

Oceanography Branch CTD Data Report
CTD_REPORT_2014001HB

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DATE: October 9, 2014

Oceanography Branch CTD Data Report

CTD_REPORT_2014001HB

NOAA Fisheries Service
Northeast Fisheries Science Center
Woods Hole, MA 02543

HB 14-01
Spring Bottom Trawl Survey
Data Coverage: April 1 – May 31, 2014
Mid Atlantic Bight, Georges Bank, Gulf of Maine

This report presents a summary of surface and bottom temperature and salinity data collected during the Northeast Fisheries Science Center's HB1401 Survey aboard the NOAA FSV *Henry B Bigelow*. Data was obtained with two Seabird Electronics SBE Model 19+ profiling CTD (s/n's 7142 & 7143). Sea water samples were taken for the purpose of correcting salinity values for both instruments. No salinity correction was necessary for either instrument. A SBE43 Dissolved Oxygen sensor was attached to CTD 7143 and deployed on casts 055-240.

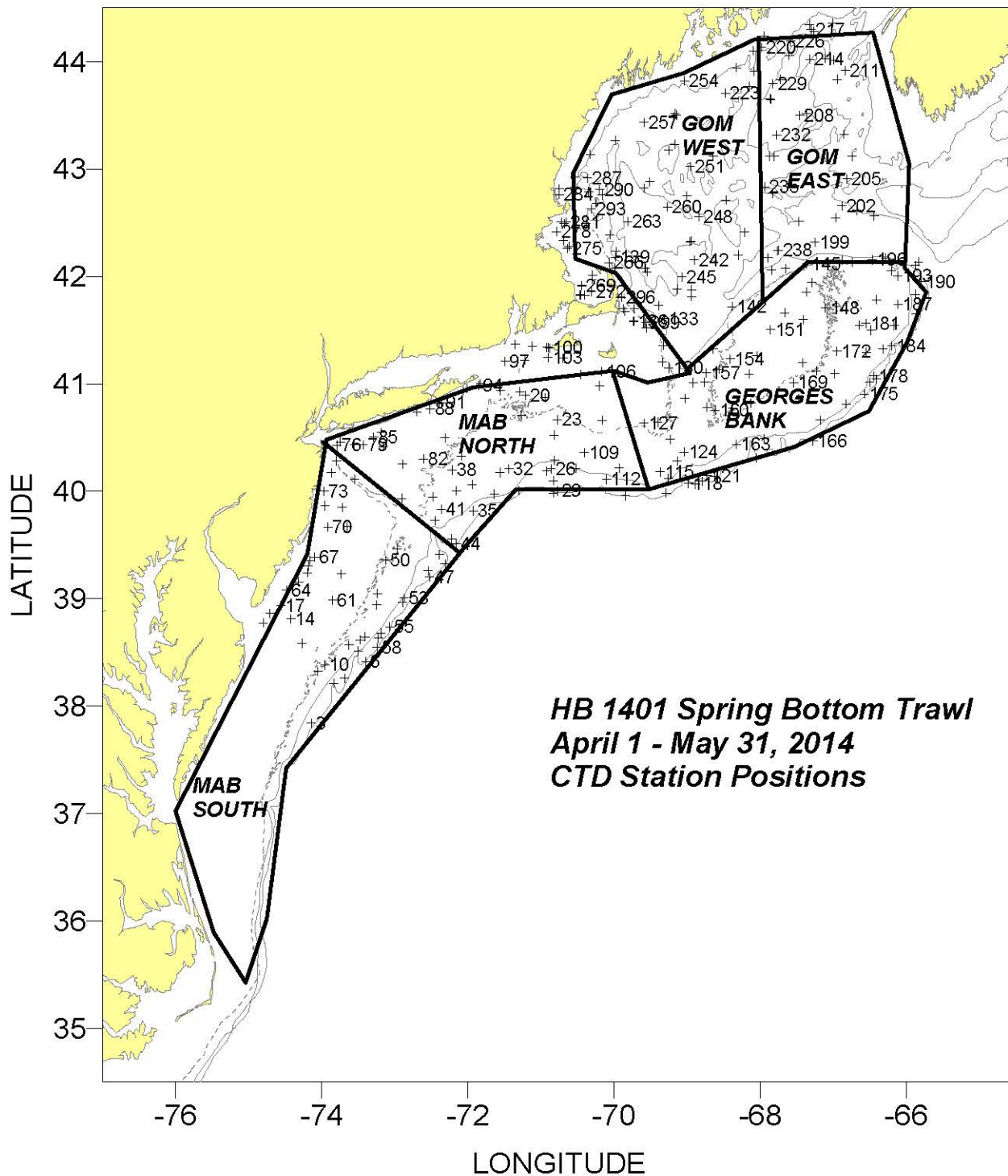
Data presented here have been audited, however, corrections and/or updates may be applied at a later time. The most recent and complete station data can be found in an NODC formatted ASCII file at:
<ftp://ftp.nefsc.noaa.gov/pub/hydro/hb1401.dat>

This report may be viewed on the Oceanography Branch website at:

<http://www.nefsc.noaa.gov/HydroAtlas/>

choose: **2014 Cruises**
APR_TRAWL_HB1401
CTD_REPORT_2014001HB.pdf

Revised: October 9, 2014



**Areal average surface and bottom temperature/salinity and temperature/salinity anomalies for the
HB1401 Spring Bottom Trawl Survey
April 1 - May 31, 2014**

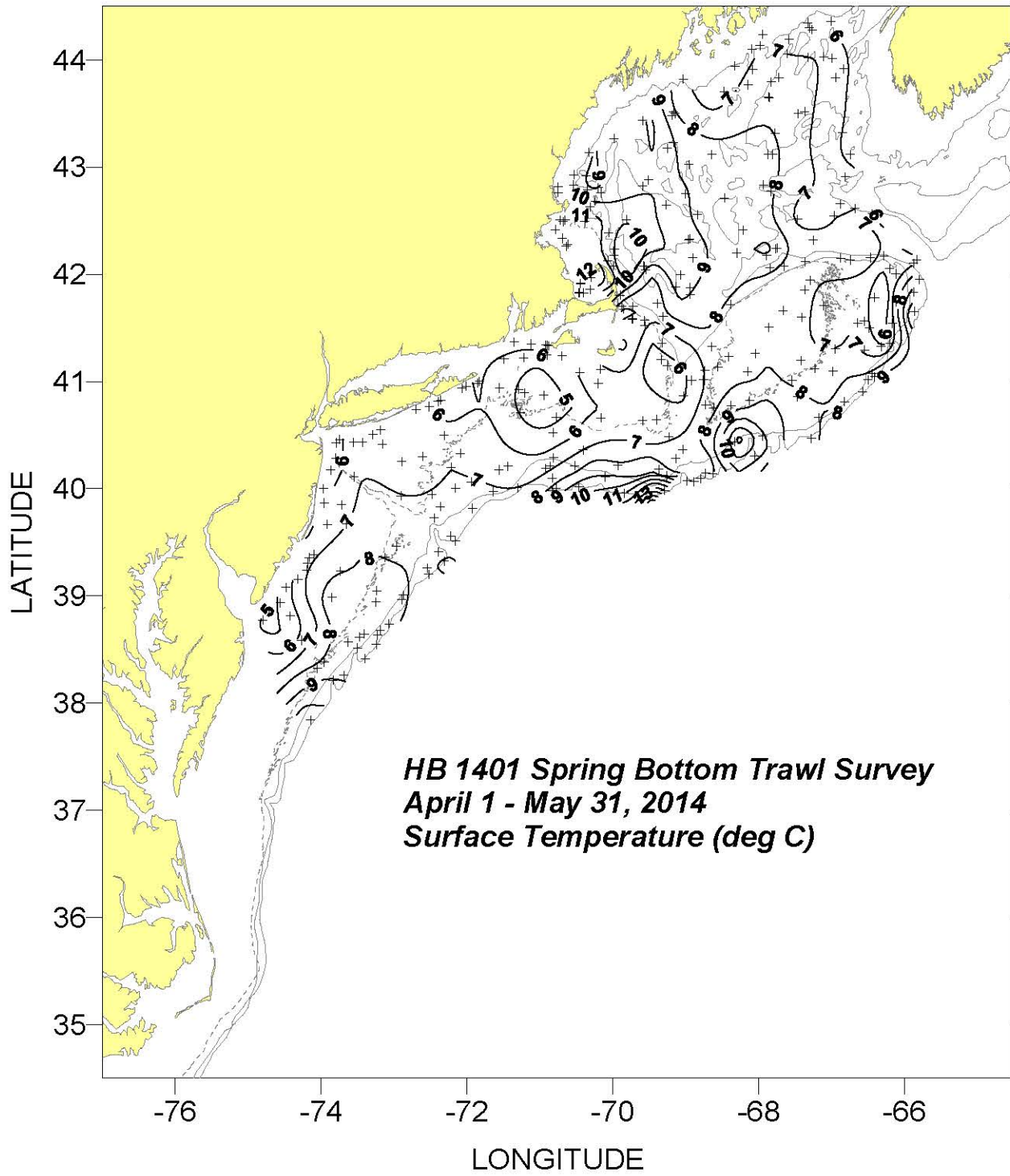
CRUISE	CD	SURFACE						BOTTOM						Purpose
		#obs	T/S	Anomaly	SDV1	SDV2	Flag	#obs	T/S	Anomaly	SDV1	SDV2	Flag	
Western Gulf of Maine														
hb1401	139	52	8.78	0.38	0.15	0.93	0	51	5.79	0.50	0.13	0.59	0	10
hb1401	139	52	32.41	0.14	0.10	0.48	0	51	33.27	-0.08	0.07	0.27	0	10
Eastern Gulf of Maine														
hb1401	135	37	6.97	0.06	0.18	0.86	0	35	7.77	0.53	0.19	0.80	0	10
hb1401	135	37	32.50	0.05	0.13	0.39	0	35	34.08	-0.04	0.09	0.34	0	10
Georges Bank														
hb1401	127	51	7.70	0.73	0.15	1.75	0	40	6.82	0.59	0.18	0.97	0	10
hb1401	127	51	33.04	0.09	0.09	0.58	0	40	33.22	0.19	0.11	0.36	0	10
MAB North														
hb1401	106	51	6.55	0.64	0.18	1.56	0	41	5.62	-0.45	0.23	1.61	0	10
hb1401	106	51	32.82	0.10	0.12	0.51	0	41	33.02	-0.37	0.13	0.58	0	10
MAB South														
hb1401	102	48	7.47	0.06	0.20	1.45	1	32	6.37	0.14	0.24	1.06	1	10
hb1401	102	48	33.31	0.40	0.14	0.56	1	32	33.39	0.19	0.15	0.51	1	10

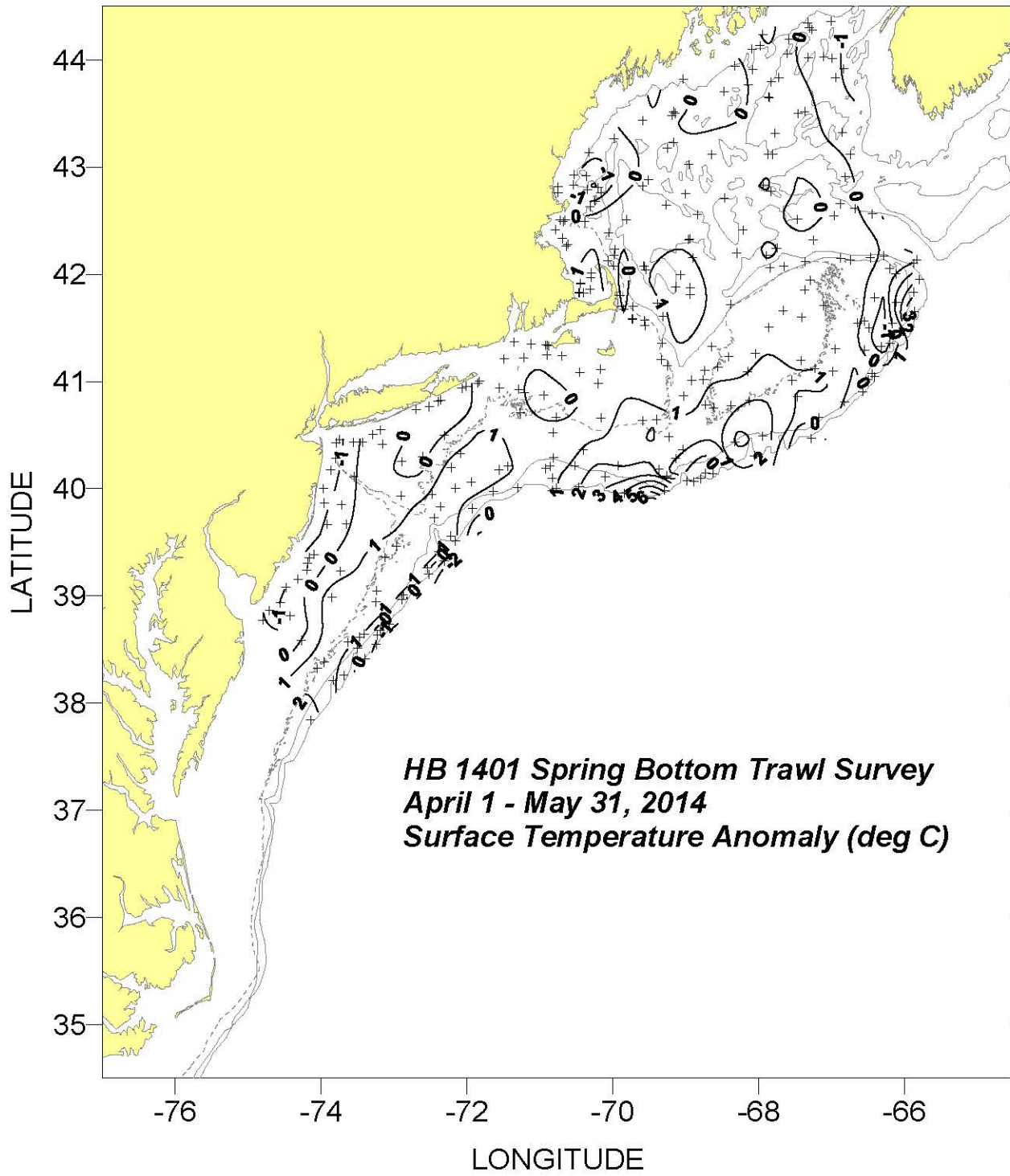
"CRUISE", the code name for a cruise: "CD", the calendar mid-date of all the stations within a region for a cruise:

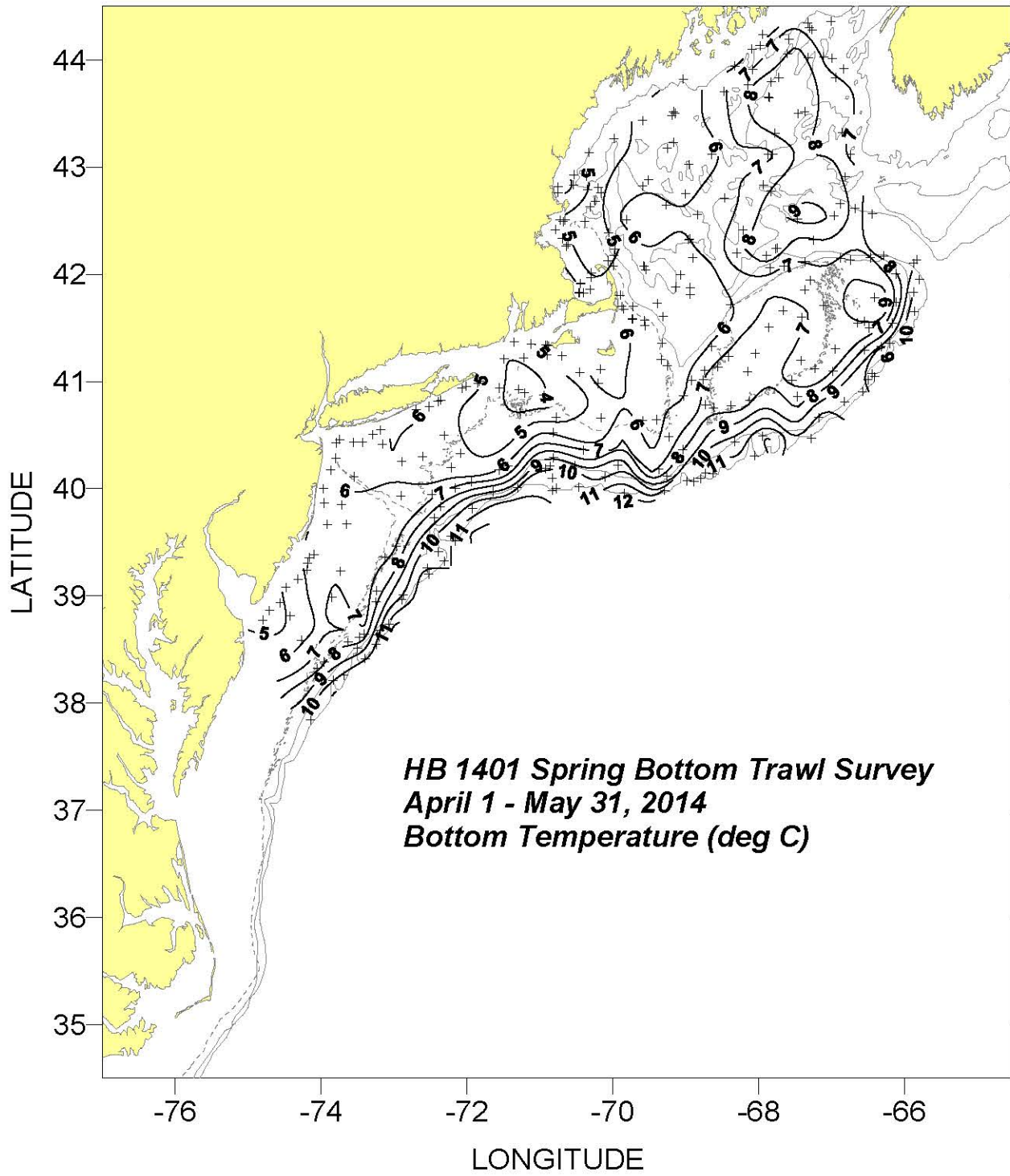
"#obs", the number of observations include in each average: "T/S", the areal average temp/salt: "Anomaly", the areal average temp/salt anomaly:

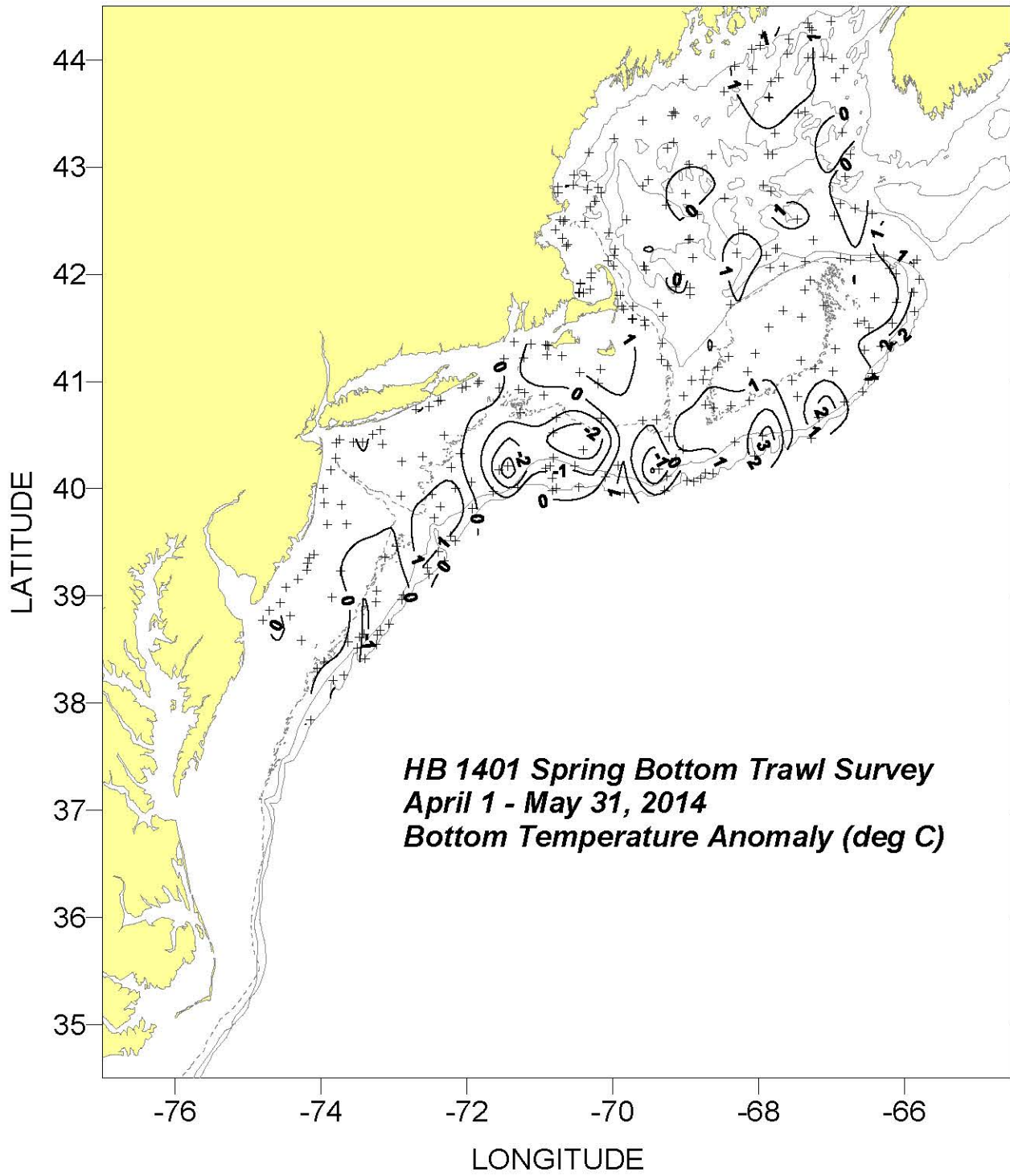
"SDV1", the standard deviation associated with the average temp/salt anomaly: "SDV2", the standard deviation of the individual anomalies from which the average anomaly was derived
"Flag", a value of "1" indicates that a true areal average could not be calculated due to poor station coverage. The areal averages listed were derived from a simple average of the observations within the region.

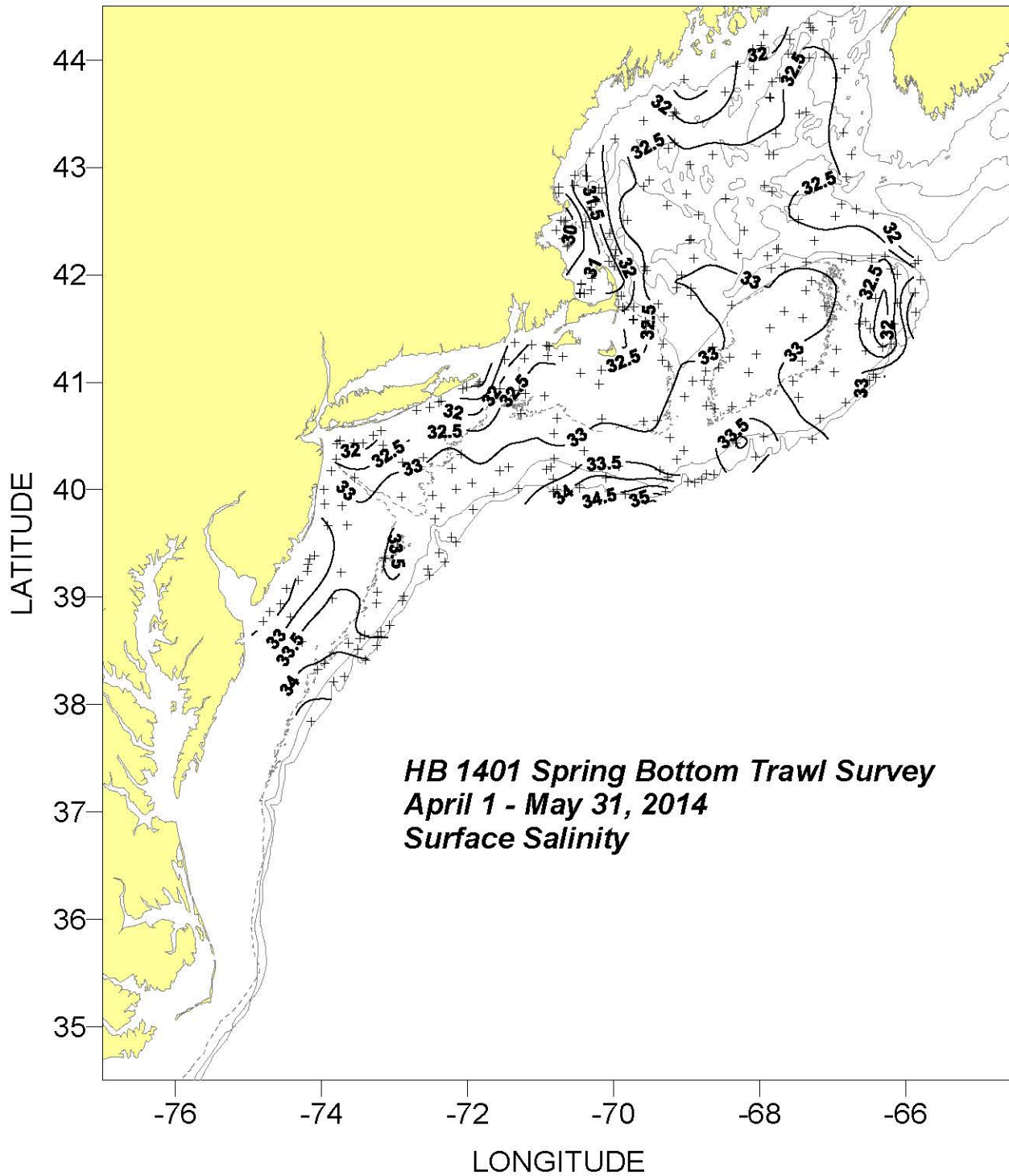
"Purpose", 2 digit code assigned by DMS to identify a unique NEFSC program survey.

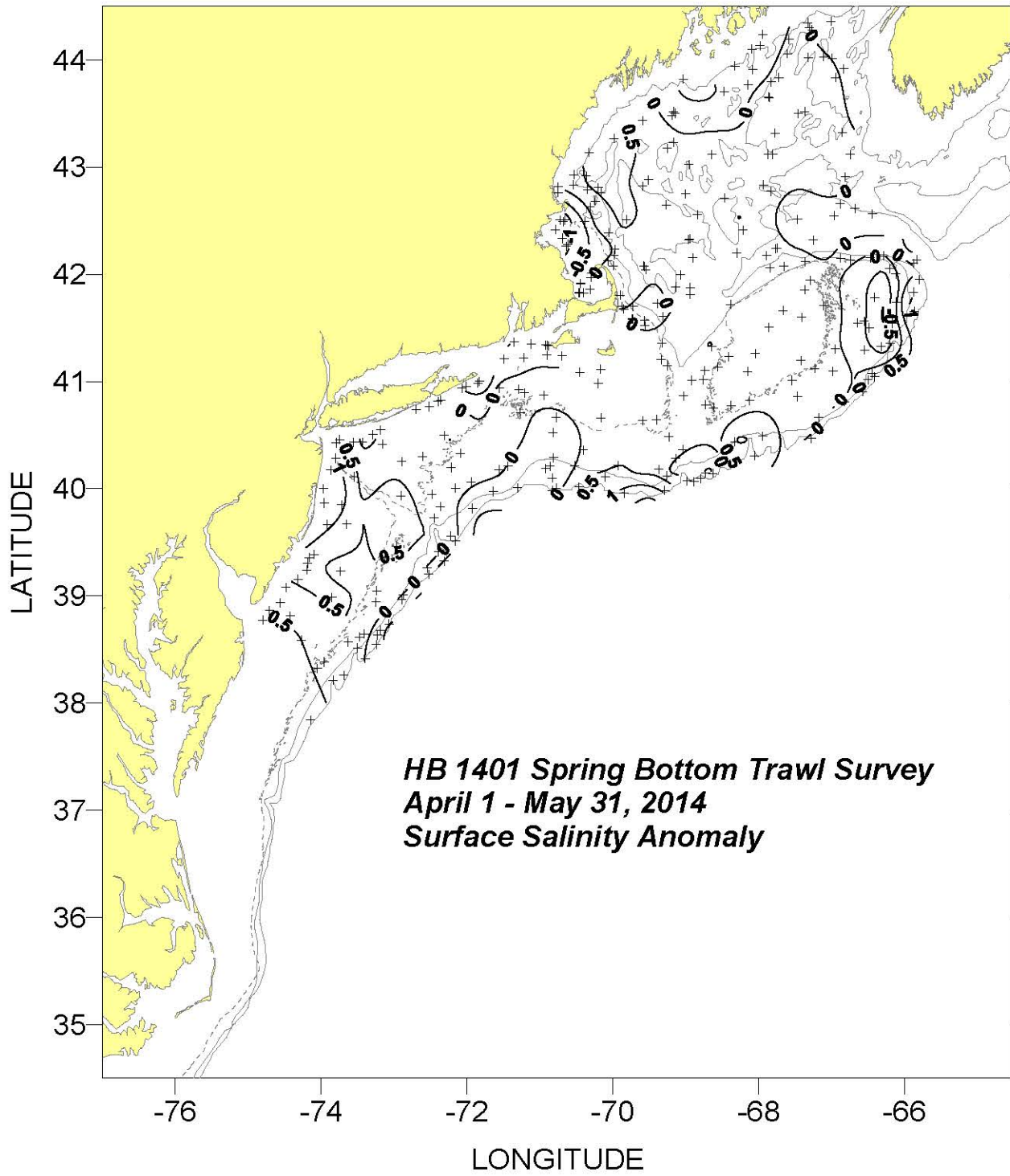


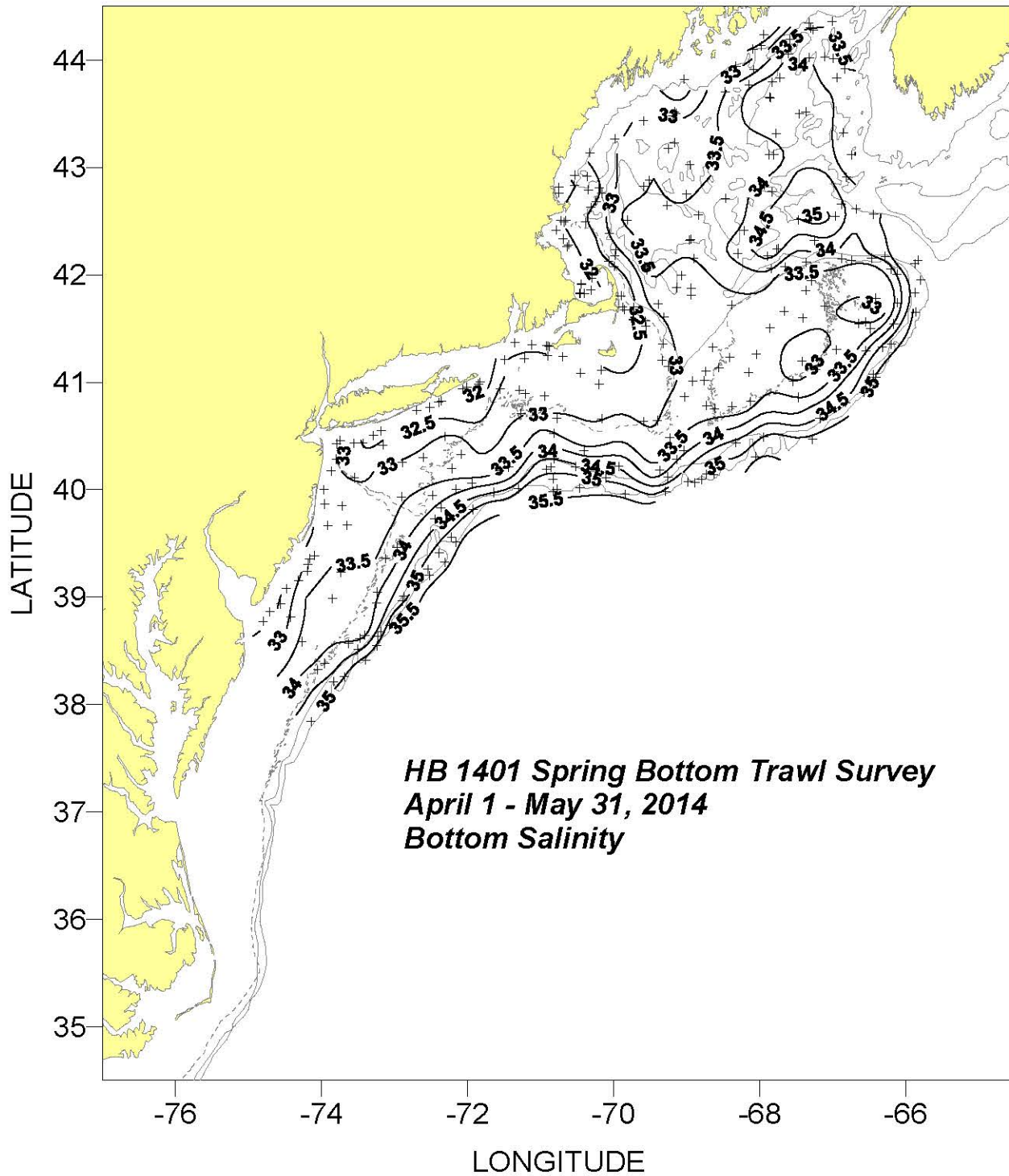


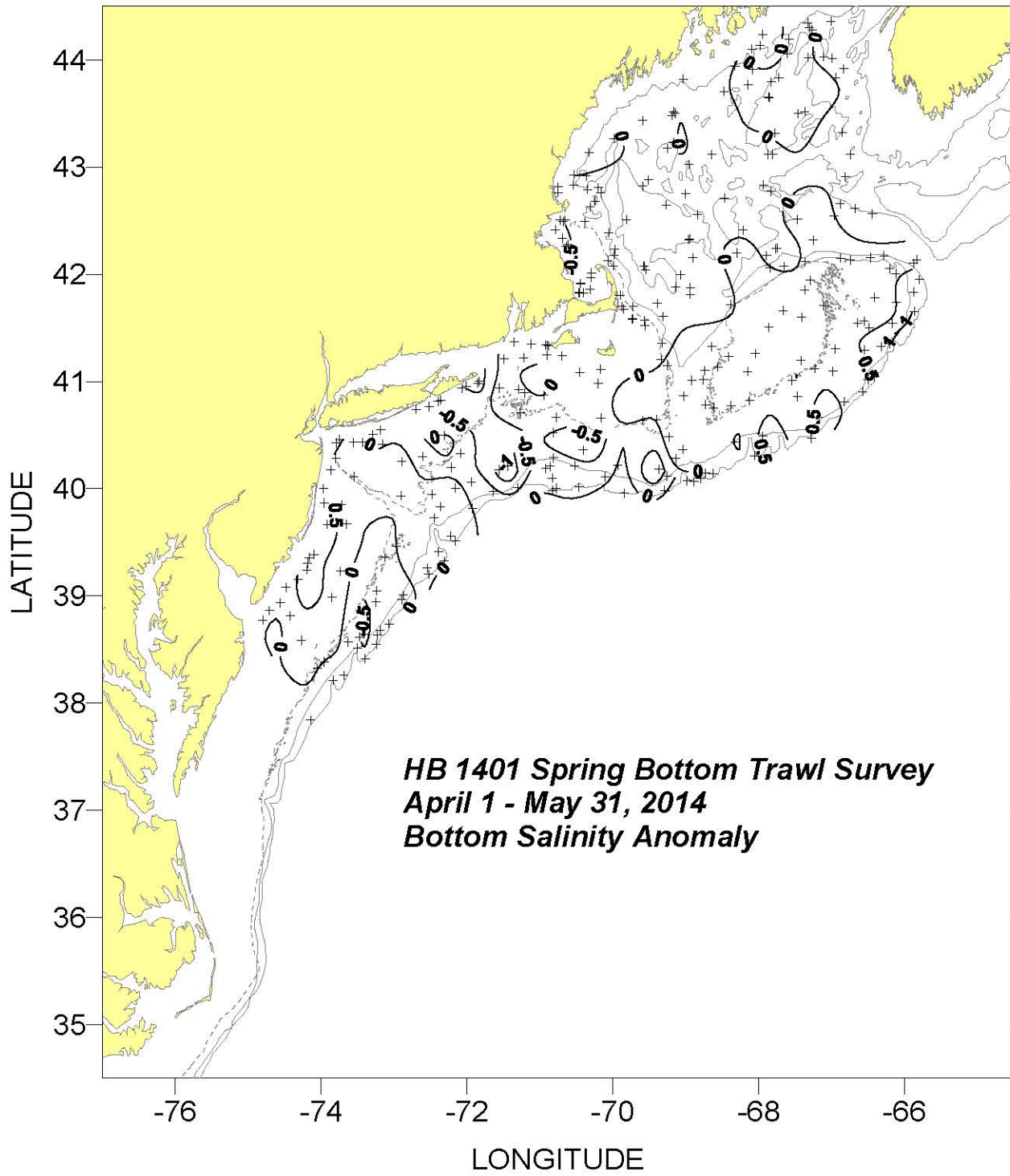












HB1401 Spring Bottom Trawl Survey
April 1 - May 31, 2014

Cast #	Sta #	Lat (deg N)	Long (deg W)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest	Deepest	Meters	Method
											Observed Temp (deg C)	Observed Salt	from Bottom	of Deployment
3	4885	3750.4	7408.6	2	4	2014	0:48	142	11.21	34.92	10.74	34.98	5	V
4	4886	3812.7	7349.9	2	4	2014	4:19	243	8.83	34.26	10.66	35.02	3	W
5	4887	3815.5	7341.2	2	4	2014	6:37	133	8.88	34.29	10.27	34.84	1	V
6	4889	3824.8	7323.7	2	4	2014	9:22	300	8.31	34.06	10.03	35.29	1	V
7	4888	3830.8	7330.1	2	4	2014	12:48	88	7.49	33.74	7.62	33.90	2	V
8	4882	3834.2	7337.7	2	4	2014	15:10	70	8.11	33.90	7.42	33.89	1	V
10	4880	3823.0	7357.5	2	4	2014	18:53	61	8.58	33.99	7.60	34.00	6	B
12	4884	3819.4	7403.1	2	4	2014	22:16	65	8.56	34.05	7.63	34.07	6	B
13	4811	3835.1	7416.1	3	4	2014	0:38	44	5.93	33.73	5.57	33.72	4	W
14	4812	3848.9	7425.2	3	4	2014	3:02	29	4.67	33.06	4.70	33.08	6	V
15	4899	3846.5	7447.8	3	4	2014	8:01	19	4.65	32.16	4.60	32.17	3	W
16	4898	3851.9	7442.6	3	4	2014	9:45	19	4.77	32.16	4.70	32.29	3	V
17	4638	3856.1	7433.5	3	4	2014	12:10	17	4.55	32.33	4.53	32.34	3	V
18	4953	4113.3	7113.0	11	4	2014	3:31	46	4.65	32.59	3.69	32.78	4	B
19	4965	4055.6	7117.3	11	4	2014	6:16	56	4.78	32.58	3.95	32.95	3	B
20	4956	4053.7	7112.5	11	4	2014	8:06	54	4.03	32.75	3.91	32.96	3	B
21	4959	4042.7	7115.9	11	4	2014	10:28	60	4.82	32.95	4.25	33.06	3	B
22	4963	4052.3	7056.5	11	4	2014	13:40	55	4.06	32.76	3.44	32.85	1	V
23	4961	4040.0	7046.3	11	4	2014	15:52	64	4.27	32.81	3.98	33.03	4	W
24	4960	4031.5	7049.1	11	4	2014	18:34	74	5.78	32.97	4.78	33.09	4	B
25	4968	4017.3	7048.6	11	4	2014	21:30	116	6.04	32.97	10.48	35.03	1	V
26	4967	4012.6	7051.5	11	4	2014	23:04	128	6.17	33.06	11.34	35.22	1	V
27	4969	4011.3	7055.0	12	4	2014	0:43	132	6.57	33.19	10.52	34.98	2	V
28	4966	4005.9	7049.5	12	4	2014	3:10	140	7.37	33.28	11.16	35.11	6	V
29	4971	4000.2	7046.6	12	4	2014	6:10	274	9.35	34.03	11.07	35.39	2	W
30	4970	3959.1	7049.7	12	4	2014	8:43	348	8.88	33.93	9.18	35.21	1	V
31	4972	4000.6	7118.2	12	4	2014	14:30	177	6.76	33.13	11.99	35.49	2	B
32	4958	4012.6	7126.2	12	4	2014	16:32	87	6.43	33.13	5.33	33.24	5	B

HB1401 Spring Bottom Trawl Survey
April 1 - May 31, 2014

Cast #	Sta #	Lat (deg N)	Long (deg W)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest	Deepest	Meters	Method
											Observed Temp (deg C)	Observed Salt	from Bottom	of Deployment
33	4964	4010.6	7133.5	12	4	2014	18:36	87	6.94	33.17	6.02	33.43	5	V
34	4962	3958.5	7138.2	12	4	2014	20:49	105	7.31	33.07	8.38	34.25	7	B
35	4946	3949.0	7155.3	13	4	2014	0:07	151	7.13	33.21	11.92	35.45	3	W
36	4938	4003.8	7156.2	13	4	2014	2:43	80	6.82	33.12	5.12	33.18	6	B
37	4944	4019.8	7205.2	13	4	2014	5:40	63	7.27	33.12	5.40	33.32	4	V
38	4943	4011.9	7212.7	13	4	2014	7:33	69	7.06	33.29	5.20	33.26	4	V
39	4939	4000.3	7209.4	13	4	2014	9:28	83	6.95	33.21	5.93	33.37	4	B
40	4941	3956.9	7228.7	13	4	2014	11:58	70	7.24	33.39	5.92	33.47	5	B
41	4940	3950.0	7221.6	13	4	2014	13:51	83	7.31	33.27	9.07	34.44	3	V
42	4945	3943.6	7226.7	13	4	2014	15:31	86	7.41	33.31	8.47	34.24	5	B
43	4948	3933.6	7213.3	13	4	2014	18:00	142	7.81	33.39	11.09	35.20	5	W
44	4951	3930.6	7209.3	13	4	2014	20:01	234	7.52	33.17	11.32	35.42	5	V
45	4949	3924.6	7223.3	13	4	2014	22:37	141	7.77	33.27	11.41	35.18	4	V
46	4952	3919.5	7218.6	14	4	2014	0:37	213	8.28	33.38	10.32	35.32	5	V
47	4950	3912.2	7231.2	14	4	2014	3:20	222	7.22	33.29	10.93	35.37	3	V
48	4947	3915.5	7232.6	14	4	2014	5:37	144	8.03	33.36	11.56	35.25	6	B
49	4942	3927.8	7258.0	14	4	2014	9:36	66	7.80	33.58	6.47	33.66	3	V
50	4822	3921.6	7307.5	14	4	2014	11:31	63	7.96	33.62	6.45	33.65	3	V
51	4819	3902.8	7314.1	14	4	2014	14:04	71	8.62	33.53	6.53	33.65	2	V
52	4821	3856.5	7314.8	14	4	2014	15:33	79	8.79	33.48	6.69	33.67	5	W
53	4893	3900.4	7252.1	14	4	2014	18:22	115	8.12	33.32	11.06	35.10	5	B
54	4894	3857.8	7253.4	14	4	2014	19:43	113	8.22	33.32	10.72	34.97	6	B
55	4895	3844.3	7304.0	14	4	2014	23:58	181	8.04	33.31	12.23	35.45	35	B
56	4892	3840.9	7311.3	15	4	2014	1:40	126	9.07	33.40	11.85	35.39	3	V
57	4891	3837.9	7313.6	15	4	2014	3:13	129	8.92	33.37	11.56	35.27	2	V
58	4896	3832.9	7314.5	15	4	2014	5:28	214	7.95	33.38	11.90	35.43	1	V
59	4823	3836.9	7328.5	15	4	2014	8:11	75	8.48	33.40	7.20	33.75	3	V
60	4820	3838.7	7324.4	15	4	2014	9:56	81	8.56	33.39	7.03	33.69	3	W

HB1401 Spring Bottom Trawl Survey
April 1 - May 31, 2014

Cast #	Sta #	Lat (deg N)	Long (deg W)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest	Deepest	Meters	Method
											Observed Temp (deg C)	Observed Salt	from Bottom	of Deployment
61	4815	3859.2	7350.9	15	4	2014	13:31	39	8.85	33.66	7.49	33.88	5	V
62	4635	3914.6	7411.5	15	4	2014	17:27	31	7.39	32.50	5.86	33.27	8	B
63	4637	3909.4	7419.1	15	4	2014	20:06	23	7.12	32.45	5.96	33.44	3	V
64	4636	3904.7	7428.9	15	4	2014	22:47	22	6.98	32.08	5.80	33.15	4	B
65	4632	3918.3	7411.1	16	4	2014	11:38	24	6.39	32.92	6.39	32.93	4	V
66	4633	3921.5	7409.8	16	4	2014	13:34	23	6.13	32.91	6.12	32.94	4	V
67	4634	3923.2	7405.6	16	4	2014	14:48	23	6.21	32.94	6.17	32.96	6	W
68	4814	3913.8	7343.9	16	4	2014	17:37	46	7.90	33.08	6.56	33.70	6	V
69	4816	3940.1	7338.8	16	4	2014	22:38	36	7.20	32.87	6.89	33.19	6	B
70	4630	3940.0	7354.7	17	4	2014	0:53	28	6.46	33.09	6.26	33.22	3	V
71	4813	3950.9	7343.1	17	4	2014	2:55	32	6.70	33.11	6.56	33.18	6	B
72	4631	3952.0	7357.2	17	4	2014	5:40	22	5.87	33.20	5.88	33.19	4	B
73	4629	3960.0	7357.9	17	4	2014	7:10	21	5.76	33.01	5.77	33.01	6	W
74	4627	4010.4	7351.8	17	4	2014	9:06	25	5.50	32.91	5.50	32.91	4	V
75	4937	4017.1	7347.7	17	4	2014	10:43	59	5.69	32.94	6.04	33.47	2	B
76	4626	4025.7	7347.6	17	4	2014	12:58	34	5.83	31.45	5.89	33.39	3	B
77	4628	4027.6	7344.6	17	4	2014	14:21	30	5.81	31.44	5.42	33.18	2	V
78	4623	4026.1	7333.2	17	4	2014	17:07	25	6.12	31.42	5.31	32.22	4	V
79	4625	4025.9	7325.9	17	4	2014	18:23	27	6.60	31.91	4.98	32.51	5	V
80	4936	4006.7	7332.9	17	4	2014	21:43	48	6.93	32.65	5.71	32.99	3	V
81	4935	3956.0	7254.1	18	4	2014	2:19	53	7.13	33.42	6.41	33.49	5	V
82	4931	4018.1	7236.2	18	4	2014	6:07	52	5.90	32.82	5.46	33.21	5	V
83	4932	4015.1	7253.6	18	4	2014	11:31	49	6.02	32.88	5.63	33.14	3	B
84	4933	4024.9	7309.3	18	4	2014	17:34	34	6.91	32.40	6.09	32.69	6	B
85	4624	4030.4	7317.2	18	4	2014	19:47	24	6.65	31.39	5.48	32.06	4	V
86	4621	4032.9	7311.0	18	4	2014	20:57	26	7.12	31.54	6.22	31.86	4	V
87	4620	4044.4	7241.6	19	4	2014	0:20	26	6.36	32.26	6.23	32.26	4	V
88	4622	4046.0	7230.8	19	4	2014	1:55	31	5.88	31.79	5.93	31.88	4	V

HB1401 Spring Bottom Trawl Survey
April 1 - May 31, 2014

Cast #	Sta #	Lat (deg N)	Long (deg W)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest	Deepest	Meters	Method
											Observed Temp (deg C)	Observed Salt	from Bottom	of Deployment
89	4934	4029.9	7218.7	19	4	2014	4:45	57	6.16	32.86	5.34	33.16	2	W
90	4617	4049.0	7223.7	19	4	2014	7:46	26	5.70	31.48	5.50	31.70	3	V
91	4618	4049.6	7221.4	19	4	2014	9:52	28	5.32	31.78	5.28	31.87	3	V
92	4619	4056.2	7203.8	19	4	2014	12:03	26	5.55	31.11	5.27	31.75	3	V
93	4824	4057.3	7200.4	19	4	2014	13:19	27	5.50	31.15	5.24	31.64	4	V
94	4825	4059.1	7151.0	19	4	2014	15:11	29	5.95	30.81	5.26	31.56	3	B
95	4826	4100.2	7149.6	19	4	2014	16:49	29	6.14	30.51	5.29	31.47	4	V
96	4954	4056.4	7133.1	19	4	2014	19:15	54	5.82	32.49	3.64	32.74	4	B
97	4920	4112.6	7129.3	19	4	2014	22:00	36	6.15	31.51	4.47	32.23	4	V
98	4919	4122.2	7121.0	20	4	2014	0:04	35	6.10	31.75	3.83	32.58	5	V
99	4918	4121.0	7107.2	20	4	2014	2:58	27	6.70	32.12	5.10	32.39	4	V
100	4924	4120.5	7054.0	20	4	2014	4:49	32	5.73	32.42	4.76	32.51	4	W
101	4955	4120.5	7055.1	20	4	2014	6:24	33	5.87	32.41	5.05	32.48	5	V
102	4923	4119.9	7052.8	20	4	2014	7:55	28	5.84	32.41	4.88	32.50	5	V
103	4957	4114.8	7054.1	20	4	2014	9:13	33	6.02	32.41	4.94	32.47	4	V
104	4921	4114.4	7041.6	20	4	2014	13:08	29	6.86	32.48	6.23	32.56	3	V
105	4975	4105.2	7027.2	20	4	2014	15:40	42	6.14	32.65	5.18	32.67	6	B
106	4922	4106.9	7009.9	20	4	2014	18:19	23	6.69	32.58	6.61	32.59	5	B
107	4974	4059.0	7011.7	20	4	2014	20:22	28	6.46	32.72	6.22	32.71	4	V
108	4977	4039.7	7009.6	20	4	2014	22:53	47	6.02	32.95	5.54	32.96	2	V
109	4653	4021.6	7024.2	21	4	2014	2:13	86	7.14	33.10	4.69	33.08	3	V
110	4658	4012.8	7031.3	21	4	2014	4:34	117	7.41	33.25	9.58	34.59	2	W
111	4663	4001.0	7027.6	21	4	2014	8:01	303	9.20	34.26	8.81	35.18	5	V
112	4660	4006.7	7006.0	21	4	2014	11:34	135	9.47	34.27	12.04	35.44	3	V
113	4648	4013.1	6955.5	21	4	2014	13:37	93	7.40	33.35	9.59	34.30	3	B
114	4659	3957.5	6950.5	21	4	2014	16:55	148	10.81	34.69	12.06	35.44	1	V
115	4652	4010.8	6922.1	21	4	2014	20:04	91	7.36	33.11	5.37	33.22	6	B
116	4655	4007.1	6915.2	21	4	2014	21:47	103	7.12	33.22	7.59	33.90	2	V

HB1401 Spring Bottom Trawl Survey
April 1 - May 31, 2014

Cast #	Sta #	Lat (deg N)	Long (deg W)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest	Deepest	Meters	Method
											Observed Temp (deg C)	Observed Salt	from Bottom	of Deployment
117	4661	3959.0	6917.2	22	4	2014	0:28	171	19.16	36.08	12.33	35.52	2	V
118	4657	4004.5	6858.8	22	4	2014	3:20	176	7.27	33.32	11.86	35.41	1	V
119	4662	4004.0	6852.9	22	4	2014	5:20	243	19.72	36.17	11.44	35.20	1	W
120	4680	4005.7	6847.8	22	4	2014	7:55	323	17.77	35.77	10.36	35.31	2	V
121	4677	4008.7	6843.5	22	4	2014	10:19	164	7.42	33.30	11.90	35.45	1	V
122	4674	4008.5	6837.6	22	4	2014	12:10	176	8.11	33.41	11.61	35.25	2	B
123	4650	4016.9	6908.0	22	4	2014	15:40	95	7.51	33.16	5.53	33.27	1	V
124	4654	4022.0	6902.4	22	4	2014	17:28	88	7.90	33.08	8.10	33.89	5	B
125	4649	4029.0	6913.7	22	4	2014	19:58	74	6.15	33.11	5.70	33.11	1	V
126	4973	4038.7	6924.0	22	4	2014	22:10	42	6.27	32.97	5.99	32.97	5	B
127	4976	4038.2	6935.4	22	4	2014	23:58	54	7.59	33.05	5.80	33.02	3	V
128	4651	4052.0	6901.6	23	4	2014	4:43	83	5.83	33.08	5.78	33.08	1	V
129	4656	4100.7	6855.1	23	4	2014	7:28	70	5.92	33.08	5.89	33.08	2	W
130	4737	4108.9	6914.9	23	4	2014	10:28	57	5.34	32.95	5.35	32.95	1	V
131	4739	4112.2	6920.2	23	4	2014	18:01	48	5.16	32.87	5.01	32.87	3	V
132	4727	4121.6	6919.4	23	4	2014	19:51	84	6.48	32.80	4.80	32.89	2	V
133	4728	4136.5	6918.6	23	4	2014	23:25	156	6.19	32.64	5.19	33.28	1	V
134	4731	4143.7	6923.1	24	4	2014	2:12	162	6.14	33.07	5.25	33.37	12	V
135	4736	4131.2	6933.5	24	4	2014	6:03	40	5.53	32.53	5.01	32.73	5	V
136	4738	4135.1	6943.8	24	4	2014	9:13	31	5.55	32.41	5.55	32.41	5	V
137	4726	4142.0	6943.2	24	4	2014	11:34	81	5.22	32.35	4.67	32.89	4	V
138	4827	4140.6	6950.9	24	4	2014	14:06	28	5.38	32.33	5.38	32.33	4	V
139	4747	4210.8	6958.8	7	5	2014	0:30	135	7.81	31.89	4.54	32.91	3	W
140	4751	4202.6	6932.7	7	5	2014	4:22	210	8.08	32.96	5.78	33.54	3	V
141	4732	4152.6	6856.2	7	5	2014	9:16	164	7.51	33.02	5.26	33.38	3	V
142	4715	4143.1	6822.9	7	5	2014	13:23	94	7.38	33.09	5.40	33.11	4	V
143	4721	4203.7	6750.5	7	5	2014	17:40	190	7.70	32.87	6.46	33.77	1	V
144	4719	4204.6	6738.9	7	5	2014	19:45	168	7.45	33.02	5.50	33.39	1	V

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Cast #	Sta #	Lat (deg N)	Long (deg W)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest	Deepest	Meters	Method
											Observed Temp (deg C)	Observed Salt	from Bottom	of Deployment
145	4716	4207.1	6721.5	7	5	2014	22:30	86	7.48	33.07	6.30	33.14	1	V
146	4709	4156.8	6717.4	8	5	2014	0:37	55	7.05	33.13	6.83	33.11	4	B
147	4710	4151.3	6722.0	8	5	2014	3:43	55	6.98	33.11	6.99	33.11	6	W
148	4706	4142.5	6706.2	8	5	2014	7:07	56	6.73	33.12	6.74	33.12	6	B
149	4704	4135.9	6724.3	8	5	2014	10:36	52	7.14	33.14	7.14	33.14	4	V
150	4711	4139.7	6739.7	8	5	2014	13:38	37	7.72	33.12	7.69	33.12	5	V
151	4701	4130.3	6751.3	8	5	2014	17:19	33	7.70	33.11	7.62	33.11	2	V
152	4702	4115.7	6802.4	8	5	2014	21:46	49	7.70	33.15	7.67	33.15	2	B
153	4699	4105.5	6808.8	9	5	2014	0:49	49	7.75	33.17	7.73	33.17	1	V
154	4713	4114.0	6824.5	9	5	2014	3:49	57	7.53	33.14	7.55	33.14	6	B
155	4725	4119.5	6838.5	9	5	2014	6:16	78	7.65	32.86	6.07	33.05	3	W
156	4712	4108.2	6833.5	9	5	2014	10:07	58	7.59	33.14	7.57	33.14	7	B
157	4723	4106.1	6844.1	9	5	2014	12:10	62	7.30	33.14	7.23	33.13	4	V
158	4722	4100.9	6845.5	9	5	2014	13:45	62	6.83	33.04	6.70	33.04	2	V
159	4673	4047.0	6843.4	9	5	2014	16:40	64	7.56	33.16	7.44	33.16	4	B
160	4707	4045.3	6836.9	9	5	2014	18:46	57	7.78	33.14	7.45	33.15	2	V
161	4700	4046.6	6822.7	9	5	2014	20:46	52	7.90	33.05	7.32	33.04	1	B
162	4665	4049.4	6807.4	9	5	2014	23:40	62	8.84	33.00	7.27	33.14	1	V
163	4670	4026.2	6819.5	10	5	2014	2:47	106	13.32	34.38	10.51	34.58	2	W
164	4679	4018.5	6803.1	10	5	2014	5:46	260	7.54	32.93	11.15	35.39	1	V
165	4675	4029.5	6756.4	10	5	2014	8:13	116	10.66	33.89	12.59	35.24	4	V
166	4678	4028.1	6716.6	10	5	2014	12:37	253	7.58	32.95	9.96	35.27	4	V
167	4667	4039.8	6710.4	10	5	2014	15:43	107	8.01	33.02	11.30	34.87	1	V
168	4668	4051.6	6727.9	10	5	2014	18:30	82	8.31	32.90	6.58	33.25	3	V
169	4666	4100.7	6732.3	10	5	2014	20:34	66	7.87	32.85	6.53	32.88	1	V
170	4705	4111.7	6725.1	10	5	2014	22:46	50	7.32	32.90	6.77	32.91	2	B
171	4669	4107.3	6713.6	11	5	2014	0:45	61	7.88	32.98	6.44	33.01	4	B
172	4686	4118.2	6656.9	11	5	2014	3:34	69	6.53	32.72	5.96	33.00	17	B

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Cast #	Sta #	Lat (deg N)	Long (deg W)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest	Deepest	Meters	Method
											Observed Temp (deg C)	Observed Salt	from Bottom	of Deployment
173	4691	4105.7	6658.7	11	5	2014	5:40	70	7.90	32.97	6.50	33.17	4	W
174	4664	4048.7	6649.3	11	5	2014	8:10	110	7.91	32.79	8.99	34.19	3	V
175	4695	4054.3	6634.3	11	5	2014	10:38	215	7.79	32.89	9.71	35.23	3	V
176	4991	4100.9	6629.9	11	5	2014	13:25	113	9.12	33.46	11.78	35.35	6	B
177	4697	4102.7	6624.4	11	5	2014	15:26	457	10.07	33.89	7.35	35.09	1	V
178	4990	4104.5	6626.6	11	5	2014	18:06	142	10.80	34.24	11.39	35.22	3	V
179	4682	4117.7	6632.7	11	5	2014	20:38	92	7.18	32.57	7.39	33.58	2	V
180	4688	4132.8	6638.4	11	5	2014	22:57	79	7.02	32.74	5.90	32.94	1	V
181	4689	4133.9	6633.1	12	5	2014	0:40	83	6.41	32.23	5.88	32.94	2	V
182	4692	4130.1	6628.9	12	5	2014	2:20	90	6.84	32.37	6.05	33.05	3	B
183	4683	4119.6	6619.1	12	5	2014	4:15	97	5.92	31.87	9.08	34.59	3	W
184	4696	4121.4	6611.8	12	5	2014	7:03	142	5.92	31.94	9.63	34.82	2	V
185	4685	4132.7	6609.9	12	5	2014	10:11	97	5.24	31.81	6.33	33.28	8	B
186	4687	4147.0	6624.4	12	5	2014	13:28	81	5.59	31.83	5.22	32.84	3	B
187	4684	4144.5	6606.6	12	5	2014	15:58	93	5.42	31.93	6.01	33.16	2	V
188	4993	4139.2	6551.6	12	5	2014	18:16	148	11.56	34.29	11.18	35.29	1	V
189	4992	4150.1	6552.3	12	5	2014	21:31	125	9.58	33.87	11.23	35.04	2	V
190	4698	4157.1	6547.7	12	5	2014	23:25	199	10.28	33.92	9.70	35.22	1	V
191	4766	4206.3	6552.3	13	5	2014	2:16	257	5.64	31.55	7.80	35.13	1	W
192	4765	4208.2	6549.9	13	5	2014	4:49	249	5.95	31.71	8.79	35.16	1	V
193	4690	4200.3	6606.9	13	5	2014	9:34	95	5.05	31.96	6.40	33.31	3	V
194	4694	4203.3	6611.9	13	5	2014	11:36	94	5.57	32.07	6.39	33.28	5	B
195	4720	4210.4	6616.8	13	5	2014	14:04	196	7.23	32.76	8.73	34.28	2	V
196	4718	4209.4	6627.8	13	5	2014	17:15	172	7.31	33.05	9.13	34.49	2	V
197	4714	4208.1	6644.4	13	5	2014	20:37	82	7.53	33.00	5.91	33.29	3	B
198	4717	4209.1	6652.4	13	5	2014	22:28	106	7.33	33.00	5.90	33.25	6	B
199	4770	4219.2	6714.9	14	5	2014	1:25	293	7.14	32.43	9.05	35.06	1	V
200	4767	4230.9	6727.9	14	5	2014	4:46	291	6.85	32.44	9.25	35.01	3	W

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Cast #	Sta #	Lat (deg N)	Long (deg W)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest	Deepest	Meters	Method
											Observed Temp (deg C)	Observed Salt	from Bottom	of Deployment
201	4768	4232.9	6657.6	14	5	2014	7:55	307	6.88	32.30	8.93	35.08	3	V
202	4762	4239.4	6652.8	14	5	2014	10:52	223	7.11	32.47	9.16	34.75	2	V
203	4764	4237.0	6640.6	14	5	2014	14:10	180	7.31	32.30	7.29	34.00	4	B
204	4763	4233.9	6626.2	14	5	2014	16:37	205	5.35	31.92	8.73	34.48	2	V
205	4783	4254.6	6648.6	14	5	2014	21:36	194	6.87	32.78	7.68	34.05	1	V
206	4773	4307.2	6644.5	14	5	2014	23:45	130	5.50	32.28	6.58	33.41	2	V
207	4775	4319.5	6651.0	15	5	2014	2:27	191	5.99	32.34	7.34	33.83	1	V
208	4791	4330.0	6727.2	15	5	2014	6:43	222	7.45	32.64	8.42	34.37	2	V
209	4786	4331.1	6721.9	15	5	2014	9:07	223	7.29	32.63	8.37	34.34	1	W
210	4772	4350.1	6656.5	15	5	2014	12:28	180	6.44	32.54	7.46	33.88	5	B
211	4776	4355.0	6649.7	15	5	2014	14:55	130	5.90	32.35	6.63	33.40	2	V
212	4774	4400.9	6659.3	15	5	2014	17:28	172	7.09	32.59	7.60	33.93	2	V
213	4771	4401.8	6706.2	15	5	2014	19:32	128	6.87	32.54	6.55	33.37	2	B
214	4777	4401.4	6719.0	15	5	2014	22:00	195	7.07	32.62	8.07	34.10	2	V
215	4781	4421.7	6700.2	16	5	2014	1:42	137	5.67	32.13	6.68	33.38	2	V
216	4780	4417.0	6715.9	16	5	2014	4:28	188	6.64	32.56	7.84	33.98	4	W
217	4779	4418.0	6718.2	16	5	2014	6:25	175	6.44	32.59	7.46	33.80	2	V
218	4778	4420.7	6719.5	16	5	2014	9:38	87	5.56	31.98	5.82	32.66	5	B
219	5627	4414.3	6756.5	16	5	2014	21:36	72	6.56	31.42	5.13	31.77	4	V
220	5631	4408.1	6758.7	17	5	2014	0:22	83	6.94	31.45	5.33	32.17	1	V
221	4846	4354.6	6804.7	17	5	2014	4:24	187	7.36	32.37	7.35	33.77	2	W
222	4850	4346.2	6808.5	17	5	2014	7:07	178	7.59	32.36	7.76	33.94	3	V
223	4853	4342.4	6828.4	17	5	2014	10:15	191	6.06	31.59	7.36	33.77	2	V
224	4858	4356.7	6819.3	17	5	2014	14:33	117	6.75	32.21	5.91	32.88	7	B
225	4854	4406.1	6805.4	17	5	2014	17:46	100	6.21	31.50	5.37	32.08	5	B
226	4847	4411.5	6735.0	17	5	2014	21:58	213	6.62	32.48	8.12	34.09	10	B
227	4790	4403.6	6736.2	18	5	2014	0:55	202	6.93	32.43	8.68	34.35	2	B
228	4788	4350.2	6743.2	18	5	2014	4:16	214	7.98	32.47	9.00	34.47	1	W

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Cast #	Sta #	Lat (deg N)	Long (deg W)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest	Deepest	Meters	Method
											Observed Temp (deg C)	Observed Salt	from Bottom	of Deployment
229	4784	4347.7	6749.4	18	5	2014	6:30	220	7.93	32.49	8.86	34.41	1	V
230	4787	4339.4	6751.7	18	5	2014	9:34	237	7.93	32.34	8.97	34.46	34	B
231	4787	4339.0	6751.0	18	5	2014	10:01	239	7.86	32.31	8.99	34.47	1	V
232	4782	4319.0	6746.5	18	5	2014	13:45	252	7.83	32.43	8.50	34.39	1	V
233	4785	4307.3	6752.2	18	5	2014	16:45	195	8.44	32.71	6.73	33.64	1	B
234	4789	4307.2	6748.1	18	5	2014	19:00	188	8.08	32.72	6.59	33.60	1	V
235	4792	4250.1	6755.8	18	5	2014	22:22	182	8.99	32.69	7.64	34.07	4	B
236	4758	4246.4	6749.8	19	5	2014	1:55	205	7.59	32.50	8.18	34.34	7	V
237	4759	4224.9	6812.6	19	5	2014	6:04	189	8.17	32.59	7.04	33.85	5	B
238	4761	4214.7	6744.9	19	5	2014	9:23	230	9.03	32.91	8.56	34.65	26	B
239	4761	4214.4	6745.6	19	5	2014	9:49	229	9.05	32.91	8.77	34.77	3	V
240	4760	4210.6	6753.4	19	5	2014	11:49	235	9.17	33.04	8.83	34.86	2	W
241	4734	4212.0	6817.8	19	5	2014	14:22	194	8.95	32.91	7.81	34.29	2	V
242	4733	4209.3	6853.9	19	5	2014	19:00	163	9.79	33.14	5.28	33.39	5	B
243	4735	4148.7	6856.3	19	5	2014	22:22	168	10.44	32.99	5.25	33.37	3	V
244	4730	4153.0	6908.0	20	5	2014	0:24	206	10.12	32.97	5.23	33.40	3	V
245	4729	4159.7	6904.1	20	5	2014	3:55	193	10.01	33.00	5.32	33.42	5	B
246	4756	4219.8	6856.4	20	5	2014	8:08	221	9.03	32.81	6.05	33.60	4	B
247	4756	4219.5	6857.4	20	5	2014	8:41	218	9.06	32.81	5.99	33.57	1	W
248	4752	4233.5	6850.3	20	5	2014	12:15	196	8.51	32.77	6.76	33.84	1	V
249	4754	4242.7	6827.9	20	5	2014	16:00	196	8.80	32.63	6.84	33.83	2	V
250	4840	4307.2	6838.6	20	5	2014	19:37	187	8.60	32.74	5.65	33.35	3	V
251	4839	4301.6	6857.2	20	5	2014	22:28	120	8.90	32.88	5.32	33.15	1	V
252	4841	4313.9	6910.0	21	5	2014	2:01	177	8.66	32.24	5.46	33.29	3	B
253	4852	4330.2	6908.7	21	5	2014	5:30	142	7.95	31.95	5.07	33.02	2	W
254	5630	4349.3	6902.1	21	5	2014	11:06	73	6.78	31.04	5.10	31.92	4	W
255	4848	4331.2	6909.8	21	5	2014	15:52	131	9.06	31.89	5.17	32.83	5	B
256	4849	4329.0	6911.3	21	5	2014	18:06	161	9.67	32.09	5.13	33.11	3	V

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Cast #	Sta #	Lat (deg N)	Long (deg W)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest	Deepest	Meters	Method
											Observed Temp (deg C)	Observed Salt	from Bottom	of Deployment
257	4851	4326.2	6935.4	21	5	2014	21:31	161	10.14	32.62	5.24	33.19	5	V
258	4845	4310.7	6914.9	22	5	2014	0:22	197	9.64	32.74	5.67	33.39	3	V
259	4843	4245.2	6859.9	22	5	2014	3:58	179	8.76	32.81	5.42	33.29	4	W
260	4757	4238.9	6916.0	22	5	2014	6:30	205	10.00	32.94	6.61	33.76	4	V
261	4842	4252.9	6930.6	22	5	2014	10:10	163	9.96	32.49	5.69	33.46	1	V
262	4844	4249.4	6935.2	22	5	2014	12:08	183	9.72	32.40	5.61	33.46	3	V
263	4755	4230.6	6948.7	22	5	2014	15:31	254	10.18	32.87	6.65	33.76	5	V
264	4740	4223.3	7003.1	22	5	2014	19:30	97	10.72	31.43	4.25	32.64	4	V
265	4749	4214.0	6958.3	22	5	2014	21:40	120	8.55	32.06	4.51	32.85	5	V
266	4642	4207.7	7003.8	22	5	2014	23:45	55	10.69	30.74	4.41	32.43	4	V
267	4830	4149.9	7027.8	28	5	2014	1:31	23	12.81	30.92	7.99	31.27	5	W
268	4834	4154.8	7026.3	28	5	2014	6:00	37	12.52	30.77	5.61	31.80	6	V
269	4835	4154.9	7026.5	28	5	2014	6:07	37	12.52	30.78	5.61	31.79	3	V
270	4830	4149.7	7027.3	28	5	2014	8:08	22	12.53	30.95	8.16	31.16	4	V
271	4831	4149.7	7023.9	28	5	2014	9:49	25	13.17	31.09	6.14	31.55	4	V
272	4832	4151.5	7018.5	28	5	2014	11:33	29	12.90	31.18	6.12	31.73	4	V
273	4833	4158.2	7017.9	28	5	2014	13:41	44	13.13	31.23	4.73	32.06	4	V
274	4644	4200.8	7017.4	28	5	2014	15:25	52	12.74	31.14	4.43	32.19	5	V
275	4646	4215.7	7038.2	28	5	2014	18:49	39	11.62	29.95	5.32	31.74	4	V
276	4979	4216.9	7037.0	28	5	2014	20:40	50	11.08	30.03	5.21	31.87	4	V
277	4647	4220.2	7041.5	28	5	2014	23:04	42	11.44	29.80	5.51	31.62	5	V
278	4645	4225.0	7047.0	29	5	2014	1:13	42	11.85	29.78	5.35	31.71	5	B
279	4980	4229.6	7040.7	29	5	2014	3:52	57	10.93	29.62	4.67	32.13	6	W
280	4837	4230.4	7043.3	29	5	2014	5:46	52	11.13	29.59	4.74	32.00	3	V
281	4978	4230.4	7039.1	29	5	2014	8:00	66	11.20	29.55	4.79	32.15	5	V
282	4743	4247.5	7020.8	29	5	2014	12:16	107	8.90	31.49	4.02	32.54	2	V
283	4796	4250.1	7032.1	29	5	2014	14:13	115	9.38	31.34	3.78	32.60	1	V
284	5610	4245.8	7044.8	29	5	2014	16:51	27	10.41	29.86	8.70	31.04	4	V

HB1401 Spring Bottom Trawl Survey
April 1 - May 31, 2014

Cast #	Sta #	Lat (deg N)	Long (deg W)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest Observed	Deepest Observed	Meters from	Method of
											Temp (deg C)	Salt	Bottom	Deployment
285	4836	4249.1	7044.8	29	5	2014	17:58	33	9.90	30.54	8.63	31.21	3	V
286	5562	4255.7	7031.7	29	5	2014	20:10	83	9.53	31.52	4.91	32.18	4	V
287	4750	4255.0	7021.6	29	5	2014	23:04	106	7.66	31.50	4.76	32.25	3	V
288	4795	4308.3	7019.6	30	5	2014	3:19	115	9.04	31.67	4.48	32.73	1	W
289	4746	4316.1	6958.7	30	5	2014	6:25	129	9.66	32.41	4.64	32.90	1	V
290	4741	4248.5	7011.7	30	5	2014	10:37	71	9.05	31.88	4.93	32.29	4	B
291	4748	4245.7	7009.5	30	5	2014	13:41	110	9.88	31.96	4.62	32.70	1	V
292	4745	4241.1	7014.3	30	5	2014	15:49	85	10.28	31.53	4.58	32.54	5	V
293	4742	4237.7	7018.5	30	5	2014	17:52	101	10.50	31.73	4.53	32.56	4	V
294	4744	4229.5	7022.8	30	5	2014	20:06	150	11.79	30.73	4.28	32.63	5	B
295	4643	4204.8	6959.6	31	5	2014	3:07	68	11.13	31.26	4.79	32.30	5	V
296	4828	4148.4	6953.8	31	5	2014	7:43	29	10.84	31.03	6.07	31.73	2	W
297	4827	4142.0	6952.5	31	5	2014	10:36	20	10.52	31.05	7.34	31.52	3	V
298	4738	4135.0	6943.5	31	5	2014	13:22	32	10.84	31.11	6.12	31.81	4	V
299	4736	4134.3	6933.8	31	5	2014	15:34	56	10.75	31.19	5.03	32.21	3	V
300	4753	4204.4	6933.9	31	5	2014	20:04	229	10.83	32.10	5.33	33.42	26	B
301	4753	4204.8	6934.4	31	5	2014	20:32	230	10.87	32.15	5.64	33.50	1	V

Deployment codes: B=bongo cast; W=water cast; and V=vertical cast