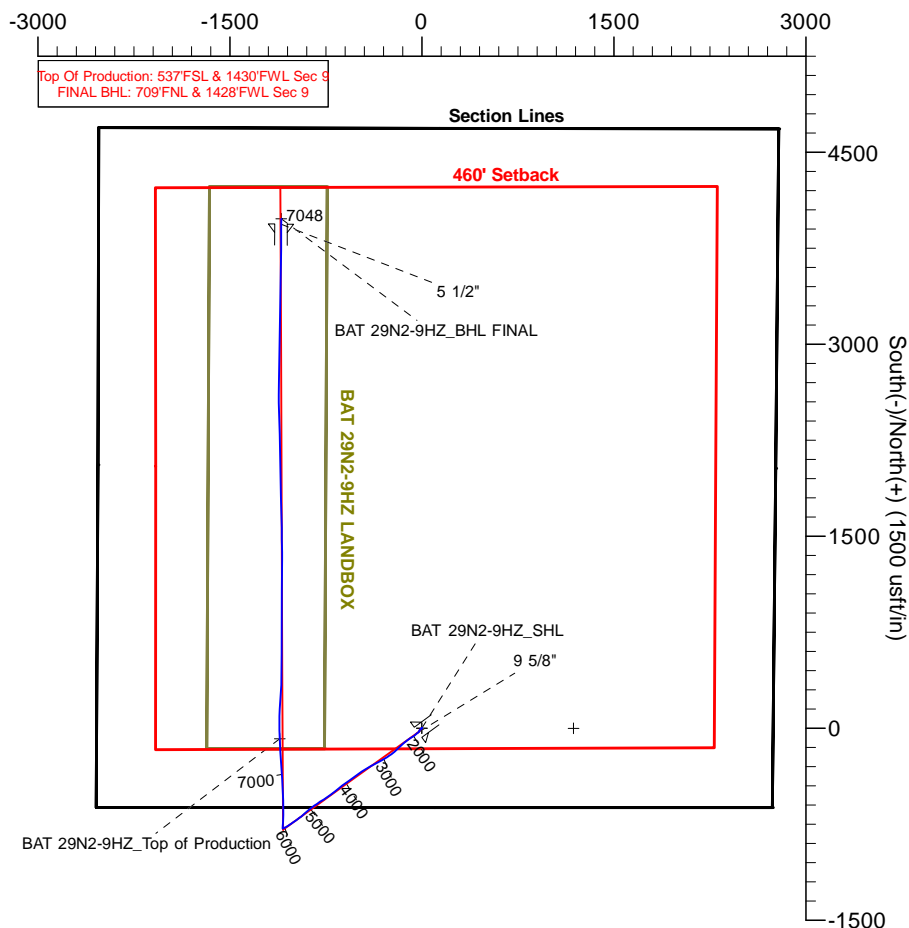


US ROCKIES WATTENBERG PLANNING

Project: WELD-NAD83-UTMFT13N
 Site: 1N-65W-09 Bat Pad
 Well: BAT 29N2-9HZ
 Wellbore: Plan B
 Design: PDD Actual Surveys

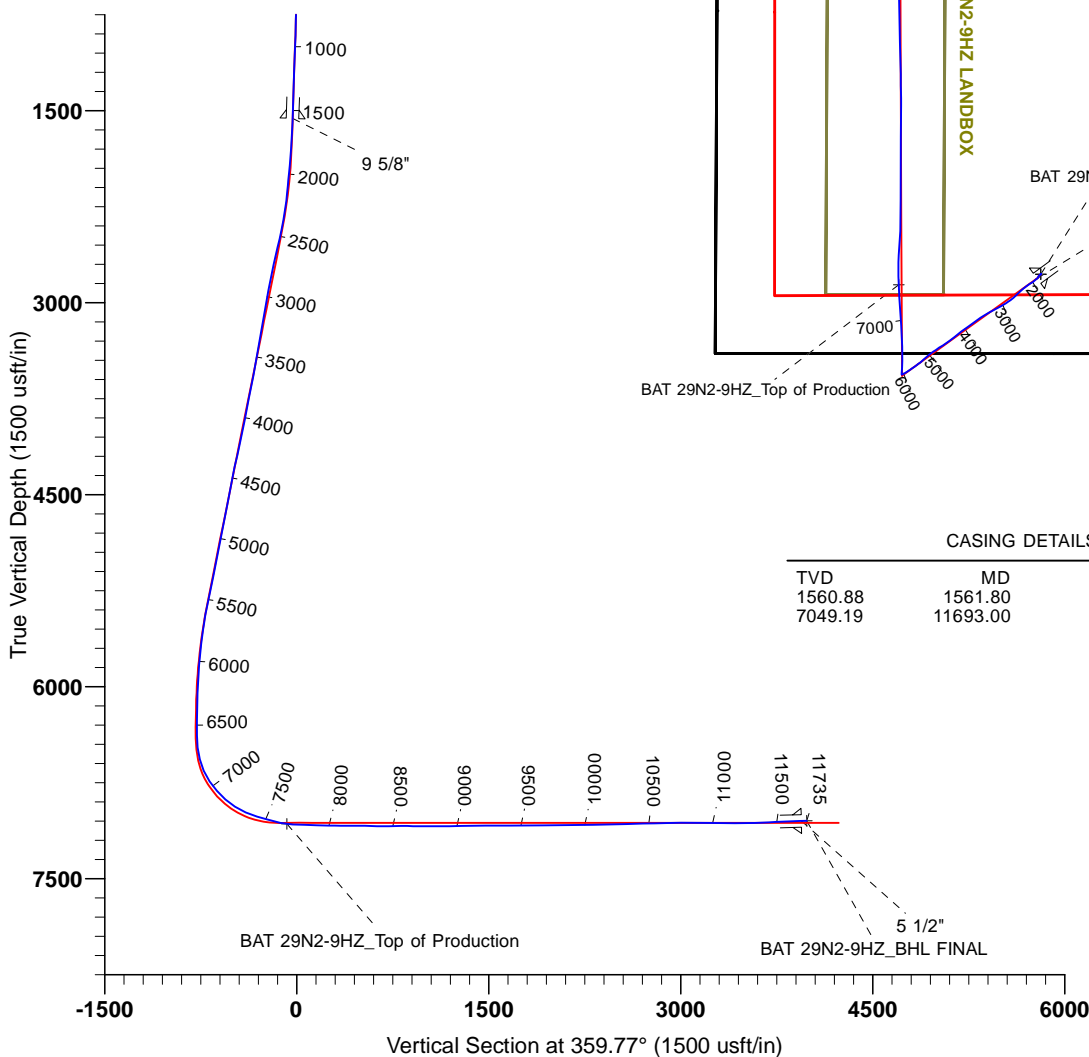


West(-)/East(+) (1500 usft/in)



FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
6914.03	7198.00	SSPG	0.00	359.77
6939.04	7242.00	NBRR	0.00	359.77



CASING DETAILS

TVD	MD	Name	Size
1560.88	1561.80	9 5/8"	9-5/8
7049.19	11693.00	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	1183.86	14548919.51	1734104.05	40.060443	-104.665168	Polygon
BAT 29N2-9HZ_Landing Diagram	0.00	0.00	0.00	14548915.45	1732920.19	40.060444	-104.669399	Polygon
BAT 29N2-9HZ_SHL	0.00	0.00	0.00	14548915.45	1732920.19	40.060444	-104.669399	Point
BAT 29N2-9HZ_BHL FINAL	7048.01	3980.48	-1099.34	14552891.82	1731806.08	40.071375	-104.673329	Point
BAT 29N2-9HZ_Top of Production	7072.13	-82.25	-1111.21	14548829.08	1731809.30	40.060218	-104.673370	Point

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well BAT 29N2-9HZ
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 29N2-9HZ	North Reference:	True
Wellbore:	Plan B	Survey Calculation Method:	Minimum Curvature
Design:	PDD Actual 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 29N2-9HZ				
Well Position	+N/-S	0.00 usft	Northing:	14,548,915.45 usft	Latitude:	40.060444
	+E/-W	0.00 usft	Easting:	1,732,920.19 usft	Longitude:	-104.669399
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 Actual 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	359.77	

Survey Program	Date	6/22/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
20.00	1,530.00	Cathedral MWD Surface (Plan B)	APC_ISCWSA REV 2 MWD	Fixed:v2:standard declination	
1,573.00	7,714.00	PDD MWD+IFR1 Vert/Curve (Plan B)	APC_ISCWSA REV 2 MWD+	Fixed:v2:crustal field declination	
7,808.00	11,683.00	PDD MWD+IFR1 Lateral (Plan B)	APC_ISCWSA REV 2 MWD+	Fixed:v2:crustal field declination	
11,735.00	11,735.00	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	
104.00	1.00	354.70	104.00	0.73	-0.07	0.73	1.19	1.19	0.00	
168.00	0.70	307.40	167.99	1.52	-0.43	1.53	1.15	-0.47	-73.91	
227.00	0.30	212.90	226.99	1.61	-0.80	1.62	1.33	-0.68	-160.17	
286.00	0.70	137.10	285.99	1.22	-0.64	1.22	1.17	0.68	-128.47	
344.00	0.70	188.10	343.98	0.61	-0.45	0.61	1.04	0.00	87.93	
408.00	1.10	212.80	407.97	-0.29	-0.84	-0.29	0.86	0.63	38.59	

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well BAT 29N2-9HZ
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 29N2-9HZ	North Reference:	True
Wellbore:	Plan B	Survey Calculation Method:	Minimum Curvature
Design:	PDD Actual 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)	
471.00	1.40	224.50	470.96	-1.35	-1.70	-1.35	0.62	0.48	18.57	
534.00	1.50	227.20	533.94	-2.46	-2.85	-2.45	0.19	0.16	4.29	
598.00	1.40	229.70	597.92	-3.54	-4.06	-3.52	0.18	-0.16	3.91	
662.00	1.50	241.50	661.90	-4.44	-5.39	-4.42	0.49	0.16	18.44	
724.00	2.10	239.70	723.87	-5.40	-7.08	-5.37	0.97	0.97	-2.90	
789.00	2.50	242.10	788.81	-6.67	-9.37	-6.63	0.63	0.62	3.69	
853.00	2.60	235.30	852.75	-8.15	-11.79	-8.10	0.50	0.16	-10.63	
916.00	2.70	225.70	915.68	-10.00	-14.03	-9.94	0.72	0.16	-15.24	
980.00	2.90	222.50	979.61	-12.24	-16.20	-12.18	0.40	0.31	-5.00	
1,044.00	2.60	210.20	1,043.53	-14.69	-18.03	-14.62	1.03	-0.47	-19.22	
1,108.00	1.90	199.50	1,107.49	-16.94	-19.11	-16.87	1.27	-1.09	-16.72	
1,234.00	1.60	184.10	1,233.43	-20.67	-19.93	-20.59	0.44	-0.24	-12.22	
1,298.00	2.20	192.80	1,297.39	-22.76	-20.27	-22.68	1.04	0.94	13.59	
1,362.00	2.60	207.40	1,361.34	-25.24	-21.21	-25.16	1.14	0.63	22.81	
1,426.00	2.70	226.60	1,425.27	-27.57	-22.97	-27.48	1.39	0.16	30.00	
1,490.00	3.00	233.00	1,489.19	-29.61	-25.41	-29.51	0.68	0.47	10.00	
1,530.00	3.10	236.90	1,529.13	-30.83	-27.15	-30.72	0.58	0.25	9.75	
1,573.00	3.60	232.50	1,572.06	-32.29	-29.19	-32.17	1.31	1.16	-10.23	
1,762.00	5.40	229.10	1,760.47	-41.73	-40.62	-41.56	0.96	0.95	-1.80	
1,951.00	8.60	231.20	1,948.04	-56.41	-58.36	-56.17	1.70	1.69	1.11	
2,140.00	11.30	240.40	2,134.19	-74.41	-85.48	-74.07	1.65	1.43	4.87	
2,329.00	14.30	231.10	2,318.49	-98.22	-119.76	-97.74	1.92	1.59	-4.92	
2,518.00	18.50	226.70	2,499.77	-133.46	-159.77	-132.82	2.32	2.22	-2.33	
2,707.00	19.80	228.30	2,678.31	-175.32	-205.49	-174.50	0.74	0.69	0.85	
2,896.00	19.10	235.30	2,856.54	-214.23	-254.82	-213.20	1.29	-0.37	3.70	
3,085.00	19.40	241.60	3,035.00	-246.76	-307.86	-245.53	1.11	0.16	3.33	
3,274.00	19.90	243.20	3,212.99	-276.20	-364.18	-274.73	0.39	0.26	0.85	
3,463.00	19.30	238.90	3,391.05	-306.83	-419.64	-305.15	0.83	-0.32	-2.28	
3,652.00	18.90	235.80	3,569.65	-340.17	-471.71	-338.28	0.58	-0.21	-1.64	
3,841.00	19.20	233.70	3,748.30	-375.78	-522.07	-373.68	0.40	0.16	-1.11	
4,030.00	18.90	235.10	3,926.95	-411.69	-572.22	-409.39	0.29	-0.16	0.74	
4,219.00	19.00	232.30	4,105.71	-448.02	-621.67	-445.52	0.48	0.05	-1.48	
4,408.00	20.30	231.60	4,283.70	-487.20	-671.71	-484.50	0.70	0.69	-0.37	
4,596.00	17.50	232.80	4,461.55	-524.55	-719.79	-521.66	1.50	-1.49	0.64	
4,785.00	19.00	238.80	4,641.05	-557.68	-768.75	-554.59	1.27	0.79	3.17	
4,973.00	19.90	236.50	4,818.32	-591.19	-821.61	-587.89	0.63	0.48	-1.22	
5,162.00	18.00	230.50	4,997.09	-627.53	-870.98	-624.03	1.44	-1.01	-3.17	
5,351.00	16.90	228.50	5,177.39	-664.31	-914.09	-660.63	0.66	-0.58	-1.06	
5,540.00	19.20	232.20	5,357.08	-701.56	-959.22	-697.71	1.36	1.22	1.96	
5,729.00	15.20	237.30	5,537.60	-734.01	-1,004.65	-729.97	2.26	-2.12	2.70	
5,918.00	9.80	233.80	5,722.06	-756.91	-1,038.51	-752.74	2.88	-2.86	-1.85	
6,107.00	7.60	244.00	5,908.88	-771.90	-1,062.72	-767.62	1.42	-1.16	5.40	
6,296.00	4.00	238.90	6,096.88	-780.78	-1,079.61	-776.44	1.92	-1.90	-2.70	

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well BAT 29N2-9HZ
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 29N2-9HZ	North Reference:	True
Wellbore:	Plan B	Survey Calculation Method:	Minimum Curvature
Design:	PDD Actual 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)
6,485.00	0.80	297.20	6,285.71	-783.59	-1,086.43	-779.22	1.93	-1.69	30.85
6,580.00	0.90	234.20	6,380.70	-783.72	-1,087.62	-779.35	0.94	0.11	-66.32
6,674.00	6.80	3.90	6,474.49	-778.59	-1,087.84	-774.22	7.88	6.28	137.98
6,769.00	13.90	1.70	6,567.89	-761.55	-1,087.12	-757.18	7.48	7.47	-2.32
6,863.00	24.50	3.00	6,656.53	-730.72	-1,085.76	-726.35	11.29	11.28	1.38
6,958.00	32.70	2.50	6,739.87	-685.33	-1,083.61	-680.97	8.64	8.63	-0.53
7,052.00	42.50	358.90	6,814.26	-628.07	-1,083.11	-623.72	10.68	10.43	-3.83
7,147.00	47.50	359.40	6,881.42	-560.92	-1,084.09	-556.57	5.28	5.26	0.53
7,241.00	57.60	357.70	6,938.51	-486.42	-1,086.05	-482.06	10.84	10.74	-1.81
7,336.00	66.20	356.10	6,983.21	-402.83	-1,090.63	-398.45	9.17	9.05	-1.68
7,430.00	74.60	356.00	7,014.72	-314.57	-1,096.72	-310.16	8.94	8.94	-0.11
7,525.00	73.50	356.20	7,040.82	-223.44	-1,102.94	-219.01	1.18	-1.16	0.21
7,619.00	78.30	356.60	7,063.72	-132.48	-1,108.66	-128.02	5.12	5.11	0.43
7,714.00	86.50	358.40	7,076.27	-38.48	-1,112.75	-34.02	8.83	8.63	1.89
7,808.00	89.00	359.80	7,079.96	55.42	-1,114.22	59.90	3.05	2.66	1.49
7,903.00	88.60	4.10	7,081.95	150.32	-1,110.99	154.78	4.54	-0.42	4.53
7,997.00	88.10	3.60	7,084.66	244.07	-1,104.68	248.51	0.75	-0.53	-0.53
8,092.00	89.70	4.10	7,086.48	338.84	-1,098.30	343.24	1.76	1.68	0.53
8,186.00	90.00	359.80	7,086.73	432.76	-1,095.11	437.15	4.59	0.32	-4.57
8,281.00	89.30	359.80	7,087.31	527.76	-1,095.44	532.15	0.74	-0.74	0.00
8,375.00	88.60	359.80	7,089.03	621.74	-1,095.77	626.13	0.74	-0.74	0.00
8,470.00	90.90	0.20	7,089.44	716.73	-1,095.77	721.13	2.46	2.42	0.42
8,564.00	90.20	0.40	7,088.54	810.73	-1,095.27	815.12	0.77	-0.74	0.21
8,659.00	89.20	0.30	7,089.04	905.72	-1,094.69	910.11	1.06	-1.05	-0.11
8,754.00	90.40	0.10	7,089.37	1,000.72	-1,094.36	1,005.11	1.28	1.26	-0.21
8,848.00	89.00	0.30	7,089.86	1,094.72	-1,094.03	1,099.10	1.50	-1.49	0.21
8,943.00	91.20	0.50	7,089.70	1,189.71	-1,093.37	1,194.09	2.33	2.32	0.21
9,037.00	90.10	0.00	7,088.63	1,283.70	-1,092.96	1,288.08	1.29	-1.17	-0.53
9,131.00	92.20	359.80	7,086.74	1,377.67	-1,093.12	1,382.05	2.24	2.23	-0.21
9,226.00	90.30	359.60	7,084.67	1,472.65	-1,093.62	1,477.02	2.01	-2.00	-0.21
9,320.00	88.80	359.00	7,085.41	1,566.63	-1,094.77	1,571.02	1.72	-1.60	-0.64
9,415.00	91.20	358.40	7,085.41	1,661.60	-1,096.93	1,665.99	2.60	2.53	-0.63
9,509.00	90.50	358.40	7,084.02	1,755.55	-1,099.55	1,759.95	0.74	-0.74	0.00
9,603.00	89.30	358.20	7,084.18	1,849.51	-1,102.34	1,853.92	1.29	-1.28	-0.21
9,698.00	91.30	358.70	7,083.68	1,944.47	-1,104.91	1,948.89	2.17	2.11	0.53
9,792.00	91.10	359.10	7,081.71	2,038.43	-1,106.71	2,042.86	0.48	-0.21	0.43
9,886.00	90.50	359.00	7,080.40	2,132.41	-1,108.27	2,136.84	0.65	-0.64	-0.11
9,981.00	89.50	359.00	7,080.40	2,227.39	-1,109.93	2,231.83	1.05	-1.05	0.00
10,075.00	91.80	358.70	7,079.34	2,321.36	-1,111.81	2,325.81	2.47	2.45	-0.32
10,170.00	91.20	358.30	7,076.85	2,416.30	-1,114.30	2,420.75	0.76	-0.63	-0.42
10,265.00	90.80	358.40	7,075.19	2,511.24	-1,117.04	2,515.71	0.43	-0.42	0.11
10,359.00	92.40	0.50	7,072.57	2,605.19	-1,117.94	2,609.66	2.81	1.70	2.23
10,454.00	91.50	0.10	7,069.33	2,700.13	-1,117.44	2,704.60	1.04	-0.95	-0.42
10,548.00	90.90	0.30	7,067.36	2,794.11	-1,117.11	2,798.58	0.67	-0.64	0.21

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well BAT 29N2-9HZ
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 29N2-9HZ	North Reference:	True
Wellbore:	Plan B	Survey Calculation Method:	Minimum Curvature
Design:	PDD Actual 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)
10,643.00	90.30	2.00	7,066.37	2,889.08	-1,115.21	2,893.54	1.90	-0.63	1.79
10,738.00	91.80	1.00	7,064.63	2,984.03	-1,112.72	2,988.48	1.90	1.58	-1.05
10,832.00	90.30	0.90	7,062.91	3,078.00	-1,111.16	3,082.44	1.60	-1.60	-0.11
10,927.00	88.50	1.10	7,063.90	3,172.98	-1,109.50	3,177.41	1.91	-1.89	0.21
11,021.00	89.70	1.40	7,065.38	3,266.94	-1,107.45	3,271.36	1.32	1.28	0.32
11,116.00	88.70	0.80	7,066.70	3,361.91	-1,105.63	3,366.32	1.23	-1.05	-0.63
11,210.00	90.50	1.60	7,067.36	3,455.89	-1,103.66	3,460.29	2.10	1.91	0.85
11,305.00	92.80	0.30	7,064.62	3,550.82	-1,102.09	3,555.22	2.78	2.42	-1.37
11,399.00	92.80	0.40	7,060.03	3,644.71	-1,101.51	3,649.10	0.11	0.00	0.11
11,493.00	92.10	0.50	7,056.01	3,738.62	-1,100.78	3,743.01	0.75	-0.74	0.11
11,588.00	92.10	0.30	7,052.53	3,833.56	-1,100.11	3,837.94	0.21	0.00	-0.21
11,683.00	91.60	0.30	7,049.47	3,928.50	-1,099.62	3,932.89	0.53	-0.53	0.00
11,735.00	91.60	0.30	7,048.01	3,980.48	-1,099.34	3,984.86	0.00	0.00	0.00