DAILY SCIENCE LOG BOOK

MISSION NUMBER 2013-47 [SOG 2013-07]

DATE: From: 17 SEP 2013 To: 29 SEP 2013

VESSEL: W.E. RICKER

PROJECT(S): STRAIT OF GEORGIA (NEVILLE)

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

WaterProperties.ca

Captain: Al Young | First Officer: Ian Copping

Second Officer: Scott McColl | Third Officer: —

Fishing Master: Les Hand | Chief Engineer: John Gibas

Mission Participants / Agencies:

DFO, UVic

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

1st Leg Scientific Personnel: Chief Scientist: Chris Neville

Name	Watch	Cabin	Name	Watch	Cabin
①&② Carol Cooper			①&② Brian Recalma		
① Lana Fitzpatrick			① Jeff Lemieux		
① Lisa Thompson			①&② Will Shelswell		
② Taylor Nettles			② Stephen Phillips		
② Mary Thiess			② Simon Hertlein		
① Kristi Inman					
② Chelsea					

2nd Leg Scientific Personnel: Chief Scientist: _____

Name	Watch	Cabin	Name	Watch	Cabin

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

Data logging computer: _____

Data acquisition program: _____

CTD deck unit make: n/a model: _____ serial number: _____

Primary CTD

Make: SBE model: 25 serial number: 0404

43-1119
sr 05-4472
29-0573
tc 04-3184
3+ 03-4484

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: pH 18-I s/n: 0852 **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: _____

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: _____ 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): _____

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

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month Sep **Year** 2013 **Vessel** W E Ricker **Cruise ID** PGC-2013-07 / 2013-47

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
001	GS01	18	18:54		CTD		49°24.80N	123°47.49W	110m		-		KL/...	☐☐	after set 3 Target 80m
002	GS01	18	19:05		Bongo		49°24.86N	123°47.49W	110m		-			☐☐	100 target
003	GS02	19	01:30		CTD		49°29.4N	124°01.5W	90m		-			☐☐	after set 8 target 80 m
004	GS02	19	01:39		Bongo		49°29.4	124°01.5	90m		-			☐☐	Target 80m
005	GS03	19	14:53		CTD		49°32.8	124°08.5	342m		-			☐☐	after set 9 target 312m
006	GS03	19	15:12		Bongo		49°32.8	124°08.5	354		-			☐☐	target 250
007	GS04	19	18:15		Bongo		49°37.194	124°12.522	349		-			☐☐	after set 12, before CTD target
008	GS04	19	18:33		CTD		49°37.2N	124°12.5W	349		-			☐☐	after set 13 after bongo target 310m
009	GS05	20	00:42		CTD		49°52.4N	124°36.1W	95		-			☐☐	after set 14 target 75m
010	GS06	20	14:59		CTD		50°06.6	125°06.6	247		-			☐☐	
011	GS07	20	18:30		CTD		50°22.9N	125°04.4W	600		-			☐☐	
012	GS07	20	19:16		Bongo		50°22.9	125°04.4	250		-			☐☐	
013	GS08	21	01:05		CTD		50°09.8N	124°40.9W	705		-			☐☐	target 350
014	GS08	21	01:...		Bongo		50°09.8	124°40.9	702		-			☐☐	target 250
015	GS09	21	15:43		CTD		49°58.5	125°02.9	175		-			☐☐	target 125
016	GS09	21	15:53		Bongo		49°58.5	125°02.9	178		-			☐☐	target 150
017	GS10	21	18:...		CTD		49°53.6N	124°59.7W	240		-			☐☐	target depth 200
018	GS 10	21	19:...		Bongo		49°53.6	124°59.7	215		-			☐☐	target depth 200
019	GS...	22	01:...		CTD		49°51.7N	124°50.5W	210		-			☐☐	target depth 150

Event Type:
BOT = Bottle cast (no CTD)
CTD = Standalone CTD
ROS = CTD in Rosette
SET = Fish Set
LOOP = Sea Water Loop
MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter
____ = _____

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

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

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

Notes: _____

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 14 February 2013

SEP 18-23: Lat/lon obtained from ship's log where available
Bongos 002, 004, 006 was reversed (flow meter side preserved non sieved.

#2 - issues w/ counter - cancelled.

GS02: No bongo lat/lon recorded ⇒ used CTD lat/lon

GS03: No bongo or CTD lat/lon recorded ⇒ used very approximate lat/lon on chart.

GS04: No bongo lat/lon recorded

GS06: No CTD lat/lon recorded ⇒ used very approx. lat/lon from charted ship's position

GS07: No bongo lat/lon recorded ⇒ used CTD lat/lon from ship's log

GS08: No bongo lat/lon recorded ⇒ used CTD lat/lon from ship's log

GS09: No CTD or bongo lat/lon recorded ⇒ used very approx. lat/lon from charted ship's position

GS10: No bongo lat/lon recorded ⇒ used CTD lat/lon from ship's log

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month Sep **Year** [illegible] **Vessel** W E Ricker **Cruise ID** 2013-4 (SCG-2013-07)

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
020	GS1	22	01:17		Bongo		49°51.7	124°50.5	210		-			☐☐	target depth 200
021	GS1	22	14:[illegible]		CTD		49°[illegible].9	124°[illegible]2.9	131		-			☐☐	target depth 120
022	GS1	22	15:[illegible]		Bongo		49°50.0	124°43.3	149		-			☐☐	target depth 120
023	GS1	23	00:[illegible]		Bongo		49°34.3	124°39.5	185	—	-			☐☐	target depth 100
024	GS1	23	00:[illegible]				49°34.3N	124°39.5W	182		-			☐☐	target depth 110
025	GS14	23	14:55		CTD		49°06.7	123°32.7	277		-			☐☐	target depth 260
026	GS14	23	15:06		Bongo		49°06.8	123°33.1	241		-			☐☐	target depth 230
027	GS15	23	18:52		CTD		49°12.4N	123°18.9W	135		-			☐☐	target depth 120
		23	18:59		Bongo		49°12.4	123°18.9	135		-			☐☐	target depth 120
END OF DAY			:				° .	° .			-			☐☐	
029	GS16	24	14:58	BE	CTD		49°41.238	124°35.524	220		-	—	WT/G	☐☐	target depth 210m
			15:0[illegible]	BO			° .	° .			-			☐☐	
			15:08	EN			° .	° .			-			☐☐	
			:				° .	° .			-			☐☐	
030	↓		15:13	BE	NET		49°41.352	124°35.690	204		-			☐☐	target [illegible]
			:				° .	° .			-			☐☐	
			:				° .	° .			-			☐☐	
			:				° .	° .			-			☐☐	
			:				° .	° .			-			☐☐	

Event Type:
BOT = Bottle cast (no CTD)
CTD = Standalone CTD
ROS = CTD in Rosette
SET = Fish Set
LOOP = Sea Water Loop
MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter
____ = _____

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

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

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

Notes: _____

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 14 February 2013

This page is for any notes or observations

GS11: No bongo lat/lon recorded ⇒ used CTD lat/lon from ship's log

GS12: No CTD/bongo lat/lon recorded. ⇒ used very approximate lat/lon from charted ship's position

GS13: No bongo lat/lon recorded ⇒ used CTD lat/lon from ship's log

GS14: No CTD/bongo lat/lon recorded ⇒ used very approximate lat/lon from charted ship's position

GS15: No bongo lat/lon recorded ⇒ used CTD lat/lon from ship's log

GS16 → onwards: Lat/lon recorded by handheld GPS, ship's log used as backup when needed

GS16: CTD not switched on; pH buffer vial not removed. ⇒ NO DATA RECORDED.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month SEP | **Year** 2013 | **Vessel** W.E RICKER | **Cruise ID** 2013-47 (SOG-2013-07)

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
031	GS17	24	18:32	BE	CTD		49°31.6N	124°23.1W	310		-		MT/SL	☐☐	target depth 250m
			18:	BO			° .	° .			-			☐☐	
			18:	EN			° .	° .			-			☐☐	
			:				° .	° .			-			☐☐	
032	↓		:	BE	NET		49°34.60	124°22.006	321		-			☐☐	target depth 250m
			:				° .	° .			-			☐☐	
033	GS18	25	01:20	BE	CTD		49°23.2N	124°27.9W	90		-		MT/SL	☐☐	TD 90m
			:	BO			° .	° .			-			☐☐	
			:	EN			° .	° .			-			☐☐	
			:				° .	° .			-			☐☐	
034	↓		:	BE	NET		49°23.235	124°27.847	90		-			☐☐	target depth 80m
END OF DAY			:				° .	° .			-			☐☐	
035	GS19	25	14:57	BE	CTD		49°24.477	124°22.353	334		-		MT	☐☐	TD 250m
			15:00	BO			49°24.515	124°22.359			-			☐☐	
			15:05	EN			49°24.56	124°22.392			-			☐☐	
			:				° .	° .			-			☐☐	
036	↓		15:09	BE	NET		49°24.60	124°22.45	321		-			☐☐	TD 250m
			:				° .	° .			-			☐☐	
			:				° .	° .			-			☐☐	

Event Type:
BOT = Bottle cast (no CTD)
CTD = Standalone CTD
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DRF = Drifter
____ = _____

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

Time Code:
BE = Beginning Time of Cast
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MR = Messenger Release Time
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CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products

Notes: _____

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 14 February 2013

GS17
- Wait 90 seconds, down to 10m back to surface, wait 10seconds, start cast
- bongo before CTD, consecutive number not changed

CTD switch left or after cast??

GS18: bongo before CTD, consecutive number not changed

After GS18:
All casts downloaded at end of day. vmain = 10.1 ⇒ batteries changed.
With new batteries, vmain = 13.5

GS19: TD = target depth

GS17
- Wait 90 seconds, down to 10m back up surface, wait 10seconds, start cast
- bongo before CTD, consecutive numbers not changed

CTD switch left on after cast??

GS18: bongo before CTD, consecutive numbers not changed

After GS18:
All casts downloaded at end of day. vmain = 10.1 ⇒ batteries changed
With new batteries, vmain = 13.5

GS19: TD = target depth

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month SEPTEMBER **Year** 2013 **Vessel** W.E. RICKER **Cruise ID** 2013-47 [SGC-2013-07]

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
037	GS20	25	18:47	BE	CTD		49° 18.640	124° 09.062	243		-		MT/SH	☐☐	
			18:51	BO			49° 18.544	124° 09.049			-			☐☐	TD 230m
			18:54	EN			49° 18.540	124° 09.074			-			☐☐	
			:				° .	° .			-			☐☐	
038			19:01	BE	NET		49° 19.532	124° 09.066	243		-			☐☐	TL 230m
			:				° .	° .			-			☐☐	
039	GS21	25	21:55	BE	CTD		° .	° .	355		-		MT/SH	☐☐	
			21:59	BO			49° 15.857	123° 52.640			-			☐☐	TD 250m
			22:03	EN			49° 15.857	123° 52.633			-			☐☐	
			:				° .	° .			-			☐☐	
040			22:06	BE	NET		49° 15.833	123° 52.622	355		-			☐☐	TD 250m
END OF DAY			:				° .	° .			-			☐☐	
			:				° .	° .			-			☐☐	
041	GS22	26	14:55	BE	CTD		49° 03.459	123° 17.989	71		-		MT/SH	☐☐	TD 65m
			14:57	BO			49° 03.468	123° 17.985			-			☐☐	
			14:58	EN			49° 03.485	123° 17.985			-			☐☐	
			:				° .	° .			-			☐☐	
042			15:01	BE	NET		49° 03.512	123° 17.998	74		-			☐☐	TD 64m
			:				° .	° .			-			☐☐	

Event Type:
BOT = Bottle cast (no CTD)
CTD = Standalone CTD
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SET = Fish Set
LOOP = Sea Water Loop
MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter
____ = _____

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

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

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

Notes: _____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month SEPTEMBER **Year** 2013 **Vessel** W E RICKER **Cruise ID** 2013-47 [SOG-2013-07]

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
043	GS23	26	18:39	BE	CTD		49°02.6	[illegible]	118		-	—		☐☐	TD 108m
			18:41	BO			[illegible]	[illegible]			-			☐☐	
			18:43	EN			49°02.624	123°35.156			-			☐☐	
			:				° .	° .			-			☐☐	
044	↓		15:27	BE	NET		49°02.553	123°34.942	117		-			☐☐	TD 105m
			:				° .	° .			-			☐☐	
			:				° .	° .			-			☐☐	
045	GS24	26	22:46	BE	CTD		48°50.752	123°11.331	170		-	—		☐☐	TD 160m
			22:50	BO			48°50.721	123°11.290			-			☐☐	
			23:53	EN			48°50.698	123°11.270			-			☐☐	
			:				° .	° .			-			☐☐	
046	↓		23:57	BE	NET		48°50.642	123°11.265	160		-			☐☐	TD 150m
END OF DAY			:				° .	° .			-			☐☐	
			:				° .	° .			-			☐☐	
047	GS25	27	14:52	BE	CTD		48°54.395	[illegible]	124		-	—		☐☐	TD 114m
			14:54	BO			48°54.401	123°10.868			-			☐☐	
			14:56	EN			48°54.411	123°10.821			-			☐☐	
			:				° .	° .			-			☐☐	
048	↓		15:00	BE	NET		48°[illegible]	° .878			-			☐☐	

Event Type:
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CTD = Standalone CTD
ROS = CTD in Rosette
SET = Fish Set
LOOP = Sea Water Loop
MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter
____ = _____

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

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

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

Notes: _____

This page is for any notes or observations

GS23: Bongo first, then [Ctrl] + consecutive numbers not cleared

Data uploaded after GS24. Vmain = 129

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month SEPTEMBER | **Year** 2013 | **Vessel** W.E. RICKER | **Cruise ID** 2013-47 [SOG-2013-077]

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
049	GS26	27	17:59	BE	CTD		48°49.195	123°08.057	120		-			☐☐	TD 110
	↓		18:01	BO			48°49.194	123°08.049			-			☐☐	
			18:08	EN			48°49.197	123°08.051			-			☐☐	
			:				° .	° .			-			☐☐	
050	↓		18:06	EN	NET		48°49.211	123°08.067	115		-			☐☐	TD 100m
			:				° .	° .			-			☐☐	
			:				° .	° .			-			☐☐	
051	GS27	27	23:28	BE	CTD		48°43.830	123°33.666	50		-			☐☐	TD 40m
	↓		23:30	BO			48°43.801	123°33.661			-			☐☐	
			23:30	EN			48°43.815	123°33.659			-			☐☐	
			:				° .	° .			-			☐☐	
052	↓	27	23:35	EN	NET		48°43.811	123°33.627	50		-			☐☐	TD 40m
= END OF DAY			:				° .	° .			-			☐☐	
053	GS28	28	14:50	BE	CTD		49°23.516	123°18.261	232		-			☐☐	TD 220m
			14:52	BO			49°23.502	123°18.261			-			☐☐	
			14:57	EN			49°23.460	123°18.255			-			☐☐	
			:				° .	° .			-			☐☐	
054	↓		14:59	BE	NET		49°23.445	123°18.258	232		-			☐☐	TD 220m
			:				° .	° .			-			☐☐	

Event Type:
BOT = Bottle cast (no CTD)
CTD = Standalone CTD
ROS = CTD in Rosette
SET = Fish Set
LOOP = Sea Water Loop
MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter
____ = _____

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

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

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

Notes: _____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month SEPTEMBER **Year** 2013 **Vessel** W.E. RICKER **Cruise ID** 2013-[illegible]

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
055	GS29	28	19:08	BE	CTD		49°40.329	123° 11.848	135		-			☐☐	TD 125
			19:10	BO			49°40.327	123° 11.845			-			☐☐	
			19:12	EN			49°40.351	123° 11.824			-			☐☐	
			:				° .	° .			-			☐☐	
056	↓		:	BE	NET		° .	° .			-			☐☐	
			:				° .	° .			-			☐☐	
057	GS30	29	01:21	BE	CTD		49°25.294	123°21.154	242		-			☐☐	TD: 230m
			01:25	BO			49°25.305	123°21.150			-			☐☐	
			01:29	EN			— ° — . —	— ° — . —			-			☐☐	
			:				° .	° .			-			☐☐	
058	↓		:34	BE	NET		49°25.3	123° [illegible]	234		-			☐☐	TD: 220m
[illegible]	[illegible]		:				° .	° .			-			☐☐	
059	GS31	29	14:59	BE	CTD		[illegible]	[illegible]	[illegible]		-			☐☐	[illegible]
			15:01	BO			49° [illegible]	123° [illegible]			-			☐☐	
			15:04	EN			49° - . -	123° 59.1			-			☐☐	
			:				° .	° .			-			☐☐	
060	↓		15:07	BE	NET		49°21.768	123° [illegible]	262		-			☐☐	TD: 195m
			:				° .	° .			-			☐☐	
			:				° .	° .			-			☐☐	

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DRF = Drifter
____ = _____

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

Time Code:
BE = Beginning Time of Cast
BO = Bottom Time of Cast
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CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products

Notes: _____

This page is for any notes or observations

St 20: Handheld GPS batteries died before end of CTD cast. Used lat/lon read out from the bridge for the longer portion.

Casts from 27-28 SEP uploaded after St 30. [Vmain = 12.7 → 12.5] after uploading

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month SEPTEMBER **Year** [illegible] **Vessel** [illegible] **Cruise ID** 2013-47 CSOA-2013-01

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
061	GS32	29	20:48	DE	CTD		49° 17.019	123° 54.410	412		-			☐☐	TD: 250m
			20:53	BO			49° 17.031	123° 54.364			-			☐☐	
			20:58	EN			49° 17.022	123° 54.350			-			☐☐	
			:				° .	° .			-			☐☐	
062	↓		:	BE	NET		° .	° .			-			☐☐	
END OF LEG 2			:				° .	° .			-			☐☐	
063	GS33	30	16:27	BE	CTD		48° 57.722	123° 55.604	72		-			☐☐	TD 70m
	↓		16:28	BO			° .	° .			-			☐☐	
	↓		:	EN			° .	° .			-			☐☐	
			:				° .	° .			-			☐☐	
064	[illegible]	30	18:57	BE	CTD		48° 50.477	123° 21.500	66		-			☐☐	TD: 50m
			18:58	BO			° .	° .			-			☐☐	
			18:59	EN			[illegible]° [illegible]	° .			-			☐☐	
			:				° .	° .			-			☐☐	
065	GS 35	30	01:46	BE	CTD		48° 43.255	123° [illegible]	64		-			☐☐	TD: 55m
			01:57	BO			48° 43.[illegible]	123° 31.308			-			☐☐	
			[illegible]	EN			48° 43.256	[illegible]			-			☐☐	
			:				° .	° .			-			☐☐	
			:				° .	° .			-			☐☐	

Event Type:
BOT = Bottle cast (no CTD)
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DRF = Drifter
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US = Up / Stop (default)
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DN = Down / No stop

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

Notes: _____

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 14 February 2013

This page is for any notes or observations

↗ Stopped to adjust wire spool on upcast 3 at depth.

GS32: Casts uploaded after end of this stn. Science crew change. New batteries installed for leg 3. (4 day old batteries left as spares.) ⇒ Vmain = 13.4

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2013 **Vessel** WE RICKER **Cruise ID** 2013-47 [SOI-2013-007]

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
066	GS 36	01	15:33	BE	CTD		48° 41.766	123° 30.011	68m		-			☐☐	TD: 55m
			15:34	BO			48° 41.755	123° 30.037			-			☐☐	
			15:35	EN			48° 41.745	123° 30.043			-			☐☐	
			:				° .	° .			-			☐☐	
067	GS 37	01	18:26	BE	CTD		48° 42.650	123° 28.443	73m		-			☐☐	TD: 69m
			18:27	BO			48° 42.652	123° 28.439			-			☐☐	
			18:28	EN			— ° . —	— ° . —			-			☐☐	
			:				° .	° .			-			☐☐	
068	GS 38	01	0:54	BE	CTD		48° 41.192	123° 18.017	128m	* battery issue.	—	—		☐☐	TD: 115m
			0:57	BO			48° 44.754	122° 17.958			-			☐☐	*
			1:01	EN			48° 44.775	123° 17.836			-			☐☐	
			:				° .	° .			-			☐☐	
069	JF 01	02	14:51	BE	CTD		48° 23.870	124° 37.542	87		-			☐☐	TD: 73m
			14:56	BO			48° 23.847	124° 37.564			-			☐☐	
			14:57	EN			48° 23.820	124° 37.589			-			☐☐	
			:				° .	° .			-			☐☐	
070	JF 02	02	17:50	BE	CTD		48° 15.604	124° 08.462	164		-			☐☐	TD: 155m
			17:53	BO			48° 15.589	124° 08.371			-			☐☐	
			17:55	EN			48° 15.56	124° 08.3			-			☐☐	

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

Notes: _____

This page is for any notes or observations

→ Unit left on since last cast. Appears to not have power. Batteries replaced again!

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2013 **Vessel** [illegible] **Cruise ID** [illegible] PSO6 2013-07

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
071	PS01	02	14:42	BE	CTD		47° 32.395	122° 25.000	182m		-			☐☐	TD: 170m
			14:45	BO			47° 32.367	122° 25.031			-			☐☐	
			14:48	EN			47° 32.410	122° 25.056			-			☐☐	
			:				° .	° .			-			☐☐	
072	PS02	03	18:24	BE	CTD		47° 21.398	122° 25.931	168m		-			☐☐	TD: 155m
			18:26	BO			47° 21.403	122° 25.919			-			☐☐	
			18:29	EN			47° 21.404	122° 25.918'			-			☐☐	
			:				° .	° .			-			☐☐	
073	PS03	03	22:51	BE	CTD		47° 26.911	122° 31.499	106m		-			☐☐	TD: 095 m
			22:53	BO			47° 26.912	122° 31.488			-			☐☐	
			22:55	EN			47° 26.913	122° 31.486			-			☐☐	
			:				° .	° .			-			☐☐	
074	PS04	04	14:48	BE	CTD		47° 16.030	122° 51.162	51m		-			☐☐	TD: 40 m
			14:48	BO			47° 16.041	122° 51.156			-			☐☐	
			14:49	EN			47° 16.041	122° 51.155			-			☐☐	
			:				° .	° .			-			☐☐	
075	PS05	04	18:31	BE	CTD		47° 10.140	122° 39.380	133m		-			☐☐	TD: 125 m
			18:33	BO			47° 10.159	122° 39.364			-			☐☐	
			18:35	EN			47° 10.182	122° 39.353			-			☐☐	

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

Notes: _____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month October **Year** 2013 **Vessel** W.E. RICKER **Cruise ID** 20[illegible] 2013-07

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
076	PS06	04	23:31	BE	CTD		47° 13.731	122° 38.972	123m		-			☐☐	TD: 115m
			23:33	BO			47° 13.733	122° 38.969			-			☐☐	
			23:35	EN			47° 13.736	122° 38.972			-			☐☐	
			:				° .	° .			-			☐☐	
077	PS07	05	14:45	BE	CTD		48° 11.284	122° 33.784	80m		-			☐☐	TD: 70m
			14:46	BO			48° 11.262	122° 33.768			-			☐☐	
			14:47	EN			48° 11.252	122° 33.756			-			☐☐	
			:				° .	° .			-			☐☐	
078	PS08	05	18:24	BE	CTD		48° 04.012	122° 25.223	110m		-			☐☐	TD: 100m
			18:25	BO			48° 04.008	122° 25.226			-			☐☐	
			18:27	EN			48° 04.000	122° 25.210			-			☐☐	
			:				° .	° .			-			☐☐	
079	PS09	06	23:51	BE	CTD		47° 53.724	122° 21.[illegible]	[illegible]m		-			☐☐	TD: 105m
			23:55	BO			47° 53.718	122° 21.719			-			☐☐	
			[illegible]:57	EN			47° 53.715	122° [illegible].720			-			☐☐	
			:				° .	° .			-			☐☐	
080	PS10	06	[illegible]:44	BE	CTD		47° 43.[illegible]	122° [illegible].[illegible]	209		-			☐☐	TD: [illegible]
			14:47	BO			47° 25.[illegible]	122° 25.937			-			☐☐	
			14:50	EN			47° 43.[illegible]	[illegible]° [illegible]			-			☐☐	

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Notes: _____

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 14 February 2013

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month October **Year** [illegible] **Vessel** [illegible] **Cruise ID** 2013-47 [SOG 20[illegible]

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
081	PS 11	05	18:37	BE	CTD		47° 57.[illegible]	122° 36.0[illegible]	~~84~~ 83		-			☐ ☐	[illegible]
			18:38	BO			47° 57.750	122° 36.064			-			☐ ☐	
			18:39	EN			47° 57.771	122° 36.072			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
082	PS 12	05	20:40	BE	CTD		48° 04.357	122° 37.790	156m		-			☐ ☐	[illegible]
			20:42	BO			48° 04.326	122° 37.795			-			☐ ☐	
			20:46	EN			48° 04.262	122° 37.779			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
→ * END OF LEG *			:				° .	° .			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
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			:				° .	° .			-			☐ ☐	

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