



March 15, 2008

**Cruise Report
R/V “Oceania”, AREX 2007**

Ship: R/V “Oceania”

Cruise: AREX 2007

Dates: 19.06.2007 – 05.08.2007

Port Calls: Gdansk (Poland) – Longyearbyen (Spitsbergen)

Number of Scientist: 14

Chief Scientist: dr Waldemar Walczowski

Principal Project: DAMOCLES – WP3

Research Area: Greenland Sea

Damocles - WP3. Oceans: Task 3.1 Input Function, Task 3.2 Shelf/Basin Exchange

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1. Observations in 2007

AREX 2007 cruise of the R/V Oceania was performed in the period of June 19 2007 – August 05 2007. CTD (conductivity, temperature, depth) profiles along 11 sections were done (Fig.1, Tab. 1). As in previous years sections were perpendicular to the general direction of the Atlantic Water flow. The AW domain in the Greenland Sea is situated between the Barents Sea slope and system of underwater ridges: Mohns Ridge and Knipovich Ridge. Through convergence of the isobaths in the northern part, AW domain forms a wedge, wide in the southern part and narrower in the northern end. Complicated bottom topography significantly influences the currents pattern and structure. Coverage in the southern part of the investigated area is spare in comparison to the northern one. This causes less accurate horizontal distribution of properties in the region south of the Bear Island. As before, our main effort was concentrated in the northern part of the Atlantic Domain where processes controlling the AW inflow into Arctic Ocean through the Fram Strait and the westward recirculation occur.

For CTD measurements the Seabird SBI9/11plus probe was used. The probe was serviced before the cruise. Temperature and conductivity sensors were calibrated by the Sea-Bird Electronics service. Water samples collected by means of the rosette water sampler SBE32 were analysed at IOPAS laboratory with the Guildline Autosal 8400A.

Currents measurements by means of the lowered Acoustic Doppler Current Profiler (LADCP) were performed at the CTD stations. The self-recording 300 kHz RDI device was used to profile entire water column during the standard CTD casts.

During the whole cruise sustained currents measurements by the ship-mounted ADCP, RDI 150 kHz were performed.

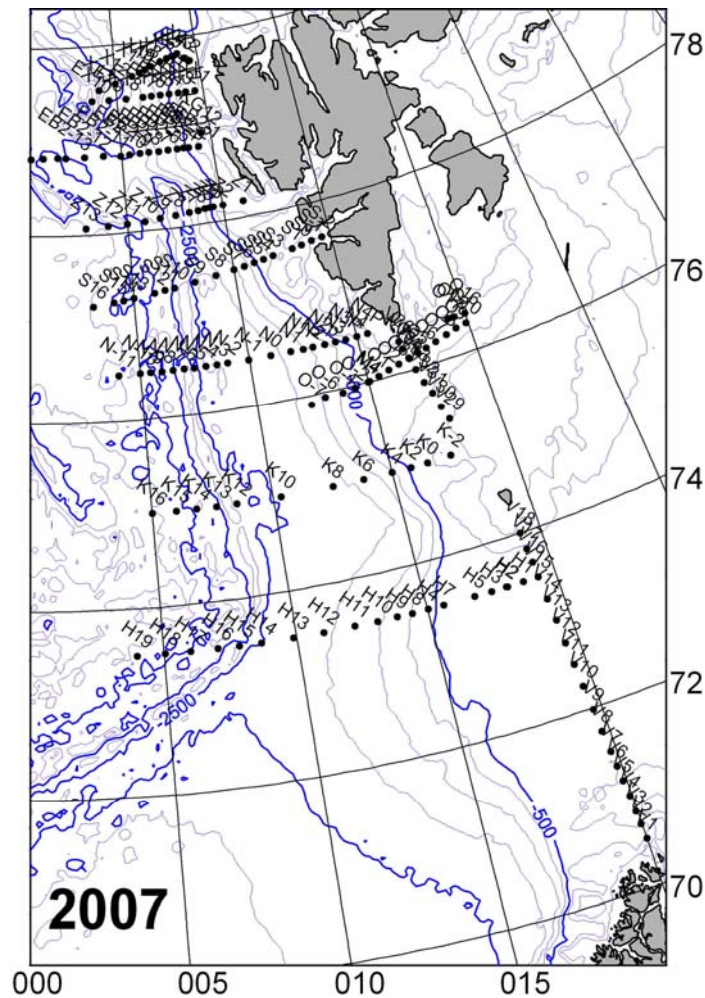


Figure 1: Measurements performed during Arex 2007 experiment.

2. Some preliminary results

As formerly, 2007 cruise results acknowledged that there are two branches of Atlantic Water in the Greenland Sea which flow northward. First, main branch of the West Spitsbergen Current flows along the Barents Sea continental slope and Spitsbergen shelf break. Second, colder and less saline branch continues along the Mohns and Knipovich Ridges as a jet stream of the Arctic Front. The force which is responsible for convergence of both branches of AW west of the Spitsbergen coast is bottom topography. Moreover, merely a part of northward running AW moves into the Arctic Ocean, primarily along the Spitsbergen slope; western branch of AW mostly recirculates westward as Return Atlantic Current.

AW enters into the Greenland Sea as a wide flow of warm and more saline water separated from the Norwegian coast by the less saline Norwegian Coastal Current. Due west, the Arctic Front located over the Mohns Ridge separates AW from colder and less saline Arctic Waters. Appreciable part of AW flowing along the Norwegian coast continues eastward into the Barents Sea, the rest goes on northward as two divided arms. One of them is related to the Barents Sea slope. Jet streams of the Arctic Front form the second arm of AW. Salinity and temperature of the eastern and western branch are considerably different; AW carried by the eastern flow is much warmer and more saline than the western one. Distance between the branches in the southern part of WSC is about 150 km and in the northern part - only 30 km. In central and northern part of the WSC recirculation of AW

occurs. Only part of AW, which flows along the shelf break, continues northward through the Fram Strait into the Arctic Ocean.

Measurements at all sections of the area between northern Norway and the Fram Strait performed in summer 2007 show decrease of the AW temperature and salinity. In 2006 the extreme high temperatures of the West Spitsbergen Current core were observed and lower temperatures of the West Spitsbergen Current in 2007 was not so surprising. Also, the extreme northward extension of the warm Atlantic Water was observed in 2006 (Fig 5a). In 2007 the 5° isotherm at 100 dbar moved back to its position from 2005 (Fig 5b).

In summer 2007 Atlantic Water was colder than in 2006 (Fig 5, 6). For example at section N (Fig 3 and Fig 6) mean temperature and salinity at 200 dbar was in 2006 respectively 4.50°C and 35.13, whereas in 2007 it has dropped to 3,84°C and 35.11. However, at this level temperature value was still 0.69°C higher than 1996-2007 mean, and both temperature and salinity trends for this period are positive.

Fig. 7 presents the distribution of baroclinic currents kinetic energy and baroclinic currents at 100 dbar (calculated for the reference level of 1000 m) in summer 2007. Intensive inflow into the Greenland Sea over the Mohn Ridge and division of this inflow is well visible.

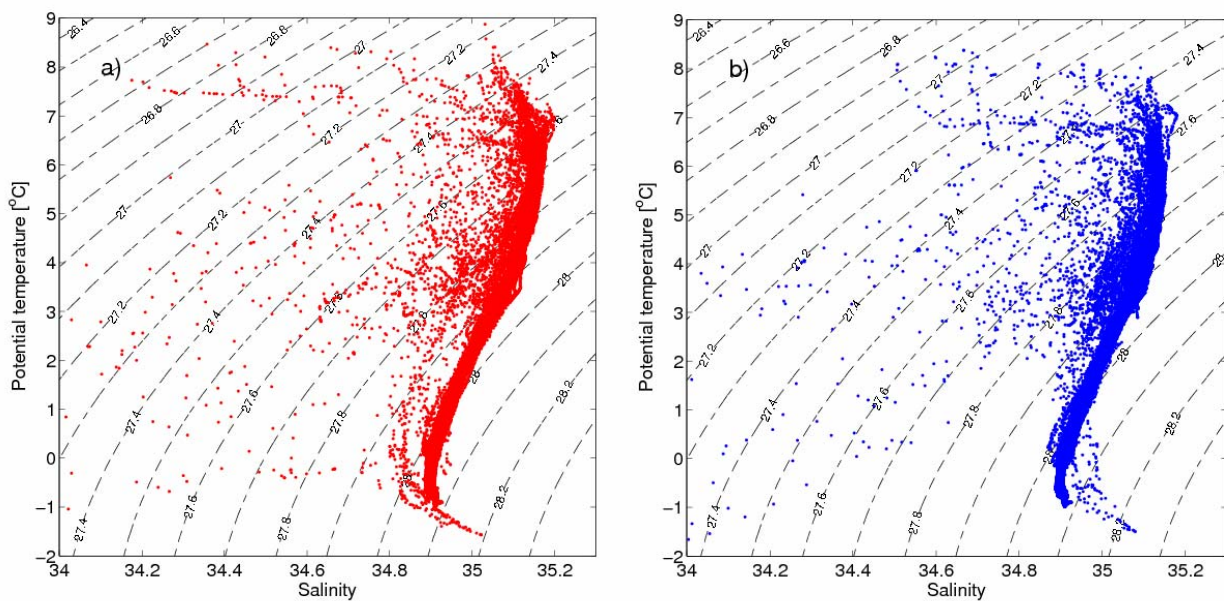


Fig. 2. T-S diagram for all stations: a) in summer 2006 and b) in summer 2007.

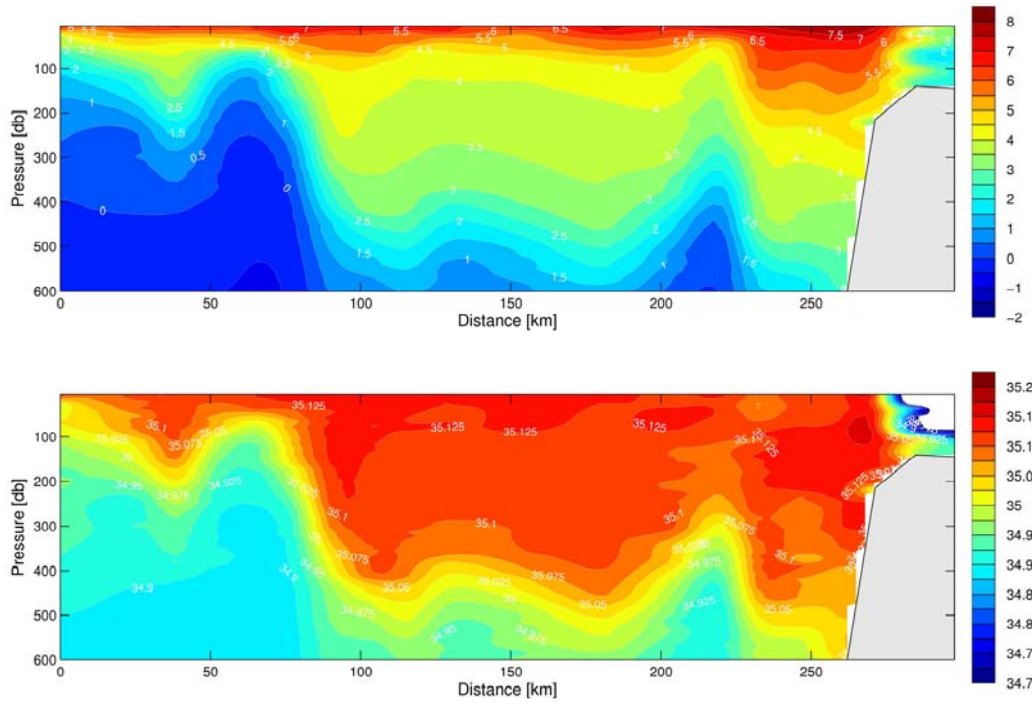


Fig. 3. Potential temperature (upper panel) and salinity in summer 2007 at section 'N' ($76^{\circ}30'$ N).

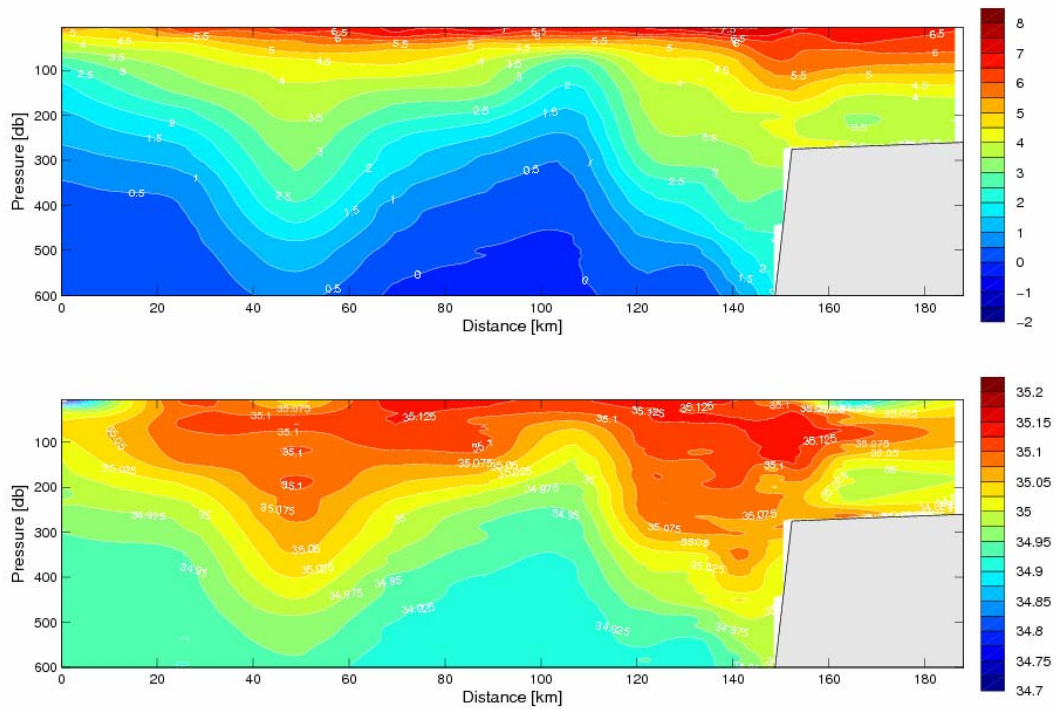


Fig. 4. Potential temperature (upper panel) and salinity in summer 2007 at section 'Z' ($\sim 78^{\circ}$ N).

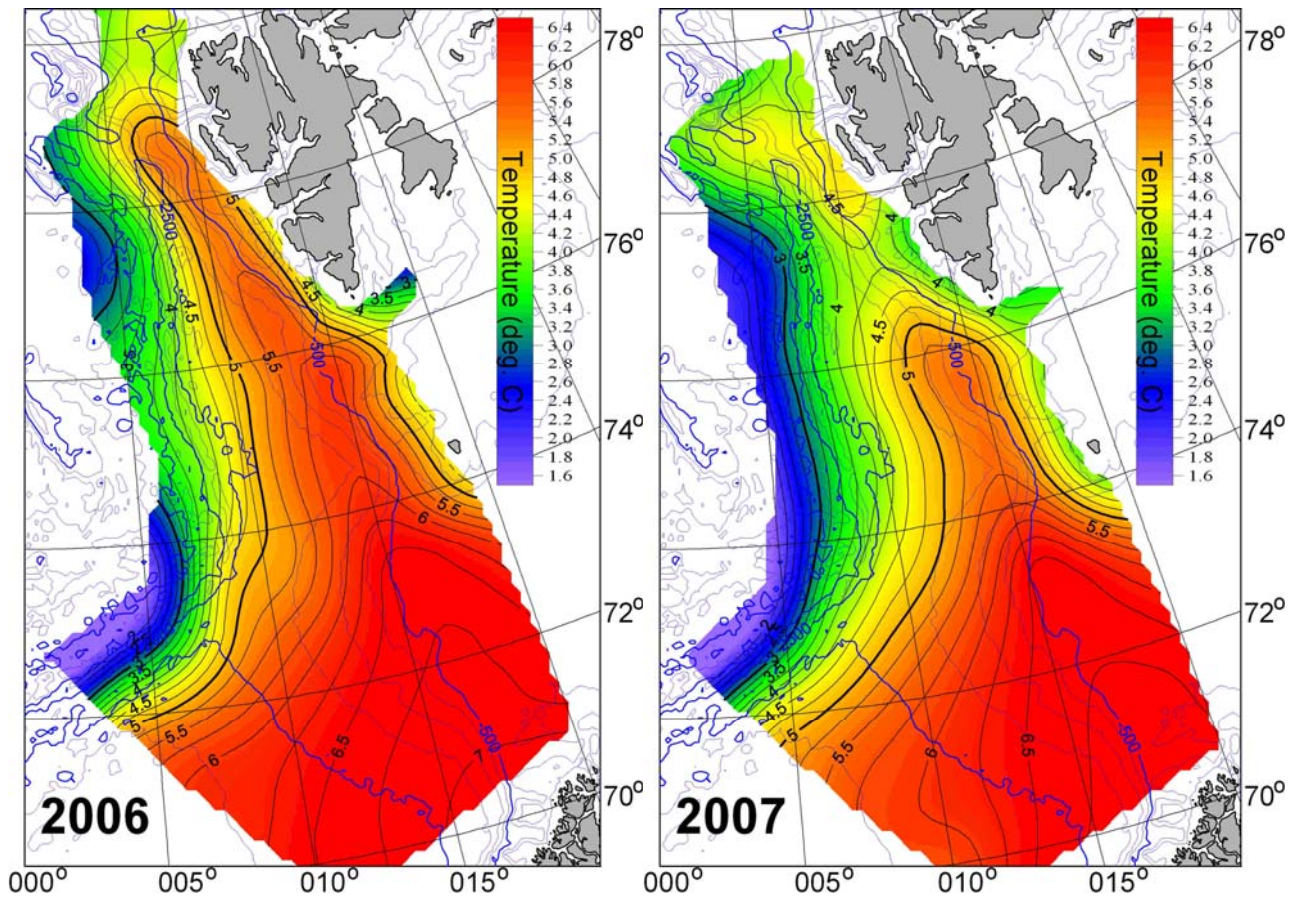


Fig. 5. Temperature at 100 dbar in June-July 2006 (left hand side) and 2007.

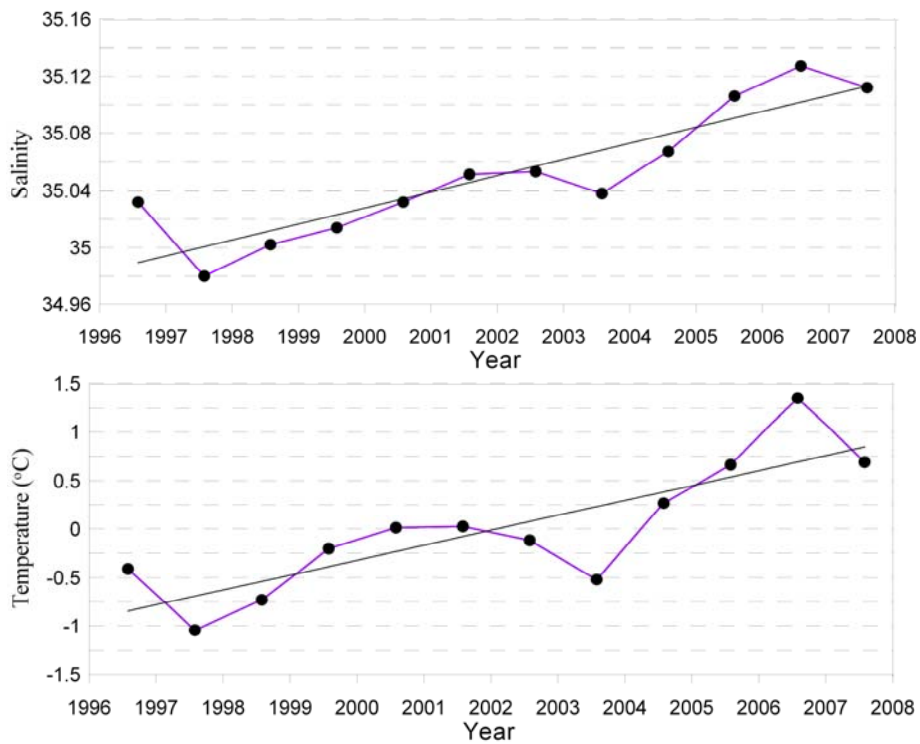


Fig. 6. Mean salinity (upper panel) and mean temperature in summer (July) at section 'N' (76°30' N) at 200 m, between 009°-012° E.

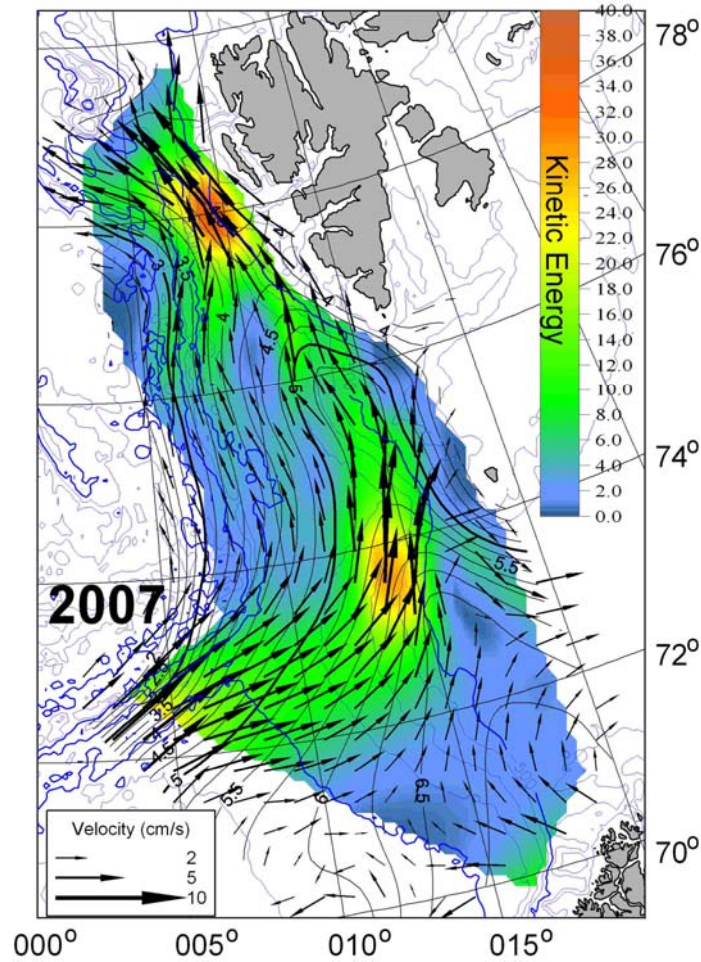


Fig. 7. June-July 2007. Baroclinic flow kinetic energy distribution (colour scale), and baroclinic currents at 100 dbar. Reference level 1000 m.

Table 1: CTD stations and some of their main parameters. There were 11 regular sections performed in 2007.

No	Station	Latitude	Longitude	Date, Time	Depth	File
Section V1						
1	V1	70° 30.01' N	020° 00.01' E	19-Jun-2007 19:18:49	135	ar07_001
2	V2	70° 40.00' N	019° 58.07' E	19-Jun-2007 21:11:47	155	ar07_002
3	V3	70° 48.84' N	019° 56.24' E	19-Jun-2007 22:58:54	180	ar07_003
4	V4	70° 59.52' N	019° 55.56' E	20-Jun-2007 00:54:04	185	ar07_004
5	V5	71° 10.04' N	019° 51.93' E	20-Jun-2007 03:35:00	210	ar07_005
6	V6	71° 20.01' N	019° 50.00' E	20-Jun-2007 05:35:41	205	ar07_006
7	V7	71° 30.00' N	019° 48.05' E	20-Jun-2007 07:33:43	240	ar07_007
8	V8	71° 44.19' N	019° 44.27' E	20-Jun-2007 10:43:07	265	ar07_008
9	V9	71° 59.00' N	019° 41.56' E	20-Jun-2007 13:44:18	315	ar07_009
10	V10	72° 14.80' N	019° 37.07' E	20-Jun-2007 17:06:02	325	ar07_010

11	V11	72° 29.85' N	019° 33.97' E	20-Jun-2007 19:48:40	390	ar07_011
12	V12	72° 44.54' N	019° 30.77' E	20-Jun-2007 22:21:51	395	ar07_012
13	V13	72° 59.96' N	019° 27.91' E	21-Jun-2007 01:03:03	410	ar07_013
14	V14	73° 14.79' N	019° 23.76' E	21-Jun-2007 04:07:16	445	ar07_014
15	V15	73° 29.98' N	019° 19.98' E	21-Jun-2007 07:06:22	480	ar07_015
16	V16	73° 39.98' N	019° 17.96' E	21-Jun-2007 09:04:42	345	ar07_016
17	V17	73° 49.04' N	019° 15.11' E	21-Jun-2007 10:55:12	235	ar07_017
18	V18	73° 59.83' N	019° 12.43' E	21-Jun-2007 12:47:33	135	ar07_018
19	V19	74° 09.89' N	019° 10.71' E	21-Jun-2007 14:25:38	70	ar07_019

Section H

20	H1	73° 30.10' N	018° 44.38' E	21-Jun-2007 23:11:47	430	ar07_021
21	H2	73° 30.10' N	018° 07.11' E	22-Jun-2007 01:35:29	385	ar07_022a
22	H2	73° 30.11' N	018° 04.96' E	22-Jun-2007 01:52:35	410	ar07_022
23	H3	73° 29.98' N	017° 30.16' E	22-Jun-2007 03:57:56	425	ar07_023
24	H5	73° 30.08' N	016° 50.39' E	22-Jun-2007 06:29:55	445	ar07_024
25	H6	73° 30.04' N	016° 10.39' E	22-Jun-2007 09:09:30	460	ar07_025
26	H7	73° 30.19' N	015° 37.79' E	22-Jun-2007 11:16:53	480	ar07_026
27	H4	73° 30.18' N	015° 02.23' E	22-Jun-2007 13:47:13	690	ar07_027
28	H8	73° 29.96' N	014° 25.24' E	22-Jun-2007 16:29:09	1025	ar07_028
29	H9	73° 30.03' N	013° 49.97' E	22-Jun-2007 19:01:38	1310	ar07_029
30	H10	73° 30.01' N	013° 04.97' E	22-Jun-2007 21:55:29	1595	ar07_030
31	H11	73° 30.15' N	012° 13.09' E	23-Jun-2007 01:50:46	1830	ar07_031
32	H12	73° 30.00' N	011° 01.96' E	23-Jun-2007 06:36:38	2090	ar07_032
33	H13	73° 30.13' N	009° 53.20' E	23-Jun-2007 11:19:06	2325	ar07_033
34	H14	73° 29.99' N	008° 40.10' E	23-Jun-2007 16:13:48	2520	ar07_034
35	H15	73° 30.00' N	007° 49.96' E	23-Jun-2007 20:12:52	3020	ar07_035
36	H16	73° 30.13' N	007° 01.42' E	24-Jun-2007 01:12:24	2330	ar07_036
37	H17	73° 30.01' N	006° 00.00' E	24-Jun-2007 07:38:51	1935	ar07_037
38	H18	73° 30.18' N	005° 03.11' E	24-Jun-2007 11:31:13	2790	ar07_038
39	H19	73° 29.99' N	004° 00.03' E	24-Jun-2007 16:48:42	2875	ar07_039
40	K16	74° 59.97' N	004° 59.99' E	25-Jun-2007 10:08:19	500	ar07_040
41	H15	75° 00.04' N	005° 59.88' E	25-Jun-2007 16:29:41	2865	ar07_041
42	H14	75° 00.05' N	006° 49.85' E	25-Jun-2007 21:01:06	2130	ar07_042

Section K

43	K13	74° 59.88' N	007° 39.64' E	26-Jun-2007 01:22:36	2265	ar07_043
44	K12	74° 59.95' N	008° 29.68' E	26-Jun-2007 07:13:37	2965	ar07_044

Section O

45	O-7	75° 53.97' N	012° 20.85' E	29-Jun-2007 11:37:10	1795	ar07_045
46	O-6	75° 56.99' N	012° 59.95' E	29-Jun-2007 16:19:36	1375	ar07_046
47	O-4	75° 57.04' N	013° 48.04' E	29-Jun-2007 19:11:01	860	ar07_047
48	O-2	75° 58.04' N	014° 21.47' E	29-Jun-2007 21:22:57	335	ar07_048

49	M4	76° 00.03' N	014° 59.15' E	29-Jun-2007 23:13:23	340	ar07_049
Section S						
50	S-2	77° 36.80' N	014° 33.57' E	01-Jul-2007 11:32:16	140	ar07_050
51	S-1	77° 36.27' N	014° 01.44' E	01-Jul-2007 13:16:08	145	ar07_051
52	S0	77° 35.03' N	013° 29.98' E	01-Jul-2007 15:30:55	145	ar07_052
53	S1	77° 34.02' N	013° 00.23' E	01-Jul-2007 17:32:15	135	ar07_053
54	S2	77° 33.02' N	012° 30.16' E	01-Jul-2007 19:58:18	95	ar07_054
55	S3	77° 32.13' N	012° 00.97' E	01-Jul-2007 22:15:13	170	ar07_055
56	S4	77° 31.07' N	011° 30.72' E	02-Jul-2007 00:40:15	275	ar07_056
57	S5	77° 30.07' N	011° 02.06' E	02-Jul-2007 02:41:25	695	ar07_057
58	S6	77° 29.03' N	010° 31.06' E	02-Jul-2007 04:54:20	1250	ar07_058
59	S7	77° 28.00' N	010° 00.14' E	02-Jul-2007 07:23:15	1600	ar07_059
60	S8	77° 26.26' N	009° 04.24' E	02-Jul-2007 11:33:35	2085	ar07_060
61	S9	77° 24.11' N	008° 00.68' E	02-Jul-2007 15:55:56	2310	ar07_061
62	S10	77° 22.08' N	007° 00.22' E	02-Jul-2007 20:38:48	2700	ar07_062
63	S11	77° 21.16' N	006° 31.86' E	02-Jul-2007 23:36:01	2130	ar07_063
64	S12	77° 20.12' N	006° 01.50' E	03-Jul-2007 02:19:43	2620	ar07_064
65	S13	77° 18.03' N	005° 00.06' E	03-Jul-2007 06:23:18	2440	ar07_065
66	S14	77° 16.96' N	004° 30.19' E	03-Jul-2007 09:03:21	2370	ar07_066
67	S15	77° 16.27' N	004° 02.18' E	03-Jul-2007 11:30:49	2560	ar07_067
68	S16	77° 14.17' N	003° 01.90' E	03-Jul-2007 15:21:17	2915	ar07_068
Section O cd						
69	O1	76° 01.95' N	015° 29.73' E	07-Jul-2007 14:45:29	365	ar07_069
70	M4	76° 00.23' N	015° 03.53' E	07-Jul-2007 16:14:05	340	ar07_070
71	O2	76° 04.02' N	015° 59.87' E	07-Jul-2007 19:14:04	385	ar07_071
72	O3	76° 06.00' N	016° 29.58' E	07-Jul-2007 20:33:33	340	ar07_072
73	O4	76° 08.01' N	016° 59.70' E	07-Jul-2007 21:47:35	280	ar07_073
74	O5	76° 09.44' N	017° 26.62' E	07-Jul-2007 23:53:11	305	ar07_074
75	O6	76° 10.89' N	017° 51.95' E	08-Jul-2007 01:12:52	275	ar07_075
76	O7	76° 12.84' N	018° 21.34' E	08-Jul-2007 02:33:39	250	ar07_076
77	O8	76° 14.95' N	019° 23.82' E	08-Jul-2007 03:54:52	260	ar07_077
78	O9	76° 16.93' N	019° 23.82' E	08-Jul-2007 05:13:25	255	ar07_078
79	O10	76° 18.05' N	019° 54.37' E	08-Jul-2007 06:41:53	240	ar07_079
80	O16	76° 24.00' N	020° 00.22' E	08-Jul-2007 08:10:43	220	ar07_080
81	O12	76° 24.03' N	019° 25.01' E	08-Jul-2007 11:09:02	275	ar07_081
82	O17	76° 24.11' N	019° 11.25' E	08-Jul-2007 12:40:39	270	ar07_082
Section V2						
83	V38	76° 24.00' N	016° 37.18' E	09-Jul-2007 09:22:55	30	ar07_083
84	V37	76° 21.03' N	016° 44.14' E	09-Jul-2007 10:05:42	55	ar07_084
85	V36	76° 19.64' N	016° 46.45' E	09-Jul-2007 10:35:15	110	ar07_085
86	V35	76° 14.44' N	016° 59.87' E	09-Jul-2007 11:35:33	220	ar07_086

87	V34	76° 07.52' N	016° 59.87' E	09-Jul-2007 12:58:09	285	ar07_087
88	V33	75° 59.60' N	017° 07.97' E	09-Jul-2007 14:36:05	320	ar07_088
89	V32	75° 50.11' N	017° 20.22' E	09-Jul-2007 16:20:42	290	ar07_089
90	V31	75° 42.05' N	017° 33.03' E	09-Jul-2007 17:49:59	210	ar07_090
91	V30	75° 32.04' N	017° 43.35' E	09-Jul-2007 20:01:15	130	ar07_091
92	V29	75° 22.94' N	017° 54.96' E	09-Jul-2007 21:45:27	100	ar07_092
93	V28	75° 15.94' N	018° 02.50' E	09-Jul-2007 23:05:38	60	ar07_093

Section K cd

94	K-2	75° 00.59' N	017° 30.48' E	10-Jul-2007 02:33:21	115	ar07_094
95	K0	74° 59.98' N	016° 30.33' E	10-Jul-2007 04:51:16	255	ar07_095
96	K2	74° 59.94' N	015° 47.36' E	10-Jul-2007 06:39:06	350	ar07_096
97	K4	74° 59.97' N	015° 00.11' E	10-Jul-2007 08:45:41	1125	ar07_097
98	K6	74° 59.93' N	013° 47.45' E	10-Jul-2007 12:27:19	1825	ar07_098
99	K8	74° 59.97' N	012° 30.10' E	10-Jul-2007 16:15:10	2190	ar07_099
100	K10	75° 00.02' N	010° 19.60' E	10-Jul-2007 22:24:05	2545	ar07_100

Section N

101	N-11	76° 29.62' N	004° 00.80' E	11-Jul-2007 16:16:30	2640	ar07_101
102	N-10	76° 30.04' N	005° 00.03' E	11-Jul-2007 21:16:49	2460	ar07_102
103	N-9	76° 30.12' N	005° 28.57' E	12-Jul-2007 00:28:28	2550	ar07_103
104	N-8	76° 29.96' N	005° 58.84' E	12-Jul-2007 04:21:34	2550	ar07_104
105	N-7	76° 29.97' N	006° 29.76' E	12-Jul-2007 08:23:38	2455	ar07_105
106	N-6	76° 30.08' N	006° 59.94' E	12-Jul-2007 11:51:34	2870	ar07_106
107	N-5	76° 29.94' N	007° 27.03' E	12-Jul-2007 15:26:16	2700	ar07_107
108	N-4	76° 29.99' N	007° 59.92' E	12-Jul-2007 18:57:05	2005	ar07_108
109	N-3	76° 29.99' N	008° 30.08' E	12-Jul-2007 21:45:05	2290	ar07_109
110	N-2	76° 30.19' N	008° 59.84' E	13-Jul-2007 00:50:13	2290	ar07_110
111	N-1	76° 29.94' N	009° 57.99' E	13-Jul-2007 04:46:03	2260	ar07_111
112	N0	76° 30.02' N	010° 59.73' E	13-Jul-2007 08:35:07	2125	ar07_112
113	N1	76° 30.12' N	011° 55.07' E	13-Jul-2007 12:05:05	1915	ar07_113
114	N1P	76° 29.96' N	012° 29.77' E	13-Jul-2007 14:21:50	1750	ar07_114
115	N2	76° 30.03' N	012° 56.72' E	13-Jul-2007 16:49:00	1525	ar07_115
116	N2p	76° 29.95' N	013° 29.69' E	13-Jul-2007 19:18:25	1280	ar07_116
117	N3	76° 29.95' N	013° 59.40' E	13-Jul-2007 21:33:12	735	ar07_117
118	N3P	76° 29.84' N	014° 28.44' E	13-Jul-2007 23:29:57	215	ar07_118
119	N4	76° 29.91' N	014° 59.98' E	14-Jul-2007 00:56:37	140	ar07_119
120	N4P	76° 30.00' N	015° 29.94' E	14-Jul-2007 02:44:14	140	ar07_120

Section Z

121	Z1	78° 10.45' N	011° 04.08' E	14-Jul-2007 19:14:08	260	ar07_121
122	Z2	78° 09.99' N	010° 00.10' E	14-Jul-2007 21:21:43	270	ar07_122
123	Z3	78° 09.87' N	009° 29.82' E	14-Jul-2007 22:56:22	275	ar07_123
124	Z4	78° 09.70' N	009° 17.72' E	14-Jul-2007 23:53:59	705	ar07_124

125	Z5	78° 09.56' N	009° 02.72' E	15-Jul-2007 01:25:02	1135	ar07_125
126	Z6	78° 08.83' N	008° 41.45' E	15-Jul-2007 03:03:36	1610	ar07_126
127	Z7	78° 08.38' N	008° 13.44' E	15-Jul-2007 05:19:42	2245	ar07_127
128	Z8	78° 07.78' N	007° 30.39' E	15-Jul-2007 07:52:30	3510	ar07_128
129	Z9	78° 06.99' N	006° 41.62' E	15-Jul-2007 11:17:51	2235	ar07_129
130	Z10	78° 06.08' N	005° 54.25' E	15-Jul-2007 14:06:25	2525	ar07_130
131	Z11	78° 05.42' N	004° 59.55' E	15-Jul-2007 17:52:50	2455	ar07_131
132	Z12	78° 05.01' N	004° 00.16' E	15-Jul-2007 21:15:37	2900	ar07_132
133	Z13	78° 03.98' N	002° 51.66' E	16-Jul-2007 01:21:21	3050	ar07_133

Section EB2

134	EB2-16	78° 49.39' N	000° 02.64' E	16-Jul-2007 13:18:01	2605	ar07_134
135	EB2-15	78° 49.77' N	000° 41.81' E	16-Jul-2007 16:37:15	2440	ar07_135
136	EB2-14	78° 50.03' N	001° 30.12' E	16-Jul-2007 19:54:30	2510	ar07_136
137	EB2-13	78° 49.79' N	001° 55.68' E	16-Jul-2007 22:34:51	2535	ar07_137
138	EB2-12	78° 49.82' N	002° 57.78' E	17-Jul-2007 02:54:49	2455	ar07_138
139	EB2-11	78° 49.99' N	004° 00.01' E	17-Jul-2007 07:32:18	2305	ar07_139
140	EB2-10	78° 49.16' N	004° 56.58' E	17-Jul-2007 11:36:34	2630	ar07_140
141	EB2-9	78° 49.80' N	005° 25.80' E	17-Jul-2007 14:59:08	2595	ar07_141
142	EB2-8	78° 49.98' N	006° 00.91' E	17-Jul-2007 18:20:33	2455	ar07_142
143	EB2-7	78° 49.98' N	006° 30.07' E	17-Jul-2007 21:30:50	1980	ar07_143
144	EB2-6	78° 49.79' N	007° 02.58' E	18-Jul-2007 00:55:16	1390	ar07_144
145	EB2-5	78° 50.01' N	007° 33.07' E	18-Jul-2007 03:28:04	1135	ar07_145
146	EB2-4	78° 49.95' N	008° 03.85' E	18-Jul-2007 05:48:04	965	ar07_146
147	EB2-3	78° 49.97' N	008° 24.05' E	18-Jul-2007 09:46:23	700	ar07_147
148	EB2-2	78° 49.73' N	008° 41.85' E	18-Jul-2007 11:38:29	235	ar07_148
149	EB2-1	78° 49.67' N	009° 14.45' E	18-Jul-2007 13:12:50	205	ar07_149

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150	KG12	78° 57.98' N	009° 29.82' E	18-Jul-2007 17:38:07	230	ar07_150
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Section EX

151	EX1	79° 24.63' N	009° 31.89' E	20-Jul-2007 14:19:59	125	ar07_151
152	EX2	79° 25.00' N	008° 59.99' E	20-Jul-2007 15:20:56	130	ar07_152
153	EX3	79° 24.99' N	008° 33.99' E	20-Jul-2007 16:21:35	190	ar07_153
154	EX4	79° 25.01' N	008° 01.95' E	20-Jul-2007 17:25:05	420	ar07_154
155	EX5	79° 25.04' N	007° 30.50' E	20-Jul-2007 18:34:27	920	ar07_155
156	EX6	79° 24.99' N	007° 00.68' E	20-Jul-2007 20:02:34	1215	ar07_156
157	EX7	79° 24.96' N	006° 30.48' E	20-Jul-2007 21:36:38	1470	ar07_157
158	EX8	79° 24.99' N	005° 31.04' E	21-Jul-2007 00:15:26	2240	ar07_158
159	EX9	79° 24.88' N	004° 32.55' E	21-Jul-2007 03:20:49	2545	ar07_159
160	EX10	79° 24.96' N	003° 33.22' E	21-Jul-2007 06:31:51	3055	ar07_160

Section X

161	X13	79° 31.87' N	004° 00.31' E	21-Jul-2007 10:23:47	3990	ar07_161
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162	X12	79° 35.24' N	004° 58.78' E	21-Jul-2007 15:51:05	2900	ar07_162
163	X11	79° 39.10' N	005° 59.63' E	21-Jul-2007 20:34:50	1485	ar07_163
164	X10	79° 40.95' N	006° 27.74' E	21-Jul-2007 23:18:32	1090	ar07_164
165	X9	79° 42.50' N	006° 47.79' E	22-Jul-2007 01:32:21	940	ar07_165
166	X8	79° 44.05' N	007° 10.24' E	22-Jul-2007 04:28:21	835	ar07_166
167	X7	79° 46.31' N	007° 44.92' E	22-Jul-2007 07:13:15	725	ar07_167
168	X6	79° 47.82' N	008° 09.85' E	22-Jul-2007 09:18:08	595	ar07_168
169	X5	79° 48.67' N	008° 30.20' E	22-Jul-2007 11:19:24	520	ar07_169
170	X4	79° 49.87' N	008° 50.09' E	22-Jul-2007 13:05:41	455	ar07_170
171	X3	79° 46.52' N	009° 11.29' E	22-Jul-2007 14:39:23	420	ar07_171
172	X2	79° 44.28' N	009° 30.37' E	22-Jul-2007 16:00:41	380	ar07_172