



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_HUNT 2 PAD

P_HUNT 35-4

P_HUNT 35-4

Plan: PLAN #1 10-27-09

Standard Planning Report

27 October, 2009





P_HUNT 35-4
COLORADO NORTHERN ZONE - 83
SECTION 4 T3N R66W
1299 FSL 854 FWL
LAT: 40° 15' 0.504 N
LONG: 104° 47' 19.824 W



Azimuths to True North
Magnetic North: 9.05°
Magnetic Field
Strength: 53241.4snT
Dip Angle: 66.99°
Date: 10/27/2009
Model: IGRF200510

WELL DETAILS: P_HUNT 35-4

+N/-S	+E/-W	Northing	Ground Level:	Easting	Latitude	Longitude	Slot
0.00	0.00	1334763.66	4802.00	3198501.12	40° 15' 0.504 N	104° 47' 19.824 W	

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3800.00	3903.21	PARKMAN TOP
4200.00	4319.29	SUSSEX TOP
7027.00	7198.34	NIO A TOP
7320.00	7491.34	CODELL TOP
7730.00	7901.34	JSAND TOP

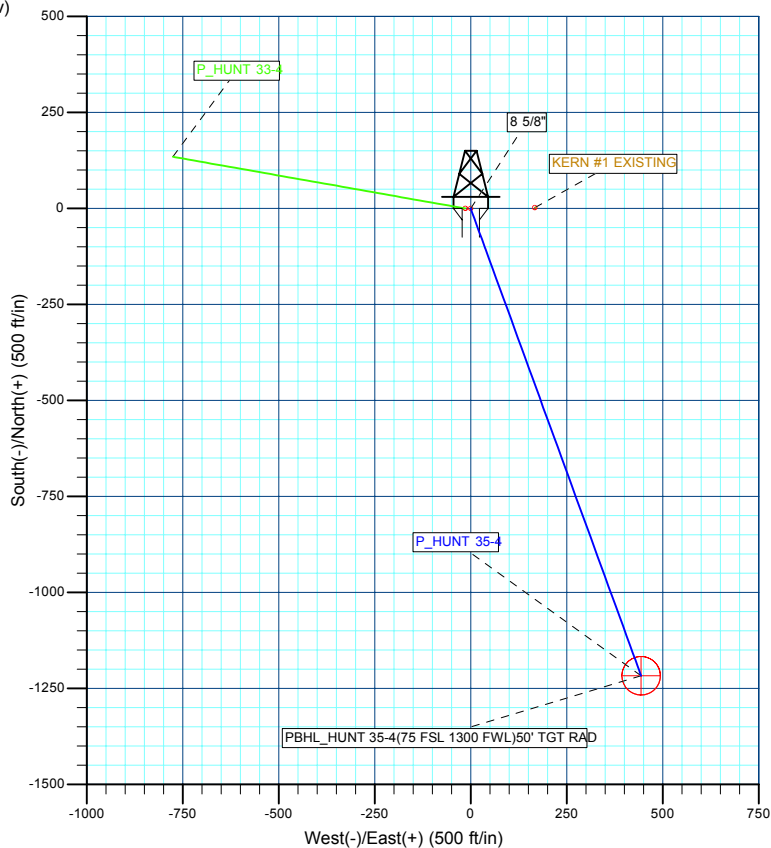
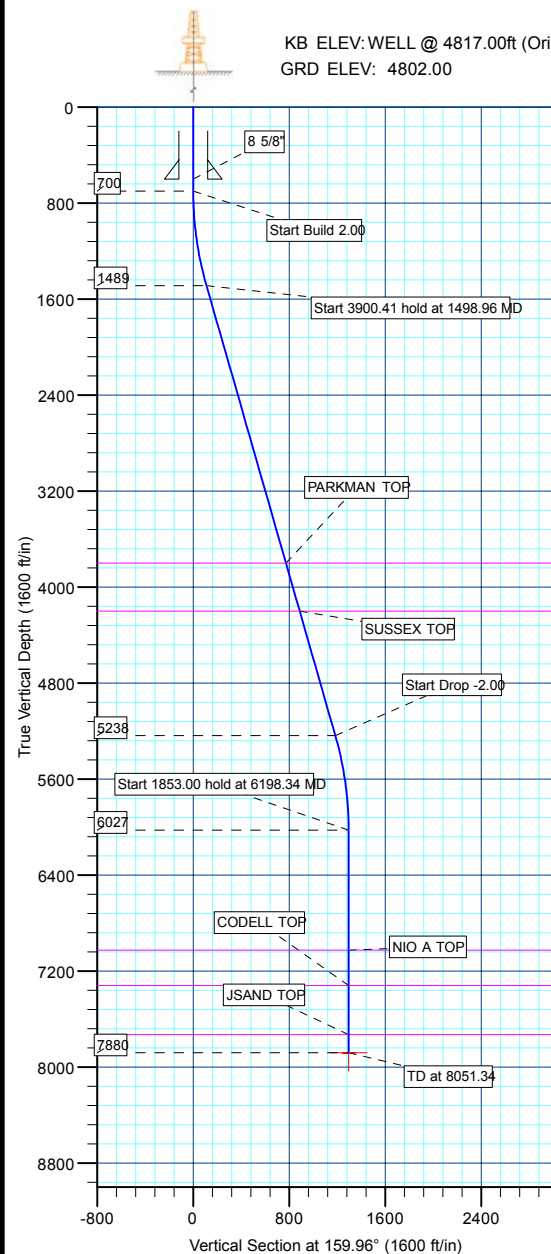
SECTION DETAILS

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	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	
1498.96	15.98	159.96	1488.65	-103.99	37.93	2.00	159.96	110.69	
5399.38	15.98	159.96	5238.35	-1112.71	405.90	0.00	0.00	1184.43	
6198.34	0.00	0.00	6027.00	-1216.70	443.83	2.00	180.00	1295.13	
8051.34	0.00	0.00	7880.00	-1216.70	443.83	0.00	0.00	1295.13	PBHL_HUNT 35-4(75 FSL 1300 FWL)50' TGT RAD

CASING DETAILS

TVD	MD	Name	Size
600.00	600.00	8 5/8"	8.62

KB ELEV: WELL @ 4817.00ft (Original Well Elev)
GRD ELEV: 4802.00



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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	7880.00	-1216.70	443.83	1333550.56	3198954.70	40° 14' 48.480 N	104° 47' 14.100 W	Circle (Radius: 50.00)

Plan: PLAN #1 10-27-09 (P_HUNT 35-4/P_HUNT 35-4)

Created By: Robert H. Scott



US ROCKIES REGION PLANNING

**COLORADO NOTHERN ZONE - 83
WELD_HUNT 2 PAD
P_HUNT 35-4**

**P_HUNT 35-4
PLAN #1 10-27-09**

Anticollision Report

27 October, 2009



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_HUNT 35-4
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 4817.00ft (Original Well Elev)
Reference Site:	WELD_HUNT 2 PAD	MD Reference:	WELL @ 4817.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_HUNT 35-4	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_HUNT 35-4	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-27-09	Offset TVD Reference:	Offset Datum

Reference	PLAN #1 10-27-09		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	0.00 to 20,000.00ft	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 10/27/2009			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	8,051.34	PLAN #1 10-27-09 (P_HUNT 35-4)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
WELD_HUNT 2 PAD						
KERN #1 EXISTING - KERN #1 EXISTING - KERN #1 E	1,263.53	1,242.90	157.82	107.36	3.128	CC
KERN #1 EXISTING - KERN #1 EXISTING - KERN #1 E	1,400.00	1,376.06	160.62	104.39	2.857	ES
KERN #1 EXISTING - KERN #1 EXISTING - KERN #1 E	1,500.00	1,472.64	167.37	107.06	2.775	SF
P_HUNT 33-4 - P_HUNT 33-4 - PLAN #1 10-27-09	700.00	700.00	13.96	11.07	4.832	CC, ES, SF

Offset Design WELD_HUNT 2 PAD - KERN #1 EXISTING - KERN #1 EXISTING - KERN #1 EXISTING											
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)
0.00	0.00	0.00	0.00	0.00	0.00	89.25	2.18	167.20	168.07		
100.00	100.00	83.00	83.00	0.10	1.66	89.25	2.18	167.20	167.21	165.46	1.76
200.00	200.00	183.00	183.00	0.32	5.32	89.25	2.18	167.20	167.21	161.57	5.64
300.00	300.00	283.00	283.00	0.55	9.32	89.25	2.18	167.20	167.21	157.35	9.87
400.00	400.00	383.00	383.00	0.77	13.32	89.25	2.18	167.20	167.21	153.12	14.09
500.00	500.00	483.00	483.00	0.99	17.32	89.25	2.18	167.20	167.21	148.90	18.31
600.00	600.00	583.00	583.00	1.22	21.32	89.25	2.18	167.20	167.21	144.67	22.54
700.00	700.00	683.00	683.00	1.44	25.32	89.25	2.18	167.20	167.21	140.45	26.76
800.00	799.98	782.98	782.98	1.64	29.32	-71.28	2.18	167.20	166.64	135.68	30.96
900.00	899.84	882.84	882.84	1.82	33.31	-73.03	2.18	167.20	165.04	129.91	35.13
1,000.00	999.45	982.45	982.45	2.03	37.30	-76.00	2.18	167.20	162.70	123.39	39.31
1,100.00	1,098.70	1,081.70	1,081.70	2.26	41.27	-80.26	2.18	167.20	160.18	116.66	43.52
1,200.00	1,197.47	1,180.47	1,180.47	2.54	45.22	-85.82	2.18	167.20	158.26	110.50	47.75
1,263.53	1,259.90	1,242.90	1,242.90	2.74	47.72	-90.00	2.18	167.20	157.82	107.36	50.46
1,300.00	1,295.62	1,278.62	1,278.62	2.86	49.14	-92.61	2.18	167.20	157.99	105.99	52.01
1,400.00	1,393.06	1,376.06	1,376.06	3.25	53.04	-100.40	2.18	167.20	160.62	104.39	56.23
1,498.96	1,488.65	1,471.65	1,471.65	3.69	56.87	-108.66	2.18	167.20	167.28	107.01	60.27
1,500.00	1,489.64	1,472.64	1,472.64	3.69	56.91	-108.75	2.18	167.20	167.37	107.06	60.31
1,600.00	1,585.78	1,568.78	1,568.78	4.18	60.75	-116.89	2.18	167.20	178.44	114.14	64.29
1,700.00	1,681.92	1,664.92	1,664.92	4.69	64.60	-124.01	2.18	167.20	192.82	124.63	68.19
1,800.00	1,778.05	1,761.05	1,761.05	5.21	68.44	-130.12	2.18	167.20	209.85	137.81	72.04
1,900.00	1,874.19	1,857.19	1,857.19	5.75	72.29	-135.29	2.18	167.20	228.94	153.07	75.87
2,000.00	1,970.32	1,953.32	1,953.32	6.29	76.13	-139.67	2.18	167.20	249.60	169.91	79.69

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_HUNT 35-4
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 4817.00ft (Original Well Elev)
Reference Site:	WELD_HUNT 2 PAD	MD Reference:	WELL @ 4817.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_HUNT 35-4	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_HUNT 35-4	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-27-09	Offset TVD Reference:	Offset Datum

Offset Design WELD_HUNT 2 PAD - KERN #1 EXISTING - KERN #1 EXISTING - KERN #1 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	
2,100.00	2,066.46	2,049.46	2,049.46	6.84	79.98	-143.38	2.18	167.20	271.49	187.96	83.52	3.250	
2,200.00	2,162.60	2,145.60	2,145.60	7.39	83.82	-146.54	2.18	167.20	294.32	206.96	87.36	3.369	
2,300.00	2,258.73	2,241.73	2,241.73	7.95	87.67	-149.25	2.18	167.20	317.90	226.68	91.22	3.485	
2,400.00	2,354.87	2,337.87	2,337.87	8.51	91.51	-151.59	2.18	167.20	342.07	246.99	95.08	3.598	
2,500.00	2,451.00	2,434.00	2,434.00	9.07	95.36	-153.62	2.18	167.20	366.72	267.75	98.96	3.706	
2,600.00	2,547.14	2,530.14	2,530.14	9.63	99.21	-155.40	2.18	167.20	391.74	288.89	102.85	3.809	
2,700.00	2,643.28	2,626.28	2,626.28	10.20	103.05	-156.96	2.18	167.20	417.09	310.34	106.75	3.907	
2,800.00	2,739.41	2,722.41	2,722.41	10.77	106.90	-158.35	2.18	167.20	442.69	332.03	110.66	4.000	
2,900.00	2,835.55	2,818.55	2,818.55	11.34	110.74	-159.59	2.18	167.20	468.52	353.94	114.58	4.089	
3,000.00	2,931.69	2,914.69	2,914.69	11.90	114.59	-160.70	2.18	167.20	494.52	376.02	118.50	4.173	
3,100.00	3,027.82	3,010.82	3,010.82	12.47	118.43	-161.69	2.18	167.20	520.69	398.25	122.43	4.253	
3,200.00	3,123.96	3,106.96	3,106.96	13.05	122.28	-162.60	2.18	167.20	546.98	420.62	126.37	4.329	
3,300.00	3,220.09	3,203.09	3,203.09	13.62	126.12	-163.42	2.18	167.20	573.40	443.09	130.31	4.400	
3,400.00	3,316.23	3,299.23	3,299.23	14.19	129.97	-164.16	2.18	167.20	599.91	465.66	134.25	4.469	
3,500.00	3,412.37	3,395.37	3,395.37	14.76	133.81	-164.85	2.18	167.20	626.51	488.31	138.20	4.533	
3,600.00	3,508.50	3,491.50	3,491.50	15.34	137.66	-165.48	2.18	167.20	653.19	511.04	142.15	4.595	
3,700.00	3,604.64	3,587.64	3,587.64	15.91	141.51	-166.06	2.18	167.20	679.94	533.83	146.11	4.654	
3,800.00	3,700.77	3,683.77	3,683.77	16.48	145.35	-166.60	2.18	167.20	706.74	556.67	150.07	4.709	
3,900.00	3,796.91	3,779.91	3,779.91	17.06	149.20	-167.09	2.18	167.20	733.60	579.57	154.03	4.763	
4,000.00	3,893.05	3,876.05	3,876.05	17.63	153.04	-167.56	2.18	167.20	760.51	602.52	157.99	4.814	
4,100.00	3,989.18	3,972.18	3,972.18	18.21	156.89	-167.99	2.18	167.20	787.46	625.50	161.96	4.862	
4,200.00	4,085.32	4,068.32	4,068.32	18.78	160.73	-168.39	2.18	167.20	814.45	648.52	165.92	4.909	
4,300.00	4,181.45	4,164.45	4,164.45	19.36	164.58	-168.77	2.18	167.20	841.47	671.58	169.89	4.953	
4,400.00	4,277.59	4,260.59	4,260.59	19.93	168.42	-169.12	2.18	167.20	868.53	694.67	173.86	4.996	
4,500.00	4,373.73	4,356.73	4,356.73	20.51	172.27	-169.45	2.18	167.20	895.61	717.78	177.83	5.036	
4,600.00	4,469.86	4,452.86	4,452.86	21.08	176.11	-169.76	2.18	167.20	922.72	740.92	181.81	5.075	
4,700.00	4,566.00	4,549.00	4,549.00	21.66	179.96	-170.06	2.18	167.20	949.86	764.08	185.78	5.113	
4,800.00	4,662.14	4,645.14	4,645.14	22.24	183.81	-170.34	2.18	167.20	977.02	787.26	189.76	5.149	
4,900.00	4,758.27	4,741.27	4,741.27	22.81	187.65	-170.60	2.18	167.20	1,004.19	810.46	193.73	5.183	
5,000.00	4,854.41	4,837.41	4,837.41	23.39	191.50	-170.85	2.18	167.20	1,031.39	833.68	197.71	5.217	
5,100.00	4,950.54	4,933.54	4,933.54	23.97	195.34	-171.09	2.18	167.20	1,058.60	856.91	201.69	5.249	
5,200.00	5,046.68	5,029.68	5,029.68	24.54	199.19	-171.31	2.18	167.20	1,085.83	880.16	205.67	5.280	
5,300.00	5,142.82	5,125.82	5,125.82	25.12	203.03	-171.53	2.18	167.20	1,113.07	903.43	209.65	5.309	
5,399.38	5,238.35	5,221.35	5,221.35	25.69	206.85	-171.73	2.18	167.20	1,140.16	926.56	213.60	5.338	
5,500.00	5,335.56	5,318.56	5,318.56	26.17	210.74	-171.99	2.18	167.20	1,165.91	946.44	219.47	5.312	
5,600.00	5,433.00	5,416.00	5,416.00	26.52	214.64	-172.20	2.18	167.20	1,188.15	963.03	225.12	5.278	
5,700.00	5,531.17	5,514.17	5,514.17	26.83	218.57	-172.37	2.18	167.20	1,207.01	976.43	230.58	5.235	
5,800.00	5,629.94	5,612.94	5,612.94	27.11	222.52	-172.51	2.18	167.20	1,222.46	986.64	235.82	5.184	
5,900.00	5,729.20	5,712.20	5,712.20	27.34	226.49	-172.62	2.18	167.20	1,234.49	993.66	240.83	5.126	
6,000.00	5,828.82	5,811.82	5,811.82	27.52	230.47	-172.69	2.18	167.20	1,243.07	997.49	245.58	5.062	
6,100.00	5,928.68	5,911.68	5,911.68	27.67	234.47	-172.73	2.18	167.20	1,248.21	998.15	250.06	4.992	
6,198.34	6,027.00	6,010.00	6,010.00	27.78	238.40	-12.79	2.18	167.20	1,249.88	995.70	254.18	4.917	
6,200.00	6,028.66	6,011.66	6,011.66	27.78	238.47	-12.79	2.18	167.20	1,249.88	995.63	254.25	4.916	
6,300.00	6,128.66	6,111.66	6,111.66	27.86	242.47	-12.79	2.18	167.20	1,249.88	991.48	258.40	4.837	
6,400.00	6,228.66	6,211.66	6,211.66	27.95	246.47	-12.79	2.18	167.20	1,249.88	987.33	262.55	4.760	
6,500.00	6,328.66	6,311.66	6,311.66	28.04	250.47	-12.79	2.18	167.20	1,249.88	983.17	266.71	4.686	
6,600.00	6,428.66	6,411.66	6,411.66	28.13	254.47	-12.79	2.18	167.20	1,249.88	979.02	270.86	4.614	
6,700.00	6,528.66	6,511.66	6,511.66	28.22	258.47	-12.79	2.18	167.20	1,249.88	974.86	275.02	4.545	
6,800.00	6,628.66	6,611.66	6,611.66	28.31	262.47	-12.79	2.18	167.20	1,249.88	970.70	279.18	4.477	
6,900.00	6,728.66	6,711.66	6,711.66	28.40	266.47	-12.79	2.18	167.20	1,249.88	966.54	283.34	4.411	
7,000.00	6,828.66	6,811.66	6,811.66	28.49	270.47	-12.79	2.18	167.20	1,249.88	962.38	287.51	4.347	
7,100.00	6,928.66	6,911.66	6,911.66	28.59	274.47	-12.79	2.18	167.20	1,249.88	958.21	291.67	4.285	

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

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_HUNT 35-4
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 4817.00ft (Original Well Elev)
Reference Site:	WELD_HUNT 2 PAD	MD Reference:	WELL @ 4817.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_HUNT 35-4	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_HUNT 35-4	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-27-09	Offset TVD Reference:	Offset Datum

Offset Design WELD_HUNT 2 PAD - KERN #1 EXISTING - KERN #1 EXISTING - KERN #1 EXISTING												Offset Site Error:	0.00 ft
Survey Program: 0-UNKNOWN												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
7,200.00	7,028.66	7,011.66	7,011.66	28.69	278.47	-12.79	2.18	167.20	1,249.88	954.05	295.83	4.225	
7,300.00	7,128.66	7,111.66	7,111.66	28.79	282.47	-12.79	2.18	167.20	1,249.88	949.88	300.00	4.166	
7,400.00	7,228.66	7,211.66	7,211.66	28.89	286.47	-12.79	2.18	167.20	1,249.88	945.71	304.17	4.109	
7,500.00	7,328.66	7,311.66	7,311.66	28.99	290.47	-12.79	2.18	167.20	1,249.88	941.54	308.34	4.054	
7,600.00	7,428.66	7,411.66	7,411.66	29.09	294.47	-12.79	2.18	167.20	1,249.88	937.37	312.51	4.000	
7,700.00	7,528.66	7,511.66	7,511.66	29.19	298.47	-12.79	2.18	167.20	1,249.88	933.20	316.68	3.947	
7,800.00	7,628.66	7,611.66	7,611.66	29.30	302.47	-12.79	2.18	167.20	1,249.88	929.03	320.85	3.896	
7,860.48	7,689.14	7,672.14	7,672.14	29.37	304.89	-12.79	2.18	167.20	1,249.88	926.51	323.38	3.865	
7,900.00	7,728.66	7,696.00	7,696.00	29.41	305.84	-12.79	2.18	167.20	1,249.98	925.58	324.40	3.853	
8,000.00	7,828.66	7,696.00	7,696.00	29.52	305.84	-12.79	2.18	167.20	1,255.22	930.65	324.57	3.867	
8,051.34	7,880.00	7,696.00	7,696.00	29.57	305.84	-12.79	2.18	167.20	1,260.99	936.33	324.66	3.884	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_HUNT 35-4
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 4817.00ft (Original Well Elev)
Reference Site:	WELD_HUNT 2 PAD	MD Reference:	WELL @ 4817.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_HUNT 35-4	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_HUNT 35-4	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-27-09	Offset TVD Reference:	Offset Datum

Offset Design WELD_HUNT 2 PAD - P_HUNT 33-4 - P_HUNT 33-4 - PLAN #1 10-27-09												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	-89.95	0.01	-13.96	13.96				
100.00	100.00	100.00	100.00	0.10	0.10	-89.95	0.01	-13.96	13.96	13.77	0.19	73.050	
200.00	200.00	200.00	200.00	0.32	0.32	-89.95	0.01	-13.96	13.96	13.32	0.64	21.787	
300.00	300.00	300.00	300.00	0.55	0.55	-89.95	0.01	-13.96	13.96	12.87	1.09	12.803	
400.00	400.00	400.00	400.00	0.77	0.77	-89.95	0.01	-13.96	13.96	12.42	1.54	9.065	
500.00	500.00	500.00	500.00	0.99	0.99	-89.95	0.01	-13.96	13.96	11.97	1.99	7.016	
600.00	600.00	600.00	600.00	1.22	1.22	-89.95	0.01	-13.96	13.96	11.52	2.44	5.723	
700.00	700.00	700.00	700.00	1.44	1.44	-89.95	0.01	-13.96	13.96	11.07	2.89	4.832	CC, ES, SF
800.00	799.98	799.43	799.41	1.64	1.66	116.82	0.31	-15.66	16.38	13.08	3.30	4.968	
900.00	899.84	898.32	898.17	1.82	1.87	128.33	1.21	-20.71	24.43	20.75	3.68	6.642	
1,000.00	999.45	996.15	995.62	2.03	2.09	136.33	2.68	-29.02	38.74	34.67	4.07	9.509	
1,100.00	1,098.70	1,092.41	1,091.18	2.26	2.34	140.85	4.69	-40.38	59.19	54.70	4.49	13.194	
1,200.00	1,197.47	1,187.57	1,185.26	2.54	2.61	143.47	7.18	-54.50	85.31	80.40	4.92	17.349	
1,300.00	1,295.62	1,283.01	1,279.51	2.86	2.90	145.59	9.80	-69.27	114.88	109.50	5.37	21.373	
1,400.00	1,393.06	1,377.46	1,372.79	3.25	3.20	147.46	12.38	-83.88	147.35	141.50	5.85	25.185	
1,498.96	1,488.65	1,469.85	1,464.03	3.69	3.51	149.08	14.91	-98.17	182.39	176.06	6.34	28.780	
1,500.00	1,489.64	1,470.81	1,464.98	3.69	3.51	149.10	14.94	-98.32	182.78	176.43	6.34	28.815	
1,600.00	1,585.78	1,563.59	1,556.60	4.18	3.83	150.71	17.48	-112.67	219.73	212.84	6.89	31.897	
1,700.00	1,681.92	1,656.36	1,648.22	4.69	4.14	151.86	20.01	-127.03	256.79	249.34	7.45	34.488	
1,800.00	1,778.05	1,749.14	1,739.85	5.21	4.47	152.71	22.55	-141.38	293.91	285.90	8.01	36.686	
1,900.00	1,874.19	1,841.91	1,831.47	5.75	4.79	153.38	25.09	-155.74	331.08	322.49	8.58	38.569	
2,000.00	1,970.32	1,934.68	1,923.09	6.29	5.12	153.91	27.63	-170.09	368.28	359.12	9.16	40.196	
2,100.00	2,066.46	2,027.46	2,014.71	6.84	5.45	154.35	30.17	-184.44	405.50	395.76	9.74	41.614	
2,200.00	2,162.60	2,120.23	2,106.34	7.39	5.79	154.71	32.71	-198.80	442.74	432.41	10.33	42.861	
2,300.00	2,258.73	2,213.01	2,197.96	7.95	6.12	155.01	35.25	-213.15	479.99	469.07	10.92	43.965	
2,400.00	2,354.87	2,305.78	2,289.58	8.51	6.46	155.27	37.79	-227.50	517.25	505.74	11.51	44.942	
2,500.00	2,451.00	2,398.56	2,381.20	9.07	6.80	155.50	40.33	-241.86	554.52	542.41	12.11	45.803	
2,600.00	2,547.14	2,491.33	2,472.83	9.63	7.13	155.70	42.87	-256.21	591.80	579.09	12.71	46.574	
2,700.00	2,643.28	2,584.11	2,564.45	10.20	7.47	155.87	45.41	-270.57	629.08	615.77	13.31	47.270	
2,800.00	2,739.41	2,676.88	2,656.07	10.77	7.81	156.03	47.94	-284.92	666.36	652.45	13.91	47.901	
2,900.00	2,835.55	2,769.66	2,747.69	11.34	8.15	156.16	50.48	-299.27	703.65	689.14	14.52	48.475	
3,000.00	2,931.69	2,862.43	2,839.32	11.90	8.50	156.29	53.02	-313.63	740.95	725.82	15.12	48.999	
3,100.00	3,027.82	2,955.21	2,930.94	12.47	8.84	156.40	55.56	-327.98	778.24	762.51	15.73	49.479	
3,200.00	3,123.96	3,047.98	3,022.56	13.05	9.18	156.50	58.10	-342.33	815.54	799.20	16.34	49.921	
3,300.00	3,220.09	3,140.76	3,114.18	13.62	9.52	156.60	60.64	-356.69	852.84	835.89	16.95	50.329	
3,400.00	3,316.23	3,233.53	3,205.81	14.19	9.86	156.68	63.18	-371.04	890.14	872.58	17.55	50.707	
3,500.00	3,412.37	3,326.31	3,297.43	14.76	10.21	156.76	65.72	-385.39	927.44	909.28	18.16	51.057	
3,600.00	3,508.50	3,419.08	3,389.05	15.34	10.55	156.83	68.26	-399.75	964.75	945.97	18.78	51.383	
3,700.00	3,604.64	3,511.86	3,480.67	15.91	10.89	156.90	70.80	-414.10	1,002.05	982.67	19.39	51.687	
3,800.00	3,700.77	3,604.63	3,572.30	16.48	11.24	156.96	73.34	-428.46	1,039.36	1,019.36	20.00	51.971	
3,900.00	3,796.91	3,697.40	3,663.92	17.06	11.58	157.02	75.88	-442.81	1,076.67	1,056.06	20.61	52.237	
4,000.00	3,893.05	3,790.18	3,755.54	17.63	11.93	157.07	78.41	-457.16	1,113.98	1,092.75	21.22	52.486	
4,100.00	3,989.18	3,882.95	3,847.16	18.21	12.27	157.12	80.95	-471.52	1,151.28	1,129.45	21.84	52.721	
4,200.00	4,085.32	3,975.73	3,938.79	18.78	12.61	157.17	83.49	-485.87	1,188.59	1,166.14	22.45	52.942	
4,300.00	4,181.45	4,068.50	4,030.41	19.36	12.96	157.22	86.03	-500.22	1,225.91	1,202.84	23.06	53.151	
4,400.00	4,277.59	4,161.28	4,122.03	19.93	13.30	157.26	88.57	-514.58	1,263.22	1,239.54	23.68	53.348	
4,500.00	4,373.73	4,254.05	4,213.65	20.51	13.65	157.30	91.11	-528.93	1,300.53	1,276.24	24.29	53.535	
4,600.00	4,469.86	4,346.83	4,305.27	21.08	13.99	157.34	93.65	-543.28	1,337.84	1,312.93	24.91	53.711	
4,700.00	4,566.00	4,439.60	4,396.90	21.66	14.34	157.37	96.19	-557.64	1,375.15	1,349.63	25.52	53.879	
4,800.00	4,662.14	4,532.38	4,488.52	22.24	14.68	157.40	98.73	-571.99	1,412.47	1,386.33	26.14	54.039	
4,900.00	4,758.27	4,625.15	4,580.14	22.81	15.03	157.44	101.27	-586.35	1,449.78	1,423.03	26.75	54.191	
5,000.00	4,854.41	4,717.93	4,671.76	23.39	15.38	157.47	103.81	-600.70	1,487.10	1,459.73	27.37	54.335	

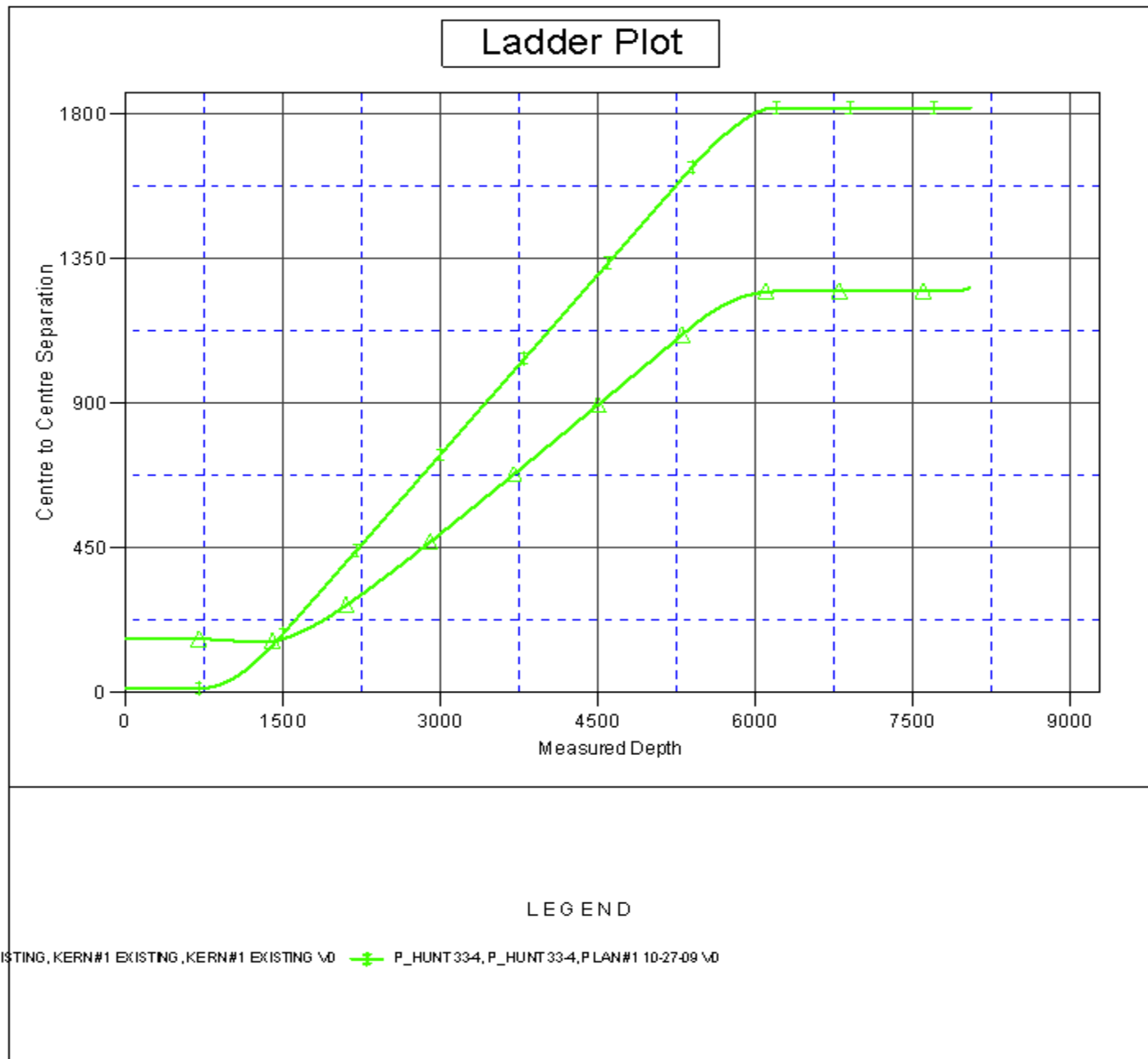
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_HUNT 35-4
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 4817.00ft (Original Well Elev)
Reference Site:	WELD_HUNT 2 PAD	MD Reference:	WELL @ 4817.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_HUNT 35-4	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_HUNT 35-4	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-27-09	Offset TVD Reference:	Offset Datum

Offset Design WELD_HUNT 2 PAD - P_HUNT 33-4 - P_HUNT 33-4 - PLAN #1 10-27-09												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
5,100.00	4,950.54	4,810.70	4,763.39	23.97	15.72	157.49	106.34	-615.05	1,524.41	1,496.42	27.98	54.473	
5,200.00	5,046.68	4,903.48	4,855.01	24.54	16.07	157.52	108.88	-629.41	1,561.72	1,533.12	28.60	54.605	
5,300.00	5,142.82	4,996.25	4,946.63	25.12	16.41	157.55	111.42	-643.76	1,599.04	1,569.82	29.22	54.730	
5,399.38	5,238.35	5,088.45	5,037.68	25.69	16.76	157.57	113.95	-658.02	1,636.12	1,606.29	29.83	54.850	
5,500.00	5,335.56	5,182.40	5,130.46	26.17	17.11	157.86	116.52	-672.56	1,672.15	1,641.60	30.55	54.742	
5,600.00	5,433.00	5,276.86	5,223.76	26.52	17.46	158.08	119.10	-687.18	1,704.90	1,673.71	31.19	54.655	
5,700.00	5,531.17	5,372.32	5,318.03	26.83	17.81	158.22	121.72	-701.94	1,734.59	1,702.78	31.81	54.530	
5,800.00	5,629.94	5,468.63	5,413.15	27.11	18.17	158.29	124.35	-716.85	1,761.16	1,728.77	32.39	54.374	
5,900.00	5,729.20	5,565.70	5,509.01	27.34	18.54	158.29	127.01	-731.86	1,784.61	1,751.68	32.93	54.191	
6,000.00	5,828.82	5,701.88	5,643.65	27.52	18.99	158.17	130.55	-751.91	1,804.50	1,770.99	33.52	53.838	
6,100.00	5,928.68	5,899.46	5,840.28	27.67	19.42	158.01	133.86	-770.60	1,816.86	1,782.81	34.05	53.352	
6,198.34	6,027.00	6,086.29	6,027.00	27.78	19.69	-42.07	134.81	-775.97	1,820.58	1,786.12	34.46	52.830	
6,200.00	6,028.66	6,087.95	6,028.66	27.78	19.70	-42.07	134.81	-775.97	1,820.58	1,786.11	34.47	52.823	
6,300.00	6,128.66	6,187.95	6,128.66	27.86	19.84	-42.07	134.81	-775.97	1,820.58	1,785.82	34.76	52.374	
6,400.00	6,228.66	6,287.95	6,228.66	27.95	19.98	-42.07	134.81	-775.97	1,820.58	1,785.52	35.06	51.927	
6,500.00	6,328.66	6,387.95	6,328.66	28.04	20.13	-42.07	134.81	-775.97	1,820.58	1,785.21	35.36	51.483	
6,600.00	6,428.66	6,487.95	6,428.66	28.13	20.28	-42.07	134.81	-775.97	1,820.58	1,784.91	35.67	51.042	
6,700.00	6,528.66	6,587.95	6,528.66	28.22	20.43	-42.07	134.81	-775.97	1,820.58	1,784.60	35.98	50.604	
6,800.00	6,628.66	6,687.95	6,628.66	28.31	20.58	-42.07	134.81	-775.97	1,820.58	1,784.29	36.29	50.170	
6,900.00	6,728.66	6,787.95	6,728.66	28.40	20.73	-42.07	134.81	-775.97	1,820.58	1,783.97	36.60	49.739	
7,000.00	6,828.66	6,887.95	6,828.66	28.49	20.89	-42.07	134.81	-775.97	1,820.58	1,783.66	36.92	49.312	
7,100.00	6,928.66	6,987.95	6,928.66	28.59	21.04	-42.07	134.81	-775.97	1,820.58	1,783.34	37.24	48.889	
7,200.00	7,028.66	7,087.95	7,028.66	28.69	21.20	-42.07	134.81	-775.97	1,820.58	1,783.02	37.56	48.470	
7,300.00	7,128.66	7,187.95	7,128.66	28.79	21.36	-42.07	134.81	-775.97	1,820.58	1,782.69	37.89	48.054	
7,400.00	7,228.66	7,287.95	7,228.66	28.89	21.52	-42.07	134.81	-775.97	1,820.58	1,782.36	38.21	47.642	
7,500.00	7,328.66	7,387.95	7,328.66	28.99	21.68	-42.07	134.81	-775.97	1,820.58	1,782.03	38.54	47.235	
7,600.00	7,428.66	7,487.95	7,428.66	29.09	21.84	-42.07	134.81	-775.97	1,820.58	1,781.70	38.88	46.831	
7,700.00	7,528.66	7,587.95	7,528.66	29.19	22.00	-42.07	134.81	-775.97	1,820.58	1,781.37	39.21	46.432	
7,800.00	7,628.66	7,687.95	7,628.66	29.30	22.16	-42.07	134.81	-775.97	1,820.58	1,781.03	39.55	46.036	
7,900.00	7,728.66	7,787.95	7,728.66	29.41	22.33	-42.07	134.81	-775.97	1,820.58	1,780.69	39.89	45.645	
8,000.00	7,828.66	7,887.95	7,828.66	29.52	22.49	-42.07	134.81	-775.97	1,820.58	1,780.35	40.23	45.258	
8,051.34	7,880.00	7,939.29	7,880.00	29.57	22.58	-42.07	134.81	-775.97	1,820.58	1,780.17	40.40	45.061	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_HUNT 35-4
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 4817.00ft (Original Well Elev)
Reference Site:	WELD_HUNT 2 PAD	MD Reference:	WELL @ 4817.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_HUNT 35-4	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_HUNT 35-4	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-27-09	Offset TVD Reference:	Offset Datum

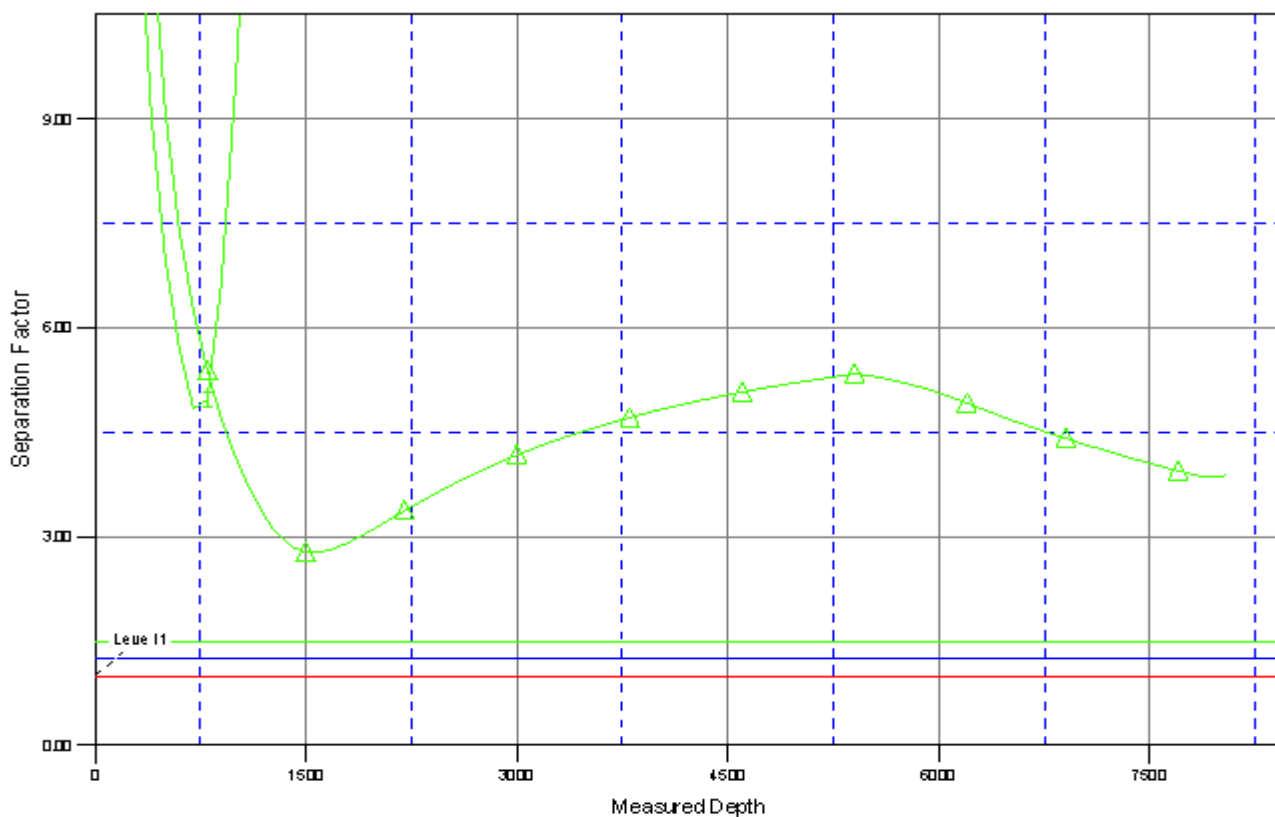
Reference Depths are relative to WELL @ 4817.00ft (Original Well Elev) Coordinates are relative to: P_HUNT 35-4
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.46°



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well P_HUNT 35-4
Project:	COLORADO NOTHERN ZONE - 83	TVD Reference:	WELL @ 4817.00ft (Original Well Elev)
Reference Site:	WELD_HUNT 2 PAD	MD Reference:	WELL @ 4817.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	P_HUNT 35-4	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	P_HUNT 35-4	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 10-27-09	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4817.00ft (Original Well Elev) Coordinates are relative to: P_HUNT 35-4
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: 0.46°

Separation Factor Plot



LEGEND

EXISTING, KERN#1 EXISTING, KERN#1 EXISTING \0  P_HUNT 33-4, P_HUNT 33-4, PLAN#1 10-27-09 \0

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_HUNT 35-4
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4817.00ft (Original Well Elev)
Project:	COLORADO NOTHERN ZONE - 83	MD Reference:	WELL @ 4817.00ft (Original Well Elev)
Site:	WELD_HUNT 2 PAD	North Reference:	True
Well:	P_HUNT 35-4	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_HUNT 35-4		
Design:	PLAN #1 10-27-09		

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

Site						WELD_HUNT 2 PAD, SECTION 4 T3N R66W											
Site Position:			Northing:			1,334,763.56 ft			Latitude:			40° 15' 0.504 N					
From:			Lat/Long			Easting:			3,198,487.17 ft			Longitude:			104° 47' 20.004 W		
Position Uncertainty:			0.00 ft			Slot Radius:			in			Grid Convergence:			0.46 °		

Well	P_HUNT 35-4					
Well Position	+N/-S	-0.01 ft	Northing:	1,334,763.66 ft	Latitude:	40° 15' 0.504 N
	+E/-W	13.96 ft	Easting:	3,198,501.12 ft	Longitude:	104° 47' 19.824 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,802.00 ft

Wellbore	P_HUNT 35-4				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	10/27/2009	9.05	66.99	53,241

Design	PLAN #1 10-27-09				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	159.96	

Plan Sections										
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	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,498.96	15.98	159.96	1,488.65	-103.99	37.93	2.00	2.00	0.00	159.96	
5,399.38	15.98	159.96	5,238.35	-1,112.71	405.90	0.00	0.00	0.00	0.00	
6,198.34	0.00	0.00	6,027.00	-1,216.70	443.83	2.00	-2.00	0.00	180.00	
8,051.34	0.00	0.00	7,880.00	-1,216.70	443.83	0.00	0.00	0.00	0.00	PBHL_HUNT 35-4(

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_HUNT 35-4
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4817.00ft (Original Well Elev)
Project:	COLORADO NOTHERN ZONE - 83	MD Reference:	WELL @ 4817.00ft (Original Well Elev)
Site:	WELD_HUNT 2 PAD	North Reference:	True
Well:	P_HUNT 35-4	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_HUNT 35-4		
Design:	PLAN #1 10-27-09		

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)
Start Build 2.00									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	2.00	159.96	799.98	-1.64	0.60	1.75	2.00	2.00	0.00
900.00	4.00	159.96	899.84	-6.56	2.39	6.98	2.00	2.00	0.00
1,000.00	6.00	159.96	999.45	-14.74	5.38	15.69	2.00	2.00	0.00
1,100.00	8.00	159.96	1,098.70	-26.19	9.55	27.88	2.00	2.00	0.00
1,200.00	10.00	159.96	1,197.47	-40.89	14.91	43.52	2.00	2.00	0.00
1,300.00	12.00	159.96	1,295.62	-58.81	21.45	62.60	2.00	2.00	0.00
1,400.00	14.00	159.96	1,393.06	-79.94	29.16	85.10	2.00	2.00	0.00
Start 3900.41 hold at 1498.96 MD									
1,498.96	15.98	159.96	1,488.65	-103.99	37.93	110.69	2.00	2.00	0.00
1,500.00	15.98	159.96	1,489.64	-104.26	38.03	110.98	0.00	0.00	0.00
1,600.00	15.98	159.96	1,585.78	-130.12	47.47	138.51	0.00	0.00	0.00
1,700.00	15.98	159.96	1,681.92	-155.98	56.90	166.03	0.00	0.00	0.00
1,800.00	15.98	159.96	1,778.05	-181.84	66.33	193.56	0.00	0.00	0.00
1,900.00	15.98	159.96	1,874.19	-207.70	75.77	221.09	0.00	0.00	0.00
2,000.00	15.98	159.96	1,970.32	-233.57	85.20	248.62	0.00	0.00	0.00
2,100.00	15.98	159.96	2,066.46	-259.43	94.64	276.15	0.00	0.00	0.00
2,200.00	15.98	159.96	2,162.60	-285.29	104.07	303.68	0.00	0.00	0.00
2,300.00	15.98	159.96	2,258.73	-311.15	113.50	331.21	0.00	0.00	0.00
2,400.00	15.98	159.96	2,354.87	-337.01	122.94	358.74	0.00	0.00	0.00
2,500.00	15.98	159.96	2,451.00	-362.88	132.37	386.27	0.00	0.00	0.00
2,600.00	15.98	159.96	2,547.14	-388.74	141.81	413.80	0.00	0.00	0.00
2,700.00	15.98	159.96	2,643.28	-414.60	151.24	441.32	0.00	0.00	0.00
2,800.00	15.98	159.96	2,739.41	-440.46	160.67	468.85	0.00	0.00	0.00
2,900.00	15.98	159.96	2,835.55	-466.32	170.11	496.38	0.00	0.00	0.00
3,000.00	15.98	159.96	2,931.69	-492.19	179.54	523.91	0.00	0.00	0.00
3,100.00	15.98	159.96	3,027.82	-518.05	188.98	551.44	0.00	0.00	0.00
3,200.00	15.98	159.96	3,123.96	-543.91	198.41	578.97	0.00	0.00	0.00
3,300.00	15.98	159.96	3,220.09	-569.77	207.84	606.50	0.00	0.00	0.00
3,400.00	15.98	159.96	3,316.23	-595.63	217.28	634.03	0.00	0.00	0.00
3,500.00	15.98	159.96	3,412.37	-621.50	226.71	661.56	0.00	0.00	0.00
3,600.00	15.98	159.96	3,508.50	-647.36	236.15	689.08	0.00	0.00	0.00
3,700.00	15.98	159.96	3,604.64	-673.22	245.58	716.61	0.00	0.00	0.00
3,800.00	15.98	159.96	3,700.77	-699.08	255.01	744.14	0.00	0.00	0.00
3,900.00	15.98	159.96	3,796.91	-724.94	264.45	771.67	0.00	0.00	0.00
PARKMAN TOP									
3,903.21	15.98	159.96	3,800.00	-725.78	264.75	772.56	0.00	0.00	0.00
4,000.00	15.98	159.96	3,893.05	-750.81	273.88	799.20	0.00	0.00	0.00
4,100.00	15.98	159.96	3,989.18	-776.67	283.32	826.73	0.00	0.00	0.00
4,200.00	15.98	159.96	4,085.32	-802.53	292.75	854.26	0.00	0.00	0.00
4,300.00	15.98	159.96	4,181.45	-828.39	302.18	881.79	0.00	0.00	0.00
SUSSEX TOP									
4,319.29	15.98	159.96	4,200.00	-833.38	304.00	887.10	0.00	0.00	0.00
4,400.00	15.98	159.96	4,277.59	-854.25	311.62	909.32	0.00	0.00	0.00
4,500.00	15.98	159.96	4,373.73	-880.12	321.05	936.85	0.00	0.00	0.00
4,600.00	15.98	159.96	4,469.86	-905.98	330.49	964.37	0.00	0.00	0.00
4,700.00	15.98	159.96	4,566.00	-931.84	339.92	991.90	0.00	0.00	0.00
4,800.00	15.98	159.96	4,662.14	-957.70	349.35	1,019.43	0.00	0.00	0.00
4,900.00	15.98	159.96	4,758.27	-983.56	358.79	1,046.96	0.00	0.00	0.00
5,000.00	15.98	159.96	4,854.41	-1,009.43	368.22	1,074.49	0.00	0.00	0.00
5,100.00	15.98	159.96	4,950.54	-1,035.29	377.66	1,102.02	0.00	0.00	0.00
5,200.00	15.98	159.96	5,046.68	-1,061.15	387.09	1,129.55	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_HUNT 35-4
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4817.00ft (Original Well Elev)
Project:	COLORADO NOTHERN ZONE - 83	MD Reference:	WELL @ 4817.00ft (Original Well Elev)
Site:	WELD_HUNT 2 PAD	North Reference:	True
Well:	P_HUNT 35-4	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_HUNT 35-4		
Design:	PLAN #1 10-27-09		

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)
5,300.00	15.98	159.96	5,142.82	-1,087.01	396.52	1,157.08	0.00	0.00	0.00
Start Drop -2.00									
5,399.38	15.98	159.96	5,238.35	-1,112.71	405.90	1,184.43	0.00	0.00	0.00
5,400.00	15.97	159.96	5,238.95	-1,112.87	405.96	1,184.61	2.00	-2.00	0.00
5,500.00	13.97	159.96	5,335.56	-1,137.13	414.81	1,210.43	2.00	-2.00	0.00
5,600.00	11.97	159.96	5,433.00	-1,158.21	422.50	1,232.87	2.00	-2.00	0.00
5,700.00	9.97	159.96	5,531.17	-1,176.08	429.02	1,251.89	2.00	-2.00	0.00
5,800.00	7.97	159.96	5,629.94	-1,190.73	434.36	1,267.48	2.00	-2.00	0.00
5,900.00	5.97	159.96	5,729.20	-1,202.12	438.51	1,279.61	2.00	-2.00	0.00
6,000.00	3.97	159.96	5,828.82	-1,210.25	441.48	1,288.26	2.00	-2.00	0.00
6,100.00	1.97	159.96	5,928.68	-1,215.12	443.25	1,293.44	2.00	-2.00	0.00
Start 1853.00 hold at 6198.34 MD									
6,198.34	0.00	0.00	6,027.00	-1,216.70	443.83	1,295.13	2.00	-2.00	0.00
6,200.00	0.00	0.00	6,028.66	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
6,300.00	0.00	0.00	6,128.66	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
6,400.00	0.00	0.00	6,228.66	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
6,500.00	0.00	0.00	6,328.66	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
6,600.00	0.00	0.00	6,428.66	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
6,700.00	0.00	0.00	6,528.66	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
6,800.00	0.00	0.00	6,628.66	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
6,900.00	0.00	0.00	6,728.66	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
7,000.00	0.00	0.00	6,828.66	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
7,100.00	0.00	0.00	6,928.66	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
NIO A TOP									
7,198.34	0.00	0.00	7,027.00	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
7,200.00	0.00	0.00	7,028.66	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
7,300.00	0.00	0.00	7,128.66	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
7,400.00	0.00	0.00	7,228.66	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
CODELL TOP									
7,491.34	0.00	0.00	7,320.00	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
7,500.00	0.00	0.00	7,328.66	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
7,600.00	0.00	0.00	7,428.66	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
7,700.00	0.00	0.00	7,528.66	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
7,800.00	0.00	0.00	7,628.66	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
7,900.00	0.00	0.00	7,728.66	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
JSAND TOP									
7,901.34	0.00	0.00	7,730.00	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
8,000.00	0.00	0.00	7,828.66	-1,216.70	443.83	1,295.13	0.00	0.00	0.00
TD at 8051.34 - PBHL_HUNT 35-4(75 FSL 1300 FWL)50' TGT RAD									
8,051.34	0.00	0.00	7,880.00	-1,216.70	443.83	1,295.13	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_HUNT 35-4(75	0.00	0.00	7,880.00	-1,216.70	443.83	1,333,550.56	3,198,954.70	40° 14' 48.480 N	104° 47' 14.100 W
- plan hits target center									
- Circle (radius 50.00)									

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_HUNT 35-4
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4817.00ft (Original Well Elev)
Project:	COLORADO NOTHERN ZONE - 83	MD Reference:	WELL @ 4817.00ft (Original Well Elev)
Site:	WELD_HUNT 2 PAD	North Reference:	True
Well:	P_HUNT 35-4	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_HUNT 35-4		
Design:	PLAN #1 10-27-09		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
600.00	600.00	8 5/8"	8.62	11.00	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,903.21	3,800.00	PARKMAN TOP				
4,319.29	4,200.00	SUSSEX TOP				
7,198.34	7,027.00	NIO A TOP				
7,491.34	7,320.00	CODELL TOP				
7,901.34	7,730.00	JSAND TOP				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
700.00	700.00	0.00	0.00	Start Build 2.00	
1,498.96	1,488.65	-103.99	37.93	Start 3900.41 hold at 1498.96 MD	
5,399.38	5,238.35	-1,112.71	405.90	Start Drop -2.00	
6,198.34	6,027.00	-1,216.70	443.83	Start 1853.00 hold at 6198.34 MD	
8,051.34	7,880.00	-1,216.70	443.83	TD at 8051.34	