

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2014-20

DATE:

From: June 25/2014

to:

VESSEL:

J.P. Tully

PROJECT(S):

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

WaterProperties.ca

Captain: _____ First Officer: _____
Second Officer: _____ Third Officer: _____
Fishing Master: _____

Mission Participants / Agencies: _____

Scientific Personnel:

Chief Scientist: David Spear

Name	Watch	Cabin	Name	Watch	Cabin
<u>David Spear</u>		<u>W</u>			
<u>Roger Saville</u>		<u>J</u>			
<u>Scott Ryan</u>		<u>M</u>			
<u>Luisaous Perreault</u>		<u>L</u>			
<u>Kenny Scorzotava</u>		<u>A</u>			
<u>Sophie Johannsen</u>		<u>A</u>			
<u>Cindy Wright</u>		<u>G</u>			
<u>Ron Lindsey</u>		<u>H</u>			

Second leg of Mission:

Chief Scientist: _____

Name	Watch	Cabin	Name	Watch	Cabin

Data logging computer: #3

Data acquisition program: Seasave

CTD deck unit make: SBE model: 11+ serial number: 0471 ✓

Primary CTD

Make: SBE model: 9+ serial number: 585 ✓

Primary temperature serial number: 4054 ✓

Primary conductivity serial number: 1766 ✓

Secondary temperature serial number: 4700 ✓

Secondary conductivity serial number: 3321 ✓

Transmissometer: Wetlabs Model: C-STAR s/n: 1396DR

Fluorometer: Model Seapoint Cable gain: 3x s/n: 3642 ✓ P, S or NO pump?

Oxygen sensor: SBE Model: 43 s/n: 1119 ✓ P, S or NO pump?

PAR sensor: Biospherical Model: 4 s/n: 4615

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

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

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

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

Secondary CTD

Make: _____ model: _____ serial number: _____

Primary temperature serial number: _____

Primary conductivity serial number: _____

Secondary temperature serial number: _____

Secondary conductivity serial number: _____

Transmissometer: _____ Model: _____ s/n: _____

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

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

PAR sensor: _____ Model: _____ s/n: _____

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

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

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

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

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

Rosette Setup:

Number of bottles: 24

Manufacturer: 105

Volume of bottles (litres): 10 L

Winches:

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: _____

Model: _____

Kit Number: _____

Make: _____

Model: _____

Kit Number: _____

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

~~Thermosalinograph System (SBE211):~~

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: _____

Sampling interval (sec): _____

Bin Length: (2^x): _____

Pulse Length: _____

Buffer (bytes): _____

Gyro Offset: _____

User Exits: Name: _____

Exit points: _____

Name: _____

Exit points: _____

Name: _____

Exit points: _____

Work File: _____

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 to 150m, fired all bottles, data looks good

CTD pressure reading on deck (db), before cast: 0.6 after cast: N/A

Pumps working?

Yes ☒ (0011)

No ☐ (0010)

Secondary Temp – Primary Temp:

(Average from the mixed region)

-0.00073 ̄ from 146m - 149

Secondary Salinity – Primary Salinity:

(Average from the mixed region)

-0.00073 ̄ from 146m - 149

Additional Comments:

Score plankton net, TSK 7057

June 24, 2014

1300 PDT Start loading
2000 Stop loading for the day One load of floats remaining

June 25

0800-1000 - load remaining items
- two crew require medical attention - delay sailing until 1530
1542 - Depart IOS jetty to do test cast in Saanich Inlet
1640 - depart for West Coast of Vancouver Island destination Al
Lucius Perreault unable to sail - will meet ship later

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>July</u>				Year <u>2014</u>			Ship <u>Tully</u>			Cruise ID <u>2014-20</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							
25	S1	23:18	BE	CTD	US	1	48° 39.77	123° 30.45	~170				KS/cw/OS	✓	→
		23:23	BO				48° 39.77	123° 30.45		150		24			
		23:25	EN				48° 39.77	123° 30.44							
26	EFF04	23:40	BE	ROS	US	2	49° 3.14	125° 8.56	48	52	9-13	5	KS/cw	✓	
		23:50	BO				49° 3.14	125° 8.56		47					
		23:46	EN				49° 3.14	125° 8.55							
27	EFF05	00:44	BE	ROS	US	3	49 2.55	125 9.15	199		14-24	11	KS/cw	✓	
		00:48	BO				49 2.50	125 9.15		197					
		00:02	EN				49 2.54	125 9.13							
27	EFF06	02:22	BE	ROS	US	4	49° 1.78	125° 9.15	150		25-33	9	KS/cw	✓	
		02:25	BO				49° 1.78	125° 9.15		145					
		02:37	EN				49° 1.77	125° 9.15							
30	HEC1	15:39	BE	ROS	US	5	52° 49.24	129° 50.76	138	133	34-49	16	KS/ST	✓	2 bottles/depth salinity difference then up to 2nd animal place →
		15:42	BO				52° 49.24	129° 50.76							
		15:53	EN				52° 49.24	129° 50.76							

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
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Notes:

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

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 16 April 2010

Test cast

→ Fired all bottles @ 150m (max depth). No sounder display in Rosette shack. All bottles closed fine.
Weather is beautiful, sunny, calm.

Effingham 3 blocked by log boom so 1-8 samples not taken

Going to EFF04 start @ sample # 9

Chl-a sample #45 A and B were ^{mistakenly} not sampled

45B
Chl-a
HEC1
20
2014-20
Bot 12

45A
Chl-a
HEC1
20
2014-20
Bot 12

We also sampled phyb from bottom and not from surface. Oops!

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							Latitude	Longitude							
01	FOCI	21:59	BE	ROS	US	6	53° 44.13	129° 1.74	372		For Cooger	24	KS/RL/SJ	✓	see notes →
		22:07	BO				53° 44.13	129° 1.74		367					
		22:16	EN				53° 44.13	129° 1.75							
01	FOCI	22:43	BE	ROS	US	7	53° 44.16	129° 1.78	~372	0	For Cooger	9	KS/RL/SJ	✓	→ Fired 9 bottles @ surface only
		22:45	EN				53° 44.16	129° 1.78							
01	FOCI	23:06	BE	ROS	US	8	53° 44.16	129° 1.78	372		50-73	24	KS/RL/SJ	✓	→ 10S super chem rosette cast.
		23:12	BO				53° 44.15	129° 1.77		367					
		23:29	EN				53° 44.13	129° 1.78							
02	DOUG4	19:35	BE	ROS	US	9	53° 55.60	128° 42.15	217			8	KS/CW/RL	✓	- Fired 8 bottles.
		19:39	BO				53° 55.60	128° 42.15		214	For Cooger				4 @ b-5 and 4 @
		19:44	EN				53° 55.61	128° 42.15							0 For Cooger group →
02	DOUG4	20:04	BE	ROS	US	10	53° 55.63	128° 42.20	218		101-120	20	KS/CW/RL	✓	- 10S chem rosette.
		20:08	BO				53° 55.62	128° 42.22							→
		20:23	EN				53° 55.62	128° 42.23							

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Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 16 April 2010

AI - AAA Recovery June 26, 2014

0747^{POT} On Station

- Sent Range 09BF - No response
- switch to hull transducer from Ram
- no response
- switch to dunking transducer 574 576
- relocate

0805 - 547 535 536

0808 - Send 09BF + 0955 540 541 received & excited

0900 - On Deck - release 1505 & microcat 8390 hit hard on transom

Steam to Effingham Inlet

Rosette DOUG4, Event 10 → Sample #s out of sequence due to schedule changes after labels printed. The order of 105 events, stns, sample #s are as follows:

Event 10,	Stn Doug4,	Samples 101-120
Event	, Stn Doug11,	Samples 88-100
Event	, Stn Doug16,	Samples 74-87

This page is for any notes or observations

Rosette FOCI, Event 6

1 mistakenly fired 8 bottles at b-5 when 8 should have been fired @ surface. Continued with firing sequence but skipped surface bottles. Next cast, 98 surface bottles closed. No 105 samples collected from this cast.

Rosette DOUG4, Event 9

Cast completed for BIO Coager group. Closed 4 bottles @ b-5m and 4 bottles @ surface. No sample #s assigned as they have their own labeling system. b-5 = 214 → Niskins 1-4
0 = 2.0 → Niskins 5-8

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							Latitude	Longitude							
02	DOUG4	21:08	BE	NET		11	53° 55.63	128° 42.15	218	200	—		DS		
			BO				53°	128°							
		21:11	EN				53° 55.62	128° 42.23							
02	DOUG4		BE	CTD 38525		12	53 55.62	128 42.23	218	Ø	N/A		CU		for filtration study
02	DOUG11	22:33	BE	ROS	US	13	53° 49.04	128° 49.14	352		88-100	19	KS/RL/CW	✓	
		22:39	BO				53° 49.04	128° 49.14		343					
		22:57	EN				53° 49.04	128° 49.13							
02	DOUG16	23:50	BE	ROS	US	14	53° 46.79	128° 54.73	3889		74-87	20	KS/CW/LS	✓	
		23:56	BO				53° 46.79	128° 54.73		384					
		00:15	EN				53° 46.78	128° 54.73							
03	DOUG26	02:16	BE	ROS	US	15	53° 40.45	129° 7.30	398		121-134	20	KS/CW/LS	✓	@ 395 m
		02:23	BO				53° 40.45	129° 7.30		392					Altimeter showed
		02:	EN				53° 40.	129° 7.							< 1 m off bottom
03	KSK1	15:39	BE	ROS	US	16	53° 28.84	129° 12.51	379		135-154	23	KS/CW	✓	after stopping winch
		15:46	BO				53° 28.84	129° 12.51		370					just in time. Brought
		16:08	FN				53° 28.84	129° 12.51							up to 392 before
															losing bottles.

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Bottle Firing Method:

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Notes:

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Produced by the Water Properties Group, IOS

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 Version: 16 April 2010

EF04-J Recovery

June 26, 2014

This page is for any notes or observations

PDT

1500 Arrive to find a heli-logging outfit set up over the mooring location or very close to it
- Rubber Boat deployed to survey booming area

1551- Send 16BF 316

1553 Sent 16BF+ 1655 313 313
- ON surface outside of boom area }

EF04-K Mooring Deployment June 27, 2014

- the mooring position was moved to the 54 m hole along the channel from the inner to outer basin
- the boom area prevented redeployment in the original position

Deployed at 49 03.381N 125 08.736 W in 54 m 01:50 UTC

Steam slowly to arrive at A1-ZZ at 0400 PDT to conduct search

Rosettes Doug11, Doug16, Doug26 (Events 13, 14, 15) include 6 bottles fired for the BIO Coager scientists. 3 closed at 6-5m and 3 closed at the surface in addition to the 10S standard chemistry cast. See rosette logs for clearer picture of what casts look like. Sample IDs only apply to 10S samples.

Salinity difference consistently 0.006 to 0.007 in the mixed layer.

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Month <u>July</u>		Year <u>2014</u>		Ship <u>Tully</u>		Cruise ID <u>2014-20</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							
03	KSKI	16:22	BE	NET	—	17	53 28.84	129 12.57	250	379	—	—	CW		250-0 VH
		16:29	BO				53 28.84	12.57							
		16:32	EN				53 28.84	12.57							
03	KSKI	17:00	BE	255BE		18	53	129	surf	379	—		CW		for turbidity
03	KSKI	17:21	BE	ROS	US	19	53° 28:84	129° 12.51	375						
		17:21	BO				53° 28:84	129° 12.51		50	—	8	KS	✓	see notes @ →
		17:24	EN				53° 28:84	129° 12.51							bottom of next page
	Day 45					20									
03	DOUG45	1953	BE	ROS	US	21	53°22.272	129°11.699	462		155-169	21	DS	✓	
		2003	BO				53°22.270	129 11.698		450					
		2026	EN				53° 22.270	129 11.700							
03	SC61	22:25	BO	GRAB	—	22	53 12.00	129 25.13	502	502	1				
03	SC61	22:54	BE	NET		23	53 12.006	129 25.136	504	250	12-12	4	CW		250-0(VH)
		23:03	BO				53 12.006	129 25.136							
		23:08	EN				53 12.007	129 25.136							

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 — =

Bottle Firing Method:

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Notes:

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

Produced by the Water Properties Group, IOS

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 Version: 16 April 2010

AI-ZZ Search

June 27, 2014

Wind 25-30 knots NSE

This page is for any notes or observations

On station 0400 PDT

Range 16B9 - No Response - using dunking transducer

Go $\frac{1}{2}$ nautical mile north along the 500m contour 48° 32.121 126° 12.088'

0454 1 nautical mile N ^{Some spurious inconsistent ranges}
some spurious ranges no pinger - very noisy not likely reliable 48° 32.150 126 11.955 - No response / no pinger

0510 $1\frac{1}{2}$ nautical miles N - No Response - no check for pinger 48° 32.955 126 12.432'

0523 2 nautical miles N - many random ranges no consistent response 48 33.500 126 12.475

0540 Follow contour NE an additional $\frac{1}{2}$ NM no consistent response 48 33.9 126 11.923

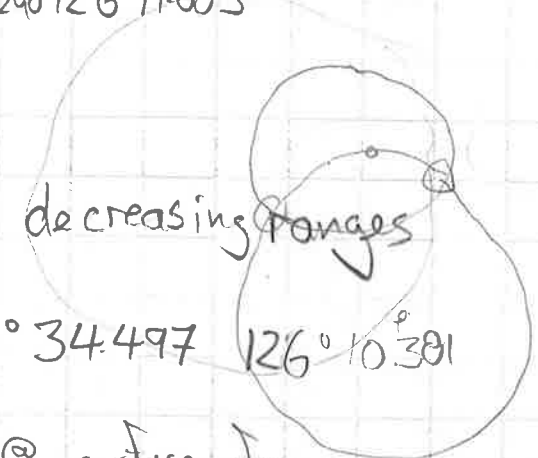
0600 $2\frac{1}{2}$ NM north of mooring location
Several ranges around 2.4 km
many others more & less than that 48 34.200 126 11.883

0615 2365, 2359, 2355, 2341, 2318 not all consistent but more promising

Head For Easter intersection of ranges from last two stations based on decreasing ranges

0700 916 911 888 882 - very inconsistent 48° 34.497 126° 10.301
- Many shorter random ranges

Rostr KSK1, Event 19 - 50m-0m for BIO Cooger group. Firing 8 bottles: 4 @ 50m and 4 @ surface for their experiment



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							Latitude	Longitude							
03	SC61	22:19		SBE25		24	55 12.003	129 25.133	503	surf	Ø	25	surf for 2 min		for filtration.
04	SC61	01:10	BE	ROS	US	25	53° 12.01	129° 25.14	505			8	KS/SR	✓	- 8 bottles for
		01:21	BO				53° 12.01	129° 25.14		500					Corer. 4 @ b-5m
		01:30	EN				53° 12.01	129° 25.14		↳ 7.5 m off bottom.					4 @ 0m. →
04	SC61	02:06	BE	ROS	US	26	53° 11.99	129° 25.16	505		170-193	24	KS/SJ	✓	- 10S chemistry
		02:15	BO				53° 12.00	129° 25.14		500					cost. Full suite.
		02:35	EN				53° 12.00	129° 25.15							→
04	HEC1	13:17	BE	ROS	US	27	52° 49.46	129° 50.65	147			20	KS/SJ	✓	-
		13:23	BO				52° 49.46	129° 50.65		137					
		13:32	FN				52° 49.46	129° 50.68							
04	HEC1	13:18	BE	SBE25	—	28	52 49.46	129 50.64	147	surf	—	—			for filtration concurrent with 911
		13:20	BO												

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— =

Bottle Firing Method:

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Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 16 April 2010

AI-ZZ search Contd

This page is for any notes or observations

0716 820 402 818 816 812 812 811 still lots of random ranges but more convincing trend than previous station

48°34.539 126°10.040'

0738 559 559 560 561 - good ranges in general

48°34.996 126°10.173

0750 495 483 484 486 485 485 474 491 492 491

0800 510 16B9 + 1655 510,509 Received & Executed

411 394 358 237 216

803 On the Surface

~0900 On deck

Rosette SC61 Event 25 → Altimeter late to kick in but ok when it did @ ~20m. When @ 500m, it showed 7.5m to go. Instructed winch operator to go down an additional two meters. Altimeter then lost its reading and showed 98.8 as it normally does when out of range. I don't believe Rosette touched bottom but brought it up to 500 again before firing any bottles.

→ Fired bottle 5 in error as the Rosette was on the way up. I hit the mouse with the log book. Surface bottles from 6-9 b-5 (500m) from 1-4.

" Event 26 → winch operator overshoot 150m. Stopped @ 143 and went back down to 150m to fire bottles.

Rosette HEC1, Event 27 → New LARS operator. Many delays before beginning. Stopped for ~1 min at about 5 m. 4 bottles fired @ each of the following: 10 m / Niskins 1-4

100 m ✓	"	5-8
50 m ✓	"	9-12
20 m ✓	"	13-16
0 m ✓	"	17-20

→ Was supposed to fire 8 bottles at surface but only fired 4. Rosette back in to surface to fire 8 bottles.

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							Latitude	Longitude							
04	HEC1	13:46	BO	GRAB	—	29	52° 49.45	129° 50.65	148	148.2	—	—	cw/SJ		
04	HEC1	14:07	BE	NET	US	30	52° 49.43	129° 50.67	148		—	—	cw/SJ		Rosette down to surface to fire 89 bottles for Coober did not turn pump on.
		14:08	BO				52° 49.43	129° 50.68		50					
		14:09	EN				52° 49.43	129° 50.70							
04	HEC1	14:18	BE	ROS	US	31	52° 49.42	129° 50.81	148	0	—	98	KS/SJ		
04	SC74	22:49	BE	ROS	US	32	53° 0.69	129° 15.97	378		194-205	12	KS/SJ	✓	see notes. →
		22:56	BO				53° 0.69	129° 15.97		376					
		23:18	EN				53° 0.68	129° 15.96							→
05	CS84	00:38	BE	ROS	US	33	52° 54.022	129° 23.95	2587		217-227	11	KS/SJ/LP	✓	see notes →
		00:43	BO				52° 54.037	129° 23.92		252					Final rosette:
		01:02	EN				52° 54.04	129° 23.92							
06	SoGN	23:44	BE	CTD	UN	34	49° 50.05	124° 52.01	340	337	—	0	KS/SJ	✓	Final cast. CTD only
		23:49	BO				49° 50.05	124° 52.04		332					
		23:55	FN				49° 50.05	124° 52.00							

Cast Type:

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MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter

Bottle Firing Method:

US = Up / Stop
UN = Up / No stop
DN = Down / No stop

Notes:

Time Code:

BE = Beginning Time of Cast
BO = Bottom Time of Cast
EN = End Time of Cast
DE = Deployment Time
MR = Messenger Release Time
RE = Recover Mooring Time

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

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 16 April 2010

Al-54 Deployment

June

This page is for any notes or observations

48° 31.668' N

126° 12.244' W

likely deeper than intended. Deployment was made down current & deployed prematurely worrying about position rather than depth. Estimated 530 m

Depart For Totino to pick up Lucius

Rosette SC74, Event 32 → Attached an SBE370DO to test with CTD DO sensor. s/n 9036.
→ Rosette held @ b-4.0 m (376m) for ~5 min to test the sensor above

EOL-AAA Recovery

June 28 2014

Rosette CS84, Event 33 → s/n 9037. same as above
→ overshot 100m bottle. Stopped @ 94m and went back down to 100m to close bottle

On station 0530 PDT

0540 - Range 16BA - 159 159 Move to new location
0556 364 367 368 readjust to wind
0602 394 395

Send 16BA+1655 397 397 Received & Executed
0603 On surface

Misprinted labels for event 33. Instead of starting @ sample #207, sample #s begin at 217. #207-216 do not exist.

BPI-D Recovery June 28, 2014

1527^{POT} - On Station

Range 169C - 301 317 320

1535 - 433 438 441

1537 - Send 169C + 1655 457 459 Received executal

BPI-54 Deployment 23:38 UTC June 28, 2014

50° 3.541'N

127° 53.478

112 m

BPI-Baker-D Recovery

On Station 1656^{POT} Send 163F - 528 529

Break For dinner

1733 582 583

1735 Send Release 163F + 1655 599 604 583 546

1739 On Surface

Acoustic Release test 1827 PDT

June 28 2014

Lowered to ~500m
in 765m

AR861	Range					Release	diagnostic
1801	1A29	530	530	531	530	✓	5290
1802	1A2A	529	529	529	531	✓	5289
1803	1A2B	530	531	531	530	✓	5295
1804	1A2C	531	530	530	530	✓	5294

Release 1801 Failed to release the others were open

RAI-A Mooring Recovery

June 29, 2014

This page is for any notes or observations

0822 On station
Range B529

247 244 260 276 lots of random hits the lower consistent values seem like the water depth
lots of later

The EA600 display has gone blank try to determine if it is still on and causing problems

try XT6000 transponder 4000 - no response FR2

0850 Relocate B529 416 422 425 460

0853 Send Release B530 475 481

0855 On Surface

RAI-B Deployment

June 29, 2014

1712 UTC

51° 40.270' N
130° 16.993' W
250m depth

MTI-B Mooring Recovery June 29, 2014

This page is for any notes or observations

1421 On station Send B537 165 168 165

1430 Relocate Random ranges 150 ish don't really make sense
Reorient Heship 221 222 222 220 209 196 197 199

1438 Send Release B538 201 Received & Executed

Does not surf

1443 Range again 282 280 288

1445 Send B538 two more times Received & Executed

Range again 363 364 365 359 many random secondary responses

move closer to mooring location again

1453 Try XT 6000 0000

255 254 253 253

1459 B538 247 243 235 positive response

Range B537 227 223 221

1504 still nothing on surface

Move back to mooring location

1509 146 140

MTI Recovery Contd

This page is for any notes or observations

Ranges 138 137 136 138

Release B538 several times all positive ranges 143 148 149

Drag - Captain wants to conduct 2 Dynamic positioning loops of the mooring
115m Radius

1635 2½ times around head off and start hauling in

1640 On surface

1500 On deck Hook open! T at 45°

2 Sea pens on grapples

Depart For HECI overnight slow steam

HEC 1-A June 30, 2014

This page is for any notes or observations

0550^{PDT} On station 223

Range 16B5 223 223 223

Relocate

0605 Range 254 256 257

0608 Release 16B5 + 1655 = 269 + 271 Received d Executors

0609 On surface

0635 On deck

HEC 1-B Mooring deployment

134m depth
52° 49.238
129° 50.745

1947 UTC June 30

Head For Camano Sound - drifter deployment

1440 - 1445 PDT

5 green colour coded drifters were deployed at roughly 45s intervals
@ 8 knots (4m/s) 1st drifter deployed at 52° 54.74' N / 129° 21.54' W.

ES1 A Mooring deployment 185m
53°5.377
129 33:494

23:28 June 30, 2014

FOCI Mooring

FOCI Mooring Recovery July 1, 2014

0555 On Station

Range 16B4 505 507 509

Move to another location

0613 Range 608 610 612 614 616 618 619

0616 Release 16B4 + 16S5 649 653

- On Surface

Upon recovery, the last 3 floats were a tangled mess

FOCI-B Mooring Deployment

1630 UTC July 2, 2014

In 368 m of water at $53^{\circ}44.138'$
 $129^{\circ}1.797'$

mFOCI-B Mooring Deployment

1714 UTC July 2, 2014

In 360 m of water at $53^{\circ}44.039'$
 $129^{\circ}2.036'$

KSK1-A Mooring Recovery July 3, 2014

This page is for any notes or observations

0550 - On Station

Range 1685 413 ~~412~~ 411

Relocate the ship

0610

430 430 431

0612 Release 1685+1655 437 437

On Surface

0642 On Deck

KSK1-B Mooring Deployment 1802 UTC July 3, 2014

In 373m of Water at 53° 28.80' N
129° 12.518' W

MKSK1-B Mooring Deployment 1824 UTC July 3, 2014

Deployed in 373 m of water at $53^{\circ} 28.719' N$
 $129^{\circ} 12.455' W$

PCI-A Mooring Deployment 1920 UTC July 4, 2014

This page is for any notes or observations

in 183 m of Water
at 53° 15.765
129° 42.608

OCl-A mooring Deployment 2105 UTC July 4, 2014

in 291 m of water
at 53° 11.946
129° 30.484

Calm mooring Recovery July 6, 2014

0550^{POT} On station

0554 Range 16B8 -433 433-433 Ranges all solid

Move to a second location

0614 395 394 394 393

0615 Send Release Code 16B8 + 1655 393 393

On Surface

0642 - On Deck

SCI Mooring Recovery July 6, 2014

0847^{POT} On Station Range 16B1 387 385 384

move to a second location

0856 Range 357 357 357

Release 16B1 + 1655 358 359

0858 On Surface

0920 On Deck

HC11-A Mooring Deployment
in 136m of water
at 50° 12.182
125° 8.148

1754 UTC July 6, 2014

This page is for any notes or observations

proceed to mooring site DS1-A
1440 POT At location - 20 m too deep. add 20 m to mooring

DS1-A Mooring Deployment
in 456 m of water
at 50° 3.621'
124° 51.888'

2120 UTC July 6, 2014

Head to SOGN2 to recover the remaining bottom portion of SOGN2
SOGN2 - 1603

Range 09E4 416 416 417
Relocate the ship

1609 Range 362 363 363 365

1611 Release 09E4 + 09SS 367 368 Received & Executed

1613 On Surface

susan.cobanli@dto-mpo.gc.ca