

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2016-41

DATE:

From: May 16/2016 to: May 23/2016

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: Victor Greening First Officer: Rhona Lettan
Second Officer: Kevin Naphatali Third Officer: Andrew Balakshin
Fishing Master: _____

Mission Participants / Agencies: DFO - Ocean Sciences Division

Scientific Personnel:

Name	Chief Scientist:	Watch	Cabin	Name	Watch	Cabin
<u>Sophie Johannessen</u>	<u>day</u>	<u>A</u>	<u>Sophie Johannessen</u>			
<u>Lucius Parreault</u>	<u>day</u>	<u>H</u>				
<u>Cindy Wright</u>	<u>day</u>	<u>G</u>				
<u>Dave Spear</u>	<u>day</u>	<u>F</u>				
<u>Scott Rose</u>	<u>night</u>	<u>E</u>				
<u>Hugh Maclean</u>	<u>night</u>	<u>D</u>				
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Second leg of Mission:

Name	Chief Scientist:	Watch	Cabin	Name	Watch	Cabin
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Data logging computer:

Data acquisition program: Tully CTD Laptop (Acer)

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

Primary CTD

Make: SBE model: 9+ serial number: 443
Primary temperature serial number: 2106
Primary conductivity serial number: 2280
Secondary temperature serial number: 2663
Secondary conductivity serial number: 2754
Transmissometer: Wetlab3 Model: C-Star s/n: 1185DR
Fluorometer: Model Seapoint Cable gain: 10x s/n: 3640 P, S or NO pump?
Oxygen sensor: SBE Model: 43 s/n: 0997 P, S or NO pump?
PAR sensor: _____ Model: _____ s/n: _____
Other sensors: PH SBE 13 s/n: 0692 P, S or NO pump?
Other sensors: Attimeter s/n: 62354 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): _____

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Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>May</u>			Year <u>2016</u>			Ship <u>Tully</u>			Cruise ID <u>2016-41</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							
17	DOUG45	0529	BE	ROS	US	1	53° 22.134	129° 11.641	467		1-16		SR	✓	Some pauses due to wire spooling
		0538	BO				22.141	11.677		462					155 kps
		0606	EN				22.170	11.849							
17	KSK1	0735	BE	ROS	US	2	53° 28.560	129° 12.610	362		17-31	15	SR	✓	descending slowly to reset the wire on the drum
		0746	BO				28.560	12.590		376					
		0808	EN				28.550	12.480							
17	DOUG31	0237	BE	DRF		3	53° 36.70	129° 12.73	300				SR		Sponge Bob # 398
		LOCAL													
17	DOUG31	0238	BE	DRF		4	53° 36.70	129° 12.73	300				SR		Sponge Bob # 416
		LOCAL													
17	DOUG31	0239	BE	DRF		5	53° 36.70	129° 12.73	300				SR		Sponge Bob # 420
		LOCAL													
17	DOUG31	0945	BE	ROS		6	53° 36.710	129° 12.760	303		32-42		SR	✓	Another pause at ~ 220m for spooling issues
		0951	BO				36.700	12.740		298					
		1019	EN				36.650	12.710							

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:

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Transmissometer & Fluorometer are to be cleaned before each cast

Produced by the Water Properties Group, IOS

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Month <u>May</u>			Year <u>2016</u>				Ship <u>TULLY</u>				Cruise ID <u>2016-41</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							
17	DOUG16	1209	BE	ROS	US	7	53° 46.700	128° 54.690	382		43-58	16	SR		
		1218	BO				46.690	54.710		377					
		1242	EN			⑧	46.710	54.760							See mooring - Event 8
18	Doc 22	11:52	BO	Core.		8 9	53 37 06	128 50.63	193	193	—	—	CW		
18	GC31	0213	BE	ROS	US	10	53° 31.610	128° 43.550	209		59-68	10	SR	✓	Returning to the surface slowly for spooling issue
		0218	BO				31.620	43.540		203					
		0234	EN				31.620	43.460							
18	GC44	0422	BE	ROS	US	11	53° 25.980	128° 27.020	411		69-81	13	SR	✓	Stopped @ 80m (up cast) to fix the wire spooling issue
		0430	BO				25.970	26.990		406					
		0459	EN				26.020	26.780							
18	GC57	0637	BE	ROS	US	12	53° 28.020	128° 11.050	42		106-110		SR	✓	Particles only cast
		0645	BO				28.030	11.090							
		0704	EN				28.050	11.230							
18	GC57	0903	BE	ROS		13	53° 28.030	128° 11.020	428		82-105		SR	✓	
		0912	BO				28.040	11.090		423					
		0936	EN				28.080	11.330							

Cast Type:

ROS = Bottle cast, no CTD

USW = Sea Water Loop

USW

Bottle Firing Method:

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DEV1-A Mooring Recovery May 17, 2016

This page is for any notes or observations

On Station 2025 UTC

Send 089E 191 189 192 191 - using hull transducer

Relocate - no contact 291 no contact

2032 - switch to dunking transducer 299 296 296

move to third location

2039 - 305 307 308

2040 - Send 089E + 0855 309 309

- on surface

Event 81

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Month <u>May</u>				Year <u>2016</u>			Ship <u>Tully</u>				Cruise ID <u>2016-41</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							
17	GC74	1141	BE	ROS	US	14	53°15.810	127°55.460	139		111-121		SR	✓	Paused @ 54 m +
		1145	BO				15.820	55.510		134					@ 30m we paid out
		1200	EN				15.810	55.410							25m to correct the
18	GC-74	1552	BO	Box Core		15	53°15.801	127°55.423	135	35cm	Ph-210 C/N		SP+LP		spooling issue
18	GC 36	2205	BO	Box Core		16	53°28.590	128°38.069	168	50+cm	Ph-210 C/N		SP+LP		
19	DEC19	0109	BE	ROS	US	17	53°39.299	128°52.350			122-135		SR	✓	
		0116	BO				39.300	52.360		262					
		0140	EN				39.203	52.400							
19	DOUG11	0307	BE	ROS	US	18	53°49.820	128°49.300	326		136-150		SR	✓	
		0315	BO				49.840	49.320		320					
		0343	EN				49.960	49.280							
19	DOUG4	0535	BE	ROS	US	19	53°55.630	128°42.290	223		151-155		SR	✓	
		0540	BO				55.580	42.400		217					
		0554	EN				55.530	42.510							

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DRF = drifters

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Month <u>May</u>		Year <u>2016</u>		Ship <u>Tully</u>		Cruise ID <u>2016-41</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							
19	Dough	0625	BE	ROS	US	20	53° 55.516	128° 42.410	223		156-175	20	SR	✓	
		0632	BO				55.499	42.373							
		0651	EN				55.553	42.337							
		0													
19	FOCI	0917	BE	ROS	US	21	53° 44.230	129° 1.590	373		176-183	8	SR	✓	
		0924	BO				44.233	1.602		369					
		0941	EN				44.230	1.650							
19	FOCI	1030	BE	ROS	US	22	53 44.210	129° 1.630	372		184-207	24	SR	✓	
		1039	BO				44.190	1.640		367					
		1659	EN				44.180	1.560							
19	FOCI	22	BO	GRAB	-	23	53-44.268	129 02.017	368	368	-		CW	-	
19	Doug 32	1733		DRF		24	53° 35.443	129° 13.275			399 400 & 402		DS		
19	KSR-C	2252	RE	MOR		25	53° 28.824	129° 12.528			419 421 & 422		DS		
20	Doug 45	0038		DRF		26	53 21.36°	129° 11.591	429				DS		
20	Doug 45S	0100	BO	Box Core		27	53° 21.370	129° 11.630	429				SP+DS		
20	SC61	0338	BE	ROS		28	53° 12.040	129° 25.190	506		208-212	5	SR	✓	
		0350	BO				12.060	25.170		501					
		0409	EN				12.020	25.190							

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KSK1-C Mooring Recovery

May 19, 2016

This page is for any notes or observations

PDT 1543 - On Station Ranges From 900m in as we approached the mooring

- Send 09E4 482 500 499 501

1550 - Relocate 565 567 575

1552 - Send 09E4 + 0965 594 + no response

Send again 611 + 616 + no executed but on surface

Top of mooring shows sign of propeller strike 2 broken Vanies, 1 scraped (of 4)

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Month <u>May</u>		Year <u>2016</u>		Ship <u>TULLY</u>		Cruise ID <u>2016-41</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							
20	SC61	0438	BE	ROS		29	53° 12.006	129° 25.090	509		213-236	24	SR	✓	
		0448	BO				12.010	25.008		504					
		0514	EN				12.016	25.096							
20	CAM2	0740	BE	ROS		30	52° 55.200	129° 15.570	240		/	/	SR	✓	
		0744	BO				55.210	15.580							
		0748	EN				55.190	15.600							
20	CS84	0833	BE	ROS	us	31	52° 54.170	129° 23.840	257		237-247	11	SR	✓	
		0839	BO				54.170	23.810		252					
		0852	EN				54.190	23.850							
20	CS89	1005	BE	ROS	us	32	52° 53.860	129° 32.778	320		248-259	12	SR		
		1012	BO				53.870	32.750		314					
		1028	EN				53.890	22.740							
20	CAM1	1130	BE	ROS		33	52° 46.900	129° 30.340	427		/	/	SR	✓	
		1137	BO				46.900	30.310		420					
		1144	EN				46.950	30.370							

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Month <u>May</u>				Year <u>2016</u>				Ship <u>TULLY</u>				Cruise ID <u>2016-41</u>				Page <u>6</u> of <u> </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 N	Longitude W									
20	CMP1	1417	BE	CTD		34	53° 0.083	129° 15.365	355				SR	✓			
		1423	BO				0.088	15.391		350							
		1430	EN				0.090	15.410									
20	CMP1	1550	EN	MOR		35	SE of CMP1 site						DS		Mooring recovery.		
20	CMP1	1600	EN	DRF		36	53°00.457	129°15.157			#413,414,415		DS,CW		Drift deployment		
20	WC57	1200	BO	CORE		37	53 14.137	129 06.903	505						1st attempt pier		
20	SC61	2145	BO	CORE		38	53 11.946	129 25.182	511						penetrated.		
	SC61	0147	DRF				53 11.960	129 27.888									
21	SC61	0200	BE	DRF		39	53°12.055	129° 31.120	269		408-412		SR		Sponge bobs		
21	HEC1	0611	BE	ROS	US	40	52° 49.310	129° 50.280	120		276-283	8	SR	✓			
		0614	BO				49.310	50.300		115							
		0624	EN				49.290	50.350									
21	HEC1	0700	BE	RGS	US	41	52° 49.170	129° 50.240			260-275						
		0703	BO				49.160	50.230		123							
		0713	EN				49.130	50.240									

Cast Type:

USW = Sea Water Loop

Bottle Firing Method

Cast Type:

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CMP1-A Mooring Recover (Top portion "recovered" already by FV Raw Spirit) May 20, 2016

This page is for any notes or observations

1439 UTC - On station

- Send 16BA - no response

- switch to dunking transducer

1453 - relocate to a point further south

- relocate to west

1503 - relocate to east

- relocate for release

- through hull 472

- 453

1524 send 16BA + 1655

send 16BA + 402

1525 on surface

- 457 458 + no executed response

388 363 ranges decreasing

1361 1357 1341

578 578 577 575

885 903 956 976

999 1000

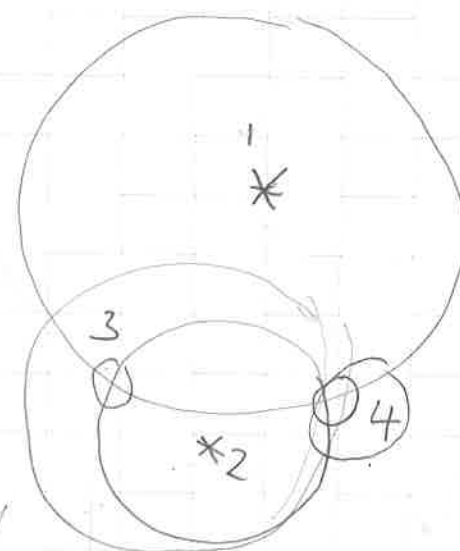
435 436 436 438 441

decreasing

with drift to south

578 580

decreasing then increasing



first box core @ SC61 = over penetrated - really HzS - moved to Rederson core. - lost core on ascent - last bit slipped out at the surface.

2 more tries with Box Core. Eventually kept one although still overpenetrated. Surface visible but above top of box.

410, 409, 408, 412, 411

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→ 1st attempt = gravel - we actually aren't on the mooring site for July
- moved NW

2nd core ~ 18 cm total, incl 4 cm of rocks, shells, scallop etc. at surface. Sandy mud → pebbles/gravel. Kept this one.

DSI-B Mooring Recovery

May 22, 2016

This page is for any notes or observations

1352-UTC - On Station

Send 16B8 -481 482 482 484+485 495

1405 - relocate 503 507 509 524

- steam around mooring to release location

1417 - Send 16B8 + 1655 538 + 538 + executed

- on surface

HCI-B Mooring Recovery May 22, 2016

1650 ^{UTC} Approaching location from south
Send 16B8 329 315 314

1655 launch FRC

1657 steaming north 282 274 261 188 161 162 166 182 230

1704 - 311 322 326

1707 - Send 16B8 + 1655 418 + 424 + executed

1708 - On surface