

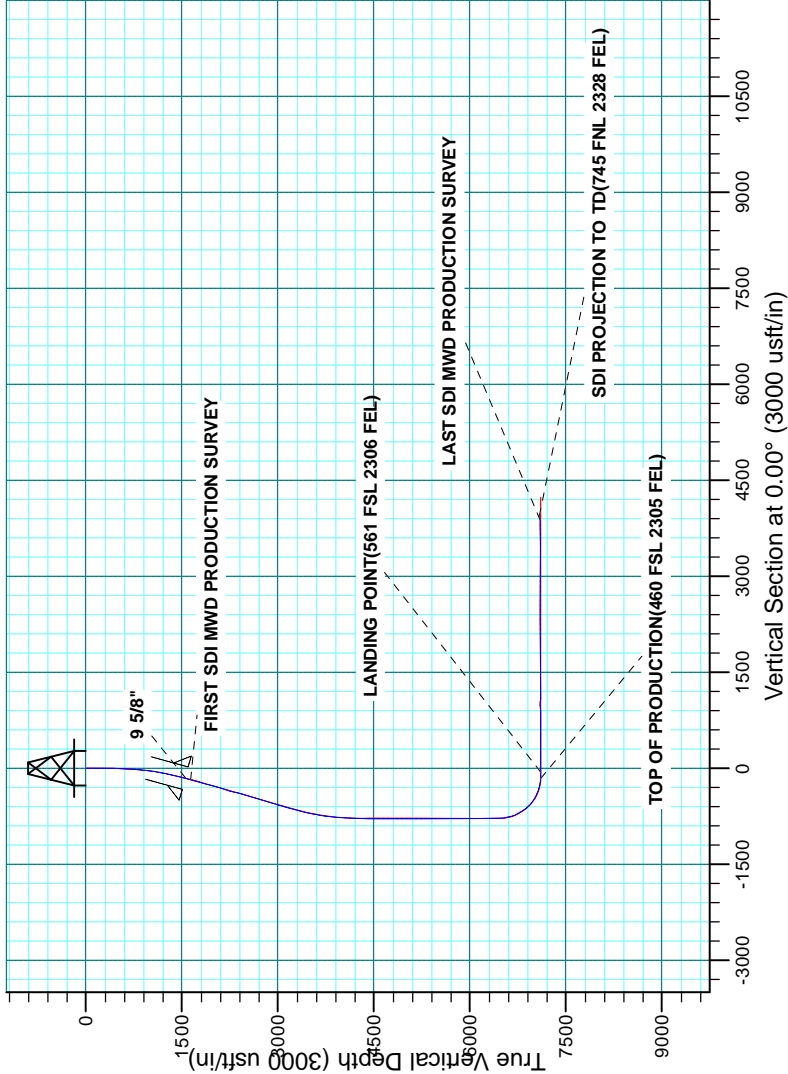


Project: WELD-NAD83-UTMT13N
Site: 1N-65W-09 Bane Pad
Well: BANE 28N3-9HZ
Wellbore: Plan A
Design: Plan A

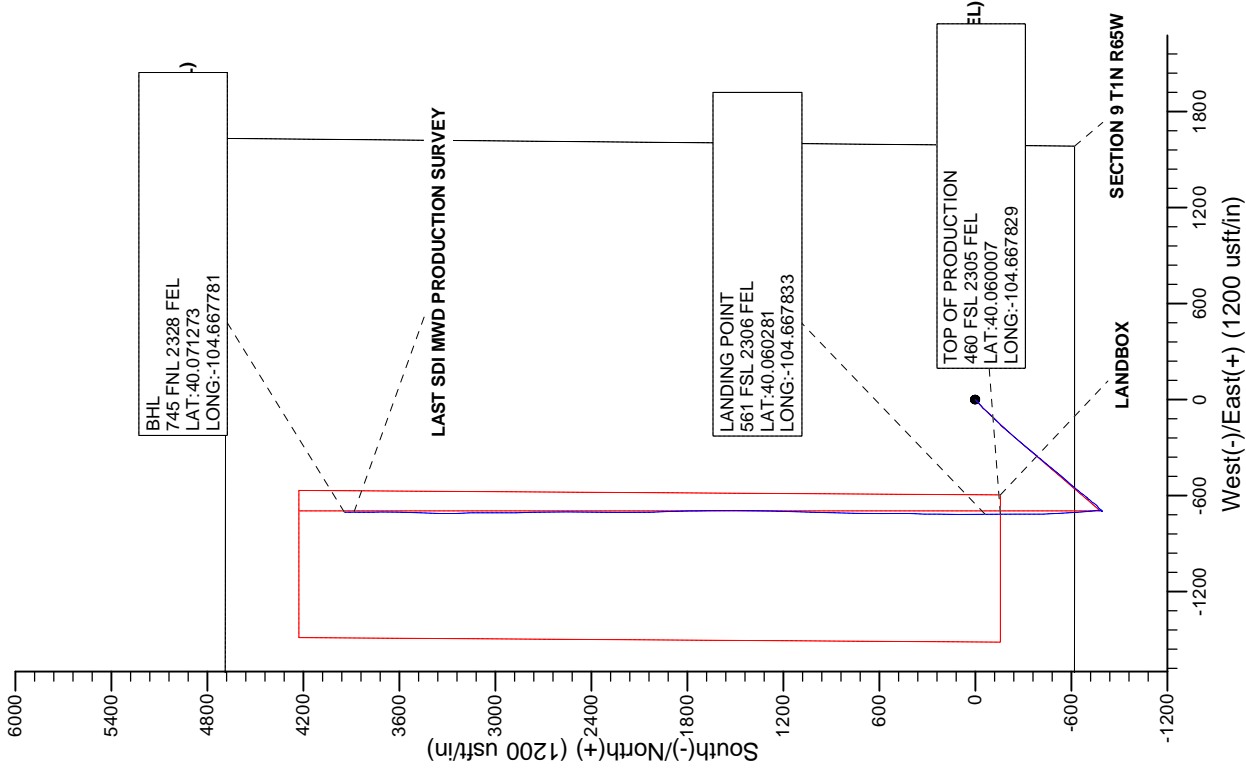


WELL DETAILS: BANE 28N3-9HZ				
GL 4964 & KB 25 @ -6989.00usft (HP 307)				
+N/-S 0.00	+E/-W 0.00	Northing 14548919.41	Easting 1734074.95	Latitude 40.060443 Longitude -104.665272

PROJECT DETAILS: WELD-NAD83-UTMT13N	
Geodetic System: Universal Transverse Mercator (US Survey Feet)	
Datum: North American Datum 1983	
Ellipsoid: GRS 1980	
Zone: Zone 13N (108 W to 102 W)	
Location:	
System Datum: Mean Sea Level	



Design: Plan A (BANE 28N3-9HZ/Plan A)
Created By: R.Scott Date: 14-08, August 17 2015



Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well BANE 28N3-9HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	GL 4964 & KB 25 @ 4989.00usft (HP 307)
Site:	1N-65W-09 Bane Pad	MD Reference:	GL 4964 & KB 25 @ 4989.00usft (HP 307)
Well:	BANE 28N3-9HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Plan A	Database:	Denver Sales

Project	WELD-NAD83-UTMFT13N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)		

Site	1N-65W-09 Bane Pad		
Site Position:		Northing:	14,548,919.51 usft
From:	Lat/Long	Easting:	1,734,104.05 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in
		Grid Convergence:	0.22 °

Well	BANE 28N3-9HZ, 620' FSL 1590' FEL		
Well Position	+N/-S	0.00 usft	Latitude: 40.060443
	+E/-W	0.00 usft	Longitude: -104.665272
Position Uncertainty	2.68 usft	Wellhead Elevation:	usft
		Ground Level:	4,964.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/20/2014	8.33	66.68	52,610

Design	Plan A				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00		0.00

Survey Program	Date	8/17/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
20.00	1,565.00	Survey #1 SDI MWD SURFACE (Plan A)	APC_ISCWSA REV 2 MWD	Fixed:v2:standard declination	
1,668.00	11,720.00	Survey #2 SDI MWD PRODUCTION (Plan A)	APC_ISCWSA REV 2 MWD+	Fixed:v2:crustal field declination	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
20.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	
109.00	0.40	242.70	109.00	-0.14	-0.28	-0.14	0.45	0.45	0.00	
168.00	0.50	247.60	168.00	-0.34	-0.70	-0.34	0.18	0.17	8.31	
226.00	0.50	272.70	226.00	-0.42	-1.18	-0.42	0.37	0.00	43.28	
283.00	0.80	199.50	282.99	-0.78	-1.57	-0.78	1.42	0.53	-128.42	
343.00	1.60	207.90	342.98	-1.92	-2.10	-1.92	1.36	1.33	14.00	
407.00	1.90	211.30	406.95	-3.61	-3.07	-3.61	0.50	0.47	5.31	
471.00	2.00	220.90	470.91	-5.36	-4.35	-5.36	0.53	0.16	15.00	
535.00	3.10	228.20	534.85	-7.36	-6.37	-7.36	1.79	1.72	11.41	

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well BANE 28N3-9HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	GL 4964 & KB 25 @ 4989.00usft (HP 307)
Site:	1N-65W-09 Bane Pad	MD Reference:	GL 4964 & KB 25 @ 4989.00usft (HP 307)
Well:	BANE 28N3-9HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Plan A	Database:	Denver Sales

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
599.00	4.30	230.30	598.71	-10.05	-9.51	-10.05	1.89	1.88	3.28
662.00	5.70	231.20	661.47	-13.52	-13.76	-13.52	2.23	2.22	1.43
726.00	6.50	229.90	725.11	-17.84	-19.01	-17.84	1.27	1.25	-2.03
790.00	7.20	228.90	788.65	-22.81	-24.80	-22.81	1.11	1.09	-1.56
853.00	8.20	227.50	851.08	-28.44	-31.09	-28.44	1.61	1.59	-2.22
917.00	9.10	227.00	914.35	-34.98	-38.16	-34.98	1.41	1.41	-0.78
981.00	9.80	226.80	977.49	-42.16	-45.83	-42.16	1.09	1.09	-0.31
1,044.00	10.50	224.80	1,039.50	-49.90	-53.78	-49.90	1.24	1.11	-3.17
1,107.00	13.10	220.90	1,101.16	-59.37	-62.50	-59.37	4.31	4.13	-6.19
1,171.00	13.80	221.30	1,163.41	-70.59	-72.29	-70.59	1.10	1.09	0.63
1,235.00	14.70	221.70	1,225.44	-82.39	-82.73	-82.39	1.41	1.41	0.63
1,299.00	15.20	222.60	1,287.27	-94.63	-93.81	-94.63	0.86	0.78	1.41
1,362.00	16.30	224.60	1,347.91	-107.00	-105.61	-107.00	1.95	1.75	3.17
1,426.00	18.50	225.40	1,408.97	-120.53	-119.15	-120.53	3.46	3.44	1.25
1,490.00	20.20	225.60	1,469.36	-135.39	-134.27	-135.39	2.66	2.66	0.31
1,554.00	20.70	222.80	1,529.32	-151.42	-149.85	-151.42	1.72	0.78	-4.38
1,565.00	20.60	223.50	1,539.62	-154.25	-152.51	-154.25	2.42	-0.91	6.36
1,668.00	20.75	222.31	1,635.98	-180.89	-177.26	-180.89	0.43	0.15	-1.16
FIRST SDI MWD PRODUCTION SURVEY									
1,763.00	20.89	220.85	1,724.78	-206.14	-199.67	-206.14	0.57	0.15	-1.54
1,857.00	20.68	221.03	1,812.66	-231.34	-221.53	-231.34	0.23	-0.22	0.19
1,952.00	20.66	221.40	1,901.55	-256.57	-243.62	-256.57	0.14	-0.02	0.39
2,046.00	20.44	220.23	1,989.57	-281.54	-265.19	-281.54	0.50	-0.23	-1.24
2,141.00	20.08	220.38	2,078.69	-306.63	-286.47	-306.63	0.38	-0.38	0.16
2,235.00	20.10	220.09	2,166.97	-331.27	-307.32	-331.27	0.11	0.02	-0.31
2,330.00	19.75	219.29	2,256.28	-356.19	-328.00	-356.19	0.47	-0.37	-0.84
2,424.00	19.72	219.22	2,344.76	-380.76	-348.08	-380.76	0.04	-0.03	-0.07
2,519.00	21.14	220.50	2,433.79	-406.21	-369.35	-406.21	1.57	1.49	1.35
2,614.00	20.62	219.18	2,522.55	-432.20	-391.04	-432.20	0.74	-0.55	-1.39
2,708.00	20.76	220.51	2,610.48	-457.70	-412.32	-457.70	0.52	0.15	1.41
2,803.00	21.19	220.19	2,699.19	-483.62	-434.33	-483.62	0.47	0.45	-0.34
2,897.00	20.76	218.62	2,786.96	-509.61	-455.70	-509.61	0.75	-0.46	-1.67
2,992.00	20.72	219.80	2,875.81	-535.68	-476.96	-535.68	0.44	-0.04	1.24
3,086.00	21.00	221.25	2,963.64	-561.12	-498.71	-561.12	0.62	0.30	1.54
3,181.00	20.83	221.16	3,052.38	-586.63	-521.05	-586.63	0.18	-0.18	-0.09
3,370.00	19.41	219.28	3,229.85	-636.24	-563.05	-636.24	0.83	-0.75	-0.99
3,464.00	18.85	217.92	3,318.66	-660.31	-582.28	-660.31	0.76	-0.60	-1.45
3,559.00	17.47	216.24	3,408.92	-683.92	-600.14	-683.92	1.55	-1.45	-1.77
3,653.00	15.93	221.41	3,498.96	-704.98	-617.01	-704.98	2.27	-1.64	5.50
3,748.00	13.95	216.91	3,590.75	-723.91	-632.52	-723.91	2.41	-2.08	-4.74
3,842.00	11.80	218.51	3,682.38	-740.50	-645.31	-740.50	2.32	-2.29	1.70
3,937.00	9.62	224.19	3,775.72	-753.79	-656.89	-753.79	2.55	-2.29	5.98
4,031.00	7.34	228.66	3,868.69	-763.39	-666.87	-763.39	2.52	-2.43	4.76

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well BANE 28N3-9HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	GL 4964 & KB 25 @ 4989.00usft (HP 307)
Site:	1N-65W-09 Bane Pad	MD Reference:	GL 4964 & KB 25 @ 4989.00usft (HP 307)
Well:	BANE 28N3-9HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Plan A	Database:	Denver Sales

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,126.00	6.03	229.52	3,963.04	-770.64	-675.23	-770.64	1.38	-1.38	0.91	
4,220.00	4.09	223.81	4,056.67	-776.26	-681.30	-776.26	2.13	-2.06	-6.07	
4,315.00	3.45	223.34	4,151.47	-780.79	-685.61	-780.79	0.67	-0.67	-0.49	
4,409.00	3.32	221.61	4,245.30	-784.88	-689.36	-784.88	0.18	-0.14	-1.84	
4,504.00	3.29	222.78	4,340.14	-788.94	-693.04	-788.94	0.08	-0.03	1.23	
4,598.00	2.26	239.42	4,434.03	-791.86	-696.46	-791.86	1.38	-1.10	17.70	
4,693.00	0.50	184.19	4,529.00	-793.23	-698.11	-793.23	2.12	-1.85	-58.14	
4,787.00	0.29	49.12	4,623.00	-793.48	-697.96	-793.48	0.78	-0.22	-143.69	
4,882.00	0.87	14.87	4,718.00	-792.63	-697.59	-792.63	0.69	0.61	-36.05	
4,976.00	1.36	8.43	4,811.98	-790.83	-697.24	-790.83	0.54	0.52	-6.85	
5,071.00	0.57	79.67	4,906.97	-789.63	-696.61	-789.63	1.36	-0.83	74.99	
5,165.00	0.34	99.02	5,000.97	-789.59	-695.88	-789.59	0.29	-0.24	20.59	
5,260.00	0.30	80.04	5,095.96	-789.59	-695.36	-789.59	0.12	-0.04	-19.98	
5,354.00	0.33	6.56	5,189.96	-789.28	-695.08	-789.28	0.40	0.03	-78.17	
5,448.00	0.72	16.39	5,283.96	-788.45	-694.88	-788.45	0.42	0.41	10.46	
5,543.00	0.66	9.59	5,378.95	-787.33	-694.63	-787.33	0.11	-0.06	-7.16	
5,637.00	0.81	8.66	5,472.94	-786.14	-694.43	-786.14	0.16	0.16	-0.99	
5,732.00	1.04	2.66	5,567.93	-784.62	-694.29	-784.62	0.26	0.24	-6.32	
5,826.00	0.82	171.64	5,661.93	-784.43	-694.16	-784.43	1.97	-0.23	179.77	
5,921.00	0.51	152.58	5,756.92	-785.48	-693.86	-785.48	0.40	-0.33	-20.06	
6,015.00	0.80	110.49	5,850.92	-786.08	-693.06	-786.08	0.58	0.31	-44.78	
6,110.00	0.48	117.67	5,945.91	-786.50	-692.08	-786.50	0.35	-0.34	7.56	
6,204.00	0.46	71.81	6,039.91	-786.56	-691.37	-786.56	0.39	-0.02	-48.79	
6,299.00	0.56	95.98	6,134.90	-786.49	-690.55	-786.49	0.25	0.11	25.44	
6,393.00	0.38	83.42	6,228.90	-786.50	-689.78	-786.50	0.22	-0.19	-13.36	
6,488.00	0.40	147.72	6,323.90	-786.75	-689.29	-786.75	0.44	0.02	67.68	
6,582.00	0.53	178.67	6,417.90	-787.46	-689.11	-787.46	0.30	0.14	32.93	
6,677.00	6.88	349.74	6,512.68	-782.29	-690.11	-782.29	7.79	6.68	180.07	
6,771.00	13.06	351.97	6,605.22	-766.22	-692.60	-766.22	6.59	6.57	2.37	
6,865.00	21.31	355.56	6,694.95	-738.63	-695.41	-738.63	8.84	8.78	3.82	
6,960.00	29.73	353.60	6,780.60	-697.93	-699.38	-697.93	8.91	8.86	-2.06	
7,055.00	37.74	355.04	6,859.54	-645.47	-704.53	-645.47	8.47	8.43	1.52	
7,149.00	47.85	358.30	6,928.44	-581.81	-708.06	-581.81	11.01	10.76	3.47	
7,244.00	55.34	357.38	6,987.41	-507.47	-710.90	-507.47	7.92	7.88	-0.97	
7,338.00	63.49	357.94	7,035.20	-426.69	-714.18	-426.69	8.69	8.67	0.60	
7,433.00	72.00	0.47	7,071.15	-338.86	-715.34	-338.86	9.29	8.96	2.66	
7,527.00	80.76	0.31	7,093.27	-247.60	-714.72	-247.60	9.32	9.32	-0.17	
7,616.31	87.36	358.69	7,102.50	-158.82	-715.50	-158.82	7.61	7.39	-1.81	
TOP OF PRODUCTION(460 FSL 2305 FEL)										
7,622.00	87.78	358.59	7,102.75	-153.14	-715.64	-153.14	7.61	7.39	-1.79	
7,716.00	89.73	0.19	7,104.79	-59.17	-716.64	-59.17	2.68	2.07	1.70	
LANDING POINT(561 FSL 2306 FEL)										
7,811.00	90.57	359.43	7,104.54	35.83	-716.95	35.83	1.19	0.88	-0.80	
7,905.00	91.71	1.04	7,102.67	129.80	-716.57	129.80	2.10	1.21	1.71	

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well BANE 28N3-9HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	GL 4964 & KB 25 @ 4989.00usft (HP 307)
Site:	1N-65W-09 Bane Pad	MD Reference:	GL 4964 & KB 25 @ 4989.00usft (HP 307)
Well:	BANE 28N3-9HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Plan A	Database:	Denver Sales

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,000.00	90.74	0.96	7,100.64	224.76	-714.91	224.76	1.02	-1.02	-0.08	
8,094.00	89.56	1.80	7,100.39	318.73	-712.65	318.73	1.54	-1.26	0.89	
8,189.00	89.87	0.60	7,100.87	413.71	-710.66	413.71	1.30	0.33	-1.26	
8,283.00	90.91	359.58	7,100.23	507.71	-710.51	507.71	1.55	1.11	-1.09	
8,378.00	89.63	0.65	7,099.78	602.70	-710.32	602.70	1.76	-1.35	1.13	
8,472.00	90.47	0.03	7,099.70	696.70	-709.76	696.70	1.11	0.89	-0.66	
8,567.00	89.40	1.03	7,099.80	791.69	-708.88	791.69	1.54	-1.13	1.05	
8,661.00	90.60	0.91	7,099.80	885.68	-707.29	885.68	1.28	1.28	-0.13	
8,756.00	90.44	1.66	7,098.94	980.65	-705.16	980.65	0.81	-0.17	0.79	
8,851.00	88.76	1.84	7,099.60	1,075.60	-702.26	1,075.60	1.78	-1.77	0.19	
8,945.00	89.26	1.66	7,101.23	1,169.54	-699.39	1,169.54	0.57	0.53	-0.19	
9,040.00	91.21	1.67	7,100.84	1,264.49	-696.63	1,264.49	2.05	2.05	0.01	
9,134.00	90.47	1.15	7,099.46	1,358.45	-694.32	1,358.45	0.96	-0.79	-0.55	
9,229.00	88.66	359.82	7,100.18	1,453.44	-693.51	1,453.44	2.36	-1.91	-1.40	
9,323.00	89.76	0.07	7,101.48	1,547.43	-693.60	1,547.43	1.20	1.17	0.27	
9,418.00	89.73	359.46	7,101.90	1,642.43	-693.99	1,642.43	0.64	-0.03	-0.64	
9,513.00	92.01	359.52	7,100.46	1,737.41	-694.84	1,737.41	2.40	2.40	0.06	
9,607.00	91.17	358.48	7,097.85	1,831.36	-696.48	1,831.36	1.42	-0.89	-1.11	
9,702.00	89.03	358.24	7,097.68	1,926.31	-699.19	1,926.31	2.27	-2.25	-0.25	
9,796.00	91.04	358.20	7,097.63	2,020.26	-702.11	2,020.26	2.14	2.14	-0.04	
9,891.00	90.77	359.72	7,096.13	2,115.23	-703.84	2,115.23	1.62	-0.28	1.60	
9,985.00	88.59	0.15	7,096.65	2,209.22	-703.95	2,209.22	2.36	-2.32	0.46	
10,080.00	89.53	0.04	7,098.21	2,304.21	-703.79	2,304.21	1.00	0.99	-0.12	
10,174.00	91.14	0.16	7,097.66	2,398.20	-703.62	2,398.20	1.72	1.71	0.13	
10,269.00	89.90	0.12	7,096.80	2,493.20	-703.39	2,493.20	1.31	-1.31	-0.04	
10,363.00	91.44	359.95	7,095.70	2,587.19	-703.33	2,587.19	1.65	1.64	-0.18	
10,458.00	90.67	0.14	7,093.95	2,682.17	-703.26	2,682.17	0.83	-0.81	0.20	
10,552.00	88.32	359.07	7,094.78	2,776.16	-703.91	2,776.16	2.75	-2.50	-1.14	
10,647.00	89.19	357.85	7,096.84	2,871.10	-706.46	2,871.10	1.58	0.92	-1.28	
10,741.00	88.69	0.26	7,098.58	2,965.06	-708.01	2,965.06	2.62	-0.53	2.56	
10,836.00	91.38	0.47	7,098.52	3,060.05	-707.40	3,060.05	2.84	2.83	0.22	
10,930.00	89.60	359.25	7,097.72	3,154.04	-707.63	3,154.04	2.30	-1.89	-1.30	
11,025.00	90.30	358.93	7,097.80	3,249.03	-709.14	3,249.03	0.81	0.74	-0.34	
11,119.00	90.50	0.40	7,097.15	3,343.02	-709.69	3,343.02	1.58	0.21	1.56	
11,214.00	89.09	2.06	7,097.49	3,438.00	-707.65	3,438.00	2.29	-1.48	1.75	
11,308.00	90.37	1.52	7,097.93	3,531.95	-704.72	3,531.95	1.48	1.36	-0.57	
11,403.00	89.66	0.79	7,097.90	3,626.93	-702.80	3,626.93	1.07	-0.75	-0.77	
11,498.00	90.94	0.31	7,097.41	3,721.92	-701.89	3,721.92	1.44	1.35	-0.51	
11,545.00	91.75	359.88	7,096.30	3,768.90	-701.81	3,768.90	1.95	1.72	-0.91	
11,592.00	92.69	359.68	7,094.48	3,815.87	-701.99	3,815.87	2.04	2.00	-0.43	
11,639.00	94.06	0.18	7,091.72	3,862.78	-702.05	3,862.78	3.10	2.91	1.06	
11,658.00	94.33	0.19	7,090.33	3,881.73	-701.99	3,881.73	1.42	1.42	0.05	
LAST SDI MWD PRODUCTION SURVEY										

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well BANE 28N3-9HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	GL 4964 & KB 25 @ 4989.00usft (HP 307)
Site:	1N-65W-09 Bane Pad	MD Reference:	GL 4964 & KB 25 @ 4989.00usft (HP 307)
Well:	BANE 28N3-9HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Plan A	Database:	Denver Sales

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,720.00	94.33	0.19	7,085.65	3,943.56	-701.78	3,943.56	0.00	0.00	0.00
SDI PROJECTION TO TD(745 FNL 2328 FEL)									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,668.00	1,635.98	-180.89	-177.26	FIRST SDI MWD PRODUCTION SURVEY	
7,616.31	7,102.50	-158.82	-715.50	TOP OF PRODUCTION(460 FSL 2305 FEL)	
7,716.00	7,104.79	-59.17	-716.64	LANDING POINT(561 FSL 2306 FEL)	
11,658.00	7,090.33	3,881.73	-701.99	LAST SDI MWD PRODUCTION SURVEY	
11,720.00	7,085.65	3,943.56	-701.78	SDI PROJECTION TO TD(745 FNL 2328 FEL)	

Checked By: _____ Approved By: _____ Date: _____