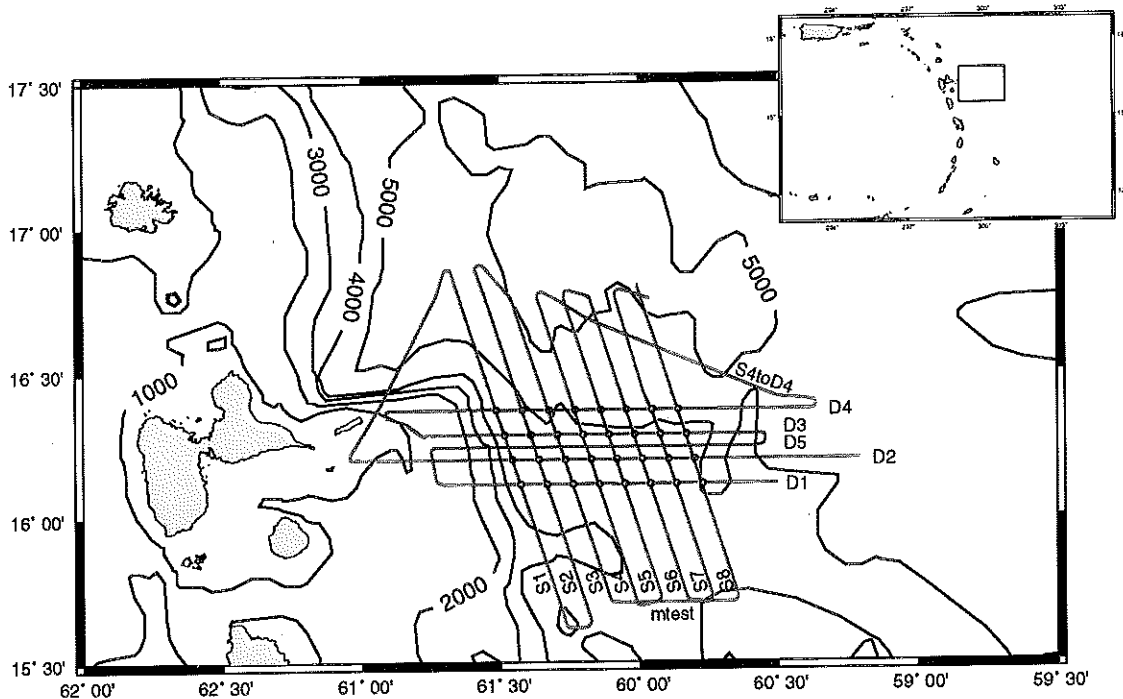


EW9803

Watchstander Log

Bridgetown, Barbados - Norfolk, Virginia

March 15, 1988 - April 6, 1998



CRUISE EUN-9803

RESEARCH VESSEL MAURICE EWING

SCIENCE WATCHSTANDER LOG

PAGE 1

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
074	09:30	—	—	—	—	—	—	Depart Barbados 0530 local
075	4:00	187.72	39.4	2.20	4905.6	16 6.918 N	059 46.845 W	
075	4:30	188.89	86.2	4.60	4852.0	16 6.799 N	059 46.471 W	059 46.471 W
075	4:33	189.11	54.0	1.50	4828.0	16 6.839 N	059 46.312 W	085 #18 deployed
075	5:00	192.07	339.4	11.5	5032.9	16 9.281 N	059 47.108 W	
075	5:27	195.61	102.1	1.0	5052.9	16 11.980 N	059 48.035 W	085 #28 deployed
075	5:30	196.64	185.2	.60	5051.9	16 11.944 N	059 47.962 W	
075	6:00	199.52	329.3	11.3	4893.0	16 15.269 N	059 49.373 W	
075	6:23	202.38	86.3	1.11	5029.9	16 17.114 N	059 49.756 W	085 #38 deployed
075	6:30	202.47	220.8	1.31	5036.9	16 17.065 N	059 49.663 W	
075	7:00	207.53	325.9	11.5	5097.9	16 21.493 N	059 51.555 W	
075	7:18	208.83	43.4	1.42	5059.9	16 22.250 N	059 51.548 W	085 #48 deployed
075	7:30	209.72	195.2	10.8	5099.9	16 21.613 N	059 51.462 W	
075	8:00	215.28	224.5	10.7	4979.0	16 16.182 N	059 52.885 W	
075	8:30	219.44	85.8	2.24	4724.0	16 12.809 N	059 53.970 W	
075	8:38	220.17	134.1	0.34	4808.0	16 11.982 N	059 53.657 W	085 #27 deployed
075	9:00	222.92	220.0	11.7	4738.0	16 10.761 N	059 55.159 W	
075	9:30	228.16	77.2	2.83	4847.0	16 11.943 N	059 59.878 W	
075	9:41	228.60	167.1	0.73	4918.0	16 12.009 N	059 59.200 W	085 #26 deployed
075	10:00	230.94	265.6	11.3	4843.0	16 11.682 N	060 01.267 W	
075	10:30	235.77	73.6	3.14	4748.0	16 11.979 N	060 05.180 W	
075	10:35	235.95	57.6	0.87	4791.0	16 12.007 N	060 04.914 W	085 #25 deployed
075	11:00	239.31	267.7	10.70	4758.0	16 11.696 N	060 07.691 W	
075	11:30	243.40	109.8	3.00	4865.0	16 12.005 N	060 10.677 W	
075	11:33	248.51	85.77	0.60	4863.0	16 12.009 N	060 10.501 N	085 #24 deployed
075	12:00	247.9	270	11.7	4697	16 11.857	060 14.254	

CRUISE EW 9803

RESEARCH VESSEL MAURICE EWING

SCIENCE WATCHSTANDER LOG

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GMT

TASMAN

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT N	LON W	REMARKS
075	12:30	251.192	18.6	1.54	4627.0	16 11.993 N	060 16.075 W	OBS #23 deployed. KT
075	13:00	255.152	179.2	10.8	4652.0	16 8.367 N	060 15.126 W	KT
075	13:21	257.222	168.4	1.81	4598.0	16 6.824 N	060 14.376 W	OBS #13 deployed. KT
075	13:33	257.562	270.0	8.01	4584.0	16 6.850 N	060 14.477 W	KT
075	14:00	262.692	258.3	11.3	4514.0	16 6.530 N	060 14.282 W	KT
075	14:21	264.852	221.3	1.62	4522.0	16 6.872 N	060 14.956 W	OBS #12 deployed. KT
075	14:30	265.592	270.0	11.7	4538.0	16 6.869 N	060 20.642 W	KT
075	15:00	271.352	344.0	2.60	4636.0	16 6.735 N	060 25.819 W	KT
075	15:11	271.382	199.2	2.20	4632.0	16 6.888 N	060 25.558 W	OBS #11 deployed. KT
075	15:30	274.762	340.3	11.2	4721.0	16 9.743 N	060 26.350 W	KT
075	15:52	277.792	220.5	2.33	4793.0	16 12.000 N	060 27.320 W	OBS #21 deployed. KT
075	16:00	278.54	90.1	10.2	4788.0	16 11.985 N	060 26.625 W	
075	16:30	282.54	119.0	1.91	4607.0	16 12.033 N	060 21.789 W	
075	16:30	282.55	132.0	1.51	4600.0	16 12.030 N	060 21.743 W	OBS #22 deployed. KT
075	17:00	287.28	19.9	11.0	4673.0	16 16.432 N	060 18.707 W	
075	17:14	288.24	128.3	1.9	5025.9	16 17.161 N	060 17.894 W	OBS #33 deployed. KT
075	17:30	290.74	264.4	10.7	4670.0	16 17.133 W	060 19.924 W	
075	18:00	294.68	246.2	3.23	4796.0	16 17.161 N	060 23.402 W	OBS #32 deployed. KT
075	18:30	299.92	268.2	5.35	4834.0	16 17.143 N	060 28.178 W	
075	18:40	301.00	253.7	7.05	4847.0	16 17.139 N	060 29.020 W	OBS #31 deployed. KT
075	19:00	304.27	336.2	11.6	4931.0	16 20.177 N	060 30.092 W	
075	19:22	306.78	86.3	1.30	4863.0	16 22.266 N	060 30.878 W	OBS #41 deployed. KT
075	19:30	307.75	91.1	8.8	4939.0	16 22.296 N	060 29.805 W	
075	19:58	311.74	143.1	1.21	5161.9	16 22.283 N	060 25.221 W	OBS #42 deployed. KT
075	20:00	311.78	125.8	2.01	5171.9	16 22.286 N	060 25.170 W	
075	20:30	316.58	112.6	3.23	4946.9	16 22.295 N	060 19.724 W	

CRUISE EW 9803

RESEARCH VESSEL MAURICE EWING

SCIENCE WATCHSTANDER LOG

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GMT

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
075	20:33	316.69	134.8	1.63	4993.0	16 22.260 N	060 19 582 W	085 #43 deployed (boat 085)
075	21:00	317.23	105.1	0.93	4939.0	16 22.572 N	060 18 624 W	~Stationary; preparing shearer
075	21:30	317.99	46.6	1.43	4948.0	16 23.437 N	060 17.591 W	
075	22:06	319.73	35.9	4.43	4983.0	16 25 406 N	060 15.940 W	Bird #1 out
075	22:30	321.50	40.4	4.23	5067.9	16 27 182 N	060 14 417 W	Bird #2 out
075	23:00	323.66	38.2	4.33	5176.9	16 29 388 N	060 12 702 W	
075	23:30	325.84	40.6	4.03	5302.9	16 31 453 N	060 10 963 W	Bird #3 out
076	24:00	328.02	37.5	4.83	5155.9	16 33 550 N	060 09 288 W	Bird #4 out
076	20:23	328.72	43.0	4.83	5402.9	16 35.188 N	060 07.845 W	Bird #5, 8 m. KS
076	00:28	330.16	38.4	4.53	5378.9	16 35.534 N	060 07.628 W	Bird #6, 8 m. KS
076	00:30	330.32	33.9	4.53	5313.9	16 35.705 N	060 02.500 W	KS
076	01:00	332.632	41.2	4.23	5278.9	16 37.768 N	060 05.817 W	KS
076	01:19	334.051	40.5	4.33	5522.9	16 39.007 N	060 04.800 W	Bird #7, 8 m. KS
076	01:23	335.14	37.9	4.33	5460.9	16 39.950 N	060 04.029 W	KS
076	01:40	335.60	42.2	4.53	5380.9	16 40.357 N	060 03.692 W	Bird #8, 8 m. KS
076	02:00	337.14	39.7	4.50	5375.9	16 41.678 N	060 02.575 W	KS
076	02:18	338.071	35.3	4.33	5284.9	16 42.490 N	060 01.945 W	Bird #9, 8 m. KS
076	02:30	339.362	40.1	4.33	5154.9	16 43.636 N	060 01.050 W	KS
076	02:57	341.341	39.9	4.73	4857.0	16 45.360 N	059 59.620 W	Bird #10, 8 m. KS
076	03:00	341.582	40.2	4.33	4870.0	16 45.572 N	059 58.414 W	KS
076	03:31	343.882	41.3	4.93	4681.0	16 47.550 N	059 57.685 W	Bird #11, 8 m. KS
076	04:00	346.09	39.0	4.13	4875.0	16 49.371 N	059 56.105 W	
076	04:30	348.22	40.1	4.63	4959.0	16 51.125 N	059 54.568 W	
076	05:00	350.42	38.8	4.33	4947.0	16 52.893 N	059 52.959 W	
076	05:30	352.69	40.1	4.83	5038.9	16 54.772 N	059 51.265 W	
076	05:43	353.69	40.1	4.43	5057.9	16 55.620 N	059 50.493 W	Bird #12 in the water

18 total

35
36
37
40

Bird

34

CRUISE EW 9803RESEARCH VESSEL MAURICE EWING
SCIENCE WATCHSTANDER LOGPAGE 4

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
076	5:56	354.63	46.6	4.63	5070.9	16 56-389 N	059 49.761 W	Bird #13 in the water
076	6:00	354.88	46.3	4.23	5085.9	16 56-591 N	059 49.582 W	
076	6:30	357.19	40.0	4.73	5086.9	16 58-732 N	059 48.788 W	
076	6:59	359.32	229.0	4.63	5054.9	16 58-438 N	059 50.530 W	Bird #14 in the water
076	7:00	359.39	222.1	4.63	5062.9	16 58-391 N	059 50.580 W	
076	7:30	361.65	222.8	4.73	5043.9	16 56-958 N	059 52.124 W	
076	8:00	363.94	223.1	4.63	5032.9	16 55 496 N	059 53.698 W	
076	8:25	365.87	222.5	4.63	4913.0	16 54 248 N	059 54 988 N	Bird #15 in the water
076	8:30	366.23	224.1	4.73	4915.0	16 54 006 N	059 55 241 W	
076	9:00	368.48	226.4	4.33	5018.9	16 52 563 N	059 56 837 W	
076	9:30	370.81	221.3	4.53	4889.0	16 51 130 N	059 58 466 W	
076	9:36	371.31	224.2	4.93	4827.0	16 50 803 N	059 58 841 W	Bird #16 in the water
076	9:44	371.98	222.6	4.63	4846.0	16 50 386 N	059 59 249 W	Bird #16 in the water
076	10:00	373.35	222.3	4.93	4800.0	16 49 469 N	059 59 949 W	
076	10:30	375.58	223.1	4.93	4688.0	16 48 080 N	059 01 700 W	
076	11:00	377.87	221.6	4.93	5044.1	16 46 553 N	060 03 362 W	
076	11:16	379.25	218.3	4.43	5085.9	16 45 701 N	060 04 273 W	Bird #17 in the water
076	11:30	380.31	217.8	4.73	5221.9	16 45 052 N	060 04 962 W	
076	12:00	382.642	217.8	4.73	5217.9	16 43.525 N	060 6.565 W	KT
076	12:19	384.132	222.2	4.63	5172.9	16 42.562 N	060 7.545 W	Bird #18, 8m. KT
076	12:30	385.022	219.9	4.83	5030.7	16 42.037 N	060 8.082 W	KT
076	13:30	388.602	44.5	4.63	4852.0	16 43.093 N	060 8.711 W	KT
076	13:33	389.812	43.2	4.53	4846.0	16 43.210 N	060 8.556 W	Streamer fully deployed. KT
076	14:00	391.852	57.9	4.53	5358.9	16 44.818 N	060 8.674 W	KT
076	14:17	392.742	38.5	1.53	5343.9	16 45.657 N	060 8.117 W	Begin reeling in streamer to remove loaded section.
076	14:21	393.062	44.8	1.83	5221.9	16 45.772 N	060 6.024 W	Bird #18 removed KT

CRUISE FW 4502cse/rpm/spdRESEARCH VESSEL MAURICE EWING
SCIENCE WATCHSTANDER LOG

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J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
076	14:24	373.152	42.9	1.53	5216.9	16 45.85N	060 57.91W	Bird #17 recovered. RT
076	14:55	385.212	46.2	4.38	5264.8	16 47.260N	060 41.86W	Bird #17 redeployed. RT
076	15:00	385.592	42.7	4.83	5264.9	16 47.769N	060 39.57W	Bird #18 redeployed. RT
076	15:30	398.022	42.3	4.83	4724.0	16 48.617N	060 20.01W	RT
076	16:00	400.55	164.8	4.73	4800.0	16 49.137N	060 00.478W	
076	16:11							Start of line strike 8
076	16:30	403.3	161/102/5.4	4.911	4911	16 46.657N	059 59.840W	
076	16:32					16 46.429N	059 59.763W	Speed reduced to 4.7
076	17:00	405.77	172/98/5.03	4.874	4874	16 44.389N	059 59.051W	1
076	17:30	408.38	166/98/5.13	4.981.0	4981.0	16 42.085N	059 58.281W	
076	18:00	410.93	174/98/5.33	5.465.9	5465.9	16 39.815N	059 57.522W	
076	18:30	413.46	172/97/5.23	5.643.9	5643.9	16 37.560N	059 56.751W	
076	19:00	415.96	174/98/5.23	5.586	5586	16 35.411N	059 56.004W	
076	19:30	418.50	171/98/5.03	5.314.9	5314.9	16 33.198N	059 55.244W	
076	20:00	421.06	169/97/5.13	5.060.9	5060.9	16 30.990N	059 54.508W	
076	20:30	423.49	171/96/4.83	5.027.9	5027.9	16 28.758N	059 53.745W	
076	21:00	426.00	172/96/5.23	5.346.9	5346.9	16 26.500N	059 53.001N	
076	21:30	428.48	167/95/5.03	5.007.9	5007.9	16 24.223N	059 52.235W	
076	21:55 21:56	430.65	168/94/4.63	5.061.9	5061.9	16 22.257N	059 51.572W	Went over OBS 48
076	22:00	430.96	167/93/4.93	5.088.9	5088.9	16 21.966N	059 51.469W	
076	22:30	433.39	169/91/4.73	5.008.9	5008.9	16 19.688N	059 50.629W	
076	23:00	435.72	163/90/4.93	5.000.9	5000.9	16 17.462N	059 49.704W	
076	23:04	436.13	165/90/4.63	5.019.9	5019.9	16 17.117N	059 49.776W	Went over OBS 38 - 540T
076	23:30	438.00	166/90/4.23	4.879.0	4879.0	16 15.231N	059 49.114W	
076	24:00	440.27	157/89/4.53	5.038.9	5038.9	16 12.925N	059 48.370W	
076	00:13	441.292	159.9	4.13	5052.5	16 11.976N	059 48.051W	Went over OBS 28 - 540T 708 RT

CRUISE 9803

RESEARCH VESSEL MAURICE EWING

SCIENCE WATCHSTANDER LOG

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USE/PRM/SLB

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
077	06:30	442.462	162.0	4.43	5046.9	16 16.717 N	059 472653W	KT
077	06:00	444.542	158.0	4.53	5016.9	16 8.538 N	059 46.896W	KT
077	06:27	446.352	162.0	4.42	4828.6	16 6.832 N	059 46.337W	Observed over 0635 18. KT
077	06:31	446.862	159.4	4.13	4885.0	16 6.188 N	059 46.144W	KT
077	06:37	447.392	160.0	4.63	4936.0	16 5.735 N	059 45.960W	Gunn 13 pulled from water- 115
077	06:00	449.092	158.1	4.33	5006.9	16 3.994 N	059 46.365W	KT
077	06:30	451.252	158.8	4.63	4786.0	16 1.791 N	059 44.616W	KT
077	06:50	452.862	151.9	4.42	4705.0	16 0.312 N	059 44.105W	Gunn 13 back in water. KT
077	07:00	452.432	157.3	4.43	4633.0	16 5.520 N	059 43.830W	125
077	07:30	455.602	152.2	4.23	4521.0	15 5.572 N	059 43.055W	KT
077	07:00	457.222	155.8	4.13/52	4425.0	15 54.852 N	059 42.225 W	KT
077	07:30	459.91	151/84	4.33	4524.0	15 52.722 N	059 41.516 W	
077	05:00	462.03	156/86	4.33	4376	15 50.467 N	059 40.745 W	
077	05:30	464.22	159/86	4.23	4234.0	15 48.216 N	059 39.975 W	
077	06:00	466.43	159/83	4.43	3994.1	15 45.944 N	059 39.204 W	
077	06:31	468.74	165.3/84	4.23	4034.0	15 43.570 N	059 38.419 W	
077	07:00	470.81	271/81	4.03	3769.1	15 42.316 N	059 39.971 W	
077	07:30	477.08	273/79	4.33	3931.1	15 42.313 N	059 42.474 W	
077	08:00	475.32	273/84	4.83	3886.1	15 42.289 N	059 44.959 W	
077	08:30	477.56	277/81	4.63	3903.1	15 42.244 N	059 47.560 W	SS
077	09:00	479.82	279/82	4.33	3870.1	15 42.255 N	059 50.138 W	intake
077	09:30	482.20	276/85	4.93	4070.1	15 42.268 N	59 52.831 W	
077	10:00	484.58	275/86	4.43	4442.0	15 42.280 N	59 55.506 W	
077	10:30	487.02	279/85	4.83	4403.0	15 42.252 N	59 58.274 W	
077	11:00	489.40	280/85	4.63	4616.0	15 42.269 N	59 60.00 972 W	
077	11:30	491.79	276/84	4.83	4611.0	15 42.284 N	60 03.693 W	intake

CRUISE 4805

0541 PM / 15 PD

RESEARCH VESSEL MAURICE EWING
SCIENCE WATCHSTANDER LOG

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J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
077	12:00	414.23	35/47	4.93	4644.0	15 42.817 N	60 06 194 W	(turning towards S3)
077	12:30	496.602	395.8	4.83/42	4586.0	15 45.067 N	60 06.782 W	KJ
077	13:00	499.052	342.7	5.13/40	4023.0	15 47.332 N	60 07.747 W	KJ
077	13:30	501.402	348.0	4.43/40	3951.1	15 49.555 N	60 08.446 W	KJ
077	14:00	503.802	339.9	4.72/40	3832.1	15 51.821 N	60 09.265 W	KJ
077	14:38	506.752	337.8	4.83/40	3832.1	15 54.667 N	60 10.234 W	KJ
077	15:00	508.422	339.1	4.23/40	3762.1	15 56.293 N	60 10.777 W	KJ
077	15:30	510.732	340.2	4.23/40	3913.1	15 58.528 N	60 11.522 W	KJ
077	16:00	513.032	334.2	3.83/40	4249.0	16 00.784 N	60 12.295 W	KJ
077	16:30	515.38	333.1/48	4.73	4249	16 02.959 N	60 13.030 W	
077	17:00	517.68	329/87	4.83	4464	16 05.167 N	60 13.779 W	
077	17:23					16 06.904 N	60 14.366 W	passed over OBS #13
077	17:30	520.00	325/48	4.93	4547	16 07.391 N	60 14.527 W	
077	18:00	522.35	332/49	4.73	4722	16 09.605 N	60 15.279 W	
077	18:30	524.77	327/40	4.83	4621	16 11.826 N	60 16.034 W	
077	18:32					16 12.000 N	60 16.090	passed over OBS #23
077	19:00	527.16	324/40	4.63	4560	16 14.070 N	60 16.829 W	
077	19:30	529.53	320/40	4.83	4752	16 16.255 N	60 17.574 W	
077	19:42					16 17.186 N	60 17.912 W	passed over OBS #33
077	20:00	531.88	325/49	4.63	4973.0	16 18.487 N	60 18.345 W	
077	20:30	534.21	325/49	4.63	4977.0	16 20.201 N	60 19.078 W	
077	20:57	535.95	328/40	4.33	4992.0	16 22.268 N	60 19.594 W	passed over OBS #43
077	21:00	536.57	325/41	4.93	5012.9	16 22.431 N	60 19.826 W	
077	21:30	538.91	330/41	4.73	5060.9	16 25.176 N	60 20.589 W	
077	22:00	541.31	325/49	4.63	5106.9	16 27.437 N	60 21.356 W	
077	22:30	543.72	325/40	4.73	5044.9	16 29.713 N	60 22.131 W	

CRUISE 9803

RESEARCH VESSEL MAURICE EWING

SCIENCE WATCHSTANDER LOG

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077 = 3/18/48

CSE/RPM/SPD

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT		LON		REMARKS
077	23:00	546.17	330/93	4.93	5070.9	16	31 482	N	60 22 906	W
077	23:30	548.61	332/93	4.93	5087.9	16	34 282	N	60 23 691	W
078	00:00	551.032	333.5	5.23/45	5173.9	16	36.572	N	60 24.476	W
078	00:30	553.552	336.7	5.13/46	5126.9	16	38.845	N	60 25.252	W
078	01:00	556.062	344.6	4.63/46	5157.9	16	41.085	N	60 26.096	W
078	01:30	558.622	341.3	5.23/46	4958.0	16	43.287	N	60 26.804	W
078	02:00	561.092	322.6	4.93/43	4849.0	16	45.662	N	60 27.622	W
078	02:30	563.512	320.6	4.43/44	5051.9	16	47.475	N	60 28.353	W
078	03:01	565.962	325.1	4.63/44	5296.9	16	49.347	N	60 29.105	W
078	03:30	568.182	317.8	4.73/46	5286.9	16	51.129	N	60 32.624	W
078	04:00	570.572	243.1	4.23/46	5465.9	16	52.230	N	60 34.668	W
078	04:30	572.89	157/47	4.73	5404.9	16	50.272	N	60 34.812	W
078	05:00	575.24	158/46	4.83	5574.9	16	48.040	N	60 33.970	W
078	05:30	577.61	160/44	5.03	5622.9	16	45.790	N	60 33.120	W
078	06:00	579.91	163/43	4.63	5538.9	16	43.512	N	60 32.341	W
078	06:30	528.11	163/42	4.33	5337.9	16	41.240	N	60 31.626	W
078	07:00	584.30	160/41	4.73	5207.9	16	38.476	N	60 30.820	W
078	07:30	586.53	167/44	4.83	5251.9	16	36.725	N	60 30.057	W
078	08:00	588.87	167/47	5.23	5188.9	16	34.397	N	60 29.253	W
078	08:30	591.26	172/48	4.83	5003.9	16	32.093	N	60 28.523	W
078	09:00	593.70	177/48	5.13	4823.0	16	29.769	N	60 27.749	W
078	09:30	596.20	180/49	5.13	4914.0	16	27.506	N	60 26.976	W
078	10:00	598.74	178/49	4.53	5064.9	16	25.214	N	60 26.214	W
078	10:30	601.24	174/102	5.33	5166.9	16	22.887	N	60 25.440	W
078	10:57	602.00	178/102	5.03	5166.9	16	22.281	N	60 25.237	W
078	11:00	603.84	178/101	5.13	5116.9	16	20.153	N	60 24.601	W

passed over OBS # 42

RESEARCH VESSEL MAURICE EWING

CRUISE 4803

SCIENCE WATCHSTANDER LOG

PAGE 9

078 = 3/19/49

CSE/RPM/SPD

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
078	11:30	606.397	093/101	4.93	4952.0	16 18 259 N	60 23 784 W	
078	11:44	607.64	181/103	4.83	4826.0	16 17 162 N	60 23 345 W	passed over OBS #32
078	12:00	608.972	175.5	5.13/1.2	47735.0	16 15.882 N	60 22.986 W	KT
078	12:30	611.482	172.3	4.83/1.03	4632.0	16 13.587 N	60 22.265 W	KT
078	12:50	613.402	169.2	5.43/1.03	4611.0	16 12.028 N	60 21.786 W	passed over obs #22. KT
078	13:00	614.102	167.3	5.33/1.02	4599.0	16 11.238 N	60 21.495 W	KT
078	13:30	616.572	165.9	5.03/1.04	4428.0	16 09.015 N	60 20.717 W	KT
078	13:54	619.032	173.3	5.63/1.02	4513.0	16 6.888 N	60 19.976 W	passed over obs #12 KT
078	14:00	619.132	160.5	4.63/1.03	4512.0	16 06.705 N	60 19.809 W	KT
078	14:34	621.632	165.7	5.03/1.01	4495.0	16 04.486 N	60 19.167 W	KT
078	15:00	624.062	168.0	5.23/1.06	4304.0	16 02.316 N	60 18.429 W	KT
078	15:32	626.792	161.8	4.83/1.02	4026.0	15 59.886 N	60 17.608 W	KT
078	16:00	629.072	163.0	4.73/1.00	4051.0	15 57.796 N	60 16.932 W	KT
078	16:30	631.59	160/101	5.13	3720.0	15 55.549 N	60 16.178 W	
078	17:00	634.13	160/104	5.43	3842.1	15 53.319 N	60 15.430 W	
078	17:30	636.63	152/102	4.53	4015.0	15 51.025 N	60 14.670 W	
078	18:00	639.09	160/99	5.03	4154.0	15 48.751 N	60 13.905 W	
078	18:30	641.56	153/97	4.83	4615.0	15 46.527 N	60 13.167 W	
078	19:00	643.86	152/100	4.83	4822.0	15 44.370 N	60 12.741 W	
078	19:30	646.30	153/101	4.73	4878.0	15 42.193 N	60 11.725 W	
078	20:00	648.77	151/100	4.93	4945.0	15 39.984 N	60 10.989 W	
078	20:30	651.25	153/88	4.83	5010.9	15 37.673 N	60 10.756 W	(started turn at 20:16)
078	21:00	653.38	148/74	3.73	5012.9	15 37.036 N	60 10.213 W	(started SI at 20:53)
078	21:30	655.37	132/87	4.43	5016.9	15 37.363 N	60 15.662 W	
078	22:00	657.61	149/89	4.03	5036.9	15 39.640 N	60 16.461 W	
078	22:30	659.79	132/87	4.13	5030.9	15 41.868 N	60 17.223 W	

S2

S2

S2

S1

CRUISE 4803

RESEARCH VESSEL MAURICE EWING

SCIENCE WATCHSTANDER LOG

PAGE 10

078 = 3/19

CSE / RPM / SPD

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
078	23:00	662.05	350/93	4.53	4891.0	15 44 161 N	60 17 983 W	
078	23:30	664.31	346/95	4.73	4317.0	15 46 449 N	60 18 361 W	
079	00:00	666.662	346.6	4.63/43	4166.0	15 48.991N	060 18.597W	KJ
079	00:30	668.992	342.4	4.83/44	4013.0	15 51.405N	060 20.441W	KJ
079	01:00	671.312	340.3	4.43/44	3932.1	15 53.818N	060 21.204W	KJ
079	01:30	673.552	337.2	4.44/43	3985.1	15 56.228N	060 22.009W	KJ
079	02:00	675.812	324.3	4.73/44	4076.1	15 58.629N	060 22.820W	KJ
079	02:30	678.072	338.6	4.42/42	4508.0	16 01.094N	060 23.636W	KJ
079	03:00	680.742	334.7	4.03/44	4501.0	16 03.474N	060 24.431W	KJ
079	03:30	682.572	322.1	4.03/43	4584.0	16 05.903N	060 25.234W	KJ
079	04:00	684.742	322.0	4.40/45	4636.0	16 06.488N	060 25.570W	Passed over OBS #11. KJ
079	04:30	687.21	325/47	4.73	4762.0	16 10.678N	060 26.863W	25
079	05:00	689.44	325/47	4.63	4832.0	16 13.091N	060 27.670W	Passed over OBS #21
079	05:30	691.79	318/46	4.86	4847.0	16 15.495N	060 28.964W	
079	06:00	694.10	326/47	5.53	4873.0	16 17.908N	060 29.272W	Passed over OBS #31
079	06:30	696.51	324/48	4.93	4929.0	16 20.312N	060 30.162W	
079	07:00	699.92	333/49	5.33	4835.0	16 22.710N	060 30.984W	Passed over OBS #41
079	07:30	701.29	329/46	5.43	4918.0	16 25.020N	060 31.800W	
079	08:00	703.61	332/45	5.13	4230.0	16 27.341N	060 32.251W	
079	08:30	705.95	332/46	5.03	4444.0	16 29.636N	060 33.350W	
079	09:00	708.29	333/46	5.03	4619.0	16 31.953N	060 34.118W	
079	09:30	710.63	333/47	5.73	4913.0	16 34.235N	060 34.874W	

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RESEARCH VESSEL MAURICE EWING

CRUISE 7803

SCIENCE WATCHSTANDER LOG

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079 = 3/20

CSE/REP/SPD

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
079	10:00	712.98	336/97	5.03	5703.9	16 36 543 N	60 35 657 W	
079	10:30	715.32	335/96	4.53	5606.4	16 38 865 N	60 36 432 W	
079	11:00	717.60	340/96	4.63	5647.9	16 41 192 N	60 37 214 W	
079	11:30	719.39	338/94	4.03	5649.9	16 43 567 N	60 38 010 W	
079	12:00	722.062	330.8	4.03	5523.9	16 45.919 N	60 38.797 W	KT
079	12:30	724.382	333.4	4.03/90	5520.9	16 46.509 N	60 39.534 W	KT
079	13:00	726.63	345.4	3.7/44	5222.9	16 50.572 N	60 40.357 W	KT
079	13:30	728.99	191.9	5.0/46	5408.9	16 50.644 N	60 42.086 W	KT
079	14:00	731.55	198.4	5.9/04	5478.9	16 48.405 N	60 42.823 W	KT
079	14:30	734.23	201.3	5.3/03	5542.9	16 46.172 N	60 43.567 W	KT
079	15:00	736.80	207.2	5.5/03	5535.9	16 44.205 N	60 44.602 W	KT
079	15:30	739.49	208.2	5.4/03	5526.9	16 41.963 N	60 45.780 W	KT
079	16:00	742.15	203.1	5.2/04	5526.9	16 39.871 N	60 46.814 W	KT
079	16:30	744.9	205.1	5.7/03	5547.9	16 37.688 N	60 48.104 W	
079	17:00	747.67	214.05	5.1	5127.9	16 35.565 N	60 49.251 W	
079	17:30	750.46	201/11	5.7	4944.0	16 33.453 N	60 50.393 W	
079	18:00	753.47	202/118	6.4	4724.0	16 31.373 N	60 51.540 W	
079	18:30	756.59	206/117	5.6	3862.1	16 29.256 N	60 52.689 W	
079	19:00	759.67	205/114	6.2	2907.7	16 27.347 N	60 53.700 W	
079	19:30	762.78	207/113	6.4	901.4	16 25.658 N	60 54.625 W	
079	20:00	765.73	194/110	4.7	1152.3	16 24.081 N	60 55.511 W	
079	20:30	768.61	207/111	5.5	586.2	16 22.507 N	60 56.435 W	
079	21:00	770.54	212/110	3.9	213.6	16 20.912 N	60 57.488 W	
079	21:30	772.44	216/109	4.1	34.9	16 19.233 N	60 58.531 W	
079	22:00	774.44	213/110	4.1	368.6	16 17.578 N	60 59.602 W	
079	22:30	776.44	206/106	3.4	317.5	16 15.722 N	61 00.744 W	

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CRUISE 7803

RESEARCH VESSEL MAURICE EWING
SCIENCE WATCHSTANDER LOG

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079 = 3/20

CSE/EPW/STD

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
079	23:00	778.47	76/108	4.0	249.7	16 14 024	N 61 01 541	W
079	23:18	779.73	78/108	3.9	232.2	16 12 871	N 61 02 562	W
079	23:30	780.53	150/108	5.2	408.0	16 12 200	N 61 02 389	W
079	23:44	781.66	85/95	4.6	370.8	16 12.080	N 61.01.262	W
080	0:00	782.82	122/109	4.7	585.5	16 12 006	N 61 00 018	W
080	0:30	783.07	119.1	4.9/106	690.1	16 12.038/11	060 57.44W	KT
080	1:00	787.26	100.0	3.4/107	592.1	16 12.004N	060 54.956W	KT
080	1:21	788.61	114.2	4.6/111	489.7	16 12.010W	060 52.771W	KT
080	2:00	791.90	107.0	4.4/109	535.5	16 12.012W	060 49.842W	KT
080	2:30	794.25	115.0	4.5/107	665.6	16 12.009N	060 47.247W	KT
080	03:00	796.55	109.6	4.9/110	1145.3	16 12.014N	060 44.735W	KT
080	03:30	798.97	102.3	5.1/112	1623.3	16 12.009W	060 42.124W	KT
080	04:00	801.35	95.4	4.5/107	2074.2	16 12.015W	060 39.572W	KT
080	04:30	803.44	103.3/111	4.9	2363.2	16 12.014N	060 37.041W	KT
080	05:00	805.99	98/111	4.6	3288.1	16 12.017N	060 34.417W	KT
080	05:30	808.3	95/109	4.3	3904.1	16 12.022N	060 31.836W	KT
080	06:00	810.59	94/111	4.1	4076.0	16 12.028N	060 29.241W	KT
080	06:21	812.48	95/111	5.0	4076.0	16 12.028N	060 27.333W	KT
080	06:30	812.97	100/110	4.7	4076.0	16 12.026N	060 26.592W	KT
080	07:00	815.29	95/108	4.5	4076.0	16 12.024N	060 24.012W	KT
080	07:26					16 12.020N	060 21.760W	KT
080	07:30	817.51	93/108	5.1	4076.0	16 12.020N	060 21.447W	KT
080	08:00	819.77	98/108	4.3	4521.0	16 12.041N	60 18 911	W
080	08:30	821.97	91/109	4.5	4571.0	16 12.007N	60 16.444	W
080	08:55	822.29	92/109	5.1	4617.0	16 12.005N	60 16.098	W
080	09:00	824.27	90/108	4.5	4750.0	16 12.009N	60 13.898	W

Start of turn on D2

End of turn (approx.)

OBS # 21 (passed over ?)

OBS # 22 (passed over ?)

passed over OBS # 23

CRUISE 9803

SCIENCE WATCHSTANDER LOG

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RESEARCH VESSEL MAURICE EWING

080 = 3/20

CSE/RM/SPD

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
080	09:30	826.50	10/108	4.9	4826.0	16 12.011	N 60 11.408	W
080	09:40	827.31	86/108	4.2	4858.0	16 12.004	N 60 10.524	W
080	10:00	828.74	80/111	4.9	4802.0	16 12.007	N 60 08.728	W
080	10:30	831.05	87/112	5.1	4797.0	16 12.002	N 60 06.412	W
080	10:47	832.47	97/110	4.2	4791.0	16 12.008	N 60 04.926	W
080	11:00	833.38	80/110	4.4	4781.0	16 12.004	N 60 03.876	W
080	11:30	835.63	83/111	5.3	4838.0	16 12.005	N 60 01.4392	W
080	11:55	837.52	81/111	4.9	4913.0	16 12.008	N 60 59 57.311	W
080	12:00	837.84	82.8	5.0/112	4913.0	16 12.000 N	059 58.881 W	KT
080	12:30	840.08	88.6	4.1/112	4647.0	16 11.581 N	059 56.473 W	KT
080	13:01	842.48	85.8	3.7/115	4644.0	16 11.965 N	059 52.857 W	KT
080	13:04	843.00	85.5	4.4/115	4649.0	16 11.969 N	059 53.707 W	KT
080	13:30	844.73	85.8	5.0/115	5019.0	16 11.967 N	059 51.465 W	KT
080	14:00	847.19	89.4	5.5/115	5080.3	16 11.920 N	059 48.889 W	KT
080	14:10	848.07	83.1	5.1/115	5048.4	16 11.980 N	059 48.051 W	KT
080	14:20	849.57	66.5	5.3/114	5142.3	16 11.978 N	059 46.357 W	KT
080	15:00	851.88	84.0	4.7/115	4972.0	16 11.983 N	059 44.053 W	KT
080	15:30	854.22	82.8	5.0/114	5020.9	16 11.984 N	059 41.658 W	KT
080	16:00	856.61	86/114	4.9	4876.0	16 11.982 N	059 39.745	
080	16:30	858.83	88/115	4.6	4891.0	16 11.980	059 37.123	
080	17:00	861.13	80/116	4.7	5062.9	16 11.989 N	059 34.886	
080	17:30	863.52	82/115	4.6	5118.9	16 11.976 N	059 32.539	
080	18:00	865.70	91/115	4.7	5028.9	16 11.990 N	059 30.394	
080	18:30	868.07	86/115	5.0	5057.9	16 11.955 N	059 28.131 W	
080	19:00	870.42	85/115	4.9	5070.0	16 11.988 N	059 25.841 W	
080	19:30	872.83	85/115	4.9	5108.9	16 11.990 N	059 23.610 W	

D2

D2

CRUISE 9803RESEARCH VESSEL MAURICE EWING
SCIENCE WATCHSTANDER LOGPAGE 14

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
080	20:00	875.09	86/115	4.9	4443.0	16 12.000 N	59 21.343 W	
080	20:30	877.52	92/115	4.8	4472.0	16 12.002 N	59 19.048 W	
080	21:00	879.93	95/115	5.2	5033.9	16 12.000 N	59 16.746 W	
080	21:30	882.39	93/115	5.4	5134.9	16 12.000 N	59 14.379 W	Reached waypoint #30 (=bridge weght. #56 ³).
080	22:00	884.90	88/115	5.2	5248.9	16 11.999 N	59 11.963 W	
080	22:30	887.41	84/102	4.7	5306.9	16 11.984 N	59 09.567 W	
080	22:53	889.15	81/55	2.7	5325.9	16 11.832 N	59 07.900 W	All guns out of the water
080	23:00	889.35	89/86	2.3	5328.9	16 11.811 N	59 07.744 W	
080	23:30	891.26	94/104	2.4	5273.9	16 11.639 N	59 05.891 W	
081	0:00	893.14	90/105	5.8	5326.9	16 11.405 N	59 04.038 W	
081	0:30	894.72	94/5	3.2/34	5325.9	16 11.081 N	59 02.389 W	
081	0:50	896.51	97.4	2.2/63	5244.9	16 10.780 N	59 00.586 W	
081	0:50	898.26	89.0	5.1/44	5338.9	16 10.491 N	58 58.856 W	
081	02:00	900.10	97.0	2.0/62	5320.9	16 10.268 N	58 57.114 W	
081	02:30	901.47	96.9	2.4/61	5327.9	16 10.100 N	58 55.824 W	
081	03:00	902.89	90.0	1.9/62	5449.9	16 10.111 N	58 54.400 W	
081	03:30	905.09	90.0	5.2/101	5456.9	16 10.215 N	58 52.330 W	
081	04:00	907.54	87/90	4.2	5552.9	16 10.318 N	58 50.173 W	
081	04:30	909.81	171/94	4.8	5657.9	16 09.649 N	58 48.449 W	turning (checking streamer)
081	05:00	912.08	178/64	4.5	5945.9	16 08.523 N	58 50.235 W	
081	05:30	913.33	264/70	4.6	5973.9	16 08.658 N	58 52.731 W	
081	06:00	916.64	283/70	4.8	5926.9	16 08.794 N	58 55.251 W	
081	06:30	918.55	271/72	4.9	5933.9	16 08.804 N	58 57.771 W	
081	7:00	920.55	276/73	1.8	5271.9	16 08.652 N	58 59.492 W	working on streamer
081	7:30	921.94	274/56	3.5	5274.9	16 08.456 N	58 00.996 W	still working on streamer
081	8:00	924.13	271/72	4.8	5365.9	16 08.239	59 03.281	

D2

D2

Ca 11 7:30
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CRUISE 9803

RESEARCH VESSEL MAURICE EWING

SCIENCE WATCHSTANDER LOG

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J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
081	08:04	924.57	274/74	5.0	5333.9	16 08.200 N	59 03.694 W	Dive streamer to 5m
081	08:30	926.55	268/74	5.1	5377.9	16 07.980 N	59 05.731 W	
081	09:00	928.65	274/72	4.9	5391.9	16 07.760 N	59 07.882 W	
081	09:30	930.67	266/66	4.2	5233.9	16 07.544 N	59 09.997 W	
081	10:00	932.88	274/72	5.0	5194.9	16 07.378 N	59 12.339 W	
081	10:30	935.21	292/78	5.2	5174.9	16 07.379 N	59 14.862 W	
081	10:34	935.62	330/78	5.2	5211.9	16 07.576 N	59 15.190 W	Veering south to left the streamer
081	11:00	937.76	24/86	4.9	5158.9	16 09.499 N	59 15.463 W	
081	11:05	938.21	58/94	5.5	5148.9	16 09.830 N	59 15.195 W	Veering east to left the streamer
081	11:30	940.31	115/92	5.0	5180.9	16 09.828 N	59 13.135 W	Veering south
081	12:00	942.55	191.2	4.4/28	5193.9	16 09.560 N	59 12.880 W	RT Veering west &
081	12:30	944.05	271.9	4.4/71	5185.9	16 06.555 N	59 14.000 W	Finished turn. RT
081	12:30	944.84	272.5	4.7/71	5127.9	16 06.573 N	59 14.857 W	RT
081	13:00	946.35	277.8	4.4/69	5149.9	16 06.402 N	59 16.499 W	RT
081	13:30	947.51	285.8	1.1/0	5117.9	16 06.936 N	59 17.721 W	RT
081	14:00	949.52	274.6	1.1/0	5145.9	16 06.349 N	59 19.859 W	RT
081	23:00	1010.80	20/58	1.20	4533.0	16 07.032 N	060 20.394 W	Watch stander log arranged while we transit to OBS pick up.
081	00:00	1011.52	155/82	1.80	4529.0	16 07.238 N	060 20.168 W	Resume watch
082	00:00	1012.24	274.7	.99/0	4578.0	16 07.185 N	060 20.432 W	RT
082	00:35	1013.20	273.7	.8/6	4528.0	16 06.940 N	060 20.150 W	RT
082	01:00	1014.30	279.0	.9/0	4525.0	16 07.154 N	060 20.422 W	RT
082	02:00	1015.31	198.2	2.0/54	4514.0	16 06.787 N	060 20.000 W	RT
082	02:04	1015.93	197.2	.8/0	4513.0	16 06.721 N	060 19.844 W	OBS #12 retrieved.

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RESEARCH VESSEL MAURICE EWING
SCIENCE WATCHSTANDER LOG

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J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
082	02:30	1018.73	271.7	11.2/53	4572.0	16 06.893 N	060 23.556 W	4.
082	03:00	1021.45	136.8	1.32/34	4637.0	16 07.064 N	060 25.884 W	
082	03:17	1021.58	185.0	1.02/44	4624.0	16 06.938 N	060 25.735 W	003 # 11 sighted.
082	03:30	1022.19	215.7	.82/0	4632.0	16 06.917 N	060 25.507 W	KS
082	03:31	1022.22	260.3	1.12/0	4632.0	16 06.930 N	060 25.525 W	003 # 11 retrieved.
082	04:00	1022.25	325.1	1.15/52	4757.0	16 10.854 N	060 27.087 W	003 # 11 retrieved.
082	04:30	1028.53	83/39	1.70	4785.0	16 12.093 N	060 27.441 W	003 # 11 retrieved.
082	04:41	1028.70	129/60	.9	4792.0	16 12.068 N	060 27.391 W	003 # 21 sighted
082	04:54	1029.06	167/0	1.4	4789.0	16 12.076 N	060 27.123 W	003 # 21 on board
082	05:00	1029.44	340/36	8.9	4792.0	16 12.135 N	060 27.372 W	
082	05:30	1674.86	54/44	2.73	4862.0	16 17.409 N	060 29.307 W	
082	05:53	1035.44	211/87	1.93	4851.0	16 17.279 N	060 29.090 W	003 # 31 sighted
082	06:00	1035.69	112/59	3.13	4835.0	16 17.210 N	060 28.891 W	
082	06:05	1035.84	172/10	1.03	4841.0	16 17.184 N	060 28.799 W	003 # 31 retrieved
082	06:30	1038.98	41/150	4.50	4723.0	16 17.180 N	060 25.743 W	
082	06:58	1041.26	162/54	.7	4831.0	16 17.220 N	060 23.452 W	003 # 32 spotted
082	07:00	1041.27	122/64	1.4	4841.0	16 17.224 N	060 23.436 W	
082	07:14	1041.81	245/0	1.5	4832.0	16 17.150 N	060 23.015 W	003 # 32 on board / Depth 4831.0
082	07:30	1042.98	90/154	9.53	4899.0	16 17.162 N	060 22.062 W	
082	08:00	1046.86	285/26	0.50	5059.9	16 17.204 N	060 17.895 W	
082	08:17	1047.13	142/68	1.10	5025.9	16 17.209 N	060 17.864 W	003 # 33 sighted
082	08:00	1047.78	13/60	2.10	4888.0	16 16.741 N	060 17.490 W	
082	08:34	1047.93	218/0	0.90	4843.0	16 16.683 N	060 17.425 W	003 # 33 retrieved
082	09:00	1051.45	723/52	11.4	4461.0	16 14.475 N	060 17.963 W	
082	09:30	1055.10	131/73	1.62	4810.0	16 12.116 N	060 21.935 W	
082	09:45	1055.57	121/69	1.12	4578.0	16 11.970 N	060 21.583 W	003 # 22 sighted

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SCIENCE WATCHSTANDER LOG

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RESEARCH VESSEL MAURICE EWING

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
082	09:53	1055.83	270/0	1.32	4600.0	16 11.850 N	60 21.610 W	085 #22 retrieved
082	10:00	1055.98	124/101	2.32	4608.0	16 11.820 N	60 21.715 W	
082	10:30	1059.29	93/116	7.42	4573.0	16 11.972 N	60 18.318 W	
082	11:00	1061.58	128/73	2.02	4621.0	16 11.964 N	60 16.104 W	
082	11:01	1061.63	114/79	1.92	4604.0	16 11.942 N	60 16.061 W	085 #23 radio signal detected
082	11:13	1062.17	227/0	1.22	4632.0	16 11.580 N	60 15.953 W	085 #23 retrieved
082	11:30	1063.18	155/97	6.12	4620.0	16 10.826 N	60 15.939 W	
082	12:00	1066.89	152.8	7.42/6.0	4570.0	16 07.377 N	60 14.787 W	RT
082	12:14	1067.97	133.2	2.12/7.0	4566.0	16 06.770 N	60 14.402 W	085 #17 sighted
082	12:27	1068.47	767.2	1.12/6.0	4536.0	16 06.400 N	60 14.442 W	085 #17 retrieved
082	13:00	1071.03	84.9	5.82/6.1	4580.0	16 06.649 N	60 12.185 W	RT
082	13:30	1073.07	82.7	1.12/5.8	4548.0	16 06.776 N	60 10.543 W	RT
082	14:00	1074.01	102.8	1.82/5.8	4545.0	16 06.798 N	60 09.587 W	RT
082	14:25	1074.71	94.7	1.32/4.7	4582.0	16 06.826 N	60 09.186 W	RT
082	15:00	1074.97	91.71	3.2/4.0	4581.0	16 06.852 N	60 08.064 W	RT
082	15:25	1075.46	55.02	7.2/3.5	4583.0	16 06.876 N	60 07.115 W	RT
082	16:00	1075.88	110/71	2.52	4576.0	16 06.778 N	60 08.952 W	
082	16:03	1076.04	101/0	1.12	4562.0	16 06.846 N	60 08.907 W	0135 #14 redeployed
082	16:30	1079.45	91/116	9.4	4562.0	16 06.858 N	60 05.405 W	
082	17:00	1081.69	10/49	6.00	4606.0	16 06.850 N	60 03.307 W	
082	17:02	1081.81	80/0	2.5	4611.0	16 06.856 N	60 03.175 W	0135 #15 redeployed
082	17:30	1085.28	87/147	9.9	4822.0	16 06.860 N	60 59.784 W	
082	17:47	1087.44	84/45	3.61	4690.0	16 06.851 N	60 57.580 W	0135 #16 redeployed
082	18:00	1089.09	80/149	10.0	4748.0	16 06.857 N	60 56.018 W	
082	18:30				4768.0	16 06.888 N	60 52.042 W	
082	18:31	1093.09	94/69	3.12	4774.0	16 06.866 N	60 51.943 W	0135 #17 redeployed

CRUISE 9803RESEARCH VESSEL MAURICE EWING
SCIENCE WATCHSTANDER LOGPAGE 18

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
082	19:00	1095.38	77/89	5.02	4854.0	16 06.807 N	059 49.849 W	
082	19:30	1097.59	83/82	4.32	5019.9	16 06.836 N	059 47.859 W	
082	19:56	1099.22	181/0	9.2.0	4829.0	16 06.774 N	059 46.352 W	085 # 18 sighted
082	20:00	1099.30	256/0	1.12.	4845.0	16 06.711 N	059 46.423 W	085 # 18 on board
082	20:30	1102.14	337/68	4.82	4970.0	16 08.634 N	059 48.388 W	
082	21:00	1104.60	028/75	5.02	5005.9	16 10.752 N	059 48.555 W	
082	21:25	1106.19	74/55	0.72	5038.9	16 11.938 N	059 48.009 W	085 # 28 sighted
082	21:30	1106.29	201/0	0.92	5046.9	16 11.834 N	059 47.182 W	
082	21:31	1106.30	219/0	0.92	5055.9	16 11.824 N	059 47.991 W	085 # 28 retrieved
082	22:00	1110.14	010/136	7.46	5041.9	16 14.116 N	059 50.693 W	
082	22:30	1113.19	391/76	4.60	5001.9	16 16.926 N	059 49.835 W	
082	22:35	1113.41	46/67	1.40	5032.9	16 17.046 N	059 49.720 W	085 # 38 sighted
082	22:43	1113.60	224/0	1.50	5028.9	16 17.006 N	059 49.645 W	085 # 38 retrieved
082	23:00	1114.13	267/49	4.30	4919.0	16 16.913 N	059 50.219 W	
082	23:30	1116.11	264/48	3.70	4972.0	16 16.845 N	059 52.387 W	
083	00:00	1117.83	273.2	1.2/0	4972.0	16 16.847 N	059 54.286 W	KT
083	00:30	1118.43	284.5	1.1/0	4853.0	16 16.801 N	059 54.816 W	KT
083	01:00	1119.02	287.9	1.2/0	4820.0	16 16.834 N	059 55.787 W	KT
083	01:30	1119.56	271.7	1.4/0	4862.0	16 16.877 N	059 55.920 W	KT
083	02:00	1120.1	288.2	1.4/0	4838.0	16 16.954 N	059 56.474 W	KT
083	02:30	1120.98	83.4	1.3/0	4874.0	16 17.162 N	059 56.103 W	KT
083	03:00	1121.78	143.1	1.6/0	4808.0	16 17.125 N	059 55.406 W	KT
083	03:30	1122.72	299.9	1.9/0	4812.0	16 17.122 N	059 55.487 W	KT
083	04:00	1122.84	277.7	1.8/0	4866.0	16 17.144 N	059 55.986 W	KT
083	04:30	1123.73	80/59	2.6	4825.0	16 17.133 N	059 55.694 W	
083	05:00	1124.37	270/0	9.0	4847.0	16 17.169 N	059 55.706 W	

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SCIENCE WATCHSTANDER LOGPAGE 19

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
083	05:30	1125.10	41.4/43	1.00	4817.0	16 17.124 N	059 55.577 W	
083	05:35	1125.25	80/0	1.7	4813.0	16 17.131 N	059 55.438 W	OBSS #37 redeployed
083	06:00	1128.30	268/145	11.3	4718.0	16 17.135 N	055 58.399 W	
083	06:29	1131.37	112/6	3.0	4925.0	16 17.144 N	060 01.055 W	OBSS #36 redeployed
083	06:30	1131.37	103/6	2.5	4931.0	16 17.131 N	060 01.020 W	
083	07:00	1136.05	267/51	11.4	4912.0	16 17.138 N	060 05.702 W	
083	07:17	1137.51	120/0	2.51	4915.0	16 17.130 N	060 06.637 W	OBSS #35 redeployed
083	07:30	1138.86	224/55	10.5	5010.9	16 17.135 N	060 07.859 W	
083	08:00	1143.73	106/50	2.70	5243.9	16 17.169 N	060 12.574 W	
083	08:08	1144.05	132/0	1.20	5220.9	16 17.150 N	060 12.225 W	OBSS #34 redeployed
083	08:30	1146.72	326/53	11.2	5194.9	16 17.273 N	060 13.926 W	
083	08:56	1149.99	102/0	0.93	5087.9	16 22.270 N	060 14.004 W	OBSS #44 redeployed
083	09:00	1150.02	332/0	0.59	5084.9	16 22.306 N	060 13.974 W	
083	09:30	1154.27	012/147	9.30	5126.9	16 22.293 N	060 09.490 W	
083	09:42	1155.30	118/0	1.00	5057.9	16 22.250 N	060 08.394 W	OBSS #45 redeployed
083	10:00	1157.27	89/149	9.00	5010.9	16 22.165 N	060 06.528 W	
083	10:29	1160.86	107/0	0.72	5106.9	16 22.256 N	060 02.725 W	OBSS #46 redeployed
083	10:30	1160.88	154/0	0.42	5091.9	16 22.259 N	060 02.719 W	
083	11:00	1164.31	088/149	9.03	5150.9	16 22.293 N	059 59.253 W	
083	11:19	1166.27	089/0	1.12	5110.9	16 22.252 N	059 57.172 W	OBSS #47 redeployed
083	11:30	1167.20	337/149	10.1	5131.9	16 22.981 N	059 57.349 W	
083	12:00	1172.49	338/4	10.4/156	5296.9	16 28.127 N	059 59.713 W	KT
083	12:30	1177.68	339/0	10.8/150	5446.9	16 33.051 N	059 03.794 W	KT
083	13:00	1182.14	339.5	10.6/150	5522.9	16 38.241 N	060 02.483 W	KT
083	13:30	1188.76	341.1	11.4/150	5538.9	16 47.477 N	060 04.157 W	KT
083	13:55	1191.25	103.8	4.02/151	5165.9	16 49.130 N	060 04.359 W	KT begin deploying of transducer

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RESEARCH VESSEL MAURICE EWING
SCIENCE WATCHSTANDER LOG

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J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
083	14:00	1191.45	99.1	4.04/8	5203.9	16 44.100N	060 04.112W	KT
083	14:02	1191.72	95.1	4.12/8	5202.9	16 44.053N	060 03.615W	Bird #1, 8m. KT
083	14:06	1191.99	100.8	4.52/5	5356.9	16 45.007N	060 03.489W	Bird #2, 8m. KT
082	14:24	1192.70	105.2	4.77/3	5491.9	16 44.767N	060 01.921W	Bird #3, 8m. KT
083	14:28	1193.56	100.0	4.54/2	5393.9	16 44.724N	060 01.660W	Bird #4, 8m. KT
083	14:30	1193.71	103.5	4.82/2	5756.9	16 44.704N	060 01.471W	KT
082	14:32	1193.88	106.8	4.12/3	5317.9	16 44.671N	060 01.278W	Bird #5, 8m. KT
083	14:41	1194.58	105.1	4.97/3	5051.9	16 44.544N	060 00.976W	Bird #6, 8m. KT
083	15:00	1195.58	103.4	4.22/4	4872.0	16 44.709N	059 58.974W	KT
083	15:04	1196.25	102.9	4.02/5	4881.0	16 44.726N	059 58.524W	Bird #7, 8m. KT
083	15:22	1197.64	100.4	4.42/8	4823.0	16 43.989N	059 56.910W	Bird #8, 8m. KT
083	15:30	1198.08	101.9	3.82/3	4882.0	16 43.909N	059 56.400W	KT
083	16:00	1200.26	98.5	4.22/8	5001.9	16 43.525N	059 53.876W	KT
083	16:20	1201.72	104/48	3.02	5005.9	16 43.305N	059 52.219W	Bird #9 to 8m in water
083	16:30	1202.22	107/48	2.62	4972.0	16 43.238N	059 51.570W	
083	16:48	1203.32	95/81	3.22	4880.0	16 43.028N	059 50.242W	Bird #10 to 8m
083	17:00	1203.92	108/81	3.02	4981.0	16 42.974N	059 49.497W	
083	17:22	1205.18	107/81	3.52	4902.0	16 42.737N	059 47.970W	Bird #11 to 8m
083	17:30	1205.62	105/81	2.52	4860.0	16 42.628N	059 47.449W	
083	17:46	1206.55	98/81	3.92	4844.0	16 42.382N	059 46.353W	Bird #12 to 8m
083	18:00	1207.47	74/46	4.32	4882.0	16 42.288N	059 45.254W	
083	18:26	1209.57	201/71	4.62	4812.0	16 43.634N	059 45.219W	sun turn completed
083	18:30	1209.81	282/55	4.22	4804.0	16 43.671N	059 45.454W	
083	18:36	1210.29	274/44	3.42	4771.0	16 43.721N	059 45.873W	Bird #13 to 8m
083	19:00	1211.57	225/44	3.72	4820.0	16 43.870N	059 47.036W	
083	19:03	1211.77	272/44	3.32	4830.0	16 43.894N	059 47.197W	Bird #14 to 8m

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SCIENCE WATCHSTANDER LOGPAGE 21

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
083	19:30	1213.42	239/51	3.62	4887.0	16 44-105 N	054 48.631 W	Bird #15 to 8m...
083	19:37	1213.86	238/51	3.62	4887.0	16 44-166 N	059 49.018 W	Bird #16
083	19:40					16 44-202 N	059 49.223 W	Bird #17
083	19:43	1214.27	239/51	4.12	4872.0	16 44-222 N	059 49.384 W	Bird #18
083	20:00	1215.24	237/51	3.32	4834.0	16 44-334 N	059 50.228 W	
083	20:30	1216.94	281/49	3.72	4908.0	16 44-527 N	059 51.713 W	
083	20:39	1217.51	270/49	3.32	4953.0	16 44-577 N	059 52.172 W	streamer deployed
083	21:00	1218.95	275/82	5.22	4976.0	16 44-689 N	059 53.497 W	
083	21:08	1219.71	282/81	5.12	4916.0	16 44-769 N	059 54.163 W	starboard gun out
083	21:30	1221.47	237/83	4.42	4874.0	16 44-950 N	059 55.709 W	
083	21:32	1221.64	237/40	4.72	4842.0	16 44-962 N	059 55.869 W	everything ready to begin firing
083	22:00	1224.07	281/97	5.62	4850.0	16 45-442 N	059 58.045 W	
083	22:30	1226.76	285/96	5.62	5057.9	16 46-133 N	060 00.408 W	
083	23:00	1229.44	203/95	5.72	5013.9	16 46-858 N	060 02.788 W	
083	23:30	1232.08	213/95	5.52	5142.9	16 46-665 N	060 04.916 W	
084	00:00	1234.46	164/6	4.72/46	5278.9	16 44-305 N	060 04.680 W	
084	00:30	1236.76	167/6	5.02/34	5480.9	16 42-076 N	060 03.965 W	
084	01:00	1239.10	168/0	4.82/94	5294.9	16 39-856 N	060 03.282 W	
084	01:30	1241.43	171/5	4.82/46	5385.8	16 37-677 N	060 02.584 W	
084	02:00	1243.75	168/6	4.62/46	5725.9	16 35-395 N	060 01.833 W	
084	02:30	1246.04	165/8	4.72/47	5470.9	16 33-182 N	060 01.203 W	
084	03:00	1248.57	168/0	4.52/47	5440.9	16 30-805 N	060 00.478 W	
084	03:30	1250.22	169/2	4.52/48	5262.9	16 28-152 N	059 59.814 W	
084	04:00	1253.12	168/44	4.52	5225.9	16 26-561 N	059 59.129 W	
084	04:30	1255.43	152/100	4.52	5177.5	16 24-447 N	059 58.234 W	
084								

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SPC

CRUISE EW 9603

RESEARCH VESSEL MAURICE EWING

SCIENCE WATCHSTANDER LOG

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Cic/20m/spd

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
084	05:00				5129.9	16° 22.307	059° 57.238	
084	05:0242				5072.9	16° 22.250	059° 57.229	Passed over OBS # 47
084	05:30	1260.05	161/47	5.22	4825.0	16° 20.109	059° 56.439	
084	06:00	1262.38	158/48	4.82	4832.0	16° 17.933	059° 55.710	
084	06:10:58	1263.29	155/49	4.32	4815.0	16° 17.111' N	059° 55.432' W	Passed over OBS # 37
084	06:30	1264.75	154/47	4.42	4869.0	16° 15.748' N	059° 54.962' W	
084	06:42					16° 14.834' N	059° 54.634' W	noting
084	07:00	1267.02	160/45	4.72	4885.0	16° 13.530' N	059° 54.225' W	
084	07:11:15	1268.72	153/47	4.72	4903.0	16° 11.967' N	059° 53.711' W	Passed over OBS # 27
084	07:30	1269.38	152/48	4.92	4766.0	16° 11.320' N	059° 53.479' W	
084	08:00	1271.65	153/47	4.82	4751.0	16° 09.145' N	059° 52.738' W	
084	08:30	1273.97	158/45	4.72	4759.0	16° 08.923' N	059° 51.987' W	
084	08:30:43	1274.03	157/47	4.82	4757.0	16° 08.867' N	059° 51.968' W	Passed over OBS # 17
084	09:00	1276.27	152/47	4.72	4641.0	16° 04.725' N	059° 51.230' W	
084	09:30	1278.59	152/47	4.62	4644.0	16° 02.492' N	059° 50.467' W	
084	10:00	1280.89	156/46	4.62	4507.0	16° 00.229' N	059° 49.689' W	
084	10:30	1283.13	154/44	4.22	4335.0	15° 58.001' N	059° 48.936' W	
084	11:00	1285.32	155/45	4.72	4224.0	15° 55.809' N	059° 48.181' W	
084	11:30	1287.53	156/45	4.72	4188.0	15° 53.593' N	059° 47.431' W	
084	12:00	1289.74	152/44	4.02	4161.0	15° 51.358' N	059° 46.670' W	
084	12:30	1291.54	1462/46	4.12/46	4141.0	15° 47.080' N	059° 45.895' W	
084	13:00	1294.11	154.8	4.32/45	4078.0	15° 46.874' N	059° 45.129' W	
084	13:30	1296.30	154.3	4.42/47	4016.0	15° 44.628' N	059° 44.378' W	
084	14:00	1298.49	144/48	4.42/48	3945.1	15° 42.577' N	059° 44.640' W	
084	14:30	1300.74	1275.3	4.72/42	3942.1	15° 42.517' N	059° 47.047' W	
084	15:00	1302.22	322.5	4.82/40	3936.1	15° 42.083' N	059° 49.559' W	

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RESEARCH VESSEL MAURICE EWING

SCIENCE WATCHSTANDER LOG

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J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
084	15:30	1305.42	346.2	4.8/52	3942.1	15 45.269N	059 50.211W	kt
084	16:00	1307.73	344/40	4.92	3953.1	15 47.403N	059 50.946W	
084	16:30	1310.06	347/41	5.12	4297.0	15 49.611N	059 51.703W	
084	17:00	1312.38	347/87	4.62	4386.0	15 51.822N	059 52.457W	
084	17:30	1314.67	344/87	4.52	4415.0	15 54.036N	059 53.917W	
084	18:00	1316.98	344/88	4.82	4425.0	15 56.243	059 53.974W	
084	18:30	1319.28	350/88	4.72	4420.0	15 58.446N	059 54.727W	
084	19:00	1321.54	347/88	4.52	4603.0	16 00.645N	059 55.486W	
084	19:30		354/87	4.72	4687.0	16 02.860N	059 56.234W	
084	20:00	1326.05	348/88	4.72	4644.0	16 05.052N	059 56.490W	
084	20:24:38	1327.85	344/87	4.82	4688.0	16 06.850N	059 57.597W	pulled over OBS #16
084	20:30	1328.32	352/88	4.62	4700.0	16 07.269N	059 57.738W	
084	21:00	1330.55	357/87	4.22	4903.0	16 09.571N	059 58.465W	
084	21:30	1332.74	350/83	4.36	4918.0	16 11.803N	059 59.248W	
084	21:32	1332.93	354/84	4.32	4913.0	16 12.010N	059 59.316W	pulled over OBS #26
084	22:00	1334.88	347/83	4.52	4901.0	16 14.046N	059 59.799W	
084	22:30	1336.92	349/84	4.02	4932.0	16 16.246N	060 00.756W	
084	22:42	1337.81	344/85	4.12	4930.0	16 17.144N	060 01.050W	pulled over OBS #36
084	23:00	1339.05	348/85	3.92	4915.0	16 18.492N	060 01.495W	
084	23:30	1341.16	342/84	4.22	4933.0	16 20.748N	060 02.236W	
084	23:50	1342.57	346/83	4.12	5102.9	16 22.256N	060 02.722W	pulled over OBS #46
085	00:00	1343.20	346/82	4.24/83	5132.9	16 22.578N	060 02.771W	kt
085	00:30	1345.30	346/88	4.24/82	5213.9	16 25.258N	060 03.754W	kt
085	01:00	1347.37	337.4	4.44/82	5236.9	16 27.371N	060 04.472W	kt
085	01:30	1349.50	337.9	4.44/83	5287.9	16 29.402N	060 05.228W	kt
085	02:00	1351.64	327.7	4.54/84	5344.9	16 31.804N	060 05.890W	kt

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RESEARCH VESSEL MAURICE EWING

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J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
085	02:30	1353.74	306.5	412/84	5396.2	16 34.007N	060 66.744W	KT
085	03:00	1355.88	304.4	4.24/84	5393.9	16 36.1551N	060 07.500W	KT
085	03:30	1358.01	303.4	4.33/84	5207.3	16 38.427N	060 08.254W	KT
085	04:00	1360.09	302.5	4.67/83	5022.2	16 40.612N	060 09.000W	KT
085	04:30	1362.23	338/84	3.62	5130.9	16 42.813N	060 09.754W	
085	05:00	1364.25	336/83	4.02	5050.9	16 45.023N	060 10.510W	
085	05:30	1366.49	230/82	5.12	4877.0	16 46.231N	060 12.350W	
085	06:00	1368.71	244/90	5.22	4817.0	16 46.827N	060 14.681W	
085	06:30	1371.63	187/05	5.72	4727.0	16 45.844N	060 16.210W	
085	07:00	1374.42	167/106	5.62	4806.0	16 43.676N	060 15.664W	
085	07:30	1377.20	171/106	5.92	4971.0	16 41.480N	060 14.923W	
085	08:00	1380.03	164/07	5.52	5111.9	16 39.253N	060 14.159W	
085	08:30	1382.25	163/07	5.62	5330.9	16 37.044N	060 13.414W	
085	09:00	1385.50	169/102	5.42	5377.9	16 34.805N	060 12.647W	
085	09:30	1388.26	162/105	5.02	5323.9	16 32.540N	060 11.890W	
085	10:00	1390.94	165/105	5.32	5219.9	16 30.314N	060 11.136W	
085	10:30	1393.64	162/105	5.32	5258.9	16 28.080N	060 10.375W	
085	11:00	1396.35	153/104	5.72	5195.9	16 25.826N	060 09.603W	
085	11:30	1399.03	162/103	5.12	5081.9	16 23.580N	060 08.840W	
085	11:47	1400.64	158/103	5.42	5062.9	16 22.251N	060 08.395W	passed over OBS #45
085	12:00	1401.67	156/103	6.32	5071.9	16 21.362N	060 08.089W	
085	12:30	1404.22	154.7	5.12/103	5057.9	16 19.051N	060 07.807W	KT
085	12:57	1406.22	157.3	5.42/100	4883.0	16 17.131N	060 06.639W	Passed over OBS #35
085	13:00	1406.97	155.9	5.12/100	4772.0	16 16.838N	060 06.543W	KT
085	13:31	1408.69	160.1	5.2/102	4865.0	16 14.530N	060 05.754W	KT
085	14:00	1412.14	159.7	5.1/102	4804.0	16 12.378N	060 05.091W	KT

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RESEARCH VESSEL MAURICE EWING
SCIENCE WATCHSTANDER LOG

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J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
085	14:05	1412.70	1654	5.3/49	4740.0	16 12.003 N	060 04.526 W	Passed over OBS #25. KT
085	14:30	1414.75	1594	4.3/49	4742.0	16 10.132 N	060 04.293 W	KT
085	15:00	1417.26	1573	4.8/49	4759.0	16 07.920 N	060 03.561 W	KT
085	15:14	1418.56	1571	5.2/42	4762.0	16 06.858 N	060 03.201 W	Paused over OBS #15. KT
085	15:30	1419.82	1566	4.8/42	4765.0	16 05.802 N	060 02.702 W	KT
085	16:00	1422.31	1584	4.82	4715.0	16 03.463 N	060 02.041 W	
085	16:30	1424.66	1561	5.02	4633.0	16 01.272 N	060 01.293 W	
085	17:00	1422.00	156/47	4.42	4336.0	15 51.079 N	060 00.541 W	
085	17:30	1422.38	159/41	4.42	4231.0	15 56.822 N	059 59.767 W	
085	18:00	1431.60	160/84	4.22	4194.0	15 54.583 N	059 59.008 W	
085	18:30	1433.72	158/45	4.22	4259.0	15 52.392 N	059 58.244 W	
085	19:00	1435.87	163/84	4.62	4186.0	15 50.152 N	059 57.485 W	
085	19:30	1438.00	162/86	4.32	4159.0	15 47.937 N	059 56.722 W	
085	20:00	1440.07	168/87	4.22	4162.0	15 45.748 N	059 55.964 W	
085	20:26	1441.83	58/93	4.02	4128.0	15 43.832 N	059 55.346 W	Waypoint 60
085	20:29	1442.04	76/87	4.02	4140.0	15 43.570 N	059 55.281 W	start of turn towards S4
085	20:30	1442.09	184/88	4.62	4140.0	15 43.577 N	059 55.295 W	
085	21:00	1444.57	258/87	4.62	4187.0	15 42.189 N	059 56.891 W	
085	21:30	1447.76	209/88	5.12	4566.0	15 41.620 N	059 59.200 W	start turn (2nd) to S4
085	22:00	1449.49	392/93	4.52	4545.0	15 43.109 N	60 00.700 W	
085	22:10	1450.27	340/93	4.82	4314.0	15 43.887 N	60 00.930 W	start of S4 (waypoint 61)
085	22:30	1451.84	333/91	4.72	4203.0	15 45.333 N	60 01.467 W	
085	23:00	1454.22	341/91	4.62	4132.0	15 47.532 N	60 02.220 W	
085	23:30	1456.63	353/91	5.02	4106.0	15 49.257 N	60 02.968 W	
085	00:00	1458.02	341/6	4.8/41	4164.0	15 51.942 N	060 03.293 W	KT
086	00:30	1461.38	343.2	4.7/40	4089.0	15 54.227 N	060 04.502 W	KT

S4

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S4

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RESEARCH VESSEL MAURICE EWING
SCIENCE WATCHSTANDER LOG

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J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
086	01:00	1403.64	334.8	44/38	4131.0	15 56.422N	060 05.265W	KT
086	01:30	1465.91	340.7	44/37	4306.0	15 58.686N	060 06.007W	KT
086	02:00	1468.08	340.3	44/36	4240.0	16 00.960N	060 06.800W	KT
086	02:30	1470.17	348.3	44/37	4405.0	16 03.044N	060 07.562W	KT
086	03:00	1472.31	345.0	44/35	4540.0	16 05.265N	060 08.237W	KT
086	03:21	1473.89	341.7	44/35	4572.0	16 06.886N	060 08.879W	Finished over OBS # 14. KT
086	03:30	1474.37	341.2	44/36	4547.0	16 07.480N	060 09.039W	KT
086	04:00	1476.41	337.2	44/37	4646.0	16 09.770N	060 09.785W	KT
086	04:30	1478.46	345.83	44/37	4861.0	16 11.967N	060 10.511W	KT
086	04:30:10	1478.58	342/83	4.02	4875.0	16 11.985N	60 10.517W	Passed over OBS # 24
086	05:00	1480.47	342/81	4.12	4921.0	16 14.210N	60 11.280W	
086	05:30	1482.46	334/80	4.02	5154.9	16 16.417N	60 12.063W	
086	05:39:48	1483.17	342/93	4.02	5248.9	16 17.119N	60 12.274W	Passed over OBS # 34
086	06:00	1484.37	342/83	3.62	5230.9	16 18.639N	60 12.789W	
086	06:30	1486.34	344/80	3.52	5276.9	16 20.864N	60 13.536W	
086	06:48:49	1487.58	341/80	3.92	5074.9	16 22.271N	60 14.023W	Passed over OBS # 44
086	07:00	1488.27	342/79	3.02	5007.9	16 23.112N	60 14.305W	
086	07:30	1490.15	342/78	4.02	4985.0	16 25.320N	60 15.053W	
086	08:00	1492.01	341/79	3.62	5065.9	16 27.522N	60 15.798W	
086	08:30	1493.90	339/79	3.72	5115.9	16 29.238N	60 16.557W	
086	09:00	1495.74	336/80	4.02	5159.7	16 31.962N	60 17.302W	
086	09:30	1497.57	340/79	4.22	5208.9	16 34.172N	60 18.057W	
086	10:00	1499.46	341/79	3.72	5080.9	16 36.402N	60 18.808W	
086	10:30	1501.31	334/80	3.42	5009.9	16 38.599N	60 19.568W	
086	11:00	1503.17	323/79	4.22	4983.0	16 40.812N	60 20.307W	
086	11:30	1505.04	334/82	3.72	4927.0	16 42.997N	60 21.047W	

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RESEARCH VESSEL MAURICE EWING

SCIENCE WATCHSTANDER LOG

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J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
086	12:00	1506.96	333/86	4.32	4883.0	16 45-246	N	
086	12:02	1507-12	345/86	3.52	4872.0	16 45-369	N	end of S4, turn to starboard
086	12:30	1508.88	125.5	4.4/16.7	5012.9	16 46.682N		
086	12:46	1510.08	127.0	4.3/16.0	4748.0	16 46.156N		Finish turn
086	13:30	1513.75	122.4	5.2/16.2	4738.0	16 44.775N		Run in, turn # 11.
086	14:00	1516.19	123.6	5.3/11.1	5085.0	16 43.153N		
086	14:30	1518.68	124.2	3.2/16.0	5110.9	16 41.877N		
086	15:00	1521.10	121.4	4.6/11.1	5075.9	16 40.767N		
086	16:00	1525.94	117.7	4.6/16.0	5282.9	16 38.974N		
086	16:30	1528.43	119/116	4.72	5484.9	16 38.080		
086	17:00	1530.88	113/109	4.52	5716.9	16 37.178N		
086	17:30	1533.22	117/108	4.62	5761.9	16 36.249N		
086	18:00	1535.58	112/109	5.12	5631.9	16 35.424N		
086	18:20	1537.96	106/109	5.02	5444.9	16 34.562N		
086	19:00	1540.48	112/109	5.02	5146.9	16 33.670N		
086	19:30	1543.00	107/114	5.42	4846.0	16 32.823N		
086	20:00	1545.68	110/115	5.42	4883.0	16 31.913N		
086	20:30	1548.32	102/114	5.62	4869.0	16 30.996N		
086	21:00	1550.95	110/113	5.32	5032.9	16 30.091N		
086	21:30	1553.54	104/112	5.02	5020.9	16 29.209N		
086	22:00	1556.10	106/113	5.32	4992.0	16 28.328N		
086	22:30	1558.70	108/110	5.52	5087.9	16 27.423N		
086	23:00	1561.28	108/108	4.82	5117.9	16 26.540N		
086	23:30	1563.85	105/110	5.22	5205.9	16 25.663N		
086	0:00	1566.49	97.7	5.7/16.0	5261.9	16 24.704N		
087	0:30	1569.19	88.1	5.5/11.1	5232.9	16 24.569N		

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Warning N to get into position for D4

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RESEARCH VESSEL MAURICE EWING

SCIENCE WATCHSTANDER LOG

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J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
087	01:00	1576.65	702.1	4.9/110	5128.9	16 24.443N	059 25.141W	KT
087	01:30	1574.23	93.8	5.1/110	5138.9	16 24.451N	059 22.696W	KT
087	01:38	1574.88	92.5	5.0/110	5143.9	16 24.058N	059 22.059W	Start fun for D4.
087	02:00	1576.60	219.6	4.5/83.	5147.9	16 22.653N	059 21.643W	KT
087	02:13	1577.59	260.6	4.2/81	5147.9	16 22.273N	059 21.635W	Finish fun for D4.
087	02:24	1578.34	278.4	4.5/82	5134.9	16 22.250N	059 23.452W	Passel over waypoint 63. Start D4
087	02:30	1578.82	271.1	4.6/81	5122.9	16 22.250N	059 23.978W	KT
087	03:00	1581.01	268.2	4.4/82	5134.9	16 22.254N	059 26.447W	KT
087	03:30	1583.21	267.4	4.6/82	5241.9	16 22.248N	059 28.915W	KT
087	04:00	1585.35	280.8	4.4/82	5181.9	16 22.251N	059 36.411W	KT
087	04:30	1587.39	274/72	3.52	5072.9	16 22.247N	059 33.888W	
087	05:00	1589.34	274/72	3.82	5101.9	16 22.255N	059 36.374W	
087	05:30	1591.30	274/74	4.12	5046.9	16 22.246N	059 38.806W	
087	06:00	1593.33	268/76	3.72	4995.0	16 22.253N	059 41.265W	
087	06:30	1595.44	273/75	2.82	5052.9	16 22.250N	059 43.759W	
087	07:00	1597.53	271/76	3.82	4968.0	16 22.252N	059 46.228W	
087	07:30	1599.64	276/77	4.02	5105.9	16 22.251N	059 48.657W	
087	08:00	1601.72	275/75	3.72	5110.9	16 22.253N	059 51.129W	
087	08:05	1602.16	274/76	4.02	5055.9	16 22.244N	059 51.572W	passed over OBS 48
087	08:30	1603.84	266/75	4.42	5093.1	16 22.256N	059 53.609W	
087	09:00	1605.93	262/75	3.82	5160.9	16 22.256N	059 56.093W	
087	09:20	1607.40	270/75	4.12	5164.9	16 22.257N	059 57.792W	passed over OBS 49
087	09:30	1608.03	264/75	4.12	5175.9	16 22.253N	059 58.570W	
087	10:00	1610.08	269/75	4.22	5180.9	16 22.257N	059 01.057W	
087	10:20	1611.49	268/76	4.22	5087.9	16 22.258N	059 02.729W	passed over OBS 46
087	10:30	1612.16	262/75	3.92	5002.9	16 22.258N	059 03.528W	

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SCIENCE WATCHSTANDER LOG

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RESEARCH VESSEL MAURICE EWING

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
087	11:00	1614.20	261/76	4.12	4988.0	16 22.258 N	60 05.966 W	
087	11:10	1616.22	269/75	2.92	5037.9	16 22.255 N	60 08.412 W	
087	11:30:03	1616.29	268/76	4.22	5060.9	16 22.254 N	60 08.392 W	passed over OBS 45
087	12:00 12:00	1618.38	260/78	4.62	5190.9	16 22.262 N	60 10.803 W	
087	12:34	1621.18	262.0	4.2/36	5086.9	16 22.267 N	60 13.493 W	passed over OBS 44
087	13:00	1622.67	262.1	4.1/80	4466.0	16 22.262 N	60 15.723 W	KT
087	13:30	1624.88	257.6	4.6/81	4421.0	16 22.269 N	60 18.171 W	KT
087	13:47	1626.16	257.4	4.3/82	5024.0	16 22.265 N	60 19.594 W	Passed over OBS 43.
087	14:00	1627.24	257.6	4.4/82	5116.9	16 22.262 N	60 20.760 W	KT
087	14:30	1629.22	259.6	4.4/82	5166.9	16 22.263 N	60 23.015 W	KT
087	15:00	1631.50	251.3	4.3/82	5148.9	16 22.266 N	60 25.497 W	KT
087	14:57	1631.30	254.5	4.0/82	5085.9	16 22.264 N	60 25.271 W	Passed over OBS 42.
087	15:30	1633.68	256.5	4.2/82	5044.9	16 22.266 N	60 27.884 W	KT
087	16:00	1635.96	252.3	4.582	4900.0	16 22.264 N	60 30.253 W	
087	16:06:31	1636.53	253/82	4.62	4852.0	16 22.265 N	60 30.848 W	Passed over OBS # 41
087	16:30	1639.15	249/83	4.32	4378.0	16 22.244 N	60 32.828 W	
087	17:00	1640.41	249/83	4.32 4.32	3473.1	16 22.302 N	60 35.286 W	
087	17:30	1642.55	250/83	4.22	3005.1	16 22.367 N	60 37.761 W	
087	18:00	1644.74	245/83	4.52	2227.2	16 22.246 N	60 40.184 W	
087	19:00	1649.33	232/82	4.72	905.4	16 22.252 N	60 43.055 W	
087	19:30	1651.70 1651.70	234/82	4.32	500.3	16 22.252 N	60 47.555 W	
087	20:00	1654.06	230/88	4.92	283.0	16 22.259 N	60 50.002 W	
087	20:30	1656.43	28/82	4.62	51.0	16 22.258 N	60 52.524 W	
087	20:46	1657.71	264/85	4.62	56.4	16 22.256 N	60 53.888 W	Start of turn towards D3
087	21:00	1658.73	200/94	4.02	364.1	16 21.693 N	60 57.686 W	
087	21:22	1660.13	93/102	4.02	180.4	16 20.663 N	60 53.965 W	End of turn. heading for waypoint to start D3

D4
D3

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RESEARCH VESSEL MAURICE EWING
SCIENCE WATCHSTANDER LOG

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J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
087	01:30	1660.72	113/104	4.02	194.5	16 20.499 N	60° 53.375 W	
087	02:00	1662.77	110/107	3.82	252.2	16 19.782 N	60 51.312 W	
087	02:30	1665.00	140/105	3.92	445.2	16 18.804 N	60 49.344 W	
087	03:00	1667.53	125/106	4.92	663.3	16 17.594 N	60 47.614 W	
087	03:30	1669.97	88/105	4.32	903.4	16 17.144 N	60 45.647 W	
088	04:00	1672.45	161/105	4.92	1403.3	16 17.124 N	60 43.317 W	
088	04:30	1674.82	150.5	5.4/107	1686.7	16 17.122 N	60 42.983 W	
088	05:00	1677.38	99.2	4.8/107	2351.2	16 17.128 N	60 38.475 W	
088	05:30	1679.93	100.0	5.7/107	3151.2	16 17.123 N	60 36.136 W	
088	06:00	1682.62	100.1	5.2/107	3611.1	16 17.127 N	60 33.833 W	
088	06:30	1685.05	104.4	5.3/107	4406.0	16 17.137 N	60 31.733 W	
088	07:00	1687.73	103.0	5.6/111	4865.0	16 17.140 N	60 29.459 W	
088	07:30	1690.48	100.2	5.0/113	4763.0	16 17.143 N	60 27.049 W	
088	08:00	1693.12	108/113	4.82	4743.0	16 17.183 N	60 24.711 W	
088	08:30	1695.76	100/113	4.92	4905.0	16 17.136 N	60 22.235 W	
088	09:00	1698.30	45/111	4.82	4664.0	16 17.144 N	60 19.761 W	
088	09:30	1700.83	91/108	4.72	4959.0	16 17.139 N	60 17.222 W	
088	10:00	1703.24	84/108	4.72	5122.9	16 17.144 N	60 14.744 W	
088	10:30	1705.77	94/106	5.12	5216.9	16 17.147 N	60 12.198 W	
088	11:00	1708.30	91/106	5.12	5204.9	16 17.146 N	60 12.282 W	
088	11:30	1710.83	87/104	5.12	5069.9	16 17.137 N	60 09.741 W	
088	12:00	1713.34	84/104	5.12	4495.0	16 17.134 N	60 07.337 W	
088	12:30	1715.87	82/104	5.12	4890.0	16 17.119 N	60 06.639 W	
088	13:00	1718.40	84/104	5.12	4495.0	16 17.142 N	60 04.842 W	
088	13:30	1720.93	82/104	5.12	4883.0	16 17.142 N	60 02.372 W	
088	14:00	1723.46	82/104	5.12	4495.0	16 17.144 N	60 01.057 W	

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08C/16PM

RESEARCH VESSEL MAURICE EWING
SCIENCE WATCHSTANDER LOG

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J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
088	09:00	1718.59	86/108	5.02	4902.0	16 17-138	059 59.805 W	
088	09:30	1721.31	88/108	5.42	4732.0	16 17-141	059 59.458 W	
088	09:55	1723.57	86/109	5.12	4611.0	16 17-134	059 55.441 W	pened over OBS 37
088	10:00	1723.98	84/112	5-22.	4839.0	16 17-138	059 55.083 W	
088	10:30	1726.79	82/112	5-22	5015.9	16 17-128	059 52.639 W	
088	11:00	1729.63	88/115	5.42	4940.0	16 17-130	059 50.203 W	
088	11:30	1732.47	88/114	5.72	5000.9	16 17-131	059 42.757 W	
088	12:00	1735.33	88/115	5.72	5048.9	16 17-132	059 45.288 W	
088	12:30	1738.04	85.0	5.6/116	5060.8	16 17-123N	059 42.850W	16T
088	13:00	1743.92	83.1	6.0/116	5047.9	16 17-132N	059 40.518W	14
088	13:30	1747.47	90.4	5.2/116	4952.0	16 17-120N	059 37.786W	14T
088	14:00	1749.44	88.7	4.9/116	5075.0	16 17-112N	059 35.280W	14T
088	14:30	1750.72	225.8	4.5/118	5220.9	16 15-096N	058 32.641W	14T
088	15:00	1752.02	253.5	4.4/118	5170.5	16 14-573N	058 35.092W	14T
088	15:30	1755.31	274.7	4.5/118	4885.9	16 14-581N	058 37.588W	14T
088	16:00	1757.61	274/118	4.32	4781.0	16 14-558N	059 40.009W	
088	17:00	1759.86	273/118	4.22	4537.0	16 14-565N	059 42.536W	
088	17:30	1762.13	274/118	4.62	4792.0	16 14-558N	059 45.074W	
088	18:00	1764.23	276/118	3.82	4984.0	16 14-553N	059 47.590W	
088	18:30	1766.30	273/118	3.82	4988.0	16 14-565N	059 50.261W	
088	19:00	1768.06	269/118	3.52	5009.9	16 14-565N	059 52.570W	
088	19:30	1769.96	273/118	3.92	4820.0	16 14-566N	059 52.669W	
088	20:00	1771.83	88/112	3.92	4737.0	16 14-568	059 57.563 W	
088	20:30	1773.74	273/114	4.02	4914.0	16 14-582	060 03.098 W	
088	21:00	1775.71	273/115	4.02	4846.0	16 14-584	060 02.639 W	

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CRUISE 4803

RESEARCH VESSEL MAURICE EWING
SCIENCE WATCHSTANDER LOG

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CSE/RPM

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
085	21:30	1737.69	221/76	3.72	4858.0	16 14.562 N	60 08.192 W	
088	22:00	1739.69	259/77	4.42	4865.0	16 14.565 N	60 07.725 W	
088	22:30	1781.71	265/78	4.02	4972.0	16 14.567 N	60 10.244 W	
088	23:00	1783.90	265/84	4.42	4915.0	16 14.557 N	60 12.763 W	
088	23:30	1786.16	264/83	4.42	4796.0	16 14.564 N	60 15.320 W	
089	0:00	1788.45	264/80	4.42	4551.0	16 14.561 N	60 17.947 W	
089	0:30	1790.62	253.6	4.4/84	4436.0	16 14.556 N	60 20.447 W	
089	1:00	1792.82	263.0	4.5/82	4683.0	16 14.565 N	60 22.388 W	
089	1:30	1795.05	260.7	4.3/82	4805.0	16 14.566 N	60 25.527 W	
089	2:00	1797.21	259.9	4.1/81	4846.0	16 14.566 N	60 27.988 W	
089	2:30	1799.38	255.9	4.1/82	4729.0	16 14.562 N	60 30.448 W	
089	3:00	1801.49	259.1	4.5/81	4134.0	16 14.560 N	60 32.564 W	
089	3:30	1803.70	256.8	3.4/81	3241.0	16 14.557 W	60 35.491 W	
089	4:00	1805.93	258.7	4.6/81	3258.0	16 14.560 N	60 38.107 W	
089	4:30	1808.14	258/81	4.72	2004.0	16 14.561 N	60 40.514 W	
089	5:00	1810.30	253/81	4.82	3011.1	16 14.562 N	60 43.063 W	
089	5:30	1812.77	166/106	5.42	3011.1	16 13.492 N	60 44.798 W	
089	6:00	1815.77	163/111	6.22	3012.3	16 11.135 N	60 44.321 W	
089	6:30	1818.78	160/110	5.92	1111.3	16 08.825 N	60 43.918 W	
089	07:00	1821.81	113/113	6.32	1094.3	16 07.082 N	60 42.807 W	
089	07:30	1824.81	96/110	5.62	1276.3	16 06.886 N	60 40.527 W	
089	08:00	1827.76	100/110	5.62	1714.3	16 06.875 N	60 38.231 W	
089	08:30	1830.67	101/110	6.12	3234.2	16 06.875 N	60 36.000 W	
089	09:00	1833.66	99/113	6.32	2711.2	16 06.873 N	60 33.648 W	
089	09:30	1836.67	98/112	5.72	3666.1	16 06.873 N	60 31.209 W	
089	10:00	1839.61	97/111	5.82	4415.0	16 06.871 N	60 28.736 W	

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CRUISE 9803

089 = 3/30/48

0800 PM

RESEARCH VESSEL MAURICE EWING

SCIENCE WATCHSTANDER LOG

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J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
089	10:30	1842.52	100/111	6.02	4636.0	16° 06.872' N	60° 26.276' W	
089	11:00	1845.40	94/110	5.42	4626.0	16° 06.871' N	60° 23.777' W	
089	11:30	1848.19	99/110	5.32	4570.0	16° 06.874' N	60° 21.340' W	
089	12:00	1850.78	96/106	5.32	4574.0	16° 06.872' N	60° 19.035' W	
089	12:30	1853.44	97.3	5.0/103	4508.0	16° 06.880' N	60° 16.502' W	
089	13:00	1855.98	97.2	4.7/101	4582.0	16° 06.887' N	60° 14.017' W	
089	13:30	1858.60	92.0	5.2/101	4623.0	16° 06.879' N	60° 11.537' W	
089	14:00	1860.81	98.7	5.0/100	4582.0	16° 06.825' N	60° 09.147' W	
089	14:00	1861.28	93.1	4.9/100	4558.0	16° 06.872' N	60° 08.838' W	Passed over OBS #14 (SP 1465).
089	14:30	1863.32	89.5	5.1/102	4526.0	16° 06.866' N	60° 06.643' W	
089	15:00	1865.76	93.1	4.9/101	4584.0	16° 06.859' N	60° 04.184' W	
089	15:12	1866.93	82.0	4.7/99	4614.0	16° 06.857' N	60° 03.203' W	Passed over OBS #15 (SP 1664)
089	15:30	1868.25	90.7	5.3/99	4763.0	16° 06.859' N	60° 01.711' W	
089	16:00	1870.63	82.2	4.7/102	4832.0	16° 06.854' N	60° 00.553' W	
089	16:21:28	1872.68	89/107	5.32	4693.0	16° 06.844' N	59° 57.618' W	Passed over OBS #16
089	16:30	1873.38	92/105	5.02	4705.0	16° 06.850' N	59° 56.881' W	
089	17:00	1875.88	89/105	5.32	4665.0	16° 06.853' N	59° 54.441' W	
089	17:30	1878.61	87/104	4.62	4775.0	16° 06.869' N	59° 51.977' W	Passed over OBS #17
089	18:00	1880.99	96/104	4.92	4735.0	16° 06.872' N	59° 49.554' W	
089	18:30	1883.57	88/107	5.62	4647.0	16° 06.863' W	59° 47.128' W	
089	19:00	1886.15	92/109	5.72	4945.0	16° 06.865' N	59° 44.585' W	
089	19:30	1888.68	94/109	5.32	4905.0	16° 06.874' N	59° 42.117' W	
089	20:00	1891.29	89/109	5.32	4756.0	16° 06.867' N	59° 39.619' W	
089	20:30	1893.88	88/102	5.22	4725.0	16° 06.872' N	59° 37.092' W	(Speed reduced momentarily)
089	21:00	1896.23	91/109	5.12	4924.0	16° 06.873' N	59° 34.745' W	
089	21:30					16° 06.873' N	59° 32.000' W	See next page

CRUISE 4603

05/12/91

RESEARCH VESSEL MAURICE EWING

SCIENCE WATCHSTANDER LOG

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J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
089	21:29	1898.67	91/100	4.92	4777.0	16. 06. 876	59 32.289 W	End of line marker
089	21:30	1899.73	89/101	5.02	4785.0	16 06. 876	59 32.237 W	
089	22:00	1901.23	91/100	4.72	4839.0	16 06. 893	59 29.752 W	End shooting from night into the wind to pull in
089	22:30	1903.03	114/74	3.52	4849.0	16 06. 378	59 28.159 W	Port guns in
089	22:42	1903.74	113/72	4.72	4868.0	16 06. 140	59 27.500 W	Starboard guns in
089	23:00	1904.44	150/0	0.62	4846.0	16 05. 893	59 26.444 W	Pulling in five streamers
089	23:30	1906.53	126/44	1.02	4836.0	16 05. 112	59 25.050 W	
090	0:00	1907.20	108/42	1.52	4851.0	16 04. 912	59 24.486 W	
090	6:50	1907.82	102/22	1.3/42	4872.0	16 04. 684	59 23.974 W	
090	1:00	1908.55	113.3	4.7/84	4930.0	16 04. 339 N	057 23.322 W	
090	1:17	1909.20	107.5	1.2/42	4982.0	16 03. 861 N	059 22.354 W	
090	2:00	1910.89	119.1	3.7/2	5077.9	16 03. 222 N	059 21.292 W	Finished pulling in streamers
090	2:30	1913.02	302.6	7.5/101	5107.9	16 03. 224 N	059 20.724 W	
090	3:00	1916.84	303.7	8.4/100	4955.0	16 05. 266 N	059 24.048 W	
090	3:30	1920.88	306.6	7.7/100	4992.0	16 07. 460 N	059 27.605 W	
090	4:00	1924.77	302.5	8.4/100	4947.0	16 09. 575 N	059 31.041 W	net suspended full till 8:00.
090	08:00	1947.69	346/0	1.22	4995.0	16 22. 648	59 32.002 W	Water returned.
090	08:30	1948.49	111/89	1.92	4992.9	16 22. 571	59 31.969 W	
090	09:00	1949.50	114/39	1.72	5048.9	16 22. 272	59 31.594 W	Obs #48 signaled
090	09:15	1949.97	284/0	1.32	5085.9	16 22. 194	59 31.635 W	Obs #48 returned.
090	09:30	1950.23	222/88	4.22	5031.9	16 22. 260	59 32.150 W	
090	10:00	1953.87	226/0	2.62	5021.7	16 22. 553	59 32.572 W	
090	10:35	1954.78	86/0	2.82	5030.9	16 22 2/5	59 32.331 W	Obs #48 signaled
090	10:30	1955.01	92/0	4.42	5097.9	16 22. 270	59 32.080 W	
090	10:46	1955.51	352/0	0.82	5078.9	16 22. 263	59 32.017 W	
090	11:00	1956.09	350/30	9.42	5046.9	16 21. 281	59 32.032 W	Obs #48 returned

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4/2/2011

1. *Handwritten signature*

CRUISE EW-1803RESEARCH VESSEL MAURICE EWING
SCIENCE WATCHSTANDER LOGPAGE 36

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	LON	REMARKS
096	19:30	1994.09	335/16	11.1	4915.0	16° 19.130'N	60° 01.211'W	
090	19:00	2001.44	356/6	1.03	5090.9	16° 22.123'N	60° 02.406'W	
090	19:09	2001.73	139/32	3.93	5075.9	16° 22.143'N	60° 02.307'W	OBS # 46 signaled
090	19:20	2002.02	181/0	-23	5023.9	16° 21.896'N	60° 02.453'W	OBS # 46 retrieved
090	19:30	2002.89	289/100	11.3	5231.9	16° 21.991'N	60° 02.887'W	
090	20:00	2007.58	72/0	2.43	5022.9	16° 22.229'N	60° 08.039'W	
090	20:15	2008.06	128/56	3.23	5010.9	16° 22.089'N	60° 07.919'W	OBS # 45 signaled
090	20:24	2008.44	171/0	0.83	5011.9	16° 21.809'N	60° 07.762'W	OBS # 45 retrieved
090	20:30	2008.52	182/73	2.13	5014.4	16° 21.752'N	60° 07.748'W	
090	21:00	2012.39	170/16	8.93	4902.0	16° 18.378'N	60° 06.432'W	
090	21:29	2013.99	42/69	2.03	4894.0	16° 16.947'N	60° 06.368'W	OBS # 35 radio signal
090	21:36	2014.01	108/61	2.63	4889.0	16° 16.934'N	60° 06.357'W	
090	21:41	2014.64	183/0	1.03	4881.0	16° 16.640'N	60° 06.009'W	OBS # 35 on board
090	22:00	2015.54	144/18	8.83	4904.0	16° 15.755'N	60° 05.634'W	
090	22:30	2020.02	174/0	4.03	4781.0	16° 12.021'N	60° 04.549'W	
090	22:43	2020.50	127/47	1.53	4786.0	16° 11.879'N	60° 04.541'W	OBS # 25 signaled
090	22:54	2020.55	161/0	0.43	4793.0	16° 11.658'N	60° 04.482'W	OBS # 25 retrieved
090	23:00	2020.61	194/75	1.13	4784.0	16° 11.650'N	60° 04.498'W	
090	23:30	2023.88	182/01	7.93	4669.0	16° 08.860'N	60° 02.915'W	
090	23:59	2026.22	171/37	1.63	4610.0	16° 06.711'N	60° 02.939'W	OBS # 15 signaled
091	0:00	2026.23	119/76	1.73	4612.0	16° 06.704'N	60° 02.934'W	
091	0:10	2026.46	127/3	4/0	4626.0	16° 06.644'N	60° 02.777'W	OBS # 15 retrieved
091	0:30	2028.35	270/8	9.7/1.24	4571.0	16° 06.876'N	60° 04.802'W	KT
091	1:00	2031.86	223/2	11/24	4508.0	16° 07.008'N	60° 05.483'W	KT
091	1:30	2032.39	128.1	17/20	4557.0	16° 06.881'N	60° 05.715'W	KT
091	2:00	2033.02	184/2	3/41	4558.0	16° 06.573'N	60° 05.760'W	KT

CRUISE EW 4503RESEARCH VESSEL MAURICE EWING
SCIENCE WATCHSTANDER LOGPAGE 37

J-DAY	TIME	PIT LOG	CSE	SPD	DEPTH	LAT	Lon	REMARKS
091	2:02	2053.41	116.0	2.5/31	4574.0	16° 07.64' N	060° 08.37' W	OBS # 14 sighted (un-identified)
091	2:20	2054.15	117.2	2.7/31	4558.0	16° 08.82' N	060° 08.67' W	OBS # 14 retrieved
091	2:30	2055.61	117.7	11.4/131	4509.0	16° 08.15' N	060° 09.10' W	RT
091	2:42	2057.99	117.7	9.5/132	4742.0	16° 08.52' N	060° 09.27' W	OBS # 24 sighted
091	3:00	2059.47	117.2	10.4/42	4861.0	16° 11.77' N	060° 10.20' W	RT
091	3:03	2059.46	117.8	12.1/40	4857.0	16° 11.90' N	060° 10.20' W	OBS # 24 retrieved
091	3:20	2042.33	118.0	11.4/44	5004.9	16° 15.77' N	060° 11.02' W	RT
091	3:57	2045.03	118.8	1.7/51	5192.3	16° 17.07' N	060° 12.05' W	OBS # 34 sighted
091	4:00	2045.27	120.4	2.2/43	5174.9	16° 17.02' N	060° 11.90' W	RT
091	4:12	2045.61	118/5	.9	5158.9	16° 16.43' N	060° 11.75' W	OBS # 34 retrieved
091	4:30	2047.66	118/50	11.6	5231.9	16° 18.65' N	060° 12.77' W	
091	5:00	2051.38	109/26	1.60	5092.9	16° 22.11' N	060° 13.77' W	
091	5:08	2051.50	117/46	.2	5092.9	16° 22.13' N	060° 13.80' W	OBS # 44 sighted off the bow
091	5:30	2052.04	118/32	1.40	5139.9	16° 21.94' N	060° 13.63' W	OBS # 44 retrieved
091	5:00	2056.58	116/51	11.5	2056.51	16° 22.33' N	060° 18.58' W	
091	6:22	2058.01	116/42	.9	4958.0	16° 22.20' N	060° 19.26' W	OBS # 43 sighted
091	6:30	2058.26	117/50	3.10	4951.0	16° 22.17' N	060° 19.15' W	
091	6:39	2058.67	117/50	1.30	4942.0	16° 21.91' N	060° 19.06' W	OBS # 43 retrieved
091	7:00	2061.41	118/51	11.0	5150.9	16° 22.16' N	060° 22.09' W	
091	7:30	2064.16	118/6	1.53	5170.9	16° 22.10' N	060° 24.93' W	
091	7:35	2064.28	118/53	1.23	5168.9	16° 22.20' N	060° 24.90' W	OBS # 42 sighted
091	7:50	2064.77	118/0	.83	5168.9	16° 21.96' N	060° 24.77' W	OBS # 42 retrieved
091	8:00	2065.24	118/22	2.23	5151.9	16° 21.96' N	060° 25.28' W	
091	08:30	2069.72	118/42	3.63	4904.0	16° 22.26' N	060° 30.23' W	
091	08:55	2070.23	118/59	1.03	4875.0	16° 22.20' N	060° 30.30' W	OBS # 41 sighted
091	09:00	2070.34	118/30	1.73	4878.0	16° 22.18' N	060° 30.68' W	

OBS # 41 sighted
 OBS # 42 sighted
 OBS # 43 sighted
 OBS # 44 sighted
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 OBS # 80 sighted
 OBS # 81 sighted
 OBS # 82 sighted
 OBS # 83 sighted
 OBS # 84 sighted
 OBS # 85 sighted
 OBS # 86 sighted
 OBS # 87 sighted
 OBS # 88 sighted
 OBS # 89 sighted
 OBS # 90 sighted
 OBS # 91 sighted
 OBS # 92 sighted
 OBS # 93 sighted
 OBS # 94 sighted
 OBS # 95 sighted
 OBS # 96 sighted
 OBS # 97 sighted
 OBS # 98 sighted
 OBS # 99 sighted
 OBS # 100 sighted

