



Total Directional
Services, LLC
USA Operations

Final MWD Survey Certification

Lea County, New Mexico

Client: Devon Energy

Well Name: Green Wave 20-17 Federal 15H

Total Job No: 2019-374-540

API No: 35-025-46019

Start Date: 5/30/2019

End Date: 8/16/2019

Measured Start Depth: 0.00 feet

Measured End Depth with PTB: 20,703 feet

HOBBS OCD
JAN 14 2020
RECEIVED

I, Robert Brewer, MWD Operator, hereby 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: 8/16/2019

Signed: *Robert R. Brewer*



Green Wave 20-17 Federal 15H

Directional Survey Report

Start date: 5/30/2019

End date: 8/16/2019

Company: Devon Energy
Well Name: Green Wave 20-17 Federal 15H
Field: WolfCamp
Rig ID: HP 540
API/UWI: 30-025-46019
Location: Lea County, NM

State/Prov: NM
County: Lea
Country: USA
Declination: 6.28
North Reference: Grid
Latitude/Longitude: 32.029630 / -103.493439

Survey Company: Total Directional
Job Number: 2019-374-540
Proposed Azimuth: 359.5
Elevations KB: 30
DF: 3374
GL: 3344

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	CD	CA	DLS	CL	Temp
TieIn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00		
1	183.00	0.30	124.80	183.00	-0.27	0.39	-0.28	0.48	124.80	0.16	183.00	
2	275.00	0.35	110.96	275.00	-0.51	0.85	-0.52	1.00	120.93	0.10	92.00	
3	365.00	0.31	92.59	365.00	-0.62	1.35	-0.63	1.49	114.64	0.13	90.00	
4	456.00	0.13	54.53	456.00	-0.57	1.68	-0.59	1.78	108.76	0.24	91.00	
5	547.00	0.22	6.02	547.00	-0.34	1.79	-0.35	1.82	100.73	0.18	91.00	
6	637.00	0.26	7.33	636.99	0.04	1.83	0.02	1.83	88.87	0.04	90.00	
7	727.00	0.35	345.36	726.99	0.50	1.79	0.49	1.86	74.23	0.16	90.00	
8	765.00	0.35	350.28	764.99	0.73	1.74	0.72	1.89	67.18	0.08	38.00	
9	866.00	0.31	9.88	865.99	1.30	1.73	1.29	2.17	53.02	0.12	101.00	98.6
10	956.00	0.84	281.11	955.99	1.67	1.13	1.66	2.02	33.99	0.99	90.00	-9999
11	1,047.00	1.54	277.95	1,046.97	1.97	-0.74	1.98	2.10	339.44	0.77	91.00	105.8
12	1,138.00	2.46	271.97	1,137.91	2.21	-3.90	2.24	4.48	299.48	1.04	91.00	109.4
13	1,230.00	2.77	266.70	1,229.81	2.15	-8.09	2.22	8.37	284.84	0.43	92.00	109.4
14	1,324.00	3.52	258.97	1,323.67	1.46	-13.19	1.58	13.28	276.32	0.91	94.00	111.2
15	1,418.00	4.09	260.11	1,417.47	0.33	-19.33	0.50	19.33	270.99	0.61	94.00	113
16	1,512.00	5.23	260.99	1,511.15	-0.91	-26.86	-0.68	26.88	268.06	1.22	94.00	113
17	1,606.00	6.55	258.44	1,604.65	-2.66	-36.35	-2.34	36.44	265.82	1.43	94.00	113
18	1,701.00	7.43	257.21	1,698.95	-5.10	-47.65	-4.69	47.92	263.89	0.94	95.00	113
19	1,795.00	8.44	255.89	1,792.05	-8.13	-60.26	-7.60	60.81	262.32	1.09	94.00	122
20	1,889.00	8.44	253.69	1,885.03	-11.75	-73.57	-11.11	74.51	260.93	0.34	94.00	122
21	1,983.00	8.92	259.40	1,977.95	-15.03	-87.36	-14.26	88.64	260.24	1.05	94.00	122
22	2,078.00	8.97	260.28	2,071.80	-17.63	-101.90	-16.74	103.41	260.18	0.15	95.00	122
23	2,172.00	8.88	259.84	2,164.66	-20.15	-116.26	-19.13	118.00	260.17	0.12	94.00	123.8
24	2,266.00	8.84	260.02	2,257.54	-22.68	-130.52	-21.54	132.47	260.14	0.05	94.00	125.6
25	2,360.00	8.70	260.64	2,350.44	-25.09	-144.65	-23.83	146.81	260.16	0.18	94.00	125.6
26	2,454.00	8.35	260.20	2,443.40	-27.41	-158.39	-26.02	160.74	260.18	0.38	94.00	125.6
27	2,549.00	8.31	259.67	2,537.40	-29.81	-171.94	-28.31	174.50	260.16	0.09	95.00	125.6
28	2,643.00	8.92	263.27	2,630.34	-31.88	-185.86	-30.26	188.57	260.27	0.87	94.00	122
29	2,737.00	8.79	263.18	2,723.22	-33.59	-200.23	-31.84	203.02	260.48	0.14	94.00	122
30	2,831.00	8.79	263.36	2,816.11	-35.27	-214.49	-33.40	217.37	260.66	0.03	94.00	122
31	2,926.00	8.48	263.71	2,910.04	-36.88	-228.66	-34.88	231.62	260.84	0.33	95.00	122
32	3,020.00	8.04	264.68	3,003.06	-38.25	-242.10	-36.14	245.10	261.02	0.49	94.00	120.2
33	3,114.00	8.04	263.10	3,096.14	-39.65	-255.17	-37.42	258.23	261.17	0.24	94.00	122
34	3,208.00	8.84	261.78	3,189.12	-41.47	-268.84	-39.12	272.02	261.23	0.88	94.00	122
35	3,303.00	8.57	260.20	3,283.03	-43.72	-283.04	-41.25	286.40	261.22	0.38	95.00	122
36	3,397.00	8.31	260.20	3,376.01	-46.07	-296.64	-43.48	300.20	261.17	0.28	94.00	122
37	3,491.00	8.88	260.55	3,468.95	-48.42	-310.49	-45.70	314.24	261.14	0.61	94.00	125.6
38	3,585.00	9.05	263.36	3,561.80	-50.46	-324.99	-47.62	328.88	261.17	0.50	94.00	125.6
39	3,680.00	8.79	262.92	3,655.65	-52.22	-339.62	-49.26	343.61	261.26	0.28	95.00	127.4
40	3,774.00	8.31	264.41	3,748.61	-53.77	-353.50	-50.68	357.57	261.35	0.56	94.00	127.4
41	3,868.00	7.03	266.52	3,841.77	-54.78	-366.01	-51.58	370.08	261.49	1.39	94.00	127.4
42	3,962.00	7.12	261.87	3,935.05	-55.95	-377.51	-52.66	381.64	261.57	0.62	94.00	127.4
43	4,056.00	7.21	260.28	4,028.32	-57.77	-389.10	-54.37	393.36	261.55	0.23	94.00	129.2
44	4,151.00	8.04	259.14	4,122.48	-60.03	-401.50	-56.52	405.96	261.50	0.89	95.00	129.2
45	4,245.00	8.57	261.34	4,215.49	-62.32	-414.88	-58.70	419.53	261.46	0.66	94.00	129.2
46	4,339.00	8.31	261.95	4,308.47	-64.33	-428.53	-60.59	433.33	261.46	0.29	94.00	129.2
47	4,434.00	7.74	264.15	4,402.54	-65.94	-441.69	-62.09	446.58	261.51	0.68	95.00	131
48	4,528.00	7.47	261.78	4,495.72	-67.46	-454.03	-63.50	459.02	261.55	0.44	94.00	131
49	4,622.00	7.52	256.07	4,588.91	-69.82	-466.05	-65.75	471.25	261.48	0.79	94.00	131

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	CD	CA	DLS	CL	Temp
50	4,716.00	7.78	252.11	4,682.08	-73.25	-478.08	-69.08	483.65	261.29	0.63	94.00	131
51	4,810.00	8.18	256.07	4,775.17	-76.82	-490.62	-72.53	496.60	261.10	0.72	94.00	131
52	4,905.00	6.81	252.29	4,869.35	-80.16	-502.55	-75.77	508.90	260.94	1.53	95.00	131
53	4,999.00	7.30	246.13	4,962.64	-84.27	-513.32	-79.79	520.19	260.68	0.96	94.00	131
54	5,093.00	7.91	243.50	5,055.82	-89.57	-524.57	-84.99	532.16	260.31	0.75	94.00	131
55	5,187.00	8.22	243.76	5,148.89	-95.43	-536.38	-90.74	544.81	259.91	0.33	94.00	131
56	5,281.00	8.70	247.19	5,241.86	-101.15	-548.96	-96.36	558.21	259.56	0.74	94.00	131
57	5,375.00	7.96	245.69	5,334.87	-106.59	-561.45	-101.69	571.48	259.25	0.82	94.00	131
58	5,470.00	8.48	249.47	5,428.90	-111.75	-574.00	-106.74	584.78	258.98	0.79	95.00	131
59	5,564.00	9.49	256.33	5,521.75	-116.02	-588.02	-110.88	599.36	258.84	1.56	94.00	131
60	5,658.00	9.71	257.38	5,614.43	-119.58	-603.29	-114.31	615.03	258.79	0.30	94.00	131
61	5,752.00	9.27	255.80	5,707.14	-123.17	-618.36	-117.77	630.51	258.73	0.54	94.00	132.8
62	5,846.00	9.10	255.01	5,799.94	-126.95	-632.89	-121.42	645.49	258.66	0.23	94.00	132.8
63	5,941.00	8.70	254.13	5,893.79	-130.86	-647.05	-125.21	660.15	258.57	0.44	95.00	132.8
64	6,035.00	9.32	258.00	5,986.63	-134.38	-661.34	-128.61	674.85	258.51	0.92	94.00	132.8
65	6,129.00	9.45	263.89	6,079.38	-136.79	-676.46	-130.88	690.15	258.57	1.03	94.00	132.8
66	6,223.00	9.10	263.89	6,172.15	-138.40	-691.52	-132.36	705.23	258.68	0.37	94.00	134.6
67	6,317.00	8.57	263.01	6,265.03	-140.04	-705.86	-133.88	719.62	258.78	0.58	94.00	134.6
68	6,411.00	7.65	262.66	6,358.09	-141.70	-719.02	-135.42	732.85	258.85	0.98	94.00	134.6
69	6,505.00	8.18	264.50	6,451.20	-143.14	-731.88	-136.74	745.75	258.93	0.62	94.00	136.4
70	6,600.00	9.41	266.08	6,545.08	-144.31	-746.36	-137.80	760.18	259.06	1.32	95.00	134.6
71	6,694.00	9.01	266.26	6,637.87	-145.32	-761.37	-138.67	775.11	259.19	0.43	94.00	136.4
72	6,788.00	8.88	265.82	6,730.72	-146.33	-775.95	-139.55	789.63	259.32	0.16	94.00	136.4
73	6,882.00	8.84	266.17	6,823.60	-147.34	-790.39	-140.44	804.01	259.44	0.07	94.00	134.6
74	6,976.00	8.53	264.85	6,916.52	-148.45	-804.54	-141.42	818.12	259.55	0.39	94.00	134.6
75	7,070.00	8.13	263.80	7,009.53	-149.79	-818.09	-142.65	831.69	259.62	0.46	94.00	134.6
76	7,165.00	8.40	264.94	7,103.54	-151.13	-831.68	-143.87	845.30	259.70	0.33	95.00	134.6
77	7,259.00	7.91	263.80	7,196.59	-152.43	-844.95	-145.05	858.59	259.77	0.55	94.00	134.6
78	7,353.00	7.38	263.71	7,289.76	-153.79	-857.38	-146.31	871.07	259.83	0.56	94.00	138.2
79	7,447.00	8.13	265.73	7,382.90	-154.95	-870.01	-147.35	883.70	259.90	0.85	94.00	138.2
80	7,542.00	9.45	266.26	7,476.78	-155.96	-884.50	-148.23	898.14	260.00	1.39	95.00	140
81	7,636.00	9.23	266.00	7,569.53	-156.99	-899.72	-149.13	913.31	260.10	0.24	94.00	140
82	7,730.00	8.31	264.15	7,662.43	-158.21	-913.99	-150.22	927.59	260.18	1.02	94.00	140
83	7,824.00	8.79	262.74	7,755.39	-159.81	-927.88	-151.70	941.54	260.23	0.56	94.00	140
84	7,918.00	8.31	262.39	7,848.34	-161.61	-941.73	-153.39	955.50	260.26	0.51	94.00	140
85	8,013.00	8.09	262.57	7,942.37	-163.39	-955.17	-155.05	969.04	260.29	0.23	95.00	136.4
86	8,107.00	8.66	262.74	8,035.37	-165.14	-968.75	-156.68	982.72	260.33	0.61	94.00	140
87	8,201.00	8.09	261.07	8,128.37	-167.06	-982.30	-158.48	996.40	260.35	0.66	94.00	141.8
88	8,295.00	8.22	261.07	8,221.42	-169.13	-995.47	-160.43	1,009.74	260.36	0.14	94.00	141.8
89	8,389.00	9.41	259.84	8,314.30	-171.53	-1,009.68	-162.71	1,024.14	260.36	1.28	94.00	141.8
90	8,484.00	9.14	259.23	8,408.06	-174.31	-1,024.73	-165.36	1,039.45	260.35	0.30	95.00	141.8
91	8,578.00	8.97	259.49	8,500.89	-177.04	-1,039.27	-167.96	1,054.24	260.33	0.19	94.00	143.6
92	8,672.00	8.53	258.70	8,593.80	-179.74	-1,053.31	-170.54	1,068.54	260.32	0.49	94.00	143.6
93	8,766.00	8.97	259.93	8,686.70	-182.39	-1,067.37	-173.07	1,082.84	260.30	0.51	94.00	143.6
94	8,860.00	8.40	259.40	8,779.62	-184.93	-1,081.33	-175.49	1,097.03	260.29	0.61	94.00	145.4
95	8,954.00	8.92	258.70	8,872.55	-187.62	-1,095.22	-178.06	1,111.18	260.28	0.56	94.00	145.4
96	9,049.00	8.48	258.00	8,966.46	-190.52	-1,109.30	-180.84	1,125.54	260.25	0.48	95.00	143.6
97	9,143.00	7.78	256.42	9,059.51	-193.46	-1,122.26	-183.66	1,138.81	260.22	0.78	94.00	143.6
98	9,237.00	8.22	256.68	9,152.60	-196.50	-1,134.99	-186.59	1,151.87	260.18	0.47	94.00	140
99	9,331.00	8.97	256.94	9,245.54	-199.70	-1,148.66	-189.67	1,165.89	260.14	0.80	94.00	145.4
100	9,425.00	8.79	256.50	9,338.42	-203.04	-1,162.79	-192.88	1,180.38	260.10	0.20	94.00	145.4
101	9,519.00	7.82	254.31	9,431.43	-206.44	-1,175.93	-196.17	1,193.91	260.04	1.09	94.00	145.4
102	9,613.00	7.87	254.22	9,524.55	-209.92	-1,188.28	-199.55	1,206.68	259.98	0.05	94.00	147.2
103	9,707.00	7.87	257.91	9,617.66	-213.02	-1,200.76	-202.53	1,219.51	259.94	0.54	94.00	141.8
104	9,801.00	7.34	255.89	9,710.84	-215.83	-1,212.88	-205.24	1,231.93	259.91	0.63	94.00	147.2
105	9,896.00	6.55	253.87	9,805.14	-218.82	-1,223.97	-208.13	1,243.37	259.86	0.87	95.00	147.2
106	9,990.00	5.93	247.36	9,898.58	-222.18	-1,233.60	-211.40	1,253.45	259.79	1.00	94.00	147.2
107	10,083.00	6.68	247.45	9,991.02	-226.10	-1,243.03	-215.24	1,263.43	259.69	0.81	93.00	125.6
108	10,177.00	7.30	244.99	10,084.32	-230.72	-1,253.49	-219.77	1,274.55	259.57	0.73	94.00	125.6
109	10,271.00	6.86	245.69	10,177.60	-235.56	-1,264.02	-224.52	1,285.78	259.44	0.48	94.00	134.6
110	10,365.00	6.90	243.76	10,270.93	-240.36	-1,274.20	-229.24	1,296.67	259.32	0.25	94.00	136.4
111	10,459.00	6.95	239.72	10,364.24	-245.73	-1,284.18	-234.51	1,307.48	259.17	0.52	94.00	136.4
112	10,554.00	5.27	231.37	10,458.70	-251.35	-1,292.55	-240.06	1,316.76	259.00	2.00	95.00	140
113	10,648.00	5.36	227.41	10,552.30	-257.02	-1,299.15	-245.67	1,324.33	258.81	0.40	94.00	140
114	10,742.00	4.88	240.86	10,645.93	-261.94	-1,305.88	-250.53	1,331.89	258.66	1.37	94.00	140

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	CD	CA	DLS	CL	Temp
115	10,836.00	4.75	252.55	10,739.60	-265.05	-1,313.08	-253.58	1,339.57	258.59	1.05	94.00	141.8
116	10,930.00	4.92	254.40	10,833.26	-267.30	-1,320.68	-255.77	1,347.46	258.56	0.25	94.00	145.4
117	11,024.00	4.53	254.31	10,926.94	-269.39	-1,328.14	-257.79	1,355.18	258.53	0.41	94.00	145.4
118	11,119.00	3.60	244.02	11,021.70	-271.71	-1,334.43	-260.05	1,361.81	258.49	1.24	95.00	145.4
119	11,213.00	3.25	244.11	11,115.54	-274.17	-1,339.48	-262.47	1,367.25	258.43	0.37	94.00	145.4
120	11,307.00	3.12	247.89	11,209.39	-276.29	-1,344.25	-264.55	1,372.35	258.39	0.26	94.00	149
121	11,402.00	4.18	255.71	11,304.20	-278.12	-1,350.00	-266.33	1,378.35	258.36	1.23	95.00	149
122	11,496.00	3.47	261.43	11,397.99	-279.39	-1,356.13	-267.54	1,384.61	258.36	0.86	94.00	149
123	11,590.00	3.12	259.40	11,491.83	-280.28	-1,361.46	-268.39	1,390.01	258.37	0.39	94.00	150.8
124	11,684.00	3.43	256.07	11,585.68	-281.43	-1,366.70	-269.49	1,395.38	258.36	0.39	94.00	150.8
125	11,779.00	3.82	249.30	11,680.49	-283.23	-1,372.42	-271.25	1,401.34	258.34	0.61	95.00	152.6
126	11,873.00	3.21	236.38	11,774.31	-285.80	-1,377.54	-273.77	1,406.87	258.28	1.06	94.00	152.6
127	11,967.00	3.34	233.48	11,868.16	-288.89	-1,381.93	-276.81	1,411.80	258.19	0.22	94.00	154.4
128	12,061.00	2.68	222.32	11,962.03	-292.14	-1,385.61	-280.04	1,416.07	258.09	0.94	94.00	154.4
129	12,156.00	2.15	224.25	12,056.94	-295.06	-1,388.35	-282.93	1,419.36	258.00	0.56	95.00	152.6
130	12,250.00	1.63	209.83	12,150.89	-297.48	-1,390.25	-285.34	1,421.72	257.92	0.75	94.00	154.4
131	12,297.00	1.49	213.09	12,197.88	-298.57	-1,390.91	-286.42	1,422.60	257.88	0.35	47.00	154.4
132	12,368.00	1.93	190.06	12,268.85	-300.52	-1,391.63	-288.37	1,423.71	257.81	1.14	71.00	147.2
133	12,434.00	2.33	259.05	12,334.81	-301.87	-1,393.14	-289.70	1,425.47	257.77	3.69	66.00	147.2
134	12,528.00	15.47	339.03	12,427.62	-290.46	-1,399.54	-278.24	1,429.36	258.28	16.21	94.00	147.2
135	12,622.00	24.88	351.34	12,515.79	-259.12	-1,407.02	-246.84	1,430.68	259.57	10.93	94.00	147.2
136	12,717.00	35.30	347.74	12,597.88	-212.41	-1,415.88	-200.05	1,431.73	261.47	11.13	95.00	168.8
137	12,811.00	47.82	345.36	12,668.08	-151.93	-1,430.51	-139.44	1,438.56	263.94	13.42	94.00	170.6
138	12,905.00	57.41	354.06	12,725.16	-78.59	-1,443.46	-65.99	1,445.60	266.88	12.56	94.00	172.4
139	12,999.00	65.23	357.84	12,770.24	3.60	-1,449.18	16.24	1,449.18	270.14	9.03	94.00	174.2
140	13,093.00	73.01	356.44	12,803.72	91.24	-1,453.58	103.93	1,456.44	273.59	8.39	94.00	176
141	13,187.00	77.32	355.91	12,827.79	181.89	-1,459.65	194.62	1,470.94	277.10	4.62	94.00	177.8
142	13,282.00	86.24	356.61	12,841.35	275.61	-1,465.77	288.40	1,491.46	280.65	9.42	95.00	176
143	13,376.00	92.92	357.75	12,842.04	369.44	-1,470.39	382.26	1,516.09	284.10	7.21	94.00	177.8
144	13,470.00	89.63	357.75	12,839.95	463.34	-1,474.08	476.18	1,545.18	287.45	3.50	94.00	179.6
145	13,564.00	89.41	359.07	12,840.74	557.29	-1,476.69	570.16	1,578.35	290.68	1.42	94.00	181.4
146	13,658.00	89.89	358.63	12,841.31	651.27	-1,478.57	664.15	1,615.65	293.77	0.69	94.00	183.2
147	13,753.00	90.59	358.19	12,840.92	746.23	-1,481.21	759.13	1,658.57	296.74	0.87	95.00	183.2
148	13,847.00	89.67	358.81	12,840.70	840.20	-1,483.67	853.12	1,705.05	299.52	1.18	94.00	183.2
149	13,941.00	89.58	357.05	12,841.32	934.13	-1,487.06	947.07	1,756.12	302.14	1.87	94.00	183.2
150	14,036.00	89.14	357.23	12,842.38	1,029.01	-1,491.80	1,041.99	1,812.27	304.60	0.50	95.00	188.6
151	14,130.00	89.54	356.26	12,843.46	1,122.85	-1,497.14	1,135.87	1,871.42	306.87	1.12	94.00	188.6
152	14,224.00	90.33	357.93	12,843.57	1,216.72	-1,501.91	1,229.78	1,932.91	309.01	1.97	94.00	188.6
153	14,318.00	91.52	358.99	12,842.05	1,310.68	-1,504.43	1,323.75	1,995.29	311.06	1.70	94.00	188.6
154	14,413.00	91.30	358.37	12,839.71	1,405.62	-1,506.62	1,418.71	2,060.50	313.01	0.69	95.00	188.6
155	14,507.00	90.20	0.30	12,838.48	1,499.60	-1,507.71	1,512.70	2,126.50	314.85	2.36	94.00	188.6
156	14,601.00	89.58	355.47	12,838.66	1,593.51	-1,511.18	1,606.63	2,196.12	316.52	5.18	94.00	188.6
157	14,695.00	88.97	354.15	12,839.85	1,687.11	-1,519.68	1,700.31	2,270.63	317.99	1.55	94.00	190.4
158	14,789.00	89.05	355.82	12,841.48	1,780.74	-1,527.90	1,794.00	2,346.38	319.37	1.78	94.00	190.4
159	14,884.00	90.02	359.69	12,842.25	1,875.64	-1,531.62	1,888.93	2,421.54	320.77	4.20	95.00	190.4
160	14,978.00	90.20	356.88	12,842.07	1,969.59	-1,534.43	1,982.90	2,496.75	322.08	3.00	94.00	192.2
161	15,072.00	91.69	358.37	12,840.52	2,063.49	-1,538.32	2,076.84	2,573.80	323.30	2.24	94.00	192.2
162	15,166.00	89.93	0.39	12,839.19	2,157.47	-1,539.34	2,170.82	2,650.33	324.49	2.85	94.00	194.0
163	15,205.00	91.08	0.65	12,838.84	2,196.46	-1,538.99	2,209.81	2,681.96	324.98	3.02	39.00	183.2
164	15,299.00	88.66	0.92	12,839.06	2,290.45	-1,537.70	2,303.78	2,758.74	326.12	2.59	94.00	194.0
165	15,393.00	88.13	1.62	12,841.69	2,384.39	-1,535.62	2,397.70	2,836.09	327.22	0.93	94.00	199.4
166	15,488.00	87.21	1.18	12,845.55	2,479.28	-1,533.30	2,492.56	2,915.10	328.27	1.07	95.00	199.4
167	15,582.00	91.65	2.50	12,846.49	2,573.20	-1,530.28	2,586.45	2,993.84	329.26	4.93	94.00	199.4
168	15,676.00	91.30	3.56	12,844.07	2,667.03	-1,525.31	2,680.24	3,072.40	330.23	1.19	94.00	199.4
169	15,770.00	89.41	1.36	12,843.49	2,760.94	-1,521.28	2,774.11	3,152.31	331.15	3.09	94.00	203.0
170	15,865.00	89.58	10.50	12,844.32	2,855.32	-1,511.47	2,868.41	3,230.70	332.11	9.62	95.00	206.6
171	15,959.00	89.45	13.31	12,845.12	2,947.29	-1,492.09	2,960.20	3,303.46	333.15	2.99	94.00	206.6
172	16,053.00	90.33	8.48	12,845.30	3,039.57	-1,474.32	3,052.32	3,378.25	334.12	5.22	94.00	203.0
173	16,147.00	90.37	3.38	12,844.73	3,133.03	-1,464.62	3,145.69	3,458.47	334.95	5.43	94.00	203.0
174	16,241.00	89.41	0.92	12,844.91	3,226.96	-1,461.09	3,239.58	3,542.32	335.64	2.81	94.00	203.0
175	16,335.00	89.14	358.81	12,846.10	3,320.94	-1,461.31	3,333.57	3,628.24	336.25	2.26	94.00	206.6
176	16,429.00	90.24	358.19	12,846.60	3,414.91	-1,463.77	3,427.55	3,715.40	336.80	1.34	94.00	206.6
177	16,523.00	89.49	358.99	12,846.83	3,508.88	-1,466.08	3,521.54	3,802.84	337.32	1.17	94.00	212.0
178	16,617.00	92.40	357.67	12,845.28	3,602.81	-1,468.82	3,615.49	3,890.72	337.82	3.40	94.00	212.0
179	16,711.00	93.14	357.67	12,840.73	3,696.62	-1,472.64	3,709.34	3,979.16	338.28	0.79	94.00	-16.6

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	CD	CA	DLS	CL	Temp
180	16,806.00	90.11	358.72	12,838.04	3,791.53	-1,475.63	3,804.26	4,068.56	338.73	3.38	95.00	212.0
181	16,900.00	89.27	358.28	12,838.55	3,885.49	-1,478.09	3,898.24	4,157.14	339.17	1.01	94.00	212.0
182	16,994.00	88.66	358.37	12,840.25	3,979.44	-1,480.84	3,992.21	4,246.03	339.59	0.66	94.00	217.4
183	17,088.00	90.29	358.72	12,841.11	4,073.40	-1,483.22	4,086.19	4,335.04	339.99	1.77	94.00	213.8
184	17,182.00	90.73	0.22	12,840.27	4,167.39	-1,484.09	4,180.18	4,423.76	340.40	1.66	94.00	213.8
185	17,277.00	88.97	356.00	12,840.52	4,262.31	-1,487.23	4,275.13	4,514.33	340.76	4.81	95.00	215.6
186	17,371.00	90.86	355.47	12,840.66	4,356.05	-1,494.22	4,368.92	4,605.19	341.07	2.09	94.00	217.4
187	17,465.00	88.62	353.89	12,841.09	4,449.63	-1,502.93	4,462.58	4,696.60	341.34	2.92	94.00	217.4
188	17,560.00	88.53	355.56	12,843.45	4,544.20	-1,511.66	4,557.21	4,789.03	341.60	1.76	95.00	219.2
189	17,654.00	87.74	355.03	12,846.51	4,637.83	-1,519.37	4,650.91	4,880.36	341.86	1.01	94.00	219.2
190	17,748.00	90.24	357.40	12,848.16	4,731.60	-1,525.57	4,744.73	4,971.45	342.13	3.66	94.00	217.4
191	17,842.00	89.93	356.08	12,848.03	4,825.44	-1,530.92	4,838.62	5,062.47	342.40	1.44	94.00	221.0
192	17,936.00	90.11	357.67	12,847.99	4,919.30	-1,536.04	4,932.51	5,153.53	342.66	1.70	94.00	221.0
193	18,031.00	90.86	357.05	12,847.19	5,014.19	-1,540.42	5,027.44	5,245.47	342.92	1.02	95.00	221.0
194	18,125.00	90.20	357.84	12,846.32	5,108.09	-1,544.61	5,121.38	5,336.52	343.18	1.10	94.00	219.2
195	18,219.00	90.02	348.35	12,846.14	5,201.31	-1,555.89	5,214.68	5,429.03	343.35	10.10	94.00	219.2
196	18,313.00	90.02	356.88	12,846.10	5,294.44	-1,567.97	5,307.92	5,521.74	343.50	9.07	94.00	215.6
197	18,407.00	90.77	359.51	12,845.46	5,388.38	-1,570.93	5,401.89	5,612.71	343.75	2.91	94.00	217.4
198	18,501.00	91.52	0.92	12,843.58	5,482.36	-1,570.57	5,495.86	5,702.89	344.01	1.70	94.00	221.0
199	18,596.00	89.71	358.90	12,842.56	5,577.34	-1,570.72	5,590.84	5,794.30	344.27	2.85	95.00	221.0
200	18,690.00	91.25	357.84	12,841.77	5,671.30	-1,573.40	5,684.81	5,885.51	344.49	1.99	94.00	219.2
201	18,784.00	86.73	359.86	12,843.43	5,765.24	-1,575.28	5,778.76	5,976.58	344.72	5.27	94.00	217.4
202	18,878.00	87.69	358.46	12,848.00	5,859.11	-1,576.66	5,872.65	6,067.54	344.94	1.80	94.00	217.4
203	18,972.00	89.98	0.39	12,849.91	5,953.08	-1,577.60	5,966.62	6,158.57	345.16	3.19	94.00	217.4
204	19,066.00	91.03	357.84	12,849.09	6,047.05	-1,579.05	6,060.60	6,249.82	345.37	2.93	94.00	217.4
205	19,160.00	90.11	356.00	12,848.15	6,140.91	-1,584.10	6,154.50	6,341.93	345.54	2.19	94.00	217.4
206	19,255.00	90.11	353.71	12,847.97	6,235.52	-1,592.62	6,249.18	6,435.69	345.67	2.41	95.00	217.4
207	19,349.00	90.90	353.27	12,847.14	6,328.91	-1,603.28	6,342.66	6,528.83	345.78	0.96	94.00	217.4
208	19,443.00	92.13	358.81	12,844.65	6,422.61	-1,609.77	6,436.41	6,621.28	345.93	6.04	94.00	-14.8
209	19,537.00	92.35	3.64	12,840.98	6,516.49	-1,607.76	6,530.27	6,711.90	346.14	5.14	94.00	190.4
210	19,631.00	92.09	3.64	12,837.34	6,610.23	-1,601.80	6,623.96	6,801.54	346.38	0.28	94.00	-7.6
211	19,726.00	92.48	4.08	12,833.55	6,704.94	-1,595.41	6,718.61	6,892.14	346.62	0.62	95.00	-7.6
212	19,820.00	92.00	4.35	12,829.87	6,798.61	-1,588.50	6,812.22	6,981.72	346.85	0.59	94.00	-7.6
213	19,914.00	90.29	2.94	12,828.00	6,892.40	-1,582.53	6,905.95	7,071.74	347.07	2.36	94.00	221.0
214	20,008.00	91.08	3.12	12,826.87	6,986.26	-1,577.56	6,999.76	7,162.16	347.28	0.86	94.00	215.6
215	20,103.00	88.57	3.82	12,827.16	7,081.08	-1,571.81	7,094.52	7,253.43	347.48	2.74	95.00	190.4
216	20,197.00	88.31	4.96	12,829.72	7,174.76	-1,564.62	7,188.14	7,343.38	347.70	1.24	94.00	213.8
217	20,291.00	88.31	4.08	12,832.49	7,268.43	-1,557.21	7,281.74	7,433.37	347.91	0.94	94.00	213.8
218	20,385.00	88.13	4.96	12,835.41	7,362.09	-1,549.81	7,375.34	7,523.45	348.11	0.96	94.00	213.8
219	20,480.00	87.87	4.26	12,838.73	7,456.73	-1,542.18	7,469.90	7,614.53	348.31	0.79	95.00	221.0
220	20,574.00	87.96	4.43	12,842.15	7,550.39	-1,535.06	7,563.50	7,704.86	348.51	0.20	94.00	224.6
221	20,655.00	87.47	3.82	12,845.38	7,631.12	-1,529.24	7,644.17	7,782.84	348.67	0.97	81.00	222.8
PTB	20,703.00	87.47	3.82	12,847.50	7,678.97	-1,526.05	7,691.99	7,829.13	348.76	0.00	48.00	222.8