

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: ST03 Event #: 1 Ship: TULLY UTC Date (dd|mmm|yyyy): 09 | FEB | 2011

Firing #	Niskin #	Sample #	Rosette Operation		Samples Taken			Oxygen Titrations		Comments
			Target Pressure	Confirmed Pressure	Oxy	Nut	Sal	Flask Serial #	Value mL · L ⁻¹	
1	1	1	Bot-10							
2	2	2	200							
3	3	3	175	✓	8.6			3061	0.020	(0.00 - ANOXIC)
4	4	4	150	✓	8.6			3178	0.003	(0.00 - ANOXIC) ?
5	5	5	125	✓	8.6			1201	0.050	
6	6	6	100	✓	8.6			1414	0.430	
7	7	7	75	✓	8.080	✓		1327 ³⁰⁷	4.041	4.052
8	8	8	50	✓	7.7			1326	4.783	
9	9	9	25	✓	7.7			1335	4.743	
10	10	10	10	✓	7.5			570	5.386	
11	11	11	5	✓	7.4	✓	✓	3118	5.880	
12	12	1	Bot-10	✓	215 8.7	✓	✓	2056	0.014	(0.000 - ANOXIC)
13	13	2	200	✓	8.7	✓	✓	1386	0.045	(0.00 - ANOXIC)
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24						JE	CS	MR		

Watchkeeper(s):
JE / MRBottom Depth: 224 db mTransmisso Cleaned: (Y) / N

Time	UTC	Local
Start	0312	
Bottom	0319	
End	0334	

Positional Information

Start

Lat: 48 ° 35.57 N

Lon: 123 ° 29.99 W

Bottom

Lat: 48 ° 35.54 N

Lon: 123 ° 29.97 W

End

Lat: 48 ° 35.47 N

Lon: 123 ° 29.93 W

Oxygen Info For This Cast

Blank Value: 0.0013 mL · L⁻¹

Std Value: 0.7209 mL · L⁻¹

*Date Run: 09 | 02 | 11

Analyst: H.M.

* Oxygen blanks and standards should be run daily, if possible

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P1 Event #: 32 Ship: TULLY UTC Date (dd|mmm|yyyy): 9 | FEB | 2011

Niskin #	Sample #	Oxygen Titrations		Rosette Operation			Samples Taken								Comments
		Flask Serial #	Value mL · L ⁻¹	Target Pressure	Confirmed √	Pressure	Oxy	Nut	Sal	Chl a	NH ₄	HAL			
1	12			MAX-15	√	20				✓✓		✓✓			
2	13			CHL MAX	√	5				✓		✓✓			
3	14			5	√	5		✓	✓	✓					
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															

Watchkeeper(s): MK

Bottom Depth: 134 m

Transmisso Cleaned: Y / N

Time	UTC	Local
Start	1726	0926
Bottom	1730	0930
End	1734	0934

Positional Information
Start
Lat: 48 ° 34 43 N
Lon: 125 ° 29 98 W

Bottom
Lat: 48 ° 34 43 N
Lon: 125 ° 29 96 W

End
Lat: 48 ° 34 40 N
Lon: 125 ° 29 96 W

Oxygen Info For This Cast
Blank Value: mL · L⁻¹
Std Value: mL · L⁻¹
*Date Run: | |
Analyst:

* Oxygen blanks and standards should be run daily, if possible

① DMS cast

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P2 Event #: 4 Ship: TULLY UTC Date (dd:mmm/yyyy): 09 Feb 2011

NISK Firing #	FIRING Niskin #	Sample #	Rosette Operation		Samples Taken								Oxygen Titrations		Comments
			Target Pressure	Confirmed ✓ Pressure	Oxy	Nut	Sal	DM3	DMSP + 2	CHL	HPLC		Flask Serial #	Value mL · L ⁻¹	
1	1	15	100	✓		✓		✓	✓✓	✓					
2	2	16	75	✓		✓		✓		✓					
3	3	17	50	✓		✓		✓		✓					
4	4	18	40	✓		✓		✓		✓					
5	5	19	30	✓		✓		✓		✓					
6	6	20	25	✓		✓		✓		✓					
7	8	21	20	✓		✓		✓	✓✓	✓					
8	9	22	15	✓		✓		✓		✓					
9	11	23	10	✓		✓		✓		✓					
10	12	24	5	✓		✓		✓	✓✓	✓					
11	14	25	0	✓		✓		✓	✓✓	✓					
12	7	26	MAX-18	✓	25					✓✓	✓✓				
13	10	27	MAX-18	✓	15					✓✓	✓✓				
14	13	28	5	✓						✓✓	✓✓				
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															

Watchkeeper(s): H.M. / JE

Bottom Depth: 115 m

Transmisso Cleaned: (Y) / N

Time	UTC	Local
Start	1945	1145
Bottom	1947	1147
End	2000	1200

Positional Information		
Start	Lat: °	N
	Lon: °	W

Bottom	Lat: 48 ° 35.99	N
	Lon: 126 ° 00.024	W

End	Lat: 48 ° 36.02	N
	Lon: 126 ° 00.02	W

Oxygen Info For This Cast	
Blank Value:	_____ mL · L ⁻¹
Std Value:	_____ mL · L ⁻¹
*Date Run:	____ ____ ____
Analyst:	_____

* Oxygen blanks and standards should be run daily, if possible

② Deep Cast

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P2 Event #: 6 Ship: TULLY UTC Date (dd mmm/yyyy): 09 Feb 2011

Firing #	Niskin #	Sample #	Rosette Operation		Samples Taken										Oxygen Titrations		Comments
			Target Pressure	Confirmed Pressure	Oxy	Nut	Sal	DIC	pH						Flask Serial #	Value mL·L ⁻¹	
1	1	29	Bot-10	✓	1067.8	✓	✓	✓	✓	✓					2056	3.029	
2	2	30	100	✓	8.0	✓	✓	✓	✓	✓					1386	3.204	
3	3	31	75	✓	8.6	✓	✓	✓	✓	✓					3061/3178	5.254	5.243 → MESST END AT
4	4	32	75	✓	8.5	✓	✓	✓	✓	✓					1201	5.172	
5	5	33	50	✓	8.5	✓	✓	✓	✓	✓					1414	6.590	
6	6	34	25	✓	8.6	✓	✓	✓	✓	✓					1327	6.548	
7	7	35	10	✓	7.8	✓	✓	✓	✓	✓					3107	6.937	
8	8	36	5	✓	7.7	✓	✓	✓	✓	✓					1326/1375	6.954	redraw, new flask
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	

Watchkeeper(s): SE

Bottom Depth: 116 m

Transmisso Cleaned: (Y) / N

Time	UTC	Local
Start	2125	1325
Bottom	2128	1328
End	2136	1336

Positional Information

Start
Lat: 48 ° 36.01 N
Lon: 126 ° 00.06 W

Bottom
Lat: 48 ° 36.01 N
Lon: 126 ° 00.08 W

End
Lat: 48 ° 36.00 N
Lon: 126 ° 00.12 W

Oxygen Info For This Cast

Blank Value: 0.0013 mL·L⁻¹

Std Value: 0.7201 mL·L⁻¹

*Date Run: 09 Feb 11

Analyst: H.M.

*Oxygen blanks and standards should be run daily, if possible

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P3 Event #: 7 Ship: TULLY UTC Date (dd|mmm|yyyy): 09 | Feb | 2011

Niskin #	Sample #	Oxygen Titrations		Rosette Operation		Samples Taken								Comments
		Flask Serial #	Value mL · L ⁻¹	Target Pressure	Confirmed ☒ Pressure	Oxy	Nut	Sal	Chl a	NH ₄	HPLC			
1	37			500	☒									Pat / Yan
2	38			MAX	☒ 18				✓✓		✓✓			
3	39			5	☒		✓	✓	✓✓		✓✓			
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														
23														
24														

Watchkeeper(s): JE

Bottom Depth: 797 m

Transmisso Cleaned: ☒ Y / N

	UTC	Local
Time Start	2312	1512
Bottom	2326	1526
End	2343	1543

Positional Information

Start Lat: 48 ° 37.59 N
Lon: 126 ° 19.77 W

Bottom Lat: 48 ° 37.60 N
Lon: 126 ° 19.82 W

End Lat: 48 ° 37.64 N
Lon: 126 ° 19.85 W

Oxygen Info For This Cast

Blank Value: _____ mL · L⁻¹

Std Value: _____ mL · L⁻¹

*Date Run: ____ | ____ | ____

Analyst: _____

* Oxygen blanks and standards should be run daily, if possible

① DMS cast

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P4 Event #: 8 Ship: TULLY UTC Date (dd|mmm|yyyy): 10 | FEB | 2011

Nisk order

Firing #	Niskin #	Sample #	Rosette Operation		Samples Taken			Oxygen Titrations							Comments	
			Target Pressure	Confirmed Pressure	Oxy DMS	Nut	Sal	Flask Serial #	Value mL · L ⁻¹							
1	1	40	200	✓	✓	✓		✓✓								
2	2	41	175	✓	✓	✓		✓✓								
3	3	42	100	✓	✓	✓		✓								
4	4	43	75	✓	✓	✓		✓								
5	5	44	50	✓	✓	✓		✓								
6	6	45	40	✓	✓	✓		✓✓								
7	7	46	30	✓	✓	✓		✓								
8	8	47	25	✓	✓	✓		✓								
9	10	48	20	✓	✓✓	✓		✓								
10	11	49	15	✓	✓	✓		✓								
11	13	50	10	✓	✓	✓		✓								
12	14	51	5	✓	✓	✓		✓✓								
13	16	52	0	✓	✓	✓		✓								
14	9	53	MAX-10	✓	25			✓✓	✓✓							
15	12	54	MAX	✓	15			✓✓	✓✓							
16	15	55	5	✓				✓✓	✓✓	✓✓✓						
17																
18																
19																
20																
21																
22																
23																
24																

Watchkeeper(s): JE / MR

Bottom Depth: 1311 m

Transmisso Cleaned: (Y) / N

Time	UTC	Local
Start	0121	1721
Bottom	0125	1725
End	0144	1744

Positional Information		
Start	Lat: 48 ° 38.97	N
	Lon: 126 ° 39.95	W

Bottom	Lat: 48 ° 38.95	N
	Lon: 126 ° 39.97	W

End	Lat: 48 ° 39.06	N
	Lon: 126 ° 39.88	W

Oxygen Info For This Cast	
Blank Value:	_____ mL · L ⁻¹
Std Value:	_____ mL · L ⁻¹
*Date Run:	____/____/____
Analyst:	_____

* Oxygen blanks and standards should be run daily, if possible

② Deep Cast

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P4 Event #: 10/11/12 Ship: TULLY UTC Date (dd/mm/yyyy): 10 Feb 2011

Firing #	Niskin #	Sample #	Rosette Operation		Samples Taken										Oxygen Titrations		Comments
			Target Pressure	Confirmed Pressure	Oxy	Nut	Sal	DIC	PH	UCL					Flask Serial #	Value mL · L ⁻¹	
1	1	56	Bot-10	✓	130038	✓	✓	✓		✓	✓				559	0.473	NO GOOD → OVER
2	2	57	1250	✓	38	✓	✓	✓	✓						2088	0.423	
3	3	58	1250	✓	38	✓	✓		✓	✓					1491/3094	0.428	0.430
4	4	59	1000	✓	4.3	✓			✓	✓					1487	0.265	
5	5	60	800	✓	4.9	✓			✓	✓					1465	0.220	
6	6	61	600	✓	5.4	✓			✓	✓					632	0.407	
7	7	62	400	✓	6.1	✓			✓	✓					552	0.916	
8	8	63	300	✓	6.5	✓			✓	✓					1175	1.377	
9	9	64	250	✓	6.8	✓			✓						1496	1.605	
10	10	65	200	✓	7.1	✓			✓	✓					1158	2.086	
11	11	66	175	✓	7.3	✓			✓						1483	2.284	(SHOULD BE 66 NOT 65)
12	12	67	150	✓	7.5	✓			✓	✓					1306	2.459	
13	13	68	125	✓	7.7	✓			✓						1368	2.662	
14	14	69	100	✓	7.8	✓			✓	✓					620	3.914	
15	15	70	75	✓	7.8	✓			✓						1333	5.262	
16	16	71	50	✓	8.1	✓			✓	✓					1105	6.596	
17	17	72	25	✓	8.1	✓			✓	✓					1085/6	116.685	6.685
18	18	73	10	✓	8.1	✓			✓	✓					1126	6.803	
19	19	74	5	✓	8.1	✓	✓	✓	✓						1206	6.843	
20																	
21																	
22																	
23																	
24																	

Watchkeeper(s):
M.F. / J.C.

Bottom Depth: 1297 m

Transmisso Cleaned: (Y) / N

Time	UTC	Local
Start	0226	1826
Bottom	0256	1856
End	0336	1936

Positional Information

Lat: 48 ° 39.07 N
Lon: 126 ° 39.83 W

Start

Bottom

Lat: 48 ° 39.04 N
Lon: 126 ° 39.96 W

End

Lat: 48 ° 38.95 N
Lon: 126 ° 39.97 W

Oxygen Info For This Cast

Blank Value: 0.0013 mL · L⁻¹

Std Value: 0.7209 mL · L⁻¹

*Date Run: 09/2/11

Analyst: H.M.

*Oxygen blanks and standards should be run daily, if possible

③ UBC Cast

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P4 Event #: 15 Ship: TULLY UTC Date (dd|mmm|yyyy): 10 | FEB | 2011

Firing #	Niskin #	Sample #	Rosette Operation		Samples Taken										Oxygen Titrations		Comments
			Target Pressure	Confirmed ✓ Pressure	Oxy	Nut	Sal	UBC							Flask Serial #	Value mL · L ⁻¹	
1	1	75	1300	✓		✓	✓	✓									
2	2	76	1300	✓													
3	3	77	1300	✓													
4	4	78	1000	✓		✓	✓	✓									
5	5	79	1000	✓													
6	6	80	1000	✓													
7	7	81	500	✓		✓	✓	✓									
8	8	82	500	✓													
9	9	83	500	✓													
10	10	84	10	✓		✓	✓	✓									
11	11	85	10	✓													
12	12	86	10	✓													
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	

Watchkeeper(s):
M R / J R

Bottom Depth: 1318 m

Transmisso Cleaned: Y / N

Time	UTC	Local
Start	0455	2055
Bottom	0520	2120
End	0546	2146

Positional Information

Start
Lat: 48 ° 38.85 N
Lon: 126 ° 40.02 W

Bottom
Lat: 48 ° 38.84 N
Lon: 126 ° 40.01 W

End
Lat: 48 ° 38.79 N
Lon: 126 ° 39.96 W

Oxygen Info For This Cast

Blank Value: _____ mL · L⁻¹

Std Value: _____ mL · L⁻¹

*Date Run: ____ | ____ | ____

Analyst: _____

* Oxygen blanks and standards should be run daily, if possible

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: PS Event #: 17 Ship: TULLY UTC Date (dd|mmm|yyyy): 10 | 02 | 11

Niskin #	Sample #	Oxygen Titrations		Rosette Operation		Samples Taken								Comments
		Flask Serial #	Value mL · L ⁻¹	Target Pressure	Confirmed ☒ Pressure	Oxy	Nut	Sal	Chl a	NH ₄	HPLC			
1	87			MAX	☒ 20"				✓✓		✓✓			
2	88			5	☒ 5		✓	✓	✓✓		✓✓			
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														
23														
24														

Watchkeeper(s): H.M

Bottom Depth: 2006 m

Transmisso Cleaned: ☒ Y / N

Time	UTC	Local
Start	10 01	02 01
Bottom	10 25	02 25
End	10 55	

Positional Information

Start Lat: 48 ° 41.48 N
Lon: 127 ° 10.03 W

Bottom Lat: 48 ° 41.52 N
Lon: 127 ° 10.00 W

End Lat: 48 ° 41.52 N
Lon: 127 ° 10 01 W

Oxygen Info For This Cast

Blank Value: _____ mL · L⁻¹

Std Value: _____ mL · L⁻¹

*Date Run: ____ | ____ | ____

Analyst: _____

* Oxygen blanks and standards should be run daily, if possible

192.168.2.91

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P6 Event #: 18 Ship: TULLY UTC Date (dd|mmm|yyyy): 10 | 02 | 11

Niskin #	Sample #	Oxygen Titrations		Rosette Operation		Samples Taken								Comments		
		Flask Serial #	Value mL · L ⁻¹	Target Pressure	Confirmed ☒ Pressure	Oxy	Nut	Sal	Chl a	NH ₄	HAL					
1	89			MAX	☒ 20				✓✓		✓✓					
2	90			5	☒ 5		✓	✓	✓✓		✓✓					
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																

Watchkeeper(s): H.M.Bottom Depth: 2543 mTransmisso Cleaned: (Y) / N

Time	UTC	Local
Start	1321	0521
Bottom	1354	
End	1422	

Positional Information

Start	Lat: <u>48</u> ° <u>44.60</u> N
	Lon: <u>127</u> ° <u>40.07</u> W

Bottom

Lat: <u>48</u> ° <u>44.57</u> N
Lon: <u>127</u> ° <u>39.98</u> W

End

Lat: <u>48</u> ° <u>44.61</u> N
Lon: <u>127</u> ° <u>39.98</u> W

Oxygen Info For This Cast

Blank Value: _____ mL · L ⁻¹
Std Value: _____ mL · L ⁻¹
*Date Run: ____ ____ ____
Analyst: _____

* Oxygen blanks and standards should be run daily, if possible

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P7 Event #: 19 Ship: TULLY UTC Date (dd|mmm|yyyy): 10 | 2 | 11

Niskin #	Sample #	Oxygen Titrations		Rosette Operation			Samples Taken										Comments
		Flask Serial #	Value mL · L ⁻¹	Target Pressure	Confirmed ✓	Pressure	Oxy	Nut	Sal	Chl a	NH ₄	HPLC					
1	91			MAX	✓	20				✓		✓					
2	92			5	✓	5		✓	✓	✓		✓					
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	

Watchkeeper(s): H.M.

Bottom Depth: 2502 m

Transmisso Cleaned: (Y) / N

	Time	UTC	Local
Start		1631	0831
Bottom		1703	
End		1735	

Positional Information

Start
 Lat: 48 ° 46.62 N
 Lon: 128 ° 09.98 W

Bottom
 Lat: 49 ° 46.62 N
 Lon: 128 ° 10.04 W

End
 Lat: 48 ° 46.58 N
 Lon: 128 ° 10.01 W

Oxygen Info For This Cast

Blank Value: _____ mL · L⁻¹

Std Value: _____ mL · L⁻¹

*Date Run: ____ | ____ | ____

Analyst: _____

* Oxygen blanks and standards should be run daily, if possible

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P8 Event #: 21 Ship: TULLY UTC Date (dd mmm/yyyy): 10 FEB 2011

MCIR Firing #	FORE Niskin #	Sample #	Rosette Operation		Samples Taken								Oxygen Titrations		Comments
			Target Pressure	Confirmed ✓ Pressure	Oxy	Nut	Sal	CHL	HPCL	PH			Flask Serial #	Value mL · L ⁻¹	
1	1	93	2000	✓	26	✓✓	✓✓			✓			559/2087	1.594	air valve not tight
2	2	94	1500	✓	3.1	✓	✓✓	✓		✓			1491	0.756	
3	3	95	1250	✓	3.5	✓	✓✓	✓		✓			3094	0.498	
4	4	96	1000	✓	4.0	✓	✓✓	✓		✓			1487	0.289	
5	5	97	800	✓	4.6	✓✓	✓✓	✓		✓			1465/632	0.232	0.231
6	6	98	600	✓	5.2	✓	✓✓	✓		✓			552	0.318	
7	7	99	600	✓			✓✓								WENDY
8	8	100	400	✓	5.8	✓	✓✓	✓		✓✓			1175	0.937	
9	9	101	300	✓	6.1	✓	✓	✓		✓			1496	1.719	
10	10	102	250	✓	6.3	✓	✓	✓		✓			1158	2.294	
11	11	103	200	✓	6.7	✓	✓	✓		✓			1483	2.880	
12	12	104	175	✓	6.8	✓	✓	✓		✓			1306	3.059	
13	13	105	150	✓	7.0	✓	✓	✓		✓			1368	3.315	
14	14	106	125	✓	7.2	✓	✓	✓		✓			620	3.681	
15	15	107	100	✓	7.3	✓	✓	✓	✓	✓			1333	4.307	
16	16	108	75	✓	7.8	✓	✓	✓	✓	✓			1105	6.765	
17	17	109	50	✓	7.8	✓	✓	✓	✓	✓			1085	6.806	
18	18	110	* 25	✓	7.8	✓✓	✓	✓	✓✓	✓			611/1126	6.812	6.827
19	21	111	10	✓	7.8	✓	✓	✓	✓	✓			1206	6.813	
20	22	112	5	✓	7.8	✓	✓	✓	✓✓	✓			510	6.817	
21	23	113	5	✓			✓								WENDY
22	24	114	5	✓			✓								ONAR
23	19	115	MAX-10	✓				✓✓	✓✓						
24	20	116	MAX	✓				✓✓	✓✓						

Watchkeeper(s):
MR/3EBottom Depth: 2515 mTransmisso Cleaned: (Y) N

Time	UTC	Local
Start	2031	1231
Bottom	2103	1303
End	2153	1353

Positional Information

Start
Lat: 48 ° 49.04 N
Lon: 128 ° 40.51 WBottom
Lat: 48 ° 49.03 N
Lon: 128 ° 40.38 WEnd
Lat: 48 ° 48.96 N
Lon: 128 ° 40.10 W

Oxygen Info For This Cast

Blank Value: 0.0013 mL · L⁻¹Std Value: 0.7289 mL · L⁻¹*Date Run: 09, 2, 11Analyst: H.M.

* Oxygen blanks and standards should be run daily, if possible

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P9 Event #: 22 Ship: TULLY UTC Date (dd|mmm|yyyy): 11 | Feb | 2011

Niskin #	Sample #	Oxygen Titrations		Rosette Operation		Samples Taken										Comments
		Flask Serial #	Value mL · L ⁻¹	Target Pressure	Confirmed ✓ Pressure	Oxy	Nut	Sal	Chl a	NH ₄	HALC					
1	117			2000	✓											} * moved to P10 KEITH Cast 23
2	118			2000	✓											
3	119			2000	✓											
4	120			2000	✓											
5	121			2000	✓											
6	122			MAX	✓	20			✓✓		✓✓					
7	123			5	✓		✓	✓	✓✓		✓✓					
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																
21																
22	124			5	✓											} EVAN
23	125			5	✓											
24																

Watchkeeper(s): JE

Bottom Depth: 2336 m
Transmisso Cleaned: Y / N

Time	UTC	Local
Start	0019	1619
Bottom	0057	1657
End	0138	1738

Positional Information		
Start	Lat: 48 ° 51.41	N
	Lon: 129 ° 09.50	W
▼		
Bottom	Lat: 48 ° 51.29	N
	Lon: 129 ° 09.65	W
▼		
End	Lat: 48 ° 50.99	N
	Lon: 129 ° 09.22	W

Oxygen Info For This Cast
Blank Value: _____ mL · L⁻¹
Std Value: _____ mL · L⁻¹
*Date Run: ____ | ____ | ____
Analyst: _____

* Oxygen blanks and standards should be run daily, if possible

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P10 Event #: 23 Ship: TULLY UTC Date (dd|mmm|yyyy): 11 | Feb | 2011

Niskin #	Sample #	Oxygen Titrations		Rosette Operation			Samples Taken										Comments
		Flask Serial #	Value mL · L ⁻¹	Target Pressure	Confirmed ✓	Pressure	Oxy	Nut	Sal	Chl a	NH ₄	HPM					
1	126			MAX	✓	20				✓		✓					
2	127			5	✓			✓	✓	✓		✓					
3	128			5	✓												
4	129			5	✓												} EVAN
5																	
6																	
7	117			2000	✓												
8	118			2000	✓												
9	119			2000	✓												
10	120			2000	✓												
11	121			2000	✓												
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	

Watchkeeper(s): JC

Bottom Depth: 2574 m

Transmisso Cleaned: (Y) / N

Time	UTC	Local
Start	0403	2003
Bottom	0429	2029
End	0455	2055

Positional Information

Start Lat: 48 ° 53.70 N
Lon: 129 ° 39.81 W

Bottom Lat: 48 ° 53.71 N
Lon: 129 ° 39.28 W

End Lat: 48 ° 53.71 N
Lon: 129 ° 39.14 W

Oxygen Info For This Cast

Blank Value: mL · L⁻¹

Std Value: mL · L⁻¹

*Date Run: | |

Analyst:

*Oxygen blanks and standards should be run daily, if possible

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P11 Event #: 24 Ship: TULLY UTC Date (dd|mmm|yyyy): 11 | Feb | 2011

Niskin #	Sample #	Oxygen Titrations		Rosette Operation		Samples Taken										Comments
		Flask Serial #	Value mL • L ⁻¹	Target Pressure	Confirmed ✓ Pressure	Oxy	Nut	Sal	Chl a	NH ₄						
1	130			MAX	✓ 20											
2	131			5	✓ 5											
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																

Watchkeeper(s): JE/HM

Bottom Depth: 2755 m

Transmisso Cleaned: Y / N

Time	UTC	Local
Start	0731	2331
Bottom	0811	
End	0848	

Positional Information		
Start	Lat: 48 ° 56.07	N
	Lon: 130 ° 09.76	W
▼		
Bottom	Lat: 48 ° 56.03	N
	Lon: 130 ° 09.57	W
▼		
End	Lat: 48 ° 55.97	N
	Lon: 130 ° 09.86	W

Oxygen Info For This Cast

Blank Value: _____ mL • L⁻¹

Std Value: _____ mL • L⁻¹

*Date Run: ____ | ____ | ____

Analyst: _____

* Oxygen blanks and standards should be run daily, if possible

① UBC Cast

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P12 Event #: 26 Ship: TULLY UTC Date (dd|mmm|yyyy): 11 | 02 | 11

Firing #	Niskin #	Sample #	Rosette Operation		Samples Taken									Oxygen Titrations		Comments
			Target Pressure	Confirmed ☒ Pressure	Oxy	Nut	Sal	UBC						Flask Serial #	Value mL · L ⁻¹	
1	1	132	2000	☒		☒	☒	☒								
2	2	133	2000	☒												
3	3	134	2000	☒												
4	4	135	1000	☒		☒	☒	☒								
5	5	136	1000	☒												
6	6	137	1000	☒												
7	7	138	500	☒		☒	☒	☒								
8	8	139	500	☒												
9	9	140	500	☒												
10	10	141	10	☒		☒	☒	☒								
11	11	142	10	☒												
12	12	143	10	☒												
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																

Watchkeeper(s): H.M

Bottom Depth: 3242 m

Transmisso Cleaned: (Y) I N

Time	UTC	Local
Start	<u>1243</u>	<u>0443</u>
Bottom	<u>1322</u>	
End	<u>1354</u>	

Positional Information

Start Lat: 48 ° 58.25 N
Lon: 130 ° 39.85 W

Bottom Lat: 48 ° 58.20 N
Lon: 130 ° 39.90 W

End Lat: 48 ° 58.20 N
Lon: 130 ° 39.97 W

Oxygen Info For This Cast

Blank Value: _____ mL · L⁻¹

Std Value: _____ mL · L⁻¹

*Date Run: ____ | ____ | ____

Analyst: _____

* Oxygen blanks and standards should be run daily, if possible

② Th + Po cast

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P12 Event #: 28 Ship: Tully UTC Date (dd/mm/yyyy): 11 / 02 / 11

NISK Firing #	FIRE Niskin #	Sample #	Rosette Operation		Samples Taken										Oxygen Titrations		Comments
			Target Pressure	Confirmed ✓ Pressure	Oxy	Nut	Sal	Thx		Ro					Flask Serial #	Value mL • L ⁻¹	
1	1	144	500	✓							✓						
2	2	145	500	✓					✓								
3	3	146	400	✓							✓						
4	4	147	300	✓					✓								
5	5	148	300	✓							✓						
6	6	149	200	✓					✓								
7	7	150	200	✓							✓						
8	8	151	150	✓					✓								
9	9	152	150	✓							✓						
10	10	153	100	✓					✓								
11	11	154	100	✓							✓						
12	12	155	75	✓					✓								
13	13	156	75	✓							✓						
14	14	157	50	✓					✓								
15	15	158	50	✓							✓						
16	16	159	30	✓					✓								
17	17	160	30	✓							✓						
18	18	161	20	✓					✓								
19	19	162	20	✓							✓						
20	20	163	10	✓					✓								
21	21	164	10	✓							✓						
22	22	165	5	✓					✓								
23	23	166	DCM	5✓							✓						
24	24	167	DCM	0					✓								

Watchkeeper(s): H.M.

Bottom Depth: 3233 m

Transmisso Cleaned: (Y) / N

Time	UTC	Local
Start	<u>1555</u>	<u>0755</u>
Bottom	<u>1603</u>	
End	<u>1625</u>	

Positional Information

Start
Lat: 48 ° 58 . 06 N
Lon: 130 ° 40 . 02 W

Bottom
Lat: 48 ° 58 . 03 N
Lon: 130 ° 40 . 07 W

End
Lat: 48 ° 58 . 03 N
Lon: 130 ° 40 . 22 W

Oxygen Info For This Cast

Blank Value: _____ mL · L⁻¹

Std Value: _____ mL · L⁻¹

*Date Run: ____/____/____

Analyst: _____

* Oxygen blanks and standards should be run daily, if possible

③ Stevers cast

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P2 Event #: 31 Ship: TULLY UTC Date (dd|mmm|yyyy): 11 | Feb. | 2011

Firing #	Niskin #	Sample #	Rosette Operation		Samples Taken										Oxygen Titrations		Comments
			Target Pressure	Confirmed ☒ Pressure	Oxy	Nut	Sal								Flask Serial #	Value mL · L ⁻¹	
1	1	206	1%	☒	65												
2	2	207	5%	☒	60												
3	3	208	9%	☒	55												
4	4	209	17%	☒	48												
5	5	210	30%	☒	43												
6	6	211	55%	☒	35												
7	7	212	100%	☒	0												
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	

Watchkeeper(s): HM CML

Bottom Depth: 3233 m

Transmisso Cleaned: Y / N

Time	UTC	Local
Start	1721	0921
Bottom	1723	
End	1731	

Positional Information		
Start	Lat: 48 ° 58.18	N
	Lon: 130 ° 40.12	W
▼		
Bottom	Lat: 48 ° 58.16	N
	Lon: 130 ° 40.14	W
▼		
End	Lat: 48 ° 58.14	N
	Lon: 130 ° 40.16	W

Oxygen Info For This Cast

Blank Value: mL · L⁻¹

Std Value: mL · L⁻¹

*Date Run: | |

Analyst:

*Oxygen blanks and standards should be run daily, if possible

④ Deep Cast

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P12 Event #: 32 Ship: TULLY UTC Date (dd:mmm/yyyy): 11 FEB 2011

Firing #	Niskin #	Sample #	Rosette Operation		Samples Taken			Oxygen Titrations							Comments	
			Target Pressure	Confirmed Pressure	Oxy	Nut	Sal	Flask Serial #	Value mL · L ⁻¹							
1	1	168	Bot-10	✓	24	✓	✓	✓	✓	✓	✓	✓	✓	2056	2.289	
2	2	169	3000	✓	21	✓	✓	✓	✓	✓	✓	✓	✓	1386	2.273	
3	3	170	3000	✓	22	✓	✓	✓	✓	✓	✓	✓	✓	3061	2.278	Potential cont.
4	4	171	2500	✓	24	✓	✓	✓	✓	✓	✓	✓	✓	3178	1.883	Slanyard twisted.
5	5	172	2000	✓	24	✓	✓	✓	✓	✓	✓	✓	✓	1201	1.439	
6	6	173	1500	✓	30	✓	✓	✓	✓	✓	✓	✓	✓	1414	0.676	
7	7	174	1250	✓	34	✓	✓	✓	✓	✓	✓	✓	✓	1327	0.377	
8	8	175	1000	✓	39	✓	✓	✓	✓	✓	✓	✓	✓	3107	0.262	
9 ¹⁰	9	176	800	✓	42	✓	✓	✓	✓	✓	✓	✓	✓	1335, 1336	0.333	0.334
10 ¹¹	10	177	600	✓	47	✓	✓	✓	✓	✓	✓	✓	✓	570	0.467	
11 ¹²	11	178	400	✓	59	✓	✓	✓	✓	✓	✓	✓	✓	3118	1.293	
12 ¹³	12	179	300	✓	58	✓	✓	✓	✓	✓	✓	✓	✓	2060	1.900	
13 ¹⁴	13	180	250	✓	62	✓	✓	✓	✓	✓	✓	✓	✓	3135	2.142	
14 ¹⁵	14	181	200	✓	64	✓	✓	✓	✓	✓	✓	✓	✓	1459	2.696	
15 ¹⁶	15	182	175	✓	66	✓	✓	✓	✓	✓	✓	✓	✓	612	2.987	
16 ¹⁷	16	183	150	✓	67	✓	✓	✓	✓	✓	✓	✓	✓	3116	3.147	
17 ¹⁸	17	184	125	✓	70	✓	✓	✓	✓	✓	✓	✓	✓	3164, 1405	3.538	3.533
18 ¹⁹	18	185	100	✓	71	✓	✓	✓	✓	✓	✓	✓	✓	2000	4.137	
19 ²⁰	19	186	75	✓	76	✓	✓	✓	✓	✓	✓	✓	✓	1302	5.905	
20 ²¹	20	187	50	✓	76	✓	✓	✓	✓	✓	✓	✓	✓	1260	6.831	
21 ²²	21	188	25	✓	77	✓	✓	✓	✓	✓	✓	✓	✓	2075	6.860	
22 ²³	22	189	10	✓	77	✓	✓	✓	✓	✓	✓	✓	✓	3194	6.858	
23 ²⁴	23	190	5	✓	77	✓	✓	✓	✓	✓	✓	✓	✓	2027	6.861	
* 24 ²⁵	24	213	1000	✓												EVAN, no sample #

Watchkeeper(s): HM/JEBottom Depth: 3010 mTransmisso Cleaned: Y / N

Time	UTC	Local
Start	1805	1005
Bottom	1850	1050
End	1957	1157

Positional Information		
Lat:	48 ° 58.14	N
Lon:	130 ° 40.44	W

Start

Bottom

Lat:	48 ° 58.07	N
Lon:	130 ° 40.21	W

End

Lat:	48 ° 58.10	N
Lon:	130 ° 40.08	W

Oxygen Info For This Cast	
Blank Value:	<u>0.0013</u> mL · L ⁻¹
Std Value:	<u>0.7209</u> mL · L ⁻¹
*Date Run:	<u>09, 2, 11</u>
Analyst:	<u>H.M.</u>

* Oxygen blanks and standards should be run daily, if possible

top valve leaks

⑤④ DMS + Steers east

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P12 Event #: 33 Ship: TULLY UTC Date (dd|mmm|yyyy): 11 | Feb | 2011

Firing #	Niskin #	Sample #	Rosette Operation		Samples Taken								Oxygen Titrations		Comments
			Target Pressure	Confirmed Pressure	Oxy DMS	Nut	Set CHL	HPLC	DMS +	DMS -			Flask Serial #	Value mL · L ⁻¹	
1	1	191	200	✓	✓	✓		✓	✓	✓					top valve open
2	2	192	175	✓	✓	✓			✓	✓					
3	3	193	100	✓	✓	✓			✓	✓					top valve open
4	4	194	75	✓	✓	✓									
5	5	195	50	✓	✓	✓									
6	7	196	40	✓	✓	✓									
7	9	197	30	✓	✓	✓									
8	10	198	25	✓	✓	✓									
9	11	199	20	✓	✓	✓		✓	✓	✓					
10	12	200	15	✓	✓	✓									
11	13	201	10	✓	✓	✓									
12	14	202	5	✓	✓	✓	✓	✓	✓	✓					
13	15	203	0		✓	✓	✓		✓	✓					
14	6	204	MAX 10	✓ 50			✓	✓							
15	8	205	MAX	✓ 40			✓	✓							
16															
17															
18															
19															
20															
21															
22															
23															
24															

Watchkeeper(s): SE

Bottom Depth: 3234 m

Transmisso Cleaned: (Y) / N

Time	UTC	Local
Start	2103	1303
Bottom	2108	1308
End	2123	1323

Positional Information

Start
Lat: 48 ° 58.23 N
Lon: 130 ° 40.02 W

Bottom
Lat: 48 ° 58.23 N
Lon: 130 ° 40.00 W

End
Lat: 48 ° 58.23 N
Lon: 130 ° 40.00 W

Oxygen Info For This Cast

Blank Value: _____ mL · L⁻¹

Std Value: _____ mL · L⁻¹

*Date Run: _____

Analyst: _____

*Oxygen blanks and standards should be run daily, if possible

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P13 Event #: 34 Ship: Tully UTC Date (dd|mmm|yyyy): 12 | Feb | 2011

Niskin #	Sample #	Oxygen Titrations		Rosette Operation		Samples Taken										Comments
		Flask Serial #	Value mL · L ⁻¹	Target Pressure	Confirmed ☒ Pressure	Oxy	Nut	Sal	Chl a	NH ₄	MAC					
1	214			2000	☒											MILK
2	215			MAX	☒ 70				✓		✓					
3	216			5	☒		✓	✓	✓		✓					
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																

Watchkeeper(s): JE

Bottom Depth: 2896 m

Transmisso Cleaned: (Y) / N

Time	UTC	Local
Start	0158	1758
Bottom	0227	1827
End	0301	

Positional Information

Start Lat: 49 ° 02.63 N
Lon: 131 ° 39.80 W

Bottom Lat: 49 ° 02.69 N
Lon: 131 ° 39.72 W

End Lat: 49 ° 02.72 N
Lon: 131 ° 39.72 W

Oxygen Info For This Cast

Blank Value: _____ mL · L⁻¹

Std Value: _____ mL · L⁻¹

*Date Run: ____ | ____ | ____

Analyst: _____

* Oxygen blanks and standards should be run daily, if possible

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P14 Event #: 35 Ship: TULLY UTC Date (dd|mmm|yyyy): 12 | Feb | 2011

Niskin #	Sample #	Oxygen Titrations		Rosette Operation		Samples Taken										Comments
		Flask Serial #	Value mL · L ⁻¹	Target Pressure	Confirmed ✓ Pressure	Oxy	Nut	Sal	Chl a	NH ₄						
1	217			MAX	✓ 20				✓✓	✓✓						
2	218			5	✓ 5		✓	✓	✓✓	✓✓						
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																

Watchkeeper(s): JE/HM

Bottom Depth: _____ m

Transmisso Cleaned: (Y) / N

	UTC	Local
Time Start	0759	2359
Bottom	0825	
End	0858	

Positional Information

Start Lat: 49 ° 07.45 N
Lon: 132 ° 39.88 W

Bottom Lat: 49 ° 07.41 N
Lon: 132 ° 39.99 W

End Lat: 49 ° 07.40 N
Lon: 132 ° 40.01 W

Oxygen Info For This Cast

Blank Value: _____ mL · L⁻¹

Std Value: _____ mL · L⁻¹

*Date Run: ____ | ____ | ____

Analyst: _____

* Oxygen blanks and standards should be run daily, if possible

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P15 Event #: 36 Ship: TULLY UTC Date (dd|mmm|yyyy): 12 | 02 | 11

Niskin #	Sample #	Oxygen Titrations		Rosette Operation			Samples Taken								Comments
		Flask Serial #	Value mL · L ⁻¹	Target Pressure	Confirmed ✓	Pressure	Oxy	Nut	Sal	Chl a	NH ₄	H ₂ O ₂			
1	219			MAX	✓					✓✓		✓✓			
2	220			5	✓			✓	✓	✓✓		✓✓			
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															

Watchkeeper(s): H.M.

Bottom Depth: 3407 m

Transmisso Cleaned: (Y) / N

Time	UTC	Local
Start	1347	0547
Bottom	1416	
End	1442	

Positional Information

Start Lat: 49 ° 12.00 N
Lon: 133 ° 39.90 W

Bottom Lat: 49 ° 12.04 N
Lon: 133 ° 39.97 W

End Lat: 49 ° 12.03 N
Lon: 133 ° 39.98 W

Oxygen Info For This Cast

Blank Value: _____ mL · L⁻¹

Std Value: _____ mL · L⁻¹

*Date Run: ____ | ____ | ____

Analyst: _____

* Oxygen blanks and standards should be run daily, if possible

DMS/Steve

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P16 Event #: 39 Ship: TULLY UTC Date (dd mmm/yyyy): 12 FEB 2011

Nisk firing.

Firing #	Niskin #	Sample #	Rosette Operation		Samples Taken								Oxygen Titrations		Comments
			Target Pressure	Confirmed Pressure	Oxy DMS	Nut	Sal	DMS2	DMS1	CHL	HPIC		Flask Serial #	Value mL · L ⁻¹	
1	1	221	200	✓	✓	✓		✓	✓						
2	2	222	175	✓	✓	✓		✓	✓						
3	3	223	100	✓	✓	✓✓		✓	✓	✓					
4	5	224	75	✓	✓	✓				✓					
5	7	225	50	✓	✓	✓				✓					
6	9	226	40	✓	✓	✓				✓					
7	12	227	30	✓	✓	✓				✓✓					
8	13	228	25	✓	✓	✓				✓					
9	15	229	20	✓	✓	✓		✓✓	✓✓	✓					
10	16	230	15	✓	✓	✓				✓					
11	18	231	10	✓	✓	✓				✓					
12	20	232	5	✓	✓	✓		✓	✓	✓✓	✓✓				
13	21	233	0	✓	✓	✓		✓	✓	✓					
14	8	234	Max-10	✓	45					✓✓	✓✓				
15	11	235	Max	✓	35					✓✓	✓✓				
16	4	236	1%	✓	1.795										
17	6	237	5%	✓	4.72										
18	10	238	9%	✓	16.40										
19	14	239	17%	✓	30.24										
20	17	240	30%	✓	51.13										
21	19	241	55%	✓	83.7										
22	22	242	100%	✓	0										
23															
24															

Watchkeeper(s): JEBottom Depth: 3636 mTransmisso Cleaned: (Y) / N

Time	UTC	Local
Start	2125	1325
Bottom	2132	1332
End	2151	1351

Positional Information

Start
Lat: 49 ° 16.29 N
Lon: 134 ° 40.03 WBottom
Lat: 49 ° 16.22 N
Lon: 134 ° 40.02 WEnd
Lat: 49 ° 15.96 N
Lon: 134 ° 40.09 W

Oxygen Info For This Cast

Blank Value: _____ mL · L⁻¹Std Value: _____ mL · L⁻¹

*Date Run: ____/____/____

Analyst: _____

*Oxygen blanks and standards should be run daily, if possible

② Th + Po Cast

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P16 Event #: 42 Ship: TULLY UTC Date (dd|mmm|yyyy): 12 | Feb | 2011

NISK FIRE			Rosette Operation		Samples Taken			Oxygen Titrations		Comments
Firing #	Niskin #	Sample #	Target Pressure	Confirmed ✓ Pressure	Oxy	Nut	Sal	Th ^a	Po	
1	1	243	500	✓					✓	
2	2	244	500	✓				✓		
3	3	245	400	✓					✓	
4	4	246	300	✓				✓		
5	5	247	300	✓					✓	
6	6	248	200	✓				✓		
7	7	249	200	✓					✓	
8	8	250	150	✓				✓		
9	9	251	150	✓					✓	
10	10	252	100	✓				✓		
11	11	253	100	✓					✓	
12	12	254	75	✓				✓		
13	13	255	75	✓					✓	
14	14	256	50	✓				✓		
15	15	257	50	✓					✓	
16	18	258	*30	✓				✓		
17	19	259	30	✓					✓	
18	20	260	20	✓				✓		
19	21	261	20	✓					✓	
20	22	262	10	✓				✓		
21	23	263	10	✓					✓	
22	24	264	0					✓		
23	16	265	DCM	✓ 40					✓	
24	17	266	DCM	✓ 40				✓		

Watchkeeper(s): MR / JE

Bottom Depth: 3636 m

Transmisso Cleaned: Y / N

Time	UTC	Local
Start	2246	1446
Bottom	2254	1454
End	2317	1517

Positional Information

Start
Lat: 49° 15.99 N
Lon: 134° 39.76 W

Bottom
Lat: 49° 15.96 N
Lon: 134° 39.86 W

End
Lat: 49° 15.90 N
Lon: 134° 40.08 W

Oxygen Info For This Cast

Blank Value: _____ mL · L⁻¹

Std Value: _____ mL · L⁻¹

*Date Run: ____ | ____ | ____

Analyst: _____

* Oxygen blanks and standards should be run daily, if possible

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P16 Event #: 44 Ship: TULLY UTC Date (dd mmm/yyyy): 13 Feb 2011

Firing #	Niskin #	Sample #	Rosette Operation		Samples Taken								Oxygen Titrations		Comments
			Target Pressure	Confirmed ✓ Pressure	Oxy	Nut	Sal	DIC	PH	UOL			Flask Serial #	Value mL · L ⁻¹	
1	1	267	Bot-10	✓	3692	✓	✓	✓	✓	✓			2056	2.748	1.9
2	2	268	3500	✓		✓	✓	✓	✓	✓			1386	2.695	*
3	3	269	3500	✓	1.9	✓	✓	✓	✓	✓			3061	2.712	
4	4	270	3000	✓	1.9	✓	✓	✓	✓	✓			3178/1201	2.346	2.349
5	5	271	2500	✓	2.2	✓	✓	✓	✓	✓			1414	1.864	
6	6	272	2000	✓	2.5	✓	✓	✓	✓	✓			1327	1.319	
7	7	273	1500	✓	3.0	✓	✓	✓	✓	✓			3107	0.568	
8	8	274	1250	✓	3.2	✓	✓	✓	✓	✓			1335	0.313	
9	9	275	1000	✓	3.7	✓	✓	✓	✓	✓			1134	0.285	
10	10	276	800	✓	4.0	✓	✓	✓	✓	✓			570/3118	0.402	0.402
11	11	277	600	✓	4.6	✓	✓	✓	✓	✓			2060	0.608	
12	12	278	400	✓	5.0	✓	✓	✓	✓	✓			3135	1.477	
13	13	279	300	✓	5.5	✓	✓	✓	✓	✓			1459	2.433	
14	14	280	250	✓	5.7	✓	✓	✓	✓	✓			612	3.120	
15	15	281	200	✓	6.1	✓	✓	✓	✓	✓			3116	3.882	
16	16	282	175	✓	6.5	✓	✓	✓	✓	✓			3164	4.183	
17	17	283	150	✓	6.8	✓	✓	✓	✓	✓			1460	4.453	
18	18	284	125	✓	6.9	✓	✓	✓	✓	✓			2000	5.117	
19	19	285	100	✓	7.1	✓	✓	✓	✓	✓			1302	6.319	
20	20	286	75	✓	7.4	✓	✓	✓	✓	✓			1260/2075	6.754	6.756
21	21	287	50	✓	7.3	✓	✓	✓	✓	✓			3194	6.772	
22	22	288	25	✓	7.3	✓	✓	✓	✓	✓			2027	6.778	suspect - air valve not tight
23	23	289	10	✓	7.3	✓	✓	✓	✓	✓			1326	7.474	
24	24	290	5		7.3	✓	✓	✓	✓	✓			1142	6.774	

Watchkeeper(s): JEBottom Depth: 3637 mTransmisso Cleaned: Y / N

Time	UTC	Local
Start	0031	1631
Bottom	0126	1726
End	0249	1849

Positional Information

Start
Lat: 49 ° 15.57 N
Lon: 134 ° 39.99 WBottom
Lat: 49 ° 15.81 N
Lon: 134 ° 39.99 WEnd
Lat: 49 ° 15.49 N
Lon: 134 ° 40.39 W

Oxygen Info For This Cast

Blank Value: 0.0025 mL · L⁻¹Std Value: 0.7247 mL · L⁻¹*Date Run: 15 12 11Analyst: H.M.

* Oxygen blanks and standards should be run daily, if possible

3630 (1680)

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P18 Event #: 46 Ship: TULLY UTC Date (dd|mmm|yyyy): 13 | 02 | 11

Niskin #	Sample #	Oxygen Titrations		Rosette Operation			Samples Taken										Comments
		Flask Serial #	Value mL · L ⁻¹	Target Pressure	Confirmed ✓	Pressure	Oxy	Nut	Sal	Chl a	NH ₄						
1	291			MAX	✓	40				✓✓	✓✓						
2	292			5	✓	5		✓	✓	✓✓	✓✓						
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	

Watchkeeper(s): H.m.

Bottom Depth: 3839 m

Transmisso Cleaned: Y / N

Time	UTC	Local
Start	18 50	10 56
Bottom	19 08	
End	19 23	

Positional Information
Start
Lat: 49 ° 25 . 96 N
Lon: 136 ° 39 . 92 W

Bottom
Lat: 49 ° 25 . 91 N
Lon: 136 ° 40 . 02 W

End
Lat: 49 ° 25 . 95 N
Lon: 136 ° 40 07 W

Oxygen Info For This Cast
Blank Value: _____ mL · L⁻¹
Std Value: _____ mL · L⁻¹
*Date Run: ____ | ____ | ____
Analyst: _____

* Oxygen blanks and standards should be run daily, if possible

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P19 Event #: 48 Ship: TULLY UTC Date (dd|mmm|yyyy): 14 | FEB | 2011

Niskin #	Sample #	Oxygen Titrations		Rosette Operation			Samples Taken							Comments
		Flask Serial #	Value mL • L ⁻¹	Target Pressure	Confirmed ☒	Pressure	Oxy	Nut	Sal	Chl a	NH ₄	HP	LC	
1	293			Max	☒	28				✓✓		✓✓		
2	294			5	☒			✓	✓	✓✓		✓✓		
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														
23														
24														

Watchkeeper(s): JE

Bottom Depth: 3925 m

Transmisso Cleaned: Y / N

Time	UTC	Local
Start	0127	1727
Bottom	0144	1744
End	0203	1803

Positional Information		
Start	Lat: 49 ° 30.03 N	
	Lon: 137 ° 39.71 W	

Bottom	Lat: 49 ° 30.10 N	
	Lon: 137 ° 39.75 W	

End	Lat: 49 ° 30.18 N	
	Lon: 137 ° 39.78 W	

Oxygen Info For This Cast	
Blank Value:	mL • L ⁻¹
Std Value:	mL • L ⁻¹
*Date Run:	
Analyst:	

* Oxygen blanks and standards should be run daily, if possible

① Th + Po cast

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P20 Event #: 52 Ship: TULLY UTC Date (dd|mmm|yyyy): 14 | 02 | 11

Niskin Firing #	Niskin #	Sample #	Rosette Operation		Samples Taken								Oxygen Titrations		Comments		
			Target Pressure	Confirmed ✓ Pressure	Oxy	Nut	Sal	Th		Po						Flask Serial #	Value mL • L ⁻¹
1	1	295	500	✓							✓						
2	2	296	500	✓					✓								
3	3	297	400	✓							✓						
4	4	298	300	✓					✓								
5	5	299	300	✓							✓						
6	6	300	200	✓					✓								
7	7	301	200	✓							✓						
8	8	302	150	✓					✓								
9	9	303	150	✓							✓						
10	10	304	100	✓					✓								
11	11	305	100	✓							✓						
12	12	306	75	✓					✓								
13	13	307	75	✓							✓						
14	14	308	50	✓					✓								
15	15	309	50	✓							✓						
16	18	310	30	✓					✓								
17	19	311	30	✓							✓						
18	20	312	20	✓					✓								
19	21	313	20	✓							✓						
20	22	314	10	✓					✓								
21	23	315	10	✓							✓						
22	24	316	0						✓								
23	16	317	DCM	✓	35						✓						
24	17	318	DCM	✓	35				✓								

Watchkeeper(s): H.M.

Bottom Depth: 3966 m
Transmisso Cleaned: (D) 1 N

Time	UTC	Local
Start	0959	
Bottom	1007	
End	1030	

Positional Information
Start
Lat: 49 ° 34.15 N
Lon: 138 ° 40.06 W

Bottom
Lat: 49 ° 34.16 N
Lon: 138 ° 40.08 W

End
Lat: 49 ° 34.14 N
Lon: 138 ° 40.13 W

Oxygen Info For This Cast
Blank Value: _____ mL · L⁻¹
Std Value: _____ mL · L⁻¹
*Date Run: ____|____|____
Analyst: _____

* Oxygen blanks and standards should be run daily, if possible

② Deep Cast

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P20Event #: 55Ship: TULLYUTC Date (dd-mm-yyyy): 14 | 02 | 11

Firing #	Niskin #	Sample #	Rosette Operation		Samples Taken			Oxygen Titrations							Comments	
			Target Pressure	Confirmed Pressure	Oxy	Nut	Sal	DIC	PH	UCL				Flask Serial #	Value mL · L ⁻¹	
1	1	319	Bot-10	✓	4024	✓	✓	✓	✓	✓				559	2.984	1.9? *
2	2	320	3500	✓	1.8?	✓	✓	✓	✓	✓				2088	2.831	
3	3	321	3500	✓	1.7?	✓	✓	✓	✓	✓				1491	2.845	
4	4	322	3000	✓	1.8?	✓	✓	✓	✓	✓			3694	3094	2.530	1481 d-pr 2.558
5	5	323	2500	✓	-42+	✓	✓	✓	✓	✓			465	1487	1.953	
6	6	324	2000	✓	-42+	✓	✓	✓	✓	✓			632	1485	1.249	
7	7	325	1500	✓		✓	✓	✓	✓	✓				552	0.538	
8	8	326	1250	✓		✓	✓	✓	✓	✓				1175	0.362	
9	9	327	1000	✓		✓	✓	✓	✓	✓				1496	0.297	1158 - 0.288
10	10	328	800	✓		✓	✓	✓	✓	✓				1483	0.380	
11	11	329	600	✓		✓	✓	✓	✓	✓				1306	0.494	
12	12	330	400	✓		✓	✓	✓	✓	✓				1368	No sample	PLE - BROKEN FLASK on
13	13	331	300	✓		✓	✓	✓	✓	✓				620	2.003	SECOND SHAKE
14	14	332	250	✓		✓	✓	✓	✓	✓				1333	2.559	
15	15	333	200	✓		✓	✓	✓	✓	✓				1105	3.190	
16	16	334	175	✓		✓	✓	✓	✓	✓				1085	3.805	
17	17	335	150	✓		✓	✓	✓	✓	✓				611	4.259	
18	18	336	125	✓		✓	✓	✓	✓	✓				1126	4.850	
19	19	337	100	✓		✓	✓	✓	✓	✓				1206	6.786	510 - 6.796
20	20	338	75	✓		✓	✓	✓	✓	✓				1218	6.814	
21	21	339	50	✓		✓	✓	✓	✓	✓				396	6.809	
22	22	340	25	✓		✓	✓	✓	✓	✓				505	6.813	
23	23	341	10	✓		✓	✓	✓	✓	✓				1301	6.807	
24	24	342	5	✓		✓	✓	✓	✓	✓				1374	6.812	

Watchkeeper(s): H.M.Bottom Depth: 3965 mTransmissio Cleaned: Y / N

Time	UTC	Local
Start	1202	0402
Bottom	1314	
End	1442	

Positional Information

Lat:	49 ° 34.05	N
Lon:	138 ° 40 08	W

Lat:	49 ° 34.05	N
Lon:	138 ° 40 03	W

Lat:	49 ° 34.09	N
Lon:	138 ° 40.09	W

Oxygen Info For This Cast

Blank Value: 0.0025 mL · L⁻¹Std Value: 0.7247 mL · L⁻¹*Date Run: 15 | 2 | 11Analyst: H.M.

*Oxygen blanks and standards should be run daily, if possible

③ DMS+ Stovers cast

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01 Station: P20 Event #: 56 Ship: TULLY UTC Date (dd|mmm|yyyy): 14 | 2 | 11

Firing #	Niskin #	Sample #	Rosette Operation		Samples Taken								Oxygen Titrations		Comments
			Target Pressure	Confirmed Pressure	Oxy DMS	Nut	Sal	DMSD	DMSD	CHL	HPLC		Flask Serial #	Value mL · L ⁻¹	
1	1	343	200	✓		✓	✓		✓	✓					
2	2	344	175	✓		✓	✓		✓	✓					
3	3	345	100	✓		✓	✓		✓	✓	✓				
4	4	346	75	✓		✓	✓				✓				
5	5	347	50	✓		✓	✓				✓				
6	6	348	40	✓		✓	✓				✓				
7	7	349	30	✓		✓	✓				✓				
8	8	350	25	✓		✓	✓				✓				
9	9	351	20	✓		✓	✓	✓	✓	✓					
10	11	352	15	✓		✓	✓			✓					
11	12	353	10	✓		✓	✓			✓					
12	14	354	5	✓		✓	✓	✓	✓	✓	✓				
13	15	355	0	✓		✓	✓	✓	✓	✓					
14	13	356	MAX-10	✓	10					✓	✓				
15	10	357	MAX	✓	20					✓	✓				
16		358	1%												
17		359	5%												
18		360	9%												
19		361	17%												
20		362	30%												
21		363	55%												
22		364	100%												
23															
24															

Watchkeeper(s): H.M.

Bottom Depth: 3966 m

Transmisso Cleaned: (Y) / N

Time	UTC	Local
Start	16 21	08 21
Bottom	16 26	
End	16 42	

Positional Information

Start
Lat: 49 ° 34 . 07 N
Lon: 138 ° 39 . 79 W

Bottom
Lat: 49 ° 34 . 06 N
Lon: 138 ° 39 . 77 W

End
Lat: 49 ° 34 . 08 N
Lon: 138 ° 39 . 83 W

Oxygen Info For This Cast

Blank Value: _____ mL · L⁻¹

Std Value: _____ mL · L⁻¹

*Date Run: ____ | ____ | ____

Analyst: _____

* Oxygen blanks and standards should be run daily, if possible

STEVE'S 9:30 AM CAST

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01Station: P 20 1/2Event #: 57Ship: TULLYUTC Date (dd|mmm|yyyy): 14 | 2 | 11

Niskin #	Sample #	Oxygen Titrations		Rosette Operation		Samples Taken										Comments
		Flask Serial #	Value mL · L ⁻¹	Target Pressure	Confirmed ☒ Pressure	Oxy	Nut	Sal	Chl a	NH ₄						
1	358			1%	☒ 77											
2	359			5%	☒ 50											
3	360			9%	☒ 38											
4	361			17%	☒ 19											
5	362			30%	☒ 11											
6	363			55%	☒ 6											
7	364			100%	☒ 0											
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																

Watchkeeper(s): H.M.

Bottom Depth: _____ m

Transmisso Cleaned: ☒ Y / ☐ N

Time	UTC	Local
Start	1737	0937
Bottom	1745	
End	1750	

Positional Information

Start	Lat:	49 ° 34.68	N
	Lon:	138 ° 49.03	W



Bottom	Lat:	49 ° 34.76	N
	Lon:	138 ° 49.06	W



End	Lat:	49 ° 34.76	N
	Lon:	138 ° 49.10	W

Oxygen Info For This Cast

Blank Value:	_____ mL · L ⁻¹
Std Value:	_____ mL · L ⁻¹
*Date Run:	___ ___ ___
Analyst:	_____

* Oxygen blanks and standards should be run daily, if possible

Water Properties Group

② Deep Cast
Rosette Log

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

Cruise ID: 2011-01 Station: P26 Event #: 58 Ship: TULLY UTC Date (dd/mm/yyyy): 15 / 02 / 2011

Firing #	Niskin #	Sample #	Rosette Operation		Samples Taken										Oxygen Titrations		Comments
			Target Pressure	Confirmed Pressure	Oxy	Nut	Sal	DO	Alk	pH	UV	TH	Flask Serial #	Value mL · L ⁻¹			
1	1	387	1300	✓	4309							✓			559	3.247	
2	2	388	4000	✓		✓		✓				✓			2088	3.167	1491 - 3.167
3	3	389	3500	✓					✓		✓			3094	1491	2.972	
4	4	390	3000	✓								✓		1487	3094	2.594	
5	5	391	2500	✓			✓	✓						1465	1487	2.039	
6	6	392	2000	✓								✓		632	1465	1.360	
7	7	393	1500	✓								✓		552	632	0.622	
8	8	394	1250	✓								✓		1175	552	0.395	
9	9	395	1000	✓		✓						✓		1496	1175	0.365	1158 - 0.361
10	10	396	800	✓			✓	✓			✓	✓		1483	1496	0.404	SRIGUT dir
11	11	397	600	✓								✓		1306	1483	0.440	
12	12	398	400	✓								✓		620	1306	0.780	
13	13	399	300	✓								✓	1	1333	620	1.150	
14	14	400	250	✓									2	1105	1333	1.334	
15	15	401	200	✓								✓	3	1085	1105	1.907	
16	16	402	175	✓							✓		4	611	1085	2.317	
17	17	403	150	✓								✓	5	1126	611	3.118	
18	18	404	125	✓			✓						6	1206	1126	4.158	
19	19	405	100	✓								✓	7	510	1206	6.518	
20	20	406	75	✓		✓							8	1218	510	6.974	396 - 6.976
21	21	407	50	✓								✓	9	505	1218	6.983	
22	22	408	25	✓							✓	✓	10	1301	505	6.980	
23	23	409	10	✓								✓	11	1374	1301	6.989	
24	24	410	5	✓									12	3157	1374	6.988	

Watchkeeper(s): JEBottom Depth: 4252 mTransmisso Cleaned: (Y) / N

Time	UTC	Local
Start	2345	1545
Bottom	0101	1701
End	0237	1837

Positional Information

Start
Lat: 49 ° 59.72 N
Lon: 144 ° 59.98 WBottom
Lat: 49 ° 59.69 N
Lon: 145 ° 00.04 WEnd
Lat: 49 ° 59.85 N
Lon: 144 ° 59.97 W

Oxygen Info For This Cast

Blank Value: _____ mL · L⁻¹Std Value: _____ mL · L⁻¹

*Date Run: _____

Analyst: _____

* Oxygen blanks and standards should be run daily, if possible