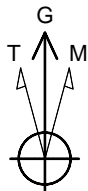


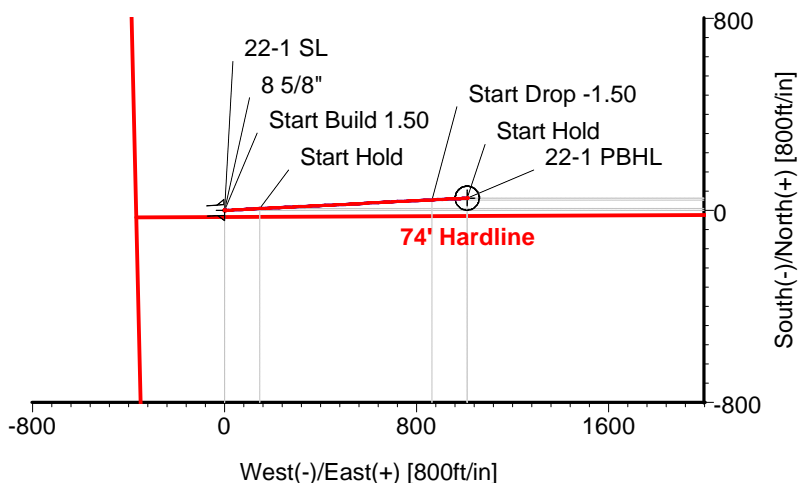
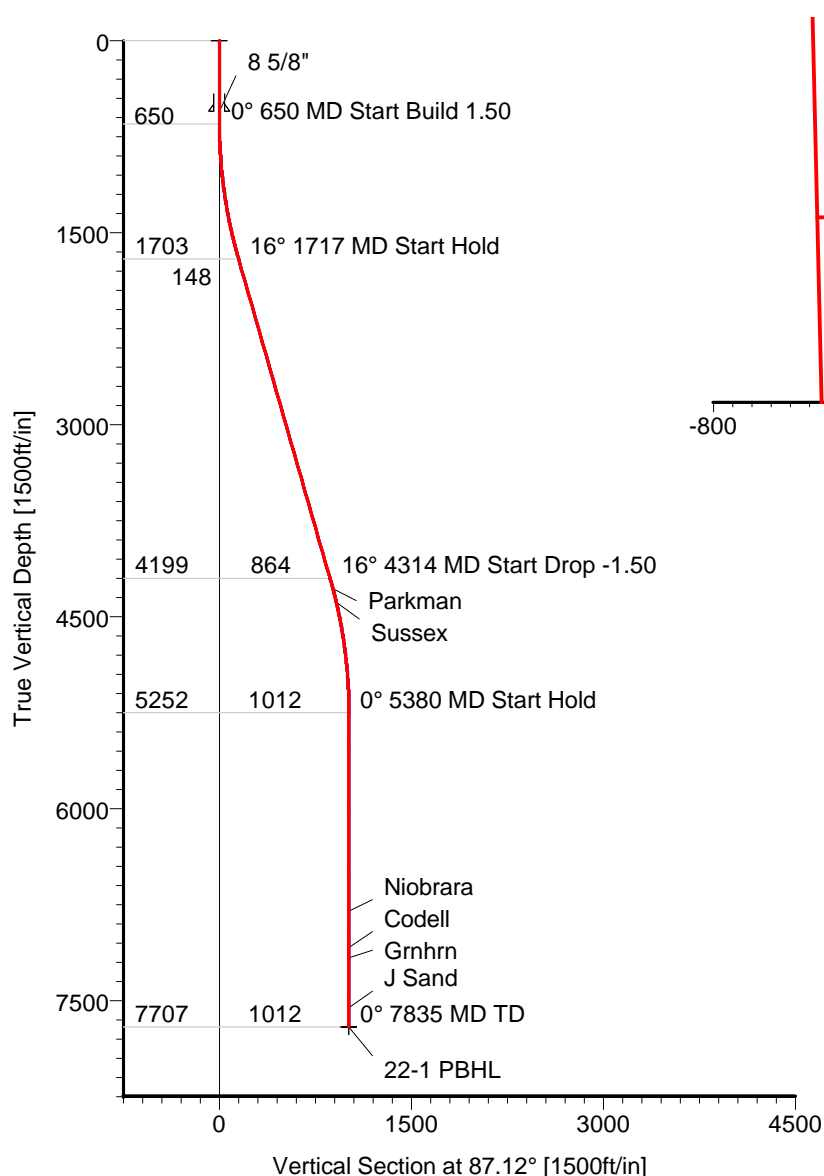
ANADARKO PETROLEUM

Field: Weld County, CO
Site: Shelton 22-1 Pad
Well: 22-1
Wellpath: Original Hole
Plan: Plan #1



Azimuths to Grid North
True North: -0.57°
Magnetic North: 8.17°

Magnetic Field
Strength: 53079nT
Dip Angle: 66.95°
Date: 09/30/2011
Model: IGRF2010



CASING DETAILS

No.	TVD	MD	Name	Size
1	550.00	550.00	8 5/8"	8.625

FORMATION TOP DETAILS

No.	TVDPath	MDPath	Formation
1	4281.00	4398.44	Parkman
2	4386.00	4506.62	Sussex
3	6798.00	6926.22	Niobrara
4	7085.00	7213.22	Codell
5	7163.00	7291.22	Grnhn
6	7557.00	7685.22	J Sand

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
22-1 SL	0.00	0.00	0.00	40°15'15.793N	104°37'10.088W	Point
22-1 PBHL	7707.00	50.84	1010.49	40°15'16.196N	104°36'57.049W	Circle (Radius: 50)

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	87.12	0.00	0.00	0.00	0.00	0.00	0.00	
2	650.00	0.00	87.12	650.00	0.00	0.00	0.00	0.00	0.00	
3	1716.67	16.00	87.12	1702.86	7.43	147.78	1.50	87.12	147.97	
4	4313.67	16.00	87.12	4199.26	43.40	862.71	0.00	0.00	863.80	
5	5380.34	0.00	87.12	5252.11	50.84	1010.49	1.50	180.00	1011.77	
6	7835.22	0.00	87.12	7707.00	50.84	1010.49	0.00	0.00	1011.77	22-1 PBHL

Plan: Plan #1 (22-1/Original Hole)

Created By: Ivonne Gonzalez

Date: 03/25/2011

ALLIS CHALMERS DIRECTIONAL DRILLING SERVICES
911 Regional Park Drive Houston, Texas 77060
Phone: 713-934-9600 Fax: 713-934-9067



DIRECTIONAL
DRILLING SERVICES

Allis-Chalmers Energy, Inc.

Planning Report

Company: ANADARKO PETROLEUM Field: Weld County, CO Site: Shelton 22-1 Pad Well: 22-1 Wellpath: Original Hole	Date: 03/25/2011 Co-ordinate(NE) Reference: Vertical (TVD) Reference: Section (VS) Reference: Plan:	Time: 10:08:37 Well: 22-1, Grid North 4831'GL+13'KB 4844.0 Well (0.00N,0.00E,87.12Azi) Plan #1	Page: 1
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Field: Weld County, CO	
Map System: US State Plane Coordinate System 1983 Geo Datum: GRS 1980 Sys Datum: Mean Sea Level	Map Zone: Colorado, Northern Zone Coordinate System: Well Centre Geomagnetic Model: IGRF2010

Site: Shelton 22-1 Pad Centered on 22-1 Site Position: From: Geographic Position Uncertainty: 0.00 ft Ground Level: 4831.00 ft	Northing: 1336737.66 ft Easting: 3245766.22 ft Latitude: 40 15 15.793 N Longitude: 104 37 10.088 W North Reference: Grid Grid Convergence: 0.57 deg
--	--

Well: 22-1 Well Position: +N/-S 0.00 ft +E/-W 0.00 ft Position Uncertainty: 0.00 ft	Slot Name: 22-1 Well Position: +N/-S 0.00 ft +E/-W 0.00 ft Position Uncertainty: 0.00 ft
---	--

Wellpath: Original Hole Current Datum: 4831'GL+13'KB Magnetic Data: 09/30/2011 Field Strength: 53079 nT Vertical Section: Depth From (TVD) ft	Drilled From: Surface Tie-on Depth: 0.00 ft Above System Datum: Mean Sea Level Declination: 8.74 deg Mag Dip Angle: 66.95 deg +E/-W ft Direction deg
0.00	0.00

Plan: Plan #1 Principal: Yes	Date Composed: 03/25/2011 Version: 1 Tied-to: From Surface
---	---

Plan Section Information										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	87.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
650.00	0.00	87.12	650.00	0.00	0.00	0.00	0.00	0.00	0.00	
1716.67	16.00	87.12	1702.86	7.43	147.78	1.50	1.50	0.00	87.12	
4313.67	16.00	87.12	4199.26	43.40	862.71	0.00	0.00	0.00	0.00	
5380.34	0.00	87.12	5252.11	50.84	1010.49	1.50	-1.50	0.00	180.00	
7835.22	0.00	87.12	7707.00	50.84	1010.49	0.00	0.00	0.00	0.00	22-1 PBHL

Survey										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
650.00	0.00	87.12	650.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.75	87.12	700.00	0.02	0.33	0.33	1.50	1.50	0.00	
800.00	2.25	87.12	799.96	0.15	2.94	2.94	1.50	1.50	0.00	
900.00	3.75	87.12	899.82	0.41	8.17	8.18	1.50	1.50	0.00	
1000.00	5.25	87.12	999.51	0.81	16.00	16.02	1.50	1.50	0.00	
1100.00	6.75	87.12	1098.96	1.33	26.44	26.48	1.50	1.50	0.00	
1200.00	8.25	87.12	1198.10	1.99	39.48	39.53	1.50	1.50	0.00	
1300.00	9.75	87.12	1296.87	2.77	55.10	55.17	1.50	1.50	0.00	
1400.00	11.25	87.12	1395.19	3.69	73.30	73.39	1.50	1.50	0.00	
1500.00	12.75	87.12	1493.00	4.73	94.07	94.19	1.50	1.50	0.00	
1600.00	14.25	87.12	1590.24	5.91	117.38	117.53	1.50	1.50	0.00	
1700.00	15.75	87.12	1686.83	7.21	143.23	143.41	1.50	1.50	0.00	
1716.67	16.00	87.12	1702.86	7.43	147.78	147.97	1.50	1.50	0.00	
1800.00	16.00	87.12	1782.96	8.59	170.72	170.94	0.00	0.00	0.00	
1900.00	16.00	87.12	1879.09	9.97	198.25	198.50	0.00	0.00	0.00	

Allis-Chalmers Energy, Inc.

Planning Report

Company: ANADARKO PETROLEUM	Date: 03/25/2011	Time: 10:08:37	Page: 2
Field: Weld County, CO	Co-ordinate(NE) Reference: Well: 22-1, Grid North		
Site: Shelton 22-1 Pad	Vertical (TVD) Reference: 4831'GL+13'KB 4844.0		
Well: 22-1	Section (VS) Reference: Well (0.00N,0.00E,87.12Azi)		
Wellpath: Original Hole	Plan: Plan #1		

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
2000.00	16.00	87.12	1975.21	11.36	225.78	226.07	0.00	0.00	0.00	
2100.00	16.00	87.12	2071.34	12.74	253.31	253.63	0.00	0.00	0.00	
2200.00	16.00	87.12	2167.47	14.13	280.84	281.19	0.00	0.00	0.00	
2300.00	16.00	87.12	2263.59	15.51	308.37	308.76	0.00	0.00	0.00	
2400.00	16.00	87.12	2359.72	16.90	335.90	336.32	0.00	0.00	0.00	
2500.00	16.00	87.12	2455.85	18.28	363.43	363.89	0.00	0.00	0.00	
2600.00	16.00	87.12	2551.97	19.67	390.95	391.45	0.00	0.00	0.00	
2700.00	16.00	87.12	2648.10	21.05	418.48	419.01	0.00	0.00	0.00	
2800.00	16.00	87.12	2744.22	22.44	446.01	446.58	0.00	0.00	0.00	
2900.00	16.00	87.12	2840.35	23.82	473.54	474.14	0.00	0.00	0.00	
3000.00	16.00	87.12	2936.48	25.21	501.07	501.70	0.00	0.00	0.00	
3100.00	16.00	87.12	3032.60	26.59	528.60	529.27	0.00	0.00	0.00	
3200.00	16.00	87.12	3128.73	27.98	556.13	556.83	0.00	0.00	0.00	
3300.00	16.00	87.12	3224.85	29.36	583.66	584.40	0.00	0.00	0.00	
3400.00	16.00	87.12	3320.98	30.75	611.19	611.96	0.00	0.00	0.00	
3500.00	16.00	87.12	3417.11	32.13	638.71	639.52	0.00	0.00	0.00	
3600.00	16.00	87.12	3513.23	33.52	666.24	667.09	0.00	0.00	0.00	
3700.00	16.00	87.12	3609.36	34.90	693.77	694.65	0.00	0.00	0.00	
3800.00	16.00	87.12	3705.49	36.29	721.30	722.21	0.00	0.00	0.00	
3900.00	16.00	87.12	3801.61	37.67	748.83	749.78	0.00	0.00	0.00	
4000.00	16.00	87.12	3897.74	39.06	776.36	777.34	0.00	0.00	0.00	
4100.00	16.00	87.12	3993.86	40.44	803.89	804.91	0.00	0.00	0.00	
4200.00	16.00	87.12	4089.99	41.83	831.42	832.47	0.00	0.00	0.00	
4300.00	16.00	87.12	4186.12	43.21	858.95	860.03	0.00	0.00	0.00	
4313.67	16.00	87.12	4199.26	43.40	862.71	863.80	0.00	0.00	0.00	
4398.44	14.73	87.12	4281.00	44.53	885.14	886.26	1.50	-1.50	0.00	Parkman
4400.00	14.71	87.12	4282.50	44.55	885.54	886.66	1.50	-1.50	0.00	
4500.00	13.21	87.12	4379.55	45.76	909.62	910.77	1.50	-1.50	0.00	
4506.62	13.11	87.12	4386.00	45.84	911.13	912.28	1.50	-1.50	0.00	Sussex
4600.00	11.71	87.12	4477.19	46.84	931.16	932.34	1.50	-1.50	0.00	
4700.00	10.21	87.12	4575.37	47.80	950.14	951.34	1.50	-1.50	0.00	
4800.00	8.71	87.12	4674.01	48.62	966.55	967.77	1.50	-1.50	0.00	
4900.00	7.21	87.12	4773.04	49.32	980.37	981.61	1.50	-1.50	0.00	
5000.00	5.71	87.12	4872.41	49.89	991.60	992.85	1.50	-1.50	0.00	
5100.00	4.21	87.12	4972.03	50.32	1000.22	1001.49	1.50	-1.50	0.00	
5200.00	2.71	87.12	5071.84	50.62	1006.24	1007.51	1.50	-1.50	0.00	
5300.00	1.21	87.12	5171.78	50.79	1009.65	1010.93	1.50	-1.50	0.00	
5380.34	0.00	87.12	5252.11	50.84	1010.49	1011.77	1.50	-1.50	0.00	
5400.00	0.00	87.12	5271.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
5500.00	0.00	87.12	5371.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
5600.00	0.00	87.12	5471.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
5700.00	0.00	87.12	5571.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
5800.00	0.00	87.12	5671.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
5900.00	0.00	87.12	5771.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
6000.00	0.00	87.12	5871.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
6100.00	0.00	87.12	5971.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
6200.00	0.00	87.12	6071.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
6300.00	0.00	87.12	6171.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
6400.00	0.00	87.12	6271.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
6500.00	0.00	87.12	6371.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
6600.00	0.00	87.12	6471.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
6700.00	0.00	87.12	6571.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
6800.00	0.00	87.12	6671.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
6900.00	0.00	87.12	6771.78	50.84	1010.49	1011.77	0.00	0.00	0.00	

Allis-Chalmers Energy, Inc.

Planning Report

Company: ANADARKO PETROLEUM Field: Weld County, CO Site: Shelton 22-1 Pad Well: 22-1 Wellpath: Original Hole	Date: 03/25/2011 Co-ordinate(NE) Reference: Well: 22-1, Grid North Vertical (TVD) Reference: 4831'GL+13'KB 4844.0 Section (VS) Reference: Well (0.00N,0.00E,87.12Azi) Plan: Plan #1	Page: 3
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Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
6926.22	0.00	87.12	6798.00	50.84	1010.49	1011.77	0.00	0.00	0.00	Niobrara
7000.00	0.00	87.12	6871.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
7100.00	0.00	87.12	6971.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
7200.00	0.00	87.12	7071.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
7213.22	0.00	87.12	7085.00	50.84	1010.49	1011.77	0.00	0.00	0.00	Codell
7291.22	0.00	87.12	7163.00	50.84	1010.49	1011.77	0.00	0.00	0.00	Grnhm
7300.00	0.00	87.12	7171.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
7400.00	0.00	87.12	7271.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
7500.00	0.00	87.12	7371.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
7600.00	0.00	87.12	7471.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
7685.22	0.00	87.12	7557.00	50.84	1010.49	1011.77	0.00	0.00	0.00	J Sand
7700.00	0.00	87.12	7571.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
7800.00	0.00	87.12	7671.78	50.84	1010.49	1011.77	0.00	0.00	0.00	
7835.22	0.00	87.12	7707.00	50.84	1010.49	1011.77	0.00	0.00	0.00	22-1 PBHL

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude ---> Deg Min Sec			<--- Longitude ---> Deg Min Sec		
22-1 SL			0.00	0.00	0.00	1336737.66	3245766.22	40	15	15.793 N	104	37	10.088 W
22-1 PBHL			7707.00	50.84	1010.49	1336788.50	3246776.72	40	15	16.196 N	104	36	57.049 W
-Circle (Radius: 50)													
-Plan hit target													

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
550.00	550.00	8.625	9.875	8 5/8"

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
4398.44	4281.00	Parkman		0.00	0.00
4506.62	4386.00	Sussex		0.00	0.00
6926.22	6798.00	Niobrara		0.00	0.00
7213.22	7085.00	Codell		0.00	0.00
7291.22	7163.00	Grnhm		0.00	0.00
7685.22	7557.00	J Sand		0.00	0.00

Allis-Chalmers Energy, Inc.

Anticollision Report

Company: ANADARKO PETROLEUM	Date: 03/25/2011	Time: 10:09:01	Page: 1
Field: Weld County, CO			
Reference Site: Shelton 22-1 Pad	Co-ordinate(NE) Reference: Well: 22-1, Grid North		
Reference Well: 22-1	Vertical (TVD) Reference: 4831'GL+13'KB 4844.0		
Reference Wellpath: Original Hole	Db: Adapti		

NO GLOBAL SCAN: Using user defined selection & scan criteria
Interpolation Method: MD **Interval:** 100.00 ft
Depth Range: 0.00 to 7835.22 ft
Maximum Radius: 500.00 ft

Reference: Plan: Plan #1
Error Model: Systematic Ellipse
Scan Method: Closest Approach 3D
Error Surface: Ellipse

Plan: Plan #1	Date Composed: 03/25/2011
	Version: 1
Principal: Yes	Tied-to: From Surface

Summary

<----- Offset Wellpath ----->			Reference	Offset	Ctr-Ctr	Edge	Separation	Warning
Site	Well	Wellpath	MD ft	MD ft	Distance ft	Distance ft	Factor	
Shelton 22-1 Pad	32-1	Original Hole V0 Plan:	600.00	600.00	16.01			No Offset Errors

Site: Shelton 22-1 Pad
Well: 32-1
Wellpath: Original Hole V0 Plan: Plan #1 V1

Inter-Site Error: 0.00 ft

Reference		Offset		Semi-Major Axis			Offset Location		Ctr-Ctr	Edge	Separation	Warning
MD ft	TVD ft	MD ft	TVD ft	Ref ft	Offset ft	TFO-HS deg	North ft	East ft	Distance ft	Distance ft	Factor	
0.00	0.00	0.00	0.00	0.00	0.00	269.57	-0.12	-16.01	16.01			No Data
100.00	100.00	100.00	100.00	0.00	0.00	269.57	-0.12	-16.01	16.01			No Offset Errors
200.00	200.00	200.00	200.00	0.00	0.00	269.57	-0.12	-16.01	16.01			No Offset Errors
300.00	300.00	300.00	300.00	0.00	0.00	269.57	-0.12	-16.01	16.01			No Offset Errors
400.00	400.00	400.00	400.00	0.00	0.00	269.57	-0.12	-16.01	16.01			No Offset Errors
500.00	500.00	500.00	500.00	0.00	0.00	269.57	-0.12	-16.01	16.01			No Offset Errors
600.00	600.00	600.00	600.00	0.00	0.00	269.57	-0.12	-16.01	16.01			No Offset Errors
700.00	700.00	699.79	699.78	0.00	0.00	182.57	-0.07	-16.33	16.66			No Offset Errors
800.00	799.96	799.15	799.12	0.00	0.00	183.25	0.29	-18.89	21.85			No Offset Errors
900.00	899.82	897.92	897.75	0.00	0.00	183.96	1.00	-23.97	32.21			No Offset Errors
1000.00	999.51	995.70	995.23	0.00	0.00	184.45	2.06	-31.49	47.70			No Offset Errors
1100.00	1098.96	1092.11	1091.12	0.00	0.00	184.77	3.45	-41.32	68.24			No Offset Errors
1200.00	1198.10	1186.81	1185.04	0.00	0.00	184.97	5.13	-53.30	93.75			No Offset Errors
1300.00	1296.87	1280.42	1277.58	0.00	0.00	185.12	7.10	-67.29	123.98			No Offset Errors
1400.00	1395.19	1374.73	1370.73	0.00	0.00	185.16	9.16	-81.90	157.21			No Offset Errors
1500.00	1493.00	1468.14	1462.99	0.00	0.00	185.13	11.20	-96.37	192.89			No Offset Errors
1600.00	1590.24	1560.59	1554.31	0.00	0.00	185.07	13.22	-110.69	231.00			No Offset Errors
1700.00	1686.83	1652.02	1644.60	0.00	0.00	184.99	15.22	-124.85	271.50			No Offset Errors
1800.00	1782.96	1742.74	1734.21	0.00	0.00	184.87	17.20	-138.91	313.56			No Offset Errors
1900.00	1879.09	1833.45	1823.80	0.00	0.00	184.77	19.18	-152.96	355.65			No Offset Errors
2000.00	1975.21	1924.16	1913.40	0.00	0.00	184.69	21.16	-167.01	397.74			No Offset Errors
2100.00	2071.34	2014.87	2002.99	0.00	0.00	184.63	23.13	-181.06	439.84			No Offset Errors
2200.00	2167.47	2105.58	2092.58	0.00	0.00	184.58	25.11	-195.11	481.93			No Offset Errors