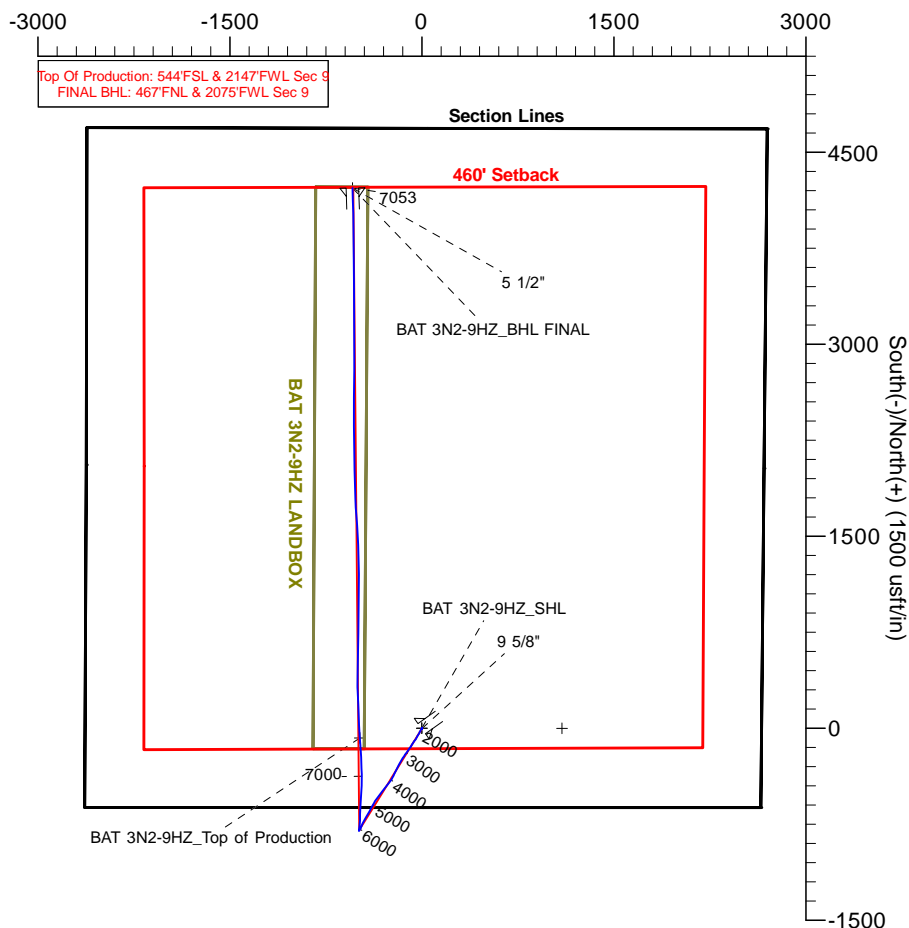


US ROCKIES WATTENBERG PLANNING

Project: WELD-NAD83-UTMFT13N
Site: 1N-65W-09 Bat Pad
Well: BAT 3N2-9HZ
Wellbore: Plan B
Design: PDD Actual Surveys

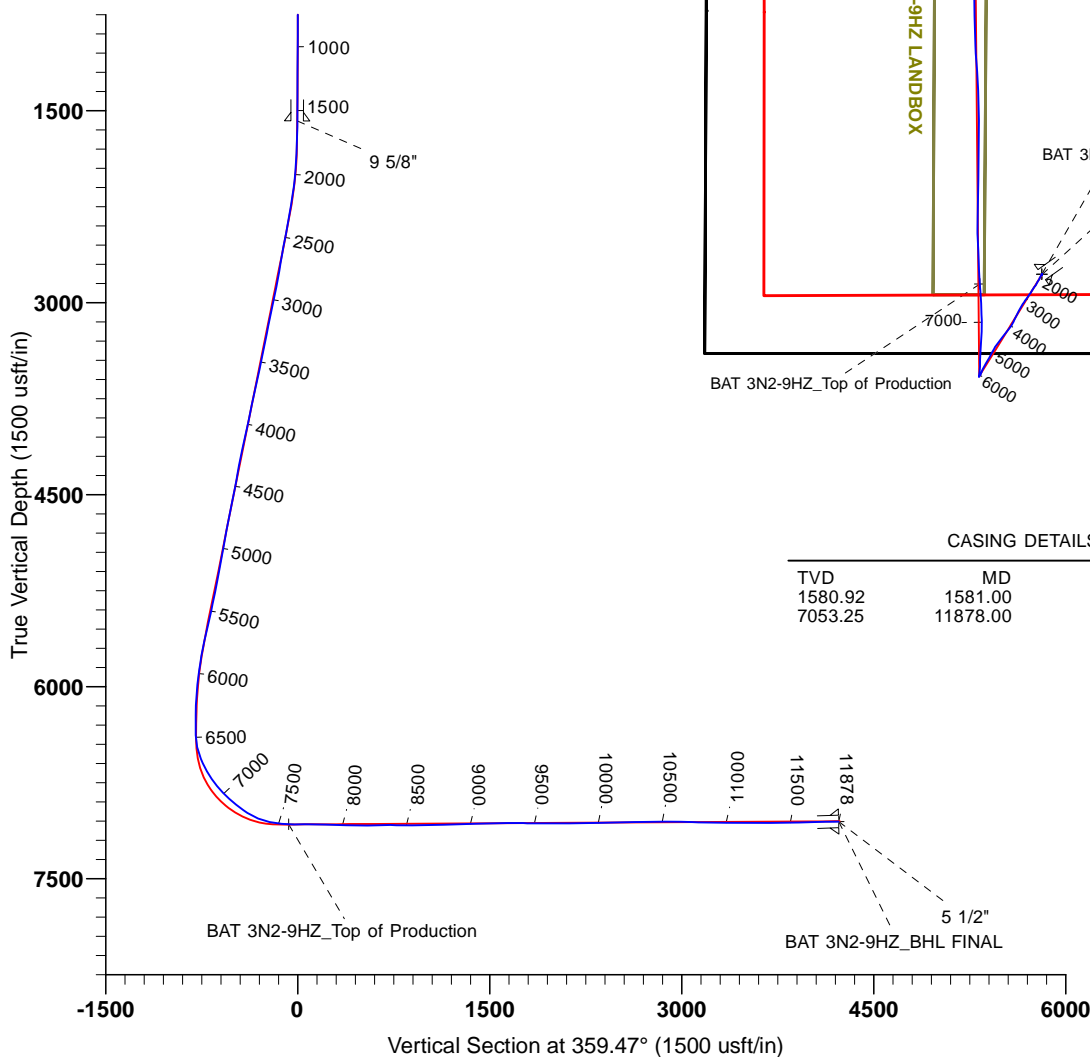


West(-)/East(+) (1500 usft/in)



FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
6943.37	7166.00	SSPG	0.00	359.47
6969.62	7211.00	NBRR	0.00	359.47



CASING DETAILS

TVD	MD	Name	Size
1580.92	1581.00	9 5/8"	9-5/8
7053.25	11878.00	5 1/2"	5-1/2

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
1N-R65W-Sec. 9_Section lines	-25.00	-0.34	1093.76	14548919.51	1734104.05	40.060443	-104.665168	Polygon
BAT 3N2-9HZ_Landing Diagram	0.00	0.00	0.00	14548915.79	1733010.29	40.060444	-104.669077	Polygon
BAT 3N2-9HZ_SHL	0.00	0.00	0.00	14548915.79	1733010.29	40.060444	-104.669077	Point
BAT 3N2-9HZ_BHL FINAL	7053.25	4220.91	-541.64	14553134.66	1732452.96	40.072035	-104.671013	Point
BAT 3N2-9HZ_Top of Production	7075.13	-75.65	-485.54	14548838.33	1732525.03	40.060236	-104.670812	Point



Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well BAT 3N2-9HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4931+25 @ 4956.00usft (hp311)
Site:	1N-65W-09 Bat Pad	MD Reference:	4931+25 @ 4956.00usft (hp311)
Well:	BAT 3N2-9HZ	North Reference:	True
Wellbore:	Plan B	Survey Calculation Method:	Minimum Curvature
Design:	PDD Acul Surveys	Database:	EDM 5000 MultiUser DB

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 Bat Pad, centered on the 3N1				
Site Position:		Northing:	14,548,915.67 usft	Latitude:	40.060444
From:	Lat/Long	Easting:	1,732,980.35 usft	Longitude:	-104.669184
Position Uncertainty:	2.68 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.21 °

Well	BAT 3N2-9HZ					
Well Position	+N/-S	0.00 usft	Northing:	14,548,915.78 usft	Latitude:	40.060444
	+E/-W	0.00 usft	Easting:	1,733,010.29 usft	Longitude:	-104.669077
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	4,931.00 usft

Wellbore	Plan B				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/27/2015	8.25	66.66	52,546

Design	PDD Acul Surveys				
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	359.47	

Survey Program	Date	6/22/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
20.00	1,546.00	Cathedral MWD Surface (Plan B)	APC_ISCWSA REV 2 MWD	Fixed:v2:standard declination	
1,667.00	11,823.00	PDD MWD+IFR1 Vert/Curve (Plan B)	APC_ISCWSA REV 2 MWD+	Fixed:v2:crustal field declination	
11,878.00	11,878.00	Projection to Bit (Plan B)	APC_BLIND	OWSG BLIND	

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	
105.00	0.70	205.10	105.00	-0.47	-0.22	-0.47	0.82	0.82	0.00	
169.00	0.60	178.30	168.99	-1.16	-0.38	-1.16	0.49	-0.16	-41.88	
228.00	0.70	176.60	227.99	-1.83	-0.35	-1.82	0.17	0.17	-2.88	
287.00	0.40	173.00	286.99	-2.39	-0.30	-2.39	0.51	-0.51	-6.10	
345.00	0.40	284.20	344.99	-2.54	-0.47	-2.54	1.14	0.00	191.72	
409.00	0.20	274.00	408.99	-2.48	-0.80	-2.47	0.32	-0.31	-15.94	
472.00	0.60	32.60	471.98	-2.20	-0.73	-2.19	1.14	0.63	188.25	

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well BAT 3N2-9HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4931+25 @ 4956.00usft (hp311)
Site:	1N-65W-09 Bat Pad	MD Reference:	4931+25 @ 4956.00usft (hp311)
Well:	BAT 3N2-9HZ	North Reference:	True
Wellbore:	Plan B	Survey Calculation Method:	Minimum Curvature
Design:	PDD Acul Surveys	Database:	EDM 5000 MultiUser DB

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)
536.00	0.30	43.30	535.98	-1.79	-0.44	-1.79	0.48	-0.47	16.72
599.00	0.70	25.80	598.98	-1.32	-0.15	-1.32	0.67	0.63	-27.78
662.00	1.00	28.50	661.97	-0.49	0.28	-0.50	0.48	0.48	4.29
726.00	1.20	42.20	725.96	0.49	0.99	0.48	0.51	0.31	21.41
790.00	0.50	62.70	789.95	1.12	1.69	1.10	1.18	-1.09	32.03
854.00	0.50	92.90	853.95	1.23	2.22	1.21	0.41	0.00	47.19
918.00	0.40	326.80	917.95	1.40	2.37	1.38	1.26	-0.16	-197.03
982.00	0.60	171.20	981.95	1.26	2.30	1.24	1.53	0.31	-243.13
1,046.00	0.70	175.40	1,045.95	0.54	2.39	0.52	0.17	0.16	6.56
1,109.00	0.40	219.90	1,108.94	-0.01	2.28	-0.03	0.79	-0.48	70.63
1,174.00	0.60	220.40	1,173.94	-0.45	1.91	-0.46	0.31	0.31	0.77
1,237.00	0.20	203.10	1,236.94	-0.80	1.65	-0.81	0.66	-0.63	-27.46
1,301.00	0.90	211.70	1,300.94	-1.33	1.34	-1.34	1.10	1.09	13.44
1,365.00	1.00	179.70	1,364.93	-2.32	1.08	-2.33	0.83	0.16	-50.00
1,428.00	0.50	233.20	1,427.92	-3.03	0.87	-3.04	1.28	-0.79	84.92
1,491.00	0.40	256.80	1,490.92	-3.24	0.43	-3.25	0.33	-0.16	37.46
1,546.00	0.70	220.60	1,545.92	-3.54	0.03	-3.54	0.81	0.55	-65.82
1,667.00	0.90	261.60	1,666.91	-4.24	-1.40	-4.23	0.49	0.17	33.88
1,761.00	2.60	229.00	1,760.86	-5.75	-3.73	-5.72	2.03	1.81	-34.68
1,856.00	3.50	210.60	1,855.73	-9.66	-6.84	-9.60	1.39	0.95	-19.37
1,950.00	4.70	205.40	1,949.49	-15.61	-9.95	-15.52	1.34	1.28	-5.53
2,045.00	7.30	209.50	2,043.96	-24.38	-14.59	-24.24	2.77	2.74	4.32
2,139.00	9.60	206.20	2,136.93	-36.61	-20.99	-36.42	2.50	2.45	-3.51
2,233.00	10.70	209.20	2,229.46	-51.26	-28.71	-50.99	1.30	1.17	3.19
2,328.00	11.20	209.50	2,322.73	-66.99	-37.56	-66.64	0.53	0.53	0.32
2,423.00	13.00	213.20	2,415.62	-83.96	-47.95	-83.52	2.06	1.89	3.89
2,517.00	13.50	214.90	2,507.11	-101.81	-60.02	-101.25	0.67	0.53	1.81
2,706.00	10.80	211.80	2,691.87	-134.96	-81.98	-134.19	1.47	-1.43	-1.64
2,895.00	13.60	217.10	2,876.59	-167.74	-104.72	-166.76	1.59	1.48	2.80
3,084.00	15.10	214.40	3,059.69	-205.78	-132.03	-204.55	0.87	0.79	-1.43
3,273.00	12.70	210.00	3,243.14	-244.09	-156.33	-242.63	1.39	-1.27	-2.33
3,462.00	13.10	208.90	3,427.37	-280.83	-177.07	-279.18	0.25	0.21	-0.58
3,651.00	14.20	207.00	3,611.03	-320.24	-197.95	-318.39	0.63	0.58	-1.01
3,840.00	12.50	204.00	3,794.92	-359.58	-216.79	-357.56	0.97	-0.90	-1.59
4,029.00	14.90	211.20	3,978.54	-399.06	-237.70	-396.85	1.56	1.27	3.81
4,218.00	15.30	219.90	4,161.04	-438.98	-266.29	-436.50	1.22	0.21	4.60
4,407.00	12.40	217.20	4,344.53	-474.28	-294.56	-471.54	1.57	-1.53	-1.43
4,595.00	15.40	218.50	4,527.00	-509.90	-322.31	-506.90	1.60	1.60	0.69
4,784.00	13.10	217.20	4,710.18	-546.61	-350.89	-543.34	1.23	-1.22	-0.69
4,972.00	12.00	208.90	4,893.70	-580.69	-373.21	-577.22	1.12	-0.59	-4.41
5,161.00	11.40	208.20	5,078.77	-614.36	-391.54	-610.71	0.33	-0.32	-0.37
5,350.00	13.20	209.10	5,263.42	-649.68	-410.86	-645.85	0.96	0.95	0.48
5,539.00	14.60	210.20	5,446.88	-689.12	-433.34	-685.08	0.75	0.74	0.58

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well BAT 3N2-9HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4931+25 @ 4956.00usft (hp311)
Site:	1N-65W-09 Bat Pad	MD Reference:	4931+25 @ 4956.00usft (hp311)
Well:	BAT 3N2-9HZ	North Reference:	True
Wellbore:	Plan B	Survey Calculation Method:	Minimum Curvature
Design:	PDD Aclual Surveys	Database:	EDM 5000 MultiUser DB

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)	
5,728.00	14.30	207.60	5,629.91	-730.39	-456.13	-726.14	0.38	-0.16	-1.38	
5,917.00	9.70	200.50	5,814.74	-766.01	-472.53	-761.61	2.55	-2.43	-3.76	
6,106.00	6.30	210.00	6,001.88	-789.92	-483.30	-785.41	1.92	-1.80	5.03	
6,295.00	2.50	237.00	6,190.30	-801.15	-491.94	-796.56	2.24	-2.01	14.29	
6,390.00	0.50	63.30	6,285.28	-802.09	-493.31	-797.49	3.16	-2.11	-182.84	
6,484.00	0.40	329.20	6,379.27	-801.62	-493.11	-797.03	0.70	-0.11	-100.11	
6,579.00	13.80	10.00	6,473.34	-790.13	-491.31	-785.55	14.21	14.11	42.95	
6,673.00	22.30	6.30	6,562.63	-761.31	-487.40	-756.77	9.12	9.04	-3.94	
6,768.00	29.10	2.80	6,648.19	-720.27	-484.29	-715.76	7.33	7.16	-3.68	
6,862.00	34.70	359.70	6,727.97	-670.64	-483.31	-666.14	6.21	5.96	-3.30	
6,957.00	41.60	3.60	6,802.64	-612.04	-481.47	-607.56	7.69	7.26	4.11	
7,051.00	47.60	6.00	6,869.55	-546.32	-475.87	-541.89	6.63	6.38	2.55	
7,146.00	51.60	1.10	6,931.13	-474.16	-471.49	-469.78	5.76	4.21	-5.16	
7,240.00	57.60	0.60	6,985.55	-397.58	-470.37	-393.21	6.40	6.38	-0.53	
7,335.00	67.20	358.00	7,029.52	-313.51	-471.48	-309.13	10.39	10.11	-2.74	
7,429.00	77.80	357.20	7,057.75	-224.07	-475.24	-219.66	11.31	11.28	-0.85	
7,524.00	85.10	355.20	7,071.86	-130.40	-481.48	-125.94	7.96	7.68	-2.11	
7,618.00	90.20	357.10	7,075.72	-36.73	-487.78	-32.21	5.79	5.43	2.02	
7,713.00	89.90	357.60	7,075.63	58.17	-492.18	62.72	0.61	-0.32	0.53	
7,807.00	89.40	357.60	7,076.21	152.09	-496.11	156.67	0.53	-0.53	0.00	
7,902.00	88.40	357.10	7,078.03	246.97	-500.50	251.59	1.18	-1.05	-0.53	
7,996.00	87.30	0.30	7,081.56	340.86	-502.63	345.50	3.60	-1.17	3.40	
8,091.00	89.80	0.60	7,083.96	435.82	-501.89	440.45	2.65	2.63	0.32	
8,185.00	91.20	1.70	7,083.14	529.80	-500.00	534.40	1.89	1.49	1.17	
8,280.00	90.50	1.20	7,081.73	624.75	-497.60	629.33	0.91	-0.74	-0.53	
8,374.00	89.90	0.40	7,081.41	718.74	-496.29	723.30	1.06	-0.64	-0.85	
8,469.00	88.80	359.90	7,082.48	813.74	-496.04	818.29	1.27	-1.16	-0.53	
8,563.00	91.10	1.10	7,082.56	907.72	-495.22	912.27	2.76	2.45	1.28	
8,658.00	91.00	0.80	7,080.82	1,002.69	-493.64	1,007.22	0.33	-0.11	-0.32	
8,753.00	90.80	0.00	7,079.33	1,097.68	-492.98	1,102.19	0.87	-0.21	-0.84	
8,847.00	91.70	359.80	7,077.28	1,191.66	-493.14	1,196.17	0.98	0.96	-0.21	
8,942.00	92.10	359.90	7,074.13	1,286.60	-493.39	1,291.11	0.43	0.42	0.11	
9,036.00	90.90	357.40	7,071.67	1,380.54	-495.61	1,385.06	2.95	-1.28	-2.66	
9,130.00	92.20	357.00	7,069.13	1,474.39	-500.20	1,478.95	1.45	1.38	-0.43	
9,225.00	91.70	356.10	7,065.90	1,569.16	-505.91	1,573.77	1.08	-0.53	-0.95	
9,319.00	89.80	355.70	7,064.66	1,662.91	-512.63	1,667.58	2.07	-2.02	-0.43	
9,414.00	88.20	357.30	7,066.32	1,757.71	-518.43	1,762.43	2.38	-1.68	1.68	
9,508.00	90.60	359.10	7,067.31	1,851.65	-521.38	1,856.39	3.19	2.55	1.91	
9,602.00	90.20	358.50	7,066.65	1,945.62	-523.35	1,950.38	0.77	-0.43	-0.64	
9,697.00	89.00	357.30	7,067.31	2,040.55	-526.83	2,045.34	1.79	-1.26	-1.26	
9,791.00	91.00	359.80	7,067.31	2,134.51	-529.21	2,139.31	3.41	2.13	2.66	
9,886.00	91.40	359.30	7,065.32	2,229.49	-529.95	2,234.29	0.67	0.42	-0.53	
9,980.00	90.30	358.50	7,063.93	2,323.46	-531.76	2,328.28	1.45	-1.17	-0.85	

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well BAT 3N2-9HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4931+25 @ 4956.00usft (hp311)
Site:	1N-65W-09 Bat Pad	MD Reference:	4931+25 @ 4956.00usft (hp311)
Well:	BAT 3N2-9HZ	North Reference:	True
Wellbore:	Plan B	Survey Calculation Method:	Minimum Curvature
Design:	PDD Aqual Surveys	Database:	EDM 5000 MultiUser DB

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)	
10,074.00	91.00	1.30	7,062.86	2,417.44	-531.92	2,422.26	3.07	0.74	2.98	
10,169.00	91.20	0.40	7,061.04	2,512.41	-530.51	2,517.21	0.97	0.21	-0.95	
10,264.00	91.30	0.10	7,058.97	2,607.39	-530.10	2,612.18	0.33	0.11	-0.32	
10,358.00	91.40	359.80	7,056.75	2,701.36	-530.18	2,706.15	0.34	0.11	-0.32	
10,453.00	90.80	1.20	7,054.93	2,796.34	-529.35	2,801.11	1.60	-0.63	1.47	
10,547.00	90.30	0.10	7,054.03	2,890.32	-528.29	2,895.09	1.29	-0.53	-1.17	
10,642.00	88.30	0.10	7,055.19	2,985.31	-528.12	2,990.07	2.11	-2.11	0.00	
10,737.00	87.60	359.20	7,058.59	3,080.25	-528.70	3,085.01	1.20	-0.74	-0.95	
10,831.00	88.70	359.30	7,061.62	3,174.19	-529.93	3,178.96	1.18	1.17	0.11	
10,926.00	90.40	0.20	7,062.37	3,269.18	-530.34	3,273.95	2.02	1.79	0.95	
11,020.00	89.40	359.40	7,062.53	3,363.18	-530.67	3,367.94	1.36	-1.06	-0.85	
11,115.00	88.80	358.90	7,064.02	3,458.16	-532.08	3,462.93	0.82	-0.63	-0.53	
11,209.00	90.10	0.60	7,064.92	3,552.15	-532.49	3,556.92	2.28	1.38	1.81	
11,304.00	90.20	359.80	7,064.68	3,647.14	-532.16	3,651.91	0.85	0.11	-0.84	
11,398.00	90.80	359.70	7,063.86	3,741.14	-532.57	3,745.91	0.65	0.64	-0.11	
11,492.00	90.60	359.30	7,062.71	3,835.13	-533.39	3,839.90	0.48	-0.21	-0.43	
11,587.00	91.30	359.10	7,061.13	3,930.11	-534.72	3,934.88	0.77	0.74	-0.21	
11,682.00	91.90	359.00	7,058.48	4,025.05	-536.29	4,029.84	0.64	0.63	-0.11	
11,776.00	91.20	358.10	7,055.94	4,118.99	-538.67	4,123.80	1.21	-0.74	-0.96	
11,823.00	91.60	358.40	7,054.79	4,165.95	-540.10	4,170.77	1.06	0.85	0.64	
11,878.00	91.60	358.40	7,053.25	4,220.91	-541.64	4,225.74	0.00	0.00	0.00	