

MLL1805 Feb-19th 2018 to March 19th 2018

30-minute log

Alert: this should be COG 1 min average

JD	Time (GMT)	Lat [°S]	Lat (dec)	Lon (°E)	Lon (dec)	depth (m)	Magnetics	Shot Number	COG (degrees)	speed (kts)	wind (kts)	Wind Direction	seas (m)	gravity	sea temp (°)	salinity	comment	initials
50	11:32	47	11.8386	158	57.7100	114.7	60073		231.10	10.10	5.60	SW	1.2m	979709	13.88	34.825	First Log	JE
50	11:59	47	14.6500	158	52.6600	116.3	60166		231.00	10.10	11.20	SW	1.2m	979721	13.78	34.737		BI
50	12:33	47	17.9400	158	45.9700	113.9	60224		240.40	10.60	7.80	SW	1.2m	979739	14.41	34.832		JE
50	12:59	47	20.2120	158	40.4000	115	59949		227.00	9.60	9.00	SW	1.2m	979737	14.47	34.871		JE
50	13:29	47	23.1400	158	35.2200	116.0	59847		236.10	9.90	16.50	S	1.2m	979729	14.44	34.872		BI
50	13:59	47	26.0000	158	30.0600	118.00	59910		229.60	9.30	16.10	SE	1.2m	979732	14.31	34.885		JE
50	14:29	47	29.0700	158	24.7600	120.8	59991		230.30	9.30	18.30	S	1.2m	979734	14.48	34.886		JE
50	15:00	47	32.0400	158	19.2400	121.29	60129		232.10	9.10	21.10	SE	1.2m	979730	14.26	34.872		JE
50	15:30	47	35.0000	158	14.0300	125.18	60164		231.00	9.00	15.10	SE	1.2m	979741	14.30	34.883		JE
50	16:05	47	37.9600	158	7.9600	120.23	60221		230.30	8.40	19.70	SE	1.2m	979751	14.09	34.884		JE
50	16:30	47	41.0200	158	3.8600	135.89	60204		231.40	8.40	16.60	S	1.2m	979749	14.31	34.907		JE
50	17:01	47	43.6313	167	58.4000	135.63	60195		236.00	8.10	11.90	S	1.2m	979767	14.45	34.911		BI
50	17:25	47	45.9700	167	56.0200	136.17	60331		237.60	9.10	16.10	SE	1.2m	979770	14.52	34.922		JE
50	18:01	47	48.5091	167	47.2297	140.99	60685		237.10	8.80	14.00	SE	1.2m	979775	14.42	34.908		BI
50	18:29	47	50.7900	167	41.8600	137.47	60470		237.10	9.20	14.90	SE	1.2m	979784	14.42	34.903		JE
50	18:54	47	52.9000	169	37.4000	132.66	60521		235.20	9.20	13.30	S	1.2m	979801	14.28	34.902		JE
50	19:27	47	55.8700	167	30.1600	138.28	60485		237.20	9.70	16.10	SE	1.2m	979799	14.43	34.896		JE
50	20:00	47	58.5200	167	23.9400	137.62	60496		236.20	9.70	17.70	SE	1.2m	979784	14.30	34.890		EH
50	20:24	48	1.5863	167	16.8746	141.08	60451		238.50	10.20	22.20	SE	2m	979800	14.32	34.882		EH
50	20:58	48	3.7314	167	11.7854	144.1	60496		235.90	10.30	22.70	S	1.2m	979805	14.19	34.878		EH
50	21:28	48	6.6341	167	5.2693	142.56	60552		237.30	10.60	18.20	SE	1.2m	979824	14.23	34.885		EH
50	21:58	48	9.6788	166	58.3548	142.87	60577		236.70	10.90	20.00	SE	2m	979850	14.26	34.894		EH
50	22:29	48	12.4999	166	51.9488	142.86	60620		237.80	10.60	18.50	SE	1 m	979849	14.31	34.885		EH
50	22:54	48	14.7415	166	46.1208	141.89	60582		239.00	10.40	22.00	SE	1.2m	979864	14.29	34.879		EH
50	23:27	48	16.2000	166	38.1210	144.28	60749		238.30	10.10	22.70	SE	2.3m	979864	14.79	34.829		EH
51	0:36	48	48.7956	166	20.4480	168.82	60875		238.80	10.50	24.10	SE	2m	979877	15.03	34.937		EW
51	1:03	48	51.5864	166	13.3927	161.43	60888		238.00	10.00	26.00	SE	2m	979861	14.83	34.910		EW
51	1:30	48	54.9073	166	6.7140	159.54	60862		238.60	10.50	25.00	SE	1.2m	979854	14.95	34.852		EW
51	1:57	48	57.2129	165	59.2408	157.05	60836		238.30	10.60	30.90	SE	2m	979791	14.29	34.848		EW
51	2:28	48	59.7735	165	51.3412	3002.69	60809		237.20	9.90	29.00	SE	2m	979789	14.14	34.868		EW
51	2:58	48	62.3474	165	43.9186	3005.95	60856		236.20	10.50	26.00	SE	2.5m	979797	14.96	34.877		EW
51	3:28	48	64.7162	165	36.6198	2809.26	60887		255.10	10.00	26.40	SE	2.5-m	979818	14.17	34.852		LC
51	3:58	48	67.5842	165	29.1898	2800.49	60967		259.00	10.30	25.70	SE	2.5-m	979834	14.69	34.916		LC
51	4:28	48	70.2900	165	26.9517	121200	60945		260.10	10.20	24.00	SE	1.5m	979845	14.88	34.913		LC
51	5:02	48	73.0823	165	12.4700	2407.29	60991		258.40	10.80	24.50	SE	2.5-m	979872	14.11	34.829		KG
51	5:32	48	75.8742	165	5.0708	2127.2	61193		260.80	9.90	27.60	SE	2.5m	979892	14.04	34.787		KG
51	6:00	48	78.6844	164	37.6218	3660.06	61282		257.80	10.10	23.70	SE	2.5m	979904	14.07	34.799		KG
51	6:32	48	81.0798	164	49.7309	61386		258.60	10.10	25.40	SE	2.5m	979849	13.25	34.800		KG	
51	7:00	48	83.9300	164	41.1327	3031.01	61465		257.70	10.20	23.40	SE	2.5m	979806	13.21	34.784		DK
51	7:28	48	86.3941	164	33.7634	3248.14	61546		258.60	10.50	23.80	SE	2.5m	979814	13.47	34.756		DK
51	7:58	48	88.3991	164	28.3568	4260.97	61301		258.40	9.80	25.60	SE	2.5m	979708	13.40	34.789		DK
51	8:30	48	90.3712	164	20.6462	5485.06	61170		257.70	9.80	27.10	SE	2.5m	979680	13.79	34.820		DK
51	9:00	48	92.3608	164	14.0211	5137.84	61500		257.80	9.80	22.60	SE	2.5m	979696	13.84	34.814	Powered off magnetometer at 9:07	DK
51	9:28	48	93.7186	164	6.9481	5134.05	off		258.90	9.90	24.10	SE	3m	979732	13.57	34.793		DK
51	9:58	48	95.1813	163	59.4160	4962.82	off		258.80	10.00	27.60	SE	2.5m	979761	13.55	34.745		DK
51	10:28	48	96.5968	163	52.1533	4725.08	off		259.70	9.60	29.30	SE	2.5m	979794	13.47	34.713		DK
51	10:57	48	98.1000	163	44.9200	4157.01	off		261.80	10.40	27.20	S	2.5m	979837	13.29	34.715		DK
51	11:30	48	100.7122	163	36.8556	4261.89	off		258.79	10.00	23.30		2.50	979845	13.31	34.698		BS
51	12:04	48	102.4310	163	28.1593	4142.35	off		260.70	10.50	27.50		2.50	979854	13.47	34.761		BS
51	12:31	48	104.0805	163	21.9648	3760.21	off		258.00	10.10	33.40		2.50	979869	13.46	34.760		BS
51	13:00	48	105.7100	163	14.8623	3940.21	off		258.50	9.60	28.40		175	979874	13.29	34.765		BS
51	13:30	48	107.3400	163	8.6600	4126	off		260.00	0.80	33.00	SE	2.5m	979815	13.81	34.749	ORBS101 DEPLOYED (14:00)	BI
51	14:00	48	108.9700	163	14.1100	3806	off		260.30	8.40	24.50	S	2.50	979789	13.45	34.758		BI
51	14:30	48	110.6000	163	17.8800	3646	off		258.70	10.20	28.80	SE	2.50	979829	13.52	34.761	ORBS102 DEPLOYED (14:27)	BI
51	15:01	48	112.2300	163	22.9400	3700	off		261.60	8.10	23.70	SE	2.50	979791	13.43	34.756		BI
51	15:29	48	113.8600	163	24.5300	3924	off		257.80	10.60	18.90	SE	2.50	979831	13.41	34.736	ORBS103 DEPLOYED (15:29)	BI
51	15:59	48	115.4900	163	26.1200	4147	off		262.50	9.50	26.70	SE	2.50	979869	13.51	34.751		BI
51	16:30	48	117.1200	163	27.7100	4160	off		262.50	9.50	22.00	S	2.50	979812	13.54	34.732	ORBS104 DEPLOYED (16:30)	BI
51	16:59	48	118.7500	163	29.3000	4410	off		261.60	9.80	22.20	SE	2.50	979745	13.52	34.746		BI
51	17:33	48	120.3800	163	30.8900	4462	off		262.50	9.70	18.70	SE	2.50	979745	13.50	34.747	ORBS105 DEPLOYED (17:19)	BI
51	18:01	48	122.0100	163	32.4800	4490	off		262.50	9.50	18.40	SE	2.50	979773	13.40	34.706		BI
51	18:57	48	123.6400	163	34.0700	5040	off		262.50	9.50	19.40	SE	2.50	979739	13.39	34.723	ORBS106 DEPLOYED 18:11	BI
51	19:31	48	125.2700	163	35.6600	5052.61	off		262.50	9.50	19.30	SE	2.50	979765	13.37	34.723	ORBS107 DEPLOYED 19:03	BI
51	20:06	48	126.9000	164	37.2877	5039.79	off		262.50	10.84	22.90	SE	1.25	979665	13.57	34.783	ORBS108 DEPLOYED 19:48	BI
51	20:30	48	128.5300	164	38.9100	5050.99	off		262.50	9.99	18.90	S	1.25	979747	13.61	34.826		JP
51	21:00	48	130.1600	164	40.5400	5062.19	off		262.50	9.99	18.90	S	1.25	979722	13.61	34.826		JP
51	21:30	48	131.7900	164	42.1700	5073.39	off		262.50	9.99	18.90	S	1.25	979707	13.61	34.826		JP
51	22:00	48	133.4200	164	43.8000	5084.59	off		262.50	9.99	18.90	S	1.25	979692	13.61	34.826		JP
51	22:30	48	135.0500	164	45.4300	5095.79	off		262.50	9.99	18.90	S	1.25	979677	13.61	34.826		JP
51	23:00	48	136.6800	164	47.0600	5106.99	off		262.50	9.99	18.90	S	1.25	979662	13.61	34.826		JP
51	23:30	48	138.3100	1														

54	0.58	48	53.8504	163	40.2440	4437.12	off			161.60	1.10	21.20	241	2.00	979789	13.43	34.755	Obs 105 on surface	DK	
54	1.28		53.8003	163	39.8423	4437.12	off			277.20	2.80	27.60		2.00	979795	13.49	34.757	Obs 105 on surface	DK	
54	2.02	48	55.0531	163	45.0513	4505.13	off			157.60	0.50	21.20	240	2.50	979786	13.37	34.738	Enroute to OBS106	KS	
54	2.32	48	55.0118	163	47.5760	4447.12	off			163.30	0.70	23.20	240	1.25	979768	13.36	34.728	At OBS 106 location preparing to retrieve	KS	
54	3.00	48	56.1135	163	47.2296	4447.12	off			88.70	1.10	16.80	244	1.50	979771	13.36	34.727	At OBS 106 location preparing to retrieve	KS	
54	4.30	48	56.1815	163	47.4231	4447.12	off			135.80	0.80	19.40	250	2.00	979773	13.45	34.739	Enroute to OBS 106 location preparing to retrieve	KS	
54	4.05		57.5403	163	52.5523	4873.6	off			115.20	10.60	19.70	250	2.00	979701	13.31	34.709	Enroute to OBS107	KS	
54	4.30		58.2777	163	54.7406	5013	off			165.00	0.10	18.30	268	2.00	979740	13.33	34.709	At OBS 107 location preparing to retrieve	KS	
54	5.00	48	58.4340	163	54.1803	5011.38	off			201.10	0.80	17.30	260	1.50	979736	13.33	34.717	At OBS 107 location preparing to retrieve	KS	
54	5.30	48	58.4104	163	54.9277	5011.38	OFF			147.80	0.10	21.20	240	2.00	979737	13.33	34.713	At OBS 107 location preparing to retrieve	KS	
54	6.00	48	58.8802	164	57.7784	5013.38	off			305.70	2.60	22.80	248	2.00	979742	13.34	34.916	Obs 107 on surface	KS	
54	6.30	48	59.7859	164	60.0451	5850.74	OFF			113.80	10.40	27.90	240	2.00	979649	13.45	34.739	Enroute to OBS108	KS	
54	7.01		58.0407	164	6.2626	5801.8	OFF			254.80	1.00	23.20	WNW	1.75	979715	13.45	34.760	At OBS 108 location preparing to retrieve	EW	
54	7.31		58.0428	164	2.3860	5801.8	OFF			254.80	1.00	23.20	WNW	1.75	979715	13.45	34.757	At OBS 108 location preparing to retrieve	EW	
54	8.08	49	0.7012	164	0.2331	5801.8	OFF			318.70	0.70	21.60	SW	3.00	979715	13.45	34.757	At OBS 108 location preparing to retrieve	EW	
54	8.35		0.6815	164	2.2888	5791.01	OFF			13.60	0.90	22.20	WNW	2.50	979706	13.46	34.758	Enroute to OBS 109	EW	
54	9.00		2.9426	164	7.2652	4075.74	OFF			112.90	11.00	19.80	SW	3.00	979681	13.44	34.770	Enroute to OBS 109	EW	
54	9.30	49	2.7745	164	10.0156	4199.08	OFF			30.50	0.90	24.80	SW	3.00	979750	13.51	34.818	At OBS 109 location preparing to retrieve	LC	
54	10.00		2.8327	164	9.9306	OFF	OFF			142.50	0.80	18.70	SW	2.50	979754	13.48	34.814	At OBS 109 location preparing to retrieve	LC	
54	10.30		2.7842	164	9.9707	OFF	OFF			110.70	0.20	19.20	WNW	2.50	979755	13.42	34.801	At OBS 109 location preparing to retrieve	LC	
54	11.00	49	2.9040	164	10.0022	OFF	OFF			224.00	0.70	14.10	SW	1.25	979759	13.40	34.788	At OBS 109 location preparing to retrieve	LC	
54	11.30		2.6319	164	9.8150	OFF	OFF			162.80	1.20	13.30	250	2.00	979754	13.42	34.773	Obs 109 in not coming up - i	BS	
54	12.00	48	2.6676	164	10.0846	OFF	OFF			214.20	1.30	11.20	270	2.00	979753	13.41	34.772	Obs 109 in not coming up - i	BS	
54	13.00		4.3021	164	16.1892	3033	OFF			112.80	7.20	14.60	291	1.50	979797	13.59	34.824	Enroute to OBS110	BS	
54	14.30		4.8411	164	17.2077	OFF	OFF			328.50	14.90	31.10	309	1.50	979875	13.56	34.830	OBS110 is surfaced, but not yet visually located	JP	
54	18.00	49	6.8895	164	24.8840	OFF	OFF			130.00	17.20	WNW		1.25	979956	13.58	34.830	OBS110 is surfaced, but not yet visually located	JP	
54	18.31		7.1633	164	24.7967	OFF	OFF			331.50	1.05	17.80	WNW	1.25	979946	13.58	34.830	OBS110 is surfaced, but not yet visually located	JP	
54	19.00		7.1909	164	24.8404	OFF	OFF	-		13.10	1.80	23.20	WNW	1.25	979947	13.58	34.830	Retrieving OBS111	JP	
54	19.29	49	6.7117	164	25.2250	OFF	OFF	-		67.50	2.30	12.20	WNW	1.25	979942	13.57	34.830	OBS111 in deck	JP	
54	20.00		8.2173	164	30.3683	1701.97	OFF	-		115.40	10.30	16.20	WNW	1.25	979909	13.62	34.871	En Route to OBS113	EH	
54	20.30	49	10.5454	164	37.6130	2504.24	OFF	-		115.90	10.50	15.00	WNW	1.25	979824	13.18	34.801	En Route to OBS113	EH	
54	21.00	49	11.8226	164	39.4892	OFF	OFF	-		117.20	11.20	42.40	N	1.50	979917	13.12	34.892	OBS113 is its way to surface	EH	
54	21.50		11.2564	164	39.7723	2560.88	OFF	-		50.20	2.40	20.80	WNW	1.00	979912	13.03	34.801	En Route to OBS114	EH	
54	21.88		12.1433	164	43.0566	2560.88	OFF	-		113.80	10.60	18.90	WNW	1.25	979856	13.09	34.797		EH	
54	22.30	49	13.6548	164	47.4748	OFF	OFF	-		1.40	1.59	17.20	WNW	1.25	979890	13.20	34.827	OBS114	JP	
54	23.01		13.7169	164	47.5613	OFF	OFF	-		82.70	0.35	22.10	WNW	1.25	979885	13.22	34.820	OBS114	JP	
54	23.28		13.9030	164	48.8112	3022.89	off			113.30	10.70	22.80		330	1.25	979840	13.23	34.825	Enroute to OBS115	KS
54	0.00	49	14.51979	164	55.2933	3423.12	off	-		2.10	2.10	20.6	WNW	1.25	979814	13.23	34.807	OBS115 at OBS 115	AT	
55	0.29		15.5241	164	56.1980	3431	off			323.00	1.20	20.90		337	2.00	979852	13.46	34.808	OBS115 at OBS 115	DK
55	0.58	49	15.9569	164	55.8575	3431	off			164.00	0.50	22.90		331	2.00	979851	13.38	34.809	OBS115 at OBS 115	DK
55	1.29		17.4707	164	57.4719	3441	off			160.70	11.80	22.30		337	2.00	979832	13.52	34.808	Recovered OBS 115, on the way to Auckland island for shelter	DK
55	1.40	49	22.6882	164	59.9845	3456.8	Just turned on			104.60	10.40	21.10	345	2.00	979835	13.24	34.796	Heading to Auckland island for shelter	KS	
55	2.30		28.2486	165	2.9136	3447.03	61429			164.10	10.50	25.80	340	2.00	979843	12.97	34.806	Heading to Auckland island for shelter	KS	
55	2.40		28.2486	165	35.9179	3447.03	61429			164.10	10.50	25.80	340	2.00	979843	12.97	34.806	Heading to Auckland island for shelter	KS	
55	3.00	49	30.0592	165	7.6244	3573.7	61539			162.30	10.40	22.00	358	2.50	979852	12.31	34.757	Heading to Auckland island for shelter	KS	
55	4.30		42.8250	165	10.0552	3336.7	61540			24.20	10.50	25.70	N	2.00	979860	13.87	34.684	Heading to Auckland island for shelter	KS	
55	5.30	49	42.2229	165	16.2122	3462.76	61627			163.70	15.50	26.30	WNW	2.00	979878	13.52	34.680	187 Lunched at OBS121	EW	
55	5.00		52.2430	165	14.0609	3431.03	61704			162.40	10.40	26.70	N	2.00	979881	11.29	34.592	Heading to Auckland island for shelter	EW	
55	5.28		56.7220	165	16.9602	3331.91	61643			161.10	10.50	28.20	N	2.00	979892	11.30	34.583	Heading to Auckland island for shelter	EW	
55	5.57		56.2095	165	19.7402	3294.76	61638			164.30	10.40	29.70	N	2.00	979904	11.24	34.626	Heading to Auckland island for shelter	EW	
55	6.30	50	7.4426	165	22.5811	3235.09	61672			159.50	10.90	35.00	N	1.50	979905	12.15	34.767	Heading to Auckland island for shelter	EW	
55	6.58		10.2746	165	25.2976	3209.89	61703			163.00	11.00	38.90	N	2.00	979907	11.98	34.756	Heading to Auckland island for shelter	EW	
55	7.25		17.0292	165	23.6715	3247.15	61748			127.50	42.40	42.40	N	2.00	979905	11.29	34.735	Heading to Auckland island for shelter	EW	
55	7.56		20.2373	165	30.6599	3361.24	61808			160.50	11.30	37.10	N	2.50	979895	11.62	34.621	Heading to Auckland island for shelter	EW	
55	8.27		28.2726	165	33.0294	3248.26	61886			161.60	10.40	36.70	N	1.25	979894	11.60	34.615	Heading to Auckland island for shelter	LC	
55	8.57		33.0325	165	36.1986	3084.4	61940			163.20	10.50	34.00	WNW	1.25	979907	11.57	34.610	Heading to Auckland island for shelter	LC	
55	9.30		38.7011	165	39.2714	3029.03	61766			162.40	10.60	34.00	WNW	1.25	979890	11.64	34.658	Heading to Auckland island for shelter	LC	
55	10.00		43.0381	165	41.6250	311.39	magnetometer on board			169.50	10.80	36.00	WNW	2.50	980029	11.20	34.586	Heading to Auckland island for shelter	LC	
55	10.27		43.5108	165	44.3397	211.89	magnetometer on board			160.10	10.20	33.20	WNW	1.00	980042	11.22	34.581	Heading to Auckland island for shelter	LC	
55	10.57		49.8746	165	44.7727	330.87	magnetometer on board			319.20	2.30	24.30	WNW	2.50	980068	11.26	34.580	Heading to Auckland island for shelter	LC	
55	11.36		53.1392	165	46.7035	224.69	off	OFF		155.90	10.60	33.60		325	2.00	980052	11.30	34.584	Heading to Auckland island for shelter	BS
55	12.30		59.6335	166	15.3513	188.34	OFF	OFF		113.10	10.20	33.80		341	2.00	980023	11.17	34.580	Heading to Auckland island for shelter	BS
55	13.30		59.2833	166	6.8315	189.44	OFF	OFF		84.60	10.90	34.50		306	2.00	980019	11.22	34.580	Chilling at Auckland island.	BS
55	13.00		58.0108	166	13.7482	150.29	OFF	OFF		44.10	69.00	28.90		309	2.00	980036	11.39	34.616	Chilling at Auckland island.	BS
55	14.21		56.5200	166	15.8500	129	OFF	OFF		13.90	14.50	34.50			2.00	980060	11.36	34.620	Chilling at Auckland island.	BI
55	15.30		56.1300	166	15.8450	122.51	OFF	OFF		272.00	0.60	6.00	WNW		1.00	1104527	11.48	34.616	Chilling at Auckland island. Sonars off	BI
55	15.46		56.7200	166	16.0700	OFF	OFF	OFF		270.00	0.60	9.70	WNW		1.00	1104527	11.48	34.612	Chilling at Auckland island.	BI
55	16.00		56.5122	166	16.5135	OFF	OFF	OFF		6.50	0.40	6.00	WNW		1.00	1104527	11.49	34.613	Chilling at Auckland island.	JP
55	16.31		56.3353	16																



61	16.30	47	2.4338	163	47.0193 off	off	off	175.80	1.75	12.00	81	1.00	979684	15.78	34.901 Recovering OBS203	JP	
61	17.30	47	2.2230	163	46.8077 off	off	off	209.50	0.95	19.10	95	1.00	979691	15.78	34.887 Recovering OBS203	JP	
61	18.30	47	2.1860	163	46.8547 off	off	off	182.40	0.40	82.80	81	1.00	979687	15.78	34.884 Recovering OBS203	JP	
61	18.00	47	2.2879	163	46.8276 off	off	off	143.30	0.68	18.50	86	1.25	979683	15.77	34.885 Recovering OBS203	JP	
61	18.59	47	0.2117	163	38.1210 off	4439.43 off	off	256.40	9.20	17.60 E	86	1.25	979726	15.42	34.770 In Route to OBS202	EH	
61	19.30	46	59.9799	163	37.4735 off	off	off	158.90	0.60	17.80 E	71	2.00	979680	15.44	34.772 Waiting for OBS202 to Surface	EH	
61	20.04	46	59.9907	163	37.3174 off	off	off	167.50	0.70	15.60 E	1.00	979682	15.44	34.773 Waiting for OBS202 to Surface	EH		
61	20.18	46	59.9894	163	37.2179 off	off	off	193.80	1.70	22.00 E	87	0.50	979689	15.44	34.779 Retrieving OBS202	EH	
61	21.08	46	59.9557	163	34.0728	454.01 off	off	194.57	10.80	19.77	1.00	979681	15.42	34.822 Forward to OBS201	EH		
61	21.27	46	57.7937	163	27.7883	4485.97 off	off	295.50	1.70	15.50	78	1.00	979694	15.44	34.827 Retrieving OBS201	EH	
61	21.59	46	57.9399	163	27.2367 off	off	off	184.30	0.50	12.80	85	1.00	979674	15.46	34.838 Retrieving OBS201	EH	
61	22.36	46	57.9397	163	27.0597	4612 off	off	177.00	0.10	13.60	73	1.00	979675	15.49	34.839 Retrieving OBS201	EH	
61	21.01	46	57.9434	163	27.5220 off	off	off	149.60	4.40	13.00	78	1.00	979673	15.46	34.828 Retrieving OBS201	EH	
61	21.26	46	58.2873	163	26.3233	447.17 off	off	269.20	4.30	10.50	60	1.25	979690	15.47	34.816 Finished OBS201	DK	
62	0.08	46	58.0958	163	21.5847	4515.77 off	off	263.10	4.70	14.50	66	2.50	979691	15.10	34.778 Deploying streamer	DK	
62	0.28	46	58.8669	163	19.2449	4474.66 off	off	164.70	5.00	14.00	71	1.25	979692	14.42	34.633 Deploying streamer	DK	
62	0.58	46	58.6011	163	18.0212	4500.12 off	off	145.00	12.70	12.00	71	2.00	979692	14.42	34.610 Deploying streamer	DK	
62	1.28	46	58.0237	163	12.3602	4481 off	off	283.50	4.90	9.30	70	1.25	979691	14.49	34.633 Deploying streamer	DK	
62	2.00	46	57.3569	163	8.4225	4382.13 off	off	285.80	4.70	10.50	90	1.25	979700	14.62	34.634 Deploying streamer	KG	
62	2.30	46	56.2277	163	5.7695	4281.45 off	off	282.10	4.70	9.80	90	1.25	979694	14.65	34.627 Deploying streamer	KG	
62	3.00	46	56.4644	163	2.2008	3912.43 off	off	281.50	4.50	10.00	90	1.25	979708	14.67	34.648 Deploying streamer	KG	
62	3.30	46	55.8692	163	58.9644	3789.36 off	off	287.10	3.80	8.80	80	1.25	979708	14.65	34.641 Deploying streamer	KG	
62	4.00	46	55.4736	163	57.1251	4108.24 off	off	288.30	4.20	9.40	90	1.25	979701	14.60	34.634 Deploying streamer	KG	
62	4.30	46	54.8206	162	54.2413	5368.74 off	off	290.00	4.10	8.30	72	1.25	979694	14.60	34.643 Deploying streamer	EH	
62	5.00	46	54.1783	162	51.5354	4502.73 off	off	288.20	3.80	9.30	50	1.25	979689	14.72	34.650 Deploying streamer	EH	
62	5.30	46	53.5572	162	48.0994	4527.58 off	off	289.20	4.30	10.50	60	1.25	979686	14.61	34.611 Deploying streamer	EH	
62	6.00	46	52.9255	162	45.9113	4536.22 off	off	288.70	4.00	7.60	60	1.25	979683	14.27	34.627 Deploying streamer	EH	
62	6.30	46	52.5232	162	43.0476	4551.08 off	off	287.00	4.00	8.80	50	1.25	979681	14.14	34.605 Deploying streamer	EH	
62	7.05	46	53.9418	162	43.0181	4539.03 off	off	287.40	4.30	7.80	NE	1.25	979648	14.12	34.607 Deploying streamer	EH	
62	7.30	46	48.9307	162	42.6755	4555.11 off	off	17.60	4.10	8.80 ENE	1.00	979638	14.27	34.626 Deploying streamer	EW		
62	8.04	46	47.7467	162	45.5199	4567.09 Off	Off	109.50	4.30	9.50	NE	1.00	979622	14.28	34.600 Deploying streamer	EW	
62	8.43	46	48.4341	162	45.0548	4587.58 Off	Off	110.30	4.10	9.50	NE	1.25	979628	14.29	34.590 Deploying streamer	EW	
62	8.58	46	48.9584	162	50.7773	4551.04 Off	Off	111.10	4.10	7.10	NE	1.00	979627	14.39	34.622 Deploying streamer	EW	
62	9.29	46	49.6325	162	53.0998	4551.04 off	off	109.30	4.50	8.30	NE	1.25	979631	14.43	34.620 Deploying streamer	LC	
62	9.57	46	50.3624	162	56.3686	4550.46 off	off	57.42	4.10	8.30	NE	1.00	979638	14.39	34.595 Deploying streamer	LC	
missed due to extra hands needed for streamer deployment																	
62	12.00	46	51.7488	162	2.4760	4501.72 off	off	109.30	3.80	10.10	NE	1.25	979651	14.54	34.624 Deploying streamer	LC	
62	11.09	46	51.9108	163	51.9108	4468.81 off	off	108.80	4.08	12.00	50	1.00	979648	14.50	34.616 Deploying streamer	LC	
62	11.30	46	52.3674	163	5.0982	4469.63 off	off	109.30	4.38	14.00	51	1.25	979649	14.75	34.613 Finishing deployment	LC	
62	12.00	46	53.0325	163	7.8610	4377.83 off	off	109.40	3.79	11.80	40	1.25	979653	14.90	34.616 Deploying head float	LC	
62	12.30	46	53.7847	163	10.1440	4382.08 off	off	110.40	4.56	12.60	34	1.00	979650	14.72	34.611 Deploying head float/off tow	JP	
62	13.00	46	54.5588	163	13.7730	4479.34	60951 off	111.80	4.27	11.30	24	1.25	979647	14.74	34.622 Waiting to start shooting	JP	
62	13.30	46	55.1346	163	16.8934	4454.64	60936 off	103.60	4.67	13.10	27	1.25	979642	14.72	34.613 Deploying gun array	JP	
62	14.00	46	55.8473	163	19.4765	4440.78	60964 off	103.60	4.70	13.60	12	1.00	979645	14.72	34.613 Deploying streamer	JP	
62	14.43	46	55.1324	163	21.5124	4452.82	60896 off	321.60	5.30	16.60	N	1.25	979681	14.83	34.611 Manuevering, deploying source array	JP	
62	15.00	46	52.7240	163	19.6001	4444.1	60879 off	109.50	5.20	14.50	N	1.25	979688	14.71	34.612 Manuevering, deploying source array	JP	
62	15.30	46	53.1870	163	16.1370	4414.78	60877 off	109.50	6.094	4.70	12.00	1.00	979685	14.72	34.611 Manuevering, deploying source array	JP	
62	16.00	46	51.2311	163	13.2080	4417.61	60917 off	292.60	4.50	14.80	N	1.00	979686	14.75	34.611 Manuevering, deploying source array	JP	
62	16.30	46	50.2594	163	10.0493	4396.43	60961 off	295.50	4.12	14.10	356	1.25	979686	14.80	34.643 Manuevering, finished deploying source array	JP	
62	17.05	46	49.3392	163	6.6183	4387.1	60919 off	69.50	4.43	15.20	342	1.00	979684	14.72	34.600 All gun array deployed, standing by for Wv flag)	JP	
62	17.32	46	48.5354	163	4.2024	4326.93	60923 off	125.00	4.89	12.20	343	1.00	979675	14.54	34.663 All gun array deployed, standing by for Wv flag)	JP	
62	18.00	46	52.5442	163	5.2294	4675.81	60974 off	102.80	5.63	13.30	357	1.00	979649	14.68	34.604 Starting ramp up	JP	
62	18.30	46	53.2262	163	8.2761	4696	60986 off	129.20	5.42	12.70	354	1.00	979648	14.67	34.613 Completed ramp	JP	
62	19.00	46	54.0163	163	12.0509	4392.68	60940 off	48.36	110.80	4.85	16.00	356	1.25	979648	14.68	34.617 Started shooting line MGL0001	JP
62	19.29	46	54.7139	163	14.9234	4405.11	60955 off	45.55	109.50	4.50	17.70	NNW	0.75	979647	14.69	34.629 Shooting line MGL0001	JP
62	20.00	46	55.4967	163	18.2019	4405.61	60910 off	4.60	180.00	4.60	18.00	NNW	0.75	979646	14.63	34.631 Shooting line MGL0001	JP
62	20.30	46	56.2851	163	21.4674	4518.06	60884 off	50.91	109.30	4.70	18.40	NNW	1.00	979646	14.66	34.611 Shooting line MGL0001	EH
62	21.00	46	57.0410	163	24.8239	4465.07	60866 off	5175	110.90	4.70	19.90	335	1.00	979647	15.15	34.720 Shooting line MGL0001	EH
62	21.28	46	57.7998	163	27.7998	4471.42	60891 off	5261	109.10	4.80	19.70	330	1.00	979651	15.12	34.718 Shooting line MGL0001	EH
62	21.56	46	58.5814	163	31.0863	4476.46	60887 off	5352	109.70	4.80	19.10	323	1.00	979652	15.36	34.763 Shooting line MGL0001	EH
62	22.36	46	59.5621	163	35.2199	4477.62	60885 off	5490	109.80	4.80	18.80	317	1.00	979653	15.44	34.772 Shooting line MGL0001	EH
62	22.59	46	60.1488	163	40.1488	4527	60906 off	5527	109.60	4.80	18.50	314	1.00	979650	15.43	34.771 Shooting line MGL0001	EH
62	23.28	46	60.8974	162	44.5732	4508.79	60879 off	5612	107.70	4.80	19.40	311	1.25	979662	15.49	34.778 Shooting line MGL0001	DK
62	23.44	46	61.0844	162	45.8378	4502.1	60821 off	5742	103.60	4.80	19.10	315	1.00	979645	15.45	34.810 Shooting line MGL0001	DK
62	24.26	46	61.3130	163	47.3130	4469.69	60777 off	5764	109.10	4.60	20.20	297	1.25	979666	15.98	34.814 Shooting line MGL0001	DK
63	1.03	47	3.2399	163	50.7795	4446.73	60746 off	5877	109.20	4.40	16.40	301	1.25	979662	16.16	34.867 Shooting line MGL0001	DK
63	1.28	47	4.0192	163	51.1919	4470.70	60710 off	5940	109.60	4.40	16.20	302	1.00	979658	16.14	34.873 Shooting line MGL0001	DK
63	1.57	47	4.5014	163	55.1905	4532.55	60710 off	6022	110.50	4.30	19.20	300	1.00	979662	16.21	34.890 Shooting line MGL0001	KG
63	2.30	47	5.3614	163	59.8039	4550.89	60636 off	6120	107.80	4.30	29.40	300	2.50	979663	16.13	34.876 Shooting line MGL0001	KG
63	3.00	47	6.1234	163	63.0659	4569.19	60659 off	6209	107.80	4.30	29.40	300	1.00	979665	16.13	34.876 Shooting line MGL0001	KG
63	3.30	47	6.6480	164	5.3651	4248.09	60724 off	6268	109.20	4.40	29.50	300	1.25	979661	16.20	34.912 Shooting line MGL0001	KG
63	4.00	47	7.3436	164	8.3473	4641.01	60795 off	6348	108.70	4.30	24.10	300	1.25	979658	16.12	34.932 Shooting line MGL0001	KG
63	4.30	47	7.8853	164	11.0475												

65	6.30	47	26.3425	165	34.0361	2827.65	60791	14921	77.50	3.90	14.00	260	1.25	979630	15.37	34.855	Shooting Line MGL1803T01	EH
65	7.02	47	25.8475	165	37.4535	2576.11	60940	15008	78.20	4.30	16.00	W	1.00	979648	15.32	34.825	Shooting Line MGL1803T01	EH
65	7.34	47	25.5488	165	40.4542	1855.29	61072	15090	78.50	4.50	17.00	W	1.00	979650	15.13	34.774	Shooting Line MGL1803T01	EW
65	8.08	47	24.6506	165	44.3300	2004.95	60865	15185	78.10	4.30	17.70	W	1.50	979699	15.01	34.886	Shooting Line MGL1803T01	EW
65	8.28	47	24.5407	165	46.4525	2002.3	60721	15259	77.80	4.50	24.10	W	1.50	979694	15.02	34.887	Shooting Line MGL1803T01	EW
65	8.58	47	24.0780	165	49.4478	2014.17	60575	15332	77.40	4.50	18.70	W	1.15	979684	15.08	34.807	Shooting Line MGL1803T01	EW
65	9.30	47	23.5274	165	52.0887	2439.74	60535	15401	78.80	4.00	19.50	W	1.25	979667	15.03	34.911	Shooting Line MGL1803T01	LC
65	9.58	47	23.2121	165	55.4483	2514.46	60530	15472	77.40	3.80	18.10	W	2.00	979658	15.02	34.918	Shooting Line MGL1803T01	LC
65	10.28	47	22.9116	165	58.3134	2519.30	60576	15544	78.00	3.80	22.10	W	2.00	979652	15.07	34.920	Shooting Line MGL1803T01	LC
65	10.57	47	22.5943	165	59.9442	2529.43	60577	off	180.60	4.60	24.70	W	5.00	979670	15.45	34.919	Finished shooting line MGL1803T01	LC
65	11.30	47	28.0537	165	58.5503	2636	60577	off	293.00	4.00	23.10		264	979682	15.51	34.915	In route to line 23A	BS
65	12.00	47	28.0971	165	58.26	2636	60603	15889	293.00	4.00	23.10	277	979682	15.51	34.915	In route to line 23A	BS	
65	12.30	47	28.0971	165	57.4203	2625	60645	15976	193.50	4.40	22.23	280	1.75	979687	15.43	34.889	Shooting Line 23A	BS
65	13.00	47	28.0971	165	56.5448	2625	60652	16051	193.50	4.40	22.23	280	1.75	979686	15.43	34.889	Shooting Line 23A	BS
65	13.30	47	35.2433	165	55.7409	2693	60688	16139	193.30	4.40	28.30	258	2.00	979702	15.25	34.898	Shooting Line 23A	BS
65	14.00	47	37.0867	165	55.0343	2780	60694	16210	194.20	4.30	26.50	W	2.00	979707	15.27	34.895	Shooting Line 23A	BS
65	14.42	47	39.5020	165	54.2026	2820	60679	16109	195.60	4.30	22.50	W	2.00	979714	15.12	34.908	Shooting Line 23A	BS
65	15.05	47	41.4765	165	53.3400	2814	60680	16379	194.30	4.00	29.30	W	2.00	979715	15.21	34.893	Shooting Line 23A	BI
65	15.45	47	43.3538	165	52.5836	2845	60727	16451	195.10	4.30	24.50	W	2.00	979722	15.21	34.888	Shooting Line 23A	BI
65	16.03	47	45.2588	165	51.8499	2844	60752	16523	196.20	4.10	22.50	W	2.00	979726	15.25	34.895	Shooting Line 23A	BI
65	16.32	47	47.1846	165	51.2085	2832.15	60812	16596	199.20	3.37	26.90	263	1.50	979730	15.24	34.899	Shooting Line 23A (magnetometer close to cables, may give bad readings	JP
65	17.00	47	48.8617	165	50.4166	2849.04	60824	16661	195.40	3.51	20.70	232	2.00	979741	15.45	34.915	Shooting Line 23A	JP
65	17.20	47	50.8639	165	49.6405	2829.44	60825	16738	190.20	4.57	23.20	244	2.00	979739	15.18	34.914	Shooting Line 23A	JP
65	18.00	47	52.8359	165	48.8559	3072.7	60831	16814	195.30	3.51	26.40	243	2.00	979743	15.46	34.912	Shooting Line 23A	JP
65	18.30	47	54.8464	165	48.0446	2837.27	60880	16892	198.00	4.29	20.10	235	1.25	979747	15.31	34.891	Shooting Line 23A	JP
65	19.03	47	57.1427	165	47.1740	3188	60949	16980	191.70	3.90	20.10	247	4.00	979740	15.32	34.900	Shooting Line 23A	JP
65	19.30	47	59.0943	165	46.3967	2822.88	60977	17054	192.30	4.70	25.30 SW		2.50	979747	15.31	34.907	Shooting Line 23A - mag going crazy	JP
65	20.00	47	1.1386	165	45.5210	2833.52	60939	17139	188.00	4.30	20.90 WNW		3.00	979749	15.39	34.908	Shooting Line 23A	JP
65	20.31	47	3.9000	165	44.7597	2907.29	60903	17231	188.30	4.50	21.10 WNW		2.50	979754	15.36	34.917	Shooting Line 23A	JP
65	20.59	47	5.7792	165	43.7683	2968.13	60930	17310	194.60	4.70	20.60	231	3.00	979758	15.07	34.917	Shooting Line 23A	JE
65	21.31	47	8.2185	165	42.7855	3213.95	60939	17404	193.40	4.80	13.60	229	3.00	979759	15.03	34.922	Shooting Line 23A	JP
65	21.59	47	10.7212	165	41.9870	3203.32	60883	17483	193.40	4.30	18.40	225	3.00	979762	15.08	34.929	Shooting Line 23A	JP
65	23.02	47	14.1066	165	40.1463	2770.56	60786	17661	196.10	4.70	24.10	230	4.00	979778	14.39	34.944	Shooting Line 23A	DK
65	23.33	47	17.1222	165	39.2577	2713.81	60824	17746	194.90	4.50	24.30	224	4.00	979780	12.86	34.755	Shooting Line 23A	DK
65	23.58	47	19.7136	165	38.2544	2726.36	60834	17844	195.30	4.40	25.10 W	246	2.00	979784	14.39	34.779	Shooting Line 23A	DK
65	0.31	47	21.3789	165	37.5734	2754.38	60844	17908	190.70	4.30	21.10	246	6.00	979792	13.23	34.796	Shooting Line 23A	DK
65	0.58	47	23.5353	165	36.7801	2781.52	60867	17984	195.80	4.50	22.70	240	5.00	979796	13.35	34.811	Shooting Line 23A	DK
65	1.29	47	25.8013	165	35.9247	2807.48	60876	18062	196.20	4.50	26.20	236	6.00	979798	13.27	34.817	Shooting Line 23A	DK
65	2.00	47	27.7739	165	35.0210	2859.42	60897	18153	191.10	3.70	22.00	230	3.00	979808	13.41	34.822	Shooting Line 23A	DK
65	2.30	47	30.9098	165	33.7268	2931.29	60941	18277	195.70	4.80	18.90	240	3.00	979804	13.21	34.821	Shooting Line 23A	DK
65	3.00	47	33.5486	165	32.3482	2993.42	60957	18314	196.10	4.30	19.60	230	3.00	979813	13.06	34.789	Shooting Line 23A	DK
65	3.30	47	34.0996	165	32.4809	2983.03	60862	18397	193.70	3.60	21.70	240	4.00	979814	13.27	34.801	Shooting Line 23A	DK
65	4.00	47	36.3114	165	31.6348	3008.04	61002	18477	198.10	3.50	18.90	240	3.00	979818	13.17	34.808	Shooting Line 23A	DK
65	4.30	47	38.2198	165	30.8085	3073.17	61011	18550	192.00	3.20	19.20	240	3.00	979822	13.07	34.812	Shooting Line 23A	DK
65	5.00	47	40.2442	165	29.9828	3062.27	61020	18633	195.50	4.10	15.20	210	5.00	979827	13.79	34.810	Shooting Line 23A	DK
65	5.30	47	42.1603	165	29.2000	3061.1	61022	18706	195.20	4.00	14.90	230	3.00	979827	14.04	34.875	Shooting Line 23A	DK
65	6.00	47	44.1110	165	28.3544	3041.54	61025	18781	195.40	3.30	12.70	230	3.00	979832	13.07	34.812	Shooting Line 23A	DK
65	6.30	47	46.0203	165	27.5365	3114.18	61033	18854	193.50	4.20	22.10	250	4.00	979832	13.86	34.865	Shooting Line 23A	DK
65	7.01	47	48.1750	165	26.7646	3131.6	61065	18937	196.40	4.40	16.60 WSW		4.50	979829	13.56	34.845	Shooting Line 23A	DK
65	7.28	47	50.0641	165	25.9960	3222.05	61130	19051	190.00	4.40	17.10 SW		4.00	979831	13.19	34.815	Shooting Line 23A	DK
65	8.02	47	52.0576	165	25.0564	3203.74	61172	19088	193.70	4.60	17.10 WSW		3.00	979841	13.32	34.829	Shooting Line 23A, mag readings fluctuating quickly	EW
65	8.32	47	54.5476	165	24.1762	3240.02	61165	19181	192.90	4.20	13.00	W	3.00	979832	13.33	34.827	Shooting Line 23A	EW
65	8.59	47	56.4146	165	23.3186	3259.61	61251	19253	195.20	4.20	13.10	W	4.00	979850	13.33	34.827	Shooting Line 23A	EW
65	9.28	47	58.1613	165	22.4779	3289.64	61221	19321	195.80	3.90	12.40	W	5.00	979845	13.30	34.827	Shooting Line 23A	LC
65	9.58	47	59.8875	165	21.6784	3320.74	off	19370	2020.00	3.00	15.60	W	5.50	979852	15.12	34.784	ICL Guns tangled	LC
65	10.28	47	61.6120	165	20.8120	3371.70	off		3.20	18.50	W	240	6.00	979853	13.25	34.800	ICL Guns tangled	LC
65	0.00	47	63.3472	165	19.9526	3244.71	off	277.20	3.60	18.00	W		6.00	979866	13.44	34.835	ICL Guns tangled	LC
65	0.30	47	65.0952	165	19.1005	3270.00	off	258.00	3.70	14.00		286	2.00	979865	13.56	34.847	Pulling guns on board to check if they are ok	BS
65	1.00	47	66.8426	165	18.2517	3325	off	257.00	3.20	15.00	SW	297	2.00	979864	13.78	34.871	Pulling guns on board to check if they are ok	BS
65	1.30	47	68.5931	165	17.4082	3386	off	306.00	4.30	20.00	280	2.00	979879	13.84	34.879	gun on board	BS	
65	1.58	47	70.3444	165	16.5659	3456	off	234	4.70	21.00	286	2.00	979864	13.72	34.881	Shooting back to finish off 23A	BS	
65	1.90	47	72.0958	165	15.7288	3527	off	1549	4.00	24.20	290	2.00	979857	13.84	34.881	Shooting back to finish off 23A	BS	
65	14.05	47	73.8479	165	14.8933	3517.19	off	42.80	3.70	23.10	W	2.00	979855	13.36	34.823	Shooting back to finish off 23A	BI	
65	14.31	47	75.5994	165	14.0582	3592.54	off	47.80	3.80	24.80	SW	290	2.00	979850	13.42	34.817	Shooting back to finish off 23A	BI
65	14.56	47	77.3512	165	13.2266	3670.00	off	42.80	3.70	23.10	W	2.00	979855	13.36	34.823	Shooting back to finish off 23A	BI	
65	15.00	47	79.1030	165	12.3954	3748.00	off	47.80	3.80	24.80	SW	290	2.00	979850	13.42	34.817	Shooting back to finish off 23A	BI
65	15.25	47	80.8548	165	1													

68	22:57	48	42.3034	163	2.9653	4133.14	61544	off		347.80	5.50	17.80	259	1.25	979837	13.49	34.770	Picking up guns	JE
68	23:26	48	40.1565	163	4.8399	4060.03	61638	off		82.20	4.60	16.60	272	1.25	979834	13.47	34.773	Picking up guns	JE
68	0:06	48	39.5983	163	8.4270	3909.43	61585	off		79.30	4.00	16.60	263	1.25	979820	13.39	34.768	Picking up guns	DK
69	0:31	48	39.3403	163	11.1375	3709.16	off	off		80.60	3.80	15.70	272	2.00	979820	13.42	34.770	Picking up guns	DK
69	1:00	48	39.0243	163	13.8972	3580.77	off	off		76.90	3.90	15.10	269	2.00	979826	13.46	34.773	Starting steamer pickup	DK
69	1:28	48	38.6150	163	16.4244	3468.74	off	off		73.70	4.00	14.30	263	1.50	979820	13.48	34.770	Picking up streamers	DK
69	2:00	48	38.0180	163	19.6431	3630.68	off	off		74.50	3.50	12.90	272	2.00	979817	13.56	34.772	Picking up streamers	KG
69	2:30	48	37.6732	163	20.4790	3776.59	off	off		68.60	1.00	12.40	261	1.00	979826	13.60	34.770	Picking up streamers	KG
69	3:00	48	37.1184	163	22.3332	3869.39	off	off		76.80	3.50	12.10	251	1.50	979809	13.69	34.768	Picking up streamers	KG
69	3:30	48	37.3358	163	22.7900	3908.93	off	off		87.00	0.50	11.80	252	2.00	979820	13.56	34.775	Picking up streamers	KG
69	4:00	48	37.1617	163	23.4499	3971.71	off	off		82.70	2.00	11.70	270	1.25	979814	13.55	34.775	Picking up streamers	KG
69	4:30	48	37.0515	163	24.1021	4026.56	off	off		80.10	3.00	10.90	260	1.50	979816	13.59	34.775	Picking up streamers	KG
69	5:00	48	36.8430	163	27.1537	4125.02	off	off		89.90	2.90	8.20	260	1.25	979804	13.39	34.772	Picking up streamers	KG
69	5:30	48	36.7906	163	28.5697	4126.56	off	off		88.20	3.00	7.60	260	1.25	979816	13.40	34.774	Picking up streamers	KG
69	6:00	48	36.8427	163	28.7137	4164.04	off	off		104.20	3.00	8.30	290	1.50	979810	13.40	34.775	Picking up streamers	KG
69	6:30	48	37.0725	163	30.1226	3878.31	off	off		103.20	3.20	7.50	300	1.25	979807	13.39	34.774	Picking up streamers	KG
69	6:58	48	37.5531	163	32.8572	3585.54	off	off		102.70	3.70	6.70	300	1.25	979806	13.36	34.772	Picking up streamers	KG
69	7:42	48	37.7552	163	35.2552	3580.28	off	off		98.10	2.00	11.20	300	1.25	979820	13.32	34.773	Picking up streamers	KG
69	8:09	48	37.8790	163	36.2765	3573.61	off	off		108.20	1.00	11.70	300	0.75	979822	13.27	34.762	Picking up streamers	KG
69	8:34	48	37.9866	163	37.2149	3625.67	off	off		102.20	2.00	15.40	300	1.50	979817	13.23	34.763	Picking up streamers	KG
69	9:10	48	38.2849	163	39.1706	3648.83	off	off		103.00	3.30	10.80	300	2.00	979818	13.28	34.757	Picking up streamers	KG
69	9:28	48	38.4503	163	40.7429	3564.78	off	off		99.70	3.60	13.00	300	1.25	979812	13.28	34.758	Picking up streamers	KG
69	9:58	48	38.6474	163	42.2021	3730.06	off	off		96.20	3.10	16.60	300	2.25	979812	13.27	34.750	Picking up streamers	KG
69	10:28	48	37.7454	163	46.0596	3566.52	off	off		58.60	10.80	17.40	300	1.25	979783	13.30	34.743	Heading to line MGL18031780	KG
69	10:58	48	34.5156	163	52.9379	4175.95	off	off		57.60	10.80	20.00	300	1.25	979736	13.33	34.725	Heading to line MGL18031780	KG
69	11:28	48	31.1370	164	2.3597	3036	off	off		58.80	10.60	16.70	319	2.25	979674	14.16	34.889	Heading to line MGL18031780	KG
69	11:57	48	29.5031	164	6.2775	5408	61389	off		56.00	10.30	20.50	314	2.00	979661	14.09	34.889	Heading to line MGL18031780	KG
69	12:00	48	26.5646	164	12.2196	5264	61324	off		57.50	10.20	18.20	313	2.00	979621	14.23	34.881	Heading to line MGL18031780	KG
69	12:10	48	20.1239	164	19.2156	5127	61316	off		55.20	10.40	18.60	312	2.00	979585	14.43	34.828	Heading to line MGL18031780	KG
69	14:00	48	18.2842	164	33.6649	3955	61146	off		58.40	10.80	19.90	300	2.00	979602	14.42	34.907	Heading to line MGL18031780	KG
69	14:30	48	14.321	164	42.9678	2965.6	61162	off		56.8	10.71	19.90	326	2.00	979545	14.39	34.889	Heading to line MGL18031780	KG
69	15:00	48	12.3236	164	47.1778	3322	61113	off		50.10	10.50	20.30	300	2.00	979655	14.30	34.880	Heading to line MGL18031780	KG
69	15:30	48	9.0530	164	55.0580	2327	61189	off		55.60	10.70	21.30	300	2.00	979713	14.55	34.832	Heading to line MGL18031780	KG
69	16:00	48	6.1850	164	1.6024	1469	61215	off		50.60	11.20	21.50	300	2.00	979746	14.49	34.815	Heading to line MGL18031780	KG
69	16:45	48	5.3893	165	931.08	61147	61147	off		26.20	11.21	26.20	320	2.00	979610	14.47	34.889	Heading to line MGL18031780	KG
69	17:00	48	0.4502	165	14.2833	1647.39	61287	off		56.60	10.98	23.50	311	1.00	979794	14.56	34.876	Heading to line MGL18031780, recovering maggie	KG
69	17:30	48	15.5857	165	19.5887	1823.13	off	off		65.40	5.59	20.70	322	1.00	979799	14.53	34.838	Start deploying steamer MGL18031780	KG
69	18:00	48	56.6213	165	22.8623	2871.77	off	off		53.20	6.45	23.40	320	1.00	979774	14.52	34.824	Deploying steamer	KG
69	18:30	48	52.9061	165	25.5932	2397.86	off	off		44.60	5.56	24.90	317	1.00	979767	14.38	34.812	Deploying steamer	KG
69	19:00	48	4.5294	165	28.1580	2468.61	off	off		39.50	5.10	27.40	300	1.25	979759	14.40	34.811	Deploying steamer	KG
69	19:27	48	51.1105	165	2499.06	2499.06	off	off		43.20	4.10	30.20	300	1.00	979755	14.39	34.853	Deploying steamer	KG
69	20:03	48	49.0411	165	32.5692	2603.52	off	off		39.70	3.90	26.50	300	1.25	979746	14.91	34.521	Deploying steamer	KG
69	20:30	48	48.0090	165	34.1463	2381.26	off	off		40.90	4.00	30.60	300	1.25	979739	14.91	34.923	Deploying steamer	KG
69	21:00	48	46.0314	165	36.1930	2517.95	60672	off		39.00	4.10	30.70	300	1.25	979712	14.86	34.812	Magnummeter deployed	KG
69	21:32	48	45.2156	165	37.8178	2785.43	60723	off		40.80	3.10	30.30	317	1.00	979723	14.90	34.873	Deploying source array	KG
69	21:58	48	43.6742	165	39.7108	2875.56	60931	off		39.30	4.90	30.10	321	1.00	979701	15.12	34.893	Deploying source array	KG
69	22:29	48	43.6317	165	42.3440	2868.88	60986	off		47.80	5.20	30.60	319	1.00	979687	15.12	34.812	Deploying source array	KG
69	23:00	48	46.2206	165	41.7984	2809.28	malfunction	off		214.90	5.10	30.10	322	1.00	979725	15.34	34.908	Turning to Line 17A	KG
69	23:25	48	45.8293	165	39.8302	2873.05	off	off		14.50	4.90	29.60	307	2.00	979722	15.17	34.876	Turning to Line 17A	KG
69	23:42	48	41.1812	165	42.8090	2872.27	off	69990		5.30	40.20	30.40	300	2.00	979682	15.41	34.881	Shooting MCS17A	KG
70	1:02	48	45.9319	165	48.6139	2867.39	off	27111		42.10	5.40	29.90	324	2.00	979669	15.22	34.917	Shooting MCS17A	KG
70	1:30	48	38.7617	165	48.0186	2870.24	off	71711		32.00	4.80	35.70	314	2.50	979672	15.16	34.914	Shooting MCS17A	KG
70	2:00	48	35.1750	165	46.4035	2871.77	off	off		31.20	4.10	31.20	320	2.00	979697	15.22	34.917	Line MCS17A aborted, Picking up gun array 3 and 4, PAM not working	KG
70	2:30	48	33.6493	165	44.0945	2748.33	off	off		316.40	3.50	33.70	324	2.50	979698	15.38	34.912	Line MCS17A aborted, Picking up gun array 3 and 4, PAM not working	KG
70	3:00	48	31.3167	165	45.5488	2628.81	off	off		43.10	4.90	39.20	324	2.50	979670	15.40	34.913	Preparing to Line MCS17A, Deploying PAM	KG
70	3:30	48	29.8971	165	47.8497	2602.26	off	28118		5.10	4.10	34.60	320	2.00	979671	15.40	34.919	Shooting MCS17B	KG
70	4:00	48	28.4620	165	50.3064	2632.66	off	28204		46.40	4.60	44.30	320	3.50	979668	15.44	34.911	Shooting MCS17B	KG
70	4:30	48	26.8125	165	52.8442	2606.98	off	28296		39.80	5.10	37.10	320	2.50	979662	15.46	34.909	Shooting MCS17B	KG
70	5:00	48	24.4969	165	55.3830	2486.57	off	28391		39.70	4.80	39.60	320	2.00	979660	15.48	34.904	Shooting MCS17B	KG
70	5:30	48	22.7502	165	57.7683	2435.95	off	28480		45.50	4.70	31.10	330	2.50	979652	15.40	34.911	Shooting MCS17B	KG
70	6:00	48	21.0266	166	0.1831	1603.95	off	28584		41.20	4.40	36.40	330	2.00	979645	15.42	34.909	Shooting MCS17B	KG
70	6:30	48	19.3003	166	2.7805	2997.65	off	28667		40.10	4.00	40.00	320	2.00	979647	15.53	34.904	Shooting MCS17B	KG
70	6:57	48	17.3220	166	5.1898	2350.91	off	28748		46.60	5.00	45.60	325	4.50	979637	15.57	34.902	Shooting MCS17B	KG
70	7:27	48	15.4404	166	43.8956	2300.43	off	28830		45.20	5.00	45.20	320	2.00	979636	15.47	34.902	Shooting MCS17B	KG
70	7:56	48	13.8874	166	10.3238	2262.02	off	28935		43.30	5.00	36.60	330	4.00	979623	15.45	34.919	Shooting MCS17B	KG
70	8:32	48	11.8320	166	13.2261	2316.48	off	29041		46.60	4.70	40.10	325	4.50	979629	15.40	34.913	Shooting MCS17B	KG
70	9:07	48	10.5623	166	15.9529	2317.95	off	29											

73	9.05	46	58.2288	168	17.2639	off	off	off	220.40	1.20	23.60	299	1.00	979714	15.05	34.888	Hanging out offshore Stewart Island	LC	
73	9.30	46	58.8340	168	16.9337	off	off	off	186.30	2.00	25.20	313	2.00	979709	15.06	34.880	Hanging out offshore Stewart Island	LC	
74	0.58	47	1.6018	168	38.4300	off	off	off	75.30	10.70	12.80	324	2.00	979637	15.11	34.862	Turning	OK	
74	9.22	46	58.8577	168	16.3181	OFF	OFF	OFF	269.00	0.30	20.10	320	1.50	979707	15.22	34.846	Hanging out offshore Stewart Island	EW	
74	7.44	46	58.8425	168	17.1532	OFF	OFF	OFF	12.40	0.70	24.20	325	1.00	979706	15.22	34.848	Hanging out offshore Stewart Island	EW	
74	8.46	46	58.9268	168	17.3750	OFF	OFF	OFF	215.30	1.00	28.60	315	1.00	979710	15.20	34.847	Hanging out offshore Stewart Island	EW	
74	9.05	46	59.0006	168	17.0008	OFF	OFF	OFF	225.00	1.00	25.70	330	2.00	979708	15.20	34.850	Hanging out offshore Stewart Island	LC	
74	9.30	46	59.0041	168	16.8239	OFF	OFF	OFF	16.80	0.70	29.00	312	1.50	979706	15.20	34.852	Hanging out offshore Stewart Island	LC	
75	2.42	47	0.1576	168	17.0929	OFF	OFF	OFF	157.00	0.40	17.50	240	1.25	979698	15.20	34.846	Hanging out offshore Stewart Island	EW	
75	5.26	47	0.3432	168	16.5740	OFF	OFF	OFF	229.40	0.40	26.50	235	1.50	979702	15.08	34.846	Hanging out offshore Stewart Island	EW	
75	6.36	47	0.6778	168	24.6808	OFF	OFF	OFF	95.20	10.30	21.30	260	2.50	979636	14.95	34.868	Exiting 12 mi limit to empty blue	EW	
75	7.00	47	0.9674	168	29.9526	OFF	OFF	OFF	93.30	8.50	22.40	270	1.50	979646	15.04	34.879	Exiting 12 mi limit to empty blue	EW	
75	7.40	47	4.1032	168	35.0757	OFF	OFF	OFF	179.20	9.50	30.20	230	3.00	979707	14.89	34.891	Transiting to SOL	EW	
75	8.03	47	7.5719	168	34.1767	OFF	OFF	OFF	179.60	9.40	21.60	220	2.50	979690	14.67	34.889	Transiting to SOL	EW	
75	8.51	47	10.5588	168	27.4661	OFF	OFF	OFF	252.70	8.30	25.10	210	3.00	979739	14.89	34.895	Transiting to SOL	EW	
75	9.35	47	12.3513	168	18.6109	off	off	off	256.00	7.90	24.20	216	2.00	979747	15.02	34.885	Transiting to SOL	LC	
75	10.00	47	13.0082	168	15.2489	off	off	off	254.60	6.50	21.10	237	2.50	979741	15.02	34.886	Transiting to SOL	JP	
75	10.28	47	13.7884	168	11.0221	off	off	off	256.00	5.70	18.70	224	1.50	979743	15.10	34.885	Transiting to SOL	LC	
75	12.00	47	14.9452	168	4.1703	off	off	off	262.00	6.30	19.00	212	2.00	979754	15.34	34.868	Transiting to SOL	bs	
75	11.30	47	15.1780	168	2.2128	OFF	OFF	OFF	259.00	5.90	17.20	212	2.00	979749	15.13	34.865	Transiting to SOL	BS	
75	12.00	47	15.8980	167	57.4308	off	off	off	256.00	6.20	13.00	248	2.00	979756	15.44	34.849	Transiting to SOL	bs	
75	12.30	47	16.5489	167	52.7924	off	off	off	253.00	5.70	19.00	214	2.00	979766	15.54	34.838	Transiting to SOL	BS	
75	11.00	47	17.2716	167	48.3914	off	off	off	258.00	7.60	11.60	207	2.00	979781	15.59	34.824	Transiting to SOL	bs	
75	13.30	47	19.1708	167	44.6237	off	off	off	226.00	6.80	12.40	217	2.00	979777	15.73	34.792	Transiting to SOL	BS	
75	14.00	47	21.6901	167	41.0434	off	off	off	223.10	6.80	12.30	5	2.00	979780	15.81	34.767	Transiting to SOL	BI	
75	15.02	47	23.3479	167	31.4445	off	off	off	248.70	7.10	13.20	5	2.00	979807	15.05	34.894	Transiting to SOL	BI	
75	15.30	47	23.3814	167	25.9763	off	off	off	271.40	8.00	3.60	5	2.00	979812	15.10	34.894	Transiting to SOL	BI	
75	16.00	47	22.9955	167	19.8550	off	off	off	289.90	9.42	4.70	152	2.00	979810	15.34	34.882	Transiting to SOL	JP	
75	16.30	47	21.6579	167	13.7730	off	off	off	288.70	9.24	5.10	137	2.00	979815	15.32	34.826	Transiting to SOL	JP	
75	17.00	47	20.0912	167	7.4330	off	off	off	291.80	9.19	3.20	201	2.00	979820	15.23	34.895	Transiting to SOL	JP	
75	17.30	47	18.6817	167	1.3067	off	off	off	289.50	8.73	6.70	226	2.00	979792	15.22	34.897	Transiting to SOL	JP	
75	18.00	47	17.4420	167	56.4077	286.37	off	off	458.70	10.40	2.06	400	2.00	979737	15.37	34.862	Transiting to SOL, deploying streamer	JP	
75	18.20	47	16.1693	166	35.1106	295.53	off	off	301.40	6.30	4.00	189	2.00	979725	15.40	34.877	Transiting to SOL, deploying streamer	JP	
75	19.36	47	13.1014	166	45.9764	1180.38	off	off	305.40	5.80	3.90	SE	2.50	979708	15.48	34.870	Transiting to SOL, streamer deployed, PAM deployed	EH	
75	20.00	47	13.5992	166	42.4631	1262.37	off	off	450.40	6.90	4.10	NE	2.50	979701	15.51	34.862	Transiting to SOL, deploying streamer	EH	
75	20.36	47	10.1844	166	39.5502	1326.32	off	off	301.50	4.20			2.50	979702	15.51	34.869	Transiting to SOL, streamer deployed, deploying head float	EH	
75	21.01	47	9.2537	166	37.6208	1387.6	off	off	305.90	3.70	6.90	ENE	1.25	979705	15.52	34.863	Transiting to SOL, streamer deployed, PAM deployed	EH	
75	21.32	47	8.1171	166	35.1317	1464.45	off	off	304.60	4.10	3.60		82	979702	15.59	34.849	Streamer deployed! Source compressor being repaired	EH	
75	21.58	47	7.1016	166	33.1572	1517.22	off	off	308.40	3.90	6.00	135	3.00	979704	15.60	34.850	Deploying Guns. Gravimeter may be compromised after big roll	JE	
75	22.30	47	5.7623	166	30.4274	1569.3	off	off	307.30	4.40	7.10	128	3.00	979700	15.67	34.836	Deploying Guns. Gravimeter may be compromised after big roll	JE	
75	22.59	47	4.6172	166	28.4572	1610.49	off	off	410.20	5.20	8.50	107	3.00	979695	15.68	34.866	Deploying Guns	JE	
75	23.28	47	3.5029	166	25.9205	1564.12	off	off	302.20	4.30	4.80	72	4.00	979705	15.44	34.872	Guns are deployed	DK	
75	20.06	47	1.6111	166	22.0516	1604.69	off	off	305.50	5.20	8.60	123	4.00	979702	15.21	34.894	Starting port turn	DK	
75	21.39	47	2.1445	166	18.3721	1802.73	off	off	520.30	6.90	8.10	114	4.00	979688	15.39	34.910	Performing port turn	DK	
75	7.03	47	4.0179	166	17.8525	1867.59	off	off	150.60	5.50	11.30	81	4.00	979659	15.28	34.905	Performing port turn	DK	
75	1.30	47	5.0339	166	20.0238	1729.16	off	off	76.20	5.00	9.20	69	3.00	979654	15.51	34.893	Almost done performing port turn	DK	
75	2.00	47	3.6554	166	23.1264	1660.84	OFF	OFF	50.80	5.40	13.10	88	2.50	979663	15.59	34.883	About shooting	KG	
75	2.30	47	1.9307	166	26.4513	1527.26	OFF		30986	51.60	5.30	13.00	83	2.50	979664	15.49	34.881	MC317C SOL at 02:12, SP 30910	KG
75	3.00	47	0.6487	166	28.7788	1517.65			31050	50.60	5.40	14.30	81	3.00	979655	15.50	34.882	Shooting Line MC317C	EW
75	3.30	46	59.0027	166	31.9411	1701.7	OFF		31150	51.10	5.40	18.50	83	1.25	979651	15.56	34.850	Shooting Line MC317C	KG
75	4.00	46	57.1605	166	34.2402	1474.42	OFF		31228	51.30	5.50	11.60	77	2.50	979647	15.55	34.850	Shooting Line MC317C	KG
75	4.30	46	55.9544	166	37.2285	1344.87	OFF		31327	51.00	5.40	16.80	80	2.50	979648	15.55	34.880	Shooting Line MC317C	KG
75	4.60	46	54.3387	166	40.1224	1245.98	OFF		31421	51.00	5.40	13.10	2.00	979647	15.57	34.885	Shooting Line MC317C	KG	
75	5.30	46	52.5371	166	43.3201	1132.92	OFF		31526	51.00	5.50	17.20	80	2.50	979645	15.34	34.904	Shooting Line MC317C	EH
75	6.00	46	51.0177	166	46.0857	1045.03	OFF		31636	51.40	5.40	19.00	77	2.50	979647	15.21	34.903	Shooting Line MC317C	EH
75	6.30	46	49.4982	166	48.9522	949.87	OFF		31731	50.90	5.40	14.60	70	2.50	979644	15.09	34.908	Shooting Line MC317C	EH
75	7.03	47	47.4735	166	52.3693	829.81	OFF		31823	51.00	5.20	14.50	75	2.50	979641	14.75	34.893	Shooting Line MC317C	EW
75	7.28	46	46.2003	166	54.8232	747.56	OFF		31903	50.90	5.10	17.10	80	2.50	979641	15.12	34.905	Shooting Line MC317C	EW
75	7.58	46	44.9316	166	57.0964	646.86	OFF		31997	53.00	5.30	14.70	1.50	979634	15.50	34.866	Shooting Line MC317C	EW	
75	8.27	46	42.8836	167	0.1242	570.23	OFF		32092	51.90	5.30	17.10	95	3.50	979626	15.15	34.936	Shooting Line MC317C	EW
75	8.57	46	41.2141	167	0.1439	477.65	OFF		32186	50.40	5.30	16.50	95	3.50	979622	15.00	34.936	Shooting Line MC317C	EW
75	9.27	46	39.6904	167	6.1702	359.92	OFF		32278	51.50	5.10	16.80	83	2.50	979612	15.75	34.941	Shooting Line MC317C	LC
75	9.59	47	37.9297	167	9.2692	175.51	off		32380	51.10	5.30	13.10	94	1.25	979617	16.21	34.342	Shooting Line MC317C	LC
75	10.27	46	36.1967	167	143.78	126.61	off		32470	52.20	5.70	18.70	72	1.00	979588	16.51	34.720	Shooting Line MC317C	BS
75	10.56	46	34.6064	167	15.1156	128.7	off		32574	50.10	5.80	18.90	80	1.25	979596	16.93	34.892	Shooting Line MC317C	LC
75	11.30	46	32.6433	167	18.5446	116	off		32687	50.00	5.50	15.80	69	1.00	979594	16.79	34.882	Shooting Line MC317C	BS
75	12.00	46	29.8097	167	22.8035	86	off		32830	11.00	5.70	18.70	72	1.00	979588	16.51	34.720	Shooting Line MC317C	BS
75	12.30	46	27.8524	167	22.0522	78	off		33080	340.00	5.50	15.60	61	1.00	979608	16.55	34.704	Shooting Line MC317C	BS
75	13.00	46	25.3963	167	20.8039	80		59511	33177	340.00	5.60	14.20	56	1.00	979610	16.60	34.715	Shooting Line MC31	