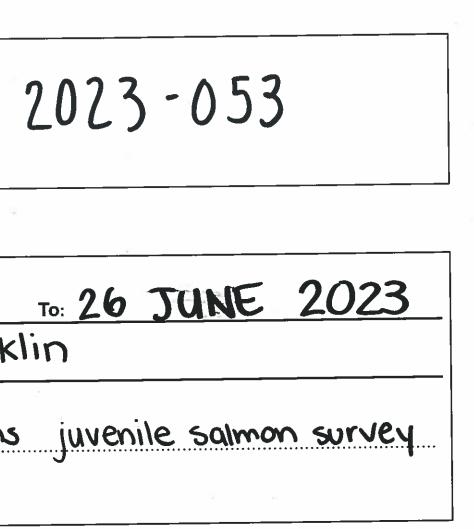


DAILY SCIENCE LOG BOOK



DATE:	From: 14 JUNE 2023 T	o: 20
VESSEL:	From: 14 JUNE 2023 CCG Sir John Franklin	n
PROJECT(S):	Salmon Marine Interactions	juve

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



WaterProperties.ca

Treat this daily science log as an invaluable source of information of what happened on your research mission. Months, years, or even decades after your research has been completed, people will still consult this logbook for information and as such, one should make all efforts to complete this logbook (and any associated sheets for rosettes, chemical analyses, fish sets, plankton tows, etc) as events unfold on a daily basis. This logbook has been supplied with extra sheets of paper for you to record any additional information.

****** This logbook should also be digitized following the cruise and placed on the WaterProperties.ca site ******

Please remember to record such events as:

<u>CTD Notes:</u> an observed failure or strange sensor reading, a computer crash or software issue, switching of a CTD or sensor unit (including the removal or replacement of a PAR or pH sensor), a bottle that fails to trip or bottles that are tripped without commands being sent to the pylon during the cast, a syringe that is left on a cell during a cast, the cleaning (or lack thereof) of a transmissometer or fluorometer, a nutrient sample from the seawater loop, a failure of a NMEA string input into the deck unit, failure of the CTD pump to turn on or failure to turn on the CTD pump during a cast, a CTD or rosette that is recovered with mud or jellyfish attached to it, a sample bottle is removed or switched or weights are added or removed from the rosette or CTD unit, etc.

Biological Notes: any unusual biological observations (e.g., large numbers of squid, jellyfish, birds, zooplankton swarms, thick waters due to phytoplankton)

Sampling Notes: any change in sampling protocols that either do not follow standard procedures or are using different standard procedures

▶ If there are no unusual occurrences at a station, then please make a note in the comments line, such as "Nothing to Report", "NTR", or even just a "☺"

Please ensure that you have reviewed the required standardized sampling protocols prior to taking any samples and current copies of sampling protocols may be found on the Water Properties website at WaterProperties.ca.

<u>The</u>	format	for	sampl	e la	ibels	<u>is:</u>	
			•				
			San	nple) Nur	nber	

Sample Number	124
Sample Type	HPLC
Station Name	LBP06
Cruise ID	2016-20
Bottle Number	Bot 12

Water Properties Group Contacts:

CTD's, Rosettes, Sensors, and Salinities	Scott Rose, 250.363.6399 Hugh Maclean, 250.363.6594 Germaine Gatien (Data), 250.363.6560
Nutrients and Chlorophylls	Tamara Fraser, 250.363.6801 Mark Belton, 250.363.6544
Dissolved Oxygen:	Kenny Scozzafava, 250.363.6566
Other Questions:	Steve Romaine, 250.363.6868

5

5

5

6

F

T

555

Daily Science Log Book – What to Fill Out: Guide for CS's and Watch Leaders	The Chief Scientist is responsible for ensuring that at least the first pink sheet (both sides) is completed in this log book prior to the end of the cruise.	Scientific Personnel You can enter this information or cut and paste (or tape) from your printed cruise plan. CTD Configurations If the CTD sections are not completed, physically inspect the CTD or CTD/Rosette unit and record all serial numbers of sensors prior to the first cast.	If you do not have a listed sensor, then mark the field with an "X" to indicate its absence. If the CTD section was filled in prior to the cruise, confirm the information by making a visual inspection of the equipment.	Do not copy the information from the log of a previous cruise, even if the equipment has been left on board, and never copy configurations from a CON file – you must physically verify the serial numbers of the equipment!	If a sensor is swapped out during the cruise, then note this in the log book between stations and explain why. Do not remove the first pink page information for the sensors that are swapped out.	Single Niskin Bottles If single calibration Niskins (non-rosette) are used (sometimes Vector and Ricker, Neocaligus, Walker Rock, and Charters), please note the depth above the CTD cage that the bottle is attached to the line. Typically a piece of electrical tape is wrapped 2m above the cage and then the bottle is attached just below the tape. This height should be noted at the bottom of the pink sheet on the first side.	Pink Sheet Back Side You may need help from a Water Properties team member to complete some of these sections. If the equipment is not present for your cruise, "X" it out to indicate it was not on board.	 Winches: inspect each winch and record serial numbers from the white sticker on the side Oxygen kit: Record the kit number used Thermosalinograph SBE21: Record serial number (on top of unit) and the serial number of the fluorometer used (if equipped). 	What Gets an Event Number? ANYTHING that is thrown into the water to sample receives a sequential event number. <u>This includes CTD</u> . <u>Bongo, BIONESS, Multinet, Fish Sets, Drifters, ARGO floats, Moorings, XBTs, DIASY, Bucket, Acoustic calibrations</u> <u>with spheres, Loop Samples, etc.</u> If appropriate, you may lump same events into one event number (e.g., one event number for one hour of hand casting, or one event number for one session of SCUBA diving). If a set, plankton net, and CTD all occur at the same station sequentially, then they all get their own event numbers. If a fault occurs with a piece of equipment and it is recovered and redeployed immediately then you may re-use the same event number or use the next event number, whatever is easier for you.	<u>Things that do not get event numbers</u> : Acoustic transects, hull-mounted ADCP, TSG's, etc (nothing is thrown into the water). Note that some CS's may choose to assign event numbers to these items, but this must be communicated prior to the start of the cruise. TSG samples usually are assigned their own sequential serial numbers during the cruise.	Loop Samples If your vessel is equipped with a Thermosalinograph (TSG) and a loop sampler or there is a way to collect seawater while underway (e.g., hose on aft deck on Ricker, sampling sink on Vector), then you should collect loop samples every 4 hours while underway if possible. Sometimes loop samples are timed with a change of the watch or at 00, 04, 08, 12, 16, 20 hours). Such sampling may be suspended while other work is ongoing if it is too difficult to fit it in.	Please assign a sequential sample number and record that plus the exact time of sampling in the log book. Labels are usually hand-written, but can be printed on the label printer if desired. Labels must follow standard format as noted on the inside front cover of the Daily Log Book
---	---	--	---	--	---	---	---	---	--	--	--	--

Loop samples typically include a single salinity sample and a CHL a sample if there is a fluorometer on the TSG. Nutrients and dissolved oxygen samples are sometimes taken. Samples collected follow the same collection protocols as rosettes or niskin bottles

Salinity Calibration Samples on CTD Casts: When not regularly taking them on a Rosette Salinities taken at depth allow us to confirm what is seen on the CTD. There are no fixed rules for how many samples should be taken for a particular cruise, so it is up to the Chief Scientist or CTD watch leader to pick locations for samples. If anything, some randomness is desired, provided you do plan to take at least a few samples during your cruise!

calibration samples at different locations. A cruise of 60 samples may try and take 6-10 samples. If there is a preferable to take samples at least 10m above the bottom. A cruise of 20 CTD stations may aim for 3-5 Typically try to pick deeper stations (>250m) where salinity gradients are low for salinity samples. It is very well-mixed surface layer, some of the calibration sampling could come from the surface.

Chemistry Sequential Sample Numbers

during a cruise. This allows reliable tracking and processing of the samples. These numbers are recorded under the "Sample Numbers" column in the log book. Sequential Sample Numbers (or sample serial numbers) are used where several water samples are taken

the sample number column, e.g., 30-48. Record the sample number range in the CTD Daily Science Log Book in All samples taken out of the first bottle (e.g., salinity, nutrients, oxygen, etc) all have the same sample number. the line for that event, as well as on the rosette sheet. Use a yellow rosette sheet even if there is only 1 bottle All samples out of the second bottle have the next sequential number, etc. You then note this as XX-XX+19 in If you plan to take 19 samples on a rosette cast, then you assign the next 19 sample numbers to the samples. fired.

Don't forget that loop samples and single Niskins also receive sample numbers.

Sample numbers are only used for water chemistry, not for plankton tows, fish sets, etc.

2 ^{rrd} Leg Scientific Personnel: Name	** Chief Scientist to co 1 st Leg Scientific Personnel: Name	Captain: Second Officer: Fishing Master: Mission Participants / Agencies:
Chief Scientist:	Somplete section Chief Scientist: Watch Cabin	91 1
Name Watch Cabin	Scientist to complete section below OR cut and tape from cruise plan ** antific Personnel: Chief Scientist: Watch Cabin Name Watch Cabin	First Officer: Third Officer: Chief Engineer:

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

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

		serial number:		serial number:					s/n:	s/n:	s/n: P, S or NO pump?	s/n:P, S or NO pump?	s/n: P, S or NO pump?	s/n: Surface PAR? Y/N	s/n: P, S or NO pump?	s/n: P, S or NO pump?	s/n: P, S or NO pump?	
		model:			ber:	er:	imber:	mber:	Model:	Model:	Cable gain:	Cable gain:	Model:	Model:				
Data logging computer:	Data acquisition program:	CTD deck unit make:	Primary CTD	Make: model: _	Primary temperature serial number:	Primary conductivity serial number: _	Secondary temperature serial number:	Secondary conductivity serial number.	Transmissometer:	Transmissometer:	Fluorometer: Model	Fluorometer: Model	Oxygen sensor:	PAR sensor:	Other sensors:	Other sensors:	Other sensors:	Other sensors:

Secondary CTD

Make: model:	serial number.	ber.	
Primary temperature serial number:			
Primary conductivity serial number:			
Secondary temperature serial number.			
Secondary conductivity serial number:			
Transmissometer:	Model:	s/n:	
Transmissometer:	Model:	s/n:	
Fluorometer: Model	Cable gain:	s/n:	P, S or NO pump?
Fluorometer: Model	Cable gain:	s/n:	P, S or NO pump?
Oxygen sensor:	Model:	s/n:	P, S or NO pump?
PAR sensor:	Model:	s/n:	Surface PAR? Y / N
Other sensors:		:u/s	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?

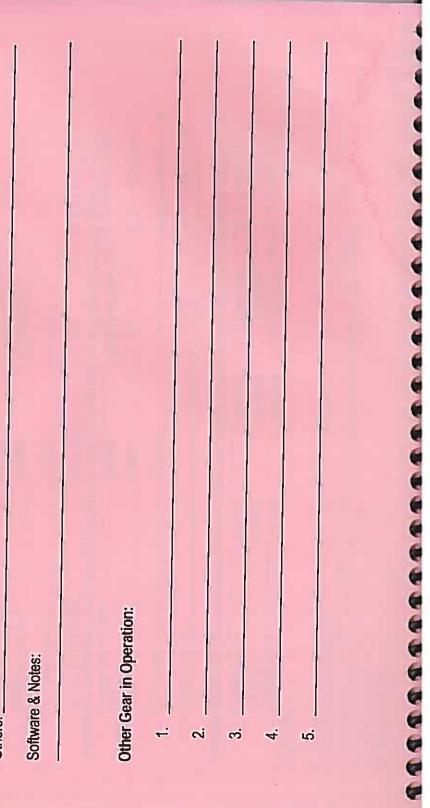
V/V

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

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

arformance during cruise (comments should also be refl arformance during cruise (comments should also be refl interval (seconds): Version: er sensor serial number; Version: er ves No er ves No er ves No version: Name: umation Version; ves No er ves No ves No<	Model: Serial #: Used for: Model: Serial #: Used for:
---	--

Scientific Equipment Used During Cruise This sheet allows you to enter all of the equipment used while on board. Please use the separate CTD sheet for entry for SBE 9/16/19/25. Other CTD units: RBR Serial Number. Others:	t Nets: Frame Size:cm Mesh:μm Flowmeter:μm Flowmeter:μm Flowmeter:μm Flowmeter:μm Flowmeter:μm Flowmeter:	Trawl Gear: Midwater Trawls: SOG Midwater Trawls: SOG Bottom Trawls: Atlantic Western IIA Panerican Shrimp Trawl Other: Notes: Other:	rs: USA Jet Tyburon Tyburon Vesmar 380 Others: . Wesmar 380 Others:
Scientific Equip This sheet allow SBE 9/16/19/25. Other CTD unit RBR Serial Num Others:	Plankton Nets: Bongo #1 Bongo #2 Multinet	Trawl Gear: Midwater Trawls: Bottom Trawls: / American Shrimp Notes:	Trawl Doors: Sounders : Acoustics: Echosounder #1 Others:



Ocean Sciences Division, Institute of Ocean

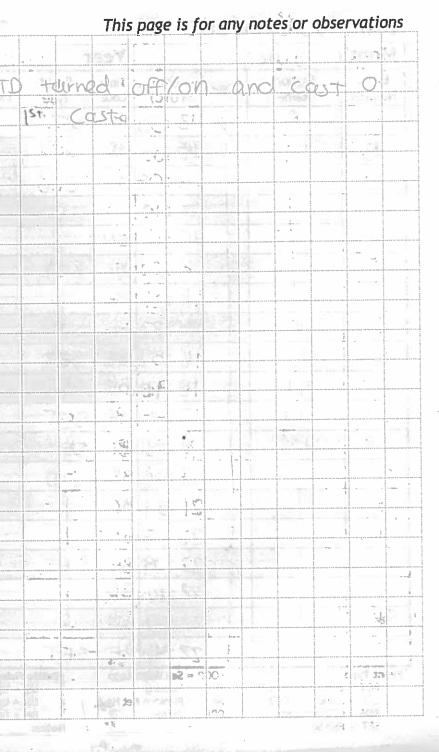
Month	JUNE		11	Yea	r . 20	23	Ve	ssel Sir John	Frankli	n	Cruis
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Samp
	同时	14	23:08	BE	SET	-		123°16.238	Ne and	S. A. S.	
2	2	15	14:54	BE	SET		A Design of the second s	123° 25.280			
3	3	15	16:08	BE	SET			123 29.66		Carlos C.	1
4	4	15	17:30	BE	SET			123° 32.567			
5	5	15	19:17	BE	SET	4		123°33.97	S 22		
6	1		21:03	BE	CTD	A. X	And the first second second second second second second	123 ° 34 . 923	286	275	
18	4.5	1	21:09	BO	1			o recorded		1	
*	1	1	21:15	EN	1			123 34.99	ł	1	
75			21:22	BE	NET			123 35.01	29,1	280	
			21:33	BO	1		• no. infe	recorded		1	*
\downarrow	1		21:44	EN	*		49° 18.33	123 .35.07	-	1	
8	_6	t	22:08	BE	SET		49 17.236	123 . 35.820			
9	7		23:29	BE	SET	1.75	49°15.565	123°36.660	S.	11. 3	
10	1		01:04	BE	CTD			123 .34.96		350	
の変			01:1D	BO			49°13.20	123 . 34.92		1128	
1	J		01:18	EN	Ţ		49 . 13.226	123.34.908	1	1	
112	-4 -4		01:32	BE	NET		49 ° 13 . 24	123° 34.83	367	350	. 15-
			01:45	BO			49 . 13 . 23	123 . 34.78		1	
1 21 SH 31 H .			02:00	EN	V	ST PER	49°13.18	123° 34.76	+	V	

	memb	er tha	Pag	eof8
1113	I CUOT	/ COST /		(F
ml mach	nt go	down ent usin	s/Fl	Comments
- truch	en unio	Judino CI		
- data	casi	1=+1		-
-	1.00			
-				2
-	Ł			1
-				sit @ 5m 2min -
-		2.000		part of way down
-				
		1		some paint chips
-				NOT ?
-	1	10.11		-
-				
-		10		2
-				GTD turned on C
- 1				Went to 350 pc
-				
- 1	1.1			Start & descent
-				then straightoned
-				lost 20m ascent
rometer to	be cleane	d before eac	h cast d	lo not use Ammonia products
Produced bu	the Water	Properties Gn	oun IOS	WaterProperties.ca
		. roperaes en		Version: 20 April 2016
	Lau	1		e

	8-1		10	6	4			2.00	in ai	2	16.0	N.	× [`] :		129	/+	in=	60		Fini	2	<u>.</u>	
	-516	2.5	A III	he	. 50	ved	· as	-	26	23		05		000	o.#	2		ev	ent	#			2
	15	-	ast	(ost	14	0)	31	Ae	9	but	- d	idhi	101	rve	en	dia	h	je	ah	F <	>0	0
12.022.222.232 ⁴ .2	N	OI	ast	200	rde	d	in	log	60	øk	;	Kip	nina	1/5	ard	and	aug G) (Īas	÷ †	=1	e	r
	and the second s		not	1				Ion	1		Be					4	<u>k.</u> .			They're			
				1		46 66 66 67 67 67 68 69 69 69 69 69 69 69 69 69 69 69 69 69			J					_				2 1 1 1 1 1			1.4.1		
		an address of day to be to be											****	and a second sec	- A -								
	-	,	1, 193 193 193 193 193 193 193 193 193 193									·		b		<u>.</u>							1
				4		×.			a a glassa ha hii kanya ya ha	100 	4 4 40 mm						1				1 		1
			S. Sec.	-					P		- 1	<u>10 %</u>				4		1.1	30		19 10 10 10 10 10 10 10 10 10 10		
A water and the difference of the state				n of the subscription of the sub-			1 		÷					15			1	raministan bel bet det for the server					
											\$			4				2 					
	0.021													. 0	1 3	5	-						
	125.00								4 L								+ 1 *		× .		: 7		
			-	an a		6	5 5 5 5 5 5 6 60 or of 10 rans do not						~ ,		-		<						
								1					,		1			1			er he		
															~ 3		vie .		1				
										1 									i 		antiter are a sec o dat 4.4 m²		
			i desidadi nerveli					adia andarati in bir 10 10 10			uiges an any ins an Invive MI 47			1- A				() () () () () () () () () ()					
		1						1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	and an ine tar bit but to the			and the state of t	ele a se an me me eré écé det det			5	125 2						
				E						1-10-1-10-10-10 mm mm mm		4		*			r						
			Billion .											6		ar 64				_	8.4		
44-3 43 43 43 43 4 9 4 4 4 4 4 4 4 4 4 4 4			, agus an an in ha hai an ta' dhi ba		1 A				140 - Ad 10.00 to 10.00 to			nghanan dorán ku (d. 199 ngaya					1.45		a a a a a a a a a a a a a a a a a a a				
				and the second s								a grant and an and the state of							<u>}</u>				
دري دار چې	2	- 29.	- - - -		<u> </u>		-3					Same.	 pol		1	4			6	-			
				1	1 						i	1	all analysis				io am						

1.2

112 1807-090



Ocean Sciences Division, Institute of Ocean Sciences

Month	JUNE		-	Yea		-		Information			Cruise ID Sample Serial	202. # of	3 - 05 Watch	3 Trns/Fl	24y = 1
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Latitude	Longitude	Bottom Pressure	Pressure	Numbers	# or Bottles	Keepers	Cleaned	Comments
12	8	16	13:50	BE	SEC		48°52.707	123°12.745	AL BE	9 J. 19	<u>- 223</u>				
13	g		15:00	BE	SET		49 . 52. 33	123 08.76			-				
14	3		16:08	BE	CTD	F = 914	48° 53.403	123° 1,1 339	136	125	-				descent ~ 45° wire on up straight
t	1		16:10	BO			48.53.403	123 . 11 . 327	1		-	-			5
4	Lan p	- (1)	16:13	EN			48. 53. 395	123° 11.296	\downarrow	1	elect :				
15			16:22	BE	NET		48 53.397	123° 11 . 292	136	125					wire angle 43 descent + ascen
(p)		1	16 27	80				123° 11.317					1		
1	J	*	16:32	EN	1		48° 53.455	123 11.321	1		-				
16	10	1.1.2	16 57	BE	SET		48 . 54. 1030	123° 12.3730	1 E	地の	-		1		
17	11		18:10		SET			123 . 16.76							
18	-12	3 3	19 44	BE	SET	121	The second	123 24.04	.82	3	- Conservation	Lee- L	1		and the second se
19	13		20:56	1000000000	SET			123 30.328							
20		1 12	21 56	90 DA1291	CTD		The second	123 . 33.87	193	180	- 7	1.23			descent
1			21 59	Party and a state of the state	A			123° 33. 97	1	1					
1	1	12	22:03	2010	V		49° 03.03	123 . 34.06	Ţ	1		1			
21			22.09		NET		49.03.13	123 . 34.16	200	190	-				all good :
aprila			22:16		10-1			123 . 34.23	, _ [[>		-	a in all		
1	*	Y	22:23		J		49.03.25	123.34.26	Ţ	Ţ	-				
22	14		72:46		SET	15	49.04.74	123.35.39	Ł	Zanal	Same English				

Month	JUN	E		Yea	r 20	223	Ve	ssel SIR JOI	HN FR	ANKLIN	Cruise ID	202	3-05	3	<u>3</u> of <u>18</u>
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional	Information Longitude	Bottom Pressure	Max Cast Pressure	and the second se	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
23	15	$\ f_{2} - h \ $	23:46	BE	SET	12	49.07.64	123° 34.76	CALIFIC IN ANY						and the second for
24	16	17	13:24	BE	SET		49.09.55	123° 13.78			-				
25	17		15:47	BE	SET	1	49°02.41	123° 16.35			_				
26			16:46	BE	CTD			123° 17.98		85	-				all good i
		4	16:48	BO	1		the second	123°17 . 98							
1			16:50	EN	+		49°03.16	123 17.98	L L	Ţ					
27	4		16:58	BE	NET		49°03.16	123° 18.01	102	90					ascending wire
			17:02	BO			no "info	recorded			-				angle ~15°
1	V	1	17:06	EN			49°03.09	123° 18.02	\downarrow						
28	18		17:55	BE	SET		and the second se	123 19 703			-				
29	19		19:43	BE	SET			123°23.09							
30	20		20:45	BE	SET			123° 23.654	-		-				
31	21	44	21:57	BE	SET		1. Mar and the second sec	123°27.909					r P		
32			23:05	BE	CTD		No. of Concession, Name of Street, or other Designation, or other	123 ° 29.95	the second se	325	-				turned on tor about
			23:14	80			49° 10.70				<u>1</u> E				water chopy
+			23:20	1	1		No	123°29.89	j	J	-				
33			23:27		NET			123°29.86		320	-				descending - 5°
1			0.0	BO				123°29.84							ascending straig
1			23:51	EN	J J		49.10.72	123°29.83		+	-				A second for Lother and a
CTD = Sta	ottle cast (no CTD) tandalone CTD TD in Rosette sh Set	D) MOł NET DRF	OP = Sea Water PR = Mooring T = Plankton N F = Drifter =		US	Firing Met 5 = Up / Sto N = Up / No N = Down / 1	pp (default) BE = 1 stop BO = 1	e: Beginning Time of Cast DE Bottom Time of Cast MR	CTD Transn E = Deploymen	ent Time er Release Time	e		ed before eac Properties Gr		o not use Ammonia prod WaterProperties.ca Version: 20 April 2016

Ocean Sciences Division, Institute of Ocea

Month	JUNE	E	6	Yea	r 20	023	Ve	ssel SIR JOHN	FRAN	KLIN	C
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method		Information Longitude	Bottom Pressure	Max Cast Pressure	T
34	22	18	13:18	BE	SET		49° 10.441	123°40.052		· · · · · · · · · · · · · · · · · · ·	T
35	23	1	15:09	BE	SET		49	1230			t
36	24		16:27	BE	SET		49 . 130. 69	123 44.58	Siller -		Г
37			17:25	BE	CTD		49°14.594	123° 39.636	383	350	T
	THE A		17:31	BO	1		49° 14.575	123 ° 39 . 639	1 100	1	F
4			17:38	EN	Ţ		Table of the second	123 39.636			
38			17:47	BĒ	NET	in al se	the second se	123°39.641	383	350	
			18:00	BO	1		provide the second s	123 39 .594	1	1	
Y			18:13	EN				123°39.498	10,118		
39	25		18:35	BE	SET		21	123°37.20			
40	26		20:00	BE	SET	E	49° 15.880	123° 28.641	Tak	21111	10
41	27		21:51	BE	SET		A literative second statement of the second se	123 34 56			
42	28		23:02	BE	SET		49°24.25	123°42.62	and the second second	in sector	
43			24:01	BE	CTD		49° 25.64	123 . 48.01	159	150	
	3		24:03	BO			49° 25. 63	123° 48.02	1		
V.			24:07	EN	1		49° 25. 62	123 . 48.04	-	Į.	1
44			24:13	BE	NET		49°25.61	123°48.04	158	145	
			24:18	BO				123 48.09	1	1	
1		1-1-	24:24	EN	J	2		123°48.04	J	T	

uise ID	2023	-053		
ample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
- 1				
-				
-				Sunny, light chap
-	- 4.000			
-				
10 ⁻		1		all good
-				
and the second		Callence I		
-				
-				
ter installe	iter in t			
-				Sunny, water cain
-				Sunny, water cain GTD came out of water halfway after 2min @
				5m before 1 to
-				ascending ~ 10°
-				wire angle
-				1.45.1

_ Version: 20 April

Month	JUNE	E.		Yea	r 20	23	Ves	sel SIR JOY	tn Fra	NKUN	Cruise ID	2023	-053		
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
45	29	19	13:28	BE	SET		49 24.879	123 48.613			-				1
46	30		16:35	BE	SET		49 29.56	Automatic and Automatics and Automatics							
47		1	17:38	BE	CTD	33	49°21.370	123° 55.453	374	350	: -				~ .5m waves
			17:45	100.0-0			49°21.346	123 55.459			in Film				
V			17:51	EN	4		49°21.319	123° 55.452	1	1					
48			17:56	BE	NET		49°21.301	123° 55.440	369	350					up unitil this even
	Sec. 1		18:03	BO	T		In the second design of the second	123 55.427	43 I			a e se	101		yone down @ . 5m
\downarrow			18:16	EN	7		49 21 . 239	123 55.441]	1	-				this event, Banga
49	31		18:35	BE	SET		49°22.458	124° 55. 509		N. A.	-	1 7			1 m/s and up at .5
50	32		19:51	BE	SET		49° 26. 72	124° 54. 73					•		
51	33		21:02	BE	5 हा		49 27.34	124° 58.96	351	345			an a		Appol 10
52	34		22:18	BE	SETP		49°28.37	124 03.03	357	1943					CTD ALL GOOD
53	51		23:23		CTD		49 31.22	124° 05 . 83	357	345	-				
			23:29	Bo	THE		49 31.23	124 05.81	313	340	-				very windy
53			23:36	EN	NUT		49°31.23	124°05.80	353	340		L			going down at ~45° ancile for
54	~		23:44		NET		49°31.24	124° 05.80	353	340	-		14. 14.		~ 5 min then straightened n
514	3	20	23:5뛰	BO	CONTER-		49.31.23	124 °05.8%	N.	Y		~			
V	34	20	24:07	EN	SEV		49.31.25	124.03.83	1	4	2				
55	35	20	13:19	BE	SET	~	50° 11 . 33	123 57.005			a sata da	123-10			

Ocean Sciences Division, Institute of Ocean

Γ	Month	JUNI	ť.		Yea	r 202	13	(b) m (c) (b)	ssel Sir Johr			Cru
Ī	Event Number	Station Name	Day	Time (UTC)	Time. Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sarr N
t	56	35	20	14:00	BE	CTD	5	50° 10.25	123°54.85	330	320	
ł	1	1	I	14:06	BO	1		50° 10. 25	123°54.84			
ľ	T	1		14:13	EN	1	- 195	50° 10.24	123° 54.83	V	1 - V	-
t	57			14:19	BE	NET		50° 10.25	123° 54.82	330	315	
ł	1		10	14:24	BO	10		50° 10.250	123°54.793	- 1-1	100	
ł	1			14:37	EN	1		50° 10.265	123°54.771	J	1	
	58	36	1.1	14:57	BE	SET	and the second	50°09.60	123° 53.28		12.2	3
I	59	37		15:54		SET			123°49.666			
	60	38	12	16:43		SET	-2.5	50°05.141	123°47.45		. J	-
	60	39		17:52	destruction of the local state	SET		50°02.75	123°56.68			
20	62	24 3	100	18:34	BE	CTD		50°01.76	123°52.87	473	350	-
1	1			18:41	BO	1		50° 01.77	123°52.84	1	-1-	
	J			18:47	EN	V		50° 01.77	123°52.83	S J	1	
	63			18:57	BE	NET		50° 01.78	123 52.82	530	350	
				19:10	80	and the second		50° 01. 80	123°52.81	1.	1-	-
	1			19:17	EN			50°01.79	123 52.83	7	7	
1 Martin	64	40	4	19:40	BE	SET		the second se	123°54.638		- Participation (
1	65	41		20:40	BE	SET		49° 58.650	123° 59.4680			
	See	hext D	age			15 stille 7	100	• .	•		a second	-
A Street	Event Type BOT = CTD = ROS =	P	D) MC	OP = Sea Wat OR = Mooring T = Planktor F = Drifter =	No. of Contraction	a U	JN = Up / N DN = Down	thod: Time Con BE BO BO	= Beginning Time of Cast D = Bottom Time of Cast M	E = Deploym R = Messeng	smissometer ent Time er Release Tir Mooring Time	

	1.			
n Scien	ces		Page	_6_ of _8
uise ID	2023	3-053	12 H	and and a second
mple Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
	0			vloudy
-				CTO come up
-	1			on bottom
-				Sprayed mud off
-	1			THE ENGAGE
-				-00
				2
-				
Ib-sist	Disc	120		
-				
2 N	1 1	1		sat at 5m for 3 min before cast and
-				surace bere 1350m
1-11	1			of water
-				△ sampling to V @ 1.0m/s 1 0m/s for all subsequent
-				for all subsequent
-				It is clear that
2.11				event 63 event
-				1.0m/s down and
-	1.1.1			up. Incorrect note.
Fluorometer	to be clear	ned before e	ach cast	do not use Ammonia products

Produced by the Water Properties Group, IOS

WaterProperties.ca Version: 20 April 2016

	on CS	Olec	cast	eve	nt		3,1	ootte	m	of	CII		Vent	- inte	on	nuc	<u>.</u>	u	Je	rins	ed	it .	Dit	o-fre	esh	notes or Water	r ai	ne
	And the second sec						00	jair		en	Np	100	d	Clat	a.		f	da	ta	990		then	SI	Litel	<u>a</u> (notes or Water TD.	1949-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	R R R R R R
		E Constant of the local sector of the local se			-* 5. Observe emple Spirit-dense to age + tod rese are an				to a final second secon	Berner and Annual and Annual Annua		14 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 +	beh men men upp, berliner han dam men upp g		* * * * * * * * * * * * * * * * * * *	5456 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5					a name of the law out the day is				punda data ana manang data kapang a	På dhampanganga led farmarina na spira gi a da agere	2	and the state of t
0	10/2		4				44.44.44 Address 4 Addres 4 Address 4 Address 4 Address 4 Address 4 Address			i ,		1 *6 % bà value eq e 5 e 5 au		and the second sector per balance	10.5	terret to da a server moto						h di barren provi si ba babal an		12	an to back the first state of the set	······································	4 3 1	3. v.
	And Andreas and Section 201	91 91							4			M-Plot dam north ann da bar ag	* 1497.4 hanny sy sy sy sa ha ha an i	t ber former songert, stadt, artumpte	n		1							Phil 2 br			NF 1000 10 4 4 4 10 10 10 10 10 10 10 10 10 10 10 10 10	*** P36 L-Male /
				The first second s				4.*									The second second		to diama provide that have a fact has show	10 11 10 10 10 10 10 10 10 10 10 10 10 1				A.	There is a first distribution of the Property			*
								*	r	*			menter felicitation dan ang may papadan	international and a second sec			1944 - Provinsi Latino recent				-			for d		-		—
							10-10-19-19-19-19-19-19-19-19-19-19-19-19-19-	harbana 1,000,000 area area area														-	1.63		1		ng n	
	9 84 84 84 99 94 94 94 94 94 94 94 94 94 94 94 94	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	far me yr 14 lafdal gydrof y gy ddiada dy		er fak for by py 60 for 10 Wellinky py ends	alamente de la casa en la la la casa en								an ang ang ang ang ang ang ang ang ang a	g	hare the series of a difference series of									With the data time of the data may be	P 20 10	Badimene 1999 1998 and an 200 p	badar taraq sa
193 has bee 193 all a she ange	**************************************			A for specific til og og og skildering og av den		aligned in the		6 							k					1					4 4 4	Padad subary or in the late in page of the state	11 Mg (da waa amagang aga aga aga aga aga aga aga aga ag	-
	t to de las las las las las las de las las de las				10 hh mmm my 1-0-1-0-1 mm m y 4-0-0-0-0 mm	AN 20	this data are not a to deal of our part of a data																				- market between the second se	-
	a0 a .		a property of the second sectors of the sectors of		A company of the second state and the second states										· · · A									-		a and a state of the state of t		
	A				1 dan managari da da ma ang ang da ang ang ang ang ang ang ang ang ang an	e pende her den sen sop her ten kan samp dekerde	A				3										talaying a barbarbarbarbarbarbarbarbarbarbarbarbarb						d las serves ind do dig second as and in for	1
The second second	Window and the second second second second	9-9-9-6945-9245.00mg 90-97-97-97-97	www.chiple.com	7		001000 0000 d a roma a pol daga ga ga											1-0	1-7-1	1-19 + 1-11-19 + 1-11-19 + 1-11-19 + 1-11-19 + 1-11-19 + 1-11-19 + 1-11-19 + 1-11-19 + 1-11-19 + 1-11-19 + 1-11		28-	67		1992 1992 - 1995 - 1995		1	1 4944	
	n my ny 10 da am a 10 da ma 11 da da da ay a 1		1 by my 20-50-50-50-50 pp op 00-50-50-50-50-50-50-50-50-50-50-50-50-5							1		-		5	and any parameters of	1 Pl Inference op 1, 2 famme op 1 Pl Inference op 1, 2 famme op 1, 2 famme op 1 Pl Inference op 1, 2 famme op 1, 2 famme op 1 Pl Inference op 1, 2 famme op 1, 2 fa					······································	22		*-+ Y	The second state of the se	del une un dels intereses artes artes del formation	1	F * 1486 ers egs - 14
		1)		inter a	n Ngg that the second s	10	1										4 14304 far meng ng 164	ten meret bis ins sympt bis har be			4.e. v.	32		<u>ð</u>]	through the second second	1070 m (0 + 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0	. Diversion of the same state is a sub-	3
- 1		· · · · · · · · · · · · · · · · · · ·					a de la de la specifica la superior de la superior			the full large of the large day and					999 998 844 Server 9 999 84 64	10 - 1993 540 data data 1993 544 549 kata 20 20 20 20 20 20 20 20 20 20 20 20 20	10 × 10 × 10 × 10 × 10 × 10 × 10 × 10						3,-37	01		Prima de la desta de que est	På for my ny og og om a nors, ø kalman	
	Alter and the second se				4	100 M 49 49 Br mr An 10049 40 mm 2.5 a 40.0			-		1 · 1 P D Id family opposite them		in a second seco		·	4 4			1	4		19/19/19/06/10 magang (4/19/10 mag		v F de de de ser en se relation en seg	1	- 10		
					and a graph of the second	n the bott has a second spectra from bars. Spect 4.0. Spectra	100 100 100 10 10 10 10 10 10 10 10 10 1		•			1	A		66	g des semantig and the des semantic the	9 mr 1.00 540 dan me up 144 3						001					
				9 harris 19 40 60 harden ny eg de kara da ya ya ya ka	lades of the line				1	n'	1007940			The second secon	danise separata las more qu		r- in the state of the second state of			Pri 40 fair any my 14 fair das my 19 spin		· · · · · · · · · · · · · · · · · · ·					-	
6	normal priority and		1		P 100 film over 11 to film of the law barrange to a		$(r_{p},p) \in \mathcal{S}$ is the same same r_{p} produce near single r_{p} by r_{p}	a yan manada sali ya					₩	1		4				. Ny A. 9 Y. 4 do ny p. 6 do a sy ny s	P 58 of los on pr 1 pr		0			E-31		-
× I			transformed to the second seco	A Go the lepton project the delivery approximation of project			Westman (the second second	Vidinar			1				1/1.00000000000000000000000000000000000		- 6 3					13		allan n.		- 100 for data to the data series (100 for ser		
Balta ya Godine i i i i i i i i i	of the set of the other are still be done a spin to prove				- halasi ay ag pa hilway ag na halasi ay ag		1 HE U / S & U/ AD - U				1	1.				PH/7	1				177				Art birds an any sign of the second sig		4 x 5 x 5 - 15 4 40 mm m n.m.p.p.p.p.p.d also may	

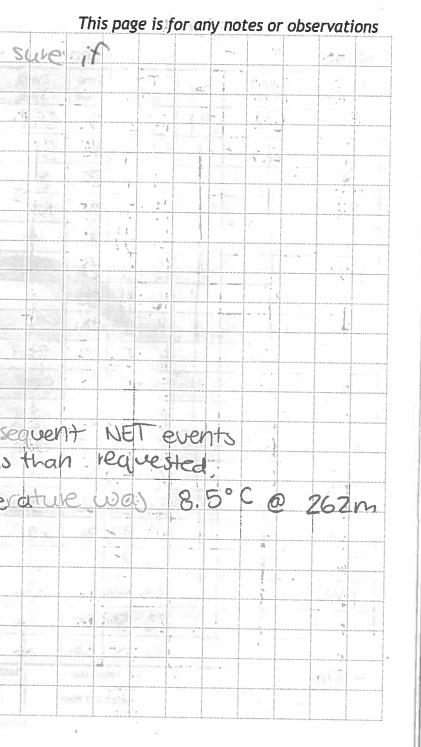
Ionth	SCIENC		S AF	Yea	r 202	23	Ves	sel sir john	N FRIAN	JKUN	Cruise ID				<u>x0. •</u>
Event	Station	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
umber	Name	20	21:57	BE	CTD		49°54.49	123 55 040	532	350	- 3				changed to other
66			22:04	80				123° 55. 03	1	1	-				10m for 2 min from nauch.
11			22:10	EN	1	2 4	49.54.44	123° 55.00	\checkmark	V ·					before this event, we were doincy
57			22:19	BE	NET		49° 54. 11	123° 55.14	517	350	-				5m for 2min.
			22:32	BO			49.54.50	123° 55. 15		1	and a				
J. T			22:39	EN	V		49.54.51	123° 55.15	1	1	-				
8	42		23:10		SET		49° 52.3800	123° 53.5440	20 - 20		-	-			
69	43	11	24:14	and the second second	Arrent Arrest and a second		49 48.11	123°56.99							
76	44	21	13:23					124°38.374	a mil			The second	pil.		
71	45	T	14:50	and the second s	A STREET, STRE			124°36.03			- `				10m for 2mm
72	-15		15:46	Contraction (1997)	1		49.39.550		347	337		1			water rippled, S
12		1	15:5Z	a summer and a local sector	1			124°33 · 38	1	1	-				
V			15:59	_				124°33.37	1	1		1			
73			16:04	-	NET		49.39.59	and the second se	346	336	-				all good
$\frac{1}{1}$			16:10	and the second sec	1		49 . 39. 597	124. 33.36			-				45049
VI		+)	16:22	and the second se			and the second se	124 33.37	V		-	1.2.3			- 45052
74	46		16:44		20-		49°38.9426	124°32 · 1700			-	-			
75	47		17:51	BE			49° 36.957	124°28.219	1.17 miles		-				
76	48		19:12		A-1604 5	-	49.33.305	124 ° 25 . 82	301374		1.1	An ha alars	ad before a	ach cast	do not use Ammonia prod
BOT = 1 CTD = 1		TD) M N	OOP = Sea Wa OR = Mooring ET = Plankto RF = Drifter	ter Loop	Bott	UN = Up / N DN = Down	ethod: top (default) lo stop Time Cod BE = BO =	e: Beginning Time of Cast D Bottom Time of Cast N)E = Deploym IR = Messeng	smissometer hent Time ger Release Tin Mooring Time	ne		ter Properties		WaterProperties.ca Version: 20 April 2016

Q.

	SCIENC			Yea			Ves	Division, Inst	J FRAM	JKUN	Cruise ID	2023-	-053	- (7)	
Event	Station	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	Comment
Number	Name 48	71	ZO:10	BE	CTD			124°26.59	155	145					and the second
11	10		20:13	Concerning and the second second	1			124 25.59	1		-				
		++-	20:16	and the second se		-		124 ° 26.58	4	V		1	,		
			20:22		NET			124.26.57	156	145					
78		++-	20:28			1.1.1		124°25.55	1	1-		1			
		++	20:31	-				124°26.50	1	¥	-				
*	49		20:53	A THE OWNER AND	Contra de la contra contra de la contra de		49.32.9400	124 . 27.6820			-				
79 80	50	++	22:50		and the second se		49.30.150	124.29.99			-				
81	51	22	The second state of the	-			49.47.74	124°33.05	Sunda		-		1		
82	52		18:07	and the second second second	A STATE OF THE PARTY OF			124° 29.88			-		-		switched ban
100 Colored Co			19:05		PEOSTORy/ 11	1	49 . 45. 48	124 26.37	324	314	-				to ist CTD
83		++	19:11				49.45.48	124°26.39	1-1-	++	-	-			
		++	19:17					124°26.39			-	-	-		45125->1
84		++	States and the second s	and the second s	NET		49.45.46	124°26.40	326	315	-		1		
FG		++	19:36	BO	and the		49° 45. 45	124°26.42		1					a contraction of the second
		++	19:42				49°45.45			V	-		1		
85	53	11	20:08	-	and the second second		49.45.02	1 124 ° 24 . 266	2	-	-	-	-		
	54	++	21:4	and the second second	11	-	49°44.38	2 124 " 19.656	2		-	-			
86		page		1 54			0	0			-	-			do not use Ammonia

	SCIENC		-	Year	20	23	Ves	Division, Inst	FRAN	KLIN	Cruise ID	202	3-05	and the second sec	
Month Event	Station	Day	Time	Time	Event	Firing Method		Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
lumber	Name	1.00	(UTC)	Code	Туре	Mediod	Latitude	124° 17.88	279	269	e de la companya de l				
87	54	22	24:00	Participation of	CTD		49° 39. 55	124° 17.91	1	1	- 12				
	1		24:05	and the second sec	1	-	and and the second of the second second second second	124° 17.93		. 1	Witz-David				
1	Galant - +		24:10	EN	V	SH.	49° 39.59		280	270	-				46849-4830
88			24:18		NET		49° 39.63		200	610	-				0.5m/s 1 1.0m/s
			24:28	BO		-	49 39. 12				-				
1		1	24:34	EN	1		49° 39. 75	and the second se	V						
89	55	23	13:19	BE	SET		49 . 39. 346				-				Tor course in water calmiscuture
90	56	1	14:35	BE	SET		49°36.64	124°07.00	and the second se	01-	-				NO wind
91	Selen-		15:41	BE	CTD		49° 34.225		second and an end of the second se	267	-				# CID went into
1			15:46	BO	1		49° 34.22	124° 05.833	H	11	•	1			C. ULLA DULAT
V	- in a		15:51	EN	1	- ti	49° 34. 220	124° 05 . 824		a second second	RBRduet re			00	in requested or wir entered water of .sm/s then desce
92			16 00	BE	NET		49 . 34. 219	124 05.811	276	256	_depth as 26	2m		00	@ 1.0m/s and \$ 1.0
	4		16:05		1000	1		124 05.803		++			-		# put RBR on ROP BONGO #
			16:11	EN	1		49.34.203	3124°05.799							doing Bongo 20
93	57	192	17:13	BE	SET	201	49°33.07	8124° 5.197	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.						
94	58		18:5		and the second se		49°28.85	5 124 3.24	1000						and the second se
95	59		20:20	-	ter and the second s		49°25.80		-		-	te const it is			Ch. Ch
96	60		22:14	11-1		Contraction of the	49.21:24		3		-				Claumaler.
07	61	++	23:30		SET	-	49°21.90	124°14.14	- 115-			r to be clea	aned before	each cast	do not use Ammonia prod event 92, after

			*. 1	100000000-01-01-00-01-00-01-0-00-0-0-0-		1-1-10-11-11-11-11-11-11-11-11-11-11-11-	10-1-10-1 and and and a second se	······································	11			e P S drugt are smaller see annot p op	*****			1	0			100				
ø	Sp	un	A	ων	net	er.	W	and	ial	4	De	For	e e	ven	-	92	be	cas	ise	ic	eu	Jen	ent	- 5
Approvided -	4	aur	ne+	er	w	zs	ii st	rucl	C'II	A			24	1			noa	1.57¥.0	1.167	125				
										-		NE Min-markiji-nys			1993 m.						11			
						and a subscription of and		a			4							r 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	479717 at an your speci	1	n F			
		-						b ed alle a min sprop dage hall wedan	* *** ** *** *** *** *** *** *** ***					4		1 2 2 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1								he of the second second second second
		Anna my ti bi heran an sy t	* ₂ e	Attended to the last on express top 44	by by the set on memory s ₂ + gas.				1999 AV 1995 AV 1944 AV		e v				-			<u>r</u>	,					
	7		100						and the second sec		he 10 her hanger op op op op	A The State of the		3	l de la composition de la comp						10.55	h .		a bagent takaran dan merinta ang ang an
		and address of the set			4 4 4 4 4			7 hit is the second of the sec			A	1 				3.		120		0.6	-	1		
			A*			the last last last last last last last last							14	+		12.	1			-			***	
**********					2"						7	Provide the factor of the second seco	taily a far far spany, spans ster									d -1		
		Particular in a spinistic for in a sugge		1				- 10- 10 ⁻⁰ 40 Ja ⁻ Salayan (1- (1- (1- (1- (1- (1- (1- (1- (1- (1-								The set of		Laksed				nst.		
				2		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				the second secon	**		The set of				100	100						
		The second ballenging of				4												TER.		and man				
	225							and the second s										i.			0	988 oli d'ana ya yaya yaya		
4	_ U	ne 1	ut	an	RB	R	00	Bo	NGC	Ň	ET	00	eu	ent	9	2 a	nd	Kent	· i+	00	fer	all	Su	nser
		Price	শ্ৰ প্ৰদুৎ		nnc.	41	Errc	212	in.	vec	20011	ng.	ae	th	, N	ET (w-e	nt l	to	do	000	V I	d pot	1.
	an ar ar an an ar ar ar ar	Ev	ent	#0	2	N		M	ax	Co	4 1		1				5 2				-			
		4 The last set of the line set				10	= -	_			8 I	EYE.	220	ire		NN QU	2	6	-m	<u></u>	ahe	1 +	em	perc
			in water to be be be and an								9 %			1. August 9 = 1 = 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,		.1			VI ** hi in margaret (* 1	······		** / ********		Far til diffeti bir isi in inner
																			*	-	-			
			- 10 44 40 40 40 40 40 40 40 40 40 40 40			the growth sub-sub-bill bill state on a						·	*		D-	5.2.1		Цć	- ma - ma				14 ali ali ana any my a 1, ang - 1	
											* ha) ferrer ver tan av ha v		di termini dabalikerkeren optog		1	1.00								
	el delarense se og til der er		-	P			and the law have provide a start of	and the deputy of the labeling of															-	
						9		and an appropriate the balance of				and Marco and a second second second second			1									
															4 Weekselese op 45 of 444						47.			



Month	JUNG	E		Yea	r 20	23	Ves	sel sir John	FRAM	VKLIN	Cruise ID	202	3-05:	3	
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
98	62	24	13:24	BE	SET		and the second se	124° 17.947	11-	895	-				
99	63	1	14 40	and some from the	SET			124°20.91			-				issue w/ wine
100	1		15:45		CTD			124°25.684	344	324	wen + 239	2			system accurate measuring dept
10			15:51	BO	M	a		124° 25.683							so we are doin 20m above be
L			15:57	EN	V	2	49°25.928	124°25.690	1	*	- RBRduet3 r	ocordod			windy, choppy u
101			16:06	-	NET			124°25.669	and the second sec	313	depth as 32				even giving 20m
	112	13/2	16:11	80	1		49° 25.946	124°25.672			55084				battom So doir
V			A COLORADO DE C	EN	1			124°25.668		*	-				484,21->484
102	64		16:56	BE	SET		49 . 25. 553	124°27.73			Max RO-		1		flowmeter read
103	65		18:14	And a second last to a	SET		49°23.76	124 . 26. 97							manually spun Flowmeter ea
104	66		19:56	2000	SET		49°25.33		n West		and - A	Sec. 25	direction of the		ofter this orei
105	67		a management of the	BE	SET		49° 24.67	124°33.37			-				doesn't opped
106	68	14	22:30		SET		49° 23.712	124° 30.49	1918		10#1CA		9		ber.
107	1		23:27	BE	CTD		49° 24.76	124°26.32	314	290	€ went to	309			
17-	151		23:33	BO	TIME.		49°24.76	124°26.311			18	S. 1964	`		
1			23:38		V			124° 26. 311	1	1	RBRduet	B recorde	ed		
108	1000		23:48	BE	NET		49°24.765	124°26.33	318	290	← depth as 2	299m			
1			23:54	1000			49°24.76	124°26.35			-				
			24:00	EN	L		49°24.76	124°26.35	1	1					lo not use Ammonia prod

20.

- 4

A

V + E + E + E + E + E + E + E + E + E +	-	-	1	19 1 189 - 14 de te de rede sa	1. 100 19 14 09 14 14 14 14 14 14 14 14 14 14 14 14 14	17 age mp Ad 14 54 56 56 see co o		13	JANE:			зÓ	20	stu		ni s	noir	ivi		AF	10.0	- nue		
								130.1	155	. 92	1				1	15			1291			for top toppts in data and using any top of		****
			to the set of the set							de S	Sal			11-14 (b) 10 (b) data at repart data	0 710 LITL0 LI	10 1 10 1 10 1 10 10 10 10 10 10 10 10 1	[]]]]			in diadi	- + -	9 = 99 brillet Mb Berlink ann ngang y		
															Ar and a second se		A 2523							-
																				-	-	hu du and an	na napa ay ta da la bu na un	
				1																1		** Hende **********************		1 (per (r.)
		<u> </u>	~																		7			14 (*14 a)
										Commenter of the last							Anno 100441						Pit d by b d ball in a superp	
		4							1 13	T.S.		1) 1) We Hadada		1							1			
>	pot	tom	n te	mp	8	6	2	e	len	+ 1	0	P III da 14 Di be la la la ar						1				·		
							•					And the for devision following		-			10 Mile and and 2 Mile and and 4 Mile of the state of the		and server high high high high high high high hig			Notes and the second se	1 () () () () () () () () () () () () ()	3
					h-19-1						ing had had garvad ons gar gar ga										21.1	**** @ - h == des report p = + + + + +		
		UTU Di d'halibi à des mans	r		<u>6</u> 79 1	=~				-									<u> </u>	h . h				9. de a 4
				4			-									20.					12.0	-		
			e la			hiddaadaa oo aa ay yy y	- t		<u>.</u>		** *1 *1 ****							100	6		-		1	
				4 44 14 14 14 14	<u>-</u> 5					-						0.	1	1	-					
			e bel het het het som men sop sop i		4 Bi th da sense og og pr. 4) / 2 d a a a d a sa a gan gan g a g							Print da la la la la com				4 0 1000	45 h	The for a side on an array of		1 499 be 1 4 series samp	1 1 1 1 1 1 1		
	1999 year an					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			at any to have	- 3735) - 34 line del line ins sur aga ng .		1.1."			<u>a 8</u>	addia-years			1		4	the set of he is the system	1
			· · · · · · · · · · · · · · · · · · ·		18 / 3 d haling many / 3 (8 d hair)	fammy trif tof till had frankers o		**************************************		- 	15=4351515184848					1	17.34	al second	1					
		1	1000 01 00 00 00 00 00 000											283			18	1.0%		3 15	1.0			
>	60	HO	Ŋ	ten	np	8.	7°c		ev	ent		108					<u>0</u> 2	Joan I			22.			
	All Salary and Salahan Ayr is a barbard		*****		10 bir fanlas in by gerny ge				-	alle Maria de la deserva	9		1	1		SP -		11		*				-
			********								* 6 * 3a * 3a * 4 × 5 × 6 × a + 0 × 5 × 6	1 MP 015 05 6 m mm mm mm mm mm m				**********					71-01 kitelenen en			
						9,2101				~ *			TIP						8003			i~theor	- seisi	
	Balt being difference on the standard seg			1 <u>30</u>	(3).55			5 85 g	10.5	629		11 ¹⁰ 7.50 51 11.8	이 ^드 1일) 	istresid		19865		m_2	4 2	3	7,00		Bit with the Barran way suprame.	

This page is for any notes or observations

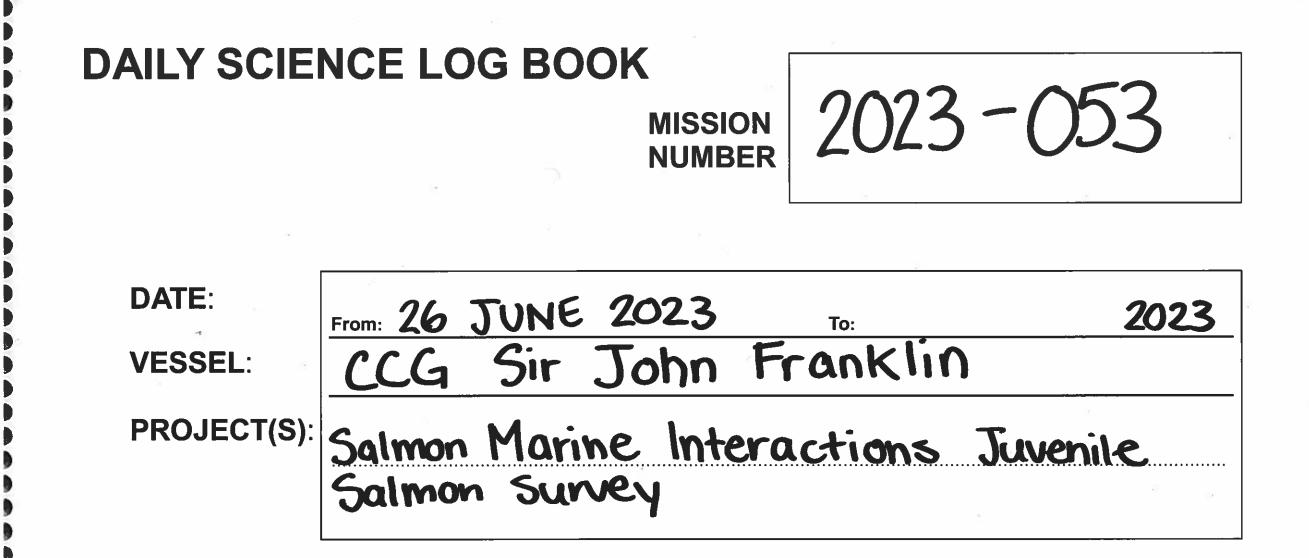


Ocean Sciences Division, Institute of Ocean

Month	JUN	VE		Yea	1 202	23	Ve	ssel sir John	FRAN	NKLIN	Cruis
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Samp Nur
109	69	25	13:22	BE	SET		49 .45.364	124 ° 42.45	1-1	2	
110	70	1	15:00	BE	SET		49°44.00	124° 48.4600			2
111		1 1	15:59	BE	CTD	E.	49°45.47	124° 46.00	357	327	+
			16:05	Bo	- 1		49°45.45	124°46.00	1	1	
1	1		16:12	EN	J.		49°45.43	124° 45. 99		1	R
112			16:18	BE	NET		49°45.41	124.45.98	354	334	← re
1	als inter	41	16:25	BO			49° 45. 40	124°45.98		1	as
1	1		16:32	EN	1		49° 45.40	124°46.01		1	
113	71	4	17:18	BE	SET		49 ° 39. 976	124°47.69			
114	72		19:33	BE	SET		49 38 27	124°44.45			
115	73		20:53	BE	SET		49°35.48	124°42.74			
116	74		22:15	BE	SET		49 38.125	124°43.704		_	
117	75		23:29	BE	SET		49 .40.2190	124°40 .5360			
118	76	26	13:25	BE	SET		49 . 49. 843	124 ° 43 . 321			
119	77		14:48	BE	SET	Sec. 1	49°50.14	124°47.66	0.00	1.745	
120	1		15:36	BE	CTD		49°50.572	124 ° 50.481	293	273	
A Sec.		1 B	15:42	80	[=]_	l a	49 . 50. 560	124 ° 50.473	1	- Alexandre	1
1			15:47		T	1	49°50.538	124 ° 50.455	-	\downarrow	
see he	xt bool	K FD	- nex	t a	venx		0	o .	11		

1_ of <u>18</u>	Page		ces	Scien
		-053	2023	se ID
Comments	Trns/Fl Cleaned	Watch Keepers	# of Bottles	ole Serial mbers
				-
				-
ll good ご			o 341	went to
oft waves, sun				-
so wire angle 1 start then to (·+		BRduet: corded
pat~30° angle		l'artito		s 344m
				-
8543>				- 1
50561				-
				-
				-
		100		-
				-
				-
ill and				-
J		N. T. Bah		
				-
and the second second			19.00	-
t use Ammonia product	h cast do	d before eac	be cleane	ometer to
		d before eac		

		_	T												+															Tł	nis po	ige is	for	any r	iotes	s or (obse	rvati	ions
	-														<u> </u>	-									1				1		1			1		-			
																	and and and and									and the second													
		on research						1												1			1	1		ĺ		Ī		1	1				1				1
				1	1		E								1							1						1	1	1-	+								<u> </u>
				1	-		-innikoar				-						-			-							and of advances of a		-	-			-						-
-				1000000		-					1			200112	-		3.4											-	ļ			-				-			<u> </u>
						-	1 - (- (- (- (- (- (- (- (- (-		_						1																								
1																														1									
1			-	ire	1	+	100	4	10.0	(2.10	10+	_	1	5			210	Ç	22	00				1					1000 - 1000 1000 1000 1000 1000 1000 10									
1	en	iper	an	arc			UC	Juc	m		ene	121	1		15		~	us		2=	1		-				(e, p.) ⁴ (1			interest of the second	
				a in 111 in 11 in 111 in 111 in 1	-	-						-			-				1	-							1-1-100-10-10-10-10-10-10-10-10-10-10-10	ļ	+	-	-								
		•				-		-			-				-					-		anna acarara							-		4							n in 10-11 (1-11)	-
			_	a ta bata da fa fa mara																		-																	1
					15								and and and			1														1									
						5									1	-					-										1				i.			19 89 99 40 40 40 40 40 40 40 40 40 40 40 40 40	
					1						1									1	Ì						<u>9.5781</u>			+								to to serve to pulse in a	
											-				1	_				-	-	4								+	-			-					-
											****	a be par base or to be be				-				+	4	1			1								-	_		1			
																														1				1.					
																													1			1							
												1				111 10.00 10.000	1			1		1								-	1	1	1						
		1414.1414.1414.1414			1	-					-		-		1	1								+						10 10 - 10 - 10 - 10 - 10 - 10 - 10 - 1	+	+	-						
+						-		<u>i</u>	NH o LI BROOM		-	4			1 (1) (1) (1) (1) (1) (1)	+					-		-	-								-							
					-							1	_			1				-								1	1				1-1-1 and 101010 10	-					1
					1																-									1									
	0						-													1									and the second second	1									
	1					- Index of the	0.000				A BOLLAN				13			1.		£	- Issuer		1	and the set		11.5.1			1	1	ALC: NO	and the second			00005000	and a state of the			Colorest and



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

WaterProperties.ca

35 Page Logbook

DAILY SCIENCE LOG Ocean Sciences Division, Institute of Ocean Sciences Division, Institute Ocean Sciences

Month	JUN	E		Yea	r 202	3	Ve	ssel SIR JOH	N FRAN	JKLIN	Cruis
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Latitude	Information	Bottom Pressure	Max Cast Pressure	Sample Num
121	77	26	15:53	BE	NET		49 . 50. 542	124° 50.463	294	274	RBRo
1	1	1	15:58		1	ta .	49°50.523	124 . 50.448			record as 28
			16:03	and a	1		49 . 50. 511	124° 50.436	1		
122	78		16:57		SET		49° 53. 64	124°51 . 23	1. J	pinta tes	-
123	79		20:55		SET		49° 50.6390	124°50.423		·	-
124	80	2-	22:22	BE	SET		49 .45.7620	124°54.3920			-
125	81		23:24		SET		49 ° 43 . 939	124 ° 48 . 875	F FAI	LED S	ET .
126	82	27	13:28		SET	9	49 . 43. 939	124°48.875			
127	1		14:29	1 1	CTD	- 1	49°41.389	124°45.971	157	137	
1			14:32				49.41.388	124°45.980	1		
V			14:34	EN	\checkmark		49 . 41. 386	124°45.985		7	"
128			14:41	BE	NET	-	49 ° 41 . 371	124°45.995	156	136	
			14:40			1	49°41.366	124°46.000			
			14:49	EN	4	i. I		124° 45.998	1 1		
129	83		15:43	BE	SET		49.46.524	124 ° 53 . 373	6		
130	84		16:46	1 1	SET		49.48.66	124°55.50			1 - St
131	85		20:11	BE	SED		49°53.84	124°56.69		8	eg ^{inc}
132	86		21:28					124° 58.46	-		
133	871		22:34	1	SET		49 . 58. 998	(25° 3.414			
Event Type: BOT = Bo CTD = Sta	ttle cast (no CTE andalone CTD D in Rosette) Moi Net	DP = Sea Water R = Mooring T = Plankton f = Drifter =	· Loop Net Haul	US UN DN	Firing Met = Up / Sto = Up / No = Down / I	hod: Time Code: p (defauit) stop BO = 1 BO = 1	Beginning Time of Cast DE Bottom Time of Cast MR	CTD Transm = Deploymen = Messenger = Recover Me	Release Time	

	202	<u>3-053</u>		
e Serial bers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
duet3				lenis for all
ded dep 2m	oth	10		BONGO NET actual depth 280
-		-		Mawmeter 50593
	_			
-				
-				
-		1		
-	55			sun, water calm.
-				3000
-				
-				5095-51397
-		i.e.		NET went to dept
-				141m
_		_		
_				
	_	-		
	2.2	- ⁵ 1		
- 2		1		

toquced by the water properties Group, 103

Version: 17 Feb 2020

Ocean Science Division Institute of Ocean Sciences care Son Page 10 and 10 and

→ event 121 actual Max Cast Pressure 1282m and temp. at 10thm 8.2°C

Sevent 128 actual Max Cast Pressure 141m and temp at bottom was 8,2°C

			-		-		-1-		1		-		1		1			1.5	1. 100			01	5.	1.00	11
-	12	1	126			JL	1	_				-			1	1		PP	1.81			Ari		13	
	1	4	1		1	15								1.8	2.0	ALC:	21	15	.91	12	T	·	25		
1.51	-	N1	bert .	1		11		_		15								FT	31	•	1	11	- 12 C	52	
							4		-		4	_				Į		JT		2	1	21	4. 2 L	50	T
		-	-	-		4	-		į					ĺ		Ŧ		$\mathcal{S}_{i} \in$	ð.	" (T.S.		3	1 4	CE	
					1			-		-								01	10	12	1 2	ic .	0	50	ni cina
	1000		-		70.00	1.178	dillo			the solution	1	i tourse	લેલ્લાંગ -		0.001	numuni orienteri			N. S. Composition			Co and		those i detta	ANN I
	150 J	NJ HIGE	1915			1987	her.				sb.								19 (19 (19) 17 (19)			OH.			0011

This page is for any notes or observations St. CTD 44 21.

DAILY SCIENCE LOG Ocean Sciences Division, Institute of Ocean Sciences

Month	JUNE		Trave	Year	202	3	a state of the second s	essel SIR JOHN		and the second se	
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positiona Latitude	Information	Bottom Pressure	Max Cast Pressure	Sample S Numbe
134	88	28	13:29	BE	SET	100	50°17.20	3 125°22.516	919	414	
135	89	A	14:11	BE	SET	E-ivit	50° 17.31	125° 24.95	yola.	Sule	2.910-
136	- qp		15:13	BE	CTD		50°18.952	125°25.605	227	207	-
1.50			15:17	30		1	50° 18.95	3 125° 25.588			-
			15:21	EN	1		50° 18.96	2125°25.583	L	1	
137			15 26	BE	NET		50° 18.96	7125°25.578	229	209	
101	- 21		15:30	And And Address of the			50°18.96	2125°25.582	1. p./.s.		-
		-	15:34	And and a second s			50° 18.97	0125°25.615	1	4	
138	90	11	16:07	1000.00	SET	-	50° 20. 90	1 125° 24.99		1.5.1	-
139	91		16:57	A CONTRACTOR	SET		50° 22. 30	125°21.96			-
140	92	11	17:53		SET		50° 24. 2-	1 125° 19.87	1.1	· · · · ·	-
141			18:42	BE	CTD	TAN HE	50°26.192	2 125° 18.715	323	303	1.100
			18:48	-	-1-		50°26.18	125° 18.73			-
4	-		18:5	And Areas and Areas and			50° 26. 18	125° 18.74	1	1	
142			19:01	1	NET			125°18.75		288	-
11-		-	19:07	and a second				125°18.74			<u>_</u>
1	t		19:13	1	1		50°26.15	125°18.71	1	↓ ↓	-
143	93	29	15:37				50° 0.80	1 125° 5.83			
IVU	94	1	16:54				50° 02. 91	0 125° 07.70	-		-
CTD = S	ottie cast (no CTD candalone CTD TD in Rosette sh Set) MO NE	DP = Sea Wate R = Mooring T = Plankton F = Drifter =	er Loop Net Haul	Bottle U U	Firing Met S = Up / Sto N = Up / No N = Down /	thod: Time Co BE BO BO	de: = Beginning Time of Cast Di = Bottom Time of Cast M	CTD Transr = Deployme R = Messenger = Recover M	Release Tim	

ID	2023	-053		
erial rs	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
1.28	0.20	MI		New Lockson
		-		
1				
				flowmeter
				51396-513117
				NET depth wend? went to 215m
				1.12
2	S 1 1			101-14
				NET actual depth went to 295m
				51311 -> 51308?
1				6 manually spin floumeur
		decompetence and		H did.

Produced by the Water Properties Group, IOS

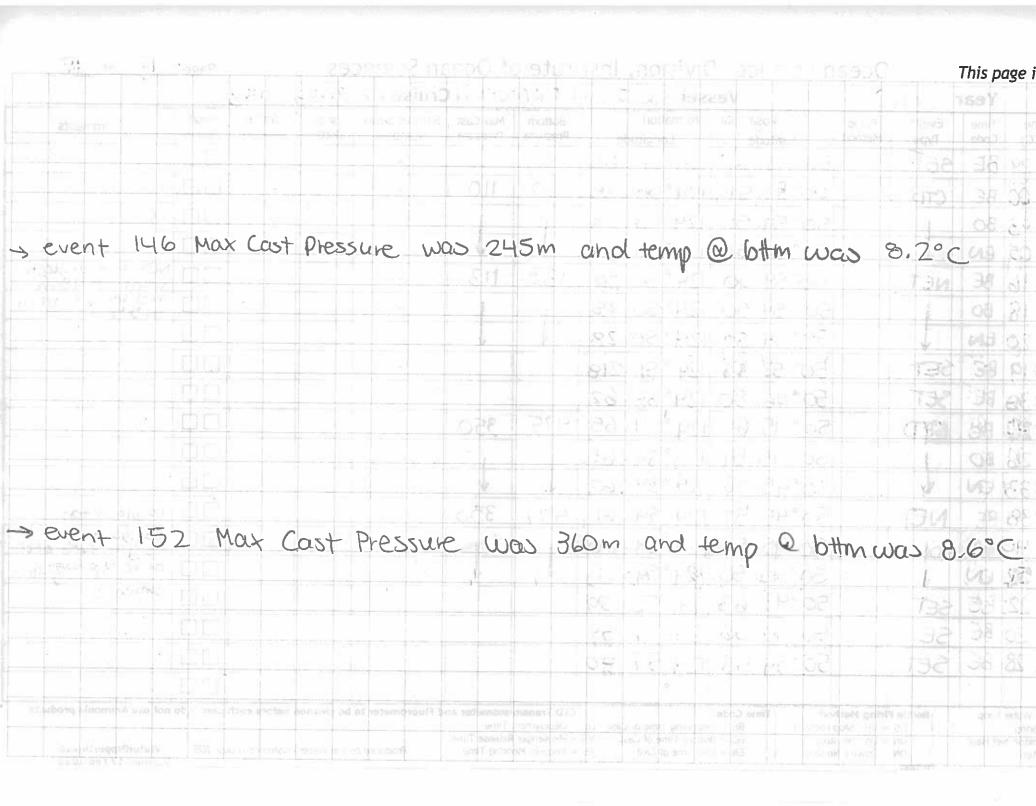
	20 1502 41	อสุเอทวี เกาะ	n near a t	11/140	19 20	lai	Ves		1 - 14		nseY			FUNCT	07/101
atristimp-3	i item i i i i i i i i i i i i i i i i i i i	Have an Sample	Reliam				iconal I		60/4/4	trev3	\$571	1. 197	17 13) 150	nodrio	hiev
		01121		-				10 % Det	- Property Second						
				14								-		TT.	무역
	n n n n n n n n n n n n n n n n n n n			1				10,05			108			41 /	
ada -		in the		1.	1		- 22-	20.05			IA	H.			1
1 Ale / h				-640	10	23	10	111° (38)	1000	134	10	12 Car	-		1-1-
				H Tok	1544		1.64	pd. w		A. La	108	- 23-	9.1	-	
011 71 -			4	1994	1.52	- dSH	DE:	1V. D3		1	1073	30	36	111	×
2112-1-12	of actual Max Cust	Pressure	14)0.	215	5 100	-ov	d te	mo.	t. btt	mu	NOS	C).0°C	1.1	L L
EVENT 13	of algerant that chief	(103)	June	35	22	24	NE.	50 1		T-TAN	134	198	051	11	8F
				32	a E	+51	82	1 De		TAR	1.22	180.	30.1		Ma
				PG	0.5		٢.	1-58		TER	1		21	180	10.0
		240	SH	NO.	1.2	124	512	1.3		175	5.0	15			
							1.1			1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	100	1235			
			į	15k				6 3		5	200 C	ill.	gars 1		
Sk.	1.01 E		Sec.	Un	-F			11-15		100		0.74	5		
> event	147 actual Max Ca	- Diana		21	15		h		E.W		1.000	0.0	0		
	142 actual Max Ca	si thessur	e was	· Z -	IJYV	1 0	ind .	temp a	T DI	mw	15	1.7	C		1
and the second second					- 5C'	1		PS		P.		730	17 1	44	1
	a part of persons and a second s			135		-	1.1	- 1, 05		10	1-26	55	1 13	PL.	40
				1.175	53	i D' H'	3.0	18" 28	The second	261	38	20	U!	1001	44
		4		1000			1.1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	· · · · · · · · · · · · · · · · · · ·					the state of the state	
	et el la servicio de			123			120	50 "	51 NO 1920	193	36	18	1 1000 4 500	6.4	신경동

Ocean Sciences Division, Institute of Ocean

Month	JUN	চ	_	Yea	r Zo	23		ssel SIR JOHN			Crui
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional	Information Longitude	Bottom Pressure	Max Cast Pressure	1.0
145	94	29	17:45	BE	CTD	17233175		125° 07.567	_	238	
1	60		17:50	BO	SIST			125 07.566			
			17:54	EN	4		and a second of the second sec	125°07.566			-
146		A Long	17:59	BE	NET			125° 07 .556		238	
1			18:03				50°05.537	125°07.5641			
3	1.0		18:08	EN			50°05.546	125°07.552	210	200	
147	95		20:15	BE	SET	41		125° 2.905			
148	96		20:39		SET	1000		125°00.88		1	00000
149	97		22:03	BE	SET			124° 57:39			
150	98		23:35	BE	SET			124°49.04			
151	01		24:31	BE	CTD			124°52.96	511	350	<u> </u>
1			24:37	BD	A Date			124° 52.95	313	3013	
				EN	J.		a contract of the local sector of the local se	124° 52. 94	-		
152				BE	NET		50° 18.45		511	350	
1	1	1		BO	N TIM	10 1	50° 18.45		0-1 Aline	-21/23.9	AF 1
1		3	01:02	EN	5		50° 18.46	124°52.93			
153	99	30	13:25	BE	SET						
154	100	1	14:20	BE	SET			124°53.03	-		1
155	101		15:28	BE	SET			124°55.452			
BOT = Bottl CTD = Stand ROS = CTD SET = Fish :	in Rosette	MOR	P = Sea Water L = Mooring = Plankton Ne = Drifter =		US = UN =	Up / Stop (= Up / Stop (= Up / No str = Down / No	default) Time Code: (default) BE = Be BO = BO	ginning Time of Cast DE = bttom Time of Cast MR =	TD Transmis Deployment T Messenger Re Recover Moor	Time elease Time	d Fluoro Pr

ise ID	202	3 - 05	2	_14_ of _18
ple Serial umbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
-				
- 12 J				
·_ ·				
5				went 245
		0.05		flaumeter 51410
-	*			> 53890
at 1.0.	1			
-		erig		
-				
-				
-				
-				
-				NET actual depth Went to 360m
-	1 1021			flormeter
7 , 320 II	ALC: N	18-343		53890 -> 53892
-				not sure why it . didnt & much
-				le gen
-				
-		.e.		

Produced by the Water Properties Group, IOS





Ocean Sciences Division, Institute of Ocean Sci

Month	JUNE /	501	- Y	Yea	r 207	23	Ve	ssel SIR JOHN	J FRA	NKLIN	Cruise
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method		Information Longitude	Bottom Pressure	Max Cast Pressure	1
156	102	30	16:29	BE	SET			124°51.65	1.28	2.84	-
157			19:00	BE	CTD			124°50.25	130	110	-
			19:03		2		and the second se	124°50.25	F	1	-
10		SI	19:05	EN		25	the state of the second st	124°50.25	24	1	Ky It.
158			19:16	BE	NET		50° 54.50	124° 50.28	133	113	-
1			19:18	BO	1		50° 54.50	124° 50.28			-
1	45		19:20	EN			50° 54.50	124° 50.28		1	-
159	103		20:19	BE	SET		50° 53. 01	124°51.218			-
160	104		21:38	BE	SET		50°46.80	124°55.62			-
161	105		22:20		SET D		50°45.61	124°54.65	475	350	-
1			22:26	BO			50° 45. 59	124°54.65	54	36%	-
	1		22:33	EN			50°45.58	124 . 54.62	L	V	-
162			22:38	BE	NET		50°45.57	124°54.61	477	350	-
1			22:40	BO	ANEN	UNT	50°45.56	124°54.60	E lec	una	ESVER
1			22:52	EN			50°45.56	124°54.60	J	×	-
163	105	1	23:22	BE	SET			124°52.09		3	-
164	106	12	13:20	BE	SET			125° 1.59			-
165	107		14:28	BE	SET		50°34.48	124°57.40			-
and the second sec	e next	pa	ge:		RE.		•	019°55.458			-
BOT = Bot CTD = Sta	tle cast (no CTD) ndalone CTD D in Rosette	LOOI MOR NET DRF	P = Sea Water = Mooring = Plankton N = Drifter =	et Haul	US UN DN	Firing Meth = Up / Stop = Up / No st = Down / No	(default) BE = E cop BO = E	Beginning Time of Cast DE Bottom Time of Cast MR	CTD Transmi = Deployment = Messenger F = Recover Moo	Time Release Time	d Fluoro

ID	2023	3-053	2	
Serial Ders	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
aire	Pres	tea) .		SPI BILLING
2				NET actual depth went to 118m and temp & btim 8.5°C
				and temp & bitm
		a.		
	_			
				no plankton
9.9	100) x0.		sample in jar as jar fell and broke, spilling all
				broke, spilling all
				contents
		· · · · · · · · · · · · · · · · · · ·		

oduced by the Water Properties Group, IOS

			TE ST	1.58	ilini		2 T 1 B2	s LeC		1000	3.8								10	0.01	ritivity
Cornel ante	fts.p.	10(85	1000	ISTING 9	grae?(MI ROF	00000464			irfoma				19.81	hava.		9(7)/) (DTL)	Lee 1	P	42	
1									DANES!		- 22	US V		T	1911		1910				
ar: 60										د جنب است. ایرانی		19				1-4		1		11-	1.000
125-12		2	1				1 1		1.0		X				1	150					
-			*	7			-		tre.		1.1		4		Nr.	1 MB	198				
numb tot strain	- 11					248	1-AVD	185	N.	1224	6	1361	12	1.14	12:14	134	101		-		4.4
1							1 7:14	2 10 10 1	4.4	° - 421	37	5 .			- 1	38	18				
10395							J.	1158		USIE		2 .			1	623	21				
	111						1	dir.		and L	LAF.	15 -			1-32		7.			5	20
								della-	Arte	in the second	12	120	132		A Strengt	38		tt I			0
					- 1		1	×2.5	3.		-		1.9								1
	thin the	1		111				112	in the	- 1 I		1.1 0				138	1.1				
		·	1/4 - 14			-	1		100		19	PL.				138		4			
				1.0	2	- C.S.	PAC.	93		5-			Reff	-	Tì	die	186	1-1-1			17
	المعادية المحاد						1 1	8.8				11	1.127		- Torra	00	185	1			4
lat and				-				PP.		°.7\$		21.2	c.e.		1.K	10	11	2		1	4
event 116:	ZM	a× C	ast	Pressy	re	went	to	358	M	and	ten	D	66	HM	was	3.8	3°C	-			1 av
gound a use	지미미			-		1	1	88	12			Ē. 1	GU			08	We .	1.			1
Pri 2	000						4	in c		1.221.19						100	2331				T
							1	010		- (-)	51.5	X			32	38	20			Cul	1414
								611		0.00	der .	1	30		1 112	38	c£.			-11	
	in the	-	•					10.11				1	The Second		1-4		SE :	1	1	· · · · · · · · · · · · · · · · · · ·	
Stuborg Binontin A see 1	on is star	Itue Turter	eservite 1	ort ou la tamo	TOUP	54 55 Normon	of name	PLE TO	12		Solution and		- Carlor	N prici a	Post.	1	Con Water I	1000		151.	0
						0.000				SHOT GIVE								MOR 4		Juny mane	10000

Π.

 \overline{l}

1

N N

٦.

D

Ocean Sciences Division, Institute of Ocean Scie

Month	JULY	LUA	d	Yea	r 20'	23		ssel SIR JOH			
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional	Information Longitude	Bottom Pressure	Max Cast Pressure	
166	107	1	15:21	BE	CTD	bottoe		124°54.852		350	-
136	192	30	15:28	BO	36			124° 54.824		1	
V			15:35	EN			50° 34 368	124° 54.798			
167			15:44	BE	NET		50° 34.351	124° 54 781	641	350	-
_			15:51	BO	1		50° 34. 234	124° 54.790	MART	1	
V	1		15:58	EN				124° 54.803			
168	801		16:15	BE	SET	·		124°56.882			-
169	109		17:08	and the local division of the				124°59.6980			-
170	110		18:17	BE	SET		termine the second s	125° 4.76			
171			20:40	BE	contract of the local division of the			125° 02.04	-		-
172			21:28	BE	CTD			124° 59.93	504	350	_
11		-	21:35					124° 59.93		1	-
1			21:41	ÐN				124°59.94		V	
173			21:47	BE	NET	NHA	A second s	124° 59.89	505	350	
1		-	21:54	BO				124° 59.88	1	1	
1	1		22:01	ON	1			124° 59.87			
194	112	22	22:25	BE	SET	1		124 . 51.9740			in the second se
175	113		13:33		SET			124 . 47.40			
76	114	L	14:36	BE	SE+		the second se	124° 42. 374		_	-
		MOR NET	= Sea Water I = Mooring = Plankton Ne = Drifter =		Bottle Fi US = UN =	ring Metho = Up / Stop = Up / No sta = Down / No	(default) (default) BE = Be BO = BO	ginning Time of Cast DE = ttom Time of Cast MR =	CTD Transmis Deployment Messenger R Recover Moo	Time elease Time	i Fluorometer Produce

ID	707	23-05	and the second s	of
erial rs	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
				windy
				all good CTD paused at surface
		-		on T.
				wind died down
_	-			flowmoter
				flowmeter 53913 7 53939
		1		
	-			.5ft waves, windy
		26 -		
131	fix) vi		10~45° for initial descent
	-			then to ~50.
		×		flowmeter 53939
	_			→ 55027
				Tra

--

0 100

ced by the Water Properties Group, IOS

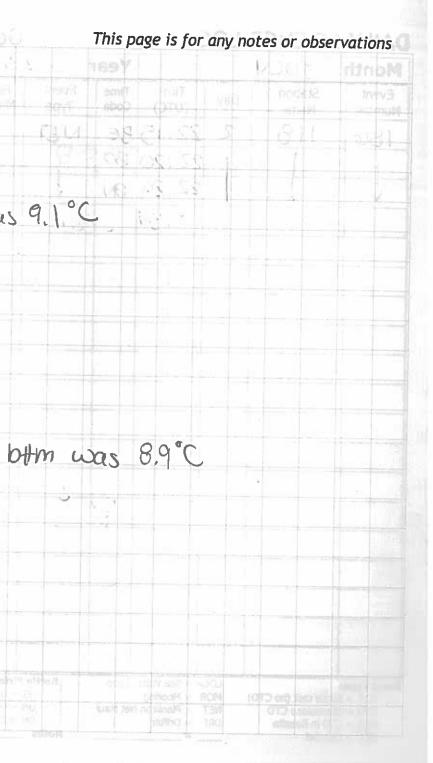
			17. 54	4	R.S.E.	14		NU P	1 1 2 4	Sec.	Asi	Star.		Stel	199				40			1659 ¥				NT		12 11
(convisitie)		agen "		8		6	йн эн	11 53	Cast.	ksM	mail	8		hor		34340	MBON.		Sec.	3,5	Eve	ORT	10	17		noite	1	1-1
Sec. 100 100 100 100 100	010								4.8	25	10.			1 ST		3.5				1	ALL R	1-1	Tok	1		Lene		1
- 61 7		113				t.			12.00		1		1.	5					-				T.F			F.,	1	
3			1								- 1	1	1			- <u>- 1,7,6</u>				- 1	1	191	1					
event	167	M	av	<u> </u>	-	Die	205	(.] .]					355	2		1 1	01.	~ ~	1-11		1		0		1			
even	107		un	Ca	51	Pre	22	unt		S	as		000	JM	and	A F	CM		DH	m	w	as	88	C				
Z Bittane TANA CE	169-									9-19-1. 1	i i		4	÷¢.	14	- 33	-	20	-		1-	0	113	31			-	
1201						1		- 21		ł	V		-	1.50		30-	-	1920-			6	MA	SH:	1				
No. 1					-	-							PC	19,6	14	1.44	11	1.001		1.1	32	1 98	1015:	- 54		2	4	2
2.94.3	See E						-				-		R.F.	-1-	2-	Sec		· 6		-	32	136	102	TI.		0.1		124
- Surday									F	39	F 5	ic i	1	-212		17		* (X3)			1	39	131	15		T.A.I		1
13-6w.p.fr	<u> </u>												1 3					4 7				08	01	811	1 M	1521		
							-						1	ä -							1	140	58	4				
													6.3			12	10			1	31.4	1xage	tik.	t IT				
OT ALL	11.00												-				-			-	2.941	20	11		- Participant			-
1.104 0 3	1			C			51.14	0	1	~	25	-	12.01		1		6	1 1-14	10.0			07	0		1 - T			-1
event	113	M	25 (as	1	163	SUM	-	0	us	30	0	KAS .	and	X	tem	pe		171	uc	9	0.3			++	¥		
6		1											1.5	+C				24		-	20	2	2			11	l	-
						-							1.12	100	15	1 1					30	381	1D31			134	-	ΤĘ
						-							112	C	101	1.0	1	1.150		1	13	3E	11-41 V	14		-		. 8
				-	-		-		-		- Y		19	Ph.		ीद	.J.	1		1	-	00	PQ)	S.S.	1			
Armonic produc		_					-	-			1	in sector	18	10	-0	95	1	5,2				1.17	80	8				
amond hindungty	seu por us	- 30 C 1	Des 10	Ind as	(real)	10.01	a orredo	ionius pi										ibori a (a) a		stite Fin			i Weller L	62 1 147 614 6 18		e Tennes e	ala second	1477
											E04:934		14	4 1.Cas				102		- 121		100.4	sit notice					-

Month	JUL	N		Yea		023		Division, Inst ssel SIR JOH					3- 05?		<u>[7</u> of <u>18</u>
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method		Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
177	114	2	15:19	BE	CTD		50° 09. 825	124°39.487	30	281	-				Sunny, water fat
1	2	1	15:24		1	1	50° 09.817	124°39.493	17		-				geog
	·		15:30	EN	1			124° 39.506			-				1. Y. C. S.
78			the first of a later of the second se	BE	NET	Hd.		124° 39.516		272	HUZZON	EST.	Qx C		* flowmeter side
			15:43	BO	- 1			124 ° 39.525		I	-				* flowmeter side cod end locked like it may have had slight twist in it coming ep
1			(5:48	EN	1	<u>[</u>] []	50° 09.788	124° 39.549	1	1	· -	-			in it coming ap
179	115		16:26	BE	SET		50° 11.56	124° 39.54			1				flowmeter 55027
80	116		17:52	BE	SET	1. 2	the second se	124° 46.902					No.		> 56598
181	LAQ.		18:43	BE	CTD		50° 07.172	124°46.61	367	347	-				allyod
1	11		18:50	BO	1		and the second s	124°46.62		1	4				sunny, water
1			18:57	EN	-			124° 46.62	- Free	21	-				cam
182			19:04	BE	NET		50° 07.18	124°46.63	366	346			4		all good
1 -			19:11	BO	1	1	50° 07. 18	124°46.63	1-1	1	-				floumeter 56598
1			19:17	B		n wat		124 . 46.62		adai	Situzit	9 tz	28 60	the second se	-> 58596
83	117		20:20		SET		50° 0.32	124° 51.57	1						
84	118		21:18	BE	SET		49° 59.24	124° 50.49	1. :	1					4
185	110		21:59	BE	CTD		50°00.62	124°51.91	255	235	-				all good
	84. 1 . 19	2	22:04		为注。		5°00.58		1	1					sun, water calm
1	EH.		22:08	EN	Sit			124°57.90	1	1					

. .

10 A

This page is for any notes or observations Ressel of Mini Mini Cause ID 5 13 80 00 UPN 121 - 121 - 121 and temp @ bttm was 9.1°C 280m > event 178 Max Cast Pressure was -> event 182 Max Cast Pressure was 356m and temp @ bitm was 8.9°C CTU (nervin Lagendra) and Burnlancte to Da Dearces 10100 1 1 100 1010



onth	JULY	4		Year	202	3	N	essel SIR JOHN	J FRAN	CLIN	Cruise ID	20	23-0	53	
vent Imber	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method		al Information	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
86	118	2	22:15	BE	NET	L	50° 00. 5	5 124°51 .92	274	254					came up ~ 10°
1		1	22:20	BO		1		2 124°51.96		1): 			angle
			22:24	EN			50°00.5	124°51 . 98							NET went to 260m
12		Landa	12:2/		2	ZOUP	• .	• • • • •	M2PICS	12652	Siver !!	19.7	603		
			10.43	KO			۰.	D .			- 5				
	13		15	EN		l	•	•	1	1. 14					
111	110	1	18 24	RE	Set		000	• 31.54			-				The state of the
22	1.60		11.59	196	SET	1	۰.	• 46.90	21		-				
21			15-15	38	CD		0	٥.	367	3416	-				
		l. l.	17:00	00			o .	1 10.62			5 V				
			13:17	EN	- 9		۰.		i d		-				
	_		黄色素	36	NE	1 0	0	•	Edela	Builder	1439	Cas	lox l		an it is a second
3				120	1		0				-				
	1. 1.6		13:11	- EN	1		0.	• • • • • • • • • • • • • • • • • • • •	L .	1	- 34	ы	11		
0.5				1.0%	78 T		۰ .	0			-				
			21.12	82	Sec. 1		•	0	44				35		
16.2	32		-i -i	1.00			0	0.	192		-				a supervision of the
		6.05	22:04	50			0	0	1	- t-	-				
-			24.08	CA1	-		0	0		3)	-				1000
CTD = Sta	tle cast (no CTD) ndaione CTD D in Rosette	MOR	P = Sea Water = Mooring = Plankton M = Drifter	LIDEAU	US	Firing Metl = Up / Stop = Up / No s = Down / N	o (default) BE stop BO	= Beginning Time of Cast DI = Bottom Time of Cast M	CTD Transm = Deploymen R = Messenger = Recover Me	it Time Release Time			before each	h cast do	not use Ammonia produc WaterProperties.ca Version: 17 Feb 2020

						2 31	10:13							18	182.91							168	2							p/
	ya:11	1000	τų N	1	eds.	like of		1011.) 571.42	taM m ¹	moti-	12	1	-01			-inflact obt	line.		Terral Study		Ever Ever	and she	5	HAT I	Υß	3	nöd	36	1.	1.1
186	М	ax	Ca	st	Pie	554	ire	C)as	26	2m) ar	d	btt	m	ter	np.	ua											
	21					E.				1 F.		2		0			o			ł					í.,					
1.10																								:						
- 10	hΟ				-				1					Ł																
	ha								/								ö	-		j				N.,						
11	ÌΟ					-											·				<u></u>			1						
	10																							-	1					
1	10																. 2							1						
			3		1					11		1					-				_			1	-					
1.1	μo									_		1%. 		1	-	(-	-		1		14						
1	10										_													1. in	ļ					
	11		-							_			<u>h. 0</u>	0										-						-
11				-							-			-	4	-														Ļ
	10					-						-						++	apasi tran											4
					1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.		1. 		_						-			-			1	1. 1	+-+				5770-3			-
	41_						-				1	-		-	-	-	-			-	-			-	<u>.</u>			-		+
Non of			a will not	hannes	-	-	. Fluer		inort	-	695	-	1		1	me Cac	ar i		(Danie) pro	1	Telli-	1	the star	Wisht	100		1 1		+12	17
	1									100714C			dity in	1 200					2012 \ 01.					Mercent			1	aven lui avoigen		b.

-5