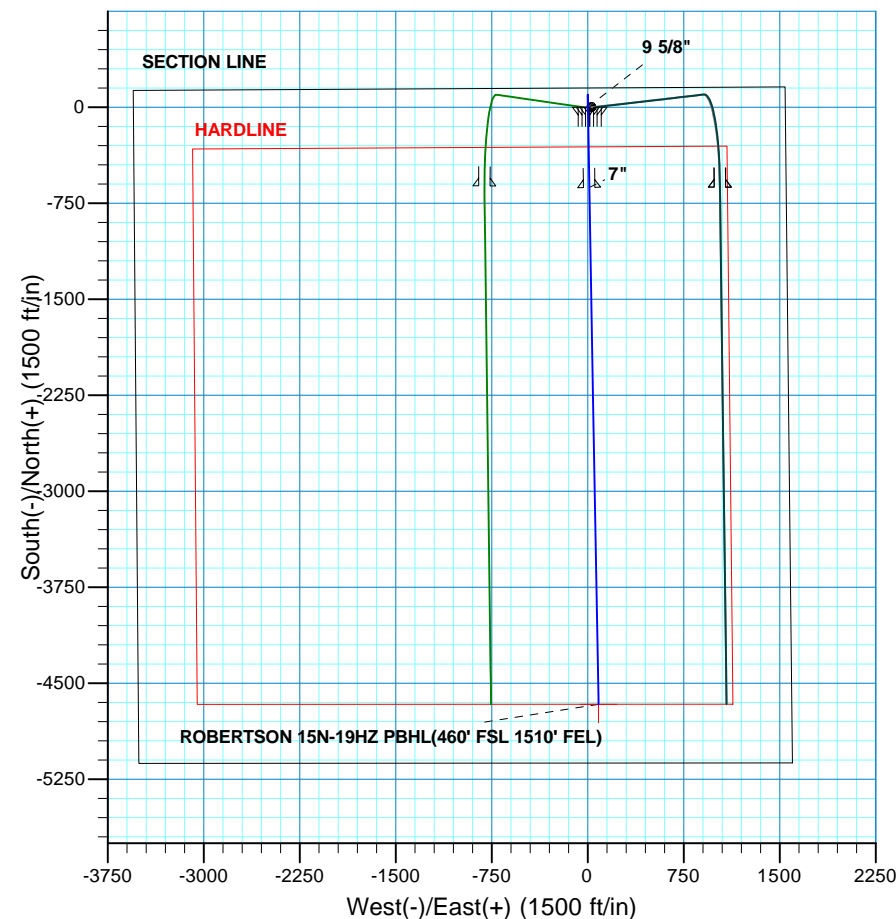
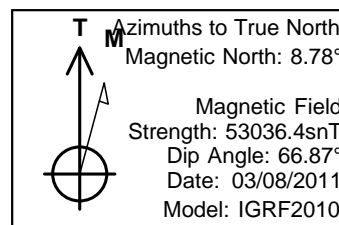
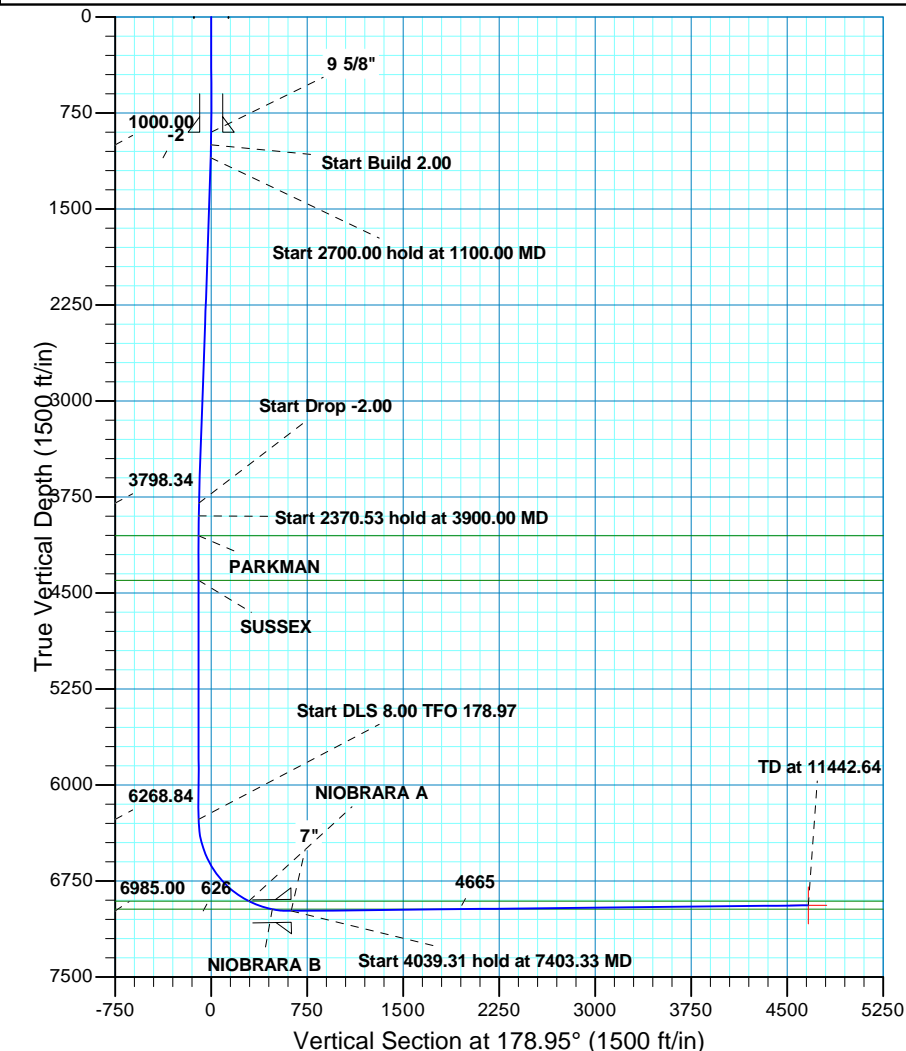
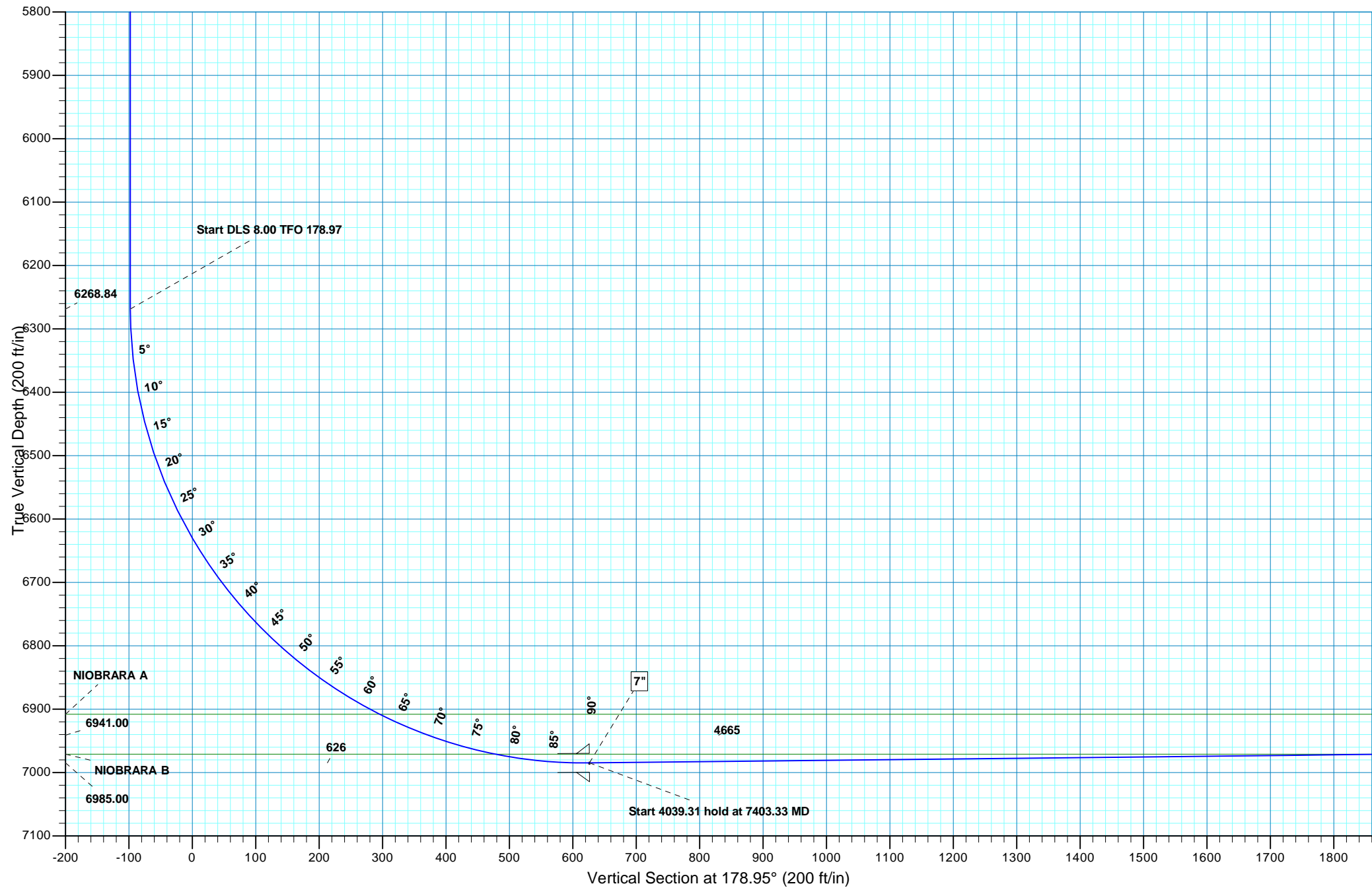


WELL DETAILS: ROBERTSON 15N-19HZ							
17" RKB + 4936" GL @ 4953.00ft (ASSUMED)							
	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
	0.00	0.00	1291784.56	3254383.29	40° 7' 50.736 N	104° 35' 24.814 W	
DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL	6941.00	-4664.59	85.30	1287121.11	3254516.44	40° 7' 4.638 N	104° 35' 23.716 W
- plan hits target center							
SECTION DETAILS							
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00
1100.00	2.00	0.00	1099.98	1.75	0.00	2.00	0.00
3800.00	2.00	0.00	3798.34	95.97	0.00	0.00	0.00
3900.00	0.00	0.00	3898.32	97.72	0.00	2.00	180.00
6270.53	0.00	0.00	6268.84	97.72	0.00	0.00	0.00
7403.33	90.62	178.97	6985.00	-626.16	12.97	8.00	178.97
11442.64	90.62	178.97	6941.00	-4664.59	85.30	0.00	0.00
ROBERTSON 15N-19HZ PBHL(460' FSL 1510' FEL)							



CASING DETAILS			
TVD	MD	Name	Size
900.00	900.00	9 5/8"	9.62
6985.00	7403.33	7"	7.00
FORMATION TOP DETAILS			
TVDPATH	MDPATH	FORMATION	
4054.00	4055.69	PARKMAN	0.00
4402.00	4403.69	SUSSEX	0.00
6908.00	7060.28	NIOBRARA A	0.00
6971.00	7253.48	NIOBRARA B	0.00
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:			
System Datum: Mean Sea Level			



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_ROBERTSON PAD**

**ROBERTSON 15N-19HZ**

**ROBERTSON 15N-19HZ**

**Plan: ROBERTSON 15N-19HZ(wp02)**

## **Standard Planning Report**

**14 March, 2011**

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well ROBERTSON 15N-19HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	17' RKB + 4936' GL @ 4953.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + 4936' GL @ 4953.00ft (ASSUMED)
<b>Site:</b>	WELD_ROBERTSON PAD	<b>North Reference:</b>	True
<b>Well:</b>	ROBERTSON 15N-19HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ROBERTSON 15N-19HZ		
<b>Design:</b>	ROBERTSON 15N-19HZ(wp02)		

<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		

Site		WELD_ROBERTSON PAD			
Site Position:		Northing:	1,291,783.91 usft	Latitude:	40° 7' 50.732 N
From:	Lat/Long	Easting:	3,254,353.38 usft	Longitude:	104° 35' 25.199 W
Position Uncertainty:	0.00 ft	Slot Radius:	0.00 in	Grid Convergence:	0.59

Well	ROBERTSON 15N-19HZ, 151' FNL 1544' FEL					
Well Position	+N/-S	0.35 ft	Northing:	1,291,784.56 usft	Latitude:	40° 7' 50.736 N
	+E/-W	29.92 ft	Easting:	3,254,383.30 usft	Longitude:	104° 35' 24.814 W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,936.00 ft

<b>Wellbore</b>	ROBERTSON 15N-19HZ				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	03/08/2011	8.78	66.87	53,036

<b>Design</b>	ROBERTSON 15N-19HZ(wp02)				
<b>Audit Notes:</b>					
<b>Version:</b>		<b>Phase:</b>	PLAN	<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	178.95	

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,100.00	2.00	0.00	1,099.98	1.75	0.00	2.00	2.00	0.00	0.00	
3,800.00	2.00	0.00	3,798.34	95.97	0.00	0.00	0.00	0.00	0.00	
3,900.00	0.00	0.00	3,898.32	97.72	0.00	2.00	-2.00	0.00	180.00	
6,270.53	0.00	0.00	6,268.84	97.72	0.00	0.00	0.00	0.00	0.00	
7,403.33	90.62	178.97	6,985.00	-626.16	12.97	8.00	8.00	15.80	178.97	
11,442.64	90.62	178.97	6,941.00	-4,664.59	85.30	0.00	0.00	0.00	0.00	ROBERTSON 15N-19HZ

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well ROBERTSON 15N-19HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	17' RKB + 4936' GL @ 4953.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + 4936' GL @ 4953.00ft (ASSUMED)
<b>Site:</b>	WELD_ROBERTSON PAD	<b>North Reference:</b>	True
<b>Well:</b>	ROBERTSON 15N-19HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ROBERTSON 15N-19HZ		
<b>Design:</b>	ROBERTSON 15N-19HZ(wp02)		

Planned 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	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
9 5/8"										
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
Start Build 2.00										
1,100.00	2.00	0.00	1,099.98	1.75	0.00	-1.74	2.00	2.00	0.00	
Start 2700.00 hold at 1100.00 MD										
1,200.00	2.00	0.00	1,199.92	5.24	0.00	-5.23	0.00	0.00	0.00	
1,300.00	2.00	0.00	1,299.86	8.73	0.00	-8.72	0.00	0.00	0.00	
1,400.00	2.00	0.00	1,399.80	12.22	0.00	-12.21	0.00	0.00	0.00	
1,500.00	2.00	0.00	1,499.74	15.70	0.00	-15.70	0.00	0.00	0.00	
1,600.00	2.00	0.00	1,599.68	19.19	0.00	-19.19	0.00	0.00	0.00	
1,700.00	2.00	0.00	1,699.62	22.68	0.00	-22.68	0.00	0.00	0.00	
1,800.00	2.00	0.00	1,799.56	26.17	0.00	-26.17	0.00	0.00	0.00	
1,900.00	2.00	0.00	1,899.50	29.66	0.00	-29.66	0.00	0.00	0.00	
2,000.00	2.00	0.00	1,999.44	33.15	0.00	-33.15	0.00	0.00	0.00	
2,100.00	2.00	0.00	2,099.37	36.64	0.00	-36.64	0.00	0.00	0.00	
2,200.00	2.00	0.00	2,199.31	40.13	0.00	-40.13	0.00	0.00	0.00	
2,300.00	2.00	0.00	2,299.25	43.62	0.00	-43.62	0.00	0.00	0.00	
2,400.00	2.00	0.00	2,399.19	47.11	0.00	-47.11	0.00	0.00	0.00	
2,500.01	2.00	0.00	2,499.13	50.60	0.00	-50.60	0.00	0.00	0.00	
2,600.01	2.00	0.00	2,599.07	54.09	0.00	-54.09	0.00	0.00	0.00	
2,700.01	2.00	0.00	2,699.01	57.58	0.00	-57.57	0.00	0.00	0.00	
2,800.01	2.00	0.00	2,798.95	61.07	0.00	-61.06	0.00	0.00	0.00	
2,900.01	2.00	0.00	2,898.89	64.56	0.00	-64.55	0.00	0.00	0.00	
3,000.01	2.00	0.00	2,998.83	68.05	0.00	-68.04	0.00	0.00	0.00	
3,100.01	2.00	0.00	3,098.77	71.54	0.00	-71.53	0.00	0.00	0.00	
3,200.01	2.00	0.00	3,198.71	75.03	0.00	-75.02	0.00	0.00	0.00	
3,300.01	2.00	0.00	3,298.65	78.52	0.00	-78.51	0.00	0.00	0.00	
3,400.01	2.00	0.00	3,398.59	82.01	0.00	-82.00	0.00	0.00	0.00	
3,500.01	2.00	0.00	3,498.52	85.50	0.00	-85.49	0.00	0.00	0.00	
3,600.01	2.00	0.00	3,598.46	88.99	0.00	-88.98	0.00	0.00	0.00	
3,700.01	2.00	0.00	3,698.40	92.48	0.00	-92.47	0.00	0.00	0.00	
3,800.00	2.00	0.00	3,798.34	95.97	0.00	-95.96	0.00	0.00	0.00	
Start Drop -2.00										
3,800.01	2.00	0.00	3,798.34	95.97	0.00	-95.96	0.00	0.00	0.00	
3,900.00	0.00	0.00	3,898.32	97.72	0.00	-97.70	2.00	-2.00	0.00	
Start 2370.53 hold at 3900.00 MD										
3,900.01	0.00	0.00	3,898.32	97.72	0.00	-97.70	0.00	0.00	0.00	
4,000.01	0.00	0.00	3,998.32	97.72	0.00	-97.70	0.00	0.00	0.00	
4,055.69	0.00	0.00	4,054.00	97.72	0.00	-97.70	0.00	0.00	0.00	
PARKMAN										
4,100.01	0.00	0.00	4,098.32	97.72	0.00	-97.70	0.00	0.00	0.00	

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well ROBERTSON 15N-19HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	17' RKB + 4936' GL @ 4953.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + 4936' GL @ 4953.00ft (ASSUMED)
<b>Site:</b>	WELD_ROBERTSON PAD	<b>North Reference:</b>	True
<b>Well:</b>	ROBERTSON 15N-19HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ROBERTSON 15N-19HZ		
<b>Design:</b>	ROBERTSON 15N-19HZ(wp02)		

Planned 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)	
4,200.01	0.00	0.00	4,198.32	97.72	0.00	-97.70	0.00	0.00	0.00	
4,300.01	0.00	0.00	4,298.32	97.72	0.00	-97.70	0.00	0.00	0.00	
4,400.01	0.00	0.00	4,398.32	97.72	0.00	-97.70	0.00	0.00	0.00	
4,403.69	0.00	0.00	4,402.00	97.72	0.00	-97.70	0.00	0.00	0.00	
<b>SUSSEX</b>										
4,500.01	0.00	0.00	4,498.32	97.72	0.00	-97.70	0.00	0.00	0.00	
4,600.01	0.00	0.00	4,598.32	97.72	0.00	-97.70	0.00	0.00	0.00	
4,700.01	0.00	0.00	4,698.32	97.72	0.00	-97.70	0.00	0.00	0.00	
4,800.01	0.00	0.00	4,798.32	97.72	0.00	-97.70	0.00	0.00	0.00	
4,900.01	0.00	0.00	4,898.32	97.72	0.00	-97.70	0.00	0.00	0.00	
5,000.01	0.00	0.00	4,998.32	97.72	0.00	-97.70	0.00	0.00	0.00	
5,100.01	0.00	0.00	5,098.32	97.72	0.00	-97.70	0.00	0.00	0.00	
5,200.01	0.00	0.00	5,198.33	97.72	0.00	-97.70	0.00	0.00	0.00	
5,300.01	0.00	0.00	5,298.33	97.72	0.00	-97.70	0.00	0.00	0.00	
5,400.01	0.00	0.00	5,398.33	97.72	0.00	-97.70	0.00	0.00	0.00	
5,500.01	0.00	0.00	5,498.33	97.72	0.00	-97.70	0.00	0.00	0.00	
5,600.01	0.00	0.00	5,598.33	97.72	0.00	-97.70	0.00	0.00	0.00	
5,700.01	0.00	0.00	5,698.33	97.72	0.00	-97.70	0.00	0.00	0.00	
5,800.01	0.00	0.00	5,798.33	97.72	0.00	-97.70	0.00	0.00	0.00	
5,900.01	0.00	0.00	5,898.33	97.72	0.00	-97.70	0.00	0.00	0.00	
6,000.01	0.00	0.00	5,998.33	97.72	0.00	-97.70	0.00	0.00	0.00	
6,100.01	0.00	0.00	6,098.33	97.72	0.00	-97.70	0.00	0.00	0.00	
6,200.01	0.00	0.00	6,198.33	97.72	0.00	-97.70	0.00	0.00	0.00	
6,270.53	0.00	0.00	6,268.84	97.72	0.00	-97.70	0.00	0.00	0.00	
<b>Start DLS 8.00 TFO 178.97</b>										
6,300.01	2.36	178.97	6,298.32	97.11	0.01	-97.10	8.00	8.00	607.05	
6,400.01	10.36	178.97	6,397.62	86.05	0.21	-86.03	8.00	8.00	0.00	
6,500.01	18.36	178.97	6,494.42	61.27	0.65	-61.25	8.00	8.00	0.00	
6,600.01	26.36	178.97	6,586.83	23.27	1.33	-23.24	8.00	8.00	0.00	
6,700.01	34.36	178.97	6,673.05	-27.22	2.24	27.26	8.00	8.00	0.00	
6,800.01	42.36	178.97	6,751.40	-89.22	3.35	89.27	8.00	8.00	0.00	
6,900.01	50.36	178.97	6,820.36	-161.52	4.64	161.58	8.00	8.00	0.00	
7,000.01	58.36	178.97	6,878.58	-242.71	6.10	242.78	8.00	8.00	0.00	
7,060.28	63.18	178.97	6,908.00	-295.28	7.04	295.36	8.00	8.00	0.00	
<b>NIOBRARA A</b>										
7,100.01	66.36	178.97	6,924.93	-331.21	7.68	331.29	8.00	8.00	0.00	
7,200.01	74.36	178.97	6,958.52	-425.30	9.37	425.40	8.00	8.00	0.00	
7,253.48	78.64	178.97	6,971.00	-477.26	10.30	477.37	8.00	8.00	0.00	
<b>NIOBRARA B</b>										
7,300.01	82.36	178.97	6,978.68	-523.15	11.12	523.26	8.00	8.00	0.00	
7,400.01	90.36	178.97	6,985.03	-622.85	12.91	622.98	8.00	8.00	0.00	
7,403.33	90.62	178.97	6,985.00	-626.16	12.97	626.29	8.00	8.00	0.00	
<b>Start 4039.31 hold at 7403.33 MD - 7"</b>										
7,407.27	90.62	178.97	6,984.96	-630.10	13.04	630.24	0.00	0.00	0.00	
<b>ROBERTSON 15N-19HZ CSG PT</b>										
7,500.02	90.62	178.97	6,983.95	-722.83	14.70	722.97	0.00	0.00	0.00	
7,600.02	90.62	178.97	6,982.86	-822.80	16.49	822.97	0.00	0.00	0.00	
7,700.02	90.62	178.97	6,981.77	-922.78	18.28	922.96	0.00	0.00	0.00	
7,800.02	90.62	178.97	6,980.68	-1,022.76	20.07	1,022.96	0.00	0.00	0.00	
7,900.02	90.62	178.97	6,979.59	-1,122.74	21.86	1,122.95	0.00	0.00	0.00	
8,000.02	90.62	178.97	6,978.50	-1,222.72	23.65	1,222.95	0.00	0.00	0.00	

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well ROBERTSON 15N-19HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	17' RKB + 4936' GL @ 4953.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + 4936' GL @ 4953.00ft (ASSUMED)
<b>Site:</b>	WELD_ROBERTSON PAD	<b>North Reference:</b>	True
<b>Well:</b>	ROBERTSON 15N-19HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ROBERTSON 15N-19HZ		
<b>Design:</b>	ROBERTSON 15N-19HZ(wp02)		

Planned 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)
8,100.02	90.62	178.97	6,977.41	-1,322.70	25.44	1,322.94	0.00	0.00	0.00
8,200.02	90.62	178.97	6,976.32	-1,422.67	27.23	1,422.93	0.00	0.00	0.00
8,300.02	90.62	178.97	6,975.23	-1,522.65	29.02	1,522.93	0.00	0.00	0.00
8,400.02	90.62	178.97	6,974.14	-1,622.63	30.81	1,622.92	0.00	0.00	0.00
8,500.02	90.62	178.97	6,973.05	-1,722.61	32.60	1,722.92	0.00	0.00	0.00
8,600.02	90.62	178.97	6,971.96	-1,822.59	34.40	1,822.91	0.00	0.00	0.00
8,700.02	90.62	178.97	6,970.87	-1,922.56	36.19	1,922.90	0.00	0.00	0.00
8,800.02	90.62	178.97	6,969.79	-2,022.54	37.98	2,022.90	0.00	0.00	0.00
8,900.02	90.62	178.97	6,968.70	-2,122.52	39.77	2,122.89	0.00	0.00	0.00
9,000.02	90.62	178.97	6,967.61	-2,222.50	41.56	2,222.89	0.00	0.00	0.00
9,100.02	90.62	178.97	6,966.52	-2,322.48	43.35	2,322.88	0.00	0.00	0.00
9,200.02	90.62	178.97	6,965.43	-2,422.46	45.14	2,422.88	0.00	0.00	0.00
9,300.02	90.62	178.97	6,964.34	-2,522.43	46.93	2,522.87	0.00	0.00	0.00
9,400.02	90.62	178.97	6,963.25	-2,622.41	48.72	2,622.86	0.00	0.00	0.00
9,500.02	90.62	178.97	6,962.16	-2,722.39	50.51	2,722.86	0.00	0.00	0.00
9,600.02	90.62	178.97	6,961.07	-2,822.37	52.30	2,822.85	0.00	0.00	0.00
9,700.02	90.62	178.97	6,959.98	-2,922.35	54.09	2,922.85	0.00	0.00	0.00
9,800.02	90.62	178.97	6,958.89	-3,022.33	55.88	3,022.84	0.00	0.00	0.00
9,900.02	90.62	178.97	6,957.80	-3,122.30	57.67	3,122.84	0.00	0.00	0.00
10,000.02	90.62	178.97	6,956.71	-3,222.28	59.47	3,222.83	0.00	0.00	0.00
10,100.02	90.62	178.97	6,955.63	-3,322.26	61.26	3,322.82	0.00	0.00	0.00
10,200.02	90.62	178.97	6,954.54	-3,422.24	63.05	3,422.82	0.00	0.00	0.00
10,300.02	90.62	178.97	6,953.45	-3,522.22	64.84	3,522.81	0.00	0.00	0.00
10,400.02	90.62	178.97	6,952.36	-3,622.19	66.63	3,622.81	0.00	0.00	0.00
10,500.02	90.62	178.97	6,951.27	-3,722.17	68.42	3,722.80	0.00	0.00	0.00
10,600.02	90.62	178.97	6,950.18	-3,822.15	70.21	3,822.80	0.00	0.00	0.00
10,700.02	90.62	178.97	6,949.09	-3,922.13	72.00	3,922.79	0.00	0.00	0.00
10,800.02	90.62	178.97	6,948.00	-4,022.11	73.79	4,022.78	0.00	0.00	0.00
10,900.02	90.62	178.97	6,946.91	-4,122.09	75.58	4,122.78	0.00	0.00	0.00
11,000.02	90.62	178.97	6,945.82	-4,222.06	77.37	4,222.77	0.00	0.00	0.00
11,100.02	90.62	178.97	6,944.73	-4,322.04	79.16	4,322.77	0.00	0.00	0.00
11,200.02	90.62	178.97	6,943.64	-4,422.02	80.95	4,422.76	0.00	0.00	0.00
11,300.02	90.62	178.97	6,942.55	-4,522.00	82.75	4,522.76	0.00	0.00	0.00
11,400.02	90.62	178.97	6,941.46	-4,621.98	84.54	4,622.75	0.00	0.00	0.00
11,442.64	90.62	178.97	6,941.00	-4,664.59	85.30	4,665.37	0.00	0.00	0.00
TD at 11442.64 - ROBERTSON 15N-19HZ PBHL(460' FSL 1510' FEL)									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
ROBERTSON 15N-19H; - hit/miss target - Shape	0.00	0.00	6,941.00	-4,664.59	85.30	1,287,121.11	3,254,516.45	40° 7' 4.638 N	104° 35' 23.716 W
ROBERTSON 15N-19H; - plan hits target center - Point									
ROBERTSON 15N-19H; - plan misses target center by 33.78ft at 7407.27ft MD (6984.96 TVD, -630.10 N, 13.04 E) - Point	0.00	0.00	6,985.00	-629.50	46.81	1,291,155.58	3,254,436.56	40° 7' 44.515 N	104° 35' 24.211 W

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well ROBERTSON 15N-19HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	17' RKB + 4936' GL @ 4953.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	17' RKB + 4936' GL @ 4953.00ft (ASSUMED)
<b>Site:</b>	WELD_ROBERTSON PAD	<b>North Reference:</b>	True
<b>Well:</b>	ROBERTSON 15N-19HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ROBERTSON 15N-19HZ		
<b>Design:</b>	ROBERTSON 15N-19HZ(wp02)		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
900.00	900.00	9 5/8"	9.63	12.25	
7,403.33	6,985.00	7"	7.00	8.75	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,055.69	4,054.00	PARKMAN		0.00	
4,403.69	4,402.00	SUSSEX		0.00	
7,060.28	6,908.00	NIOBRARA A		0.00	
7,253.48	6,971.00	NIOBRARA B		0.00	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,000.00	1,000.00	0.00	0.00	Start Build 2.00	
1,100.00	1,099.98	1.75	0.00	Start 2700.00 hold at 1100.00 MD	
3,800.00	3,798.34	95.97	0.00	Start Drop -2.00	
3,900.00	3,898.32	97.72	0.00	Start 2370.53 hold at 3900.00 MD	
6,270.53	6,268.84	97.72	0.00	Start DLS 8.00 TFO 178.97	
7,403.33	6,985.00	-626.16	12.97	Start 4039.31 hold at 7403.33 MD	
11,442.64	6,941.00	-4,664.59	85.30	TD at 11442.64	