

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

IOS 2016-31

SOG 2016-06 Cowichan

~~2016-11-29 Juneau~~

DATE:

From: 04 MAY 2016

To:

29 JUL 2016

VESSEL:

F/V OCEAN VENTURE

PROJECT(S):

Neville - Cowichan Purse Seine

~~Big Qualicum Purse Seine~~

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

WaterProperties.ca

Captain: Dennis Woloshuk
Second Officer: Kevin
Third Officer: Brent
Chief Engineer: _____
Fishing Master: _____

Mission Participants / Agencies:

DFD / PSF

**** Chief Scientist to complete section below OR cut and tape from cruise plan ****

1st Leg Scientific Personnel: _____
Chief Scientist: Chrys Neville / Lenora Turcotte
Name Watch Cabin

Mary Thuss
Dylan Crowder
Svetlana Esenkulova

2nd Leg Scientific Personnel: _____
Chief Scientist: _____
Name Watch Cabin

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.

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

Data logging computer: Sea-Going Notebook #16

Data acquisition program: SeaTerm 1.6

CTD deck unit make: _____ model: _____ serial number: _____

Primary CTD

Make: SBE model: 25 serial number: 0334
Primary temperature serial number: 2968 calibrated 23 Dec 2014
Primary conductivity serial number: 2173 calibrated 19 Dec 2014

Secondary temperature serial number: _____

Secondary conductivity serial number: _____

Transmissometer: _____ model: _____ s/n: _____

Transmissometer: _____ model: _____ s/n: _____

Fluorometer: Model WET Labs ECO Cable gain: _____ s/n: 2215 P, S or NO pump? (P)

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

Oxygen sensor: SBE Model: 43 s/n: 0766 P, S or NO pump? _____

PAR sensor: _____ Model: _____ s/n: _____ Surface PAR? Y / N _____

Other sensors: Pressure, Strain Gauge s/n: 0464 P, S or NO pump? cal 23 Dec 2014

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: SBE model: 25 serial number: 0404

Primary temperature serial number: 2095 (cal 01 Apr 11) con file: 25 404 master May

Primary conductivity serial number: 1764 (cal 03 Jan 14)

Secondary temperature serial number: _____

Secondary conductivity serial number: _____

Transmissometer: _____ model: _____ s/n: _____

Transmissometer: _____ model: _____ s/n: _____

Fluorometer: Model WET Labs ECO Cable gain: _____ s/n: FLRTD-415 (cal 02 Nov 15)

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

Oxygen sensor: SBE Model: 43 s/n: 1176 (cal 19 Dec 15) P, S or NO pump? _____

PAR sensor: _____ Model: _____ s/n: _____ Surface PAR? Y / N _____

Other sensors: pH cal (18 Jan 16) s/n: 0852 P, S or NO pump? _____

Other sensors: Pressure s/n: 0482 (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): _____

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

BIO

Survey dates:

Cowichan

04-05 May 2016

30-31 May 2016

27-28 Jun 2016

28-29 Jul 2016

Tagging Survey Dates
29 May 2016

Summer 2016

SBE 25/19 CTD Data Logging Protocol

Standard cast procedure:

1. Remove syringe containing distilled water from the temperature intake duct.
2. Turn slide switch to "ON" on the side of the CTD and put CTD in water (at surface) as soon as possible.
3. Let CTD sit at surface for 2 minutes to clear bubbles.
4. Do cast (within 5-10m of bottom depth). The recommended descent/ascent rate is 1 m/s.
5. Retrieve unit at end of cast and turn slide switch to "OFF".
6. Replace syringe containing distilled water prior to storing CTD unit.

CTD # 0334
Flowmeter Serial # 7812

SOG 2016-06

DAILY SCIENCE LOG

Month			Year			Vessel			Cruise ID			IOS			
May			2016			Ocean Venture			2016 - 31						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
1	SET 1	04	16:18	BE	SET		48°45.009	123°36.648	51m		-			☐	
2			17:59	BE	CTD		48°44.987	123°36.664	52m	45m	-			☐	
3			18:04	BE	NET		48°44.987	123°36.664	52m	45m	-			☐	(*)
4	SET 2	04	18:36	BE	SET		48°44.797	123°35.626	58m		-			☐	
5			19:34	BE	CTD		48°44.772	123°35.615	60m	55m	-			☐	
6			19:39	BE	NET		48°44.772	123°35.615	60m	55m	-			☐	(*)
7	SET 3	04	20:37	BE	SET		48°45.372	123°36.588	48m		-			☐	
8			21:26	BE	CTD		48°45.350	123°36.571	49m	45m	-			☐	
9	SET 4	04	21:56	BE	SET		48°44.394	123°33.920	125m		-			☐	
10			22:42	BE	CTD		48°44.341	123°33.911	125m	115m	-			☐	
11	SET 5	04	23:12	BE	SET		48°44.518	123°36.078	51m		-			☐	
12		05	00:24	BE	CTD		48°44.519	123°36.071	51m	45m	-			☐	END OF DAY
13	SET 6	05	15:07	BE	SET		48°45.284	123°36.050	42m		-			☐	
14			16:27	BE	CTD		48°45.250	123°36.046	49m	45m	-			☐	
15	SET 7	05	16:50	BE	SET		48°45.088	123°35.255	41m		-			☐	
16			18:16	BE	CTD		48°45.085	123°35.275	43m	40m	-			☐	
17	SET 8	05	18:58	BE	SET		48°44.233	123°32.204	62m		-			☐	
18			20:01	BE	CTD		48°44.280	123°32.236	62m	60	-			☐	
19			20:06	BE	NET		48°44.280	123°32.236	62m	60m	-			☐	(*)

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

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
Version: 20 April 2016

04-May-2016

CTD # 0334

Flowmeter Serial # 7182

Set 1 FM Start 85455

FM End 85555

Set 2

FM Start 85555

FM End 85850

Set 8

FM Start 85850

FM End 86235

04-MAY-2016 - YSI meter malfunction, using CTD every set.

Note: Date-time stamp of hex files from these 2 days will not match sampling date or upload date (header info needed to be changed $\rightarrow$ S/N did not match SeaTerm set up info.)

SOG 2016-00

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month			MAY		Year		2016		Vessel Ocean Venture			Cruise ID			IOS 2016-31	
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments	
20	SET 9	05	21:07	BE	SET		48°44.472	123°34.904	65m		-			☐		
21			22:07	BE	CTD		48°44.444	123°34.907	65m	60m	-			☐	CTD #0334	
22			22:12	BE	NET		48°44.444	123°34.907	65m	60m	-			☐	(*)	
			:				°	°			-			☐		
23	SET 10	05	22:39	BE	SET		48°45.005	123°36.641	53m		-			☐		
24			23:44	BE	CTD		48°44.972	123°36.631	53m	50m	-			☐	CTD #0334	
25			23:44	BE	NET		48°44.972	123°36.631	53m	50m	-			☐		
			:				°	°			-			☐		
26	SET 11	29	13:27	BE	SET		48°45.358	123°36.507	47m		-			☐		
27		29	16:31	BE	CTD		48°45.276	123°36.454	52m	50m	-			☐	CTD #0404	
28		29	16:36	BE	NET		48°45.276	123°36.454	52m	50m	-			☐	(*)	
			:				°	°			-			☐		
29	SET 12	29	18:42	BE	SET		48°45.470	123°36.713	45m		-			☐		
			:				°	°			-			☐		
30	CB-8	29	21:32	BE	CTD		48°44.183	123°32.156	63m	60m	-			☐	(*)	
31		29	21:37	BE	NET		48°44.183	123°32.156	63m	60m	-			☐		
			:				°	°			-			☐		
32	CB-8	29	22:03	BE	CTD		48°44.771	123°35.593	59m	55m	-			☐	(*)	
33		29	22:08	BE	NET		48°44.771	123°35.593	59m	55m	-			☐		

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Bottle Firing Method: US = Up / Stop (default) UN = Up / No stop DN = Down / No stop

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

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Produced by the Water Properties Group, IOS

WaterProperties.ca

Version: 20 April 2016

CTD #0334

Set 9

FM Start 86235
FM End 86610

SCOR net wire angle $\approx 25^\circ$

Set 10

FM Start

86610

FM End

86940

CTD battery on data download:

Vmain: 12.9V

[CTD #0404] $\rightarrow$ May 29 to 21 AUG 2016

Set 11 NET

$\rightarrow$ Flowmeter # did not change; malfunction - cause unknown

FM Start 88750

FM End 88750

Events, 30-33 ~~the~~ station name is the site name as
NO set is associated to CTD/Bongo

CB-8 (Event #30) pH bottle nd removed

FM Start 88750

FM End 88120(?)

CB-5

FM Start 88120

FM End 88450

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month			MAY			Year		2016		Vessel F/V OCEAN VENTURE			Cruise ID		2016-31		(SOG 2016-06)	
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments			
34	SET 13	30	15:26	BE	SET		48° 44.990	123° 36.751	51m		-			☐				
35		30	16:55	BE	CTD		48° 45.005	123° 36.708	52m	50m	-			☐				
36	↓	30	17:00	BE	NET		48° 45.005	123° 36.708	52m	50m	-			☐				
			:				48° 45.005				-			☐				
37	SET 14	30	17:48	BE	SET		48° 45.089	123° 35.244	37m		-			☐				
			:								-			☐				
38	SET 15	30	19:27	BE	SET		48° 45.552	123° 34.136	64m		-			☐				
39	↓	30	20:28	BE	CTD		48° 45.572	123° 34.140	65m		-			☐				
40	↓	30	20:32	BE	NET		48° 45.572	123° 34.140	65m	65m	-			☐				
			:								-			☐				
41	SET 16	30	22:00	BE	SET		48° 43.194	123° 32.688	57m		-			☐				
42	↓	30	22:54	BE	CTD		48° 43.140	123° 32.653	57m	55m	-			☐				
43	↓	30	22:59	BE	NET		48° 43.140	123° 32.653	57m	55m	-			☐				
			:								-			☐				
44	SET 17	30	23:56	BE	SET		48° 44.412	123° 34.016	91m		-			☐				
45		31	00:30	BE	CTD		48° 44.382	123° 34.018	93m	85m	-			☐				
46	↓	31	00:35	BE	NET		48° 44.382	123° 34.018	93m	85m	-			☐				
←	END OF DAY →		:								-			☐				
			:								-			☐				

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Produced by the Water Properties Group, IOS
 WaterProperties.ca
 Version: 20 April 2016

CTD 0404

Set 13

Fm Start

Fm End

88450

88705

Set 15 Bongo: Fm Start 88705

wire angle $\approx 20^\circ$

Fm End 89100

Set 16

Fm Start

Fm End

89100

89430

Set 17

Fm Start

Fm End

89430

90860

(89?)

// End Box 1 of plankton

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month		MAY		Year		2016		Vessel F/V OCEAN VENTURE			Cruise ID 2016-31 (SOG-2016-06)				
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
47	SET 18	31	14:36	BE	SET		48°45.294	123°36.186	46m		-			☐	
48	↓	31	15:49	BE	CTD		48°45.268	123°36.159	51m	45m	-			☐	(*)
49	↓	31	15:54	BE	NET		48°45.268	123°36.159	51m	45m	-			☐	SCOR-VNH
			:				°	°			-			☐	
50	SET 19	31	16:34	BE	SET		48°44.784	123°35.607	59m		-			☐	
51	↓	31	17:35	BE	CTD		48°44.764	123°35.653	58m	55m	-			☐	
52	↓	31	17:40	BE	NET		48°44.764	123°35.653	58m	55m	-			☐	
			:				°	°			-			☐	
53	SET 20	31	18:34	BE	SET		48°44.271	123°32.222	62m		-			☐	
54	↓	31	19:34	BE	CTD		48°44.198	123°32.234	63m	60m	-			☐	
55	↓	31	19:39	BE	NET		48°44.198	123°32.234	63m	60m	-			☐	
			:				°	°			-			☐	
56	SET 21	31	20:37	BE	SET		48°44.456	123°34.939	65m		-			☐	
			:				°	°			-			☐	
57	SET 22	31	22:32	BE	SET		48°44.515	123°36.080	50m		-			☐	
	END OF DAY		:				°	°			-			☐	
			:				°	°			-			☐	
			:				°	°			-			☐	
			:				°	°			-			☐	

Event Type:
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 =
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Notes:

CTD 0404

* Set 18: Cap on connector plug not on; cast data compromised

Niskin @ 5 & 10m for phyto plankton sample

SCOR FM start: 89075 FM end: 90115

Set 19 FM start: 90115 FM end: 90425

Set 20 FM start: 90430 FM end: 90780

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month			June		Year		2016		Vessel F/V OCEAN VENTURE			Cruise ID			2016-31 (SOG 2016-06)		
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Latitude	Positional Information	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments		
58	SET 23	01	13:26	BE	SET		48° 45.451	123° 36.840	43m		-			☐			
59	↓	01	14:15	BE	CTD		48° 45.443	123° 36.822	43m	40m	-			☐			
60	↓	01	14:20	BE	NET		48° 45.443	123° 36.822	43m	40m	-			☐			
			:				°	°			-			☐			
61	SET 24	01	14:59	BE	SET		48° 45.427	123° 36.616	40m		-			☐			
			:				°	°			-			☐			
62	SET 25	01	17:41	BE	SET		48° 45.331	123° 36.413	40m		-			☐			
			:				°	°			-			☐			
63	SET 26	01	19:48	BE	SET		48° 45.244	123° 36.388	53m		-			☐			
			:				°	°			-			☐			
64	SET 27	01	21:47	BE	SET		48° 45.248	123° 36.392	53m		-			☐			
END OF DAY		→					°	°			-			☐			
			:				°	°			-			☐			
65	SET 28	02	13:29	BE	SET		48° 45.217	123° 36.478	53m		-			☐			
66	↓	02	14:22	BE	CTD		48° 45.167	123° 36.450	53m	50m	-			☐			
67	↓	02	14:27	BE	NET		48° 45.167	123° 36.450	53m	50m	-			☐			
			:				°	°			-			☐			
68	SET 29	02	15:22	BE	SET		48° 45.353	123° 36.575	48m		-			☐			
			:				°	°			-			☐			

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Notes:

Produced by the Water Properties Group, IOS
 WaterProperties.ca
 Version: 20 April 2016

CTD 0404

SET 23

FM Start 90785

FM Finish 91520

SET 28

FM Start 91520

FM End 92320

Note: Flow meter malfunction, cause unknown

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month			June			Year			2016			Vessel F/V Ocean Venture			Cruise ID			2016-31 (SOG 2016-06)		
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments					
69	SET 30	02	16:42	EB	SET		48° 45.544	123° 36.852	30m		-			☐						
			:				°	°			-			☐						
70	SET 31	02	18:04	EB	SET		48° 45.291	123° 36.413	49m		-			☐						
			:				°	°			-			☐						
71	SET 32	02	20:17	EB	SET		48° 45.248	123° 36.391	53m		-			☐						
←	End of Day	→	→				°	°			-			☐						
			:				°	°			-			☐						
72	SET 33	13	13:24	BE	SET		48° 45.280	123° 36.433	52m		-			☐						
73	↓	13	14:28	BE	CTD		48° 45.229	123° 36.454	52m	50m	-			☐						
74	↓	13	14:33	BE	NET		48° 45.229	123° 36.454	52m	50m	-			☐						
			:				°	°			-			☐						
75	SET 34	13	16:22	BE	SET		48° 46.322	123° 36.471	49m		-			☐						
			:				°	°			-			☐						
76	SET 35	13	19:07	BE	SET		48° 45.095	123° 36.579	53m		-			☐						
77	↓	13	19:54	BE	CTD		48° 45.052	123° 36.564	54m	50m	-			☐						
78	↓	13	19:59	BE	NET		48° 45.052	123° 36.564	54m	50m	-			☐						
			:				°	°			-			☐						
79	SET 36	13	20:21	BE	SET		48° 45.238	123° 36.306	53m		-			☐						
			:				°	°			-			☐						

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Produced by the Water Properties Group, IOS
 WaterProperties.ca
 Version: 20 April 2016

CTD 0404

Set 33

FM Start 91320
91505

Set 35

FM Start: 91505
FM End: 92050

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month			JUNE			Year			2016			Vessel OCEAN VENTURE			Cruise ID			2016-31 (SOG 2016-06)		
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments					
80	SET 37	13	21:15	BE	SET		48° 45.492	123° 36.827	41m		-			☐						
← END OF DAY →																				
81	SET 38	14	13:22	BE	SET		48° 45.274	123° 36.510	51m		-			☐	PIT TAGGING					
82	↓	14	14:25	BE	CTD		48° 45.184	123° 36.423	52m	50m	-			☐						
83	↓	14	14:30	BE	NET		48° 45.184	123° 36.423	52m	50m	-			☐						
			:				°	°			-			☐						
84	SET 39	14	16:19	BE	SET		48° 45.202	123° 36.467	52m		-			☐	PIT TAGGING					
			:				°	°			-			☐						
85	SET 40	14	18:14	BE	SET		48° 45.284	123° 36.432	52m		-			☐	PIT TAGGING					
			:				°	°			-			☐						
86	SET 41	14	19:10	BE	SET		48° 45.472	123° 36.775	43m		-			☐	PIT TAGGING					
			:				°	°			-			☐						
87	SET 42	14	21:11	BE	SET		48° 45.342	123° 36.466	47m		-			☐	PIT TAGGING					
			:				°	°			-			☐						
88	SET 43	14	21:54	BE	SET		48° 45.263	123° 36.502	52m		-			☐	PIT TAGGING					
			:				°	°			-			☐						
89	SET 44	14	22:36	BE	SET		48° 45.443	123° 36.774	45m		-			☐	PIT TAGGING					
← END OF DAY →																				

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

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
 Version: 20 April 2016

Sgt 38 CTB 0404

FM Start 92050

FM End 92245

Data downloaded 16 JUN 2016. Vmain = 12.0V
- 5 casts (01-14 JUNE 2016)

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month			JUNE			Year		2016		Vessel OCEAN VENTURE			Cruise ID			2016-31 (SOG 2016-06)		
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments			
90	SET 45	28	14:36	BE	SET		48°45.015	123°36.654	51m		-			☐				
91	↓	28	15:37	BE	CTD		48°44.992	123°36.676	52m	50m	-			☐				
92	↓	28	15:42	BE	NET		48°44.992	123°36.676	52m	50m	-			☐				
			:				°	°			-			☐				
93	SET 46	28	16:21	BE	SET		48°45.068	123°35.228	43m		-			☐				
			:				°	°			-			☐				
94	SET 47	28	18:37	BE	SET		48°44.379	123°33.982	98m		-			☐				
			:				°	°			-			☐				
5	SET 48	28	20:00	BE	SET		°	°			-			☐				
96	↓	28	21:05	BE	CTD		48°43.140	123°32.640	59m	55m	-			☐				
97	↓	28	21:10	BE	NET		°	°			-			☐	No sample →			
98	↓	28	21:15	BE	NET		48°43.140	123°32.640	59m	55m	-			☐				
			:				°	°			-			☐				
99	SET 49	28	21:54	BE	SET		48°44.484	123°36.022	50m		-			☐				
			:				°	°			-			☐				
100	SET 50	28	23:18	BE	SET		48°44.793	123°35.602	58m		-			☐				
101	↓	29	00:13	BE	CTD		48°44.716	123°35.623	58m	55m	-			☐				
102	↓	29	00:18	BE	NET		48°44.716	123°35.623	58m	55m	-			☐				
END OF DAY			:				°	°			-			☐				

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

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

Notes:

Produced by the Water Properties Group, IOS

WaterProperties.ca

Version: 20 April 2016

CTD 0404

FM Start 92245

FM End 92530

Event 097(NET) dumped due to large Lians move in net; sample compromised.
FM Start 93130 / NET event 098
FM End 93310

FM Start 93310

FM End 93690

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month			June			Year		2016		Vessel			OCEAN VENTURE		Cruise ID			2016-31 (306-2016-06)	
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Latitude	Positional Information	Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Tms/FI Cleaned	Comments			
103	SET 51	29	14:37	BE	SET		48°45.510	123°36.822	38m			-			☐				
104		29	15:28	BE	CTD		48°45.476	123°36.807	42m	40m		-			☐				
105	↓	29	15:33	BE	NET		48°45.476	123°36.807	42m	40m		-			☐				
			:				°	°				-			☐				
106	SET 52	29	16:19	BE	SET		48°44.469	123°34.854	64m			-			☐				
107	↓	29	17:07	BE	CTD		48°44.455	123°34.887	64m	60m		-			☐				
08	↓	29	17:12	BE	NET		48°44.455	123°34.887	64m	60m		-			☐				
			:				°	°				-			☐				
109	SET 53	29	17:45	BE	SET		48°44.739	123°32.151	63m			-			☐				
110	↓	29	19:30	BE	CTD		48°44.171	123°32.090	63m	60m		-			☐				
111	↓	29	19:35	BE	NET		48°44.171	123°32.090	63m	60m		-			☐				
			:				°	°				-			☐				
112	SET 54	29	20:18	BE	SET		48°45.526	123°33.947	46m			-			☐				
			:				°	°				-			☐				
113	SET 55	29	22:00	BE	SET		48°44.651	123°34.657	64m			-			☐				
			:				°	°				-			☐				
114	SET 56	29	23:42	BE	SET		48°44.675	123°36.588	48m			-			☐				
			:				°	°				-			☐				
END OF DAY →																			

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

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
 Version: 20 April 2016

CTD 0404

Set 51

FM Start 93690

FM End 93920

End Box 2 of plankton

Set 52

FM Start 93920

FM End 94275

Box 3 of 3

Set 53

FM Start 94275

FM End 94655

June 30: 6 casts downloaded (28-29 JUN 2016) $V_{\text{max}} = 12.2 \text{ v}$

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month			August			Year		2016			Vessel			OCEAN VENTURE			Cruise ID			2016-31 (SOG 2016-06)		
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Tms/FI Cleaned	Comments							
115	SET 57	19	14:47	BE	SET		48°45.111	123°35.289	37m		-			☐								
			:				°	°			-			☐								
116	SET 58	19	15:34	BE	SET		48°45.280	123°36.087	48m		-			☐								
			:				°	°			-			☐								
117	SET 59	19	16:27	BE	SET		48°44.982	123°36.686	51m		-			☐								
118	↓	19	17:12	BE	CTD		48°44.951	123°36.631	51m	45m	-			☐								
119	↓	19	17:17	BE	NET		48°44.951	123°36.631	51m	45m	-			☐								
			:				°	°			-			☐								
120	SET 60	19	17:53	BE	SET		48°44.467	123°34.958	63m		-			☐								
121	↓	19	18:29	BE	CTD		48°44.458	123°34.977	63m	60m	-			☐								
122	↓	19	18:34	BE	NET		48°44.458	123°34.977	63m	60m	-			☐								
			:				°	°			-			☐								
123	SET 61	19	19:14	BE	SET		48°45.448	123°34.100	85m		-			☐								
			:				°	°			-			☐								
124	SET 62	19	20:23	BE	SET		48°44.235	123°32.237	62m		-			☐								
125	↓	19	20:56	BE	CTD		48°44.229	123°32.225	62m	60m	-			☐								
126	↓	19	21:00	BE	NET		48°44.229	123°32.225	62m	60m	-			☐								
			:				°	°			-			☐								
127	SET 63	19	21:27	BE	SET		48°43.154	123°32.668	56m		-			☐								

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

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
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 MR = Messenger Release Time
 RE = Recover Mooring Time

Notes: _____

Produced by the Water Properties Group, IOS
 WaterProperties.ca
 Version: 20 April 2016

CTD 0404

Event 119

FM START 96340

FM END 96505

EVENT 122

FM START 96505

FM END 97020

EVENT 126

FM START

FM END

97020

97360

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month August			Year 2016		Vessel OCEAN VENTURE			Cruise ID 2016-31 (SOG 2016-06)							
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
128	SET 64	19	22:24	BE	SET		48° 44.529	123° 36.005	51m		-			☐	
← END OF DAY →															
129	SET 65	20	14:26	BE	SET		48° 45.497	123° 36.820	40m		-			☐	
130	↓	20	15:17	BE	CTD		48° 45.485	123° 36.827	42m	40m	-			☐	
131	↓	20	15:22	BE	NET		48° 45.485	123° 36.827	42m	40m	-			☐	
			:				°	°			-			☐	
132	SET 66	20	15:57	BE	SET		48° 44.358	123° 33.888	124m		-			☐	
			:				°	°			-			☐	
133	SET 67	20	16:49	BE	SET		48° 43.452	123° 31.405	63m		-			☐	
			:				°	°			-			☐	
134	SET 68	20	17:40	BE	SET		48° 43.720	123° 33.892	50m		-			☐	
135	↓	20	18:20	BE	CTD		48° 43.680	123° 33.878	50m	45m	-			☐	
136	↓	20	18:25	BE	NET		48° 43.680	123° 33.878	50m	45m	-			☐	
			:				°	°			-			☐	
137	SET 69	20	19:01	BE	SET		48° 44.721	123° 35.546	58m		-			☐	
138	↓	20	19:38	BE	CTD		48° 44.669	123° 35.507	58m	55m	-			☐	
139	↓	20	19:43	BE	NET		48° 44.669	123° 35.507	58m	55m	-			☐	
140	SET 70	20	20:28	BE	SET		48° 45.031	123° 36.632	51m		-			☐	END OF DAY

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

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

Notes: _____

Produced by the Water Properties Group, IOS
 WaterProperties.ca
 Version: 20 April 2016

CTD 0404

Set 65

FM START 97360

FM END 97595

Set 68

FM START 97595

FM END 97890

Set 69

FM START 97890

FM END 98240

→ Plankton sample sat at surface for ~20 minutes - integrity may be compromised. (water pump failure)
couldn't hose down sample

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month			AUGUST			Year			2016			Vessel			OCEAN VENTURE			Cruise ID			2016-31 (SOG 201606)		
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments								
141	SET 71	21	14:35	BE	SET		48°47.649	123°33.486	131m		-			☐	PIT TAGGING								
142	↓	21	15:05	BE	CTD		48°47.639	123°33.560	121m	100m	-			☐									
143	↓	21	15:10	BE	NET		48°47.639	123°33.560	121m	100m	-			☐									
			:				°	°			-			☐									
144	SET 72	21	15:41	BE	SET		48°49.218	123°35.531	69m		-			☐	PIT TAGGING								
145	↓	21	16:26	BE	CTD		48°49.166	123°35.485	90m	70m	-			☐									
146	↓	21	16:31	BE	NET		48°49.166	123°35.485	90m	70m	-			☐									
			:				°	°			-			☐									
147	SET 73	21	19:40	BE	SET		48°49.209	123°35.509	75m		-			☐	PIT TAGGING								
			:				°	°			-			☐									
148	SET 74	21	20:37	BE	SET		48°47.614	123°33.767	76m		-			☐	PIT TAGGING								
			:				°	°			-			☐									
149	SET 75	21	21:14	BE	SET		48°48.137	123°34.077	41m		-			☐	PIT TAGGING								
			:				°	°			-			☐									
150	SET 76	21	22:55	BE	SET		48°49.226	123°35.522	59m		-			☐	PIT TAGGING								
			:				°	°			-			☐									
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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

Time Codes:
 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

Notes:

Produced by the Water Properties Group, IOS
 WaterProperties.ca
 Version: 20 April 2016

CTD 0404

Set 71
FM START 98240
FM END 98785

Set 72
FM START 98785
FM END 99135

Data uploaded 23 AUG 2016; vmain=13.0
(8 casts)