



Total Directional
Services, LLC
USA Operations

Final MWD Survey Certification

Leah County, New Mexico

Client: Devon Energy

Well Name: Big Cat 16-9 State Fed Com23H

Total Job No: 2019-321-540

API No: 30-025-45726

Start Date: 05/3/2019

End Date: 05/24/2019

Measured Start Depth: 0 feet

Measured End Depth: 18761 feet

Vertical Section from well center at TD: 8000.78 feet

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HOBBS OCD

I, Shaun Heck, 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: 05/24/19

Signed: *Shaun Heck*



Big Cat 16-9 State Fed Com 213H

Directional Survey Report

Start date: 05/03/2019

End date: 05/23/2019

Company Name: Devon Energy

Survey Company: Total Directional Services

Well Name: Big Cat 16-9 State Fed Com 213H

State/Prov: NM

Job Number: 2019-321-540

Field: Leanord B

County: Lea County

Proposed Azimuth: 359.63

Rig ID: HP540

Country: US

Declination: 6.47 KB: 3712.50

API/UWI: 30-025-45726

Location: Fluffy Cat Pad

North Reference: Grid

Latitude/Longitude: 32.304288 / -103.681268

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	180.00	0.31	188.84	180.00	-0.48	-0.07	-0.48	0.49	188.84	0.17	180.00
2	271.00	0.40	193.24	271.00	-1.03	-0.19	-1.03	1.05	190.17	0.10	91.00
3	362.00	0.62	214.33	361.99	-1.75	-0.54	-1.75	1.83	197.03	0.31	91.00
4	451.00	0.75	207.83	450.99	-2.66	-1.08	-2.66	2.87	202.07	0.17	89.00
5	541.00	0.66	199.74	540.98	-3.67	-1.53	-3.66	3.98	202.62	0.15	90.00
6	632.00	0.66	211.26	631.97	-4.61	-1.98	-4.60	5.02	203.22	0.15	91.00
7	723.00	0.62	198.25	722.97	-5.53	-2.40	-5.51	6.03	203.51	0.17	91.00
8	814.00	0.66	212.31	813.96	-6.44	-2.84	-6.42	7.04	203.79	0.18	91.00
9	904.00	0.88	205.98	903.96	-7.50	-3.42	-7.48	8.24	204.51	0.26	90.00
10	996.00	0.92	202.73	995.94	-8.81	-4.01	-8.79	9.68	204.48	0.07	92.00
11	1,087.00	0.75	204.49	1,086.93	-10.03	-4.54	-10.00	11.01	204.37	0.19	91.00
12	1,179.00	0.62	203.34	1,178.93	-11.03	-4.99	-11.00	12.11	204.33	0.14	92.00
13	1,212.00	0.48	192.01	1,211.93	-11.33	-5.09	-11.30	12.42	204.18	0.54	33.00
14	1,327.00	0.35	224.09	1,326.92	-12.06	-5.43	-12.02	13.23	204.26	0.23	115.00
15	1,417.00	0.35	242.19	1,416.92	-12.38	-5.87	-12.35	13.70	205.35	0.12	90.00
16	1,508.00	1.05	282.80	1,507.91	-12.33	-6.93	-12.28	14.14	209.33	0.90	91.00
17	1,602.00	1.85	272.60	1,601.88	-12.07	-9.28	-12.01	15.23	217.57	0.89	94.00
18	1,696.00	2.73	265.13	1,695.81	-12.19	-13.03	-12.11	17.84	226.91	0.99	94.00
19	1,790.00	3.34	261.09	1,789.68	-12.80	-17.96	-12.69	22.06	234.52	0.69	94.00
20	1,884.00	4.00	254.94	1,883.48	-14.08	-23.84	-13.93	27.68	239.43	0.82	94.00
21	1,978.00	4.88	254.67	1,977.20	-15.99	-30.86	-15.79	34.75	242.61	0.94	94.00
22	2,073.00	5.85	257.13	2,071.78	-18.14	-39.48	-17.88	43.44	245.33	1.05	95.00
23	2,167.00	6.77	257.49	2,165.21	-20.40	-49.55	-20.08	53.59	247.62	0.98	94.00
24	2,261.00	7.47	260.39	2,258.49	-22.62	-60.99	-22.23	65.05	249.65	0.84	94.00
25	2,355.00	7.69	258.72	2,351.67	-24.87	-73.18	-24.40	77.29	251.23	0.33	94.00
26	2,450.00	7.56	258.54	2,445.83	-27.36	-85.54	-26.81	89.81	252.26	0.14	95.00
27	2,544.00	7.56	254.67	2,539.01	-30.22	-97.56	-29.59	102.14	252.79	0.54	94.00
28	2,638.00	7.60	254.15	2,632.19	-33.55	-109.51	-32.85	114.53	252.96	0.08	94.00
29	2,733.00	7.74	255.38	2,726.34	-36.88	-121.74	-36.10	127.20	253.14	0.23	95.00
30	2,827.00	7.96	255.11	2,819.46	-40.15	-134.15	-39.29	140.03	253.34	0.24	94.00
31	2,921.00	7.43	252.48	2,912.61	-43.66	-146.24	-42.71	152.62	253.38	0.68	94.00
32	3,015.00	7.60	254.15	3,005.80	-47.18	-158.02	-46.16	164.91	253.37	0.29	94.00
33	3,110.00	7.21	255.64	3,100.01	-50.38	-169.83	-49.28	177.15	253.48	0.46	95.00
34	3,204.00	7.08	258.28	3,193.28	-53.02	-181.22	-51.85	188.82	253.69	0.38	94.00
35	3,298.00	7.03	261.18	3,286.57	-55.08	-192.58	-53.83	200.30	254.04	0.38	94.00
36	3,392.00	6.95	255.64	3,379.87	-57.37	-203.77	-56.05	211.69	254.28	0.72	94.00
37	3,487.00	6.86	256.78	3,474.18	-60.09	-214.86	-58.70	223.11	254.37	0.17	95.00
38	3,581.00	6.55	257.84	3,567.54	-62.51	-225.57	-61.05	234.07	254.51	0.36	94.00
39	3,675.00	7.03	256.69	3,660.88	-64.96	-236.41	-63.43	245.17	254.64	0.53	94.00
40	3,770.00	7.08	255.99	3,755.16	-67.72	-247.75	-66.11	256.83	254.71	0.10	95.00
41	3,864.00	6.90	256.43	3,848.46	-70.44	-258.86	-68.77	268.27	254.78	0.20	94.00
42	3,958.00	6.68	258.28	3,941.80	-72.88	-269.70	-71.13	279.37	254.88	0.33	94.00
43	4,052.00	6.73	256.26	4,035.16	-75.30	-280.40	-73.48	290.33	254.97	0.26	94.00
44	4,147.00	7.47	252.92	4,129.43	-78.43	-291.71	-76.55	302.07	254.95	0.89	95.00
45	4,241.00	7.60	253.00	4,222.62	-82.04	-303.50	-80.08	314.39	254.87	0.14	94.00
46	4,336.00	7.21	255.29	4,316.83	-85.40	-315.27	-83.36	326.63	254.84	0.51	95.00
47	4,430.00	6.86	249.05	4,410.12	-88.90	-326.22	-86.79	338.12	254.76	0.89	94.00
48	4,524.00	7.60	249.49	4,503.37	-93.09	-337.28	-90.91	349.89	254.57	0.79	94.00
49	4,618.00	7.52	254.32	4,596.56	-96.93	-349.03	-94.67	362.24	254.48	0.68	94.00

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	CD	CA	DLS	CL
50	4,713.00	6.86	253.79	4,690.81	-100.19	-360.46	-97.86	374.13	254.47	0.70	95.00
51	4,795.00	7.08	258.36	4,772.20	-102.58	-370.11	-100.18	384.06	254.51	0.73	82.00
52	4,894.00	7.56	259.42	4,870.40	-105.00	-382.49	-102.53	396.64	254.65	0.50	99.00
53	4,989.00	7.52	257.40	4,964.58	-107.51	-394.70	-104.96	409.08	254.76	0.28	95.00
54	5,083.00	7.60	255.90	5,057.76	-110.36	-406.73	-107.73	421.44	254.82	0.23	94.00
55	5,178.00	7.47	255.02	5,151.94	-113.49	-418.79	-110.78	433.90	254.84	0.18	95.00
56	5,272.00	7.30	253.44	5,245.16	-116.77	-430.42	-113.99	445.98	254.82	0.28	94.00
57	5,366.00	7.12	252.65	5,338.42	-120.21	-441.70	-117.36	457.77	254.78	0.22	94.00
58	5,461.00	7.91	256.43	5,432.60	-123.50	-453.68	-120.57	470.19	254.77	0.98	95.00
59	5,555.00	7.91	255.64	5,525.71	-126.62	-466.23	-123.61	483.12	254.81	0.12	94.00
60	5,650.00	7.47	252.83	5,619.85	-130.07	-478.46	-126.97	495.83	254.79	0.61	95.00
61	5,744.00	6.99	255.38	5,713.10	-133.31	-489.84	-130.15	507.65	254.78	0.61	94.00
62	5,839.00	7.38	253.79	5,807.36	-136.48	-501.29	-133.24	519.53	254.77	0.46	95.00
63	5,934.00	7.08	260.21	5,901.60	-139.17	-512.92	-135.86	531.46	254.82	0.91	95.00
64	6,028.00	6.90	258.63	5,994.90	-141.27	-524.16	-137.89	542.86	254.92	0.28	94.00
65	6,122.00	7.03	257.84	6,088.21	-143.60	-535.32	-140.14	554.24	254.98	0.17	94.00
66	6,217.00	6.95	255.90	6,182.51	-146.22	-546.58	-142.69	565.80	255.02	0.26	95.00
67	6,311.00	6.86	256.87	6,275.82	-148.88	-557.56	-145.28	577.10	255.05	0.16	94.00
68	6,406.00	6.59	255.73	6,370.17	-151.52	-568.37	-147.84	588.22	255.07	0.32	95.00
69	6,500.00	7.34	258.36	6,463.48	-154.06	-579.48	-150.31	599.61	255.11	0.87	94.00
70	6,594.00	7.16	257.13	6,556.72	-156.57	-591.07	-152.75	611.46	255.16	0.25	94.00
71	6,689.00	6.95	254.85	6,651.01	-159.39	-602.39	-155.50	623.12	255.18	0.37	95.00
72	6,783.00	7.16	258.10	6,744.29	-162.09	-613.61	-158.12	634.66	255.20	0.48	94.00
73	6,877.00	8.04	257.31	6,837.47	-164.74	-625.76	-160.70	647.08	255.25	0.94	94.00
74	6,972.00	7.60	256.08	6,931.58	-167.71	-638.33	-163.59	660.00	255.28	0.50	95.00
75	7,066.00	7.30	253.35	7,024.79	-170.92	-650.09	-166.72	672.18	255.27	0.49	94.00
76	7,161.00	8.09	255.64	7,118.93	-174.30	-662.35	-170.02	684.90	255.26	0.89	95.00
77	7,255.00	8.31	260.91	7,211.97	-177.02	-675.46	-172.65	698.27	255.31	0.83	94.00
78	7,349.00	7.82	260.12	7,305.04	-179.19	-688.47	-174.74	711.41	255.41	0.53	94.00
79	7,443.00	7.25	258.10	7,398.23	-181.51	-700.58	-176.98	723.71	255.47	0.67	94.00
80	7,537.00	6.99	256.08	7,491.51	-184.11	-711.93	-179.51	735.35	255.50	0.38	94.00
81	7,632.00	6.37	252.21	7,585.86	-187.11	-722.56	-182.44	746.39	255.48	0.81	95.00
82	7,726.00	7.25	256.17	7,679.20	-190.12	-733.29	-185.38	757.53	255.46	1.06	94.00
83	7,820.00	6.99	264.78	7,772.48	-192.06	-744.74	-187.25	769.11	255.54	1.17	94.00
84	7,914.00	6.86	262.76	7,865.79	-193.29	-756.01	-188.40	780.32	255.66	0.29	94.00
85	8,008.00	6.29	258.63	7,959.17	-195.01	-766.62	-190.05	791.04	255.73	0.79	94.00
86	8,102.00	6.07	255.90	8,052.63	-197.24	-776.49	-192.22	801.15	255.75	0.39	94.00
87	8,196.00	5.76	254.76	8,146.13	-199.69	-785.86	-194.61	810.84	255.74	0.35	94.00
88	8,291.00	5.41	260.12	8,240.68	-201.71	-794.88	-196.57	820.07	255.76	0.66	95.00
89	8,385.00	4.66	268.12	8,334.31	-202.59	-803.06	-197.40	828.22	255.84	1.09	94.00
90	8,479.00	3.52	261.62	8,428.07	-203.14	-809.73	-197.91	834.82	255.92	1.31	94.00
91	8,573.00	2.77	254.06	8,521.93	-204.18	-814.77	-198.92	839.96	255.93	0.91	94.00
92	8,667.00	2.15	247.20	8,615.84	-205.49	-818.58	-200.20	843.98	255.91	0.73	94.00
93	8,762.00	1.41	233.14	8,710.80	-206.88	-821.16	-201.57	846.82	255.86	0.90	95.00
94	8,856.00	0.70	277.26	8,804.78	-207.50	-822.65	-202.19	848.42	255.84	1.10	94.00
95	8,950.00	0.09	351.09	8,898.78	-207.36	-823.23	-202.04	848.94	255.86	0.72	94.00
96	9,044.00	0.13	176.10	8,992.78	-207.39	-823.24	-202.07	848.96	255.86	0.23	94.00
97	9,138.00	0.53	36.26	9,086.78	-207.15	-822.97	-201.83	848.64	255.87	0.68	94.00
98	9,233.00	1.36	27.21	9,181.77	-205.79	-822.20	-200.48	847.56	255.95	0.88	95.00
99	9,327.00	0.92	37.67	9,275.75	-204.20	-821.22	-198.89	846.23	256.04	0.52	94.00
100	9,421.00	0.31	107.46	9,369.74	-203.68	-820.52	-198.38	845.42	256.06	0.92	94.00
101	9,504.00	0.35	352.85	9,452.74	-203.50	-820.34	-198.19	845.20	256.07	0.67	83.00
102	9,609.00	0.44	236.83	9,557.74	-203.40	-820.72	-198.09	845.54	256.08	0.64	105.00
103	9,703.00	1.19	215.47	9,651.73	-204.39	-821.58	-199.08	846.63	256.03	0.85	94.00
104	9,797.00	1.67	222.59	9,745.70	-206.19	-823.08	-200.87	848.51	255.94	0.54	94.00
105	9,891.00	1.27	221.45	9,839.67	-207.98	-824.69	-202.65	850.52	255.85	0.43	94.00
106	9,986.00	0.26	268.47	9,934.66	-208.78	-825.61	-203.44	851.59	255.81	1.17	95.00
107	10,080.00	0.13	286.75	10,028.66	-208.75	-825.92	-203.41	851.89	255.82	0.15	94.00
108	10,174.00	0.26	294.05	10,122.66	-208.64	-826.22	-203.30	852.15	255.83	0.14	94.00
109	10,221.00	3.60	9.46	10,169.63	-207.14	-826.07	-201.80	851.65	255.92	7.54	47.00
110	10,268.00	8.35	15.43	10,216.36	-202.39	-824.92	-197.06	849.39	256.22	10.18	47.00
111	10,362.00	18.29	16.84	10,307.72	-181.64	-818.82	-176.35	838.72	257.49	10.58	94.00
112	10,457.00	27.82	18.86	10,395.03	-146.31	-807.31	-141.10	820.46	259.73	10.06	95.00
113	10,551.00	37.71	20.62	10,473.98	-98.53	-790.05	-93.42	796.17	262.89	10.57	94.00
114	10,645.00	50.24	22.73	10,541.49	-38.05	-765.87	-33.11	766.81	267.16	13.42	94.00

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	CD	CA	DLS	CL
115	10,740.00	62.46	24.49	10,594.04	34.23	-734.18	38.97	734.97	272.67	12.95	95.00
116	10,834.00	76.84	23.34	10,626.64	114.60	-698.58	119.11	707.92	279.32	15.34	94.00
117	10,861.00	81.10	23.26	10,631.81	138.94	-688.10	143.38	701.99	281.42	15.78	27.00
118	10,955.00	88.35	22.91	10,640.44	224.99	-651.43	229.19	689.18	289.05	7.72	94.00
119	11,049.00	89.80	19.74	10,641.96	312.53	-617.25	316.51	691.86	296.85	3.71	94.00
120	11,144.00	89.98	18.07	10,642.14	402.40	-586.47	406.18	711.25	304.46	1.77	95.00
121	11,238.00	89.80	17.19	10,642.32	491.98	-558.00	495.58	743.92	311.40	0.96	94.00
122	11,332.00	89.05	15.61	10,643.27	582.15	-531.47	585.57	788.26	317.61	1.86	94.00
123	11,426.00	89.76	15.35	10,644.24	672.73	-506.38	675.99	842.02	323.03	0.80	94.00
124	11,521.00	90.95	13.41	10,643.65	764.75	-482.79	767.85	904.39	327.74	2.40	95.00
125	11,615.00	90.55	11.30	10,642.42	856.56	-462.68	859.53	973.53	331.62	2.28	94.00
126	11,709.00	90.02	9.28	10,641.96	949.04	-445.89	951.90	1,048.57	334.83	2.22	94.00
127	11,803.00	90.42	7.00	10,641.59	1,042.09	-432.58	1,044.86	1,128.30	337.46	2.46	94.00
128	11,897.00	91.12	4.36	10,640.33	1,135.61	-423.28	1,138.32	1,211.93	339.56	2.91	94.00
129	11,991.00	91.47	1.90	10,638.21	1,229.44	-418.15	1,232.11	1,298.60	341.22	2.64	94.00
130	12,086.00	90.64	0.49	10,636.46	1,324.40	-416.17	1,327.06	1,388.24	342.56	1.72	95.00
131	12,180.00	89.49	359.09	10,636.35	1,418.39	-416.51	1,421.05	1,478.28	343.64	1.93	94.00
132	12,274.00	90.07	358.74	10,636.71	1,512.37	-418.29	1,515.04	1,569.15	344.54	0.72	94.00
133	12,368.00	90.46	359.26	10,636.28	1,606.36	-419.93	1,609.04	1,660.34	345.35	0.69	94.00
134	12,462.00	91.08	359.58	10,635.01	1,700.35	-420.88	1,703.03	1,751.66	346.10	0.74	94.00
135	12,557.00	89.32	359.79	10,634.68	1,795.34	-421.40	1,798.02	1,844.13	346.79	1.87	95.00
136	12,652.00	90.33	359.79	10,634.97	1,890.34	-421.75	1,893.02	1,936.81	347.42	1.06	95.00
137	12,746.00	88.79	359.09	10,635.69	1,984.33	-422.67	1,987.01	2,028.84	347.98	1.80	94.00
138	12,840.00	89.10	358.82	10,637.42	2,078.29	-424.38	2,080.99	2,121.18	348.46	0.44	94.00
139	12,935.00	88.79	358.91	10,639.17	2,173.26	-426.27	2,175.97	2,214.67	348.90	0.34	95.00
140	13,030.00	90.15	359.88	10,640.05	2,268.25	-427.27	2,270.96	2,308.14	349.33	1.76	95.00
141	13,124.00	91.03	359.88	10,639.08	2,362.24	-427.47	2,364.95	2,400.61	349.74	0.94	94.00
142	13,218.00	91.56	0.23	10,636.96	2,456.22	-427.38	2,458.92	2,493.12	350.13	0.68	94.00
143	13,313.00	90.59	0.32	10,635.18	2,551.20	-426.92	2,553.90	2,586.67	350.50	1.03	95.00
144	13,407.00	89.71	0.76	10,634.93	2,645.19	-426.03	2,647.89	2,679.28	350.85	1.05	94.00
145	13,501.00	89.98	0.85	10,635.19	2,739.18	-424.71	2,741.87	2,771.91	351.19	0.30	94.00
146	13,596.00	89.58	359.26	10,635.55	2,834.18	-424.62	2,836.86	2,865.81	351.48	1.73	95.00
147	13,690.00	90.33	359.97	10,635.62	2,928.17	-425.25	2,930.86	2,958.89	351.74	1.10	94.00
148	13,784.00	91.08	0.85	10,634.47	3,022.16	-424.58	3,024.84	3,051.84	352.00	1.23	94.00
149	13,878.00	90.29	0.49	10,633.34	3,116.15	-423.48	3,118.82	3,144.79	352.26	0.92	94.00
150	13,972.00	90.20	359.18	10,632.94	3,210.15	-423.75	3,212.82	3,237.99	352.48	1.40	94.00
151	14,067.00	90.59	359.61	10,632.29	3,305.14	-424.76	3,307.81	3,332.32	352.68	0.61	95.00
152	14,161.00	89.93	357.68	10,631.86	3,399.11	-426.98	3,401.79	3,425.82	352.84	2.17	94.00
153	14,255.00	89.41	357.33	10,632.40	3,493.01	-431.07	3,495.73	3,519.51	352.96	0.67	94.00
154	14,349.00	89.49	357.42	10,633.30	3,586.91	-435.38	3,589.65	3,613.24	353.08	0.13	94.00
155	14,443.00	90.20	358.21	10,633.56	3,680.84	-438.96	3,683.60	3,706.92	353.20	1.13	94.00
156	14,538.00	90.07	358.47	10,633.33	3,775.80	-441.71	3,778.58	3,801.55	353.33	0.31	95.00
157	14,632.00	90.46	358.74	10,632.90	3,869.77	-444.00	3,872.56	3,895.16	353.45	0.50	94.00
158	14,726.00	90.64	359.26	10,632.00	3,963.75	-445.64	3,966.55	3,988.73	353.59	0.59	94.00
159	14,820.00	90.99	359.53	10,630.66	4,057.74	-446.63	4,060.54	4,082.24	353.72	0.47	94.00
160	14,914.00	91.52	358.91	10,628.60	4,151.71	-447.91	4,154.51	4,175.80	353.84	0.87	94.00
161	15,008.00	90.33	359.97	10,627.08	4,245.69	-448.83	4,248.50	4,269.34	353.97	1.70	94.00
162	15,103.00	90.73	359.97	10,626.21	4,340.68	-448.88	4,343.49	4,363.83	354.10	0.42	95.00
163	15,197.00	90.99	0.14	10,624.79	4,434.67	-448.79	4,437.48	4,457.32	354.22	0.33	94.00
164	15,291.00	89.45	359.53	10,624.43	4,528.67	-449.06	4,531.47	4,550.88	354.34	1.76	94.00
165	15,385.00	89.41	359.09	10,625.37	4,622.66	-450.19	4,625.47	4,644.53	354.44	0.47	94.00
166	15,480.00	89.58	359.00	10,626.21	4,717.64	-451.78	4,720.46	4,739.22	354.53	0.20	95.00
167	15,574.00	89.01	358.74	10,627.36	4,811.61	-453.63	4,814.44	4,832.95	354.61	0.67	94.00
168	15,668.00	90.37	0.05	10,627.87	4,905.60	-454.62	4,908.44	4,926.62	354.71	2.01	94.00
169	15,762.00	90.73	359.79	10,626.97	4,999.60	-454.75	5,002.43	5,020.24	354.80	0.47	94.00
170	15,856.00	91.08	0.05	10,625.48	5,093.59	-454.88	5,096.42	5,113.86	354.90	0.46	94.00
171	15,950.00	91.47	0.49	10,623.39	5,187.56	-454.44	5,190.39	5,207.43	354.99	0.63	94.00
172	16,044.00	90.37	0.93	10,621.88	5,281.54	-453.28	5,284.36	5,300.95	355.09	1.26	94.00
173	16,138.00	90.51	1.46	10,621.16	5,375.52	-451.32	5,378.32	5,394.43	355.20	0.58	94.00
174	16,232.00	90.15	359.79	10,620.62	5,469.51	-450.29	5,472.30	5,488.01	355.29	1.82	94.00
175	16,327.00	90.59	0.49	10,620.01	5,564.50	-450.06	5,567.29	5,582.67	355.38	0.87	95.00
176	16,421.00	88.88	358.65	10,620.44	5,658.49	-450.76	5,661.28	5,676.42	355.45	2.67	94.00
177	16,515.00	89.01	358.65	10,622.17	5,752.45	-452.98	5,755.25	5,770.26	355.50	0.14	94.00
178	16,610.00	89.27	358.74	10,623.60	5,847.41	-455.14	5,850.23	5,865.10	355.55	0.29	95.00
179	16,704.00	89.85	358.91	10,624.32	5,941.39	-457.07	5,944.22	5,958.95	355.60	0.64	94.00

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	CD	CA	DLS	CL
180	16,798.00	90.51	359.09	10,624.02	6,035.38	-458.71	6,038.21	6,052.78	355.65	0.73	94.00
181	16,892.00	91.08	359.26	10,622.72	6,129.36	-460.06	6,132.20	6,146.60	355.71	0.63	94.00
182	16,987.00	89.71	359.70	10,622.07	6,224.35	-460.93	6,227.19	6,241.39	355.76	1.51	95.00
183	17,081.00	90.24	359.35	10,622.11	6,318.34	-461.70	6,321.19	6,335.19	355.82	0.68	94.00
184	17,177.00	91.25	359.61	10,620.86	6,414.33	-462.58	6,417.18	6,430.99	355.88	1.09	96.00
185	17,272.00	90.77	0.41	10,619.18	6,509.31	-462.56	6,512.17	6,525.73	355.94	0.98	95.00
186	17,366.00	91.60	1.02	10,617.24	6,603.29	-461.39	6,606.13	6,619.39	356.00	1.10	94.00
187	17,460.00	89.80	0.67	10,616.09	6,697.26	-460.00	6,700.10	6,713.04	356.07	1.95	94.00
188	17,554.00	90.11	0.93	10,616.17	6,791.26	-458.69	6,794.08	6,806.73	356.14	0.43	94.00
189	17,648.00	88.75	0.58	10,617.10	6,885.24	-457.45	6,888.05	6,900.42	356.20	1.49	94.00
190	17,743.00	88.92	0.67	10,619.03	6,980.21	-456.41	6,983.02	6,995.12	356.26	0.20	95.00
191	17,837.00	89.41	358.65	10,620.40	7,074.20	-456.97	7,077.00	7,088.94	356.30	2.21	94.00
192	17,931.00	91.25	359.97	10,619.86	7,168.18	-458.10	7,170.99	7,182.81	356.34	2.41	94.00
193	18,025.00	92.04	0.05	10,617.16	7,262.14	-458.09	7,264.95	7,276.58	356.39	0.84	94.00
194	18,120.00	90.64	359.44	10,614.94	7,357.11	-458.51	7,359.92	7,371.39	356.43	1.61	95.00
195	18,214.00	89.36	359.18	10,614.94	7,451.11	-459.64	7,453.92	7,465.27	356.47	1.39	94.00
196	18,308.00	89.58	359.35	10,615.81	7,545.09	-460.85	7,547.91	7,559.15	356.50	0.30	94.00
197	18,402.00	90.20	359.61	10,615.99	7,639.09	-461.70	7,641.91	7,653.03	356.54	0.72	94.00
198	18,496.00	90.99	359.35	10,615.01	7,733.08	-462.55	7,735.90	7,746.90	356.58	0.88	94.00
199	18,591.00	91.47	359.79	10,612.97	7,828.05	-463.27	7,830.88	7,841.75	356.61	0.69	95.00
200	18,703.00	92.18	0.05	10,609.41	7,940.00	-463.42	7,942.82	7,953.51	356.66	0.68	112.00
PTB	18,761.00	92.18	0.05	10,607.20	7,997.95	-463.37	8,000.78	8,011.37	356.68	0.00	58.00