



Total Directional
Services, LLC
USA Operations

Final MWD Survey Certification

Lea County, NM

Client: Devon Energy

Well Name: North Thistle 15-10 State Com 6H

Total Job No: 2019-019-540

API No: 30-025-45397

Start Date: 02/06/2019

End Date: 02/22/2019

Measured Start Depth: 175 feet

Measured End Depth: 20,045 feet

Vertical Section from well center at TD: 10,017.81 feet

HOBBS OCD

AUG 29 2019

RECEIVED

I, Syon Elijah, certify that; I am employed by Total Directional Services, LLC and we conducted or supervised the taking of these open hole MWD surveys at the request of this client. This data is true, correct, complete and within the limitations of the tool as set forth by Total Directional Services, LLC. I am authorized and qualified to make this report and have reviewed this report and find that it conforms to the principals and procedures as set forth by Total Directional Services, LLC.

Date: 02/23/2019

Signed: *Syon Elijah*

DIRECTIONAL SURVEY REPORT

Company name: Devon Energy

Start date: 2/6/2019

Well name: North Thistle 15-10 State Com 6H

End date: 2/21/2019

Field: New Mexico East

Proposed direction: 359.54

Rig: HP 540

Declination: 6.37

API/UWI: 30-025-45397

North Reference: Grid

State/Province: NM

Latitude/Longitude: 32.298762 / -103.5543

County/Parish: Lea County

KB: 3736

Location Lea County

SVY	Depth	Inc	Azm	TVD	NS	EW	VS	CD	CA	DLS	CL
Tiein	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	
1	175.00	0.04	8.74	175.00	0.06	0.01	0.06	0.06	8.74	0.02	175.00
2	265.00	0.13	136.62	265.00	0.02	0.08	0.02	0.09	78.44	0.18	90.00
3	357.00	0.18	137.33	357.00	-0.16	0.25	-0.17	0.30	123.01	0.05	92.00
4	449.00	0.31	139.70	449.00	-0.46	0.51	-0.47	0.69	131.96	0.14	92.00
5	632.00	0.35	154.91	632.00	-1.34	1.07	-1.35	1.72	141.49	0.05	183.00
6	724.00	0.35	162.02	723.99	-1.87	1.28	-1.88	2.26	145.65	0.05	92.00
7	813.00	0.35	166.42	812.99	-2.39	1.42	-2.40	2.78	149.21	0.03	89.00
8	904.00	0.31	163.61	903.99	-2.90	1.56	-2.91	3.29	151.71	0.05	91.00
9	996.00	0.31	159.12	995.99	-3.37	1.72	-3.38	3.78	152.98	0.03	92.00
10	1086.00	0.26	156.14	1085.99	-3.78	1.89	-3.80	4.23	153.48	0.06	90.00
11	1176.00	0.22	155.43	1175.99	-4.13	2.04	-4.14	4.60	153.67	0.04	90.00
12	1266.00	0.22	155.43	1265.99	-4.44	2.18	-4.46	4.95	153.80	0.00	90.00
13	1337.00	0.18	160.18	1336.99	-4.67	2.28	-4.69	5.19	153.98	0.06	71.00
14	1508.00	0.40	91.27	1507.98	-4.93	2.97	-4.96	5.76	148.98	0.22	171.00
15	1602.00	0.35	66.93	1601.98	-4.83	3.56	-4.86	6.00	143.61	0.18	94.00
16	1696.00	0.31	51.02	1695.98	-4.56	4.02	-4.59	6.08	138.57	0.11	94.00
17	1791.00	0.26	57.96	1790.98	-4.28	4.40	-4.32	6.14	134.19	0.06	95.00
18	1885.00	0.31	60.60	1884.98	-4.04	4.81	-4.08	6.28	130.07	0.05	94.00
19	1979.00	0.26	78.18	1978.98	-3.87	5.24	-3.92	6.51	126.50	0.11	94.00
20	2073.00	0.26	68.95	2072.98	-3.75	5.64	-3.80	6.78	123.63	0.04	94.00
21	2167.00	0.31	86.00	2166.98	-3.66	6.10	-3.71	7.11	120.97	0.10	94.00
22	2262.00	0.22	99.01	2261.97	-3.67	6.53	-3.72	7.49	119.32	0.11	95.00
23	2356.00	0.22	96.19	2355.97	-3.72	6.89	-3.77	7.83	118.35	0.01	94.00
24	2450.00	0.18	105.16	2449.97	-3.78	7.21	-3.83	8.14	117.63	0.05	94.00
25	2544.00	0.22	120.89	2543.97	-3.91	7.51	-3.97	8.47	117.48	0.07	94.00
26	2637.00	0.18	141.02	2636.97	-4.11	7.76	-4.17	8.78	117.93	0.09	93.00
27	2732.00	0.13	114.12	2731.97	-4.27	7.95	-4.34	9.02	118.26	0.09	95.00
28	2827.00	0.79	170.55	2826.97	-4.96	8.15	-5.03	9.54	121.33	0.76	95.00
29	2921.00	1.71	162.82	2920.95	-6.94	8.67	-7.01	11.11	128.67	0.99	94.00
30	3015.00	2.51	159.39	3014.88	-10.21	9.81	-10.29	14.16	136.13	0.86	94.00
31	3109.00	3.43	152.62	3108.75	-14.63	11.83	-14.73	18.82	141.04	1.05	94.00
32	3203.00	4.22	147.70	3202.54	-20.05	14.97	-20.17	25.03	143.25	0.91	94.00
33	3298.00	5.32	145.59	3297.21	-26.64	19.33	-26.79	32.91	144.04	1.17	95.00
34	3392.00	5.14	145.24	3390.82	-33.69	24.19	-33.89	41.48	144.32	0.19	94.00

35	3486.00	4.92	143.66	3484.46	-40.40	28.98	-40.63	49.72	144.35	0.28	94.00
36	3580.00	4.97	146.47	3578.11	-47.04	33.62	-47.31	57.82	144.45	0.26	94.00
37	3675.00	4.79	145.50	3672.77	-53.74	38.14	-54.05	65.90	144.64	0.21	95.00
38	3769.00	5.10	150.25	3766.42	-60.60	42.44	-60.94	73.98	145.00	0.55	94.00
39	3863.00	4.79	147.61	3860.07	-67.54	46.61	-67.92	82.07	145.39	0.41	94.00
40	3958.00	4.35	147.26	3954.76	-73.92	50.68	-74.33	89.63	145.56	0.46	95.00
41	4052.00	4.88	149.81	4048.46	-80.38	54.62	-80.82	97.18	145.80	0.60	94.00
42	4146.00	6.11	153.50	4142.03	-88.31	58.87	-88.78	106.13	146.31	1.36	94.00
43	4240.00	5.71	153.85	4235.53	-96.99	63.16	-97.49	115.74	146.93	0.43	94.00
44	4335.00	5.14	156.31	4330.10	-105.13	66.95	-105.66	124.64	147.51	0.65	95.00
45	4429.00	5.93	147.96	4423.66	-113.10	71.22	-113.67	133.65	147.80	1.20	94.00
46	4523.00	6.11	145.06	4517.14	-121.32	76.66	-121.93	143.51	147.71	0.38	94.00
47	4617.00	5.71	143.66	4610.64	-129.18	82.30	-129.84	153.17	147.50	0.45	94.00
48	4711.00	5.23	141.90	4704.22	-136.32	87.71	-137.02	162.10	147.24	0.54	94.00
49	4805.00	5.36	139.70	4797.82	-143.04	93.19	-143.78	170.72	146.91	0.26	94.00
50	4900.00	5.49	137.15	4892.39	-149.76	99.15	-150.55	179.61	146.49	0.29	95.00
51	4994.00	5.63	142.42	4985.95	-156.71	105.02	-157.55	188.65	146.17	0.56	94.00
52	5088.00	5.10	151.57	5079.54	-164.04	109.83	-164.91	197.41	146.20	1.07	94.00
53	5182.00	4.70	151.48	5173.19	-171.09	113.65	-172.00	205.40	146.40	0.43	94.00
54	5276.00	4.22	152.62	5266.91	-177.55	117.08	-178.48	212.68	146.60	0.52	94.00
55	5318.00	4.04	152.36	5308.80	-180.23	118.48	-181.18	215.69	146.68	0.43	42.00
56	5465.00	4.75	150.77	5455.37	-190.13	123.85	-191.12	226.91	146.92	0.49	147.00
57	5560.00	4.97	147.96	5550.03	-197.05	127.96	-198.07	234.95	147.00	0.34	95.00
58	5655.00	5.05	149.19	5644.66	-204.13	132.28	-205.19	243.25	147.06	0.14	95.00
59	5749.00	4.97	149.19	5738.30	-211.18	136.49	-212.27	251.45	147.13	0.09	94.00
60	5843.00	5.05	149.37	5831.94	-218.24	140.68	-219.36	259.65	147.19	0.09	94.00
61	5937.00	4.92	146.64	5925.59	-225.17	145.01	-226.32	267.82	147.22	0.29	94.00
62	6032.00	4.92	149.10	6020.24	-232.06	149.34	-233.26	275.96	147.24	0.22	95.00
63	6127.00	4.40	149.98	6114.92	-238.71	153.25	-239.94	283.67	147.30	0.55	95.00
64	6221.00	4.57	147.70	6208.64	-245.00	157.06	-246.26	291.02	147.34	0.26	94.00
65	6316.00	5.05	142.34	6303.30	-251.51	161.64	-252.80	298.97	147.27	0.69	95.00
66	6411.00	5.32	138.12	6397.91	-258.10	167.13	-259.43	307.49	147.08	0.49	95.00
67	6505.00	5.23	149.10	6491.52	-265.02	172.24	-266.40	316.07	146.98	1.08	94.00
68	6599.00	5.14	151.65	6585.13	-272.40	176.44	-273.81	324.55	147.07	0.26	94.00
69	6693.00	5.10	151.74	6678.76	-279.79	180.42	-281.23	332.91	147.18	0.04	94.00
70	6788.00	5.05	154.03	6773.39	-287.27	184.25	-288.74	341.28	147.32	0.22	95.00
71	6882.00	5.05	154.20	6867.02	-294.71	187.86	-296.21	349.49	147.49	0.02	94.00
72	6976.00	5.27	140.93	6960.64	-301.79	192.38	-303.32	357.89	147.48	1.29	94.00
73	7070.00	5.76	139.08	7054.21	-308.70	198.19	-310.28	366.85	147.30	0.55	94.00
74	7164.00	5.19	151.65	7147.78	-316.01	203.30	-317.63	375.76	147.25	1.41	94.00
75	7258.00	5.49	152.88	7241.37	-323.75	207.37	-325.41	384.47	147.36	0.34	94.00
76	7353.00	5.58	152.00	7335.93	-331.88	211.61	-333.56	393.60	147.48	0.13	95.00
77	7447.00	5.63	153.85	7429.48	-340.05	215.79	-341.77	402.74	147.60	0.20	94.00
78	7542.00	5.23	151.57	7524.06	-348.04	219.90	-349.80	411.69	147.71	0.48	95.00
79	7636.00	5.10	149.81	7617.67	-355.42	224.04	-357.21	420.14	147.77	0.22	94.00
80	7730.00	5.27	148.93	7711.29	-362.73	228.37	-364.55	428.63	147.81	0.20	94.00
81	7825.00	4.87	147.35	7805.92	-369.86	232.80	-371.72	437.03	147.81	0.45	95.00
82	7919.00	4.62	149.02	7899.60	-376.47	236.90	-378.36	444.80	147.82	0.30	94.00

83	8014.00	5.19	143.74	7994.25	-383.21	241.41	-385.14	452.91	147.79	0.76	95.00
84	8108.00	5.05	146.03	8087.87	-390.07	246.24	-392.04	461.29	147.74	0.26	94.00
85	8202.00	4.84	148.75	8181.52	-396.89	250.61	-398.89	469.39	147.73	0.33	94.00
86	8297.00	4.48	151.65	8276.21	-403.58	254.45	-405.61	477.10	147.77	0.45	95.00
87	8391.00	3.52	154.91	8369.98	-409.43	257.41	-411.48	483.63	147.84	1.05	94.00
88	8485.00	2.81	149.90	8463.84	-414.04	259.79	-416.11	488.79	147.89	0.81	94.00
89	8580.00	1.76	147.43	8558.76	-417.28	261.75	-419.37	492.58	147.90	1.11	95.00
90	8674.00	1.05	151.48	8652.73	-419.25	262.93	-421.35	494.88	147.91	0.76	94.00
91	8769.00	0.13	266.70	8747.72	-420.02	263.24	-422.12	495.70	147.92	1.17	95.00
92	8864.00	0.26	155.43	8842.72	-420.23	263.22	-422.33	495.86	147.94	0.35	95.00
93	8958.00	1.01	179.25	8936.72	-421.25	263.32	-423.35	496.78	147.99	0.83	94.00
94	9053.00	1.10	173.45	9031.70	-422.99	263.44	-425.09	498.32	148.09	0.15	95.00
95	9147.00	1.27	195.07	9125.68	-424.89	263.27	-426.99	499.85	148.22	0.51	94.00
96	9226.00	0.22	308.19	9204.68	-425.65	262.92	-427.74	500.30	148.30	1.74	79.00
97	9271.00	5.01	2.68	9249.62	-423.63	262.95	-425.73	498.60	148.17	10.86	45.00
98	9318.00	12.31	3.73	9296.05	-416.57	263.37	-418.67	492.84	147.70	15.53	47.00
99	9365.00	16.57	1.45	9341.55	-404.86	263.87	-406.97	483.26	146.91	9.14	47.00
100	9460.00	23.21	354.68	9430.85	-372.64	262.47	-374.74	455.80	144.84	7.39	95.00
101	9507.00	28.40	354.15	9473.15	-352.29	260.47	-354.37	438.12	143.52	11.05	47.00
102	9555.00	35.38	356.26	9513.88	-327.03	258.40	-329.10	416.80	141.69	14.72	48.00
103	9650.00	43.52	359.51	9587.18	-266.77	256.32	-268.82	369.96	136.14	8.84	95.00
104	9697.00	47.25	0.83	9620.19	-233.33	256.43	-235.38	346.70	132.30	8.18	47.00
105	9745.00	51.82	1.54	9651.33	-196.83	257.20	-198.88	323.87	127.43	9.59	48.00
106	9839.00	66.20	2.94	9699.61	-116.52	260.41	-118.61	285.29	114.11	15.35	94.00
107	9933.00	77.01	3.38	9729.22	-27.59	265.33	-29.72	266.76	95.94	11.51	94.00
108	9980.00	80.66	0.48	9738.33	18.48	266.88	16.33	267.52	86.04	9.85	47.00
109	10027.00	83.96	358.81	9744.61	65.05	266.59	62.90	274.41	76.29	7.85	47.00
110	10064.00	88.22	358.37	9747.14	101.94	265.68	99.80	284.56	69.01	11.57	37.00
111	10130.00	89.76	358.64	9748.30	167.91	263.96	165.78	312.83	57.54	2.37	66.00
112	10178.00	89.98	358.72	9748.41	215.89	262.85	213.78	340.15	50.60	0.49	48.00
113	10272.00	88.13	359.25	9749.96	309.86	261.19	307.75	405.26	40.13	2.05	94.00
114	10367.00	88.62	358.99	9752.65	404.81	259.73	402.71	480.97	32.68	0.58	95.00
115	10462.00	89.89	358.72	9753.89	499.78	257.83	497.70	562.37	27.29	1.37	95.00
116	10557.00	89.01	359.16	9754.80	594.76	256.07	592.69	647.54	23.29	1.04	95.00
117	10651.00	88.48	0.48	9756.86	688.73	255.78	686.66	734.70	20.37	1.51	94.00
118	10746.00	86.64	0.66	9760.90	783.64	256.72	781.55	824.62	18.14	1.95	95.00
119	10841.00	87.30	1.27	9765.93	878.49	258.32	876.39	915.68	16.39	0.95	95.00
120	10936.00	87.43	1.10	9770.29	973.37	260.28	971.25	1007.57	14.97	0.23	95.00
121	11027.00	87.43	1.27	9774.37	1064.26	262.16	1062.12	1096.07	13.84	0.19	91.00
122	11117.00	88.75	0.31	9777.37	1154.20	263.40	1152.05	1183.87	12.86	1.81	90.00
123	11208.00	88.44	0.39	9779.60	1245.17	263.96	1243.01	1272.84	11.97	0.35	91.00
124	11300.00	88.09	359.51	9782.39	1337.13	263.88	1334.97	1362.92	11.16	1.03	92.00
125	11391.00	90.15	0.83	9783.79	1428.11	264.15	1425.94	1452.33	10.48	2.69	91.00
126	11483.00	93.19	1.45	9781.11	1520.04	265.98	1517.86	1543.14	9.93	3.37	92.00
127	11575.00	92.40	0.83	9776.62	1611.91	267.80	1609.71	1634.01	9.43	1.09	92.00
128	11664.00	90.37	0.04	9774.47	1700.88	268.48	1698.67	1721.94	8.97	2.45	89.00
129	11755.00	87.82	357.76	9775.91	1791.84	266.73	1789.64	1811.58	8.47	3.76	91.00
130	11847.00	88.09	357.23	9779.19	1883.69	262.71	1881.52	1901.92	7.94	0.65	92.00

131	11938.00	88.57	357.76	9781.84	1974.56	258.74	1972.42	1991.44	7.47	0.79	91.00
132	12027.00	87.47	356.09	9784.92	2063.38	253.97	2061.27	2078.95	7.02	2.25	89.00
133	12117.00	87.74	356.17	9788.68	2153.09	247.90	2151.03	2167.32	6.57	0.31	90.00
134	12211.00	88.92	357.05	9791.42	2246.89	242.34	2244.87	2259.92	6.16	1.57	94.00
135	12306.00	90.99	358.11	9791.49	2341.80	238.33	2339.81	2353.89	5.81	2.45	95.00
136	12401.00	88.92	358.55	9791.57	2436.75	235.56	2434.78	2448.11	5.52	2.23	95.00
137	12495.00	90.68	0.31	9791.89	2530.74	234.63	2528.77	2541.59	5.30	2.65	94.00
138	12590.00	90.11	0.57	9791.24	2625.73	235.36	2623.76	2636.26	5.12	0.66	95.00
139	12684.00	91.08	359.69	9790.26	2719.72	235.57	2717.75	2729.91	4.95	1.39	94.00
140	12778.00	92.22	359.95	9787.56	2813.68	235.28	2811.70	2823.50	4.78	1.24	94.00
141	12873.00	92.09	1.36	9783.98	2908.61	236.36	2906.62	2918.20	4.65	1.49	95.00
142	12967.00	89.98	0.66	9782.29	3002.57	238.02	3000.56	3011.99	4.53	2.36	94.00
143	13061.00	89.98	0.48	9782.32	3096.57	238.95	3094.55	3105.77	4.41	0.19	94.00
144	13156.00	90.20	0.83	9782.17	3191.56	240.04	3189.53	3200.57	4.30	0.44	95.00
145	13249.00	91.30	1.62	9780.95	3284.53	242.03	3282.48	3293.43	4.21	1.46	93.00
146	13344.00	90.29	359.69	9779.63	3379.51	243.11	3377.45	3388.24	4.11	2.29	95.00
147	13438.00	91.43	0.83	9778.22	3473.49	243.54	3471.43	3482.02	4.01	1.71	94.00
148	13532.00	90.95	359.95	9776.27	3567.47	244.18	3565.39	3575.82	3.92	1.07	94.00
149	13627.00	90.73	358.81	9774.88	3662.45	243.15	3660.38	3670.51	3.80	1.22	95.00
150	13721.00	89.49	358.64	9774.70	3756.43	241.06	3754.37	3764.15	3.67	1.33	94.00
151	13815.00	89.93	358.02	9775.17	3850.38	238.32	3848.35	3857.75	3.54	0.81	94.00
152	13910.00	90.68	358.90	9774.67	3945.35	235.77	3943.33	3952.39	3.42	1.22	95.00
153	14004.00	91.30	359.51	9773.04	4039.32	234.46	4037.31	4046.12	3.32	0.93	94.00
154	14099.00	90.68	358.37	9771.40	4134.29	232.71	4132.29	4140.84	3.22	1.37	95.00
155	14194.00	90.07	358.20	9770.78	4229.25	229.86	4227.26	4235.49	3.11	0.67	95.00
156	14288.00	90.24	359.25	9770.53	4323.22	227.77	4321.25	4329.22	3.02	1.13	94.00
157	14383.00	89.85	358.46	9770.45	4418.20	225.87	4416.25	4423.97	2.93	0.93	95.00
158	14477.00	90.20	358.02	9770.41	4512.16	222.99	4510.22	4517.66	2.83	0.60	94.00
159	14571.00	88.88	359.16	9771.17	4606.12	220.67	4604.20	4611.40	2.74	1.86	94.00
160	14665.00	89.63	1.18	9772.39	4700.11	220.95	4698.18	4705.30	2.69	2.29	94.00
161	14759.00	90.37	1.62	9772.39	4794.08	223.25	4792.13	4799.27	2.67	0.92	94.00
162	14854.00	89.76	1.36	9772.28	4889.05	225.72	4887.08	4894.25	2.64	0.70	95.00
163	14948.00	89.45	1.01	9772.93	4983.02	227.66	4981.03	4988.22	2.62	0.50	94.00
164	15043.00	89.10	0.66	9774.13	5078.01	229.05	5076.00	5083.17	2.58	0.52	95.00
165	15137.00	88.09	0.04	9776.43	5171.97	229.62	5169.96	5177.07	2.54	1.26	94.00
166	15231.00	88.35	359.16	9779.35	5265.92	228.97	5263.92	5270.90	2.49	0.98	94.00
167	15326.00	88.13	359.43	9782.27	5360.87	227.80	5358.87	5365.71	2.43	0.37	95.00
168	15420.00	89.45	358.55	9784.26	5454.83	226.14	5452.84	5459.52	2.37	1.69	94.00
169	15514.00	89.45	357.84	9785.16	5548.78	223.18	5546.81	5553.27	2.30	0.76	94.00
170	15608.00	89.98	359.69	9785.63	5642.76	221.15	5640.80	5647.09	2.24	2.05	94.00
171	15702.00	89.71	359.69	9785.88	5736.75	220.65	5734.80	5740.99	2.20	0.29	94.00
172	15796.00	89.89	359.16	9786.21	5830.75	219.70	5828.80	5834.89	2.16	0.60	94.00
173	15890.00	90.02	359.51	9786.28	5924.74	218.61	5922.79	5928.77	2.11	0.40	94.00
174	15985.00	89.45	1.36	9786.72	6019.73	219.33	6017.78	6023.73	2.09	2.04	95.00
175	16079.00	89.98	1.54	9787.19	6113.70	221.71	6111.72	6117.72	2.08	0.60	94.00
176	16174.00	89.49	359.08	9787.63	6208.69	222.22	6206.71	6212.67	2.05	2.64	95.00
177	16269.00	90.33	358.72	9787.78	6303.67	220.40	6301.70	6307.52	2.00	0.96	95.00
178	16364.00	88.31	358.99	9788.91	6398.64	218.50	6396.68	6402.37	1.96	2.15	95.00

179	16459.00	88.75	358.72	9791.34	6493.59	216.61	6491.64	6497.20	1.91	0.54	95.00
180	16553.00	88.70	358.28	9793.44	6587.54	214.15	6585.60	6591.02	1.86	0.47	94.00
181	16648.00	89.93	359.08	9794.57	6682.50	211.96	6680.58	6685.86	1.82	1.54	95.00
182	16742.00	91.30	359.25	9793.56	6776.48	210.59	6774.57	6779.75	1.78	1.47	94.00
183	16836.00	92.40	0.83	9790.53	6870.43	210.65	6868.52	6873.66	1.76	2.05	94.00
184	16930.00	92.18	0.31	9786.77	6964.35	211.59	6962.43	6967.56	1.74	0.60	94.00
185	17024.00	90.81	1.18	9784.32	7058.31	212.81	7056.37	7061.51	1.73	1.73	94.00
186	17119.00	88.88	1.98	9784.58	7153.26	215.43	7151.30	7156.51	1.73	2.20	95.00
187	17213.00	88.66	359.95	9786.59	7247.22	217.01	7245.25	7250.47	1.72	2.17	94.00
188	17307.00	90.46	359.51	9787.32	7341.22	216.57	7339.24	7344.41	1.69	1.97	94.00
189	17402.00	90.29	358.81	9786.69	7436.20	215.17	7434.24	7439.32	1.66	0.76	95.00
190	17496.00	91.74	359.25	9785.03	7530.17	213.58	7528.22	7533.20	1.62	1.61	94.00
191	17590.00	91.60	359.25	9782.29	7624.13	212.35	7622.17	7627.08	1.60	0.15	94.00
192	17684.00	92.26	359.69	9779.12	7718.07	211.48	7716.12	7720.96	1.57	0.84	94.00
193	17778.00	91.69	359.43	9775.88	7812.01	210.76	7810.06	7814.85	1.55	0.67	94.00
194	17873.00	90.68	359.16	9773.92	7906.98	209.59	7905.04	7909.76	1.52	1.10	95.00
195	17967.00	91.60	359.16	9772.05	8000.95	208.22	7999.02	8003.66	1.49	0.98	94.00
196	18061.00	90.51	359.69	9770.32	8094.93	207.27	8093.00	8097.58	1.47	1.29	94.00
197	18156.00	91.56	359.60	9768.60	8189.91	206.69	8187.99	8192.52	1.45	1.11	95.00
198	18250.00	89.80	359.60	9767.49	8283.90	206.03	8281.97	8286.46	1.42	1.87	94.00
199	18344.00	90.59	359.60	9767.17	8377.89	205.37	8375.97	8380.41	1.40	0.84	94.00
200	18438.00	91.47	0.75	9765.48	8471.87	205.66	8469.95	8474.37	1.39	1.54	94.00
201	18533.00	91.52	0.92	9763.00	8566.83	207.04	8564.89	8569.33	1.38	0.19	95.00
202	18627.00	92.53	1.27	9759.68	8660.75	208.84	8658.80	8663.27	1.38	1.14	94.00
203	18721.00	91.30	0.13	9756.54	8754.69	209.99	8752.72	8757.21	1.37	1.78	94.00
204	18816.00	90.29	358.99	9755.22	8849.68	209.26	8847.71	8852.15	1.35	1.60	95.00
205	18910.00	90.37	359.43	9754.68	8943.67	207.96	8941.71	8946.08	1.33	0.48	94.00
206	19005.00	91.03	358.28	9753.52	9038.64	206.06	9036.69	9040.99	1.31	1.40	95.00
207	19100.00	92.62	358.72	9750.49	9133.55	203.58	9131.63	9135.82	1.28	1.74	95.00
208	19194.00	90.02	359.08	9748.33	9227.50	201.77	9225.59	9229.71	1.25	2.79	94.00
209	19288.00	89.80	357.84	9748.47	9321.47	199.25	9319.57	9323.60	1.22	1.34	94.00
210	19382.00	90.33	357.58	9748.37	9415.39	195.49	9413.52	9417.42	1.19	0.63	94.00
211	19476.00	91.25	357.58	9747.07	9509.30	191.52	9507.45	9511.23	1.15	0.98	94.00
212	19570.00	92.13	357.05	9744.30	9603.15	187.12	9601.34	9604.98	1.12	1.09	94.00
213	19665.00	93.27	359.25	9739.82	9697.99	184.06	9696.20	9699.74	1.09	2.61	95.00
214	19759.00	93.23	0.22	9734.49	9791.84	183.62	9790.05	9793.56	1.07	1.03	94.00
215	19853.00	91.60	1.10	9730.53	9885.74	184.71	9883.94	9887.47	1.07	1.97	94.00
216	19947.00	92.26	0.92	9727.37	9979.67	186.36	9977.86	9981.41	1.07	0.73	94.00
217	19987.00	92.35	1.18	9725.76	10019.64	187.09	10017.81	10021.38	1.07	0.69	40.00
218	20045.00	92.35	1.18	9723.38	10077.57	188.29	10075.74	10079.33	1.07	0.00	58.00