

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2012-50

DATE:

From: 16 JUNE 2012

to: 04 JULY 2012

VESSEL:

F/V VIKING STORM

PROJECT(S):

HIGH SEAS SALMON
Book 2 of 3

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 Johnson
Fishing Master: Chris Roberts

Mission Participants / Agencies: DEO/NOAA/CFIA

Scientific Personnel: Chief Scientist: Mary Thies
Name Watch Cabin Name Watch Cabin
Deb Harstad
Nic Bedeluk John Morris
Taylor Nettles Jeongha Jung

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: 25 serial number: 0404

Primary temperature serial number: _____
Primary conductivity serial number: _____
Secondary temperature serial number: _____
Secondary conductivity serial number: _____

Transmissometer: Model: _____ s/n: _____
Fluorometer: Model _____ Cable gain: _____ P, S or NO pump?
Oxygen sensor: Model: _____ s/n: _____ P, S or NO pump?
PAR sensor: Model: _____ s/n: _____
Other sensors: PH 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: _____ 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?
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CTD calibration bottle location (height above CTD in metres): _____

This page is for any notes or observations

⑦ See notes from beginning of Book 1

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Month <u>JUNE</u>				Year <u>2012</u>				Ship <u>F/V VIKING STORM</u>				Cruise ID <u>2012-50</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	T04	18:33	BE	NET		151	81 00.7	128 53.4	60	80					
		18:36	EN				00.8	53.4							
		18:40	BE	CTD		152	81 00.9	128 53.3	60	80		2	MT	NA	BOT@10m
		18:45	EN				01.0	53.3							NUTS, CHL & SAL, pH
		18:51	BE	SET		153	81 01.3	128 52.5	SURFACE						pH cal @ 50m
		19:21	EN				02.2	48.6							
24	T03	19:52	BE	CTD		154	81 04.7	128 43.9	58	50		1	MT	NA	BOT@10m
		19:55	EN				04.7	43.8							NUTS, CHL & SAL
		19:58	BE	NET		155	81 04.7	128 43.8	59	50					
		20:01	EN				04.8	43.8							
		20:08	BE	SET		156	81 05.0	128 43.2	SURFACE						
		20:38	EN				06.3	39.6							

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
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MR = Messenger Release Time
RE = Recover Mooring Time

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

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Month JUNE				Year 2012			Ship F/V VIKING STORM				Cruise ID 2012-50				
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	T02	21:10	BE	NET		157	51 08.1	128 36.1	133	125					
		:17	EN				08.1	36.1							
		21:20	BE	CTD		158	51 08.1	128 36.1	133	125		1	MT	NA	BOT @ 10m
		:26	EN				08.1	36.0							NUTS, CHL & SAL
		21:37	BE	SET		159	51 08.7	128 34.9	30 meters						(*) →
		22:07	EN				10.6	37.2							
24	T01	22:30	BE	CTD		160	51 12.6	128 28.2	192	180		1	MT	NA	BOT @ 10m
		:46	EN				12.6	28.2							NUTS, CHL & SAL
		22:49	BE	NET		161	51 12.6	128 28.1	192	160					
		:57	EN				12.6	28.1							
		23:06	BE	SET		162	51 12.9	128 27.1	15 meters						
		:36	EN				14.2	24.0							

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T02: One of the chl filters was installed incorrectly (marked on jar). Sample water ran through & some spilled out of the cup (through threaded section).

SI 23.01
128 46.01

27.5 09.3
2.5 BLACK

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Month JUNE				Year 2012				Ship F/V VIKING STORM				Cruise ID 2012-50			
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	QCSD01	00:03	BE	NET		163	51 16.2	128 20.5	79	70					
		:07	EN				16.2	20.5							
		00:11	BE	CTD		164	51 16.2	128 20.5	79	70		1	MT	NA	BOT @ 10m
		:15	EN				16.2	20.4							NUTS, CHL & SAL
		00:22	BE	SET		165	51 16.7	128 20.5	SURFACE						
		:32	EN				17.4	20.7							
= END OF DAY															
25	QCSD02	1300	BE	CTD		166	51 42.8	128 14.4	137	130		1	MT	NA	BOT @ 10m
		06	EN				42.8	14.4							NUTS, CHL & SAL
		1308	BE	NET		167	51 42.8	128 14.4	137	125					
		:15	EN				42.8	14.6							
		13:23	BE	SET		168	51 42.9	128 15.5	SURFACE						
		:43	EN				43.6	19.3							

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Month JUNE				Year 2012			Ship F/V VIKING STORM				Cruise ID 2012-50				
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	QCS003	14:25	BE	NET		169	51 44.0	128 25.6	142	130					
		14:27	EN				44.0	25.6							
		14:32	BE	CTD		170	51 44.0	128 25.7	142	135		1	MT	NA	BOT@10m
		14:38	EN				44.0	25.7							NUTS, CHL & SAL
		14:48	BE	SET		171	51 44.2	128 26.8	15	METER					
		14:18	EN				45.0	30.3							
25	QCS004	15:55	BE	CTD		172	51 44.9	128 36.6	98	90		1	MT	NA	BOT@10m
		16:00	EN				44.9	36.6							NUTS, CHL & SAL
		16:02	BE	NET		173	51 44.9	128 36.6	98	90					
		16:08	EN				44.8	36.6							
		16:14	BE	SET		174	51 44.9	128 37.3	SURFACE						
		16:44	EN				45.4	40.4							

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Month				Year				Ship				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								
25	GCSD05	18:07	BE	NET		175	51 53.5	128 36.3	131	120						
		:14	EN				53.5	36.3								
		18:18	BE	CTD		176	51 53.5	128 36.4	131	125		1	MT	NA	BOT@10m	
		:24	EN				53.5	36.4							NUTS, CHL & SAL	
		18:35	BE	SET		177	51 54.0	128 37.4	30 metres							
		19:05	EN				55.1	40.7								
25	GCSD06	19:41	BE	CTD		178	51 55.6	128 46.9	134	125		1	MT	NA	BOT@10m	
		:47	EN				55.7	46.9							NUTS, CHL & SAL	
		19:50	BE	NET		179	51 55.7	128 46.9	136	125						
		:59	EN				55.8	46.9								
		20:05	BE	SET		180	51 55.9	128 47.6	SURFACE							
		:35	EN				56	51.0								

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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	QCSD07	21:20	BE	NET		181	51 56.7	128 59.1	103	90					
		:27	EN				56.8	58.9							
		21:31	BE	CTD		182	51 56.8	128 58.9	103	95		2	MT	NA	BOT@10m
		:38	EN				56.8	58.7							NUTS, CAL, SAL & pH
		21:45	BE	SET		183	51 56.8	128 59.3	surface						pH cal @ 95m
		22:15	EN				56.7	129 02.8							
26	HOI	00:04	BE	CTD		184	52 12.0	129 08.3	161	150		1	MT	NA	BOT@10m
		:11	EN				12.0	08.3							NUTS, CAL & SAL
		00:13	BE	NET		185	52 12.0	129 08.3	161	150					
		:21	EN				12.0	08.4							
		00:28	BE	SET		186	52 12.2	129 09.2	surface						
		:58					13.0	13.0							
END OF DAY															

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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	H02	12:58	BE	CTD		187	52 15.8	129 25.8	177	165		1	MT	NA	BOT@10m
		13:06	EN				15.9	25.7							NUTS, CHL & SAL
		13:08	BE	NET		188	52 15.9	129 25.7	177	150					
		:16	EN				15.9	25.6							
		13:25	BE	SET		189	52 16.2	129 26.4	15 meter.						
		:55	EN				16.9	29.7							
26	H03	14:53	BE	NET		190	52 19.0	129 41.0	209	150					
		15:02	EN				18.9	40.9							
		15:06	BE	CTD		191	52 18.9	129 40.9	210	190		1	MT	NA	BOT@10m
		:14	EN				18.8	40.9							NUTS, CHL & SAL
		15:21	BE	SET		192	52 18.8	129 41.5	SURFACE						
		:51	EN				19.3	44.9							

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Month JUNE				Year 2012			Ship F/V VIKING STORM				Cruise ID 2012-50				
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	H04	16:56	BE	CTD		193	52 21.6	129 57.8	168	160		1	MT	NA	BOT @ 10m
		17:04	EN				21.6	57.7							NUTS, CHL & SAL
		17:06	BE	NET		194	52 21.7	129 57.6	170	150					
		:14	EN				21.7	57.5							
		17:22	BE	SET		195	52 21.9	129 58.2	SURFACE						
		:52	EN				22.9	130 01.2							
26	H05	18:55	BE	NET		196	52 25.2	130 13.2	326	150					
		19:03	EN				25.3	13.1							
		19:07	BE	CTD		197	52 25.3	130 13.0	326	190		1	MT	NA	BOT @ 10m
		:16	EN				25.4	12.7							NUTS, CHL & SAL
		19:25	BE	SET		198	52 25.6	130 13.5	30 meters						
		:55	EN				26.3	16.6							
	</														

Cast Type:

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Month <u>JUNE</u>				Year <u>2012</u>			Ship <u>F/V VIKING STORM</u>			Cruise ID <u>2012-50</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	H06	21:00	BE	CTD		199	52 28.5	130 29.1	168	155		1	MT	NA	BOT @ 10m NUTS, CHL & SAL
		:07	EN				28.7	29.1							
		21:09	BE	NET		200	52 28.7	130 29.1	168	150					
		:18	EN				28.9	29.1							
		21:26	BE	SET		201	52 29.2	130 30.0	Surface						
		:56	EN				30.3	33.3							
26	H07	22:44	BE	NET		202	52 32.6	130 44.0	118	105					
		:50	EN				32.7	44.1							
		22:54	BE	CTD		203	52 32.7	130 44.1	118	110		1	MT	NA	BOT @ 10m NUTS, CHL & SAL
		23:01	EN				32.7	44.2							
		23:09	BE	SET		204	52 33.0	130 45.1	15 meter						
		:39	EN				33.9	49.0							
= END OF DAY															

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							Latitude	Longitude							
27	HS01	13:46	BE	CTD		205	53 46.3	130 43.4	123	115		1	MT	NA	BOT@10m
		13:50	EN				46.3	43.5							NUTS, CHL & SAL
		13:54	BE	NET		206	53 46.3	130 43.6	123	110					
		14:00	EN				46.3	43.6	1						
		14:10	BE	SET		207	53 46.5	130 44.2		SURFACE					
		14:40	EN				46.6	48.2							
27	HS02	15:10	BE	NET		208	53 48.9	130 52.5	96	80					
		15:17	EN				48.9	52.5							
		15:20	BE	CTD		209	53 49.0	130 52.5	94	80			MT	NA	BOT@10m
		15:24	EN				49.0	52.5							NUTS, CHL & SAL
		15:32	BE	SET		210	53 49.3	130 51.8		SURFACE					
		16:02	EN				51.4	49.5							

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Month JUNE				Year 2012				Ship FN VIKING STORM				Cruise ID 2012-50			
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							
27	HS03	16:36	BE	CTD		211	53 54.0	130 52.4	57	50		1	MT	NA	EOT @ 10m
		16:39	EN				54.1	52.5							NUTS, CHL & SAL
		16:41	BE	NET		212	53 54.1	130 52.6	57	45					
		16:44	EN				54.1	52.6							
		16:53	BE	SET		213	53 54.3	130 53.7	SURFACE						
		17:23	EN				55.0	57.7							
27	HS04	18:03	BE	NET		214	53 57.9	130 56.5	45	35					
		18:06	EN				57.9	56.5							
		18:10	BE	CTD		215	53 57.9	130 56.6	47	35		1	MT	NA	
		18:13	EN				57.9	56.6							
		18:19	BE	SET		216	53 58.2	130 55.8	SURFACE						
		18:49	EN				59.8	52.7							
= END OF DAY															

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Month JUNE				Year 2012			Ship F/V VIKING STORM				Cruise ID 2012-50				
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							
28	1BC01	13:24	BE	CTD		217	54 11.7	130 23.1	78	65		1	MT	NA	BOT@10m
		13:27	EN				11.7	23.2							NUTS, CHL, & SAL
		13:30	BE	NET		218	54 11.8	130 23.3	74	65					
		13:34	EN				11.8	23.3							
		13:46	BE	SET		219	54 11.6	130 24.5	SURFACE						
		14:26	EN				12.2	31.0							
28	1BC02	14:57	BE	NET		220	54 10.5	130 34.1	107	100					
		15:02	EN				10.6	34.2							
		15:07	BE	CTD		221	54 10.6	130 34.2	107	100		1	MT	NA	BOT@10m
		15:11	EN												NUTS, CHL & SAL
		15:20	BE	SET		222	54 10.8	130 35.5	15 meter						
		15:50	EN				11.9	38.5							

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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Month JUNE				Year 2012			Ship F/V VIKING STORM				Cruise ID 2012-50				
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							
28	1BC03	16:26	BE	CTD		223	54 13.9	130 43.4	155	145		1	MT	NA	BOT@10m
		16:32	EN				13.9	43.4		140					NUTS, CHL & SAL
		16:36	BE	NET		224	54 13.8	130 43.4	155	140					
		16:42	EN				13.8	43.8							
		16:51	BE	SET		225	54 14.2	130 44.0	surface						
		17:21	EN												
28	1BC04	17:40	BE	NET		226	54 18.2	130 50.0	136	128					
		17:56	EN				18.3	49.9							
		18:01	BE	CTD		227	54 18.3	130 50.0	136	128		2	MT	NA	BOT@10m
		18:11	EN				18.4	50.0							NUTS, CHL & SAL, pH
		18:16	BE	SET		228	54 18.6	130 50.9	surface						pH cal sample @ 125m
		18:40	EN				19.3	55.1							

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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Month JUNE				Year 2012				Ship F/V VIKING STORM				Cruise ID 2012-50			
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							
28	DT01	19:43	BE	CTD		229	54 25.2	130 01.6	66	60		1	MT	NA	BOT@10m
		19:43	EN				25.1	01.7							NUTS, CHL & SAL
		19:45	BE	NET		230	54 25.2	130 01.7	75	65					
		19:49	EN				25.1		7						
		19:56	BE	SET		231	54 25.2	130 02.4	SURFACE						
		20:26	EN				25.9	07.7							
28	DT02	20:59	BE	NET		232	54 25.9	131 12.8	167	150					
		21:07	EN				26.1	13.0							
		21:12	BE	CTD		233	54 26.2	131 13.1	180	140		1	MT	NA	BOT@10m
		21:18	EN				26.4	13.2							NUTS, CHL & SAL
		21:28	BE	SET		234	54 26.3	131 14.3	15 METERS						
		21:58	EN				25.9	18.2							

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
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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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Month JUNE				Year 2012				Ship F/V VIKING STORM				Cruise ID 2012-50			
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							
28	DT03	22:33	BE	CTD		235	54 26.7	131 24.3	271	190		1	MT	NA	BOT@10m
		:42	EN				26.9	24.3							NUTS, CHL & SAL
		22:45	BE	NET		236	54 26.9	131 24.3	271	150					(*)
		:53	EN				26.9	24.3							
		23:02	BE	SET		237	54 26.9	131 25.1	SURFACE						
		:32	EN				26.4	29.0							
29	DT04	00:04	BE	NET		238	54 27.6	131 33.7	285	150					
		:12	EN				27.7	33.5							
		00:16	BE	CTD		239	54 27.8	131 33.4	285	190		1	MT	NA	BOT@10m
		:26	EN				28.1	33.2							NUTS, CHL & SAL
		00:36	BE	SET		240	54 27.8	131 33.6	30m SURFACE						
		01:06	EN				26.2	35.1							
= 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

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⊗ DT03 Preserved plankton (jar) sample smashed on deck.

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Month JUNE				Year 2012			Ship F/V VIKING STORM				Cruise ID 2012-50				
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							
29	DE01	12:57	BE	CTD		241	54 13.6	131 43.6	113	105		1	MT	NA	BOT @ 10m
		13:03	EN				13.6	43.5							NUTS, CHL & SAL
		13:05	BE	NET		242	54 13.7	131 43.5	113	105					
		13:11	EN				13.7	43.3							
		13:18	BE	SET		243	54 13.5	131 44.0	Surface						
		13:48	EN				12.4	46.7							
29	DE02	14:47	BE	NET		244	54 09.3	131 57.1	56	45					
		50	EN				09.3	57.0							
		14:53	BE	CTD		245	54 09.3	131 57.0	56	45		1	MT	NA	BOT @ 10m
		15:55	EN				09.2	57.9							NUTS, CHL & SAL
		15:02	BE	SET		246	54 09.4	131 57.4	Surface						
		15:32	EN				10.2	132 00.4							

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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Month JUNE				Year 2012				Ship F/V VIKING STORM				Cruise ID 2012-50				Page 42 of 65	
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									
29	DE03	16:36	BE	CTD		247	54 09.7	132 12.7	58	45		1	MT	NA	BOT@10m		
		:38	EN				09.3	12.6							NUTS, CHL & SAL		
		16:41	BE	NET		248	54 09.3	132 12.5	56	45					⊗ →		
		:43	EN				09.3	12.4									
		16:51	BE	SET		249	54 09.0	132 13.0	SURFACE								
		17:21	EN				08.6	16.6									
29	DE04	18:13	BE	NET		250	54 07.9	132 27.8	49	40							
		:15	EN				07.9	27.7									
		18:20	BE	CTD		251	54 07.9	132 27.7	49	40		1	MT	NA	BOT@10m		
		22	EN				07.9	27.7							NUTS, CHL & SAL		
		18:32	BE	SET		252	54 08.2	132 28.3	SURFACE								
		19:02	EN				08.3	32.6									

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

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⊗ DE03: pH buffer bottle left on during cast.

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Month <u>JUNE</u>			Year <u>2012</u>			Ship <u>F/V VIKING STORM</u>			Cruise ID <u>2012-50</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							
29	DE05	19:59	BE	CTD		253	84 10.6	132 48.7	83	45		1	MT	NA	BOT @ 10m
		20:01	EN				10.6	45.7							NUTS, CHL & SAL
		20:04	BE	NET		254	84 10.6	132 48.7	83	45					
		06	EN				10.5	45.7							
		20:13	BE	SET		255	84 10.7	132 46.4	SURFACE						
		48	EN				11.2	50.4							
29	DE06	21:18	BE	NET		256	54 13.8	132 54.4	150	140					
		25	EN				13.8	54.5							
		21:29	BE	CTD		257	54 13.7	132 54.5	148	140		2	MT	NA	BOT @ 10m
		39	EN				13.7	54.6							NUTS, CHL & SAL, pH
		21:47	BE	SET		258	54 14.3	132 54.9	15 METERS						pH cal sample @ 117m
		22:17	EN				16.5	56.3							

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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Month JUNE				Year 2012			Ship F/V VIKING STORM				Cruise ID 2012-50				
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							
29	QC101	23:53	BE	CTD		259	54 11.2	133 07.6	81	40		1	MT	NA	BOT@10m
		:56	EN				11.2	07.6							NUTS, CHL & SAL
		23:58	BE	NET		260	54 11.2	133 07.6	81	40					
		00:01	EN				11.2	07.6							
		00:09	BE	SET		261	54 11.0	133 08.2	SURFACE						
		139	EN				09.7	11.6							
END OF DAY															
30	QC102	13:00	BE	CTD		262	53 41.7	133 05.9	130	120		1	MT	NA	BOT@10m
		:05	EN				41.7	05.8							NUTS, CHL & SAL
		13:07	BE	NET		263	53 41.7	133 05.8	125	110					
		113	EN				41.6	05.8							
		13:21	BE	SET		264	53 41.1	133 05.7	SURFACE						
		:51	EN				38.7	04.1							

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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Month JUNE

Year 2012

Ship F/V VIKING STORM

Cruise ID 2012-50

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							
30	QC103	15:08	BE	NET		265	53 28.0	132 59.5	155	140					
		15:15	EN				28.0	59.5							
		15:20	BE	CTD		266	53 28.0	132 59.5	154	145		1	MT	NA	BOT @ 10m
		15:26	EN				28.0	59.4							NUTS, CHL & SAL
		15:35	BE	SET		267	53 27.3	132 58.9	15 meters						
		16:05	EN				28.0	57.2							
30	QC104	17:23	BE	CTD		268	53 15.7	132 46.7	195	185		1	MT	NA	BOT @ 10m
		17:32	EN				15.7	46.6							NUTS, CHL & SAL
		17:34	BE	NET		269	53 15.6	132 46.6	187	150					
		17:44	EN				15.6	46.5							
		17:51	BE	SET		270	53 15.3	132 46.1	SURFACE						
		18:21	EN				13.3	44.2							

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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Month JUNE				Year 2012			Ship F/V VIKING STORM			Cruise ID 2012-50					
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							
30	QCI05	19:18	BE	NET		271	53 07.1	132 37.2	151	140					
		19:26	EN				07.1	37.2							
		19:30	BE	CTD		272	53 07.0	132 37.2	151	140		2	MT	NA	BOT@10m
		19:39	EN				07.0	37.1							NUTS, CHL & SAL, pH
		19:46	BE	SET		273	53 06.5	132 36.9	SURFACE						pH cal sample @ 118m
		20:16	EN				04.3	34.8							
30	QCI06	21:14	BE	CTD		274	52 58.5	132 28.3	342	190		1	MT	NA	BOT@10m
		21:23	EN				58.6	28.4							NUTS, CHL & SAL
		21:28	BE	NET		275	52 58.6	132 28.4	321	150					
		21:33	EN				58.6	28.3							
		21:42	BE	SET		276	52 58.1	132 27.8	30 meters						
		22:12	EN				56.3	26.0							

Cast Type:

BOT = Bottle cast, no CTD
CTD = CTD without Rosette
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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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⊗ pH cal sample done @ 118m b/c wire has snags in it below this point which prevent messenger from sliding

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Month JUNE/JULY

Year 2012

Ship F/V VIKING STORM

Cruise ID 2012-50

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							
30	QC107	22:57	BE	NET		277	52 53.0	132 19.6	161	150					
		23:06	EN				53.0	19.6							
		23:10	BE	CTD		278	52 53.0	132 19.7	181	170		1	MT	NA	BOT @ 10m
		:18	EN				53.1	19.6							NUTS, CHL & SAL
		23:25	BE	SET		279	52 52.6	132 19.5	SURFACE						
		23:55	EN				50.6	17.8							
01	QC108	00:29	BE	CTD		280	52 47.2	132 13.2	146	135		1	MT	NA	BOT @ 10m
		:36	EN				47.2	13.2							NUTS, CHL & SAL
		00:38	BE	NET		281	52 47.2	132 13.2	146	135					
		:46	EN				47.2	13.1							
		00:53	BE	SET		282	52 46.8	132 12.2	SURFACE						
		:23	EN				45.1	09.3							
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

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Month JULY				Year 2012				Ship F/V VIKING STORM				Cruise ID 2012-50			
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							
01	QCI09	13:02	BE	CTD		283	52 39.4	132 01.7	139	120		1	MT	NA	BOT@10m
		13:08	EN				39.4	01.6							NUTS, CHL & SAL
		13:11	BE	NET		284	52 39.4	132 01.6	138	125					
		:17	EN				39.4	01.7							
		13:25	BE	SET		285	52 39.0	132 01.1	SURFACE						
		:55	EN				37.2	58.5							
01	QCI10	14:48	BE	NET		286	52 31.8	131 51.2	324	150					
		:57	EN				31.8	51.2							
		15:02	BE	CTD		287	52 31.8	131 51.2	324	190		1	MT	NA	BOT@10m
		:11	EN				31.8	51.2							NUTS, CHL & SAL
		15:19	BE	SET		288	52 31.4	131 50.4	15 meter						
		:49	EN				29.9	47.1							

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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Month JULY				Year 2012				Ship F/V VIKING STORM				Cruise ID 2012-50			
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							
01	QCII1	16:45	BE	CTD		289	52 24.7	131 40.5	280	190		1	MT	NA	BOT@10m
		:58	EN				24.7	40.5							NUTS, CHL & SAL
		16:57	BE	NET		290	52 24.6	131 40.5	280	150					
		17:05	EN				24.6	40.4							
		17:12	BE	SET		291	52 24.2	131 39.9	SURFACE						
		:42	EN				22.1	37.5							
01	QCII2	18:30	BE	NET		292	52 16.5	131 31.5	157	140					
		:39	EN				16.4	31.4							
		18:42	BE	CTD		293	52 16.3	131 31.4	162	150		2	MT	NA	BOT@10m
		:52	EN				16.3	31.3							NUTS, CHL & SAL, pH
		18:58	BE	SET		294	52 16.0	131 30.7	SURFACE						pH cal sample @ 117m
		19:28	EN												

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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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>JULY</u>				Year <u>2012</u>			Ship <u>F/V VIKING STORM</u>				Cruise ID <u>2012-50</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							
01	QCI 13	20:24	BE	CTD		295	52 09.6	131 23.1	172	160		1	MT	NA	BOT@10m
		:31	EN				09.6	23.1							NUTS, CHL & SAL
		20:34	BE	NET		296	52 09.6	131 23.1	171	150					
		:42	EN				09.7	23.1							
		20:52	BE	SET		297	52 09.3	131 22.4	30 meters						
		21:22	EN												
01	QCI 14	22:18	BE	NET		298	52 03.4	131 15.7	185	150					
		:28	EN				03.4	15.7							
		22:31	BE	CTD		299	52 03.3	131 15.7	190	180		1	MT	NA	BOT@10m
		:39	EN				03.3	15.7							NUTS, CHL & SAL
		22:46	BE	SET		300	52 03.0	131 15.0	SURFACE						
		23:16	EN				01.1	11.7							
END OF DAY															

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