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MRV *Scotia*

Survey 1515S

PROGRAMME

19 October – 2 November 2015

Ports

Loading: Aberdeen, 16 October, 2015
Unloading: Aberdeen, 02 November 2015

In setting the survey programme and specific objectives, etc the Scientist-in-Charge needs to be aware of the restrictions on working hours and the need to build in adequate rest days and rest breaks as set out in Marine Scotland's Working Time Policy (Lab Notice 34/03). In addition, the Scientist-in-Charge must formally review the risk assessments for the survey with staff on-board before work is commenced.

In the interest of efficient data management it is now mandatory to return the Survey Report, to I Gibb and the Survey Summary Report (old ROSCOP form) to M Geldart, within four weeks of a survey ending. In the case of the Survey Summary Report a nil return is required, if appropriate.

Personnel

M Robertson	(SIC)
N Collie	
P Copland	
M Watson	
J O'Conner	JNCC
M Parry	JNCC
K Webb	JNCC
Y Griffiths	JNCC
B Langton	JNCC

Estimated days by project: 15 days – SP02Q0 (20113)

Gear

Reson Seabat 7125
Sonardyne Scout Plus USBL system
Sonardyne omni-directional transponder (x2)
TV drop frame and wiring harness
TV sledge and wiring harness
SEA LED lights (x4)
SeaLaser (x4)
Kongsberg OE14-408 digital camera system
Kongsberg OE14-208 digital still camera system

Kongsberg OE14-366 TV camera system
SUBC 1-CAM Alpha HD camera system
450m and 500m umbilicals
0.1m^2 van Veen grab
0.25m^2 van Veen grab
0.1m^2 mini Hammon grab
0.25m^2 Hammon grab

BackGround

The aim of this survey is to gather the initial dataset of a site monitoring time-series for the East of Gannet and Montrose (EGM) and Norwegian Sediment Plain (NSP) Nature Conservation Marine Protected Areas (NCMPA), see Figure 1. This will contribute information on the habitats found at these sites for more general habitat specific assessments. Work will focus on Type 1 monitoring which constitutes sampling designed to measure the rate and direction of change in habitats in the long-term whilst at the same time collecting relevant information on environmental variables and human pressures to allow inference to be made about possible causes of such changes (Marubini, 2012, adapted from McBreen 2015).

Objectives

1. To undertake a Type 1 monitoring survey of the designated features of EGM using the Hammon grab (*Arctica islandica* including offshore subtidal sands and gravels as their supporting habitat and offshore deep sea muds), see Figure 2.
2. To undertake a Type 1 monitoring survey of the designated features of NSP using the Hammon grab (*Arctica islandica* including offshore subtidal sands and gravels as their supporting habitat), see Figure 3.
3. Replicate samples (three per station) will be collected from a subset of stations to inform an assessment of the small-scale patchiness of *Arctica islandica* (contingency objective).
4. MBES bathymetry and backscatter data collection on both EGM and NSP NCMPA sites (contingency objective).
5. To sample inshore sites in potentially sheltered locations in the Moray Firth and around Orkney (contingency objective), see Figure 4.

Narrative

All staff will join *Scotia* either on the evening of 18 October or early on 19 October so allowing the vessel to depart Aberdeen Harbour as early as possible on 19 October. After completion of safety drills and exercises, *Scotia* will proceed eastwards towards the East Gannet and Montrose Fields Nature Conservation Marine Protected Area (EGM), stopping at a suitable location to undertake gear testing if required. The vessel will then make passage to the work site and commence sampling with the 0.25m^2 Hammon grab on the stations detailed in Figure 2 and in Table 1. On completion of sampling over the EGM site, *Scotia* will transit to the Norwegian Sediment Plain (NSP) and commence sampling (see Figure 3 and table 2) again with the large Hammon grab. In total, 156 sediment and benthic infaunal samples will be collected from the EGM site and 120 from the NSP area. On completion of Objectives 1 and 2 and if time permits, further sampling as described in Objective 3 will be undertaken over both the EGM and NSP sites

In the event of downtime because of weather and depending on the severity of conditions encountered, sampling effort will be diverted to complete the tasks described in Objectives 4 and 5 above.

Scotia will cease operations sometime during the day of 1 November to ensure that the vessel is in Aberdeen for the morning of 2 November when all sampling equipment will be offloaded and scientific staff will leave the vessel.

A full and detailed survey plan and scientific rationale will be presented at the pre-brief meeting, before the beginning of the survey.

The thermosalinograph will be run throughout the survey.

Normal contacts will be maintained with the Laboratory.

Submitted:
M R Robertson
06 October 2015

Approved:
I Gibb
12 October 2015

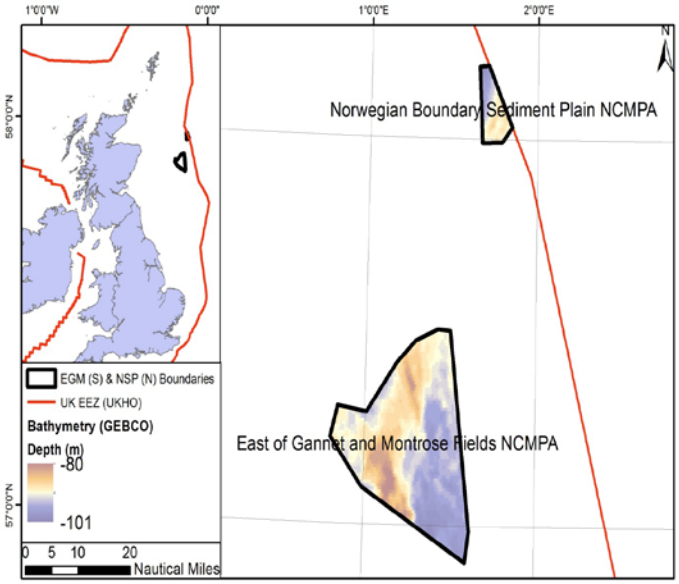

Figure 1: Survey Location and associated bathymetry.

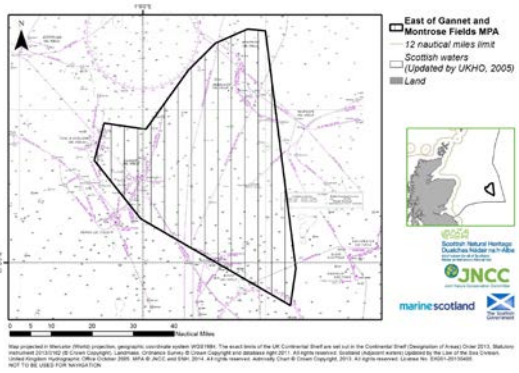

Figure 2: East of Gannet and Montrose Fields Sediment Plain NCMPA site map.

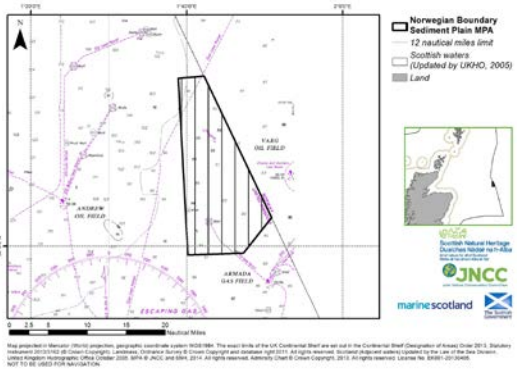

Figure 3: Norwegian Boundary NCMPA site map.

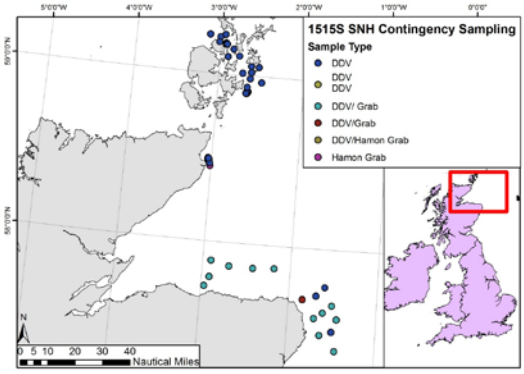

Figure 4: Inshore contingency sampling sites.

Table 1

EGM Station Positions

STNCODE	STNNUM	LonDDegMin	LatDDegMin	Deg	DecMin	E/W	Deg	DecMin	N
EGM1		0.859682	57.216904	0	51.581	E	57	13.014	N
EGM2		0.856574	57.270468	0	51.394	E	57	16.228	N
EGM3		0.889713	57.190604	0	53.383	E	57	11.436	N
EGM4		0.886652	57.244169	0	53.199	E	57	14.650	N
EGM5		0.883580	57.297734	0	53.015	E	57	17.864	N
EGM6		0.919700	57.164296	0	55.182	E	57	9.858	N
EGM7		0.916686	57.217863	0	55.001	E	57	13.072	N
EGM8		0.913661	57.271429	0	54.820	E	57	16.286	N
EGM9		0.943699	57.245116	0	56.622	E	57	14.707	N
EGM10		0.979548	57.111658	0	58.773	E	57	6.699	N
EGM11		0.973694	57.218796	0	58.422	E	57	13.128	N
EGM12		1.006531	57.138898	1	0.392	E	57	8.334	N
EGM13		1.000749	57.246037	1	0.045	E	57	14.762	N
EGM14		1.036394	57.112562	1	2.184	E	57	6.754	N
EGM15		1.033554	57.166132	1	2.013	E	57	9.968	N
EGM16		1.027845	57.273273	1	1.671	E	57	16.396	N
EGM17		1.066214	57.086217	1	3.973	E	57	5.173	N
EGM18		1.063420	57.139790	1	3.805	E	57	8.387	N
EGM19		1.060617	57.193361	1	3.637	E	57	11.602	N
EGM20		1.057803	57.246932	1	3.468	E	57	14.816	N
EGM21		1.054980	57.300503	1	3.299	E	57	18.030	N
EGM22		1.093244	57.113439	1	5.595	E	57	6.806	N
EGM23		1.090486	57.167012	1	5.429	E	57	10.021	N
EGM24		1.087719	57.220584	1	5.263	E	57	13.235	N
EGM25		1.084942	57.274156	1	5.097	E	57	16.449	N
EGM26		1.082155	57.327727	1	4.929	E	57	19.664	N
EGM27		1.123025	57.087081	1	7.381	E	57	5.225	N
EGM28		1.120313	57.140655	1	7.219	E	57	8.439	N
EGM29		1.117592	57.194228	1	7.055	E	57	11.654	N
EGM30		1.114861	57.247801	1	6.892	E	57	14.868	N
EGM31		1.112120	57.301374	1	6.727	E	57	18.082	N
EGM32		1.109370	57.354945	1	6.562	E	57	21.297	N
EGM33		1.152763	57.060716	1	9.166	E	57	3.643	N
EGM34		1.150097	57.114291	1	9.006	E	57	6.857	N
EGM35		1.147421	57.167865	1	8.845	E	57	10.072	N
EGM36		1.144737	57.221439	1	8.684	E	57	13.286	N
EGM37		1.142042	57.275013	1	8.523	E	57	16.501	N

EGM38		1.139338	57.328586	1	8.360	E	57	19.715	N
EGM39		1.136625	57.382158	1	8.198	E	57	22.929	N
EGM40		1.179839	57.087919	1	10.790	E	57	5.275	N
EGM41		1.174569	57.195070	1	10.474	E	57	11.704	N
EGM42		1.171921	57.248645	1	10.315	E	57	14.919	N
EGM43		1.169263	57.302219	1	10.156	E	57	18.133	N
EGM44		1.166596	57.355792	1	9.996	E	57	21.348	N
EGM45		1.206953	57.115117	1	12.417	E	57	6.907	N
EGM46		1.204360	57.168693	1	12.262	E	57	10.122	N
EGM47		1.201757	57.222269	1	12.105	E	57	13.336	N
EGM48		1.199146	57.275844	1	11.949	E	57	16.551	N
EGM49		1.196525	57.329419	1	11.791	E	57	19.765	N
EGM50		1.193895	57.382993	1	11.634	E	57	22.980	N
EGM51		1.239194	57.035154	1	14.352	E	57	2.109	N
EGM52		1.234107	57.142309	1	14.046	E	57	8.539	N
EGM53		1.231550	57.195886	1	13.893	E	57	11.753	N
EGM54		1.228985	57.249462	1	13.739	E	57	14.968	N
EGM55		1.223826	57.356613	1	13.430	E	57	21.397	N
EGM56		1.221233	57.410187	1	13.274	E	57	24.611	N
EGM57		1.266315	57.062339	1	15.979	E	57	3.740	N
EGM58		1.263812	57.115917	1	15.829	E	57	6.955	N
EGM59		1.261301	57.169495	1	15.678	E	57	10.170	N
EGM60		1.258781	57.223072	1	15.527	E	57	13.384	N
EGM61		1.256252	57.276649	1	15.375	E	57	16.599	N
EGM62		1.253714	57.330225	1	15.223	E	57	19.814	N
EGM63		1.251167	57.383801	1	15.070	E	57	23.028	N
EGM64		1.248612	57.437376	1	14.917	E	57	26.243	N
EGM65		1.295932	57.035939	1	17.756	E	57	2.156	N
EGM66		1.293475	57.089518	1	17.608	E	57	5.371	N
EGM67		1.291009	57.143097	1	17.461	E	57	8.586	N
EGM68		1.288534	57.196675	1	17.312	E	57	11.801	N
EGM69		1.286051	57.250253	1	17.163	E	57	15.015	N
EGM70		1.283559	57.303831	1	17.014	E	57	18.230	N
EGM71		1.281059	57.357407	1	16.864	E	57	21.444	N
EGM72		1.276031	57.464559	1	16.562	E	57	27.874	N
EGM73		1.323095	57.063112	1	19.386	E	57	3.787	N
EGM74		1.320674	57.116692	1	19.240	E	57	7.002	N
EGM75		1.318245	57.170271	1	19.095	E	57	10.216	N
EGM76		1.315808	57.223850	1	18.948	E	57	13.431	N
EGM77		1.313361	57.277428	1	18.802	E	57	16.646	N
EGM78		1.310907	57.331006	1	18.654	E	57	19.860	N

EGM79		1.308443	57.384584	1	18.507	E	57	23.075	N
EGM80		1.305971	57.438160	1	18.358	E	57	26.290	N
EGM81		1.352673	57.036698	1	21.160	E	57	2.202	N
EGM82		1.350297	57.090279	1	21.018	E	57	5.417	N
EGM83		1.347914	57.143860	1	20.875	E	57	8.632	N
EGM84		1.345521	57.197439	1	20.731	E	57	11.846	N
EGM85		1.343121	57.251019	1	20.587	E	57	15.061	N
EGM86		1.340712	57.304598	1	20.443	E	57	18.276	N
EGM87		1.338294	57.358176	1	20.298	E	57	21.491	N
EGM88		1.335868	57.411754	1	20.152	E	57	24.705	N
EGM89		1.333434	57.465331	1	20.006	E	57	27.920	N
EGM90		1.382209	57.010277	1	22.933	E	57	0.617	N
EGM91		1.379878	57.063859	1	22.793	E	57	3.832	N
EGM92		1.377539	57.117441	1	22.652	E	57	7.046	N
EGM93		1.375192	57.171021	1	22.512	E	57	10.261	N
EGM94		1.372837	57.224602	1	22.370	E	57	13.476	N
EGM95		1.370474	57.278182	1	22.228	E	57	16.691	N
EGM96		1.368102	57.331761	1	22.086	E	57	19.906	N
EGM97		1.365722	57.385340	1	21.943	E	57	23.120	N
EGM98		1.411703	56.983849	1	24.702	E	56	59.031	N
EGM99		1.409417	57.037432	1	24.565	E	57	2.246	N
EGM100		1.407123	57.091014	1	24.427	E	57	5.461	N
EGM101		1.404821	57.144596	1	24.289	E	57	8.676	N
EGM102		1.402511	57.198178	1	24.151	E	57	11.891	N
EGM103		1.400193	57.251758	1	24.012	E	57	15.106	N
EGM104		1.397867	57.305339	1	23.872	E	57	18.320	N
EGM105		1.395532	57.358919	1	23.732	E	57	21.535	N
EGM106		1.393190	57.412498	1	23.591	E	57	24.750	N
EGM107		1.390839	57.466077	1	23.450	E	57	27.965	N
EGM108		1.438913	57.010997	1	26.335	E	57	0.660	N
EGM109		1.436664	57.064581	1	26.200	E	57	3.875	N
EGM110		1.434407	57.118163	1	26.064	E	57	7.090	N
EGM111		1.429869	57.225328	1	25.792	E	57	13.520	N
EGM112		1.427589	57.278909	1	25.655	E	57	16.735	N
EGM113		1.425300	57.332490	1	25.518	E	57	19.949	N
EGM114		1.423003	57.386070	1	25.380	E	57	23.164	N
EGM115		1.420698	57.439650	1	25.242	E	57	26.379	N
EGM116		1.418385	57.493229	1	25.103	E	57	29.594	N
EGM117		1.468367	56.984555	1	28.102	E	56	59.073	N
EGM118		1.463951	57.091724	1	27.837	E	57	5.503	N
EGM119		1.461731	57.145307	1	27.704	E	57	8.718	N

EGM120		1.459503	57.198890	1	27.570	E	57	11.933	N
EGM121		1.457268	57.252472	1	27.436	E	57	15.148	N
EGM122		1.455025	57.306054	1	27.301	E	57	18.363	N
EGM123		1.452774	57.359635	1	27.166	E	57	21.578	N
EGM124		1.450514	57.413216	1	27.031	E	57	24.793	N
EGM125		1.448247	57.466796	1	26.895	E	57	28.008	N
EGM126		1.497780	56.958106	1	29.867	E	56	57.486	N
EGM127		1.495620	57.011691	1	29.737	E	57	0.701	N
EGM128		1.493452	57.065276	1	29.607	E	57	3.917	N
EGM129		1.491277	57.118861	1	29.477	E	57	7.132	N
EGM130		1.489095	57.172444	1	29.346	E	57	10.347	N
EGM131		1.486904	57.226028	1	29.214	E	57	13.562	N
EGM132		1.484706	57.279611	1	29.082	E	57	16.777	N
EGM133		1.482501	57.333193	1	28.950	E	57	19.992	N
EGM134		1.480287	57.386775	1	28.817	E	57	23.206	N
EGM135		1.478066	57.440356	1	28.684	E	57	26.421	N
EGM136		1.475837	57.493937	1	28.550	E	57	29.636	N
EGM137		1.527150	56.931650	1	31.629	E	56	55.899	N
EGM138		1.522912	57.038822	1	31.375	E	57	2.329	N
EGM139		1.520781	57.092407	1	31.247	E	57	5.544	N
EGM140		1.518644	57.145992	1	31.119	E	57	8.760	N
EGM141		1.516498	57.199576	1	30.990	E	57	11.975	N
EGM142		1.514346	57.253160	1	30.861	E	57	15.190	N
EGM143		1.510017	57.360326	1	30.601	E	57	21.620	N
EGM144		1.505658	57.467490	1	30.340	E	57	28.049	N
EGM145		1.554408	56.958773	1	33.264	E	56	57.526	N
EGM146		1.552329	57.012360	1	33.140	E	57	0.742	N
EGM147		1.550243	57.065946	1	33.015	E	57	3.957	N
EGM148		1.548150	57.119532	1	32.889	E	57	7.172	N
EGM149		1.546050	57.173117	1	32.763	E	57	10.387	N
EGM150		1.543942	57.226702	1	32.637	E	57	13.602	N
EGM151		1.541827	57.280286	1	32.510	E	57	16.817	N
EGM152		1.583739	56.932303	1	35.024	E	56	55.938	N
EGM153		1.579663	57.039478	1	34.780	E	57	2.369	N
EGM154		1.577614	57.093065	1	34.657	E	57	5.584	N
EGM155		1.575559	57.146651	1	34.534	E	57	8.799	N
EGM156		1.609041	57.013003	1	36.542	E	57	0.780	N

Table 2

NSP Station Positions

STNCODE	STNNUM	LonDDegMin	LatDDegMin	Deg	DecMin	E/W	Deg	DecMin	N
NSP1		1.663125	58.049652	1	39.787	E	58	2.979	N
NSP2		1.662486	58.066760	1	39.749	E	58	4.006	N
NSP3		1.661845	58.083868	1	39.711	E	58	5.032	N
NSP4		1.661205	58.100976	1	39.672	E	58	6.059	N
NSP5		1.660563	58.118084	1	39.634	E	58	7.085	N
NSP6		1.659921	58.135192	1	39.595	E	58	8.112	N
NSP7		1.658634	58.169408	1	39.518	E	58	10.165	N
NSP8		1.657990	58.186516	1	39.479	E	58	11.191	N
NSP9		1.674024	58.006978	1	40.441	E	58	0.419	N
NSP10		1.673391	58.024086	1	40.403	E	58	1.445	N
NSP11		1.671488	58.075411	1	40.289	E	58	4.525	N
NSP12		1.670852	58.092520	1	40.251	E	58	5.551	N
NSP13		1.670215	58.109628	1	40.213	E	58	6.578	N
NSP14		1.669577	58.126736	1	40.175	E	58	7.604	N
NSP15		1.668939	58.143844	1	40.136	E	58	8.631	N
NSP16		1.667661	58.178060	1	40.060	E	58	10.684	N
NSP17		1.683642	57.998520	1	41.019	E	57	59.911	N
NSP18		1.683014	58.015629	1	40.981	E	58	0.938	N
NSP19		1.682385	58.032737	1	40.943	E	58	1.964	N
NSP20		1.681755	58.049846	1	40.905	E	58	2.991	N
NSP21		1.679862	58.101171	1	40.792	E	58	6.070	N
NSP22		1.679229	58.118279	1	40.754	E	58	7.097	N
NSP23		1.676692	58.186712	1	40.601	E	58	11.203	N
NSP24		1.692633	58.007170	1	41.558	E	58	0.430	N
NSP25		1.692008	58.024279	1	41.521	E	58	1.457	N
NSP26		1.691383	58.041388	1	41.483	E	58	2.483	N
NSP27		1.690758	58.058496	1	41.445	E	58	3.510	N
NSP28		1.690131	58.075605	1	41.408	E	58	4.536	N
NSP29		1.688248	58.126930	1	41.295	E	58	7.616	N
NSP30		1.686989	58.161146	1	41.219	E	58	9.669	N
NSP31		1.702246	57.998711	1	42.135	E	57	59.923	N
NSP32		1.701627	58.015820	1	42.098	E	58	0.949	N
NSP33		1.701007	58.032929	1	42.060	E	58	1.976	N
NSP34		1.700386	58.050037	1	42.023	E	58	3.002	N
NSP35		1.699765	58.067146	1	41.986	E	58	4.029	N
NSP36		1.699142	58.084254	1	41.949	E	58	5.055	N
NSP37		1.698519	58.101363	1	41.911	E	58	6.082	N

NSP38		1.697271	58.135579	1	41.836	E	58	8.135	N
NSP39		1.696646	58.152688	1	41.799	E	58	9.161	N
NSP40		1.696020	58.169796	1	41.761	E	58	10.188	N
NSP41		1.711241	58.007360	1	42.674	E	58	0.442	N
NSP42		1.710010	58.041578	1	42.601	E	58	2.495	N
NSP43		1.709393	58.058686	1	42.564	E	58	3.521	N
NSP44		1.708776	58.075795	1	42.527	E	58	4.548	N
NSP45		1.708158	58.092903	1	42.489	E	58	5.574	N
NSP46		1.707539	58.110012	1	42.452	E	58	6.601	N
NSP47		1.706919	58.127120	1	42.415	E	58	7.627	N
NSP48		1.706299	58.144229	1	42.378	E	58	8.654	N
NSP49		1.705678	58.161337	1	42.341	E	58	9.680	N
NSP50		1.720851	57.998900	1	43.251	E	57	59.934	N
NSP51		1.720240	58.016009	1	43.214	E	58	0.961	N
NSP52		1.719629	58.033117	1	43.178	E	58	1.987	N
NSP53		1.719017	58.050226	1	43.141	E	58	3.014	N
NSP54		1.718404	58.067335	1	43.104	E	58	4.040	N
NSP55		1.717791	58.084443	1	43.067	E	58	5.067	N
NSP56		1.717177	58.101552	1	43.031	E	58	6.093	N
NSP57		1.715331	58.152877	1	42.920	E	58	9.173	N
NSP58		1.729850	58.007547	1	43.791	E	58	0.453	N
NSP59		1.729244	58.024656	1	43.755	E	58	1.479	N
NSP60		1.728636	58.041765	1	43.718	E	58	2.506	N
NSP61		1.728029	58.058874	1	43.682	E	58	3.532	N
NSP62		1.727420	58.075982	1	43.645	E	58	4.559	N
NSP63		1.726811	58.093091	1	43.609	E	58	5.585	N
NSP64		1.726201	58.110200	1	43.572	E	58	6.612	N
NSP65		1.725590	58.127308	1	43.535	E	58	7.638	N
NSP66		1.739455	57.999085	1	44.367	E	57	59.945	N
NSP67		1.738854	58.016194	1	44.331	E	58	0.972	N
NSP68		1.738251	58.033303	1	44.295	E	58	1.998	N
NSP69		1.737648	58.050412	1	44.259	E	58	3.025	N
NSP70		1.737044	58.067521	1	44.223	E	58	4.051	N
NSP71		1.736440	58.084630	1	44.186	E	58	5.078	N
NSP72		1.735835	58.101738	1	44.150	E	58	6.104	N
NSP73		1.735229	58.118847	1	44.114	E	58	7.131	N
NSP74		1.734623	58.135956	1	44.077	E	58	8.157	N
NSP75		1.748459	58.007732	1	44.908	E	58	0.464	N
NSP76		1.747862	58.024841	1	44.872	E	58	1.490	N
NSP77		1.747263	58.041950	1	44.836	E	58	2.517	N
NSP78		1.746664	58.059059	1	44.800	E	58	3.544	N

NSP79		1.746065	58.076167	1	44.764	E	58	4.570	N
NSP80		1.745464	58.093276	1	44.728	E	58	5.597	N
NSP81		1.744863	58.110385	1	44.692	E	58	6.623	N
NSP82		1.744262	58.127494	1	44.656	E	58	7.650	N
NSP83		1.758060	57.999268	1	45.484	E	57	59.956	N
NSP84		1.757467	58.016377	1	45.448	E	58	0.983	N
NSP85		1.756874	58.033486	1	45.412	E	58	2.009	N
NSP86		1.756280	58.050595	1	45.377	E	58	3.036	N
NSP87		1.755089	58.084813	1	45.305	E	58	5.089	N
NSP88		1.754493	58.101922	1	45.270	E	58	6.115	N
NSP89		1.753896	58.119031	1	45.234	E	58	7.142	N
NSP90		1.767068	58.007913	1	46.024	E	58	0.475	N
NSP91		1.766480	58.025022	1	45.989	E	58	1.501	N
NSP92		1.765890	58.042132	1	45.953	E	58	2.528	N
NSP93		1.765300	58.059241	1	45.918	E	58	3.554	N
NSP94		1.764710	58.076349	1	45.883	E	58	4.581	N
NSP95		1.764118	58.093458	1	45.847	E	58	5.608	N
NSP96		1.763526	58.110567	1	45.812	E	58	6.634	N
NSP97		1.776665	57.999449	1	46.600	E	57	59.967	N
NSP98		1.776081	58.016558	1	46.565	E	58	0.993	N
NSP99		1.775497	58.033667	1	46.530	E	58	2.020	N
NSP100		1.774911	58.050776	1	46.495	E	58	3.047	N
NSP101		1.774325	58.067885	1	46.460	E	58	4.073	N
NSP102		1.773739	58.084994	1	46.424	E	58	5.100	N
NSP103		1.785678	58.008092	1	47.141	E	58	0.486	N
NSP104		1.785098	58.025202	1	47.106	E	58	1.512	N
NSP105		1.784518	58.042311	1	47.071	E	58	2.539	N
NSP106		1.783937	58.059420	1	47.036	E	58	3.565	N
NSP107		1.783355	58.076529	1	47.001	E	58	4.592	N
NSP108		1.795270	57.999626	1	47.716	E	57	59.978	N
NSP109		1.794119	58.033845	1	47.647	E	58	2.031	N
NSP110		1.793543	58.050954	1	47.613	E	58	3.057	N
NSP111		1.792966	58.068063	1	47.578	E	58	4.084	N
NSP112		1.804288	58.008269	1	48.257	E	58	0.496	N
NSP113		1.803717	58.025378	1	48.223	E	58	1.523	N
NSP114		1.803145	58.042487	1	48.189	E	58	2.549	N
NSP115		1.802573	58.059596	1	48.154	E	58	3.576	N
NSP116		1.813309	58.016910	1	48.799	E	58	1.015	N
NSP117		1.812743	58.034020	1	48.765	E	58	2.041	N
NSP118		1.812175	58.051129	1	48.731	E	58	3.068	N
NSP119		1.822336	58.025552	1	49.340	E	58	1.533	N

NSP120		1.821773	58.042661	1	49.306	E	58	2.560	N