

OSM July 2009.

OCEAN SCIENCES STRICKLAND CTD LOG

DATE (dd-mm)	TIME (GMT)	LAT.	LONG.	STN NAME	BOTTOM DEPTH (m)	CAST DEPTH (m)	CTD File Name
09-July	9:46	48° 30.956'	123° 32.376	S1	150	144	20090709_S1
"	12:14	48° 33.215	123° 32.029	S2	213	203	20090709_S2
"	15:00	48° 38.269	123° 30.003	S4	200	190	20090709_S4
	1730	48° 42.949 N	123° 27.628 W	S5	120	100	20090709_S5
10-July	9:03	48° 35.554 N	123° 30.007 W	S3	227	215	20090710_S3
"	11:23	48° 36.870 N	123° 30.006 W	S3.5	219	209	20090710_S3.5
"	13:49	48° 40.080 N	123° 30.050 W	S4.5	165	158	20090710_S4.5
"	15:57	48° 41.874 N	123° 29.846 W	S12	75	70	20090710_S12
"	17:27	48° 43.762 N	123° 32.582 W	S11	120	110	20090710_S11

OCEAN SCIENCES STRICKLAND EVENT LOG

VESSEL: Strickland

Date: 09/08/09

Collected By: Eva S.

Consecutive Stn #: 1

Station Name: Stn 1

Notes: (temperature, wind, barometer, weather, sea-state, etc)
17°C; bar.=31.04; sea=100%
wind & sea calm.

EVENT NUMBER	EVENT TYPE	TIME	LAT.	LONG.	BOTTOM DEPTH (m)	CAST DEPTH (m)	NOTES (e.g. CTD file names, bottle depths, flow meter readings, etc)
1	CTD	09.40	48°38.956	123°32.376	150m	144m	40m/min cast speed. 20090709 - S1 (file name)
2	wiskin bottles	10.16	"	"	150m	130m	Cast 1 = deep cast 130m, 120m, 110m, 105m, 100m, 95m, 90m, 85m, 80m, 75m, 70m, 65m, 60m, 55m, 50m, 45m, 40m, 35m, 30m, 25m, 20m, 15m, 10m, 5m, 0m.
3	wiskin bottles	10.59	"	"	150m	90m	Cast 2 = shallow, east 90m, 85m, 80m, 75m, 70m, 65m, 60m, 55m, 50m, 45m, 40m, 35m, 30m, 25m, 20m, 15m, 10m, 5m, 0m.
4	zoopl. tow	11.23	"	"	150m	100m to 58m	Cast 1 - 180m to 50m Cpm/min net flow meter pull rate approx. 58m reading initial = 44264 final = 44388 TOTAL = 124
5	zoopl. tow	11.40	"	"	150m	50m to 0m	Cast 2 - 50m to 0m. Cpm/min net flow meter pull rate approx. 58m reading initial = 44388 final = 44500 TOTAL = 262

Water Chemistry Sampling

University of Victoria

Cruise: OSM JULY 2009

Station Name: S1

Date: 9-July-09

Time: 11:00

Cast #: 2 Event #: 3

Sampler Names: Jenna, Lynn, Kate

Niskin Bottle	Target Depth (m)	Oxygen Bottle #'s	DIC Bottle#	pH / T °C	NH4 Vial#	NUT	NO2 (2 tubes)	WH (when acid spiked)	CHL filtered Vol (mL)
8	0	103 & 104 ✓	C-02 ✓		A-07 ✓	34 ✓	✓	✓	* ✓
7	10	105 & 106 ✓	—		A-08 ✓	35 ✓	✓	✓	* ✓
6	20	107 & 108 ✓	C-03 ✓		A-09 ✓	36 ✓	✓	✓	✓
5	30	109 & 110 ✓	—		A-10 ✓	37 ✓	✓	✓	* ✓
4	50	—	C-04 ✓		A-11 ✓	38 ✓	✓	✓	* ✓
3	75	111 & 112 ✓	C-05 ✓		A-12 ✓	39 ✓	✓	✓	✓
2	85	—	—		A-13 ✓	40 ✓	✓	✓	✓
1	90	113 & 114 ✓	—		A-14 ✓	41 ✓	✓	✓	✓

NOTES:

NH4 Spiked with Working Reagent: yes no Time Spiked? 18:30

NH4 Stds Vial# 0uM = A18 2.5uM = A17 5uM = A19 7.5uM = A21 10uM = A20 Time spiked? 18:30

Water Chemistry Sampling

University of Victoria

Cruise: OSM JULY 2009

Station Name: S1

Date: 09 July 2009

Time: 10:10

Cast #: 1 Event #: 2

Sampler Names: Jenna, Ryan, Kate

Niskin Bottle	Target Depth (m)	Oxygen Bottle #'s	DIC Bottle#	pH / °C	NH4 Vial#	NUT	NO2 (2 tubes)	WMT (✓ when acid spiked)	CHL filtered Vol (mL)
8									
7									
6	95	97098 ✓	/		A-01 ✓	412 ✓	✓	✓	
5	100	99100 ✓	C-01 ✓		A-02 ✓	413 ✓	✓	✓	
4	105	/	/		A-03 ✓	414 ✓	✓	✓	
3	110	1010102 ✓	/		A-04 ✓	415 ✓	✓	✓	
2	120	/	/		A-05 ✓	416 ✓	✓	✓	
1	130	/	/		A-06 ✓	417 ✓	✓	✓	

NOTES: #102 bubbles came from Niskin 3.

NH4 Spiked with Working Reagent: yes no Time Spiked?

NH4 Stds Vial# 0uM = 2.5uM = 5uM = 7.5uM = 10uM =

Time spiked?

Station Checklist - Chemical Samples

Station: S1

Samplers: Fergie, Stoner, Kate

Event

1

✓	CTD cast downloaded and saved
✓	Final sampling depths planned
✓	Log Sheets prepared (choose OXY / DIC / NH4 bottle numbers)
✓	NUT / NO2 labels: depths written in
✓	MN bottles: depths written on labels
✓	NUT/NO2 tubes labeled and placed in rack (1 NUT tubes and 2 NO2 tube for each sample depth)
✓	Oxygen sampled in duplicate, pickled, bottle #'s checked
✓	Carbon sampled, poisoned, sealed, bottle #'s checked
—	pH bottle sampled (only at DIC depths)
✓	MN bottle sampled (1 per Niskin)
✓	NUT tubes sampled (1 per Niskin)
✓	NO2 tubes sampled (2 per Niskin)
✓	NUT samples into freezer
✓	NO2 samples into cooler
✓	NH4 tubes sampled (1 per Niskin), re-check # on log sheet. Samples into NH4 sample box (in racks).
✓	CHL bottles filled
✓	MN samples spiked with 2.5mL 6M HCl (put check mark on label when complete) ✓
	CHL filtrations completed, filters frozen
✓	Oxygen bottles shaken, tops filled with water
	pH readings taken
✓	NH4 samples spiked with Working Reagent time? <u>13:30</u>

2

OSM July 2009

A GROUP Rocksolid

Responsible for Station S1

Saanich Inlet Stations

Station S1

Niskin number	Depth (m)	O2	DIC	MN	NH4	NO2	NUT
16	0	0	0				
15	5						
14	10	10					
13	20	20	20				
12	30	30					
11	50		50				
9	25	75	75				
8	+15	85					
7	+10	90					
6	+5	95					
5	Interfac	100 100	100				
4	+5						
3	+10	110					
2	+20						
1	+30	120					

Satellite Channel Stations

Station _____

Niskin number	Depth (m)	O2	DIC	MN	NH4	NO2	NUT
8							
7							
6							
5							
4							
3							
2							
1							

OCEAN SCIENCES STRICKLAND EVENT LOG

VESSEL: Strickland

Date: 09/08/09

Consecutive Stn #: 2

Station Name: Stn 2

Collected By: Kate

Notes: (temperature, wind, barometer, weather, sea-state, etc) / At 12:15 pm
 17°C ; bar = 31.04 ; CC = 100%
 T = 19°C
 wind & sea calm
 wind/sea down

EVENT NUMBER	EVENT TYPE	TIME	LAT.	LONG.	BOTTOM DEPTH (m)	CAST DEPTH (m)	NOTES (e.g. CTD file names, bottle depths, flow meter readings, etc)
6	CTD	12:14 pm	44° 33', 215	123° 32', 021	213	203	2009 07001 - 52
7	hickin bottles	12:42			213	200	Cast 1 - Deep cast 200m, 150m, 160m, 150m, 140m, 135m, 120m, 100m, 80m, 60m, 40m, 20m, 10m, 0m
8	hickin bottles	1:26			213	110	Cast 2 - Shallow cast 110m, 90m, 70m, 50m, 30m, 20m, 10m, 0m
9	zoopl. tow	1:55			213	100m to 57m	Cast 1 - 100m - 57m Net close at ~ 57m Flowmeter readings } 44650 (unit) 44750 (unit) 100 total
10	zoopl. tow	2:10			213	50m to 0m	Cast 2 - 50m - 0m Flowmeter } 44800 (unit) 44750 (unit) Readings } 100 total

Water Chemistry Sampling

University of Victoria

Cruise: OSM JULY 2009

Station Name: S2

Date: July 09/09 Time: 1

Cast #: 2 Event #: 8

Sampler Names: KEVIN, DUSTIN, JULIA

*1 *2

Niskin Bottle	Target Depth (m)	Oxygen Bottle #'s	DIC Bottle#	pH / T °C	NH4 Vial#	NUT	NO2 (2 tubes)	WMT (✓ when acid spiked)	CHL filtered Vol (mL)
8	0	* ✓ 49, 50	* ✓ 08		A-51 ✓	✓ 50	✓	✓	✓ 251mL
7	10	* ✓ 51, 52			A-52 ✓	✓ 51	✓	✓	✓ 251mL
6	20	* ✓ 53, 54			A-53 ✓	✓ 52	✓	✓	✓
5	30	* ✓ 55, 56			A-54 ✓	✓ 53	✓	✓	✓ 249mL
4	50		* ✓ 09		A-55 ✓	✓ 54	✓	✓	✓ 250mL
3	70	* ✓ 57, 58			A-56 ✓	✓ 55	✓	✓	✓
2	90		* ✓ 10		A-57 ✓	✓ 56	✓	✓	✓
1	100	* ✓ 59, 60			A-58 ✓	✓ 57	✓	✓	✓

NOTES:

NH4 Spiked with Working Reagent: yes no Time Spiked?

NH4 Stds Vial# 0uM = 2.5uM = 5uM = 7.5uM = 10uM =

Time spiked?

Water Chemistry Sampling

University of Victoria

Cruise: OSM JULY 2009

Station Name: S2

Date: July 09/09 Time: 18:30

Cast #: 1 Event #: 7

Sampler Names: KEVIN, DUSTIN, JULIA

Niskin Bottle	Target Depth (m)	Oxygen Bottle #s	DIC Bottle#	pH/T °C	NH4 Vial#	NUT	NO2 (2 tubes)	WIN (2 when acid spiked)	CHL filtered Vol (mL)
8	130	115, 116	* 06		A-43	58	✓	✓	
7	135				A-44	59	✓	✓	
6	140	115, 116	* 07		A-45	60	✓	✓	
5	145	117, 118			A-46	61	✓	✓	
4	150	119, 120			A-47	62	✓	✓	
3	160				A-48	63	✓	✓	
2	180				A-49	64	✓	✓	
1	200				A-50	65	✓	✓	

NOTES:

NH4 Spiked with Working Reagent: yes no Time Spiked? 18:30

NH4 Stds Vial# 0uM = A60 2.5uM = A59 5uM = A61 7.5uM = A62 10uM = A62

Time spiked? 18:30

Station Checklist - Chemical Samples

Station:

82

Samplers:

Dustin / Kevin / Julia

✓	CTD cast downloaded and saved
✓	Final sampling depths planned
✓	Log Sheets prepared (choose OXY / DIC / NH4 bottle numbers).
✓	NUT / NO2 labels: depths written in
✓	MN bottles: depths written on labels
✓	NUT/NO2 tubes labeled and placed in rack (1 NUT tubes and 2 NO2 tube for each sample depth)
✓	Oxygen sampled in duplicate, pickled, bottle #'s checked
✓	Carbon sampled, poisoned, sealed, bottle #'s checked
✓	pH bottle sampled (only at DIC depths)
✓	MN bottle sampled (1 per Niskin)
✓	NUT tubes sampled (1 per Niskin)
✓	NO2 tubes sampled (2 per Niskin)
✓	NUT samples into freezer
✓	NO2 samples into cooler
✓	NH4 tubes sampled (1 per Niskin), re-check # on log sheet. Samples into NH4 sample box (in racks).
✓	CHL bottles filled
✓	MN samples spiked with 2.5mL 6M HCl (put check mark on label when complete)
✓	CHL filtrations completed, filters frozen
✓	Oxygen bottles shaken, tops filled with water.
✓	pH readings taken
✓	NH4 samples spiked with Working Reagent time? 18:30)

OSM July 2009

GROUP B

Responsible for Station S2

Saanich Inlet Stations

Station S2

Niskin number	Depth (m)	O2	DIC	MN	NH4	NO2	NUT
16	0	✓		✓			
15	10	✓	✓				
14	20	✓		✓			
13	30	✓					
12	50		✓				
11	70	✓		✓			
10	90		✓				
9	110	✓					
8	130		✓	✓			
7	140	✓	✓	✓			
6	145	✓		✓			
5	150	✓		✓			
4	160			✓			
3	180			✓			
2	200			✓			
1							

Satellite Channel Stations

Station _____

Niskin number	Depth (m)	O2	DIC	MN	NH4	NO2	NUT
8							
7							
6							
5							
4							
3							
2							
1							

OCEAN SCIENCES STRICKLAND EVENT LOG

VESSEL: Strickland

Collected By: _____

Date: July 9/09

Consecutive Stn #: 3

Station Name: S4

Notes: (temperature, wind, barometer, weather, sea-state, etc)

now sunny, calm, → 2-inch jellies everywhere in water

EVENT NUMBER	EVENT TYPE	TIME	LAT.	LONG.	BOTTOM DEPTH (m)	CAST DEPTH (m)	NOTES (e.g. CTD file names, bottle depths, flow meter readings, etc)
11	CTD	15:00 15:00 15:00	48°38.269'N	123°30.003'W	200	190	-40 m/min 20090709_S4
12	bottle	15:35	48°38.269'N	123°30.003'W	200	190	140, 170, 180, 150, 140, 135, 130, 120, 100, 75, 50, 40, 30, 20, 10, 0
13	bottle	16:10			200	100	100, 75, 50, 40, 30, 20, 10, 0
14	200P	16:30			200	155 100m 53m	1) 45020 flow - lots of 2-inch jellies → 400m? 2) 45308 meter seawater
15	200P	16:45			200	50m 0m	1) 45308 flow 2) 45563 meter

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GROUP Green Eggs & Hamme.

Responsible for Station 4

Saanich Inlet Stations

Station 4

Niskin number	Depth (m)	O2	DIC	MN	NH4	NO2 (nitrite)	NUT
16	0 m	X	X	▲	▲	▲	▲
15	10 m	X					
14	20 m		X				
13	30	X					
12	40 m	X	X				
11	50 m	X	X				
9	75 m	X					
8	100 m	X					
7	120						
6	130	X	X				
5	135						
4	140	X					
3	IF+10m 150	X					
2	IF+20m 160	X					
1	IF+30m 170						
	BD-10m 190			▼	▼	▼	▼

we have more than 40m below the interface, we will put Niskins above & below the interface (±5m)

Satellite Channel Stations
Station _____

Niskin number	Depth (m)	O2	DIC	MN	NH4	NO2	NUT
8							
7							
6							
5							
4							
3							
2							
1							

Water Chemistry Sampling

University of Victoria

Cruise: OSM JULY 2009

Station Name: 54

Date: 01/08/09

Time: _____

Cast #: 2 Event #: 13

Sampler Names: EVA, Magic Hughes, Canaple

Niskin Bottle	Target Depth (m)	Oxygen Bottle #'s	DIC Bottle#	pH / T °C	NH4 Vial#	NUT	NO2 (2 tubes)	WINT (when acid spiked)	CHL filtered Vol (mL)
8	0	* 67, 68	C-12		A-30	✓ 106	✓	✓	* ✓ 250 mL
7	10	* 69, 70, 71, 72			A-31	✓ 107	✓	✓	* ✓
6	20	* 71, 72	* C-13		A-32	✓ 108	✓	✓	✓
5	30	* 73, 74			A-33	✓ 109	✓	✓	* ✓
4	40	* 75, 76	* C-14		A-34	✓ 110	✓	✓	✓
3	50				A-35	✓ 111	✓	✓	* ✓
2	75	* 77, 78	* C-15		A-36	✓ 112	✓	✓	✓
1	100				A-37	✓ 113	✓	✓	✓

NOTES:

NH4 Spiked with Working Reagent: yes no Time Spiked? 18:30

NH4 Stds Vial# 0uM = A-38 5uM = A-39 5uM = A-40 7.5uM = A-41 10uM = A-42

Time spiked? 18:30

10 2.57 5.13 7.7 10.3

Water Chemistry Sampling

University of Victoria

Cruise: OSM JULY 2009

Station Name: S4

Date: 09/08/09

Time: ~12:40

Cast #: 1 Event #: 12

Sampler Names: EVA, Magic Trights, Canopie

Niskin Bottle	Target Depth (m)	Oxygen Bottle #s	DIC Bottle#	pH / T °C	NH4 Vial#	NUT	NO2 tubes	IVM (2 when acid spiked)	CHL filtered Vol (mL)
8	120	/	/	/	A-22	✓ 98	✓✓	✓	/
7	130	/	/	/	A-23	✓ 99	✓✓	✓	/
6	135	* 61, 62	* C-11	/	A-24	✓ 100	✓✓	✓	/
5	140	* 63, 64	/	/	A-25	✓ 101	✓✓	✓	/
4	150	* 65, 66	/	/	A-26	✓ 102	✓✓	✓	/
3	160	/	/	/	A-27	✓ 103	✓✓	✓	/
2	170	/	/	/	A-28	✓ 104	✓✓	✓	/
1	190	/	/	/	A-29	✓ 105	✓✓	✓	/

NOTES:

NH4 Spiked with Working Reagent: yes no Time Spiked?

NH4 Stds Vial# 0uM = 2.5uM = 5uM = 7.5uM = 10uM =

Time spiked?

Station Checklist - Chemical Samples

Station: S4

Samplers: EVA, Magic T highs, Canoupie

✓	CTD cast downloaded and saved
✓	Final sampling depths planned
✓	Log Sheets prepared (choose OXY / DIC / NH4 bottle numbers)
✓	NUT / NO2 labels: depths written in
✓	MN bottles: depths written on labels
✓	NUT/NO2 tubes labeled and placed in rack (1 NUT tubes and 2 NO2 tube for each sample depth)
✓	Oxygen sampled in duplicate, pickled, bottle #'s checked
✓	Carbon sampled, poisoned, sealed, bottle #'s checked
✓	pH bottle sampled (only at DIC depths)
✓	MN bottle sampled (1 per Niskin)
✓	NUT tubes sampled (1 per Niskin)
✓	NO2 tubes sampled (2 per Niskin)
✓	NUT samples into freezer
✓	NO2 samples into cooler
✓	NH4 tubes sampled (1 per Niskin), re-check # on log sheet. Samples into NH4 sample box (in racks).
✓	CHL bottles filled
✓	MN samples spiked with 2.5mL 6M HCl (put check mark on label when complete)
✓	CHL filtrations completed, filters frozen
✓	Oxygen bottles shaken, tops filled with water
✓	pH readings taken
	NH4 samples spiked with Working Reagent time? _____)

OCEAN SCIENCES STRICKLAND EVENT LOG

VESSEL: Strickland

Date: 9 Jul 09

Collected By: Sarah & Dustin

Consecutive Stn #: 04

Station Name: SS

Notes: (temperature, wind, barometer, weather, sea-state, etc)

light breeze, sun

EVENT NUMBER	EVENT TYPE	TIME	LAT.	LONG.	BOTTOM DEPTH (m)	CAST DEPTH (m)	NOTES (e.g. CTD file names, bottle depths, flow meter readings, etc)
16	CTD	1730	48 42.949 N	123 27.628 W	120	100m	20070709-SS
17	NISK				118	75m	0 10 20 30 50 75m 10 20 30 50 75
18	ZOOP				115	100m to 50m	45565 on flow meter at start 45710 at end
19	ZOOP					50m to 0m	45710 @ Start on flow meter 46097 @ END "

Water Chemistry Sampling

University of Victoria

Cruise: OSM JULY 2009

Station Name: SS

Date: 9 July 09 Time: 1745

Cast #: 1 Event #: 17

Sampler Names: Ryan, Jenna

Niskin Bottle	Target Depth (m)	Oxygen Bottle #s	DIC Bottle#	pH / T °C	NH4 Vial#	NUT	NO2 (2 tubes)	WTT (when acid spiked)	CHL filtered Vol (mL)
8									
7									
6	0	✓ 10, 11	✓ C-16		✓ A127	✓ 130	✓	✓	✓
5	10	✓ 12, 13	—		✓ A128	✓ 131	✓	✓	✓
4	20	—	—		✓ A129	✓ 132	✓	✓	—
3	30	✓ 14, 15	✓ C-17		✓ A130	✓ 133	✓	✓	✓
2	50	—	—		✓ A131	✓ 134	✓	✓	✓
1	75	—	—		✓ A132	✓ 135	✓	✓	—

NOTES:

NH4 Spiked with Working Reagent? yes no Time Spiked? 18:30

NH4 Stds Vial# 0uM = 2.5uM 5uM = 7.5uM 10uM = 10uM

Time spiked? 18:30

Station Checklist - Chemical Samples

Station: S5

Samplers: Ryan, Jenna,

✓	CTD cast downloaded and saved
✓	Final sampling depths planned
✓	Log Sheets prepared (choose OXY / DIC / NH4 bottle numbers)
✓	NUT / NO2 labels: depths written in
✓	MN bottles: depths written on labels
✓	NUT/NO2 tubes labeled and placed in rack (1 NUT tubes and 2 NO2 tube for each sample depth)
✓	Oxygen sampled in duplicate, pickled, bottle #'s checked
✓	Carbon sampled, poisoned, sealed, bottle #'s checked
✓	pH bottle sampled (only at DIC depths)
✓	MN bottle sampled (1 per Niskin)
✓	NUT tubes sampled (1 per Niskin)
✓	NO2 tubes sampled (2 per Niskin)
✓	NUT samples into freezer
✓	NO2 samples into cooler
✓	NH4 tubes sampled (1 per Niskin), re-check # on log sheet. Samples into NH4 sample box (in racks).
✓	CHL bottles filled
✓	MN samples spiked with 2.5mL 6M HCl (put check mark on label when complete)
✓	CHL filtrations completed, filters frozen
	Oxygen bottles shaken, tops filled with water
✓	pH readings taken
✓	NH4 samples spiked with Working Reagent time? <u>6:30</u>)

DAY 2

OCEAN SCIENCES STRICKLAND EVENT LOG

VESSEL: Strickland

Date: July 10/2009

Consecutive Stn #: 5

Station Name: 53

Collected By: Steven Godfrey

Notes: (temperature, wind, barometer, weather, sea-state, etc)

20°C, 2 knots 30.11 bars, clear, fair, vis 20 nautical miles
5% cloud cover

EVENT NUMBER	EVENT TYPE	TIME	LAT.	LONG.	BOTTOM DEPTH (m)	CAST DEPTH (m)	NOTES (e.g. CTD file names, bottle depths, flow meter readings, etc)
20	CTD	9:03	48, 35.554	123, 30.007	227	215	First cast of the day 7@135 20090710-53 123 30.007 123 30.007 123 30.007 C1: 215 200 175 C2: 110 100 80 150 140 135 65 50 30 130 125 10 0 1-28
21	Bottles #1	9:36	"	"	"	215	
22	Bottles #2	10:15	"	"	"	110	
23	Zoop tow #1	10:38	"	"	"	100-54	46095 - init. flow meter 46354 - end sample depth: 54m
24	Zoop tow #2	10:59	"	"	"	54-0	46354 - init. 46592 - end

Interface: 135m

Water Chemistry Sampling

University of Victoria

Cruise: OSM JULY 2009

Station Name: 53

Date: 10/07/09

Time: 9:30

Cast #: 1 Event #: 1

Sampler Names: Rebecca, Janice, Shea

Niskin Bottle	Target Depth (m)	Oxygen Bottle #'s	D/C Bottle#	pH / °C	(NH4) Vial#	(NUT)	NO2 (2 tubes)	WHT (when acid spiked)	CHL filtered Vol (mL)
8	125	16, 17 ✓			A106 ✓	74 ✓	✓	✓	
7	130	18, 19 ✓			A107 ✓	75 ✓	✓	✓	
6	135	20, 21 ✓			A108 ✓	76 ✓	✓	✓	
5	140	23, 24 ✓			A109 ✓	77 ✓	✓	✓	
4	150	—			A110 ✓	78 ✓	✓	✓	
3	175	—			A111 ✓	79 ✓	✓	✓	
2	200	—			A112 ✓	80 ✓	✓	✓	
1	215	—			A113 ✓	81 ✓	✓	✓	

NOTES:

NH4 Spiked with Working Reagent: yes no Time Spiked?

NH4 Stds Vial# 0uM = 2.5uM = 5uM = 7.5uM = 10uM =

Time spiked?

Water Chemistry Sampling

University of Victoria

Cruise: OSM JULY 2009

Station Name: S3

Date: 10/07/09

Time: 9:30 am

Cast #: 2 Event #: 1

Sampler Names: Rebecca, Jamie, Shua

Niskin Bottle	Target Depth (m)	Oxygen Bottle #'s	DIC Bottle#	pH / T °C	NH4 Vial#	NUT	NO2 (2 tubes)	Winkler when acid spiked	CHL filtered Vol (mL)
8	0	25, 26 ✓	C-19 ✓		A114 ✓	66 ✓	✓	✓	250mL
7	10	27, 28 ✓	C-20 ✓		A115 ✓	67 ✓	✓	✓	250mL
6	30	29, 30 ✓	C-21 ✓		A116 ✓	68 ✓	✓	✓	250mL
5	50	31, 32 ✓	C-22 ✓		A117 ✓	69 ✓	✓	✓	250mL
4	65	33, 34 ✓	—		A118 ✓	70 ✓	✓	✓	
3	80	—	—		A119 ✓	71 ✓	✓	✓	
2	100	—	C-23 ✓		A120 ✓	72 ✓	✓	✓	
1	110	—	—		A121 ✓	73 ✓	✓	✓	

NOTES:

NH4 Spiked with Working Reagent: yes no Time Spiked?

NH4 Stds Vial# 0uM = A122 2.5uM = A123 5uM = A124 7.5uM = A125 10uM = A126

A126

Time spiked? 1800

Station Checklist - Chemical Samples

Station: S3

Samplers: Rebecca, Shea, Jamie

✓	CTD cast downloaded and saved
✓	Final sampling depths planned
✓	Log Sheets prepared (choose OXY / DIC / NH4 bottle numbers)
✓	NUT / NO2 labels: depths written in
✓	MN bottles: depths written on labels
✓	NUT/NO2 tubes labeled and placed in rack (1 NUT tubes and 2 NO2 tube for each sample depth)
✓	Oxygen sampled in duplicate, pickled, bottle #'s checked
✓	Carbon sampled, poisoned, sealed, bottle #'s checked
	pH bottle sampled (only at DIC depths) (same bottle as DIC)
✓	MN bottle sampled (1 per Niskin)
✓	NUT tubes sampled (1 per Niskin)
✓	NO2 tubes sampled (2 per Niskin)
✓	NUT samples into freezer
✓	NO2 samples into cooler
✓	NH4 tubes sampled (1 per Niskin), re-check # on log sheet. Samples into NH4 sample box (in racks).
✓	CHL bottles filled
✓	MN samples spiked with 2.5mL 6M HCl (put check mark on label when complete)
✓	CHL filtrations completed, filters frozen
✓	Oxygen bottles shaken, tops filled with water
✓	pH readings taken
	NH4 samples spiked with Working Reagent time? _____)

OCEAN SCIENCES STRICKLAND EVENT LOG

VESSEL: Strickland

Date: July 10/2008

Consecutive Stn #: 6

Station Name: 53.5

Collected By: Steven Godfrey

Notes: (temperature, wind, barometer, weather, sea-state, etc)

22 °C, calm, 31.15, Fair, cc 5%

EVENT NUMBER	EVENT TYPE	TIME	LAT.	LONG.	BOTTOM DEPTH (m)	CAST DEPTH (m)	NOTES (e.g. CTD file names, bottle depths, flow meter readings, etc)
25	CTD	11:18	48.36.870 ^N	123 30.006 ^W	219	209	20090710-S35
26	Bottles #1	11:50	"	"	"	205	CAST #1 805 110 165 155 145 ✓ 135 ✓ 125 ✓ 115 ✓ 105 ✓ 95 ✓ 80 ✓ 65 ✓ 50 ✓ 30 ✓ 10 ✓ 0 ✓ 158
27	Bottles #2	12:35	"	"	"	105	105 ✓ 95 ✓ 80 ✓ 65 ✓ 50 ✓ 30 ✓ 10 ✓ 0 ✓ 158
28	Loop tow #1	13:00	"	"	"	100-54	init flow: 46592 end flow: 46880
29	Loop tow #2	13:10	"	"	"	50-0	init flow: 46836 end flow: 47102

interface = 148m

Water Chemistry Sampling

University of Victoria

Cruise: OSM JULY 2009

Station Name: 53.5

Date: 10-July-09 Time: _____

Cast #: 1 Event #: _____

Sampler Names: Lisa, Claudine, Jon, Adam

Niskin Bottle	Target Depth (m)	Oxygen Bottle #'s	DIC Bottle#	pH / T °C	NH4 Vial#	NUT	NO2 (2 tubes)	MIN (✓ when acid spiked)	CHL filtered Vol (mL)
✓ 1	115	35, 36	—	/	A64	96	✓	✓	—
✓ 2	125	37, 38	—		A65	97	✓	✓	—
✓ 3	135	39, 40	C24		A66	98	✓	✓	—
✓ 4	145	41, 42	—		A67	99	✓	✓	—
✓ 5	155	—	—		A68	100	✓	✓	—
✓ 6	165	—	—		A69	101	✓	✓	—
✓ 7	190	—	—		A70	102	✓	✓	—
✓ 8	205	—	—		A71	103	✓	✓	—

NOTES:

NH4 Spiked with Working Reagent: yes no Time Spiked?

NH4 Stds Vial# 0uM 180 2.5uM = A8 5uM = A82 7.5uM = A83 10uM = A84

Time spiked? 1800

Water Chemistry Sampling

University of Victoria

Cruise: OSM JULY 2009

Station Name: 53.5

Date: 10-July-09 Time: _____

Cast #: 2 Event #: _____

Sampler Names: Lisey, Claudia, Jon, Adam

Niskin Bottle	Target Depth (m)	Oxygen Bottle #'s	DIC Bottle#	pH / T °C	NH4 Vial#	NUT	NO2 (2 tubes)	MIT (1 when acid spiked)	CHL filtered Vol (mL)
✓ 8	0	44, 45	C25		A72	82	✓✓	✓	✓
✓ 7	10	46, 47	C26		A73	83	✓✓	✓	✓
✓ 6	30	48, 49	—		A74	84	✓✓	✓	✓
✓ 5	50	—	—		A75	85	✓✓	✓	✓
✓ 4	65	74, 75	C27		A76	86	✓✓	✓	—
✓ 3	80	—	—		A77	87	✓✓	✓	—
✓ 2	95	—	—		A78	88	✓✓	✓	—
✓ 1	105	76, 77	C28		A79	89	✓✓	✓	—

NOTES:

NH4 Spiked with Working Reagent: yes no Time Spiked? _____

NH4 Stds Vial# 0uM = _____ 2.5uM = _____ 5uM = _____ 7.5uM = _____ 10uM = _____

Time spiked? _____

Station Checklist - Chemical Samples

Station: 53.5

Samplers: Timon

✓	CTD cast downloaded and saved
✓	Final sampling depths planned
✓	Log Sheets prepared (choose OXY / DIC / NH4 bottle numbers)
✓	NUT / NO2 labels: depths written in
✓	MN bottles: depths written on labels
✓	NUT/NO2 tubes labeled and placed in rack (1 NUT tubes and 2 NO2 tube for each sample depth)
✓	Oxygen sampled in duplicate, pickled, bottle #'s checked
✓	Carbon sampled, poisoned, sealed, bottle #'s checked
✓	pH bottle sampled (only at DIC depths)
✓	MN bottle sampled (1 per Niskin)
✓	NUT tubes sampled (1 per Niskin)
✓	NO2 tubes sampled (2 per Niskin)
✓	NUT samples into freezer
✓	NO2 samples into cooler
✓	NH4 tubes sampled (1 per Niskin), re-check # on log sheet. Samples into NH4 sample box (in racks).
✓	CHL bottles filled
✓	MN samples spiked with 2.5mL 6M HCl (put check mark on label when complete)
	CHL filtrations completed, filters frozen
✓	Oxygen bottles shaken, tops filled with water
✓	pH readings taken
✓	NH4 samples spiked with Working Reagent time? <u>1800</u>)

OSM July 2009

GROUP Timón del

Responsible for Station 375

holandés doble

Saanich Inlet Stations

Station 3.5

Niskin number	Depth (m)	O2	DIC	MN	NH4	NO2	NUT
16	0	✓	✓	✓	✓	/	/
15	10	✓	✓	✓	✓	/	/
14	30	✓		✓	✓	/	✓
13	50			✓	✓	/	/
12	65	✓	✓	✓	/	/	/
11	80			✓	/	/	/
9	95			✓	/	/	/
8	105	✓	✓	✓	/	/	/
7	115	✓		✓	/	/	/
6	125	✓		✓	/	/	/
5	135	✓	⊙*	✓	/	/	/
4	145	✓	⊙	✓	/	/	/
3	155			✓	/	/	/
2	165			✓	/	/	/
1	190			✓	/	/	/

205

✓

✓

✓

✓

Satellite Channel Stations

Station _____

Niskin number	Depth (m)	O2	DIC	MN	NH4	NO2	NUT
8							
7							
6							
5							
4							
3							
2							
1							

OCEAN SCIENCES STRICKLAND EVENT LOG

VESSEL: Strickland

Date: 10 July 2009

Consecutive Stn #: 7

Station Name: SH.5

Collected By: Shea Wyatt

Notes: (temperature, wind, barometer, weather, sea-state, etc)

21°C, 3002, calm, cc 5% visibility
H₂

20NM

visibility

EVENT NUMBER	EVENT TYPE	TIME	LAT.	LONG.	BOTTOM DEPTH (m)	CAST DEPTH (m)	NOTES (e.g. CTD file names, bottle depths, flow meter readings, etc)
30	CTD	13:45	48 40.080N	153 30.050W	165m	158m	20090710-545
31	bottles #1	14:14	"	"	165m	160m	Depths: 160 155, 150, 145, 140, 130, 120
32	bottles #2	14:58	"	"	165m	110m	Depths: 160, 90, 70, 50, 30, 20, 10, 0 Flow init: 50003 Flow final: 47360
33	loop #1	15:21	"	"	165m	100-53m	Flow init: 50003 Flow final: 47360
34	loop #2	15:54	"	"	165m	50-0m	Flow init: 47360 Flow final: 47673

Water Chemistry Sampling

University of Victoria

Cruise: OSM JULY 2009

Station Name: S4.5

Date: 10 July 09

Time: 04:14

Cast #: 1 Event #: 31

Sampler Names: Anna, Steve, Tom

Niskin Bottle	Target Depth (m)	Oxygen Bottle #'s	DIC Bottle#	pH / T °C	NH4 Vial#	NUT	NO2 (2 tubes)	WV (%) when acid spiked	CHL filtered Vol (mL)
8	—	—	—	—	—	—	—	—	—
7	120	78 ✓ 79 ✓	C —	—	A85 ✓	122 ✓	✓	✓	—
6	130	80 ✓ 81 ✓	—	—	A86 ✓	123 ✓	✓	✓	—
5	140	80 ✓ 81 ✓	C-29 ✓	—	A87 ✓	124 ✓	✓	✓	—
4	145	82 ✓ 83 ✓	—	—	A88 ✓	125 ✓	✓	✓	—
3	150	84 ✓ 85 ✓	—	—	A89	126	✓	✓	—
2	155	86 ✓ 87 ✓	—	—	A90 ✓	127 ✓	✓	✓	—
1	160	—	—	—	A91 ✓	128 ✓	✓	✓	—

NOTES:

NH4 Spiked with Working Reagent: yes no Time Spiked?

NH4 Stds Vial# 0uM = 2.5uM = 5uM = 7.5uM = 10uM =

Time spiked?

Water Chemistry Sampling

University of Victoria

Cruise: OSM JULY 2009

Station Name: 54.5

Date: 10 July 09

Time: 14:58

Cast #: 2 Event #: 32

Sampler Names: Anna, Tom, Steve

Niskin Bottle	Target Depth (m)	Oxygen Bottle #'s	DIC Bottle#	pH / T °C	NH4 Vial#	NUT	NO2 (2 tubes)	MIN (✓ when acid spiked)	CHL filtered Vol (mL)
8	0	88✓ 89✓	C-30✓		A92✓	114✓	✓	✓	✓250
7	10	—	—		A93✓	115✓	✓	✓	✓250
6	20	90✓ 91✓	C-31✓		A94✓	116✓	✓	✓	—
5	30	92✓ 93✓	—		A95✓	117✓	✓	✓	✓250
4	50	—	—		A96✓	118✓	✓	✓	✓250
3	70	94✓ 95✓	C-32✓		A97✓	119✓	✓	✓	—
2	90	—	—		A98✓	120✓	✓	✓	—
1	110	—	C-33✓		A99✓	121✓	✓	✓	—

NOTES:

NH4 Spiked with Working Reagent: yes no Time Spiked?

NH4 Stds Vial# 0uM = A100 2.5uM = A101 5uM = A102 7.5uM = A103 10uM = A104

Time spiked?

1800

Station Checklist - Chemical Samples

Station: S 4.5

Samplers: Steve, Anna, Thomas

✓	CTD cast downloaded and saved
✓	Final sampling depths planned
✓	Log Sheets prepared (choose OXY / DIC / NH4 bottle numbers)
✓	NUT / NO2 labels: depths written in
✓	MN bottles: depths written on labels
✓	NUT/NO2 tubes labeled and placed in rack (1 NUT tubes and 2 NO2 tube for each sample depth)
✓	Oxygen sampled in duplicate, pickled, bottle #'s checked
✓	Carbon sampled, poisoned, sealed, bottle #'s checked
—	pH bottle sampled (only at DIC depths)
✓	MN bottle sampled (1 per Niskin)
✓	NUT tubes sampled (1 per Niskin)
✓	NO2 tubes sampled (2 per Niskin)
✓	NUT samples into freezer
✓	NO2 samples into cooler
✓	NH4 tubes sampled (1 per Niskin), re-check # on log sheet. Samples into NH4 sample box (in racks).
✓	CHL bottles filled
✓	MN samples spiked with 2.5mL 6M HCl (put check mark on label when complete)
✓	CHL filtrations completed, filters frozen
✓	Oxygen bottles shaken, tops filled with water
—	pH readings taken
✓	NH4 samples spiked with Working Reagent time? <u>1500</u>

OSM July 2009

E GROUP Fabiollicious

Responsible for Station 4.5

Saanich Inlet Stations

Station 4.5

Niskin number	Depth (m)	O2	DIC	MN	NH4	NO2	NUT
16	0	✓	✓	✓	✓	✓	✓
15	10						
14	20	✓	✓				
13	30	✓					
12	50						
11	70	✓	✓				
	90						
8 110	110	✓	✓				
7 120	120	✓	✓				
6 140	140	✓	✓				
5 145	145	✓					
4 180	180	✓					
3 155	155						
2 160	160						
1							

Satellite Channel Stations

Station _____

Niskin number	Depth (m)	O2	DIC	MN	NH4	NO2	NUT
8							
7							
6							
5							
4							
3							
2							
1							

OCEAN SCIENCES STRICKLAND EVENT LOG

VESSEL: Strickland

Collected By: Lisa Douglas

Date: 10 July - 09

Consecutive Sfn #: _____

Station Name: S12

Notes: (temperature, wind, barometer, weather, sea-state, etc)

Sunny, 10% cloud, light winds, rippled seas
30 inches Hg, 19°C, 10% from NE

EVENT NUMBER	EVENT TYPE	TIME	LAT.	LONG.	BOTTOM DEPTH (m)	CAST DEPTH (m)	NOTES (e.g. CTD file names, bottle depths, flow meter readings, etc)
35	CTD	3:57pm	48°41.874'N	123°29.846'W	75m	70m	20090710_S12
36	Noden Bottles	4:11pm	"	"	"	65m	6 (65m), 5 (10m), 4 (10m) 3 (30m), 2 (50m), 1 (65m) Deep cast!
37	Zoo Tow	4:30pm	"	"	"	50m	50m - 0m Flow Meter 1: 47.842 2: 2.29

Water Chemistry Sampling

University of Victoria

Cruise: OSM JULY 2009

Station Name: S12

Date: 10 July 09

Time: 1605

Cast #: 1 Event #: 36

Sampler Names: O₂ = Shea Carbon = Rebecca, NH₃ = Claudia
NH₃ = Anna

Niskin Bottle	Target Depth (m)	Oxygen Bottle #'s	DIC Bottle#	pH / T °C	NH ₄ Vial#	NUT	NO ₂ (2 tubes)	MIT (✓ when acid spiked)	CHL filtered Vol (mL)
8	—								—
7	—								—
6	0	96, 121	C-34		A133	129	✓	✓	255
5	10	122, 123	—		A134	130	✓	✓	250
4	20	—	—		A135	131	✓	✓	—
3	30	124, 125	C-35		A136	132	✓	✓	252
2	50	—	—		A137	133	✓	✓	250
1	65	—	—		A138	134	✓	✓	—

NOTES:

NH₄ Spiked with Working Reagent: yes no Time Spiked? 1800

NH₄ Stds Vial# 0uM = 2.5uM = 5uM = 7.5uM = 10uM =

Time spiked?

Station Checklist - Chemical Samples

Station: 512

Samplers: Shea, Pebleton, Claudia, Anna

✓	CTD cast downloaded and saved
✓	Final sampling depths planned
✓	Log Sheets prepared (choose OXY / DIC / NH4 bottle numbers)
✓	NUT / NO2 labels: depths written in
✓	MN bottles: depths written on labels
✓	NUT/NO2 tubes labeled and placed in rack (1 NUT tubes and 2 NO2 tube for each sample depth)
✓	Oxygen sampled in duplicate, pickled, bottle #'s checked
✓	Carbon sampled, poisoned, sealed, bottle #'s checked
✓	pH bottle sampled (only at DIC depths)
✓	MN bottle sampled (1 per Niskin)
✓	NUT tubes sampled (1 per Niskin)
✓	NO2 tubes sampled (2 per Niskin)
✓	NUT samples into freezer
✓	NO2 samples into cooler
✓	NH4 tubes sampled (1 per Niskin), re-check # on log sheet. Samples into NH4 sample box (in racks).
✓	CHL bottles filled
✓	MN samples spiked with 2.5mL 6M HCl (put check mark on label when complete)
✓	CHL filtrations completed, filters frozen
✓	Oxygen bottles shaken, tops filled with water
✓	pH readings taken
✓	NH4 samples spiked with Working Reagent time? <u>1800</u>

OCEAN SCIENCES STRICKLAND EVENT LOG

VESSEL: Strickland

Date: 10/5/2009

Collected By: Shea Wyatt

Consecutive Stn #: 11

Station Name: S11

Notes: (temperature, wind, barometer, weather, sea-state, etc)
 22° 30.03 SE 34 kt 204 M
 Hg 10% V.S.
 R.pde

EVENT NUMBER	EVENT TYPE	TIME	LAT.	LONG.	BOTTOM DEPTH (m)	CAST DEPTH (m)	NOTES (e.g. CTD file names, bottle depths, flow meter readings, etc)
38	200P #1	17:00	48° 43' 26" N	123° 32' 58" W	110 M	100-55m	Init flow 47842 Final flow 48053
39	200P #2	17:15	"	"	120 M	50-0m	Init flow 48033 Final flow 48342
40	CTD	17:27	"	"	120 M	110m	20090710-S11
41	Bottle Cast	17:29	"	"	120 M	75m	Depths: 75 50 30 20 10 0

Water Chemistry Sampling

University of Victoria

Cruise: OSM JULY 2009

Station Name: S11

Date: 10 July 09

Time: 1739

Cast #: 1 Event #: 40

Sampler Names: Anna/Rebecca

Niskin Bottle	Target Depth (m)	Oxygen Bottle #'s	DIC Bottle#	pH / T °C	NH4 Vial#	NUT	NO2 (4 tubes)	NH4 when acid spiked	CHL filtered Vol (mL)
8	/	/	/	/	/	/	/	/	/
7	/	/	/	/	/	/	/	/	/
6	0	/	/	/	A139	158	✓	/	250
5	10	/	/	/	A140	159	✓	/	250
4	20	/	/	/	A141	160	✓	/	/
3	30	/	/	/	A142	161	✓	/	250
2	50	/	/	/	A143	162	✓	/	250
1	75	/	/	/	A105	163	✓	/	/

NOTES:

1800

NH4 Spiked with Working Reagent: yes no Time Spiked?

NH4 Stds Vial# 0uM = 2.5uM = 5uM = 7.5uM = 10uM =

Time spiked?

Station Checklist - Chemical Samples

Station: 811

Samplers: _____

✓	CTD cast downloaded and saved
✓	Final sampling depths planned
✓	Log Sheets prepared (choose OXY / DIC / NH4 bottle numbers)
✓	NUT / NO2 labels: depths written in
✓	MN bottles: depths written on labels
✓	NUT/NO2 tubes labeled and placed in rack (1 NUT tubes and 2 NO2 tube for each sample depth)
✓	Oxygen sampled in duplicate, pickled, bottle #'s checked
✓	Carbon sampled, poisoned, sealed, bottle #'s checked
✓	pH bottle sampled (only at DIC depths)
✓	MN bottle sampled (1 per Niskin)
✓	NUT tubes sampled (1 per Niskin)
✓	NO2 tubes sampled (1 per Niskin)
✓	NUT samples into freezer
✓	NO2 samples into cooler
✓	NH4 tubes sampled (1 per Niskin), re-check # on log sheet. Samples into NH4 sample box (in racks).
✓	CHL bottles filled
✓	MN samples spiked with 2.5mL 6M HCl (put check mark on label when complete)
✓	CHL filtrations completed, filters frozen
✓	Oxygen bottles shaken, tops filled with water
✓	pH readings taken
✓	NH4 samples spiked with Working Reagent time? <u>1800</u>

OSM July 2009.

OCEAN SCIENCES STRICKLAND CTD LOG

DATE (dd-mm)	TIME (GMT)	LAT.	LONG.	STN NAME	BOTTOM DEPTH (m)	CAST DEPTH (m)	CTD File Name
09-July	9:46	48° 30.956'	123° 32.376	S1	150	144	20090709_S1
"	12:14	48° 33.215	123° 32.029	S2	213	203	20090709_S2
"	15:00	48° 38.269	123° 30.003	S4	200	190	20090709_S4
	17:30	48° 42.949 N	123° 27.628 W	S5	120	100	20090709_S5
10-July	9:03	48° 35.554 N	123° 30.007 W	S3	227	215	20090710_S3
"	11:23	48° 36.870 N	123° 30.006 W	S3.5	219	209	20090710_S3.5
"	13:49	48° 40.080 N	123° 30.050 W	S4.5	165	158	20090710_S4.5
"	15:57	48° 41.874 N	123° 29.846 W	S12	75	70	20090710_S12
"	17:27	48° 43.762 N	123° 32.582 W	S11	120	110	20090710_S11