

*REPORT AND INDEX OF  
UNDERWAY MARINE GEOPHYSICAL DATA*

**HAHNARO EXPEDITION**

**LEG 7**

**(HNRO07RR)**

R/V Revelle

(Issued December 1999)

**Ports:**

Pusan, South Korea (24 June 1999)

to

Pusan, South Korea (17 July 1999)

**Chief Scientist:**

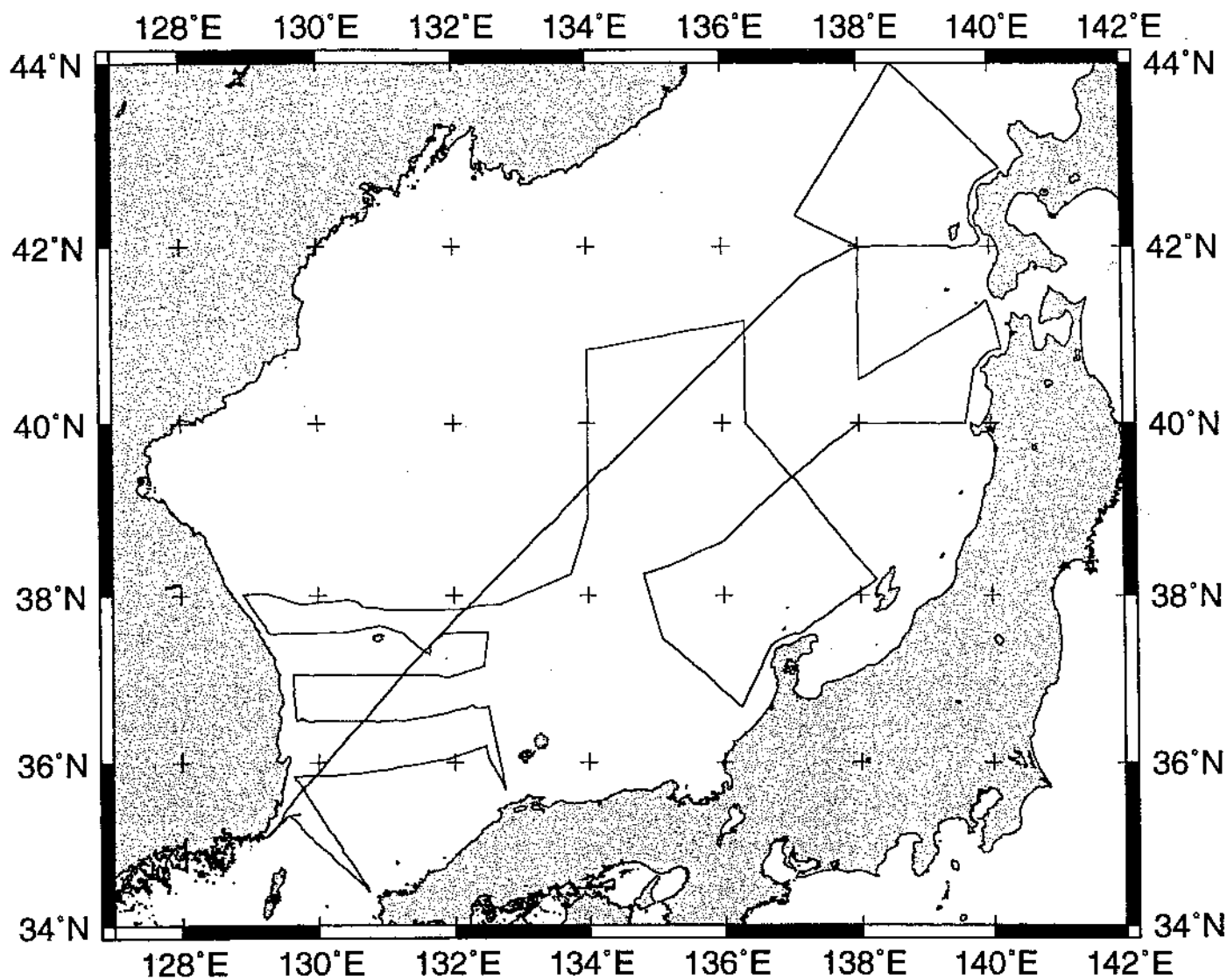
Lynn Talley, Scripps Institution of Oceanography  
email:ltalley@ucsd.edu

Computer Technician - Dan Jacobson  
Resident Marine Technician - Tammy Koonce

Post-Cruise Processing and Report Preparation by the  
Geological Data Center, Scripps Institution of Oceanography  
La Jolla, California 92093-0223

**NOTE:** *This is an index of underway geophysical data edited and processed after the completion of the cruise leg and is intended primarily for informal use within the institution. This document is not to be reproduced or distributed outside Scripps without prior approval of the chief scientist or the Geological Data Center, Scripps Institution of Oceanography, La Jolla, California 92093-0223*

GDC Cruise I.D.# 285



**HAHNARO EXPEDITION LEG 7 (HNRO07RR)**

**CHIEF SCIENTIST:** Lynn Talley, Scripps Institution

**PORTS:** Pusan - Pusan, South Korea

**DATES:** 24 June - 17 July 1999

**SHIP:** R/V Revelle

**TOTAL MILEAGE OF UNDERWAY DATA COLLECTED**

**Cruise - 3597 miles**

**Magnetics - none collected**

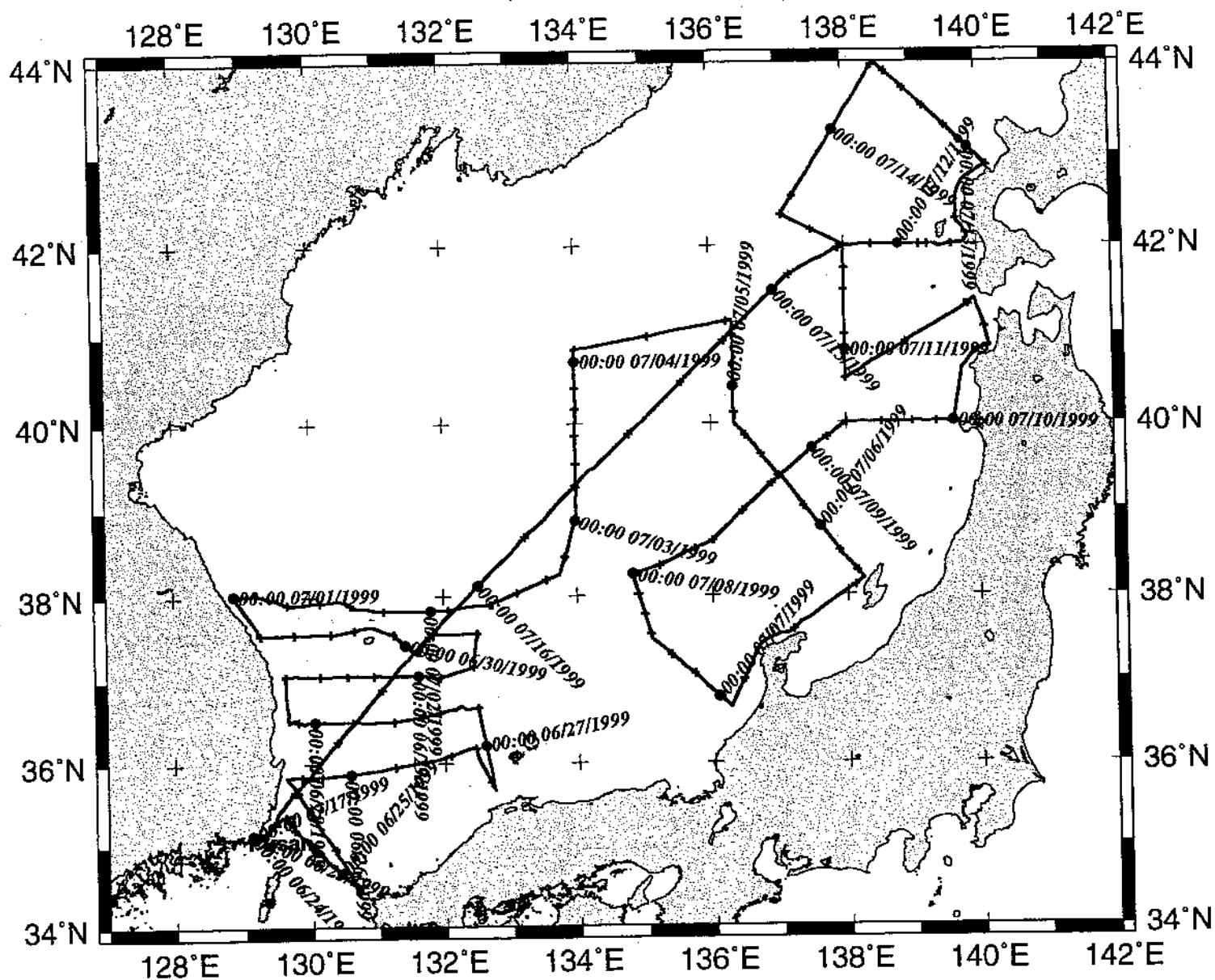
**Bathymetry - 3272 miles**

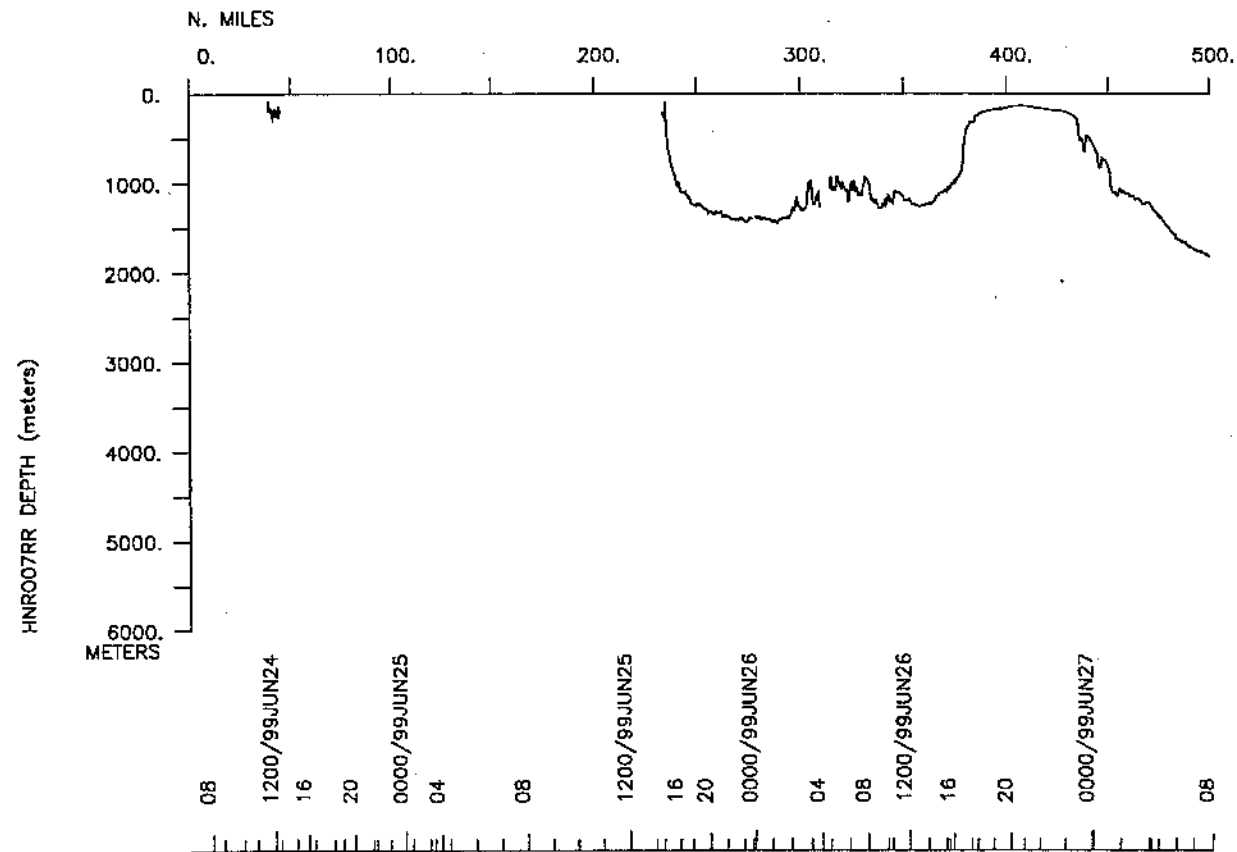
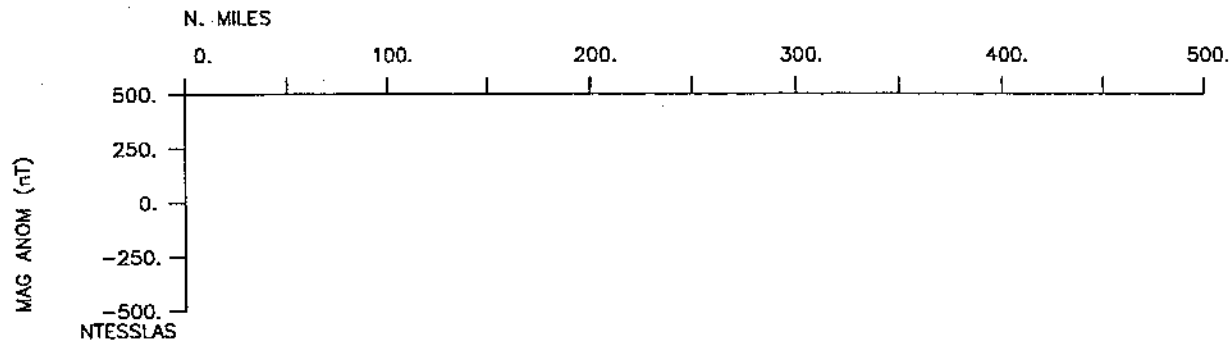
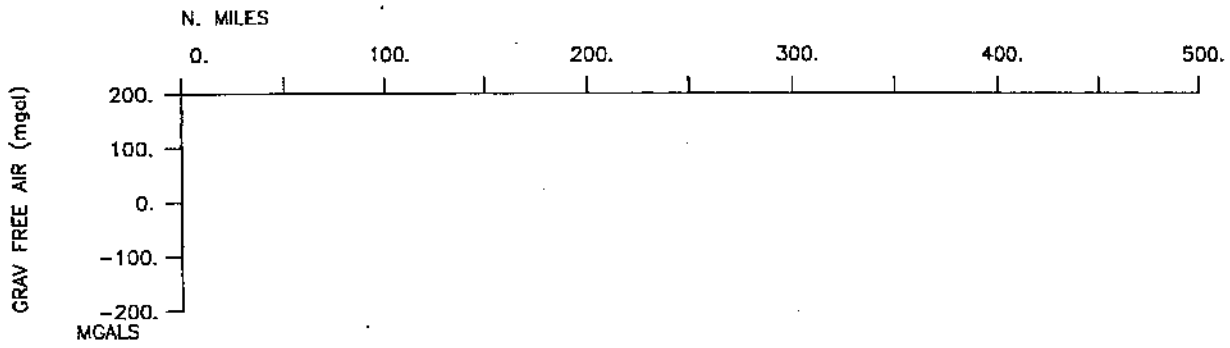
**Seismic Reflection - none collected**

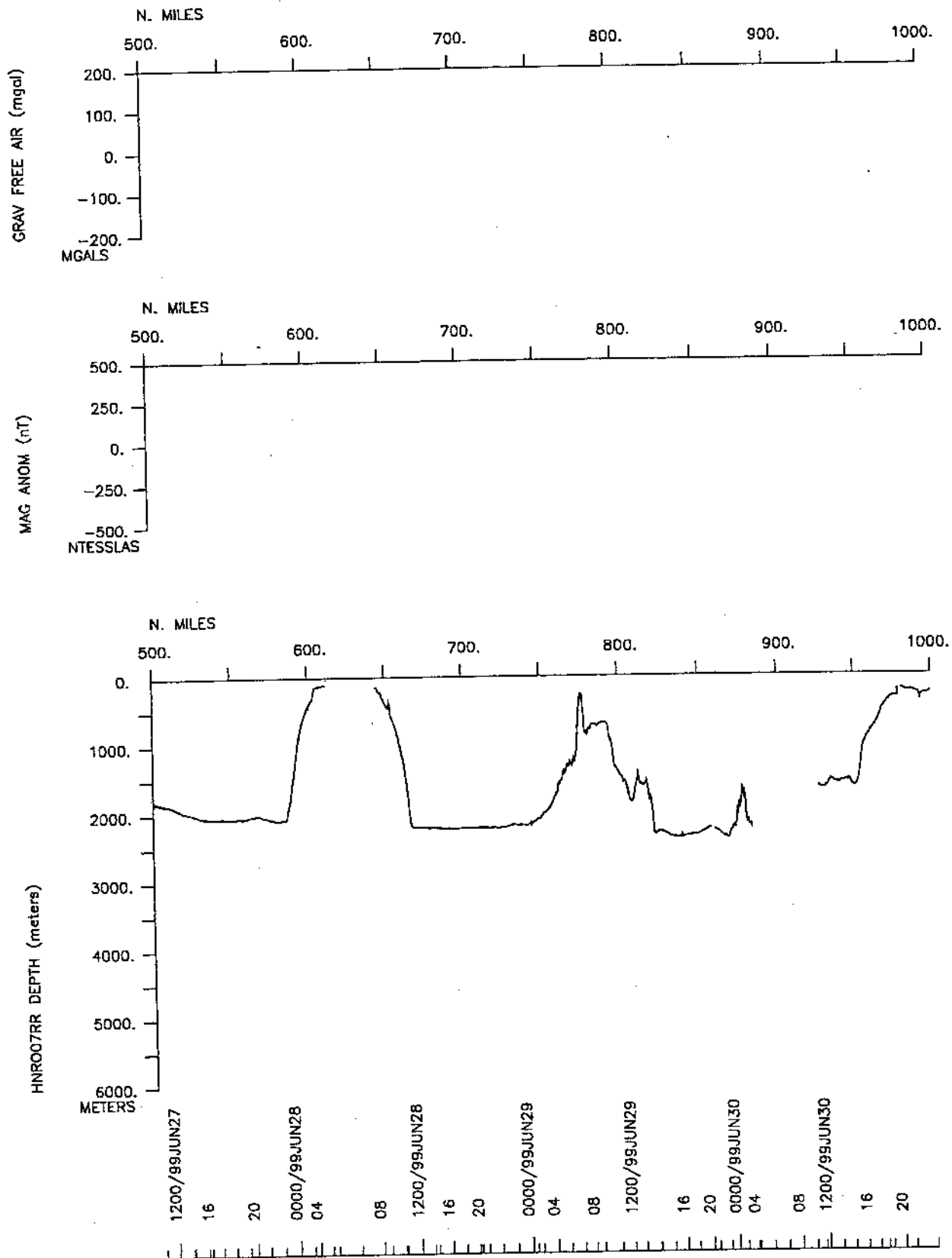
**Sea Beam - 3272 miles**

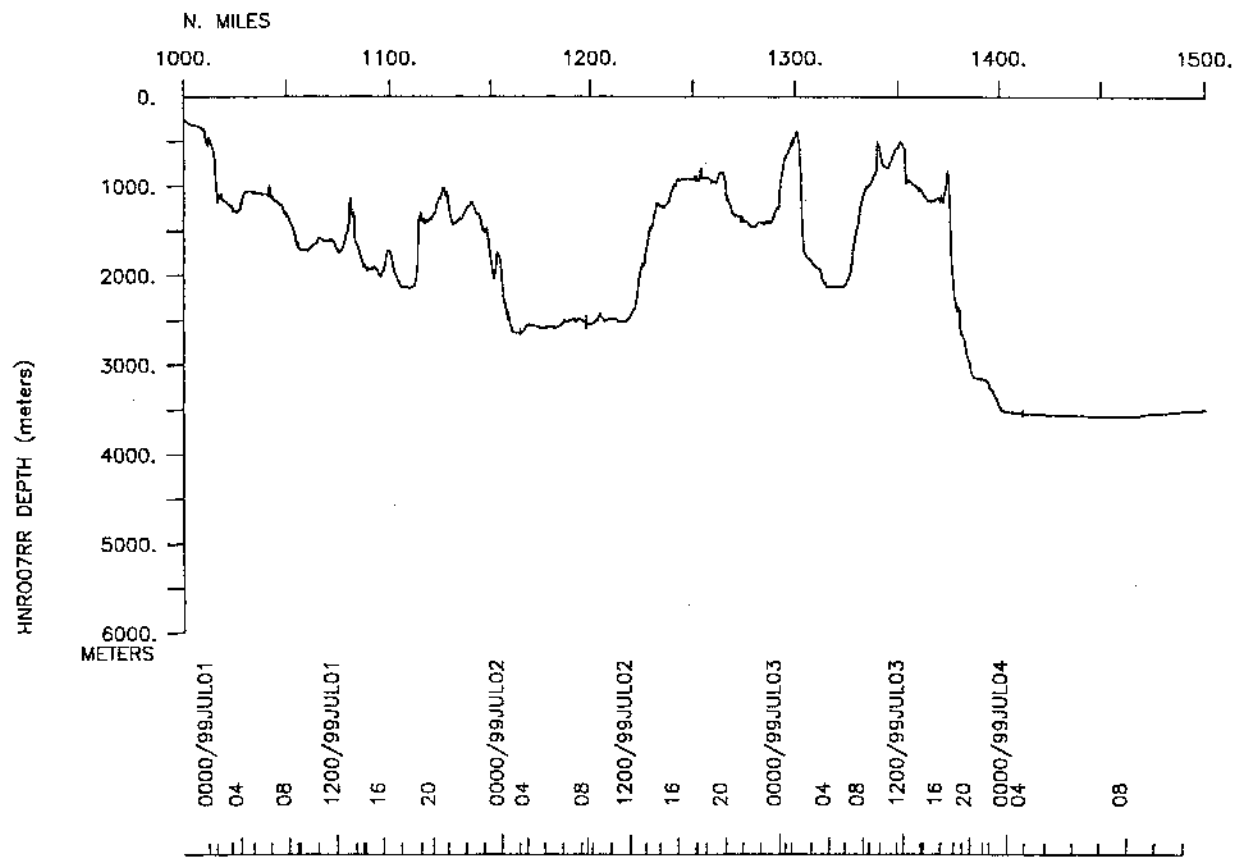
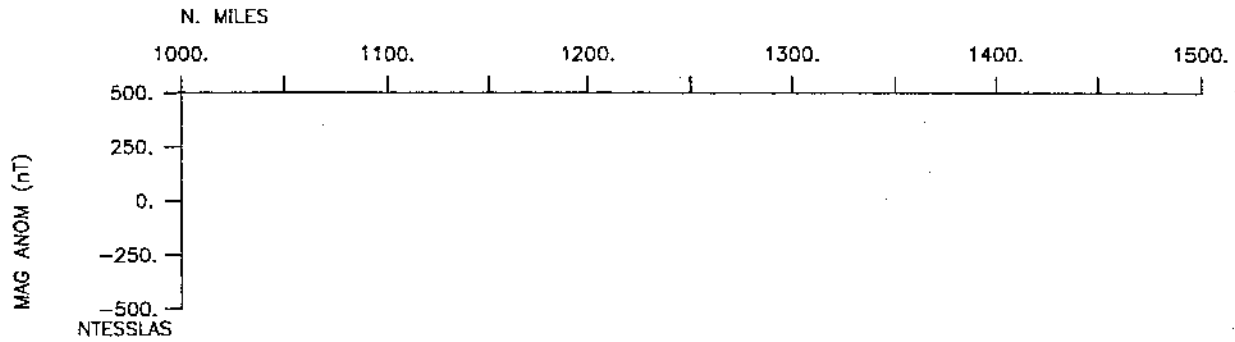
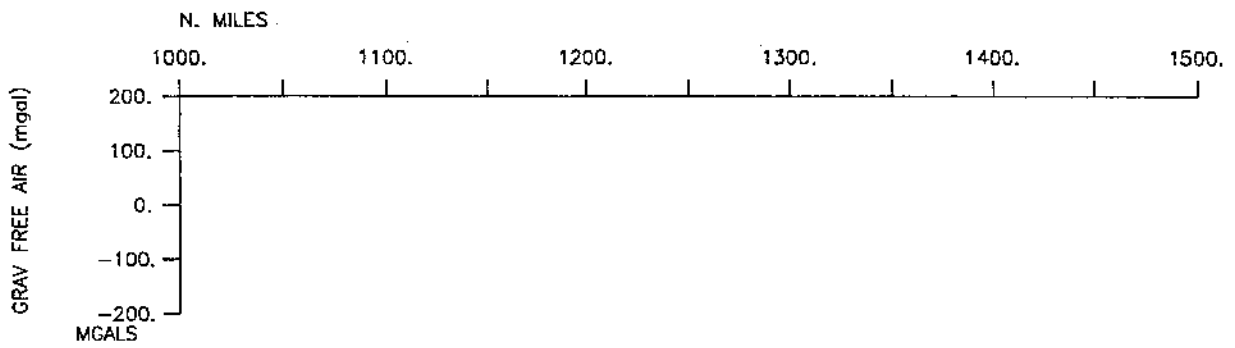
**Gravity - none collected**

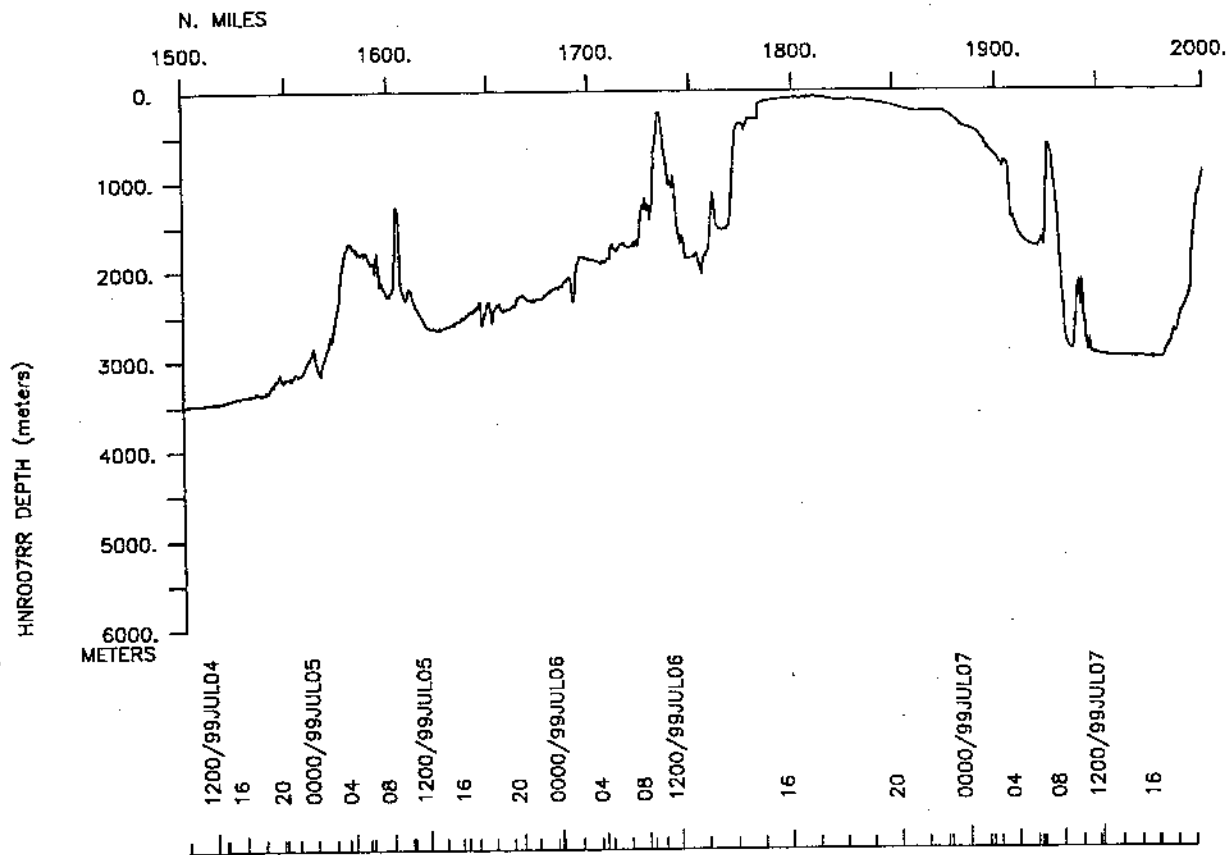
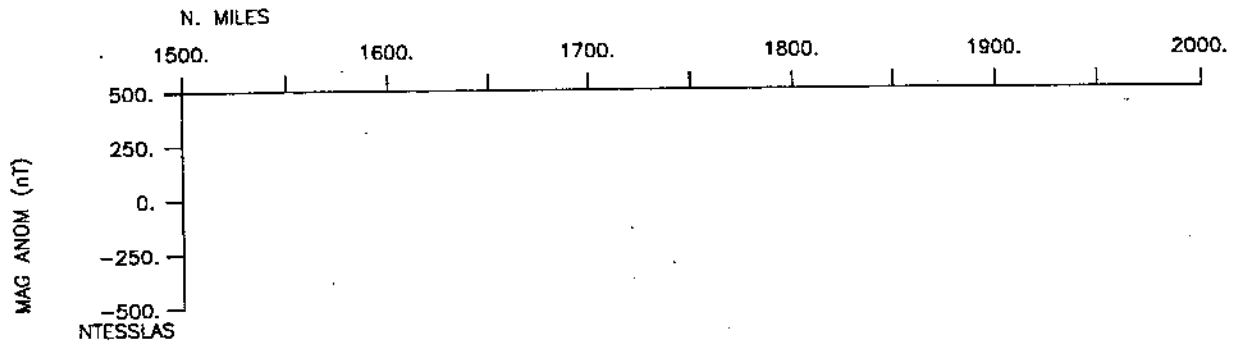
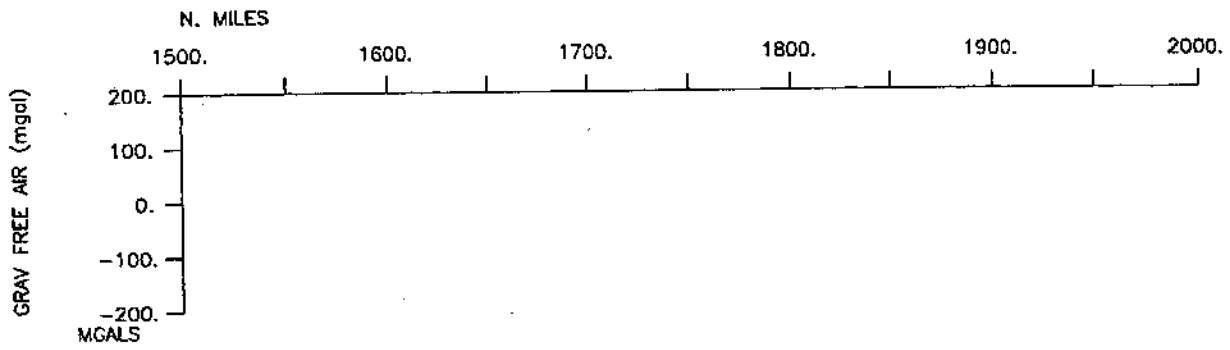
# HAHNARO Leg 7 Track

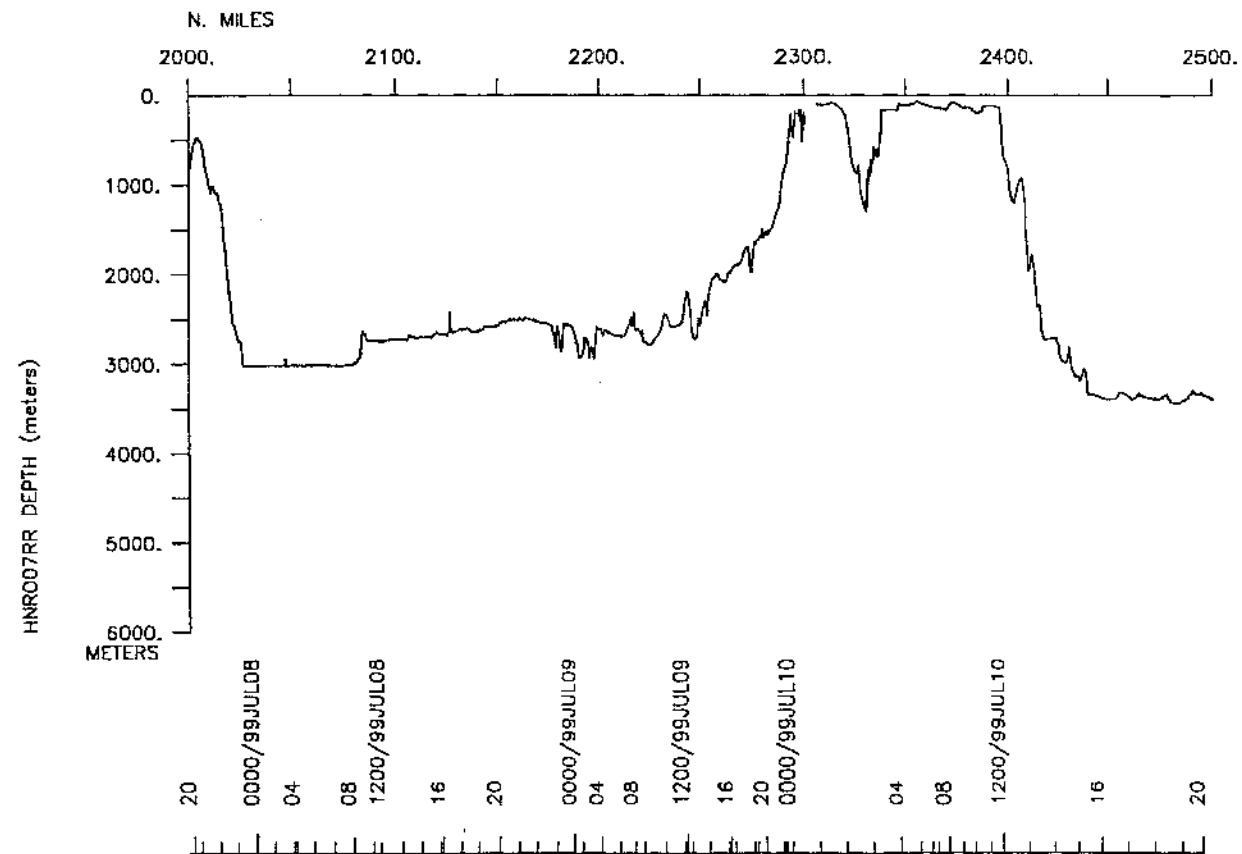
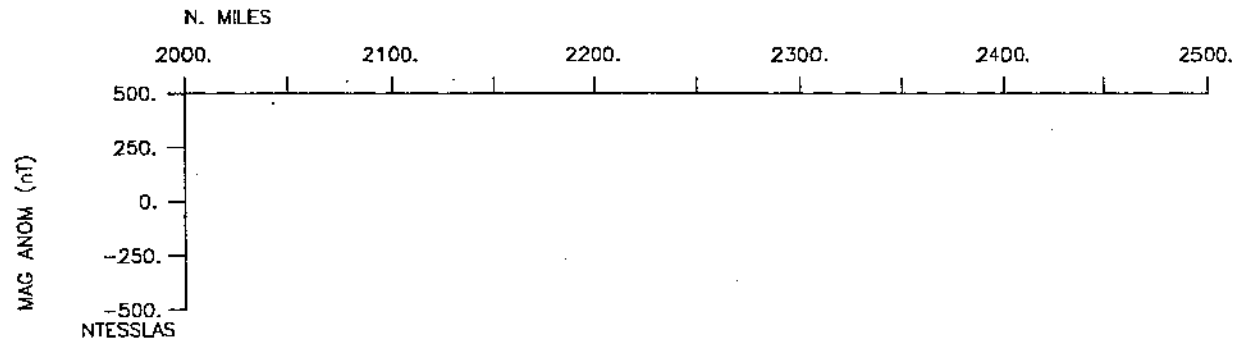
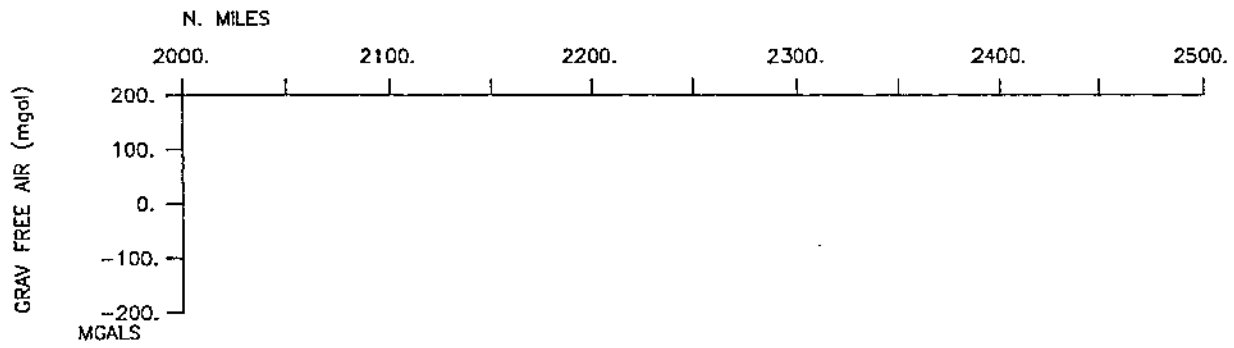




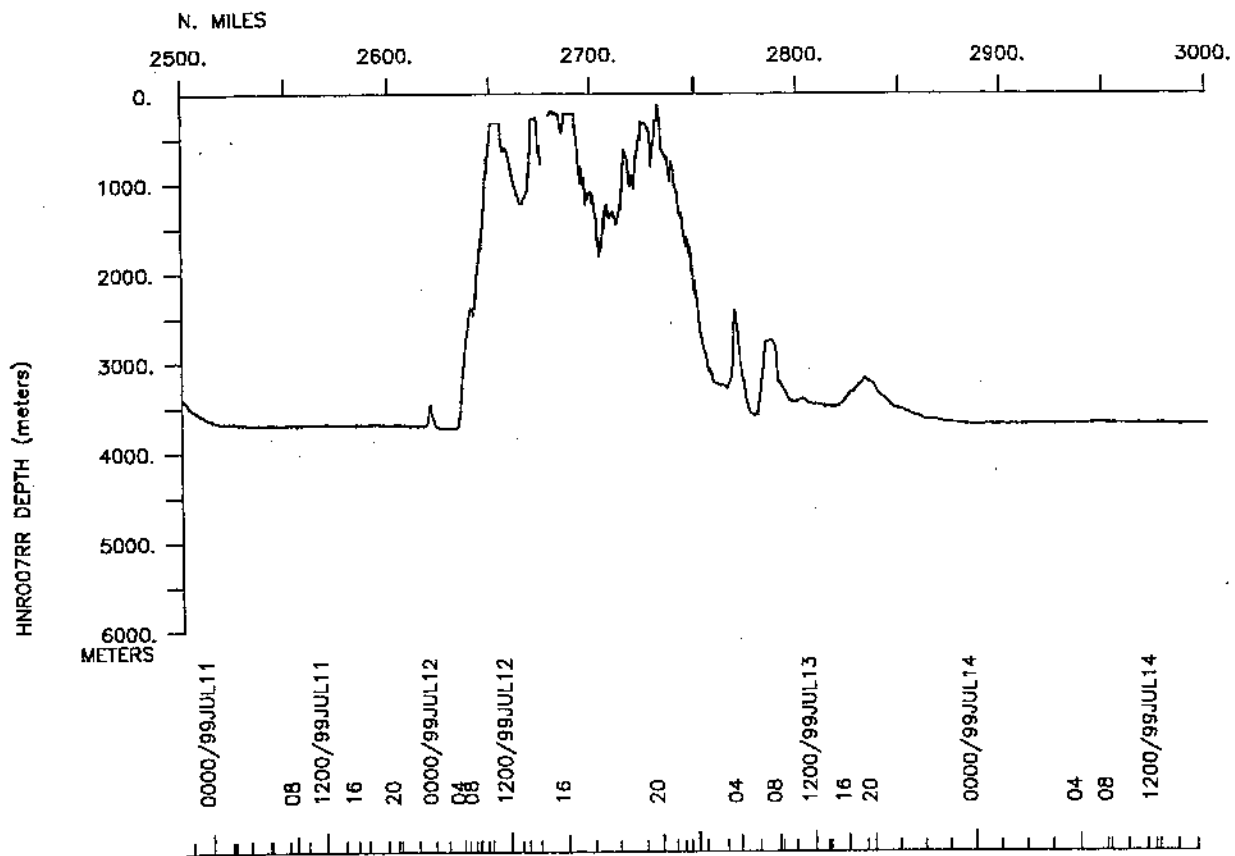
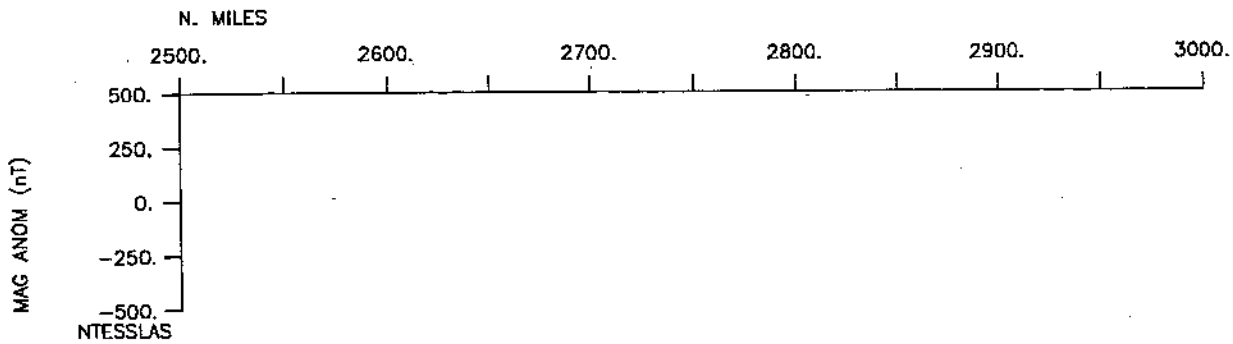
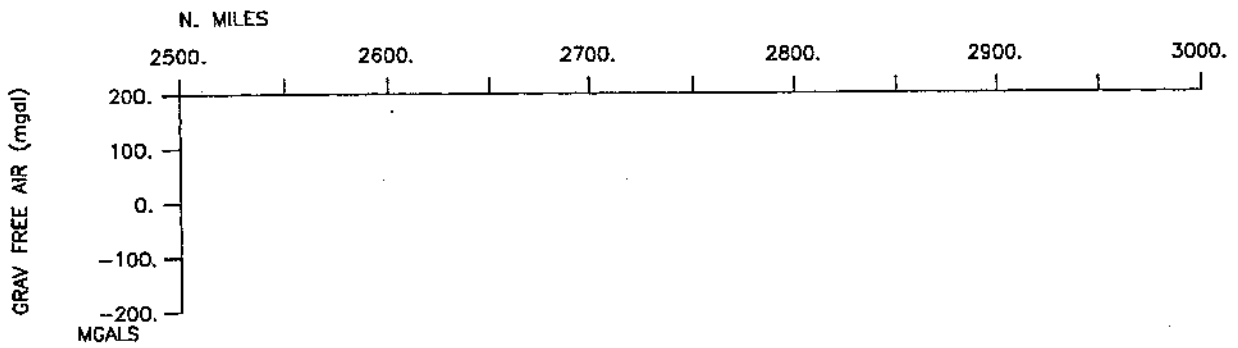


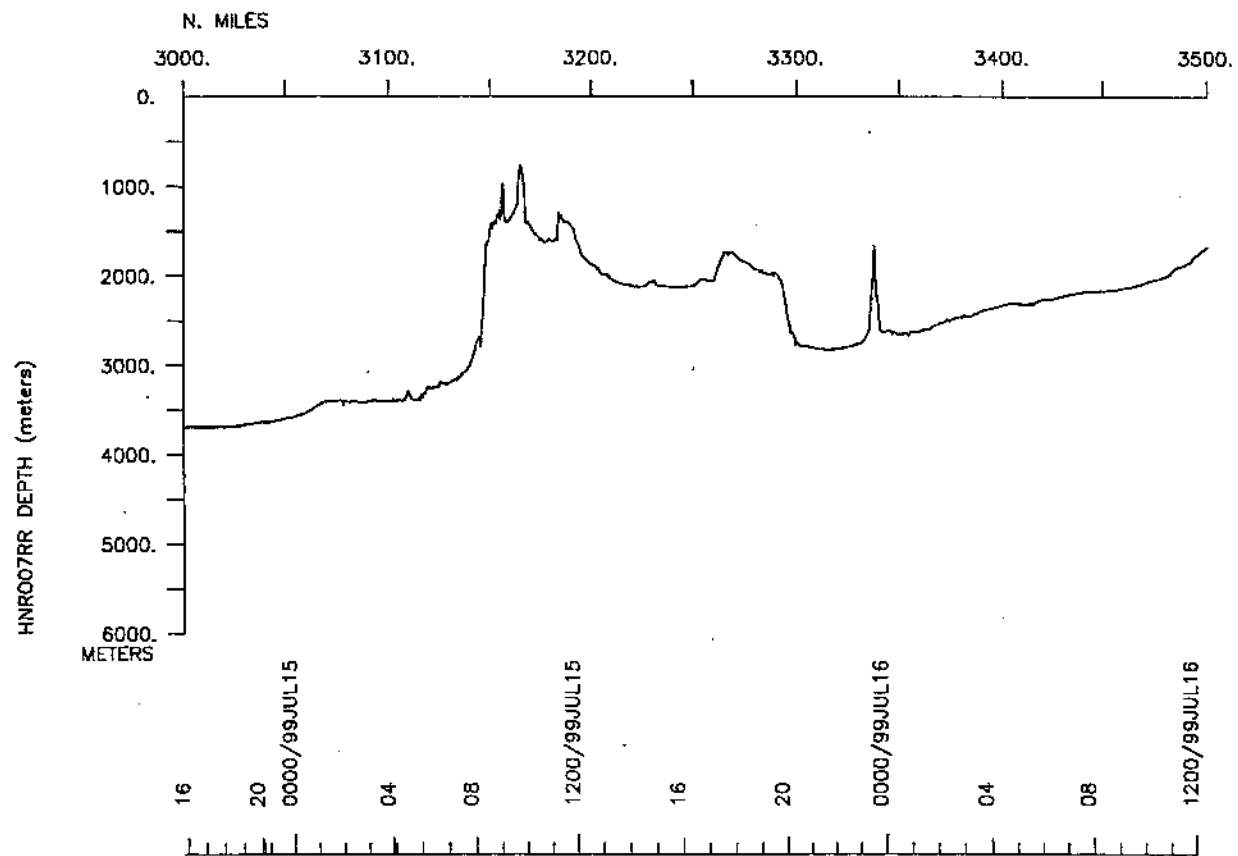
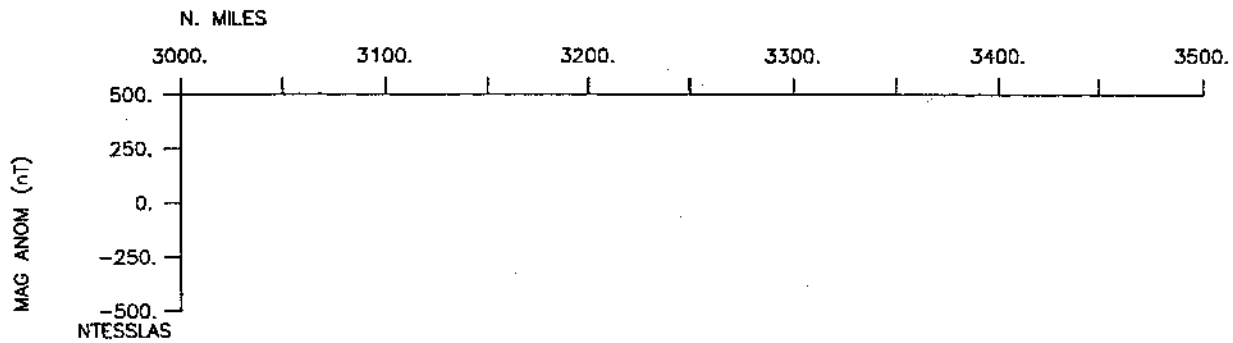
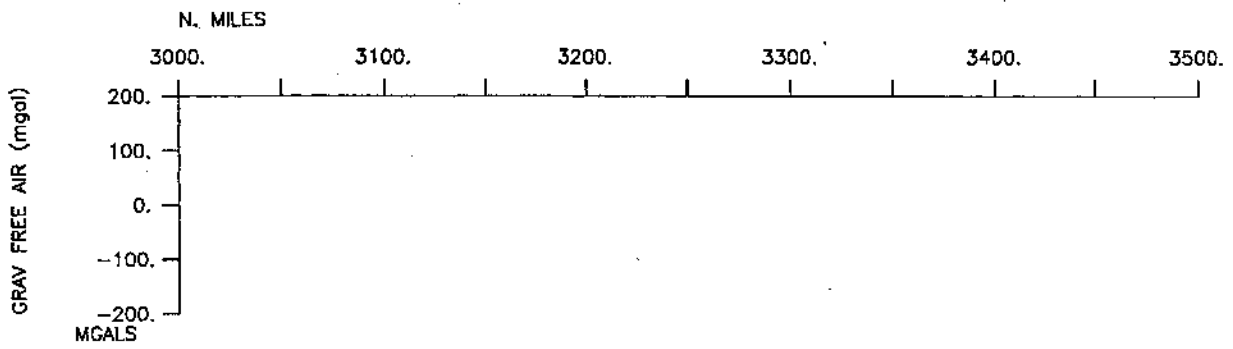


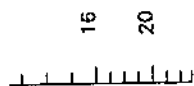
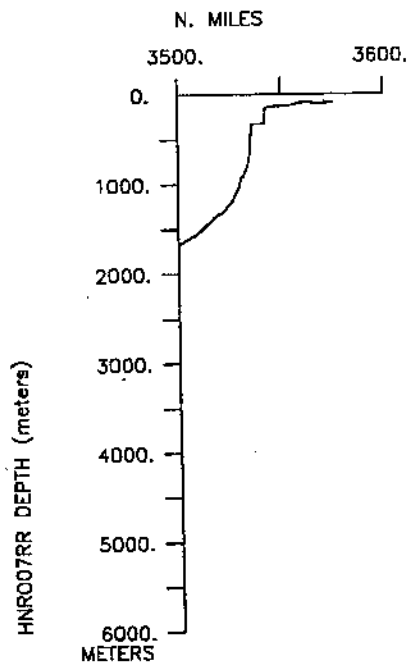
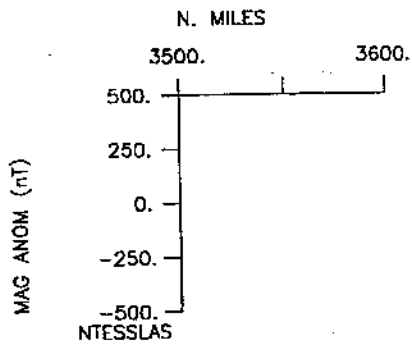
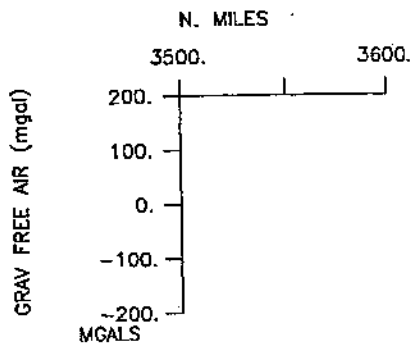












**S.I.O. SAMPLE INDEX**

**HAHNARO EXPEDITION**

**LEG 7**

**(HNRO07RR)**

R/V Revelle

(Issued December 1999)

**Ports:**

Pusan, South Korea (24 June 1999)

to

Pusan, South Korea (17 July 1999)

**Chief Scientist:**

Lynn Talley, Scripps Institution of Oceanography

*The Sample Index is a first level interdisciplinary listing of time, position, sample identification and disposition of all samples, records and measurements collected on this cruise leg. The index data are encoded at sea by the resident marine technician and processed on shore by the S.I.O. Geological Data Center shortly after the completion of the cruise leg.*

*Positions are interpolated on the basis of sample time by comparison to a single, edited navigation file. Samples beginning at one time and position and ending at another are entered on two consecutive lines. Disposition and sample type are represented by three and four character codes to permit future computer searches on these parameters. (Listings defining these codes are available from the Geological Data Center.)*

GDC Cruise I.D.# 285

## #\*\*\* Ports \*\*\*

0700	240699	LGPT B PUSAN, KOREA	GDC	35-06.00N 129-03.00E f	HNRO07RR
2300	160799	LGPT E PUSAN, KOREA	GDC	35-06.00N 129-03.00E f	HNRO07RR

## #\*\*\* Personnel \*\*\*

#	*****NAME*****	*****TITLE*****	*****AFFILIATION*****	**CRID**
PECS SIO	Talley, L.	Chief Scientist	Scripps Institution	HNRO07RR
PESP SIO	Newton, D.	Programmer	Scripps Institution	HNRO07RR
PESP WHOI	Ashijan, K.	Scientist	Woods Hole O. I.	HNRO07RR
PESP ODF	Patrick, R.	Technician	Scripps Institution	HNRO07RR
PESP WHOI	Davis, C.	Scientist	Woods Hole O. I.	HNRO07RR
PEET ODF	Mattson, C.	Electronics tech	Scripps Institution	HNRO07RR
PESP WHOI	Alatalo, P.	Technician	Woods Hole O. I.	HNRO07RR
PESP WHOI	Girard, A.	Technician	Woods Hole O. I.	HNRO07RR
PESP ODF	Masten, D.	Technician	Scripps Institution	HNRO07RR
PEST SIO	Martin, J.	Graduate student	Scripps Institution	HNRO07RR
PEET SIX	Titov, I.	Electronics tech	FERHRI, Russia	HNRO07RR
PESP SIX	Luchin, V.	Scientist	FERHRI, Russia	HNRO07RR
PESP SIX	Rykov, N.	Scientist	FERHRI, Russia	HNRO07RR
PEST SIX	Kraynev, V.	Technician	FERHRI, Russia	HNRO07RR
PESP WHOI	McGrath, G.	Technician	Woods Hole O. I.	HNRO07RR
PEST SIX	Harhm, D.	Graduate student	Seoul Univ., Korea	HNRO07RR
PESP SIX	Jabine, I.	Scientist	Inst.OceanSci., Eng.	HNRO07RR
PESP SIX	Ponomarev, V.	Scientist	POI, Russia	HNRO07RR
PESP SIX	Tichtchenko, P.	Scientist	POI, Russia	HNRO07RR
PESP SIX	Kang, D-J.	Technician	Seoul Univ., Korea	HNRO07RR
PESP SIX	Nedachkovski, A.	Technician	POI, Russia	HNRO07RR
PESP SIX	Chvetsova, M.	Technician	POI, Russia	HNRO07RR
PESP SIX	Sagalaev, S.	Technician	POI, Russia	HNRO07RR
PESP SIX	Gorelkin, M.	Technician	FERHRI, Russia	HNRO07RR
PESP SIX	Ilyina, E.	Technician	POI, Russia	HNRO07RR
PESP SIX	Tchitchkin, R.	Technician	POI, Russia	HNRO07RR
PESP SIO	Min, D-H.	Scientist	Scripps Institution	HNRO07RR
PESP SIO	Mitchell, G.	Scientist	Scripps Institution	HNRO07RR
PESP SIO	Wieland, J.	Technician	Scripps Institution	HNRO07RR
PESP SIX	Postlethwaite, C.	Technician	Inst.OceanSci., Eng.	HNRO07RR
PEST SIX	Moon, J-E.	Graduate student	Cheju Univ., Korea	HNRO07RR
PESP SIX	Zakharkov, S.	Scientist	POI, Russia	HNRO07RR
PESP UWA	Warner, M.	Scientist	Univ. of Washington	HNRO07RR
PESP WHOI	Costello, L.	Technician	Woods Hole O. I.	HNRO07RR
PERT STS	Koonce, T.	Resident tech	Scripps Institution	HNRO07RR
PECT SCG	Jacobson, D.	Computer tech	Scripps Institution	HNRO07RR

## # Abbreviations:

# Forest and Environmental Regional Hydrometeorological Research Inst., Russia  
 # Pacific Oceanographic Institute, Russia  
 # Institute of Ocean Science, Southampton, England

## #\*\*\* NOTES \*\*\*

# An 'X' in the (B)egin/(E)nd column following the sample code indicates no sample or data recovered. A 'C' indicates continuation of data collection  
 # from before the beginning or after the end of a particular leg. (Moored bottom instruments, for example.) The number appearing in the columns  
 # between the sample identifier and the disposition code, for many sample  
 # entries, is the water depth in corrected meters.

#GMT	DDMMYY	SAMP	B	SAMPLE	DISP				p	CRUISE
#TIME	DATE	TZ	CODE	E IDENTIFIER	CODE	LATITUDE	LONGITUDE		c	LEG-SHIP
#	-----			-----						

\*\*\* Underway Data Curator - S. M. Smith ext. 42752 \*\*\*

\*\*\* Log Books \*\*\*

1248	240699	0	LBSC	B CTD Log book	ODF	35-21.00N	129-33.00E	g	HNRO07RR
2034	140799	0	LBSC	E CTD Log book	ODF	41-40.00N	137-09.87E	g	HNRO07RR

\*\*\* Acoustic Doppler Current Profiler \*\*\*

0700	240699	0	ADCP	B Accoustic Doppler	GDC	35-08.00N	129-07.79E	g	HNRO07RR
2300	160799	0	ADCP	E Current Profiler	GDC	35-05.03N	129-08.79E	g	HNRO07RR

\*\*\* Integrated Meteorological Data System \*\*\*

0700	240699	0	IMET	B Weather data	GDC	35-08.00N	129-07.79E	g	HNRO07RR
2300	160799	0	IMET	E Weather data	GDC	35-05.03N	129-08.79E	g	HNRO07RR
0202	010799	0	IMET	IMET Drifter #15677	GDC	38-01.01N	128-57.06E	g	HNRO07RR
0950	010799	0	IMET	IMET Drifter #15722	GDC	37-53.76N	129-44.82E	g	HNRO07RR

\*\*\* Sea Beam Records (vertical beam and side scan) \*\*\*

1143	240699	0	MBSR	B v.beam&sidescan r-01	GDC	35-22.08N	129-39.90E	g	HNRO07RR
2043	160799	0	MBSR	E v.beam&sidescan r-01	GDC	35-12.51N	129-21.56E	g	HNRO07RR

\*\*\* Air Samples \*\*\*

0700	240699	0	ASCS	B Continuous air samp.	UWA	35-08.00N	129-07.79E	g	HNRO07RR
2350	160799	0	ASCS	E Continuous air samp.	UWA	35-07.97N	129-07.15E	g	HNRO07RR

\*\*\* Plankton Recorder \*\*\*

0800	240699	0	PHRC	B video plankton rec.	WHOI	35-09.46N	129-18.12E	g	HNRO07RR
0902	240699	0	PHRC	E video plankton rec.	WHOI	35-13.33N	129-23.18E	g	HNRO07RR
1400	240699	0	PHRC	B video plankton rec.	WHOI	35-21.00N	129-33.00E	g	HNRO07RR
0424	250699	0	PHRC	E video plankton rec.	WHOI	34-25.47N	130-43.74E	g	HNRO07RR
1336	250699	0	PHRC	B video plankton rec.	WHOI	35-50.11N	129-38.06E	g	HNRO07RR
1420	260699	0	PHRC	E video plankton rec.	WHOI	36-12.02N	132-27.58E	g	HNRO07RR

#GMT	DDMMYY	SAMP	B	SAMPLE	DISP			p	CRUISE
#TIME	DATE	TZ	CODE	E IDENTIFIER	CODE	LATITUDE	LONGITUDE	c	LEG-SHIP
#									
1548	260699	0	PHRC	B video plankton rec.	WHOI	36-12.13N	132-27.91E	g	HNRO07RR
2054	260699	0	PHRC	E video plankton rec.	WHOI	35-40.08N	132-44.98E	g	HNRO07RR
0430	270699	0	PHRC	B video plankton rec.	WHOI	36-41.09N	132-30.42E	g	HNRO07RR
0654	290699	0	PHRC	E video plankton rec.	WHOI	37-09.52N	132-25.43E	g	HNRO07RR
1215	290699	0	PHRC	B video plankton rec.	WHOI	37-33.72N	132-30.23E	g	HNRO07RR
1545	290699	0	PHRC	E video plankton rec.	WHOI	37-33.08N	131-52.68E	g	HNRO07RR
1810	290699	0	PHRC	B video plankton rec.	WHOI	37-33.05N	131-50.16E	g	HNRO07RR
2026	290699	0	PHRC	E video plankton rec.	WHOI	37-17.96N	131-38.21E	g	HNRO07RR
2206	290699	0	PHRC	B video plankton rec.	WHOI	37-17.93N	131-37.94E	g	HNRO07RR
2334	290699	0	PHRC	E video plankton rec.	WHOI	37-24.96N	131-25.02E	g	HNRO07RR
0116	300699	0	PHRC	B video plankton rec.	WHOI	37-25.03N	131-25.02E	g	HNRO07RR
0242	300699	0	PHRC	E video plankton rec.	WHOI	37-33.15N	131-14.62E	g	HNRO07RR
0453	300699	0	PHRC	B video plankton rec.	WHOI	37-33.28N	131-14.30E	g	HNRO07RR
0941	300699	0	PHRC	E video plankton rec.	WHOI	37-33.32N	130-21.50E	g	HNRO07RR
1140	300699	0	PHRC	B video plankton rec.	WHOI	37-33.27N	130-21.22E	g	HNRO07RR
1956	300699	0	PHRC	E video plankton rec.	WHOI	37-32.97N	129-16.05E	g	HNRO07RR
0026	010799	0	PHRC	B video plankton rec.	WHOI	38-00.99N	128-52.99E	g	HNRO07RR
0050	010799	0	PHRC	E video plankton rec.	WHOI	38-01.01N	128-56.73E	g	HNRO07RR
0210	010799	0	PHRC	B video plankton rec.	WHOI	38-01.03N	128-57.42E	g	HNRO07RR
1725	010799	0	PHRC	E video plankton rec.	WHOI	37-51.51N	130-50.02E	g	HNRO07RR
1919	010799	0	PHRC	B video plankton rec.	WHOI	37-49.86N	130-58.36E	g	HNRO07RR
2037	010799	0	PHRC	E video plankton rec.	WHOI	37-49.74N	131-11.78E	g	HNRO07RR
2052	010799	0	PHRC	B video plankton rec.	WHOI	37-49.73N	131-13.59E	g	HNRO07RR
0104	020799	0	PHRC	E video plankton rec.	WHOI	37-50.02N	132-00.00E	g	HNRO07RR
0330	020799	0	PHRC	B video plankton rec.	WHOI	37-50.02N	132-00.00E	g	HNRO07RR
1255	020799	0	PHRC	E video plankton rec.	WHOI	38-05.02N	133-15.02E	g	HNRO07RR
1410	020799	0	PHRC	B video plankton rec.	WHOI	38-05.06N	133-15.15E	g	HNRO07RR
2052	020799	0	PHRC	E video plankton rec.	WHOI	38-34.81N	133-52.80E	g	HNRO07RR
2204	020799	0	PHRC	B video plankton rec.	WHOI	38-35.18N	133-53.02E	g	HNRO07RR
0018	030799	0	PHRC	E video plankton rec.	WHOI	38-55.04N	134-00.03E	g	HNRO07RR
0142	030799	0	PHRC	B video plankton rec.	WHOI	38-55.33N	134-00.04E	g	HNRO07RR
0817	030799	0	PHRC	E video plankton rec.	WHOI	39-33.91N	134-00.20E	g	HNRO07RR

#GMT	DDMMYY	SAMP	B	SAMPLE	DISP				p	CRUISE
#TIME	DATE	TZ	CODE	E IDENTIFIER	CODE	LATITUDE	LONGITUDE		c	LEG-SHIP
#										
0921	030799	0	PHRC	B video plankton rec.	WHOI	39-34.86N	134-00.04E	g		HNRO07RR
1110	030799	0	PHRC	E video plankton rec.	WHOI	39-49.95N	134-00.00E	g		HNRO07RR
1148	030799	0	PHRC	B video plankton rec.	WHOI	39-50.04N	134-00.01E	g		HNRO07RR
1931	030799	0	PHRC	E video plankton rec.	WHOI	40-20.09N	133-59.86E	g		HNRO07RR
0053	040799	0	PHRC	B video plankton rec.	WHOI	40-49.82N	133-59.99E	g		HNRO07RR
0915	050799	0	PHRC	E video plankton rec.	WHOI	39-44.15N	136-38.00E	g		HNRO07RR
0321	060799	0	PHRC	B video plankton rec.	WHOI	38-30.94N	137-52.99E	g		HNRO07RR
0543	060799	0	PHRC	E video plankton rec.	WHOI	38-31.30N	137-52.10E	g		HNRO07RR
1046	060799	0	PHRC	B video plankton rec.	WHOI	38-10.68N	138-14.70E	g		HNRO07RR
0524	070799	0	PHRC	E video plankton rec.	WHOI	37-10.98N	135-32.11E	g		HNRO07RR
0657	070799	0	PHRC	B video plankton rec.	WHOI	37-11.65N	135-31.82E	g		HNRO07RR
0955	070799	0	PHRC	E video plankton rec.	WHOI	37-29.12N	135-06.04E	g		HNRO07RR
0550	090799	0	PHRC	B video plankton rec.	WHOI	39-59.84N	137-59.90E	g		HNRO07RR
1106	090799	0	PHRC	E video plankton rec.	WHOI	40-00.02N	138-31.91E	g		HNRO07RR
1242	090799	0	PHRC	B video plankton rec.	WHOI	40-00.04N	138-32.09E	g		HNRO07RR
2218	090799	0	PHRC	E video plankton rec.	WHOI	39-59.98N	139-37.04E	g		HNRO07RR
1111	100799	0	PHRC	video plankton rec.	WHOI	41-24.00N	139-56.96E	g		HNRO07RR
1348	110799	0	PHRC	B video plankton rec.	WHOI	41-59.72N	138-00.43E	g		HNRO07RR
1632	110799	0	PHRC	E video plankton rec.	WHOI	41-59.35N	138-02.41E	g		HNRO07RR
1250	120799	0	PHRC	B video plankton rec.	WHOI	42-00.02N	139-44.91E	g		HNRO07RR
2002	120799	0	PHRC	E video plankton rec.	WHOI	42-52.08N	140-09.89E	g		HNRO07RR
2042	120799	0	PHRC	B video plankton rec.	WHOI	42-54.67N	140-05.85E	g		HNRO07RR
2242	120799	0	PHRC	E video plankton rec.	WHOI	43-00.06N	139-58.61E	g		HNRO07RR
1038	140799	0	PHRC	B video plankton rec.	WHOI	42-10.09N	137-30.94E	g		HNRO07RR
1237	140799	0	PHRC	E video plankton rec.	WHOI	42-10.10N	137-30.94E	g		HNRO07RR

\*\*\* Temperature, Depth, Conductivity \*\*\*

1248	240699	0	TDCT	B 001	08	110	ODF	35-21.00N	129-33.00E	g	HNRO07RR
1312	240699	0	TDCT	E TSONI			ODF	35-21.00N	129-33.00E	g	HNRO07RR
1545	240699	0	TDCT	B 002	09	130	ODF	35-11.81N	129-44.18E	g	HNRO07RR
1624	240699	0	TDCT	E TSONI			ODF	35-11.81N	129-44.17E	g	HNRO07RR
1840	240699	0	TDCT	B 003	09	125	ODF	35-00.62N	129-58.74E	g	HNRO07RR
1858	240699	0	TDCT	E TSONI			ODF	35-00.46N	129-58.72E	g	HNRO07RR



#GMT #TIME #	DDMMYY DATE	TZ	SAMP CODE	B E	SAMPLE IDENTIFIER		DISP CODE	LATITUDE	LONGITUDE	P c	CRUISE LEG-SHIP
2112	240699	0	TDCT	B	004	09	124	ODF	34-49.95N	130-12.04E	g HNRO07RR
2129	240699	0	TDCT	E	TSONI			ODF	34-49.98N	130-12.01E	g HNRO07RR
0000	250699	0	TDCT	B	005	10	122	ODF	34-39.98N	130-26.12E	g HNRO07RR
0018	250699	0	TDCT	E	TSONI			ODF	34-39.97N	130-26.12E	g HNRO07RR
0305	250699	0	TDCT	B	006	17	100	ODF	34-30.15N	130-38.96E	g HNRO07RR
0327	250699	0	TDCT	E	TSONI			ODF	34-30.15N	130-38.96E	g HNRO07RR
0435	250699	0	TDCT	B	007	08	85	ODF	34-25.56N	130-43.88E	g HNRO07RR
0450	250699	0	TDCT	E	TSONI			ODF	34-25.55N	130-43.88E	g HNRO07RR
1312	250699	0	TDCT	B	008	11	113	ODF	35-50.05N	129-38.04E	g HNRO07RR
1327	250699	0	TDCT	E	TSONI			ODF	35-50.05N	129-38.04E	g HNRO07RR
1650	250699	0	TDCT	B	009	20	987	ODF	35-50.33N	129-51.43E	g HNRO07RR
1805	250699	0	TDCT	E	TSONI			ODF	35-50.33N	129-51.43E	g HNRO07RR
2236	250699	0	TDCT	B	010	24	1360	ODF	35-52.10N	130-33.95E	g HNRO07RR
2340	250699	0	TDCT	E	TSONI			ODF	35-52.00N	130-34.02E	g HNRO07RR
0436	260699	0	TDCT	B	011	24	1253	ODF	35-57.52N	131-15.01E	g HNRO07RR
0530	260699	0	TDCT	E	TSONI			ODF	35-57.51N	131-15.02E	g HNRO07RR
0957	260699	0	TDCT	B	012	20	1128	ODF	36-02.98N	131-55.79E	g HNRO07RR
1055	260699	0	TDCT	E	TSONI			ODF	36-02.98N	131-55.79E	g HNRO07RR
1415	260699	0	TDCT	B	013	19	1045	ODF	36-12.02N	132-27.58E	g HNRO07RR
1514	260699	0	TDCT	E	TSONI			ODF	36-12.00N	132-27.60E	g HNRO07RR
1730	260699	0	TDCT	B	014	09	258	ODF	36-00.19N	132-31.86E	g HNRO07RR
1754	260699	0	TDCT	E	TSONI			ODF	36-00.18N	132-31.86E	g HNRO07RR
2055	260699	0	TDCT	B	015	08	128	ODF	35-40.09N	132-44.97E	g HNRO07RR
2119	260699	0	TDCT	E	TSONI			ODF	35-40.08N	132-44.97E	g HNRO07RR
0310	270699	0	TDCT	B	016	24	1178	ODF	36-40.33N	132-30.03E	g HNRO07RR
0405	270699	0	TDCT	E	TSONI			ODF	36-40.33N	132-30.03E	g HNRO07RR
0916	270699	0	TDCT	B	017	24	1790	ODF	36-35.40N	131-49.99E	g HNRO07RR
1031	270699	0	TDCT	E	TSONI			ODF	36-35.40N	131-49.99E	g HNRO07RR
1422	270699	0	TDCT	B	018	24	2007	ODF	36-30.33N	131-13.97E	g HNRO07RR
1600	270699	0	TDCT	E	TSONI			ODF	36-30.33N	131-13.97E	g HNRO07RR
1938	270699	0	TDCT	B	019	24	1992	ODF	36-30.26N	130-37.37E	g HNRO07RR
2103	270699	0	TDCT	E	TSONI			ODF	36-30.26N	130-37.38E	g HNRO07RR
0052	280699	0	TDCT	B	020	23	1335	ODF	36-30.30N	130-03.00E	g HNRO07RR
0155	280699	0	TDCT	E	TSONI			ODF	36-30.30N	130-03.00E	g HNRO07RR

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0320	280699	0	TDCT B	021	12	320 ODF	36-30.03N	129-50.18E	g		HNRO07RR
0345	280699	0	TDCT E	TSONI		ODF	36-30.03N	129-50.18E	g		HNRO07RR
0500	280699	0	TDCT B	022	14	112 ODF	36-30.16N	129-40.39E	g		HNRO07RR
0515	280699	0	TDCT E	TSONI		ODF	36-30.15N	129-40.39E	g		HNRO07RR
0825	280699	0	TDCT B	023	09	289 ODF	37-03.35N	129-42.28E	g		HNRO07RR
0845	280699	0	TDCT E	TSONI		ODF	37-03.35N	129-42.28E	g		HNRO07RR
1008	280699	0	TDCT B	024	19	989 ODF	37-03.40N	129-56.40E	g		HNRO07RR
1054	280699	0	TDCT E	TSONI		ODF	37-03.40N	129-56.40E	g		HNRO07RR
1303	280699	0	TDCT B	025	24	2159 ODF	37-03.41N	130-18.72E	g		HNRO07RR
1436	280699	0	TDCT E	TSONI		ODF	37-03.40N	130-18.72E	g		HNRO07RR
1815	280699	0	TDCT B	026	24	2170 ODF	37-03.48N	130-56.14E	g		HNRO07RR
1959	280699	0	TDCT E	TSONI		ODF	37-03.42N	130-56.31E	g		HNRO07RR
0028	290699	0	TDCT B	027	24	2117 ODF	37-03.44N	131-40.96E	g		HNRO07RR
0153	290699	0	TDCT E	TSONI		ODF	37-03.44N	131-40.96E	g		HNRO07RR
0742	290699	0	TDCT B	028	21	755 ODF	37-09.91N	132-26.56E	g		HNRO07RR
0827	290699	0	TDCT E	TSONI		ODF	37-09.90N	132-26.56E	g		HNRO07RR
1048	290699	0	TDCT B	029	21	1655 ODF	37-33.34N	132-30.05E	g		HNRO07RR
1205	290699	0	TDCT E	TSONI		ODF	37-33.40N	132-30.03E	g		HNRO07RR
1605	290699	0	TDCT B	030	24	2329 ODF	37-33.17N	131-50.14E	g		HNRO07RR
1805	290699	0	TDCT E	TSONI		ODF	37-33.29N	131-50.29E	g		HNRO07RR
2032	290699	0	TDCT B	031	24	2192 ODF	37-17.98N	131-38.02E	g		HNRO07RR
2205	290699	0	TDCT E	TSONI		ODF	37-17.94N	131-37.98E	g		HNRO07RR
2340	290699	0	TDCT B	032	24	2200 ODF	37-25.01N	131-25.01E	g		HNRO07RR
0112	300699	0	TDCT E	TSONI		ODF	37-25.02N	131-25.02E	g		HNRO07RR
0318	300699	0	TDCT B	033	24	ODF	37-33.22N	131-14.50E	g		HNRO07RR
0449	300699	0	TDCT E	TSONI		ODF	37-33.22N	131-14.51E	g		HNRO07RR
1023	300699	0	TDCT B	034	22	ODF	37-33.27N	130-21.21E	g		HNRO07RR
1135	300699	0	TDCT E	TSONI		ODF	37-33.27N	130-21.22E	g		HNRO07RR
1508	300699	0	TDCT B	035	19	1038 ODF	37-33.25N	129-45.29E	g		HNRO07RR
1606	300699	0	TDCT E	TSONI		ODF	37-33.26N	129-45.27E	g		HNRO07RR
1742	300699	0	TDCT	036	16	568 ODF	37-33.02N	129-30.21E	g		HNRO07RR
1959	300699	0	TDCT B	037	15	220 ODF	37-32.97N	129-16.05E	g		HNRO07RR
2024	300699	0	TDCT E	TSONI		ODF	37-32.97N	129-16.05E	g		HNRO07RR
2312	300699	0	TDCT B	038	18	485 ODF	38-00.99N	128-52.98E	g		HNRO07RR
2348	300699	0	TDCT E	TSONI		ODF	38-00.99N	128-52.98E	g		HNRO07RR

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0059	010799	0	TDCT	B 039	16	1040	ODF	38-01.00N 128-56.75E	g	HNRO07RR
0142	010799	0	TDCT	E TSONI			ODF	38-01.00N 128-56.75E	g	HNRO07RR
0416	010799	0	TDCT	B 040	24		ODF	38-01.54N 129-11.80E	g	HNRO07RR
0511	010799	0	TDCT	E TSONI			ODF	38-01.54N 129-11.80E	g	HNRO07RR
0833	010799	0	TDCT	B 041	24	1619	ODF	37-53.75N 129-44.79E	g	HNRO07RR
0946	010799	0	TDCT	E TSONI			ODF	37-53.75N 129-44.79E	g	HNRO07RR
1327	010799	0	TDCT	B 042	24	1838	ODF	37-57.02N 130-25.03E	g	HNRO07RR
1450	010799	0	TDCT	E TSONI			ODF	37-57.02N 130-25.04E	g	HNRO07RR
1803	010799	0	TDCT	B 043	24	1319	ODF	37-49.86N 130-58.24E	g	HNRO07RR
1916	010799	0	TDCT	E TSONI			ODF	37-49.85N 130-58.26E	g	HNRO07RR
0106	020799	0	TDCT	B 044	24	2595	ODF	37-50.02N 131-59.99E	g	HNRO07RR
0250	020799	0	TDCT	E TSONI			ODF	37-50.02N 132-00.00E	g	HNRO07RR
0754	020799	0	TDCT	B 045	24	2487	ODF	37-53.77N 132-41.85E	g	HNRO07RR
0937	020799	0	TDCT	E TSONI			ODF	37-53.77N 132-41.85E	g	HNRO07RR
1251	020799	0	TDCT	B 046	23	1748	ODF	38-05.02N 133-15.01E	g	HNRO07RR
1405	020799	0	TDCT	E TSONI			ODF	38-05.02N 133-15.02E	g	HNRO07RR
1714	020799	0	TDCT	B 047	18	907	ODF	38-14.79N 133-44.42E	g	HNRO07RR
1810	020799	0	TDCT	E TSONI			ODF	38-14.77N 133-44.42E	g	HNRO07RR
2058	020799	0	TDCT	B 048	23	1327	ODF	38-35.00N 133-52.86E	g	HNRO07RR
2200	020799	0	TDCT	E TSONI			ODF	38-35.01N 133-52.99E	g	HNRO07RR
0021	030799	0	TDCT	B 049	20	730	ODF	38-55.05N 134-00.02E	g	HNRO07RR
0102	030799	0	TDCT	E TSONI			ODF	38-55.05N 134-00.02E	g	HNRO07RR
0435	030799	0	TDCT	B 050	24	2074	ODF	39-15.78N 133-59.96E	g	HNRO07RR
0600	030799	0	TDCT	E TSONI			ODF	39-15.77N 133-59.96E	g	HNRO07RR
0829	030799	0	TDCT	B 051	18	982	ODF	39-34.77N 134-00.03E	g	HNRO07RR
0916	030799	0	TDCT	E TSONI			ODF	39-34.78N 134-00.03E	g	HNRO07RR
1114	030799	0	TDCT	B 052	15	543	ODF	39-49.98N 134-00.00E	g	HNRO07RR
1145	030799	0	TDCT	E TSONI			ODF	39-49.98N 134-00.00E	g	HNRO07RR
1302	030799	0	TDCT	B 053	19	999	ODF	39-59.99N 134-00.02E	g	HNRO07RR
1345	030799	0	TDCT	E TSONI			ODF	39-59.99N 134-00.02E	g	HNRO07RR
1500	030799	0	TDCT	B 054	24	1090	ODF	40-09.69N 133-59.95E	g	HNRO07RR
1608	030799	0	TDCT	E TSONI			ODF	40-09.85N 134-00.12E	g	HNRO07RR
1735	030799	0	TDCT	B 055	22	2435	ODF	40-19.95N 133-59.85E	g	HNRO07RR
1927	030799	0	TDCT	E TSONI			ODF	40-20.05N 133-59.85E	g	HNRO07RR
2045	030799	0	TDCT	B 056	24	3095	ODF	40-29.96N 133-59.99E	g	HNRO07RR
2236	030799	0	TDCT	E TSONI			ODF	40-30.02N 134-00.00E	g	HNRO07RR

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0057	040799	0	TDCT B	057	24	3487	ODF	40-50.05N	133-59.99E	g	HNRO07RR
0312	040799	0	TDCT E	TSONI			ODF	40-50.04N	133-59.99E	g	HNRO07RR
1225	040799	0	TDCT B	058	24	3405	ODF	41-09.98N	136-19.98E	g	HNRO07RR
1427	040799	0	TDCT E	TSONI			ODF	41-09.98N	136-19.98E	g	HNRO07RR
1816	040799	0	TDCT B	059	24	3175	ODF	40-40.19N	136-20.05E	g	HNRO07RR
2017	040799	0	TDCT E	TSONI			ODF	40-40.06N	136-20.02E	g	HNRO07RR
2202	040799	0	TDCT B	060	24	2900	ODF	40-24.98N	136-20.00E	g	HNRO07RR
2352	040799	0	TDCT E	TSONI			ODF	40-24.98N	136-20.00E	g	HNRO07RR
0221	050799	0	TDCT B	061	24	1735	ODF	40-09.96N	136-20.02E	g	HNRO07RR
0335	050799	0	TDCT E	TSONI			ODF	40-09.96N	136-20.02E	g	HNRO07RR
0533	050799	0	TDCT B	062	24	1749	ODF	40-00.13N	136-20.10E	g	HNRO07RR
0641	050799	0	TDCT E	TSONI			ODF	40-00.13N	136-20.10E	g	HNRO07RR
0910	050799	0	TDCT B	063	22	2168	ODF	39-44.14N	136-38.02E	g	HNRO07RR
1035	050799	0	TDCT E	TSONI			ODF	39-44.12N	136-37.74E	g	HNRO07RR
1425	050799	0	TDCT B	064	24	2476	ODF	39-23.01N	136-59.01E	g	HNRO07RR
1612	050799	0	TDCT E	TSONI			ODF	39-23.01N	136-59.01E	g	HNRO07RR
1936	050799	0	TDCT B	065	24	2242	ODF	39-02.03N	137-21.13E	g	HNRO07RR
2109	050799	0	TDCT E	TSONI			ODF	39-01.96N	137-21.00E	g	HNRO07RR
2321	050799	0	TDCT B	066	24	2153	ODF	38-47.94N	137-36.06E	g	HNRO07RR
0047	060799	0	TDCT E	TSONI			ODF	38-48.00N	137-36.00E	g	HNRO07RR
0405	060799	0	TDCT B	067	24	1862	ODF	38-30.91N	137-52.91E	g	HNRO07RR
0520	060799	0	TDCT E	TSONI			ODF	38-30.95N	137-52.80E	g	HNRO07RR
0904	060799	0	TDCT B	068	24	1313	ODF	38-14.65N	138-10.54E	g	HNRO07RR
1003	060799	0	TDCT E	TSONI			ODF	38-14.65N	138-10.54E	g	HNRO07RR
1055	060799	0	TDCT B	069	14	262	ODF	38-10.97N	138-14.35E	g	HNRO07RR
1117	060799	0	TDCT E	TSONI			ODF	38-11.05N	138-14.28E	g	HNRO07RR
2145	060799	0	TDCT B	070	18	222	ODF	36-39.93N	136-14.92E	g	HNRO07RR
2207	060799	0	TDCT E	TSONI			ODF	36-39.93N	136-14.92E	g	HNRO07RR
0156	070799	0	TDCT B	071	21	615	ODF	36-55.06N	135-53.91E	g	HNRO07RR
0229	070799	0	TDCT E	TSONI			ODF	36-55.05N	135-53.91E	g	HNRO07RR
0520	070799	0	TDCT B	072	24	1702	ODF	37-10.98N	135-32.10E	g	HNRO07RR
0630	070799	0	TDCT E	TSONI			ODF	37-10.98N	135-32.11E	g	HNRO07RR

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0953	070799	0	TDCT	B	073	24	2890	ODF	37-29.11N	135-06.04E	g	HNRO07RR
1142	070799	0	TDCT	E	TSONI			ODF	37-29.55N	135-05.60E	g	HNRO07RR
1455	070799	0	TDCT	B	074	24	2942	ODF	37-47.94N	134-40.95E	g	HNRO07RR
1646	070799	0	TDCT	E	TSONI			ODF	37-47.95N	134-40.95E	g	HNRO07RR
2013	070799	0	TDCT	B	075	16	464	ODF	38-06.06N	134-14.93E	g	HNRO07RR
2045	070799	0	TDCT	E	TSONI			ODF	38-06.10N	134-14.93E	g	HNRO07RR
0212	080799	0	TDCT	B	076	23	2964	ODF	38-20.99N	135-13.00E	g	HNRO07RR
0406	080799	0	TDCT	E	TSONI			ODF	38-21.00N	135-12.99E	g	HNRO07RR
1007	080799	0	TDCT	B	077	24	2682	ODF	38-38.00N	135-59.98E	g	HNRO07RR
1151	080799	0	TDCT	E	TSONI			ODF	38-38.00N	135-59.98E	g	HNRO07RR
1513	080799	0	TDCT	B	078	24	2615	ODF	38-59.10N	136-27.04E	g	HNRO07RR
1655	080799	0	TDCT	E	TSONI			ODF	38-59.09N	136-27.04E	g	HNRO07RR
0001	090799	0	TDCT	B	079	24	2548	ODF	39-42.04N	137-29.04E	g	HNRO07RR
0137	090799	0	TDCT	E	TSONI			ODF	39-42.03N	137-29.04E	g	HNRO07RR
0635	090799	0	TDCT	B	080	24	2378	ODF	39-59.86N	138-00.09E	g	HNRO07RR
0808	090799	0	TDCT	E	TSONI			ODF	39-59.85N	138-00.11E	g	HNRO07RR
1110	090799	0	TDCT	B	081	24	2226	ODF	40-00.00N	138-31.99E	g	HNRO07RR
1238	090799	0	TDCT	E	TSONI			ODF	40-00.00N	138-31.99E	g	HNRO07RR
1514	090799	0	TDCT	B	082	24	1940	ODF	40-00.06N	138-59.81E	g	HNRO07RR
1635	090799	0	TDCT	E	TSONI			ODF	40-00.05N	138-59.81E	g	HNRO07RR
1815	090799	0	TDCT	B	083	24	1610	ODF	40-00.02N	139-15.85E	g	HNRO07RR
1928	090799	0	TDCT	E	TSONI			ODF	40-00.01N	139-15.94E	g	HNRO07RR
2057	090799	0	TDCT	B	084	24	958	ODF	40-00.00N	139-32.53E	g	HNRO07RR
2151	090799	0	TDCT	E	TSONI			ODF	40-00.00N	139-32.55E	g	HNRO07RR
2243	090799	0	TDCT	B	085	22	358	ODF	39-59.99N	139-37.10E	g	HNRO07RR
2309	090799	0	TDCT	E	TSONI			ODF	39-59.99N	139-37.10E	g	HNRO07RR
0449	100799	0	TDCT	B	086	7	58	ODF	40-50.99N	140-10.88E	g	HNRO07RR
0500	100799	0	TDCT	E	TSONI			ODF	40-50.99N	140-10.88E	g	HNRO07RR
0621	100799	0	TDCT	B	087	13	116	ODF	40-56.86N	140-08.10E	g	HNRO07RR
0635	100799	0	TDCT	E	TSONI			ODF	40-56.87N	140-08.10E	g	HNRO07RR
0733	100799	0	TDCT	B	088	8	148	ODF	41-03.93N	140-06.10E	g	HNRO07RR
0747	100799	0	TDCT	E	TSONI			ODF	41-03.92N	140-06.10E	g	HNRO07RR
0849	100799	0	TDCT	B	089	8	120	ODF	41-10.99N	140-03.16E	g	HNRO07RR
0903	100799	0	TDCT	E	TSONI			ODF	41-10.99N	140-03.16E	g	HNRO07RR
0954	100799	0	TDCT	B	090	8	158	ODF	41-16.99N	139-59.91E	g	HNRO07RR
1010	100799	0	TDCT	E	TSONI			ODF	41-16.99N	139-59.91E	g	HNRO07RR

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1109	100799	0	TDCT	B 091	8	115	ODF	41-24.00N	139-56.96E	g	HNRO07RR
1121	100799	0	TDCT	E TSONI			ODF	41-24.00N	139-56.96E	g	HNRO07RR
1951	100799	0	TDCT	B 092	24	3280	ODF	40-30.02N	137-59.98E	g	HNRO07RR
2153	100799	0	TDCT	E TSONI			ODF	40-30.02N	137-59.96E	g	HNRO07RR
0108	110799	0	TDCT	B 093	24	3630	ODF	41-00.00N	137-59.99E	g	HNRO07RR
0320	110799	0	TDCT	E TSONI			ODF	41-00.00N	137-59.99E	g	HNRO07RR
0805	110799	0	TDCT	B 094	24	3646	ODF	41-29.91N	137-59.98E	g	HNRO07RR
1018	110799	0	TDCT	E TSONI			ODF	41-29.91N	137-59.98E	g	HNRO07RR
1345	110799	0	TDCT	B 095	24	3647	ODF	41-59.73N	138-00.43E	g	HNRO07RR
1557	110799	0	TDCT	E TSONI			ODF	41-59.47N	138-00.20E	g	HNRO07RR
1836	110799	0	TDCT	B 096	24	3648	ODF	41-59.97N	138-24.80E	g	HNRO07RR
2048	110799	0	TDCT	E TSONI			ODF	42-00.01N	138-25.07E	g	HNRO07RR
2255	110799	0	TDCT	B 097	24	3585	ODF	42-00.01N	138-50.01E	g	HNRO07RR
0112	120799	0	TDCT	E TSONI			ODF	42-00.01N	138-50.01E	g	HNRO07RR
0330	120799	0	TDCT	B 098	24	3283	ODF	42-00.01N	139-08.00E	g	HNRO07RR
0540	120799	0	TDCT	E TSONI			ODF	42-00.01N	139-08.00E	g	HNRO07RR
0709	120799	0	TDCT	B 099	24	2350	ODF	41-59.99N	139-15.83E	g	HNRO07RR
0842	120799	0	TDCT	E TSONI			ODF	41-59.98N	139-15.83E	g	HNRO07RR
1038	120799	0	TDCT	B 100	21	1104	ODF	42-00.04N	139-22.79E	g	HNRO07RR
1246	120799	0	TDCT	E 101	20	1170	ODF	42-00.02N	139-44.91E	g	HNRO07RR
1336	120799	0	TDCT	B TSONI			ODF	42-00.02N	139-44.92E	g	HNRO07RR
1430	120799	0	TDCT	E 102	10	133	ODF	42-04.55N	139-52.31E	g	HNRO07RR
1445	120799	0	TDCT	B TSONI			ODF	42-04.55N	139-52.31E	g	HNRO07RR
1939	120799	0	TDCT	E 103	14	121	ODF	42-52.03N	140-09.99E	g	HNRO07RR
1957	120799	0	TDCT	B TSONI			ODF	42-52.02N	140-09.99E	g	HNRO07RR
2128	120799	0	TDCT	E 104	24	1317	ODF	42-59.60N	139-59.49E	g	HNRO07RR
2327	120799	0	TDCT	B 105	24	2119	ODF	43-04.01N	139-52.97E	g	HNRO07RR
0053	130799	0	TDCT	E TSONI			ODF	43-04.01N	139-52.97E	g	HNRO07RR
0413	130799	0	TDCT	B 106	24	2582	ODF	43-18.09N	139-32.96E	g	HNRO07RR
0555	130799	0	TDCT	E TSONI			ODF	43-18.09N	139-32.96E	g	HNRO07RR
0815	130799	0	TDCT	B 107	24	3170	ODF	43-32.06N	139-12.07E	g	HNRO07RR
1014	130799	0	TDCT	E TSONI			ODF	43-32.06N	139-12.08E	g	HNRO07RR
1246	130799	0	TDCT	B 108	24	3426	ODF	43-46.99N	138-50.01E	g	HNRO07RR
1445	130799	0	TDCT	E TSONI			ODF	43-46.99N	138-50.01E	g	HNRO07RR

#GMT	DDMMYY		SAMP B	SAMPLE		DISP				p	CRUISE
#TIME	DATE	TZ	CODE	E IDENTIFIER		CODE	LATITUDE	LONGITUDE		c	LEG-SHIP
#											
1708	130799	0	TDCT	B 109	24	3126	ODF	43-59.91N	138-30.11E	g	HNRO07RR
1907	130799	0	TDCT	E TSONI			ODF	43-59.92N	138-30.11E	g	HNRO07RR
0544	140799	0	TDCT	B 110	24	3626	ODF	42-19.89N	137-04.90E	g	HNRO07RR
0755	140799	0	TDCT	E TSONI			ODF	42-19.90N	137-04.92E	g	HNRO07RR
1030	140799	0	TDCT	B 111	24	3632	ODF	42-10.09N	137-30.94E	g	HNRO07RR
1240	140799	0	TDCT	E TSONI			ODF	42-10.10N	137-30.94E	g	HNRO07RR
2034	140799	0	TDCT	112	24	3580	ODF	41-40.00N	137-09.87E	g	HNRO07RR
*** Optical Studies ***											
1330	240699	0	OPXX	B Optics Cast			SIO	35-21.00N	129-33.00E	g	HNRO07RR
1354	240699	0	OPXX	E Optics Cast			SIO	35-21.00N	129-33.00E	g	HNRO07RR
0220	250699	0	OPXX	B Optical Array			SIO	34-30.13N	130-38.85E	g	HNRO07RR
0250	250699	0	OPXX	E Optical Array			SIO	34-30.14N	130-38.95E	g	HNRO07RR
0345	260699	0	OPXX	B Optical Cast			SIO	35-57.52N	131-15.02E	g	HNRO07RR
0425	260699	0	OPXX	E Optical Cast			SIO	35-57.53N	131-15.00E	g	HNRO07RR
0921	260699	0	OPXX	B Optical Cast			SIO	36-02.98N	131-55.79E	g	HNRO07RR
0949	260699	0	OPXX	E Optical Cast			SIO	36-02.98N	131-55.79E	g	HNRO07RR
0216	270699	0	OPXX	B Optical Cast			SIO	36-40.33N	132-30.04E	g	HNRO07RR
0306	270699	0	OPXX	E Optical Cast			SIO	36-40.33N	132-30.03E	g	HNRO07RR
0839	270699	0	OPXX	B Optical Cast			SIO	36-35.40N	131-49.99E	g	HNRO07RR
0907	270699	0	OPXX	E Optical Cast			SIO	36-35.40N	131-50.00E	g	HNRO07RR
0012	280699	0	OPXX	B Optical Cast			SIO	36-30.31N	130-02.91E	g	HNRO07RR
0040	280699	0	OPXX	E Optical Cast			SIO	36-30.30N	130-02.97E	g	HNRO07RR
0524	280699	0	OPXX	B Optical Cast			SIO	36-30.15N	129-40.39E	g	HNRO07RR
0536	280699	0	OPXX	E Optical Cast			SIO	36-30.15N	129-40.39E	g	HNRO07RR
0200	290699	0	OPXX	B Optical Cast			SIO	37-03.44N	131-40.96E	g	HNRO07RR
0230	290699	0	OPXX	E Optical Cast			SIO	37-03.43N	131-40.96E	g	HNRO07RR
0708	290699	0	OPXX	B Optical Cast			SIO	37-09.90N	132-26.55E	g	HNRO07RR
0735	290699	0	OPXX	E Optical Cast			SIO	37-09.90N	132-26.56E	g	HNRO07RR
0248	300699	0	OPXX	B Optical Cast			SIO	37-33.21N	131-14.49E	g	HNRO07RR
0314	300699	0	OPXX	E Optical Cast			SIO	37-33.22N	131-14.50E	g	HNRO07RR
0947	300699	0	OPXX	B Optical Cast			SIO	37-33.27N	130-21.22E	g	HNRO07RR
1016	300699	0	OPXX	E Optical Cast			SIO	37-33.27N	130-21.22E	g	HNRO07RR
2352	300699	0	OPXX	B Optical Cast			SIO	38-00.99N	128-52.98E	g	HNRO07RR
0022	010799	0	OPXX	E Optical Cast			SIO	38-00.99N	128-52.98E	g	HNRO07RR

#GMT	DDMMYY	SAMP	B	SAMPLE	DISP				p	CRUISE
#TIME	DATE	TZ	CODE	E IDENTIFIER	CODE	LATITUDE	LONGITUDE		c	LEG-SHIP
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0338	010799	0	OPXX	B Optical Cast	SIO	38-01.54N	129-11.80E	g		HNRO07RR
0409	010799	0	OPXX	E Optical Cast	SIO	38-01.54N	129-11.80E	g		HNRO07RR
0300	020799	0	OPXX	Optical Cast	SIO	37-50.02N	132-00.00E	g		HNRO07RR
0722	020799	0	OPXX	B Optical Cast	SIO	37-53.76N	132-41.85E	g		HNRO07RR
0747	020799	0	OPXX	E Optical Cast	SIO	37-53.77N	132-41.85E	g		HNRO07RR
0110	030799	0	OPXX	B Optical Cast	SIO	38-55.05N	134-00.02E	g		HNRO07RR
0136	030799	0	OPXX	E Optical Cast	SIO	38-55.05N	134-00.02E	g		HNRO07RR
0402	030799	0	OPXX	B Optical Cast	SIO	39-15.77N	133-59.96E	g		HNRO07RR
0431	030799	0	OPXX	E Optical Cast	SIO	39-15.77N	133-59.96E	g		HNRO07RR
0320	040799	0	OPXX	B Optical Cast	SIO	40-50.04N	133-59.99E	g		HNRO07RR
0352	040799	0	OPXX	E Optical Cast	SIO	40-50.04N	133-59.99E	g		HNRO07RR
0146	050799	0	OPXX	B Optical Cast	SIO	40-09.96N	136-20.02E	g		HNRO07RR
0213	050799	0	OPXX	E Optical Cast	SIO	40-09.96N	136-20.02E	g		HNRO07RR
0458	050799	0	OPXX	B Optical Cast	SIO	40-00.13N	136-20.09E	g		HNRO07RR
0525	050799	0	OPXX	E Optical Cast	SIO	40-00.14N	136-20.09E	g		HNRO07RR
0320	060799	0	OPXX	B Optical Cast	SIO	38-30.94N	137-52.99E	g		HNRO07RR
0358	060799	0	OPXX	E Optical Cast	SIO	38-30.92N	137-52.98E	g		HNRO07RR
0821	060799	0	OPXX	B Optical Cast	SIO	38-14.65N	138-10.54E	g		HNRO07RR
0857	060799	0	OPXX	E Optical Cast	SIO	38-14.65N	138-10.54E	g		HNRO07RR
2215	060799	0	OPXX	B Optical Cast	SIO	36-39.93N	136-14.92E	g		HNRO07RR
2244	060799	0	OPXX	E Optical Cast	SIO	36-39.93N	136-14.92E	g		HNRO07RR
0121	070799	0	OPXX	Optical Cast	SIO	36-55.05N	135-53.91E	g		HNRO07RR
0413	080799	0	OPXX	B Optical Cast	SIO	38-20.99N	135-12.99E	g		HNRO07RR
0450	080799	0	OPXX	E Optical Cast	SIO	38-21.00N	135-12.99E	g		HNRO07RR
0940	080799	0	OPXX	B Optical Cast	SIO	38-38.00N	135-59.98E	g		HNRO07RR
1001	080799	0	OPXX	E Optical Cast	SIO	38-38.00N	135-59.98E	g		HNRO07RR
0141	090799	0	OPXX	B Optical Cast	SIO	39-42.03N	137-29.04E	g		HNRO07RR
0224	090799	0	OPXX	E Optical Cast	SIO	39-42.03N	137-29.04E	g		HNRO07RR
0555	090799	0	OPXX	B Optical Cast	SIO	39-59.88N	138-00.08E	g		HNRO07RR
0630	090799	0	OPXX	E Optical Cast	SIO	39-59.87N	138-00.09E	g		HNRO07RR
2317	090799	0	OPXX	B Optical Cast	SIO	39-59.99N	139-37.10E	g		HNRO07RR
2351	090799	0	OPXX	E Optical Cast	SIO	39-59.99N	139-37.10E	g		HNRO07RR
0550	100799	0	OPXX	B Optical Cast	SIO	40-56.87N	140-08.09E	g		HNRO07RR
0615	100799	0	OPXX	E Optical Cast	SIO	40-56.86N	140-08.08E	g		HNRO07RR



#GMT	DDMMYY	SAMP	B	SAMPLE	DISP				p	CRUISE
#TIME	DATE	TZ	CODE	E IDENTIFIER	CODE	LATITUDE	LONGITUDE		c	LEG-SHIP
#										
0325	110799	0	OPXX	B Optical Cast	SIO	41-00.00N	137-59.99E	g		HNRO07RR
0400	110799	0	OPXX	E Optical Cast	SIO	41-00.00N	137-59.99E	g		HNRO07RR
0729	110799	0	OPXX	B Optical Cast	SIO	41-29.90N	137-59.90E	g		HNRO07RR
0800	110799	0	OPXX	E Optical Cast	SIO	41-29.91N	137-59.98E	g		HNRO07RR
0228	120799	0	OPXX	B Optical Cast	SIO	42-00.04N	139-03.38E	g		HNRO07RR
0256	120799	0	OPXX	E Optical Cast	SIO	42-00.02N	139-08.00E	g		HNRO07RR
0627	120799	0	OPXX	B Optical Cast	SIO	41-59.98N	139-15.84E	g		HNRO07RR
0657	120799	0	OPXX	E Optical Cast	SIO	41-59.99N	139-15.83E	g		HNRO07RR
0102	130799	0	OPXX	B Optical Cast	SIO	43-04.01N	139-52.97E	g		HNRO07RR
0128	130799	0	OPXX	E Optical Cast	SIO	43-04.01N	139-52.97E	g		HNRO07RR
0343	130799	0	OPXX	B Optical Cast	SIO	43-18.09N	139-32.96E	g		HNRO07RR
0404	130799	0	OPXX	E Optical Cast	SIO	43-18.09N	139-32.96E	g		HNRO07RR
0509	140799	0	OPXX	B Optical Cast	SIO	42-19.98N	137-05.05E	g		HNRO07RR
0539	140799	0	OPXX	E Optical Cast	SIO	42-19.86N	137-04.76E	g		HNRO07RR

# \*\*\*\* Open Nets \*\*\*\*

2147	240699	0	ON1M	B Net Tow #1	WHOI	34-49.70N	130-12.29E	g		HNRO07RR
2200	240699	0	ON1M	E Net Tow #1	WHOI	34-49.37N	130-12.54E	g		HNRO07RR
1525	260699	0	ON1M	B Net Tow #2	WHOI	36-12.07N	132-27.71E	g		HNRO07RR
1539	260699	0	ON1M	E Net tow #2	WHOI	36-12.31N	132-27.96E	g		HNRO07RR
0415	270699	0	ON1M	B Net tow #3	WHOI	36-40.63N	132-30.19E	g		HNRO07RR
0425	270699	0	ON1M	E Net tow #3	WHOI	36-40.96N	132-30.36E	g		HNRO07RR
2010	280699	0	ON1M	B Net Tow #3	WHOI	37-03.42N	130-56.34E	g		HNRO07RR
2023	280699	0	ON1M	E Net Tow #3	WHOI	37-03.39N	130-56.45E	g		HNRO07RR
0147	010799	0	ON1M	B Net Tow #5	WHOI	38-01.00N	128-56.75E	g		HNRO07RR
0157	010799	0	ON1M	E Net Tow #5	WHOI	38-01.01N	128-56.91E	g		HNRO07RR
1814	020799	0	ON1M	B Net tow #6	WHOI	38-14.72N	133-44.37E	g		HNRO07RR
1824	020799	0	ON1M	E Net tow #6	WHOI	38-14.89N	133-44.43E	g		HNRO07RR
0359	040799	0	ON1M	B Net Tow #7	WHOI	40-50.09N	134-00.01E	g		HNRO07RR
0411	040799	0	ON1M	E Net Tow #7	WHOI	40-50.41N	134-00.08E	g		HNRO07RR
1435	040799	0	ON1M	B Net Tow #8	WHOI	41-09.95N	136-19.96E	g		HNRO07RR
1447	040799	0	ON1M	E Net Tow #8	WHOI	41-09.68N	136-19.93E	g		HNRO07RR
1043	050799	0	ON1M	B Net Tow #9	WHOI	39-44.14N	136-37.81E	g		HNRO07RR
1055	050799	0	ON1M	E Net Tow #9	WHOI	39-44.04N	136-38.09E	g		HNRO07RR

#GMT	DDMMYY	SAMP	B	SAMPLE	DISP				p	CRUISE
#TIME	DATE	TZ	CODE	E IDENTIFIER	CODE	LATITUDE	LONGITUDE		c	LEG-SHIP
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0425	060799	0	ON1M	B Net tow #10	WHOI	38-30.95N	137-52.80E	g		HNRO07RR
0435	060799	0	ON1M	E Net tow #10	WHOI	38-30.95N	137-52.80E	g		HNRO07RR
0635	070799	0	ON1M	B Net Tow #11	WHOI	37-11.01N	135-32.11E	g		HNRO07RR
0651	070799	0	ON1M	E Net Tow #11	WHOI	37-11.45N	135-32.01E	g		HNRO07RR
0815	090799	0	ON1M	B Net Tow #12	WHOI	39-59.85N	138-00.11E	g		HNRO07RR
0825	090799	0	ON1M	E Net Tow #12	WHOI	39-59.87N	138-00.06E	g		HNRO07RR
1620	110799	0	ON1M	B Net Tow #13	WHOI	41-59.21N	138-02.22E	g		HNRO07RR
1630	110799	0	ON1M	E Net tow #13	WHOI	41-59.33N	138-02.38E	g		HNRO07RR
1923	130799	0	ON1M	B Net Tow #14	WHOI	43-59.77N	138-29.97E	g		HNRO07RR
1935	130799	0	ON1M	E Net Tow #14	WHOI	44-00.01N	138-29.96E	g		HNRO07RR
2015	140799	0	ON1M	B Net Tow #15	WHOI	41-39.98N	137-09.93E	g		HNRO07RR
2025	140799	0	ON1M	E Net Tow #15	WHOI	41-40.14N	137-10.10E	g		HNRO07RR

\*\*\*\* Secchi Disks \*\*\*\*

2342	250699	0	SECD	Secchi Disk	SIO	35-52.00N	130-34.02E	g		HNRO07RR
0926	260699	0	SECD	Secchi Disk	SIO	36-02.98N	131-55.79E	g		HNRO07RR
0225	270699	0	SECD	Secchi Disk	SIO	36-40.33N	132-30.03E	g		HNRO07RR
0900	270699	0	SECD	Secchi Disk	SIO	36-35.40N	131-49.99E	g		HNRO07RR
0030	280699	0	SECD	Secchi Disk	SIO	36-30.31N	130-02.95E	g		HNRO07RR
0042	290699	0	SECD	Secchi Disk	SIO	37-03.43N	131-40.96E	g		HNRO07RR
0732	290699	0	SECD	Secchi Disk	SIO	37-09.90N	132-26.56E	g		HNRO07RR
0000	300699	0	SECD	Secchi Disk	SIO	37-25.02N	131-25.02E	g		HNRO07RR
0251	300699	0	SECD	Secchi Disk	SIO	37-33.21N	131-14.48E	g		HNRO07RR
2340	300699	0	SECD	Secchi Disk	SIO	38-00.99N	128-52.98E	g		HNRO07RR
0354	010799	0	SECD	Secchi Disk	SIO	38-01.54N	129-11.80E	g		HNRO07RR
0716	020799	0	SECD	Secchi Disk	SIO	37-53.69N	132-41.57E	g		HNRO07RR
0045	030799	0	SECD	Secchi Disk	SIO	38-55.05N	134-00.02E	g		HNRO07RR
0407	030799	0	SECD	Secchi Disk	SIO	39-15.77N	133-59.96E	g		HNRO07RR
0325	060799	0	SECD	Secchi Disk	SIO	38-30.94N	137-52.99E	g		HNRO07RR
0832	060799	0	SECD	Secchi Disk	SIO	38-14.65N	138-10.54E	g		HNRO07RR
0352	080799	0	SECD	Secchi Disk	SIO	38-21.00N	135-12.99E	g		HNRO07RR
0947	080799	0	SECD	Secchi Disk	SIO	38-38.00N	135-59.98E	g		HNRO07RR
0721	090799	0	SECD	Secchi Disk	SIO	39-59.84N	138-00.13E	g		HNRO07RR
0555	100799	0	SECD	Secchi Disk	SIO	40-56.87N	140-08.09E	g		HNRO07RR
0851	110799	0	SECD	Secchi Disk	SIO	41-29.91N	137-59.98E	g		HNRO07RR
0257	120799	0	SECD	Secchi Disk	SIO	42-00.01N	139-08.00E	g		HNRO07RR
0635	120799	0	SECD	Secchi Disk	SIO	41-59.99N	139-15.83E	g		HNRO07RR
0417	130799	0	SECD	Secchi Disk	SIO	43-18.09N	139-32.96E	g		HNRO07RR
0510	140799	0	SECD	Secchi Disk	SIO	42-19.96N	137-05.04E	g		HNRO07RR

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0229	090799	0	BUFV	Palace Float	SIO	39-42.07N	137-29.10E	g		HNRO07RR
1022	110799	0	BUFV	Palace Float #22	SIO	41-29.98N	137-59.97E	g		HNRO07RR
#				End Sample Index						HNRO07RR