

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2011-37

DATE:

From: 15 JUN 2011 to: 06 JUL 2011

VESSEL:

F/V Viking Storm

PROJECT(S):

High Seas Salmon
Book 1 of 2

Water Properties Group
Fisheries and Oceans Canada
Institute of Ocean Sciences
Ocean Sciences Division
North Saanich, BC, Canada

WaterProperties.ca

CTD issues with SBE 25 (unit #0404). June 16: no casts recorded (8 casts done).
Issues connecting to unit initially when trying to upload. June 17: Casts recording on
unit but unable to upload and/or convert.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month JUNE				Year 2011			Ship F/V Viking Storm				Cruise ID 2011-37				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
16	JF01	13:01	BE	CTD		1	48 17.089	123 39.248	175	150					JF - Berry Ho. Bot @ 10m: Nuts & chl
		13:09	BE				48 17.058	123 39.407	181						
		13:13	BE	BONGO		2	48 17.05	123 39.412	181	150					
		13:23	BE				48 17.055	123 39.438	181						
		13:35	BE	TRAWL		3	48 17.306	123 40.775	172	Ø					SURFACE TOW
		14:05	BE				48 18.674	123 44.984	92						
16	JF02	14:29	BE	BONGO		4	48 20.38	123 51.01	129	120					JF - Otter IT.
		14:45	BE				48 20.39	123 51.245							
		14:51	BE	CTD		5	48 20.41	123 51.56	127	120					Bot @ 10m: Nuts & chl
		14:56	BE				48 20.44	123 51.492	125						
		15:16	BE	TRAWL		6	48 21.049	123 51.600	135	15					15m - Tow
		15:46	BE				48 21.915	123 59.742	113						
16	JF03	16:14	BE	CTD		7	48 23.415	124 04.458	95	90					JF - Ruck JEROME Bot @ 10m: Nuts & chl
		16:19	BE				48 23.46	124 04.53							
		16:21	BE	BONGO		8	48 23.48	124 04.565	90	80					
		16:26	BE				48 23.55	124 04.725	86						
		16:39	BE	TRAWL		9	48 23.92	124 06.19	90	Ø					SURFACE TOW
		17:09	BE				48 25.66	124 10.24	50						

Cast Type:

BOT = Bottle cast, no CTD
CTD = CTD without Rosette
ROS = Rosette plus CTD
SET = Fish Set
USW = Sea Water Loop
MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter

Bottle Firing Method:

US = Up / Stop
UN = Up / No stop
DN = Down / No stop

Notes:

Time Code:

BE = Beginning Time of Cast
BO = Bottom Time of Cast
EN = End Time of Cast
DE = Deployment Time
MR = Messenger Release Time
RE = Recover Mooring Time

Transmissometer to be cleaned before each cast, do not use Ammonia products

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 16 April 2010

From the FICA - 1/2 mi SWAN, OVERCAST BUT BRIGHT, RIPPED SEAS

JF01: No CTD cast recorded.

JF02: No CTD cast recorded.

JF03: No CTD cast recorded.

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Month <u>JUNE</u>		Year <u>2011</u>		Ship <u>R/V Viking Storm</u>		Cruise ID <u>2011-37</u>									
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
16	JF04	17:25	BE	Bongo		10	48 25.6	124 11.9	90	80					JF - MADAGASCAR R.
		17:29	EU				48 25.614	124 11.975							
		17:31	BE	CTD		11	48 25.62	124 12.42	90	80					Bot @ 10m: Nuts & chl
		17:36	EU				48 25.63	124 12.45							
		17:49	BE	TRAWL		12	48 25.78	124 13.54	95	75					15 m. Trawl
16	JF05	18:19	EU				48 26.62	124 17.99							125 fm WARP
		18:42	BE	CTD		13	48 28.36	124 20.54	82	70					JF - off Somalio
		18:48	EU				48 28.39	124 20.54							Bot @ 10m: Nuts & chl
		18:49	BE	Bongo		14	48 28.40	124 20.56	79						
		18:53	EU				48 28.42	124 20.59							
		19:01	BE	Trawl		15	48 28.61	124 21.37	84						Surface
		19:31	EU				48 30.17	124 23.41	75						
16	JF06	20:17	BE	Bongo		16	48 32.14	124 30.29	37	30					JF - Port Renouveau
		20:19	EU				48 32.145	124 30.25	34						
		20:22	BE	CTD		17	48 32.15	124 30.22	33	25					Bot @ 10m: Nuts & chl
		20:23	EU				48 32.15	124 30.17	31						
		20:31	BE	TRAWL		18	48 32.2	124 30.82	42						SURFACE
		20:01	EU				48 32.59	124 33.44	43						

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 DRF = Drifter

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Transmissometer to be cleaned before each cast, do not use Ammonia products

Produced by the Water Properties Group, IOS

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JF04: No CTD cast recorded

JF05: No CTD cast recorded

JF06: No CTD cast recorded

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Month <u>June</u>		Year <u>2011</u>		Ship <u>FV Viking Storm</u>		Cruise ID <u>2011-37</u>									
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
16	V101	21:54	BE	CTD		19	48 33.90	124 41.86	71	60					VI - CANNANAN R. Bot @ 10m: Nutschl
		21:57	EW				48 33.89	124 41.61	—						
		22:00	BE	Bouge		20	48 33.88	124 41.47	71	60					
		—	—				—	—	—	—					
		22:14	BE	TRAWL		21	48 33.91	124 42.18	75	15					15m Tow. 125m WARP VI - CRO - 0.05K
		22:44	EW				48 34.37	124 44.50	107						
		23:37	BE	Bouge		22	48 36.02	124 53.04	61	50					
		23:41	EW				48 35.99	124 53.05	61						
		23:43	BE	CTD		23	48 35.98	124 53.03	61	50					Bot @ 10m: Nutschl
		23:46	EW				48 35.96	124 52.96							
		23:59	BE	TRAWL		24	48 36.01	124 53.88	60	0					
		00:29	EW				48 36.59	124 57.23	64						
17	V101	13:00	BE	CTD		25	48 57.96	125 06.80	91	85					① VI - BARKLEY SD Imperial Pass C.
		13:05	EW				48 57.95	125 06.84	91						
		13:06	BE	Bouge		26	48 57.94	125 06.86	91	80					
		13:11	EW				48 57.93	125 06.89							
		13:22	BE	TRAWL		24	48 54.64	125 06.87	91	0					SURFACE TOW.
		13:52	EW				48 55.83	125 09.41	85						

Cast Type:

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 SET = Fish Set

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 NET = Plankton Net Haul
 DRF = Drifter
 =

Bottle Firing Method:

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 UN = Up / No stop
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Notes:

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Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 16 April 2010

VI01: No CTD cast recorded

VI02: No CTD cast recorded

⊗ IVI01 - CTD Bot @ 10m: Nuts & chl

⊗ IVI01: * hex saved to computer, unable to convert. Seeking help for this issue. (17 JUN 11)

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Month <u>June</u>				Year <u>2011</u>			Ship <u>FV Viking Storm</u>			Cruise ID <u>2011-37</u>					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
17	VI02	1418	BE	Bongo		28	48 54.48	125 12.75	95	80					
		1422	BE				48 54.49	125 12.79							
		1425	BE	CTD		29	48 54.49	125 12.82	95	85					
		1430	EN				48 54.48	125 12.84							
		1441	BE	Trawl		30	48 53.84	125 13.30	95						15m Tow 125 fms
17	VI03	1511	EN				48 52.05	125 13.59							
		1555	BE	CTD		31	48 49.91	125 16.33	91	80					VI03 - off BS.
		1600	EN												(*) Note →
		1548	BE	Bongo		32	48 50.28	125 16.08							Bot @ 10m: Nuts & chl
		1608	BE	Trawl		33	48 49.45	125 16.41	90						SURFACE
17	VI04	1638	EN				48 47.55	125 17.5	87						
		1723	BE	Bongo		34	48 47.60	125 22.16	87	80					
		1728	EN				48 47.64	125 22.19							
		1717	BE	CTD		35	48 47.66	125 22.20	87	75					Bot @ 10m: Nuts & chl
		1721	EN				48 47.69	125 22.23							
		1740	BE	Trawl		36	48 47.28	125 23.34	82	30					30m Tow 50 fms
		1810	EN				48 45.81	125 26.28							

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Bottle Firing Method:

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Notes:

Time Code:

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Transmissometer to be cleaned before each cast, do not use Ammonia products

Produced by the Water Properties Group, IOS

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 Version: 16 April 2010

Scott Rose C# 250-858-2880

This page is for any notes or observations

VI02

⊗ CTD cast saved on SBE 25 (cast 0), unable to upload hex to computer (17JUN11). Seeking help for this issue.

VI03

⊗ Bongo conducted before CTD, consecutive numbers not changed.
CTD cast saved on SBE 25 (cast 1), unable to upload hex to computer.

VI04

⊗ CTD conducted before Bongo, consecutive numbers not changed.
CTD cast saved on SBE 25 (cast 2), unable to upload hex to computer.

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Month <u>June</u>				Year <u>2011</u>			Ship <u>FV. Viking Sparo</u>			Cruise ID <u>2011-37</u>					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
17	V05	19:03	BE	Bongo		37	48 42.15	125 34.24	130	120					
		19:10	EU				48 42.22	125 34.26	128						
	*	19:13	BE	Risker		38	48 42.24	125 34.26	130	10					Bot @ 10m: Nuts & chl
	19:21	BE	Trawl		39	48 41.86	125 34.86	126							
	19:51	EU				48 40 27.6	125 37.36	101						SURFACE TOW	
17	V06	20:56	BE	Risker		40	48 35.65	125 42.51	61	10					Bot @ 10m: Nuts & chl
		20:59	BE	Bongo		41	48 35.62	125 42.53	62	50					
		21:03	EU				48 35.7	125 42.52	61						
		21:11	BE	Trawl		42	48 35.53	125 43.18	63						SURFACE TOW
		21:41	EU				48 34.74	125 46.30	73						
17	V07	22:39	BE	Bongo		43	48 29.9	125 51.29	103	90					
		22:43	EU				48 29.95	125 51.24							
		22:45	BE	Risker		44	48 29.96	125 51.26	102	10					Bot @ 10m: Nuts & chl
		22:54	BE	Trawl		45	48 29.36	125 51.38	112						5m Tow
		23:27	EU				48 27.16	125 51.78							

Cast Type:

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Bottle Firing Method:

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Notes:

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Transmissometer to be cleaned before each cast, do not use Ammonia products

Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 16 April 2010

— FART CARM, CALM LOW SURF, PARTLY CLOUDY PARTLY SUNNY, RIPPED SEAS

— * CAN NOT DOWNLOAD DATA FROM SB&RS, CTD OPERATIONS WILL BE RESERVED FOR TRANSECTS,
AND NOW WE'LL ONLY BE TAKING WATER SAMPLES WITH "NISKIN" BOWLS AT
"OPPORTUNISTIC" STATIONS, AND NO CTD CASTS WILL BE MADE.

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Month <u>June</u>		Year <u>2011</u>		Ship <u>R/V Viking Storm</u>		Cruise ID <u>2011-37</u>									
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
18	VI08	0:22	BE	N. skan.		46	48 24.34	125 57.82	297	10					Bot @ 10m: Nuts & chl
		0:23	BE	Bongo		47	48 24.36	125 57.83	306	150-					
		0:32	BU				48 24.42	125 54.73	311						
		0:41	BU	Trawl		48	48 24.07	125 58.20	318						75f water
		1:11	BU				48 22.22	125 00.36	452						
→ END OF DAY															
18	VI09	13:00	BE	Niskin		49	48 52.7	126 22.05	160	10					VI-off Towing
		13:00	BE	Bongo		50	48 52.72	126 22.05	160	150					Bot @ 10m: Nuts & chl
		13:08	BU				48 52.62	126 22.08							
		13:17	BE	Trawl		51	48 53.01	126 21.65	157						SURFACE TOW 75m
		13:47	BU				48 54.60	126 19.65	141						
18	VI10	1424	BE	Bongo		52	48 57.48	126 16.00	118	105					15m Tow 125m
		1429	BU				48 57.43	126 16.04	118						
		1437	BE	Niskin		53	48 57.49	126 16.06	118	10					Bot @ 10m: Nuts & chl
		1449	BE	Trawl		54	48 57.97	126 15.30	113	15					VI-off Towing
		1519	BU				48 59.40	126 12.62	90						

Cast Type:

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 SET = Fish Set

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 DRF = Drifter

Bottle Firing Method:

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Notes:

Time Code:

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Transmissometer to be cleaned before each cast, do not use Ammonia products

Produced by the Water Properties Group, IOS

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This page is for any notes or observations

U109 - EAST CANAL, LOW SWELL, OVERCAST

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Month <u>June</u>				Year <u>2011</u>			Ship <u>FV Viking</u>			Cruise ID <u>2011-37</u>					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
18	VE 11	15:51	BE	Mission		55	49 1.33	126 9.55	68	10					Bot @ 10m: Nutschl
		15:53	BE	Bongo		56	49 1.32	126 9.58	68	55					
		15:56	EW				49 1.33	126 9.58							
		16:09	BE	Trawl		57	49 1.79	126 8.90	66	Ø					surface 75 fm warp
		16:39	EW				49 3.04	126 6.3	36						
18	VE 12	16:59	BE	Bongo		58	49 04.17	126 04.61	50	40					
		17:02	EW				49 04.16	126 04.64							
		17:04	BE	Mission		59	49 04.15	126 04.65	50	10					Bot @ 10m: Nutschl
		17:05	EW				49 04.15	126 04.65							
		17:14	BE	Trawl		60	49 4.51	126 04.05	51	Ø					surface 75 fm
		17:44	EW				49 5.23	126 1.23	43						
= END OF DAY															
19	EPO1	13:02	BE	CTD		61	49 20.45	126 32.84	46	35					Bot @ 10m: Nutschl
		13:04	EW				49 20.42	126 32.79	45						
		13:09	BE	Bongo		62	49 20.41	126 32.77	46	35					
		13:08	EW				49 20.39	126 32.76	46						
		13:18	BE	Trawl		63	49 20.04	126 32.37	52	Ø					surface 75fm warp
		13:48	EW				49 19.05	126 36.37	83						

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HW STORM APPROACHING, $\frac{1}{2}$ M SWELL, SCATTERED WHITE CAPS,

1 M SWELL RIPPED SEAS
EFO1 - KIRSTIN & RASHECH (David Wilson) SBE 19+ serial #4076
IS NOW BEING USED HERE AND FOR ALL SUBSEQUENT CTD CASTS.

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Month <i>June</i>				Year <i>2011</i>			Ship <i>RV. Virginia Storm</i>			Cruise ID <i>2011-37</i>					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
19	EP02	1410	BE	Bongo		64	49 18.80	126 37.03	90	80					
		1415	BE				49 18.78	126 37.03							
		1420	BE	CTD		65	49 18.77	126 36.99	90	80					Bot @ 10m: Nutschle
		1425	BE				49 18.73	126 36.93							
		1436	BE	Trawl		66	49 18.35	126 37.81	98	15					15m Tow
		1506	BE				49 17.11	126 40.78							
19	EP03	1521	BE	CTD		67	49 16.64	126 41.45	111	100					Bot @ 10m: Nutschle
		1527	BE				49 16.63	126 41.38							
		1530	BE	Bongo		68	49 16.63	126 41.38	111	100					
		1536	BE				49 16.59	126 41.34							
		1544	BE	Trawl		69	49 16.32	126 41.97	113	Ø					SURFACE TOW
		1614	BE				49 15.12	126 44.87	117						
19	EP04	1626	BE	Bongo		70	49 14.85	126 45.48	118	105					
		1633	BE				49 14.83	126 45.48							
		1637	BE	CTD		71	49 14.82	126 45.49	118	105					Bot @ 10m: Nutschle
		1643	BE				49 14.78	126 45.49							
		1653	BE	Trawl		72	49 14.30	126 46.30	120	30					30 m.
		1723	BE				49 12.77	126 49.02	135						

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Month <i>June</i>				Year <i>2011</i>			Ship <i>R.V. Viking Storm</i>				Cruise ID <i>2011 37</i>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
19	EP05	17:41	BE	CTD		73	49 12.17	126 49.82	143	130					Bot @ 10m: Nuts & chl
		17:50	BE				49 12.16	126 49.84	142						
		17:51	BE	Bongo		74	49 12.15	126 49.83	143	130					
		17:59	BE				49 12.14	126 49.82	143						
		18:21	BE	Trawl		75	49 12.3	126 51.36	145						SURFACE
		18:51	BE				49 10.46	126 54.11	181						
19	EP06	19:05	BE	Bongo		76	49 10.07	126 54.74	190	150					
		19:15	BE				49 10	126 54							
		19:16	BE	CTD		77	49 9.9	126 54.84	195	180					Bot @ 10m: Nuts & chl
		19:24	BE												
		19:32	BE	Trawl		78	49 9.7	126 55.62	212	15					5m Tow.
		20:07	EN				49 9.8	126 58.84	390						
19	EP07	20:22	BE	CTD		79	49 08.77	126 59.56	429	250					Bot @ 10m: Nuts & chl
		20:36	EN				49 08.75	126 59.45	422						
		20:38	BE	Bongo		80	49 08.74	126 59.42	420	150					
		20:46	EN				49 08.73	126 59.39	419						
		20:55	BE	Trawl		81	49 8.5	127 00.20	540						SURFACE TOW
		21:25	EN				49 07.80	127 03.08	770						

Cast Type:

BOT = Bottle cast, no CTD
 CTD = CTD without Rosette
 ROS = Rosette plus CTD
 SET = Fish Set

USW = Sea Water Loop
 MOR = Mooring
 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:

US = Up / Stop
 UN = Up / No stop
 DN = Down / No stop

Notes:

Time Code:

BE = Beginning Time of Cast
 BO = Bottom Time of Cast
 EN = End Time of Cast
 DE = Deployment Time
 MR = Messenger Release Time
 RE = Recover Mooring Time

Transmissometer to be cleaned before each cast, do not use Ammonia products

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <i>June</i>				Year <i>2011</i>			Ship <i>F.V. Viking Storm</i>				Cruise ID <i>2011-37</i>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
20	U13	0053	BE	Bongo		82	49 28.76	127 14.67	336	150					2 ⁵⁰
		0102	BE				49 28.79	127 14.66							
		0106	BE	CTD		83	49 28.77	127 14.67	339	250					3 ⁵⁰ Bot @ 10m: Nuts & chl
		0121	BE				49 28.74	127 14.51							
20		00:10	BE	Trawl		84	49 28.61	127 17.58	593	0					1 ⁵¹
		00:40	BE				49 28.42	127 15.15	478						
= END OF DAY															
20	U14	12.58	BE	CTD		85	49 38.21	126 57.195	49	35					Bot @ 10m: Nuts & chl
		12.59	BE				49 38.20	126 57.20							
		12.55	BE	Bongo		86	49 38.19	126 57.208	49	35					
		13:02	BE				49 38.18	126 57.21	49						
		13:10	BE	TRAWL		87	49 37.91	126 58.02	51	0					Scallop
		13:40	BE				49 36.91	127 1.305	94						
20	U15	13:59	BE	Bongo		88	49 35.97	127 03.15	108	95					
		14:05	BE				49 35.97	127 03.21							
		14:09	BE	CTD		89	49 35.96	127 03.22	108	95					Bot @ 10m: Nuts & chl
		14:14	BE				49 35.93	127 03.24							
		14:24	BE	Trawl		90	49 35.49	127 04.10	112	15					15m.
		14:54	BE				49 33.93	127 6.9	140						

Cast Type:

BOT = Bottle cast, no CTD
 CTD = CTD without Rosette
 ROS = Rosette plus CTD
 SET = Fish Set

USW = Sea Water Loop

MOR = Mooring
 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:

US = Up / Stop
 UN = Up / No stop
 DN = Down / No stop

Notes:

Time Code:

BE = Beginning Time of Cast
 BO = Bottom Time of Cast
 EN = End Time of Cast

DE = Deployment Time
 MR = Messenger Release Time
 RE = Recover Mooring Time

Transmissometer to be cleaned before each cast, do not use Ammonia products

Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 16 April 2010

VI13 ⊗ Trawl conducted first, then bongo & CTD. Consecutive numbers not changed.

VI13 - OFF NOOTKA ISLAND

VI14 - GRASS CALM, NO WIND, SMOOTH WAVES, $\frac{1}{4}$ METER SURGE, OFF NOOTKA ISLAND.

VI15 - OFF NOOTKA ISLAND

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>June</u>				Year <u>2011</u>			Ship <u>F.V. Nereus</u>				Cruise ID <u>2011-37</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
20	VI16	15:17	BE	CTD		91	49 32.49	127 09.22	137	125					off NORTHERN Trawl
		15:24	BE				49 32.45	127 09.16							Bot @ 10m: Nuts & chl
		15:26	BE	Bongo		92	49 32.44	127 09.15	137	125					
		15:34	BE				49 32.40	127 09.10							
		15:41	BE	TRAWL		93	49 32.04	127 09.73	140	Ø					SURFACE
		16:11	BE				49 30.39	127 12.34							
20	VI17	19:42	BE	Bongo		94	49 44.64	127 36.71	487	150					2 ND off Kyrnos
		19:51	BE				49 44.68	127 36.77							
		19:54	BE	CTD		95	49 44.71	127 36.77	477	250					3 RD Bot @ 10m: Nuts & chl
		20:09	BE				49 44.85	127 36.69	410						
		18:57	BE	TRAWL		96	49 42.65	127 39.95	842	30					1 ST 30m Trawl
		19:27	BE				49 44.15	127 37.21	583						
20	VI18	21:11	BE	CTD		97	49 48.74	127 31.26	78	65					2 ND off Kyrnos
		21:15	BE				49 48.74	127 31.33							Bot @ 10m: Nuts & chl
		21:17	BE	Bongo		98	49 48.74	127 31.34	80	70					3 RD
		21:21	BE				49 48.74	127 31.35							
		20:27	BE	TRAWL		99	49 46.75	127 34.36	140	Ø					1 ST SURFACE
		20:57	BE				49 48.50	127 31.63							

Cast Type:

BOT = Bottle cast, no CTD
 CTD = CTD without Rosette
 ROS = Rosette plus CTD
 SET = Fish Set

USW = Sea Water Loop

MOR = Mooring
 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:

US = Up / Stop
 UN = Up / No stop
 DN = Down / No stop

Notes:

Time Code:

BE = Beginning Time of Cast
 BO = Bottom Time of Cast
 EN = End Time of Cast

DE = Deployment Time
 MR = Messenger Release Time
 RE = Recover Mooring Time

Transmissometer to be cleaned before each cast, do not use Ammonia products

Produced by the Water Properties Group, IOS

WaterProperties.ca
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900 ft. 1000 STATION TO HARP ROCK
0.146 METRIC MILES "

VI17: Trawl conducted first then bongo & CTD. Consecutive numbers not changed.

VI18: Trawl conducted first, then CTD & bongo. Consecutive numbers not changed.

DAILY SCIENCE LOG

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Month <u>June</u>				Year <u>2011</u>			Ship <u>FV. Nereus Seam</u>			Cruise ID <u>2011-37</u>					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
20	V119	22:29	BE	Bongo		100	49 52.87	127 26.40	68	55					2 ^{ED}
		22:32	EN				49 52.89	127 26.43							
		22:35	BE	CTD		101	49 52.90	127 26.43	68	55					3 ^{ED} Bot@10m: Nuts & chl
		22:38	EN				49 52.91	127 26.43							
		22:44	BE	Trawl		102	49 50.64	127 28.67	75	15					1 ST
		22:14	EN				49 52.45	127 26.77							
20	V120	23:42	BE	CTD		103	49 55.32	127 20.00	58	50					2 ^{ED} Bot@10m: Nuts & chl
		23:45	EN				49 55.32	127 19.98							
		23:47	BE	Bongo		104	49 55.32	127 19.98	58	45					3 ^{ED}
		23:50	EN				49 55.32	127 19.97							
		23:54	BE	Trawl		105	49 54.23	127 23.63	61	Ø					1 ST
END OF DAY		23:27	EN				49 55.24	127 20.42	57						
21	V1203	13:02	BE	CTD		106	50 34.52	127 34.76	135	125					Bot@10m: Nuts & chl
		13:09	EN				50 34.51	127 34.69							
		13:11	BE	Bongo		107	50 34.51	127 34.68	135	125					
		13:12	EN				50 34.52	127 34.67							
		13:26	BE	Trawl		108	50 34.85	127 35.25	135	Ø					Brain Tow, SURFACE
		13:41	EN				50 35.44	127 36.80							

Cast Type:

BOT = Bottle cast, no CTD
 CTD = CTD without Rosette
 ROS = Rosette plus CTD
 SET = Fish Set

USW = Sea Water Loop

MOR = Mooring
 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:

US = Up / Stop
 UN = Up / No stop
 DN = Down / No stop

Notes:

Time Code:

BE = Beginning Time of Cast
 BO = Bottom Time of Cast
 EN = End Time of Cast

DE = Deployment Time
 MR = Messenger Release Time
 RE = Recover Mooring Time

Transmissometer to be cleaned before each cast, do not use Ammonia products

Produced by the Water Properties Group, IOS

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This page is for any notes or observations

VI19: Trawl conducted first then bongo & CTD. Consecutive numbers not changed.

VI20: Trawl conducted first then CTD & bongo. Consecutive numbers not changed.

VI03 - Quatsino, Halberd In.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>June</u>				Year <u>2011</u>			Ship <u>R/V Viking Storm</u>				Cruise ID <u>2011-37</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
21	IWI04	14:01	BE	Bongo		109	50 35.32	127 38.18	113	105					
		14:05	END				50 35.34	127 38.18	112						
		14:09	BE	CTD		110	50 35.35	127 38.17	112	105					Bot@10m: Nuts & chl
		14:15	END				50 35.34	127 38.15	112						
		14:23	BE	Trawl		111	50 35.32	127 39.07	113	15					15m Tow.
		14:53	END				50 35.51	127 42.61	92						
21	IWI05	15:02	BE	CTD		112	50 36.07	127 47.085	54	45					Bot@10m: Nuts & chl
		15:25	END				50 36.075	127 47.065	54						
		15:27	BE	Bongo		113	50 36.074	127 47.080	54	45					
		15:30	END				50 36.07	127 47.05	57						
		15:39	BE	Trawl		114	50 35.96	127 46.27	53	0					SURFACE TOW.
		16:09	END				50 35.44	127 42.485	87						
21	IWI06	17:14	BE	Bongo		115	50 34.92	127 28.81	66	55					
		17:18	END				50 34.91	127 28.83	68						
		17:20	BE	CTD		116	50 34.89	127 28.825	68	60					Bot@10m: Nuts & chl
		17:24	END				50 34.88	127 28.815	68						
		17:31	BE	Trawl		117	50 34.88	127 29.564	77	0					SURFACE TOW.
		18:01	END				50 34.04	127 32.87	107						

Cast Type:

BOT = Bottle cast, no CTD
 CTD = CTD without Rosette
 ROS = Rosette plus CTD
 SET = Fish Set

USW = Sea Water Loop
 MOR = Mooring
 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:

US = Up / Stop
 UN = Up / No stop
 DN = Down / No stop

Notes:

Time Code:

BE = Beginning Time of Cast
 BO = Bottom Time of Cast
 EN = End Time of Cast
 DE = Deployment Time
 MR = Messenger Release Time
 RE = Recover Mooring Time

Transmissometer to be cleaned before each cast, do not use Ammonia products

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This page is for any notes or observations

IUI04 - Quasiu, HARBOR IN.

IUI05 - Quasiu, HARBOR IN.

IUI06 - Quasiu, RIVER IN.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>June</u>				Year <u>2011</u>			Ship <u>FV. Viking Storm</u>				Cruise ID <u>2011-37</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
21	W107	19:37	BE	CTD		118	50 24.052	127 29.365	127	120					Bot @ 10m' Nuts & chl
		19:43	BE				50 24.058	127 29.355	127						
		19:44	BE	Bongo		119	50 24.059	127 29.351	127	115					
		19:51	BE				50 24.083	127 29.37	127						
		20:03	BE	TRAWL		120	50 24.75	127 29.86	141	15					15m
		20:33	BE				50 26.93	127 31.32	192						
21	W108	20:51	BE	Bongo		121	50 27.973	127 32.193	150	135					
		20:57	BE				50 27.958	127 32.131	126						
		21:04	BE	CTD		122	50 28.041	127 32.361	170	150					Bot @ 10m' Nuts & chl
		21:11	BE				50 28.016	127 32.266	159						
		21:19	BE	TRAWL		123	50 28.385	127 32.78	182						SURFACE.
		21:49	BE				50 30.155	127 35.194	135						
21	W109	22:17		CTD		124	50 31.73	127 38.60	95	85					Bot @ 10m' Nuts & chl
		22:21					50 31.76	127 38.56							
		22:24		Bongo		125	50 31.78	127 38.60	78	60					
		22:27					50 31.78	127 38.63							
		22:37		Trawl		126	50 31.66	127 39.68	123	15					15m Trawl
		23:07					50 30.23	127 42.46							

Cast Type:

BOT = Bottle cast, no CTD
 CTD = CTD without Rosette
 ROS = Rosette plus CTD
 SET = Fish Set

USW = Sea Water Loop
 MOR = Mooring
 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:

US = Up / Stop
 UN = Up / No stop
 DN = Down / No stop

Notes:

Time Code:

BE = Beginning Time of Cast
 BO = Bottom Time of Cast
 EN = End Time of Cast
 DE = Deployment Time
 MR = Messenger Release Time
 RE = Recover Mooring Time

Transmissometer to be cleaned before each cast, do not use Ammonia products

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IVE07 - Quatsino, Heroultos In.

IVE08 - Quatsino, Heroultos In.

IVE08 - BONED, STEEP SLOPE, RISING BOTTOM DEPTH DURING LAST

CD, MOVED TO CENTER OF CHANNEL, WIND + TIDE PUSHING VIKING STORM TO BEACH.
FRIGATE BEARING TOWARD CHANNEL AT VIKING STORM POSITION.

IVE09 - Quatsino, MAIN CHANNEL, STARTING JUST W OF PRANK IS.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>June</u>				Year <u>2011</u>			Ship <u>R/V Viking Green</u>			Cruise ID <u>2011-37</u>					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
21	W110	23:25	BE	Bongo		127	50 28.77	127 45.43	116	105					
		23:35	EM				50 29.73	127 45.37	112						
		23:38	BE	CTD		128	50 29.75	127 45.32	112	105					Bot@10m: Nuts&chl
		23:44	EM				50 29.47	127 45.23	113						
		23:51	BE	Trawl		129	50 29.63	127 46.05	145						SURFACE
22		00:21	EM				30 28.28	127 48.88	127						
= END OF DAY															
22	W111	13:21	BE	CTD		130	50 28.99	127 51.20	168	158					Bot@10m: Nuts&chl
		13:20	EM				50 29.036	127 51.179	166						
		13:22	BE	Bongo		131	50 29.047	127 51.164	166	150					
		13:31	EM				50 29.073	127 51.109	161						
		13:39	BE	Trawl		132	50 28.739	127 51.843	150						SURFACE
		14:09	EM				50 28.359	127 51.141	194						
22	W112	14:26	BE	Bongo		133	50 28.28	127 57.22	143	130					
		14:33	EM				50 28.25	127 57.34							
		14:36	BE	CTD		134	50 28.25	127 57.34	135	125					Bot@10m: Nuts&chl
		14:44	EM				50 28.267	127 57.355	133						
		14:51	BE	Trawl		135	50 27.776	127 57.205	227						SURFACE
		15:21	EM				50 27.283	127 57.585	111						

Cast Type:

BOT = Bottle cast, no CTD
 CTD = CTD without Rosette
 ROS = Rosette plus CTD
 SET = Fish Set

USW = Sea Water Loop

MOR = Mooring
 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:

US = Up / Stop
 UN = Up / No stop
 DN = Down / No stop

Notes:

Time Code:

BE = Beginning Time of Cast
 BO = Bottom Time of Cast
 EN = End Time of Cast
 DE = Deployment Time
 MR = Messenger Release Time
 RE = Recover Mooring Time

Transmissometer to be cleaned before each cast, do not use Ammonia products

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IV110 - Quatsine, main channel, East East Prickton Is

IV111 - Quatsine, main channel, off Kaskine Is

IV112 - Quatsine So, Kains Is

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <i>June</i>				Year <i>2011</i>			Ship <i>FV Virgin Storm</i>				Cruise ID <i>2011-37</i>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
21	VI21	15:43	BE	CTD		136	50 24.70	128 00.51	186	170					Bot @ 10m: Nuts & chl
		15:52	BE				50 24.75	128 00.56							
		15:54	BE	Bottle		137	50 24.75	128 00.56	172	150					
		16:02	BE				50 24.77	128 00.58							
		16:10	BE	Trawl		138	50 24.42	127 01.23	147	Ø					Surface Trawl
		16:40	BE				50 22.75	128 03.826	72						
22	VI22	17:01	BE	Bottle		139	50 21.44	128 05.69	79	65					
		17:05	BE				50 21.45	128 05.75							
		17:08	BE	CTD		140	50 21.46	128 05.77	79	70					Bot @ 10m: Nuts & chl
		17:11	BE				50 21.49	128 05.77							
		17:20	BE	Trawl		141	50 21.144	128 6.54	89	15					15m Trawl
		17:50	BE				50 19.68	128 9.29	144						
22	VI23	18:16	BE	CTD		142	50 18.00	128 12.00	172	160					Bot @ 10m: Nuts & chl
		18:25	BE				50 18.07	128 12.00							
		18:27	BE	Bottle		143	50 18.08	128 12.00	172	150					
		18:35	BE				50 18.14	128 12.01							
		18:44	BE	Trawl		144	50 17.66	128 12.96	372	Ø					Surface
		19:14	BE				50 16.10	128 15.31	700						

Cast Type:

BOT = Bottle cast, no CTD
CTD = CTD without Rosette
ROS = Rosette plus CTD
SET = Fish Set

USW = Sea Water Loop

MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter

Bottle Firing Method:

US = Up / Stop
UN = Up / No stop
DN = Down / No stop

Notes:

Time Code:

BE = Beginning Time of Cast
BO = Bottom Time of Cast
EN = End Time of Cast
DE = Deployment Time
MR = Messenger Release Time
RE = Recover Mooring Time

Transmissometer to be cleaned before each cast, do not use Ammonia products

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This page is for any notes or observations

VI21 - off Quinsig, 1m swell, rippled seas, low cloud, bright horizon
surface tow

DAILY SCIENCE LOG

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Month <u>June</u>		Year <u>2011</u>		Ship <u>R/V. U.King Storm</u>		Cruise ID <u>2011-37</u>									
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
22	VI24	19:37	BE	BONGO		145	50 14.43	128 17.85	950	150					
		19:46	BE				50 14.45	128 17.86							
		19:49	BE	LTD		146	50 14.45	128 17.85	950	250					Bot @ 10m: Nuts & chl
		20:04	BE				50 14.44	128 17.72							
		20:12	BE	TRAWL		147	50 14 05	128 18.61	1150	30					30m Tow
		20:12	BE				50 12 84	128 21.62	71200						
23	VI25	00:06	BE	CTD		148	50 34.17	128 28.80	178	165					2 nd Bot @ 10m: Nuts & chl
23		00:14	BE				50 34.17	128 28.83							
23		00:17	BE	BONGO		149	50 34.15	128 28.84	178	150					3 rd
23		00:24	BE				50 34.20	128 28.86							
22		23:21	BE	TRAWL		150	50 32.33	128 31.44	183						1 st SURFACE
22		23:51	BE				50 33.98	128 29.154	181						
23	VI26	01:22		BONGO		151	50 37.87	128 24.54	75	65					2 nd
		01:27					50 37.93	128 24.57							
		01:30		CTD		152	50 37.96	128 24.57	74	65					3 rd Bot @ 10m: Nuts & chl
		01:33					50 38.00	128 24.58							
		01:41		TRAWL		153	50 36.014	128 26.80	113	15					1 st
		01:11					50 34.54	128 25.038	83						
END OF DAY															

Cast Type:

BOT = Bottle cast, no CTD
 CTD = CTD without Rosette
 ROS = Rosette plus CTD
 SET = Fish Set

USW = Sea Water Loop

MOR = Mooring
 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:

US = Up / Stop
 UN = Up / No stop
 DN = Down / No stop

Notes:

Time Code:

BE = Beginning Time of Cast
 BO = Bottom Time of Cast
 EN = End Time of Cast
 DE = Deployment Time
 MR = Messenger Release Time
 RE = Recover Mooring Time

Transmissometer to be cleaned before each cast, do not use Ammonia products

Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 16 April 2010

VI24 - OFF OATSIN

1/2 m SWALL, BRIGHT SKINS, RIPPED SEAS

JUN 22, 2011

50, 20.85, 128 26.88

4 Killer Whales Sited, AROUND SHIP.

14:45.

2 juveniles, 1 IMADIA, 1 ADULT MALE.

VI25 - OFF San Jose Bay.

1/4 m SWALL, BRIGHT SKINS, RIPPED SEAS.

CTD & bongo.

Consecutive numbers not changed.

Trawl conducted first, then

VI26 - OFF San Jose Bay.

not changed.

Trawl conducted first, then bongo & CTD. Consecutive numbers

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month JUNE				Year 2011			Ship F/V Viking Storm				Cruise ID 2011-37				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
23	T08	13:09	BE	CTD		154	50 42.544	129 28.892	1900	250.					Bot @ 10m: Nuts & chl
		13:22	EN				50 42.47	129 28.613	1900						
		13:25	BE	Bongo		155	50 42.45	129 28.56	1900	150					
		13:33	EN				50 42.45	129 28.50	1900						
		13:42	BE	Trawl		156	50 42.81	129 27.72	1900						SURFACE TOW
		14:12	EN				50 44.22	129 24.91	133						
23	T07	15:19	BE	Bongo		157	50 49.51	129 14.2	111	100					
		15:25	EN				50 49.51	129 14.32	112						
		15:28	BE	CTD		158	50 49.51	129 14.323	110	100					Bot @ 10m: Nuts + Chl.
		15:35	EN				50 49.53	129 14.28	112						
		15:42	BE	Trawl		159	50 49.97	129 13.69	96	15.					15m Tow
		16:12	EN				50 51.41	129 11.18	79						
23	T06	17:15	BE	CTD		160	50 56.075	129 1.407	64	55.					Bot @ 10m: Nuts + Chl.
		17:17	EN				50 56.054	129 1.433	63						
		17:21	BE	Bongo		161	50 56.02	129 1.47	63	50					
		17:23	EN				50 56.012	129 1.406	63						
		17:30	BE	Trawl		162	50 56.56	129 00.99	66						SURFACE TOW
		18:00	EN				50 57.53	128.58.92	67						

Cast Type:

BOT = Bottle cast, no CTD
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 SET = Fish Set

USW = Sea Water Loop
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 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:

US = Up / Stop
 UN = Up / No stop
 DN = Down / No stop

Notes:

Time Code:

BE = Beginning Time of Cast
 BO = Bottom Time of Cast
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 DE = Deployment Time
 MR = Messenger Release Time
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Transmissometer to be cleaned before each cast, do not use Ammonia products

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108 - LOW CLOUDS NOT BRIGHT, $\frac{1}{2}$ MILE SWELL, RIPPLED SEAS.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>June</u>				Year <u>2011</u>			Ship <u>F/V Viking Star</u>			Cruise ID <u>2011-37</u>					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
23	T05	18:43	BE	Buoy		163	51 00.64	128 52.54	63	50					
		18:46	EN				51 00.67	128 52.6	63						
		18:52	BE	CTD		164	51 00.74	128 52.68	62	50					NOTS + CHL @ 10m
		18:54	EN				51 00.75	128 52.7	62						
		19:00	BE	TRAWL		165	51 01.106	128 52.32	60						SURFACE TOW
		19:30	EN				51 02.28	128 51.29	57						
23	T04	20:01	BE	CTD		166	51 04.51	128 44.43	58	45					NOTS + CHL @ 10m
		20:04	EN				51 04.52	128 44.39							
		20:06	BE	Buoy		167	51 04.53	128 44.36	59	50					
		20:09	EN				51 04.55	128 44.33	59						
		20:17	BE	TRAWL		168	51 04.939	128 43.623	61						SURFACE TOW
		20:47	EN				51 06.24	128 40.59	73						
23	T03	21:17	BE	Buoy		169	51 08.12	128 35.51	138	125					
		21:25	EN				51 08.19	128 35.51	138						
		21:27	BE	CTD		170	51 08.19	128 35.52	138	125					NOTS + CHL @ 10m
		21:34	EN				51 08.22	128 35.46							
		21:43	BE	TRAWL		171	51 8.64	128 34.54	149	15					15m Tow.
		22:13	EN				51 9.991	128 31.54	200						

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Notes:

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Month				Year			Ship		Cruise ID						
June				2011			F/V		Vikings Storm						
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
23	T02	22:47	BE	CTD		172	51 12.46	128 21.95	188	175					ROSETTE @ 10m
		22:56	BE				51 12.485	128 27.15	188						
		22:58	BE	Bongo		173	51 12.48	128 27.10	188	150					
		23:07	BE				51 12.499	128 27.019	187						
		23:14	BE	Trans.		174	51 12.474	128 26.267	184	0					SURFACE TOW
		23:44	BE				51 14.107	128 23.14	114						
	T01														
24	T01	00:09	BE	Bongo		175	51 16.18	128 20.39	77	65					SURFACE TOW
		00:14	BE				51 16.18	128 20.38							
		00:17	BE	CTD		176	51 16.18	128 20.39	77	65					ROSETTE @ 10m
		00:20	BE				51 16.19	128 20.37							
		00:28	BE	Trans.		177	51 16.67	128 20.45	79	0					SURFACE TOW
END OF DAY		00:58	BE				51 18.65	128 21.125	73						
24	QCSDOI	13:01	BE	CTD		178	51 42.164	128 14.028	137	130					ROSETTE @ 10m
		13:09	BE				51 42.67	128 14.002	138	130					
		13:16	BE	Bongo		179	51 42.684	128 13.989	138	135					
		13:19	BE				51 42.718	128 13.977	139						
		13:27	BE	Trans.		180	51 42.816	128 14.957	134	0					SURFACE TOW
		13:57	BE				51 43.257	128 18.668	142						

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QCSD 01 - WEST OF HAKRI PASS.

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Month <i>June</i>				Year <i>2011</i>			Ship <i>F.V. Viking Storm</i>				Cruise ID <i>2011-37</i>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
24	QCSD02	14:31	BE	Bongo		181	51 43.489	128 25.27	144	140					
		14:40	EU				51 44.028	128 25.215	144						
		14:43	BE	CTD		182	51 44.045	128 25.200	144	135					MOSS + CHL @ 10m
		14:51	EN				51 44.08	128 25.156	144						
		15:00	BE	TRAWL		183	51 44.154	128 24.185	144	15					15m TOW
		15:30	EU				51 44.544	128 29.768	145						
24	QCSD03	16:09	BE	CTD		184	51 45.18	128 36.64	100	90					MOSS + CHL @ 10m
		16:14	EU				51 45.16	128 36.632	101						
		16:15	BE	Bongo		185	51 45.16	128 36.611	103	80					
		16:27	EU				51 45.18	128 36.57	103						
		16:30	BE	TRAWL		186	51 45.244	128 37.39	102						SURFACE TOW
		17:00	EU				51 45.612	128 40.896	71						
24	QCSD04	18:12	BE	Bongo		187	51 54.45	128 35.11	130	120					
		18 25	EU				51 54.657	128 35.093	128						
		18 34	BE	CTD		188	51 54.629	128 35.089	128	120					MOSS + CHL @ 10m
		18 34	EN				51 54.588	128 33.009	127						
		18 41	BE	TRAWL		189	51 54.536	128 35.684	127						SURFACE TOW
		19 11	EU				51 54.866	128 39.575	148						

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QCS002 - W. off HAKA' PIES, 20 PORPOISES AT SPOT OF STATION WHILE CONDUCTING CTD

QCS004 - 1/4 m SURFAL, RIPPED SCAL, BRIGHT SKINS.

QCS004 - W. off S. Goose Is

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Month <u>June</u>				Year <u>2011</u>			Ship <u>FN. Vixen Storm</u>			Cruise ID <u>2011 - 37.</u>					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
24	QCSD05	19:54	BE	CTD		190	51 55.23	128 47.209	132	120					NOYS + CHL @ 10m
		19:59	BE				51 55.48	128 47.21	131						
		20:00	BE	BONGO		191	51 55.481	128 47.191	132	120					
		20:10	BE				51 55.455	128 47.157	132						
		20:18	BE	TRAWL		192	51 55.509	128 48.172	137						Tow at 15m
		20:45	BE				51 55.94	128 51.767							
24	QCSD06	21:30	BE	BONGO		193	51 56.943	128 59.392	169	95					
		21:36	BE				51 56.927	128 59.311	109						
		21:40	BE	CTD		194	51 56.933	128 59.234	108	95					NOYS + CHL @ 10m
		21:45	BE				51 56.944	128 59.117	107						
		21:51	BE	TRAWL		195	51 56.987	128 59.803	109						Tow at SURFACE
		22:21	BE				51 57.273	129 3.141	127						
25	H01	0:16	BE	CTD		196	52 12.141	129 8.784	162	150					BOT @ 10m mid 9 chl
		0:23	BE				52 12.103	129 8.767	162						
		0:25	BE	BONGO		197	52 12.098	129 8.766	162	150					
		0:35	BE				52 12.081	129 8.765	150						
		0:41	BE	TRAWL		198	52 12.756	129 9.522	163						SURFACE Tow
		1:11	BE				52 13.06	129 13.395	159						

Cast Type:

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Bottle Firing Method:

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 DN = Down / No stop

Notes:

Time Code:

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ACSD05 - SHORTER TOW 27 MINUTES, PORPOISES

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Month <i>June</i>				Year <i>2011</i>			Ship <i>F.V. Victoria Storm</i>			Cruise ID					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
<i>25</i>	<i>H02</i>	<i>1259</i>	<i>BE</i>	<i>CTD</i>		<i>199</i>	<i>52 15.55</i>	<i>129 25.95</i>	<i>175</i>	<i>165</i>					<i>MOTS + CHL @ 10m</i>
		<i>1308</i>	<i>BE</i>				<i>52 15.557</i>	<i>129 25.844</i>	<i>173</i>	<i>150</i>					
		<i>13 10</i>	<i>BE</i>	<i>Bongo</i>		<i>200</i>	<i>52 15.562</i>	<i>129 25.813</i>	<i>172</i>	<i>150</i>					
		<i>13 19</i>	<i>BE</i>				<i>52 15.545</i>	<i>129 25.709</i>	<i>169</i>						
		<i>13 26</i>	<i>BE</i>	<i>Trawl</i>		<i>201</i>	<i>52 15.708</i>	<i>129 25.6403</i>	<i>182</i>	<i>0</i>					<i>SURFACE TOW</i>
		<i>13 56</i>	<i>BE</i>				<i>52 16.628</i>	<i>129 29.997</i>	<i>192</i>						
<i>25</i>	<i>H03</i>	<i>14 44</i>	<i>BE</i>	<i>Bongo</i>		<i>202</i>	<i>52 19.28</i>	<i>129 40.93</i>	<i>210</i>	<i>150</i>					
		<i>15:04</i>	<i>BE</i>				<i>52 19.197</i>	<i>129 40.832</i>	<i>211</i>						
		<i>15:09</i>	<i>BE</i>	<i>CTD</i>		<i>203</i>	<i>52 19.152</i>	<i>129 40.774</i>	<i>210</i>	<i>200</i>					<i>MOTS + CHL @ 10m</i>
		<i>15:20</i>	<i>BE</i>				<i>52 19.078</i>	<i>129 40.627</i>	<i>209</i>						
		<i>15:28</i>	<i>BE</i>	<i>Trawl</i>		<i>204</i>	<i>52 19.12</i>	<i>129 41.600</i>	<i>210</i>	<i>15</i>					<i>15m Tow</i>
		<i>15:58</i>	<i>BE</i>				<i>52 19.51</i>	<i>129 41.506</i>	<i>209</i>						
<i>25</i>	<i>H04</i>	<i>1701</i>	<i>BE</i>	<i>CTD</i>		<i>205</i>	<i>52 21.94</i>	<i>129 57.63</i>	<i>183</i>	<i>175</i>					<i>MOTS + CHL @ 10m</i>
		<i>1711</i>	<i>BE</i>				<i>52 21.912</i>	<i>129 57.562</i>	<i>185</i>						
		<i>1713</i>	<i>BE</i>	<i>Bongo</i>		<i>206</i>	<i>52 21.907</i>	<i>129 57.55</i>	<i>185</i>	<i>150</i>					
		<i>1722</i>	<i>BE</i>				<i>52 21.872</i>	<i>129 57.495</i>	<i>178</i>						
		<i>17 30</i>	<i>BE</i>	<i>Trawl</i>		<i>207</i>	<i>52 22.06</i>	<i>129 58.365</i>	<i>206</i>	<i>0</i>					<i>SURFACE</i>
		<i>1800</i>	<i>BE</i>				<i>52 23.073</i>	<i>129 1.873</i>	<i>261</i>						

Cast Type:

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USW

= Sea Water Loop
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Bottle Firing Method:

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Notes:

Time Code:

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Transmissometer to be cleaned before each cast, do not use Ammonia products

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Month <i>June</i>				Year <i>2011</i>			Ship <i>R/V. Valero Star</i>				Cruise ID <i>2011-37</i>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
25	H05	18:53	BE	Bongo		208	52 25.543	130 13.93	328	150					
		19:02	BE				52 25.571	130 13.954	324						
		19:05	BE	CTD		209	52 25.584	130 13.967	327	250					NOIS + CHL @ 10m
		19:20	BE				52 25.639	130 13.853	327						
		19:30	BE	Trawl		210	52 26.012	130 14.726	327	15.					15m Tow
		20:00	BE				52 27.373	130 17.586	315						
25	H06	20:54	BE	CTD		211	52 28.892	130 29.16	169	160					NOIS + CHL @ 10m
		21:04	BE				52 28.925	130 29.177	168						
		21:06	BE	Bongo		212	52 28.928	130 29.177	168	150					
		21:14	BE				52 28.96	130 29.18	169						
		21:22	BE	Trawl		213	52 29.165	130 30.028	155						SURFACE Tow
		21:52	BE				52 29.59	130 33.74	132						
25	H07	22:45	BE	Bongo		214	52 31.615	130 44.972	145	135					
		22:53	BE				52 31.465	130 44.985	151						
		22:56	BE	CTD		215	52 31.716	130 45.015	148	140					Bot @ 10m: Nutachi
		23:04	BE				52 31.742	130 45.104	146						
		23:11	BE	Trawl		216	52 31.997	130 46.141	164						15m Tow
		23:41	BE				52 32.959	130 49.845	116						

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H06 - 1/4 M. SWELL, RAPID 3-4 S, LIGHT W 5-10 WINDS, SKIES BRIGHT

- SEA VIEW TOSSENG HORIZONT BY SIDE OF SHIP.

H07 - 1/8 M. SWELL, "MILK POWD" CALM

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Month <u>June</u>				Year <u>2011</u>			Ship <u>R/V. Viking Storm</u>				Cruise ID <u>2011-37</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
26	1408	00:25	BE	CTD		217	52 35.317	131 00.094	104	95					Bot@10m: Nutschl
		00:32	BE				52 35.331	131 00.155	104						
		00:33	BE	Bongo		218	52 35.347	131 00.166	104	95					
		00:40	BE				52 35.34	131 00.183	105						
		00:46	BE	Trawl		219	52 35.44	131 00.47	105						
		01:16	BE				52 35.752	131 05.42	109						
= END OF DAY															
26	14501	13:04	BE	CTD		220	52 52.724	130 49.646	54	45					Bot@10m: Nutschl
		13:06	BE				52 52.734	130 49.654	54						HS01 - W of Egan
		13:07	BE	Bongo		221	52 52.745	130 49.658	54	45					Group: Hecare S
		13:12	BE				52 52.784	130 44.64							100 SEWAL, RPP MP
		13:19	BE	Trawl		222	52 52.78	130 43.867							SEAS
		13:49	BE				52 52.959	130 40.246							Surface Tow
26	14502	14:30	BE	Bongo		223	52 52.716	130 32.193	104	95					
		14:35	BE				52 52.78	130 32.224	106						
		14:38	BE	CTD		224	52 52.804	130 32.243	106	95					Bot@10m: Nutschl
		14:43	BE				52 52.86	130 32.275	106						
		14:51	BE	Trawl		225	52 52.888	130 31.306	109	15					15 m Tow
		15:21	BE				52 52.82	130 27.434							

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