

RESEARCH VESSEL "MAURICE EWING"

EW9705

SCIENCE WATCHSTANDERS LOG

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT. (N)	LONG. (W)	REMARKS
191	1224	0000	141.1	9.6	—			Tech Departure
191	1646	52.33	66.1	11.8	24282	37°52.1'N	24°37.68'W	First watch commences
191	1700	53.97	65.3	11.9	2429.2	37°53.49'N	24°37.05'W	
191	1730	59.84	66.8	11.8	2821.2	37°55.50'N	24°38.32'W	
191	1800	65.80	66.1	11.9	3064.1	37°58.12'N	24°21.91'W	
191	1830	71.70	68.5	11.8	3278.1	38°00.73'N	24°14.94'W	
191	1900	77.54	26.8	11.1	3374.1	38°04.19'N	24°09.98'W	
191	1930	83.48	74.8	12.1	3407.1	38°05.74'N	24°02.91'W	
191	2000	89.35	64.3	11.8	3479.1	38°07.79'N	23°55.33'W	2nd watch
191	2030	95.42	65.0	11.8	3510.1	38°10.30'N	23°49.18'W	
191	2100	101.28	99.5	11.3	3566.1	38°10.74'N	23°42.08'W	
191	2130	107.13	54.5	11.8	3765.1	38°13.57'N	23°36.00'W	
191	2200	112.80	52.0	11.2	3814.1	38°16.96'N	23°30.23'W	
191	2230	118.65	65.1	11.1	3857.1	38°19.60'N	23°23.85'W	
191	2300	124.41	65.7	11.1	3935.1	38°22.13'N	23°17.29'W	
191	2330	130.23	65.6	11.2	3954.1	38°24.59'N	23°10.66'W	3rd watch
192	0000	136.23	62.5	12.1	3985.1	38°27.08'N	23°03.88'W	
192	0030	142.09	63.9	11.3	4058.6	38°29.59'N	22°57.13'W	
192	0100	147.95	68.3	12.0	4102.0	38°32.10'N	22°50.32'W	
192	0130	153.82	66.0	12.1	4151.0	38°34.73'N	22°43.31'W	
192	0200	159.63	61.2	12.2	4179.0	38°37.22'N	22°36.54'W	
192	0230	165.61	68.8	12.6	4063.0	38°39.79'N	22°29.57'W	
192	0300	171.55	66.9	12.0	4173.6	38°42.38'N	22°22.54'W	
192	0330	177.51	63.6	12.4	4191.0	38°44.99'N	22°15.46'W	
192	0400	183.54	67.5	12.1	3831.1	38°47.66'N	22°08.13'W	4th watch

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192	0430	189.47	61.7	12.5	4406.0	38° 50.370 N	22° 00.809 W	
192	0500	195.43	48.5	12.5	3875.1	38° 53.114	21° 53.775	
192	0530	201.31	46.4	12.2	4602.0	38° 57.393	21° 48.186	
192	0600	207.22	46.1	12.4	4662.0	39° 01.701	21° 42.689	
192	0630	213.11	66.9	12.3	4577.0	39° 04.930	21° 36.043	
192	0700	215.61	45.6	12.1	4604.0	39° 09.017	21° 28.322	
192	0730	225.10	69.3	12.0	4426.0	39° 11.152 N	21° 22.859 W	
192	0800	231.01	69.3	12.1	4463.0	39° 13.261	21° 15.653	Watch change
192	0830	237.02	67.4	11.5	4386.0	39° 13.324	21° 08.260	
192	0900	243.00	68.5	11.7	4340.0	39° 17.437	21° 01.080	
192	0930	248.98	68.1	11.9	4283.2	39° 19.555	20° 53.758	
192	1000	255.11	69.8	11.8	5057.9	39° 20.650	20° 46.388	
192	1030	260.88	69.3	11.7	5060.9	39° 22.423	20° 39.032	
192	1100	266.85	72.9	11.9	5087.9	39° 24.311	20° 31.484	
192	1130	272.77	68.0	12.4	5103.9	39° 25.690	20° 24.486	
192	1200	278.80	70.5	13.1	5098.9	39° 28.170	20° 17.662	Watch change
192	1230	284.80	67.8	12.5	5006.9	39° 30.757	20° 10.512	
192	1300	290.80	63.4	11.7	5012.9	39° 33.210	20° 03.799	
192	1330	296.77	99.3	12.2	4390.0	39° 34.436	19° 56.688	
192	1400	302.7	53.2	11.4	4518.0	39° 37.068	19° 50.306	
192	1430	308.58	51.0	11.4	4691.0	39° 39.669	19° 44.182	
192	1457	313.97	61.5	12.0	4854	39° 42.450	19° 38.326	
192	1500	314.60	63.5	11.6	4850	39° 42.736	19° 37.124	
192	1515							Starting slowing down
192	1530	318.47	280.4	1.3	4798.0	39° 43.878	19° 33.861	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
192	1537	318.57	286.4	4.8	4798	39 43.846	19 34.52	Stop for german OBH release test
192	1600	318.86	222.2	0.6	4136	39 43.584N	19 34.190W	watch change
192	1621	319.11	225.0	0.6	4203	39 43.501N	19 34.300W	GEOMAR test release signal sent
192	1630	319.16	234.1	0.5	4201	39 43.469N	19 34.289W	
192	1700	319.39	215.8	0.1	4218	39 43.388N	19 34.386W	
192	1705							Second test release
192	1713							Started retrieval of OBH release - test concluded
192	1730	319.91	218.7	0.9	4798	39 43.051N	19 34.648W	
192	1756							retrieval of OBH's
192	1800	320.38	8.5	3.4	4388	39 42.931	19 34.910	
192	1802		60.3	10.8				OBH's retrieved ship underway
192	1830	326.24	59.1	11.2	4438	39 45.931N	19 28.368W	
192	1842							Slowing Down
192	1848							Deploy OBH's Relocates
192	1900	329.22	228.7	1.1	4440	39 46.566N	19 25.961W	
192	1930	329.57	249.5	0.9	4460	39 46.420N	19 26.134W	
192	1932							Sent test signal to OBH's
192	1949							begin bringing up OBH's - test concluded
192	2000	329.88	225.8	0.8	4512	39 46.157N	19 26.450W	watch change
192	2030	330.09	211.7	0.7	4560	39 45.908	19 26.516W	
192	2036							Recovery the release
192	2100	334.73	60.1	11.7	4681	39 47.78	19 21.285	
192	2130	340.79	61.0	11.5	5211.9	39 50.783	19 14.849	
192	2200	346.73	66.0	11.7	5140.9	39 53.462	19 08.083	
192	2230	352.67	63.3	12.1		39 55.820	19 01.228	

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192	2300	358.49	65.8	11.7	5630.9	39° 58.491	18° 54.191	
192	2330	364.40	65.3	11.4	5668.9	40° 01.08	18° 47.159	
193	0000	370.39	66.0	11.6	5776.9	40° 03.616	18° 39.988	change watch
193	0030	376.31	63.7	12.4	5703.9	40° 06.194	18° 33.964	
193	0100	382.28	62.3	11.8	4956	40° 08.727	18° 25.859	
193	0130	388.23	64.0	12.1	462.7	40° 11.275	18° 18.809	
193	0200	394.06	58.9	11.9	5115.9	40° 13.756	18° 12.039	
193	0230	399.97	64.4	11.5	5110.9	40° 16.258	18° 4.924	
193	0300	405.89	63.8	11.4	5318.9	40° 18.766	17° 58.076	
193	0330	411.74	62.2	12.2	5435.9	40° 21.302	17° 51.023	
193	0343							change watch
193	0359	417.58	64.8	10.9	5287.9	40° 23.732 N	17° 44.231 W	
193	0430	423.42	61.5	12.6	5439.9	40° 26.181 N	17° 37.371 W	
193	0500	429.31	59.5	10.8	5391.9	40° 28.700 N	17° 30.436 W	
193	0530	435.08	57.5	10.8	5516.9	40° 31.127 N	17° 23.704 W	
193	0600	440.68	60.8	11.5	5020.9	40° 33.524 N	17° 16.985 W	
193	0630	446.39	55.7	10.5	5513.9	40° 35.006 N	17° 10.02 W	bump
193	0700	451.75	57.8	11.6	5428.9	40° 38.383 N	17° 03.365 W	
193	0730	457.33	65.8	11.2	5433.9	40° 40.794 N	16° 56.693 W	
193	0800	462.97	70.5	11.7	5433.9	40° 43.222 N	16° 50.000 W	watch change
193	0830	468.63	65.7	11.2	5046.9	40° 45.684 N	016° 43.130 W	
193	0900	474.30	65.0	10.9	5400.9	40° 48.044 N	016° 36.431 W	
193	0930	480.03	63.0	11.7	5112.9	40° 50.40 N	016° 29.85 W	
193	1000	485.61	64.5	11.2	5347.9	40° 52.691 N	016° 23.190 W	
193	1030	491.38	66.1	10.8	4997.9	40° 55.237 N	016° 16.321 W	

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193	11:00	497.18	63.4	11.0	4637.0	40° 57.646	016° 09.406	
193	11:30	502.85	59.5	11.3	4646.0	40° 59.79 N	016° 2.856' W	
193	1200	508.44	65.0	11.5	4267.0	41° 02.423	15° 56.178	Watch change
193	1230	514.19	104.9	11.0	4296.0	41° 04.532	15° 49.515	
193	1300	519.65	49.6	11.6	4907.0	41° 06.371	15° 42.606	
193	1330	524.92	67.5	10.5	4228.0	41° 09.570	15° 36.753	
193	1400	530.19	63.9	11.0	3999.0	41° 11.726	15° 30.060	
193	1430	535.34	64.2	11.3	3538.1	41° 14.057	15° 23.433	
193	1500	540.55	65.2	11.2	4233.0	41° 16.504	15° 16.676	
193	1530	545.81	60.9	12.3	4810.0	41° 18.943	15° 09.848	
193	1600	551.13	63.8	11.4	4919.0	41° 21.306' N	15° 03.101' W	Watch change
193	1630	556.51	66.0	10.5	5301.9	41° 23.677 N	14° 56.32 W	
193	1700	561.71	63.7	12.2	5296.7	41° 26.137 N	14° 49.485 W	
193	1730	566.89	67.0	10.8	5293.9	41° 28.521 N	14° 42.726 W	
193	1800	572.10	67.1	11.3	5299.9	41° 30.925	14° 35.926	
193	1830	577.48	66.3	11.7	5299.9	41° 33.373	14° 28.960	
193	1900	582.89	62.5	11.2	5298.9	41° 35.840	14° 21.958	
193	1930	588.26	64.8	12.0	5295.9 5299.9	41° 38.289 N	14° 15.046 W	
193	1937							Watch change
193	20:00	593.64	62.0	11.3	5298.9	41° 40.656	14° 08.383	Sonar down between ~20:45 ~ (back at 20:45)
193	20:30	599.06	65.5	10.8	5298.9	41° 43.041	14° 01.603	
193	21:00	604.42	63.5	10.1	5116	41° 45.329	13° 55.033	
193	21:30	609.98	64.9	11.3	5298	41° 47.802	13° 48.072	
193	22:00	615.66	65.5	11.0	5303	41° 48.428	13° 41.232	attempting e-mail link
193	22:30	621.34	56.5	11.2	5302	41° 51.512	13° 35.217	

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193	23:00	626.99	66.5	11.1	5300	41° 54.134	013° 28.822	
193	23:30	632.67	66.5	10.9	5302	41° 56.490	013° 22.238	
194	00:00	638.29	65.1	11.1	5296.9	41° 58.906	13° 15.831	Watch change
194	00:30	643.93	64.4	11.6	5289.9	42° 01.304	13° 09.229	
194	01:00	649.42	98.7	10.2	5288.9	42° 03.252	13° 02.660	
194	01:30	652.80	352.7	6.2	5284.9	42° 04.500	12° 59.958	
194	13:47				5289.9	42° 04.808	13° 00.021	Deployed OBS 101 G [D649] D
194	02:00	655.65	95.8	10.8	5279.9	42° 04.133	12° 57.346	
194	02:30	658.70	358.5	0.8	5283.9	42° 04.594	12° 54.108	
194	2:39:47				5281.9	42° 04.784	12° 54.226	Deployed OBS 102 G [D634] B
194	03:00	661.38	95.0	10.5	5258.9	42° 04.779	12° 51.223	
194	3:03:30	665.35	305.8	0.8	5258.9	42° 04.663	12° 46.432	B [A314] A
194	3:44:28				5255.9	42° 04.918	12° 46.554	Deployed OBS 103 G ↓
194	04:00	667.06	93.9	9.9	5250.9	42° 04.823	12° 44.700	
194	04:30	671.74	57.8	3.71	5237.9	42° 04.697	12° 38.567	
194	04:40:54				5241.9	42° 05.019	12° 38.544	Deployed OBS 104 G [B495] D
194	05:00	674.66	131.1	11.8	5224.9	42° 03.285	12° 35.855	
194	05:30	679.05	0.5	1.8	5201.9	42° 00.985	12° 31.429	
194	05:34:30				5195.9	42° 01.044	12° 31.536	Deployed OBS 124 G [B219] C
194	06:00	683.04	168.8	11.2	5175.9	41° 57.142	12° 31.208	
194	06:16:12				5180.9	41° 57.200	12° 31.467	Deployed OBS 123 G [C444] B
194	06:30	685.28	92.8	11.7	5155.9	41° 57.038	12° 29.506	
194	06:58:11				5086.9	41° 57.224	12° 25.031	Deployed OBS 119 G [C459] D
194	07:00	689.02	228.3	1.2	5087.9	41° 57.223	12° 25.069	
194	07:30	693.10	353.9	4.1	5110.9	42° 01.368	12° 25.045	

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194	07:35.37				5112.9	42° 01.504	12° 25.032	Deploy OBS 120 U
194	08:00	696.27	2.6	8.4	5082.9	42° 04.522	12° 25.007	Watch change
194	08:10:09				5060.9	42° 06.207	12° 25.020	Deploy OBS 108 U
194	08:30	698.76	267.8	10.2	5129.9	42° 05.166	12° 27.98	
194	08:48:30				5158.9	42° 05.104	12° 28.764	Deploy OBS 107 U
194	09:00	1.29	272.8	10.8	5170.9	42° 05.070	12° 30.004	
194	09:12.33				5187.9	42° 05.103	12° 31.54	Deploy OBS 106 U
194	09:30	703.84	359.5	11.3	5185.9	42° 05.983	12° 31.447	
194	09:49.51				5004.9	42° 08.598	12° 31.471	Deploy OBS 125 U
194	10:00.0	707.11	0.4	10.9	4995.1	42° 09.481	12° 31.513	
194	10:20.04				5019.9	42° 12.066	12° 31.517	Deploy OBS 126 U
194	10:30	710.19	89.9	11.8	4982.2	42° 12.124	12° 30.571	
194								
194	11:00	714.	34.8	4.1	4821.0	42° 12.990	12° 25.030	
194	11:01.24				4821.0	42° 12.084	12° 25.031	Deploy OBS 122 U
194	11:30:00	718.39	20.1	2.93	4938.0	42° 08.22	12° 24.95	
194	11:36:30	718.68	356.5	2.03	4913.0	42° 08.490	12° 25.016	Deploy OBS 121 U
194	12:00	722.01	143.4	12.3	4994.0	42° 06.110	12° 21.412	Watch change
194	12:23:00				4974.0	42° 05.269	12° 19.987	Deploy OBS 109 U
194	12:30	724.97	104.4	5.3	4971.0	42° 05.280	12° 19.939	
194	13:00	729.81	22.9	4.1	4761.0	42° 04.826	12° 13.441	
194	13:10:26				4762.0	42° 05.343	12° 13.476	Deploy OBS 110 U
194	13:30	732.78	101.0	11.2	4509.0	42° 05.080	12° 10.365	
194	13:54:30				4268.0	42° 05.411	12° 06.939	Deploy OBS 111 U
194	14:00	736.16	98.7	6.0	4165.0	42° 05.406	12° 06.703	

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194	1430	741.71	90.1	11.1	3398.1	42°04.932	11°59.219	
194	1445:20				3513.1	42°05.537	11°58.942	Deployed OBS 112 G [B644] C/D
194	1500	744.24	102.2	11.5	3665.1	42°05.344	11°57.270	
194	1530	749.38	351.6	4.0	3765.1	42°05.261	11°50.882	
194	1536:12				3737.1	42°05.569	11°50.950	Deployed OBS 113 G [D654] B
194	1600	753.11	98.4	11.3	2980.2	42°05.396	11°46.570	
194	1624:50				2570.2	42°05.600	11°42.207	Deployed OBS 114 G [B639] C
194	1630	756.98	97.0	9.6	2566.2	42°05.490	11°41.588	
194	1700	762.56	91.0	11.4	2484.2	42°05.224	11°33.940	
194	1708:53				2454.2	42°05.648	11°33.488	Deployed OBS 115 G [D669] B
194	1730	766.22	86.0	10.6	2386.2	42°05.414	11°29.507	
194	1800	770.55	6.2	1.3	2387.2	42°05.639	11°24.078	
194	1802:50				2384.2	42°05.660	11°24.072	Deployed OBS 116 G [C464] C
194	1830	774.96	85.7	10.9	2383.2	42°05.386	11°18.496	
194	1854:41				2412.2	42°05.722	11°15.264	Deployed OBS 117 G [A319] D
194	1900	778.15	90.8	5.4	2410.2	42°05.724	11°14.979	
194	1930	783.85	92.3	11.3	2589.2	42°05.354	11°07.501W	
194	1956:44				2640.2	42°05.733	11°02.958	Deployed OBS 118 G [D629] D
194	2000	787.57	1.3	0.91	2640.2	42°05.804	011°02.963	Watch change
194	2030	790.08	10.7	2.3	2653.2	42°05.891	010°59.914	
194	2100	790.64	15.8	1.1	2644.2	42°06.385	10°59.689	
194	2130	791.11	30.7	0.7	2638.2	42°06.727	10°59.448	
194	2154							tail buoy deployed / streamer going in
194	2200	791.88	15.1	3.2	2626.2	42°07.283	10°59.224	
194	2230	793.2	2.5	2.8	2605.2	42°08.406	10°58.874	

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194	2300	794.52	14.8	2.5	2582.2	42° 09.39	10° 58.638	
194	2330	795.80	13.5	3.0	2599.2	42° 10.535 N	10° 58.411 W	
195	0000	792.24	11.1	2.1	2524.2	42° 11.758	10° 58.281	Watch Change
195	0030	798.48	352.1	2.9	2491.2	42° 12.896	10° 58.341	
195	0100	799.93	356.7	1.8	2460.2	42° 14.14	10° 58.456	
195	0130	800.94	6.5	1.8	2395.2	42° 15.415	10° 58.545	
195	0200	802.24	11.6	2.6	2264.2	42° 16.838	10° 58.623	
195	0230	803.41	342.5	3.4	2117.2	42° 18.138	10° 58.599	
195	0300	804.69	348.5	2.5	2055.2	42° 19.362	10° 58.546	
195	0330	805.98	3.4	3.7	1939.3	42° 20.631	10° 58.332	
195	0400	807.20	18.8	2.82	1937.3	42° 21.717	10° 58.042	Watch change
195	0430	808.54	8.9	2.6	1843.3	42° 22.787	10° 57.880	
195	0500	810.24	6.1	4.1	1829.9	42° 24.328	10° 57.585	
195	0530	811.93	13.6	4.4	1828.3	42° 25.776	10° 57.042	
195	0600	813.51	1.7	2.7	1810.3	42° 27.096	10° 56.809	
195	0630	815.14	4.5	2.1	1782.3	42° 28.468	10° 56.584	
195	0700	817.25	7.6	3.9	1721.3	42° 30.466	10° 56.330	
195	0730	819.33	359.4	3.8	1691.3	42° 32.457	10° 56.059	
195	0800	821.36	3.6	4.1	1768.3	42° 34.570	10° 55.710	Watch change
195	0830	823.54	19.8	4.8	1893.3	42° 36.903	10° 55.286	
195	0900	825.75	19.7	4.5	1992	42° 39.312	10° 54.780	
195	0930	827.95	19.5	4.8	2053.2	42° 41.611	10° 54.094	
195	1000	830.17	20.5	4.3	2121.2	42° 43.877	10° 53.313	
195	1030	832.07	21.1	4.7	2235.2	42° 45.841	10° 52.676	
195	1032							180° turn

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT. N	LONG. W	REMARKS
195	11:00	834.34	149.5	5.1	2430.2	42° 45.847	10° 50.335	
	11:11:30		181.1					Turn completed
195	11:30	836.38	181.5	5.0	2275.2	42° 43.461	10° 50.522	
195	1200	839.08	185.8	3.9	2206.2	42° 41.319	10° 50.802	Watch change
195	1230	841.29	179.6	4.8	2146.2	42° 39.147	10° 50.882	
195	1300	843.53	176.9	4.0	2041.2	42° 36.861	10° 50.943	
195	1330	845.75	176.9	4.8	1922.3	42° 34.610	10° 51.041	
195	1400	848.00	182.0	5.4	1780.3	42° 32.252	10° 51.197	
195	1410							Bring in the streamer to 3100 m-start
195	1430	849.50	181.1	2.9	1738.3	42° 30.486	10° 51.346	
195	1500	850.87	194.0	2.4	1732.3	42° 28.956	10° 51.545	
195	1530	852.30	172.8	4.4	1772.3	42° 27.178	10° 51.739	
195	1600	853.77	197.3	3.7	1800.0	42° 25.426	10° 52.065	watch change
195	1630	855.32	212.6	3.0	1829.3	42° 23.706	10° 52.632	
195	1640							Finished bringing streamer in to 3100m
195	1700	857.03	199.4	4.4	1872.3	42° 21.819	10° 53.452	
195	1730	858.83	191.2	4.1	1954.3	42° 19.876	10° 54.220	
195	1800	860.72	184.7	3.7	2146.2	42° 17.814	10° 54.781	
195	1830	862.76	190.5	4.4	2293.2	42° 15.516	10° 55.169	
195	1900	864.98	193.0	4.8	2416.2	42° 13.056	10° 55.607	
195	1930	867.11	207.2	3.6	2541.2	42° 10.797	10° 56.195	
195	2000	869.02	202.1	3.9	2594.2	42° 08.966	10° 56.551	WATCH CHANGE
195	2030	870.98	198.5	3.5	2677.2	42° 06.969	10° 57.839	WHOLE STREAMER OUT / NO AIRGUNS - STRONG WEA
195	2100	873.14	200.5	4.3	2663.2	42° 05.051	10° 59.069	
195	2130	875.19	195.9	3.8	2694.2	42° 03.038	10° 00.173	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT. (N)	LONG. (W)	REMARKS
195	22:00	877.38	201.7	4.0	2710.2	42° 00.837	11° 01.339	Tension higher in the streamer
195	22:13							Tension higher than the limber (3700 lbs).
195	22:30	879.51	198.8	3.4	2727.2	41° 58.682	11° 02.434	(wind speed ~ 4.5 knots) Tension between 2000-2600 OK!
195	23:00	881.56	197.8	3.9	2712.2	41° 58.513	11° 03.573	TURN (CHANGE OF HEADING)
195	23:30	883.51	100	3.4	2741.2	41° 55.101	11° 02.022	
196	0000	885.44	129.0	3.4	2775.2	41° 54.357	10° 59.954	Watch change - Tension ✓
196	0030	887.24	115.5	2.9	2790.2	41° 53.648	10° 57.677	
196	0100	889.27	101.6	3.3	2811.2	41° 52.963	10° 55.229	
196	0130	891.31	118.9	3.8	2820.2	41° 52.225	10° 52.867	Tension ✓
196	0200	893.40	107.8	4.7	2829.2	41° 51.514	10° 50.307	turn to port 020
196	0230	895.30	334.6	3.7	2842.2	41° 52.762	10° 49.551	
196	0300	897.24	321.1	2.9	2830.2	41° 54.785	10° 50.640	
196	0328	899.03	345.5	4.4	2815.2	41° 56.677	10° 51.693	
196	0400	901.07	322.1	3.9	2797.2	41° 58.755	10° 52.954	Watch change
196	0430	902.88	340.5	4.9	2748.2	42° 00.742	10° 54.025	
196	0500	904.98	332.4	4.2	2699.2	42° 02.862	10° 55.151	
196	0518	905.75	327.4	4.5	2665.2	42° 04.493	10° 56.442	Turn to the west slot
196	0530	907.13	284.5	4.2	2658.2	42° 04.624	10° 56.935	
196	0600	909.14	282.0	4.9	2668.2	42° 04.900	11° 00.199	
196	0630	911.11	279.7	4.8	2650.2	42° 05.268	11° 03.247	
196	0700	913.10	275.5	4.3	2589.2	42° 05.685	11° 06.349	high tension.
196	0730	915.13	251.0	4.4	262.0	42° 06.012	11° 09.345	
196	0800	917.24	248.2	4.8	279.3	42° 05.961	11° 12.401	
196	0830	919.34	267.2	4.1	240.7	42° 06.019	11° 15.435	
196	0900	921.50	267.9	3.8	238.2	42° 05.954	11° 18.661	

267.9

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
196	09:10							Bridge called to say RPM indicator jammed
196	09:30	923.63	269.1	4.06	2397.2	42° 05.924	11° 21.660	
196	10:00	925.67	268.1	4.5	2397.2	42° 05.777	11° 24.566	
196	10:30	927.79	277.0	4.6	2375.2	42° 05.660	11° 27.465	
196	11:00	929.83	280.1	4.1	2403.2	42° 05.573	11° 30.253	
196	11:30	931.85	280.8	4.3	2461.2	42° 05.587	11° 33.359	
196	12:00	939.90	274.2	5.0	2438.7	42° 05.584	11° 36.556	
196	12:00							Watch change
196	12:30	935.88	279.4	4.7	2437.2	42° 05.922	11° 39.734	
196	13:00	937.91	269.3	5.1	2591.2	42° 06.188	11° 42.836	
196	13:30	939.93	278.0	5.0	2887.7	42° 06.452	11° 46.114	
196	13:50	941.38	274.7	4.8	3378.1	42° 06.692	11° 48.391	Changing course at 5° per min, to port 210
196	14:00	942.06	250.7	5.3	3610.1	42° 06.478	11° 49.391	
196	14:05	942.49	272.4	5.5	3684.1	42° 06.128	11° 49.847	Start deploying stbd gun ^{boom} boom
196	14:30	944.13	226.0	3.8	3791.1	42° 04.917	11° 51.450	
196	14:46	945.15	244.0	3.7	3839.1	42° 04.203	11° 52.458	Turning 5 every 2 min, get back to the line
196	14:52	945.63	245.5	4.7	3878.1	42° 03.930	11° 53.048	Magnetics on
196	15:00	946.09	262.9	4.3	3901.1	42° 03.829	11° 53.688	
196	15:31	948.21	292.3	4.7	3718.1	42° 04.336	11° 56.957	
196	15:36							Started shooting guns
196	16:00	950.19	285.4	5.3	3465.1	42° 04.144	12° 00.108	watch change
196	16:30	952.18	255.3	4.7	3855.1	42° 05.404	12° 03.268	
196	17:00	954.24	263.3	4.4	4126.0	42° 05.380	12° 06.674	
196	17:04	954.54	270.4	4.7	4210.0	42° 05.392	12° 06.976	Passing OBS III
196	17:30	956.17	266.8	5.7	4456.0	42° 05.358	12° 09.586	

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT.	LONG.	REMARKS
196	1800	958.19	265.2	4.1	4669.0	42° 05.311	12° 12.554	
196	1830	360.32	278.2	5.1	4834.0	42° 05.292	12° 15.574	
196	1900	962.30	259.8	4.3	4943.0	42° 05.218	12° 18.542	
* 196	1914							passed over OBS #109 (bridge called in at 1918)
	1924	963.89	266.2	4.3	4979.0	42° 05.246	12° 20.784	system crash - stopped shooting
196	1930	963.89	261.2	4.5	4979.0	42° 05.211	12° 21.604	
196	1949	965.79	281.1	4.7	5030.9	42° 05.246	12° 23.543	making ² 180° turns to backtrack to get back to where we were when we went offline
196	2000	966.36	326.1	4.6	5026.9	42° 05.665	12° 24.244	
196	2023							stop the turn
196	2030	968.40	74.1	4.0	4945.0	42° 06.676	12° 22.334	
196	21:00	970.50	76.2	4.1	4865.0	42° 06.991	12° 19.566	
196	21:24:00	972.62	088	4.6	4790.0	42° 07.280	12° 16.853	Beginning turn to 270 5°/min
196	21:30:00	972.62	088	4.6	4790.0	42° 07.280	12° 16.853	
196	22:00	974.20	257.0	4.5	4815	42° 05.540	12° 16.243	
196	22:11	975.96	274.5	3.6	4922	42° 05.23	12° 17.651	Restarted Guns - shot # 1311
196	22:30	976.94	273.3	3.6	4968	42° 05.308	12° 19.210W	
196	22:40							OBS #109 (ship's waypt 17)
196	23:00	979.10	284.1	3.6	5007.9	42° 05.226N	12° 22.473W	
196	23:14	980.1	283.3	3.9	5037.9	42° 05.185	12° 24.00W	OBS #108
196	23:23	980.69	278	3.6	5068.9	42° 05.198	12° 24.972W	OBS #108 (shot # 1384 file 263)
	23:30	981.14	266.1	5.4	5079.9	42° 05.200	12° 25.615	
197	0000	983.24	273.6	4.4	5152.9	43° 05.155	12° 28.659	OBS #107 (shot 1419 file 298)
197	0026					42° 05.150	12° 31.504	OBS #106 (shot 1447 file 326)
197	0030	985.38	269.5	4.5	5192.9	42° 05.071	12° 31.879	

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT.	LONG.	REMARKS
197	0100	987.54	271.8	4.6	5227.9	42° 05.039	12 12° 34.044	
197	0130	989.65	265.8	5.2	5240.9	42° 05.047	12° 38.315	
197	0132					42° 05.029	12° 38.556	OBS #104 (shot 1513, file 392)
197	0200	991.82	261.0	4.4	5248.9	42° 04.995	12° 41.550	
197	0230	993.97	274.2	4.5	5258.9	42° 04.953	12° 44.692	
197	0238					42° 04.930	12° 44.436	OBS #103 (shot 1579, file 458)
197	0300	996.05	280.6	4.3	5261.9	42° 04.897	12° 47.777	
197	0330	998.16	260.4	4.5	5259.9	42° 04.832	12° 50.834	
197	0400	1000.36	272.3	4.0	5272.9	42° 04.785	12° 53.932	watch change
197	0402					42° 04.766	12° 54.261	passed over OBS #102 (shot 1663, file 542)
197	0430	1002.50	267.6	4.5	5283.9	42° 04.780	12° 56.863	
197	0500	1004.64	262.4	4.4	5293.9	42° 04.691	12° 59.768	
197	0502							passed over OBS #101 (shot 1723, file 602) -
								will turn after streamer tail buoy passes OBS #101
197	0530	1006.76	262.2	4.1	5285.9	42° 04.618	13° 02.817	
197	0600	1008.89	234.5	5.6	5287.9	42° 04.846	13° 05.787	turning around 180° to shoot east on line 1 → Iberia
197	0630	1011.14	111.8	3.5	5294.9	42° 03.191	13° 05.593	
197	0700	1013.09	77.0	3.4	5287.9	42° 04.498	13° 04.026	
197	0706							finished turn - 1/2 hour away from start of line
197	0715							2 guns turned off
197	0720							All guns back on
197	0730	1015.13	99.8	5.0	5287.9	42° 04.641	13° 00.960	
197	0740					42° 04.	13° 59.	Passed over OBS #101 (shot 346, file 228)
197	0800	1017.18	102.8	3.6	5286	42° 04.675	12° 57.025	
197	0830	1019.15	79.0	4.9	5283	42° 04.758	12° 54.927	

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09:52 → 103
11:08 →

DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
197	08:36							Passing over OBS #102
197	09:00	1021.24	87.3	4.4	5255.9	42° 04.830	12° 51.883	
197	09:30	1023.30	95.8	4.9	5267.9	42° 04.866	12° 48.747	
197	10:00	1025.33	91.1	4.0	5262.9	42° 04.925	12° 45.780	Hour log + passing over OBS 103
197	10:30	1027.34	89.0	4.5	5249.9	42° 04.956	12° 42.701	
197	11:00	1029.36	85.0	4.7	5241.9	42° 05.022	12° 39.546	
197	11:30:40	1029.86	77.1	4.1	5238.9	42° 05.036	12° 38.836	OBS # 104
197	11:30:00	1031.39	79.3	5.1	5229.9	42° 05.077	12° 36.474	
197	12:00	1033.39	72.3	5.0	5205.9	42° 05.073	12° 33.301	
197	12:16	1034.48	89.8	5.0	5190.9	42° 05.410	12° 31.50	OBS 106 passing over OBS 106
197	12:27	1035.27	89.8	5.0	5175.9	42° 05.113	12° 30.249	
197	12:30	1035.44	81.5	4.7	5168.9	42° 05.125	12° 30.095	
197	12:42	1036.31	98.9	4.4	5153.9	42° 05.128	12° 28.431	Passing over OBS 107
197	13:00	1037.51	94.5	4.0	5127.9	42° 05.161	12° 26.966	
197	13:21	1039.01	94.3	5.1	5067.9	42° 05.108	12° 24.892	passing over OBS 108
197	13:30	1039.40	88.8	4.6	5041.9	42° 05.101	12° 24.041	
								XXXXXXXXXXXXXXXXXXXX
197	13:37					42° 05.177	12° 23.187	Gun #10 taken out of the water (File 1416, shot 1289)
197	13:40					42° 05.110	12° 23.003	Start Butterfly Turn, 1st turn to 180°
197	14:00	1042.10	175.2	4.9	5045.9	42° 03.834	12° 22.007	
197	14:10	1042.98	193.1	2.9	5058.9	42° 03.075	12° 22.079	2nd Turn to 000°
197	14:30	1044.54	266.3	4.5	5085.9	42° 02.031	12° 23.459	
197	14:49	1045.90	354.6	4.3	5110.9	42° 02.778	12° 24.985	End of Turn
197	14:49							Gun #10 back in the water
197	14:53							Gun 19 shut off - air leak

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT. <i>N</i>	LONG. <i>W</i>	REMARKS
197	1500	1046.72	354.6	4.6	5112.9	42°03.573	12°25.047	
197	1522	1048.43	8.8	4.4	5060.4	42°05.223	12°25.026	OBS 108 (File 138, shot 35)
	1524							
197	1530	1049.01	4.4	5.5	5027.9	42°05.862	12°25.034	
197	1600	1051.28	358.3	4.8	4943.0	42°08.127	12°25.024	watch change
197	1606	1051.83	356.8	4.7	4914.0	42°08.592	12°25.025	OBS 121 (File 203 shot 100)
197	1630	1053.67	5.7	4.5	4860.0	42°10.433	12°24.009	
197	1651	1055.44	5.2	5.4	4817.0	42°12.130	12°24.998	OBS 122 (File 272 shot 160)
197	1700	1056.11	357.2	4.6	4802.0	42°12.781	12°25.036	
197	1730	1058.59	2.6	4.8	4749.0	42°15.191	12°25.010	
197	1800	1061.05	1.1	5.5	4705.0	42°17.606	12°25.006	
197	1830	1063.49	5.3	4.9	4661.0	42°20.106	12°25.017	
197	1900	1065.90	6.0	4.0	4622.0	42°22.540	12°24.997	
197	1930	1068.46	350.7	4.6	4543.0	42°24.881	12°25.048	start of turn
	1950							gun No 18 out of water
197	1955:40							
197	2000	1071.13	279.1	4.8	4547.0	42°25.763	12°27.725	WATCH CHANGES
197	20:29							beginning turn S onto E
197	20:30	1073.49	241.1	5.2	4551.0	42°25.768	12°30.918	
197	20:41							completed turn, "tuning the vessel"
197	20:50	1075.64	183.5	4.2	4665.0	42°23.641	12°31.472	
197	21:30	1077.58	183.2	5.0	4798.0	42°21.256	12°31.521	
197	22:00	1080.17	177.1	4.7	4858.0	42°18.845	12°31.498	
197	22:30	1082.5	175.1	4.5	4875.0	42°16.515	12°31.495	
197	23:00	1084.78	176.8	5.4	4942.0	42°14.106	12°31.509	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT (N)	LONG. (W)	REMARKS
197	23:26:40	1088.92	177.8	4.7	5013.9	42° 12.030	12° 31.534	over OBS # 126
197	23:30:00	1087.16	180.0	4.6	5009.9	42° 11.797	12° 31.470	
198	00:00:00	1089.60	177.8	4.8	4996.9	42° 09.337	12° 31.508	
198	00:09:00							programming BIRD #17
198	00:11:00	1090.48	184.6	4.4	5018.9	42° 08.444	12° 31.498	Passing OBS 125
198	00:30:00	1091.94	183.2	5.3	5139.9	42° 06.968	12° 31.510	
198	00:52:45	1093.76	179.4	5.6	5188.9	42° 05.104	12° 31.493	Passing OBS 106
198	01:00:00	1094.31	176.6	5.5	5191.9	42° 04.648	12° 31.513	
198	01:30:00	1096.70	179.3	4.5	5191.9	42° 01.957	12° 31.529	
198	01:44:00	1097.80	176.1	3.8	5194.9	42° 00.822	12° 31.490	Passing OBS 124
198	02:00:00	1099.04	174.7	4.7	5184.9	41° 59.598	12° 31.528	
198	02:30:00	1101.45	175.2	4.2	5178.9	41° 57.269	12° 31.499	Passing OBS 123
198	03:00:00	1163.84	180.1	4.6	5169.9	41° 54.917	12° 31.546	
198	03:30:00	1106.14	181.2	4.8	5171.9	41° 52.554	12° 31.496	
198	0400	1108.63	187.2	4.9	5173.9	41° 49.951	12° 31.538	watch change
198	0430	1110.95	180.4	5.1	5183.9	41° 47.427	12° 31.508	
198	0433							ship passing through southernmost end of
								line 6 - in 15 minutes, will turn E to
								line 5
198	0500	1113.28	111.9	5.0	5165.9	41° 45.346	12° 30.669	
	0504							finished turn E; 40 min straight before beginning turn N
198	0530	1115.53	99.9	4.6	5144.9	41° 45.215	12° 27.616	turn N
	0543							starting turn N; in 18 min will be straightened out
								and 1.1 miles from start of line 5
198	0600	1117.86	7.2	4.9	5120.9	41° 45.972	12° 25.019	

203 shoots thru turn
F

RESEARCH VESSEL "MAURICE EWING"

CRUISE 9705

SCIENCE WATCHSTANDER'S LOG

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
198	0630	1120.14	357.2	4.7	5107.9	42° 41' 48.496	12° 25.047	
198	0700	1122.27	2.5	4.5	5094.9	41 50.788	12 25.016	
198	0730	1124.59	356.7	4.5	5099.9	41 53.066	12 25.030	
198	0800	1127.11	3.4	5.3	5092.9	41 55.414	12 25.021	
198	0823							Passing ob 119 WP#
198	0830	1129.56	3.6	5.0	5077.9	41° 57.704	12° 25.002	
198	0859:45							#8 gun offline - wire snapped
198	0900	1132.11	12.1	4.3	5094.9	42° 00.022	12° 25.027	
198	0918							Passing OBS 120
198	0930	1134.55	0.2	5.5	5114.9	42° 02.442	12° 25.007	
198	10:00	1137.26	357.34.1	5077.9	42° 04.988	12° 25.014		
198	10:05	1137.52	359	5.2	5057	42° 05.2490	12° 24.99 W	Passing Ob 5 108
198	10:20	1139.52	308	5.5	5012.9	42° 07.126	12° 25.667	
	~ 10:17							begin 270° s/min turn to starboard (west) Gun #11 on after turn
198	1052							Gun #8 back in water + on line
198	11:00	1141.90	178.5	3.6	5120.9	42° 05.928	12° 27.659	
	11:17							turn finished, balancing vessel for line 1 (F)
	11:20							Gun #11 is back on
198	11:24:58							
198	11:30:00	1144.19	73.1	5.2	5074.9	42° 05.183	12° 25.038	OBS # 108
198	12:00:00	1146.59	93.1	4.1	4998.9	42° 05.234	12° 22.055	
198	12:20:00	1148.27	93.8	5.2	4973.0	42° 05.255	12° 19.963	Passing OBS 109
198	12:30:00	1149.03	82.6	4.5	4962.0	42° 05.269	12° 18.921	
198	13:00:00	1151.53	92.1	4.8	4842.0	42° 05.301	12° 15.762	
198	13:23:00	1153.53	92.6	4.0	4764.0	42° 05.330	12° 13.323	Passing OBS 110

22:22 117

RESEARCH VESSEL "MAURICE EWING"

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SCIENCE WATCHSTANDER'S LOG

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT.	LONG.	REMARKS
198	13:30:00	1154.03	101.8	5.1	4686.0	42°05.325	12°12.650	
198	14:00:00	1156.55	87.6	5.3	4450.0	42°05.369	12°09.441	
198	14:22	1158.52	85.3	4.6	4209.0	42°05.478	12°06.409	OBS #111 (File 809, shot 704)
198	1430	1159.14	82.8	5.2	4101.0	42°05.428	12°06.109	
198	1500	1161.81	98.4	4.9	3817.1	42°05.422	12°02.779	
198	1530	1164.37	85.8	4.4	3437.1	42°05.496	11°59.586	
198	1536					42°05.491	11°58.897	OBS #112 (File 1029, shot 892 924)
198	1542					42°05.434	11°58.202	Gun #19 out - to be fixed
198	1600	1166.7 1168.1	85.7	5.2	3748.1	42°05.489	11°56.281	
198	1616					42°05.490	11°54.597	Gun #19 back in the water
198	1630	1169.51	91.0	4.8	3761.1	42°05.501	11°53.186	
198	1650					42°05.501	11°50.979	OBS 113 (File 1253, Shot 1148)
198	1700	1172.04	92.7	4.4	3745.1	42°05.540	11°50.056	
198	1730	1174.60	87.4	5.6	3034.1	42°05.557	11°46.727	
198	1800	1177.18	95.3	4.7	2656.2	42°05.569	11°43.341	
198	1830	1179.65	90.2	5.2	2471.2	42°05.618	11°40.046	
198	1900	1182.09	85.7	5.3	2436.2	42°05.632	11°36.739	
198	1930	1184.47	90.1	4.5	2468.2	42°05.657	11°33.595	
198	1932							OBS 115 (File 1737, Shot 1632)
198	20:00	1186.	87.0	5.1	2393.2	42°05.682	11°30.424	
198	20:30	1189.94	82.5	4.4	2373.2	42°05.703	11°27.215	
198	21:00	1191.87	89.5	4.7	2384	42°05.677	11°24.175	Passing over OBS #116
198	21:30	1194.25	92.7	5.9	2385.2	42°05.708	11°20.975	
198	22:00	1196.88	76.1	4.4	2384.2	42°05.690N	11°17.783	
198	22:27	1199.00	75.0	4.9	2412.2	42°05.681N	11°15.188	Passing over OBS #117

RESEARCH VESSEL "MAURICE EWING"

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SCIENCE WATCHSTANDER'S LOG

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT. (N)	LONG. (W)	REMARKS
198	22:30	1199.25	78.1	4.7	2410.2	42° 05.727N	11° 14.923W	
198	23:00	1201.04	84.7	4.9	2486.2	42° 05.712N	11° 11.863	
198	23:30	1204.02	81.1	4.9	2534.2	42° 05.721N	11° 8.972	
199	0000	1206.37	87.1	3.5	2602.2	42° 05.714	11° 06.976	
199	0030	1208.73	99.9	4.1	2642.2	42° 05.703	11° 02.973	
199	0031				42° 05.693	11° 02.875		OBH #118
199	100	1211.09	78.8	4.6	2654.2	42° 05.700	10° 59.972	
199	113	1212.19	70.4	4.2	2649.2	42° 05.860	10° 58.670	Begin turning - to 035
199	130	1213.31	37.4	4.2	2636.2	42° 06.520	10° 57.465	Pull guns out of water for turn
199	156	1214.6				42° 06.006	10° 56.101	Turn starboard to 270
199	02:00	1215.6	78.3	3.8	2553.2	42° 08.148	10° 55.703	
199	230	1218.23	190.2	6.9	2462.2	42° 06.563	10° 53.830	
199	249					42° 05.557	10° 55.472	On line - roughly - only small adjustments needed +
199	300	1220.67	274.9	5.3	2643.2	42° 05.512	10° 56.691	Guns in water
199	3:30	1222.97	274.3	4.9	2659.2	42° 05.658	11° 00.236	
199	3:57					42° 05.741	11° 03.169	OBH #118
199	4:00	1225.17	266.7	5.2	2630.2	42° 05.724	11° 03.536	
199	4:30	1227.26	277.2	4.4	2565.2	42° 05.722	11° 06.830	
199	5:00	1229.38	268.2	4.6	2518.2	42° 05.693	11° 10.105	
199	530	1231.52	264.8	5.0	2457.2	42° 05.694	11° 13.264	
199	6:00	1233.66	272.6	4.3	2392.2	42° 05.723	11° 16.391	
199	6:30	1236.01	267.7	5.3	2384.2	42° 05.702	11° 19.580	
199	7:00	1238.35	273.9	5.4	2332.2	42° 05.699	11° 22.887	
199	712							OBH #116 (Shot 448, File 349)
199	730	1240.66	271.6	5.0	2379.2	42° 05.681	11° 26.190	

RESEARCH VESSEL "MAURICE EWING"

CRUISE EW 9705

SCIENCE WATCHSTANDER'S LOG

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DATE	TIME	PIT LOG	HOG	SPD	DEPTH	LAT.	LONG.	REMARKS
199	08:00	1242.90	285.9	5.3	2378.2	42° 05.669	11° 29.245	
199	08:30	1245.28	278.6	4.6	2444.3	42° 05.607	11° 32.374	
199	08:39	245			2464.2			Passing OBS #115
199	09:00	1247.72	277.7	4.7	2449.2	42° 05.590	11° 35.518	
199	09:30	1250.17	267.5	5.1	2446.2	42° 05.616	11° 38.778	
199	10:00	1252.68	269.9	5.7	2575.2	42° 05.575	11° 42.219	Passing over #114
199	10:30	1255.08	274.5	5.1	2878.2	42° 05.573	11° 45.598	
199	11:00	1257.42	278.5	4.9	3680.1	42° 05.478	11° 48.755	
199	11:20					42° 05.560	11° 50.092	Passing over OBS #113
199	11:30	1259.86	276.3	5.4	3782.1	42° 05.532	11° 52.156	
199	12:00	1262.31	264.0	4.8	3838.1	42° 05.502	11° 55.389	
199	12:30	1264.78	278.1	4.5	3556.1	42° 05.491	11° 58.657	
199	12:33					42° 05.469	11° 58.868	Passing OBS 112
199	13:00	1267.27	268.9	4.8	3705.1	42° 05.464	12° 02.001	
199	13:17	1268.69	273.0	4.5	3907.1	42° 05.494°	12° 03.942	Beginning turn to stbd 049
199	13:30	1269.75	307.5	5.0	4038.0	42° 05.732	12° 05.187	Turning stbd 049
199	13:47	1271.19	40.6	5.0	4988.1	42° 06.971	12° 05.042	End of the turn to stbd 049
199	13:49	1271.28	36.0	5.2	3982.1	42° 07.030	12° 04.989	Beginning of the turn to port 13100
199	14:00	1272.20	36.7	4.7	3884.1	42° 07.630	12° 04.152	
199	14:30	1274.73	46.0	4.9	3371.1	42° 09.222	12° 01.586	
199	14:43	1275.90				42° 09.623	12° 00.428	Turning portside 15100
						12° 00.428		
199	15:00	1277.25	46.6	4.8	3297.1	42° 10.726	11° 58.979	
199	15:05:10	1279.54	276.6	6.6	2931.2	42° 12.105	11° 59.933	Finished the turn, start line 4
199	15:30	1279.89	258.7	5.6	2876.2	42° 12.082	12° 00.567	

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SCIENCE WATCHSTANDER'S LOG

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT. N	LONG. W	REMARKS
199	1600	1282.35	275.6	5.5	3792.1	42° 11.982	12° 03.985	watch change
199	1630	1284.77	269.6	4.9	4076.0	42° 12.020	12° 07.343	
199	1634							several one of the compressors is momentarily off line, so the timing of the guns is off
199	1700	1287.16	277.5	4.9	4213.0	42° 12.014	12° 10.670	
199	1730	1289.58	271.7	4.3	3839.1	42° 12.033	12° 13.927	
199	1800	1291.89	267.1	4.3	4730.1	42° 12.039	12° 17.155	
199	1830	1294.21	280.6	5.2	4719.0	42° 12.070	12° 20.462	
199	1900	1296.51	276.5	5.3	4796.0	42° 12.062	12° 23.747	
199	1930	1298.83	269.6	4.5	4869.0	42° 12.068	12° 27.109	
199	20:00	1301.24	281.1	4.6	4980.0	42° 12.051	12° 30.548	Watch change
199	20:09	1301.79	275.0	4.4	5011.9	42° 12.068	12° 31.561	obs #126
199	20:30	1303.29	273.0	4.5	5097.9	42° 12.087	12° 33.894	
199	21:00	1305.42	273.5	4.4	5131.9	42° 12.047	12° 37.186	
199	2130	1307.57	275.5	4.1	5205.9	42° 12.057	12° 40.468	
199	2200	1309.88	272.1	4.3	5240.9	42° 12.073	12° 44.009	
199	22:30	1311.89	276.5	4.6	5249.9	42° 12.029	12° 47.058	
199	23:00	1314.11	267.3	4.6	5259.9	42° 12.016	12° 50.306	
199	2330	1316.35	269.3	4.6	5273.9	42° 12.023	12° 53.529	
200	0000	1318.67	277.9	4.8	5276.9	42° 11.991	12° 56.664	Watch change
200	0030	1321.02	285.7	4.1	5281.9	42° 12.018	12° 59.955	
200	0049	1322.44	291.9	5.4	5287.9	42° 12.028	13° 01.976	End of line, stop shooting
200	0100	1323.29	355.2	4.0	5282.9	42° 12.704	13° 02.667	
200	01:30	1325.47	3.7	5.2	5286.9	42° 14.850	13° 02.269	
200	02:00	1327.79	9.9	3.7	5285.9	42° 12.148	13° 01.902	

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SCIENCE WATCHSTANDER'S LOG

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
200	02:30	1329.22	353.4	3.0	5287.9	42° 18.416	13° 01.818	
200	0300	1331.29	13.9	4.7	5289.9	42° 20.308	13° 01.263	
200	03:30	1332.81	359.8	1.9	5277.9	42° 21.731	13° 00.789	
200	0400	1334.43	24.3	2.3	5165.9	42° 23.158	13° 00.025	
200	0430	1335.77	26.1	4.0	5131.9	42° 24.343	12° 59.402	
200	0500	1337.37	17.5	3.3	5140.9	42° 25.740	12° 58.603	
200	0530	1339.0	17.5	3.4	5195.9	42° 27.326	12° 57.741	
200	0600	1340.0	26.2	3.2	5277.9	42° 28.846	12° 56.787	
200	0630	1341.48	78.0	0.6	5276.9	42° 29.183	12° 56.440	Retrieved tail buoy - streamer in
200	0700	1342.94	191.6	10.4	5166.9	42° 28.453	12° 56.157	underway to recover 1 st GEOMAR OBS 101
200	0730	1348.77	189.6	11.7	5155.9	42° 22.549	12° 57.594	
200	08:00	1354.88	184.9	12.6	5281.9	42° 16.381	12° 58.522	
200	08:30	1360.9	187.3	12.5	5232.9	42° 10.171	12° 59.206	
200	08:50					42° 06.560	12° 59.700	Hydrosweep off
200	08:54							Stopping to signal Geomar OBS - code sent.
200	09:00							Underway again } confirmation not received.
200	09:00	1365.38	189.7	10.5	5282.9	42° 05.571	12° 59.800	Underway again
200	09:50	1366.30	169.7	1.0	5287.9	42° 04.623	13° 00.631	waiting to recover Geomar OBS 101
200	09:51							OBS 101 has surfaced.
200	10:00	1366.80	50.4	1.4	5286.9	42° 04.562	12° 59.921	
200	10:02					42° 04.550	12° 59.920	OBS #101 recovered
200	10:30	1370.44	98.0	4.1	5287.9	42° 04.79	12° 55.602	Attempting ^{acoustic} release of OBS 102
200	11:00	1371.61	53.4	5.0		42° 04.435	12° 54.565	
200	11:30	1372.	24.8	2.4		42° 04.503	12° 54.367	
200	12:00	1373.46	351.9	1.8		42° 04.618	12° 54.125	
200	1220							OBS 102 has surfaced & been spotted

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SCIENCE WATCHSTANDER'S LOG

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
200	1230	1374.11	99.2	0.4		42° 04.576	12° 54.119	
200	1236					42° 04.582	12° 54.076	OBS 102 recovered.
200	1200 1300	1376.20	88.9	10.1		42° 04.639	12° 51.604	
200	1330	1380.01	188.2	0.6		42° 04.913	12° 46.451	
200	1400	1380.47	213.7	1.5		42° 04.444	12° 46.771	
200	1419							OBS 103 spotted.
200	1430	1381.29	28.7	2.6		42° 04.521	12° 46.705	
200	1455	1381.75	197.4	0.6		42° 04.654	12° 46.429	OBS 103 recovered
200	1500	1381.83	190.4	1.0		42° 04.622	12° 46.472	
200	1530	1385.88	90.9	10.0		42° 05.026	12° 40.758	Attempt acoustic release of OBS 104
200	1545							
200	1600	1387.79	178.1	1.1	1387.80	42° 04.673	12° 38.400	
200	1630	1388.29	200.5	2.3		42° 04.185	12° 38.867	
200	1700	1389.19	134.0	2.1		42° 04.716	12° 38.800	
200	1730	1389.77	177.8	1.8		42° 04.798	12° 38.585	OBS 104 recovered
200	1800	1393.36	127.8	11.8		42° 02.849	12° 34.639	
200	18:20					42° 00.984	12° 31.571	Releasing OBS 124
200	1830	1396.80	170.2	7.9		42° 00.520	12° 31.521	
200	1857					41° 56.889	12° 31.635	Releasing OBS 123
200	1900	1400.0	187.1	1.0		41° 56.840	12° 31.646	
200	1930	1403.90	338.3	11.0		41° 00.083	12° 31.817	
200	2000	1405.24	176.0	8.9		41° 00.089	12° 31.343	
200	2030	1408.68	158.9	1.2		41° 56.708	12° 31.346	Recovered OBS 123
200	2100	1411.98	77.5	10.2		41° 56.898	12° 26.710	Watch change
200	2116	1413.47	308.5	0.92		41° 57.321	12° 24.567	Releasing OBS

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT (N)	LONG. (W)	REMARKS
200	21:30	1413.74	289.7	1.12	5092.9	41° 57.023N	12° 25.210	
200	2200	1414.65	26.5	1.22	5087.9	41° 56.942	12° 25.199	
200	22:02							instrument in the surface (OBS)
200	22:05	1414.75	57.1	1.52	5091.9	41° 56.933	12° 25.075	instrument on deck
200	2270	1415.71	039	2.12	5070.9	41° 57.310	12° 23.962	under way - wait near OBS
								120 until release at temp +
								at 0135
200	23:00	1417.54	352	3.72	5078.9	41° 58.908	12° 24.528	
200	23:30	1419.22	354.3	3.42	5093.9	42° 00.665	12° 24.931	
201	0000	1420.43	217.0	1.4	5111.9	42° 01.293	12° 25.235	
201	0030	1420.95	262.5	1.0	5113.9	42° 00.829	12° 25.754	
201	01:00	1421.55	224.1	1.3	5110.9	42° 00.735	12° 25.848	
201	01:30	1422.52	32.5	1.6	5108.9	42° 01.949	12° 25.062	
201	02:00	1422.98	201.1	1.2	5115.9	42° 00.919	12° 25.546	
201	02:30	1423.51	216.5	2.0	5118.9	42° 00.439	12° 26.210	
201	03:00	1424.96	221.9	0.8	5113.9	42° 01.305	12° 25.266	
201	03:11							instrument in the surface (OBS 120)
201	03:30	1425.67	69.4	1.8	5109.9	42° 01.270	12° 25.139	
201	03:36							instrument on board
201	0400	1428.21	2.6	9.4	5108.9	42° 03.623	12° 25.009	watch change
201	0427							instrument is up (OBS 108)
201	0430	1429.88	140.9	1.3	5090.9	42° 04.850	12° 25.165	
						42° 05.553	12° 24.903	OBS 108 on board
						42° 05.130	12° 24.023	
						42° 04.962	12° 24.031	OBS 107 in sight instrument is up

RESEARCH VESSEL "MAURICE EWING"

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
201	0530	1433.69	147.2	1.4	5153.9	42° 04.911	12° 28.816	
201	0539					42° 04.780	12° 28.688	OBS 107 recovered
201	0600	1435.15	275.1	4.2	5181.9	42° 04.585	12° 30.526	
201	0622					42° 04.852	12° 31.346	OBS 106 up
201	0630	1436.02	263.7	2.2	5188.9	42° 04.835	12° 31.487	
201	0641					42° 04.721	12° 31.503	OBS 106 recovered
201	0700	1438.23	357.1	8.9	5158.9	42° 06.800	12° 31.586	
201	0719					42° 08.210	12° 31.556	OBS 125 is up
201	0730	1439.92	168.9	1.0	5027.9	42° 08.259	12° 31.502	OBS 125 recovered
201	08:00	1443.02	360.0	6.4	5020.9	42° 11.302	12° 31.576	Watch change
201	08:30	1443.76	74.8	1.4	5023.9	42° 11.799	12° 31.754	
201	08:44					42° 11.673	12° 31.662	OBS 126 recovered
201	09:00	1445.30	93.8	9.2	4960.0	42° 11.663	12° 31.884	
201	0930	1448.89	28.1	1.8	4827.0	42° 11.690	12° 25.225	Waiting for OBS 122 to appear
201	0937					42° 11.769	12° 25.225	OBS is up, as yet unsighted
201	0951					42° 11.653	12° 24.929	OBS 122 recovered
201	10:00	1449.84	182.0	11.9	4842.0	42° 11.088	12° 24.963	
201	10:30	1452.97	339.4	2.6	4944.0	42° 08.168	12° 25.010	
201	10:40				4942.0	42° 08.213	12° 25.118	OBS is up
201	1051				4942.0	42° 08.079	12° 24.844	OBS 121 recovered
201	1100	1453.78	133.2	5.9	4954.0	42° 07.801	12° 24.517	
201	1130	1457.61	177.4	5.0	4985.0	42° 05.168	12° 20.450	
201	1200	1458.60	138.7	1.3	4987.0	42° 04.976	12° 19.798	OBS 109 recovered [1150 surfaced]
201	1230	1462.25	80.8	10.8	4827.0	42° 04.961	12° 15.119	
201	1300	1464.19	345.4	0.9	4772.0	42° 04.955	12° 13.435	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
201	1315		54.0			42° 04.978	12° 13.731	OBS #110 has surfaced
201	1330	1464.91	54.0	1.5	4719.0	42° 05.145	12° 13.360	
201	1331				"	"	"	OBS #110 recovered
201	1400	1468.97	90.3	10.7	4324.0	42° 05.352	12° 08.044	
201	1430	1470.54	333.6	0.9	4210.0	42° 05.121	12° 07.124	OBS #111 has surfaced
201	1449				4153.0	42° 05.324	12° 06.760	OBS #111 recovered
201	1449 14:50					42° 05.324	12° 06.760	System stopped updating readings. ("Manta" down 15 min)
201	1523	1475.20	83.6	2.6	3614.0	42° 05.336	12° 01.273	System back up
201	1530	1475.84	97.4	5.2	3530.1	42° 05.240	12° 00.365	
201	15:57					42° 05.425	12° 59.024	Recovered OBS #112
201	1600	1477.05	100.2	1.9	3532.1	42° 05.392	11° 58.921	
201	1630	1480.59	108.7	2.0	3777.1	42° 05.433	11° 54.571	
201	1700	1483.66	151.6	0.8	3767.1	42° 05.259	11° 51.061	
201	1715					42° 05.648	11° 51.092	Recovered OBS #113
201	1730	1485.00	88.0	9.5	3745.1	42° 05.541	11° 49.957	
201	1800	1488.54	88.3	4.7	2891.2	42° 05.447	11° 45.592	
201	1830	1491.31	64.0	1.5	2584.2	42° 05.528	11° 42.373	
201	1900	1495.76	90.2	11.4	2444.2	42° 05.563	11° 36.278	
201	1930	1498.63	295.0	3.5	2478.2	42° 05.507	11° 33.567	
201	2000	1499.35	149.6	1.5	2475.2	42° 05.477	11° 33.583	
201	2002				2477.2	42° 05.453	11° 33.575	Recovered OBS #115
201	20:30	1502.95	84.0	10.5	2383.2	42° 05.267	11° 29.076	
201	21:00	1506.29	75.0	4.5	2390.2	42° 05.379	11° 24.759	
201	21:30	1507.49	20.8	3.71	2383.2	42° 05.707	11° 23.917	
201	22:00	1512.18	71.1	1.43	2383.2	42° 05.477	11° 17.954	

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT.	LONG.	REMARKS
201	22:30	1514.49	10.3	2.31	2408.3	42° 05.449	11° 15.503	
201	23:00	1517.22	86.3	11.3	2471.2	42° 05.222	11° 12.664	
201	23:30	1522.43	76.3	3.75	2609.2	42° 05.362	11° 06.148	
202	0000	1524.90	104.5	2.8	2644.2	42° 05.511	11° 03.146	
202	0010				2640.2	42° 05.672	11° 03.038	OBS 118 recovered
202	0030	1525.70	74.0	4.4	2650.2	42° 05.390	11° 02.954	
202	100	1530.80	56.1	11.3	2597.2	42° 07.799	10° 57.129	
202	130	1536.10	61.9	10.4	2136.2	42° 10.413	10° 51.102	
202	200	1541.36	69.3	9.8	2472.2	42° 12.582	10° 45.904	
202	230	1546.77	62.9	10.1	2651.2	42° 14.777	10° 38.440	
202	300	1552.15	68.3	10.8	2531.2	42° 17.034	10° 32.904	
202	330	1557.59	66.5	9.8	2693.2	42° 19.102	10° 25.673	
202	400	1562.96	67.7	10.1	2792.2	42° 21.208	10° 19.424	
202	430	1568.33	62.5	11.2	2800.2	42° 23.417	10° 12.941	
202	500	1573.75	69.1	10.1	2700.2	42° 25.533	10° 06.638	
202	530	1579.11	63.5	10.5	2543.2	42° 27.687	10° 00.381	
202	600	1584.61	126.6	11.8	2243.2	42° 27.493	9° 53.998	
202	0630	1590.21	60.9	9.6	1926.3	42° 25.953	9° 47.427	
202	0700	1595.66	53.2	10.7	2044.2	42° 29.244	9° 41.982	
202	0730	1601.07	48.7	10.3	1827.3	42° 32.658	9° 36.817	
202	0800	1606.61	58.8	9.8	575.4	42° 35.568	9° 31.018	
202	0830	1612.04	48.8	11.9	144.3	42° 38.490	9° 24.846	
202	0900	1616.99	24.1	3.1	122.7	42° 40.913	9° 19.362	Preparing to deploy OBS 236
202	0916				123.6	42° 41.505	9° 19.389	OBS 236 deployed
202	0930	1619.71	265.0	11.9	132.4	42° 41.162	9° 22.296	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
202	1000	1625.51	270.3	12.1	180.7	42° 40.625	09° 29.954	
202	1030	1630.66	242.0	5.0	1117.3	42° 40.327	09° 37.329	
202	1102				1196.3	42° 40.530	09° 37.727	Deployed OBS station 237 D 634 FB
202	1100	1631.63	853.8	0.4	1186.3	42° 40.511	09° 37.700	
202	1130	1636.23	261.4	12.1	1643.3	42° 40.104	09° 44.204	
202	1200	1642.17	269.9	11.8	2041.2	42° 39.585	09° 52.614	
202	1230	1645.65	64.4	1.3	2105.2	42° 39.425	09° 55.625	
202	1244:07				2124.2	42° 39.516	09° 56.006	Deployed OBS# 238 D654 FA
202	1300	1648.52	262.8	11.9	2179.2	42° 39.219	09° 58.142	
202	1330	1651.41	270.2	11.8	2530.2	42° 38.437	09° 07.127	
202	1330	1654.41	271.2	11.8	2530.2	42° 38.937	10° 07.127	
202	1400	1659.55	258.8	2.8	2682.2	42° 38.262	10° 14.293	
202	1419:44				2691.2	42° 38.487	10° 14.271	Deployed OBS# 239 C444 FC
202	1430	1660.39	263.3	9.6	2691.2	42° 38.472	10° 14.739	
202	1500	1665.84	263.2	12.2	2949.2	42° 37.981	10° 21.378	
202	1530	1671.30	263.8	11.2	2526.2	42° 37.538	10° 29.815	
202	1556:37				2283.2	42° 37.367	10° 32.552	Deployed OBS 240 C459-PD
202	1600	1674.14	94.8	1.0	2286.2	42° 37.372	10° 32.475	
202	1630	1679.29	267.9	12.2	2144.2	42° 36.934	10° 39.672	
202	1700	1685.14	260.5	11.6	2121.2	42° 36.331	10° 47.806	
202	1731:07				2018.2	42° 36.208	10° 50.833	Deployed OBS 241 B219-B
202	1730	1687.85	16.2	1.9	2014.0	42° 36.178	10° 50.840	
202	1800	1691.88	267.6	12.2	1826.3	42° 35.843	10° 56.286	
202	1830	1697.67	263.8	12.0	1703.3	42° 35.310	11° 04.256	
202	1900	1701.47	39.9	2.6	1722.3	42° 34.919	11° 09.122	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT. (N)	LONG. (W)	REMARKS
202	19:04:44				1723.3	42° 34.983	11° 09.116	Deployed OBS 242 [A314] B
202	19:30	1705.79	158.9	12.3	1846.3	42° 31.349	11° 07.500	
202	20:00	1712.09	160.1	11.9	2024.2	42° 25.928	11° 04.979	
202	20:30	1717.80	158.7	11.9	2247.2	42° 19.978	11° 02.582	
202	21:00	1723.78	159.1	11.9	2419.2	42° 14.228	11° 00.083	
202	21:30	1729.77	158.3	11.7	2585.2	42° 08.579	10° 57.603	
202	22:00	1733.62	14.5	1.87	2640.2	42° 05.381	10° 56.385	
202	22:08	1733.82	325.1	0.71	2640.2	42° 05.723	10° 56.411	Deployed OBS 227
202	22:30	1736.45	90.0	11.4	2595.2	42° 05.471	10° 53.268	
202	23:00	1742.28	86.8	10.8	2313.2	42° 05.457	10° 45.719	
202	23:30	1745.59	1.8	2.03	2774.2	42° 05.624	10° 41.860	
202	23:35	1745.71	35.3	0.73	2781.2	42° 05.688	10° 41.836	Deployed OBS 228
203	00:00	1749.62	91.5	10.6	2813.2	42° 05.465	10° 36.866	
203	00:30	1755.04	92.5	11.3	2801.2	42° 05.441	10° 29.497	
203	00:57:40	1757.59	333.5	0.8	2764.2	42° 05.622	10° 27.302	Deployed OBS 229
203	01:00	1757.60	302.6	0.6	2763.2	42° 05.667	10° 27.319	
203	01:30	1762.71	93.1	11.9	2780.2	42° 05.570	10° 20.302	
203	02:00	1768.24	106.2	9.0	2691.2	42° 05.632	10° 12.968	
203	02:13:50	1769.10	36.6	1.5	2686.2	42° 05.533	10° 12.764	Deployed OBS 230
203	02:30	1771.26	85.3	10.6	2625.2	42° 05.566	10° 09.787	
203	03:00	1776.85	87.2	10.6	2512.2	42° 05.485	10° 02.322	
203	03:27	1780.22	46.2	1.7	2392.2	42° 05.448	9° 58.191	Deployed OBS 231
203	03:30	1780.25	146.7	1.3	2363.2	42° 05.438	9° 58.109	
203	400	1785.52	90.4	11.0	2329.2	42° 05.366	9° 50.843	
203	430	1788.72	50.5	6.7	2262.2	42° 03.378	9° 48.894	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
2023	4:56:43				2252.2	42° 05.318	9° 45.764	Deployed OBS 232
2023	500	1792.16	94.8	6.9	2253.2	42° 05.358	9° 45.411	
2023	0530	1797.83	92.3	11.0	1977.3	42° 05.217	9° 37.736	Deployed
2023	5:55:13				1701.3	42° 05.201	9° 33.784	Deployed OBS 233
2023	0600	1801.76	94.0	5.2	1685.3	42° 05.221	9° 33.447	
2023	0630	1807.46	93.9	11.4	954.4	42° 05.074	9° 35.717	
2023	6:55:00				236.6	42° 05.025	9° 21.802	Deployed OBS 234
2023	0700	1811.26	62.3	10.4	227.6	42° 05.210	9° 21.216	
2023	0730	1816.88	108.4	12.4	162.6	42° 04.411	9° 14.487	
2023	0800	1821.06	22.0	1.9	145.8	42° 04.765	9° 09.430	
2023	8:02:10				146.5	42° 04.834	9° 09.423	Deployed OBS 235
2023	0830	1825.67	176.1	11.8	134.5	42° 0.414	9° 08.811	watch change @ 0805
2023	0900	1831.75	204.6	11.8	123.9	42° 54.530	9° 09.760	
2023	0930	1837.29	178.5	11.9	121.9	41° 48.683	9° 10.964	
2023	1000	1843.27	177.5	12.5	125.5	41° 43.102	9° 12.636	
2023	1030	1849.14	178.3	11.7	137.5	41° 36.980	9° 12.589	
2023	1100	1854.88	180.1	8.9	162.8	41° 31.071	9° 12.728	
	1102					41° 30.556	9° 12.860	Captain slowing for fog - will increase speed when clear
2023	1130	1858.99	196.3	7.3	735.1	41° 26.939	09° 14.180	
2023	1200	1862.65	159.1	7.9	692.4	41° 23.318	9° 13.924	
2023	12:30	1866.40	159.2	7.4	199.1	41° 19.488	9° 12.204	
2023	1300	1869.73	204.4	5.0	290.9	41° 17.959	9° 14.249	
2023	1303:21		285.9		308.3	41° 18.007	9° 14.311	Deployed OBS 243 B644 FD
2023	13:30	1872.4	261.3	7.3	1406.3	41° 18.074	9° 17.848	
2023	1400	1875.97	265.2	6.8	1781.3	41° 18.188	9° 22.359	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
203	1430	1879.56	275.4	6.7	1865.3	41°18.918	9°26.987	
203	15:00	1883.14	268.4	7.6	2444.2	41°18.352	9°31.783	
203	15:07:40	1883.65	230.9	0.7	2602.2	41°18.286	9°32.387	Deployed OBH 244 - D649 +C
203	15:30	1886.92	268.1	11.6	3009.1	41°18.373	9°36.919	
203	16:00	1892.62	273.0	11.0	3356.1	41°18.428	9°44.695	
203	1630	1897.41	0.4	3.4	3088.1	41°18.243	9°50.369	
203	1636:37	1897.67	356.5	1.5	3047.1	41°18.512	9°50.316	Deployed OBH 245 C634 D
203	1700	1901.15	272.0	11.2	3009.1	41°18.536	9°54.924	
203	1730	1906.81	272.2	11.1	3118.1	41°18.581	9°10'02.563	
203	1800	1912.41	271.2	11.3	3581.1	41°18.650	10°10.102	
203	1830	1916.77	359.1	1.4	3576.1	41°18.325	10°15.449	
203	1843:02	1917.20	334.3	1.4	3541.1	41°18.681	10°15.474	Deployed OBH 246 D669 D
203	1900	1919.16	239.3	11.8	3496.1	41°18.822	10°17.910	
203	1930	1924.74	268.7	10.4	3668.1	41°18.693	10°25.365	
203	2000	1930.24	273.3	11.1	3772.1	41°18.749	10°32.679	
203	20:30	1935.80	254.5	10.2	3175.1	41°18.258	10°40.014	
203	20:53	1937.80	265.7	1.33	2542.2 2542.2	41°18.733	10°40.641	Deployed OBH 247 (B495B)
203	21:00	1937.42	271.0	11.4	2479.2	41°18.642	10°41.344	
203	21:30	1943.13	271.1	11.2	2622.2	41°18.637	10°48.974	
203	22:00	1948.72	271.1	11.4	3379.1	41°18.635	10°58.477	
203	22:30	1954.56	264.8	11.3	3566.1	41°17.963	11°04.091	
203	22:58:30	1956.77	320.7	0.8	3755.1	41°18.746	11°05.739	Deployed OBH 248 (A319) C
203	23:00	1956.83	319.5	1.4	3752.1	41°18.762	11°05.823	
203	23:30	1961.72	270.8	11.5	3940.1	41°18.536	11°12.298	
204	00:00	1967.18	265.0	11.1	3748.1	41°18.329	11°19.419	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
204	0030	1972.92	273.8	11.3	3770.1	41° 18.370	11° 27.063	
204	0100	1976.20	185.8	0.5	3438.1	41° 18.420	11° 30.926	
204	1:13:25				3464.1	41° 18.649	11° 30.921	OBS # 244 deployed (C454) 13
204	01:30	1978.41	266.2	11.2	3272.1	41° 18.642	11° 33.198	
204	02:00	1983.97	270.1	11.5	3232.1	41° 18.578	11° 40.510	
204	02:30	1989.56	263.8	11.1	3332.1	41° 18.574	11° 47.862	
204	03:00	1995.15	266.9	11.8	3400.1	41° 18.469	11° 55.274	
204	03:21:10				3515.1	41° 18.466	11° 56.020	OBS 250 deployed
204	03:30	1997.19	264.2	11.0	3588.1	41° 18.449	11° 56.789	
204	0400	2002.81	267.3	11.5	4785.0	41° 18.373	12° 4.378	Watch change
204	0430	2008.50	272.2	11.1	4819.0	41° 18.281	12° 11.933	
204	0500	2014.00	269.6	11.0	5138.9	41° 18.194	12° 19.262	
204	0508	2015.61	236.1	8.1	5151.9	41° 17.737	12° 21.186	turn
204	0520:50				5147.9	41° 18.222	12° 21.156	Deployed OBS 251
204	0530	2016.96	232.0	9.2	5156.9	41° 18.110	12° 21.914	
204	0600	2022.68	216.4	11.3	5222.9	41° 13.766	12° 27.082	
204	0630	2028.68	212.7	12.1	5268.9	41° 8.828	12° 31.791	
204	0700	2034.45	23.3	12.2	5281.9	41° 4.134	12° 36.260	
204	0730	2040.31	222.0	11.7	5284.9	40° 59.240	12° 41.068	
204	0735							turning into wind, should deploy streamer in ~5min
204	0800	2042.56	342.3	2.2	5277.9	40° 58.533	12° 42.745	
204	0830	2043.67	346.	3.9	5283.9	40° 59.621	12° 43.080	
204	0900	2045.57	354.7	3.7	5282.9	40° 01.593	12° 43.536	
204	0930	2047.72	351.3	3.1	5284.9	41° 03.815	12° 43.825	
204	1000	2049.88	0.0	3.9	5284.9	41° 05.861	12° 44.010	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
204	1030	2051.78	355.0	4.9	5282.9	41° 07.583	12° 44.191	
204	1100	2053.98	353.5	5.3	5282.9	41° 10.092	12° 44.385	
204	1130	2056.25	355.1	4.6	5283.9	41° 12.427	12° 44.505	
204	1200	2058.43	2.9	4.4	5283.9	41° 14.542	12° 44.598	
204	1230	2060.48	0.2	3.3	5283.9	41° 16.462	12° 44.774	
204	1300	2062.56	1.7	4.1	5278.9	41° 18.629	12° 45.026	
204	1330	2064.60	353.4	3.8	5278.9	41° 20.733	12° 45.395	
204	1355							streamer deployed
204	1400	2066.64	354.3	3.2	5276.9	41° 22.866	12° 45.636	Begin deploying guns
204	1427	2068.40	345.6	3.5	5278.9	41° 24.883	12° 45.811	Beginning a 180° to the left
204	1441	2069.39	289.1	4.3	5277.9	41° 25.538	12° 46.756	First shot heard - Guns #9-12 out
204	1500	2071.07	187.2	5.4	5281.9	41° 24.855	12° 48.362	
204	1530	2073.58	153.6	3.5	5282.9	41° 22.704	12° 47.347	
204	1535							Guns #9-12 in water at about 1535
204	1600	2076.04	155.2	4.3	5280.9	41° 20.560	12° 46.000	
204	1630	2078.42	154.1	4.3	5281.9	41° 18.538	12° 44.909	
204	1633					41° 18.187	12° 44.718	turn started to get on line
204	1634					41° 18.140	12° 44.659	Gun #11 turned off for turn (Shot 250; File 151)
204	1643							Compressor off line - guns off
204	1645							Compressor back on line - guns on
204	1646							finished turn
204	1700	2080.77	87.3	5.4	5278.9	41° 17.888	12° 42.226	
204	1701					41° 17.884	12° 42.076	Guns 19 & 20 offline (Shot 290; File 191)
204	1703					41° 17.894	12° 41.940	Start line 12
204	1714					41° 17.896	12° 40.801	Guns 19 & 20 back online (Shot 309; File 210)

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
204	1730	2083.07	92.1	4.1	5276.9	41° 17.913	12° 39.128	
204	1800	2085.40	72.3	4.6	5263.9	41° 17.995	12° 35.989	
204	1830	2087.76	83.4	4.8	5239.9	41° 18.026	12° 32.810	
204	1900	2090.13	99.9	5.8	5218.9	41° 18.055	12° 29.639	
204	1930	2092.49	84.1	4.6	5191.9	41° 18.137	12° 26.491	
204	1952					41° 18.123	12° 24.140	Guns 19:20 offline (Shot 546; File 447)
204	2000	2094.95	88.1	3.6	5156.9	41° 18.157	12° 23.322	Guns 19:20 back on line (Shot 558; File 459)
204	20:21	2096.68	74.5	5.1	5145.9	41° 18.174	12° 21.173	Passing over OBH 257
204	20:30	2097.48	86.3	5.2	5143.9	41° 18.220	12° 20.273	
204	21:00	2100.07	85.3	5.3	5093.9	41° 18.224	12° 16.915	
204	21:30	2102.69	82.5	4.9	4878.0	41° 18.263	12° 13.768	
204	22:00	2105.19	83.5	5.1	4810.0	41° 18.291	12° 10.444	
204	22:30	2107.7	82.1	5.0	4810.0	41° 18.319	12° 07.246	
204	23:00	2110.22	81.3	5.3	4770.0	41° 18.377	12° 03.956	
204	23:30	2112.81	85.5	5.1	4685.0	41° 18.425	12° 00.814	
205	00:00	2115.57	84.7	5.3	3740.0	41° 18.462	11° 57.322	
205	00:13	2116.57	92.8	4.4	3500.0	41° 18.452	11° 55.986	Passing over OBH 250
205	00:30	2117.97	98.7	5.2	3276.1	41° 18.462	11° 54.222	
205	01:00	2120.59	76.1	4.8	3107.1	41° 18.494	11° 50.804	
205	01:30	2123.19	93.9	5.4	3352.1	41° 18.506	11° 47.456	
205	02:00	2125.80	88.2	4.7	3307.1	41° 18.531	11° 44.172	
205	02:30	2128.39	93.3	5.2	3321.1	41° 18.566	11° 40.899	
205	03:00	2130.94	85.2	4.9	3692.1	41° 18.601	11° 37.659	
205	03:30	2133.46	90.7	4.5	3115.1	41° 18.624	11° 34.385	
205	04:00	2136.00	79.0	4.6	3465.1	41° 18.660	11° 31.104	

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DATE	TIME	PIT LOG	HOG	SPD	DEPTH	LAT. (N)	LONG (W)	REMARKS
205	04:02	2136.25	102.4	5.0	3466.1	41°18.633	11°30.744	Passing OBS 249
205	05:00 04:30	2138.63	73.8	4.8	3609.1	41°18.223	11°28.118	
205	500	2141.07	74.2	6.0	3776.1	41°19.061	11°25.224	
205	05:30	2143.65	84.0	5.4	3705.1	41°18.901	11°21.978	
205	06:00	2146.19	85.7	4.4	3566.1	41°18.668	11°18.797	
205	06:30	2148.71	87.2	4.9	3808.1	41°18.710	11°15.575	
205	06:36							increasing speed (sailboat)
205	07:00	2151.21	92.4	4.3	3942.1	41°18.717	11°12.398	
205	07:30	2153.78	91.1	5.2	3860.1	41°18.766	11°09.187	
205	0800	2156.40	95.0	4.3	3735.1	41°18.752	11°06.041	watch change
205	0830 0834				3760.1	41°18.758	11°05.682	Passing OBS 248
205	0830	2158.87	96.2	4.3	3324.1	41°18.748	11°02.886	
205	0900	2161.44	93.3	4.7	3405.1	41°18.768	10°59.619	
205	0930	2164.09	86.6	5.1	3382.1	41°18.764	10°56.392	
205	1000	2166.55	92.1	4.9	3277.1	41°18.767	10°53.166	
205	1030 1030	2169.21	85.8	4.5	2878.2	41°18.760	10°49.877	
205	1100	2171.67	98.1	4.7	2923.2	41°18.780	10°46.596	
205	1130	2174.13	92.6	5.4	2353.2	41°18.780	10°43.248	
205	1155				2585.2	41°18.761	10°40.678	Passing OBS 247 (Shot 1990, F. 1890)
205	1200	2176.51	99.2	4.3	2659.2	41°18.760	10°40.971	
205	1230	2178.90	103.7	5.2	2966.2	41°18.736	10°36.481	
205	1300	2181.05	102.0	5.1	3443.1	41°18.720	10°33.164	
205	1330	2183.24	95.6	4.8	3823.1	41°18.722	10°29.893	
205	1400	2185.46	88.8	5.0	3748.1	41°18.750	10°26.724	
205	1430	2187.76	83.4	4.5	3592.1	41°18.735	10°23.517	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
205	1500	2189.94	88.9	4.4	3517.1	41° 18.676	10° 20.251	
205	1530	2192.16	95.6	4.7	3527.1	41° 18.591	10° 18.591 16.963	
205	1544					41° 18.608	10° 15.566 10° 15.566	Passing OBS 246 (Shot #2335, File #283)
205	1600	2194.39	103.8	5.6	3629.1	41° 18.700	10° 13.894	
205	1612					41° 18.652	10° 12.507	Start turn
205	1630	2196.71	355.6	4.2	3580.1	41° 19.365	10° 11.158	
205	1700	2199.03	349.8	4.9	3485.1	41° 21.487	10° 11.587	
205	1730	2201.64	353.4	5.4	3342.1	41° 23.802	10° 12.247	
205	1800	2203.04	348.4	3.6	3309.1	41° 24.941	10° 12.576	
205	1830	2204.94	343.9	3.4	3223.1	41° 26.599	10° 13.125	
205	1900	2206.39	348.4	1.8	3177.1	41° 27.840	10° 13.494	
205	1930	2208.63	220.1	5.2	3206.1	41° 27.834	10° 15.696	
205	2000	2210.33	200.8	2.8	3242.1	41° 25.966	10° 16.129	
205	2030	2211.75	182.3	2.3	3291.1	41° 24.335	10° 16.334	
205	2100	2212.80	179.1	2.7	3315.1	41° 23.049	10° 16.570	
205	2130	2214.75	180.0	4.1	3418.1	41° 20.871	10° 16.703	21:39 - MTR gun off
205	2200	2216.97	110.1	4.1	3529.1	41° 18.674	10° 16.328	
205	2211:30	2217.82	68.8	5.0	3542.1	41° 18.644	10° 15.398	shot # 246
205	2230	2219.52	87.5	5.3	3620.1	41° 18.676	10° 13.394	
205	2300	2227.15	81.5	5.1	3580.1	41° 18.650	10° 10.126	
205	2330	2224.85	84.3	5.7	3474.1	41° 18.616	10° 06.805	
206	0000	2227.54	96.0	4.7	3238.1	41° 18.597	10° 03.828	
206	0030	2230.24	94.1	4.7	3123.1	41° 18.567	10° 00.611	
206	0100	2232.94	97.4	4.8	3007.1	41° 18.530	9° 57.364	
206	0130	2235.63	90.8	4.5	3052.1	41° 18.540	9° 54.035	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
206	0200	2238.32	91.9	5.3	3031.1	41° 18.513	9° 50.550	
206	0202					41° 18.513	9° 50.322	OBS # 245 passed (Shot #510, File #409)
206	0230	2240.75	82.5	5.4	3172.1	41° 18.476	9° 47.175	
206	0300	2243.11	81.7	4.5	3359.1	41° 18.434	9° 43.862	
206	0330	2245.41	91.2	4.7	3219.1	41° 18.404	9° 40.694	
206	0400	2247.70	83.8	4.4	3039.1	41° 18.404	9° 37.450	
206	0430	2249.96	86.1	3.9	2868.2	41° 18.339	9° 34.301	
206	0500	2252.25	92.7	4.8	2270.2	41° 18.281	9° 31.215	
206	449							Passed OBS 244 (Shot 761, File 660)
206	513					41° 18.248	9° 29.780	Guns 19 & 20 offline (Shot 797, File 696)
206	523					41° 18.245	9° 28.689	Guns 19 & 20 back on line (Shot 812, File 711)
206	536	2254.31	78.1	3.7	1819.3	41° 18.230	9° 28.019	
206	600	2256.77	90.0	4.6	2130.2	41° 18.180	9° 24.868	
206	636	2259.04	89.9	4.4	1647.3	41° 18.155	9° 21.628	
206	700	2261.32	98.1	5.1	1440.3	41° 18.078	9° 18.353	
206	730	2263.61	94.0	5.2	605.4	41° 18.010	9° 15.176	
206	737					41° 18.016	9° 14.439	Passed OBS 243
206	0800	2265.83	83.8	3.8	169.2	41° 17.997	9° 12.235	Watch change
206	0830	2268.24	104.3	4.6	147.2	41° 17.965	9° 09.106	
206	0900	2270.58	79.0	4.9	125.0	41° 17.954	9° 06.109	
206	0930	2273.04	85.4	5.4	96.8	41° 17.890	9° 02.820	
								10:05 NEW COMPLETE
206	10:08					Starting line "m" (Line #18), N-S along 9° W		
206	10:30	2277.93	353.0	4.3	88.3	41° 20.845	9° 00.003	
	10:43							Slowing for a fishing boat

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT. <i>N</i>	LONG. <i>W</i>	REMARKS
206	1100	2280.34	1.5	3.9	86.8	41° 23.100	9° 00.000	
206	11:30	2282.84	2.2	4.4	83.7	41° 25.457	8° 59.988	
206	12:00	2285.31	11.5	4.9	79.9	41° 27.882	8° 59.991	
206	12:30	2287.81	1.2	4.8	79.7	41° 30.310	8° 00.025	
206	13:00	2290.29	354.1	4.6	80.0	41° 32.70	9° 00.011	
206	13:30	2292.74	326.1	4.9	80.2	41° 35.033	9° 00.100	
206	13:06							Changed course to portside to clear a buoy ahead.
206	13:44	2293.88	286.9	4.8	85.9	41° 35.504	9° 01.480	Fe End of turn
206	14:00	2295.14	298.2	5.2	90.6	41° 35.726	9° 03.142	
206	14:30	2297.55	280.7	5.6	101.7	41° 35.734	9° 06.507	
206	15:06	2299.96	269.0	4.9	97.1	41° 35.756	9° 09.735	
206	15:30	2302.45	271.8	4.9	147.6	41° 35.918	9° 13.274	
206	15:33	2302.77	285.1	5.4	144.4	41° 35.978	9° 13.499	Slowing down to to 4.5 speed
206	15:40	2303.27	293.5	4.7	282.6	41° 35.949	9° 14.520	Speeding again to 4.86 knots
206	16:00	2304.70	270.2	3.9	238.7	41° 36.076	9° 16.496	
206	16:30	2307.07	255.1	5.1	1150.0	41° 36.037	9° 19.788	
206	17:00	2309.67	267.7	4.7	1444.3	41° 36.929	9° 23.099	
206	1730	2311.71	268.8	4.5	1483.3	41° 36.042	9° 26.005	
206	1800	2314.07	281.7	4.7	1711.3	41° 36.024	9° 29.107	
206	1830	2316.44	267.1	4.9	2134.2	41° 36.044	9° 32.422	
206	19:00	2318.79	269.5	4.7	2195.2	41° 36.117	9° 35.626	
206	19:30	2321.13	273.4	5.3	2403.2	41° 36.191	9° 38.798	
206	2000	2323.52	277	4.6	2395.2	41° 36.198	9° 41.885	
206	2030	2325.76	285	4.8	2582.2	41° 36.226	9° 44.963	
206	2100	2328.01	276	4.7	2691.2	41° 36.282	9° 48.199	

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DATE	TIME	PIT LOG	HOG	SPD	DEPTH	LAT.	LONG.	REMARKS
206	2130	2330.38	271	4.5	2826.2	41° 36.288	9° 51.520	
206	2200	2332.70	271	4.4	2835.2	41° 36.353	9° 54.733	
206	2220	2334.87	266	4.6	2971.2	41° 36.763	9° 57.769	Will turn off line 14 at 1040
206	2232	2335.14	280.5	4.4	2978.2	41° 36.373	9° 58.142	Start turn - to avoid traffic
	2248							Continuing turn 50° to go
206	2258	2337.09	356	4.8	2967	41° 37.432	9° 59.961	Steady on Line 19
206	2300	2337.26	355	5.0	2961	41° 37.591	9° 59.996	
	2304							Gun 10 back firing
206	2330	2339.64	357	4.7	2906	41° 40.012	10° 00.008	
207	0000	2342.01	6.0	5.0	2844.2	41° 42.341	10° 00.007	
207	0030	2344.52	359.3	5.1	2775.2	41° 44.775	10° 00.011	
207	0100	2346.93	358.1	4.3	2350.2	41° 47.133	10° 00.012	
207	0130	2349.40	9.3	4.7	2692.2	41° 49.307	10° 00.044	
207	0200	2351.86	1.7	5.6	2699.2	41° 51.584	9° 59.975	
207	0230	2354.37	0.4	5.0	2671.2	41° 53.982	9° 59.985	
207	0300	2356.92	1.3	5.2	2612.2	41° 56.592	9° 59.991	10° 00.016
207	0330	2359.35	0.7	5.4	2563.2	41° 59.266	9° 59.991	
207	04:00	2361.74	359.9	4.6	2480.2	42° 02.796	10° 00.000	
207	04:30	2363.98	0.9	3.9	2458.2	42° 04.127	10° 00.012	
207	04:50							passing 0138 231 will turn off in 15 min
207	04:55							begin of turn to line 1
207	05:00	2366.30	12.7	6.0	2457.2	42° 06.513	9° 59.942	
207	05:03							begin of turn off line 19
207	05:06							#9 Gun out of water due to leak
207	0530	2368.84	229.7	4.7	2521.2	42° 7.158	10° 2.354	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT. <i>N</i>	LONG. <i>W</i>	REMARKS
207	0600	2371.14	100.4	4.1	2499.2	42° 5.420	10° 1.615	turn to 180° for food
207	06:07							all guns back in water and working
207	06:30	2373.47	81.7	4.2	2419.2	42° 05.484	9° 58.614	
	0633				2342.2	42° 05.403	9° 58.187	passing over OBS 231
207	07:00	2375.90	99.3	5.1	2337.2	42° 05.400	9° 55.448	
207	07:30	2378.29	92.2	5.7	2322.2	42° 05.387	9° 52.351	
207	0800	2380.70	90	5.2	2307	42° 05.766	9° 49.033	
207	0827	2382.95	92	4.8	2250	42° 05.320	9° 45.865	passing over OBS 232
207	0830	2383.13	92	4.8	2253	42° 5.319	45.682	
207	0900	2385.54	93.0	4.4	2173.2	42° 05.280	09° 42.320	
207	0930	2387.90	92	4.8	2023	42° 05.253	09° 39.027	
207	1000	2390	91	4.8	1788	42° 05.209	09° 35.813	
207	1017	1694.3			1694.3	42° 05.168	09° 33.861	Passing over OBS 233
207	1030	2392.49	97.4	4.9	1657.3	42° 05.163	09° 32.504	
207	11:00	2394.82	96.8	4.6	1557.3	42° 05.135	09° 29.326	
207	11:30	2397.14	98.1	5.2	975.2	42° 05.075	09° 26.017	
207	12:00	2399.51	85.5	5.1	307.4	42° 05.059	09° 26.661	
207	12:07	2400.10	91.4	3.8	237.8	42° 05.023	09° 21.925	Passing over OBS 234
207	12:30	2401.79	93.9	4.6	207.8	42° 04.978	09° 19.430	
207	13:00	2404.17	91.9	5.0	175.7	42° 04.932	09° 16.538	
207	13:30	2406.61	86.9	5.5	158.4	42° 04.873	09° 13.272	
207	14:00	2409.09	76.5	5.8	147.5	42° 04.858	09° 09.894	
207	14:05	2409.61	85.7	5.1	144.5	42° 04.839	09° 09.139	Passing over OBS 235
207	14:30	2411.52	98.0	5.0	137.1	42° 04.752	09° 06.603	
207	1500	2413.97	104.2	4.9	127.8	42° 04.732	09° 03.466	

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT.	LONG.	REMARKS
207	15:17							gun #11 turned off
207	15:17	2415.52	84.4	4.8	117.4	42° 04.709	09° 01.273	Starting turn
207	15:30	2416.42	27.9	5.5	111.8	42° 05.153	09° 00.231	
207	15:37	2417.07	331.1	3.3	112.0	42° 05.735	09° 00.237	finished turn
207	1600	2419.01	333.6	4.6	120.5	42° 07.440	9° 01.339	
207	1630	2421.64	338.4	4.7	127.2	42° 09.843	9° 02.461	
207	1658							Magnetic (10) alarm went off
207	1700	2424.09	342.3	5.4	128.5	42° 12.127	9° 03.516	
207	1730	2426.51	338.6	4.1	133.5	42° 14.316	9° 04.604	
207	1800	2428.87	333.8	5.1	136.9	42° 16.494	9° 5.589	
207	1830	2431.36	335.8	5.0	139.6	42° 18.710	9° 6.642	
207	1900	2433.86	338.3	4.5	137.2	42° 20.959	9° 7.703	
207	1930	2436.41	343.5	4.6	137.8	42° 23.120	9° 8.715	
207	1953	2438.43	341.8	5.3	136.3	42° 24.909	9° 9.553	Watch change
207	20:00	2438.98	344.8	5.3	132.4	42° 25.405	9° 09.834	
207	2030	2441.59	344.5	5.1	127.7	42° 27.728	9° 10.929	
207	2100	244.17	340	5.0	101	30.097	12.038	
207	2130	2446.56	342.8	5.0	100.8	42° 32.422	9° 13.162	
207	2200	2449.01	346.5	5.0	102.4	42° 34.723	9° 14.214	
207	2230	2451.48	341.1	5.4	107.9	42° 37.158	9° 15.390	
207	2300	2454.00	340	5.3	114	42° 39.537	9° 16.530	
207	2316	2455.45	338	4.7	117	42° 40.99	9° 17.216	Starting Turn to 270
	2326		290	4.7		42° 41.433	9° 18.025	Finish Turn - On line 17
207	2330	2456.58	287	4.9	120	41.477	18.407	
	2340							Passed over 236 / #11 gun on line

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT. <i>N</i>	LONG. <i>W</i>	REMARKS
207								
208	00:00	2452.11	0.0	0.0	130.0	42° 41.355	05° 21.728	
208	00:30	2461.50	263.4	5.3	141.1	42° 41.201	9° 25.117	
208	01:00	2463.90	270.5	4.8	156.4	42° 41.040	9° 28.430	
208	01:30	2466.24	262.6	5.5	255.3	42° 40.866	9° 31.614	
208	02:00	2468.58	255.1	5.4	766.5	42° 40.675	9° 34.795	
208	02:15	2470.63	259.3	4.5	1182.3	42° 40.559	9° 37.768	Passing over OBS-237
208	02:30	2470.95	268.2	5.4	1254.3	42° 40.507	9° 38.702	
208	03:00	2473.24	263.0	4.3	1454.3	42° 40.330	9° 41.506	
208	03:30	2475.58	276.4	5.6	1670.3	42° 40.156	9° 44.841	
208	04:00	2478.01	263.8	5.4	1855.3	42° 39.935	9° 48.203	
208	04:30	2480.31	265.3	5.1	2613.2	42° 39.783	9° 51.384	
208	500	2482.60	265.3	4.0	2103.2	42° 39.621	9° 54.350	
208	517					42° 39.484	9° 56.415	Past OBS 238
208	524					42° 39.494	9° 56.869	Gun 13 back in
208	05:30	2485.68	256.8	5.3	2177.2	42° 39.460	9° 57.505	
208	600	2487.63	272.9	5.1	2249.2	42° 39.261	10° 00.928	
208	636	2490.09	270.2	5.5	2416.2	42° 39.044	10° 04.521	
208	6:50							Start turning to bring out more stream
208	700	2492.39	310.1	3.5	2545.2	42° 39.150	10° 07.561	
208	730	2494.56	310.3	2.9	2641.2	42° 41.877	10° 07.407	Deploying long stream ✓
208	0800	2496.69	9.9	3.0	2704.6	42° 43.465	10° 06.806	
208	0830	2498.81	15	4.1	2756	42° 45.57	10° 06.066	
208	0900	2501.01	153.3	3.6	2706.2	42° 45.647	10° 03.692	
208	0930	2502.94	182.9	4.0	2659.2	42° 43.769	10° 03.829	

RESEARCH VESSEL "MAURICE EWING"

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SCIENCE WATCHSTANDER'S LOG

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT. N	LONG. W	REMARKS
208	10:00	2504.75	176.5	3.4	2611.2	42° 42.154	10° 03.843	Last bird (#10) deployed.
	10:30	2506.69	175.7	4.6	2488.2	42° 40.244	10° 03.518	
	10:36					42° 39.835	10° 03 ⁰³ .512	Beginning 90° turn to starboard
208	0:50:58				2414.2	42° 38.856	10° 04.397	Begin line Q
	1100	2508.86	294.8	5.2	2421.2	42° 38.827	10° 05.111	
	1125					42° 38.871	10° 07.678	Swiss Down - Beginning turn → fill gap in shot
								Turn to North
	1128					42° 38.851	10° 7.949	guns firing again
208	1130	2511.14	286	4.5	2538	42° 38.857	10° 8.018	Will now back on line 10° 5.5' W
208	1200	2513.31	80.0	5.1	2618.2	42° 40.356	10° 8.145	
208	1210							Reboot system
208	1230	2515.56	79.2	4.3	2549.2	42° 40.695	10° 05.012	
	12:39					42° 40.873	10° 04.159	Doing turn → returning to the line
208	13:00	2517.81	162.6	4.1	2364.2	42° 40.110	10° 02.386	
208	13:20:30					42° 38.947	10° 03.711	Back on the line (finished turn)
208	13:30	2520.13	268.2	5.1	2420.2	42° 38.972	10° 04.605	
208	14:00	2522.35	23.3	2.9	2566.2	42° 39.853	10° 06.501	Turning again to get back on the line
208	14:30	2524.55	91.6	4.3	2502.2	42° 40.462	10° 03.726	
208	1500	2526.88	161.1	7.1	2286.2	42° 39.807	10° 00.894	
208	15:20:30				2249.2	42° 38.552	10° 01.847	Back on the line (finishing turn)
208	15:30	2529.41	278.0	4.3	2291.2	42° 38.672	10° 02.727	
208	16:00	2532.02	264.2	4.3	2462.2	42° 38.908	10° 05.969	
208	16:30	2534.50	258.1	5.8	2577.2	42° 38.737	10° 09.411	
208	17:00	2536.90	265.7	6.5	2670.2	42° 38.526	10° 12.896	

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SCIENCE WATCHSTANDER'S LOG

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT. \checkmark	LONG. \checkmark	REMARKS
208	17:13	2534.54			2891.2	42°38.454	10°14.367	passing OBS 239
208	1730	2539.31	270.0	5.2	2739.2	42°38.337	10°16.320	
208	1800	2541.54	265.1	4.8	2871.2	42°38.134	10°19.667	
208	1830	2543.76	262.1	4.8	2954.2	42°37.922	10°23.070	
208	1900	2545.00	252.2	4.4	2923.2	42°37.724	10°26.212	
208	1930	2548.25	260.2	4.8	2597.2	42°37.556	10°29.194	
208	2000	2550.50	267.2	4.8	2287.2	42°37.380	10°32.448	watch change
	20:06							Passing over OBS 240
208	20:30	2552.89	272.0	4.5	2171.2	42°37.155	10°35.950	
208	21:00	2555.08	254.9	5.1	2143.2	42°36.930	10°39.145	
	21:30	2557.38	260.1	5.1	2134.2	42°36.722	10°42.500	
	21:41							#8 Gun offline
	22:00	2559.67	274.1	5.3	2136.2	42°36.530	10°45.820	
	22:23							#8 Gun back on line
	22:30	2562.02	270.3	3.8	2094.2	42°36.322	10°48.938	
	22:48				2015.2	42°36.202	10°50.784	Passing OBS 241
	23:00	2564.29	270.0	4.1	1972.3	42°36.151	10°51.898	
	23:30	2566.84	264.2	5.2	1848.3	42°35.891	10°55.306	
209	00:00	2569.26	0.0	0.0	1797.3	42°35.675	10°58.797	
	00:30	2571.65	274.6	4.9	1734.3	42°35.469	11°02.151	
	01:00	2573.99	268.2	5.2	1697.3	42°35.215	11°05.651	
	01:28	2575.00	252.0	5.8	1729.3	42°34.978	11°09.153	Passing OBS 242
	01:30	2576.67	264.5	6.0	1721.3	42°34.946	11°09.271	
209	2:00	2578.40	272.1	5.4	1679.3	42°34.698	11°12.938	
209	2:30	2580.70	267.1	5.8	1586.3	42°34.482	11°16.701	

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RESEARCH VESSEL "MAURICE EWING"

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT.	LONG.	REMARKS
209	300	2583.04	261.0	5.4	1596.3	42°34.215	11°20.392	
209	330	2585.43	260.9	5.0	1602.3	42°33.961	11°23.794	
209	400	2587.81	260.7	5.7	1572.3	42°33.693	11°27.393	
209	430	2590.23	265.2	5.0	1566.3	42°33.492	11°30.981	
209	500	2592.50	^{252.8} 249.	5.0	833.4	42°33.188	11°34.391	
209	0512							Begin turn, end of line 17
209	0524					42°32.367	11°36.562	Finished turn, still needs some straightening out
209	530	2594.82	202.6	4.9	946.4	42°31.941	11°36.836	
209	600	2597.10	210.5	3.9	1169.3	42°29.869	11°38.211	
209	0630	2599.40	213.9	5.0	1694.3	42°27.709	11°39.647	
209	700	2601.78	211.2	5.1	1944.3	42°25.718	11°40.000	
209	730	2604.19	201.8	5.3	2337.2	42°23.529	11°42.421	
209	800	2606.66	203.7	5.1	2295.2	42°21.254	11°43.990	Watch change
209	0830	2609.03	203.0	4.4	2571.2	42°18.994	11°46.496	
209	0900	2611.41	200.6	3.6	2839.2	42°16.919	11°46.879	
209	0930	2613.84	206.8	4.5	3073.1	42°14.841	11°48.271	
209	1000	2616.30	198.4	5.5	3107.1	42°12.583	11°49.788	
209	1030	2618.62	198.6	4.5	3019.1	42°10.501	11°51.143	
209	1100	2621.13	208.9	5.4	3499.1	42°08.303	11°52.651	
209	1130	2623.63	205.5	5.2	3698.1	42°06.205	11°54.039	
209	1200	2626.15	205.3	4.7	3865.1	42°04.213	11°55.370	Watch change
209	12:30	2628.77	202.7	4.4	3852.1	42°02.098	11°56.809	
209	1300	2631.32	211.6	6.9	3818.1	41°59.927	11°58.246	
209	13:28	2633.74	216.1	5.6	3845.1	41°57.861	11°59.612	Turning strd to line 2 (according to the bridge inform.)
209	13:30	2633.90	220.1	5.9	3876.1	41°57.712	11°59.782	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT. <i>N</i>	LONG. <i>W</i>	REMARKS
209	13:44	2635.06	262.3	5.0	4091.0	41° 57.245	12° 01.182	Finished turning strd to line 2
209	14:00	2636.29	259.5	4.2	4388.0	41° 57.255	12° 02.973	
209	14:30	2638.58	274.2	5.0	4699.0	41° 57.232	12° 06.387	
209	15:00	2640.80	261.9	5.0	4804.0	41° 57.207	12° 09.800	
209	15:30	2643.03	261.3	5.2	4879.0	41° 57.202	12° 13.156	
209	16:00	2645.23	263.0	4.5	4846.0	41° 57.386	12° 16.349	
209	16:30	2647.40	275.3	4.5	5002.9	41° 57.169	12° 19.482	
209	17:00	2649.64	294.8	4.2	5052.9	41° 57.141	12° 22.684	
209	17:18							gun no. 7 and 8 out of water order
209	17:21							working again
209	17:30	2651.90	267.2	4.1	5097.9	41° 57.156	12° 25.800	
209	18:00	2654.18	265.4	4.0	5142.9	41° 57.098	12° 28.833	
209	18:30	2656.55	269.6	5.0	5188.9	41° 57.151	12° 32.036	
209	19:00	2658.99	266.8	4.7	5218.9	41° 57.093	12° 35.362	
209	19:30	2661.48	266.7	4.7	5239.9	41° 57.101	12° 38.778	
209	20:00	2663.94	265.7	5.1	5245.9	41° 57.050	12° 42.081	
209	20:30	2666.33	268.7	4.7	5251.9	41° 57.045	12° 45.258	
209	21:00	2668.65	276.1	5.9	5245.9	41° 57.047	12° 48.577	
209	21:30	2670.03	266.1	4.8	5239.9	41° 57.030	12° 51.741	
209	22:00	2673.47	269.3	5.1	5292.9	41° 57.032	12° 55.198	
209	22:30	2675.86	274.0	4.5	5288.9	41° 57.021	12° 58.453	
209	22:33:30	2676.15	267.5	4.4	5292.9	41° 57.987	12° 58.888	Start turning
209	22:51:59	2677.46	169.3	3.9	5292.9	41° 55.986	13° 00.076	Finish turn & speed ↑
209	23:00	2677.97	168.5	4.3	5292.5	41° 55.332	12° 59.969	
209	23:30	2680.21	172.0	4.3	5293.9	41° 52.907	12° 59.995	

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SCIENCE WATCHSTANDER'S LOG

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT. N	LONG. W	REMARKS
209	23:42	2681.03	164.1	4.0	5292.9	41° 51.91	12° 59.943	Started second turn
209	23:59		98.5	4.0		41° 51.082	12° 58.855	Finished turn
210	0000	2682.30			5292.9	41° 51.077	12° 58.791	
210	0003							Gun #14 back
210	00:30	2684.43	80.8	4.5	5291.9	41° 51.042	12° 55.998	
210	0100	2686.66	72.4	4.3	5285.9	41° 50.999	12° 53.027	
210	0130	2688.94	84.3	5.0	5277.9	41° 50.850	12° 49.906	
210	0200	2691.29	85.6	5.1	5272.9	41° 50.972	12° 46.737	
210	0230	2693.71	78.5	4.8	5260.9	41° 50.981	12° 43.445	
210	03:00	2696.14	93.1	4.5	5247.9	41° 50.985	12° 40.259	
210	03:30	2698.57	91.4	4.2	5231.9	41° 50.994	12° 37.001	
210	03:38:00							Gun #19 is out of service
210	04:00	2700.93	100.3	4.9	5195.9	41° 50.991	12° 33.823	
210	04:09							Gun #9 back in water
210	04:25							Gun #3 out of service
210	04:30	2703.36	76.5	4.8	5163.9	41° 51.030	12° 30.616	
210	05:00	2705.79	87.8	4.8	5130.9	41° 51.019	12° 27.417	
210	05:30	2708.18	87.5	4.7	5084.9	41° 50.974	12° 24.270	
210	06:00	2710.66	78.2	5.4	5046.9	41° 51.012	12° 21.093	Gun #3 back in water
210	06:30	2713.06	94.5	4.5	4997.9	41° 50.990	12° 18.002	
210	07:00	2715.51	92.1	5.3	4960.0	41° 50.966	12° 14.836	
210	07:30	2717.92	84.4	4.5	4907.0	41° 50.983	12° 11.600	
210	0800	2720.21	88	4.9	4837	41° 51.017	12° 08.222	
	0830	2722.61	90	5.1	4620	41° 51.003	12° 04.902	
	0850					41° 51.011	12° 02.116	

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SCIENCE WATCHSTANDER'S LOG

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT.	LONG.	REMARKS
210	0900	2724.82	82	4.1	4020	41° 50.991	12° 01.576	
	909					41° 51.23	12° 00.490	40° turn to course 051° (#11 gun off)
210	916	2726.15	57	4.5	3989	41° 51.223	11° 59.687	Completed turn - on line 22
	0930	2727.15	43	4.7	4160	41° 51.840	11° 58.591	
210	1000	2729.51	45	5.0	4508	41° 53.387	11° 56.099	
	1005							#11 gun back online
	1030	2731.93	38.5	4.9	4442.0	41° 54.914	11° 53.644	
	1100	2734.46	58.1	4.6	4374.0	41° 56.351	11° 51.295	
210	1130	2736.99	52	5.2	4296	41° 57.841	11° 48.833	
210	1200	2739.38	44.5	5.8	3670	41° 59.364	11° 46.304	
210	1230	2741.69	48.7	6.0	3026	42° 00.938	11° 43.714	
210	1300	2744.09	48.8	5.5	2698	42° 02.552	11° 40.003	
210	1330	2746.44	48.3	5.1	2533	42° 04.232	11° 38.780	
210	1400	2748.88	82.9	4.8	2446.2	42° 05.624	11° 35.543	Begin turn at 13:57
210	1402							Finished turn
210	1430	2751.33	82.4	4.3	2436.2	42° 05.660	11° 32.272	
210	1500	2753.84	85.3	4.6	2377.7	42° 05.643	11° 29.189	
210	1530	2756.34	96.6	4.5	2349.2	42° 05.639	11° 26.058	
210	1600	2758.94	95.5	4.6	2390.2	42° 05.662	11° 22.826	
210	1630	2751.64 2757.2	109.0	4.8	2383.2	42° 05.671	11° 19.727	
210	1700	2764.20	108.1 108.1	4.8 4.8	2391.2	42° 05.691	11° 16.496	Course & speed are probably wrong
210	1730	2766.84	91.1	5.8	2452.2	42° 05.700	11° 13.342	
210	1800	2769.50	92.7	3.3	2510.2	42° 05.694	11° 10.217	
210	1830	2772.10	91.5	4.9	2554.2	42° 05.700	11° 06.904	
210	1900	2774.69	93.1	5.0	2628.9	42° 05.729	11° 03.407	

RESEARCH VESSEL "MAURICE EWING"

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SCIENCE WATCHSTANDER'S LOG

DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT. N	LONG. W	REMARKS
210	1930	2777.23	83.2	4.6	2653.2	42° 05.707	10° 59.929	
210	20:00	2779.69	85.1	4.8	2637.2	42° 05.739	10° 58.795	Watch change
210	20:04	2780.00	88.0	5.0	2636.2	42° 05.768	10° 58.772	OBS # 227
210	20:30	2782.17	85.8	5.2	2576.2	42° 05.724	10° 53.503	
210	21:00	2784.72	94.5	5.4	2316.2	42° 05.757	10° 50.196	
210	21:21	2786.52	87.0	5.3	2085.2	42° 05.724	10° 47.950	
210	21:30	2787.23	92.8	5.1	2199.2	42° 05.717	10° 47.071	
210	22:00	2789.81	95.8	5.5	2466.2	42° 05.770	10° 43.846	
210	2230	2792.43	87	5.4	2787	42° 5.692	10° 40.598	Passed over OBS 228
	2220							
210	2300	2795.17	87	5.2	2811	42° 5.672	10° 37.218	
210	2330	2797.80	85	5.2	2822	42° 5.660	10° 33.994	
210	2350	2800.36	78.0	4.9	2814.2	42° 05.660	10° 30.842	
211	00:30	2802.93	84.1	4.6	2773.2	42° 05.666	10° 27.666	Passing over OBS 229
211	00:34	2803.34	119.7	5.1	2766.2	42° 05.574	10° 24.283	
211	01:00	2805.39	81.8	4.3	2747.2	42° 05.634	10° 24.563	
211	01:30	2807.91	99.1	4.9	2785.2	42° 05.583	10° 21.234	
211	02:00	2810.44	76.7	5.2	2764.2	42° 05.627	10° 18.993	
211	02:30	2812.96	78.8	5.2	2727.2	42° 05.574	10° 14.755	
211	02:46	2814.47	91.8	5.5	2685.2	42° 05.594	10° 12.777	Passing over OBS 230
211	03:00	2815.56	103.6	5.4	2652.2	42° 05.527	10° 11.281	
211	03:30	2818.10	89.4	5.5	2599.2	42° 05.515	10° 07.818	
211	04:00	2820.63	85.2	4.2	2545.2	42° 05.511	10° 04.544	
211	04:30	2823.07	82.9	4.5	2497.2	42° 05.493	10° 01.445	
211	04:55		100.4			42° 05.428	9° 58.722	Start turning to line 23

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SCIENCE WATCHSTANDER'S LOG

DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT. N	LONG. W	REMARKS
211	04:57							gun #10 out of water
211	05:00	2825.53	103.1	4.3	2358.2	42°05.371	09°58.272	
211	05:21	2827.50	182.4	4.6		42°04.013	09°56.994	end of turn to line 23
	05:23							gun #10 back in water
211	05:30	2828.03	178.2	5.1	2331.2	42°03.238	09°57.000	
211	06:00	2830.17	179.0	5.6	2204.2	42°01.041	09°57.009	
211	06:30	2832.46	173.1	4.6	2336.2	41°58.738	09°56.959	
211	07:00	2834.83	184.4	4.3	2525.2	41°56.338	09°56.984	
211	07:30	2837.20	183.3	5.3	2525.2	41°53.968	09°57.013	
	08:00	2839.58	181.0	6.7	2628.2	41°51.428	09°57.005	
	08:30	2841.98	177.5	4.9	2648.2	41°48.960	09°56.967	
	09:00	2844.27	181.5	4.9	2547.2	41°46.488	09°56.990	
	09:30	2846.65	181.1	4.6	2350.2	41°44.141	09°56.991	
211	10:00	2848.99	178	4.9	2807	41°41.677	09°57.019	
	10:30	2851.35	179.1	4.2	2878.2	41°39.190	09°57.001	
	10:54		180.2		2960.2	41°37.199	09°57.024	Beginning turn to 270, 5°/minute
	11:00	2853.70	203.2	4.3	2963.2	41°36.721	09°57.192	
	11:18		279.1	4.8				Turn completed,
	11:30	2855.86	280.8	4.8	3000.1	41°31.276	09°10°0.038	
211	12:00	2858.16	264.5	4.9	3019	41°36.388	10°03.175	
211	12:30	2860.54	284.9	4.9	3064	41°36.410	10°06.392	
211	13:00	2862.87	268.6	4.6	3107	41°36.439	10°09.710	
211	13:30	2865.23	279.1	4.8	3167	41°36.408	10°12.954	
211	14:00	2867.53	271.8	6.2	3204.1	41°36.429	10°16.031	
211	14:30	2869.87	273.9	5.0	3251.1	41°36.468	10°19.024	

RESEARCH VESSEL "MAURICE EWING"

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SCIENCE WATCHSTANDER'S LOG

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT. N	LONG. W	REMARKS
211	15:00	2872.24	269.7	4.2	3280.1	41°36.485	10°22.309	
211	15:30	2874.65	259.6	5.6	3301.1	41°36.480	10°25.709	
211	16:00	2877.02	259.5	5.1	3273.2	41°36.467	10°29.094	
211	16:30	2879.43	262.3	5.8	3223.1	41°36.505	10°32.582	
211	17:00	2881.79	269.6	5.5	3186.1	41°36.557	10°35.726	
211	17:30	2884.17	250.1	4.6	3140.1	41°36.552	10°38.863	
211	18:00	2886.60	268.3	5.4	3115.1	41°36.512	10°42.118	
211	18:30	2889.02	267.6	5.3	3100.1	41°36.553	10°45.126	
211	19:00	2891.45	277.2	4.8	3086.1	41°36.576	10°48.191	
211	19:30	2893.90	270.5	5.0	2965.2	41°36.581	10°51.263	
	20:00	2896.39	268.1	5.0	2917.2	41°36.583	10°54.481	Watch change
	20:12					41°36.540	10°55.914	Passing waypoint #50, end of line 14
	20:30	2898.81	275.8	4.6	2975.7	41°36.596	10°57.822	
	20:46							Turning South to recover streamer - trying a downwind recovery
	20:23							End of line "V"
	21:00	2901.33	202.5	5.2	3050.1	41°36.918	11°0.605	
	21:30	2903.57	189.5	3.7	3040.1	41°33.884	11°01.489	
	21:44							Gun booms + maggie are in + slowed
	22:00	2905.43	199.3	3.4	3151.1	41°32.216W	11°2.349W	
	22:30	2907.20	199	3.2	3252.1	41°30.684	11°3.146	
	23:00	2908.79	200	2.9	3378	41°29.300	11°03.899	
	23:30	2910.35	199	3.0	3477	41°27.911	11°04.552	
212	0:00	2911.90	228.1	2.6	3549.1	41°26.573	11°05.198	
	0:30	2913.09	225.0	2.0	3640.1	41°25.918	11°06.246	
212	0:00	2914.31	31.2	1.8	3366	41°26.865	11°06.694	

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RESEARCH VESSEL "MAURICE EWING"

SCIENCE WATCHSTANDER'S LOG

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT.	LONG.	REMARKS
212	130	2915.64	1.6	2.7	3384.1	41° 28.048	11° 06.588	
212	200	2917.07	352.4	2.8	3311	41° 29.252	11° 06.398	
212	215					41°		Recovered streamer + tail buoy
212	230	2918.52	10.7	4.6	3241	41° 30.466	11° 06.044	
212	235							Heeded to OBH 243
212	300	2922.84	101.3	10.7	3293	41° 30.102	11° 00.768	
212	330	2928.70	97.0	11.0	3109	41° 29.316	10° 53.839	
212	400	2933.58	104.1	11.4	3102.1	41° 28.513	10° 46.786	
212	430	2938.49	91.2	10.4	2274.2	41° 27.721	10° 39.706	
212	500	2944.44	97.5	10.8	2925.2	41° 26.930	10° 32.582	
212	530	2949.96	97.6	10.7	2925.2	41° 26.116	10° 25.426	
212	600	2955.48	106.0	10.6	3279.1	41° 25.315	10° 18.466	
212	630	2961.08	100.5	10.2	3309.1	41° 24.501	10° 11.233	
212	700	2966.76	89.8	10.1	3369.1	41° 23.667	10° 03.802	
212	730	2972.53	123.8	11.5	3117.1	41° 22.228	9° 56.721	
212	800	2978.22	95.7	11.5	2764.5	41° 22.044	9° 49.632	
212	0830	2983.91	99.7	11.8	3185.1	41° 21.219	9° 42.433	
212	0900	2989.55	46.7	17.9	2944.2	41° 20.381	9° 35.075	
	0950	2995.28	92.8	11.4	2004.2	41° 18.764	9° 27.999	
	09:54:55	3000.00				41° 18.566	9° 22.874	
	10:00	3000.98	92.2	11.3	1687.3	41° 18.529	9° 20.668	
	10:30				331	41° 17.995	9° 14.481	Releasing Gnomon OBS
	10:30	3005.66	93.0	1.10	317.4	41° 18.017	9° 14.417	
	10:42				292.5	41° 17.959	9° 14.244	OBH 243 alongside/recovered @ 10:45
	11:00	3006.3	269.1	8.4	341.1	41° 17.764	9° 14.544	

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT.	LONG.	REMARKS
212	11:30	3011.59	273	11.3	292.9	41° 17.990	9° 21.557 W	
212	12:00	3016.87	270.4	11.4	351.4	41° 18.192	9° 28.789	
212	12:30	3019.90	5.7	1.4	357.4	41° 18.056	9° 32.392	OBS 244? recovered 12:56
212	13:00	3020.65	22.5	0.5	364.5	41° 18.757	9° 32.470	
212	13:30	3025.16	264.8	11.1	426.9	41° 18.692	9° 38.529	
212	14:00	3030.82	266.5	11.0	455.2	41° 18.327	9° 46.051	
212	14:30	3034.33	280.4	4.0	412.2	41° 18.226	9° 50.403	
212	15:00	3035.19	55.0	1.4	834.4	41° 18.470	9° 50.349	OBS 245 recovered
212	15:30	3038.91	272.3	11.0	1050.3	41° 18.534	9° 54.573	
212	16:00	3044.46	270.6	11.4	1173.0	41° 18.566	10° 02.287	
212	16:30	3050.04	276.8	11.3	1402.3	41° 18.641	10° 09.878	
212	1644				1443.3	41° 18.650	10° 12.980	stop propeller to attempt thru-hull release of OBH 246
212	1700	3053.90	273.6	5.5	1489.3	41° 18.669	10° 14.713	
212	1730	3054.84	62.4	0.5	1369.3	41° 18.523	10° 15.475	OBS 246 beside ship
212	1734	3054.87			1368.3	41° 18.477	10° 15.406	OBS 246 recovered
212	1800	3057.85	271	1.5	1253	41° 18.532	10° 18.524	
212	1830	3063.51	265.3	10.8	1276.3	41° 18.002	10° 25.964	
212	1900	3069.06	279.8	11.9	1315.3	41° 18.223	10° 33.183	
212	1921				1560.3	41° 18.463	10° 38.098	Attempt release of OBH 247
212	1930	3073.47	274.9	6.7	1597.3	41° 18.469	10° 39.003	
	1956				2012.3	41° 18.499	10° 40.491	OBS 247 recovered
	20:00	3075.33	77.5	1.4	2012.3	41° 18.510	10° 40.444	
	20:30	3078.99	268.1	11.1	2772.2	41° 18.572	10° 44.918	
	2100	3084.87	269.1	10.8	3219.4	41° 18.336	10° 52.418	
	2130	3090.49	274.0	11.9	3454.1	41° 18.418	10° 59.903	

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT.	LONG.	REMARKS
212	21:46			3.5	3481.1	41° 18.557	11° 03.300N	Attempting release of OBS 248 - ^{no confirmation} unknown → successful
	22:00	3093.76	280.8	5.5	3680.1	41° 18.554	11° 04.469	
	22:30	3095.27	179.5	1.2	3792.1	41° 18.455	11° 05.948	
212	22:49	3095.75	105.7	1.6	3763.1	41° 18.629	11° 05.713	Recovered OBS # 248
212	23:00	3096.06	32.8	3.1	3769.1	41° 18.546	11° 05.675	
212	23:30	3100.30	266.8	11.2	3867	41° 18.822	11° 10.553	
213	0000	3105.98	268.0	11.5	3594	41° 18.785	11° 18.028	
213	0030	3111.67	266.7	11.9	3854	41° 18.627	11° 25.800	
213	0100	3115.71	297.0	4.6	3307	41° 18.168	11° 31.064	
213	0130	3116.36	48.7	1.5	3449	41° 18.569	11° 30.939	OBS # 249 recovered
213	0200	3117.67	378.6	3.1	3489	41° 19.405	11° 29.438	
213	230	3122.95	265.7	11.0	3006	41° 18.708	11° 36.953	
213	310	3128.58	258.2	10.9	3364	41° 17.916	11° 44.357	
213	330	3134.17	226.4	12.1	3102	41° 17.072	11° 51.732	
213	400	3138.00	312.3	1.5	3636.1	41° 15.538	11° 56.005	
213	430	3138.73	332.5	1.6	3708.1	41° 16.141	11° 56.710	
213	500	3139.57	339.9	2.1	3835.1	41° 17.041	11° 57.135	
213	530	3140.41	347.8	2.7	3888.1	41° 17.878	11° 57.434	
213	600	3141.32	141.6	2.7	3706.1	41° 18.448	11° 57.537	
213	630	3142.66	146.6	2.7	3682.1	41° 17.348	11° 56.861	
213	700	3143.90	6.9	1.3	3646.1	41° 16.621	11° 56.290	
213	730	3144.44	13.1	2.9	3684.1	41° 17.291	11° 56.258	
	800	3145.02	344.0	1.9	3638.1	41° 17.909	11° 56.156	
	0814				3549.1	41° 18.331	11° 56.138	OBS 250 surfaced
	0825				3534.1	41° 18.571	11° 56.041	OBS # 250 recovered

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT.	LONG.	REMARKS
213	0900	3150.74	265.7	12.1	4729.0	41° 18.212	12° 01.997	
	0930	3156.47	267.5	12.1	4825.0	41° 17.939	12° 09.643	
	1000	3162.62	277.9	11.7	5114.9	41° 17.871	12° 17.300	
	1030	3165.41	237.8	0.9	5148.9	41° 17.861	12° 21.349	
	1100	3166.88	82.2	2.5	5148.9	41° 18.187	12° 21.232	
	1103				5141.9	41° 18.162	12° 21.112	OBS *251 alongside + recovered
	1130	3169.53	32.0	10.3	5118.9	41° 20.826	12° 18.678	
213	1200	3164.07	34.0	9.3	5016.9	41° 24.610	12° 15.187	Watch change
	1230	3178.86	35.2	9.4	4965.0	41° 28.630	12° 11.452	
	1300	3183.55	36.4	9.4	4929.0	41° 32.515	12° 07.820	
213	1330	3188.14	36.3	9.4	4769.0	41° 36.423	12° 04.159	
	1400	3192.85	31.9	9.9	4053.0	41° 40.375	12° 00.502	
213	1430	3197.48	26.6	9.3	3905.1	41° 44.214	11° 56.893	
	1500	3202.21	33.2	9.6	4248.0	41° 48.164	11° 53.208	
	1530	3206.81	30.5	8.6	4306.0	41° 52.117	11° 49.523	
	1600	3211.33	35.3	9.6	3671.1	41° 56.056	11° 45.778	
	1630	3216.13	32.5	10.5	3104.1	42° 00.656	11° 42.035	
	1700	3220.95	33.9	10.3	2538.2	42° 04.162	11° 38.174	
	1730	3225.82	38.5	9.8	2269.2	42° 08.109	11° 34.466	
	1800	3230.65	37.4	9.0	2069.2	42° 12.031	11° 30.738	
	1830	3235.44	37.3	10.0	1943.3	42° 15.981	11° 27.077	
	1900	3240.06	37.5	9.6	1689.3	42° 19.894	11° 23.377	
	1930	3244.73	32.6	10.3	1225.3	42° 23.898	11° 19.568	
	2000	3249.48	39.3	9.5	1582.3	42° 27.972	11° 15.768	Watch change
	2030	3254.10	36.3	8.6	1784	42° 32.004	11° 11.892	

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DATE	TIME	PIT LOG	HOG	SPD	DEPTH	LAT.	LONG.	REMARKS
213	21:00	3256.9	35.1	6.9	1740.3	42° 34.154	11° 9.879	
213	2119	3257.83			1717	42° 34.916	11° 9.162	OBH 242 recovered
213	2130	3258.27	40	3.5	1724	42° 35.205	11° 08.71	
213	2152							Heading for next site
213	2200	3260.44	90	10.6	1663	42° 36.160	11° 06.005	
213	2230	3265.56	87	10.4	1793	42° 36.259	10° 59.147	
213	2300	3270.2	90	10.2	1928	42° 36.194	10° 53.025	Slowed to use Greenhouse Release
213	2322							OBH 241 on surface
213	2300	3272.17	63	1.5	2006	42° 36.209	10° 50.952	
213	2332				2004	42° 36.185	10° 50.969	OBH 241 recovered
213	2345							Heading to next site
214	0000	3274.62	88.7	9.1	2122	42° 36.517	10° 48.142	
214	0030	3279.54	86.2	8.6	2134	42° 36.652	10° 41.894	
214	0100	3284.38	83.2	9.3	2160	42° 36.897	10° 35.775	
214	0130	3287.03	172.1	1.3	2257	42° 37.227	10° 32.921	
214	0139					42° 37.289	10° 32.785	OBH #240 recovered
214	0154							Heading to next site
214	0200	3288.88	86.6	10.3	2363	42° 37.662	10° 31.357	
214	0230	3293.84	92.0	9.8	2938	42° 37.586	10° 24.781	
214	0300	3298.72	81.5	9.7	2820	42° 38.387	10° 18.338	
214	0330	3301.90	81.9	5.2	2678	42° 38.105	10° 14.253	
214	0355				2685.2	42° 38.384	10° 14.344	OBH #239 recovered
214	0400	3302.74	25.8	2.2	2683.2	42° 38.326	10° 14.288	
214	0430	3305.46	85.9	8.3	2592.2	42° 38.419	10° 10.778	
214	0500	3310.34	78.2	10.7	2438.2	42° 39.223	10° 04.601	

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT.	LONG.	REMARKS
214	0530	3313.64	98.1	5.0	2236.2	42° 39.283	10° 00.514	
214	0600	3317.35	284.0	1.8	2121.2	42° 39.463	9° 56.137	
214	0630	3317.87	241.6	1.1	2117.2	42° 39.051	9° 56.591	
214	0651	3318.41			2117.2	42° 39.249	9° 56.392	OBS 238 recovered
214	0700	3318.82	28.4	2.0	2117.2	42° 39.351	9° 56.139	
214	0730	3323.64	90.5	10.0	1918.3	42° 39.125	9° 49.954	
	0800	3329.36	82.0	11.0	1602.3	42° 40.031	9° 43.197	
					1339.3	42° 40.377	9° 39.810	OBS 237 released - decent answer
214	0830	3323.39	51	3.6	1223	42° 40.432	9° 37.969	
	0835				1203.3	42° 40.539	9° 37.826	OBS 237 alongside + recovered
214	0900	3334.50	83	5.7	1112	42° 40.452	9° 37.046	
214	0930	3338.6	83	11.0	269	42° 40.800	9° 31.732	
214	1000	3344.29	88	11.5	437	42° 41.283	9° 23.818	
	10:18 ^(?)				124.0	42° 41.497	9° 19.644	signalling OBS 236 to release - received reasonable responses
	10:22				123.6	42° 41.492	9° 19.334	OBS 236 alongside
	10:24				123.2	42° 41.526	9° 19.291	OBS 236 recovered
	10:30	3347.90	164.3	6.1	122.6	42° 41.399	9° 18.950	
	11:00	3353.50	165.3	12.0	121.6	42° 35.875	9° 18.983	
214	1130	3359.46	166	11.8	141	42° 29.972	9° 17.104	
	12:00	3365.26	165.4	12.0	168.3	42° 24.100	9° 15.311	Watch change
214	12:30	3371.16	163.1	11.1	163.1	42° 18.450	9° 12.899	
	13:00	3377.05	164.9	7.0	161.6	42° 14.889	9° 11.804	
214	13:30	3382.96	164.0	11.7	152.3	42° 06.539	9° 10.070	
	13:50					42° 04.816	9° 09.580	OBS surfacing
214	14:00	3385.54	57.5	1.5	146.8	42° 04.812	9° 09.375	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
214	14:30	3385.95	120.6	0.9	147.2	42°04.547	9° 09.126	OBS 235 recovered
214	15:00	3390.16	273.9	10.9	164.7	42°04.569	9° 14.586	
214	15:30	3395.40	266.2	7.9	235.9	42°05.070	9° 21.710	
214	1600	3396.44	61.0	3.8	243.7	42°04.994	9° 22.100	
214	1630	3397.00	180.0	1.5	237.8	42°04.971	9° 21.870	
214	1631.37				238.5	42°04.963	9° 21.871	OBS 234 recovered
214	1700	3400.17	267.9	11.4	1119.3	42°05.067	9° 27.026	
214	1730	3405.85	276.7	3.5	1690.3	42°05.183	9° 33.785	
214	1800	3406.68	322.7	4.2	1685.3	42°04.901	9° 33.864	
214	1836	3409.62	272.5	9.7	1899.3	42°05.230	9° 37.262	
214	1825				1	42°05.	9° 37.	OBS 233 recovered (approx 100m W of deployment)
214	1900	3413.38	263.4	6.6	2179.2	42°05.263	9° 42.458	
214	1930	3416.16	29.0	0.5	2250.2	42°05.185	9° 45.898	
214	2000	3416.74	37.1	2.0	2247.2	42°05.177	9° 45.648	Watch change
214	2030	3418.80	268	11.5	2279.2	42°05.129	9° 47.846	
214	2100	3424.68	247	12.0	2224	42°03.360	9° 55.160	
214	21:23	3428.68	340	4.7	2346	42°04.892	9° 58.160	OBS 231 recovered in the surface
214	21:30	3428.97	3.5	1.52	2331	42°05.169	9° 58.291	
214	21:33	3429.03	77.8	1.3	2321.2	42°05.135	9° 58.253	OBS # 231 recovered
214	22:00	3432.61	290	11.2	2517	42°05.603	10° 02.934	
214	22:30	3438.36	276	11.5	2638	42°05.430	10° 10.734	
214	23:00	3440.29	23	2.01	2687	42°05.299	10° 12.934	
	2318							OBS 230 Sited
214	2330	3441.03	63	1.01	2685	42°05.518	10° 12.783	
	2331				2687	42°05.455	10° 12.767	OBS 230 Recovered

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
215	0000	3445.40			2770	42° 05.288	10° 18.287	
215	0030	3450.99	270.6	11.9	2741	42° 05.498	10° 26.502	
215	0100	3452.38	42.7	0.9	2767	42° 05.519	10° 27.582	
215	105							OBS # 229 sighted
215	123	3453.02			2769	42° 05.659	10° 27.507	OBS # 229 recovered
215	130	3453.28	307.1	9.9	2772	42° 05.687	10° 27.599	
215	2:00	3458.80	269.8	11.1	2817	42° 05.553	10° 35.558	
215	230	3463.78	7.0	2.7	2761	42° 05.543	10° 42.088	
215	300	3464.44	338.3	3.2	2765	42° 05.688	10° 42.638	
215	304				2769	42° 05.654	10° 42.004	Recovered OBS # 228
215	330	3468.19	269.0	11.7	2267	42° 05.517	10° 46.808	
215	400	3473.84	276.9	12.0	2612.2	42° 05.425	10° 54.816	
215	424							OBS # 227 sighted
215	430	3475.60	75.4	0.9	2641.2	42° 05.622	10° 56.743	
215	432				2641.2	42° 05.616	10° 56.722	OBS # 227 recovered
215	500	3479.73	88.7	10.9	2561.2	42° 05.717	10° 51.512	
215	530	3485.32	90.7	11.2	2494.2	42° 05.663	10° 44.262	
215	600	3490.87	90.9	11.4	2813.2	42° 05.615	10° 36.701	
215	630	3496.43	93.2	11.2	2799.2	42° 05.554	10° 29.225	
215	700	3502.01	89.6	10.9	2781.2	42° 05.540	10° 21.580	
215	730	3507.59	85.7	10.4	2714.2	42° 05.494	10° 14.199	
	800	3512.32	90.1	10.6	2573.2	42° 05.449	10° 06.326	
	830	3518.99	90.4	11.1	2424.2	42° 05.397	9° 58.731	
	900	3524.70	117.1	11.1	2321.2	42° 05.209	9° 51.121	
	924					42° 01.914	9° 49.606	OBS # 232 sighted

RESEARCH VESSEL "MAURICE EWING"

CRUISE EW 97-05

SCIENCE WATCHSTANDER'S LOG

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT.	LONG.	REMARKS
215	0930	3528.70	6.5	1.4	2219.2	42° 01.821	09° 49.682	
	0933				2221.2	42° 01.874	09° 49.605	OBS #232 recovered
	1000	3533.18	179.0	12.1	2158.2	41° 58.100	09° 49.603	
	1030	3539.16	182.8	12.7	2461.2	41° 51.856	09° 49.755	
	1100	3545.20	184.1	12.2	2565.2	41° 45.784	09° 50.145	
	1130	3551.21	183.1	12.4	2772.2	41° 39.676	09° 50.458	
215	1200	2818.2	183.2	11.8	2821.2	41° 33.668	09° 50.928	
	1230	3563.19	178.6	10.5	2839.2	41° 27.849	09° 51.268	
	1300	3569.10	181.1	11.6	2732.2	41° 21.809	09° 51.736	
	1330	3575.13	180.7	11.6	3208.1	41° 15.902	09° 51.929	
215	1400	3581.20	183.7	11.9	3678	41° 10.061	9° 52.278	
215	1430	3587.27	178.2	12.7	2986	41° 03.971	9° 52.629	
215	1500	2593.74	183.5	12.5	3366	40° 58.035	9° 53.164	
215	1530	3599.23	178.1	13.3	3524.1	40° 51.793	9° 53.180	
215	1600	3605.22	181.2	12.5	3067.1	40° 45.535	9° 53.509	
215	1630	3611.26	185.1	10.3	2682.1	40° 39.489	9° 53.742	
215	1700	3617.24	182.6	12.1	2659.2	40° 33.429	9° 54.158	
215	1730	3622.35	178.4	10.3	2938	40° 28.475	9° 54.312	
215	1800	3627.46	180.2	10.8	3161.1	40° 23.273	9° 54.303	
215	1830	3632.52	185.5	10.3	3220.1	40° 18.282	9° 54.361	
215	1900	3637.60	179.4	11.2	3072.1	40° 13.028	9° 54.518	previous depths may be wrong
215	1930	3642.54	179.5	9.5	1504.3	40° 07.823	9° 54.583	
	2000	3647.56	180	9.6	1372	40° 2.949	9° 54.482	
215	2030	3652.50	181	10.0	1800	39° 57.978	40° 54.546	
	2100	3656.21	181	10.2	2207	39° 52.039	40° 54.621	

RESEARCH VESSEL "MAURICE EWING"

CRUISE 95-05

SCIENCE WATCHSTANDER'S LOG

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
215	2300	3678.78	178	9.4	2608	39° 32.905	9° 54.611	
215	2330	3681.71	180.6	9.9	2749	39° 27.765	9° 54.509	
216	0000	3686.60	183.2	9.2	1610	39° 22.573	9° 54.757	
216	0030	3691.52	185.4	9.9	282	39° 17.644	9° 54.978	
216	0100	3696.49	180.7	9.7	724	39° 12.690	9° 54.941	
216	0130	3701.58	181.2	10.5	179.0	39° 07.585	9° 54.759	
216	0200	3706.79	181.5	10.2	166.6	39° 02.420	9° 54.582	
216	0230	3712.03	172.8	10.7	150.8	38° 57.120	9° 54.178	
216	0300	3716.91	177.5	10.1	128.3	38° 52.128	9° 53.335	
216	0330	3721.96	178.1	9.3	127.2	38° 47.201	09° 53.335	
216	400	3726.81	165.0	10.2	943.4	38° 42.605	9° 51.892	
216	430	3731.56	91.3	9.4	745.4	38° 39.897	9° 48.309	
216	500	3736.31	119.8	7.7	727.4	38° 40.095	9° 42.420	
216	530	3739.22	94.2	5.5	133.5	38° 39.538	9° 39.051	
216	0600	3742.02	89.0	5.2	114.6	38° 39.528	9° 35.699	
216	630	3744.95	102.5	6.1	102.6	38° 39.198	9° 32.137	
216	700	3747.82	108.9	6.7	88.5	38° 38.770	9° 28.576	
	715	3749.79	80.4	6.0	63.5	38° 38.841	9° 26.185	
	730	3750.76	83.0	5.5	41.7	38° 38.927	09° 24.841	Dale gave order to stand down watches
217	300	3753.84 4180.92	326.5	10.5	4564.0	39° 44.695	10° 46.715 W	STAND UP WATCHES. 1st WATCH AFTER LISBON.
217	3:30	/	320.7	11.0	4899.0	39° 49.170	10° 50.413	
217	4:00	/	324.5	11.6	4920.0	39° 53.968	10° 54.846	
217	4:30	/	324.5	11.2	4632.0	39° 58.469	10° 58.493	
217	5:00	/	325.3	10.7	4832.0	40° 03.148	11° 02.385	

RESEARCH VESSEL "MAURICE EWING"

CRUISE EW 97-05

SCIENCE WATCHSTANDER'S LOG

PAGE 63

DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
217	5:30	—	322.7	11.2	4922	40° 07.687	11° 6.305	
217	6:00	—	326.1	10.7	4924	40° 12.351	11° 10.293	
217	6:23	—	7.8	2.5	4991	40° 13.815	11° 11.514	Deploy OBS 352 deployed
217	6:30	—	357	10.0	4996	40° 14.462	11° 11.542	
217	700	—	359.4	10.0	4971	40° 19.761	11° 11.512	
217	730	152.04	357.1	11.4	4955	40° 25.146	11° 11.529	
217	757	154.60	17	9	4958	40° 27.615	11° 11.524	OBS 353 deployed
217	800	154.63	54.5	0.9	4958	40° 27.636	11° 11.489	
217	830	159.12	359.2	11.5	4938	40° 32.007	11° 11.525	
217	900	164.48	9.0	9.9	4850	40° 37.382	11° 11.499	
217	930	167.73	342.1	2.4	473	40° 40.791	11° 11.525	
217	930.47				4751	40° 40.804	11° 11.528	OBS " 354 deployed
217	1000	171.89	0.0	11.4	4636	40° 44.958	11° 11.526	
217	1030	177.29	359.3	10.0	4506	40° 50.342	11° 11.522	
217	1100	181.85	4.2	3.4	4423	40° 55.075	11° 11.503	⊗
217	11:12:05				4425	40° 55.222	11° 11.532	OBS 355 deployed
217	1130	183.81	359.2	10.5	4396	40° 56.874	11° 11.594	
217	12:00	189.24	2.7	10.8	4297	41° 2.272	11° 11.381	
217	1230	194.34	3.3	9.8	4176.0	41° 07.266	11° 11.488	
217	1247:41				4180.0	41° 07.303	11° 11.509	OBS 356 deployed - (didn't fit in frame correct)
217	13:00	195.90	0.9	10.0	4180.0	41° 8.388	11° 11.373	
217	13:30	201.09	1.7	10.3	4077	41° 13.613	11° 11.516	
217	14:00	204.90	336.4	2.0	3966.1	41° 17.231	11° 11.459	
217	14:04:41				3961.1	41° 17.405	11° 11.482	OBS 357 deployed
217	14:30	208.52	0.7	10.6	3887	41° 21.003	11° 11.373	

RESEARCH VESSEL "MAURICE EWING"

CRUISE 9705

SCIENCE WATCHSTANDER'S LOG

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
217	1500	213.09	351.2	3.7	3609.1	41° 25.566	11° 11.485	
217	15:07:32				3616.1	41° 25.779	11° 11.527	deployed OBS 358 (2° short)
217	15:30	216.40	358.7	10.0	3310.1	41° 28.738	11° 11.518	
217	1600	221.36	359.2	9.0	2562.2	41° 33.567	11° 11.513	
217	1630	226.34	4.1	9.8	2164.2	41° 38.510	11° 11.505	
217	1641				2109.2	41° 39.008	11° 11.504	deployed OBS 359
217	1700	229.63	357.4	8.9	2082.2	41° 41.696	11° 11.534	
217	1730	234.61	3.3	10.6	2146.2	41° 46.742	11° 11.512	
217	1800	238.83	529.1	2.5	2228.2	41° 50.837	11° 11.549	
217	18:08:53				2262.2	41° 50.984	11° 11.504	deployed OBS 360
217	1830	242.50	4.2	9.0	2362.2	41° 54.186	11° 11.486	
217	1900	247.4	2.4	8.3	2332	41° 58.819	11° 11.507	
217	1930	250.57	6.2	2.5	2303	42° 01.668	11° 11.527	
217	19:36:47				2272	42° 01.790	11° 11.536	deployed OBS 361
217	2000	253.79	356.9	10.8	2456	42° 04.520	11° 11.515	
217	2030	258.85	359.8	9.2	2333	42° 09.463	11° 11.510	
217	20:59:17				2169	42° 12.007	11° 11.507	deployed OBS 362
217	2100	261.50	347.4	11.4	2157.2	42° 12.023	11° 11.514	
217	2130	262.35	255.2	0.2	2169	42° 12.417	11° 12.430	
217	2200	263.96	316.5	3.8	2143	42° 13.427	11° 14.022	
217	2230	265.93	314.1	3.8	1907	42° 14.840	11° 15.912	
217	2300	267.93	38.9	4.1	1784	42° 16.234	11° 17.785	
217	2330	269.93	306.2	3.2	1648	42° 17.476	11° 19.733	
218	00:00	271.69	320.4	3.6	1645	42° 18.670	11° 21.508	
218	00:30	273.47	310.7	5.5	1675	42° 19.895	11° 23.094	

RESEARCH VESSEL "MAURICE EWING"

CRUISE 9705

SCIENCE WATCHSTANDER'S LOG

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT.	LONG.	REMARKS
218	1:00	275.49	331.0	4.3	1708.5	42° 21.554	11° 24.807	
218	1:30	277.51	315.0	3.8	1713	42° 22.944	11° 26.440	
218	2:00	279.68	316.7	4.0	1675	42° 24.534	11° 28.270	
218	2:30	281.91	303.2	3.5	1668	42° 26.108	11° 30.423	
218	300	284.01	36.0	5.2	1636.3	42° 28.002	11° 31.213	Begin MCS work
218	330	286.28	56.0	3.7	1567.3	42° 29.158	11° 29.841	
218	4:00	288.71	59.3	5.02	1554	42° 30.549	11° 26.225	
218	4:30	291.15	59.5	4.42	1557	42° 31.685	11° 23.255	
218	5:00	293.60	58.0	5.1	1575	42° 32.765	11° 20.203	
218	530	295.98	66.2	4.4	1579.3	42° 33.719	11° 17.130	
218	6:00	298.31	44.7	4.6	1620	42° 34.866	11° 14.493	
218	6:20	299.84	60.0	4.9	1676.3	42° 35.706	11° 12.823	turning
218	6:30	300.59	22.0	4.82	1708	42° 35.510	11° 11.892	
218	638							finished turn to line 9
218	0700	302.70	182	4.4	1762	42° 33.201	11° 11.549	
	0730	304.96	177	5.4	1854	42° 30.669	11° 11.514	
218	0800	307.30	179	5.1	1964	42° 28.129	11° 11.525	
218	0830	309.7	177	5.0	2015	42° 25.627	11° 11.518	
218	0900	312.10	184	5.1	2061	42° 23.127	11° 11.515	
218	0930	314.42	182	4.8	2109	42° 20.671	11° 11.523	
218	1000	316.67	176	5.2	2186	42° 18.278	11° 11.497	
218	1030	318.93	184.6	4.9	2129	42° 15.735	11° 11.573	
218	11:00	321.17	185.2	5.4	2225	42° 13.025	11° 11.520	Guns 4 & 5 out of water
218	1112				2167	42° 11.967	11° 11.517	Passing over OBS 362
218	1122				2222	42° 10.973	11° 11.518	Guns 4 & 5 back in water

RESEARCH VESSEL "MAURICE EWING"

CRUISE 9105

SCIENCE WATCHSTANDER'S LOG

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
218	11:30	323.44	175.0	5.0	2302	42° 10.349	11° 11.530	
218	12:00	325.68	182.1	4.9	2459	42° 7.677	11° 11.523	
218	12:30	328.02	176.6	5.2	2473	42° 5.133	11° 11.532	
218	13:00	330.42	189.0	3.8	2323	42° 02.703	11° 11.536	
218	13:11				2317	42° 01.810	11° 11.513	passing over OBS #361
218	13:30	332.78	175.4	5.3	2300	42° 00.405	11° 11.506	
218	14:00	335.17	174.9	5.3	2354	41° 58.080	11° 11.514	
218	14:30	337.57	179.0	4.4	2348	41° 55.682	11° 11.520	
218	15:00	339.96	182.5	4.4	2358.2	41° 53.346	11° 11.492	
218	15:30	342.35	190.5	4.02	2238	41° 50.896	11° 11.512	passing over OBS# 360
218	16:00	344.72	175.7	4.9	2273.2	41° 48.276	11° 11.540	
218	16:30	347.10	182.4	4.1	2151.2	41° 45.841	11° 11.518	
218	17:00	349.55	175.6	4.7	2112.2	41° 43.593	11° 11.518	
218	17:30	352.00	182	4.3	2097	41° 41.328	11° 11.531	
218	18:00	354.38	182	5.0	2105	41° 38.969	11° 11.473	passing over OBS# 359
218	18:30	356.79	180.9	4.8	2237.2	41° 36.528	11° 11.522	
218	19:00	359.20	172.4	5.0	2555	41° 34.011	11° 11.483	
218	19:30	361.56	182.8	3.6	2625	41° 31.501	11° 11.540	
218	20:00	363.88	187.9	5.3	3279.1	41° 28.939	11° 11.551	
218	20:30	366.22	177.1	6.3	3511	41° 26.540	11° 11.501	
218	20:39:30	367.00	180.6	5.1	3609	41° 25.770	11° 11.529	passing OBS# 358 (56+*1649, 56*1549)
218	21:00	368.60	183.8	4.8	3640	41° 24.210	11° 11.515	
218	21:30	370.92	182.5	4.7	3866	41° 21.948	11° 11.511	
218	22:00	373.28	181.6	4.3	3912	41° 19.750	11° 11.513	
218	22:30	375.57	186.5	4.7	3959.1	41° 17.438	11° 11.514	

CRUISE ELW 9705

RESEARCH VESSEL "MAURICE EWING"

SCIENCE WATCHSTANDER'S LOG

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
218	22:30:00					41° 17.469	11° 11.519	Passing OBS #357 (Shot #1760, File #1659)
218	2300	377.86	182.8	5.1	3990	41° 15.015	11° 11.544	
218	23:30	380.14	174.3	4.8	4058	41° 12.711	11° 11.511	
219	00:00	382.43	175.0	5.95	4105	41° 10.263	11° 11.504	
219	0030	384.65	178.4	4.6	4179	41° 8.045	11° 11.530	
219	0033				4177	41° 7.394	11° 11.595	Passing OBS #356 (Shot #1838, File 1787)
219	01:00	386.96	177.1	4.6	4229	41° 5.707	11° 11.514	
219	0130	389.25	179.5	4.8	4285	41° 3.337	11° 11.502	
219	02:00	391.54	182.0	5.4	4329	41° 01.051	11° 11.516	
219	02:30	393.98	185.0	5.0	4373	40° 58.660	11° 11.521	
219	300	396.39	178.0	4.2	4413	40° 56.306	11° 11.528	
219	314				4427	40° 55.249	11° 11.513	Passing OBS #355 (Shot 2044, File 1943)
219	330	398.76	172.3	4.9	4442	54.083	11° 11.519	
219	4:00	401.16	187	5.4	4481	40° 51.753	11° 11.492	
219	430	403.56	177.5	3.9	4516	40° 49.438	11° 11.517	
219	5:00	406.06	186	5.4	4584	40° 42.119	11° 11.514	
219	530	408.51	182.8	5.0	4635	40° 44.902	11° 11.524	
219	600	410.94	174.2	5.0	4698	40° 42.739	11° 11.515	
219	6:26	413.06	186	5.3	4753	40° 40.776	11° 11.541	Passing OBS #354 (Shot 2237, File 2136)
219	630	413.37	181.8	3.0	4763	40° 40.536	11° 11.548	
219	0700	415.82	180	5.2	4826	40° 38.138	11° 11.523	
219	0735	418.52	181	4.7	4894	40° 35.313	11° 11.529	
219	0800	420.64	184	4.8	4923	40° 33.199	11° 11.496	
219	0830	422.94	181	4.7	4934	40° 30.740	11° 11.502	
219	0900	425.32	180	5.0	4952	40° 28.242	11° 11.513	

RESEARCH VESSEL "MAURICE EWING"

CRUISE EW 9705

SCIENCE WATCHSTANDER'S LOG

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
219	0827				4953	40° 27.627	11° 11.541	Passing OBS 353 - EOL 12:58
219	0930	427.68	181.0	5.6	4949	40° 25.759	11° 11.536	
219	1000	430.11	181.8	5.0	4961	40° 23.424	11° 11.511	
219	1030	432.53	177.1	4.3	4969	40° 21.023	11° 11.510	
219	1100	434.96	177.9	4.8	4972	40° 18.655	11° 11.524	
219	1130	437.28	181.8	4.8	4983	40° 16.247	11° 11.510	
219	1155.31				4990	40° 13.832	11° 11.532	Passing over OBS 352
219	1200	439.70	190.0	4.9	4995.9	40° 13.772	11° 11.535	
219	1130	442.10	190.3	4.3	4971	40° 11.245	11° 11.479	
219	1243				4960	40° 10' 04.092	11° 11.547	At the way point
219	1300	444.27	177.9	3.5	4960	40° 8.905	11° 11.475	
219	1330	446.41	174.1	4.9	4915	40° 6.666	11° 11.419	
219	1400	448.77	226.2	4.0	4860	40° 4.460	11° 12.143	
219	1416				4874	40° 4.849	11° 13.442	finished turn
219	1430	451.17	329.1	4.2	4894	40° 5.735	11° 14.113	
219	1431.38				4896	40° 5.890	11° 14.189	Begin shooting line 24 - gun 6 out of water
219	1500	453.64	333.3	4.4	4945	40° 07.775	11° 15.487	
219	1525				4990	40° 09.556	11° 16.530	Gun 6 back on line
219	1530	456.11	343.4	4.8	4996.9	40° 09.926	11° 16.690	
219	1548	457.56	340.2	3.9	5005.9	40° 11.165	11° 17.266	begin turn (6 min long)
219	1600	458.59	348.8	5.2	5019.9	40° 12.138	11° 17.395	
219	1630	461.13	9.7	5.8	5023.9	40° 14.523	11° 17.381	
219	1700	463.68	14.0	4.8	5042.9	40° 16.940	11° 17.382	
219	1730	466.17	1.6	5.5	5040.9	40° 19.442	11° 17.423	
219	1800	468.71	350.9	5.1	5020.9	40° 21.953	11° 21.965	

RESEARCH VESSEL "MAURICE EWING"

CRUISE EW 9705

SCIENCE WATCHSTANDER'S LOG

PAGE 69

DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
219	18:30	421.18	358.8	5.2	5019	40° 24.518	11° 17.441	
219	1900	473.69	359.4	5.6	5001	40° 27.028	11° 17.404	
219	1930	476.14	355.6	5.0	4993	40° 29.400	11° 17.396	
219	2000	478.60	358.8	5.3	4975	40° 31.809	11° 17.392	
219	2030	481.15	6.4	4.4	4952	40° 34.211	11° 17.411	
219	2100	483.64	3.7	5.1	4899	40° 36.686	11° 17.385	
219	2130	486.06	354.3	5.1	4851	40° 39.192	11° 17.400	
219	2200	488.47	4.5	4.9	4788	40° 41.732	11° 17.363	
219	2230	490.85	359.3	4.3	4716	40° 44.102	11° 17.369	
219	2300	493.27	359.4	5.2	4636	40° 46.611	11° 17.403	
219	2330	495.77	355.5	4.4	4564	40° 49.066	11° 17.383	
220	00:00	498.22	2.5	5.0	4487	40° 51.476	11° 17.408	
220	00:30	500.73	7.0	5.4	4415	40° 53.895	11° 17.358	
220	0100	503.23	356.8	3.9	4340	40° 56.306	11° 17.464	
220	0112				3951	40° 57.418	11° 17.499	#10 gun at of water
220	01:30	505.72	51.4	5.2	3890	40° 58.737	11° 17.174	
220	01:00	508.39	127.7	4.2	4380	40° 58.089	11° 14.211	
220	01:30	510.75	233.8	4.4	4402	40° 56.195	11° 13.594	
220	0237				4401	40° 56.074	11° 14.271	Finished turn onto line 25
220	0241				4405	40° 56.116	11° 14.802	#10 gun back in water
220	0300	513.14	268.7	5.0	4373	40° 56.106	11° 16.719	
220	3:30	515.55	270	4.5	3016	40° 56.091	11° 20.023	
220	400	517.93	282.1	5.2	4043	40° 56.094	11° 23.302	
220	430	520.30	273.9	5.3	4553	40° 56.082	11° 26.576	
220	500	522.67	263.5	5.2	4599	40° 56.081	11° 29.825	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
220	5:30	525.05	265	4.7	4533	40° 56.119	11° 33.153	
220	600	527.40	282.3	6.1	4841	40° 56.102	11° 36.400	
220	630	529.79	269.3	5.9	4873	40° 56.091	11° 39.685	
220	6:41	530.74	267	4.6	4887	40° 56.120	11° 40.962	Bad bird #2 - appears on surface - not responding w/ depth
220	700	532.21	285.0	5.1	4901	40° 56.101	11° 42.870	
220	730	534.63	276	4.6	4943	40° 56.124	11° 46.022	
220	800	537.10	275	4.9	5012	40° 56.117	11° 49.245	
C S	815				5029	40° 56.073	11° 50.854	Passing EOL ²⁵ - will run + time 1 minute
	825							Gun 10 off for turn
220	830	539.50	270.8	5.3	5038	40° 56.112	11° 52.454	
220	0900	541.94	042	5.0	5049	40° 57.879	11° 53.222	
C S	0901							Part 1 of turn finished.
	0906							Gun 10 on line
C S	0930	544.42	55	4.9	4972	40° 59.377	11° 50.710	S
	1000	546.69	50	5.0	4909	41° 00.800	11° 48.196	
	1003							Beginning turn Part 2 to line 26
								Gun 10 off for turn
	1029	549.19	174	5.0	4921	40° 59.870	11° 46.044	
	1042	550.21	175	4.6	4930	40° 58.860	11° 45.999	AT BOL 26
220	11:00	551.51	178	4.8	4940	40° 57.572	11° 45.998	
220	11:30	553.95	177.3	5.2	4958	40° 55.172	11° 46.047	
220	12:00	556.38	181.9	4.9	4991	40° 52.789	11° 46.000	
220	1230	558.90	184.3	5.1	4988	40° 50.400	11° 45.989	Small boat going to tail buoy to attempt to fix GPS
	1248				4993	40° 48.856	11° 45.986	boat is underway
	1258				5003	40° 48.200	11° 45.999	boat reached tail buoy

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT.	LONG.	REMARKS
220	1300	561.30	187.8	5.3	5002	40° 48.073	11° 46.021	
220	1304				5008	40° 47.648	11° 45.990	boat returning from tail buoy
220	1322				5008	40° 46.191	11° 46.024	boat out of water
220	1330	563.69	184.9	4.5	5013	40° 45.624	11° 45.988	
220	133639					40° 45.054	11° 45.971	compressor malfunctioning
220	134219					40° 44.505	11° 46.025	compressor back online
220	1400	566.06	196.6	5.0	5026	40° 43.272	11° 46.001	
220	1430	562.46	177.0	5.3	5091.9	40° 40.812	11° 46.007	
220	1500	570.87	177.3	4.7	5132.9	40° 38.299	11° 45.973	
220	1530	573.26	178.8	5.2	5157.9	40° 35.807	11° 46.086	
220	1537	573.90	185.3	5.4	5155.9	40° 35.147	11° 46.097	Finished line ^{isec} starting turn (shot 2656, fig 25 42)
220	1600	575.66	291.5	4.8	5165	40° 34.361	11° 47.722	
220	1605	576.16	315	4.9	5165	40° 34.641	11° 48.165	Finished turn
220	1627	577.70	321	4.7	5171	40° 35.931	11° 49.763	Start 2nd part of the turn
220	1630	578.05	331	4.7	5176	40° 36.079	11° 49.883	
220	1655	580.10	34.1	6.4	5158.9	40° 37.500	11° 48.474	Finish turn Begin line 27.
220	1700	580.52	96.3	5.8	5158.9	40° 37.502	11° 47.904	
220	1730	582.95	89.1	4.6	5137.9	40° 37.498	11° 44.771	
220	1800	585.38	90.8	5.0	5114.9	40° 37.502	11° 41.698	
220	1830	587.80	96.4	5.3	5096.9	40° 37.493	11° 38.659	
220	1900	590.34	90.8	5.1	5086	40° 37.498	11° 35.521	
220	1930	592.95	90.0	4.9	5047	40° 37.498	11° 32.192	
220	2000	595.38	82.3	4.8	4990	40° 37.498	11° 28.962	
220	2019	597.09	90.0	5.02	4967	40° 37.552	11° 26.714	Begin turn. EOL 27. #10 gun turned off
220	2030	59790	145	4.92	4968	40° 37.215	11° 25.815	Turning

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
220	2100	600.27	222.8	4.9	5026	40° 35.315	11° 26.880	
220	2130	602.66	313.5	3.8	5053	40° 34.713	11° 29.449	
220	2137					40° 35.230	11° 29.720	Finished turn - ^{Begin} Line 28
220	2139							Gun #10 on line
220	2200	605.10	357.5	4.9	5003	40° 37.022	11° 29.717	
220	2230	607.57	343.4	5.7	4976	40° 39.401	11° 29.716	Bridge reports squall line - may affect speed
220	2300	610.05	354.2	3.8	4249 4924	40° 41.806	11° 29.701	
220	2330	612.63	0.0	4.7	4886	40° 44.213	11° 29.705	
220	0000	615.14	3.0	4.9	4795	40° 46.721	11° 29.691	
221	0030	617.71	358.1	5.0	4739	40° 49.184	11° 29.684	
221	0100	620.21	3.1	5.0	4716	40° 51.661	11° 29.681	
221	0130	622.77	357.2	5.5	4654	40° 54.092	11° 29.709	
221	0100	625.21	4.9	5.1	4564	40° 56.677	11° 29.654	
221	0220	626.83	2.8	4.4	4473	40° 58.260	11° 29.573	start turn (end of line 28) (taking out gun #11)
221	0230	627.71	318.8	6.0	4380	40° 59.043	11° 30.011	
221	0300	630.27	209.7	6.1	4096	40° 58.701	11° 33.023	
221	0308:50	631.08	194	5.2	4077	40° 57.919	11° 33.310	finish turn to line 29
221	0311:59	621.38	192	5.2	4084	40° 57.611	11° 33.189	gun #11 in water
221	3:30:00	632.88	180	5.2	4479	40° 56.051	11° 33.920	
221	400	635.30	187.7	6.3	4742	40° 53.571	11° 33.688	
221	430	637.78	179.4	5.0	4782	40° 51.142	11° 33.829	
221	500	640.26	179.4	4.9	4827	40° 48.798	11° 33.984	
221	530	642.70	179	5.3	4868	40° 46.430	11° 34.146	
221	600	645.17	185	4.8	4932	40° 44.091	11° 34.274	
221	605	646.0	185	5.02	4937	40° 43.328	11° 34.395	Start turning at the end of line 29

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
221	6:15	646.42	286.1	3.6	4949	40° 43.005	11° 34.560	shot off gun 10 for turn
221		647.70	293.7	4.9	4962	40° 42.673	11° 35.974	
221	6:37	648.49	315	5.2	4973	40° 43.017	11° 36.581	Finished the 1 st part of the turn
221	6:39	648.49	313	5.0	4965	40° 43.168	11° 36.752	Gun 10 back in the water
	656							Begin 2nd part of turn
	658							Gun 10 back out of water
221	700	650.19	340.5	7.2	4951	40° 44.409	11° 38.189	
221	720							Finished turn onto Line 30
221	722							Gun 10 back online
221	730	652.61	89	5.1	4936	40° 45.616	11° 36.292	
	746							Passing BOL 30
	800	655.05	90	5.0	4899	40° 45.604	11° 32.954	
221	830	657.43	88.6	6.0	4874	40° 45.625	11° 29.673	
221	900	657.98	87	4.9	4833	40° 45.576	11° 26.290	
221	930	662.47	74.9	5.0	4772	40° 45.614	11° 22.974	
	1000	665.03	93	5.1	4704	40° 45.590	11° 19.593	
	1030	667.56	98	5.1	4666	40° 45.608	11° 16.191	
	1100	669.91	82.7	4.5	4630	40° 45.623	11° 12.815	
221	11:30	672.69	90.0	6.5	4627	40° 45.600	11° 9.013	
	1145	673.88	92.0	9.0	4644	40° 45.618	11° 7.325	Started turn - BOL 30
	1200	675.23	21.3	5.3	4630	40° 46.414	11° 5.908	
221	12:30	677.89	5.4	5.2	4471	40° 49.035	11° 5.818	
221	13:00	680.42	312.1	4.4	4365	40° 51.519	11° 6.280	
	1309	681.28	259.7	4.8	4401	40° 51.824	11° 7.136	Completed turn - BOL 10
221	13:30	683.14	283.2	5.9	4392	40° 51.908	11° 9.622	

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DATE	TIME	PIT LOG	HOG	SPD	DEPTH	LAT.	LONG.	REMARKS
221	1340							
221	14:00	685.83	267	5.6	4493	40° 51.889	11° 13.225	
221	14:30	688.45	264.3	4.4	4487	40° 51.870	11° 16.700	
221	1500	691.13	264.8	5.6	3561.1	40° 51.908	11° 20.313	
221	1530	693.75	276.5	5.2	4640	40° 51.905	11° 23.856	
221	1600	696.25	263.9	4.7	4658	40° 51.926	11° 27.175	
221	1630	698.77	270.	4.8	4720	40° 51.904	11° 30.645	
221	1700	701.35	278.1	4.5	4771	40° 51.925N	11° 33.954W	
221	17:30	703.91	278	4.9	4831	40° 51.861	11° 37.139	
221	18:00	706.43	274	5.0	4895	40° 51.897	11° 40.375	
221	1830	708.92	273.4	6.3	4937	40° 51.909	11° 43.632	
221	1900	711.40	264.7	4.7	4997	40° 51.889	11° 46.824	
221	1930	713.88	272.6	4.8	5033	40° 51.913	11° 50.185	
221	2000	716.40	259.3	4.7	5065	40° 51.925	11° 53.568	
221	2030	718.93	273.6	5.7	5089	40° 51.893	11° 56.982	
221	2100	721.47	273.9	5.3	5108	40° 51.887	12° 00.385	
221	2130	724.03	265.8	5.9	5122	40° 51.879	12° 03.814	
221	2200	726.54	273.1	5.2	5142	40° 51.907	12° 07.114	
221	2230	729.13	268.4	5.0	5163	40° 51.910	12° 10.453	
221	23:00	731.73	266.7	5.1	5187	40° 51.888	12° 13.886	
221	23:30	734.28	268.4	5.3	5223.9	40° 51.894	12° 17.164	
222	00:00	736.85	283	5.1	5265.9	40° 56.927	12° 20.840	
222	00:30	739.41	267	5.4	5269.9	40° 51.886	12° 23.900	
222	01:00	741.98	264.1	5.6	5274	40° 51.876	12° 27.210	
222	01:30	744.51	266.3	5.4	5272	40° 51.900	12° 30.557	

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT.	LONG.	REMARKS
222	02:00	747.09	263.5	5.1	5274.3	40° 51.886	12° 33.702	
222	2:30	749.85	277.2	5.6	5273.9	40° 51.928	12° 33.240	
222	300	752.18	272.6	4.7	5278.9	40° 51.879	12° 40.622	
222	330	754.68	259.2	5.4	5278.9	40° 51.895	12° 43.941	
222	3:55	756.89	279.7	5.0	5283	40° 51.832	12° 46.851	Start to turn to line 11 // Gun 10 out of water
222	400	757.18	291.4	5.3	5284.9	40° 51.920	12° 47.203	
222	4:21	759.01	32.7	4.6	5283.9	40° 53.414	12° 47.561	Finish turn -- 2 1/2 hrs till get on line 11
222	430	759.72	41.2	4.9	5284.9	40° 53.975	12° 47.051	
222	4:38	760.41	34.8	4.9	5280	40° 54.556	12° 46.546	#10 back in the water
222	5:00	762.23	35.0	5.1	5281	40° 55.916	12° 45.246	
222	5:30	764.81	34.5	5.1	5283	40° 57.909	12° 43.368	
222	600	767.56	36.5	4.5	5281.9	40° 59.858	12° 41.530	
222	6:30	769.99	35.1	5.1	5278.9	41° 01.848	12° 39.501	
222	6:43	771.25	49.8	5.0	5282	41° 2.801	12° 38.579	Start turn to line 11 / Gun 10 off
222	6:47							
222	654	772.19	92	5.0	5281	41° 3.006	12° 37.562	End of turn - Dis line 11
222	700	772.63	105.4	5.4	5279	41° 02.977	12° 37.018	
222	702							Gun #10 online
	730	775.34	091	5.4	5280	41° 2.956	12° 33.829	
	800	778.01	093	5.2	5281	41° 3.012	12° 30.579	
222	830	780.63	089	5.4	5265	41° 3.002	12° 27.286	
222	900	783.17	90.0	4.5	5245	41° 02.991	12° 24.105	
222	930	785.76	96.0	4.9	5167	41° 03.024	12° 20.877	
222	1000	788.33	89	4.8	5107	41° 2.991	12° 17.615	
222	1030	790.74	90.8	5.3	5097	41° 2.996	12° 14.401	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
222	1100	793.26	82.0	5.8	5045	41° 3.012	12° 11.212	
222	1130	795.65	95.1	4.1	5042	41° 3.009	12° 8.085	
222	12:00	798.12	98.4	5.0	5037	41° 2.971	12° 4.636	
222	12:30	800.60	105.6	4.8	5039	41° 2.995	12° 1.433	
222	13:00	803.02	106.3	4.9	5064	41° 2.943	11° 58.241	
222	13:30	805.49	93.7	4.7	4519	41° 2.993	11° 54.994	
222	1400	807.96	84.8	4.7	4629	41° 2.967	11° 51.780	
222	1430	810.37	85.6	4.7	4825	41° 2.980	11° 48.717	
222	1500	812.88	90.9	4.6	4862	41° 03.009	11° 45.442	
222	1530	815.30	90.0	5.7	4867	41° 02.991	11° 42.255	
222	16:00	817.76	90.1	5.0	4044	41° 3.015	11° 39.107	
222	16:30	820.17	92.8	4.7	3146	41° 3.006	11° 35.958	
222	1700	822.56	85.9	5.0	4000	41° 02.998	11° 32.902	
222	1730	825.00	99.3	4.6	3971.1	41° 02.983	11° 29.763	
222	1800	827.45	84.3	3.3	3804.1	41° 03.000	11° 26.680	
222	1830	829.89	85.7	5.7	2856.2	41° 02.995	11° 23.451	
222	1900	832.32	81.9	4.7	3128	41° 02.995	11° 20.357	
222	1930	834.86	91.6	5.3	4254	41° 02.997	11° 17.093	
222	2000	837.43	95.0	4.8	4292	41° 03.017	11° 13.792	
222	2030	839.88	87.6	5.3	4305	41° 02.980	11° 10.512	
222	2100	842.32	91.6	5.1	4292	41° 03.043	11° 07.245	
222	2117					41° 03.052	11° 05.915	Start turn to 000
222	2118							Gun #11 out
222	2130	844.81	8.1	5.1	4255	41° 03.844	11° 04.475	C/c Connecting lines 11 and 13.
222	2136					41° 04.214	11° 04.434	Finished turn to 000

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
222	2200	847.21	2.4	3.8	4196	41° 06.247	11° 04.364	Gun #11 back online
222	2230	849.55	355.6	4.9	3789	41° 08.755	11° 04.418	
222	2300	851.89	351.8	5.0	3811	41° 11.226	11° 04.361	
222	2330	854.39	359.4	4.9	3860	41° 13.659	11° 04.421	
223	0100	856.91	354.4	4.6	3833	41° 16.080	11° 04.558	
223	0130	859.45	0.0	4.7	3711	41° 18.592	11° 04.662	
223	1:00	862.02	2.5	5.1	3639	41° 21.021	11° 04.668	
223	1:30	864.56	3.4	5.4	3587	41° 23.537	11° 04.516	
223	2:00	867.15	5.9	5.8	3550	41° 26.122	11° 04.383	
223	205:17					41° 26.590	11° 04.403	Start turn to line 13
223	2:28:50	869.62	251.0			41° 27.807	11° 05.928	Finish turn
223	2:30	869.68	255.9	5.0	3430	41° 27.783	11° 06.048	
223	2:57	872.04	276.3	4.6	3133.1	41° 27.778	11° 08.939	Gun #4 offline -- gun problem
223	300	872.22	274.6	3.6	3250.1	41° 27.797	11° 09.170	
223	3:09	873.06	261.4	4.8	3378.1	41° 27.776	11° 10.261	Gun #4 online again
223	330	874.81	265.6	4.7	3298.1	41° 27.786	11° 12.547	
223	400	877.37	282.5	4.5	2843.2	41° 27.801	11° 15.894	
223	430	879.91	290.5	4.3	2898.2	41° 27.806	11° 19.259	
223	500	882.35	270	4.5	2922.2	41° 27.758	11° 22.541	
223	530	884.78	265.3	4.7	2941	41° 27.760	11° 25.846	
223	600	887.16	263.5	4.3	2987.2	41° 27.793	11° 29.021	
223	6:30	889.56	266.7	4.5	3011.1	41° 27.767	11° 32.074	
223	700	891.88	271.7	4.8	3206	41° 27.773	11° 35.090	
223	730	894.24	256.1	4.8	3368	41° 27.768	11° 38.205	
223	800	896.72	266.6	4.3	3403	41° 27.761	11° 41.450	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
223	0830	899.28	260	5.1	3451	41° 27.789	1144.808	
223	900	901.59	267.7	5.3	3546	41° 27.773	11° 47.012	
223	930	904.01	264.6	4.6	3584	41° 27.769	11° 51.287	
223	1000	906.35	262.7	4.5	3772	41° 27.760	11° 54.403	
223	1030	908.77	271.7	4.9	4314	41° 27.790	11° 57.599	
223	11:00	911.21	264.6	5.4	4397	41° 27.772	12° 00.892	
223	11:30	913.73	271.1	4.1	4427	41° 27.780	12° 4.011	
223	12:00	916.29	268.1	4.5	4579	41° 27.768	12° 7.139	
223	1230	918.94	259.6	4.8	4918	41° 27.785	12° 10.430	
223	13:00	921.46	272.6	4.7	5002	41° 27.753	12° 13.555	
223	13:30	924.09	271.8	4.6	5056	41° 27.806	12° 16.890	
223	1400	926.67	274.5	4.9	5086	41° 27.783	12° 20.254	
223	14:30	929.26	268.4	4.6	5106	41° 27.774	12° 23.507	
223	1500	931.82	283	5.2	5117.9	41° 27.797	12° 26.807	
223	1530	934.35	273.6	5.0	5153.9	41° 27.800	12° 29.993	
223	1600	936.90	258.8	5.2	5215.9	41° 27.738	12° 33.336	
223	1630	939.48	267.8	4.8	5234	41° 27.768	12° 36.750	
223	1700	941.88	276	4.1	5248.9	41° 27.792	12° 39.966	
223	1730	944.30	270	6.2	5262.9	41° 27.762	12° 43.262	
223	1800	946.63	271.8	4.5	5277.9	41° 27.771	12° 46.542	
223	18:30	949.10	270.7	5.0	5282	41° 27.804	12° 49.943	
223	19:00	951.53	259.1	5.7	5284	41° 27.866	12° 53.196	
223	19:30	954.02	267.5	4.8	5292	41° 27.765	12° 56.412	
223	20:00	956.37	264.5	5.2	5296	41° 27.744	12° 59.527	
223	20:00 20:13					41° 27.753	13° 00.869	Begin turn to 000, Gun #10 off

End Line 13

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DATE	TIME	PIT LOG	HOG	SPD	DEPTH	LAT.	LONG.	REMARKS
223	20:30	958.80	356.8	5.2	5294	41° 28.617	13° 02.009	
223	20:32					41° 28.822	13° 01.986	Completed turn to 000
223	20:40							Gun #10 back online
223	21:00	961.21	3.3	4.5	5290	41° 31.737	13° 01.088	
223	21:30	963.53	353	4.6	5292	41° 33.463	13° 01.700	
223	21:43	964.57	356.8	5.0	5298	41° 34.529	13° 01.775	Start turn to 090, Gun #10 offline
223	22:00	965.96	102.8	5.1	5254	41° 35.391	13° 00.529	Finished turn to Line 14
223	22:14							Gun #10 back online
223	22:30	968.43	93.8	5.5	5288	41° 35.560	12° 57.239	
223	23:00	970.88	100.3	4.3	5279	41° 35.581	12° 53.978	
223	23:30	973.34	94.3	4.1	5275	41° 35.664	12° 50.851	
224	00:00	975.8	91.0	4.9	5268	41° 35.665	12° 47.600	
224	00:30	978.7	83.3	6.2	5264	41° 35.681	12° 44.407	
224	1:00	980.49	74.6	5.8	5259	41° 35.744	12° 41.063	
224	1:30	982.89	96.7	4.9	5252	41° 35.742	12° 37.730	
224	2:00	985.20	87.1	5.7	5221	41° 35.771	12° 34.410	
224	2:30	987.55	91.7	4.3	5178	41° 35.752	12° 31.165	
224	3:00	990.1	92.8	4.9	5150	41° 35.833	12° 27.809	
224	3:30	992.43	99.7	5.7	5126.9	41° 35.834	12° 24.596	
224	4:00	994.82	99.3	5.2	5087.9	41° 35.827	12° 21.341	
224	4:30	997.24	74.5	6.0	5054.9	41° 35.749	12° 17.889	
224	5:00	999.62	83.3	4.6	5015	41° 35.924	12° 14.505	
224	5:30	1002.06	89.3	4.3	4956	41° 35.956	12° 11.245	
224	6:00	1004.26	91.8	4.5	4910	41° 35.983	12° 08.128	
224	6:30	1006.59	79.0	4.0	4819	41° 35.999	12° 04.962	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
224	6:37	1007.18	80.5	5.0	4827	41° 35.858	12° 04.137	Gunn #14 out
224	7:00	1009.04	89.2	5.3	4645	41° 36.044	12° 01.646	
	7:07							Gunn #14 working
224	7:30	1011.44	92.3	5.5	4122	41° 36.069	11° 58.338	
224	8:00	1013.82	88.2	4.6	3926	41° 36.074	11° 54.996	
224	8:30	1016.14	87.4	5.0	3648	41° 36.108	11° 51.717	
224	9:00	1018.45	74.2	4.0	3581	41° 36.161	11° 48.544	
224	9:30	1020.73	78.0	4.9	3444	41° 36.152	11° 45.423	
224	10:00	1023.07	96.6	4.9	3081	41° 36.203	11° 42.253	
224	10:30	1025.45	83.6	5.3	3076	41° 36.227	11° 38.913	
224	11:00	1027.88	93.6	4.6	3070	41° 36.234	11° 35.508	
224	11:30	1030.22	81.1	4.3	2972	41° 36.281	11° 32.290	
	12:00	1032.63	62.5	4.6	2847	41° 36.311	11° 28.969	
224	12:30	1035.04	109.8	5.7	2673	41° 36.317	11° 25.805	
224	13:00	1037.38	74.3	4.3	2671	41° 36.305	11° 22.789	
224	13:30	1039.87	105.9	6.2	2630	41° 36.383	11° 19.761	
	14:00	1042.34	100.6	5.3	2628	41° 36.412	11° 16.547	
	14:30	1044.87	84.7	4.8	2501	41° 36.440	11° 13.335	
	15:00	1047.42	81.4	5.4	2226	41° 36.460	11° 10.150	
	15:30	1049.96	85.6	3.9	2645.2	41° 36.489	11° 07.168	
	16:00	1052.49	89.1	4.8	2932.2	41° 36.477	11° 04.284	
	16:30	1054.99	80.7	5.0	3021	41° 36.510	11° 01.416	
	17:00	1057.45	86.4	4.3	3000.1	41° 36.558	10° 58.537	
	17:30	1060.02	83.5	5.0	2925	41° 36.559	10° 55.148	
224	17:56	1062.18	92.3	5.5	2919.2	41° 36.591	10° 52.372	End of line 14, start turn

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
224	17:58	1062.34	78.4	4.5	2925.2	41° 36.611	10° 52.183	Gun #11 offline for turn
	1800	1062.50	66.2	4.4	2933.2	41° 36.666	10° 52.005	
224	18:21	1064.20	318	4.8	2934	41° 38.144	10° 51.554	Finish turn
224	18:30	1064.91	319	5.1	2906	41° 38.724	10° 52.205	{ Gun #11 back in the water
224	19:00	1067.33	323.2	4.5	2792	41° 40.566	10° 54.131	
	1930	1069.72	316.1	4.72	2727	41° 42.449	10° 56.001	
	2000	1072.20	315.1	5.02	2748	41° 44.266	10° 57.958	
	2030	1074.60	315.3	4.7	2713	41° 46.070	11° 00.100	
224	2100	1076.95	313.7	5.0	2644	41° 47.755	11° 02.363	
	2130	1079.38	320.5	5.2	2620	41° 49.510	11° 04.775	
	2152	1081.16	301.5	4.92	2585	41° 50.839	11° 06.757	End transit 14/15 Begin 9/Line 15. Gun #11 off
224	2200	1081.77	277.6	5.1	2472	41° 51.039	11° 07.453	Finish turn, BOL #15
	2205							Gun #11 online
	2230	1084.26	278.1	4.7	2209	41° 51.013	11° 10.730	
	2235					41° 51.013	11° 10.730	Passing OBS 360
224	2238					41° 50.971	11° 11.510	Passing OBS 360
	2300	1086.85	260.1	4.3	2339	41° 50.971	11° 13.873	
	2330	1089.38	266.9	5.3	2411	41° 50.980	11° 16.960	
225	0000	1091.86	270.9	4.6	2468	41° 51.017	11° 20.069	
	0030	1094.41	267.5	5.0	2557	41° 51.012	11° 23.426	
225	0100	1096.94	263.3	5.0	2648	41° 50.999	11° 26.523	
	0130	1099.45	264.3	4.2	3093	41° 50.994	11° 29.670	
	2:00	1101.96	268.4	5.4	3225	41° 50.962	11° 32.897	
225	2:30	1104.46	276.9	5.0	3393	41° 51.001	11° 36.210	

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT.	LONG.	REMARKS
225	300	1106.97	264.8	4.6	3340.1	41° 50.963	11° 39.429	
	3:30	1109.48	272.8	5.6	3532	41° 51.007	11° 42.725	
	400	1111.96	280.1	4.9	3802.1	41° 51.001	11° 45.925	
	430	1114.41	272.6	4.8	4083	41° 51.014	11° 49.126	
	5:00	1116.06	271.8	5.1	4322	41° 50.995	11° 52.284	
	530	1119.31	265	4.0	4436	41° 50.995	11° 55.405	
	6:00	1121.77	265	4.6	4153	41° 50.989	11° 58.593	
	6:30	1124.12	265.8	4.3	4112	41° 50.971	12° 01.725	
225	643	1125.33	283	4.6	4487	41° 50.922	12° 3.163	Shooting Stops - That All Folks! EOL 15
225	7:00	1126.43	286.9	4.4	4731	41° 51.441	12° 04.552	
	7:30	1128.80	288.6	4.6	4832	41° 52.370	12° 07.517	
	8:00	1131.14	219.9	5.5	4835	41° 53.927	12° 09.381	Guns in - Stroman Winch Hydraulic Problems
	8:30	1133.59	60.1	4.7	4764	41° 55.234	12° 06.513	
	9:00	1135.94	71.2	5.1	4631	41° 56.060	12° 03.465	
	9:30	1138.27	78.6	4.8	4031	41° 57.174	12° 00.598	
	10:00	1140.68	65.4	5.0	4102	41° 58.067	11° 57.461	
	10:30	1143.13	71.2	4.6	4216	41° 59.121	11° 54.613	
	1100	1145.59	68.5	4.7	4219	42° 0.082	11° 51.687	winch fixed
	1130	1147.83	65.8	2.1	4069	42° 1.017	11° 49.124	
	1200	1149.76	100.9	1.2	3211	42° 1.780	11° 47.141	
	1230	1151.36	62.1	1.7	3019	42° 2.501	11° 45.070	
	1300	1152.91	74.2	3.1	2786	42° 3.221	11° 43.461	
	1330	1154.43	62.7	2.9	2630	42° 3.971	11° 41.682	
	1400	1155.84	63.2	2.5	2541	42° 4.638	11° 39.977	
225	1430	1157.21	72.1	2.8	2462	42° 5.193	11° 38.127	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
225	1500	1158.63	60.5	3.2	2479.2	42° 05.776	11° 36.294	
	1530	1160.18	62.6	2.4	2401.2	42° 06.322	11° 34.414	
	1600	1161.47	71	2.2	2397.2	42° 06.352	11° 32.849	
	1630	1166.54	70.3	11.5	2288	42° 8.245	11° 26.345	
	1700	1172.39	72.6	10.4	2203.2	42° 10.044	11° 19.127	
	1722	1176.02	74.0	3.7	2237.2	42° 11.193	11° 14.707	Sent signal to OBS #362
	1730	1177.25	72.5	11.8	2212.2	42° 11.582	11° 13.094	
	1741	1178.75	132.4	2.4	2176.2	42° 11.865	11° 11.411	Sent signal again to OBS #362
	1800	1179.29	223.9	5	2168.2	42° 11.829	11° 11.382	
	1803	1179.51	266	3.4	2167.2	42° 11.732	11° 11.623	Instrument up on surface
	1818:03				2166.2	42° 11.854	11° 11.854	OBS #362 recovered
	1830	1180.66	178.7	10.9	2213.7	42° 11.056	11° 11.575	
225	1900	1184.12	179.6	7.7	2465	42° 07.531	11° 11.517	
	1930	1187.99	180.0	6.6	2442	42° 04.098	11° 11.496	
	2000	1190.47	146.5	0.8	2291	42° 01.960	11° 11.759	
	2030	1191.39	40.3	1.3	2378	42° 01.706	11° 11.271	
	2046:10				2258	42° 01.744	11° 11.574	OBS #361 recovered
	2100	1192.74	190.7	10.8	2317	42° 01.062	11° 11.524	
	2130	1198.57	181.4	11.4	2349	41° 55.423	11° 11.533	
	2200	1203.23	255.0	1.9	2244	41° 50.930	11° 11.708	
	2230	1203.87	36.7	1.8	2240	41° 50.461	11° 11.498	
	2241:20				2265	41° 51.062	11° 11.465	OBS #360 recovered
	2300	1206.08	178.0	11.00	2341	41° 49.114	11° 11.545	
	2330	1211.99	111.5	12.3	2094	41° 43.170	11° 11.511	
226	0:00	1216.3	306.1	1.9	2105	41° 38.880	11° 11.366	

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DATE	TIME	PIT LOG	HDG	SPD	DEPTH	LAT.	LONG.	REMARKS
226	0:30	1217.09	133.5	1.8	2120	41° 58.944	11° 11.531	
226	0:35:45				2131.2	41° 58.848	11° 11.513	OBS # 359 recovered
	01:00	1220.82	174.1	11.4	2508	41° 34.971	11° 11.524	
	01:30	1226.45	179.8	12.3	3289	41° 28.661	11° 11.533	
	2:00	1230.56	327.4	12.2	3578	41° 28.589	11° 11.555	
	2:30	1231.14	25.7	1.0	3605	41° 25.660	11° 11.568	
	3:00	1231.63	184.6	2.1	3611	41° 25.692	11° 11.501	
226	3:02:30				3614.1	41° 25.648	11° 11.483	OBS # 358 recovered
	3:30	1234.55	181.1	7.3	3827	41° 22.559	11° 11.531	
	4:00	1239.63	180	10.4	3880	41° 20.836	11° 11.515	
	4:30	1240.07	31.1	2.52	3960	41° 17.321	11° 11.504	
	4:39	1240.43	103.7	7.02	3956	41° 17.316	11° 11.479	OBS # 357 recovered
	5:00	1242.38	173.3	7.52	3990	41° 15.036	11° 11.513	
	5:30	1246.18	176.5	7.52	3984	41° 11.124	11° 11.514	
	6:00	1249.72	180	3.2	4182	41° 07.516	11° 11.553	
	6:30	1250.34	351.5	0.52	4178	41° 07.302	11° 11.534	
	6:44	1250.63	75.8	1.02	4157	41° 07.250	11° 11.316	OBS # 356 recovered
	7:00	1251.94	180.7	8.5	4222	41° 06.125	11° 11.580	
	7:30	1256.67	176.1	10.5	4329	41° 01.315	11° 11.514	
	8:00	1261.17	179.2	7.9	4398	40° 56.911	11° 11.528	
	8:30	1263.46	173.8	1.2	4429	40° 58.501	11° 11.618	Waiting for OBS # 355
	9:00	1263.91	165.9	0.7	4427	40° 55.112	11° 11.492	"
	9:30	1264.48	311.4	0.4	4424	40° 55.214	11° 11.557	"
	9:48					40° 54.897	11° 11.412	Leaving site of OBS # 355 (not recovered)
226	10:00	1267.31	180.8	11.5	4462	40° 52.797	11° 11.525	

1267.31

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DATE	TIME	PIT LOG	HGD	SPD	DEPTH	LAT.	LONG.	REMARKS
226	10:30	1273.57	179.5	12.3	4595	41° 46.708	11° 11.531	
	11:00	1279.46	180.9	11.7	4747	40° 40.996	11° 11.527	
	11:21:20				4745	40° 41.085	11° 11.483	OBS # 354 recovered
	11:30	1280.74	180.8	0.6	4747	40° 41.086	11° 11.409	
	12:00	1285.46	178.9	11.2	4871	40° 36.456	11° 11.479	
	12:30	1291.45	179.5	13.2	4935	40° 30.478	11° 11.515	
	13:00	1295.05	180.3	1.1	4958	40° 27.433	11° 11.729	Waiting for OBS # 353
	13:30	1295.83	181.7	0.7	4958	40° 27.528	11° 11.706	" " " "
	14:00	1296.66	182.5	1.1	4956	40° 27.587	11° 11.688	" " " " OBS # 353 not recovered
	14:30	1299.71	181.6	11.2	4961	40° 24.801	11° 11.900	
	15:00	1305.74	178	11.4	4973	40° 19.001	11° 11.399	
	15:30	1311.63	247	3.4	4996	40° 13.583	11° 11.466	
	15:45	1312.08	64	0.9	4998	40° 13.703	11° 11.812	OBS # 352 recovered
	15:50							Heading to site 355 to attempt Recovery
	16:00	1314.22	3.5	11.3	4987	40° 15.921	11° 11.753	
	16:30	1319.85	0.0	11.3	4966	40° 21.869	11° 11.605	
	17:00	1325.42	357.1	11.1	4922	40° 27.153	11° 10.504	
	17:30	1331.19	3.1	11.3	4903	40° 33.000	11° 10.429	
	18:00	1336.78	3.8	11.5	4803	40° 38.896	11° 10.498	
	18:30	1342.57	2.8	11.7	4656	40° 44.693	11° 10.345	
	19:00	1348.35	358.9	11.2	4442	40° 50.343	11° 10.175	
	19:30	1352.94	322.5	4.5	4427	40° 54.722	11° 11.138	
	20:00	1353.55	108.2	1.2	4436	40° 54.643	11° 11.156	
	20:04		180					Heading south (OBS # 355 not recovered)
226	20:30	1359.17	180.0	12.9	4515	40° 49.034	11° 11.352	

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