



Weatherford®

Weatherford
2000 Oil Drive
Casper, WY 82604

Survey Certification

Operating Company:	Anadarko Petroleum Corp.
Well Name:	Niles 28N-28HZ
State:	Colorado
County:	Weld
API Number:	05-123-35491
Datum:	NAD 83
Survey Calculation Method:	Minimum Curvature
North Reference:	True North

I, John R. Morgan, hereby certify the attached
directional survey run from the measure depth of 1,039.00 feet
to the measured depth of 11,685.00 feet as accurate and true
to the best of my knowledge.

Signature

7-Dec-12

Date

John Morgan
Directional Planning
Weatherford - Rockies District



Weatherford®

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_NILES 14-28HZ PAD

Niles 28N-28HZ

Niles 28N-28HZ

Design: Niles 28N-28HZ

Standard Survey Report

06 December, 2012

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Niles 28N-28HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	rkb + gl @ 4984.00ft
Site:	WELD_NILES 14-28HZ PAD	MD Reference:	rkb + gl @ 4984.00ft
Well:	Niles 28N-28HZ	North Reference:	True
Wellbore:	Niles 28N-28HZ	Survey Calculation Method:	Minimum Curvature
Design:	Niles 28N-28HZ	Database:	edmp

Project	COLORADO NORTHERN ZONE - 83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		WELD_NILES 14-28HZ PAD, Sec. 28-T3N-R66W			
Site Position:		Northing:	1,312,646.02 usft	Latitude:	40.189390
From:	Lat/Long	Easting:	3,200,158.13 usft	Longitude:	-104.783544
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.46 °

Well		Niles 28N-28HZ				
Well Position	+N/-S	0.00 ft	Northing:	1,312,645.89 usft	Latitude:	40.189389
	+E/-W	0.00 ft	Easting:	3,200,188.30 usft	Longitude:	-104.783436
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,959.00 ft

Wellbore	Niles 28N-28HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/28/2012	8.75	66.85	52,935

Design	Niles 28N-28HZ				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	25.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	25.00	0.00	0.00	359.08	

Survey Program	Date	12/6/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
125.00	911.00	Survey #1 (Niles 28N-28HZ)	NS-GYRO-MS	NORTH SENSING GYROCOMPASSING M/S	
1,039.00	11,738.00	Survey #2 (Niles 28N-28HZ)	MWD	MWD - STANDARD	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
25.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	
125.00	0.44	6.83	125.00	0.38	0.05	0.38	0.44	0.44	0.00	
225.00	0.08	33.22	225.00	0.82	0.13	0.82	0.37	-0.36	26.39	
325.00	0.30	328.60	325.00	1.10	0.03	1.10	0.28	0.22	-64.62	
425.00	0.31	35.28	425.00	1.55	0.05	1.55	0.34	0.01	66.68	
525.00	0.07	41.82	525.00	1.81	0.25	1.81	0.24	-0.24	6.54	
625.00	0.21	315.15	625.00	1.99	0.16	1.99	0.22	0.14	-86.67	
725.00	0.19	57.49	724.99	2.21	0.17	2.20	0.31	-0.02	102.34	
825.00	0.04	337.27	824.99	2.33	0.30	2.32	0.19	-0.15	-80.22	
911.00	0.48	295.44	910.99	2.51	-0.04	2.51	0.52	0.51	-48.64	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Niles 28N-28HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	rkb + gl @ 4984.00ft
Site:	WELD_NILES 14-28HZ PAD	MD Reference:	rkb + gl @ 4984.00ft
Well:	Niles 28N-28HZ	North Reference:	True
Wellbore:	Niles 28N-28HZ	Survey Calculation Method:	Minimum Curvature
Design:	Niles 28N-28HZ	Database:	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
TIE ON									
1,039.00	0.21	326.25	1,038.99	2.94	-0.65	2.95	0.25	-0.21	24.07
FIRST WFT MWD SURVEY									
1,132.00	2.19	122.40	1,131.97	2.13	0.75	2.11	2.56	2.13	167.90
1,223.00	4.62	117.70	1,222.80	-0.51	5.46	-0.60	2.69	2.67	-5.16
1,315.00	6.48	118.79	1,314.37	-4.73	13.30	-4.94	2.02	2.02	1.18
1,407.00	8.44	114.97	1,405.59	-10.08	23.97	-10.47	2.20	2.13	-4.15
1,501.00	8.56	117.76	1,498.55	-16.25	36.41	-16.83	0.46	0.13	2.97
1,595.00	8.55	117.47	1,591.51	-22.74	48.80	-23.51	0.05	-0.01	-0.31
1,692.00	8.05	119.22	1,687.49	-29.38	61.13	-30.35	0.58	-0.52	1.80
1,787.00	7.54	115.10	1,781.61	-35.27	72.58	-36.43	0.80	-0.54	-4.34
1,882.00	8.67	123.68	1,875.67	-41.88	84.18	-43.23	1.74	1.19	9.03
1,977.00	8.95	118.80	1,969.55	-49.41	96.61	-50.96	0.84	0.29	-5.14
2,071.00	8.54	115.59	2,062.45	-55.95	109.32	-57.70	0.68	-0.44	-3.41
2,167.00	8.36	116.25	2,157.41	-62.12	122.00	-64.06	0.21	-0.19	0.69
2,262.00	7.90	114.56	2,251.46	-67.88	134.14	-70.03	0.55	-0.48	-1.78
2,357.00	8.32	118.36	2,345.51	-73.86	146.12	-76.20	0.72	0.44	4.00
2,452.00	7.78	116.46	2,439.57	-79.99	157.93	-82.51	0.63	-0.57	-2.00
2,547.00	8.19	120.83	2,533.65	-86.33	169.50	-89.03	0.77	0.43	4.60
2,641.00	8.70	117.92	2,626.63	-93.09	181.53	-95.98	0.71	0.54	-3.10
2,736.00	8.15	118.28	2,720.61	-99.64	193.81	-102.73	0.58	-0.58	0.38
2,830.00	7.82	117.44	2,813.70	-105.75	205.35	-109.02	0.37	-0.35	-0.89
2,925.00	7.61	119.34	2,907.84	-111.81	216.57	-115.26	0.35	-0.22	2.00
3,019.00	7.53	118.76	3,001.02	-117.82	227.39	-121.45	0.12	-0.09	-0.62
3,114.00	7.27	115.18	3,095.23	-123.37	238.29	-127.17	0.56	-0.27	-3.77
3,209.00	7.09	118.58	3,189.48	-128.73	248.88	-132.70	0.49	-0.19	3.58
3,303.00	8.25	120.45	3,282.64	-134.93	259.79	-139.07	1.26	1.23	1.99
3,398.00	7.91	121.81	3,376.70	-141.83	271.22	-146.15	0.41	-0.36	1.43
3,493.00	7.89	119.31	3,470.79	-148.46	282.46	-152.97	0.36	-0.02	-2.63
3,588.00	6.93	122.28	3,565.00	-154.72	292.99	-159.39	1.09	-1.01	3.13
3,683.00	8.12	114.66	3,659.18	-160.58	303.93	-165.43	1.63	1.25	-8.02
3,778.00	7.63	114.49	3,753.29	-165.99	315.77	-171.03	0.52	-0.52	-0.18
3,873.00	6.64	116.32	3,847.55	-171.04	326.43	-176.25	1.07	-1.04	1.93
3,968.00	7.56	122.13	3,941.82	-176.80	336.65	-182.17	1.23	0.97	6.12
4,063.00	8.50	115.51	4,035.89	-183.15	348.28	-188.70	1.39	0.99	-6.97
4,157.00	7.61	115.51	4,128.96	-188.82	360.16	-194.57	0.95	-0.95	0.00
4,252.00	5.90	110.17	4,223.30	-193.21	370.43	-199.12	1.92	-1.80	-5.62
4,347.00	4.07	101.38	4,317.94	-195.56	378.31	-201.60	2.08	-1.93	-9.25
4,442.00	1.93	96.24	4,412.80	-196.40	383.21	-202.52	2.27	-2.25	-5.41
4,539.00	0.29	20.56	4,509.78	-196.35	384.92	-202.49	1.94	-1.69	-78.02
4,634.00	0.42	3.38	4,604.78	-195.78	385.03	-201.92	0.18	0.14	-18.08
4,729.00	0.16	330.95	4,699.78	-195.31	384.98	-201.46	0.31	-0.27	-34.14
4,824.00	0.16	293.87	4,794.78	-195.14	384.80	-201.28	0.11	0.00	-39.03

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Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	rkb + gl @ 4984.00ft
Site:	WELD_NILES 14-28HZ PAD	MD Reference:	rkb + gl @ 4984.00ft
Well:	Niles 28N-28HZ	North Reference:	True
Wellbore:	Niles 28N-28HZ	Survey Calculation Method:	Minimum Curvature
Design:	Niles 28N-28HZ	Database:	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,918.00	0.07	140.99	4,888.78	-195.13	384.71	-201.27	0.24	-0.10	-162.64
5,013.00	0.22	232.82	4,983.78	-195.29	384.60	-201.43	0.25	0.16	96.66
5,108.00	0.63	222.42	5,078.78	-195.79	384.11	-201.92	0.44	0.43	-10.95
5,203.00	0.16	313.30	5,173.77	-196.08	383.66	-202.20	0.69	-0.49	95.66
5,297.00	0.40	56.84	5,267.77	-195.81	383.84	-201.94	0.49	0.26	110.15
5,392.00	0.16	54.00	5,362.77	-195.55	384.22	-201.68	0.25	-0.25	-2.99
5,487.00	0.45	34.04	5,457.77	-195.16	384.54	-201.30	0.32	0.31	-21.01
5,581.00	0.58	44.45	5,551.77	-194.52	385.08	-200.66	0.17	0.14	11.07
5,676.00	0.85	71.16	5,646.76	-193.95	386.08	-200.11	0.44	0.28	28.12
5,772.00	0.88	96.91	5,742.75	-193.81	387.49	-199.99	0.40	0.03	26.82
5,866.00	0.43	187.90	5,836.75	-194.24	388.15	-200.44	1.05	-0.48	96.80
5,961.00	0.64	129.53	5,931.74	-194.93	388.51	-201.13	0.58	0.22	-61.44
6,056.00	0.35	112.06	6,026.74	-195.38	389.19	-201.59	0.34	-0.31	-18.39
6,150.00	0.16	20.17	6,120.74	-195.37	389.50	-201.58	0.41	-0.20	-97.76
6,246.00	0.07	341.75	6,216.74	-195.18	389.53	-201.40	0.12	-0.09	-40.02
6,341.00	0.22	163.15	6,311.74	-195.30	389.57	-201.52	0.31	0.16	-188.00
6,437.00	0.38	211.71	6,407.74	-195.75	389.45	-201.97	0.30	0.17	50.58
6,531.00	0.86	206.04	6,501.73	-196.65	388.98	-202.86	0.51	0.51	-6.03
6,563.00	0.64	198.16	6,533.73	-197.04	388.82	-203.24	0.76	-0.69	-24.63
6,594.00	1.19	313.04	6,564.72	-196.98	388.53	-203.18	5.07	1.77	370.58
6,626.00	3.45	337.35	6,596.70	-195.86	387.92	-202.05	7.55	7.06	75.97
6,658.00	6.43	346.74	6,628.58	-193.23	387.13	-199.41	9.62	9.31	29.34
6,689.00	9.15	351.38	6,659.29	-189.10	386.37	-195.27	9.00	8.77	14.97
6,721.00	11.84	356.17	6,690.75	-183.31	385.76	-189.47	8.83	8.41	14.97
6,753.00	13.90	358.03	6,721.94	-176.19	385.41	-182.35	6.57	6.44	5.81
6,785.00	16.34	359.18	6,752.83	-167.85	385.22	-174.00	7.68	7.63	3.59
6,816.00	18.65	359.22	6,782.40	-158.53	385.09	-164.68	7.45	7.45	0.13
6,848.00	21.12	0.27	6,812.49	-147.65	385.04	-153.80	7.80	7.72	3.28
6,880.00	23.80	0.46	6,842.06	-135.43	385.12	-141.58	8.38	8.38	0.59
6,911.00	26.09	1.07	6,870.16	-122.35	385.30	-128.51	7.43	7.39	1.97
6,944.00	28.68	3.24	6,899.46	-107.19	385.88	-113.36	8.41	7.85	6.58
6,975.00	30.63	4.83	6,926.40	-91.89	386.97	-98.08	6.78	6.29	5.13
7,007.00	33.27	4.98	6,953.55	-75.02	388.42	-81.24	8.25	8.25	0.47
7,039.00	36.50	4.10	6,979.80	-56.78	389.86	-63.02	10.22	10.09	-2.75
7,071.00	39.70	3.64	7,004.98	-37.08	391.19	-43.35	10.04	10.00	-1.44
7,103.00	42.42	3.82	7,029.10	-16.11	392.56	-22.40	8.51	8.50	0.56
7,134.00	45.73	3.66	7,051.37	5.41	393.96	-0.91	10.68	10.68	-0.52
7,167.00	49.07	2.71	7,073.71	29.66	395.31	23.32	10.34	10.12	-2.88
7,198.00	52.41	1.48	7,093.32	53.64	396.18	47.28	11.20	10.77	-3.97
7,230.00	55.70	1.31	7,112.10	79.53	396.81	73.16	10.29	10.28	-0.53
7,262.00	57.35	2.09	7,129.75	106.21	397.60	99.83	5.54	5.16	2.44
7,293.00	59.18	1.82	7,146.06	132.56	398.50	126.16	5.95	5.90	-0.87
7,325.00	62.28	1.14	7,161.70	160.46	399.22	154.05	9.86	9.69	-2.13
7,357.00	64.42	359.78	7,176.06	189.06	399.45	182.63	7.69	6.69	-4.25

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Niles 28N-28HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	rkb + gl @ 4984.00ft
Site:	WELD_NILES 14-28HZ PAD	MD Reference:	rkb + gl @ 4984.00ft
Well:	Niles 28N-28HZ	North Reference:	True
Wellbore:	Niles 28N-28HZ	Survey Calculation Method:	Minimum Curvature
Design:	Niles 28N-28HZ	Database:	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,388.00	66.58	359.21	7,188.91	217.27	399.20	210.84	7.17	6.97	-1.84
7,420.00	70.24	358.68	7,200.68	247.01	398.65	240.59	11.54	11.44	-1.66
7,451.00	74.22	358.30	7,210.14	276.51	397.87	270.10	12.89	12.84	-1.23
7,483.00	78.10	358.04	7,217.80	307.56	396.88	301.17	12.15	12.13	-0.81
7,515.00	82.99	357.69	7,223.05	339.10	395.70	332.71	15.32	15.28	-1.09
7,550.79	84.84	357.77	7,226.85	374.66	394.29	368.29	5.17	5.16	0.23
SET 7" CASING									
7,640.00	89.44	357.98	7,231.30	463.67	390.99	457.35	5.17	5.16	0.23
7,734.00	89.57	357.79	7,232.11	557.60	387.52	551.32	0.24	0.14	-0.20
7,830.00	89.88	357.78	7,232.57	653.53	383.81	647.30	0.32	0.32	-0.01
7,924.00	90.06	358.21	7,232.62	747.47	380.52	741.28	0.50	0.19	0.46
8,019.00	90.12	357.69	7,232.47	842.41	377.12	836.26	0.55	0.06	-0.55
8,115.00	90.18	357.78	7,232.22	938.33	373.33	932.23	0.11	0.06	0.09
8,210.00	90.92	0.01	7,231.31	1,033.31	371.50	1,027.22	2.47	0.78	2.35
8,304.00	89.26	0.73	7,231.16	1,127.30	372.11	1,121.19	1.92	-1.77	0.77
8,399.00	89.63	0.13	7,232.08	1,222.29	372.82	1,216.16	0.74	0.39	-0.63
8,494.00	88.21	0.70	7,233.87	1,317.27	373.51	1,311.12	1.61	-1.49	0.60
8,589.00	88.15	0.42	7,236.89	1,412.22	374.43	1,406.04	0.30	-0.06	-0.29
8,683.00	88.33	0.13	7,239.77	1,506.17	374.89	1,499.97	0.36	0.19	-0.31
8,778.00	87.71	0.42	7,243.06	1,601.11	375.34	1,594.89	0.72	-0.65	0.31
8,873.00	87.22	0.48	7,247.26	1,696.02	376.09	1,689.77	0.52	-0.52	0.06
8,968.00	87.34	0.33	7,251.77	1,790.91	376.76	1,784.64	0.20	0.13	-0.16
9,064.00	87.34	0.42	7,256.22	1,886.80	377.38	1,880.51	0.09	0.00	0.09
9,158.00	88.46	359.38	7,259.67	1,980.74	377.22	1,974.44	1.63	1.19	-1.11
9,253.00	87.53	358.71	7,262.99	2,075.66	375.64	2,069.38	1.21	-0.98	-0.71
9,348.00	88.21	358.18	7,266.52	2,170.56	373.06	2,164.31	0.91	0.72	-0.56
9,443.00	89.81	358.66	7,268.16	2,265.51	370.44	2,259.28	1.76	1.68	0.51
9,538.00	90.06	358.52	7,268.27	2,360.48	368.11	2,354.28	0.30	0.26	-0.15
9,632.00	90.25	358.82	7,268.02	2,454.45	365.92	2,448.28	0.38	0.20	0.32
9,727.00	90.00	359.45	7,267.81	2,549.44	364.49	2,543.27	0.71	-0.26	0.66
9,822.00	89.14	1.14	7,268.52	2,644.43	364.98	2,638.25	2.00	-0.91	1.78
9,916.00	88.33	2.10	7,270.60	2,738.37	367.64	2,732.13	1.34	-0.86	1.02
10,011.00	89.63	2.85	7,272.29	2,833.27	371.74	2,826.95	1.58	1.37	0.79
10,106.00	90.62	4.42	7,272.08	2,928.07	377.76	2,921.64	1.95	1.04	1.65
10,201.00	91.30	5.90	7,270.49	3,022.67	386.30	3,016.09	1.71	0.72	1.56
10,296.00	90.74	6.31	7,268.80	3,117.11	396.40	3,110.36	0.73	-0.59	0.43
10,391.00	90.00	6.87	7,268.18	3,211.48	407.31	3,204.54	0.98	-0.78	0.59
10,485.00	88.77	6.87	7,269.19	3,304.80	418.55	3,297.67	1.31	-1.31	0.00
10,581.00	87.10	4.86	7,272.65	3,400.23	428.35	3,392.93	2.72	-1.74	-2.09
10,676.00	87.44	2.54	7,277.18	3,494.92	434.48	3,487.51	2.47	0.36	-2.44
10,771.00	89.44	1.28	7,279.76	3,589.82	437.64	3,582.35	2.49	2.11	-1.33
10,866.00	90.19	1.56	7,280.07	3,684.79	439.99	3,677.27	0.84	0.79	0.29
10,961.00	90.12	1.41	7,279.81	3,779.76	442.46	3,772.18	0.17	-0.07	-0.16

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Niles 28N-28HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	rkb + gl @ 4984.00ft
Site:	WELD_NILES 14-28HZ PAD	MD Reference:	rkb + gl @ 4984.00ft
Well:	Niles 28N-28HZ	North Reference:	True
Wellbore:	Niles 28N-28HZ	Survey Calculation Method:	Minimum Curvature
Design:	Niles 28N-28HZ	Database:	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,056.00	89.57	359.26	7,280.07	3,874.75	443.01	3,867.15	2.34	-0.58	-2.26
11,151.00	89.82	359.01	7,280.58	3,969.74	441.58	3,962.15	0.37	0.26	-0.26
11,246.00	90.09	358.66	7,280.65	4,064.72	439.65	4,057.15	0.47	0.28	-0.37
11,342.00	90.25	358.77	7,280.37	4,160.69	437.49	4,153.15	0.20	0.17	0.11
11,438.00	90.74	358.08	7,279.54	4,256.65	434.85	4,249.14	0.88	0.51	-0.72
11,533.00	90.18	358.05	7,278.78	4,351.60	431.65	4,344.12	0.59	-0.59	-0.03
11,628.00	90.19	358.34	7,278.47	4,446.55	428.65	4,439.11	0.31	0.01	0.31
11,685.00	90.12	358.39	7,278.31	4,503.52	427.03	4,496.10	0.15	-0.12	0.09
LAST WFT MWD SURVEY									
11,738.00	90.05	358.44	7,278.24	4,556.50	425.56	4,549.10	0.16	-0.13	0.09
PROJECTION TO TD									

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
948.15	948.14	9 5/8"	9-5/8	13-1/2
7,550.79	7,226.85	7"	7	8-3/4

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
911.00	910.99	2.51	-0.04	TIE ON
1,039.00	1,038.99	2.94	-0.65	FIRST WFT MWD SURVEY
7,550.79	7,226.85	374.66	394.29	SET 7" CASING
11,685.00	7,278.31	4,503.52	427.03	LAST WFT MWD SURVEY
11,738.00	7,278.24	4,556.50	425.56	PROJECTION TO TD

Checked By: _____ Approved By: _____ Date: _____



Weatherford®

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_NILES 14-28HZ PAD

Niles 28N-28HZ

Niles 28N-28HZ

Design: Niles 28N-28HZ

Survey Report - Geographic

06 December, 2012

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Niles 28N-28HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	rkb + gl @ 4984.00ft
Site:	WELD_NILES 14-28HZ PAD	MD Reference:	rkb + gl @ 4984.00ft
Well:	Niles 28N-28HZ	North Reference:	True
Wellbore:	Niles 28N-28HZ	Survey Calculation Method:	Minimum Curvature
Design:	Niles 28N-28HZ	Database:	edmp

Project	COLORADO NORTHERN ZONE - 83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		WELD_NILES 14-28HZ PAD, Sec. 28-T3N-R66W			
Site Position:		Northing:	1,312,646.02 usft	Latitude:	40.189390
From:	Lat/Long	Easting:	3,200,158.13 usft	Longitude:	-104.783544
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.46 °

Well		Niles 28N-28HZ				
Well Position	+N/-S	0.00 ft	Northing:	1,312,645.89 usft	Latitude:	40.189389
	+E/-W	0.00 ft	Easting:	3,200,188.30 usft	Longitude:	-104.783436
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,959.00 ft

Wellbore	Niles 28N-28HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/28/2012	8.75	66.85	52,935

Design	Niles 28N-28HZ				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	25.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	25.00	0.00	0.00	359.08	

Survey Program	Date	12/6/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
125.00	911.00	Survey #1 (Niles 28N-28HZ)	NS-GYRO-MS	NORTH SENSING GYROCOMPASSING M/S	
1,039.00	11,738.00	Survey #2 (Niles 28N-28HZ)	MWD	MWD - STANDARD	

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
25.00	0.00	0.00	25.00	0.00	0.00	1,312,645.89	3,200,188.30	40.189389	-104.783436
125.00	0.44	6.83	125.00	0.38	0.05	1,312,646.27	3,200,188.35	40.189390	-104.783436
225.00	0.08	33.22	225.00	0.82	0.13	1,312,646.71	3,200,188.43	40.189391	-104.783436
325.00	0.30	328.60	325.00	1.10	0.03	1,312,646.99	3,200,188.33	40.189392	-104.783436
425.00	0.31	35.28	425.00	1.55	0.05	1,312,647.44	3,200,188.34	40.189393	-104.783436
525.00	0.07	41.82	525.00	1.81	0.25	1,312,647.70	3,200,188.54	40.189394	-104.783435
625.00	0.21	315.15	625.00	1.99	0.16	1,312,647.88	3,200,188.45	40.189395	-104.783436
725.00	0.19	57.49	724.99	2.21	0.17	1,312,648.10	3,200,188.46	40.189395	-104.783436
825.00	0.04	337.27	824.99	2.33	0.30	1,312,648.22	3,200,188.58	40.189395	-104.783435
911.00	0.48	295.44	910.99	2.51	-0.04	1,312,648.40	3,200,188.24	40.189396	-104.783436
TIE ON									

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Niles 28N-28HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	rkb + gl @ 4984.00ft
Site:	WELD_NILES 14-28HZ PAD	MD Reference:	rkb + gl @ 4984.00ft
Well:	Niles 28N-28HZ	North Reference:	True
Wellbore:	Niles 28N-28HZ	Survey Calculation Method:	Minimum Curvature
Design:	Niles 28N-28HZ	Database:	edmp

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
1,039.00	0.21	326.25	1,038.99	2.94	-0.65	1,312,648.82	3,200,187.63	40.189397	-104.783439	
FIRST WFT MWD SURVEY										
1,132.00	2.19	122.40	1,131.97	2.13	0.75	1,312,648.02	3,200,189.04	40.189395	-104.783434	
1,223.00	4.62	117.70	1,222.80	-0.51	5.46	1,312,645.42	3,200,193.77	40.189388	-104.783417	
1,315.00	6.48	118.79	1,314.37	-4.73	13.30	1,312,641.26	3,200,201.64	40.189376	-104.783389	
1,407.00	8.44	114.97	1,405.59	-10.08	23.97	1,312,636.00	3,200,212.35	40.189361	-104.783350	
1,501.00	8.56	117.76	1,498.55	-16.25	36.41	1,312,629.93	3,200,224.85	40.189344	-104.783306	
1,595.00	8.55	117.47	1,591.51	-22.74	48.80	1,312,623.55	3,200,237.29	40.189327	-104.783262	
1,692.00	8.05	119.22	1,687.49	-29.38	61.13	1,312,617.01	3,200,249.67	40.189308	-104.783217	
1,787.00	7.54	115.10	1,781.61	-35.27	72.58	1,312,611.21	3,200,261.16	40.189292	-104.783176	
1,882.00	8.67	123.68	1,875.67	-41.88	84.18	1,312,604.69	3,200,272.82	40.189274	-104.783135	
1,977.00	8.95	118.80	1,969.55	-49.41	96.61	1,312,597.26	3,200,285.31	40.189253	-104.783090	
2,071.00	8.54	115.59	2,062.45	-55.95	109.32	1,312,590.82	3,200,298.07	40.189235	-104.783045	
2,167.00	8.36	116.25	2,157.41	-62.12	122.00	1,312,584.76	3,200,310.81	40.189219	-104.783000	
2,262.00	7.90	114.56	2,251.46	-67.88	134.14	1,312,579.09	3,200,322.99	40.189203	-104.782956	
2,357.00	8.32	118.36	2,345.51	-73.86	146.12	1,312,573.21	3,200,335.02	40.189186	-104.782913	
2,452.00	7.78	116.46	2,439.57	-79.99	157.93	1,312,567.17	3,200,346.87	40.189169	-104.782871	
2,547.00	8.19	120.83	2,533.65	-86.33	169.50	1,312,560.93	3,200,358.49	40.189152	-104.782830	
2,641.00	8.70	117.92	2,626.63	-93.09	181.53	1,312,554.27	3,200,370.58	40.189134	-104.782787	
2,736.00	8.15	118.28	2,720.61	-99.64	193.81	1,312,547.82	3,200,382.91	40.189116	-104.782743	
2,830.00	7.82	117.44	2,813.70	-105.75	205.35	1,312,541.81	3,200,394.50	40.189099	-104.782701	
2,925.00	7.61	119.34	2,907.84	-111.81	216.57	1,312,535.84	3,200,405.77	40.189082	-104.782661	
3,019.00	7.53	118.76	3,001.02	-117.82	227.39	1,312,529.91	3,200,416.64	40.189066	-104.782622	
3,114.00	7.27	115.18	3,095.23	-123.37	238.29	1,312,524.45	3,200,427.58	40.189050	-104.782583	
3,209.00	7.09	118.58	3,189.48	-128.73	248.88	1,312,519.17	3,200,438.21	40.189036	-104.782545	
3,303.00	8.25	120.45	3,282.64	-134.93	259.79	1,312,513.07	3,200,449.17	40.189019	-104.782506	
3,398.00	7.91	121.81	3,376.70	-141.83	271.22	1,312,506.26	3,200,460.66	40.189000	-104.782465	
3,493.00	7.89	119.31	3,470.79	-148.46	282.46	1,312,499.71	3,200,471.95	40.188982	-104.782425	
3,588.00	6.93	122.28	3,565.00	-154.72	292.99	1,312,493.54	3,200,482.53	40.188964	-104.782388	
3,683.00	8.12	114.66	3,659.18	-160.58	303.93	1,312,487.77	3,200,493.52	40.188948	-104.782348	
3,778.00	7.63	114.49	3,753.29	-165.99	315.77	1,312,482.45	3,200,505.40	40.188933	-104.782306	
3,873.00	6.64	116.32	3,847.55	-171.04	326.43	1,312,477.49	3,200,516.11	40.188920	-104.782268	
3,968.00	7.56	122.13	3,941.82	-176.80	336.65	1,312,471.81	3,200,526.37	40.188904	-104.782231	
4,063.00	8.50	115.51	4,035.89	-183.15	348.28	1,312,465.56	3,200,538.05	40.188886	-104.782190	
4,157.00	7.61	115.51	4,128.96	-188.82	360.16	1,312,459.98	3,200,549.98	40.188871	-104.782147	
4,252.00	5.90	110.17	4,223.30	-193.21	370.43	1,312,455.67	3,200,560.28	40.188859	-104.782110	
4,347.00	4.07	101.38	4,317.94	-195.56	378.31	1,312,453.39	3,200,568.19	40.188852	-104.782082	
4,442.00	1.93	96.24	4,412.80	-196.40	383.21	1,312,452.59	3,200,573.09	40.188850	-104.782065	
4,539.00	0.29	20.56	4,509.78	-196.35	384.92	1,312,452.66	3,200,574.80	40.188850	-104.782058	
4,634.00	0.42	3.38	4,604.78	-195.78	385.03	1,312,453.23	3,200,574.90	40.188852	-104.782058	
4,729.00	0.16	330.95	4,699.78	-195.31	384.98	1,312,453.69	3,200,574.85	40.188853	-104.782058	
4,824.00	0.16	293.87	4,794.78	-195.14	384.80	1,312,453.86	3,200,574.66	40.188853	-104.782059	
4,918.00	0.07	140.99	4,888.78	-195.13	384.71	1,312,453.87	3,200,574.58	40.188853	-104.782059	
5,013.00	0.22	232.82	4,983.78	-195.29	384.60	1,312,453.71	3,200,574.47	40.188853	-104.782060	
5,108.00	0.63	222.42	5,078.78	-195.79	384.11	1,312,453.21	3,200,573.98	40.188852	-104.782061	
5,203.00	0.16	313.30	5,173.77	-196.08	383.66	1,312,452.91	3,200,573.53	40.188851	-104.782063	
5,297.00	0.40	56.84	5,267.77	-195.81	383.84	1,312,453.19	3,200,573.71	40.188852	-104.782062	
5,392.00	0.16	54.00	5,362.77	-195.55	384.22	1,312,453.45	3,200,574.09	40.188852	-104.782061	
5,487.00	0.45	34.04	5,457.77	-195.16	384.54	1,312,453.84	3,200,574.41	40.188853	-104.782060	
5,581.00	0.58	44.45	5,551.77	-194.52	385.08	1,312,454.49	3,200,574.94	40.188855	-104.782058	
5,676.00	0.85	71.16	5,646.76	-193.95	386.08	1,312,455.07	3,200,575.94	40.188857	-104.782054	
5,772.00	0.88	96.91	5,742.75	-193.81	387.49	1,312,455.22	3,200,577.34	40.188857	-104.782049	
5,866.00	0.43	187.90	5,836.75	-194.24	388.15	1,312,454.79	3,200,578.02	40.188856	-104.782047	
5,961.00	0.64	129.53	5,931.74	-194.93	388.51	1,312,454.10	3,200,578.38	40.188854	-104.782046	
6,056.00	0.35	112.06	6,026.74	-195.38	389.19	1,312,453.66	3,200,579.06	40.188853	-104.782043	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Niles 28N-28HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	rkb + gl @ 4984.00ft
Site:	WELD_NILES 14-28HZ PAD	MD Reference:	rkb + gl @ 4984.00ft
Well:	Niles 28N-28HZ	North Reference:	True
Wellbore:	Niles 28N-28HZ	Survey Calculation Method:	Minimum Curvature
Design:	Niles 28N-28HZ	Database:	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,150.00	0.16	20.17	6,120.74	-195.37	389.50	1,312,453.68	3,200,579.37	40.188853	-104.782042
6,246.00	0.07	341.75	6,216.74	-195.18	389.53	1,312,453.86	3,200,579.40	40.188853	-104.782042
6,341.00	0.22	163.15	6,311.74	-195.30	389.57	1,312,453.74	3,200,579.44	40.188853	-104.782042
6,437.00	0.38	211.71	6,407.74	-195.75	389.45	1,312,453.29	3,200,579.33	40.188852	-104.782042
6,531.00	0.86	206.04	6,501.73	-196.65	388.98	1,312,452.39	3,200,578.86	40.188849	-104.782044
6,563.00	0.64	198.16	6,533.73	-197.04	388.82	1,312,452.00	3,200,578.70	40.188848	-104.782045
6,594.00	1.19	313.04	6,564.72	-196.98	388.53	1,312,452.05	3,200,578.41	40.188848	-104.782046
6,626.00	3.45	337.35	6,596.70	-195.86	387.92	1,312,453.16	3,200,577.79	40.188851	-104.782048
6,658.00	6.43	346.74	6,628.58	-193.23	387.13	1,312,455.79	3,200,576.99	40.188859	-104.782051
6,689.00	9.15	351.38	6,659.29	-189.10	386.37	1,312,459.91	3,200,576.18	40.188870	-104.782053
6,721.00	11.84	356.17	6,690.75	-183.31	385.76	1,312,465.70	3,200,575.54	40.188886	-104.782055
6,753.00	13.90	358.03	6,721.94	-176.19	385.41	1,312,472.81	3,200,575.13	40.188905	-104.782057
6,785.00	16.34	359.18	6,752.83	-167.85	385.22	1,312,481.16	3,200,574.86	40.188928	-104.782057
6,816.00	18.65	359.22	6,782.40	-158.53	385.09	1,312,490.47	3,200,574.66	40.188954	-104.782058
6,848.00	21.12	0.27	6,812.49	-147.65	385.04	1,312,501.35	3,200,574.53	40.188984	-104.782058
6,880.00	23.80	0.46	6,842.06	-135.43	385.12	1,312,513.58	3,200,574.51	40.189017	-104.782058
6,911.00	26.09	1.07	6,870.16	-122.35	385.30	1,312,526.65	3,200,574.58	40.189053	-104.782057
6,944.00	28.68	3.24	6,899.46	-107.19	385.88	1,312,541.82	3,200,575.04	40.189095	-104.782055
6,975.00	30.63	4.83	6,926.40	-91.89	386.97	1,312,557.13	3,200,576.00	40.189137	-104.782051
7,007.00	33.27	4.98	6,953.55	-75.02	388.42	1,312,574.01	3,200,577.32	40.189183	-104.782046
7,039.00	36.50	4.10	6,979.80	-56.78	389.86	1,312,592.26	3,200,578.61	40.189233	-104.782041
7,071.00	39.70	3.64	7,004.98	-37.08	391.19	1,312,611.97	3,200,579.78	40.189287	-104.782036
7,103.00	42.42	3.82	7,029.10	-16.11	392.56	1,312,632.95	3,200,580.98	40.189345	-104.782031
7,134.00	45.73	3.66	7,051.37	5.41	393.96	1,312,654.48	3,200,582.21	40.189404	-104.782026
7,167.00	49.07	2.71	7,073.71	29.66	395.31	1,312,678.74	3,200,583.36	40.189470	-104.782021
7,198.00	52.41	1.48	7,093.32	53.64	396.18	1,312,702.73	3,200,584.04	40.189536	-104.782018
7,230.00	55.70	1.31	7,112.10	79.53	396.81	1,312,728.62	3,200,584.46	40.189607	-104.782016
7,262.00	57.35	2.09	7,129.75	106.21	397.60	1,312,755.31	3,200,585.04	40.189681	-104.782013
7,293.00	59.18	1.82	7,146.06	132.56	398.50	1,312,781.66	3,200,585.72	40.189753	-104.782010
7,325.00	62.28	1.14	7,161.70	160.46	399.22	1,312,809.57	3,200,586.21	40.189830	-104.782007
7,357.00	64.42	359.78	7,176.06	189.06	399.45	1,312,838.17	3,200,586.21	40.189908	-104.782006
7,388.00	66.58	359.21	7,188.91	217.27	399.20	1,312,866.37	3,200,585.73	40.189985	-104.782007
7,420.00	70.24	358.68	7,200.68	247.01	398.65	1,312,896.11	3,200,584.94	40.190067	-104.782009
7,451.00	74.22	358.30	7,210.14	276.51	397.87	1,312,925.61	3,200,583.92	40.190148	-104.782012
7,483.00	78.10	358.04	7,217.80	307.56	396.88	1,312,956.65	3,200,582.68	40.190233	-104.782016
7,515.00	82.99	357.69	7,223.05	339.10	395.70	1,312,988.17	3,200,581.25	40.190320	-104.782020
7,550.79	84.84	357.77	7,226.85	374.66	394.29	1,313,023.72	3,200,579.55	40.190418	-104.782025
SET 7" CASING									
7,640.00	89.44	357.98	7,231.30	463.67	390.99	1,313,112.70	3,200,575.54	40.190662	-104.782037
7,734.00	89.57	357.79	7,232.11	557.60	387.52	1,313,206.60	3,200,571.31	40.190920	-104.782049
7,830.00	89.88	357.78	7,232.57	653.53	383.81	1,313,302.50	3,200,566.82	40.191183	-104.782062
7,924.00	90.06	358.21	7,232.62	747.47	380.52	1,313,396.41	3,200,562.77	40.191441	-104.782074
8,019.00	90.12	357.69	7,232.47	842.41	377.12	1,313,491.32	3,200,558.61	40.191702	-104.782086
8,115.00	90.18	357.78	7,232.22	938.33	373.33	1,313,587.21	3,200,554.04	40.191965	-104.782100
8,210.00	90.92	0.01	7,231.31	1,033.31	371.50	1,313,682.16	3,200,551.44	40.192226	-104.782106
8,304.00	89.26	0.73	7,231.16	1,127.30	372.11	1,313,776.16	3,200,551.29	40.192484	-104.782104
8,399.00	89.63	0.13	7,232.08	1,222.29	372.82	1,313,871.15	3,200,551.23	40.192744	-104.782102
8,494.00	88.21	0.70	7,233.87	1,317.27	373.51	1,313,966.13	3,200,551.15	40.193005	-104.782099
8,589.00	88.15	0.42	7,236.89	1,412.22	374.43	1,314,061.08	3,200,551.31	40.193266	-104.782096
8,683.00	88.33	0.13	7,239.77	1,506.17	374.89	1,314,155.04	3,200,551.01	40.193524	-104.782094
8,778.00	87.71	0.42	7,243.06	1,601.11	375.34	1,314,249.98	3,200,550.69	40.193784	-104.782093
8,873.00	87.22	0.48	7,247.26	1,696.02	376.09	1,314,344.89	3,200,550.67	40.194045	-104.782090
8,968.00	87.34	0.33	7,251.77	1,790.91	376.76	1,314,439.78	3,200,550.58	40.194305	-104.782088
9,064.00	87.34	0.42	7,256.22	1,886.80	377.38	1,314,535.67	3,200,550.43	40.194569	-104.782085
9,158.00	88.46	359.38	7,259.67	1,980.74	377.22	1,314,629.60	3,200,549.51	40.194826	-104.782086

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Niles 28N-28HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	rkb + gl @ 4984.00ft
Site:	WELD_NILES 14-28HZ PAD	MD Reference:	rkb + gl @ 4984.00ft
Well:	Niles 28N-28HZ	North Reference:	True
Wellbore:	Niles 28N-28HZ	Survey Calculation Method:	Minimum Curvature
Design:	Niles 28N-28HZ	Database:	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,253.00	87.53	358.71	7,262.99	2,075.66	375.64	1,314,724.51	3,200,547.16	40.195087	-104.782092
9,348.00	88.21	358.18	7,266.52	2,170.56	373.06	1,314,819.39	3,200,543.81	40.195347	-104.782101
9,443.00	89.81	358.66	7,268.16	2,265.51	370.44	1,314,914.31	3,200,540.43	40.195608	-104.782110
9,538.00	90.06	358.52	7,268.27	2,360.48	368.11	1,315,009.26	3,200,537.32	40.195869	-104.782119
9,632.00	90.25	358.82	7,268.02	2,454.45	365.92	1,315,103.21	3,200,534.38	40.196127	-104.782126
9,727.00	90.00	359.45	7,267.81	2,549.44	364.49	1,315,198.19	3,200,532.18	40.196388	-104.782131
9,822.00	89.14	1.14	7,268.52	2,644.43	364.98	1,315,293.18	3,200,531.90	40.196648	-104.782130
9,916.00	88.33	2.10	7,270.60	2,738.37	367.64	1,315,387.14	3,200,533.80	40.196906	-104.782120
10,011.00	89.63	2.85	7,272.29	2,833.27	371.74	1,315,482.06	3,200,537.13	40.197167	-104.782106
10,106.00	90.62	4.42	7,272.08	2,928.07	377.76	1,315,576.91	3,200,542.39	40.197427	-104.782084
10,201.00	91.30	5.90	7,270.49	3,022.67	386.30	1,315,671.57	3,200,550.17	40.197687	-104.782053
10,296.00	90.74	6.31	7,268.80	3,117.11	396.40	1,315,766.10	3,200,559.51	40.197946	-104.782017
10,391.00	90.00	6.87	7,268.18	3,211.48	407.31	1,315,860.55	3,200,569.65	40.198205	-104.781978
10,485.00	88.77	6.87	7,269.19	3,304.80	418.55	1,315,953.96	3,200,580.13	40.198461	-104.781938
10,581.00	87.10	4.86	7,272.65	3,400.23	428.35	1,316,049.46	3,200,589.17	40.198723	-104.781903
10,676.00	87.44	2.54	7,277.18	3,494.92	434.48	1,316,144.19	3,200,594.52	40.198983	-104.781881
10,771.00	89.44	1.28	7,279.76	3,589.82	437.64	1,316,239.12	3,200,596.92	40.199244	-104.781870
10,866.00	90.19	1.56	7,280.07	3,684.79	439.99	1,316,334.11	3,200,598.51	40.199504	-104.781861
10,961.00	90.12	1.41	7,279.81	3,779.76	442.46	1,316,429.09	3,200,600.20	40.199765	-104.781852
11,056.00	89.57	359.26	7,280.07	3,874.75	443.01	1,316,524.08	3,200,599.99	40.200026	-104.781850
11,151.00	89.82	359.01	7,280.58	3,969.74	441.58	1,316,619.06	3,200,597.79	40.200286	-104.781855
11,246.00	90.09	358.66	7,280.65	4,064.72	439.65	1,316,714.02	3,200,595.09	40.200547	-104.781862
11,342.00	90.25	358.77	7,280.37	4,160.69	437.49	1,316,809.97	3,200,592.16	40.200811	-104.781870
11,438.00	90.74	358.08	7,279.54	4,256.65	434.85	1,316,905.91	3,200,588.75	40.201074	-104.781879
11,533.00	90.18	358.05	7,278.78	4,351.60	431.65	1,317,000.82	3,200,584.77	40.201335	-104.781891
11,628.00	90.19	358.34	7,278.47	4,446.55	428.65	1,317,095.75	3,200,581.01	40.201595	-104.781902
11,685.00	90.12	358.39	7,278.31	4,503.52	427.03	1,317,152.71	3,200,578.93	40.201752	-104.781907
LAST WFT MWD SURVEY									
11,738.00	90.05	358.44	7,278.24	4,556.50	425.56	1,317,205.67	3,200,577.03	40.201897	-104.781913
PROJECTION TO TD									

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
948.15	948.14	9 5/8"	9-5/8	13-1/2
7,550.79	7,226.85	7"	7	8-3/4

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
911.00	910.99	2.51	-0.04	TIE ON
1,039.00	1,038.99	2.94	-0.65	FIRST WFT MWD SURVEY
7,550.79	7,226.85	374.66	394.29	SET 7" CASING
11,685.00	7,278.31	4,503.52	427.03	LAST WFT MWD SURVEY
11,738.00	7,278.24	4,556.50	425.56	PROJECTION TO TD

Checked By: _____ Approved By: _____ Date: _____