

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

Al Young

Tan Copping

Scott McCall

John Gibas

Mission Participants / Aq

ΔF_0 , wic

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

Chrys Neville

Name

Watch Cabin

Watch Cabin

①② Brian Recalma

① Jeff Lemieux

①② Will go/surely

② Stephen Phillips

② Cinab. Nephelios

WORTH YOUR

② Chiles

Chief Scientist:

Name _____

Watch Cabin

Watch Cabin

100

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

These pages are to be completed by the CTD Technician setting up the equipment, the Watch Leader on board, and the Chief Scientist **MUST** verify that all relevant sections are completed **prior to leaving the vessel.** *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

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

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Month <u>SEP</u>				Year <u>2013</u>		Vessel <u>WE RICKET</u>				Cruise ID <u>2013-47 (SOG-2013-07)</u>					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
							Latitude	Longitude							
020	GS11	22	01:17		Bongo		49°51.7	124°50.5	210		-			☐ ☐	target depth 190
021	GS12	22	14:59		CTD		49°49.9	124°42.9	131		-			☐ ☐	target depth 120
022	GS12	22	15:06		Bongo		49°50.0	124°43.3	140		-			☐ ☐	target depth 120
023	GS13	23	00:14		Bongo		49°34.3	124°39.5	125		-			☐ ☐	target depth 100
024	GS13	23	00:28		CTD		49°34.3 N	124°39.5 W	130		-			☐ ☐	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°12.4 N	123°18.9 W	135		-			☐ ☐	target depth 120
028	GS15	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		-		MT/ST	☐ ☐	target depth 210m
			15:00	BO			°	°			-			☐ ☐	
			15:08	EN			°	°			-			☐ ☐	
			:				°	°			-			☐ ☐	
030	V		15:13	BE	NET		49°41.352	124°35.690	204		-			☐ ☐	target depth 195m
			:				°	°			-			☐ ☐	
			:				°	°			-			☐ ☐	
			:				°	°			-			☐ ☐	
			:				°	°			-			☐ ☐	

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

Notes:

Time Code:

BE = Beginning Time of Cast
 BO = Bottom Time of Cast
 EN = End Time of Cast

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

DE = Deployment Time
 MR = Messenger Release Time
 RE = Recover Mooring Time

Produced by the Water Properties Group, IOS

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GS11: No bongo lat/lon recorded. $\Rightarrow$ used CTD lat/lon from ship's log

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

GS13: No bongo lat/lon recorded $\Rightarrow$ used CTD lat/lon from ship's log

GS14: No CTD/bongo lat/lon recorded. $\Rightarrow$ used very approximate lat/lon from charted ship's position

GS15: No bongo lat/lon recorded. $\Rightarrow$ used CTD lat/lon from ship's log

GS16 $\rightarrow$ 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. $\Rightarrow$ NO CAST RECORDED

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Month <u>Sep</u>				Year <u>2013</u>		Vessel <u>WE Ricker</u>				Cruise ID <u>2013-077 / 2013-47</u>					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
001	GS01	18	18:54		CTD		49°24.86N	123°47.49W	110m		-		KI/LE	☐ ☐	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 60m
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 12, after Bongo target 310m
009	GS05	20	00:42		CTD		49°52.4N	124°36.1W	95		-			☐ ☐	after set 19 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		-			☐ ☐	after set 26 target 350
014	GS08	21	01:27		Bongo		50°09.8	124°40.9	700		-			☐ ☐	target 250
015	GS09	21	15:43		CTD		49°58.5	125°02.9	175		-			☐ ☐	target 155
016	GS09	21	15:53		Bongo		49°58.5	125°02.9	178		-			☐ ☐	target 150
017	GS10	21	18:5		CTD		49°53.6N	124°59.7W	240		-			☐ ☐	target depth 220
018	GS10	21	19:08		Bongo		49°53.6	124°59.7	215		-			☐ ☐	target depth 200
019	GS11	22	01:06		CTD		49°51.7N	124°50.5W	210		-			☐ ☐	target depth 190

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

Notes:

Time Code:

BE = Beginning Time of Cast
BO = Bottom Time of Cast
EN = End Time of Cast

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

DE = Deployment Time
MR = Messenger Release Time
RE = Recover Mooring Time

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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 $\Rightarrow$ used CTD lat/lon

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

GS04: No bongo lat/lon recorded

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

GS07: No bongo lat/lon recorded $\Rightarrow$ used CTD lat/lon from ship's log

GS08: No bongo lat/lon recorded $\Rightarrow$ used CTD lat/lon from ship's log

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

GS10: No bongo lat/lon recorded $\Rightarrow$ used CTD lat/lon from ship's log

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Month <u>SEP</u>				Year <u>2013</u>			Vessel <u>WE RICKER</u>			Cruise ID <u>2013-47 (SOG-2013-07)</u>					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
031	GS17	24	18:32	BE	CTD		49° 34.6 N	124° 23.1 W	310		-		MT/SH	☐ ☐	target depth 250m
			18:	BO			° .	° .			-			☐ ☐	
			18:	EN			° .	° .			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
032	↓		:	BE	NET		49° 34.600	124° 23.556	321		-			☐ ☐	target depth 250m
			:				° .	° .			-			☐ ☐	
033	GS18	25	01:20	BE	CTD		49° 23.2 N	124° 27.9 W	90		-		MT/SH	☐ ☐	target depth 250m
			:	BO			° .	° .			-			☐ ☐	
			:	EN			° .	° .			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
034	↓		:	BE	NET		49° 23.235	124° 27.847	90		-			☐ ☐	target depth 250m
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° 22.389			-			☐ ☐	
			15:05	EN			49° 24.565	124° 22.392			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
036	↓		15:09	BE	NET		49° 24.601	124° 22.435	341		-			☐ ☐	TD 250m
			:				° .	° .			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

Event Type:

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Notes:

Time Code:

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GS17

- wait 90 seconds, down to 10m back to surface, wait 10 seconds, 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. $v_{main} = 10.1 \Rightarrow$ batteries changed.

With new batteries, $v_{main} = 13.5$

GS19: TD $\equiv$ target depth

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Month <u>SEPTEMBER</u>			Year <u>2013</u>			Vessel <u>W.E. RICKER</u>			Cruise ID <u>2013-47 [506-2013-07]</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
037	GS20	25	18:47	BE	CTD		49° 19.542	124° 09.062	243		-		MT/SH	☐ ☐	
			18:51	BO			49° 19.544	124° 09.049			-			☐ ☐	TD 280m
			18:56	EN			49° 19.542	124° 09.074			-			☐ ☐	
			:				°	°			-			☐ ☐	
038	↓		19:01	BE	NET		49° 19.532	124° 09.066	243		-			☐ ☐	TD 230m
			:				°	°			-			☐ ☐	
039	GS21	25	21:55	BE	CTD		°	°	355		-		MT/SH	☐ ☐	
			21:59	BO			49° 15.837	123° 52.640			-			☐ ☐	TD 250m
			22:03	EN			49° 15.852	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	77		-		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:

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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

Notes:

Time Code:

BE = Beginning Time of Cast
BO = Bottom Time of Cast
EN = End Time of Cast

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

DE = Deployment Time
MR = Messenger Release Time
RE = Recover Mooring Time

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Month <u>SEPTEMBER</u>			Year <u>2013</u>			Vessel <u>WE RICKER</u>			Cruise ID <u>2013-47</u> [<u>50G-2013-07</u>]						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
043	GS23	26	18:39	BE	CTD		49°02.615	123°35.105	118		-	-		☐ ☐	TD 108m
			18:41	BO			49°02.621	123°35.145			-			☐ ☐	
			18:43	EN			49°02.624	123°35.156			-			☐ ☐	
			:				°	°			-			☐ ☐	
044	↓		18:27	BE	NET		49°02.553	123°34.948	117		-			☐ ☐	TD 105m
			:				°	°			-			☐ ☐	
			:				°	°			-			☐ ☐	
045	GS24	26	23:46	BE	CTD		48°50.752	123°11.331	170		-	-		☐ ☐	TD 160m
			23:50	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
			:				°	°			-			☐ ☐	
			:				°	°			-			☐ ☐	
047	GS25	27	14:52	BE	CTD		48°54.395	123°10.275	124		-	-		☐ ☐	TD 114m
			14:54	BO			48°54.401	123°10.868			-			☐ ☐	
			14:56	EN			48°54.411	123°10.861			-			☐ ☐	
			:				°	°			-			☐ ☐	
048	↓		15:00	BE	NET		48°54.229	123°10.878			-			☐ ☐	

Event Type:

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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

Notes:

Time Code:

BE = Beginning Time of Cast
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EN = End Time of Cast

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

DE = Deployment Time
MR = Messenger Release Time
RE = Recover Mooring Time

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GS23: Bongo first, then CTN + consecutive numbers not changed.

Data uploaded after GS24. $v_{\text{main}} = 12.9$

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Month <u>SEPTEMBER</u>			Year <u>2013</u>			Vessel <u>W.E. RICKER</u>			Cruise ID <u>2013-47 [SOG-2013-07]</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
							Latitude	Longitude							
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			-			☐ ☐	
			18:03	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°43.821	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		-			☐ ☐	Tb 220m
			14:53	BO			49°23.502	123°18.261			-			☐ ☐	
			14:57	EN			49°23.460	123°18.256			-			☐ ☐	
			:				°	°			-			☐ ☐	
054	↓		14:59	BE	NET		49°23.415	123°18.258	232		-			☐ ☐	TD 220m
			:				°	°			-			☐ ☐	

Event Type:

BOT = Bottle cast (no CTD)
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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

Notes:

Time Code:

BE = Beginning Time of Cast
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EN = End Time of Cast

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

DE = Deployment Time
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RE = Recover Mooring Time

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Month <u>SEPTEMBER</u>				Year <u>2013</u>		Vessel <u>WERICKER</u>				Cruise ID <u>2013-47 [SOG-2013-07]</u>					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI 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°11.848			-			☐ ☐	
			19:12	EN			49°40.331	123°11.846			-			☐ ☐	
			:				°	°			-			☐ ☐	
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	↓		11:34	BE	NET		49°25.3	123°21.0	234		-			☐ ☐	TD: 220m
= END OF DAY			:				°	°			-			☐ ☐	
059	GS31	29	14:59	BE	CTD		49°26.75	123°59.0	201		-			☐ ☐	TD: 195m
			15:01	BO			49°26.7	123°59.0			-			☐ ☐	
			15:04	EN			49°	123°59.1			-			☐ ☐	
			:				°	°			-			☐ ☐	
060	↓		15:07	BE	NET		49°26.768	123°58.951	202		-			☐ ☐	TD: 195m
			:				°	°			-			☐ ☐	
			:				°	°			-			☐ ☐	

Event Type:

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 SET = Fish Set

LOOP = Sea Water Loop

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 DRF = Drifter
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Bottle Firing Method:

US = Up / Stop (default)
 UN = Up / No stop
 DN = Down / No stop

Notes:

Time Code:

BE = Beginning Time of Cast
 BO = Bottom Time of Cast
 EN = End Time of Cast

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

DE = Deployment Time
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GS30: Handheld GPS batteries died before end of CTB cast. Used lat/lon read out from the bridge for the bongo position.

Casts from 27-28 SEP uploaded after GS30. $v_{\text{max}} = 12.7 \rightarrow 12.5$ at end of uploading.

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Month			Year			Vessel			Cruise ID							Page		of	
SEPTEMBER			2013			NETTIE			2013-47 [506-2013-07]							8		of	
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments				
							Latitude	Longitude											
061	GS32	29	20:48	BE	CTD		49° 17.019	123° 54.410	412		-			☐ ☐	TD: 250m				
	↓		20:53	BO			49° 17.031	123° 54.364			-			☐ ☐					
			20:58	EN			49° 17.033	123° 54.350			-			☐ ☐					
			:				°	°			-			☐ ☐					
062	↓		:	BE	NET		°	°			-			☐ ☐					
END OF LEG 2			:				°	°			-			☐ ☐					
063	GS33	30	16:27	BE	CTD		48° 57.722	123° 53.604	72		-			☐ ☐	TD: 50m				
	↓		16:28	BO			°	°			-			☐ ☐					
	↓		16:29	EN			°	°			-			☐ ☐					
			:				°	°			-			☐ ☐					
064	GS34	30	18:57	BE	CTD		48° 50.477	123° 21.500	66		-			☐ ☐	TD: 50m				
			18:58	BO			°	°			-			☐ ☐					
			18:59	EN			last GPS coord	°			-			☐ ☐					
			:				°	°			-			☐ ☐					
065	GS 35	30	01:56	BE	CTD		48° 43.258	123° 31.314	64		-			☐ ☐	TD: 55m				
			01:57	BO			48° 43.259	123° 31.308			-			☐ ☐					
			01:59	EN			48° 43.256	123° 31.296			-			☐ ☐					
			:				°	°			-			☐ ☐					
			:				°	°			-			☐ ☐					
Event Type: LOOP = Sea Water Loop Firing Method: Time Code: Max Pressure: Sample Serial Numbers: # of Bottles: Watch Keepers: Trns/Fl Cleaned: Comments:																			

Event Type:

BOT = Bottle cast (no CTD)
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ROS = CTD in Rosette
SET = Fish Set

LOOP = Sea Water Loop
MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter
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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

CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products
DE = Deployment Time
MR = Messenger Release Time
RE = Recover Mooring Time

Notes:

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→ Stopped to adjust wire spooler on downcast & at depth.

GS32: Casts uploaded after end of this str. Science crew change. New batteries installed for leg 3 (4 day old batteries left as spares) $\Rightarrow$ $V_{main} = 13.4$

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Month <u>OCTOBER</u>			Year <u>2013</u>			Vessel <u>WE RICKER</u>			Cruise ID <u>2013-47</u> [<u>506-2013-07</u>]						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
066	GS 36	01	15:33	EE	CTD		48° 41.766	123° 30.011	68m		-			☐ ☐	TD: 55m
			15:34	BO			48° 41.755	123° 30.027			-			☐ ☐	
			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: 65m
			18:27	BO			48° 42.652	123° 28.439			-			☐ ☐	
			18:28	EN			°	°			-			☐ ☐	
			:				°	°			-			☐ ☐	
068	GS 38	01	0:54	BE	CTD		48° 44.792	123° 18.047	128m	* battery issue	-			☐ ☐	TD: 115m
			0:57	BO			48° 44.754	123° 17.958			-			☐ ☐	* very long slow
			1:01	EN			118° 24.715	123° 17.856			-			☐ ☐	all
			:				°	°			-			☐ ☐	
069	JF 01	02	14:55	BE	CTD		48° 23.840	124° 34.542	87		-			☐ ☐	TD: 75m
			14:56	BO			48° 23.847	124° 34.564			-			☐ ☐	
			14:57	EN			48° 23.949	124° 34.589			-			☐ ☐	
			:				°	°			-			☐ ☐	
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° 15.566	124° 08.312			-			☐ ☐	

Event Type:

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 NET = Plankton Net Haul
 DRF = Drifter
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Bottle Firing Method:

US = Up / Stop (default)
 UN = Up / No stop
 DN = Down / No stop

Notes:

Time Code:

BE = Beginning Time of Cast
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 EN = End Time of Cast

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

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

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Month <u>OCTOBER</u>				Year <u>2013</u>			Vessel <u>NE PICKER</u>			Cruise ID <u>2013-47</u> <u>[S66 2013-07]</u>					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
<u>071</u>	<u>PS01</u>	<u>03</u>	<u>14:42</u>	<u>BE</u>	<u>CTD</u>		<u>41° 32.503</u>	<u>122° 25.004</u>	<u>182m</u>		<u>-</u>			☐ ☐	<u>TD: 170 m</u>
			<u>14:45</u>	<u>BO</u>			<u>47° 32.367</u>	<u>122° 25.031</u>			<u>-</u>			☐ ☐	
			<u>14:48</u>	<u>EN</u>			<u>47° 32.410</u>	<u>122° 25.056</u>			<u>-</u>			☐ ☐	
			<u>:</u>				<u>°</u>	<u>°</u>			<u>-</u>			☐ ☐	
<u>072</u>	<u>PS02</u>	<u>03</u>	<u>18:24</u>	<u>BE</u>	<u>CTD</u>		<u>47° 21.398</u>	<u>122° 25.931</u>	<u>168m</u>		<u>-</u>			☐ ☐	<u>TD: 155 m</u>
			<u>18:26</u>	<u>BO</u>			<u>47° 21.403</u>	<u>122° 25.919</u>			<u>-</u>			☐ ☐	
			<u>18:29</u>	<u>EN</u>			<u>47° 21.409</u>	<u>122° 25.918</u>			<u>-</u>			☐ ☐	
			<u>:</u>				<u>°</u>	<u>°</u>			<u>-</u>			☐ ☐	
<u>073</u>	<u>PS03</u>	<u>03</u>	<u>22:51</u>	<u>BE</u>	<u>CTD</u>		<u>47° 26.911</u>	<u>122° 31.489</u>	<u>106m</u>		<u>-</u>			☐ ☐	<u>TD: 095 m</u>
			<u>22:53</u>	<u>BO</u>			<u>47° 26.912</u>	<u>122° 31.488</u>			<u>-</u>			☐ ☐	
			<u>22:55</u>	<u>EN</u>			<u>47° 26.913</u>	<u>122° 31.486</u>			<u>-</u>			☐ ☐	
			<u>:</u>				<u>°</u>	<u>°</u>			<u>-</u>			☐ ☐	
<u>074</u>	<u>PS04</u>	<u>04</u>	<u>14:48</u>	<u>BE</u>	<u>CTD</u>		<u>47° 16.030</u>	<u>122° 51.162</u>	<u>51m</u>		<u>-</u>			☐ ☐	<u>TD: 40 m</u>
			<u>14:48</u>	<u>BO</u>			<u>47° 16.041</u>	<u>122° 51.156</u>			<u>-</u>			☐ ☐	
			<u>14:49</u>	<u>EN</u>			<u>47° 16.041</u>	<u>122° 51.155</u>			<u>-</u>			☐ ☐	
			<u>:</u>				<u>°</u>	<u>°</u>			<u>-</u>			☐ ☐	
<u>075</u>	<u>PS05</u>	<u>04</u>	<u>18:31</u>	<u>BE</u>	<u>CTD</u>		<u>47° 10.140</u>	<u>122° 39.380</u>	<u>133m</u>		<u>-</u>			☐ ☐	<u>TD: 125 m</u>
			<u>18:33</u>	<u>BO</u>			<u>47° 10.159</u>	<u>122° 39.364</u>			<u>-</u>			☐ ☐	
			<u>18:35</u>	<u>EN</u>			<u>47° 10.182</u>	<u>122° 39.353</u>			<u>-</u>			☐ ☐	

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Notes: _____

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Month <u>October</u>			Year <u>2013</u>			Vessel <u>W.E. KICKER</u>			Cruise ID <u>2013-217</u> <u>[506, 2013-07]</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI 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	05	23:51	BE	CTD		47° 53.734	122° 21.765	216m		-			☐ ☐	TD: 105m
			23:55	BO			47° 53.718	122° 21.779			-			☐ ☐	
			23:59	EN			47° 53.715	122° 21.780			-			☐ ☐	
			:				°	°			-			☐ ☐	
080	PS10	06	14:44	BE	CTD		47° 43.216	122° 25.957	209		-			☐ ☐	TD: 95m
			14:47	BO			47° 43.211	122° 25.937			-			☐ ☐	
			14:50	EN			47° 43.191	122° 23.718			-			☐ ☐	

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