

#3



3,5 kHz Echo Sounding

POLARSTERN ARK V/2
ARK VI/2

S. P. P. P. P.
B. L. L. L. L.

Best.-Nr. 4225

karier! 96 Bl.

C 8

EKAHA-EKAHA-EKAHA

Roll	Profile	Date	Time	Lat.	Long. (W)	Speed	Heading	Depth	Depth Range	SW	Trigger	Delay	sc/sw	PL	WK	Remarks
1		07.06.88	17.30	68° 29.8	19° 45.21	11.1	91.1	1268	1162.5-1350.0	2	KP	0.20	1/4	1.0	BL	
			17.38	68° 39.5	19° 44.67	10.9	8.6	1167	1070-1237.5	5	KP KP	0.10	"	1.0	BC	
			17.47	68° 40.2	19° 44.39	11.0	8.1	1219		2	KP	0.15	"	1.0	BC	
			17.45							2	KP	0.20	"			
			17.47							5	KP KP	0.15	"			
			18.00	68° 43.51	19° 42.92	11.0	9.6	1185	1087.5-1275.0	5	KP KP	0.05	"			
			17.52	68° 35.348	19° 39.266					11	"	0.00	"			Δ delay
			18.30	68° 40.83	19° 35.50	10.6	5.8	1214	"	"	"	"	"			set fix
			18.50	68° 44.45	19° 34.48	11.0		1267	1237.5-1425.0	2	KP	0.10	"			Δ setting
			19.00	68° 47.50	19° 34.29	11.1		1293	"	"	"	"	"			
			18.43	68° 44.40	19° 35.12					"	"	"	"			sal fix
			19.20	68° 51.02	19° 33.13	11.0		1374	1312.5-1500.0	"	"	0.00	"			Δ delay
			19.30	68° 52.73	19° 32.65	11.4	5.6	1408	"	"	"	"	"			set fix 35 20
			18.57	68° 46.92	19° 34.29					"	"	"	"			
			19.40	68° 54.67	19° 32.09	11.0	5.7	1438	1425-162.5	3	K-P	0.10	"			
			20.00	68° 58.05	19° 31.38	10.6	6.0	1533	"	"	"	"	"			sal fix 40 49
			19.44	68° 56.26	19° 32.17					"	"	"	"			
			20.08	68° 57.62	19° 30.77	10.7	5.5	1572	1500-1627.5	"	"	0.00	"			
			20.30	68° 01.29	19° 30.57	11.1	6.1	1593	"	"	"	"	"			sal fix 24 54
			20.02	68° 58.55	19° 31.35					"	"	"	"			ice edge, change direction
			20.45							"	"	"	"			
			20.35			3.2				"	"	"	"			
			21.00	69° 06.62	19° 32.89	8.5	304.9	1607	"	"	"	"	"			73 124 sal fix
			20.48	69° 5.19	19° 32.37					"	"	"	"			
			21.10	69° 07.33	19° 34.22	10.7	292.3	1587	"	"	"	"	"			
			21.30	69° 08.69	19° 48.65	10.9	303.2	1531	13500-1532.5	3	"	0.20	"		BL	Along ice edge
			21.35							"	"	"	"			Turning
			21.38	69° 07.67	19° 50.42	2.1	11.0	1413	"	"	"	"	"			Turning in ice
			21.42	69° 07.73	19° 50.91	3.7	69.7	1422	"	"	"	"	"			Turning in ice
			21.46	69° 10.24	19° 46.81	2.5	35.6	1480	"	"	"	"	"			(ice)
			21.54	69° 10.44	19° 46.70					"	"	"	"			Depth: 500-2000
			22.00	69° 10.62	19° 45.77	2.2	45.2	1274.0	"	"	"	"	"			Ice
			22.30	69° 14.56	19° 44.93	9.7	351.6	1406.0	"	"	"	"	"			Polynia
			22.16	69° 13.156	19° 45.039					"	"	"	"			sal fix
			22.32	69° 15.17	19° 45.18	9.9	351.8	1381.0	1237.0-1425	2	KP	0.10	"			into ice
			22.37	69° 15.392	19° 38.962					"	"	"	"			sal fix
			22.50	69° 16.94	19° 38.76	1.5	27.1	1362.0	"	"	"	"	"			into ice
			23.00							"	"	"	"			Backwards (forward)
			23.30	69° 17.82	19° 37.10	4.2	328.2	1301.0	"	"	"	"	"			
			23.31	69° 17.89	19° 37.16	3.9	333.8	1285.0	1125-1312	5	KP KP	0.00	"			
			23.28	69° 18.823	19° 41.76					"	"	"	"			sal fix
		08.06.88	00.00	69° 19.75	19° 41.47	0.9	0.3	1197	"	"	"	"	"			heavy ice
			00.02	69° 18.275	19° 41.663					"	"	"	"			sal fix
			00.30	69° 19.21	19° 41.17	0.5	6.7	1181	"	"	"	"	"			heavy ice
			00.45							"	"	"	"			turning
			00.50	69° 19.8	19° 40.60	1.8	138	1290	"	"	"	"	"			
			00.24	69° 18.013	19° 41.009					"	"	"	"			sal fix
			01.00	69° 19.06	19° 39.32	5.3	92.2	1329	1287.0-1425	4	KP	0.10	"			heavy ice
			01.20	69° 17.96	19° 38.21	9.2	131.8	1417	1087-1575	3	KP	0.15	"			Return from heavy ice
			01.30	69° 19.33	19° 38.60	4.9	118.5			"	"	"	"			Changing course due to ice
			01.50	69° 12.77	19° 29.90	7.9	71.1	1558	1532-1725	5	KP	0.20	"			
			02.00	69° 14.78	19° 26.88	10.5	91.3	1633	"	"	"	"	"			
			02.30	69° 12.67	19° 13.78	10.7	251.5	1630	"	"	"	"	"			turning since 02.15
			03.00	69° 12.58	19° 23.76	9.0	276.7	1624	"	"	"	"	"			still turning
			03.10	69° 13.253	19° 24.766					"	"	"	"			sal fix

Roll	Profile	Date	Time	Lat.	Long. (W)	Speed	Heading	Depth	Depth Range	Sw	Trigger	Delay	sec/sec	PL	WK	Remarks
		08.06.88	03.30	69 11.41	19 29.37	5.0	187.5	1582	1537-1725	2	KP	0.20	1/4	1.0	B.L.	Skull hunting
			03.31	69 11.176	19 28.244											Sat. fix
			04.00	69 08.78	19 28.52	7.0	195.5	1652	"	"	"	"	"	"	SP.	
			04.30	69 07.14	19 32.31	2.8	239.5	1669	"	"	"	"	"	"	"	
			03.57	69 8.75	19 29.76											Sat fix 196,343
			05.00	69 06.11	19 31.83	-4.2	188.6	1651	"	"	"	"	"	"	"	
			05.20	69 07.01	19 34.53	11.1	129.1	1650	"	"	"	"	"	"	"	on edge, driving along ledge
			05.30	69 06.17	19 30.70	10.8	134.7	1658	"	"	"	"	"	"	"	
			06.00	69 04.17	19 15.90	10.3	110.2	1604	"	"	"	"	"	"	"	
			06.06	69 03.92	19 13.16	10.7	89.9	1580	1425-1612.5	3	K-P	0.10				Δ delay
			06.30	69 05.55	19 02.3	11.1	71.0	1583	"	"	"	"	"	"	"	
			07.00	69 05.65	18 51.28	11.1	64.9	1577	"	"	"	"	"	"	"	
			06.46	69 4.36	18 57.13				"	"	"	"	"	"	"	Sat fix 78,136
			07.30	69 07.23	18 40.30	10.8	39.6	1515	"	"	"	"	"	"	"	
			08.00	69 13.24	18 29.72	10.7	52.5	1540	"	"	"	"	"	"	"	
			08.24						1500-1687.5	"	"	0.00				Δ delay
			08.30	69 15.97	18 16.98	10.8	45.0	1579	1219-1594	5	K-P	0.38	1/2	1.0		Sat fix 234,122,15
			08.42	69 16.42	18 11.45				"	"	"	"	"	"	"	
			09.00	69 18.21	18 08.74	10.4	42.8	1369	"	"	"	"	"	"	"	
			09.08						1125-1500	2	K-P	0.00				Sat fix 27,137,1
			09.18	69 19.68	18 01.09				"	"	"	"	"	"	"	
			09.30	69 21.41	17 56.97	10.6	44.7	1428	"	"	"	"	"	"	"	
			10.00	69 25.068	17 47.688	10.2	32.4		"	"	"	"	"	"	"	
			10.14						1387-1575	3	K-P	0.15	1/4			
			10.30	69 29.405	17 39.962	10.5	32.2		"	"	"	"	"	"	"	
			10.32						1462.5-1630	"	"	0.05	"	"	"	
			10.54						1162-1350	2	K-P	0.20	"	"		Sat fix 69,47
			10.58	69 30.81	17 37.65				"	"	"	"	"	"	"	
			11.00	69 34.091	17 32.029	10.6	31.4		1125-1500	2	K-P	0.00	1/2			
			11.07						"	"	"	"	"	"	"	
			11.00	69 34.13	17 31.94				"	"	"	"	"	"	"	Sat fix 59,104
			11.30	69 38.61	17 24.10	10.6	30.9	1218	"	"	"	"	"	"	"	
			12.00	69 42.96	17 16.47	10.3	30.6		"	"	"	"	"	"	B.L.	along ice edge.
			12.04	69 43.563	17 15.772				"	"	"	"	"	"	"	Sat fix 57,44
			12.30	69 46.758	17 06.445	10.6	58.2		"	"	"	"	"	"	"	
			12.51	69 48.633	16 52.671	10.1	79.8		938-1312	"	"	0.25	"	"	"	Δ delay
			12.28	69 46.626	17 06.961				"	"	"	"	"	"	"	Sat fix 77,148
			13.00	69 48.867	16 52.836	9.7	79.2		"	"	"	"	"	"	"	
			13.05	69 48.139	16 50.326				1031-1406	"	"	0.13	"	"	"	Δ delay
			12.52	69 48.684	16 50.455				"	"	"	"	"	"	"	Sat. fix 42,48
			13.08	69 48.981	16 49.940	0			"	"	"	"	"	"	"	
			13.30	69 48.911	16 50.092	0			"	"	"	"	"	"	"	fix station - STD
			14.00	69 48.764	16 50.358	0			"	"	"	"	"	"	"	
			13.52	69 48.815	16 50.054				"	"	"	"	"	"	"	Sat. fix 29,39
			14.10	69 48.886	16 50.885	7.4	33.7	1337	"	"	"	"	"	"	"	
			14.20	69 50.319	16 47.517	10.8	43.1	1462	1175-1150	"	"	0.00	"	"	"	0 delay
			14.30	69 51.493	16 44.390	10.8	43.0	1368	"	"	"	"	"	"	"	
			14.40	69 53.027	16 41.140	10.8	31.5	1197	938-1313	"	"	0.25	"	"	"	Δ delay
			14.10	69 48.707	16 52.648				"	"	"	"	"	"	"	Sat fix 122,119
			15.00	69 55.993	16 35.258	10.7	30.7	1296	"	"	"	"	"	"	"	
			14.40	69 53.327	16 40.300				"	"	"	"	"	"	"	Sat fix 15,19
			15.30	69 59.823	16 28.17	10.8	65.8	1042	"	"	"	"	"	"	"	
			15.35	70 00.12	16 25.541	10.1	65.5	1370	1031-1406	"	"	0.13	"	"	"	0 delay
			15.40	70 00.728	16 22.080				"	"	"	"	"	"	"	Sat fix 17-121-1
			16.00	70 01.88	16 13.73	11.0	65.5	1170	"	"	"	"	"	"	"	
			16.30	70 04.75	15 58.99	11.1	39.6	1036	938-1313	"	"	0.25	"	"	"	SP

GPS
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DRS

Roll	Profile	Date	Time	Lat	Long. (W)	Speed	Heading	Depth	Depth Range	Sw	Triggers	Delay	sec/sw	PL	WR	Remarks
1		08.06.88	16:58						844-1219	2	KP	0.38	12	1	SP.	
2			17:00	70 09.09	15 49.17	11.1	25.5	930								End Roll 1
			17:28	70 13.53	15 42.77	10.9	23.9	712	656-1031	3	K-P	0.13				Start Roll 2
			17:30	70 13.77	15 42.43	10.9	24.3	796								
			18:05	70 19.51	15 39.75	11.0	23.9	950								
			18:30	70 28.49	15 29.14	10.7	24.1	961								
			18:34	70 29.35	15 28.16	10.9	24.3	1043								
			19:00	70 28.63	15 21.76	11.0	26.2	960	844-1219							
			19:14	70 29.80	15 15.68	10.8	23.1	1184	938-1313			0.25				
			19:30	70 30.22	15 08.36	10.8	26.5	1082								
			19:42	70 29.79	15 17.232											Sat Fix 36,76
			19:39	70 30.32	15 09.71	10.8	25.9	1683	1406-1781	5	KPK-P	0.13				
			19:49						1594-1969	2	K	0.38				
									1406-1781	5	KPK-P	0.13				
			20:10	70 29.93	14 45.87	10.6	94.7	1281	1207-1594	5		0.38				Probl with Echo.
			20:21	70 29.52	14 40.90	6.2	126.1	991	844-1219	2	KP	0.38		(4)	BA	in ice
			20:24	70 29.37	14 40.05	8.6	83.2	1026								
			20:06	70 30.09	14 48.574											Sat fix 56,66
			20:30	70 29.70	14 37.37	10.5	64.4	1125								
			20:39						656-1031	3	K-P	0.13				
			20:41						469-844	2		0.38				
			20:24	70 29.37	14 40.29											Sat fix 45 84
			20:46						656-1031	3		0.13				
			21:00	70 31.46	14 22.38	11.0	29.2	1050	938-1313	2	KP	0.25				
			21:09						1219-1594	5	KPK-P	0.38				
			21:30	70 35.84	14 16.39	10.8	18.7	1550	1406-1781	5		0.13				
			21:21	70 34.686	14 16.664											Sat fix 58 66
			21:41						1119-2574			0.38				
			21:44	70 38.58	14 13.51	10.9	12.8	1622	1406-1781			0.13				
			21:50	70 39.61	14 12.68	11.2	13.3	1845	688-2063	0	KP	0.25				
			21:54						1219-1594	5	KPK-P	0.38				
			21:57						938-1313	5	KP	0.25				
			22:00	70 41.36	14 11.27	10.8	13.0	0114	844-1219	0	KP	0.38				
			21:52	70 39.63	14 15.171											Sat fix 46 76
			22:10	70 42.18	14 11.25	9.1	90.8	1238	1219-1594	5	KPK-P	0.38				
			22:18						1406-1781			0.13				
			22:28						688-2063	0	KP	0.25				
			22:13	70 42.188	14 07.965											Sat fix 34 88
			22:30	70 42.34	13 59.75	10.7	109.9	1977								
			22:36													
			22:40	70 42.011	13 56.180	10.9	118.6	1956	1815-2750			0.00				
			22:43						688-2063			0.25				
			22:45						1406-1781	5	KPK-P	0.13				
			23:00	70 40.829	13 46.132	11.1	78.5	1803	688-2063	0	KP	0.25				
			23:05													
			23:30	70 40.52	13 33.376	11.1	2.8	1807								
			23:10	70 40.986	13 39.446											Sat fix 58 93 5
			23:35						1406-1781	5	KPK-P	0.13				
			23:40						1574-1969	5	KPK-P	0.38				
			23:45						1406-1781	5	KPK-P	0.13				
			09.06.88	70 48.662	13 32.964	11.2	0.6	1322	1125-1500	5	KP	0.00				
			00:30	70 54.136	13 32.917	11.2	359.3	1205	938-1313	5		0.25				Sat fix 58 76
			00:38	70 44.51	13 32.93											
			00:41													
			00:59						20-115			0.00				
			01:00	70 59.647	13 33.066	11.1	0.1	679	263-938			0.25				
			01:05	70 00.615	13 32.979	10.9	0.5	550	169-844			0.38				

Roll Profile	Date	Time	Lat.	Long. (W)	Speed	Heading	Depth	Depth Range	Sw	Trigger	Delay	sec/bw	PL	WK	Remarks
2	10.06.88	0922	71 58.16	17 02.83	3.2	188	1717	1594-1969	2	KP	0.38	12	1	SP	Just leaving the Sta. 45
		0927	71 57.75	17 04.68	10.4	235.2	1720	"	"	"	"	"	"	"	On course + speed.
		0930	71 57.36	17 06.05	10.9	218.4	1708	"	"	"	"	"	"	"	Sat Fix 43, 46
		0904	71 58.416	17 2.893	"	"	"	"	"	"	"	"	"	"	Sat Fix 67, 93
		1006	71 53.04	17 18.66	10.0	224.0	1684	"	"	"	"	"	"	"	
		0933	71 56.831	17 7.890	"	"	"	"	"	"	"	"	"	"	
		1015	71 52.289	17 20.670	9.6	205.2	1684	"	"	"	"	"	"	"	
		1032	71 49.709	17 22.155	8.8	231.4	1713	"	"	"	"	"	"	"	
		1048	71 50.314	17 29.267	10.0	318.5	1645	"	"	"	"	"	"	"	
		1050	71 50.629	17 30.078	10.0	329.1	1662	1106-1781	5	KPK-P	0.13	"	"	"	
		1102	71 50.800	17 34.778	7.6	250.2	1591	"	"	"	"	"	"	"	on station 46
		1111	71 50.681	17 35.624	"	"	"	"	"	"	"	"	"	"	
		1206	71 50.831	17 36.014	0	363.2	1572	"	"	"	"	"	"	BL	
		1232	71 50.885	17 36.124	0	326.6	1571	"	"	"	"	"	"	"	
		1248	71 50.937	17 36.002	"	"	"	"	"	"	"	"	"	"	sat fix 31 44
		1300	71 50.842	17 36.184	0	171.8	1591	"	"	"	"	"	"	"	EOS (end of station)
		1319	71 50.791	17 36.291	7.0	219.7	1572	"	"	"	"	"	"	"	sat fix 36 39
		1306	71 50.875	17 35.746	"	"	"	"	"	"	"	"	"	"	Auto ice
		1330	71 49.755	17 37.881	9.8	235.0	1532	"	"	"	"	"	"	"	
		1400	71 52.675	17 45.943	7.0	306.0	1411	1219-1599	"	"	0.38	"	"	"	SOS # 47
		1425	71 54.155	17 50.345	0	131.6	1326	"	"	"	"	"	"	"	
		1430	71 54.42	17 50.281	0	129.5	1309	"	"	"	"	"	"	"	
		1500	71 53.17	17 47.59	0	48.9	1319	"	"	"	"	"	"	"	
		1455	71 54.181	17 49.461	"	"	"	"	"	"	"	"	"	"	
		1530	71 52.77	17 46.08	0	41.2	1327	"	"	"	"	"	"	"	sat fix station
		1522	71 54.100	17 49.085	"	"	"	"	"	"	"	"	"	"	sat fix 30 26
		1546	71 54.019	17 48.996	"	"	"	"	"	"	"	"	"	"	sat fix 30 54
		1600	71 52.17	17 45.19	0	45.4	1340	"	"	"	"	"	"	"	station
		1630	71 51.58	17 44.20	"	"	1346	"	"	"	"	"	"	"	
		1644	71 53.780	17 48.297	"	"	"	"	"	"	"	"	"	"	Sat Fix 29 49
		1700	71 54.00	17 43.33	"	"	1351	"	"	"	"	"	"	"	
		1708	71 50.06	17 42.97	2.9	38.7	1385	"	"	"	"	"	"	"	leaving station (FS)
		1715	71 54.22	17 46.95	-1.0	50.8	1377	"	"	"	"	"	"	"	in ice backing up
		1730	71 54.09	17 46.95	1.5	302.4	1387	"	"	"	"	"	"	"	17.19 forward, 17.22 backing
		1756	71 54.19	17 53.41	8.4	292.7	1251	938-1313	2	KP	0.25	"	"	"	Sat fix 90, 99
		1846	71 53.856	17 49.753	"	"	"	"	"	"	"	"	"	"	
		1802	71 54.79	17 55.97	8.3	304.2	1200	"	"	"	"	"	"	"	
		1810	71 54.73	17 59.01	7.9	261.8	1164	"	"	"	"	"	"	"	
		1816	71 54.408	18 01.42	"	"	"	"	"	"	"	"	"	"	Sat Fix 30, 50
		1830	71 55.72	18 03.15	1.3	353.4	11026	"	"	"	"	"	"	"	Speed is changing all the time
		1838	71 56.32	18 04.21	11.0	309.8	994	656-1031	3	K-P	0.13	"	"	"	
		1843	71 56.47	18 05.79	1.5	221.0	930	"	"	"	"	"	"	"	Slowing down for station
		1845	71 56.75	18 04.24	0.8	181.6	926	"	"	"	"	"	"	"	on station (48) SOS
		1901	71 56.60	18 04.50	"	"	927	"	"	"	"	"	"	"	
		1918	71 56.68	18 04.98	"	"	927	"	"	"	"	"	"	"	
		1934	71 56.209	18 1.576	"	"	"	"	"	"	"	"	"	"	End Roll 2
		1945	71 56.52	18 05.33	"	"	913	"	"	"	"	"	"	"	Sat Fix 136, 142
		2000	71 56.33	18 07.33	"	"	168	"	"	"	"	"	"	BL	Start Roll (3)
		1946	71 56.320	18 06.871	"	"	"	"	"	"	"	"	"	"	Station
		2000	71 56.265	18 07.536	"	"	"	"	"	"	"	"	"	"	Sat fix 28 32
		2030	71 56.39	18 07.91	0	170.2	916	"	"	"	"	"	"	"	Sat fix 27 29 1
		2040	71 56.313	18 07.945	"	"	"	"	"	"	"	"	"	"	Station 48
		2100	71 55.90	18 07.67	0	169.4	905	"	"	"	"	"	"	"	Sat fix 46 58
		2129	71 56.271	18 08.221	"	"	"	"	"	"	"	"	"	"	Station 48
		2059	71 56.26	18 08.93	5.6	270.7	847	"	"	"	"	"	"	"	Sat fix 45 58

(2)

Roll	Profile	Date	Time	Lat.	Long (W)	Speed	Heading	Depth	Depth Range	Sw	Trigger	Delay	sec/Sw	PL	WIC	Remarks
3	GPS	11.06.88	1131	72 56.307	20 05.075	11.0	18.3	185.0	112.5-300	2	K-P	0.10	14	1	SP	
			1145	72 58.405	20 0.477	10.8	46.1	201	-							
			1200	73 0.319	19 54.030	10.6	39.6	192.0	-							
			1230	73 05.246	19 48.447	10.6	31.9	239.0	-						BK	
			1213	73 02.313	19 49.464	10.6	3.3	283.0	062.5-450	3	K-P	0.15				Sat fix 31 67
			1238	73 06.677	19 47.778	10.6	5.4	344.0	-							0 delay
			1245	73 02.849	19 47.720	10.4	51.0	495.0	-							
			1250	73 08.478	19 45.667	10.4	9.1	511.0	375-562			0.00				0 delay
			1300	73 09.754	19 43.212	10.3	357.3	516.0	-							
			1315	73 12.631	19 42.722	10.4			-							
			1320			3.6			-							low speed
			1330	73 12.790	19 42.825	2.4	347.8	490	-							walking for satellite fix
			1244	73 07.655	19 47.612				-							
			1238						-							Sat fix 40 52
			1345	73 14.994	19 45.663	10.4	305.8	478	-							full speed
			1250	73 15.471	19 48.017	10.5	303.0	404	062.5-450			0.15				ice!
			1340	73 14.543	19 42.207				-							Sat fix 62 71
			1400	73 16.334	19 52.184	8.1	298.0	355	-							
			1405						-							
			1415	73 17.302	19 57.873	6.3	312.1	380	-							changing course
			1402	73 16.615	19 52.036				-							
			1434	73 19.004	20 01.697	10.0	345.3	333	-							Sat fix 51 65
			1446	73 20.646	20 01.494	10.6	13.9	286	187.5-375	2	K-P	0.00				polymine
			1428	73 18.225	20 02.115				-							
	IDRS		1503	73 23.48	20 02.09	9.7	14.1	228	-							Sat fix 56 135
			1507	73 24.04	19 58.74	10.1	9.2	176	112.5-300	2		0.10				0 delay
			1458	73 22.785	20 00.141				-							
			1515	73 25.56	19 59.06	10.1	24.9	176	-							Sat fix 46 47
			1508	73 24.231	19 58.273				-							Sat fix 64 197 5
			1530	73 28.02	19 56.51	9.6	00.3	175	-							
			1530	73 27.822	19 55.996				-							
			1545	73 29.14	19 54.40	9.9	23.1	155	-							Sat fix 45 65
			1600	73 30.98	19 48.06	10.5	45.2	161	-							
			1630	73 34.58	19 34.68	10.3	48.4	149	-							SP
			1621	73 33.638	19 38.438				-							
			1700	73 38.12	19 21.59	10.1	34.9	164	-							Sat fix 28,64
			1656	73 37.741	19 23.051				-							
			1730	73 41.59	19 07.84	10.6	47.5	187	-							Sat fix 29,85,1
			1800	73 45.71	18 58.40	10.6	49.5	184	-							
			1830	73 47.34	18 47.33	10.5	26.2	202m	-							
			1844	73 47.55	18 41.238				-							managing ice
			1902	73 50.23	18 31.94	10.0	63.0	168	-							Sat fix 42,44
			1913	73 50.456	18 26.386				-							
			1930	73 50.57	18 20.80	10.0	344.9	239	-							Sat fix 35,38
			1945	73 52.49	18 15.68	8.3	61.7	2	262.5-450	3	K-P	0.15				
			1930	73 51.696	18 21.683				-							
			2000	73 52.71	18 08.17	6.5	47.0	378	-							Sat fix 42,54
			2001	73 54.410	18 11.918				-							BK
			2030	73 57.90	18 58.98	12.1	85	296	-							Sat fix 21 85
			2035	73 58.16	18 58.77	11.8	66.6	245	187.5-375	2	K-P	0.00				delay trigger / success
			2045	74 01.85	18 44.75	10.6	359.4	170	150-337.5	2		0.05				0 delay
			2030	73 55.746	18 53.526				-							
			2018						-							Sat fix 55 48 2
			2001	74 06.51	18 35.211	6.4	19.8	160.1	112-300			0.10				0 delay
4																Manoeuvring in ice back + ahead.

Roll Profile	Date	Time	Lat.	Long. (W)	Speed	Heading	Depth	Depth Range	Sw	Tringger	Delay	sec/sw	PL	Wk	Remarks
4	12.06.88	17 00	33 40.27	13 58.60	0	268.2	2424	2362-2550	2	KP	0.10	1/4	1	BL	on station 52
		17 30	33 40.01	13 59.09	-	269.9	2422	-	-	-	-	-	-	-	
		17 38	33 40.50	13 42.15	10.5	104.1	2570	2437-2625	2	-	0.00	-	-	-	EOS (not recorded on profile)
		17 48	33 40.512	13 58.067	-	-	-	-	-	-	-	-	-	-	sat fix 41 40 Y
		18 16	33 40.244	13 40.639	-	-	-	-	-	-	-	-	-	-	sat fix 19 20 Y
		18 30	33 40.01	13 32.74	10.4	79	2580	2587-2775	3	KPK-P	0.05	-	-	-	o delay / 1000 / 5000
		18 40	33 41.47	13 18.83	8.4	102.5	2627	-	-	-	-	-	-	-	
		18 50	33 40.415	13 21.835	-	-	-	-	-	-	-	-	-	-	sat fix 34 39 Y
		19 20	33 38.38	13 07.39	10.4	95.6	2644	-	-	-	-	-	-	-	
		19 30	33 38.558	13 09.813	-	-	-	-	-	-	-	-	-	-	sat fix 29 40 Y
		20 00	33 36.13	12 53.20	9.0	118.5	2704	-	-	-	-	-	-	-	sat fix 80 82 Y
		20 00	33 35.835	12 52.726	-	-	-	-	-	-	-	-	-	-	ice
		20 00	33 34.88	12 47.78	4.9	121.8	2729	-	-	-	-	-	-	-	sat fix # 80 morning
		20 00	33 34.55	12 45.16	0	37.8	2733	-	-	-	-	-	-	-	
		20 00	33 34.530	12 45.259	-	-	-	-	-	-	-	-	-	-	sat fix 32 39 Y
		20 00	33 34.75	12 44.96	-	85.2	2734	-	-	-	-	-	-	-	sat fix 35 34 Y
		20 00	33 34.716	12 45.055	-	335.1	2735	-	-	-	-	-	-	-	sat fix 38 45 Y
		20 00	33 35.06	12 45.152	-	287.1	2735	-	-	-	-	-	-	-	sat fix # 80 morning
		20 00	33 35.44	12 44.96	-	326.2	2737	2662-2850	2	KP	0.20	-	-	-	EOS # 80 morning
		20 00	33 35.399	12 45.213	-	-	-	-	-	-	-	-	-	-	sat fix 37 44 Y
		20 00	33 34.97	12 43.66	6.0	148.2	2738	-	-	-	-	-	-	-	ice
		20 00	33 33.88	12 38.27	8.4	154.4	2750	-	-	-	-	-	-	-	
		20 00	33 32.44	12 39.571	-	-	-	-	-	-	-	-	-	-	sat fix 170 230 S
		20 00	33 31.529	12 31.293	10.9	134.6	2764	-	-	-	-	-	-	-	sat fix 131 97 Y
		20 00	33 28.392	12 23.938	6.8	160.9	2791	-	-	-	-	-	-	-	ice breaking
		20 00	33 25.409	12 15.950	5.5	159.1	2796	-	-	-	-	-	-	-	
		20 00	33 24.484	12 20.543	-	-	-	-	-	-	-	-	-	-	sat fix 12 12 Y
		20 00	33 23.825	12 07.516	6.1	96.5	2806	-	-	-	-	-	-	-	approaching # 80
		20 00	33 24.066	12 11.119	-	-	-	-	-	-	-	-	-	-	sat fix 82 112 Y
		20 00	33 24.365	12 11.273	0	337.5	2796	-	-	-	-	-	-	-	sat fix 94 58 Y
		20 00	33 24.416	12 09.453	-	63.9	2796	-	-	-	-	-	-	-	sat fix 64 65 Y
		20 00	33 24.434	12 10.736	-	-	-	-	-	-	-	-	-	-	sat fix 48 58
		20 00	33 24.490	12 10.442	-	142.0	2797	-	-	-	-	-	-	-	sat fix 28 35
		20 00	33 24.34	12 10.323	-	6.6	2796	-	-	-	-	-	-	-	sat fix 45 196 S
		20 00	33 24.600	12 10.424	-	-	-	-	-	-	-	-	-	-	
		20 00	33 24.856	12 10.280	-	-	-	-	-	-	-	-	-	-	
		20 00	33 25.012	12 09.782	-	39.8	2797	-	-	-	-	-	-	-	
		20 00	33 25.104	12 10.009	-	-	-	-	-	-	-	-	-	-	
		20 00	33 25.186	12 09.424	-	52.3	2798	-	-	-	-	-	-	-	
		20 00	33 25.270	12 09.386	-	-	-	-	-	-	-	-	-	-	
		04 00	73 25.336	12 08.688	-	-	2800	-	-	-	-	-	-	-	SP leaving station 53
		04 03	73 25.48	12 07.07	8.8	119.8	2801	-	-	-	-	-	-	-	on course speed
		04 06	73 25.35	12 05.82	9.6	120.3	2807	2775-2962.6	-	-	.05	-	-	-	
		04 30	73 24.02	11 51.21	12.5	89.3	2795	-	-	-	-	-	-	-	
		04 35	73 23.96	11 48.04	9.1	122.4	2783	2737.5-2925.0	-	-	.10	-	-	-	
		04 38	73 23.69	11 46.55	9.8	116.4	2783	2462.5-2850.0	-	-	.20	-	-	-	
		04 40	73				2100 ? 1995	-	-	-	-	-	-	-	
		04 55	73 20.90	11 41.12	10.2	135.5	2407.0	-	-	-	-	-	-	-	
		04 59	73 20.18	11 37.34	10.1	133.3	2426	2587.5-2775.0	3	KPK-P	.05	-	-	-	
		05 02	73 20.61	11 34.57	10.2	137.7	2773	2737.5-2925.0	2	KP	.10	-	-	-	
		05 10	73 19.53	11 31.52	10.5	128.1	2816	-	-	-	-	-	-	-	

73° 21.5'
11° 43.0' Sea Mount Stephanie
1995 m

Roll	Profile	Date	Time	Lat.	Long. (W)	Speed	Heading	Depth	Depth Range	Sw	Triggers	Delay	sec/sw	PL	WK	Remarks
4		13.06.88	0530	73 18.35	11 20.06	10.5	107.4	2865	2737.5-2925	2	KP	0.10	1/2		SP	
			0600	73 16.27	11 10.27	3.5	141.0	2883	"							
			0537	73 17.57	11 18.85											Sat Fix 52,51
			0610	73 15.56	11 06.59	8.9	109.4	2968				0.00?				
			0630	73 14.00	10 35.91	7.4	119.0	2873								
			0618	73 14.98	11 1.88											Sat Fix 27,72
			0658	73 12.22	10 44.73	6.8	126.0	2848	2737.5-2785			0.10				
			0700	73 12.04	10 43.97	7.2	126.5	2844								
			0705	73 11.70	10 41.68	9.6	121.1	2886	2812.5-3000			0.00				
			0730	73 09.32	10 32.36	10.0	150.0	2920								
			0800	73 09.23	10 15.86	10.2	78.0	3030	3037.5-3225	2	KP	0.20				
			0806	73 09.37	10 11.93	10.0	60.0	3059	2962.5-3150	3	KP	0.05				
			0832	73 09.32	10 03.05	6.0	135.6	3033								
			0824	73 09.71	10 55.61											Sat Fix 110,143
			0837	73 08.45	10 01.72	7.2	136.6	2988	2850-3037.5			0.20				
			0840	73 8.62	10 0.69											Sat Fix 102,204
			0900	73 07.26	9 53.02	8.3	128.0	2924								
	905		0930	73 03.64	9 45.97	10.1	116.0	2923	2887-3075			0.15				
			0937	73 03.69	9 42.56	5.2	72.7	2995								slowing down.
			0942	73 3.61	9 41.22	7.5	136.3	2996								Speeding up
			0947	73 3.19	9 40.34	2.0	168.3	2989								Very slow
			0948	73 3.43	9 40.50	4.9	131.4	2947								Sat Fix 195,212
			1010	73 1.82	9 34.24	2.4	140.3	2922								Slowing for station 54
			1015	73 1.74	9 34.08		163	2918								Sta 54
			1024	73 1.70	9 34.15		276.5	2917								End of 54
			1056	73 1.75	9 24.55		280.5	2920								Start 55
			1111	73 1.74	9 34.56		274.6	2919								
			1130	73 1.73	9 34.68		215.2	2923								
			1200	73 1.81	9 34.99		309.9	2925								
			1221	73 01.82	9 35.42											
			1230	73 01.83	9 35.23		313.2	2925								BL
			1300	73 01.92	9 35.37		315.4	2928								
			1250	73 01.96	9 35.08											
			1318	73 02.02	9 35.00											Sat fix 50,50
			1330	73 01.83	9 34.96		1100.7	2928								Sat fix 61,62
			1349													55
			1400	72 58.76	9 43.19	13.6	220.0	2840	2775-2962	2		0.05				For 454
			1410													
			1435	72 52.80	9 49.63	13.2	224.6	2775	2625-2812	3	KP-K-P	0.008				The clock is working
	10RS		1500	72 48.60	10 09.96	13.8	224.0	2705								0 delay / trigger / swim
			1520	72 45.30	10 21.63	13.7	211.3	2629	2475-2662	3		0.20				Sat fix 35,41
			1503	72 47.82	10 12.19											
			1539													
			1548	72 40.22	10 32.37	13.7	190.3	2391	2250-2437	7	KP-K-P	0.00				
			1600	72 38.02	10 35.40	13.9	232.0	2503								SP
			1605	72 37.17	10 38.28	13.1	212.3	2269	2100-2287.5	1		0.20				
			1630	72 32.72	10 39.32	13.5	170.1	2099	1987.5-2175	2	KP	0.10				
			1700	72 26.38	10 46.32	13.8	218.5	2156	2062.5-2250			0.00				
			1705	72 05.70	10 49.67	13.3	265.5	2142								on new course 260
			1712	72 25.70	10 54.75	14.1	263.4	2222.0	2212.5-2400	7	KP-K-P	0.05				
			1730	72 26.33	11 07.25	13.8	259.5	2222.0	2137.5-2325			0.15				
			1734	72 26.17	11 10.58	13.2	261.3	2119.0				0.1				Lat the bottom - Absorption
			1750	72 25.87	11 18.38	8.9	266.9	463	300-487.5	3	K-P	0.10				
			1800	72 26.56	11 22.28	9.8	329.7	419								Turning back N to get to sta.
			1805	72 27.42	11 23.76	9.2	349.2	631	469-844			0.38				
			1808	72 27.70	11 22.25	7.9	5.9	888	844-1219	2	KP	0.38				

(5)

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Roll	Profile	Date	Time	Lat.	Long (W)	Speed	Heading	Depth	Depth Range	Sw	Trigger	Delay	sec/bw	PL	WIK	Remarks
5		13.06.88	1810	72 28.06	11 23.87	8.8	325.1	1092	894-1217	2	KP	0.38	(1/2)		SP	scale for the station will wait 41 we get on it ← wait part. from the night ice slowing down for starts on sta
			1811	72 28.24	11 24.25	9.6	327.2	1213	1219-1594	5	KPK-P	"				
			1815	72 28.72	11 23.40	9.1	36.1	1452	1912.5-2100	2	KP	0.20	(3/4)			
			1825	72 29.50	11 26.98	9.6	302.0	1983								
			1830	72 29.75	11 27.39	8.4	334	2202	2100-2287	7	KP-K-P	0.20				
			1835	72 30.21	11 27.71	0.4	0.4	2214	"	"	"	"				
			1900	72 32.00	11 26.57	-	115.4	2212	"	"	"	"				
			1931	72 30.63	11 28.01	-	116.4	2210	"	"	"	"				
			2020	72 30.66	11 27.96	-	-	2219	-	-	-	-			BL	
			2049													
			2106						1950-2133	2	KP	0.20				KE
			2117						1850-1857	2	-	0.05				
			2141						1950-2133	2	-	0.05				
			2152						2025-2212	2	-	0.05				
			2302	72 31.22	12 06.13	10.5	182.5		2250-2400	7	K-P-P	-				
			2305	72 31.57	12 07.20	9.9	222.1		2100-2277	7	K-P-P	0.20				
			2321	72 30.32	12 04.27	0	150									
			2328	72 30.65	12 04.49	0	157.6		160-250	2	K-P	0.10				
			0402	72 00.73	11 57.18	12.2	87.2	2330	2175-2307.5	7	K-P-P	0.10			SP	
			0408	72 00.61	11 54.07	12.2	87.2	2312	2250-2437.5			0.0				
			0430	72 00.06	11 59.82	13.3	87.1	2276	2137.5-2325			0.15				
			0442	72 00.01	11 54.31	10.2	102.1	2279	2212.5-2400			0.05				
			0500	72 00.83	11 52.03	3.9	329	2192								
			0530	72 03.46	11 27.45	12.4	102.5	2267	2175-2367.5			0.18				
			0600	72 04.64	11 07.51	13.4	102.5	2252	2150-2437.5			0.00				
			0606	72 04.27	11 02.90	13.2	114.0	2296								
			0630	72 02.96	10 48.33	11.2	111	2360								
			0642	72 02.64	10 40.76	11.2	99	2356	2325-2512.5	2	K-P	0.15				
			0700	72 02.35	10 28.25	13.4	95.6		2437.5-2625	1		0.05				
			0728	72 01.18	10 11.53	12.5	126.2	2229	K	7	K-P-K-P	0.20				
			0730	72 00.85	10 10.12	16.0	93.8	2241	2212.5-2400			0.05				
			0735	72 00.74	10 07.72	12.1	99.7	2321	2325-2512	2	K-P	0.15				
			0800	71 59.58	9 51.04	13.1	96.5	2415								
			0803	71 57.83	9 48.28	12.5	86.7	2529	2475-2667.5	3	K-P-K-P	0.20				
			0809	71 58.34	9 42.07	13.3	104.8	2477	2437.5-2625	2	K-P	0.00				
			0830	71 57.36	9 31.49	8.4	102.4	2537								
			0845	71 58.62	9 23.91	7.7	84.1	2466	2262.5-2550			0.10				
			0847	71 59.50	9 23.54	9.2	88.3	2405	2250-2437.5	7	K-P-K-P	0.0				
			0900	71 58.17	9 18.88	7.7	79.4	2354								
			0925	71 57.31	9 10.23	8.8	85.7	2389	2325-2512.5	2	K-P	0.15				
			0930	71 57.29	9 8.10	10.2	70.1	2429								
			0957	71 55.23	8 57.15	9.9	88.8	2430								
			1000	71 55.10	8 56.11	10.2	97.4	2420								
			1021	71 54.43	8 46.57	5.9	71.9	2389	2212.5-2400	7	K-P-K-P	0.05				
			1024	71 54.35	8 45.85	7.8	81.1	2403	2287.5-2475	2	K-P	0.20				
			1030	71 54.13	8 43.36	10.1	97.4	2409								
			1041	71 53.97	8 38.44	7.1	60.5	2545	2437.5-2625			0.00				
			1051	71 51.18		6.7	140.3		2287.5-2475			0.20				

Lat	Long	Date	Time	Lat	Long (W)	Speed	Heading	Depth	Depth Range	Surf Trigger	Delay	SP/W	PL	WK	Remarks	
(5)		14.06.88	11:00	71 57.971	8 27.002	9.5	138.3	2372	2287.5-2475	2	KP	0.20	1	SP		
			11:10	71 56.957	8 23.462	10.2	135.7	2443	2400-2587.5			0.05				
			11:15	71 55.620	8 20.731	11.8	120.5	2465							slowing for station 57	
			11:30	71 55.711	8 22.226	11.5	122.4	2462								
			12:00	71 56.167	8 21.924	0	84.4	2470						BL	Station 57	
			13:00	71 55.538	8 17.819	-	83.5	2461								
			14:05	71 55.336	8 19.801	-	51.3	2460								
		1005	15:00	71 55.21	8 20.01	-	220.9	2453								
			15:58	71 55.02	8 20.55	0.3	220.4	2448						SP	Leaving Sta. 57	
			16:04	71 55.03	8 20.62	1.1	328.1	2442								
			16:05	71 55.19	8 19.70	7.3	40	2445							on course + speed	
			16:30	71 58.410	8 15.91	8.8										
			16:35	71 59.30	8 16.69	10.1	344	2546	2437.5-2625	-	-	0.00				
			17:00	72 03.23	8 14.62	10.1	51.8	2543							End Roll (5)	
(6)			17:30	72 08.13	8 14.23	10.4	171.9		2475-2662.5	3	KPK-R	0.20			Start Roll 6	
			18:00	72 13.57	8 12.05	10.1	344.7	2561								
			18:10	72 15.33	8 12.63	10.2	13.3	2560	2344-2719	2	KP	0.38			(1/2)	
			18:30	72 18.71	8 13.11	9.8	356.7	2639								
			18:35	72 19.49	8 11.79	10.1	361	2679	2438-2813			0.25				
			19:00	72 23.33	8 10.97	10.4	11.0	2671								
			19:21	72 27.17	8 13.66	5.5	263.2	2605							slowing for meeting	
			19:30	72 27.23	8 14.09	4.2	308.8	2594							slowing for meeting	
			19:40	72 27.51	8 13.86	3.5	349.3	2563							stop for sta 58	
			19:43	72 28.99	8 18.23	-		2518								
			20:00	72 29.12	8 17.97	-		2510								
		GPS	20:10	72 28.198	8 09.4	-	113.1	2497						BL	Start recording Sta 58	
		15.06.88	00:00	72 28.32	8 05.87	-	230.3	2503								
			00:03													
			01:01	72 28.618	8 07.962	-	90.6	2536							Reflector disappeared!!	
			01:18	72 27.986	8 08.712										PDR out of function	
			01:35												set fix 34.42	
			03:00	72 41.61	08 06.346	11.0	26.8	2406	2156-2531	5	KPKA	0.13	1/2	1	BL	IS working again
			02:45	72 38.836	08 05.909										set fix 48.43	
			03:10	72 40.687	08 03.213	11.1	20.3	2452	2250-2625	5	-	0.00	-	-	into ice	
			03:30	72 45.288	08 05.122	9.4	350.1	2525								
			03:50	72 47.992	07 57.825	11.0	39.2	2562	2531-2906	2	KP	0.13	-	-		
		1005	04:00	72 49.53	07 57.71	10.3	347.0	2571						SP		
			04:30	72 51.12	8 1.57	9.7	336.1	2550								
			04:32	72 54.45	8 3.11	10.1	316	2548	2438-2813			0.25				
			05:00	72 59.11	8 3.75	10.4	261	2622								
			05:28	73 03.72	7 59.50	8.6	333.5	2668							slowing for station	
			05:30	73 03.83	7 59.81	2.5	272	2699								
			06:27	73 03.40	7 59.60	-		2653							Turn off PDR for moving work	
			08:26	73 03.87	7 59.02	-	287	2697							PDR back on	
			08:30	73 03.89	7 58.96	-	287	2646								
			09:00	73 03.95	7 59.26	-	275	2682								
			09:30	73 03.08	7 58.49	-	108	2646								
			10:00	73 03.70	7 58.01	-	110	2699								
			11:00	73 03.52	7 59.34	-	110	2644								
			11:30	73 03.39	7 59.69	-	109.4	2647	2587.5-2745.0	3	KPK-R	0.05			CM	Amateur watch keeper!
			11:45	73 03.28	7 59.34	-	145	2648							SP	End of station
			11:48	73 03.24	7 59.24	-	222.4	2648							1	Leaving Sta
			11:56	73 03.63	8 00.70	9.0	288.8	2674								on speed course
			12:00	73 03.72	8 02.76	10.9	275.0	2690	2625-2812.5			0.00				
			12:26	73 06.05	8 17.14	10.3	291.0	2732								
			12:30	73 06.07	8 27.14	10.4	245.7	2828								

Roll Profile	Date	Time	Lat	Long (W)	Speed	Course	Depth	Depth Range	Sw	Trigger	Delay	20/20	PL	WT	Remarks	
⑥	15.06.88	12:45	73 05.97	08 29.6	10.1	300.3	2801	2737-2925	2	KP	0.10	1/4	1	SL	0 delay / trigger / SW some at 1000m.	
		13:05	73 06.80	08 41.78	10.2	280.2	2944	2887-3075	3	-	0.15	-	-	-	-	
		GPS	13:30	73 06.528	08 55.753	10.8	270.7	2803	-	-	-	-	-	-	-	-
		13:33	-	-	-	-	-	2737-2925	2	KP	0.10	-	-	-	-	searching for mooring station (need ice free area)
		13:44	-	-	-	-	-	2887-3075	3	-	0.15	-	-	-	-	-
		13:52	-	-	-	-	-	2850-3037	-	-	0.20	-	-	-	-	-
		GPS	14:00	73 05.525	9 10.433	10.7	277.7	2903	-	-	-	-	-	-	-	-
		14:12	-	-	-	-	-	2962-3187	-	-	0.10	-	-	-	-	sudden drop of depth level
		14:30	73 08.4406	9 25.6154	10.3	299.1	3016	-	-	-	-	-	-	-	-	-
		10RS	15:00	73 09.57	9 34.31	8.9	290.1	3082	-	-	-	-	-	-	-	ice
		14:29	73 07.83	9 24.69	-	-	-	-	-	-	-	-	-	-	-	sal fin 30290
		15:30	73 11.49	9 45.98	7.4	317.1	3045	-	-	-	-	-	-	-	-	ice
		16:06	73 17.15	9 50.74	9.8	320	2932	2850-3037	3	KP	0.10	-	-	-	-	SP
		16:18	73 18.89	9 51.85	9.5	338	2896	2887.5-3075	3	KP	0.15	-	-	-	-	-
		16:30	73 20.79	9 53.35	10.8	360	2970	-	-	-	-	-	-	-	-	-
17:00	73 24.63	9 55.71	6.5	341	2986	-	-	-	-	-	-	-	-	-		
17:30	73 26.73	9 57.18	3.7	299	2989	-	-	-	-	-	-	-	-	-		
18:01	73 30.08	10 05.43	4.6	275	2994	-	-	-	-	-	-	-	-	-		
15:37	-	-	-	-	-	-	3000-3187	3	KP	0.10	-	-	-	-	-	
18:31	73 33.41	10 9.73	5.3	326	3063	2962.5-3187	3	-	0.05	-	-	-	-	-		
19:00	73 36.45	10 16.61	7.9	330	3021	-	-	-	-	-	-	-	-	-		
19:30	73 38.86	10 21.21	8.3	3.1	3029	-	-	-	-	-	-	-	-	-		
20:00	73 42.79	10 27.85	7.5	342.1	3049	-	-	-	-	-	-	-	-	-		
20:30	73 45.51	10 28.08	8.0	005.4	3060	-	-	-	-	-	-	-	-	PL		
21:02	73 51.08	10 24.49	10.0	8.3	3062	-	-	-	-	-	-	-	-	-		
21:30	73 54.78	10 29.85	7.5	351.7	3055	-	-	-	-	-	-	-	-	-		
21:34	73 54.94	10 29.60	-	81.0	3057	-	-	-	-	-	-	-	-	-		
22:00	73 53.92	10 33.49	-	125.6	3056	-	-	-	-	-	-	-	-	-		
22:31	73 54.05	10 32.68	-	125.6	3055	-	-	-	-	-	-	-	-	-		
23:02	73 53.74	10 33.41	-	125.4	3057	-	-	-	-	-	-	-	-	-		
23:30	73 53.73	10 31.06	-	127.9	3056	-	-	-	-	-	-	-	-	-		
16.06.88	00:03	73 53.31	10 30.06	-	123.2	3052	-	-	-	-	-	-	-	-	-	
GPS	16.06.88	00:21	-	-	-	-	-	-	-	-	-	-	-	-	EOS # 60	
		00:30	73 53.82	10 26.436	9.9	54.7	3065	-	-	-	-	-	-	-	-	
		01:02	73 57.02	10 20.336	5.4	347.4	3089	-	-	-	-	-	-	-	-	
		01:30	74 00.728	10 11.8824	10.1	350.0	3114	3075-3262	0	-	0.15	-	-	-	-	-
		02:00	74 03.6496	10 02.0193	9.9	55.7	3139	-	-	-	-	-	-	-	-	-
		02:33	74 06.783	9 52.197	8.4	15.8	3163	-	-	-	-	-	-	-	-	-
		03:08	74 11.6726	9 48.4708	9.3	43.8	3173	-	-	-	-	-	-	-	-	-
		03:30	74 13.8342	9 40.5851	5.0	45.5	3186	-	-	-	-	-	-	-	-	-
		03:58	-	-	-	-	-	-	3187-3375	-	-	0.00	-	-	-	-
		EOS	04:00	74 15.69	9 31.76	7.0	87.0	3229	-	-	-	-	-	-	-	-
		04:30	74 18.69	9 24.04	9.3	351.5	3247	-	-	-	-	-	-	-	-	SP
		05:00	74 23.45	9 16.69	8.9	13.4	3255	-	-	-	-	-	-	-	-	-
		05:30	74 25.68	9 5.03	6.7	67.1	3260	-	-	-	-	-	-	-	-	-
		05:43	74 26.69	9 0.70	4.1	65.1	3290	-	-	-	-	-	-	-	-	-
		05:53	74 26.74	9 0.02	-0.3	183.9	3292	-	-	-	-	-	-	-	-	-
06:00	74 25.37	8 59.22	-0.1	184.9	3292	-	-	-	-	-	-	-	-	-		
06:10	74 25.36	8 59.11	-0.4	171.6	3292	3225.0-3412.5	5	KP-K-P	0.20	-	-	-	-	-		
07:00	74 27.62	9 01.09	0.2	193.4	3293	-	-	-	-	-	-	-	-	-		
08:00	74 28.05	9 00.49	-	-	3293	-	-	-	-	-	-	-	-	-		
08:17	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
08:30	74 32.39	8 58.00	-	-	3294	-	-	-	-	0.20	-	-	-	-		
08:50	74 38.33	8 58.42	-	-	3296	-	-	-	-	0.20	-	-	-	-		
09:00	74 38.36	8 57.99	3.6	94.3	3298	-	-	-	-	-	-	-	-	-		
09:12	74 27.00	8 54.32	9.0	141.3	3306	-	-	-	-	-	-	-	-	-		

⑦

approach - in #60
 SOS #60
 #60
 EOS #60
 u
 slowing down from on station #61
 End Roll 6
 Start Roll 7

Roll Profile	Date	Time	Lat	Long (W)	Speed	Course	Depth	Depth Range	Sw Trigger	Delay	Sec/Sec	PL	Wk	Remarks
(7)	16.06.88	0920	74 28.02	8 49.16	9.8	257	3310	3187.5 - 3375	2	KP	0.00	(1/4)	1	SP
		0930	74 25.03	8 43.22	10.1	144	3321							
		10.00	74 21.87	8 36.54	9.2	164.2	3312							
		10.18	74 16.65	8 38.83	8.2	125.4	3300							
		11.00	74 14.34	8 29.56	8.1	115.8	3292							
		11.30	74 11.30	8 24.10	9.0	205.2	3205							
		12.00												
		12.30												BL
		13.06	74 00.60	7 50.66	9.5	141.7	3300							
		13.30	73 57.63	7 42.37	10.2	148.5	3312							
		14.00	73 53.75	7 33.38	8.9	180.4	3313							
		14.55	73 46.05	7 22.21	8.6	150.3	3310	3281 - 3650	2	KP	0.13	(1/2)		
		15.00	73 45.50	7 21.10	5.4	160.6	3354							
		15.05	73 45.07	7 19.87	3.8		3362							
		15.07	73 45.01	7 19.85	0.9		3363							Stopping for station
		16.00	73 44.72	7 19.42			3362							Stop for station 62
		17.00	73 44.43	7 20.51			3361							
		17.50	73 44.34	7 20.90			3359							
		17.53	73 44.32	7 20.75	2.5	76.5	3359							EAS 62
		17.57	73 44.14	7 19.73	5.8	40.2	3357							Underway
		18.00	73 44.16	7 19.62	5.8	358.3	3354							on speed & course
		18.34	73 45.55	7 5.55	8.7	72.6	3384							
		19.00	73 47.70	6 50.33	10.9	61.9	3415							
		19.02	73 47.81	6 48.53	10.3	78.1	3418			0.20	(1/4)			
		19.09	73 48.00	6 45.34	7.0	70.9	3425			0.13	(1/2)			
		19.30	73 48.39	6 32.46	10.6	85.4	3462							
		19.33	73 48.70	6 30.32	8.6	53.6	3458	3412.5 - 3600		0.20	(1/4)			
		19.55	73 49.81	6 17.49	8.4	70.2	3492							
		20.00	73 50.14	6 15.55	10.1	64.6	3493							
		20.30	73 52.17	5 58.50	10.0	0.0?	3495							
		21.00	73 53.52	5 41.07	10.4	72.3	3495							
		21.25												
		21.31	73 53.47	5 22.23	10.6	105.0	3483							
		21.42	73 52.28	5 17.45	10.7	147.8	3576	3487 - 3675	2		0.10			
		22.00	73 50.04	5 07.19	10.6	153.0	3615							
		22.02												
		22.08						3412 - 3600	2	KP	0.20			
		22.15	73 48.42	5 02.09	11.1	104.3	3633	3469 - 3844	3	KP	0.38	(1/2)		
		22.30						3487 - 3675	2	KP	0.10	(1/2)		
		22.43						2813 - 3188	3	K-P	0.25	(1/2)		
		22.45							2	K-P	0.25			
		23.10	73 10.05	04 32.91	10.4	119.7	3146	3188 - 3563	2	KP	0.25	(1/2)		
		23.20												
		00.05	73 42.10	4 27.96	0	69.2	3250							
		02.00	73 41.09	4 26.15	0	227.0	3161	3000 - 3375	3	K-P	0.00			
		02.40	73 41.02	4 25.07	7.2	89.0	3155							
		02.39												
		02.27												
		02.29						2156 - 2531	5	K-P	0.12			
		02.30												
		03.00	73 45.22	4 58.50	10.4	61.9	3540	3375 - 3750	2	KP	0.00			
		03.19						3094 - 3469	1		0.38			
		03.30	73 42.72	3 41.57	10.9	86.0	3196							
		04.00	73 48.77	2 25.33	8.4	83.3	3334							
		04.09	73 49.00	3 20.19	10.4	75.7	3460	3345 - 3570			0.00			

Stopping for station
Stop for station 62

EAS 62
Underway
on speed & course

Towed vessel...
BL

towing and heading SE.

lost - mount

Maintenance

500 # 63

600 # 63

OK

Roll	Profile	Date	Time	Lat	Long (W)	Speed	Course	Depth	Depth Range	Sec	Triggers	Delay	sed	PL	WK	Remarks
②		17.06.88	0436	73 50.04	3 4.84	10.5	95	3369	3094-3469	2	KP	0.38				
			0440	73 50.22	3 01.46	6.3	193.9	3185								Stopping to double check water
			0445	73 50.04	3 00.69	1.6	172.7	3155								Stopped
			0456	73 49.87	3 59.91	5.5	159.0	3134								Turning around heading west
			0500	73 50.08	3 01.25	9.3	263.3	3180								
			0509	73 50.04	3 06.13	10.1	271.3	3496	3375-3750			0.00				
			0527	73 50.51	3 16.49	9.8	279.6	3313	3094-3469			0.38				
			0530	73 50.53	3 18.02	8.7	266.6	3468								
			0531	73 50.73	3 18.45	9.3	270.6	3483	3375-3750			0.00				
			0546	73 50.54	3 27.68	10.8	268.1	3417	3469-3844	3		0.38				
			0557	73 50.48	3 33.35	10.7	267.9	3403	3088-3363	2		0.25				
			0600	73 50.46	3 35.93	10.7	267.6	3305								
			0623	73 50.87	3 47.91	10.8	263.2	3002	2813-3188	3	K-P	0.25				
			0630	73 50.64	3 53.87	11.1	297	3442	3375-3750	2	K-P	0.00				
			0639	73 51.52	3 56.09	6.7	321	3428								Stopping for station on star
			0642	73 52.11	3 57.46	0.7	231.7	3425								
			0702	73 52.20	3 52.04	-	-	3413								
			0736	73 52.58	4 13.58	10.4	272	3676								crossing underway
			0800	73 52.86	4 27.94	10.6	266	3671								
			0830	73 52.95	4 45.17	10.5	270	3676								
			0835	73 52.88	4 48.70	9.6	237	3678								C/C to SW
			0838	73 52.66	4 49.45	9.7	218	3667								
			0900	73 49.39	4 52.82	9.4	189	3627								
			0907	73 48.71	4 53.90	3.2	234	3622								Slowing down on station
			0910	73 48.40	4 53.36	1.2	-	3622								"
			1000	73 48.19	4 51.58	0.7	-	3622								"
			1100	73 48.12	4 49.77	-	-	3622								"
			1121	73 47.79	4 49.41	3.6	197.8	3638								heading station
			1130	73 48.20	4 49.95	6.8	2.0	3618								
			1154	73 52.02	4 53.08	10.8	346.8	3665	3469-3844	3	KP	0.38				
			1200	73 51.91	4 56.03	11.2	526.5	3665								360° turning
			1230													
		08)	1240	73 58.1320	4 51.7976	11.5	376.8	3635								
			1304	74 03.3135	4 52.7038	11.6	357.8	3331								
			1306													
			1346	74 11.6466	4 52.7130	13.9	0.2	3577	3281-3563	2	-	0.13				
			1350													PRR OFF!

②	DS	29.06.88	1340	78 37.69	5 01.44	10.3	126.2	540	450.0-637.5	2	KP	0.15	Y4	1		PRR ON
			1348	78 36.80	4 55.57	10.2	138.1	610	562.5-750.0	2	KP	0.00				
			1400													
			1401	78 35.43	4 47.54	10.1	115.6	768	712-900	3	KP-K-P	0.05				
			1410	78 34.72	4 39.58	10.1	129.1	940	712-900							
			1435	78 30.92	4 36.06	10.0	157.6	1054	862-1050	2	KP	0.10				
			1446													
			1455						10125-1200	5	KP-K-P	0.15				
			1500	78 27.31	4 27.8	10.6	91.5	1339	1162.5-1350	2	KP	0.00				
			1503													
			1512													
			1518													
			1520	78 27.19	4 26.70	8.5	920	1721	1612.5-1800	2	KP	0.10				Arr. station
			1530	78 26.80	4 05.84	2.0	257.2	1805								
			1548	78 25.582	4 01.00											
			1600	78 26.67	4 08.50											
			1602	78 26.66	4 08.54											
			1700	78 26.50	4 51.0											
									1668-2063	2	KP	0.05	Y2			See for station 3243

Roll Profile	Date	Time	Lat	Long (W)	Speed	Course	Depth	Depth Range	Sw	Tagger	Delay	sec/sw	PL	WK	Remarks	
	29.06.88	1720	78	26.17	4	4.70	6.0	131.7	1806	1781-2156	2	KP	0.13	1/2	1	Learning Station
		1722								1875-2250			0.00			
		1730	78	20.39	3	57.43	10.2	132.6	1994	1912.5-2100	2	KP	0.20	1/4		
		1743	78	23.09	3	57.53	10.3	133.8		"	2	KP	0.20	1/4		
		1750	78	21.95	3	56.81	10.7	155.7	2197	1987.5-2175	2	KP	0.10			
		1755	78	21.01	3	49.65	10.4	156.4	2269	2100-2287	2	KP-K-10	0.20			
		1801	78	20.15	3	48.01	10.3	152.7	2304							
		1807	78	19.16	3	45.43	10.1	150.1	2395	2250-2437.5			0.00		BL	
		1829	78	16.70	3	39.90	6.3	182	2558	2325-2512.5	2	KP	0.15			
		1838	78	15.35	3	36.59	10.3	152	2603	2437.5-2675			0.00			
		1900	78	12.73	3	26.16	6.8	51.6	2716	2587-2775	3	KPK-P	0.05			
		1930	78	13.80	3	17.26	4.1	56.4	?	"			"			
		1940	78	13.40	3	14.93	6.3	186.8								
		2000	78	10.90	3	13.00	8.9	158.1	2923							
		2016	78	8.78	3	8.34	8.5	164.1	2960	2625-2812.5			0.00			
		2030	78	6.94	3	6.04	7.5	132.6	?	2775-2962.6	2	KP	0.05			
		2100	78	02.34	2	58.80	10.8	164.0	3074							
GPS		2103	78	02.60	2	4.288	6.6	144.4	3488							
		2201	78	04.47	2	6.983	8.6	190.8	3731							
		2208	78	05.00	2	14.066	9.8	201.4	3082							
		2303	78	04.15	0	07.496	9.1	149.0	3071							
		2330	78	04.02	0	09.507	7.8	130.4	31.26							
		2332	78							2925-3112	3	KP	0.10			
30.06.88		0015	78	40.24	0	32.216	13.8	154.9	3203							
		0041	78	35.58	0	22.032	13.1	153.2	3252							
		0101	78	32.59	0	10.164	13.6	157.6	3241							
		0107	78							3075-3267.5	2	KP	0.15			
		0140	78	25.47	0	50.110	13.6	150.7	3286							
		0200	78	21.28	0	41.008	12.8	154.1	3318							
105		0300	78	09.45	0	28.457	11.7	168.6	3382							
		0340	78	04.76	0	28.61	13.5	171.4	3400	3187-3375			0.00			
		0400	78	02.57	0	40.20	8.0	92.0	3425							
		0430	76	58.52	0	33.62	9.8	167.0	3922							
		0500	76	53.04	0	25.86	12.1	165.5	?							
		0530	76	48.00	0	19.31	12.2	165.2	3933							
		0600	76	41.26	0	11.17	13.4	166.9	?							
		0630	76	34.81	0	4.37	12.4	166.7	?							
		0700	76	28.00	0	03.48	13.4	164.5	?							
		0715	76	22.95	0	01.98	13.3	162.4		3075-3262.5	2	KP	0.05			
		0730	76	21.35	0	4.79	13.4	162.4		3000-3187.5	3	"	0.00			
		0740	76	19.15		7.57	13.4	162.6	3219	2823.5-3075	3	"	0.15			
		0800	76	14.78		12.38	13.4	163.1								
GPS		0830	76	8.04		20.250	3.6	164.9	2961							
		0900	76	1.62		27.483	3.7	164.7	2976							
		0930	75	5.03	0	32.015	13.5	171.0	2978							
		0950	75	00.95		36.959	8.4	159.0	2912							
		0953	75	01.52		37.109	2.5	157.1	2909	2775-2962.5	2	KP	0.05			Slow down
		1000	75	04.86		37.867	6.9	157.8	2912							Lower
		1024	75	07.54		29.279	9.7	227.7	2780	2062.5-2850			0.20			no data
		1030	75	06.91		26.592	9.9	227.7	2765							
		1031	75	06.71		25.625	9.8	228	2649	2512.5-2700	3	KPK-P	0.15			
		1530	75	38.84		37.20	13.5	155.4	1881	1725-1912.5	3	KP	0.20	1/4	BL	
		1501	75	02.30		29.22										
		1600	75	32.78	00	48.95	13.5	155.4	1759							
		1630	75	26.33	00	58.81	13.6	141.1	1764							

Depth scale
Problems at depth

BL

Slow down
Lower
no data

BL

Roll Profile	Date	Time	Lat	Long	Speed	Course	Depth	Depth Range	Sec	Trigger	Delay	xy	PL	WK	Remarks
	01.07.81	04:00						3969-3844	3	KP	0.38	(1/2)	1	BL	
	DS	04:00	74 42.27	03 38.59	6.7	188.7	3647		3	KP	0.38				Approach. Start 118
		04:09	74 44.020	03 35.081											Sat fix 46.49
		04:30	74 42.39	03 40.66	6.0	1139.36	3626								At SOS 118,
		07:15	74 40.87	03 59.76	11.1	230.5	3670								EOS "
		07:30	74 38.88	03 30.81	13.1	230.7	3714								
		07:53	74 35.76	03 15.05	13.0	227.2	3734	3600-3335	3	KP	0.00				
		08:03	74 34.32	03 09.13	13.2	227.4	3744	3281-3656	2	KP	0.3				
		08:10	74 33.29	03 04.95	13.2	227.4	3787	3469-3844	3	KP	0.38				
		08:16	74 32.41	03 01.55	13.2	227.9	3764	3281-3656	2	KP	0.13				
	GPS	08:21	74 31.60	02 57.570	13.0	228.6	3719	3094-3469	2	KP	0.38				
		08:30	74 30.251	02 51.738	13.2	229.1	3792								
		08:40	74 28.951	02 46.163	13.1	229.6	3779	3335-3750			0.00				
		09:10	74 25.256	02 31.118	5.8	226.7	3539								
		09:20	74 25.268	02 26.722	8.6	223.0	3676	3469-3844	3	KP	0.38				
		09:27	74 25.288	02 24.144			3757								SOS 119

Polarstern ARK VII/2 Greenland Sea 16.5.89 - 7.6.89

1	19.5.89	13.29	N73 48.602	W4 50.930	2.8	187.8	3612	3375-3350	3	KP	0.00				
		14.00	73 48.002	4 52.949	4.9	350.4	3622	"	2	KP	0.00	1/2	1	AF	
		14.31	73 49.404	4 54.330	0.7	260.2	3625	"	"	"	"	"	"	AF	
		15.00	73 49.144	4 57.811	1.1	260.0	3620	"	"	"	"	"	"	AF	
		15.30	73 49.53	4 50.04	0.08	287.7	3625	"	"	"	"	"	"	AF	
		16.00	73 49.22	4 50.47	3.9	350.0	3624	"	"	"	"	"	"	AF	Image delayed !!
		16.30	73 52.87	4 53.29	10.1	349.0	3663	"	"	"	"	"	"	Wolk	Arbeitsch
		17.00	73 57.80	4 54.48	10.0	350.9	3673	"	"	"	"	"	"	"	
		17.20	73 58.75	4 56.31	5.7	287.9	2865	2906-3281	3	KP	0.13	"	"	"	
		17.34	73 58.75	4 56.31			3308	3000-3335	2	KP	0.00	"	"	"	
		17.39	74 03.702	00 55.856	10.2	350.7	3362	3375-3350	2	KP	0.00	"	"	"	
		17.49	74 04.85	5 00.57	9.8	348.2	3407	3300-3079	2	KP	0.13	"	"	"	
		18.03	74 06.925	5 03.079	9.8	352.1	3380	3281-3656	"	"	"	"	"	"	
		18.30	74 11.335	5 05.33	9.9	350.0	3508	3281-3656	"	"	"	"	"	"	
		19.00	74 09.425	5 19.505	10.4	349.2	3509	3281-3656	"	"	"	"	"	Ju Hu	
		19.30	74 24.092	5 03.539	8.7	31.4	3511	3281-3656	"	"	"	"	"	"	
		20.00	74 19.656	5 10.964	1.6	173.2	3517	3281-3656	"	"	"	"	"	"	
		20.30	74 19.612	5 10.957	0.0	036.8	3516	"	"	"	"	"	"	Peter	Station (1st for G-EOMAR)
		21.00	"	"	0.0	035.8	3516	"	"	"	"	"	"	"	19/097-1
		21.30	74 20.193	5 09.795	0.0	035.6	3511	"	"	"	"	"	"	"	
		22.00	74 20.394	"	0.0	034.4	3510	"	"	"	"	"	"	"	
		23.00	74 20.641	5 09.392	"	36.0	"	"	"	"	"	"	"	"	
	20.5.	00.00	74 21.042	5 10.154	"	036.6	3509	"	"	"	"	"	"	"	
		00.45	74 21.228	5 10.081	"	319.8	3500	"	"	"	"	"	"	"	Begin KFR 15/017-3
		02.00	21.319	12.189	"	324.2	3500	"	"	"	"	"	"	"	
		03.00	16.553	16.354	10.6	221.8	3502	"	"	"	"	"	"	"	End Station
		03.15													Unterwegs
		3.41	74 17.663	5 36.033	10.3	224.6	3489	"	"	"	"	"	"	"	
		4.00	74 11.472	5 43.299	10.2	222.0	3478	"	"	"	"	"	"	"	
		5.00	74 04.506	6 08.433	10.7	225.2	3450	"	"	"	"	"	"	"	Jens leicht aussteigende Neupl.
	5.40		73 55.623	6 26.324	"	225.6	3417	"	"	"	"	"	"	"	selbstfaher, olivfarblicher

* Explorer sprünge Erdbeben etc