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 2 OF 2

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

WaterProperties.ca

Captain: Chris Roberts First Officer: Scott Murray
Second Officer: Flo Salm Third Officer: Rory Johnston
Fishing Master: ____

Mission Participants / Agencies: ____

Scientific Personnel: Chief Scientist: John Morris

Name	Watch	Cabin	Name	Watch	Cabin
Strahan Tucker			Debra Harstad		
Yeongha Jung			Mary Thiess		
Tyler Zubkowski					

Second leg of Mission: Chief Scientist: ____

Name	Watch	Cabin	Name	Watch	Cabin

Data logging computer: ____
Data acquisition program: ____
CTD deck unit make: ____ model: ____ serial number: ____

Primary CTD
Make: SBE model: 19Plus serial number: 4076 (David Welch CTD)
Primary temperature serial number: 4076
Primary conductivity serial number: 4076
Secondary temperature serial number: —
Secondary conductivity serial number: —
Transmissometer: ____ Model: ____ s/n: ____
Fluorometer: Model ____ Cable gain: ____ s/n: ____ **P**, **S** or **NO** pump?
Oxygen sensor: ____ Model: ____ s/n: ____ **P**, **S** or **NO** pump?
PAR sensor: ____ Model: ____ s/n: ____
Other sensors: ____ s/n: ____ **P**, **S** or **NO** pump?
Other sensors: ____ s/n: ____ **P**, **S** or **NO** pump?
Other sensors: ____ s/n: ____ **P**, **S** or **NO** pump?
Other sensors: ____ s/n: ____ **P**, **S** or **NO** pump?

Secondary CTD
Make: ____ model: ____ serial number: ____
Primary temperature serial number: ____
Primary conductivity serial number: ____
Secondary temperature serial number: ____
Secondary conductivity serial number: ____
Transmissometer: ____ Model: ____ s/n: ____
Fluorometer: Model ____ Cable gain: ____ s/n: ____ **P**, **S** or **NO** pump?
Oxygen sensor: ____ Model: ____ s/n: ____ **P**, **S** or **NO** pump?
PAR sensor: ____ Model: ____ s/n: ____
Other sensors: ____ s/n: ____ **P**, **S** or **NO** pump?
Other sensors: ____ s/n: ____ **P**, **S** or **NO** pump?
Other sensors: ____ s/n: ____ **P**, **S** or **NO** pump?
Other sensors: ____ s/n: ____ **P**, **S** or **NO** pump?

CTD calibration bottle location (height above CTD in metres): ____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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 Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
26	HS03	15:58	BE	CTD		226	52 52.698	130 20.194	190	180		1			BOT @ 10m NUTS + CHL.
		16:08	EN				52 52.783	130 20.206	191						
		16:11	BE	Bongo		227	52 52.803	130 20.218	191	150					
		16:19	EN				52 52.904	130 20.314	189.						
		16 26	BE	Trawl.		228	52 52.918	130 19.572	200	0					SURFACE TOW
		16:56.	EN				52 52.75	130 15.700	203.						
26.	HS04	17:33	BE	Bongo		229	52 52 553	130 8.485	246	150					
		17:42	EN				52 52 572	130 8,568	246.						
		17 44	BE	CTD		230	52 52 561	130 8.582	246	230		1			BOT @ 10m NUTS + CHL
		17:58	EN				52 52.63	130 8,663	245.						
		18:06	BE	Trawl		231	52 52 599	130 7.903	249	0					SURFACE TOW.
		18:36	EN				52 52 508	130 3,782	253.						
26	HS05	19:20	BE	CTD		232	52 52,822	129 55,027	213	200		1			BOT @ 10m NUTS + CHL
		19 30	EN				52 52.845	129 54,909	211						
		19 32	BE	Bongo.		233	52 52,846	129. 54,882	211	150					
		19:41	EN				52 52.855	129 54,834	209.						
		19:48	BE	Trawl		234	52 53,412	129. 54.776.	210	0					SURFACE TOW.
		20 18	EN				52 55.585	129 54.724	209.						

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

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

Notes: ______________________

This page is for any notes or observations

HS03 - WEST OFF ESTEVAN GROUP IN HECATE STRAIT

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month June **Year** 2011 **Ship** R/V. Viking Storm **Cruise ID** 2011-37

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
26	AS06	2058	BE	Bongo		235	5300.51	129 53.42	302	150					
		2106	EN				5300.80	129 53.29							
		2109	BE	CTD		236	53 00.52	129 53.25	300	250		1			BOT @ 10m - NUTS + CHL
		2125	EN				53 00.80	129 53.09							
		21 32	BE	TRAWL		237	53 1.200	129 52.95	316	Ø					SURFACE TOW
		22:02	EN.				53 3.401	129 52.331	185						
26	AS07	22:40	BE	CTD		238	53 5.149	129 59.46	206	180		1			BOT @ 10m NUT + CHL
		22:49	EN				53 5.062	129 59.526	176						
		22:51	BE	Bongo		239	53 5.055	129 59.54	175	150					
		23:00	EN				53 5.078	129 59.59	161						
		23:06	BE	TRAWL.		240.	53 5.135	130- 0.546	144	Ø					SURFACE TOW.
		23:36	EN.				53 5.662	130- 4.318	61						
27	AS08	00:12	BE	Bongo.		241	53 7.259	130. 11.345	107	95					
		00:17	EN				53 7.282	130 11.329	107.						
		00:20	BE	CTD		242	53 7.286	130 11.310	107	95		1			BOT@10m: Nuts & Chl
		00 25	EN				53 7.326	130 11.328	107						
		0032	BE	TRAWL		243	53 7.474	130 12.177.	110.	Ø					SURFACE TOW
		0002	EN				53 8.987	130 15.889.	176.						

=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

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

Notes: ________________

This page is for any notes or observations

AS07 – NO SWELL, RIPPLED SEAS SKIES BRIGHT

AS08 – W OFF H, ESTEVAN GROUP, HACATE ST.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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 Latitude	Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
27	HS09	12:56	BE	CTD		244	53 46.733	130 42.847	116	105		1			Bot 6 10m nuts + chl
		13 02	EN				53 46.703	130 42.89	115						
		13 04	BE	Bongo		245	53 46.693	130 42.903	117	105					
		13:10	EN				53 46.650	130 42.940	114						
		13:19	BE	Trawl		246	53 46.477	130 43.855	126	Ø					Surface Tow
		13:49	EN				53 46 136	130 43.850	123						
27	HS10	14 23	DE	Bongo		247	53 49.13	130 53.21	92	80					
		14:27	RW				53 49 128	130 53.23	92						
		14:30	BE	CTD		248	53 49 127	130 53 218	93	86		1			Bot 6 10m nuts + Chl
		14:35	EN				53 49 112	130 53 244	93						
		14:43	BE	Trawl		249	53 49.495	130 52.438	93	15					15 Tow.
		15:13	EN				53 51.007	130 49.414	92						
27	HS11	15:49	BE	CTD		250	53 54.155	130 53.352	69	55		1			Bot 6 10m nuts + Chl
		15:52	EN				53 54.152	130 53.342	69						
		15:54	BE	Bongo		251	53 54.15	130 53 349	69	55					
		15 57	EN				53 54.144	130 53 357	69						
		16:04	BE	Trawl		252	53 54.222	130 54.162	74	Ø					Surface Tow
		16:34	EN				53 54.496	130 50.099	81						

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

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

Notes: ____________________

This page is for any notes or observations

HS09 - WEST OF PORCHER IS., HECATE STRAIT.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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	Latitude	Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
27	4S12	17 06	BE	Bongo		253	53 56.92	131 03.82	73	60					
		17 10	EN				53 56,92	131 03, 81							
		17 13	BE	CTD		254	53 56.92	131 03.82	73	60		/			
		17 16	EN				53 56,93	131 03.84							BOT@10m NUTS+CHL
		17 23	BE	Trawl		255.	53 57.133	131 3.047	78	∅					
		17:53	EN.				53 57 99	130 59.48	57.						SURFACE TOW.
END OF DAY															
28	JBC01	13:10	BE	CTD		256.	54 11,443	130 22.435.	86.	75		/			
		13 15	EN				54 11.451	130 - 22 441	85.						BOT @10m NUTS+CHL.
		13:17	BE	Bongo		257	54 11 455	130 22,442	85	75					
		13:22	EN				54 11 454	130 22 450	86.						
		13:30	BE	Trawl.		258	54 11.477	130 23.477	97	∅					
		14:00	EN				54 12.312	130 27,365	89.						SURFACE TOW
28	JBC02	14:37	BE	Bongo		259	54 10.474	130 33 794	109	100					
		14:41	EN				54 10.478	130 33.842	109						
		14:45	BE	CTD		260	54 10.477	130 33.872	109	100		/			BOT@10m: Nuts&Chl
		14 51	EN.				54 10 475	130 33.907	109						
		14 59	BE	Trawl.		261	54 10.808	130 34.884	107	15.					15m TOW
		15 29	EN.				54 12.008	130 38.38	113						

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

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

Notes:

This page is for any notes or observations

54° 03.424 N 130° 40.006 W 12:10 PDT MINK WHALE SPOTTED HEADING SOUTH. EDYE PASS

IBC01 – CHATHAM St, S. off KINAHAN Is.

STATION LIST

IBC01
IBC02
IBC03
DT01
DT02
DT03
DT04

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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 Latitude	Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
28	IBC03	16:04	BE	CTD		262	54 14.095	130 43.731	164	150		1			Bot @ 10m nuts + chl
		16:11	EN				54 14.064	130 43.704	161						
		16:13	BE	Bongo		263	54 13.988	130 43.695.	158	150					
		16:21	EN				54 13.935	130 43.697.	157.						
		16:30	BE	Trawl.		264	54 14 378	130 43.434	156.	0					SURFACE TOW
		17:00	EN.				54 16.461	130 44.849	157.						
28	IBC04	17:33	BE	Bongo		265	54 18.181	130 49.907	137	130					
		17:39	EN				54 18.141	130 49.817	139						
		17:43	BE	CTD		266	54 18.126	130 49.746	142	130		1			Bot @ 10m, nuts + chl.
		17:50	EN				54 18.131	130 49.646	139						
		17:57	BE	Trawl		267.	54 18.288	130 50.339	138	0					SURFACE TOW
		18 27	EN				54 18.921	130 53.585.	152.						
28	PT01	19 41	BE	CTD		268	54 25.198	131 3.052	95	85		1			Bot @ 10m, nuts + Chl.
		19:45	EN				54 25.172	131 3.054	95.						
		19:47	BE	Bongo		269	54 25.166	131 3.055	95	85					
		19 51	EN				54 25.159	131 3.055	95						
		20:00	BE	Trawl		270	54 25.116	131 4.003	110	0					SURFACE TOW
		20:30	EN				54 25.414	131 8.264	112						

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

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

Notes: ____

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 16 April 2010

This page is for any notes or observations

FREIGHTER BEARING DOWN ON STATION POSITION, NECESSITATES EARLY SCIENCE OPERATIONS.

IBC01 — 03 CHATHAM SD, NORTH END

IBC04 — BROWNING ENTRANCE, NEAR TRIPLE IS.

IBC04 — 1 m SWELL, RIPPLED SEAS, CLOUDY.

DT01 — DIXON E — CELESTIAL RK TRANSECT

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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	Latitude	Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
28	DT02	2100	BE	Bongo		271	54 25.93	131 11.95	158	148					
		2110	EN				54 25.95	131 12.12							
		2112	BE	CTD.		272	54 25.95	131 12.17	162	150		/			Bot 6 10m Nuts + Chl
		2121	EN				54 25 .173	131 12 .253	163						
		2130	BE	Trawl		273	54 25.768	131 13.45	181	15					15m Tow
		2200	EN				54 24.558	131 17.939							
28	DT03	2247	BE	CTD		274	54 26.451	131 24.018	264	250		/			Bot 6 10m Nuts + Chl
		23 02	EN				54 26.405	131 24.105	262						
		0303	BE	Bongo		275	54 26.385	131 24.11	265	150					
		0311	EN				54 ~~26.377~~	131 24.149	274.						
		2320	BE	Trawl		276	54 26.227	131 25.22	270	Ø					Surface Tow
		2350	EN				54 25.934	131 29.559	275						
29	DT04	0017	BE	Bongo		277	54 27.00	131 34.60	286	150					
		0026	EN				54 26.97	131 34.73							
		0031	BE	CTD		278	54 26.94	131 34.79	285	250		/			Bot@10m Nuts & Chl
		0045	EN				54 26.89	131 35.00							
		0052	DE	Trawl		279	54 26.43	131 35.14	280	Ø					Surface Tow
		0122	EN				54 24.168	131 36.734	250						
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

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

Notes: ______________________

This page is for any notes or observations

DT03 — RIPPLED SEAS, 1m SWELL, OCCASIONAL WHITECAPS, CLOUD COVER, NE WINDS.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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 Latitude	Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
29	DE01	13 01	BE	CTD		280	54 13.77	131 43.51	118	110		/			BOT @ 10m NUTS + Chl
		1308	EN				54 13 76	131 43.506	117						
		13 16	BE	Bongo		281	54 13 752	131 43 508	117	105					
		13 17	EN				54 13 724	131 43.49	115						
		13 25	BE	TRAWL		282	54 13 377	131 44 27	114	Ø					SURFACE TOW
		13 55	EN				54 11.905	131 47.801	89						
29	DE02	14 45	BE	Bongo		283	54 8.882	131 57.244	51	45					
		14:48	EN				54 8.911	131 57.284	51						
		14 51	BE	CTD		284	54 8.933	131 57.287	52	45		/			BOT @ 10m NUTS + Chl
		14 57	EN				54 8.964	131 57 295	52						
		15:00	BE	TRAWL		285	54 9.223	131 58.086	56	—					SURFACE TOW
		15:30	EN				54 10.159	132 1.321	69						
29	DE03	16:26	BE	CTD		286	54 8.706	132 12.004	48	35		/			BOT @ 10m NUTS + Chl
		16:28	EN				54 8.707	132 11.999	48						
		16:30	BE	Bongo		287	54 8.707	132 11.975	48	35					
		16:33	EN				54 8.695	132 11.951	48						
		16 41	BE	TRAWL		288	54 8.682	132 12.900	51	Ø					SURFACE TOW
		17 11	EN				54 8.790	132 16.570	69						

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

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

Notes:

This page is for any notes or observations

DE01 – Rock Spit, PE
DE02 – McIntyre Bay
DE03 - W'an Pt. Killer Whale sighting 3, including one male
1 m swell, rippled seas, occasional whitecaps

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month June **Year** 2011 **Ship** F.V. Viking Storm **Cruise ID** 2011-77

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
29	DE04	18:12	BE	Bongo		289	54 7.208	132 27.836	44	40					
		18:13	EN				54 7.223	132 27.839	44						
		18:14	BE	CTD		290	54 7.252	132 27.832	44	40		/			BOT@10m: Nuts&Chl
		18:16	EN				54 7.287	132 27.821	44						
		18:24	BE	Trawl		291	54 7.416	132 28.723	44	0					SURFACE
		18:54	EN				54 7.969	132 32.27	62						
29	DE05	19:57	BE	CTD		292	54 9.945	132 43.44	43	30		/			BOT@10m: Nuts&Chl
		20:01	EN				54 9.968	132 43.439	44						
		20:02	BE	Bongo		293	54 9.969	132 43.430	44	30					
		20:03	EN				54 9.972	132 43.411	44						
		20:14	BE	Trawl		294	54 10.052	132 44.392	48	0					SURFACE
		20:44	EN				54 10.142	132 48.143	51						
29	DE06	21:24	BE	Bongo		295	54 14.043	132 53.585	183	150					
		21:33	EN				54 14.081	132 53.312	198						
		21:37	BE	CTD		296	54 14.105	132 53.325	198	150		/			BOT@10m: Nuts&Chl
		21:47	EN				54 14.237	132 53.231	237						
		21:54	BE	Trawl		297	54 14.498	132 53.874	231	0					SURFACE
		22:24	EN				54 15.962	132 56.584	666						

= 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

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

Notes: ____

DE04 – VIRAGO SD., DE.
DE05 – KIASHUAN Pt., DE
DE06 – LANGARA I., DE.

DE06 – STRONG TIDE, PUSHING TRAWL TO PORT.
STRONG TIDE, CTD + BONGO PUSHED TO STARBOARD.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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 Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
30	D01	13 08	BE	CTD		298	54 32.55	132 19.74	324	250		1			
		13 24	EN				54 32.677	132 19.633	320						Bot 6 10m Chl + nuts
		13 25	BE	Bongo		299	54 32.701	132 19.601	320	150					
		13 34	EN				54 32.782	132 19.485	326						
		13 43	BE	Trawl		300	54 32.671	132 20.265	330	0					
		14 13	EN				54 32.084	132 24.024	356						Surface
30	D02	15:06	BE	Bongo		301	54 30.77	132 34.200	372	150					
		15:19	EN				54 30.919	132 34.063	371						
		15:21	BE	CTD		302	54 30.965	132 34.039	364	250		1			
		15:35	BO				54 31.158	132 33.914	361						Bot 6 10m Chl + nuts
		15:45	BE	Trawl		303	54 31.021	132 34.712	369	15					
		16:15	EN				54 30.293	132 38.024	371						15m Tow
30	D03	17:21	BE	CTD		304	54 27.834	132 48.371	377	250		1			
		17:35	EN				54 27.903	132 47.790	377						Bot 6 10m Chl + nuts
		17:38	BE	Bongo		305	54 27.913	132 47.602	378	150					
		17:48	EN				54 27.963	132 47.132	379						
		17:55	BE	Trawl		306	54 27.721	132 47.659	378	0					
		18:25	EN				54 29.305	132 50.558	379						Surface tow

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

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

Notes:

This page is for any notes or observations

D01 - STRONG FLOOD TIDE.

D02 - 3m SWELLS, RIPPLED SEAS, NO WHITECAPS.
- TIDE 1.1 KTS

D03 - DRIFTING AT 2.3 KNOTS WITH CTD + BINGO OPERATIONS.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month July **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 Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
30	DO4	19:27	BE	Bongo	-	307	54 24968	133 00.942	121	110					
		19:34	EN				54 25.044	133 00.863	97						
		19:36	BE	CTD		308	54 25.080	133 00.838	119	100		1			BOT 6 10m NUTS + CHL.
		19:43	EN				54 25 141	133 00.812							
		19:51	BE	Trawl.		309	54 25 013	133 01.10	119	15					15m TOW
		20 21	EN.				54 24 136	133 5.419	245.						
2	QCI01	—	—	CTD		310									CANCELLED
		—	—	Bongo		311									CANCELLED
		13:04	BE	Trawl.		312	54 42.646	132 07.369	153						
		13:34	EN				54 41.322	132 05.141							
2.	QCI02	15:26	BE	CTD		313	52 34.093	131 55.186	211	195		1			BOT 6 10m NUT + CHL
		15 36	EN				52 34.119	131 55.044	207						
		15 38	BE	Bongo		314	52 34.122	131 55.018	206	150					
		15 48	EN				52 34 142	131 54.851	196						
		15 58	BE	Trawl		315	52 33 669	131 54.063	171	15					15m TOW
		16 28	EN				52 31.865	131 51.073	291						

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

This page is for any notes or observations

D04 – LEERMOUTH BK.

OCT01 – 2m SWELLS, WHITECAPS, WINDS SW 15-20

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month July **Year** 2011 **Ship** F.V. Viking Storm **Cruise ID** 2011-37

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Latitude	Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
2	QCI03	17:47	BE	Bongo		316	52 27.038	131 43.134	202	150					
		17:58	EN				52 27.101	131 43.031	197						
		18:00	BE	CTD		317	52 27.122	131 42.991	197	180		/			Bot @ 10m nutt chl
		18:11	EN				52 27.199	131 42.837	191						
		18 18	BE	Trawl		318	52 26.866	131 42.471	191	0					
		18 48	EN				52 24.831	131 40.461	248						Surface Tow
2	QCI04	20 12	BE	CTD		319	52 15.671	131 30.380	158	150		/			Bot @ 10m nuts+chl
		20 19	EN				52 15.644	131 30.282	134						
		20 22	BE	Bongo		320	52 15.643	131 30.325	133	115					
		20 30	EN				52 15.647	131 30.106	153						
		20 42	BE	Trawl		321	52 15.671	131 29.289	146	15					
		21 12	EN				52 13.366	131 27.621	172						15m Tow
2	QCI05	22 46	BE	Bongo		322	52 5.216	131 17.293	163	150.					
		22.55	EN				52 5.307	131 17.197	157						
		22:56	BE	CTD		323	52 5.313	131 17.192.	157	145		/			Bot @ 10m nuts+chl
		23:06	EN				52 5.361	131 17.116	145.						
		23:12	BE	Trawl		324.	52 4.892	131 16.964	170	0					
		23 42	EN				52 2.32	131 15.653	219						Surface Tow.

= 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

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

Notes:

This page is for any notes or observations

QCI04 – 2 HUMPBACK WHALES ARRIVING AFT SHIP DURING CTD + BONGO.

QCI05 – 1M SWELL, RIPPLED SEAS, SEAS ARE SETTLING DOWN.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JULY	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 Latitude	Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
3	IBC 05	13:01	BE	CTD		325	52 15.208	128 27.36.	103	95		1			BOT@10m: Nuts&Chl
		13:06	EN				52 15 233	128 27.433							
		13:09	BE	Bongo		326	52 15.256	128 27.482	92	85					
		13:14	EN				52 15.296	128 27.567	80						
		13:22	BE	Trawl.		327	52 15.347	128 26.877		0					SURFACE TOW
		13 52	EN				52 15.321	128 23.266.							
3	IBC06.	14:27	BE	Bongo		328	52 14.59	128 17.60	400	150					
		14:36	EN				52 14.55	128 17.71							
		14:38	BE	CTD		329	52 14.55	128 17.75	400	250		1			BOT@10m NUTS + CHL.
		14:52	EN				52 14.55	128 18.07							
		15:01	BE	Trawl		330	52 14.55	128 17.247	253						15 TOW.
		15:31.	EN				52 13.906	128 13.764							
3	IBC07	17:01	BE.	CTD		331	52 5.645	128 7.392.	117	100		1			BOT@10m NUTS+ CHL
		17:06	EN				52 5.643	128 7.344							
		17:07	BE	Bongo		332	52 5.645	128 7,346	136	100.					
		17:13	EN				52 5.655	128 7.321	146.						
		17 19	BE	Trawl		333.	52 5.314	128 6.72.	127.	0					SURFACE TOW
		17 49	EN.				52 4.567	128 3.043	158						

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

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

Notes: ___

This page is for any notes or observations

IBC05 - SEAFORTH CHANNEL, McINNES IS LIGHTHOUSE
1/4 m SWELL, RIPPLED SEAS.

IBC06 - SEAFORTH CH.

IBC07 - LAMA PASSAGE.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month July **Year** 2011 **Ship** F.V. Viking Storm **Cruise ID** 2011 – 32

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
3	IBC08	18:51	BE	Bongo		334	52 7.991	127 52.446	520	150					
		18:59.	EN				52 8.022	127 52.503.							
		19:01	BE	CTD		335	52 8.032	127 52.523.	7500	250		1			
		19:16	EN				52 8.071	127 52.631	7500						BOT @ 10m NUTS+CHL
		19:23	BE	Trawl.		336.	52 7.670	127 52 682.	7500.						
		19:53	EN				52 6.509	127 54 680	359.						Surface Tow
3	IBC09	20:43	BE	CTD		337	52 1.138	127 55.039	240	222		1			
		20:56	EN				52 1,289	127 54,926							BOT @ 10m NUTS+CHL
		20:58	BE	Bongo.		338	52 1.307	127 54.881	222	150					
		21:06.	EN				52 1.336	127 54.892							
		21:13	BE	Trawl.		339.	52 0.945	127 55.194	244	~~0~~					
		21:43	EN				51 58.775	127 56 216	–						SURFACE TOW
3	IBC10	22:25.	BE	Bongo.		340.	51 54,251	127 54,050.	142	130					
		22 33	EN				51 54.300	127 53,937.	144.						
		22 35	BE	CTD		341	51 54.312	127 53,890	144	130.		1			
		22 42	EN				51 54. 344	127 53.797	146.						BOT @ 10m NUTS+ Chl.
		22 50	BE	Trawl.		342	51 54.508	127 52.750	192	~~0~~					
		23 20	EN				51 55.802	127 49. 180							SURFACE TOW

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

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

Notes: __________

This page is for any notes or observations

IBC08 – Fisher Channel off Johnson Passage.. entrance. strong tide, floats on [illegible] or [illegible] display.

IBC08 – Fisher Channel, 1.5 knot tide

IBC09 –

IBC10 – Fisher Ch at Burke Ch intersection

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month July **Year** 2011 **Ship** F.V. Viking Storm **Page** 39 of 43 **Cruise ID** 2011-37

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
4	IBC11	00:11	BE	CTD		343	51 52.15	127 54.58	275	250					
		00:27	EN				51 52259	127 54 518							Bot@10m: Nuts&Chl
		00:28	BE	Bongo		344	51 52 291	127 54 505	290	150					
		00:36	EN				51 52 350	127 54 429	293						
		00:43	BE	Trawl		345	51 51 908	127 54 346	255	Ø					
END OF DAY		01:13	EN				51 49.556	127 54.22	202						SURFACE TOW
4	IBC12	12:57	BE	CTD		346	51 31.05	127 52.49	148	135		1			
		13:05	EN				51 31 074	127 52.534	144						@10m nuts & chl
		13:07	BE	Bongo		347	51 31.063	127 52.541	144	135					
		13:15	EN				51 31.115	127 52.590	144						
		13:22	BE	Trawl		348	51 30.526	127 52.501	144	Ø					
		13:52	EN				51 28.194	127 51.571	160						SURFACE TOW
4	QCSD07	14:29	BE	Bongo		349	51 23.44	127 52.38	113	100					
		14:35	EN				51 23.44	127 52.44							
		14:38	BE	CTD		350	51 23.45	127 52.50	113	100					
		14:44	EN				51 23.45	127 52.60							Bot@10m: Nuts&Chl
		14:51	BE	Trawl		351	51 22.91	127 52.87	109	Ø					
		15:21	EN				51 20.503	127 54.147	140						SURFACE TOW

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

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

Notes:

This page is for any notes or observations

1. FITZ - HUGH — R.
2. RIVERS INLET —
3. RIVERS INLET
4. GORDON GP.

IBC12 — S. FITZ-HUGH SD., NO SWELL, RIPPLED SEAS, SW 30-40 STORM APPROACHING.

QCSD07 — OFF DUGOUT RKS, JUST SOUTH OF RIVERS INLET.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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	Latitude	Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
4	QCSD08	16:03	BE	CTD		352	51 15.58	127 53.39	130	120		1			Bot @ 10m nuts + Chl.
		16:10	EN				51 15.66	127 53.42							
		16:12	BE	Bongo		353	51 15.69	127 53.43	130	120					
		16:19	EN				51 15.78	127 53.50							
		16:27	BE	Trawl.		354	51 15.24	127 53.50	131	15					15m Tow
		16 57	EN.				51 12.943	127 .53598	141						
4	QCSD09	18:27.	BE	Bongo		355	51 1.7	127 57.149	135	125.					
		18:34	EN				51 1.736	127 57.139	136						
		18:37	BE	CTD		356	51 1.745	127 57.112	136			1			Bot @ 10m nuts + Chl.
		18:45	EN				51 1.765	127 57.077	137						
		18 50	BE	Trawl.		357	51 1.402	127 56.316	134	0					Surface Tow
		19:20	EN				51 00.343	127 53.043	135.						
4	QCST01	20 05	BE.	CTD		358	50 57.666	127 45.554	245.	250		1			Bot @ 10m nuts + Chl.
		20:20	EN				50 57.672	127 45.672	211						
		20 22	BE	Bongo		359	50 57.672	127 45.695.	210						
		20 30	EN				50 57.661	127 45.749	197						
		20:37	BE	Trawl.		360	50 57 397	127 44 896.	322	0					Surface Tow.
		21:07	EN				50 56.228	127 41 709							

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

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

Notes: ____

This page is for any notes or observations

QCSD08 - SOUTH PASSAGE, 1/4 SWELL, RIPPLED SEAS, OCCASIONAL WHITECAPS.

QCST01 - QUEEN CHARLOTTE STRAIT, PINE ISLAND.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month	Jun	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 Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
4	QCST02	22 03	BE	Bongo		361	50 51.252	127 32.053	134	125					
		2209	EN				50 51.200	127 32.109	119						
		22 12	BE	CTD		362	50 51.164	127 32.160	108	100		1			Bot @ 5m nuts + Chl
		22 17	EN				50 51.110	127.32.209	90						
		22 23	BE	Trawl		363	50 50.86	127 31.325	180	0					Surface Tow
		22:53	END				50 49.707	127 27.56	228						
4	QCST03	23 32	BE	CTD		364	50 52.94	127 22.394	146	130		1			Bot @ 10m nuts + Chl
		23 40	END				50 52.955	127 22.447	135						
		23 42	BE	Bongo		365	50 52.962	127 22.457	130	120					
		2348	EN				50 52 981	127 22.480	123						
		23 58	BE	Trawl		366	50 52.527	127 22.132	151	0					Surface Tow
5 END OF DAY		00 28	EN				50 50.497	127 20 904	150						
5	QCST04	13 06	BE	CTD		367	50 47.247	127 23.551	307	250		1			Bot @ 10m, nuts + Chl
		13 18	EN				50 47.344	127 23.825	327						
		13:20	BE	Bongo		368	50 47.363	127 23.864	310	150					
		13 28	EN				50 47.347	127 24.019	316						
		13 36	BE	Trawl		369	50 47.039	127 23.690	280	0					Surface Tow
		14:06	EN				50 45.464	127 21.858	332						

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

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

Notes: ___

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

This page is for any notes or observations

QCST03 - QUEEN CHARLOTTE STRAIT FLAT CALM, LOW CLOUD.
QCST04 - QCSP, OFF PORT HARDY.
17:15 - TARGET OPERATIONAL SHUT DOWN.
(5:15 PM)

SE 10-15 LIGHT WINDS.

QCST, JULY 5 - WEATHER PREDICTION, SE 10-15

QCST04 - FLAT CALM

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month July **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 Latitude	Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
5	QCST05	14:45	BE	Bongo		370	50 42.247	127 17.068	109	95					
		14:52	EN				50 42.252	127 17.109	108						
		14:55	BE	CTD		371	50 42.228	127 17.097	109	95		1			Bot @ 10m nuts+chl.
		15:00	END				50 42.219	127 17.142	107						
		15:07	BE	Trawl		372	50 42.44	127 16.460	130	Ø					Surface tow
		15:37	END				50 43.73	127 13.482	194						
5	QCST06	16:05	BE	CTD		373	50 44.775	127 10.505	176	150		1			Bot @ 10m nuts+chl.
		16:14	EN				50 44.781	127 10.799	178						
		16:17	BE	Bongo		374	50 44.792	127 10.859	178	150					
		16:24	END				50 44.852	127 11.119	181						
		16:33	BE	Trawl		375	50 44.772	127 10.408	175	15					15 m Tow
		17:03	EN				50 44.355	127 07.386	137						
5	QCST07	17:46	BE	Bongo		376	50 49.44	127 07.945	140	130					
		17:55	EN				50 49.448	127 08.083							
		17:56	BE	CTD		377	50 49.451	127 08.092	140	130		1			Bot @ 10m nuts+chl.
		18:03	EN				50 49.495	127 08.179	140						
		18:09	BE	Trawl		378	50 49.301	127 7.455	150	Ø					
		18:39	EN				50 48.246	127 4.834	156						

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

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

Notes:

This page is for any notes or observations

QC8T05 – off (Port Hardy) Deer Island.
Pierport

QCST06 – Numas Is, South

QCST07 – Numas Is, . Group of Dolphins spotted heading South

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month	July	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 Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
5	QCST08	19:30	BE	CTD		379	50 44.391	126 57.578	96	85		1			BOT @ 10m NUTS + Chl.
		19:35	EN				50 44 425	126 57 674	104						
		19:38	BE	Bongo		380	50 44.445	126 57.707	129	85					
		19 42	EN				50 44.483	126 57 789	121						
		19 50	BE	Trawl		381	50 44 294	126 57.115	117	Ø					SURFACE TOW
		20:20	EN				50 42 482	126 54.558	175						
5	QCST09	21:01	BE	Bongo		382	50 43.773	126 46.593	109	100					
		21:07	EN				50 43.826	126 46.613	108	100					
		21:09	BE	CTD		383	50 43 859	126 46 609	104	100		1			BOT @ 10m NUTS + Chl
		21:15	EN				50 43.922	126 46.593	110						
		21:20	BE	Trawl		384	50 43.553	126 46 248	113						SURFACE TOW
		21:51	EN				50 41.608	126 45.944	127						
5	QCST10	22:27	BE	CTD		385	50 38.974	126 49.928	105	95		1			BOT @ 10m NUTS + Chl
		22:30	EN				50 38.965	126 49.901							
		22:31	BE	Bongo		386	50 38.956	126 49.871	106	95					
		22:37	EN				50 38.896	126 49.691	98						
		22:44	BE	Trawl		387	50 38.36	126 49.06	103	Ø					SURFACE TOW
		23:14	EN				50 36.353	126 46.003	133						

— END OF SURVEY —

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

This page is for any notes or observations

QCST08 – QCST, Salmon Channel

QCST09 – QCST, off Broughton Arch.

QCST10 – QCST, Blackfish Sd.

– END OF SURVEY –