

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17

Station: P17

Event #: 54

Ship: Tully

UTC Date (dd mmm yyyy): 13 6 13

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials				Comments									
			Target Pressure	Confirmed ✓ Pressure	Nut-F	Sal	Chl	HPLC										
1	1	397	50 Max	✓ 50	x		x x	x x										
2	2	398	5		x	x	x x	x x										
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		

Profile type: ☒ ROS ☐ TRM ☐ X-Niskin ☐ other?

Watchkeeper(s): H.A.

Bottom Depth: 3705 m

Transmisso Cleaned: ☒ Y / ☐ N

Time	UTC	Local
Start	1119	0419
Bottom	1157	
End	1231	

Positional Information

Start
Lat: 49 ° 20.93 N
Lon: 135 ° 39.93 W

Bottom
Lat: 49 ° 20.94 N
Lon: 135 ° 40.04 W

End
Lat: 49 ° 20.93 N
Lon: 135 ° 40.30 W

Extra comments:

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17 Station: P18 Event #: 55 Ship: Tully UTC Date (dd|mmm|yyyy): 13 | 6 | 13

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials								pH				Comments
			Target Pressure	Confirmed Pressure	HPLC	Chl-N	Chl	Nut-F									
1	1	399	250	✓	250								6				
2	2	400	85	✓	85								6				
3	3	401	75	✓	75								6				
4	5	402	50	✓	50								6				
5	4	403	60	✓	60	xx	xx		x								
6	6	404	50	✓	50	xx	xx		x								
7	7	405	45	✓	45	xx	xx		xx								EMPTY
8	8	406	40	✓	40	xx	xx		x								
9	9	407	35	✓	35	xx	xx		x								CHL MAX
10	10	408	30	✓	30	xx		xx	x								
11	11	409	25	✓	25	xx	xx		x								
12	12	410	20	✓	20	xx	xx		x								
13	13	411	15	✓	15	xx	xx		x								
14	14	412	5	✓	5	xx	xx	xx	x								
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	

Profile type:
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?
Watchkeeper(s): H.M.

Bottom Depth: 3822 m
Transmisso Cleaned: ☒ Y ☐ N

Time	UTC	Local
Start	1705	1005
Bottom	1756	
End	1837	

Positional Information
Start
Lat: 49 ° 25 . 95 N
Lon: 136 ° 40 . 13 W

Bottom
Lat: 49 ° 25 96 N
Lon: 136 ° 39 94 W

End
Lat: 49 ° 25 78 N
Lon: 136 ° 40 10 W

Extra comments:

pH and HPLC

OUT-OF-ORDER!

1 - 2 - 3 - 5 - 4 - 6 - 7 - ...

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17 Station: P19 Event #: 58 Ship: Tully UTC Date (dd mmm/yyyy): 13 6 2013

[illegible]

Profile type: ROS TRM X-Niskin other?
Watchkeeper(s): DY/NZ

Bottom Depth:	370	m
Transmisso Cleaned:	Y	N

Time	UTC	Local
Start	2259	1559
Bottom	2335	1635
End	0012	1712

Positional Information	
Start	Lat: 49 ° 29.99 N Lon: 137 ° 40.03 W
Bottom	Lat: 49 ° 29.97 N Lon: 137 ° 39.98 W
End	Lat: 49 ° 29.99 N Lon: 137 ° 40.04 W

Extra comments:

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17 Station: P20 Event #: 61 Ship: Tully UTC Date (dd|mmm|yyyy): 14|6|2013

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments
			Target Pressure	Confirmed Pressure	HPLC	Chl-N	Chl	Nut-F							
1	1	415	60	✓ 59	xx	xx		x							
2	2	416	50	✓ 49	xx	xx									
3	3	417	45	✓ 45	xx	xx		x							
4	4	418	40	✓ 40	xx	xx		x							
5	5	419	35	✓ 34	xx	xx		x							
6	6	420	30	✓ 30	xx		xx	x							
7	7	421	25	✓ 24	xx	xx									
8	8	422	20	✓ 20	xx	xx		x							
9	9	423	15	✓ 15	xx	xx		x							
10	10	424	5	✓ 5	xx	xx	xx	xx							
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															

Profile type:
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?
Watchkeeper(s): DY

Bottom Depth: 3966 m
Transmisso Cleaned: ☒ Y / ☐ N

Time	UTC	Local
Start	0445	2145
Bottom	0449	2149
End	0501	2201

Positional Information
Start
Lat: 49 ° 33.93 N
Lon: 138 ° 39.96 W

Bottom
Lat: 49 ° 33.94 N
Lon: 138 ° 33.98 W

End
Lat: 49 ° 33.92 N
Lon: 138 ° 39.96 W

Extra comments:
HPLC
no chl max
-well mixed to ~50m

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17

Station: P20

Event #: 63

Ship: Tully

UTC Date (dd mmm yyyy): 14 6 13

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials								Comments			
			Target Pressure	Confirmed Pressure	ONAr	NG	Sal	Oxy			UNC					
				✓	UVic	UVic	UW	UW								
1	1	425	4000	✓ 4000	xx	xx	x	xx					LEAKY TOP		(B-33m)	
2	2	426	3000	✓ 3000	xx	xx	x	xx								
3	3	427	2000	✓ 2000	xx	xx	x	xx								
4	4	428	1000	✓ 1000	xx		x	xx								
5	5	429	5	✓ 5	xx			xx								
6	6	430	5	✓						x						
7	7	431	5	✓						x					EMPTY-MISFIRE	
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																

Profile type:
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?
Watchkeeper(s): H.M.

Bottom Depth:	4033	m
Transmisso Cleaned:	☒ Y ☐ N	

Time	UTC	Local
Start	0833	0133
Bottom	0936	0236
End	1052	0352

Positional Information		
Lat:	49 ° 33.91	N
Lon:	138 ° 40.08	W

Start

Bottom

End

Lat:	49 ° 33.91	N
Lon:	138 ° 40.09	W

Lat:	49 ° 33.91	N
Lon:	138 ° 40.09	W

Extra comments:

ONAr + UNC

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17

Station: P20

Event #: 65

Ship: Tully

UTC Date (dd|mmm|yyyy): 14 | 6 | 13

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials											Comments			
			Target Pressure	Confirmed Pressure	OXY	Sal	Nut-F	Nut-C	DIC	pH	PIC	DOC	Si-I	UBC					
				✓	mm/H ₂ O	mm	AM	AM	mm/AW	GC	AW/HR	SD	NC	N ₂ /H ₂ O					
1	1	432	Bot-10	✓	4024	x	x	x	x	x	x	x	x	x					
2	2	433	3500	✓	3500	x	x	x	x	xx	x		x						
3	3	434	3500	✓	3500	xx	x	x	x	x	x		x	x					
4	4	435	3000	✓	2999	x	xx	x	x	x	x	x	x	x	x				
5	5	436	2500	✓	2500	x	x	xx	xx	x	x		xx	x					
6	6	437	2000	✓	1999	x	xx	x	x	x	x	x	x	x	x				
7	7	438	1500	✓	1501	x	x	x	x	x	x	x	x	x	x				
8	8	439	1250	✓	1250	x	x	x	x	x	xxx		x	x	x				
9	9	440	1000	✓	1000	x	xx	x	x	x	x	x	x	x	x				
10	10	441	800	✓	799	xx	x	x	x	x	x	x	x		x				
11	11	442	600	✓	600	x	x	x	x	x	x	x	x		x				
12	12	443	400	✓	400	x	x	x	x	x	x	x	x		x				
13	13	444	300	✓	300	x	x	x		x	x	x	x		x				
14	14	445	250	✓	250	x	x	x		x	x	x	x						
15	15	446	200	✓	199	xx	x	x		x	x	xx	x		x				
16	16	447	175	✓	175	x	x	x		x	x		xx						
17	17	448	150	✓	150	x	x	x		x	xxx	x	x		x				
18	18	449	125	✓	125	x	x	xx		x	x		x						
19	19	450	100	✓	100	x	x	x		x	x	x	x		x				
20	20	451	75	✓	75	x	x	x		x	x	x	xx						
21	21	452	50	✓	50	x	x	x		x	x	x	x		x				
22	22	453	25	✓	25	x	x	x		x	x	x	x		x				
23	23	454	10	✓	10	xx	x	x		x	x	x	x		x				
24	24	455	5	✓	5	x	x	x		x	x		x						

Profile type:			
☒ ROS	☐ TRM	☐ X-Niskin	☐ other?
Watchkeeper(s): 4.m.			

Bottom Depth:	3967	m
Transmisso Cleaned:	☒ Y / ☐ N	

Time	UTC	Local
Start	1251	0551
Bottom	1417	0717
End	1551	0851

Positional Information		
Lat:	49 ° 34.01	N
Lon:	138 ° 39.91	W

Start

Bottom

End

Lat:	49 ° 34.05	N
Lon:	138 ° 40.07	W

Lat:	49 ° 34.03	N
Lon:	138 ° 40.06	W

Extra comments:

Deep cast

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17 Station: P20

Event #: 67

Ship: Tully

UTC Date (dd/mm/yyyy): 14 6 13

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments
			Target Pressure	Confirmed Pressure	Nina S		UNC		Nina S						
1		456	3	✓	3	x									
2		457	3	✓		x									
3		458	3	✓		x									
4		459	MLD 25	✓	25	x									
5		460	MLD 25	✓		x									
6		461	MLD 25	✓		x									
7		462	Max 50	✓		x									
8		463	Max	✓	50	x									
9		464	Max	✓		x									
10		465	Max	✓			x								
11		466	Max	✓			x								
12		467	Max	✓			x								
13		468	Max	✓			x								
14		469	Max	✓			x								
15		470	Max	✓			x								
16		471	5	✓	5		x								
17		472	5	✓			x								
18		473	5	✓			x								
19		474	5	✓			x								
20		475	5	✓			x								
21		476	5	✓			x								
22		477	Max 50	✓					x						
23															
24															

Profile type:
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?
Watchkeeper(s): H.M.

Bottom Depth:	3965	m
Transmisso Cleaned:	☒ Y ☐ N	

Time	UTC	Local
Start	1701	1001
Bottom	1705	
End	1710	

Positional Information	
Start	Lat: 49 ° 33 87 N
	Lon: 138 ° 39 86 W
Bottom	Lat: 49 ° 33 87 N
	Lon: 138 ° 39 89 W
End	Lat: 49 ° 33 88 N
	Lon: 138 ° 39 89 W

Extra comments:
Nina S + UNC
OUT-OF-ORDER
7-15, 22, 4-6, 16-21 1-3

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17 Station: P21 Event #: 69 Ship: Tully UTC Date (dd/mm/yyyy): 14/6/2013

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials								pH				Comments
			Target Pressure	Confirmed Pressure	Nut-F	Sal	Chl	HPLC									
1	1	478	50 Max	✓	50	x		xx	xx								No sign. Max
2	2	479	5	✓	5	x	x	xx	xx								
3	2	480	25	✓	25								6				
4	3	481	10	✓	10								6				
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	

Profile type:
ROS TRM X-Niskin other?
Watchkeeper(s): DY

Bottom Depth: 3959 m
Transmisso Cleaned: Y / N

Time	UTC	Local
Start	2201	1901
Bottom	2234	1934
End	2310	1610

Positional Information
Start
Lat: 49° 37.98 N
Lon: 139° 39.86 W

Bottom
Lat: 49° 37.90 N
Lon: 139° 39.89 W

End
Lat: 49° 37.85 N
Lon: 139° 39.97 W

Extra comments:
OUT-OF-ORDER
1-3-4-2

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17 Station: P22

Event #: 2471

Ship: Tully

UTC Date (dd mmm yyyy): 15 6 2013

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials								Comments			
			Target Pressure	Confirmed ✓ Pressure	HPLC	Chl-N	Chl	Nut-F								
1	1	482	60	✓ 60	xx	xx		x								
2	2	483	50	✓ 50	xx	xx		x								
3	3	484	45	✓ 45	xx	xx		xx								
4	4	485	40	✓ 40	xx	xx		x								
5	5	486	35	✓ 35	xx	xx		x								
6	6	487	30	✓ 30	xx		xx	x								
7	7	488	25	✓ 24	xx	xx		x								
8	8	489	20	✓ 20	xx	xx		x								
9	9	490	15	✓ 15	xx	xx		x								
10	10	491	5	✓ 5	xx	xx	xx	x								
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																

Profile type:			
ROS	TRM	X-Niskin	other?
Watchkeeper(s): DY			

Bottom Depth:	3944	m
Transmisso Cleaned:	Y / N	

Time	UTC	Local
Start	0405	2105
Bottom	0438	2138
End	0518	2218

Positional Information		
Lat:	49 ° 41.88	N
Lon:	140 ° 40.00	W

Start

Bottom

End

Lat:	49 ° 41.62	N
Lon:	140 ° 40.19	W

Lat:	49 ° 41.54	N
Lon:	140 ° 40.48	W

Extra comments:
pH and HPLC

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17

Station: P23

Event #: 72

Ship: Tully

UTC Date (dd mmm yyyy): 15 6 13

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials								Comments				
			Target Pressure	Confirmed Pressure	Nut-F	Sal	Chl	HPLC									
1	1	492	(50) Max	✓	50	x		x x	x x								
2	2	493	5	✓	5	x	x	x x	x x								
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	

Profile type:
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?
Watchkeeper(s): H.M.

Bottom Depth: 4052 m
Transmisso Cleaned: ☒ Y ☐ N

Time	UTC	Local
Start	1026	0326
Bottom	1054	
End	1127	

Positional Information

Start	Lat:	49 ° 46.01	N
	Lon:	141 ° 40.06	W
Bottom	Lat:	49 ° 46.14	N
	Lon:	141 ° 40.16	W
End	Lat:	49 ° 46.36	N
	Lon:	141 ° 40.30	W

Extra comments:

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17 Station: P24 Event #: 75 Ship: Tully UTC Date (dd|mmm|yyyy): 15 | 6 | 13

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials								Comments							
			Target Pressure	Confirmed Pressure	HPLC	Chl-N	Chl	Nut-F												
1	1	494	60	✓ 60	xx	xx		x												
2	2	495	50	✓ 50	xx	xx		x												
3	3	496	45	✓ 45	xx	xx		xx												
4	4	497	40	✓ 40	xx	xx		x												
5	5	498	35	✓ 35	xx	xx		x												
6	6	499	30	✓ 30	xx		xx	x												
7	7	500	25	✓ 25	xx	xx		x												
8	8	501	20	✓ 20	xx	xx		x												
9	9	502	15	✓ 15	xx	xx		x												
10	10	503	5	✓ 5	xx	xx	xx	x												
11																				
12																				
13																				
14																				
15																				
16																				
17																				
18																				
19																				
20																				
21																				
22																				
23																				
24																				

Profile type:
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?
Watchkeeper(s): H. M.

Bottom Depth: 3987 m
Transmisso Cleaned: ☒ Y ☐ N

Time	UTC	Local
Start	1641	0941
Bottom	1710	
End	1750	

Positional Information

Lat:	49 ° 50 . 22	N
Lon:	142 ° 40 . 04	W

▼

Lat:	49 ° 50 . 33	N
Lon:	142 ° 40 . 11	W

▼

Lat:	49 ° 50 . 47	N
Lon:	142 ° 40 . 35	W

Extra comments:
pH and HPLC

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17

Station: P25

Event #: 76

Ship: Tully

UTC Date (dd|mmm|yyyy): 15 | 6 | 2013

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments				
			Target Pressure	Confirmed Pressure	Nut-F	Sal	Chl	HPLC		DIC	pH								
1	1	504	2000	✓	2000		x				xxx	xxx							
2	2	505	2000	✓			x				xxx	xxx							
3	3	506	2000	✓			x				xxx	xxx							
4	4	507	2000	✓			x				xxx	xxx							
5	5	508	2000	✓			x				xxx	xxx							
6	6	509	2000	✓			x												
7	7	510	2000	✓			x												
8	8	511	2000	✓			x												
9	9	512	2000	✓			x												
10	10	513	2000	✓			x												
11	11	514	2000	✓			x												
12	12	515	2000	✓			x												
13	13	516	2000	✓			x												
14	14	517	2000	✓			x												
15	15	518	2000	✓			x												
16	16	519	2000	✓			x												
17	17	520	2000	✓			x												
18	18	521	2000	✓			x												
19	19	522	2000	✓			x												
20	20	523	2000	✓			x												
21	21	524	2000	✓			x												
22	22	525	2000	✓			x												
23	23	526	500	✓	50	x	x	xx	xx										No chl Max
24	24	527	5	✓	5	x	x	xx	xx										

Profile type:	ROS	TRM	X-Niskin	other?
Watchkeeper(s):	DY			

Bottom Depth:	4141	m
Transmisso Cleaned:	(Y) / N	

Time	UTC	Local
Start	2259	1559
Bottom	2334	1634
End	0010	1710

Positional Information
Start
Lat: 50 ° 0.02 N
Lon: 143 ° 36.35 W

Bottom
Lat: 50 ° 0.03 N
Lon: 143 ° 36.26 W

End
Lat: 50 ° 0.07 N
Lon: 143 ° 36.38 W

Extra comments:

Calibration cast

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17

Station: P35

Event #:

Ship: Tully

UTC Date (dd mmm yyyy): 16 6 2013

[illegible]

Profile type: ROS TRM X-Niskin other?

Watchkeeper(s): DY

Bottom Depth: 4150 m

Transmisso Cleaned: Y / N

<i>Time</i>	<i>UTC</i>	<i>Local</i>
Start	0344	2044
Bottom	0419	2119
End	0452	2152

Positional Information	
Lat: 50° 0.02	N
Lon: 144° 17.95	W

Lat:	50 ° 0.06	N
Lon:	144 ° 18.14	W

Lat:	50 ° 0.02	N
Lon:	144 ° 18.23	W

Extra comments:
No chl max

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17 Station: P26 Event #: 79 Ship: Tully UTC Date (dd|mmm|yyyy): 16 | 6 | 13

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments		
			Target Pressure	Confirmed ☒ Pressure	UNC			TM	TM								
								Filt	Non-F								
1		530	40	☒				x x	x x								
2		531	30	☒				x x	x x								
3		532	20	☒				x x	x x								
4		533	15	☒		x											
5		534	10	☒				x x	x x								
6		535	5	☒				x x	x x								
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	

Profile type:
ROS TRM X-Niskin ☒ other?
Watchkeeper(s): AM/HMBottom Depth: 4250 m
Transmisso Cleaned: Y / N

Time	UTC	Local
Start	0804	0104
Bottom		
End	1246	0546

Positional Information
Start
Lat: 50 ° 00 . 02 N
Lon: 145 ° 00 . 11 WBottom
Lat: ° N
Lon: ° WEnd
Lat: 50 ° 00 . 36 N
Lon: 145 ° 00 . 38 WExtra comments:
Pumping for UNC

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17

Station: P26

Event #: 81

Ship: Tully

UTC Date (dd|mmm|yyyy): 16 | 6 | 13

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials												Comments
			Target Pressure	Confirmed Pressure	Cs												
1	1	536	600	✓	600	x											
2	2	537	600	✓		x											
3	3	538	600	✓		x											
4	4	539	600	✓		x											
5	5	540	600	✓		x											
6	6	541	600	✓		x											
7	7	542	500	✓	500	x											
8	8	543	500	✓		x											
9	9	544	500	✓		x											
10	10	545	500	✓		x											
11	11	546	500	✓		x											
12	12	547	500	✓		x											
13	13	548	400	✓	400	x											
14	14	549	400	✓		x											
15	15	550	400	✓		x											
16	16	551	400	✓		x											
17	17	552	400	✓		x											
18	18	553	400	✓		x											
19	19	554	300	✓	300	x											
20	20	555	300	✓		x											
21	21	556	300	✓		x											
22	22	557	300	✓		x											
23	23	558	300	✓		x											
24	24	559	300	✓		x											

Profile type:
☒ ROS TRM ☐ X-Niskin ☐ other?
Watchkeeper(s): H.m.

Bottom Depth:	4252 m
Transmisso Cleaned:	☒ Y / ☐ N

Time	UTC	Local
Start	1434	0734
Bottom	1445	
End	1459	

Start	Positional Information	
	Lat: 49 ° 59.96	N
	Lon: 145 ° 00.16	W

Bottom	Lat: 49 ° 59.99	N
	Lon: 145 ° 00.19	W

End	Lat: 49 ° 59.97	N
	Lon: 145 ° 00.19	W

Extra comments:

Cesium 1

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17 Station: P26 Event #: 92 Ship: Tully UTC Date (dd:mmm/yyyy): 16 6 13

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments			
			Target Pressure	Confirmed Pressure	Oxy	ONAr	ONAr	N G	Sal	DIC	DIC	Si-I	Nuts					
				✓		UW	UW	UVic	UW	UW	UW	IOS	UC	ON/US				
1		560	4000	✓	4000	x x	x x	x		x								
2		561	4000	✓														
3		562	4000	✓		x x			x x	x								
4		563	4000	✓														
5		564	3000	✓	3000	x x	x x	x		x								
6		565	3000	✓														
7		566	3000	✓		x x			x x	x								
8		567	3000	✓														
9		568	2000	✓	2000	x x	x x	x		x								
10		569	2000	✓														
11		570	2000	✓		x x			x x	x								
12		571	2000	✓														
13		572	4000	✓	4000					x	x	x	x	x x				
14		573	3500	✓	3500					x	x	x	x	x x				
15		574	3000	✓	3000					x	x	x	x	x x				
16		575	2500	✓	2500					x	x	x	x	x x				
17		576	2000	✓	2000					x	x	x	x	x x				
18		577	1500	✓	1500					x	x	x	x	x x				
19		578	1250	✓	1250					x	x	x	x	x x				
20		579	1000	✓	1000					x	x	x	x	x x				
21																		
22																		
23																		
24																		

Profile type:
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?
Watchkeeper(s): H.M.

Bottom Depth: 4252 m
Transmisso Cleaned: ☒ Y ☐ N

Time	UTC	Local
Start	1550	0850
Bottom	1703	
End	1806	

Positional Information
Start
Lat: 49 ° 59 . 95 N
Lon: 145 ° 00 . 14 W

Bottom
Lat: 49 ° 59 . 96 N
Lon: 145 ° 00 . 15 W

End
Lat: 49 ° 59 . 91 N
Lon: 145 ° 00 . 16 W

Extra comments:
ONAr + Si I + nutrients
OUT-OF-ORDER
1 - 2 - 3 - 4 - 13 - 14 - 15 - 5 - 6 - 7 - 8
16 - 17 - 9 - 10 - 11 - 12 - 18 - 19 - 20

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17

Station: P26

Event #: 84

Ship: Tully

UTC Date (dd/mmm/yyyy): 16/6/2013

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments			
			Target Pressure	Confirmed Pressure	Oxy	ONAr	ONAr	NG	Sal									
				✓	UW	UW	UVic	UW	UW									
1	1	580	400	✓	400	x x	x x	*	x x	x								
2	2	581	400	✓														
3	3	582	400	✓		xx		xx	4									
4	4	583	400	✓														
5	5	584	250	✓	250	x x	x x	*	x x	x								
6	6	585	250	✓	2													
7	7	586	250	✓		xx		xx	4									
8	8	587	250	✓														
9	9	588	100	✓	100	x x	x x	*	x x	x								
10	10	589	100	✓														
11	11	590	100	✓		xx		xx	4									
12	12	591	100	✓														
13	13	592	5	✓	5	x x	x x	x x		x								
14	14	593	5	✓														
15	15	594	5	✓		x x			x x	x								
16	16	595	5	✓														
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		

Profile type:
ROS TRM X-Niskin other?
Watchkeeper(s): dy

Bottom Depth:	4251 m
Transmisso Cleaned:	Y / N

Time	UTC	Local
Start	2048	1348
Bottom	2056	1356
End	2106	1406

Positional Information		
Start	Lat: 50° 0.13	N
	Lon: 145° 0.04	W
▼		
Bottom	Lat: 50° 0.15	N
	Lon: 145° 0.02	W
▼		
End	Lat: 50° 0.16	N
	Lon: 145° 0.04	W

Extra comments:
ONAr

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17

Station: P26

Event #: 85

Ship: Tully

UTC Date (dd|mmm|yyyy): 16 | 6 | 2013

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials								Comments						
			Target Pressure	Confirmed	Oxy	ONAr	ONAr	N G	Sal	Nari	Nina								
			✓	Pressure	UW	UW	UVic	UW	UW		S								
1	1	596	1000	✓	1001						x	x							
2	2	597	1000	✓							x								
3	3	598	1000	✓		xx	xx	x		x									
4	4	599	1000	✓															
5	5	600	1000	✓		xx			xx	x									
6	6	601	1000	✓															
7	7	602	800	✓	800	xx	xx	x		x									
8	8	603	800	✓															
9	9	604	800	✓		xx			xx	x									
10	10	605	800	✓															
11	11	606	600	✓	601	xx	xx	x		x									
12	12	607	600	✓															
13	13	608	600	✓		xx			xx	x									
14	14	609	600	✓															
15	15	610	100	✓	100						x								
16	16	611	100	✓							x								
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			

Profile type:
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?
Watchkeeper(s): DY

Bottom Depth:	4251 m
Transmisso Cleaned:	☒ Y / ☐ N

Time	UTC	Local
Start	2246	1546
Bottom	2304	1604
End	2325	1625

Positional Information		
Lat:	50° 0.05	N
Lon:	144° 59.94	W

Lat:	50° 0.05	N
Lon:	144° 59.95	W

Lat:	50° 0.10	N
Lon:	144° 59.84	W

Extra comments:

ONAr + Nari

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17

Station: P26

Event #: 86

Ship: Tully

UTC Date (dd/mm/yyyy): 17 6 2013

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments		
			Target Pressure	Confirmed Pressure	OXY	Sal	Nut Fr	NutCo	DIC	Alk	pH	PIC	DOC	UBC			
1	1	612	Bot-10	✓	4318	x		xx	x	x	x	x	xx	x			
2	2	613	4000	✓	3999	xx	xx	xx	1+4	xx	x	x	xx	x			
3	3	614	3500	✓	3500	x	x	xx	x	x	x		xx				
4	4	615	3000	✓	3000	x	xx	xx	x	x	x	x	xx	x			
5	5	616	2500	✓	2500	x	x	xx	xx	x	x	xxx	xx				
6	6	617	2000	✓	2001	x	xx	xx	x	x	x	x	xx	x			
7	7	618	1500	✓	1500	x		xx	x	x	x	x	xx	x			
8	8	619	1250	✓	1249	xx		xx	x	x	x		xx	x			
9	9	620	1000	✓	1000	x	xx	xx	1+4	x	x	x	xx	x			
10	10	621	800	✓	800	x		xxx	xx	x	x	x	xx	x			
11	11	622	600	✓	600	x		xx	1+4	x	x	x	xx	x			
12	12	623	400	✓	400	x		xx	1+4	x	x	x	xx	x			
13	13	624	300	✓	300	x		xx		x	x	x	xx	x			
14	14	625	250	✓	250	xx		2+4		x	x	x	xx	xx			
15	15	626	200	✓	200	x		xx		x	x	x	xx	x			
16	16	627	175	✓	175	x		xx		x	x	x	xx				
17	17	628	150	✓	150	x		xx		x	x	x	xx	x			
18	18	629	125	✓	125	xx		xx		x	x	x	xx				
19	19	630	100	✓	100	x		xx		x	x	x	xx	x			
20	20	631	75	✓	75	x		xx		x	x	xxx	x	xx			
21	21	632	50	✓	50	x		xx		x	x	x	xx	x			
22	22	633	25	✓	25	x		xx		x	x	x	xx	x			
23	23	634	10	✓	10	x		2+4		x	x	x	xx	x			
24	24	635	5	✓	5	x	x	xx		x	x	x	xx				

Profile type:
(ROS) TRM X-Niskin other?
Watchkeeper(s): DY

Bottom Depth:	4250	m
Transmisso Cleaned:	(Y) / N	

Time	UTC	Local
Start	0149	1849
Bottom	0309	2009
End	0449	2149

Positional Information
Lat: 50° 0.08 N
Lon: 144° 59.93 W

Start

Bottom

End

Lat: 50° 0.06 N
Lon: 144° 59.95 W

Lat: 49° 59.96 N
Lon: 144° 59.85 W

Extra comments:

Deep cast

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID:

2013-17

Station:

P26

Event #:

87

Ship:

Tully

UTC Date (dd/mm/yyyy):

17 6 13

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials												Comments
			Target Pressure	Confirmed Pressure	Cs		HPLC										
1	1	636	200	✓ 200	x												
2	2	637	200	✓	x												
3	3	638	200	✓	x												
4	4	639	200	✓	x												
5	5	640	200	✓	x												
6	6	641	200	✓	x												
7	7	642	150	✓ 150	x												
8	8	643	150	✓	x												
9	9	644	150	✓	x												
10	10	645	150	✓	x												
11	11	646	150	✓	x												
12	12	647	150	✓	x												
13	13	648	100	✓ 100	x												
14	14	649	100	✓	x												
15	15	650	100	✓	x												
16	16	651	100	✓	x												
17	17	652	100	✓	x												
18	18	653	100	✓	x												
19	19	654	5	✓ 5			x										
20	20	655	5	✓			x										
21	21	656	5	✓			x										
22	22	657	5	✓			x										
23	23	658	5	✓			x										
24	24	659	5	✓			x										

Profile type:
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?
Watchkeeper(s): H.M

Bottom Depth:	4252 m
Transmisso Cleaned:	☒ Y / ☐ N

Time	UTC	Local
Start	1434	0734
Bottom	1439	
End	1446	

Positional Information	
Start	Lat: 49 ° 59 . 97 N
	Lon: 144 ° 59 . 84 W

Bottom	Lat: 49 ° 59 . 94 N
	Lon: 144 ° 59 . 87 W

End	Lat: 49 ° 59 . 92 N
	Lon: 144 ° 59 . 91 W

Extra comments:
Cesium 2 + HPLC

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17 Station: PA-007 Event #: 89 Ship: Tully UTC Date (dd|mmm|yyyy): 17 | 6 | 2013

Cruise ID: 2018-11 Station: 1750			Rosette Operation			Samples Taken / Sampler's Initials										Comments		
Niskin #	Firing #	Sample #	Target	Confirmed		ONAr	DIC	Sal	Oxy									
			Pressure	✓	Pressure	UW	UW	UW	UW									
1	1	660	56	✓	6	x x	x x	x	x x									
2	2	661	23	✓	3	x x	x	x	x x									
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		

Profile type:
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?
Watchkeeper(s): DY

Bottom Depth: 4214 m
Transmisso Cleaned: ☒ Y ☐ N

Time	UTC	Local
Start	2110	1410
Bottom	2119	1419
End	2129	1429

Positional Information
Start
Lat: 50° 807 N
Lon: 144° 48.83 W

Bottom
Lat: 50° 8.04 N
Lon: 144° 48.82 W

End
Lat: 50° 8.02 N
Lon: 144° 48.85 W

Extra comments:
Calibration at new mooring
(ONAr)
To 500m

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17 Station: PA-007 Event #: 90 Ship: Tully UTC Date (dd|mmm|yyyy): 17 | 6 | 2013

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials								Comments					
			Target Pressure	Confirmed Pressure	ONAr	DIC	Sal	Oxy										
				✓	UW	UW	UW	UW										
1	1	662	6	✓	6	xx	xx	x	xx									
2	2	663	3	✓	3	xx	x	x	xx									
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		

Profile type:
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?
Watchkeeper(s): DY

Bottom Depth:	4213 m
Transmisso Cleaned:	✓ / N

Time	UTC	Local
Start	2333	1633
Bottom	2343	1643
End	2354	1654

Positional Information
Start
Lat: 50° 8.12 N
Lon: 144° 48.86 W

Bottom
Lat: 50° 8.10 N
Lon: 144° 48.92 W

End
Lat: 50° 8.13 N
Lon: 144° 48.98 W

Extra comments:
2 nd Calibration at new mooring to 500m

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17 Station: P26 Event #: 91 Ship: Tully UTC Date (dd:mmm:yyy): 18 6 2013

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments			
			Target Pressure	Confirmed ✓ Pressure	HPLC	Chl-N	Chl	Nut-F	Chl-L	Chl-E	Phyto							
1	1	664	60	✓ 60	xx		x	x	x									
2	2	665	50	✓ 50	xx		x		x									
3	3	666	45	✓ 45	xx		x	x	x									
4	4	667	40	✓ 40	xx		x	x	x									
5	5	668	35	✓ 35	xx	xx	x	x	x									
6	6	669	30	✓ 30	xx		xx	x	xx	xx								
7	7	670	25	✓ 25	xx		x	xx	x									
8	8	671	20	✓ 20	xx		x	x	x									
9	9	672	15	✓ 15	xx		x	x	x	xx								-took chl-E here
10	10	673	5	✓ 5	xx	xx	xx		xx	ba	xxx							Exp - no water
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		

Profile type:
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?
 Watchkeeper(s): DY

Bottom Depth: 4252 m
 Transmisso Cleaned: (Y) / N

Time	UTC	Local
Start	0304	2004
Bottom	0308	2008
End	0318	2018

Positional Information
 Start
 Lat: 50 ° 0.03 N
 Lon: 144 ° 59.93 W

Bottom
 Lat: 50 ° 0.03 N
 Lon: 144 ° 59.95 W

End
 Lat: 50 ° 0.01 N
 Lon: 144 ° 59.91 W

Extra comments:
 HPLC cast

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17 Station: P26 Event #: 92 Ship: Tully UTC Date (dd/mm/yyyy): 18 6 13

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments
			Target Pressure	Confirmed Pressure		UBC		UNC							
1	1	674	4000	✓	4000		x								To replace deep cast bottle
2	2	675	2000	✓	2000										
3	3	676	2000	✓			x								
4	4	677	2000	✓											
5	5	678	2000	✓											
6	6	679	2000	✓											
7	7	680	1000	✓	1000										DID NOT CLOSE
8	8	681	1000	✓			x								
9	9	682	1000	✓											
10	10	683	1000	✓											
11	11	684	1000	✓											
12	12	685	1000	✓			x								To replace deep cast bottle
13	13	686	800	✓	800		x								To replace deep cast bottle
14	14	687	500	✓	500										
15	15	688	500	✓			x								
16	16	689	500	✓											
17	17	690	500	✓											
18	18	691	10	✓	10										
19	19	692	10	✓			x								
20	20	693	10	✓											
21	21	694	10	✓											
22	22	695	5	✓	5				x						
23	23	696	5	✓				x							
24															

Profile type:
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?
Watchkeeper(s): H.M.

Bottom Depth: 4252 m
Transmisso Cleaned: (Y) N

Time	UTC	Local
Start	0657	2357
Bottom	0804	0104
End	0908	0208

Positional Information

Lat:	50	°	00	'	03	N
Lon:	144	°	59	'	99	W

Start

Lat:	49	°	59	'	98	N
Lon:	145	°	00	'	06	W

Bottom

Lat:	49	°	59	'	97	N
Lon:	145	°	00	'	11	W

End

Extra comments:
UBC cast + UNC

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17 Station: PA-006 Event #: 94 Ship: Tully UTC Date (dd:mmm/yyyy): 10/6/13

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials								Comments				
			Target Pressure	Confirmed Pressure	ONAr	DIC	Sal	Oxy									
				✓	UW	UW	UW	UW									
1	1	697	5	✓ 5	x x	x	x	x x									
2	2	698	2		x x	x	x	x x									
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	

Profile type:
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?
Watchkeeper(s): H.M.

Bottom Depth:	4228	m
Transmisso Cleaned:	☒ Y ☐ N	

Time	UTC	Local
Start	1504	0804
Bottom	1513	
End	1522	

Start	Positional Information		
	Lat:	50 ° 02. 40	N
	Lon:	144 ° 52. 61	W
Bottom	▼		
	Lat:	50 ° 02. 47	N
	Lon:	144 ° 52. 65	W
End	▼		
	Lat:	50 ° 02. 47	N
	Lon:	144 ° 52. 67	W

Extra comments:

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17 Station: P26

Event #: 98

Ship: Tully

UTC Date (dd|mmm|yyyy): 19 | 6 | 13

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments
			Target Pressure	Confirmed Pressure	Cs		Oxy	DIC	O17	Sal					
				✓			UW	UW	UW	UW					
1	1	699	200	✓	200		x x	x	x x	x					
2	2	700	150	✓	100		x x	x	x x	x					
3	3	701	100	✓	100		x x	x	x x	x					
4	4	702	50	✓	50	x									
5	5	703	50	✓		x									
6	6	704	50	✓		x									
7	7	705	50	✓		x									
8	8	706	50	✓		x									
9	9	707	50	✓		x									
10	10	708	50	✓		x									
11	11	709	5	✓	5	x									
12	12	710	5	✓		x									
13	13	711	5	✓		x									
14	14	712	5	✓		x									
15	15	713	5	✓		x									
16	16	714	5	✓		x									
17	17														
18	18														
19	19														
20	20														
21	21														
22	22														
23	23														
24	24														

Profile type:
☒ RO3 ☐ TRM ☐ X-Niskin ☐ other?
Watchkeeper(s): H.M.

Bottom Depth:	4252	m
Transmisso Cleaned:	☒ Y ☐ N	

Time	UTC	Local
Start	1438	0738
Bottom	1442	
End	1449	

Positional Information	
Start	Lat: 49 ° 59 . 99 N
	Lon: 144 ° 59 . 94 W

Bottom	Lat: 50 ° 00 . 00 N
	Lon: 144 ° 59 . 94 W

End	Lat: 50 ° 00 . 02 N
	Lon: 144 ° 59 . 94 W

Extra comments:
Cesium 3 + O ¹⁷

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID:

2013-17

Station:

P26

Event #:

99

Ship:

Tully

UTC Date (dd/mm/yyyy):

19 / 6 / 13

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments	
			Target Pressure	Confirmed Pressure	Nina	UNC	Oxy	DIC	O17	Sal						
				✓	S		UW	UW	UW	UW						
✓ 22		715	3		x											Bot 1 = 50 m
2		716	3		x											
3		717	3		x											
4		718	MLD 25	25	x											
5		719	MLD	1	x											
6		720	MLD		x											
7		721	Max		x											
8		722	Max		x											
9		723	Max		x											
10		724	Max			x										
11		725	Max			x										
12		726	Max			x										
13		727	Max			x										
14		728	Max	✓		x										
15		729	Max	25		x										
16		730	5			x										
17		731	5			x										
18		732	5			x										
19		733	5			x										
20		734	5			x										
21		735	5			x										
22	1	736	50	✓ 50	1		xx	xx	xx	x						Bot 22 = 3 m
23		737	10	✓ 10			xx	x	xx	x						
24		738	5				xx	x	xx							FORGOT TO TRIGGER #24

Profile type:
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?
Watchkeeper(s): H. H.

Bottom Depth: 4252 m
Transmisso Cleaned: ☒ Y / ☐ N

Time	UTC	Local
Start	1602	0902
Bottom	1605	
End	16	

Positional Information
Start
Lat: 50° 00.04' N
Lon: 144° 59.94' W

Bottom
Lat: 50° 00.02' N
Lon: 144° 59.91' W

End
Lat: 50° 00' N
Lon: 144° 59' W

Extra comments:
Nina S + UNC + O17
OUT-OF-ORDER
22, 4-15, 23, 16-21, 24, 13

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17 Station: P16 Event #: 104 106 Ship: Tully UTC Date (dd|mmm|yyyy): 21 6 13

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials												Comments
			Target Pressure	Confirmed Pressure	UBC		Oxy										
				✓			UW										
1	1	739	1000	✓	1000			x									
2	2	740	1000	✓	✓			x									
3	3	741	800	✓	800			x									
4	4	742	800	✓	✓			x									
5	5	743	600	✓	600			x									
6	6	744	600	✓	✓			x									
7	8	745	400	✓	400			x									
8	9	746	400	✓	✓			x									
9	10	747	200	✓	200			x									
10	11	748	200	✓	✓			x									
11	12	749	5	✓	5			x									
12	13	750	5	✓	✓			x									
13	7	751	600	✓	600	x											
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	

Profile type:
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?
Watchkeeper(s): H.m.

Bottom Depth: 3632 m
Transmisso Cleaned: ☒ Y / ☐ N

Time	UTC	Local
Start	1430	0730
Bottom	1446	
End	1504	

Positional Information

Lat:	49 ° 17 . 04	N
Lon:	134 ° 40 . 07	W

▼

Lat:	49 ° 17 . 03	N
Lon:	134 ° 40 . 12	W

▼

Lat:	49 ° 17 . 16	N
Lon:	134 ° 40 . 16	W

Extra comments:
P16, return leg
UBC and OW Oxy
OUT-OF-ORDER
1 - ... - 6 - 13 - 7 - 8 ...

Water Properties Group

Sampling Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2013-17 Station: P4 Event #: 108 Ship: Tully UTC Date (dd mmm/yyyy): 23 6 2013

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials												Comments
			Target Pressure	Confirmed Pressure	pH	HPLC	Nina										
1	1	752	85	✓ 85	6												
2	9	753	25	✓ 25	6												
3	10	754	15	✓ 15	6												
4	11	755	5	✓ 5	6												
5	2	756	Max	✓ 30			x										
6	3	757	Max	✓ 30		x											
7	4	758	Max	✓ 30		x											
8	5	759	Max	✓ 30		x											
9	6	760	Max	✓ 30		x											
10	7	761	Max	✓ 30		x											
11	8	762	Max	✓ 30		x											
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	

Profile type:
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?
Watchkeeper(s): DY

Bottom Depth: 1302 m
Transmisso Cleaned: ☒ Y / ☐ N

Time	UTC	Local
Start	0103	1803
Bottom	0123	1823
End	0147	1847

Positional Information

Lat:	48° 39.11	N
Lon:	126° 39.98	W

Start

Lat:	48° 39.10	N
Lon:	126° 39.95	W

Bottom

Lat:	48° 39.07	N
Lon:	126° 39.88	W

End

Extra comments:
P4, return leg
pH, HPLC, Nina S
OUT-OF-ORDER
1-5-6...11-2-3-4