



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_VOGL 3 PAD**

**P\_VOGL 26-6**

**P\_VOGL 26-6**

**Plan: PLAN #1 12-28-09 RHS**

## **Standard Planning Report**

**28 December, 2009**





Azimuths to True North  
Magnetic North: 9.13°  
  
Magnetic Field  
Strength: 53202.6nT  
Dip Angle: 66.91°  
Date: 9/1/2009  
Model: IGRF200510

#### WELL DETAILS: P\_VOGL 26-6

+N/-S	+E/-W	Northing	Ground Level: Easting	4830.00 Latitude	Longitude	Slot
0.00	0.00	1306928.48	3161479.83	40° 10' 28.092 N	104° 55' 19.632 W	

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3708.00	3724.55	PARKMAN
4146.00	4165.19	SUSSEX
4672.00	4694.36	SHANNON
7037.00	7066.32	NIO A
7292.00	7321.32	CODELL
7722.00	7751.32	JSAND

#### SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	0.00	
1063.59	6.27	297.81	1062.97	8.00	-15.17	2.00	297.81	17.15	
5752.72	6.27	297.81	5724.03	247.02	-468.26	0.00	0.00	529.42	
6066.32	0.00	0.00	6037.00	255.02	-483.42	2.00	180.00	546.56	
7901.32	0.00	0.00	7872.00	255.02	-483.42	0.00	0.00	546.56	PBHL_VOGL 26-5(50 FNL 150 FEL)50' TGT RAD

#### CASING DETAILS

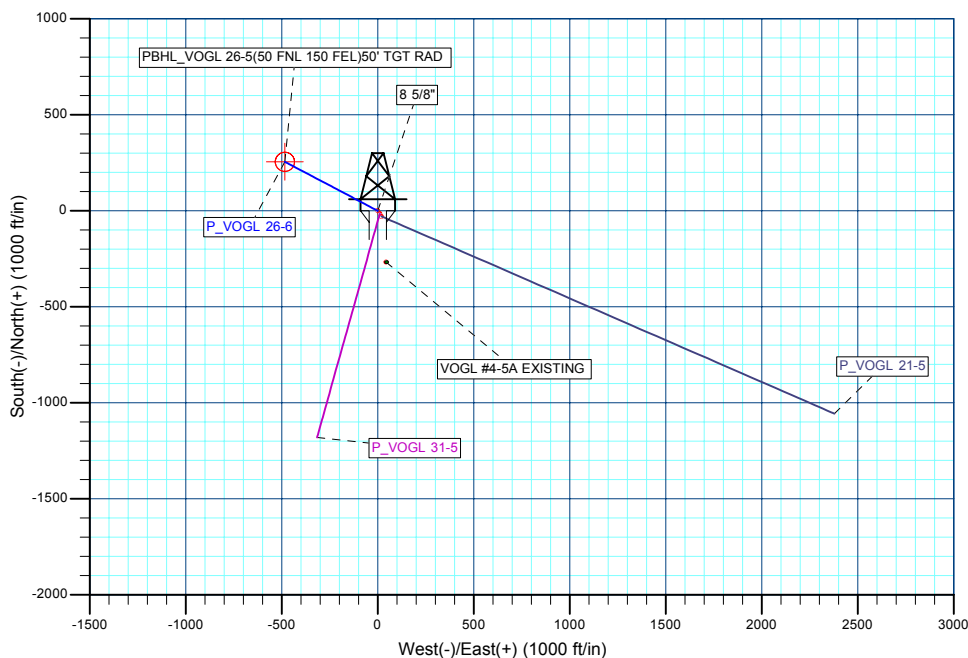
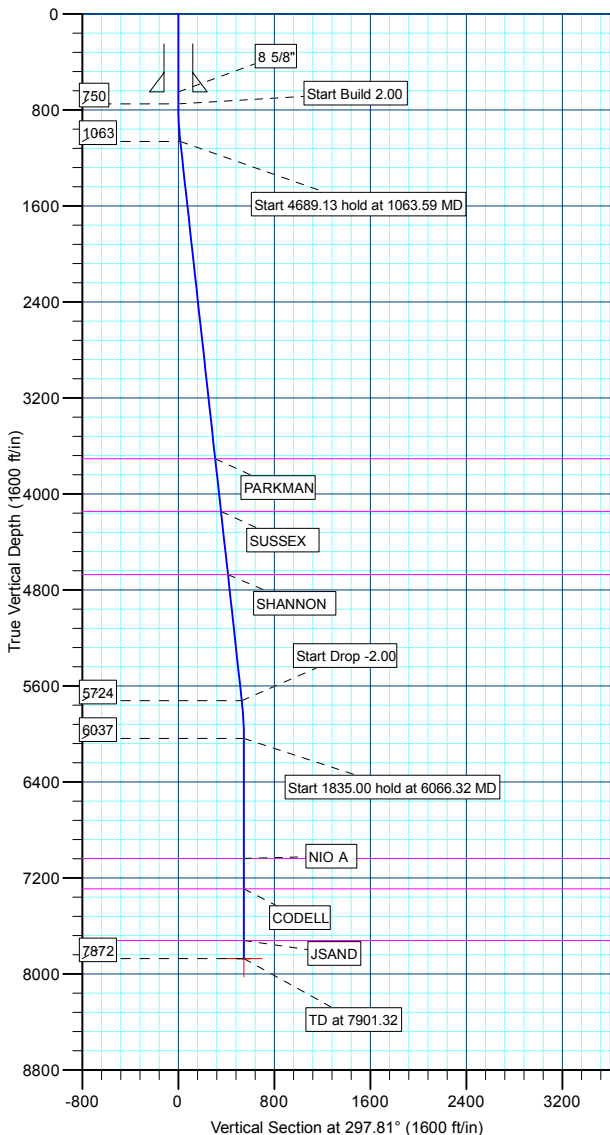
TVD	MD	Name	Size
650.00	650.00	8 5/8"	8.62

#### WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL_VOGL 26-5(50 FNL 150 FEL)50' TGT RAD	750.00	255.02	-483.42	1307180.35	3160994.7640	40° 10' 30.612 N	104° 55' 25.860 W	Circle (Radius: 50.00)



KB ELEV: WELL @ 4845.00ft (Original Well Elev)  
GRD ELEV: 4830.00



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_VOGL 26-6
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Site:</b>	WELD_VOGL 3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_VOGL 26-6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_VOGL 26-6		
<b>Design:</b>	PLAN #1 12-28-09 RHS		

<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_VOGL 3 PAD, SECTION 5 T2N R67W											
Site Position:			Northing:			1,306,899.49 ft			Latitude:			40° 10' 27.804 N					
From:			Lat/Long			Easting:			3,161,499.58 ft			Longitude:			104° 55' 19.380 W		
Position Uncertainty:			0.00 ft			Slot Radius:			in			Grid Convergence:			0.37 °		

Well	P_VOGL 26-6					
Well Position	+N/-S	29.13 ft	Northing:	1,306,928.48 ft	Latitude:	40° 10' 28.092 N
	+E/-W	-19.56 ft	Easting:	3,161,479.83 ft	Longitude:	104° 55' 19.632 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,830.00 ft

<b>Wellbore</b>	P_VOGL 26-6				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	9/1/2009	9.13	66.91	53,203

<b>Design</b>	PLAN #1 12-28-09 RHS			
<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	297.81

<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	
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,063.59	6.27	297.81	1,062.97	8.00	-15.17	2.00	2.00	0.00	297.81	
5,752.72	6.27	297.81	5,724.03	247.02	-468.26	0.00	0.00	0.00	0.00	
6,066.32	0.00	0.00	6,037.00	255.02	-483.42	2.00	-2.00	0.00	180.00	
7,901.32	0.00	0.00	7,872.00	255.02	-483.42	0.00	0.00	0.00	0.00	PBHL_VOGL 26-5(

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_VOGL 26-6
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Site:</b>	WELD_VOGL 3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_VOGL 26-6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_VOGL 26-6		
<b>Design:</b>	PLAN #1 12-28-09 RHS		

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)
<b>Start Build 2.00</b>									
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	1.00	297.81	800.00	0.20	-0.39	0.44	2.00	2.00	0.00
900.00	3.00	297.81	899.93	1.83	-3.47	3.93	2.00	2.00	0.00
1,000.00	5.00	297.81	999.68	5.09	-9.64	10.90	2.00	2.00	0.00
<b>Start 4689.13 hold at 1063.59 MD</b>									
1,063.59	6.27	297.81	1,062.97	8.00	-15.17	17.15	2.00	2.00	0.00
1,100.00	6.27	297.81	1,099.16	9.86	-18.68	21.12	0.00	0.00	0.00
1,200.00	6.27	297.81	1,198.56	14.95	-28.35	32.05	0.00	0.00	0.00
1,300.00	6.27	297.81	1,297.96	20.05	-38.01	42.97	0.00	0.00	0.00
1,400.00	6.27	297.81	1,397.36	25.15	-47.67	53.90	0.00	0.00	0.00
1,500.00	6.27	297.81	1,496.76	30.25	-57.33	64.82	0.00	0.00	0.00
1,600.00	6.27	297.81	1,596.16	35.34	-67.00	75.75	0.00	0.00	0.00
1,700.00	6.27	297.81	1,695.57	40.44	-76.66	86.67	0.00	0.00	0.00
1,800.00	6.27	297.81	1,794.97	45.54	-86.32	97.60	0.00	0.00	0.00
1,900.00	6.27	297.81	1,894.37	50.63	-95.98	108.52	0.00	0.00	0.00
2,000.00	6.27	297.81	1,993.77	55.73	-105.65	119.45	0.00	0.00	0.00
2,100.00	6.27	297.81	2,093.17	60.83	-115.31	130.37	0.00	0.00	0.00
2,200.00	6.27	297.81	2,192.57	65.93	-124.97	141.29	0.00	0.00	0.00
2,300.00	6.27	297.81	2,291.97	71.02	-134.63	152.22	0.00	0.00	0.00
2,400.00	6.27	297.81	2,391.38	76.12	-144.30	163.14	0.00	0.00	0.00
2,500.00	6.27	297.81	2,490.78	81.22	-153.96	174.07	0.00	0.00	0.00
2,600.00	6.27	297.81	2,590.18	86.32	-163.62	184.99	0.00	0.00	0.00
2,700.00	6.27	297.81	2,689.58	91.41	-173.28	195.92	0.00	0.00	0.00
2,800.00	6.27	297.81	2,788.98	96.51	-182.95	206.84	0.00	0.00	0.00
2,900.00	6.27	297.81	2,888.38	101.61	-192.61	217.77	0.00	0.00	0.00
3,000.00	6.27	297.81	2,987.78	106.70	-202.27	228.69	0.00	0.00	0.00
3,100.00	6.27	297.81	3,087.19	111.80	-211.93	239.62	0.00	0.00	0.00
3,200.00	6.27	297.81	3,186.59	116.90	-221.60	250.54	0.00	0.00	0.00
3,300.00	6.27	297.81	3,285.99	122.00	-231.26	261.47	0.00	0.00	0.00
3,400.00	6.27	297.81	3,385.39	127.09	-240.92	272.39	0.00	0.00	0.00
3,500.00	6.27	297.81	3,484.79	132.19	-250.59	283.31	0.00	0.00	0.00
3,600.00	6.27	297.81	3,584.19	137.29	-260.25	294.24	0.00	0.00	0.00
3,700.00	6.27	297.81	3,683.59	142.39	-269.91	305.16	0.00	0.00	0.00
<b>PARKMAN</b>									
3,724.55	6.27	297.81	3,708.00	143.64	-272.28	307.85	0.00	0.00	0.00
3,800.00	6.27	297.81	3,783.00	147.48	-279.57	316.09	0.00	0.00	0.00
3,900.00	6.27	297.81	3,882.40	152.58	-289.24	327.01	0.00	0.00	0.00
4,000.00	6.27	297.81	3,981.80	157.68	-298.90	337.94	0.00	0.00	0.00
4,100.00	6.27	297.81	4,081.20	162.77	-308.56	348.86	0.00	0.00	0.00
<b>SUSSEX</b>									
4,165.19	6.27	297.81	4,146.00	166.10	-314.86	355.98	0.00	0.00	0.00
4,200.00	6.27	297.81	4,180.60	167.87	-318.22	359.79	0.00	0.00	0.00
4,300.00	6.27	297.81	4,280.00	172.97	-327.89	370.71	0.00	0.00	0.00
4,400.00	6.27	297.81	4,379.40	178.07	-337.55	381.64	0.00	0.00	0.00
4,500.00	6.27	297.81	4,478.81	183.16	-347.21	392.56	0.00	0.00	0.00
4,600.00	6.27	297.81	4,578.21	188.26	-356.87	403.49	0.00	0.00	0.00
<b>SHANNON</b>									
4,694.36	6.27	297.81	4,672.00	193.07	-365.99	413.79	0.00	0.00	0.00
4,700.00	6.27	297.81	4,677.61	193.36	-366.54	414.41	0.00	0.00	0.00
4,800.00	6.27	297.81	4,777.01	198.46	-376.20	425.34	0.00	0.00	0.00
4,900.00	6.27	297.81	4,876.41	203.55	-385.86	436.26	0.00	0.00	0.00
5,000.00	6.27	297.81	4,975.81	208.65	-395.52	447.18	0.00	0.00	0.00

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_VOGL 26-6
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Site:</b>	WELD_VOGL 3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_VOGL 26-6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_VOGL 26-6		
<b>Design:</b>	PLAN #1 12-28-09 RHS		

#### 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)
5,100.00	6.27	297.81	5,075.22	213.75	-405.19	458.11	0.00	0.00	0.00
5,200.00	6.27	297.81	5,174.62	218.84	-414.85	469.03	0.00	0.00	0.00
5,300.00	6.27	297.81	5,274.02	223.94	-424.51	479.96	0.00	0.00	0.00
5,400.00	6.27	297.81	5,373.42	229.04	-434.17	490.88	0.00	0.00	0.00
5,500.00	6.27	297.81	5,472.82	234.14	-443.84	501.81	0.00	0.00	0.00
5,600.00	6.27	297.81	5,572.22	239.23	-453.50	512.73	0.00	0.00	0.00
5,700.00	6.27	297.81	5,671.62	244.33	-463.16	523.66	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,752.72	6.27	297.81	5,724.03	247.02	-468.26	529.42	0.00	0.00	0.00
5,800.00	5.33	297.81	5,771.07	249.25	-472.48	534.19	2.00	-2.00	0.00
5,900.00	3.33	297.81	5,870.78	252.77	-479.15	541.74	2.00	-2.00	0.00
6,000.00	1.33	297.81	5,970.69	254.66	-482.74	545.80	2.00	-2.00	0.00
<b>Start 1835.00 hold at 6066.32 MD</b>									
6,066.32	0.00	0.00	6,037.00	255.02	-483.42	546.56	2.00	-2.00	0.00
6,100.00	0.00	0.00	6,070.68	255.02	-483.42	546.56	0.00	0.00	0.00
6,200.00	0.00	0.00	6,170.68	255.02	-483.42	546.56	0.00	0.00	0.00
6,300.00	0.00	0.00	6,270.68	255.02	-483.42	546.56	0.00	0.00	0.00
6,400.00	0.00	0.00	6,370.68	255.02	-483.42	546.56	0.00	0.00	0.00
6,500.00	0.00	0.00	6,470.68	255.02	-483.42	546.56	0.00	0.00	0.00
6,600.00	0.00	0.00	6,570.68	255.02	-483.42	546.56	0.00	0.00	0.00
6,700.00	0.00	0.00	6,670.68	255.02	-483.42	546.56	0.00	0.00	0.00
6,800.00	0.00	0.00	6,770.68	255.02	-483.42	546.56	0.00	0.00	0.00
6,900.00	0.00	0.00	6,870.68	255.02	-483.42	546.56	0.00	0.00	0.00
7,000.00	0.00	0.00	6,970.68	255.02	-483.42	546.56	0.00	0.00	0.00
<b>NIO A</b>									
7,066.32	0.00	0.00	7,037.00	255.02	-483.42	546.56	0.00	0.00	0.00
7,100.00	0.00	0.00	7,070.68	255.02	-483.42	546.56	0.00	0.00	0.00
7,200.00	0.00	0.00	7,170.68	255.02	-483.42	546.56	0.00	0.00	0.00
7,300.00	0.00	0.00	7,270.68	255.02	-483.42	546.56	0.00	0.00	0.00
<b>CODELL</b>									
7,321.32	0.00	0.00	7,292.00	255.02	-483.42	546.56	0.00	0.00	0.00
7,400.00	0.00	0.00	7,370.68	255.02	-483.42	546.56	0.00	0.00	0.00
7,500.00	0.00	0.00	7,470.68	255.02	-483.42	546.56	0.00	0.00	0.00
7,600.00	0.00	0.00	7,570.68	255.02	-483.42	546.56	0.00	0.00	0.00
7,700.00	0.00	0.00	7,670.68	255.02	-483.42	546.56	0.00	0.00	0.00
<b>JSAND</b>									
7,751.32	0.00	0.00	7,722.00	255.02	-483.42	546.56	0.00	0.00	0.00
7,800.00	0.00	0.00	7,770.68	255.02	-483.42	546.56	0.00	0.00	0.00
7,900.00	0.00	0.00	7,870.68	255.02	-483.42	546.56	0.00	0.00	0.00
<b>PBHL_VOGL 26-5(50 FNL 150 FEL)50' TGT RAD</b>									
7,901.32	0.00	0.00	7,872.00	255.02	-483.42	546.56	0.00	0.00	0.00

#### Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL_VOGL 26-5(50	0.00	0.00	7,872.00	255.02	-483.42	1,307,180.35	3,160,994.76	40° 10' 30.612 N	104° 55' 25.860 W
- plan hits target center									
- Circle (radius 50.00)									

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well P_VOGL 26-6
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Site:</b>	WELD_VOGL 3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_VOGL 26-6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_VOGL 26-6		
<b>Design:</b>	PLAN #1 12-28-09 RHS		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
650.00	650.00	8 5/8"	8.62	11.00	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,724.55	3,708.00	PARKMAN				
4,165.19	4,146.00	SUSSEX				
4,694.36	4,672.00	SHANNON				
7,066.32	7,037.00	NIO A				
7,321.32	7,292.00	CODELL				
7,751.32	7,722.00	JSAND				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
750.00	750.00	0.00	0.00	Start Build 2.00	
1,063.59	1,062.97	8.00	-15.17	Start 4689.13 hold at 1063.59 MD	
5,752.72	5,724.03	247.02	-468.26	Start Drop -2.00	
6,066.32	6,037.00	255.02	-483.42	Start 1835.00 hold at 6066.32 MD	
7,901.32	7,872.00	255.02	-483.42	TD at 7901.32	



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83  
WELD\_VOGL 3 PAD  
P\_VOGL 26-6**

**P\_VOGL 26-6  
PLAN #1 12-28-09 RHS**

## **Anticollision Report**

**28 December, 2009**



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_VOGL 26-6
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_VOGL 3 PAD	<b>MD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_VOGL 26-6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_VOGL 26-6	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 12-28-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	PLAN #1 12-28-09 RHS		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	0.00 to 20,000.00ft	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 10,000.00ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b>	12/28/2009		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	7,901.32	PLAN #1 12-28-09 RHS (P_VOGL 26-6)	MWD	MWD - Standard

<b>Summary</b>						
<b>Site Name</b>	<b>Reference Measured Depth (ft)</b>	<b>Offset Measured Depth (ft)</b>	<b>Distance Between Centres (ft)</b>	<b>Distance Between Ellipses (ft)</b>	<b>Separation Factor</b>	<b>Warning</b>
<b>Offset Well - Wellbore - Design</b>						
WELD_VOGL 3 PAD						
P_VOGL 21-5 - P_VOGL 21-5 - PLAN #1 12-28-09 RHS	750.00	750.00	35.08	31.97	11.270	CC, ES
P_VOGL 21-5 - P_VOGL 21-5 - PLAN #1 12-28-09 RHS	800.00	799.47	35.84	32.51	10.785	SF
P_VOGL 31-5 - P_VOGL 31-5 - PLAN #1 12-28-09 RHS	750.00	750.00	18.36	15.25	5.897	CC, ES
P_VOGL 31-5 - P_VOGL 31-5 - PLAN #1 12-28-09 RHS	800.00	799.80	19.02	15.70	5.729	SF
VOGL #4-5A EXISTING - VOGL #4-5A EXISTING - VOG	750.00	735.00	270.91	241.96	9.356	CC
VOGL #4-5A EXISTING - VOGL #4-5A EXISTING - VOG	900.00	884.93	273.30	238.04	7.750	ES
VOGL #4-5A EXISTING - VOGL #4-5A EXISTING - VOG	7,901.32	7,857.00	742.06	411.91	2.248	SF

<b>Offset Design</b>												
WELD_VOGL 3 PAD - P_VOGL 21-5 - P_VOGL 21-5 - PLAN #1 12-28-09 RHS												
Survey Program: 0-MWD												
<b>Reference</b>	<b>Offset</b>	<b>Semi Major Axis</b>		<b>Distance</b>								
<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Reference (ft)</b>	<b>Offset (ft)</b>	<b>Highside Toolface (°)</b>	<b>Offset Wellbore Centre +N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Between Centres (ft)</b>	<b>Between Ellipses (ft)</b>	<b>Minimum Separation (ft)</b>	<b>Separation Factor</b>
												<b>Warning</b>
0.00	0.00	0.00	0.00	0.00	0.00	146.12	-29.13	19.56	35.08			
100.00	100.00	100.00	100.00	0.10	0.10	146.12	-29.13	19.56	35.08	34.89	0.19	183.640
200.00	200.00	200.00	200.00	0.32	0.32	146.12	-29.13	19.56	35.08	34.44	0.64	54.770
300.00	300.00	300.00	300.00	0.55	0.55	146.12	-29.13	19.56	35.08	33.99	1.09	32.184
400.00	400.00	400.00	400.00	0.77	0.77	146.12	-29.13	19.56	35.08	33.55	1.54	22.788
500.00	500.00	500.00	500.00	0.99	0.99	146.12	-29.13	19.56	35.08	33.10	1.99	17.638
600.00	600.00	600.00	600.00	1.22	1.22	146.12	-29.13	19.56	35.08	32.65	2.44	14.387
700.00	700.00	700.00	700.00	1.44	1.44	146.12	-29.13	19.56	35.08	32.20	2.89	12.147
750.00	750.00	750.00	750.00	1.56	1.56	146.12	-29.13	19.56	35.08	31.97	3.11	11.270 CC, ES
800.00	800.00	799.47	799.47	1.67	1.66	-152.39	-29.30	19.95	35.84	32.51	3.32	10.785 SF
900.00	899.93	898.07	898.00	1.88	1.85	-156.98	-30.65	23.07	41.99	38.27	3.72	11.288
1,000.00	999.68	995.60	995.30	2.10	2.05	-162.96	-33.33	29.21	54.81	50.69	4.12	13.299
1,063.59	1,062.97	1,056.77	1,056.19	2.26	2.19	-166.31	-35.68	34.61	66.57	62.19	4.38	15.209
1,100.00	1,099.16	1,091.47	1,090.66	2.35	2.27	-167.97	-37.24	38.20	74.34	69.81	4.53	16.423
1,200.00	1,198.56	1,185.74	1,184.06	2.60	2.52	-171.41	-42.33	49.88	98.04	93.10	4.94	19.831
1,300.00	1,297.96	1,278.38	1,275.38	2.87	2.79	-173.77	-48.53	64.11	125.06	119.70	5.36	23.312
1,400.00	1,397.36	1,369.24	1,364.43	3.14	3.11	-175.46	-55.74	80.68	155.25	149.46	5.79	26.819
1,500.00	1,496.76	1,458.20	1,451.01	3.42	3.46	-176.71	-63.90	99.41	188.48	182.26	6.22	30.324
1,600.00	1,596.16	1,545.15	1,534.98	3.70	3.85	-177.67	-72.91	120.09	224.63	217.99	6.64	33.809
1,700.00	1,695.57	1,630.00	1,616.23	3.98	4.28	-178.43	-82.67	142.51	263.60	256.52	7.07	37.262
1,800.00	1,794.97	1,712.69	1,694.68	4.27	4.74	-179.03	-93.11	166.47	305.26	297.76	7.50	40.677

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_VOGL 26-6
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_VOGL 3 PAD	<b>MD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_VOGL 26-6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_VOGL 26-6	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 12-28-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_VOGL 3 PAD - P_VOGL 21-5 - P_VOGL 21-5 - PLAN #1 12-28-09 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
1,900.00	1,894.37	1,793.17	1,770.27	4.56	5.24	-179.52	-104.13	191.77	349.51	341.57	7.94	44.042	
2,000.00	1,993.77	1,871.39	1,842.97	4.85	5.78	-179.92	-115.65	218.23	396.24	387.87	8.37	47.345	
2,100.00	2,093.17	1,947.34	1,912.79	5.14	6.35	179.74	-127.59	245.64	445.34	436.54	8.80	50.601	
2,200.00	2,192.57	2,021.02	1,979.73	5.44	6.93	179.45	-139.87	273.85	496.71	487.48	9.23	53.813	
2,300.00	2,291.97	2,100.00	2,050.59	5.73	7.61	179.18	-153.80	305.83	550.30	540.62	9.68	56.861	
2,400.00	2,391.38	2,161.60	2,105.17	6.03	8.18	178.99	-165.20	332.01	605.82	595.74	10.08	60.073	
2,500.00	2,490.78	2,237.42	2,171.68	6.33	8.90	178.78	-179.74	365.39	663.06	652.53	10.53	62.947	
2,600.00	2,590.18	2,319.28	2,243.41	6.62	9.69	178.60	-195.48	401.55	720.47	709.47	11.00	65.483	
2,700.00	2,689.58	2,401.13	2,315.13	6.92	10.50	178.43	-211.23	437.71	777.89	766.42	11.48	67.788	
2,800.00	2,788.98	2,482.99	2,386.86	7.22	11.31	178.30	-226.98	473.87	835.31	823.36	11.95	69.882	
2,900.00	2,888.38	2,564.84	2,458.59	7.52	12.13	178.17	-242.73	510.02	892.74	880.31	12.43	71.801	
3,000.00	2,987.78	2,646.70	2,530.31	7.82	12.95	178.07	-258.47	546.18	950.17	937.25	12.92	73.563	
3,100.00	3,087.19	2,728.55	2,602.04	8.11	13.78	177.97	-274.22	582.34	1,007.60	994.19	13.40	75.187	
3,200.00	3,186.59	2,810.40	2,673.77	8.41	14.60	177.89	-289.97	618.50	1,065.03	1,051.14	13.89	76.686	
3,300.00	3,285.99	2,892.26	2,745.50	8.71	15.44	177.81	-305.71	654.66	1,122.46	1,108.08	14.38	78.072	
3,400.00	3,385.39	2,974.11	2,817.22	9.01	16.27	177.75	-321.46	690.81	1,179.89	1,165.02	14.87	79.356	
3,500.00	3,484.79	3,055.97	2,888.95	9.31	17.10	177.68	-337.21	726.97	1,237.33	1,221.97	15.36	80.551	
3,600.00	3,584.19	3,137.82	2,960.68	9.61	17.94	177.63	-352.95	763.13	1,294.76	1,278.91	15.85	81.666	
3,700.00	3,683.59	3,219.68	3,032.40	9.92	18.78	177.58	-368.70	799.29	1,352.20	1,335.85	16.35	82.707	
3,800.00	3,783.00	3,301.53	3,104.13	10.22	19.62	177.53	-384.45	835.44	1,409.64	1,392.79	16.85	83.682	
3,900.00	3,882.40	3,383.39	3,175.86	10.52	20.46	177.48	-400.20	871.60	1,467.07	1,449.73	17.34	84.595	
4,000.00	3,981.80	3,465.24	3,247.59	10.82	21.30	177.44	-415.94	907.76	1,524.51	1,506.67	17.84	85.453	
4,100.00	4,081.20	3,547.09	3,319.31	11.12	22.14	177.41	-431.69	943.92	1,581.95	1,563.61	18.34	86.260	
4,200.00	4,180.60	3,628.95	3,391.04	11.42	22.98	177.37	-447.44	980.08	1,639.39	1,620.55	18.84	87.022	
4,300.00	4,280.00	3,710.80	3,462.77	11.72	23.82	177.34	-463.18	1,016.23	1,696.83	1,677.49	19.34	87.741	
4,400.00	4,379.40	3,792.66	3,534.49	12.02	24.67	177.31	-478.93	1,052.39	1,754.27	1,734.43	19.84	88.420	
4,500.00	4,478.81	3,874.51	3,606.22	12.33	25.51	177.28	-494.68	1,088.55	1,811.71	1,791.36	20.34	89.063	
4,600.00	4,578.21	3,956.37	3,677.95	12.63	26.36	177.25	-510.42	1,124.71	1,869.15	1,848.30	20.84	89.673	
4,700.00	4,677.61	4,038.22	3,749.68	12.93	27.20	177.23	-526.17	1,160.87	1,926.59	1,905.24	21.35	90.252	
4,800.00	4,777.01	4,120.07	3,821.40	13.23	28.05	177.20	-541.92	1,197.02	1,984.03	1,962.18	21.85	90.803	
4,900.00	4,876.41	4,201.93	3,893.13	13.53	28.89	177.18	-557.67	1,233.18	2,041.47	2,019.12	22.35	91.327	
5,000.00	4,975.81	4,283.78	3,964.86	13.84	29.74	177.16	-573.41	1,269.34	2,098.91	2,076.05	22.86	91.826	
5,100.00	5,075.22	4,365.64	4,036.58	14.14	30.58	177.14	-589.16	1,305.50	2,156.35	2,132.99	23.36	92.302	
5,200.00	5,174.62	4,447.49	4,108.31	14.44	31.43	177.12	-604.91	1,341.65	2,213.79	2,189.93	23.87	92.756	
5,300.00	5,274.02	4,529.35	4,180.04	14.74	32.28	177.10	-620.65	1,377.81	2,271.23	2,246.86	24.37	93.191	
5,400.00	5,373.42	4,611.20	4,251.76	15.04	33.12	177.09	-636.40	1,413.97	2,328.68	2,303.80	24.88	93.607	
5,500.00	5,472.82	4,693.05	4,323.49	15.35	33.97	177.07	-652.15	1,450.13	2,386.12	2,360.73	25.38	94.004	
5,600.00	5,572.22	4,774.91	4,395.22	15.65	34.82	177.06	-667.89	1,486.29	2,443.56	2,417.67	25.89	94.386	
5,700.00	5,671.62	4,856.76	4,466.95	15.95	35.67	177.04	-683.64	1,522.44	2,501.00	2,474.61	26.40	94.751	
5,752.72	5,724.03	4,899.92	4,504.76	16.11	36.11	177.03	-691.94	1,541.51	2,531.29	2,504.63	26.66	94.939	
5,800.00	5,771.07	4,938.84	4,538.87	16.23	36.52	177.06	-699.43	1,558.70	2,558.12	2,531.11	27.02	94.682	
5,900.00	5,870.78	5,022.59	4,612.26	16.43	37.38	177.11	-715.54	1,595.69	2,612.76	2,585.02	27.73	94.218	
6,000.00	5,970.69	5,108.19	4,687.27	16.61	38.27	177.15	-732.01	1,633.51	2,664.43	2,636.01	28.42	93.737	
6,066.32	6,037.00	5,165.93	4,737.86	16.71	38.87	114.98	-743.12	1,659.01	2,697.05	2,668.17	28.88	93.400	
6,100.00	6,070.68	5,195.44	4,763.72	16.76	39.17	114.97	-748.80	1,672.05	2,713.27	2,684.23	29.04	93.418	
6,200.00	6,170.68	5,283.07	4,840.51	16.93	40.08	114.95	-765.65	1,710.76	2,761.44	2,731.88	29.56	93.424	
6,300.00	6,270.68	5,370.70	4,917.30	17.11	40.99	114.92	-782.51	1,749.47	2,809.61	2,779.54	30.07	93.427	
6,400.00	6,370.68	5,458.33	4,994.08	17.28	41.90	114.90	-799.37	1,788.18	2,857.78	2,827.19	30.59	93.428	
6,500.00	6,470.68	5,545.95	5,070.87	17.46	42.81	114.88	-816.23	1,826.88	2,905.95	2,874.85	31.10	93.427	
6,600.00	6,570.68	5,633.58	5,147.65	17.63	43.72	114.85	-833.08	1,865.59	2,954.12	2,922.50	31.62	93.424	
6,700.00	6,670.68	5,721.21	5,224.44	17.81	44.62	114.83	-849.94	1,904.30	3,002.29	2,970.16	32.14	93.419	
6,800.00	6,770.68	5,808.84	5,301.23	17.99	45.53	114.81	-866.80	1,943.01	3,050.47	3,017.81	32.66	93.412	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_VOGL 26-6
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_VOGL 3 PAD	<b>MD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_VOGL 26-6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_VOGL 26-6	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 12-28-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_VOGL 3 PAD - P_VOGL 21-5 - P_VOGL 21-5 - PLAN #1 12-28-09 RHS												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
6,900.00	6,870.68	5,896.46	5,378.01	18.17	46.44	114.79	-883.66	1,981.72	3,098.64	3,065.46	33.17	93.404	
7,000.00	6,970.68	5,984.09	5,454.80	18.36	47.35	114.77	-900.51	2,020.42	3,146.81	3,113.11	33.69	93.394	
7,100.00	7,070.68	7,669.04	7,070.68	18.54	54.50	114.62	-1,056.29	2,378.11	3,147.68	3,109.83	37.86	83.146	
7,200.00	7,170.68	7,769.04	7,170.68	18.72	54.56	114.62	-1,056.29	2,378.11	3,147.68	3,109.49	38.20	82.409	
7,300.00	7,270.68	7,869.04	7,270.68	18.91	54.62	114.62	-1,056.29	2,378.11	3,147.68	3,109.15	38.54	81.681	
7,400.00	7,370.68	7,969.04	7,370.68	19.09	54.68	114.62	-1,056.29	2,378.11	3,147.68	3,108.81	38.88	80.962	
7,500.00	7,470.68	8,069.04	7,470.68	19.28	54.74	114.62	-1,056.29	2,378.11	3,147.68	3,108.46	39.22	80.251	
7,600.00	7,570.68	8,169.04	7,570.68	19.46	54.80	114.62	-1,056.29	2,378.11	3,147.68	3,108.12	39.57	79.550	
7,700.00	7,670.68	8,269.04	7,670.68	19.65	54.87	114.62	-1,056.29	2,378.11	3,147.68	3,107.77	39.92	78.857	
7,800.00	7,770.68	8,369.04	7,770.68	19.84	54.93	114.62	-1,056.29	2,378.11	3,147.68	3,107.42	40.27	78.172	
7,901.32	7,872.00	8,470.36	7,872.00	20.03	55.00	114.62	-1,056.29	2,378.11	3,147.68	3,107.06	40.62	77.488	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_VOGL 26-6
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_VOGL 3 PAD	<b>MD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_VOGL 26-6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_VOGL 26-6	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 12-28-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_VOGL 3 PAD - P_VOGL 31-5 - P_VOGL 31-5 - PLAN #1 12-28-09 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	142.49	-14.56	11.18	18.36				
100.00	100.00	100.00	100.00	0.10	0.10	142.49	-14.56	11.18	18.36	18.17	0.19	96.089	
200.00	200.00	200.00	200.00	0.32	0.32	142.49	-14.56	11.18	18.36	17.72	0.64	28.658	
300.00	300.00	300.00	300.00	0.55	0.55	142.49	-14.56	11.18	18.36	17.27	1.09	16.840	
400.00	400.00	400.00	400.00	0.77	0.77	142.49	-14.56	11.18	18.36	16.82	1.54	11.924	
500.00	500.00	500.00	500.00	0.99	0.99	142.49	-14.56	11.18	18.36	16.37	1.99	9.229	
600.00	600.00	600.00	600.00	1.22	1.22	142.49	-14.56	11.18	18.36	15.92	2.44	7.528	
700.00	700.00	700.00	700.00	1.44	1.44	142.49	-14.56	11.18	18.36	15.47	2.89	6.356	
750.00	750.00	750.00	750.00	1.56	1.56	142.49	-14.56	11.18	18.36	15.25	3.11	5.897 CC, ES	
800.00	800.00	799.80	799.80	1.67	1.65	-154.82	-14.98	11.06	19.02	15.70	3.32	5.729 SF	
900.00	899.93	899.18	899.11	1.88	1.83	-151.77	-18.30	10.13	24.31	20.61	3.70	6.563	
1,000.00	999.68	997.91	997.60	2.10	2.02	-148.44	-24.88	8.28	34.98	30.88	4.10	8.524	
1,063.59	1,062.97	1,060.16	1,059.56	2.26	2.15	-146.79	-30.71	6.65	44.57	40.20	4.37	10.199	
1,100.00	1,099.16	1,095.60	1,094.76	2.35	2.23	-145.94	-34.61	5.55	50.83	46.31	4.53	11.229	
1,200.00	1,198.56	1,192.25	1,190.49	2.60	2.47	-143.16	-47.37	1.98	69.77	64.79	4.98	14.012	
1,300.00	1,297.96	1,287.75	1,284.59	2.87	2.75	-140.25	-63.01	-2.41	91.35	85.90	5.45	16.751	
1,400.00	1,397.36	1,381.90	1,376.79	3.14	3.07	-137.50	-81.39	-7.57	115.68	109.74	5.95	19.454	
1,500.00	1,496.76	1,474.54	1,466.84	3.42	3.43	-135.01	-102.31	-13.43	142.81	136.35	6.45	22.124	
1,600.00	1,596.16	1,569.04	1,558.16	3.70	3.84	-132.87	-125.69	-19.99	172.01	165.02	6.98	24.633	
1,700.00	1,695.57	1,664.48	1,650.38	3.98	4.28	-131.32	-149.39	-26.64	201.45	193.92	7.52	26.778	
1,800.00	1,794.97	1,759.93	1,742.60	4.27	4.73	-130.16	-173.10	-33.29	230.99	222.92	8.07	28.623	
1,900.00	1,894.37	1,855.37	1,834.81	4.56	5.20	-129.27	-196.80	-39.94	260.60	251.97	8.62	30.221	
2,000.00	1,993.77	1,950.82	1,927.03	4.85	5.67	-128.55	-220.50	-46.58	290.25	281.07	9.18	31.615	
2,100.00	2,093.17	2,046.27	2,019.25	5.14	6.16	-127.97	-244.20	-53.23	319.94	310.20	9.74	32.840	
2,200.00	2,192.57	2,141.71	2,111.46	5.44	6.64	-127.49	-267.90	-59.88	349.65	339.34	10.31	33.922	
2,300.00	2,291.97	2,237.16	2,203.68	5.73	7.13	-127.08	-291.60	-66.53	379.38	368.51	10.88	34.884	
2,400.00	2,391.38	2,332.60	2,295.90	6.03	7.63	-126.74	-315.31	-73.18	409.13	397.69	11.45	35.745	
2,500.00	2,490.78	2,428.05	2,388.12	6.33	8.13	-126.44	-339.01	-79.82	438.89	426.87	12.02	36.518	
2,600.00	2,590.18	2,523.50	2,480.33	6.62	8.63	-126.18	-362.71	-86.47	468.66	456.07	12.59	37.217	
2,700.00	2,689.58	2,618.94	2,572.55	6.92	9.13	-125.94	-386.41	-93.12	498.43	485.27	13.17	37.850	
2,800.00	2,788.98	2,714.39	2,664.77	7.22	9.63	-125.74	-410.11	-99.77	528.22	514.47	13.75	38.427	
2,900.00	2,888.38	2,809.83	2,756.98	7.52	10.13	-125.56	-433.81	-106.42	558.01	543.68	14.32	38.955	
3,000.00	2,987.78	2,905.28	2,849.20	7.82	10.64	-125.39	-457.51	-113.06	587.80	572.89	14.90	39.439	
3,100.00	3,087.19	3,000.72	2,941.42	8.11	11.15	-125.24	-481.22	-119.71	617.59	602.11	15.48	39.885	
3,200.00	3,186.59	3,096.17	3,033.63	8.41	11.65	-125.11	-504.92	-126.36	647.40	631.33	16.07	40.297	
3,300.00	3,285.99	3,191.62	3,125.85	8.71	12.16	-124.99	-528.62	-133.01	677.20	660.55	16.65	40.678	
3,400.00	3,385.39	3,287.06	3,218.07	9.01	12.67	-124.87	-552.32	-139.65	707.00	689.77	17.23	41.032	
3,500.00	3,484.79	3,382.51	3,310.29	9.31	13.18	-124.77	-576.02	-146.30	736.81	719.00	17.81	41.362	
3,600.00	3,584.19	3,477.95	3,402.50	9.61	13.69	-124.67	-599.72	-152.95	766.62	748.22	18.40	41.669	
3,700.00	3,683.59	3,573.40	3,494.72	9.92	14.20	-124.59	-623.42	-159.60	796.43	777.45	18.98	41.957	
3,800.00	3,783.00	3,668.85	3,586.94	10.22	14.71	-124.50	-647.13	-166.25	826.25	806.68	19.57	42.226	
3,900.00	3,882.40	3,764.29	3,679.15	10.52	15.22	-124.43	-670.83	-172.89	856.06	835.91	20.15	42.479	
4,000.00	3,981.80	3,859.74	3,771.37	10.82	15.74	-124.36	-694.53	-179.54	885.88	865.14	20.74	42.717	
4,100.00	4,081.20	3,955.18	3,863.59	11.12	16.25	-124.29	-718.23	-186.19	915.70	894.37	21.32	42.942	
4,200.00	4,180.60	4,050.63	3,955.80	11.42	16.76	-124.23	-741.93	-192.84	945.52	923.60	21.91	43.153	
4,300.00	4,280.00	4,146.08	4,048.02	11.72	17.27	-124.17	-765.63	-199.49	975.33	952.84	22.50	43.354	
4,400.00	4,379.40	4,241.52	4,140.24	12.02	17.79	-124.11	-789.34	-206.13	1,005.16	982.07	23.08	43.543	
4,500.00	4,478.81	4,336.97	4,232.45	12.33	18.30	-124.06	-813.04	-212.78	1,034.98	1,011.30	23.67	43.723	
4,600.00	4,578.21	4,432.41	4,324.67	12.63	18.81	-124.01	-836.74	-219.43	1,064.80	1,040.54	24.26	43.893	
4,700.00	4,677.61	4,527.86	4,416.89	12.93	19.32	-123.97	-860.44	-226.08	1,094.62	1,069.77	24.85	44.055	
4,800.00	4,777.01	4,623.31	4,509.11	13.23	19.84	-123.92	-884.14	-232.72	1,124.44	1,099.01	25.43	44.210	
4,900.00	4,876.41	4,718.75	4,601.32	13.53	20.35	-123.88	-907.84	-239.37	1,154.27	1,128.25	26.02	44.357	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_VOGL 26-6
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_VOGL 3 PAD	<b>MD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_VOGL 26-6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_VOGL 26-6	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 12-28-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> WELD_VOGL 3 PAD - P_VOGL 31-5 - P_VOGL 31-5 - PLAN #1 12-28-09 RHS												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,975.81	4,814.20	4,693.54	13.84	20.87	-123.84	-931.54	-246.02	1,184.09	1,157.48	26.61	44.497	
5,100.00	5,075.22	4,909.64	4,785.76	14.14	21.38	-123.80	-955.25	-252.67	1,213.92	1,186.72	27.20	44.631	
5,200.00	5,174.62	5,005.09	4,877.97	14.44	21.89	-123.77	-978.95	-259.32	1,243.74	1,215.95	27.79	44.759	
5,300.00	5,274.02	5,100.54	4,970.19	14.74	22.41	-123.73	-1,002.65	-265.96	1,273.57	1,245.19	28.38	44.881	
5,400.00	5,373.42	5,195.98	5,062.41	15.04	22.92	-123.70	-1,026.35	-272.61	1,303.39	1,274.43	28.97	44.999	
5,500.00	5,472.82	5,291.43	5,154.62	15.35	23.44	-123.67	-1,050.05	-279.26	1,333.22	1,303.67	29.55	45.111	
5,600.00	5,572.22	5,386.87	5,246.84	15.65	23.95	-123.64	-1,073.75	-285.91	1,363.05	1,332.90	30.14	45.219	
5,700.00	5,671.62	5,516.96	5,372.78	15.95	24.56	-123.62	-1,105.09	-294.70	1,392.35	1,361.54	30.81	45.189	
5,752.72	5,724.03	5,609.88	5,463.50	16.11	24.87	-123.66	-1,124.42	-300.12	1,406.05	1,374.86	31.19	45.075	
5,800.00	5,771.07	5,694.49	5,546.64	16.23	25.13	-123.89	-1,139.55	-304.36	1,416.82	1,385.25	31.57	44.880	
5,900.00	5,870.78	5,877.08	5,727.41	16.43	25.58	-124.25	-1,164.10	-311.25	1,433.97	1,401.71	32.25	44.460	
6,000.00	5,970.69	6,063.05	5,912.81	16.61	25.91	-124.44	-1,177.66	-315.05	1,443.27	1,410.44	32.83	43.963	
6,066.32	6,037.00	6,187.27	6,037.00	16.71	26.06	173.34	-1,180.26	-315.78	1,445.03	1,411.87	33.16	43.576	
6,100.00	6,070.68	6,220.96	6,070.68	16.76	26.09	173.34	-1,180.26	-315.78	1,445.03	1,411.77	33.26	43.441	
6,200.00	6,170.68	6,320.96	6,170.68	16.93	26.18	173.34	-1,180.26	-315.78	1,445.03	1,411.45	33.58	43.026	
6,300.00	6,270.68	6,420.96	6,270.68	17.11	26.27	173.34	-1,180.26	-315.78	1,445.03	1,411.12	33.91	42.616	
6,400.00	6,370.68	6,520.96	6,370.68	17.28	26.36	173.34	-1,180.26	-315.78	1,445.03	1,410.80	34.23	42.210	
6,500.00	6,470.68	6,620.96	6,470.68	17.46	26.46	173.34	-1,180.26	-315.78	1,445.03	1,410.47	34.56	41.809	
6,600.00	6,570.68	6,720.96	6,570.68	17.63	26.55	173.34	-1,180.26	-315.78	1,445.03	1,410.14	34.89	41.412	
6,700.00	6,670.68	6,820.96	6,670.68	17.81	26.65	173.34	-1,180.26	-315.78	1,445.03	1,409.80	35.23	41.019	
6,800.00	6,770.68	6,920.96	6,770.68	17.99	26.75	173.34	-1,180.26	-315.78	1,445.03	1,409.47	35.56	40.631	
6,900.00	6,870.68	7,020.96	6,870.68	18.17	26.85	173.34	-1,180.26	-315.78	1,445.03	1,409.13	35.90	40.248	
7,000.00	6,970.68	7,120.96	6,970.68	18.36	26.95	173.34	-1,180.26	-315.78	1,445.03	1,408.79	36.24	39.869	
7,100.00	7,070.68	7,220.96	7,070.68	18.54	27.05	173.34	-1,180.26	-315.78	1,445.03	1,408.44	36.59	39.495	
7,200.00	7,170.68	7,320.96	7,170.68	18.72	27.15	173.34	-1,180.26	-315.78	1,445.03	1,408.10	36.93	39.125	
7,300.00	7,270.68	7,420.96	7,270.68	18.91	27.26	173.34	-1,180.26	-315.78	1,445.03	1,407.75	37.28	38.760	
7,400.00	7,370.68	7,520.96	7,370.68	19.09	27.36	173.34	-1,180.26	-315.78	1,445.03	1,407.40	37.63	38.400	
7,500.00	7,470.68	7,620.96	7,470.68	19.28	27.47	173.34	-1,180.26	-315.78	1,445.03	1,407.05	37.98	38.044	
7,600.00	7,570.68	7,720.96	7,570.68	19.46	27.58	173.34	-1,180.26	-315.78	1,445.03	1,406.70	38.34	37.693	
7,700.00	7,670.68	7,820.96	7,670.68	19.65	27.69	173.34	-1,180.26	-315.78	1,445.03	1,406.34	38.69	37.346	
7,800.00	7,770.68	7,920.96	7,770.68	19.84	27.81	173.34	-1,180.26	-315.78	1,445.03	1,405.98	39.05	37.004	
7,901.32	7,872.00	8,022.27	7,872.00	20.03	27.92	173.34	-1,180.26	-315.78	1,445.03	1,405.62	39.42	36.662	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_VOGL 26-6
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_VOGL 3 PAD	<b>MD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_VOGL 26-6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_VOGL 26-6	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 12-28-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design WELD_VOGL 3 PAD - VOGL #4-5A EXISTING - VOGL #4-5A EXISTING - VOGL #4-5A EXISTING												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance								Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	170.74	-267.38	43.59	271.33				
100.00	100.00	85.00	85.00	0.10	1.70	170.74	-267.38	43.59	270.91	269.12	1.80	150.880	
200.00	200.00	185.00	185.00	0.32	5.40	170.74	-267.38	43.59	270.91	265.19	5.72	47.360	
300.00	300.00	285.00	285.00	0.55	9.40	170.74	-267.38	43.59	270.91	260.97	9.95	27.241	
400.00	400.00	385.00	385.00	0.77	13.40	170.74	-267.38	43.59	270.91	256.74	14.17	19.119	
500.00	500.00	485.00	485.00	0.99	17.40	170.74	-267.38	43.59	270.91	252.52	18.39	14.728	
600.00	600.00	585.00	585.00	1.22	21.40	170.74	-267.38	43.59	270.91	248.29	22.62	11.977	
700.00	700.00	685.00	685.00	1.44	25.40	170.74	-267.38	43.59	270.91	244.07	26.84	10.092	
750.00	750.00	735.00	735.00	1.56	27.40	170.74	-267.38	43.59	270.91	241.96	28.96	9.356 CC	
800.00	800.00	785.00	785.00	1.67	29.40	-127.14	-267.38	43.59	271.18	240.11	31.06	8.730	
900.00	899.93	884.93	884.93	1.88	33.40	-127.69	-267.38	43.59	273.30	238.04	35.26	7.750 ES	
1,000.00	999.68	984.68	984.68	2.10	37.39	-128.76	-267.38	43.59	277.62	238.18	39.44	7.039	
1,063.59	1,062.97	1,047.97	1,047.97	2.26	39.92	-129.69	-267.38	43.59	281.58	239.50	42.08	6.691	
1,100.00	1,099.16	1,084.16	1,084.16	2.35	41.37	-130.30	-267.38	43.59	284.15	240.54	43.61	6.516	
1,200.00	1,198.56	1,183.56	1,183.56	2.60	45.34	-131.94	-267.38	43.59	291.36	243.54	47.82	6.093	
1,300.00	1,297.96	1,282.96	1,282.96	2.87	49.32	-133.49	-267.38	43.59	298.79	246.77	52.03	5.743	
1,400.00	1,397.36	1,382.36	1,382.36	3.14	53.29	-134.97	-267.38	43.59	306.44	250.20	56.24	5.449	
1,500.00	1,496.76	1,481.76	1,481.76	3.42	57.27	-136.37	-267.38	43.59	314.28	253.83	60.45	5.199	
1,600.00	1,596.16	1,581.16	1,581.16	3.70	61.25	-137.71	-267.38	43.59	322.29	257.63	64.66	4.984	
1,700.00	1,695.57	1,680.57	1,680.57	3.98	65.22	-138.98	-267.38	43.59	330.48	261.61	68.87	4.796	
1,800.00	1,794.97	1,779.97	1,779.97	4.27	69.20	-140.19	-267.38	43.59	338.82	265.74	73.08	4.636	
1,900.00	1,894.37	1,879.37	1,879.37	4.56	73.17	-141.34	-267.38	43.59	347.30	270.01	77.29	4.494	
2,000.00	1,993.77	1,978.77	1,978.77	4.85	77.15	-142.44	-267.38	43.59	355.92	274.42	81.50	4.367	
2,100.00	2,093.17	2,078.17	2,078.17	5.14	81.13	-143.48	-267.38	43.59	364.65	278.95	85.70	4.255	
2,200.00	2,192.57	2,177.57	2,177.57	5.44	85.10	-144.48	-267.38	43.59	373.51	283.60	89.90	4.155	
2,300.00	2,291.97	2,276.97	2,276.97	5.73	89.08	-145.43	-267.38	43.59	382.47	288.36	94.11	4.064	
2,400.00	2,391.38	2,376.38	2,376.38	6.03	93.06	-146.33	-267.38	43.59	391.53	293.22	98.31	3.983	
2,500.00	2,490.78	2,475.78	2,475.78	6.33	97.03	-147.20	-267.38	43.59	400.69	298.18	102.51	3.909	
2,600.00	2,590.18	2,575.18	2,575.18	6.62	101.01	-148.02	-267.38	43.59	409.93	303.22	106.71	3.842	
2,700.00	2,689.58	2,674.58	2,674.58	6.92	104.98	-148.81	-267.38	43.59	419.25	308.34	110.91	3.780	
2,800.00	2,788.98	2,773.98	2,773.98	7.22	108.96	-149.57	-267.38	43.59	428.65	313.54	115.10	3.724	
2,900.00	2,888.38	2,873.38	2,873.38	7.52	112.94	-150.29	-267.38	43.59	438.12	318.82	119.30	3.672	
3,000.00	2,987.78	2,972.78	2,972.78	7.82	116.91	-150.98	-267.38	43.59	447.65	324.16	123.50	3.625	
3,100.00	3,087.19	3,072.19	3,072.19	8.11	120.89	-151.64	-267.38	43.59	457.25	329.56	127.69	3.581	
3,200.00	3,186.59	3,171.59	3,171.59	8.41	124.86	-152.28	-267.38	43.59	466.90	335.02	131.88	3.540	
3,300.00	3,285.99	3,270.99	3,270.99	8.71	128.84	-152.89	-267.38	43.59	476.61	340.54	136.08	3.502	
3,400.00	3,385.39	3,370.39	3,370.39	9.01	132.82	-153.48	-267.38	43.59	486.38	346.10	140.27	3.467	
3,500.00	3,484.79	3,469.79	3,469.79	9.31	136.79	-154.04	-267.38	43.59	496.19	351.72	144.46	3.435	
3,600.00	3,584.19	3,569.19	3,569.19	9.61	140.77	-154.58	-267.38	43.59	506.04	357.39	148.66	3.404	
3,700.00	3,683.59	3,668.59	3,668.59	9.92	144.74	-155.10	-267.38	43.59	515.94	363.09	152.85	3.376	
3,800.00	3,783.00	3,768.00	3,768.00	10.22	148.72	-155.60	-267.38	43.59	525.88	368.84	157.04	3.349	
3,900.00	3,882.40	3,867.40	3,867.40	10.52	152.70	-156.08	-267.38	43.59	535.86	374.63	161.23	3.324	
4,000.00	3,981.80	3,966.80	3,966.80	10.82	156.67	-156.55	-267.38	43.59	545.87	380.45	165.42	3.300	
4,100.00	4,081.20	4,066.20	4,066.20	11.12	160.65	-157.00	-267.38	43.59	555.92	386.31	169.61	3.278	
4,200.00	4,180.60	4,165.60	4,165.60	11.42	164.62	-157.43	-267.38	43.59	566.00	392.20	173.80	3.257	
4,300.00	4,280.00	4,265.00	4,265.00	11.72	168.60	-157.84	-267.38	43.59	576.11	398.12	177.99	3.237	
4,400.00	4,379.40	4,364.40	4,364.40	12.02	172.58	-158.25	-267.38	43.59	586.25	404.07	182.18	3.218	
4,500.00	4,478.81	4,463.81	4,463.81	12.33	176.55	-158.63	-267.38	43.59	596.42	410.05	186.37	3.200	
4,600.00	4,578.21	4,563.21	4,563.21	12.63	180.53	-159.01	-267.38	43.59	606.62	416.06	190.56	3.183	
4,700.00	4,677.61	4,662.61	4,662.61	12.93	184.50	-159.37	-267.38	43.59	616.84	422.09	194.75	3.167	
4,800.00	4,777.01	4,762.01	4,762.01	13.23	188.48	-159.73	-267.38	43.59	627.08	428.14	198.94	3.152	
4,900.00	4,876.41	4,861.41	4,861.41	13.53	192.46	-160.07	-267.38	43.59	637.35	434.22	203.13	3.138	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_VOGL 26-6
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_VOGL 3 PAD	<b>MD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_VOGL 26-6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_VOGL 26-6	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 12-28-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
WELD_VOGL 3 PAD - VOGL #4-5A EXISTING - VOGL #4-5A EXISTING - VOGL #4-5A EXISTING												Offset Well Error:	0.00 ft
Survey Program: 0-UNKNOWN													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,975.81	4,960.81	4,960.81	13.84	196.43	-160.39	-267.38	43.59	647.63	440.32	207.31	3.124	
5,100.00	5,075.22	5,060.22	5,060.22	14.14	200.41	-160.71	-267.38	43.59	657.94	446.44	211.50	3.111	
5,200.00	5,174.62	5,159.62	5,159.62	14.44	204.38	-161.02	-267.38	43.59	668.27	452.58	215.69	3.098	
5,300.00	5,274.02	5,259.02	5,259.02	14.74	208.36	-161.32	-267.38	43.59	678.62	458.74	219.88	3.086	
5,400.00	5,373.42	5,358.42	5,358.42	15.04	212.34	-161.61	-267.38	43.59	688.98	464.91	224.07	3.075	
5,500.00	5,472.82	5,457.82	5,457.82	15.35	216.31	-161.90	-267.38	43.59	699.36	471.11	228.26	3.064	
5,600.00	5,572.22	5,557.22	5,557.22	15.65	220.29	-162.17	-267.38	43.59	709.76	477.32	232.45	3.053	
5,700.00	5,671.62	5,656.62	5,656.62	15.95	224.26	-162.44	-267.38	43.59	720.17	483.54	236.63	3.043	
5,752.72	5,724.03	5,709.03	5,709.03	16.11	226.36	-162.57	-267.38	43.59	725.67	486.83	238.84	3.038	
5,800.00	5,771.07	5,756.07	5,756.07	16.23	228.24	-162.71	-267.38	43.59	730.23	489.15	241.08	3.029	
5,900.00	5,870.78	5,855.78	5,855.78	16.43	232.23	-162.93	-267.38	43.59	737.44	491.70	245.74	3.001	
6,000.00	5,970.69	5,955.69	5,955.69	16.61	236.23	-163.04	-267.38	43.59	741.32	491.14	250.18	2.963	
6,066.32	6,037.00	6,022.00	6,022.00	16.71	238.88	134.75	-267.38	43.59	742.06	489.08	252.98	2.933	
6,100.00	6,070.68	6,055.68	6,055.68	16.76	240.23	134.75	-267.38	43.59	742.06	487.67	254.39	2.917	
6,200.00	6,170.68	6,155.68	6,155.68	16.93	244.23	134.75	-267.38	43.59	742.06	483.47	258.59	2.870	
6,300.00	6,270.68	6,255.68	6,255.68	17.11	248.23	134.75	-267.38	43.59	742.06	479.27	262.79	2.824	
6,400.00	6,370.68	6,355.68	6,355.68	17.28	252.23	134.75	-267.38	43.59	742.06	475.07	266.99	2.779	
6,500.00	6,470.68	6,455.68	6,455.68	17.46	256.23	134.75	-267.38	43.59	742.06	470.86	271.19	2.736	
6,600.00	6,570.68	6,555.68	6,555.68	17.63	260.23	134.75	-267.38	43.59	742.06	466.66	275.40	2.694	
6,700.00	6,670.68	6,655.68	6,655.68	17.81	264.23	134.75	-267.38	43.59	742.06	462.46	279.60	2.654	
6,800.00	6,770.68	6,755.68	6,755.68	17.99	268.23	134.75	-267.38	43.59	742.06	458.25	283.81	2.615	
6,900.00	6,870.68	6,855.68	6,855.68	18.17	272.23	134.75	-267.38	43.59	742.06	454.05	288.01	2.576	
7,000.00	6,970.68	6,955.68	6,955.68	18.36	276.23	134.75	-267.38	43.59	742.06	449.84	292.22	2.539	
7,100.00	7,070.68	7,055.68	7,055.68	18.54	280.23	134.75	-267.38	43.59	742.06	445.63	296.42	2.503	
7,200.00	7,170.68	7,155.68	7,155.68	18.72	284.23	134.75	-267.38	43.59	742.06	441.43	300.63	2.468	
7,300.00	7,270.68	7,255.68	7,255.68	18.91	288.23	134.75	-267.38	43.59	742.06	437.22	304.84	2.434	
7,400.00	7,370.68	7,355.68	7,355.68	19.09	292.23	134.75	-267.38	43.59	742.06	433.01	309.04	2.401	
7,500.00	7,470.68	7,455.68	7,455.68	19.28	296.23	134.75	-267.38	43.59	742.06	428.80	313.25	2.369	
7,600.00	7,570.68	7,555.68	7,555.68	19.46	300.23	134.75	-267.38	43.59	742.06	424.60	317.46	2.337	
7,700.00	7,670.68	7,655.68	7,655.68	19.65	304.23	134.75	-267.38	43.59	742.06	420.39	321.67	2.307	
7,800.00	7,770.68	7,755.68	7,755.68	19.84	308.23	134.75	-267.38	43.59	742.06	416.18	325.88	2.277	
7,901.32	7,872.00	7,857.00	7,857.00	20.03	312.28	134.75	-267.38	43.59	742.06	411.91	330.14	2.248 SF	

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<b>Reference Site:</b>	WELD_VOGL 3 PAD	<b>MD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_VOGL 26-6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_VOGL 26-6	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 12-28-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4845.00ft (Original Well Elev) Coordinates are relative to: P\_VOGL 26-6  
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone  
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.37°





<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well P_VOGL 26-6
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Reference Site:</b>	WELD_VOGL 3 PAD	<b>MD Reference:</b>	WELL @ 4845.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	P_VOGL 26-6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	P_VOGL 26-6	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 12-28-09 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4845.00ft (Original Well Elev) Coordinates are relative to: P\_VOGL 26-6  
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone  
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.37°

