

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2016-01

DATE:

From: 8 FEBRUARY 2016 to: 22 FEBRUARY 2016

VESSEL:

J.P. Tully

PROJECT(S):

LING P

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

WaterProperties.ca

Captain: MIKE McCULLAGH
 Second Officer: DAVID TAYLOR
 Fishing Master: C/E ROGER HORTON
 First Officer: TONY MAGUIRE
 Third Officer: JONATHAN BENCKHUYSEN

Mission Participants / Agencies: DFO-105 / DFO-310 / UVic / UBC

Scientific Personnel:

Chief Scientist: MARIE ROBERT 06-18 A

Name	Watch	Cabin	Name	Watch	Cabin
THERESA VENELLO	18-06	B	MICHAEL	DMS	12
GLENN COOPER	04-12-18	C			
DOUG YELLAND	12-24	D			
MARK BELTON	00-12	E			
ROBERT IZETT	06-12	F			
RICK NELSON	00-06	F			
ALYSIA HERR	18-24	G			
JADE SHILLER	06-12	G			
JOHN DOWER	06-18	H			
PHILIPPE TORTEL	00-06	H			

Second leg of Mission:

Chief Scientist:

[illegible]

Data logging computer:

Data acquisition program: _____

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

Primary CTD

CTD S/N 585 Date Jan 27/16

Mission ID 2016-01 Con file 585 Feb Line P primary

Primary Temp S/N	5725	Cable	TC01
1	10.0	10.0	10.0
2	10.0	10.0	10.0
3	10.0	10.0	10.0
4	10.0	10.0	10.0
5	10.0	10.0	10.0
6	10.0	10.0	10.0
7	10.0	10.0	10.0
8	10.0	10.0	10.0
9	10.0	10.0	10.0
10	10.0	10.0	10.0
11	10.0	10.0	10.0
12	10.0	10.0	10.0
13	10.0	10.0	10.0
14	10.0	10.0	10.0
15	10.0	10.0	10.0
16	10.0	10.0	10.0
17	10.0	10.0	10.0
18	10.0	10.0	10.0
19	10.0	10.0	10.0
20	10.0	10.0	10.0
21	10.0	10.0	10.0
22	10.0	10.0	10.0
23	10.0	10.0	10.0
24	10.0	10.0	10.0
25	10.0	10.0	10.0
26	10.0	10.0	10.0
27	10.0	10.0	10.0
28	10.0	10.0	10.0
29	10.0	10.0	10.0
30	10.0	10.0	10.0
31	10.0	10.0	10.0
32	10.0	10.0	10.0
33	10.0	10.0	10.0
34	10.0	10.0	10.0
35	10.0	10.0	10.0
36	10.0	10.0	10.0
37	10.0	10.0	10.0
38	10.0	10.0	10.0
39	10.0	10.0	10.0
40	10.0	10.0	10.0
41	10.0	10.0	10.0
42	10.0	10.0	10.0
43	10.0	10.0	10.0
44	10.0	10.0	10.0
45	10.0	10.0	10.0
46	10.0	10.0	10.0
47	10.0	10.0	10.0
48	10.0	10.0	10.0
49	10.0	10.0	10.0
50	10.0	10.0	10.0
51	10.0	10.0	10.0
52	10.0	10.0	10.0
53	10.0	10.0	10.0
54	10.0	10.0	10.0
55	10.0	10.0	10.0
56	10.0	10.0	10.0
57	10.0	10.0	10.0
58	10.0	10.0	10.0
59	10.0	10.0	10.0
60	10.0	10.0	10.0
61	10.0	10.0	10.0
62	10.0	10.0	10.0
63	10.0	10.0	10.0
64	10.0	10.0	10.0
65	10.0	10.0	10.0
66	10.0	10.0	10.0
67	10.0	10.0	10.0
68	10.0	10.0	10.0
69	10.0	10.0	10.0
70	10.0	10.0	10.0
71	10.0	10.0	10.0
72	10.0	10.0	10.0
73	10.0	10.0	10.0
74	10.0	10.0	10.0
75	10.0	10.0	10.0
76	10.0	10.0	10.0
77	10.0	10.0	10.0
78	10.0	10.0	10.0
79	10.0	10.0	10.0
80	10.0	10.0	10.0
81	10.0	10.0	10.0
82	10.0	10.0	10.0
83	10.0	10.0	10.0
84	10.0	10.0	10.0
85	10.0	10.0	10.0
86	10.0	10.0	10.0
87	10.0	10.0	10.0
88	10.0	10.0	10.0
89	10.0	10.0	10.0
90	10.0	10.0	10.0

Primary Cond	S/N	4448	Cable	TC02
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Secondary Temp S/N	5724	Cable	TC03
1	1.0	1.0	1.0
2	1.0	1.0	1.0
3	1.0	1.0	1.0
4	1.0	1.0	1.0
5	1.0	1.0	1.0
6	1.0	1.0	1.0
7	1.0	1.0	1.0
8	1.0	1.0	1.0
9	1.0	1.0	1.0
10	1.0	1.0	1.0
11	1.0	1.0	1.0
12	1.0	1.0	1.0
13	1.0	1.0	1.0
14	1.0	1.0	1.0
15	1.0	1.0	1.0
16	1.0	1.0	1.0
17	1.0	1.0	1.0
18	1.0	1.0	1.0
19	1.0	1.0	1.0
20	1.0	1.0	1.0
21	1.0	1.0	1.0
22	1.0	1.0	1.0
23	1.0	1.0	1.0
24	1.0	1.0	1.0
25	1.0	1.0	1.0
26	1.0	1.0	1.0
27	1.0	1.0	1.0
28	1.0	1.0	1.0
29	1.0	1.0	1.0
30	1.0	1.0	1.0
31	1.0	1.0	1.0
32	1.0	1.0	1.0
33	1.0	1.0	1.0
34	1.0	1.0	1.0
35	1.0	1.0	1.0
36	1.0	1.0	1.0
37	1.0	1.0	1.0
38	1.0	1.0	1.0
39	1.0	1.0	1.0
40	1.0	1.0	1.0
41	1.0	1.0	1.0
42	1.0	1.0	1.0
43	1.0	1.0	1.0
44	1.0	1.0	1.0
45	1.0	1.0	1.0
46	1.0	1.0	1.0
47	1.0	1.0	1.0
48	1.0	1.0	1.0
49	1.0	1.0	1.0
50	1.0	1.0	1.0
51	1.0	1.0	1.0
52	1.0	1.0	1.0
53	1.0	1.0	1.0
54	1.0	1.0	1.0
55	1.0	1.0	1.0
56	1.0	1.0	1.0
57	1.0	1.0	1.0
58	1.0	1.0	1.0
59	1.0	1.0	1.0
60	1.0	1.0	1.0
61	1.0	1.0	1.0
62	1.0	1.0	1.0
63	1.0	1.0	1.0
64	1.0	1.0	1.0
65	1.0	1.0	1.0
66	1.0	1.0	1.0
67	1.0	1.0	1.0
68	1.0	1.0	1.0
69	1.0	1.0	1.0
70	1.0	1.0	1.0
71	1.0	1.0	1.0
72	1.0	1.0	1.0
73	1.0	1.0	1.0
74	1.0	1.0	1.0
75	1.0	1.0	1.0
76	1.0	1.0	1.0
77	1.0	1.0	1.0
78	1.0	1.0	1.0
79	1.0	1.0	1.0
80	1.0	1.0	1.0
81	1.0	1.0	1.0
82	1.0	1.0	1.0
83	1.0	1.0	1.0
84	1.0	1.0	1.0
85	1.0	1.0	1.0
86	1.0	1.0	1.0
87	1.0	1.0	1.0
88	1.0	1.0	1.0
89	1.0	1.0	1.0
90	1.0	1.0	1.0
91	1.0	1.0	1.0
92	1.0	1.0	1.0
93	1.0	1.0	1.0
94	1.0	1.0	1.0
95	1.0	1.0	1.0
96	1.0	1.0	1.0
97	1		

Secondary Cond	S/N	4434	Cable	TC04

DO Sensor S/N	3038	Cable	DOSP01	Pri or Sec

Fluorometer	SEAPPOINT	Cable gain	30X	Pri or Sec

Fluorometer S/N	3685	Cable	DOSP01 TO SPG30-2
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Trans S/N	1396DR	Cable	TRANS01
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pH Sensor S/N _____ Cable _____

Altimeter S/N	62354	Cable	ALTM01
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PAR	S/N	Cable	PAR01
	4/565		

Other sensors:

s/n:

P S or NO numn?

Other sensors:

s/n:

P S or NO pump?

Other sensors:

s/n:

P, S or NO pump?

Other sensors:

s/n:

P. S or NO pump?

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

Rosette Setup:

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

Winches:

	Make:	Model:	Serial #:	Used for:
1.	Make:	Model:	Serial #:	Used for:
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: SEAPPS Model: - Kit Number: #1
Make: _____ Model: _____ Kit Number: _____

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

SATISFACTORY
CHEMICAL DECONTAMINANTS WERE PREVIOUSLY RUN

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:	Name:	Exit points:
	Bin Length: (2^x):	Name:	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

Comments

Test Cast in Saanich Inlet or other location? Yes

No

Comments

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

0.003

Additional Comments:

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Month <u>Feb</u>				Year <u>2016</u>			Ship <u>Tully</u>				Cruise ID <u>2016-01</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							
9	Harvey	07:15	BE	NET		1	48° 36.8557	123° 14.7583	227	217			dy		
			BO				48°	123°							
		07:25	EN				48° 36.9765	123° 14.7659							
9	Harvey	07:44	BE	ROS	US	2	48° 36.91	123° 14.76	235		1-15	15	GC/MB	✓	PAR ON
		7:53	BO				48° 36.85	123° 14.93		225					
		8:10	EN				48° 37.14	123° 14.90							
9	JF1	12:20	BE	Loop	-	3	48° 16.00	123° 29.99	153	-	JF1 Loop	-	MB	-	
9	JF2	13:41	BE	NET	-	4	48° 18.0378	123° 59.5103	181	171		-	MB	-	
		13:45	BO				48° 18.037	123° 59.4510							
		13:49	EN				48° 17.9457	123° 59.7927							
9	JF2	14:16	BE	ROS	US	5	48° 17.94	123° 59.99	183		16-28	13	MB	✓	
		14:19	BO				48° 17.96	123° 59.94		177					
		14:34	EN				48° 17.95	123° 59.72							
9	JF3	16:42	BE	Loop	-	6	48° 26.99	124° 29.94	217	-	JF3 Loop	-	MB	-	
9	JF4	18:35	BE	Loop	-	7	48° 32.30	124° 59.85	57	-	JF4 Loop	-	MB	-	
9	P1	20:38	BE	ROS		8	48° 34.53	125° 30.09	113				M GC	✓	2 Loops (oxy chl Sal) →
		20:41	BO				48° 34.56	125° 30.11		110	29-31	3			
		20:46	EN				48° 34.59	125° 30.14							
9	P1	20:31		Loop		9	48° 34.56	125° 30.03							Cesium Loop

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

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 MR = Messenger Release Time
 RE = Recover Mooring Time

Transmissometer & Fluorometer are to be cleaned before each cast

Produced by the Water Properties Group, IOS

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1.5/12 ✓

Before file 0008, PI: Modify config file to change trans # to 2 Feb 2016 caly.
Remove Y cable (disconnect Toby's sensor), put a direct cable from
CTD to transducer.

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Month <u>Feb</u>		Year <u>2016</u>		Ship <u>Tully</u>		Cruise ID <u>2016-01</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							
9	LOOP-10	2128		LOOP		10	48 34.96	125 39.48							2x Oxy chl Sal
9	P2	2258	BE	ROS	US	11	48 36.00	126 0.07	113		-		DY/GC	✓	DMS cast
		2301	BO				48 35.99	126 0.08			32-45	14			2 chl Loops
		2314	EN				48 36.00	126 0.16							
9	P2			LOOP		12									Cesium Loop
9	P2	2321	DE	NET		13	48 36.03	126 0.11	113				DY		Bongo to 103m
		2327	BO				48 36.03	126 0.11		103					
		2330	EN				48 36.02	126 0.08							
9	P2	2351	DE	ROS	US	14	48 36.05	126 0.02	112				DY	✓	1 Sal 2 Oxy Loop
		2354	BO				48 36.06	126 0.00		106	46-53	8			
10		0003	EN				48 36.10	125 59.97							
10	P2+	0033		LOOP		15	48 36.53	125 05.21							Sal 2ch 2oxy
10	P3	0140	DE	ROS		16	48 37.48	126 20.10	820				DY	✓	
		0157	BO				48 37.52	126 20.06		810	54-55	2			
		0212	EN				48 37.52	126 20.11							
10	P4	0403	DE	ROS		17	48 38.95	126 40.03	1328		5		DY	✓	PAR OFF
		0414	BO				48 38.94	126 40.05		500	56-79	18			Cesium (deep)
		0431	EN				48 38.95	126 40.02							

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Month <u>Feb</u>				Year <u>2016</u>			Ship <u>Tolly</u>			Cruise ID <u>2016-01</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							
10	P4	0509	BE	ROS	US	18	48 38.87	126 40.03	1328				dy	✓	DMS cast
		0517	BO				48 38.90	126 39.99		300	80-98	19			
		0537	EN				48 38.94	126 39.92							
10	P4	0615	BE	ROS	US	19	48 38.96	126 40.00	1329				dy	✓	Deep Cast
		0639	BO				48 38.94	126 40.06		1323	99-117	19			
		0723	EN				48 38.98	126 39.95							
10	P4	0812	BE	NCT	-	20	48 38.86	126 40.09	1331				MB	-	Bottle 250m
		0823	BO				48 38.80	126 40.12		250					
		0827	EN				48 38.74	126 40.18							
10	P4	0852	BE	NCT	-	21	48 38.99	126 39.98	1331				MB	-	Bottle 1200m
		0935	BO				48 38.97	126 39.95		1200					
		0955	EN				48 38.92	126 39.98							
10	P4	1028	BE	ROS	US	22	48 38.91	126 40.12	1332		118-133	16	MB	✓	300m CAST
		1049	BO				48 38.89	126 40.06		1330					
		1116	EN				48 38.92	126 40.03							
10	P4	1145	BE	ROS	US	23	48 38.96	126 40.10	1331		139-157	24	MB	✓	Cs Cast
		1148	BO				48 38.97	126 40.11		150					
		1155	EN				48 38.99	126 40.08							
10	P4-P5	1217	BE	Loop	-	24	48 39.31	126 41.14			Loop 24		MB	-	Loop 2x only 200m 150m

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Month <u>FEBRUARY</u>				Year <u>2016</u>			Ship <u>JP Tully</u>				Cruise ID <u>2016-01</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							
10	P5	1427	BE	ROS	US	25	48 41 47	127 10 00	2100		158 → 161	4	MB	✓	Net Lows Collected
		1502	BO				48 41 38	127 10 04		2005					
		1538	EN				48 41 32	127 09 95							
10	P6	1807	BE	ROS	US	26	48 44 61	127 40 09	2555		162 → 164	3	MB	✓	
		1846	BO				48 44 68	127 40 08		2005					→
		1940	EN				48 44 65	127 39 99							
10	P7	2217	BE	ROS	US	27	48 46.65	128 9.99	2518				MB	✓	
		2251	BO				48 46.65	128 10.03		2005	165-166	2			
		2322	EN				48 46.70	128 10.02							
11	P8	0147	BE	ROS	US	28	48 49.98	128 40.01	2531				MB	✓	
		0223	BO				48 48.95	128 40.06		2005					
		0324	EN				48 48.99	128 40.20							
11	P8	0405	BE	NET		29	48 49.00	128 40.03	2530				MB		Scup to 1500
		0418	BO				48 48.98	128 39.99		250					
		0421	EN				48 48.96	128 39.98							4
11	P8	0428	BE	NET		30	48 48.94	128 40.01	2530						Bongo to 1200
		0502	BO				48 48.83	128 40.12		1200					
			EN												

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p4.5/12

→ BACK SCATTER INSTRUMENT REMOVED FROM ROSETTE AFTER P4

EVENT 26 B: 48 44 67 127 40.08
1915 10 Feb UTC

} 60 l. Cesium loop

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Month <u>FÉVRIER</u>				Year <u>2016</u>			Ship <u>TULLY</u>				Cruise ID <u>2016-01</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							
11	P9	0743	BE	ROS	US	31	48 51.41	129 9.98	2355		189-190	2	MB	✓	
		0822	BO				48 51 46	129 10 04		2005					
		0854	EN				48 51 55	129 10 06							
11	P10	1124	BE	ROS	US	32	48 53 63	129 39 94	2056		191-214	24	MB	✓	Cs CAST
		1130	BO				48 53 63	129 39 98		2000					
		1141	EN				48 53 67	129 39 96							
11	P10	1212	BE	ROS	US	33	48 53 69	129 40 07	2054		215-229	15	MB	✓	IOS URC, Cs CAST
		1253	BO				48 53 82	129 40 10		2005					
		1329	EN				48 53 98	129 40 37							
11	P11	1555	BE	ROS	US	34	48 56 04	130 9 97	2764		230-231	2	MB	✓	
		1632	BO				48 55 87	130 9 99		2005					
		1707	EN				48 55 82	130 9 80							
11	P12	1934	BE	ROS	US	35	48 58 25	130 40 95	3351		240-250	19	MB	✓	PAR + BACKSCATTER ON AMS CAST ↓
		1940	BO				48 58 25	130 39 96		2000					CNA ON
		2000	EN				48 58 36	130 39 77							
11	P12	2045	BE	ROS	US	36	48 58.25	130 40.07	3247				MY	✓	PAR OFF
		2059	BO				48 58.28	130 40.01		3273	257-273	23			P=3275 S=2245 D=3124 11 m
		2317	EN				48 58.30	130 40.00							

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DRF = Drifter

Bottle Firing Method:

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DN = Down / No stop

Notes:

Time Code:

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Transmissometer & Fluorometer are to be cleaned before each cast

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 7 July 2014

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>FEBRUARY</u>				Year <u>2016</u>			Ship <u>TULLY</u>				Cruise ID <u>2016-01</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							
12	P12	0045	BE	ROS	US	37	48 58.28	130 39.95	3245			17	RY	✓	UBC
		0120	BO				48 58.29	130 39.83		2005	274-289	16			
		0200	EN				48 58.17	130 39.10							
12	Loop 38	0221	BE	Loop	-	38	48 58.30	130 42.74	307				MR		2 OX7 1 SAL 2 CHL
12	P13	0714	BE	ROS	US	39	49 2.69	131 40.03	3010		290-291	2	DY/ML		
		0751	BO				49 2 63	131 39 99		2005					
		0827	EN				49 2 70	131 40 03							
12	P14	1258	BE	ROS	US	40	49 7 44	132 39 94	3327		292-294	3	MR	✓	+ Loop @ 5m 2 OX7, 1 Sal, 2 CHL
		1333	BO				49 7 50	132 39 90		2005					
		1415	EN				49 7 49	132 39 74							
12	P14-P15	1441	BE	Loop	-	41	49 7 60	132 43 99	3330	-	Loop 41	-	MR	-	10min after P14, 30m, 30m
12	P15	1911	BE	ROS	US	42	49 11 99	133 39 96	3415		295-296	2	MR/RY	✓	Started seawave ~ 1am before station
		1943	BO				49 11 93	133 39 98		2005					
		2017	EN				49 11 97	133 40.04							
12	P15 P15-P16	2026	BE	DRF		43	49 12 08	133 40 24	3413	-	-	-	DY	-	ARRIVE STN 316
13	P16	0059	BE	ROS	US	44	49 17.057	134 39.958	3611				RY	✓	Cesium (Shallow)
		0103	BO				49 17.05	134 39.94		150	297-320	24			PAR ON
		0110	EN				49 17.07	134 39.97							

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Produced by the Water Properties Group, IOS

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P65/12

- started ^{software} ~~file~~ @ 49 17.009 134 39.733 00.49 (not archiving)
- approaching P16

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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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								
13	P16	0137	BE	ROS	US	45	49 17.14	134 39.92	3611				dy	✓	DMS	
		0143	BO				49 17.15	134 39.96		300	321-339	19			Loops for 2x cnc	
		0204	EN				49 17.13	134 39.88								
13	P16	0250	BE	NET		46	49 17.00	134 39.90	3609				dy		Bongo to 250	
		0258	BO				49 16.99	134 39.91		250						
		0304	EN				49 17.01	134 39.89					dy	✓		
13	P16	0321	BE	ROS	US	47	49 17.02	134 39.86	3609						PAIR OFF	
		0438	BO				49 17.05	134 39.99		3681	340-363	24			P=3681 S=3610 D=3619 Δ=10	
		0603	EN				49 17.07	134 39.77								
		0644	BE	NET		48	49 17.04	134 39.89	3609				dy		Bongo 1200m	
		0724	BO				49 16.97	134 39.91		1200						
		0745	EN				49 16.94	134 40.01								
13	P16	0802	BE	ROS	US	49	49 17.03	134 39.90	3610		364-387	24	ms	✓	Gr Cast	
		0810	BO				49 17.03	134 39.85		500						
		0824	EN				49 17.02	134 39.78								
13	P16-P17	0847	BE	Loop	-	50	49 17.24	134 43.15	3606	-	Low 50	-	ms	-	2x Oxy 2x CHL 1x Sal	
13	P17	1333	BE	ROS	US	51	49 21.11	135 41.08	3596		388-391	4	ms	✓	Started sensor,	
		1419	BO				49 21.53	135 41.02		2005					issue with winch	
		1453	EN				49 21.54	135 41.20							Switch, started sensor 20min later restarted	

Transmissometer & Fluorometer are to be cleaned before each cast

Cast Type:

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Produced by the Water Properties Group, IOS

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Notes:

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>FEBRUARY</u>				Year <u>2016</u>			Ship <u>TALU</u>				Cruise ID <u>2816-01</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							
<u>13</u>	<u>P17</u>	<u>15 05</u>	<u>MG</u>	<u>DRF</u>		<u>52</u>									<u>Deploy Argo 0317</u>
		<u>15 07</u>	<u>DE</u>				<u>49 21 49</u>	<u>135 40 21</u>	<u>3007</u>				<u>MB</u>		
<u>13</u>	<u>P18</u>	<u>20 34</u>	<u>BE</u>	<u>ROS</u>	<u>US</u>	<u>53</u>	<u>49 26 04</u>	<u>136 39.97</u>	<u>3798</u>				<u>DY</u>	☒	
		<u>21 13</u>	<u>BO</u>				<u>49 26 00</u>	<u>136 39.10</u>		<u>2005</u>	<u>392-394</u>	<u>3</u>			
		<u>21 47</u>	<u>EN</u>				<u>49 25.96</u>	<u>136 39.88</u>							
<u>14</u>	<u>P19</u>	<u>02 43</u>	<u>BE</u>	<u>ROS</u>	<u>US</u>	<u>54</u>	<u>49 30.02</u>	<u>137 40.03</u>	<u>3896</u>				<u>dy</u>	☒	
		<u>03 21</u>	<u>BO</u>				<u>49 30.02</u>	<u>137 40.08</u>		<u>2005</u>	<u>395-396</u>	<u>2</u>			
		<u>03 57</u>	<u>EN</u>				<u>49 30.02</u>	<u>137 40.09</u>							
<u>14</u>	<u>P19</u>	<u>02 44</u>		<u>LOOP</u>		<u>55</u>	<u>49 30 27</u>	<u>137 40.02</u>		<u>2005</u>	<u>-</u>	<u>-</u>			<u>Cesium</u>
<u>14</u>	<u>P19</u>	<u>04 23</u>		<u>DRF</u>		<u>56</u>	<u>49 29.90</u>	<u>137 40.16</u>							<u>Argo 191</u>
<u>14</u>	<u>P20</u>	<u>09 34</u>	<u>BE</u>	<u>ROS</u>	<u>US</u>	<u>57</u>	<u>49 34 02</u>	<u>138 39 96</u>	<u>3937</u>		<u>397-426</u>	<u>24</u>	<u>MB</u>	☒	<u>P: 4026 D: 3953</u> <u>S: 3933 A: 9</u>
		<u>10 46</u>	<u>BO</u>				<u>49 34.00</u>	<u>138 39 77</u>		<u>4026</u>					
		<u>12 21</u>	<u>EN</u>				<u>49 33 91</u>	<u>138 39 44</u>							
<u>14</u>	<u>P20 → P21</u>	<u>14 41</u>	<u>BE</u>	<u>Loop</u>		<u>58</u>	<u>49 34 09</u>	<u>138 41 46</u>	<u>3931</u>	<u>-</u>	<u>Loop 58</u>	<u>-</u>	<u>MB</u>	<u>-</u>	<u>Loop 2 ch 1.5m</u>
<u>14</u>	<u>P21</u>	<u>20 24</u>	<u>BE</u>	<u>ROS</u>	<u>US</u>	<u>59</u>	<u>49 38.04</u>	<u>139 39.96</u>	<u>3927</u>				<u>dy</u>	☒	<u>Shallow Cesium</u>
		<u>20 29</u>	<u>BO</u>				<u>49 38.04</u>	<u>139 39.96</u>		<u>200</u>	<u>421-438</u>	<u>18</u>			
		<u>20 37</u>	<u>EN</u>				<u>49 38.07</u>	<u>139 40.01</u>							

Cast Type:

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Transmissometer & Fluorometer are to be cleaned before each cast

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ARGO 0317 26AD3B 300234 063532940

P8.5/12

1812 UTC 49 24 12 13615.78 : Removed Backscatter + double X cable, PAR disk pack into CD
downloaded RBR Data

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>Feb</u>		Year <u>2016</u>		Ship <u>Tully</u>		Cruise ID <u>2016-01</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							
14	P21	2104	BE	ROS	US	60	49 38.06	139 39.95	3924				my	✓	105 x Cesium
		2142	BO				49 38.01	139 40.00		2005	439-458	20			
		2218	EN				49 38.01	139 40.02							
15	P22	0316	BE			61	49 41.99	140 40.70	3905				my	✓	
		0357	BO				49 42.03	140 40.26		2005	459-463	5			
		0429	EN				49 42.08	140 40.48							
15	P23	0851	BE	ROS	US	62	49 46.04	141 39.96	4016		464-465	2	MB	✓	
		0926	BO				49 45.99	141 40.01		2005					
		0959	EN				49 45.99	141 40.02							
15	P24	1514	BE	ROS	US	63	49 50.26	142 40.72	3956		466-489	24	MB	✓	+Loops 2-021, 2-021
		1546	BO				49 50.13	142 40.13		2005					1-521
		1630	EN				49 49.93	142 39.80							
15	P24-P25	1706	BE	Loop	-	64	49 49.94	142 44.88	3965	-	Loop 64	-	MB	-	Loop 2-021, 2-021
16	P26	0822	BE	ROS	US	65	49 59.98	145 0 01	4127		490-513	24	MB	✓	CS CAST
		0825	BO				49 59.99	145 0 01		150					
		0832	EN				49 59.97	145 0 22							
16	P26	0917	BE	ROS	US	66	49 59.92	145 0 04	4127		514-537	24	MB	✓	D=4235 S=4127 2200m P=4314 A=11 1451
		1030	BO				49 59.96	144 59.99		4314					
		1206	EN				50 0 40	144 59.76							

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Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 7 July 2014

P9.5/12

HOSE CLAMP BROKE OFF ON WEIGHT ON ROSETTE, REPLACED THIS AND ANOTHER MISSING ONE FROM TWO BORROWED FROM THE SHIP.

REPLACED O-RINGS ON #5 SPEEDOT, TIGHTENED INSIDE TUBE ON #7

Low/loaded RBL Yoke

Sounder not working, all P2G depths wrong

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>FEBRUARY</u>				Year <u>2016</u>			Ship <u>WILL</u>			Cruise ID <u>2016-01</u>					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
16	P26	13:52	BE	ROS	US	67	50 0 01	144 59 90	4127		538-553	16	MB	✓	UBC CAST
		1429	BO				50 00.20	144 59.91		2000					
		1506	EN				50 0 30	144 59 94							
16	P26	1612	BE	ROS	US	68	49 59 97	144 59 93	4127		554-572	19	MB	✓	+Loop 2.000 DMS CAST
		1617	BO				49 59 96	144 59 91		300					
		1637	EN				49 59 89	144 59 84							
16	P26	1720	BE	ROS	US	69	49 59.87	144 59.96	4127?	500	573-596	24	MR	✓	Deep CS cast
		1728	BO				49 59.85	145 00.02							PAC ON → SEC OVER
		1741	EN				49 59.79	145 00.15							
16	P26	1757	BE	NET		70	49 59.81	145 00.02	4213				MB/SD		BOWED TO 250m
		1812	BO				49 59.83	145 00 07		250					→
		1816	EN				49 59.83	145 00.05							
16	P26	1845	DE	DRF		71	49 59 98	144 59.86							JOSKCC EC DRIFTER
16	P26	1848	DE	DRF		72	49 59.06	144 59.82	4213						UW ARGO STAB
16	P26-P35	1857	BE	Loop		73	49 59 98	144 58 52	4209	-	Loop 73	-	MB	-	2.000 2.000 Loop
16	P35	2219	BE	ROS	US	74	49 59.92	144 18.27	4113				MB	✓	
		2248	BO				49 59.91	144 18.31		2005	597-598	2			
		2318	EN				49 59.92	144 18.31							
16	P35	2327	DE	DRF		75	50 00.03	144 18.37	4112						Argo 202

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=

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Produced by the Water Properties Group, IOS

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p10.5/12

ADCP restarted @ 1820 UTC, 16 Feb 2016, PUT ON WRONG (SPARE) PAR #465
So restarted the GC 60 @ same time.

DAILY SCIENCE LOG

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Month Feb				Year 2016				Ship Tully				Cruise ID 2016-01			
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
17	P25	0312	BE	ROS	US	76	50 0.06	143 36.39	4103				MY	✓	
		0351	BO				50 0.15	143 36.76		2005	599-600	2			
		0427	EN				50 0.31	143 36.73							
17	P25			Loop		77									→ Cesium Loop
17	en route	0548	BE	Loop	-	78	51 11 78	144 20 30	4087	-	Loop 78	-	MB	-	2x0.5 1x0.5
17	en route	22:02	BE	Loop		79	50° 54.45'	143° 15.08	3622	-	Loop 79		GC	-	2x0.5 1x0.5
18	en route	1:01		loop		80	50 41.75	142 30.87	3923		-		RI	-	Cs loop 60.2
18	en route	4:30		loop		81	50 26 87	141 39 65	3538				RN		Cs Loop 60.2
18	en route	16:00	BE	Loop	-	82	49 41 13	139 03 50	3895	-	Loop 82	-	MB	-	Loop 2x0.5 2x0.5 1x0.5
18	P20	1753	BE	ROS	US	83	49 33 97	138 40 12	3934		601-613	19	MB	✓	Start Seismic @ Sec over → + Loop 2x0.5
		1801	BO				49 33 96	138 40 21		300					PAR on #4565
		1821	EN				49 33 92	138 40 18							
18	P20	18:29	BE	NET	-	84	49 33 94	138 40.07	3939				MB	-	Bow 250
		18:40	BO				49 33 87	138 40.15		250					
		18:44	EN				49 33 83	138 40.22							
18	P20	18:53	BE	NET		85	49 33 77	138 40.26	3939				MB	-	Bow 1200
		19:29	BO				49 33 60	138 40.40		1200					
		19:50	EN				49 33 52	138 40.57							
19	En route	00:56	BE	Loop		86	49° 28.47	137° 17.55	3899	-	Loop 86		GC		Long, 2x0.5, 1x0.5

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WaterProperties.ca
 Version: 7 July 2014

P11.5

EVENT 77 B: Recover glider.

Seaswe on @ 1732 (18 Feb 2016) $49^{\circ} 34.82$ $138^{\circ} 42.84$, STOPPED + SLOWED on WPT DOWN TO OBSERVE
WIRE CONDITIONS, ALL OK

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>FEB</u>				Year <u>2016</u>			Ship <u>Tullix</u>				Cruise ID <u>2016-01</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							
P17 P14 19	en route	3:00		Loop	-	87	49 25 83	136 40 38	3836				RN		Cs loop 60 l
19	en route	17:45		Loop		88	49 07 47	132 40 28	3819				RN		Cs loop 60 l
19	en route	18:10	BE	Loop	-	89	49 6 79	132 33 17	3208	-	Loop 89	-	MB	-	Loop 2xOxy, 2xCHL, 1xSal
P12 20	en route	00:45		Loop		90	48 58 26	130 40 50	2978				RN		Cs loop 60 l
20	en route	2:40	BE	Loop		91	48° 56.05'	130 10.36	2152		Loop 91		SC		2xOxy, 2xCHL, 1xSal
P8 20	en route	8:41		Loop		92	48 49 23	128 40 86	2515				RN		Cs loop 60 l
20	en route	15:40	BE	Loop	-	93	48 40 42	126 59 85	1984	-	Loop 93	-	MB	-	2xOxy, 2xCHL, 1xSal
20	P4	1720	BE	ROS	-	94			1300		620-632	13	MB	✓	P4R OFF P4 return.
			BO												
			CU												
							ABORTED DUE TO SMOKE IN BOW THRUSTER?								
20	en route	20 04	BE	Loop	-	95	48 37 17	126 12 37	295	-	Loop 95	-	MB	-	2xOxy 2xCHL, 1xSal

Cast Type:

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___ = _____

Bottle Firing Method:

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DE = Deployment Time

MR = Messenger Release Time

RE = Recover Mooring Time

Transmissometer & Fluorometer are to be cleaned before each cast

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This page is for any notes or observations

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