.80	73.93	679.39	12.13	49.69	-101.91	1.38	1.36	-1.35
776.00	12.22	70.90	770.52	17.76	67.37	-107.36	1.66	1.53	-3.26
868.00	13.15	70.18	860.27	24.50	86.41	-113.89	1.03	1.01	-0.78
961.00	13.60	72.17	950.75	31.43	106.77	-120.62	0.69	0.48	2.14
1,053.00	13.34	73.09	1,040.22	37.83	127.22	-126.80	0.37	-0.28	1.00
1,146.00	11.60	72.99	1,131.02	43.69	146.43	-132.46	1.87	-1.87	-0.11
1,240.00	12.43	68.28	1,222.97	50.20	164.87	-138.77	1.37	0.88	-5.01
1,334.00	12.45	67.61	1,314.76	57.80	183.64	-146.18	0.16	0.02	-0.71
1,428.00	11.97	68.44	1,406.63	65.24	202.07	-153.43	0.54	-0.51	0.88
1,522.00	10.90	71.89	1,498.77	71.59	219.58	-159.59	1.35	-1.14	3.67
1,616.00	10.62	72.74	1,591.11	76.92	236.30	-164.74	0.34	-0.30	0.90
1,710.00	10.92	74.35	1,683.46	81.89	253.15	-169.54	0.45	0.32	1.71
1,805.00	10.63	72.78	1,776.78	86.91	270.18	-174.38	0.43	-0.31	-1.65
1,899.00	10.62	70.50	1,869.17	92.37	286.63	-179.67	0.45	-0.01	-2.43
1,993.00	10.73	66.62	1,961.55	98.73	302.83	-185.86	0.77	0.12	-4.13
2,087.00	10.56	66.02	2,053.93	105.71	318.73	-192.67	0.22	-0.18	-0.64
2,181.00	10.99	68.55	2,146.27	112.49	334.94	-199.27	0.68	0.46	2.69
2,209.00	11.60	69.37	2,173.73	114.45	340.06	-201.19	2.25	2.18	2.93
Last SDI MWD Surface Survey									
2,314.00	11.89	72.65	2,276.53	121.40	360.26	-207.92	0.69	0.28	3.12
First SDI MWD Production Survey									
2,407.00	10.91	72.94	2,367.70	126.84	377.82	-213.18	1.06	-1.05	0.31
2,501.00	13.07	70.05	2,459.64	133.07	396.32	-219.22	2.38	2.30	-3.07
2,595.00	14.57	71.58	2,550.92	140.44	417.53	-226.36	1.64	1.60	1.63
2,598.79	14.53	71.57	2,554.59	140.74	418.43	-226.65	0.93	-0.93	-0.28
Enter Lad Box: 2598.79' MD & 2554.59' TVD									
2,689.00	13.70	71.30	2,642.07	147.74	439.29	-233.44	0.93	-0.93	-0.30
2,783.00	12.61	68.78	2,733.60	155.03	459.40	-240.51	1.31	-1.16	-2.68
2,877.00	11.87	66.93	2,825.47	162.53	477.86	-247.82	0.89	-0.79	-1.97
2,971.00	11.30	63.85	2,917.55	170.37	495.02	-255.48	0.89	-0.61	-3.28
3,065.00	10.25	63.51	3,009.89	178.16	510.77	-263.11	1.12	-1.12	-0.36
3,158.00	9.42	64.34	3,101.53	185.15	525.04	-269.95	0.91	-0.89	0.89
3,253.00	7.67	77.83	3,195.48	189.85	538.25	-274.51	2.79	-1.84	14.20
3,347.00	6.89	77.58	3,288.72	192.39	549.88	-276.92	0.83	-0.83	-0.27
3,440.00	5.94	74.83	3,381.14	194.85	559.98	-279.28	1.07	-1.02	-2.96
3,534.00	4.67	76.19	3,474.73	197.04	568.39	-281.38	1.36	-1.35	1.45
3,628.00	3.70	74.43	3,568.48	198.76	575.03	-283.03	1.04	-1.03	-1.87
3,723.00	2.98	65.54	3,663.32	200.61	580.23	-284.82	0.93	-0.76	-9.36
3,817.00	1.09	91.35	3,757.26	201.60	583.34	-285.78	2.19	-2.01	27.46
3,911.00	0.29	192.73	3,851.25	201.35	584.19	-285.52	1.26	-0.85	107.85
4,005.00	0.08	104.23	3,945.25	201.10	584.20	-285.27	0.32	-0.22	-94.15
4,099.00	0.50	268.67	4,039.25	201.07	583.85	-285.25	0.61	0.45	174.94
4,193.00	1.07	307.70	4,133.24	201.60	582.75	-285.79	0.80	0.61	41.52

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Site Jaguar 14-23HZ Pad 1N-67W-23
Project:	US Rockies Wattenberg Planning UTM83	TVD Reference:	GL 4993' & KB 17' @ 5010.00ft
Site:	Jaguar 14-23HZ Pad 1N-67W-23	MD Reference:	GL 4993' & KB 17' @ 5010.00ft
Well:	Jaguar 36C-35HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

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)
4,287.00	1.14	267.02	4,227.22	202.09	581.12	-286.29	0.82	0.07	-43.28
4,381.00	1.38	287.46	4,321.20	202.38	579.10	-286.61	0.54	0.26	21.74
4,475.00	1.53	332.70	4,415.17	203.83	577.45	-288.08	1.20	0.16	48.13
4,568.00	2.12	332.17	4,508.13	206.46	576.08	-290.72	0.63	0.63	-0.57
4,663.00	1.66	347.08	4,603.08	209.35	574.95	-293.62	0.70	-0.48	15.69
4,757.00	0.65	295.11	4,697.06	210.91	574.16	-295.18	1.45	-1.07	-55.29
4,851.00	0.92	283.78	4,791.05	211.31	572.95	-295.60	0.33	0.29	-12.05
4,945.00	0.86	290.89	4,885.04	211.74	571.55	-296.05	0.13	-0.06	7.56
5,039.00	0.58	271.67	4,979.03	212.01	570.42	-296.33	0.39	-0.30	-20.45
5,106.00	0.59	280.34	5,046.03	212.08	569.74	-296.41	0.13	0.01	12.94
5,200.00	0.24	205.44	5,140.02	211.99	569.18	-296.32	0.61	-0.37	-79.68
5,294.00	0.65	286.82	5,234.02	211.97	568.58	-296.30	0.70	0.44	86.57
5,388.00	1.89	156.96	5,328.01	210.69	568.68	-295.03	2.51	1.32	-138.15
5,482.00	1.02	123.49	5,421.98	208.81	569.99	-293.13	1.26	-0.93	-35.61
5,576.00	1.32	67.60	5,515.96	208.76	571.68	-293.06	1.20	0.32	-59.46
5,670.00	1.13	41.90	5,609.94	209.86	573.30	-294.15	0.61	-0.20	-27.34
5,764.00	1.25	68.26	5,703.92	210.93	574.88	-295.20	0.59	0.13	28.04
5,858.00	1.04	90.25	5,797.90	211.30	576.68	-295.56	0.51	-0.22	23.39
5,952.00	0.77	45.28	5,891.89	211.75	577.98	-295.98	0.78	-0.29	-47.84
6,045.00	1.21	134.01	5,984.88	211.50	579.13	-295.73	1.53	0.47	95.41
6,139.00	2.12	141.91	6,078.84	209.44	580.92	-293.65	1.00	0.97	8.40
6,233.00	1.61	134.05	6,172.79	207.16	582.94	-291.35	0.61	-0.54	-8.36
6,328.00	1.40	111.59	6,267.76	205.80	584.98	-289.97	0.65	-0.22	-23.64
6,421.00	1.57	100.37	6,360.73	205.16	587.29	-289.30	0.36	0.18	-12.06
6,515.00	1.68	99.63	6,454.69	204.69	589.91	-288.81	0.12	0.12	-0.79
6,609.00	1.80	96.74	6,548.65	204.29	592.74	-288.37	0.16	0.13	-3.07
6,703.00	0.78	20.95	6,642.63	204.71	594.43	-288.78	1.89	-1.09	-80.63
6,797.00	1.24	46.16	6,736.61	206.02	595.40	-290.07	0.67	0.49	26.82
6,891.00	1.82	58.40	6,830.58	207.50	597.40	-291.54	0.70	0.62	13.02
6,985.00	0.95	15.09	6,924.55	209.04	598.88	-293.06	1.39	-0.93	-46.07
7,071.00	0.54	135.83	7,010.55	209.44	599.34	-293.45	1.52	-0.48	140.40
Curve KOP									
7,078.00	0.63	141.92	7,017.55	209.38	599.39	-293.40	1.52	1.24	86.91
First SDI MWD Curve Survey									
7,079.00	0.64	142.65	7,018.55	209.37	599.40	-293.39	1.52	1.29	73.21
7,172.00	9.68	173.48	7,111.08	201.17	600.60	-285.18	9.82	9.72	33.15
7,267.00	18.47	180.62	7,203.14	178.14	601.35	-262.14	9.41	9.25	7.52
7,361.00	28.70	181.12	7,289.18	140.59	600.74	-224.59	10.88	10.88	0.53
7,454.00	40.84	181.74	7,365.43	87.67	599.38	-171.69	13.06	13.05	0.67
7,548.00	52.00	184.93	7,430.13	19.83	595.25	-103.89	12.12	11.87	3.39
7,642.00	50.58	181.12	7,488.93	-53.40	591.36	-30.72	3.50	-1.51	-4.05
7,737.00	54.68	180.74	7,546.58	-128.87	590.14	44.74	4.33	4.32	-0.40
7,831.00	63.03	181.25	7,595.16	-209.24	588.73	125.09	8.90	8.88	0.54
7,925.00	68.73	182.20	7,633.55	-294.95	586.13	210.77	6.13	6.06	1.01

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Site Jaguar 14-23HZ Pad 1N-67W-23
Project:	US Rockies Wattenberg Planning UTM83	TVD Reference:	GL 4993' & KB 17' @ 5010.00ft
Site:	Jaguar 14-23HZ Pad 1N-67W-23	MD Reference:	GL 4993' & KB 17' @ 5010.00ft
Well:	Jaguar 36C-35HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

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)
8,019.00	72.78	181.66	7,664.53	-383.63	583.15	299.41	4.34	4.31	-0.57
8,035.00	74.34	181.74	7,669.06	-398.97	582.69	314.75	9.79	9.78	0.52
Landing Point:19' FNL 2345' FWL Sec 26									
8,113.00	81.97	182.13	7,685.05	-475.21	580.11	390.95	9.79	9.78	0.50
Last SDI MWD Curve Survey									
8,207.00	85.27	184.07	7,695.50	-568.47	575.05	484.16	4.07	3.51	2.06
First SDI MWD Lateral Survey									
8,301.00	88.26	183.64	7,700.80	-662.10	568.74	577.72	3.21	3.18	-0.46
8,395.00	90.22	182.04	7,702.05	-755.97	564.09	671.53	2.69	2.09	-1.70
8,489.00	90.39	181.47	7,701.55	-849.92	561.21	765.45	0.63	0.18	-0.61
8,582.00	90.17	179.98	7,701.09	-942.91	560.03	858.42	1.62	-0.24	-1.60
8,677.00	91.01	180.16	7,700.12	-1,037.90	559.92	953.41	0.90	0.88	0.19
8,771.00	90.94	178.77	7,698.52	-1,131.88	560.79	1,047.39	1.48	-0.07	-1.48
8,865.00	90.78	176.74	7,697.11	-1,225.80	564.48	1,141.34	2.17	-0.17	-2.16
8,959.00	90.41	176.45	7,696.13	-1,319.63	570.06	1,235.22	0.50	-0.39	-0.31
9,053.00	88.63	177.10	7,696.92	-1,413.47	575.35	1,329.11	2.02	-1.89	0.69
9,147.00	86.96	176.87	7,700.53	-1,507.27	580.29	1,422.96	1.79	-1.78	-0.24
9,241.00	88.00	177.54	7,704.67	-1,601.06	584.87	1,516.80	1.32	1.11	0.71
9,333.00	90.04	178.52	7,706.24	-1,692.99	588.03	1,608.75	2.46	2.22	1.07
9,427.00	88.95	176.32	7,707.07	-1,786.88	592.26	1,702.68	2.61	-1.16	-2.34
9,521.00	89.94	176.28	7,707.98	-1,880.68	598.32	1,796.54	1.05	1.05	-0.04
9,615.00	89.97	178.36	7,708.05	-1,974.57	602.72	1,890.47	2.21	0.03	2.21
9,709.00	90.25	179.66	7,707.87	-2,068.56	604.34	1,984.47	1.41	0.30	1.38
9,803.00	91.04	179.60	7,706.81	-2,162.55	604.95	2,078.46	0.84	0.84	-0.06
9,897.00	90.41	179.33	7,705.63	-2,256.54	605.83	2,172.45	0.73	-0.67	-0.29
9,991.00	88.62	176.55	7,706.42	-2,350.46	609.21	2,266.41	3.52	-1.90	-2.96
10,085.00	89.74	177.59	7,707.77	-2,444.32	614.01	2,360.32	1.63	1.19	1.11
10,179.00	89.76	179.81	7,708.18	-2,538.29	616.14	2,454.30	2.36	0.02	2.36
10,273.00	90.97	180.69	7,707.58	-2,632.29	615.73	2,548.29	1.59	1.29	0.94
10,367.00	91.00	181.03	7,705.96	-2,726.26	614.32	2,642.24	0.36	0.03	0.36
10,462.00	91.77	182.75	7,703.67	-2,821.18	611.19	2,737.12	1.98	0.81	1.81
10,556.00	91.80	183.01	7,700.74	-2,915.01	606.47	2,830.90	0.28	0.03	0.28
10,650.00	91.83	181.78	7,697.76	-3,008.88	602.54	2,924.72	1.31	0.03	-1.31
10,744.00	91.54	179.42	7,695.00	-3,102.83	601.56	3,018.66	2.53	-0.31	-2.51
10,837.00	90.23	178.76	7,693.56	-3,195.80	603.04	3,111.64	1.58	-1.41	-0.71
10,931.00	89.28	176.05	7,693.96	-3,289.70	607.29	3,205.57	3.05	-1.01	-2.88
11,025.00	88.58	173.36	7,695.72	-3,383.27	615.96	3,299.23	2.96	-0.74	-2.86
11,119.00	86.59	174.54	7,699.68	-3,476.66	625.86	3,392.72	2.46	-2.12	1.26
11,213.00	85.83	175.90	7,705.89	-3,570.12	633.68	3,486.26	1.65	-0.81	1.45
11,306.00	86.18	176.06	7,712.37	-3,662.67	640.18	3,578.87	0.41	0.38	0.17
11,398.00	86.41	175.49	7,718.32	-3,754.23	646.95	3,670.49	0.67	0.25	-0.62
11,491.00	86.94	176.38	7,723.71	-3,846.84	653.53	3,763.17	1.11	0.57	0.96
11,583.00	87.33	178.71	7,728.31	-3,938.63	657.46	3,855.00	2.56	0.42	2.53
11,676.00	90.84	179.55	7,729.79	-4,031.59	658.87	3,947.97	3.88	3.77	0.90

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Site Jaguar 14-23HZ Pad 1N-67W-23
Project:	US Rockies Wattenberg Planning UTM83	TVD Reference:	GL 4993' & KB 17' @ 5010.00ft
Site:	Jaguar 14-23HZ Pad 1N-67W-23	MD Reference:	GL 4993' & KB 17' @ 5010.00ft
Well:	Jaguar 36C-35HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

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)
11,770.00	91.22	180.25	7,728.10	-4,125.58	659.04	4,041.95	0.85	0.40	0.74
11,864.00	89.32	179.13	7,727.66	-4,219.57	659.55	4,135.94	2.35	-2.02	-1.19
11,958.00	89.53	179.21	7,728.60	-4,313.55	660.91	4,229.93	0.24	0.22	0.09
12,052.00	90.35	180.24	7,728.70	-4,407.55	661.36	4,323.93	1.40	0.87	1.10
12,146.00	90.71	180.70	7,727.83	-4,501.54	660.59	4,417.91	0.62	0.38	0.49
12,240.00	89.80	179.87	7,727.41	-4,595.54	660.12	4,511.90	1.31	-0.97	-0.88
12,334.00	89.55	180.49	7,727.95	-4,689.54	659.82	4,605.89	0.71	-0.27	0.66
12,428.00	89.64	179.47	7,728.61	-4,783.53	659.86	4,699.88	1.09	0.10	-1.09
12,522.00	90.82	181.32	7,728.24	-4,877.52	659.21	4,793.86	2.33	1.26	1.97
12,616.00	92.04	181.22	7,725.89	-4,971.47	657.13	4,887.78	1.30	1.30	-0.11
12,711.00	91.07	179.17	7,723.31	-5,066.43	656.80	4,982.72	2.39	-1.02	-2.16
12,804.00	90.80	176.57	7,721.79	-5,159.34	660.26	5,075.67	2.81	-0.29	-2.80
12,899.00	91.36	177.16	7,720.00	-5,254.18	665.45	5,170.56	0.86	0.59	0.62
12,993.00	89.94	173.06	7,718.94	-5,347.81	673.47	5,264.27	4.62	-1.51	-4.36
13,087.00	89.99	175.69	7,718.99	-5,441.35	682.68	5,357.90	2.80	0.05	2.80
13,181.00	89.63	176.69	7,719.30	-5,535.14	688.92	5,451.75	1.13	-0.38	1.06
13,275.00	90.41	179.64	7,719.27	-5,629.08	691.93	5,545.72	3.25	0.83	3.14
13,364.00	90.28	180.02	7,718.74	-5,718.08	692.20	5,634.71	0.45	-0.15	0.43
13,453.00	90.34	178.86	7,718.25	-5,807.07	693.07	5,723.71	1.31	0.07	-1.30
13,542.00	90.63	177.64	7,717.50	-5,896.03	695.79	5,812.69	1.41	0.33	-1.37
13,631.00	89.34	180.04	7,717.52	-5,985.00	697.59	5,901.67	3.06	-1.45	2.70
13,720.00	90.54	179.84	7,717.62	-6,074.00	697.68	5,990.67	1.37	1.35	-0.22
13,809.00	90.84	180.05	7,716.55	-6,162.99	697.77	6,079.66	0.41	0.34	0.24
13,898.00	89.16	179.42	7,716.55	-6,251.99	698.18	6,168.65	2.02	-1.89	-0.71
13,987.00	90.30	180.57	7,716.97	-6,340.98	698.18	6,257.64	1.82	1.28	1.29
14,076.00	90.30	179.42	7,716.50	-6,429.98	698.19	6,346.64	1.29	0.00	-1.29
14,165.00	91.48	182.28	7,715.12	-6,518.95	696.87	6,435.59	3.48	1.33	3.21
14,254.00	91.16	183.85	7,713.07	-6,607.80	692.12	6,524.38	1.80	-0.36	1.76
14,343.00	89.52	184.35	7,712.54	-6,696.56	685.75	6,613.07	1.93	-1.84	0.56
14,432.00	90.61	185.17	7,712.44	-6,785.25	678.37	6,701.68	1.53	1.22	0.92
14,521.00	91.15	184.43	7,711.07	-6,873.93	670.92	6,790.28	1.03	0.61	-0.83
14,610.00	89.31	182.52	7,710.71	-6,962.76	665.53	6,879.04	2.98	-2.07	-2.15
14,699.00	88.35	182.72	7,712.53	-7,051.65	661.46	6,967.88	1.10	-1.08	0.22
14,789.00	89.99	183.00	7,713.83	-7,141.52	656.97	7,057.71	1.85	1.82	0.31
14,878.00	91.24	182.29	7,712.88	-7,230.42	652.86	7,146.56	1.62	1.40	-0.80
14,966.00	90.87	179.53	7,711.26	-7,318.38	651.47	7,234.50	3.16	-0.42	-3.14
15,055.00	90.50	177.44	7,710.19	-7,407.34	653.82	7,323.48	2.38	-0.42	-2.35
15,144.00	91.05	177.82	7,708.99	-7,496.26	657.50	7,412.43	0.75	0.62	0.43
15,233.00	89.30	177.12	7,708.72	-7,585.16	661.43	7,501.37	2.12	-1.97	-0.79
15,322.00	90.51	178.87	7,708.87	-7,674.11	664.54	7,590.34	2.39	1.36	1.97
15,411.00	88.81	178.09	7,709.39	-7,763.07	666.90	7,679.32	2.10	-1.91	-0.88
15,500.00	88.57	177.73	7,711.43	-7,851.99	670.15	7,768.27	0.49	-0.27	-0.40
15,589.00	88.82	178.48	7,713.46	-7,940.91	673.09	7,857.22	0.89	0.28	0.84

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Site Jaguar 14-23HZ Pad 1N-67W-23
Project:	US Rockies Wattenberg Planning UTM83	TVD Reference:	GL 4993' & KB 17' @ 5010.00ft
Site:	Jaguar 14-23HZ Pad 1N-67W-23	MD Reference:	GL 4993' & KB 17' @ 5010.00ft
Well:	Jaguar 36C-35HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

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)
15,678.00	89.68	178.70	7,714.62	-8,029.88	675.28	7,946.21	1.00	0.97	0.25
15,767.00	90.38	178.04	7,714.57	-8,118.84	677.81	8,035.19	1.08	0.79	-0.74
15,856.00	90.16	177.47	7,714.15	-8,207.77	681.30	8,124.15	0.69	-0.25	-0.64
15,945.00	88.36	176.51	7,715.30	-8,296.64	685.97	8,213.06	2.29	-2.02	-1.08
16,034.00	91.29	181.80	7,715.58	-8,385.58	687.28	8,302.02	6.79	3.29	5.94
16,123.00	90.55	182.63	7,714.15	-8,474.51	683.84	8,390.90	1.25	-0.83	0.93
16,212.00	91.22	182.71	7,712.77	-8,563.40	679.70	8,479.74	0.76	0.75	0.09
16,301.00	89.20	180.89	7,712.45	-8,652.34	676.90	8,568.66	3.05	-2.27	-2.04
16,390.00	88.38	180.51	7,714.33	-8,741.32	675.81	8,657.61	1.02	-0.92	-0.43
16,479.00	89.17	179.85	7,716.23	-8,830.30	675.53	8,746.58	1.16	0.89	-0.74
16,568.00	88.09	178.31	7,718.36	-8,919.25	676.96	8,835.55	2.11	-1.21	-1.73
16,657.00	90.68	182.28	7,719.31	-9,008.22	676.50	8,924.51	5.33	2.91	4.46
16,746.00	91.21	182.33	7,717.84	-9,097.14	672.92	9,013.38	0.60	0.60	0.06
16,835.00	91.58	182.28	7,715.68	-9,186.04	669.35	9,102.24	0.42	0.42	-0.06
16,924.00	90.71	182.71	7,713.90	-9,274.94	665.47	9,191.09	1.09	-0.98	0.48
17,013.00	91.34	181.66	7,712.31	-9,363.86	662.08	9,279.97	1.38	0.71	-1.18
17,102.00	88.69	178.68	7,712.28	-9,452.84	661.82	9,368.95	4.48	-2.98	-3.35
17,191.00	89.36	180.07	7,713.80	-9,541.82	662.79	9,457.93	1.73	0.75	1.56
17,280.00	89.22	180.31	7,714.90	-9,630.81	662.49	9,546.92	0.31	-0.16	0.27
17,370.00	90.66	180.94	7,715.00	-9,720.80	661.51	9,636.89	1.75	1.60	0.70
17,459.00	89.78	179.03	7,714.65	-9,809.80	661.53	9,725.88	2.36	-0.99	-2.15
17,549.00	88.11	176.98	7,716.31	-9,899.72	664.66	9,815.83	2.94	-1.86	-2.28
17,638.00	88.47	177.12	7,718.97	-9,988.56	669.24	9,904.72	0.43	0.40	0.16
17,728.00	88.99	177.75	7,720.96	-10,078.45	673.27	9,994.64	0.91	0.58	0.70
17,816.00	88.15	176.38	7,723.16	-10,166.30	677.77	10,082.54	1.83	-0.95	-1.56
17,905.00	90.94	180.12	7,723.86	-10,255.23	680.49	10,171.49	5.24	3.13	4.20
18,006.00	91.53	179.59	7,721.69	-10,356.21	680.75	10,272.47	0.79	0.58	-0.52
Last SDI MWD Survey									
18,069.00	91.53	179.59	7,720.01	-10,419.18	681.20	10,335.44	0.00	0.00	0.00
Projection to TD: 515' FSL 2402' FWL Sec 35									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
	1,800.00	9 5/8"	9.625	13.500	
8,088.02	7,681.04	7"	7.000	8.750	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Site Jaguar 14-23HZ Pad 1N-67W-23
Project:	US Rockies Wattenberg Planning UTM83	TVD Reference:	GL 4993' & KB 17' @ 5010.00ft
Site:	Jaguar 14-23HZ Pad 1N-67W-23	MD Reference:	GL 4993' & KB 17' @ 5010.00ft
Well:	Jaguar 36C-35HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
187.00	187.00	-0.15	-0.45	First SDI MWD Survey
2,209.00	2,173.73	114.45	340.06	Last SDI MWD Surface Survey
2,314.00	2,276.53	121.40	360.26	First SDI MWD Production Survey
2,598.79	2,554.59	140.74	418.43	Enter Lad Box: 2598.79' MD & 2554.59' TVD
7,071.00	7,010.55	209.44	599.34	Curve KOP
7,078.00	7,017.55	209.38	599.39	First SDI MWD Curve Survey
8,035.00	7,669.06	-398.97	582.69	Landing Point:19' FNL 2345' FWL Sec 26
8,113.00	7,685.05	-475.21	580.11	Last SDI MWD Curve Survey
8,207.00	7,695.50	-568.47	575.05	First SDI MWD Lateral Survey
18,006.00	7,721.69	-10,356.21	680.75	Last SDI MWD Survey
18,069.00	7,720.01	-10,419.18	681.20	Projection to TD: 515' FSL 2402' FWL Sec 35

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------