

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2013-16

DATE:

From:

April 2 / 2013

To:

VESSEL:

Vector

PROJECT(S):

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

WaterProperties.ca

**** The following 3 pages are VERY IMPORTANT as they document equipment and settings used on board ****

These pages are to be completed by the CTD Technician setting up the equipment, the Watch Leader on board, and the Chief Scientist MUST verify that all relevant sections are completed prior to leaving the vessel. Any mid-cruise changes to be noted by watch leader in the notes.

Data logging computer: #2

Data acquisition program: Seasave

CTD deck unit make: SBE model: 11+ serial number: 0425

Primary CTD

Make: SBE model: 9+ serial number: 585

Primary temperature serial number: 4054

Primary conductivity serial number: 3321

Secondary temperature serial number: 4700

Secondary conductivity serial number: 1766

Transmissometer: Metlabs Model: C-star s/n: 1185DR

Transmissometer: Model: s/n: Model: s/n:

Fluorometer: Model SeaPoint Cable gain: 3X s/n: 2228 P, ☒ S or NO pump?

Fluorometer: Model Cable gain: s/n: P, S or NO pump?

Oxygen sensor: SBS Model: 43 s/n: 1458 ☒ S or NO pump?

PAR sensor: B10-Spherical Model: OSP 200 s/n: 4601 Surface PAR? ☒ Y / N

Other sensors: PH s/n: 0682 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:

Transmissometer: Model: s/n:

Fluorometer: Model Cable gain: s/n: P, S or NO pump?

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: Surface PAR? Y / N

Other sensors: s/n: P, S or NO pump?

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

This also includes the bottle location above the CTD on non-rossette casts (e.g., W.E. Ricker)

Rosette Setup:

Number of bottles: _____
Manufacturer: _____
Volume of bottles (litres): _____

Winches:

	Model:	Serial #:	Used for:
1. Make:	_____	_____	_____
2. Make:	Model: _____	Serial #: _____	Used for: _____
3. Make:	Model: _____	Serial #: _____	Used for: _____

Comments on performance during cruise (comments should also be reflected in the post-cruise report):

Salinometer:

Make: _____ Model: _____ Serial Number: _____

Comments on performance during cruise (comments should also be reflected in the post-cruise report):

Oxygen Kit(s):

Make: _____ Model: _____ Kit Number: _____
Make: _____ Model: _____ Kit Number: _____

Comments on performance during cruise (comments should also be reflected in the post-cruise report):

Thermosalinograph System (SBE21):

Program: _____ Version: _____

Sampling interval (seconds): _____

Fluorometer sensor serial number: _____

Comments on performance during cruise (comments should also be reflected in the post-cruise report):

ADCP Setup:

Computer time zone: _____

User Exits: Name: _____ Exit points: _____

Sampling interval (sec): _____

Name: _____ Exit points: _____

Bin Length: (2^Δx): _____

Name: _____ Exit points: _____

Pulse Length: _____

Work File: _____

Buffer (bytes): _____

Gyro Offset: _____

Comments on performance during cruise (comments should also be reflected in the post-cruise report):

CTD Test Cast Information

Test Cast along side? Yes ☒ No ☐

Pressure sensor not working at first, cleared the line and then it was fine. at the deck

Test Cast in Saanich Inlet or other location? Yes ☒ No ☐

Comments _____

CTD pressure reading on deck (db), before cast: 0.861 after cast: _____

Pumps working? Yes ☒ (0011) No ☐ (0010)

Secondary Temp – Primary Temp: _____
(Average from the mixed region)

Secondary Salinity – Primary Salinity: _____
(Average from the mixed region)

Additional Comments:

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Month <u>APRIL</u>			Year <u>2013</u>			Vessel <u>VECTOR</u>			Cruise ID <u>2013-16</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
001	MAL 1	3	14:48	BC	CTD		49° 58.20	124° 41.12	20	19	-		H.M.	☒	
			:	BO			° .	° .			-			☐	
			:	GM			° .	° .			-			☐	
			:				° .	° .			-			☐	
002	MAL 2	3	14:57	BC	ROS	U.S.	49° 58.25	124° 40.95	20		1 - 6	5	H.M.	☐	Eg - SURFACE BUCKET
			:	BO			49° 58.25	124° 40.95	25		-			☐	
			15:04	GM			49° 58.26	124° 40.94			-			☐	
			:				° .	° .			-			☐	
003	MAL 4	3	15:29	BC	CTD		49° 58.35	124° 41.24	25		-		H.M.	☐	
			15:31	BO			49° 58.35	124° 41.24			-			☐	
			15:31	GM			49° 58.35	124° 41.24			-			☐	
			:				° .	° .			-			☐	
004	MAL 5	3	15:40	BC	ROS		49° 58.37	124° 41.16	25		7 - 12	6	H.M.	☐	
			15:42	BO			° .38	° .16			-			☐	
			:	GM			° .	° .			-			☐	
			:				° .	° .			-			☐	
005	MAL 6	3	16:03		CTD		49° 58.48	124° 40.85	20		-		H.M.	☐	
			16:04				° .48	° .85			-			☐	
			:				° .2	° .			-			☐	

Event Type:

BOT = Bottle cast (no CTD)
CTD = Standalone CTD
ROS = CTD in Rosette
SET = Fish Set

LOOP = Sea Water Loop

MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter

Bottle Firing Method:

US = Up / Stop (default)
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

CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products

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

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006	MAL 1	3	16:24		GRAB		49° 58.215	124° 41.129	22		-			☐ ☐	GRAB
007	MAL 2	3	16:45		GRAB		49° 58.254	124° 40.949	22		-			☐ ☐	GRAB
008	MAL 2	3	16:45		GRAB		49° 58.254	124° 40.949	22		-			☐ ☐	GRAB - sieve
009	MAL 2	3	16:45		CORE		49° 58.254	124° 40.949	22		-			☐ ☐	CORE
010	MAL 4	3	17:05		GRAB		49° 58.352	124° 41.244	30		-			☐ ☐	GRAB
011	MAL 5	3	17:20		GRAB		49° 58.377	124° 41.163	24		-			☐ ☐	GRAB
012	MAL 5	3	17:20		CORE		49° 58.377	124° 41.163	24		-			☐ ☐	GRAB
013	MAL 5	3	17:20		GRAB		49° 58.377	124° 41.163	24		-			☐ ☐	SIEVE
			:				°	°			-			☐ ☐	
014	MAL 7	3	20:18	BC	CTD	—	49° 58.72	124° 41.47	25		-	—	HM	☒ ☐	
			20:19	BO			49° 58.72	124° 41.47		23	-			☐ ☐	
			20:20	EN			49° 58.72	124° 41.47			-			☐ ☐	
			:				°	°			-			☐ ☐	
015	MAL 8	3	20:28	BC	ROS	U.S	49° 58.75	124° 41.33			13-19	7	HM	☒ ☐	
			20:30	BO			49° 58.75	124° 41.33			-			☐ ☐	
			20:37	EN			49° 58.75	124° 41.32			-			☐ ☐	
			:				°	°			-			☐ ☐	
			:				°	°			-			☐ ☐	
			:				°	°			-			☐ ☐	

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016	MAL 9	3	20:57	BC	CTD	—	49°58.91	124°41.20	23		—	—	H.M.	☒	
			20:55	BO			49°58.81	124°41.19		27	-			☐	
			20:56	EN			49°58.81	124°41.19			-			☐	
			:				°	°			-			☐	
017	MAL 10	3	21:14	BC	CTD	—	49°58.93	124°41.84	30		—	—	H.M.	☒	
			21:15	BO			49°58.93	124°41.84		29	-			☐	
			21:16	EN			49°58.93	124°41.84			-			☐	
			:				°	°			-			☐	
018	MAL 11	3	21:26	BC	ROS		49°59.01	124°41.63	44		20 - 26	7	H.M.	☒	
			21:27	BO			49°59.00	124°41.63		44	-			☐	
			21:31	EN			49°59.00	124°41.63			-			☐	
			:				°	°			-			☐	
019	MAL 12	3	21:20	BC	CTD		49°59.08	124°41.34	34		—	—	H.M.	☒	
			21:51	BO			49°59.08	124°41.33			-			☐	
			21:52	EN			49°59.08	124°41.33			-			☐	
			:				°	°			-			☐	
020	MAL 12	3	21:06		GRAB		49°59.073	124°41.345	34		-			☐	GRAB
021	MAL 11	3	21:17		GRAB/CORE		49°58.961	124°41.577	44		-			☐	GRAB/CORE/SIEVE
022	MAL 10	3	23:34		GRAB		49°58.929	124°41.842	30		-			☐	GRAB

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023	MAL-9	3	:		GRAB		49°58.807	124°41.211	23		-			☐ ☐	Grab
024	MAL-8	3	:		GRAB		49°58.748	124°41.312	38		-			☐ ☐	Grab
025	MAL-8	3	:		SIEVE		49°58.748	124°41.312	38		-			☐ ☐	Sieve
026	MAL-8	3	:		CORE		49°58.748	124°41.312	38		-			☐ ☐	Core
027	MAL-7	4	13:10		GRAB		49°58.740	124°41.353	28		-			☐ ☐	Grab
028	MAL-6	4	13:24		GRAB		49°58.491	124°40.882	22		-			☐ ☐	18:10 PDT Grab
029	MAL-13	4	13:55		GRAB		49°59.3117	124°42.265	28		-			☐ ☐	18:55 PDT Grab
030	MAL-14	4	14:06		GRAB		49°59.324	124°41.969	51		-			☐ ☐	19:06 PDT Grab
031	MAL-14	4	14:20		SIEVE		49°59.324	124°41.969	51		-			☐ ☐	Sieve 19:20
032	MAL-15	4	14:31		GRAB		49°59.491	124°41.749	28		-			☐ ☐	Grab 19:31 PDT
			:				°	°			-			☐ ☐	
033	MAL-28	4	14:42	BE	ROS	US	50°02.08	124°44.64	47		27-33	7	H.T.	☒ ☐	
			14:45	BO			50°02.69	124°44.64		49	-			☐ ☐	
			14:51	GM			50°02.08	124°44.65			-			☐ ☐	
034	MAL-28	4	15:17	BE	CTD	—	50°02.23	124°44.93	37		—		N.M.	☒ ☐	GRAB, rocks only
			15:18	BO			50°02.22	124°44.93			-			☐ ☐	
			15:19	GM			50°02.22	124°44.93			-			☐ ☐	
			:				°	°			-			☐ ☐	
			:				°	°			-			☐ ☐	

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035	MAL-29	4	15:30				50°02.239	124°44.939	32		-			☐ ☐	GRAB, no sediment only biological sample
			:				°	°			-			☐ ☐	
036	MAL 30	4	15:45		ROS	U.S	50°02.36	124°45.21	40		34 - 39	6	H.M.	☐ ☐	
			15:47				50°02.36	124°45.20			-			☐ ☐	
			15:52				50°02.36	124°45.21			-			☐ ☐	
037	MAL 30	4	15:55		GRAB		50°02.36	124°45.21			-			☐ ☐	GRAB
			:				°	°			-			☐ ☐	
038	MAL 31	4	16:09		CTD		50°02.18	124°45.28	48		-		H.M.	☒ ☐	
			16:11				50°02.17	124°45.28		49	-			☐ ☐	
			16:12				50°02.18	124°45.28			-			☐ ☐	
			:				°	°			-			☐ ☐	
039	MAL 32	4	17:04		CTD		50°02.12	124°45.54	48		-		H.M.	☒ ☐	
			17:06				50°02.13	124°45.55		51	-			☐ ☐	
			17:07				50°02.13	124°45.55			-			☐ ☐	
040	MAL 32		17:15		GRAB		50°02.132	124°45.540			-			☐ ☐	GRAB
041	MAL 32		17:25		GRAB SIDE		° 11.	° 11.			-			☐ ☐	SEIVG
042	MAL 39	4	17:37	BC	ROS		50°02.36	124°45.83	60		40 - 47	8	H.M.	☒ ☐	
			17:40	BO			50°02.35	124°45.83		62	-			☐ ☐	
			17:46	CAI			50°02.35	124°45.83			-			☐ ☐	

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043	MAL 37	4	17:50		GRAB		50° 02.35	124° 45.83			-			☐	GRAB
043	MAL 39	4	18:00		GRAB SIEVE		50° 02.35	124° 45.83			-			☐	SIEVE
044	MAL 31	4	18:20		GRAB		50° 02.196	124° 45.83			-			☐	GRAB
			:				°	°			-			☐	
045	MAL 33	4	19:10	BE	ROS	VS	50° 01.94	124° 45.19	55		48 - 55	8	H.M.	☒	ARCHIVED ON UPCAST
			19:13	BO			50° 01.94	124° 45.19		53	-			☐	ONLY
			:	EN			50° 01.	124° 45.			-			☐	
			:				°	°			-			☐	
046	MAL 34	4	19:35	BE	CTD	-	50° 01.76	124° 45.00	50		-	-	H.M.	☒	
			19:36	BO			50° 01.76	124° 45.00			-			☐	
			19:38	EN			50° 01.76	124° 45.00			-			☐	
			:				°	°			-			☐	
047	MAL 35	4	19:49	BE	ROS	VS	50° 01.63	124° 44.82	46		56 - 62	7	H.M.	☒	
			19:51	BO			50° 01.63	124° 44.82			-			☐	
			19:57	EN			50° 01.62	124° 44.81			-			☐	
			:				°	°			-			☐	
048	MAL 36	4	20:12	BE	CTD	-	50° 01.51	124° 44.63	34		-	-	H.M.	☒	
			20:13	BO			50° 01.51	124° 44.63		36	-			☐	
			20:14	EN			50° 01.51	124° 44.63			-			☐	

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049	MAL 37	4	20:22	BC	ROS	V.S.	50° 01.35	124° 44.46	32		63-68	6	H.M.	☒ ☐	
			20:23	BO			56° 01.34	124° 44.46			-			☐ ☐	
			20:28	EN			50° 01.34	124° 44.45			-			☐ ☐	
050	MAL 38	4	20:40	BC	CTD	—	50° 01.21	124° 44.32	27		—		H.M.	☒ ☐	GRAB also
			20:41	BO			50° 01.21	124° 44.32		25	-			☐ ☐	
			20:42	EN			50° 01.21	124° 44.32			-			☐ ☐	
051	MAL 37	4	21:00		GRAB		50° 01.365	124° 44.482			-			☐ ☐	GRAB, CORE, SIEVE
52	MAL 13	4	22:15	BC	CTD	—	49° 59.31	124° 42.25	39		-		H.M.	☒ ☐	
			22:17	BO			49° 59.31	124° 42.25		38	-			☐ ☐	
			22:18	EN			49° 59.31	124° 42.25			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
53	MAL 14	4	22:28	BC	ROS	V.S.	49° 59.33	124° 41.98	56		69-75	7	H.M.	☒ ☐	
			22:30	BO			49° 59.32	124° 41.98			-			☐ ☐	
			22:37	EN			49° 59.31	124° 41.99			-			☐ ☐	
54	MAL 14	4	:		CORC		45° 59.33	124° 41.99			-			☐ ☐	CORC
			:				° .	° .			-			☐ ☐	
55	MAL 15	4	23:02	BC	CTD		49° 59.48	124° 41.68	22		—	—	H.M.	☒ ☐	
			23:04	BO			49° 59.48	124° 41.68			-			☐ ☐	
			23:05	EN			49° 59.48	124° 41.69			-			☐ ☐	

Event Type:

BOT = Bottle cast (no CTD)
CTD = Standalone CTD
ROS = CTD in Rosette
SET = Fish Set

LOOP = Sea Water Loop

MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter
— =

Bottle Firing Method:

US = Up / Stop (default)
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

CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products

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

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Month <u>APRIL</u>				Year <u>2013</u>			Vessel <u>VECTOR</u>			Cruise ID <u>2013-16</u>					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
56	MAL 16	4	23:26	BE	CTD	—	49° 59.58	124° 42.73	21		—	—	H.M	☒ ☐	
			23:28	BO			49° 59.58	124° 42.74			-			☐ ☐	
			23:29	EN			49° 59.58	124° 42.74			-			☐ ☐	
57	MAL 16	4	23:32		GRAB		49° 59.58	124° 42.74	26		-			☐ ☐	GRAB
			:				°	°			-			☐ ☐	
58	MAL 17	4	23:40	BE	ROS	US	49° 59.69	124° 42.54	69		76 - 84	9	H.M	☒ ☐	
			23:42	BO			49° 59.70	124° 42.53		64	-			☐ ☐	
			23:50	EN			49° 59.69	124° 42.54			-			☐ ☐	
59	MAL 17	4	23:40		GRAB		49° 59.78	124° 42.416	67		-			☐ ☐	Grab
60	MAL 17	4	23:50		CORE		49° 59.78	124° 42.416			-			☐ ☐	core
61	MAL 17	4	23:50		GRAB		49° 59.78	124° 42.416			-			☐ ☐	Sieve
			:				°	°			-			☐ ☐	
62	MAL 18	5	01:07	BE	CTD	—	49° 59.80	124° 42.29	52		—	—	H.M	☒ ☐	
			01:09	BO			49° 59.80	124° 42.29		50	-			☐ ☐	
			01:11	EN			49° 59.79	124° 42.28			-			☐ ☐	
			:				°	°			-			☐ ☐	
63	MAL 18	5	01:20		GRAB		49° 59.79	124° 42.28	52		-			☐ ☐	Grab
64	MAL 21	5	01:35		GRAB		50° 00.44	124° 42.321	62		-			☐ ☐	Failed attempt
65	MAL 20	5	01:51		GRAB		50° 00.29	124° 42.80	74		-			☐ ☐	Grab

Event Type:

BOT = Bottle cast (no CTD)
 CTD = Standalone CTD
 ROS = CTD in Rosette
 SET = Fish Set

LOOP = Sea Water Loop

MOR = Mooring
 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:

US = Up / Stop (default)
 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

CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products

DE = Deployment Time
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 RE = Recover Mooring Time

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Month <u>4</u>				Year <u>2013</u>			Vessel <u>VECTOR</u>			Cruise ID <u>2013-14</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments	
65	MAL 20	5	02:00		GRAB		50°00.29	124°42.80	72		-			☐ ☐	Grab for sieve	
67	MAL 19	5	02:10		GRAB		50°00.262	124°43.125	26		-			☐ ☐	Grab - rocks sediment	
68	MAL 19	5	14:42	BG	CTD	-	50°0.26	124°43.12	31		-	-	H.M.	☒ ☐		
			14:44	Bo			50°0.26	124°43.12		35	-			☐ ☐		
			14:45	EN			50°0.26	124°43.12			-			☐ ☐		
			:				.	.			-			☐ ☐		
69	MAL 20	5	14:59	BG	ROS		50°0.32	124°42.87	76		85-93	9	H.M.	☒ ☐		
			15:01	Bo			50°0.32	124°42.88			-			☐ ☐		
			15:09	EN			50°0.31	124°42.88			-			☐ ☐		
70	MAL 20	5	:		CORE		50°0.31	124°42.88	76		-			☐ ☐	CORE	
71	MAL 21	5	15:36	BG	CTD		50°0.42	124°42.37	57		-	-	H.M.	☒ ☐		
			15:38	Bo			50°0.42	124°42.36		46	-			☐ ☐		
			15:39	EN			50°0.42	124°42.36			-			☐ ☐		
72	MAL 22	5	16:02	BG	CTD		50°01.05	124°43.48	55		-	-	H.M.	☒ ☐		
			16:04	Bo			50°01.05	124°43.49		66	-			☐ ☐		
			16:06	EN			50°01.05	124°43.50			-			☐ ☐		
			:				.	.			-			☐ ☐		
73	MAL 22	5	16:08		GRAB		50°01.005	124°43.496	54		-			☐ ☐		
			:				.	.			-			☐ ☐		

Event Type:

BOT = Bottle cast (no CTD)
 CTD = Standalone CTD
 ROS = CTD in Rosette
 SET = Fish Set

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

Bottle Firing Method:

US = Up / Stop (default)
 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

CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products

DE = Deployment Time
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Month <u>APRIL</u>				Year <u>2013</u>		Vessel <u>VECTOR</u>				Cruise ID <u>2013-16</u>					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
74	MAL 33	5	:		—	—	° .	° .			—	—	H.M.	☒ ☐	
75	MAL 33	5	16:50		GRAB		50° 01.949	124° 45.27	54		-			☐ ☐	
76	MAL 33	5	17:05		CORE		50° 01.771	124° 45.025	54		-			☐ ☐	core failed
77	MAL 33	5	17:07		GRAB		50° 01.771	124° 45.025	52		-			☐ ☐	GRAB failed
78	MAL 34	5	17:30		GRAB		° .	° .			-			☐ ☐	
79	MAL 34	5	17:38		GRAB		50° 01.770	124° 49.024	46		-			☐ ☐	SIEVE
80	MAL 35	5	17:48		GRAB		50° 01.636	124° 44.822	47		-			☐ ☐	
81	MAL 35	5	:		CORE		° .	° .			-			☐ ☐	
82	MAL 35	5	:		GRAB		° .	° .			-			☐ ☐	SIEVE
83	MAL 40	5	19:08	BE	ROS	V.S	50° 02.72	124° 46.31	59		94-101	8	H.M.	☒ ☐	
			19:11	BO			50° 02.72	124° 46.30			-			☐ ☐	
			19:18	EN			50° 02.73	124° 46.28			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
84	MAL 40	5	19:20		GRAB		50° 02.711	124° 46.292	65		-			☐ ☐	SIEVE
85	MAL 41	5	19:43		CTD		50° 03.00	124° 46.73	29		—		H.M.	☒ ☐	
			19:45				50° 03.00	124° 46.70		28	-			☐ ☐	
			19:46				50° 03.00	124° 46.70			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

Event Type:

BOT = Bottle cast (no CTD)
 CTD = Standalone CTD
 ROS = CTD in Rosette
 SET = Fish Set

LOOP = Sea Water Loop

MOR = Mooring
 NET = Plankton Net Haul
 DRF = Drifter

— = —

Bottle Firing Method:

US = Up / Stop (default)
 UN = Up / No stop
 DN = Down / No stop

Notes: —

Time Code:

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CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products

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Month <u>APRIL</u>				Year <u>2013</u>		Vessel <u>VECTOR</u>				Cruise ID <u>2013-16</u>					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
							Latitude	Longitude							
86	MAL 41	5	19:47		GRAB		50°02.993	124°46.67	26		-			☐ ☐	Rock only kept
87	MAL 42	5	20:06	BG	CTD	-	50°03.14	124°47.02	43		—————		H.M	☒ ☐	
			20:08	BO			50°03.14	124°47.03		42	-			☐ ☐	
			20:09	EN			50°03.14	124°47.03			-			☐ ☐	
			:				°	°			-			☐ ☐	
88	MAL 42	5	20:12		GRAB		50°03.136	124°47.021	40		-			☐ ☐	Rocks
89	MAL 23	5	20:48	BG	ROS		50°01.07	124°43.25	90		102-110			☐ ☐	
			20:51	BO			50°01.07	124°43.25		88	-			☐ ☐	
			20:50	EN			50°01.07	124°43.27			-			☐ ☐	
			:				°	°			-			☐ ☐	
90	MAL 23		21:00		GRAB		50°00.983	124°43.427	88		-			☐ ☐	
91	MAL 23		21:20		CORE		50°00.983	124°43.427	88		-			☐ ☐	
92	MAL 23		21:30		GRAB		50°00.983	124°43.427	88		-			☐ ☐	SIEVE
93	MAL 24	5	21:47		CTD		50°01.19	124°42.89	64		—————		H.M	☒ ☐	
			21:49				50°01.19	124°42.89			-			☐ ☐	
			21:50				50°01.19	124°42.90			-			☐ ☐	
			:				°	°			-			☐ ☐	
94	MAL 24		21:52		GRAB		50°01.22	124°42.85	69		-			☐ ☐	
			:				°	°			-			☐ ☐	

Event Type:

BOT = Bottle cast (no CTD)
 CTD = Standalone CTD
 ROS = CTD in Rosette
 SET = Fish Set

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

Bottle Firing Method:

US = Up / Stop (default)
 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

CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products

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

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Month <u>APRIL</u>			Year <u>2013</u>		Vessel <u>VECTOR</u>			Cruise ID <u>2013-16</u>							
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
							Latitude	Longitude							
95	MAL 25	5	22:28	BC	CTD	—	50° 01.76	124° 44.37	28		—	—	H.M.	☒ ☐	
			22:30	BO			50° 01.76	124° 44.38			-			☐ ☐	
			22:30	EN			50° 01.76	124° 44.38			-			☐ ☐	
			:				.	.			-			☐ ☐	
96	MAL 25	5	22:35		GRAB		50° 01.96	124° 43.78	82		-			☐ ☐	
97	MAL 26	5	22:47	BC	ROS	U.S.	50° 01.94	124° 43.76	82		111 - 119	9	H.M.	☒ ☐	
			22:50	BO			50° 01.94	124° 43.77		75	-			☐ ☐	
			22:57	EN			50° 01.93	124° 43.80			-			☐ ☐	
98	MAL 26	5	23:00		GRAB		50° 01.96	124° 43.78	81		-			☐ ☐	
99	MAL 26	5	23:10		CORE		50° 01.96	124° 43.78	81		-			☐ ☐	
100	MAL 26	5	23:18		GRAB		50° 01.96	124° 43.78	80		-			☐ ☐	SIEVE
101	MAL 27	5	23:34	BC	CTD		50° 02.18	124° 43.28	47		—	—	H.M.	☒ ☐	
			23:36	BO			50° 02.17	124° 43.28		51	-			☐ ☐	
			23:37	E			50° 02.16	124° 43.28			-			☐ ☐	
102	MAL 27	5	23:41		GRAB		50° 02.16	124° 43.28			-			☐ ☐	
103	MAL 48	6	14:58	BC	CTD		50° 02.63	124° 43.37	64		—	—	H.M.	☒ ☐	
			15:01	BO			50° 02.63	124° 43.36			-			☐ ☐	
			15:03	EN			50° 02.65	124° 43.35			-			☐ ☐	
104	MAL 48	6	15:06		GRAB		50° 02.65	124° 43.41			-			☐ ☐	

Event Type:

BOT = Bottle cast (no CTD)
CTD = Standalone CTD
ROS = CTD in Rosette
SET = Fish Set

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

Bottle Firing Method:

US = Up / Stop (default)
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DN = Down / No stop

Notes:

Time Code:

BE = Beginning Time of Cast
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CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products

DE = Deployment Time
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Month <u>APRIL</u>				Year <u>2013</u>		Vessel <u>VICTOR</u>				Cruise ID <u>2013-16</u>					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
							Latitude	Longitude							
105	MAL 49	6	15:18	BO	ROS	U.S	50° 02.51	124° 43.16	78		120-128	9	H.M.	☒	
			15:20	BO			50° 02.51	124° 43.14		75	-			☐	
			15:29	EN			50° 02.51	124° 43.13			-			☐	
106	MAL 49	6	15:30		GRAB		50° 02.51	124° 43.16	75		-			☐	
107	MAL 49	6	15:40		CORE		50° 02.51	124° 43.16	75		-			☐	
108	MAL 49	6	15:55		GRAB		50° 02.51	124° 43.16	78		-			☐	SIEVE
109	MAL 50	6	16:14		CTD		50° 02.42	124° 42.97	42		—		H.M.	☐	
			16:16				50° 02.42	124° 42.97			-			☐	
			16:17				50° 02.42	124° 42.96			-			☐	
110	MAL 50	6	:		GRAB		50° 02.43	124° 42.96			-			☐	GRAB
111	MAL 51	6	16:38	BO	CTD		50° 03.00	124° 43.36	66		—		H.M.	☒	
			16:42	BO			50° 02.99	124° 43.35		64	-			☐	
			16:44	EN			50° 02.99	124° 43.35			-			☐	
112	MAL 51	6	:		GRAB		.	.			-			☐	
113	MAL 52	6	16:58	BO	ROS	U.S	50° 03.02	124° 43.02	70		129-137	9	H.M.	☒	
			17:00	BO			50° 03.01	124° 43.02		66	-			☐	
			17:07	EN			50° 03.03	124° 43.03			-			☐	
114	MAL 52	6	17:10		GRAB		50° 03.03	124° 43.03	66		-			☐	GRAB
115	MAL 52	6	17:20		GRAB		50° 03.03	124° 43.03			-			☐	GRAB-SIEVE

Event Type:

BOT = Bottle cast (no CTD)
 CTD = Standalone CTD
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 SET = Fish Set

LOOP = Sea Water Loop

MOR = Mooring
 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:

US = Up / Stop (default)
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 DN = Down / No stop

Time Code:

BE = Beginning Time of Cast
 BO = Bottom Time of Cast
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CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products

DE = Deployment Time
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 RE = Recover Mooring Time

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Notes:

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Month				Year			Vessel			Cruise ID					
APRIL				2013			VECTOR			2013-16					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
116	MAL 53	6	17:44	BE	CTD		50°03.11	124°42.78	70		—	—	H.M	☒	
			17:46	BO			50°03.12	124°42.79		65	-			☐	
			17:48	EN			50°03.13	124°42.79			-			☐	
117	MAL 53	6	17:50		GRAB		50°03.12	124°42.73	65		-			☐	
118	MAL 54	6	18:08	BE	CTD		50°03.48	124°43.38	46		—	—	H.M	☒	
			18:09	BO			50°03.48	124°43.39			-			☐	
			18:11	EN			50°03.49	124°43.40			-			☐	
119	MAL 54	6	18:12				50°03.52	124°43.45	45		-			☐	
120	MAL 55	6	19:18	BE	ROS		50°03.48	124°43.03	66		-			☐	
			19:20	BO			50°03.49	124°43.03		63	-			☐	
			19:27	EN			50°03.49	124°43.06			-			☐	
121	MAL 55	6	19:30		GRAB		50°03.43	124°43.100	64		-			☐	
122	MAL 55	6	19:45		GRAB		50°03.46	124°42.577	64		-			☐	
123	MAL 56	6	20:03	BE	CTD		50°03.46	124°42.60	42		—	—	H.M	☒	GRAB failed
			20:05	BO			50°03.46	124°42.60		57	-			☐	
			20:06	EN			50°03.46	124°42.60			-			☐	
124	MAL 57	6	20:39	BE	CTD		50°04.04	124°43.22	60		—	—	H.M	☒	
			20:41	BO			50°04.04	124°43.22		60	-			☐	
			20:42	EN			50°04.04	124°43.23			-			☐	

Event Type:

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LOOP = Sea Water Loop

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 DRF = Drifter

Bottle Firing Method:

US = Up / Stop (default)
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Notes:

Time Code:

BE = Beginning Time of Cast
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Month <u>APRIL</u>				Year <u>2013</u>		Vessel				Cruise ID					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
							Latitude	Longitude							
125	MAL 57	6	13:43		GRAB		50°04.04	124°43.233	57		-			☐ ☐	
126	MAL 58	6	20:56	BC	ROS	U.S.	50°03.97	124°42.80	62		146 - 153	8	H.M.	☒ ☐	
			20:58	BO			50°03.97	124°42.80		60	-			☐ ☐	
			21:05	EN			50°03.96	124°42.81			-			☐ ☐	
127	MAL 58	6	21:10		GRAB		50°03.93	124°42.88	62		-			☐ ☐	
128	MAL 58	6	21:18		GRAB		50°03.93	124°42.88	62		-			☐ ☐	SIEVE
129	MAL 59	6	21:33	BC	CTD		50°03.93	124°42.56	53		 		H.M.	☐ ☐	
			21:34	BO			50°03.93	124°42.56			-			☐ ☐	
			21:35	EN			50°03.93	124°42.56			-			☐ ☐	
130	MAL 59	6	21:38		GRAB		50°03.92	124°42.56	53		-			☐ ☐	
131	MAL 60	6	21:55	BC	CTD		50°04.77	124°43.09	45		 		H.M.	☒ ☐	
			21:56	BO			50°04.77	124°43.10			-			☐ ☐	
			21:57	EN			50°04.77	124°43.11			-			☐ ☐	
132	MAL 60	6	:		GRAB		.	.			-			☐ ☐	
133	MAL 61	6	22:11	BC	ROS	U.S.	50°04.80	124°42.85	49		154 - 160	7	H.M.	☒ ☐	
			22:13	BO			50°04.80	124°42.86		47	-			☐ ☐	
			22:18	EN			50°04.79	124°42.86			-			☐ ☐	
134	MAL 61	6	:		GRAB		50°04.77	124°42.86	48		-			☐ ☐	
135	MAL 61	6	:		GRAB		.	.	48		-			☐ ☐	SIEVE

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Notes:

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Month <u>APRIL</u>			Year <u>2013</u>			Vessel <u>VECTOR</u>			Cruise ID <u>2013-16</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
136	MAL 62	6	22:42	BC	CTD	-	50° 04. 78	124° 42. 70	31		-		H.M	☒ ☐	
			22:43	BO			50° 04. 78	124° 42. 70		26	-			☐ ☐	
			22:44	EN			50° 04. 78	124° 42. 69			-			☐ ☐	
137	MAL 62	6	22:45				50° 04. 78	124° 42. 64	28		-			☐ ☐	
138	MAL 43	6	23:44	BC		-	50° 03. 46	124° 47. 06	25		-		H.M	☒ ☐	
			23:45	BO			50° 03. 46	124° 47. 06			-			☐ ☐	
			23:46	EN			50° 03. 46	124° 47. 06			-			☐ ☐	
139	MAL 43	6	23:46		GRAB		50° 03. 47	124° 47. 06			-			☐ ☐	
140	MAL 45	7	00:37	BC	ROS	U.S	50° 03. 87	124° 48. 14	61		161 - 168	8	H.M	☒ ☐	
			00:39	BO			50° 03. 87	124° 48. 14			-			☐ ☐	
			00:49	EN			50° 03. 89	124° 48. 11			-			☐ ☐	
141	MAL 45	7	00:50		GRAB		50° 03. 89	124° 48. 15	63		-			☐ ☐	
142	MAL 45	7	01:10		GRAB		50° 03. 90	124° 48. 15	71		-			☐ ☐	SIEVE
143	MAL 47	7	14:36	BC	ROS	U.S	50° 04. 34	124° 48. 74			169 - 181	13	H.M	☒ ☐	
			14:42	BO			50° 04. 31	124° 48. 74			-			☐ ☐	
			14:55	EN			50° 04. 31	124° 48. 73			-			☐ ☐	
144	MAL 47	7	15:00		GRAB		50° 04. 35	124° 48. 74			-			☐ ☐	
145	MAL 47	7	15:22		GRAB		50° 04. 35	124° 48. 74			-			☐ ☐	SIEVE
			:				.	.			-			☐ ☐	

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Month <u>APRIL</u>			Year <u>2013</u>			Vessel <u>NECTOR</u>			Cruise ID <u>2013-16</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
146	MAL 63	7	15:44	BG	ROS	U.S.	50° 04 . 72	124° 49 . 31	514		181 - 185	5	H.M.	☐ ☐	NO Q2 / TCPR SAMPLES
			15:45	BO			50° 04 . 72	124° 49 . 29		40	-			☐ ☐	
			15:49	GM			50° 04 . 72	124° 49 . 26			-			☐ ☐	
147	GH 13	7	17:45	BG	ROS	US	50° 05 . 56	125° 00 . 77	32		186 - 191	6	H.M.	☒ ☐	
			17:47	BO			50° 05 . 56	125° 00 . 77		31	-			☐ ☐	
			17:52	GM			50° 05 . 56	125° 00 . 77			-			☐ ☐	
148	GH 13	7	17:55		GRAB		50° 05 . 5	125° 00 . 78	33		-			☐ ☐	GRAB
149	GH 13	7	:		GRAB		.	.			-			☐ ☐	GRAB
150	GH 14	7	18:22	BG	CTD	-	50° 05 . 49	125° 00 . 32	27		-----		H.M.	☒ ☐	
			18:22	BO			50° 05 . 49	125° 00 . 31		24	-			☐ ☐	
			18:23	GM			50° 05 . 50	125° 00 . 31			-			☐ ☐	
151	GH 14	7	:		GRAB		.	.			-			☐ ☐	GRAB
152	GH 15	7	19:17	BG	ROS	U.S.	50° 05 . 51	124° 59 . 96	21		192 - 196	5		☐ ☐	
			19:18	BO			50° 05 . 51	124° 59 . 97		20	-			☐ ☐	
			19:23	GM			50° 05 . 51	124° 59 . 99			-			☐ ☐	
153	GH 15		19:25		GRAB		50° 05 . 35	125° 00 . 114	18		-			☐ ☐	GRAB
154	GH 15		19:35		GRAB		50° 05 . 35	125° 00 . 114	18		-			☐ ☐	GRAB-SKEVE
			:				.	.			-			☐ ☐	
			:				.	.			-			☐ ☐	

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Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
155	GH 16	7	19:47	BC	CTD	—	50°05.66	124°59.50	20		—	—	H.M.	☒	
			19:48	BO			50°05.67	124°59.51			-			☐	
			19:49	CM			50°05.67	124°59.51			-			☐	
156	GH 16	7	20:00		GRAB		50°05.67	124°59.50	21		-			☐	GRAB
157	GH 18	7	20:07	BC	ROS	V.S.	50°05.91	124°59.93	24		197-201	5	H.M.	☒	
			20:09	BO			50°05.91	124°59.93			-			☐	
			20:13	CM			50°05.91	124°59.92			-			☐	
158	GH 18	7	20:15		GRAB		50°05.91	124°59.22			-			☐	
159	GH 18	7	20:25		GRAB		50°05.91	124°59.22			-			☐	SIEVE
160	GH 12	7	20:55		CTD	—	50°05.77	125°00.85	37		—	—	H.M.	☒	
			20:56				50°05.78	125°00.85			-			☐	
			20:57				50°05.78	125°00.85			-			☐	
161	GH 12	7	:		GRAB		°	°			-			☐	GRAB
162	GH 11	7	21:26		ROS	V.S.	50°05.90	125°00.52	31		202-206	5	H.M.	☒	
			21:28				50°05.90	125°00.50		29	-			☐	
			21:31				50°05.90	125°00.52			-			☐	
163	GH 11*	7	21:29		GRAB		50°05.90	125°00.52	29		-			☐	
164	GH 11*	7	21:33		GRAB		50°05.90	125°00.52			-			☐	SIEVE
			:				°	°			-			☐	

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Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
165	GH 10	7	23:24	BG	CTD	—	50°04.86	125°00.78	40		—		W.M.	☒ ☐	
			23:25	BO			50°04.86	125°00.79		38	-			☐ ☐	
			23:26	GN			50°04.87	125°00.79			-			☐ ☐	
166	GH 10	7	23:30		GRAB		50°04.87	125°00.79			-			☐ ☐	GRAB
167	GH 9	7	23:43	BG	CTD	—	50°04.85	125°01.88	60		—		AM	☒ ☐	
			23:45	BO			50°04.86	125°01.88		57	-			☐ ☐	
			23:46	GN			50°04.87	125°01.88			-			☐ ☐	
168	GH 9	7	:		GRAB		°	°			-			☐ ☐	GRAB
169	GH 8	8	14:39	BG	ROS	U.S.	50°04.40	125°00.86	81		207-215	9	H.M.	☒ ☐	
			14:42	BO			50°04.40	125°00.87		77	-			☐ ☐	
			14:50	GN			50°04.39	125°00.88			-			☐ ☐	
170	GH 8	8	:		GRAB		°	°			-			☐ ☐	GRAB
171	GH 8	8	:		CORG		°	°			-			☐ ☐	CORG
172	GH 8	8	:		GRAB		°	°			-			☐ ☐	GRAB/SGIVE
173	GH 7	8	15:59	BG	CTD	—	50°03.91	125°00.66	86		—		H.M.	☒ ☐	
			16:01	BO			50°03.91	125°00.67		84	-			☐ ☐	
			16:04	GN			50°03.90	125°00.68			-			☐ ☐	
174	GH 7	8	:		GRAB		°	°			-			☐ ☐	GRAB
			:				°	°			-			☐ ☐	

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Time Code:

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Month <u>APRIL</u>			Year <u>2013</u>			Vessel <u>VECTOR</u>			Cruise ID <u>2013-16</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
							Latitude	Longitude							
175	GH 6	8	16:28	BG	ROS	U.S	50°03.23	125°00.72	95		216-224	9	H.M	☒	
			16:30	BO			50°03.23	125°00.72		92	-			☐	
			16:39	EN			50°03.23	125°00.73			-			☐	
176	GH 6	8	:		GRAB		°	°			-			☐	GRAB
177	GH 6	8	:		GRAB/SEING		°	°			-			☐	GRAB/SEING
178	GH 6	8	:		CORG		°	°			-			☐	CORG
179	GH 5	8	17:45		CTD	—	50°02.26	125°01.03	72		—		H.M.	☒	
			17:48				50°02.27	125°01.01		75	-			☐	
			17:50				50°02.27	125°01.00			-			☐	
180	GH 5	8	:		GRAB		°	°			-			☐	GRAB
181	GH 4	8	18:17	BG	ROS		50°01.20	125°01.77	85		225-233	9	H.M	☒	
			18:19	BO			50°01.21	125°01.76		81	-			☐	
			18:28	EN			50°01.23	125°01.78			-			☐	
182	GH 4	8	:		GRAB		°	°			-			☐	GRAB
183	GH 4	8	:		GRAB/SEING		°	°			-			☐	GRAB/SEING
184	GH 4 1	8	20:18	BG	CTD	—	50°01.57	125°05.93	238		—		H.M	☒	
			20:24	BO			50°01.58	125°05.92		272	—			☐	#3 IN FILE
			20:29	EN			50°01.58	125°05.94			—			☐	SHOULD BE #1
185	GH 4 1	8	:		GRAB	—	°	°			—			☐	

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Month <u>APRIL</u>			Year <u>2013</u>			Vessel <u>VECTOR</u>			Cruise ID <u>2013-16</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
186	GH 2	8	21:12	BC	ROS	U.S.	49°59.63	125°03.50	229		234-244	71	H.M.	☒	
			21:17	BO			49°59.61	125°03.49		227	-			☐	
			21:29	EN			49°59.62	125°03.46			-			☐	
187	GH 2	8	:		GRAB		°	°			-			☐	GRAB
188	GH 2		:		GRAB/SIG		°	°			-			☐	GRAB/SIG
189	GH 1	8	22:18		CTD	—	49°58.71	124°59.18	161		—		H.M.	☒	
			22:21				49°58.70	124°59.14			-			☐	
			22:24				49°58.68	124°59.12			-			☐	
190	GH 1	8	:		GRAB		°	°			-			☐	
			:				°	°			-			☐	
191	BS 5	9	14:26	BC	ROS	U.S.	49°35.86	124°51.61	41		245-250	6	H.M.	☒	CALLIG BS 1 in file
			14:28	BO			49°35.86	124°51.61			-			☐	
			14:35	EN			49°35.87	124°51.59			-			☐	
192	BS 2	9	15:07	BC	CTD	—	49°38.43	124°53.65	36		—		H.M.	☒	
			15:08	BO			49°38.43	124°53.64			-			☐	
			15:09	EN			49°38.43	124°53.64			-			☐	
193	BS 8	9	15:53	BC	CTD		49°34.16	124°51.56	48		—		H.M.	☒	
			15:54	BO			49°34.16	124°51.56			-			☐	
			15:56	EN			49°34.16	124°51.56			-			☐	

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Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
194	BS 11	9	16:19	BG	ROS	U.S	49° 32.19	124° 50.43	47		251-256	6	H.M.	☒	
			16:21	BO			49° 32.19	124° 50.43			-			☐	
			16:26	EN			49° 32.18	124° 50.44			-			☐	
195	BS 14	9	16:47	BG	CTD	—	49° 31.07	124° 48.71	47		—	—	H.M.	☒	
			16:48	BO			49° 31.08	124° 48.71			-			☐	
			16:50	EN			49° 31.08	124° 48.70			-			☐	
196	BS 17	9	17:15	BG	ROS	U.S	49° 29.03	124° 46.16	54		257-262	6	H.M.	☒	
			17:17	BO			49° 29.03	124° 46.17		50	-			☐	
			17:22	EN			49° 29.03	124° 46.19			-			☐	
197	BS 20	9	17:43	BG	CTD	—	49° 28.37	124° 44.73	38		—	—	H.M.	☒	
			17:44	BO			49° 28.37	124° 44.73		38	-			☐	
			17:45	EN			49° 28.38	124° 44.72			-			☐	
198	BS 23	9	18:15	BG	CTD	—	49° 27.74	124° 39.93	59		—	—	H.M.	☒	
			18:16	BO			49° 27.74	124° 39.92		58	-			☐	
			18:18	EN			49° 27.74	124° 39.92			-			☐	
199	BS 30	9	19:11	BG	ROS	U.S	49° 26.30	124° 37.89	53		263-268	6	H.M.	☒	
			19:13	BO			49° 26.30	124° 37.89		52	-			☐	
			19:18	EN			49° 26.31	124° 37.86			-			☐	
			:				.	.			-			☐	

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Month <u>APRIL</u>			Year <u>2013</u>		Vessel <u>VECTOR</u>		Cruise ID <u>2013-16</u>								
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
<u>200</u>	<u>BS 34</u>	<u>9</u>	<u>19:51</u>	<u>BE</u>	<u>ROS</u>	<u>US</u>	<u>49°27.32</u>	<u>124°35.08</u>	<u>172</u>		<u>269-275</u>	<u>7</u>	<u>H.M.</u>	☒ ☐	
			<u>19:56</u>	<u>BO</u>			<u>49°27.30</u>	<u>124°35.07</u>		<u>170</u>	<u>-</u>			☐ ☐	
			<u>20:03</u>	<u>EN</u>			<u>49°27.30</u>	<u>124°35.04</u>			<u>-</u>			☐ ☐	
<u>201</u>	<u>BS 33</u>	<u>9</u>	<u>20:53</u>	<u>BE</u>	<u>ROS</u>	<u>US</u>	<u>49°30.55</u>	<u>124°42.80</u>	<u>58</u>		<u>276-281</u>	<u>6</u>	<u>H.M.</u>	☒ ☐	
			<u>20:54</u>	<u>BO</u>			<u>49°30.54</u>	<u>124°42.82</u>		<u>56</u>	<u>-</u>			☐ ☐	
			<u>21:00</u>	<u>FOI</u>			<u>49°30.53</u>	<u>124°42.90</u>			<u>-</u>			☐ ☐	
<u>202</u>	<u>BS 32</u>	<u>9</u>	<u>21:37</u>	<u>BE</u>	<u>ROS</u>	<u>US</u>	<u>49°33.51*</u>	<u>124°44.34</u>	<u>51</u>		<u>282-287</u>	<u>6</u>	<u>H.M.</u>	☒ ☐	<u>*Latitude likely has a typo NMEA has 49°34</u>
			<u>21:39</u>	<u>BO</u>			<u>49°33.53</u>	<u>124°44.32</u>		<u>49</u>	<u>-</u>			☐ ☐	
			<u>21:44</u>	<u>EN</u>			<u>49°33.54</u>	<u>124°44.33</u>			<u>-</u>			☐ ☐	
<u>203</u>	<u>BS 31</u>	<u>9</u>	<u>22:21</u>	<u>BE</u>	<u>ROS</u>	<u>US</u>	<u>49°37.44</u>	<u>124°46.78</u>	<u>47</u>		<u>288-293</u>	<u>6</u>	<u>H.M.</u>	☒ ☐	
			<u>22:23</u>	<u>BO</u>			<u>49°37.44</u>	<u>124°46.77</u>		<u>45</u>	<u>-</u>			☐ ☐	
			<u>22:27</u>	<u>EN</u>			<u>49°37.43</u>	<u>124°46.80</u>			<u>-</u>			☐ ☐	
			<u>:</u>				<u>°</u>	<u>°</u>			<u>-</u>			☐ ☐	
			<u>:</u>				<u>°</u>	<u>°</u>			<u>-</u>			☐ ☐	
			<u>:</u>				<u>°</u>	<u>°</u>			<u>-</u>			☐ ☐	
			<u>:</u>				<u>°</u>	<u>°</u>			<u>-</u>			☐ ☐	
			<u>:</u>				<u>°</u>	<u>°</u>			<u>-</u>			☐ ☐	
			<u>:</u>				<u>°</u>	<u>°</u>			<u>-</u>			☐ ☐	
			<u>:</u>				<u>°</u>	<u>°</u>			<u>-</u>			☐ ☐	
			<u>:</u>				<u>°</u>	<u>°</u>			<u>-</u>			☐ ☐	

Event Type:

BOT = Bottle cast (no CTD)
CTD = Standalone CTD
ROS = CTD in Rosette
SET = Fish Set

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

Bottle Firing Method:

US = Up / Stop (default)
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

CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products

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

Produced by the Water Properties Group, IOS

WaterProperties.ca
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