



UL Benny East 18-29-30 WA 1H

DIRECTIONAL SURVEY REPORT

Start date: 09/19/2022

End date: 10/16/2022

Company: Percussion Petroleum II LLC
Well name: UL Benny East 18-29-30 WA 1H
Field: Permian
Rig: Unit 407
API:: 42475383970000
Location: Pyote

State/Province: Texas
County: Ward
Country US
Declination 6.744
North Reference Grid
Latitude/Longitude 31.58123835 / -103.27516412

Survey Co: Evolution Engineering
Job Number: Percussion DTO 006
Direction: 170.15
Elevation KB: 2821
DF: 21
GL: 2800

SVY	Depth	Inc	Azm	TVD	NS	EW	VS	DLS	CD	CL	Ax	Ay	Az	Mx	My	Mz
Tiein	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
1	132.00	0.38	147.72	132.00	-0.37	0.23	0.40	0.29	0.44	132.00	0.9987	-0.0047	0.0433	-0.6151	-0.2449	0.0628
2	224.00	0.49	144.37	224.00	-0.95	0.63	1.04	0.12	1.14	92.00	0.9987	-0.0059	0.0063	0.4040	-0.2431	0.0163
3	315.00	0.42	141.33	314.99	-1.52	1.06	1.68	0.08	1.86	91.00	0.9986	-0.0058	0.0063	0.4040	-0.0291	-0.2429
4	407.00	0.41	158.73	406.99	-2.09	1.39	2.30	0.14	2.51	92.00	0.9986	-0.0029	0.0065	0.4000	-0.1940	0.1440
5	499.00	0.38	168.83	498.99	-2.70	1.57	2.93	0.08	3.12	92.00	0.9987	0.0057	0.0033	0.3987	0.1597	0.1856
6	589.00	0.46	163.33	588.99	-3.34	1.73	3.59	0.10	3.76	90.00	0.9986	-0.0035	-0.0072	0.3992	-0.0063	-0.2437
7	680.00	0.60	174.08	679.98	-4.16	1.88	4.42	0.19	4.57	91.00	0.9988	-0.0061	0.0085	0.3986	-0.1878	-0.2437
8	770.00	0.58	169.06	769.98	-5.08	2.02	5.35	0.06	5.47	90.00	0.9987	-0.0101	-0.0016	0.4013	-0.2151	-0.1138
9	867.00	0.64	184.31	866.97	-6.10	2.07	6.37	0.18	6.44	97.00	0.9987	0.0018	0.0111	0.3974	0.0227	0.2432
10	961.00	0.60	237.11	960.97	-6.89	1.62	7.07	0.59	7.08	94.00	0.9987	-0.0086	0.0060	0.4009	-0.0302	0.2402
11	1055.00	1.94	287.45	1054.94	-6.68	-0.31	6.53	1.73	6.69	94.00	0.9983	0.0336	-0.0040	0.4003	-0.0525	-0.2319
12	1149.00	3.80	297.51	1148.82	-4.77	-4.59	3.91	2.04	6.62	94.00	0.9966	0.0638	0.0177	0.4062	0.0101	-0.2333
13	1241.00	5.59	295.09	1240.51	-1.46	-11.35	-0.51	1.96	11.45	92.00	0.9940	-0.0950	-0.0209	0.4068	-0.0199	0.3223
14	1335.00	7.16	290.24	1333.93	2.51	-21.00	-6.07	1.76	21.15	94.00	0.9911	0.1051	-0.0668	0.4061	-0.1255	-0.1988
15	1429.00	8.79	285.00	1427.02	6.40	-33.43	-12.02	1.90	34.04	94.00	0.9871	0.0956	-0.1191	0.4025	-0.1647	-0.1755
16	1523.00	10.07	285.48	1519.74	10.45	-48.29	-18.56	1.36	49.41	94.00	0.9833	-0.0259	0.1727	0.4014	0.2301	0.0756
17	1615.00	10.14	286.59	1610.32	14.91	-63.80	-25.60	0.22	65.52	92.00	0.9832	0.1212	0.1273	0.4024	0.1975	-0.1376
18	1709.00	9.88	286.84	1702.89	19.61	-79.45	-32.91	0.28	81.84	94.00	0.9841	0.1647	0.0475	0.4028	0.0983	-0.2191
19	1802.00	9.84	287.07	1794.51	24.25	-94.69	-40.09	0.06	97.74	93.00	0.9840	-0.0176	0.1697	0.4029	0.2330	0.0568
20	1896.00	9.61	287.91	1887.16	29.02	-109.83	-47.38	0.29	113.60	94.00	0.9846	0.0090	0.1665	0.4037	0.2383	0.0146
21	1991.00	9.48	288.94	1980.85	34.00	-124.78	-54.84	0.23	129.32	95.00	0.9851	0.1542	0.0573	0.4047	0.1034	-0.2140
22	2084.00	9.26	289.47	2072.61	38.98	-139.07	-62.20	0.25	144.43	93.00	0.9857	0.0267	0.1584	0.4050	0.2358	-0.0209
23	2178.00	8.99	289.96	2165.42	44.01	-153.11	-69.55	0.30	159.31	94.00	0.9867	0.1347	-0.0788	0.4054	-0.1061	-0.2106
24	2273.00	8.92	291.20	2259.26	49.20	-166.95	-77.04	0.22	174.05	95.00	0.9867	0.1512	-0.0330	0.4062	-0.0409	-0.2309
25	2367.00	8.61	292.70	2352.16	54.56	-180.24	-84.58	0.41	188.31	94.00	0.9875	-0.1493	0.0091	0.4067	0.0134	0.2331
26	2462.00	8.45	293.70	2446.11	60.10	-193.19	-92.27	0.23	202.32	95.00	0.9880	0.0738	-0.1270	0.4077	-0.2022	-0.1128
27	2556.00	8.18	295.12	2539.12	65.72	-205.57	-99.92	0.36	215.82	94.00	0.9887	0.0546	-0.1312	0.4084	-0.2166	-0.0775
28	2650.00	7.76	297.02	2632.21	71.44	-217.28	-107.56	0.53	228.72	94.00	0.9899	0.0418	-0.1283	0.4093	-0.2229	-0.0495
29	2744.00	8.16	295.84	2725.31	77.23	-228.93	-115.26	0.46	241.61	94.00	0.9888	0.0407	-0.1357	0.4088	-0.2232	-0.0518
30	2837.00	9.41	291.56	2817.22	82.90	-241.94	-123.07	1.52	255.75	93.00	0.9855	0.1005	-0.1288	0.4064	-0.1771	-0.1527
31	2931.00	10.05	286.49	2909.86	88.06	-256.96	-130.71	1.14	271.63	94.00	0.9851	0.1005	-0.1281	0.4068	-0.1785	-0.1462
32	3026.00	10.12	284.56	3003.40	92.51	-272.98	-137.84	0.36	288.23	95.00	0.9833	0.0247	0.1737	0.4011	0.2427	0.0107
33	3120.00	9.92	285.93	3095.96	96.80	-288.76	-144.78	0.33	304.56	94.00	0.9838	0.0543	0.1633	0.4022	0.2379	-0.0393
34	3215.00	9.49	286.26	3189.60	101.24	-304.15	-151.78	0.46	320.56	95.00	0.9852	-0.1555	-0.0543	0.4022	-0.1101	0.2140
35	3310.00	9.89	282.98	3283.25	105.27	-319.62	-158.39	0.72	336.51	95.00	0.9840	0.1714	0.0067	0.4001	0.0589	-0.2374
36	3404.00	11.22	281.44	3375.66	108.90	-336.45	-164.85	1.45	353.63	94.00	0.9798	0.1752	-0.0842	0.4001	-0.0451	-0.2445
37	3498.00	11.60	282.81	3467.80	112.81	-354.63	-171.81	0.50	372.14	94.00	0.9784	0.0249	0.1993	0.3984	0.2459	0.0321
38	3591.00	10.82	283.19	3559.02	116.87	-372.24	-178.83	0.84	390.16	93.00	0.9810	0.1688	0.0820	0.3998	0.1545	-0.1917
39	3686.00	10.17	283.25	3652.43	120.83	-389.09	-185.61	0.68	407.42	95.00	0.9830	-0.0039	0.1763	0.4002	0.2386	0.0559
40	3780.00	9.85	282.76	3745.00	124.51	-405.01	-191.95	0.35	423.71	94.00	0.9991	-0.0025	-0.0038	0.4093	0.1108	-0.2146
41	3875.00	9.62	281.67	3838.63	127.91	-420.71	-197.99	0.31	439.72	95.00	0.9846	0.0323	0.1638	0.3996	0.2461	0.0057
42	3970.00	8.99	280.86	3932.38	130.91	-435.77	-203.53	0.68	455.01	95.00	0.9866	-0.0902	-0.1274	0.3993	-0.2261	0.0962
43	4063.00	9.27	282.58	4024.21	133.91	-450.22	-208.95	0.42	469.71	93.00	0.9858	0.0071	0.1606	0.4005	0.2420	0.0363
44	4158.00	9.17	283.98	4117.98	137.41	-465.03	-214.93	0.26	484.91	95.00	0.9862	-0.1035	-0.1211	0.4012	-0.2082	0.1246

45	4253.00	9.66	284.93	4211.70	141.29	-480.08	-221.33	0.54	500.44	95.00	0.9847	-0.0428	-0.1621	0.4018	-0.2408	0.0221
46	4347.00	9.91	286.93	4304.33	145.68	-495.44	-228.28	0.45	516.41	94.00	0.9841	0.1465	-0.0899	0.4033	-0.0954	-0.2200
47	4441.00	9.41	285.81	4397.00	150.12	-510.57	-235.25	0.57	532.18	94.00	0.9854	0.0299	0.1606	0.4027	0.2411	-0.2200
48	4535.00	9.11	285.95	4489.77	154.26	-525.12	-241.82	0.32	547.31	94.00	0.9862	-0.1301	0.0898	0.4026	0.1095	0.2148
49	4629.00	9.98	286.30	4582.47	158.59	-540.09	-248.65	0.93	562.90	94.00	0.9837	-0.1537	-0.0795	0.4022	-0.1420	0.1951
50	4724.00	10.45	285.77	4675.97	163.25	-556.28	-256.00	0.50	579.74	95.00	0.9823	0.1459	0.1075	0.4021	0.1755	-0.1670
51	4819.00	9.64	284.96	4769.51	167.64	-572.26	-263.07	0.87	596.31	95.00	0.9848	0.1432	0.0866	0.4021	0.1578	-0.1839
52	4913.00	8.94	284.71	4862.27	171.53	-586.93	-269.40	0.75	611.48	94.00	0.9869	-0.0773	-0.1346	0.4019	-0.2250	0.0879
53	5008.00	8.60	285.43	4956.16	175.29	-600.91	-275.51	0.38	625.96	95.00	0.9876	0.1203	0.0885	0.4031	0.1661	-0.1743
54	5102.00	8.31	285.32	5049.14	178.96	-614.24	-281.40	0.31	639.78	94.00	0.9884	0.1333	-0.0553	0.4032	-0.0647	-0.2314
55	5295.00	9.98	282.21	5239.68	186.18	-644.04	-293.61	0.90	670.41	193.00	0.9837	0.0891	0.1485	0.4072	0.2341	-0.0765
56	5389.00	12.03	284.57	5331.95	190.37	-661.48	-300.72	2.23	688.33	94.00	0.9768	-0.0700	0.1961	0.4053	0.2083	0.1370
57	5484.00	12.34	284.34	5424.81	195.37	-680.90	-308.97	0.33	708.38	95.00	0.9759	0.0877	-0.1946	0.4059	-0.1923	-0.1555
58	5578.00	12.07	283.68	5516.69	200.18	-700.18	-317.01	0.32	728.24	94.00	0.9768	0.1940	0.0772	0.4059	0.1477	-0.1995
59	5671.00	11.66	282.14	5607.70	204.46	-718.82	-324.41	0.56	747.33	93.00	0.9783	0.2017	0.0094	0.4051	0.0781	-0.2372
60	5766.00	11.20	281.78	5700.81	208.36	-737.23	-331.41	0.49	766.11	95.00	0.9800	0.1315	-0.1427	0.4056	-0.1330	-0.2112
61	5860.00	11.02	281.77	5793.05	212.06	-754.97	-338.08	0.19	784.18	94.00	0.9805	-0.1848	-0.0476	0.4047	-0.1217	0.2171
62	5952.00	10.39	281.72	5883.45	215.54	-771.70	-344.37	0.68	801.23	92.00	0.9825	0.1137	-0.1398	0.4061	-0.1486	-0.1978
63	6046.00	10.23	280.96	5975.93	218.85	-788.19	-350.45	0.22	818.01	94.00	0.9831	0.1187	-0.1320	0.4056	-0.1373	-0.2065
64	6140.00	8.84	278.86	6068.63	221.54	-803.52	-355.74	1.52	833.51	94.00	0.9871	0.0710	-0.1362	0.4063	-0.1854	-0.1650
65	6234.00	9.84	284.40	6161.39	224.66	-818.44	-361.35	1.43	848.71	94.00	0.9840	-0.1356	0.1035	0.4073	0.1102	0.2176
66	6330.00	9.88	285.78	6255.97	228.93	-834.31	-368.29	0.25	865.15	96.00	0.9839	-0.1426	0.0948	0.4091	0.0995	0.2206
67	6424.00	9.74	284.92	6348.59	233.18	-849.76	-375.11	0.22	881.17	94.00	0.9846	0.0919	0.1416	0.4091	0.2235	-0.0952
68	6516.00	9.74	284.67	6439.27	237.15	-864.81	-381.60	0.05	896.73	92.00	0.9844	-0.1686	-0.0092	0.4083	-0.0557	0.2369
69	6611.00	9.56	283.23	6532.92	240.99	-880.26	-388.02	0.32	912.65	95.00	0.9851	-0.0556	-0.1563	0.4069	-0.2407	0.0353
70	6704.00	8.21	286.50	6624.81	244.64	-894.14	-394.00	1.55	927.01	93.00	0.9888	0.1227	-0.0728	0.4110	-0.1003	-0.2172
71	6798.00	6.50	289.18	6718.03	248.30	-905.61	-399.56	1.85	939.03	94.00	0.9924	0.0302	0.1090	0.4128	0.2283	-0.0621
72	6893.00	5.30	292.20	6812.53	251.72	-914.75	-404.50	1.30	948.75	95.00	0.9948	0.0598	-0.0703	0.4138	-0.1904	-0.1362
73	6986.00	4.02	298.31	6905.22	254.89	-921.59	-408.79	1.47	956.19	93.00	0.9964	0.0380	-0.0587	0.4149	-0.2184	-0.0779
74	7080.00	2.79	304.34	6999.05	257.75	-926.38	-412.42	1.36	961.57	94.00	0.9978	0.0238	0.0424	0.4151	0.1465	-0.1809
75	7173.00	1.24	308.92	7091.99	259.65	-929.04	-414.76	1.67	964.64	93.00	0.9987	-0.0117	-0.0180	0.4124	-0.1112	0.2084
76	7268.00	0.88	296.12	7186.97	260.62	-930.49	-415.96	0.45	966.30	95.00	0.9988	-0.0116	0.0100	0.4112	0.2009	0.1293
77	7363.00	0.75	290.40	7281.96	261.16	-931.73	-416.70	0.16	967.64	95.00	0.9989	-0.0111	0.0067	0.4107	0.1601	0.1787
78	7457.00	1.08	279.93	7375.95	261.53	-933.18	-417.31	0.39	969.13	94.00	0.9988	0.0097	-0.0162	0.4103	-0.2053	-0.1249
79	7552.00	1.03	278.70	7470.93	261.81	-934.90	-417.88	0.06	970.87	95.00	0.9988	0.0163	0.0077	0.4105	0.1077	-0.2155
80	7645.00	1.07	274.84	7563.92	262.01	-936.59	-418.37	0.09	972.55	93.00	0.9988	-0.0175	-0.0063	0.4096	-0.1018	0.2189
81	7739.00	0.80	271.73	7657.91	262.10	-938.13	-418.72	0.29	974.05	94.00	0.9990	-0.0058	-0.0127	0.4096	-0.2309	0.0689
82	7835.00	0.76	257.43	7753.90	261.99	-939.42	-418.83	0.21	975.26	96.00	0.9989	0.0126	-0.0037	0.4094	0.0246	-0.2413
83	7930.00	0.67	236.49	7848.89	261.54	-940.49	-418.58	0.29	976.18	95.00	0.9988	-0.0080	-0.0085	0.4081	-0.2431	0.0032
84	8024.00	0.62	246.09	7942.88	261.03	-941.42	-418.23	0.13	976.94	94.00	0.9990	-0.0043	-0.0100	0.4085	-0.2384	-0.0417
85	8120.00	0.66	239.61	8038.88	260.54	-942.37	-417.91	0.09	977.72	96.00	0.9989	-0.0022	0.0113	0.4082	0.1555	0.1873
86	8215.00	0.56	235.89	8133.87	260.00	-943.23	-417.53	0.11	978.41	95.00	0.9989	-0.0032	0.0092	0.4084	0.1134	0.2154
87	8310.00	0.68	229.78	8228.87	259.38	-944.04	-417.05	0.14	979.03	95.00	0.9990	-0.0110	0.0044	0.4078	-0.1125	0.2167
88	8405.00	0.63	242.94	8323.86	258.78	-944.94	-416.61	0.17	979.73	95.00	0.9990	-0.0001	-0.0110	0.4088	-0.1973	-0.1416
89	8500.00	0.66	215.91	8418.86	258.10	-945.72	-416.08	0.32	980.31	95.00	0.9990	-0.0374	0.0088	0.4075	-0.0529	0.2393
90	8594.00	0.77	203.97	8512.85	257.08	-946.30	-415.17	0.20	980.60	94.00	0.9989	0.0134	-0.0011	0.4073	0.2312	-0.0839
91	8689.00	0.77	201.03	8607.84	255.90	-946.79	-414.10	0.04	980.76	95.00	0.9990	-0.0130	-0.0031	0.4070	-0.2455	-0.0049
92	8783.00	0.88	184.09	8701.83	254.59	-947.06	-412.85	0.28	980.69	94.00	0.9989	0.0141	0.0061	0.4065	0.2192	0.1137
93	8878.00	0.68	184.68	8796.82	253.30	-947.16	-411.60	0.21	980.45	95.00	0.9990	-0.0036	-0.0113	0.4077	-0.0611	-0.2378
94	8972.00	0.39	158.02	8890.82	252.45	-947.09	-410.75	0.40	980.16	94.00	0.9991	-0.0015	0.0066	0.4077	-0.1634	0.1764
95	9066.00	0.42	138.13	8984.82	251.90	-946.74	-410.14	0.15	979.68	94.00	0.9990	-0.0009	-0.0073	0.4086	0.1640	-0.1786
96	9159.00	0.26	127.41	9077.81	251.52	-946.34	-409.70	0.18	979.20	93.00	0.9991	-0.0025	-0.0038	0.4093	0.1108	-0.2146
97	9252.00	0.36	230.41	9170.81	251.20	-946.40	-409.40	0.53	979.17	93.00	0.9991	-0.0061	-0.0018	0.4081	-0.2177	0.1047
98	9348.00	0.59	202.20	9266.81	250.55	-946.82	-408.83	0.33	979.41	96.00	0.9990	0.0041	0.0094	0.4071	0.1486	0.1946
99	9443.00	0.82	197.22	9361.80	249.45	-947.20	-407.81	0.25	979.50	95.00	0.9990	0.0085	-0.0114	0.4057	0.1164	-0.2176
100	9537.00	1.01	216.69	9455.79	248.14	-947.90	-406.64	0.38	979.84	94.00	0.9990	-0.0152	0.0091	0.4056	-0.1289	0.2107
101	9630.00	0.89	213.48	9548.78	246.88	-948.79	-405.55	0.14	980.38	93.00	0.9990	-0.0028	-0.0152	0.4064	-0.1415	-0.2015

102	9725.00	1.30	243.09	9643.76	245.78	-950.16	-404.70	0.72	981.43	95.00	0.9989	-0.0103	0.0202	0.4062	0.1084	0.2215
103	9818.00	1.54	229.20	9736.73	244.49	-952.04	-403.75	0.45	982.93	93.00	0.9987	-0.0163	-0.0213	0.4047	-0.2420	-0.0574
104	9913.00	1.87	220.20	9831.69	242.47	-954.01	-402.10	0.45	984.34	95.00	0.9985	-0.0117	-0.4940	0.4047	0.2472	0.0242
105	10007.00	2.14	230.14	9925.63	240.17	-956.35	-400.23	0.47	986.04	94.00	0.9983	-0.0003	0.0372	0.4024	0.1589	0.1959
106	10101.00	2.39	225.05	10019.56	237.66	-959.08	-398.23	0.34	988.09	94.00	0.9981	-0.0361	0.0207	0.4005	-0.1105	0.2298
107	10195.00	3.08	227.54	10113.45	234.57	-962.33	-395.74	0.74	990.51	94.00	0.9975	0.0373	-0.0384	0.3998	0.0356	-0.2552
108	10290.00	2.97	224.13	10208.32	231.08	-965.93	-392.92	0.22	993.18	95.00	0.9978	-0.0197	-0.0478	0.3992	-0.2124	-0.1459
109	10383.00	2.54	227.44	10301.21	227.96	-969.12	-390.39	0.49	995.57	93.00	0.9982	0.0030	-0.0441	0.3999	-0.1369	-0.2130
110	10477.00	1.93	220.86	10395.14	225.35	-971.69	-388.26	0.70	997.48	94.00	0.9984	-0.0271	0.0199	0.4027	-0.0976	0.2325
111	10572.00	2.05	242.28	10490.08	223.35	-974.24	-386.72	0.79	999.52	95.00	0.9985	0.0003	-0.0359	0.4049	-0.1934	-0.1572
112	10665.00	1.95	251.83	10583.03	222.09	-977.22	-385.99	0.37	1002.14	93.00	0.9985	-0.0244	-0.0236	0.4061	-0.2367	0.0705
113	10748.00	2.15	236.09	10665.98	220.78	-979.85	-385.15	0.72	1004.42	83.00	0.9983	-0.0237	-0.0290	0.4037	-0.2494	-0.0238
114	10804.00	2.49	244.11	10721.93	219.66	-981.82	-384.38	0.84	1006.09	56.00	0.9981	-0.0238	-0.0363	0.4050	-0.2504	-0.0184
115	10898.00	5.20	279.27	10815.72	219.46	-987.86	-385.21	3.69	1011.94	94.00	0.9949	0.0678	-0.0601	0.4105	0.0830	-0.2022
116	10992.00	6.21	265.63	10909.26	219.75	-997.14	-387.09	1.79	1021.06	94.00	0.9931	-0.0903	0.0593	0.4105	0.0478	0.2491
117	11086.00	10.35	221.03	11002.34	212.99	-1007.76	-382.24	7.81	1030.02	94.00	0.9826	-0.0299	0.1769	0.3688	-0.1823	0.2896
118	11181.00	16.18	206.46	11094.80	194.68	-1019.28	-366.18	7.03	1037.70	95.00	0.9595	-0.2774	-0.0228	0.3321	-0.3373	0.0471
119	11274.00	24.68	196.57	11181.89	164.41	-1030.61	-338.29	9.83	1043.64	93.00	0.9078	0.3604	-0.2100	0.2747	0.3161	-0.2241
120	11369.00	35.59	189.54	11263.95	117.98	-1040.88	-294.30	12.05	1047.55	95.00	0.8124	-0.5631	0.1446	0.1955	-0.4172	0.1126
121	11464.00	50.12	183.66	11333.44	53.97	-1047.83	-232.43	15.85	1049.22	95.00	0.6405	-0.7454	0.1792	0.0811	-0.4569	0.0903
122	11559.00	59.23	173.76	11388.40	-23.27	-1045.71	-155.97	12.80	1045.97	95.00	0.5014	0.0211	0.1792	0.0811	-0.4569	0.0903
123	11653.00	68.34	167.58	11429.91	-106.31	-1031.89	-71.78	11.34	1037.35	94.00	0.3686	-0.2099	0.9041	-0.0556	-0.1856	0.4294
124	11747.00	75.23	163.26	11459.29	-192.63	-1009.37	17.12	8.53	1027.58	94.00	0.2545	0.5463	0.7963	-0.1042	0.1706	0.4257
125	11841.00	81.69	156.10	11478.11	-278.87	-977.36	107.56	10.14	1016.37	94.00	0.1445	-0.6023	-0.7839	-0.1402	-0.1626	-0.4192
126	11935.00	87.12	151.09	11487.27	-362.59	-935.77	197.17	7.84	1003.56	94.00	0.0502	0.8138	-0.5772	-0.1685	0.4212	-0.1229
127	11977.00	88.62	150.09	11488.84	-399.16	-915.16	236.72	4.29	998.42	42.00	0.0242	-0.9296	-0.3652	-0.1772	-0.3281	-0.2869
128	12055.00	91.59	150.38	11488.69	-466.86	-876.44	310.04	3.83	993.03	78.00	-0.0277	0.9352	-0.3507	-0.1983	0.4250	-0.0039
129	12150.00	93.43	151.58	11484.53	-549.84	-830.40	399.68	2.31	995.94	95.00	-0.0598	-0.7095	-0.7005	-0.2153	-0.1795	-0.3775
130	12243.00	93.67	151.84	11478.77	-631.58	-786.41	487.74	0.38	1008.63	93.00	-0.0639	0.0262	0.9963	-0.2174	-0.1312	0.3955
131	12337.00	93.68	153.56	11472.75	-714.93	-743.39	577.22	1.83	1031.39	94.00	-0.0641	0.0226	-0.9967	-0.2214	0.1444	-0.3887
132	12431.00	91.37	154.27	11468.61	-799.27	-702.10	667.38	2.57	1063.85	94.00	-0.0239	-0.6802	-0.7311	-0.2075	-0.1750	-0.3839
133	12523.00	92.09	156.13	11465.83	-882.75	-663.53	756.22	2.17	1104.32	92.00	-0.0365	-0.9964	0.0605	-0.2167	-0.4040	-0.1026
134	12617.00	93.07	157.72	11461.60	-969.13	-626.73	847.63	1.99	1154.13	94.00	-0.0536	-0.2213	-0.9728	-0.2167	-0.4040	-0.1026
135	12711.00	92.82	159.02	11456.77	-1056.40	-592.12	939.53	1.41	1211.03	94.00	-0.0493	-0.8301	0.5534	-0.2279	-0.3924	0.1215
136	12806.00	90.89	160.65	11453.69	-1145.52	-559.40	1032.94	2.66	1274.81	95.00	-0.0156	0.6306	-0.7751	-0.2147	0.3458	-0.2420
137	12901.00	93.03	163.34	11450.44	-1235.80	-530.05	1126.91	3.62	1344.68	95.00	-0.0527	0.9948	0.0747	-0.2371	0.3841	0.1295
138	12995.00	92.90	165.76	11445.58	-1326.28	-505.05	1220.33	2.57	1419.18	94.00	-0.0506	-0.5388	0.0747	-0.2371	0.3841	0.1295
139	13091.00	92.65	168.13	11440.93	-1419.68	-483.39	1316.06	2.48	1499.72	96.00	-0.0462	0.9826	0.1748	-0.2422	0.3733	0.1497
140	13185.00	94.38	168.95	11435.17	-1511.63	-464.75	1409.84	2.04	1581.46	94.00	-0.0763	0.4468	0.8898	-0.2554	0.1030	0.3809
141	13279.00	93.48	170.82	11428.73	-1603.94	-448.28	1503.61	2.20	1665.41	94.00	-0.0606	-0.5779	-0.8126	-0.2516	-0.1679	-0.3594
142	13374.00	90.19	169.01	11425.68	-1697.41	-431.65	1598.55	3.95	1751.44	95.00	-0.0033	-0.6311	-0.8126	-0.2265	-0.3161	0.2633
143	13561.00	83.75	165.95	11435.57	-1879.59	-391.21	1784.96	3.81	1919.87	187.00	0.0505	-0.6687	-0.7406	-0.2011	-0.2137	-0.3672
144	13655.00	87.10	166.74	11443.06	-1970.63	-369.10	1878.44	3.66	2004.90	94.00	0.0505	-0.6687	-0.7406	-0.2011	-0.2137	-0.3672
145	13749.00	86.65	166.72	11448.19	-2061.99	-347.55	1972.13	0.48	2091.07	94.00	0.0583	-0.0870	-0.9936	-0.1976	0.0507	-0.4237
146	13842.00	87.29	166.03	11453.10	-2152.24	-325.68	2064.80	1.01	2176.74	93.00	0.0473	-0.1239	-0.9901	-0.1986	0.0369	-0.4230
147	13935.00	88.05	164.80	11456.88	-2242.17	-302.28	2157.41	1.55	2262.45	93.00	0.0340	-0.9975	0.0491	-0.2021	-0.4162	-0.4230
148	14029.00	90.39	165.46	11458.16	-2333.00	-278.16	2251.03	2.59	2349.53	94.00	-0.0067	0.1652	-0.9852	-0.2201	-0.4162	-0.0734
149	14123.00	89.89	164.91	11457.93	-2423.88	-254.12	2344.68	0.79	2437.16	94.00	0.0019	-0.2651	-0.8891	-0.2153	-0.0334	0.0884
150	14217.00	91.33	164.56	11456.93	-2514.55	-229.38	2438.25	1.58	2524.99	94.00	0.5265	0.8771	0.4765	-0.2246	0.3062	0.2739
151	14310.00	91.65	160.22	11454.51	-2603.15	-201.26	2530.34	4.68	2610.91	93.00	-0.0288	0.4582	0.8870	-0.2191	0.0847	0.4032
152	14404.00	91.76	156.62	11451.72	-2690.50	-166.70	2622.32	3.83	2695.66	94.00	-0.0306	-0.7607	-0.6475	-0.2133	-0.2229	-0.3523
153	14498.00	92.12	159.44	11448.53	-2777.62	-131.56	2714.17	3.02	2780.73	94.00	-0.0369	0.7738	-0.6307	-0.2214	0.3793	-0.1625
154	14592.00	91.78	156.91	11445.33	-2864.82	-96.64	2806.06	2.71	2866.45	94.00	-0.0369	0.7738	0.7801	-0.2134	0.1527	0.3876
155	14687.00	94.15	161.27	11440.42	-2953.42	-62.78	2899.14	5.22	2954.09	95.00	-0.0723	-0.3721	-0.9246	-0.2391	-0.0456	-0.4003
156	14780.00	94.34	163.45	11433.53	-3041.80	-34.68	2991.02	2.35	3041.99	93.00	-0.0756	-0.9081	-0.4106	-0.2442	-0.3118	-0.2497
157	14873.00	91.62	162.61	11428.70	-3130.62	-7.58	3083.17	3.06	3130.63	93.00	-0.0283	-0.0542	-0.9973	-0.2242	0.0804	-0.4036
158	14968.00	94.42	166.90	11423.69	-3222.12	17.37	3177.59	5.39	3222.16	95.00	-0.0771	-0.5503	0.8305	-0.2497	-0.2846	0.2743

159	15061.00	94.52	166.83	11416.44	-3312.41	38.44	3270.15	0.13	3312.63	93.00	-0.0787	0.3218	0.9421	-0.2501	0.0434	0.3929
160	15155.00	94.89	166.42	11408.73	-3403.55	60.11	3363.66	0.59	3404.08	94.00	-0.0851	-0.9944	0.0549	-0.2524	-0.3882	-0.0664
161	15249.00	93.19	167.31	11402.11	-3494.86	81.41	3457.27	2.04	3495.81	94.00	-0.0555	0.8611	-0.5033	-0.2423	0.3807	-0.1249
162	15343.00	93.01	166.72	11397.03	-3586.32	102.50	3550.99	0.66	3587.78	94.00	-0.0525	-0.8382	0.5418	-0.2399	-0.3761	0.1402
163	15438.00	92.84	166.02	11392.18	-3678.52	124.86	3645.66	0.76	3680.64	95.00	-0.0495	0.8982	-0.4343	-0.2380	0.3930	-0.0909
164	15531.00	92.14	164.82	11388.14	-3768.44	148.25	3738.25	1.49	3771.36	93.00	-0.0373	-0.9951	-0.0878	-0.2314	-0.3861	-0.1283
165	15625.00	91.16	164.69	11385.43	-3859.09	172.96	3831.79	1.05	3862.97	94.00	-0.0202	0.9934	-0.1025	-0.2240	0.4079	0.0526
166	15720.00	91.15	164.19	11383.52	-3950.59	198.43	3926.30	0.53	3955.57	95.00	-0.0200	-0.1851	0.9815	-0.2226	-0.1683	0.3754
167	15813.00	93.68	164.57	11379.60	-4040.07	223.45	4018.74	2.75	4046.25	93.00	-0.0641	-0.0135	0.9967	-0.2406	-0.0997	0.3881
168	15908.00	93.61	166.97	11373.56	-4131.96	246.75	4113.27	2.52	4139.33	95.00	-0.0630	0.1140	0.9903	-0.2438	-0.0401	0.3968
169	16002.00	94.77	169.04	11366.69	-4223.66	266.24	4206.94	2.52	4232.04	94.00	-0.0830	0.9862	0.1338	-0.2549	0.3706	0.1284
170	16095.00	95.17	169.29	11358.63	-4314.66	283.65	4299.58	0.51	4323.97	93.00	-0.0901	-0.9616	-0.2576	-0.2584	-0.3493	-0.1729
171	16189.00	94.88	168.28	11350.40	-4406.51	301.87	4393.19	1.11	4416.83	94.00	-0.0851	-0.9020	-0.4222	-0.2552	-0.3133	-0.2356
172	16282.00	92.88	167.68	11344.11	-4497.25	321.19	4485.91	2.24	4508.71	93.00	-0.0501	-0.9020	0.8162	-0.2400	0.1581	0.3688
173	16376.00	93.25	168.65	11339.08	-4589.12	340.44	4579.71	1.10	4601.73	94.00	-0.0567	0.7611	0.6420	0.5561	0.1581	0.3688
174	16470.00	90.80	167.85	11335.76	-4681.09	359.57	4673.60	2.74	4694.88	94.00	-0.0139	-0.9561	0.2917	-0.2262	-0.4075	0.0385
175	16565.00	90.60	170.28	11334.60	-4774.35	377.59	4768.56	2.57	4789.26	95.00	-0.0104	-0.3241	-0.9454	-0.2285	-0.0616	-0.4041
176	16660.00	91.24	168.48	11333.07	-4867.71	395.09	4863.54	2.01	4883.71	95.00	-0.0216	-0.9971	0.0692	-0.2304	-0.4038	-0.0519
177	16755.00	91.44	170.23	11330.85	-4961.04	412.64	4958.50	1.85	4978.17	95.00	-0.0251	-0.5063	0.8612	-0.2348	-0.2611	0.3086
178	16850.00	90.86	171.16	11328.94	-5054.77	427.99	5053.47	1.15	5072.86	95.00	-0.0413	-0.1314	0.9895	-0.2411	-0.1204	0.3821
179	16944.00	92.33	169.62	11326.33	-5147.41	443.68	5147.43	2.26	5166.50	94.00	-0.0406	0.8464	0.5285	-0.2391	0.2953	0.2730
180	17038.00	89.70	168.16	11324.66	-5239.62	461.79	5241.38	3.20	5259.93	94.00	0.0047	-0.5219	0.8522	-0.2188	-0.2805	0.3034
181	17133.00	89.63	166.93	11325.22	-5332.38	482.27	5336.28	1.30	5354.15	95.00	0.0065	-0.9419	-0.3352	-0.2188	-0.2805	-0.2168
182	17226.00	93.83	167.26	11322.41	-5422.97	503.03	5429.09	4.53	5446.25	93.00	-0.0666	0.9646	-0.2504	-0.2460	0.3974	-0.0161
183	17320.00	90.56	166.39	11318.81	-5514.42	524.44	5522.85	3.60	5539.30	94.00	-0.0078	-0.5429	-0.8089	-0.2211	-0.2917	-0.3546
184	17415.00	92.89	165.27	11315.95	-5606.48	547.68	5617.53	2.72	5633.17	95.00	-0.0495	-0.8756	-0.4802	-0.2367	-0.2999	-0.2700
185	17509.00	89.72	163.84	11313.81	-5697.05	572.70	5711.04	3.70	5725.76	94.00	0.0050	-0.3566	-0.9338	-0.2131	-0.0535	-0.4138
186	17604.00	91.70	163.22	11312.63	-5788.14	599.63	5805.39	2.18	5819.11	95.00	-0.0297	-0.5527	0.8321	-0.2251	-0.3029	0.2760
187	17698.00	90.64	162.56	11310.71	-5877.96	627.28	5898.62	1.33	5911.33	94.00	-0.0112	-0.4424	0.8959	-0.2165	-0.2694	0.3151
188	17792.00	89.89	161.55	11310.28	-5967.38	656.24	5991.68	1.34	6003.36	94.00	0.0019	0.8848	0.4628	-0.2095	0.3099	0.2815
189	17886.00	92.25	161.50	11308.52	-6056.51	686.03	6084.59	2.51	6095.24	94.00	-0.0392	-0.9105	-0.4112	-0.2266	-0.3169	-0.2598
190	17981.00	88.02	161.25	11308.30	-6146.52	716.36	6178.46	4.46	6188.12	95.00	0.0346	-0.7769	-0.6284	-0.1964	-0.2526	-0.3424
191	18074.00	86.57	161.32	11312.69	-6234.50	746.16	6270.24	1.56	6278.99	93.00	0.0598	0.9030	-0.4234	-0.1858	-0.2526	-0.0802
192	18168.00	89.04	163.31	11316.29	-6323.98	774.69	6363.29	3.37	6371.25	94.00	0.0168	0.0224	-0.9991	-0.2074	0.1088	-0.4063
193	18262.00	87.61	164.47	11319.04	-6414.25	800.77	6456.68	1.96	6464.04	94.00	0.0417	0.9676	-0.2454	-0.1988	0.4243	-0.0094
194	18356.00	88.37	164.36	11322.33	-6504.73	826.01	6550.15	0.82	6556.97	94.00	0.0284	-0.4885	-0.8718	-0.2044	-0.1172	-0.4050
195	18450.00	88.47	165.46	11324.93	-6595.46	850.47	6643.72	1.17	6650.06	94.00	0.0267	-0.0041	0.9987	-0.2058	-0.0928	0.4098
196	18544.00	88.42	164.56	11327.48	-6686.22	874.77	6737.31	0.96	6743.21	94.00	0.0276	0.5140	-0.8566	-0.2048	0.2927	-0.3034
197	18639.00	89.05	162.60	11329.58	-6777.32	901.62	6831.66	2.17	6837.03	95.00	0.0165	0.5579	0.8283	-0.2052	0.1436	0.3954
198	18738.00	89.66	162.74	11330.69	-6871.82	931.10	6929.81	0.63	6934.62	99.00	0.0189	-0.2804	0.8509	-0.2247	-0.2120	0.4021
199	18832.00	88.57	162.31	11332.14	-6961.47	959.33	7022.96	1.25	7027.26	94.00	-9999.0000	#####	#####	#####	#####	-0.7067
200	18926.00	89.90	165.06	11333.40	-7051.67	985.73	7116.35	3.25	7120.23	94.00	0.0017	-0.2923	0.9554	-0.2173	-0.2080	0.3605
201	19020.00	88.23	163.72	11334.93	-7142.18	1011.02	7209.85	2.28	7213.39	94.00	0.0309	-0.2923	0.9554	-0.2038	-0.7884	-0.4238
202	19115.00	89.37	164.80	11336.92	-7233.60	1036.78	7304.33	1.65	7307.52	95.00	0.0143	0.7488	0.6608	-0.2131	0.2433	0.3407
203	19210.00	90.56	165.59	11336.98	-7325.44	1061.06	7398.97	1.50	7401.89	95.00	0.0309	-0.8169	-0.6053	-0.2240	-0.2650	-0.7170
204	19305.00	89.53	165.81	11336.90	-7417.50	1084.52	7493.68	1.11	7496.36	95.00	0.0082	-0.7973	0.6467	-0.2240	-0.1686	0.1940
205	19400.00	87.68	165.74	11339.22	-7509.55	1107.86	7588.38	1.95	7590.83	95.00	0.0404	-0.4804	0.8452	-0.2010	0.5106	0.3176
206	19493.00	86.55	164.49	11343.90	-7599.32	1131.72	7680.90	1.81	7683.12	93.00	0.0602	-0.8344	0.2720	-0.5925	-0.0045	0.1721
207	19588.00	88.89	164.50	11347.68	-7690.78	1157.09	7775.35	2.46	7777.33	95.00	0.0194	0.3093	0.9983	-0.2240	-0.0823	0.4120
208	19681.00	89.24	162.99	11349.19	-7780.05	1183.12	7867.76	1.67	7869.49	93.00	0.0146	-0.5760	-0.8170	0.5881	-0.1880	-0.3889
209	19775.00	89.98	165.81	11349.83	-7870.57	1208.39	7961.27	3.10	7962.80	94.00	0.0002	0.4966	0.8665	-0.2188	0.1230	0.3965
210	19869.00	89.09	164.42	11350.60	-7961.41	1232.54	8054.90	1.76	8056.25	94.00	0.0159	0.7576	0.6505	-0.2104	0.2475	0.3387
211	19963.00	89.20	165.92	11352.00	-8052.27	1256.59	8148.53	1.60	8149.73	94.00	-1.0953	-0.8465	-0.4556	-0.2144	-0.2872	-0.2915
212	20057.00	88.59	164.96	11353.81	-8143.23	1280.22	8242.20	1.21	8243.25	94.00	0.0246	0.3646	-0.9301	-0.2086	0.2369	-0.3480
213	20148.00	88.36	164.87	11356.23	-8231.06	1303.89	8332.79	0.27	8333.70	91.00	0.0246	0.8668	-0.9301	-0.2086	0.6041	-0.1217
214	20242.00	88.94	163.25	11358.45	-8321.42	1329.70	8426.23	1.83	8426.99	94.00	0.0246	-0.7789	-0.6780	0.5968	0.2874	-0.1217
215	20336.00	87.25	161.78	11361.57	-8411.02	1357.93	8519.34	2.38	8519.93	94.00	0.0479	-0.7213	-0.6905	-0.1936	-0.2263	-0.3637

216	20429.00	88.51	167.78	11365.02	-8500.66	1382.31	8611.82	6.59	8612.31	93.00	0.0260	-0.9622	-0.6905	-0.2127	-0.2263	-0.1904
217	20523.00	89.59	171.14	11366.58	-8593.04	1399.50	8705.78	3.75	8706.26	94.00	0.0072	0.9979	-0.3404	-0.2062	0.4153	0.0767
218	20617.00	89.06	170.17	11367.68	-8685.79	1414.76	8799.77	1.18	8800.25	94.00	-1.0838	-0.9991	-0.0332	-0.2194	-0.4059	-0.0874
219	20711.00	87.30	167.62	11370.67	-8777.97	1432.86	8893.69	3.29	8894.15	94.00	0.0471	-0.9612	0.2705	-0.2030	-0.4222	0.0318
220	20804.00	87.50	171.10	11374.89	-8869.26	1450.01	8986.57	3.74	8987.01	93.00	0.0471	-0.9612	0.2842	-0.2092	-0.4222	0.0318
221	20899.00	92.72	170.88	11374.71	-8963.06	1464.88	9081.53	5.50	9081.98	95.00	-0.0398	0.3846	0.9208	-0.2453	0.3939	0.3761
222	20993.00	92.92	170.38	11370.08	-9055.69	1480.16	9175.41	0.57	9175.86	94.00	-0.0509	-0.1239	-0.9906	-0.2470	0.0238	0.4072
223	21087.00	93.03	169.96	11365.20	-9148.19	1496.19	9269.29	0.46	9269.73	94.00	-0.0527	-0.0266	0.9971	-0.2470	-0.0898	0.6966
224	21181.00	93.90	168.19	11359.52	-9240.31	1513.97	9363.09	2.10	9363.52	94.00	-0.0527	0.5345	-0.9906	-0.2511	-0.3749	0.4072
225	21275.00	92.31	166.43	11354.43	-9331.87	1534.59	9456.83	2.52	9457.21	94.00	-0.0403	0.7103	0.7009	-0.2364	0.2197	0.3407
226	21369.00	92.45	166.50	11350.53	-9423.18	1556.57	9550.56	0.17	9550.88	94.00	-0.0346	0.3536	0.9327	-0.2880	0.0582	0.4005
227	21463.00	92.71	166.50	11346.30	-9514.49	1578.49	9644.27	0.28	9644.54	94.00	-0.0417	0.9344	0.9472	-0.2364	0.0412	0.4032
228	21557.00	89.53	164.52	11344.46	-9605.47	1602.00	9737.93	3.98	9738.14	94.00	0.0081	-0.0646	0.9899	-0.1498	0.0412	0.1902
229	21651.00	88.51	160.48	11346.07	-9695.09	1630.26	9831.06	4.43	9831.20	94.00	0.0260	0.7926	0.9899	-0.6127	-0.5410	0.3376
230	21745.00	89.55	159.96	11347.66	-9783.53	1662.07	9923.63	1.24	9923.70	94.00	0.0079	-0.9710	0.2378	-0.2063	-0.4092	-0.0128
231	21839.00	89.72	164.04	11348.26	-9872.90	1691.11	10016.66	4.34	10016.69	94.00	0.0048	-0.9782	0.2378	-0.2152	-0.3769	-0.0128
232	21934.00	88.94	167.61	11349.37	-9964.99	1714.37	10111.37	3.85	10111.38	95.00	0.0184	-0.9782	0.2378	-0.2154	0.2510	-0.3344
233	22028.00	90.27	168.85	11350.02	-10057.01	1733.54	10205.31	1.93	10205.32	94.00	-0.0047	0.9433	-0.3291	-0.2154	0.4079	-0.0586
234	22122.00	89.66	165.44	11350.07	-10148.64	1754.45	10299.17	3.69	10299.17	94.00	0.0017	0.9989	0.0075	-0.2168	0.4079	0.0953
235	22170.00	90.15	167.71	11350.15	-10195.32	1765.59	10347.07	4.84	10347.07	48.00	-0.0025	-0.2973	-0.9545	-0.2243	-0.0034	0.0953
PTB	22231.00	90.15	167.71	11349.99	-10254.92	1778.58	10408.02	0.00	10408.02	61.00						