

Water Properties Group

Sampling Log

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

Cruise ID: 2015-20⁰⁹ Station: P1 Event #: 5 Ship: Tully UTC Date (dd:mmm/yyyy): 08 JUN 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments			
			Target	Confirmed	Nut-F	Sal	Chl	HPLC	DIC	Oxy	pH							
			Pressure	✓ Pressure														
1	1	1	Bot-10	✓ 113	x				xx	xx	xxx							
2	2	2	(30) Max	✓ 30	x		xx	xx	x	x	x							
3	3	3	5	✓ 5.5	x	x	xx	xx	x	x	x							
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): MB

Bottom Depth: 120 m
Transmisso Cleaned: Y / N

Time	UTC	Local
Start	1707	1007
Bottom	1709	
End	1714	

Positional Information

Lat:	48 ° 34 48 N
Lon:	125 ° 30 02 W

Bottom

Lat:	48 ° 34 49 N
Lon:	125 ° 30 00 W

End

Lat:	48 ° 34 49 N
Lon:	125 ° 29 39 W

Extra comments:

Water Properties Group

Sampling Log

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

Cruise ID: 2015-20⁰⁹ Station: P2 Event #: 6 Ship: Tully UTC Date (dd mmm yyyy): 08 06 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments			
			Target	Confirmed	Oxy	Nut-F	Nut-C	Sal -	DIC	pH		Céline						
			Pressure	✓ Pressure								NH4						
1	1	4	Bot-10	✓	105	x	x		x	x		x						
2	2	5	100	✓	100	x	x		x	x		x						
3	3	6	75	✓	75	x	x		x x	x		x						
4	4	7	75	✓	75	x x	x		x	x								
5	5	8	50	✓	50	x	x		x	x x x		x						
6	6	9	25	✓	25	x	x x		x	x		x						
7	7	10	10	✓	10	x	x		x	x		x						
8	8	11	5	✓	5	x	x	x	x	x		x						
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: 115 m
Transmisso Cleaned: Y / N

Time	UTC	Local
Start	2033	1333
Bottom	2036	
End	2044	

Positional Information

Lat:	48 ° 36.04	N
Lon:	126 ° 0.05	W

▼

Lat:	48 ° 36.04	N
Lon:	126 ° 0.06	W

▼

Lat:	48 ° 36.08	N
Lon:	126 ° 00.04	W

Extra comments:
Deep cast + Céline

Water Properties Group

Sampling Log

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

Cruise ID: 2015-20⁰⁹ Station: P2 Event #: 8 Ship: Tully UTC Date (dd mmm yyyy): 08 JUN 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments
			Target Pressure	Confirmed ✓ Pressure	DMS	DMSP	DMSP	Nut-Fr	Chl	HPLC					
1	1	12	100	✓	100	x	x	x	xx	x					Dripping badly
2	2	13	75	✓	75	x			x	x					
3	3	14	50	✓	50	x			x	x					
4	4	15	40	✓	40	x			x	x					
5	5	16	30	✓	30	x			x	x					
6	7	17	25	✓	25	x			x	xx					
7	8	18	20	✓	20	xx	xx	xx	x	x					
8	7	19	15	✓	15	x			x	x					
9	10	20	10	✓	10	x			x	x					
10	13	21	5	✓	5	x	x	x	x	x					
11	14	22	0	✓	29	x	x	x	x	x					
12	6	23	(30 or M)	✓	30				xx	xx					
13	11	24	15 or (M)	✓	10				xx	xx					
14	12	25	5	✓	5				xx	xx					
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															

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

Bottom Depth: 118 m

Transmisso Cleaned: ☒ Y / ☐ N

Time	UTC	Local
Start	2123	1423
Bottom	2125	
End	2137	

Positional Information

Start
Lat: 48° 36.04 N
Lon: 126° 00.19 WBottom
Lat: 48° 36.03 N
Lon: 126° 00.20 WEnd
Lat: 48° 36.05 N
Lon: 126° 00.21 W

Extra comments:

DMS cast; out-of-order

1-5; 12; 6-9; 13;
14; 10-11

Water Properties Group

Sampling Log

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

Cruise ID: 2015-09 Station: P3 Event #: 9 Ship: Tully UTC Date (dd mmm yyyy): 08 06 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials								Comments						
			Target Pressure	Confirmed Pressure	Nut-F	Sal	Chl	HPLC	Gases	Niko									
1	1	26	300	✓	300						xx								
2	2	27	250	✓	250						xx								
3	3	28	200	✓	200						xx								
4	4	29	175	✓	175						xx								
5	5	30	150	✓	150						xx								
6	6	31	125	✓	125						xx								
7	7	32	100	✓	100						xx								
8	8	33	75	✓	75						xx								
9	9	34	50	✓	50						xx								
10	12	35	5	✓	5						xx								
11	10	36	30 Max	✓	29	x		xx	xx										2.2 @ 30 m HPLC
12	11	37	5	✓	5	x	x	xx	xx										
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			

Profile type:
ROS TRM X-Niskin other?
Watchkeeper(s): DYBottom Depth: 812 m
Transmisso Cleaned: Y / N

Time	UTC	Local
Start	2359	1659
Bottom	0013	
End	0037	

Positional Information
Start
Lat: 48 ° 37.44 N
Lon: 126 ° 19.90 WBottom
Lat: 48 ° 37.44 N
Lon: 126 ° 20.01 WEnd
Lat: 48 ° 37.42 N
Lon: 126 ° 20.06 WExtra comments:
OUT-OF-ORDER
1-9; 11; 12; 10

Water Properties Group

Sampling Log

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

Cruise ID: 2015-09 Station: P4 Event #: 10 Ship: Tully UTC Date (dd|mmm|yyyy): 9 | 6 | 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials								Comments						
			Target	Confirmed	Oxy	Nut-F	Nut-C	Sal	DIC	pH		DNA	gases	SAGs	Celine				
			Pressure	✓ Pressure											NH4				
1		38	Bot-10	✓	1321	x	x	x		x	x		x	xx	x	x			
2		39	1250	✓	1250	x	x	x	x	xx	x		x	xx	x	x			
3		40	1250	✓	1250	xx	x	x	xx	x	x								
4		41	1000	✓	1000	x	x	x	xx	x	x		x	xx	x	x			
5		42	800	✓	800	x	x	x	x	x	x		x	xx	x	x			
6		43	600	✓	600	x	xx	xx		x	xxx		x	xx	x	x			
7		44	400	✓	401	x	x	x		x	x		x	xx	x	x			
8		45	300	✓	300	x	x			x	x		x	xx	x	x			
9		46	250	✓	250	x	x			x	x					x			
10		47	200	✓	200	x	x			x	x		x	xxx	x	x			
11		48	175	✓	175	x	x			x	x					x			
12		49	150	✓	150	x	x			x	x		x	xx	x	x			
13		50	125	✓	125	x	xx			x	x					x			
14		51	100	✓	100	x	x			x	x		x	xx	x	x			
15		52	75	✓	75	xx	x			x	x					x			
16		53	50	✓	49	x	x			x	x		x	xx	x	x			
17		54	25	✓	25	x	x			x	xxx		x	xx	x	x			
18		55	10	✓	10	x	x			x	x		x	xx	x	x			
19		56	5	✓	5	x	x		x	x	x					x			
20																			
21																			
22																			
23																			
24																			

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

Bottom Depth: 1700 m
Transmisso Cleaned: Y / N

Time	UTC	Local
Start	0340	2040
Bottom	0402	
End	0439	2139

Positional Information
Lat: 48 ° 38.94 N
Lon: 126 ° 39.96 W

Lat: 48 ° 38.96 N
Lon: 126 ° 39.96 W

Lat: 48 ° 38.99 N
Lon: 126 ° 39.99 W

Extra comments:
Deep cast
SAMPLING DONE ~ 2245

Water Properties Group

Sampling Log

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

Cruise ID: 2015-09 Station: P4 Event #: 12 Ship: Tully UTC Date (dd mmm yyyy): 9 6 15

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials													Comments
			Target Pressure	Confirmed ✓ Pressure	Niko gases													
1		57	300	✓ 300		x x												
2		58	250	✓ 250		x x												
3		59	210	✓ 210		x x												
4		60	180	✓ 180		x x												
5		61	160	✓ 159		x x												
6		62	140	✓ 141		x x												
7		63	120	✓ 119		x x												
8		64	100	✓ 100		x x												
9		65	85	✓ 85		x x												
10		66	70	✓ 68		x x												
11		67	60	✓ 60		x x												
12		68	55	✓ 55		x x												
13		69	50	✓ 51		x x												
14		70	45	✓ 44		x x												
15		71	40	✓ 39		x x												
16		72	35	✓ 35		x x												
17		73	30	✓ 30		x x												
18		74	25	✓ 25		x x												
19		75	45	✓ 44		x x												
20		76	20	✓ 20		x x												
21		77	15	✓ 14		x x												
22		78	10	✓ 10		x x												
23		79	5	✓ 5		x x												
24		80	5	✓ 5		x x												

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

Bottom Depth: 1310 m
Transmisso Cleaned: Y / N

Time	UTC	Local
Start	0608	2308
Bottom	0613	
End	0638	

Positional Information

Start	Lat: 48 ° 38.99 N
	Lon: 126 ° 39.99 W
Bottom	Lat: 48 ° 38.99 N
	Lon: 126 ° 39.99 W
End	Lat: 48 ° 38.99 N
	Lon: 126 ° 39.99 W

Extra comments:
Niko's cast
out of order
14-19-15

Water Properties Group

Sampling Log

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

Cruise ID:

2015-09

Station:

P4

Event #: 13

Ship: Tully

UTC Date (dd mmm/yyyy): 09 JUN 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments
			Target Pressure	Confirmed Pressure	UBC	Cs									
1	1	81	Bot-10	✓ 1320	x										
2	2	82	Bot-10	✓ ↓											
3	3	83	Bot-10	✓ ↓											
4	4	84	Bot-10	✓ ↓											
5	5	85	1000	✓ 1000	x										
6	6	86	1000	✓ ↓											
7	7	87	1000	✓ ↓											
8	8	88	1000	✓ ↓											
9	9	89	500	✓ 500	x										
10	10	90	500	✓ ↓											
11	11	91	500	✓ ↓											
12	12	92	500	✓ ↓											
13	13	93	10	✓ 10	x										
14	14	94	10	✓ ↓											
15	15	95	10	✓ ↓											
16	16	96	10	✓ ↓											
17															
18															
19															
20															
21															
22															
23															
24															

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

Bottom Depth: 1330 m
Transmisso Cleaned: Y / N

Time	UTC	Local
Start	0733	0033
Bottom	0755	
End	0821	

Positional Information

Lat:	48 ° 38 99 N
Lon:	126 ° 39 98 W

Start

Lat:	48 ° 38 99 N
Lon:	126 ° 39 99 W

Bottom

Lat:	48 ° 38 99 N
Lon:	126 ° 39 99 W

End

Lat:	48 ° 38 99 N
Lon:	126 ° 39 99 W

Extra comments:

Jade's cast

Water Properties Group

Sampling Log

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

Cruise ID: 2015-09 Station: P4 Event #: 15 Ship: Tully UTC Date (dd mmm/yyyy): 07 Jun 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials												Comments	
			Target	Confirmed	Nut-F	Sal	Chl		18O	NO3	NH4	17O	ONAr	DO	NH4			
			Pressure	✓ Pressure	IOS	IOS	IOS				incub							
1	1	98	Below ML	✓ 48		x							x x					
2	2	99	1%	✓ 13	x	x	x		x x x	x x	x			x x	x x			
3	3	100	15%	✓ 10	x	x	x		x x x	x x	x			x x	x x			
4	5	101	30%	✓ 2.5	x	x	x		x x x	x	x			x x	x x			
5	6	102	50%	✓ 2.5	x	x	x		x x x	x	x			x x	x x			
6	7	103	100%	✓ 2.5	x		x			x x x	x x x				x x			
7	8	104	100%	✓ 2.5					x x x				x x	x x	x x			
8	4	105	in ML	✓ 5										x x	x x			
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): MB

Bottom Depth:	1310	m
Transmisso Cleaned:	(Y) N	

Time	UTC	Local
Start	1135	0435
Bottom	1138	
End	1146	

Positional Information
Start
Lat: 48 ° 38 99 N
Lon: 126 ° 39 99 W

Bottom
Lat: 48 ° 38 99 N
Lon: 126 ° 39 99 W

End
Lat: 48 ° 38 99 N
Lon: 126 ° 39 99 W

Extra comments:
Amanda's cast
OUT-OF-ORDER
1-3, 8, 4-7

Water Properties Group

Sampling Log

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

Cruise ID:

2015-09

Station:

P4

Event #:

16

Ship:

Tully

UTC Date (dd mmm yyyy): 09 Jun 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments
			Target Pressure	Confirmed Pressure	C										
1	1	106	Bot-10	✓ 1323	x										
2	2	107	1250	✓ 1250	x										
3	3	108	1000	✓ 1000	x										
4	4	109	1000	✓ 1000	x										
5	5	110	800	✓ 800	x										
6	6	111	800	✓ 800	x										
7	7	112	600	✓ 600	x										
8	8	113	400	✓ 400	x										
9	9	114	200	✓ 200	x										
10	10	115	100	✓ 100	x										
11	11	116	50	✓ 50	x										
12	12	117	10	✓ 11	x										
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															

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

Bottom Depth: 1315 m
Transmisso Cleaned: ☒ Y / ☐ N

Time	UTC	Local
Start	1312	0612
Bottom	1336	
End	1407	

Positional Information

Start	Lat: 48 ° 38 99	N
	Lon: 126 ° 39 99	W

Bottom

Lat: 48 ° 38 99	N
Lon: 126 ° 39 99	W

End

Lat: 48 ° 38 99	N
Lon: 126 ° 39 99	W

Extra comments:

Céline's cast

Water Properties Group

Sampling Log

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

Cruise ID: 2015-09 Station: P4 Event #: 17 Ship: Tully UTC Date (dd mmm yyyy): 09 Jun 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments
			Target Pressure	Confirmed ✓ Pressure	DMS	DMSP	DMSP	Nut-F		Chl	HPLC	Phyto			
1	1	118	300	✓ 299	x			x							
2	2	119	200	✓ 200	x	x	x	x							
3	3	120	175	✓ 175	x	x	x	x							
4	4	121	100	✓ 100	x	x	x	x		x					
5	5	122	75	✓ 75	x			x		x					
6	6	123	50	✓ 50	x			x		x					
7	7	124	40	✓ 40	x			x		x					
8	8	125	30	✓ 30	x			x		x					
9	10	126	25	✓ 25	x			x		x					
10	11	127	20	✓ 20	xx	xx	xx	x		xx					
11	12	128	15	✓ 15	x			x		x					
12	14	129	10	✓ 10	x			xx		x					
13	15	130	5	✓ 5	x	x	x	x		x					
14	17	131	0	✓ 2.0	x	x	x	x		x					
15	9	132	30 / M	✓ 30						xx	xx				
16	13	133	15 / M	✓ 15						xx	xx				
17	16	134	5	✓ 5						xx	xx	xxx			
18															
19															
20															
21															
22															
23															
24															

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

Bottom Depth: 1310 m
Transmisso Cleaned: ☒ Y / ☐ N

Time	UTC	Local
Start	15 08	08 08
Bottom	15 13	
End	15 36	

Positional Information
Start
Lat: 48 ° 37 19 N
Lon: 126 ° 41 05 W

Bottom
Lat: 48 ° 39 19 N
Lon: 126 ° 41 06 W

End
Lat: 48 ° 39 19 N
Lon: 126 ° 41 05 W

Extra comments: PAR-ON
DMS cast - OUT-OF-ORDER
1-8, 15, 9, 10, 11, 16, 12
13, 17, 14

Water Properties Group

Sampling Log

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

Cruise ID: 2015-09 Station: P8 Event #: 18 Ship: Tully UTC Date (dd|mm|yyyy): 10 | 6 | 2015

Niskin #	Firing #	Sample #	Rosette Operation			Samples Taken / Sampler's Initials										Comments			
			Target Pressure	Confirmed	Pressure	Oxy	Sal	Nut Fr	Nut C	pH	Chl	HPLC	Gases						
1		135	2000	✓	2000	x x	x x	x	x										
2		136	1500	✓	1499	x	x	x	x										
3		137	1250	✓	1250	x	x	x x	x x										
4		138	1000	✓	999	x	x x	x	x										
5		139	800	✓	800	x	x	x	x										
6		140	600	✓	600	x		x	x										
7		141	400	✓	400	x		x	x										
8		142	300	✓	299	x		x											
9		143	250	✓	249	x x		x											
10		144	200	✓	200	x		x											
11		145	175	✓	175	x		x											
12		146	150	✓	150	x		x x											
13		147	125	✓	125	x		x											
14		148	100	✓	100	x		x			x								
15		149	75	✓	75	x		x			x								
16		150	50	✓	50	x		x			x								
17		151	25	✓	25	x x		x			x								
18		152	10	✓	10	x		x			x								
19		153	5	✓	5	x	x	x			x								
20		154	50 / Max	10	✓	70					x x	x x							Max ~ 60 m
21		155	40 / (Max)	✓	60						x x	x x							
22		156	5	✓	5						x x	x x							
23																			
24																			

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

Bottom Depth:	2517	m
Transmisso Cleaned:	☒ Y / ☐ N	

Time	UTC	Local
Start	0347	2047
Bottom	0423	
End	0520	

Positional Information	
Lat: 48° 48.93	N
Lon: 128° 39.80	W

Lat: 48° 48.99	N
Lon: 128° 39.92	W

Lat: 48° 49.01	N
Lon: 128° 39.90	W

Extra comments:
Firing out of order
1-15, 20, 21, 16-19, 22

Water Properties Group

Sampling Log

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

Cruise ID: 2015-09 Station: P9 Event #: 19 Ship: Tully UTC Date (dd|mmm|yyyy): 10 JUN 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments
			Target Pressure	Confirmed Pressure	Nut-F	Sal	Chl	HPLC							
1	1	157	50 (Max)	✓	x		xx	xx							Chl Max @ ~65m
2	2	158	5	✓	x	x	xx	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): MB

Bottom Depth: 2338 m
Transmisso Cleaned: (Y) / N

Time	UTC	Local
Start	0814	0114
Bottom	0858	
End	0942	

Positional Information

Start	Lat: 48 ° 51 37 N
	Lon: 129 ° 9 98 W
Bottom	Lat: 48 ° 51 37 N
	Lon: 129 ° 9 98 W
End	Lat: 48 ° 51 38 N
	Lon: 129 ° 9 75 W

Extra comments:
Spooling issues on winch.

Water Properties Group

Sampling Log

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

Cruise ID: 2015-09 Station: P10 Event #: 20 Ship: Tully UTC Date (dd|mmm|yyyy): 10 Jun 2015

Niskin #	Firing #	Sample #	Rosette Operation			Samples Taken / Sampler's Initials													Comments
			Target	Confirmed	Pressure	Nut-F	Sal	Chl	HPLC										
			Pressure	✓															
1	1	159	50 / (Max)	✓	85	x		xx	xx										chl Max @ 85
2	2	160	5	✓	5	x	x	xx	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): MB

Bottom Depth: 2640 m

Transmisso Cleaned: ☒ Y ☐ N

Time	UTC	Local
Start	12 12	0512
Bottom	12 46	
End	13 28	

Positional Information

Start

Lat: 48 ° 53 55 N

Lon: 129 ° 39 88 W

Bottom

Lat: 48 ° 53 54 N

Lon: 129 ° 39 91 W

End

Lat: 48 ° 53 55 N

Lon: 129 ° 39 85 W

Extra comments:

Cruise ID: 2015-09 Station: P11 Event #: 22 Ship: Tully UTC Date (dd|mmm|yyyy): 10 Jun 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials												Comments	
			Target	Confirmed	Nut-F	Sal	Chl	HPLC										
			Pressure	✓ Pressure														
1	1	161	50 / Max	✓	SS	x		x x	x x									chl Max @ 55
2	2	162	5	✓	S	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): MB

Bottom Depth: 2250 m
Transmisso Cleaned: ☒ Y ☐ N

Time	UTC	Local
Start	16 15	09 15
Bottom	17 31	
End	17 31	

Positional Information
Start
Lat: 48 ° 55 99 N
Lon: 130 ° 9 94 W

Bottom
Lat: 48 ° 56 02 N
Lon: 130 ° 9 93 W

End
Lat: 48 ° 55 99 N
Lon: 130 ° 9 96 W

Extra comments:

Water Properties Group

Sampling Log

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

Cruise ID:

2015-09

Station:

P12

Event #:

23

Ship:

Tully

UTC Date (dd|mmm|yyyy):

10 | 6 | 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments			
			Target Pressure	Confirmed ✓ Pressure	DMS	DMSP t	DMSP d	Nut-F		Chl	HPLC							
1		163	300	✓ 300	x			x										
2		164	200	✓ 200	x	x	x	x										
3		165	175	✓ 175	x	x	x	x										
4		166	100	✓ 100	x	x	x	x		x								
5		167	75	✓ 75	x			x x		x								
6		168	50	✓ 50	x			x		x								
7		169	40	✓ 40	x			x		x x								
8		170	30	✓ 30	x			x		x								
9		171	25	✓ 25	x			x		x								
10		172	20	✓ 20	x x	x x	x x	x		x								
11		173	15	✓ 15	x			x		x								
12		174	10	✓ 10	x			x		x								
13		175	5	✓ 5	x	x	x	x		x								
14		176	0	✓ 3	x	x	x	x		x								
15		177	dp (M)	✓ 60						x x	x x							
16		178	2nd (M)	✓ 50						x x	x x							
17		179	5	✓ 5						x x	x x							
18		176	0	✓ 3	x	x	x	x		x								Surface bottle #18
19																		
20																		
21																		
22																		
23																		
24																		

Profile type:

ROS TRM X-Niskin other?

Watchkeeper(s):

xy

Bottom Depth: 3233 m

Transmisso Cleaned: (Y) / N

Time UTC Local

Start 1959 1259

Bottom 2004

End 2027

Positional Information

Lat: 48° 58.18 N

Lon: 130° 39.93 W

Lat: 48° 58.19 N

Lon: 130° 39.97 W

Lat: 48° 58.20 N

Lon: 130° 39.98 W

Extra comments:

DMS cast - OUT-OF-ORDER

1-5, 15, 16, 6-12
13, 17, 4, 18

Water Properties Group

Sampling Log

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

Cruise ID:

2015-09

Station:

P12

Event #:

24

Ship:

Tully

UTC Date (dd|mmm|yyyy):

10 | 6 | 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										HF/SS Gases			Comments
			Target Pressure	Confirmed ✓ Pressure	OXY	Sal	Nut-F	Nut-C	DIC	pH			SAGs	DNA	UBC	UBC	UBC	
1		180	Bot-10	✓ 3274	x		x	x	x	x			x	x	xx			
2		181	3000	✓ 2999	x	xx	x	x	xx	x								
3		182	3000	✓ 2999	x	x	x	x	x	x			x	x	xx			
4		183	2500	✓ 2499	x	xx	x	x	x	xxx								
5		184	2000	✓ 2000	xx	x	x	x	x	x			x	x	xx			
6		185	1500	✓ 1500	x	x	x	x	x	x			x	x	xx			
7		186	1250	✓ 1250	x	x	xx	xx	x	x			x	x	xx			
8		187	1000	✓ 1000	x	xx	x	x	x	x			x	x	xx			
9		188	800	✓ 800	xx		x	x	x	x			x	x	xx			
10		189	600	✓ 600	x		x	x	x	x			x	x	xx			
11		190	400	✓ 400	x		x	x	x	x			x	x	xx			
12		191	300	✓ 300	x		x		x	x			x	x	xx			
13		192	250	✓ 250	x		x		x	x					xx			
14		193	200	✓ 200	x		x		x	x			x	x	xx			
15		194	175	✓ 175	xx		x		x	x					xx			
16		195	150	✓ 150	x		x		x	x			x	x	xx			
17		196	125	✓ 125	x		x		x	xxx								
18		197	100	✓ 100	x		xx		x	x			x	x	xx			
19		198	75	✓ 75	x		x		x	x					xx			
20		199	50	✓ 50	x		x		x	x			x	x	xx			
21		200	25	✓ 25	x		x		x	x			x	x	xx			
22		201	10	✓ 9	x		x		x	x			x	x	xx			
23		202	5	✓ 5	xx	x	x		x	x								
24																		

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

Bottom Depth:	3232	m
Transmisso Cleaned:	(Y) / N	

Time	UTC	Local
Start	2059	1359
Bottom	2153	
End	2313	

Positional Information		
Lat:	48 ° 58.20	N
Lon:	120 ° 39.38	W

Lat:	48 ° 58.19	N
Lon:	130 ° 39.38	W

Lat:	48 ° 58.19	N
Lon:	130 ° 39.98	W

Extra comments:
Deep cast

Water Properties Group

Sampling Log

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

Cruise ID: 2015-09 Station: P12 Event #: 26 Ship: Tully UTC Date (dd|mmm|yyyy): 11 | 6 | 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials													Comments	
			Target Pressure	Confirmed	Niko gases														
			✓	Pressure															
1		203	200	✓	200		x x												
2		204	170	✓	170		x x												
3		205	140	✓	140		x x												
4		206	105	✓	105		x x												
5		207	95	✓	95		x x												
6		208	90	✓	90		x x												
7		209	85	✓	85		x x												
8		210	80	✓	80		x x												
9		211	75	✓	75		x x												
10		212	70	✓	70		x x												
11		213	70	✓	70														
12		214	65	✓	65		x x												
13		215	60	✓	60		x x												
14		216	55	✓	55		x x												
15		217	50	✓	50		x x												
16		218	45	✓	45		x x												
17		219	40	✓	40		x x												
18		220	35	✓	35		x x												
19		221	25	✓	25		x x												
20		222	15	✓	15		x x												
21		223	10	✓	10		x x												
22		224	5	✓	5		x x												
23		225	2	✓	2		x x												
24		226	2	✓	2														

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

Bottom Depth: 3234 m
 Transmisso Cleaned: Y / N

Time	UTC	Local
Start	0128	1828
Bottom	0132	
End	0154	

Positional Information
 Lat: 48° 58.15 N
 Lon: 130° 39.90 W

Lat: 48° 58.15 N
 Lon: 130° 39.93 W

Lat: 48° 58.15 N
 Lon: 130° 40.01 W

Extra comments:
 Niko's cast

Water Properties Group

Sampling Log

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

Cruise ID:

2015-09

Station:

P12

Event #:

27

Ship:

Tully

UTC Date (dd|mmm|yyyy): 11 | 6 | 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials													Comments
			Target Pressure	Confirmed ✓ Pressure														
1		227	Bot-10	✓	3276													
2		228	3000	✓	3000													
3		229	2500	✓	2500													
4		230	2000	✓	2000													
5		231	1500	✓	1500													
6		232	1250	✓	1250													
7		233	1000	✓	1000													
8		234	800	✓	800													
9		235	600	✓	600													
10		236	400	✓	400													
11		237	300	✓	300													
12		238	250	✓	250													
13		239	200	✓	200													
14		240	175	✓	175													
15		241	150	✓	150													
16		242	125	✓	125													
17		243	100	✓	100													
18		244	75	✓	75													
19		245	50	✓	50													
20		246	25	✓	25													
21		247	10	✓	10													
22		248	5	✓	5													
23																		
24																		

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

Bottom Depth:	3234 m
Transmisso Cleaned:	(Y) / N

Time	UTC	Local
Start	0230	1930
Bottom	0326	
End	0445	

Positional Information
Lat: 48 ° 58.22 N
Lon: 130 ° 39.97 W

Start
Lat: 48 ° 58.24 N
Lon: 130 ° 40.02 W

Bottom
Lat: 48 ° 58.26 N
Lon: 130 ° 40.13 W

End
Extra comments:
Céline's cast

Water Properties Group

Sampling Log

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

Cruise ID: 2015-09 Station: P12 Event #: 29 Ship: Tully UTC Date (dd|mmm|yyyy): 11|6|2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials													Comments
			Target Pressure	Confirmed ✓ Pressure		UBC												
1	1	249	2000	✓	2000		x											
2	2	250	2000	✓	↓													
3	3	251	2000	✓	↓													
4	4	252	2000	✓	↓													
5	5	253	1000	✓	1000		x											
6	6	254	1000	✓	↓													
7	7	255	1000	✓	↓													
8	8	256	1000	✓	↓													
9	9	257	500	✓	500		x											
10	10	258	500	✓	↓													
11	11	259	500	✓	↓													
12	12	260	500	✓	↓													
13	13	261	10	✓	10		x											
14	14	262	10	✓	↓													
15	15	263	10	✓	↓													
16	16	264	10	✓	↓													
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		

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

Bottom Depth: 3233 m
Transmisso Cleaned: Y / N

Time	UTC	Local
Start	0625	2325
Bottom	0658	
End	0811	

Positional Information

Lat:	48 ° 58.20	N
Lon:	130 ° 40.06	W

Start

Lat:	48 ° 58.19	N
Lon:	130 ° 39.97	W

Bottom

Lat:	48 ° 58.19	N
Lon:	130 ° 39.97	W

End

Extra comments:
Jade's cast

Water Properties Group

Sampling Log

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

Cruise ID:

2015-09

Station:

P12

Event #:

32

Ship:

Tully

UTC Date (dd|mmm|yyyy): 11 | Jun | 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials												Comments	
			Target	Confirmed	Nut-F	Sal	Chl		18O	NO3	NH4	17O	ONAr	DO	NH4			
			Pressure	✓ Pressure	IOS	IOS	IOS				incub							
1	1	265	Below ML	✓	60		x						x x					
2	2	266	1%	✓	42	x	x	x		x x x	x x	x			x x	x x		
3	3	267	15%	✓	19	x	x	x		x x x	x x	x			x x	x x		
4	4	268	30%	✓	9	x	x	x		x x x	x	x			x x	x x		
5	5	269	50%	✓	5	x	x	x		x x x	x	x			x x	x x		
6	7	270	100%	✓	2.5	x		x			x x x	x x x				x x		
7	8	271	100%	✓	2.5					x x x			x x	x x	x x			
8	6	272	in ML	✓	5									x x	x x			
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): MB

Bottom Depth:	3234	m
Transmisso Cleaned:	☒ Y ☐ N	

Time	UTC	Local
Start	1024	0824
Bottom	1027	0827
End	1038	0838

Positional Information		
Lat:	48 ° 58 19	N
Lon:	130 ° 39 96	W

Positional Information		
Lat:	48 ° 58 20	N
Lon:	130 ° 39 97	W

Positional Information		
Lat:	48 ° 58 19	N
Lon:	130 ° 39 97	W

Extra comments:
Amanda's cast
OUT-OF-ORDER
1-5, 8, 6, 7

Cruise ID: 2015-09 Station: P13 Event #: 33 Ship: Tully UTC Date (dd|mmm|yyyy): 11 JUN 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments	
			Target	Confirmed	Nut-F	Sal	Chl	HPLC								
			Pressure	✓ Pressure												
1	1	273	50 / Max	✓ 34.4	x		xx	xx								Chl max @ 35m
2	2	274	5	✓ 4.8	x	x	xx	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): MB

Bottom Depth: 3017 m
Transmisso Cleaned: ☒ Y / ☐ N

Time	UTC	Local
Start	15:42	8:42
Bottom	16:16	
End	17:07	

Positional Information
Start
Lat: 49 ° 2.63 N
Lon: 131 ° 39.96 W

Bottom
Lat: 49 ° 2.68 N
Lon: 131 ° 39.92 W

End
Lat: 49 ° 2.69 N
Lon: 131 ° 40.00 W

Extra comments:

Water Properties Group

Sampling Log

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

Cruise ID: 2015-09 Station: P14 Event #: 35 Ship: Tully UTC Date (dd/mm/yyyy): 11/6/2015

Niskin #	Firing #	Sample #	Rosette Operation			Samples Taken / Sampler's Initials												Comments	
			Target	Confirmed	Pressure	Nut-F	Sal	Chl	HPLC										
			Pressure	✓															
1	1	275	50 / Max	✓	50	x		x x	x x										Max @ ~50
2	2	276	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): DY

Bottom Depth: 3813 m

Transmisso Cleaned: ☒ Y ☐ N

Time	UTC	Local
Start	2240	1540
Bottom	2317	
End	2350	

Positional Information:

Start Lat: 49° 7.41' N

Start Lon: 137° 39.85' W

Bottom Lat: 49° 7.44' N

Bottom Lon: 137° 39.90' W

End Lat: 49° 7.47' N

End Lon: 137° 39.87' W

Extra comments:

Water Properties Group

Sampling Log

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

Cruise ID: 2015-09 Station: P15 Event #: 36 Ship: Tully UTC Date (dd|mmm|yyyy): 12|6|2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments			
			Target	Confirmed	Nut-F	Sal	Chl	HPLC										
			Pressure	✓ Pressure														
1	1	277	50 Max	✓	50	x		x x	x x									No max or upcast!
2	2	278	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): DY

Bottom Depth: 3406 m
Transmisso Cleaned: Y / N

Time	UTC	Local
Start	0432	2132
Bottom	0504	
End	0543	

Positional Information

Lat:	49° 11.94	N
Lon:	133° 39.88	W

▼

Lat:	49° 11.96	N
Lon:	133° 39.90	W

▼

Lat:	49° 11.98	N
Lon:	133° 40.04	W

Extra comments:

Cruise ID: 2015-09 Station: P16 Event #: 38 Ship: Tully UTC Date (dd|mmm|yyyy): 12 Jun 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments				
			Target Pressure	Confirmed ✓ Pressure	Nut-F	Sal	Chl		18O	NO3	NH4	17O	ONAr	DO					NH4
					IOS	IOS	IOS				incub								
1	2	279	Below ML	✓	32		x						x x						
2	1	280	1%	✓	45	x	x	x		x x x	x x	x			x x	x x			
3	3	281	15%	✓	14	x	x	x		x x x	x x	x			x x	x x			
4	5	282	30%	✓	6	x	x	x		x x x	x	x			x x	x x			
5	6	283	50%	✓	5	x	x	x		x x x	x	x			x x	x x			
6	7	284	100%	✓	5	x		x			x x x	x x x				x x			
7	8	285	100%	✓	5					x x x			x x	x x	x x				
8	4	286	in ML	✓	10									x x	x x				
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): MB

Bottom Depth: 3633 m
Transmisso Cleaned: ☒ Y ☐ N

Time	UTC	Local
Start	10 21	0321
Bottom	10 24	
End	10 37	

Positional Information
Start
Lat: 49 ° 16 93 N
Lon: 134 ° 39 93 W

Bottom
Lat: 49 ° 16 92 N
Lon: 134 ° 39 93 W

End
Lat: 49 ° 16 92 N
Lon: 134 ° 39 93 W

Extra comments:
Amanda's cast
OUT-OF-ORDER
2, 1, 3, 8, 4, 5-7

Water Properties Group

Sampling Log

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

Cruise ID: 2015-09 Station: P16 Event #: 41 Ship: Tully UTC Date (dd|mmm|yyyy): 12 Jun 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials								Comments					
			Target Pressure	Confirmed ✓ Pressure	OXY	Sal	Nut-F	Nut-C	DIC	pH			Gases	SAGs	DNA			
					NR/AT				NR/AT	GC			NR/AT					
1	1	287	Bot-10	✓ 3683	x		xx	xx	x	x			xx	x	x			
2	2	288	3500	✓ 3500	x	x	x	x	xx	x								
3	3	289	3500	✓ 3500	xx	x	x	x	x	x								
4	4	290	3000	✓ 3000	x	xx	x	x	x	x			xx	x	x			
5	5	291	2500	✓ 2501	x	x	x	x	x	xxx								
6	6	292	2000	✓ 2000	x	xx	x	x	x	x			xx	x	x			
7	7	293	1500	✓ 1500	x	x	x	x	x	x			xx	x	x			
8	8	294	1250	✓ 1250	x	xx	x	x	x	x			xx	x	x			
9	9	295	1000	✓ 1000	x	x	x	x	x	x			xx	x	x			
10	10	296	800	✓ 800	xx		x	x	x	x			xx	x	x			
11	11	297	600	✓ 600	x		x	x	x	x			xx	x	x			
12	12	298	400	✓ 400	x		x	x	x	x			xx	x	x			
13	13	299	300	✓ 300	x		x		x	x			xx	x	x			
14	14	300	250	✓ 250	x		x		x	xxx			xx					
15	15	301	200	✓ 200	x		x		x	x			xx	x	x			
16	16	302	175	✓ 175	xx		x		x	x			xx					
17	17	303	150	✓ 150	x		x		x	x			xx	x	x			
18	18	304	125	✓ 125	x		xx		x	x								
19	19	305	100	✓ 100	x		x		x	x			xx	x	x			
20	20	306	75	✓ 74	x		x		x	x			xx					
21	21	307	50	✓ 50	x		x		x	x			xx	x	x			
22	22	308	25	✓ 25	xx		x		x	x			xx	x	x			
23	23	309	10	✓ 10	x		x		x	x			xx	x	x			
24	24	310	5	✓ 5	x	x	x		x	x								

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

Bottom Depth: 3631 m
Transmisso Cleaned: Y N

Time	UTC	Local
Start	13 14	06 14
Bottom	14 19	
End	15 42	

Positional Information
Lat: 49 ° 16 92 N
Lon: 134 ° 39 93 W

Lat: 49 ° 16 92 N
Lon: 134 ° 39 93 W

Lat: 49 ° 16 92 N
Lon: 134 ° 39 93 W

Extra comments:
Deep cast

Water Properties Group

Sampling Log

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

Cruise ID: 2015-09 Station: P16 Event #: 42 Ship: Tully UTC Date (dd|mmm|yyyy): 12 | Jun | 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments			
			Target Pressure	Confirmed ✓ Pressure	DMS	DMSP t	DMSP d	Nut-F		Chl	HPLC							
1	1	311	300	✓ 300	x			x										
2	2	312	200	✓ 200	x	x	x	x										
3	3	313	175	✓ 175	x	x	x	x										
4	4	314	100	✓ 101	x	x	x	x		x								
5	5	315	75	✓ 75	x			x		x								
6	6	316	50	✓ 51	x			x		x								
7	8	317	40	✓ 41	x			x		x								
8	9	318	30	✓ 31	x			x		x								
9	10	319	25	✓ 25	x			x		x x								
10	11	320	20	✓ 20	x x	x x	x x	x		x								
11	13	321	15	✓ 15	x			x		x								
12	14	322	10	✓ 10	x			x x		x								
13	15	323	5	✓ 6	x	x	x	x		x								
14	17	324	0	✓ 25	x	x	x	x		x								
15	7	325	50 / M	✓ 51						x x	x x						No M2	
16	12	326	20 / M	✓ 20						x x	x x							
17	16	327	5	✓ 6						x x	x x							
18																		
19																		
20																		
21																		
22																		
23																		
24																		

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

Bottom Depth: 3634 m
Transmisso Cleaned: (Y) / N

Time	UTC	Local
Start	16 44	09 44
Bottom	16 49	09 49
End	17 10	

Positional Information
Start
Lat: 49 ° 16 96 N
Lon: 134 ° 39 99 W

Bottom
Lat: 49 ° 16 96 N
Lon: 134 ° 39 99 W

End
Lat: 49 ° 17 06 N
Lon: 134 ° 39 93 W

Extra comments:
DMS cast - OUT-OF-ORDER
PAR-ON
1-6, 15, 7-9, 10, 16, 11, 12, 13, 17

Water Properties Group

Sampling Log

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

Cruise ID: 2015-09 Station: P17 Event #: 44 Ship: Tully UTC Date (dd mmm yyyy): 12 6 2015

Niskin #	Firing #	Sample #	Rosette Operation		Samples Taken / Sampler's Initials										Comments		
			Target Pressure	Confirmed Pressure	Nut-F	Sal	Chl	HPLC									
1	1	328	(50) Max	✓	50	x		x x	x x								also small max
2	2	329	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): DY

Bottom Depth:	3650	m
Transmisso Cleaned:	(Y) I	N

Time	UTC	Local
Start	2211	1511
Bottom	2244	
End	2322	

Positional Information	
Lat: 49° 20.96	N
Lon: 135° 39.90	W

Start

Lat: 49° 20.93	N
Lon: 135° 39.95	W

Bottom

Lat: 49° 20.92	N
Lon: 135° 40.00	W

End

Extra comments:

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

UTC Date (dd mmm yyyy): 13 / 6 / 2015

Extra comments:

	Bottom	Start
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