



National Transportation Safety Board

Office of Marine Safety
Washington, D.C. 20594-2000
December 13, 2016

**ATTACHMENT 1 to the METEOROLOGY GROUP FACTUAL REPORT
DCA16MM001**

Approximate track used in this report for *El Faro* positions and times, except where noted. Readers are referred to the NTSB Electronic Data Factual Report for the authoritative track of the accident vessel.

*Submitted by: Mike Richards
NTSB, AS-30*

Date (UTC)	Time (UTC)	Latitude	Longitude
9/29/2015	23:27:58	30.3888	-81.5431
9/30/2015	0:27:59	30.3865	-81.5412
9/30/2015	0:31:20	30.3879	-81.5328
9/30/2015	0:31:20	30.3879	-81.5329
9/30/2015	0:37:34	30.391	-81.5156
9/30/2015	1:27:59	30.4016	-81.4028
9/30/2015	2:28:02	30.3657	-81.1056
9/30/2015	2:31:38	30.3621	-81.0829
9/30/2015	2:31:38	30.3621	-81.0829
9/30/2015	2:31:56	30.3618	-81.081
9/30/2015	2:32:37	30.3611	-81.0767
9/30/2015	2:38:07	30.3555	-81.0422
9/30/2015	2:59:39	30.3333	-80.907
9/30/2015	2:59:39	30.3333	-80.907
9/30/2015	2:59:45	30.3332	-80.9064
9/30/2015	2:59:45	30.3332	-80.9064
9/30/2015	2:59:51	30.3331	-80.9057
9/30/2015	3:00:38	30.3323	-80.9007
9/30/2015	3:06:50	30.3259	-80.8612
9/30/2015	3:06:50	30.3259	-80.8612
9/30/2015	3:08:17	30.3243	-80.8517
9/30/2015	3:28:02	30.2799	-80.7396
9/30/2015	3:53:28	30.1858	-80.614
9/30/2015	4:28:02	30.0543	-80.4439
9/30/2015	5:28:02	29.8366	-80.1598
9/30/2015	5:53:59	29.7474	-80.0424
9/30/2015	6:28:05	29.6265	-79.895
9/30/2015	6:29:24	29.6215	-79.8888
9/30/2015	6:29:24	29.6215	-79.8888
9/30/2015	6:33:13	29.6078	-79.8722
9/30/2015	7:28:03	29.423	-79.6224
9/30/2015	7:54:32	29.3407	-79.4992
9/30/2015	8:11:06	29.2902	-79.4294
9/30/2015	8:11:06	29.2902	-79.4294
9/30/2015	8:12:06	29.2871	-79.4252
9/30/2015	8:13:37	29.2824	-79.4189
9/30/2015	8:17:19	29.2709	-79.4032
9/30/2015	8:17:19	29.2709	-79.4032
9/30/2015	8:18:01	29.2688	-79.4002
9/30/2015	8:28:04	29.2364	-79.3573
9/30/2015	9:28:04	29.0213	-79.0911
9/30/2015	9:55:06	28.921	-78.9643
9/30/2015	10:16:52	28.8368	-78.8631
9/30/2015	10:28:05	28.7915	-78.8129
9/30/2015	11:10:26	28.6059	-78.6381
9/30/2015	11:28:07	28.53	-78.5669
9/30/2015	12:28:07	28.2869	-78.3276
9/30/2015	13:10:55	28.1101	-78.1568

9/30/2015	13:26:25	28.0462	-78.0946
9/30/2015	13:28:08	28.0395	-78.0881
9/30/2015	14:06:06	27.885	-77.937
9/30/2015	14:11:12	27.8643	-77.9167
9/30/2015	14:19:10	27.832	-77.8853
9/30/2015	14:19:10	27.832	-77.8853
9/30/2015	14:25:24	27.8069	-77.8609
9/30/2015	14:25:24	27.8069	-77.8609
9/30/2015	14:28:08	27.7962	-77.8507
9/30/2015	14:56:23	27.681	-77.7418
9/30/2015	15:25:54	27.5638	-77.6264
9/30/2015	15:25:59	27.5635	-77.6261
9/30/2015	15:25:59	27.5635	-77.6261
9/30/2015	15:28:05	27.5551	-77.6175
9/30/2015	15:28:08	27.5541	-77.6165
9/30/2015	15:28:23	27.5539	-77.6163
9/30/2015	15:29:11	27.5508	-77.6131
9/30/2015	15:29:24	27.5499	-77.6122
9/30/2015	16:26:48	27.3174	-77.3811
9/30/2015	16:28:10	27.312	-77.376
9/30/2015	16:30:01	27.3041	-77.3683
9/30/2015	16:31:24	27.2982	-77.3626
9/30/2015	16:31:24	27.2982	-77.3626
9/30/2015	16:31:31	27.2978	-77.3622
9/30/2015	17:12:00	27.1298	-77.2016
9/30/2015	17:28:11	27.0632	-77.1376
9/30/2015	17:39:13	27.0173	-77.093
9/30/2015	17:40:00	27.0141	-77.0899
9/30/2015	17:40:36	27.0116	-77.0875
9/30/2015	17:41:13	27.0091	-77.085
9/30/2015	18:06:22	26.9045	-76.9839
9/30/2015	18:06:22	26.9045	-76.9839
9/30/2015	18:12:17	26.8798	-76.96
9/30/2015	18:13:25	26.8751	-76.9555
9/30/2015	18:13:25	26.8751	-76.9555
9/30/2015	18:28:12	26.8137	-76.8969
9/30/2015	19:12:34	26.6257	-76.7172
9/30/2015	19:17:24	26.6048	-76.6976
9/30/2015	19:17:24	26.6048	-76.6976
9/30/2015	19:18:25	26.6005	-76.6937
9/30/2015	19:22:01	26.5848	-76.6793
9/30/2015	19:22:12	26.584	-76.6786
9/30/2015	19:28:13	26.5584	-76.6552
9/30/2015	19:29:47	26.5512	-76.6486
9/30/2015	19:29:47	26.5512	-76.6486
9/30/2015	19:57:45	26.4326	-76.541
9/30/2015	20:28:14	26.3086	-76.4278
9/30/2015	21:28:09	26.0646	-76.1954
9/30/2015	21:28:17	26.0643	-76.1954

9/30/2015	22:28:15	25.8291	-75.9686
9/30/2015	22:28:25	25.8281	-75.9675
9/30/2015	23:28:15	25.5716	-75.7576
9/30/2015	23:36:41	25.5305	-75.732
9/30/2015	23:36:41	25.5305	-75.732
9/30/2015	23:58:51	25.4232	-75.6654
10/1/2015	0:28:15	25.2801	-75.5768
10/1/2015	1:08:36	25.0846	-75.4556
10/1/2015	1:09:13	25.0817	-75.4538
10/1/2015	1:09:13	25.0817	-75.4538
10/1/2015	1:28:18	24.9891	-75.3944
10/1/2015	1:59:23	24.8375	-75.2955
10/1/2015	2:13:05	24.7714	-75.2525
10/1/2015	2:13:12	24.7709	-75.2522
10/1/2015	2:13:23	24.7701	-75.2516
10/1/2015	2:15:12	24.7616	-75.2462
10/1/2015	2:15:12	24.7616	-75.2462
10/1/2015	2:16:06	24.7572	-75.2434
10/1/2015	2:18:00	24.7481	-75.2376
10/1/2015	2:28:18	24.6998	-75.2063
10/1/2015	2:34:49	24.6682	-75.1856
10/1/2015	2:34:49	24.6682	-75.1857
10/1/2015	2:35:20	24.6656	-75.184
10/1/2015	2:36:13	24.6613	-75.1814
10/1/2015	2:36:42	24.659	-75.1799
10/1/2015	2:36:55	24.658	-75.1792
10/1/2015	2:37:37	24.6548	-75.177
10/1/2015	2:37:43	24.6543	-75.1767
10/1/2015	2:37:49	24.6538	-75.1764
10/1/2015	2:38:26	24.6509	-75.1747
10/1/2015	2:38:37	24.65	-75.1741
10/1/2015	2:38:49	24.6491	-75.1735
10/1/2015	3:06:53	24.5143	-75.0892
10/1/2015	3:07:18	24.5124	-75.0881
10/1/2015	3:28:19	24.4125	-75.0285
10/1/2015	3:49:52	24.3114	-74.9669
10/1/2015	3:49:52	24.3114	-74.9669
10/1/2015	3:59:56	24.265	-74.9393
10/1/2015	4:15:32	24.1929	-74.8958
10/1/2015	4:28:19	24.132	-74.8591
10/1/2015	4:30:03	24.1231	-74.8536
10/1/2015	4:54:01	24.0063	-74.782
10/1/2015	4:55:01	24.0015	-74.779
10/1/2015	4:55:43	23.9981	-74.7768
10/1/2015	4:55:43	23.9981	-74.7768
10/1/2015	5:28:19	23.8416	-74.6769
10/1/2015	6:07:23	23.7508	-74.4904
10/1/2015	6:08:01	23.7494	-74.4877
10/1/2015	6:08:48	23.7477	-74.4842

10/1/2015	6:09:12	23.7467	-74.4824
10/1/2015	6:28:21	23.706	-74.3971
10/1/2015	6:30:34	23.7012	-74.3861
10/1/2015	7:49:13	23.5295	-74.0402
10/1/2015	7:49:13	23.5295	-74.0402
10/1/2015	7:53:55	23.5229	-74.026
10/1/2015	7:56:07	23.5204	-74.0195
10/1/2015	7:56:07	23.5204	-74.0195
10/1/2015	8:31:07	23.4902	-73.9204
10/1/2015	9:46:28	23.4774	-73.7637
10/1/2015	11:40:00	23.39	-73.9