



MWD Survey Certification

Lea County, New Mexico

Client: Devon Energy (US)

Well Name: Jayhawk 7-6 Fed Fee Com #8H

Total Job No: 2019-122-126

API No: 30-025-45395

Start Depth: 120 feet MD

End Depth: 23,093 feet MD

Start Date: February 14, 2019

End Date: April 13, 2019

HOBBS OCD
FEB 19 2020
RECEIVED

I, Scott Speer, certify that; I am employed by Total Directional Services, LLC. on 02/14/2019 through 04/13/2019. I conducted or supervised the taking of the MWD surveys from a measured depth of 120 feet to a measured depth of 23,093 feet. The 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 these surveys were conducted at the request of Devon Energy (US) for the well: Jayhawk 7-6 Fed Fee Com #8H, API No: 30-025-45539 in Lea County, New Mexico. I have reviewed this report and find that it conforms to the principals and procedures as set forth by Total Directional Services, LLC.

Date: 4-13-19

Signature: *Scott Speer*

DIRECTIONAL SURVEY REPORT

Company name: Devon Energy

Start date: 2/14/2019

Well name: Jayhawk 7-6 FED FEE COM 8H

End date: 4/13/2019

Field: Rattlesnake

Proposed direction: 2.17

Rig: Cactus 126

Declination: 6.3

API/UWI: 30-025-45539

North Reference: Grid

State/Province: New Mexico

Latitude/Longitude: 32.05238861 / -103.5072872

County/Parish: Lea

KB: 3398.2

Location: Southeast New Mexico

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	124.00	0.40	59.30	124.00	0.22	0.37	0.23	0.43	59.30	0.32	124.00
2	216.00	0.50	77.60	216.00	0.47	1.04	0.51	1.14	65.64	0.19	92.00
3	307.00	0.50	86.10	306.99	0.58	1.82	0.65	1.92	72.27	0.08	91.00
4	399.00	0.60	83.20	398.99	0.67	2.70	0.77	2.78	76.12	0.11	92.00
5	490.00	0.70	85.50	489.98	0.77	3.73	0.91	3.81	78.37	0.11	91.00
6	582.00	0.70	111.60	581.98	0.60	4.81	0.79	4.85	82.84	0.34	92.00
7	674.00	0.90	112.70	673.97	0.12	6.00	0.35	6.00	88.86	0.22	92.00
8	765.00	1.00	115.60	764.95	-0.50	7.38	-0.22	7.39	93.87	0.12	91.00
9	838.00	1.00	111.00	837.94	-1.00	8.55	-0.68	8.61	96.69	0.11	73.00
10	968.00	0.70	114.50	967.93	-1.74	10.33	-1.35	10.47	99.56	0.23	130.00
11	1059.00	0.60	109.10	1058.92	-2.13	11.28	-1.70	11.48	100.67	0.13	91.00
12	1150.00	0.70	100.50	1149.92	-2.38	12.28	-1.92	12.51	100.98	0.15	91.00
13	1241.00	0.60	91.40	1240.91	-2.50	13.30	-1.99	13.54	100.62	0.16	91.00
14	1333.00	0.40	78.90	1332.91	-2.45	14.10	-1.91	14.31	99.84	0.25	92.00
15	1425.00	0.30	86.70	1424.91	-2.37	14.66	-1.81	14.85	99.18	0.12	92.00
16	1517.00	1.50	153.80	1516.89	-3.44	15.43	-2.85	15.81	102.56	1.53	92.00
17	1609.00	2.70	157.50	1608.83	-6.52	16.79	-5.88	18.01	111.22	1.31	92.00
18	1701.00	4.90	158.40	1700.62	-12.17	19.07	-11.44	22.62	122.56	2.39	92.00
19	1795.00	6.50	158.10	1794.16	-20.84	22.53	-19.98	30.69	132.78	1.70	94.00
20	1889.00	7.10	156.40	1887.49	-31.10	26.84	-30.07	41.08	139.21	0.67	94.00
21	1983.00	6.90	155.10	1980.79	-41.55	31.54	-40.33	52.17	142.80	0.27	94.00
22	2078.00	6.90	155.30	2075.10	-51.91	36.33	-50.50	63.36	145.01	0.03	95.00
23	2172.00	6.70	154.60	2168.44	-61.99	41.04	-60.40	74.35	146.50	0.23	94.00
24	2265.00	7.80	145.10	2260.70	-72.07	46.98	-70.24	86.03	146.90	1.75	93.00
25	2360.00	8.70	141.50	2354.72	-82.98	55.14	-80.83	99.63	146.40	1.09	95.00
26	2455.00	9.10	139.60	2448.57	-94.33	64.48	-91.82	114.26	145.64	0.52	95.00
27	2549.00	9.40	139.40	2541.35	-105.81	74.29	-102.93	129.29	144.93	0.32	94.00
28	2643.00	9.90	137.90	2634.02	-117.64	84.71	-114.35	144.96	144.24	0.60	94.00
29	2737.00	9.50	138.00	2726.68	-129.40	95.32	-125.70	160.71	143.62	0.43	94.00
30	2832.00	8.90	137.90	2820.46	-140.68	105.49	-136.58	175.84	143.14	0.63	95.00
31	2926.00	9.20	137.90	2913.29	-151.65	115.40	-147.17	190.56	142.73	0.32	94.00
32	3021.00	8.70	139.30	3007.13	-162.73	125.18	-157.87	205.31	142.43	0.57	95.00
33	3115.00	7.60	142.10	3100.18	-173.03	133.63	-167.84	218.62	142.32	1.24	94.00
34	3209.00	8.50	142.30	3193.25	-183.43	141.70	-177.93	231.79	142.31	0.96	94.00
35	3303.00	7.70	144.10	3286.31	-194.03	149.64	-188.22	245.03	142.36	0.89	94.00
36	3397.00	7.60	147.90	3379.48	-204.39	156.64	-198.31	257.51	142.54	0.55	94.00
37	3491.00	7.80	147.70	3472.63	-215.05	163.35	-208.71	270.05	142.78	0.21	94.00
38	3585.00	7.20	149.80	3565.82	-225.53	169.72	-218.94	282.26	143.04	0.70	94.00

39	3679.00	7.30	152.00	3659.07	-235.90	175.49	-229.08	294.01	143.35	0.31	94.00
40	3773.00	7.60	149.80	3752.28	-246.54	181.42	-239.50	306.10	143.65	0.44	94.00
41	3867.00	6.70	139.30	3845.55	-256.07	188.12	-248.77	317.75	143.70	1.68	94.00
42	3961.00	7.50	132.10	3938.83	-264.34	196.25	-256.72	329.23	143.41	1.27	94.00
43	4055.00	7.30	132.50	4032.05	-272.49	205.20	-264.53	341.12	143.02	0.22	94.00
44	4149.00	7.00	125.70	4125.32	-279.87	214.26	-271.55	352.47	142.56	0.95	94.00
45	4243.00	7.30	125.80	4218.59	-286.70	223.75	-278.03	363.68	142.03	0.32	94.00
46	4337.00	7.40	127.50	4311.82	-293.88	233.40	-284.83	375.29	141.54	0.25	94.00
47	4431.00	7.60	126.80	4405.01	-301.29	243.18	-291.87	387.19	141.09	0.23	94.00
48	4525.00	7.40	131.70	4498.21	-309.04	252.68	-299.25	399.19	140.73	0.71	94.00
49	4620.00	8.60	126.70	4592.28	-317.36	262.94	-307.17	412.13	140.36	1.46	95.00
50	4714.00	8.00	139.90	4685.31	-326.56	272.79	-316.00	425.51	140.13	2.12	94.00
51	4808.00	6.60	142.70	4778.54	-335.86	280.28	-325.01	437.44	140.16	1.54	94.00
52	4901.00	6.80	138.00	4870.91	-344.21	287.20	-333.08	448.29	140.16	0.63	93.00
53	4995.00	7.30	141.50	4964.20	-353.01	294.64	-341.61	459.82	140.15	0.70	94.00
54	5089.00	7.80	146.30	5057.38	-363.00	301.90	-351.30	472.13	140.25	0.86	94.00
55	5183.00	6.90	151.30	5150.61	-373.26	308.15	-361.32	484.02	140.46	1.17	94.00
56	5277.00	6.00	153.50	5244.02	-382.60	313.05	-370.48	494.36	140.71	0.99	94.00
57	5371.00	5.20	159.80	5337.57	-391.00	316.72	-378.73	503.18	140.99	1.07	94.00
58	5466.00	5.20	160.00	5432.18	-399.09	319.67	-386.69	511.33	141.30	0.02	95.00
59	5560.00	6.60	152.80	5525.68	-407.89	323.60	-395.35	520.67	141.57	1.68	94.00
60	5654.00	7.60	149.70	5618.96	-418.06	329.21	-405.30	532.12	141.78	1.14	94.00
61	5748.00	8.50	146.80	5712.03	-429.25	336.15	-416.21	545.20	141.94	1.05	94.00
62	5842.00	8.40	146.20	5805.01	-440.76	343.77	-427.43	558.97	142.05	0.14	94.00
63	5936.00	7.80	146.20	5898.07	-451.77	351.14	-438.15	572.18	142.14	0.64	94.00
64	6030.00	7.50	146.70	5991.23	-462.20	358.05	-448.31	584.66	142.24	0.33	94.00
65	6124.00	7.30	147.00	6084.45	-472.33	364.68	-458.19	596.73	142.33	0.22	94.00
66	6218.00	7.20	148.30	6177.70	-482.35	371.02	-467.96	608.54	142.43	0.20	94.00
67	6312.00	6.40	146.80	6271.04	-491.75	376.99	-477.12	619.63	142.53	0.87	94.00
68	6406.00	5.90	147.20	6364.50	-500.19	382.47	-485.35	629.67	142.60	0.53	94.00
69	6500.00	5.40	147.40	6458.04	-507.98	387.47	-492.95	638.89	142.66	0.53	94.00
70	6594.00	5.10	149.10	6551.64	-515.29	392.00	-500.08	647.45	142.74	0.36	94.00
71	6688.00	4.90	148.30	6645.29	-522.29	396.26	-506.92	655.60	142.81	0.23	94.00
72	6782.00	4.80	147.90	6738.95	-529.04	400.46	-513.50	663.51	142.88	0.11	94.00
73	6876.00	4.70	149.90	6832.63	-535.70	404.48	-520.01	671.25	142.95	0.21	94.00
74	6970.00	4.60	150.80	6926.32	-542.33	408.25	-526.48	678.81	143.03	0.13	94.00
75	7065.00	4.40	152.40	7021.03	-548.88	411.80	-532.90	686.18	143.12	0.25	95.00
76	7159.00	4.30	148.00	7114.75	-555.07	415.33	-538.94	693.25	143.19	0.37	94.00
77	7253.00	4.30	143.80	7208.49	-560.90	419.28	-544.62	700.29	143.22	0.33	94.00
78	7347.00	4.20	141.60	7302.23	-566.44	423.50	-550.00	707.25	143.22	0.20	94.00
79	7441.00	3.00	132.10	7396.05	-570.79	427.46	-554.19	713.11	143.17	1.42	94.00
80	7535.00	2.50	127.10	7489.94	-573.67	430.92	-556.94	717.49	143.09	0.59	94.00
81	7629.00	2.50	128.10	7583.85	-576.17	434.17	-559.32	721.44	143.00	0.05	94.00
82	7724.00	2.20	121.60	7678.77	-578.41	437.36	-561.43	725.15	142.91	0.42	95.00
83	7818.00	2.20	115.80	7772.70	-580.14	440.52	-563.04	728.43	142.79	0.24	94.00
84	7912.00	2.20	113.40	7866.63	-581.64	443.80	-564.42	731.62	142.66	0.10	94.00
85	8006.00	1.00	103.40	7960.59	-582.55	446.25	-565.23	733.83	142.55	1.31	94.00
86	8100.00	0.70	110.70	8054.58	-582.94	447.59	-565.57	734.95	142.48	0.34	94.00
87	8194.00	0.80	131.20	8148.57	-583.58	448.62	-566.17	736.08	142.45	0.30	94.00
88	8289.00	0.90	144.70	8243.56	-584.62	449.55	-567.18	737.48	142.44	0.23	95.00
89	8383.00	1.00	156.70	8337.55	-585.98	450.30	-568.51	739.01	142.46	0.24	94.00
90	8477.00	0.80	150.30	8431.54	-587.30	450.95	-569.80	740.46	142.48	0.24	94.00

91	8571.00	0.80	145.30	8525.53	-588.41	451.65	-570.89	741.76	142.49	0.07	94.00
92	8666.00	0.30	62.20	8620.53	-588.84	452.24	-571.29	742.47	142.47	0.86	95.00
93	8760.00	0.20	83.30	8714.52	-588.71	452.63	-571.14	742.59	142.45	0.14	94.00
94	8854.00	0.30	110.30	8808.52	-588.77	453.02	-571.20	742.89	142.42	0.16	94.00
95	8948.00	0.30	114.90	8902.52	-588.96	453.47	-571.37	743.31	142.41	0.03	94.00
96	9042.00	0.40	73.80	8996.52	-588.97	454.01	-571.36	743.65	142.37	0.28	94.00
97	9136.00	0.50	81.60	9090.52	-588.82	454.73	-571.18	743.97	142.32	0.12	94.00
98	9230.00	0.50	99.90	9184.51	-588.83	455.54	-571.16	744.47	142.27	0.17	94.00
99	9324.00	0.20	93.50	9278.51	-588.91	456.11	-571.22	744.89	142.24	0.32	94.00
100	9418.00	0.80	305.90	9372.51	-588.54	455.74	-570.86	744.36	142.25	1.04	94.00
101	9512.00	0.80	298.80	9466.50	-587.84	454.64	-570.20	743.13	142.28	0.11	94.00
102	9607.00	0.60	294.90	9561.49	-587.31	453.60	-569.71	742.08	142.32	0.22	95.00
103	9702.00	0.30	283.90	9656.49	-587.04	452.91	-569.47	741.45	142.35	0.33	95.00
104	9796.00	0.10	286.00	9750.49	-586.96	452.59	-569.40	741.19	142.36	0.21	94.00
105	9890.00	0.20	20.10	9844.49	-586.78	452.57	-569.22	741.03	142.36	0.24	94.00
106	9984.00	0.40	36.30	9938.49	-586.36	452.82	-568.79	740.86	142.32	0.23	94.00
107	10078.00	0.50	50.20	10032.49	-585.83	453.33	-568.25	740.75	142.27	0.16	94.00
108	10172.00	1.00	89.20	10126.48	-585.56	454.47	-567.93	741.23	142.18	0.73	94.00
109	10266.00	1.00	100.20	10220.46	-585.69	456.09	-568.00	742.33	142.09	0.20	94.00
110	10360.00	1.90	105.80	10314.43	-586.26	458.40	-568.49	744.20	141.98	0.97	94.00
111	10454.00	2.40	105.70	10408.37	-587.22	461.79	-569.31	747.05	141.82	0.53	94.00
112	10548.00	2.60	98.90	10502.28	-588.08	465.80	-570.02	750.20	141.62	0.38	94.00
113	10641.00	1.60	87.00	10595.21	-588.34	469.18	-570.15	752.51	141.43	1.17	93.00
114	10735.00	1.30	19.20	10689.19	-587.27	470.84	-569.02	752.71	141.28	1.74	94.00
115	10829.00	1.50	3.20	10783.16	-585.03	471.26	-566.77	751.23	141.15	0.46	94.00
116	10923.00	1.20	20.30	10877.14	-582.88	471.67	-564.60	749.81	141.02	0.53	94.00
117	11017.00	1.00	326.60	10971.12	-581.27	471.56	-563.00	748.49	140.95	1.07	94.00
118	11111.00	0.70	277.10	11065.11	-580.51	470.54	-562.28	747.26	140.97	0.81	94.00
119	11205.00	1.00	257.80	11159.10	-580.62	469.16	-562.44	746.48	141.06	0.44	94.00
120	11299.00	1.20	257.20	11253.08	-581.01	467.40	-562.89	745.68	141.18	0.21	94.00
121	11393.00	1.00	273.50	11347.07	-581.18	465.62	-563.13	744.70	141.30	0.39	94.00
122	11487.00	1.70	268.70	11441.04	-581.16	463.41	-563.19	743.30	141.43	0.75	94.00
123	11582.00	1.70	275.20	11536.00	-581.06	460.60	-563.21	741.47	141.60	0.20	95.00
124	11675.00	1.60	277.70	11628.96	-580.76	457.94	-563.01	739.59	141.74	0.13	93.00
125	11769.00	2.20	259.10	11722.91	-580.93	454.87	-563.29	737.82	141.94	0.91	94.00
126	11864.00	2.60	265.30	11817.82	-581.45	450.93	-563.96	735.81	142.21	0.50	95.00
127	11958.00	2.80	281.30	11911.72	-581.18	446.55	-563.85	732.92	142.46	0.83	94.00
128	12052.00	2.80	282.50	12005.61	-580.23	442.06	-563.07	729.44	142.70	0.06	94.00
129	12146.00	2.90	275.90	12099.49	-579.49	437.45	-562.51	726.06	142.95	0.36	94.00
130	12180.00	2.70	271.70	12133.45	-579.37	435.80	-562.46	724.98	143.05	0.84	34.00
131	12239.00	2.50	267.70	12192.39	-579.39	433.12	-562.57	723.38	143.22	0.46	59.00
132	12334.00	5.20	315.80	12287.19	-576.38	428.05	-559.76	717.94	143.40	4.20	95.00
133	12427.00	17.30	327.70	12378.24	-561.61	417.68	-545.40	699.91	143.36	13.18	93.00
134	12522.00	28.70	334.70	12465.56	-528.94	400.32	-513.40	663.35	142.88	12.32	95.00
135	12615.00	39.40	344.20	12542.56	-480.17	382.68	-465.34	614.01	141.45	12.82	93.00
136	12709.00	48.70	357.20	12610.19	-415.93	372.79	-401.52	558.54	138.13	13.76	94.00
137	12803.00	60.80	3.10	12664.37	-339.36	373.29	-324.99	504.49	132.27	13.85	94.00
138	12897.00	71.10	5.40	12702.63	-253.89	379.71	-239.33	456.77	123.77	11.18	94.00
139	12992.00	79.10	6.20	12727.04	-162.63	388.99	-147.78	421.62	112.69	8.46	95.00
140	13086.00	89.00	5.60	12736.77	-69.75	398.58	-54.60	404.64	99.93	10.55	94.00
141	13180.00	89.30	4.40	12738.16	23.88	406.78	39.27	407.48	86.64	1.32	94.00
142	13274.00	90.90	4.40	12738.00	117.60	413.99	133.19	430.37	74.14	1.70	94.00

143	13368.00	90.70	4.50	12736.69	211.31	421.28	227.11	471.31	63.36	0.24	94.00
144	13462.00	89.50	3.40	12736.52	305.08	427.76	321.06	525.41	54.50	1.73	94.00
145	13556.00	91.20	3.30	12735.95	398.92	433.25	415.04	588.93	47.36	1.81	94.00
146	13650.00	90.60	3.30	12734.47	492.75	438.66	509.01	659.72	41.68	0.64	94.00
147	13744.00	89.40	3.00	12734.47	586.61	443.82	602.99	735.59	37.11	1.32	94.00
148	13838.00	91.00	2.60	12734.14	680.49	448.42	696.98	814.95	33.38	1.75	94.00
149	13932.00	90.90	2.40	12732.59	774.39	452.51	790.97	896.91	30.30	0.24	94.00
150	14026.00	90.70	1.50	12731.27	868.32	455.71	884.96	980.64	27.69	0.98	94.00
151	14120.00	90.90	1.60	12729.96	962.28	458.26	978.94	1065.82	25.46	0.24	94.00
152	14214.00	91.10	1.00	12728.32	1056.24	460.39	1072.92	1152.22	23.55	0.67	94.00
153	14308.00	91.30	1.20	12726.35	1150.20	462.19	1166.88	1239.59	21.89	0.30	94.00
154	14402.00	89.40	358.80	12725.78	1244.19	462.19	1260.80	1327.26	20.38	3.26	94.00
155	14496.00	89.50	358.60	12726.68	1338.16	460.06	1354.62	1415.04	18.97	0.24	94.00
156	14590.00	89.80	358.40	12727.25	1432.13	457.60	1448.43	1503.46	17.72	0.38	94.00
157	14684.00	89.40	357.30	12727.91	1526.06	454.07	1542.16	1592.18	16.57	1.25	94.00
158	14778.00	88.60	357.10	12729.55	1619.93	449.48	1635.79	1681.13	15.51	0.88	94.00
159	14872.00	90.10	359.20	12730.62	1713.87	446.45	1729.54	1771.06	14.60	2.75	94.00
160	14966.00	88.90	359.50	12731.44	1807.86	445.38	1823.42	1861.91	13.84	1.32	94.00
161	15061.00	89.30	358.90	12732.93	1902.83	444.05	1918.28	1953.96	13.14	0.76	95.00
162	15179.00	89.40	359.50	12734.27	2020.81	442.41	2036.12	2068.67	12.35	0.52	118.00
163	15273.00	89.20	0.90	12735.42	2114.80	442.74	2130.05	2160.65	11.82	1.50	94.00
164	15367.00	87.70	0.90	12737.96	2208.76	444.21	2223.99	2252.98	11.37	1.60	94.00
165	15461.00	87.60	359.90	12741.81	2302.67	444.87	2317.87	2345.25	10.93	1.07	94.00
166	15555.00	90.60	0.10	12743.29	2396.65	444.87	2411.78	2437.59	10.52	3.20	94.00
167	15649.00	91.60	359.60	12741.49	2490.63	444.62	2505.68	2530.01	10.12	1.19	94.00
168	15743.00	91.10	0.40	12739.27	2584.60	444.62	2599.59	2622.57	9.76	1.00	94.00
169	15837.00	89.30	359.60	12738.94	2678.60	444.62	2693.51	2715.25	9.42	2.10	94.00
170	15931.00	90.30	0.60	12739.27	2772.60	444.79	2787.45	2808.05	9.11	1.50	94.00
171	16025.00	88.70	358.20	12740.09	2866.58	443.80	2881.33	2900.73	8.80	3.07	94.00
172	16120.00	89.00	359.00	12742.00	2961.53	441.48	2976.12	2994.25	8.48	0.90	95.00
173	16213.00	89.90	0.10	12742.89	3054.52	440.75	3069.02	3086.15	8.21	1.53	93.00
174	16308.00	90.00	0.70	12742.97	3149.52	441.41	3163.97	3180.30	7.98	0.64	95.00
175	16402.00	89.20	1.40	12743.63	3243.50	443.14	3257.95	3273.63	7.78	1.13	94.00
176	16496.00	90.90	2.00	12743.55	3337.45	445.92	3351.94	3367.11	7.61	1.92	94.00
177	16590.00	88.70	0.50	12743.88	3431.42	447.98	3445.92	3460.54	7.44	2.83	94.00
178	16684.00	90.00	0.90	12744.94	3525.41	449.12	3539.88	3553.90	7.26	1.45	94.00
179	16778.00	90.60	0.30	12744.45	3619.40	450.11	3633.85	3647.28	7.09	0.90	94.00
180	16872.00	89.40	357.10	12744.45	3713.36	447.98	3727.66	3740.28	6.88	3.64	94.00
181	16966.00	89.30	358.20	12745.52	3807.27	444.12	3821.36	3833.09	6.65	1.17	94.00
182	17061.00	89.40	357.30	12746.59	3902.19	440.39	3916.07	3926.96	6.44	0.95	95.00
183	17155.00	88.20	356.30	12748.56	3996.02	435.15	4009.63	4019.65	6.21	1.66	94.00
184	17249.00	88.90	356.40	12750.94	4089.80	429.16	4103.12	4112.26	5.99	0.75	94.00
185	17343.00	89.60	357.20	12752.17	4183.65	423.92	4196.70	4205.07	5.79	1.13	94.00
186	17437.00	90.40	357.70	12752.17	4277.55	419.74	4290.38	4298.10	5.60	1.00	94.00
187	17531.00	91.10	358.60	12750.94	4371.49	416.70	4384.14	4391.31	5.45	1.21	94.00
188	17625.00	89.90	359.40	12750.12	4465.47	415.06	4477.99	4484.72	5.31	1.53	94.00
189	17719.00	89.70	359.40	12750.45	4559.47	414.08	4571.88	4578.23	5.19	0.21	94.00
190	17813.00	90.30	359.60	12750.45	4653.46	413.26	4665.77	4671.78	5.07	0.67	94.00
191	17907.00	92.00	358.70	12748.56	4747.43	411.86	4759.62	4765.26	4.96	2.05	94.00
192	18001.00	88.20	356.30	12748.40	4841.32	407.76	4853.28	4858.46	4.81	4.78	94.00
193	18095.00	89.80	357.80	12750.04	4935.17	402.93	4946.89	4951.59	4.67	2.33	94.00
194	18189.00	91.70	359.10	12748.81	5029.12	400.38	5040.68	5045.03	4.55	2.45	94.00

195	18283.00	91.90	359.40	12745.86	5123.07	399.15	5134.51	5138.59	4.46	0.38	94.00
196	18378.00	92.10	360.00	12742.54	5218.01	398.66	5229.36	5233.21	4.37	0.67	95.00
197	18472.00	92.00	0.20	12739.18	5311.95	398.82	5323.24	5326.90	4.29	0.24	94.00
198	18566.00	92.60	359.80	12735.41	5405.87	398.82	5417.10	5420.56	4.22	0.77	94.00
199	18660.00	92.30	359.60	12731.39	5499.78	398.33	5510.92	5514.19	4.14	0.38	94.00
200	18754.00	92.00	0.90	12727.86	5593.71	398.74	5604.80	5607.91	4.08	1.42	94.00
201	18848.00	90.00	0.30	12726.22	5687.69	399.72	5698.75	5701.72	4.02	2.22	94.00
202	18942.00	88.90	359.30	12727.12	5781.68	399.40	5792.66	5795.46	3.95	1.58	94.00
203	19036.00	88.80	358.50	12729.01	5875.65	397.59	5886.49	5889.08	3.87	0.86	94.00
204	19130.00	90.10	358.20	12729.91	5969.60	394.88	5980.27	5982.65	3.78	1.42	94.00
205	19225.00	91.10	0.10	12728.92	6064.58	393.48	6075.13	6077.33	3.71	2.26	95.00
206	19319.00	90.60	359.90	12727.52	6158.57	393.48	6169.05	6171.12	3.66	0.57	94.00
207	19412.00	90.60	1.40	12726.55	6251.55	394.53	6262.01	6263.99	3.61	1.61	93.00
208	19507.00	89.50	1.40	12726.47	6346.52	396.85	6357.00	6358.92	3.58	1.16	95.00
209	19600.00	90.90	1.30	12726.14	6439.50	399.04	6449.99	6451.85	3.55	1.51	93.00
210	19694.00	90.40	1.50	12725.07	6533.46	401.34	6543.97	6545.78	3.52	0.57	94.00
211	19788.00	90.10	359.80	12724.66	6627.45	402.40	6637.93	6639.66	3.47	1.84	94.00
212	19883.00	89.20	0.20	12725.24	6722.45	402.40	6732.86	6734.48	3.43	1.04	95.00
213	19977.00	90.70	0.20	12725.33	6816.44	402.73	6826.81	6828.33	3.38	1.60	94.00
214	20070.00	91.00	0.40	12723.95	6909.43	403.22	6919.75	6921.19	3.34	0.39	93.00
215	20164.00	90.90	0.80	12722.39	7003.41	404.20	7013.70	7015.07	3.30	0.44	94.00
216	20258.00	89.70	0.50	12721.90	7097.41	405.27	7107.66	7108.97	3.27	1.32	94.00
217	20352.00	90.70	0.30	12721.57	7191.40	405.93	7201.61	7202.85	3.23	1.08	94.00
218	20446.00	90.30	1.00	12720.75	7285.39	406.99	7295.58	7296.75	3.20	0.86	94.00
219	20541.00	90.00	1.30	12720.50	7380.37	408.90	7390.56	7391.69	3.17	0.45	95.00
220	20635.00	90.60	0.20	12720.01	7474.36	410.13	7484.53	7485.60	3.14	1.33	94.00
221	20729.00	90.00	360.00	12719.51	7568.36	410.29	7578.47	7579.47	3.10	0.67	94.00
222	20823.00	90.80	359.30	12718.86	7662.35	409.72	7672.37	7673.30	3.06	1.13	94.00
223	20918.00	90.80	359.40	12717.53	7757.34	408.64	7767.25	7768.09	3.02	0.11	95.00
224	21011.00	90.40	359.80	12716.56	7850.33	407.99	7860.15	7860.92	2.98	0.61	93.00
225	21104.00	90.60	358.80	12715.75	7943.32	406.86	7953.03	7953.73	2.93	1.10	93.00
226	21198.00	90.20	358.60	12715.09	8037.29	404.72	8046.85	8047.47	2.88	0.48	94.00
227	21293.00	91.90	359.30	12713.35	8132.25	402.98	8141.68	8142.23	2.84	1.94	95.00
228	21387.00	89.30	358.30	12712.37	8226.22	401.02	8235.50	8235.99	2.79	2.96	94.00
229	21481.00	89.40	358.80	12713.43	8320.18	398.64	8329.31	8329.73	2.74	0.54	94.00
230	21575.00	90.70	359.40	12713.35	8414.17	397.16	8423.17	8423.54	2.70	1.52	94.00
231	21669.00	92.50	360.00	12710.73	8508.13	396.67	8517.05	8517.37	2.67	2.02	94.00
232	21763.00	90.20	358.80	12708.51	8602.09	395.68	8610.90	8611.18	2.63	2.76	94.00
233	21857.00	90.70	359.10	12707.77	8696.07	393.96	8704.75	8704.99	2.59	0.62	94.00
234	21951.00	89.40	357.90	12707.69	8790.03	391.50	8798.55	8798.75	2.55	1.88	94.00
235	22045.00	89.50	358.10	12708.59	8883.97	388.22	8892.30	8892.45	2.50	0.24	94.00
236	22139.00	91.70	359.00	12707.61	8977.93	385.84	8986.10	8986.22	2.46	2.53	94.00
237	22233.00	90.90	359.10	12705.48	9071.89	384.28	9079.94	9080.03	2.43	0.86	94.00
238	22327.00	89.90	358.30	12704.82	9165.86	382.15	9173.76	9173.83	2.39	1.36	94.00
239	22421.00	89.80	357.10	12705.07	9259.78	378.38	9267.47	9267.51	2.34	1.28	94.00
240	22515.00	90.50	356.10	12704.82	9353.62	372.80	9361.03	9361.04	2.28	1.30	94.00
241	22610.00	89.70	356.50	12704.65	9448.42	366.67	9455.53	9455.53	2.22	0.94	95.00
242	22704.00	89.00	355.30	12705.72	9542.17	359.95	9548.96	9548.96	2.16	1.48	94.00
243	22798.00	89.30	355.20	12707.11	9635.84	352.17	9642.26	9642.27	2.09	0.34	94.00
244	22892.00	91.20	355.00	12706.70	9729.49	344.14	9735.54	9735.57	2.03	2.03	94.00
245	22987.00	92.00	354.70	12704.05	9824.07	335.62	9829.73	9829.80	1.96	0.90	95.00
246	23043.00	91.50	354.90	12702.34	9879.81	330.54	9885.24	9885.34	1.92	0.96	56.00

PTB	23093.00	91.50	354.90	12701.03	9929.59	326.10	9934.82	9934.95	1.88	0.00	50.00
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