

Water Properties Group

Rosette Log

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

Cruise ID: 2011-01

Station: SIO3

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	Bd-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 ³¹⁰⁹	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	Bd-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/MR

Bottom Depth: 224 db m

Transmisso 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 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: 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	HPLC					
1	12			MAX-15	☒ 20				☒		☒					
2	13			CHL MAX	☒ 5				☒		☒					
3	14			5	☒ 5		☒	☒	☒							
4																
5																
6																
7																
8																
9																
10																
11																
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14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																

Watchkeeper(s): MR

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 #	Niskin #	Sample #	Rosette Operation		Samples Taken								Oxygen Titrations		Comments
			Target Pressure	Confirmed ✓ Pressure	Oxy	Nut	Sal	DMS	DMS _P	CHC	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 15	✓	15					✓	✓				
14	13	28	5	✓						✓	✓				
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															

Watchkeeper(s): H.M. / JE

Bottom Depth: 115 m

Transmissio Cleaned: (Y) / N

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

Positional Information

Lat:	°	N
Lon:	°	W

Start

Lat: 48 ° 35.99 N
Lon: 126 ° 00.024 W

Bottom

Lat: 48 ° 36.02 N
Lon: 126 ° 00.02 W

End

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	✓	106.78	✓	✓	✓	✓	✓					2056	3.029	
2	2	30	100	✓	8.0	✓	✓	✓	✓	✓					1386	3.204	
3	3	31	75	✓	8.6	✓		✓	✓	✓					3061/3178	5.254	5.243 → MESSY 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	✓	✓	✓	✓	✓					1326/1335	6.954	redraw, new flask
9																	
10																	
11																	
12																	
13																	
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16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	

Watchkeeper(s): JE

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 / Yain
2	38			MAX	☒ 18				☒		☒					
3	39			5	☒		☒	☒	☒		☒					
4																
5																
6																
7																
8																
9																
10																
11																
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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

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	DSP Ed	CHL	HPLC	Phylo		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): DE/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

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 mmm/yyyy): 10 Feb 2011

Firing #	Niskin #	Sample #	Rosette Operation			Samples Taken							Oxygen Titrations		Comments		
			Target Pressure	Confirmed Pressure		Oxy	Nut	Sal	DIC	pH	DOC			Flask Serial #		Value mL · L ⁻¹	
1	1	56	Bot-10	✓	130038	✓	✓✓	✓		✓	✓				559	0.473	NO GOOD → OVER
2	2	57	1250	✓	3.8		✓✓	✓✓	✓	✓					2088	0.423	
3	3	58	1250	✓	3.8	✓	✓✓			✓	✓				1491/3092	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	11.685	6.685
18	18	73	10	✓	8.1		✓			✓	✓				1126	6.808	
19	19	74	5	✓	8.1	✓	✓	✓	✓	✓					1206	6.843	
20																	
21																	
22																	
23																	
24																	

Watchkeeper(s):
ML / JCBottom Depth: 1297 mTransmissio 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	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										
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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	H ₂ O ₂					
1	87			MAX	☒ 20				✓		✓					
2	88			5	☒ 5		✓	✓	✓		✓					
3																
4																
5																
6																
7																
8																
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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 ° 41.43 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	HALE					
1	89			MAX	✓	20				✓✓		✓✓					
2	90			5	✓	5		✓	✓	✓✓		✓✓					
3																	
4																	
5																	
6																	
7																	
8																	
9																	
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13																	
14																	
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16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	

Watchkeeper(s): H.M.

Bottom Depth: 2543 m

Transmisso Cleaned: (Y) / N

	UTC	Local
Time Start	1321	0521
Bottom	1354	
End	1422	

Positional Information

Start Lat: 48 ° 44.60 N
Lon: 127 ° 40.07 W

Bottom Lat: 48 ° 44.57 N
Lon: 127 ° 39.98 W

End Lat: 48 ° 44.61 N
Lon: 127 ° 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

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

Start

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

Bottom

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

End

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

MLR Firing #	FIRE Niskin #	Sample #	Rosette Operation			Samples Taken				Oxygen Titrations						Comments		
			Target Pressure	Confirmed ✓ Pressure		Oxy	Nut	Sal	CHL	HPLC	PH						Flask Serial #	Value mL · L ⁻¹
																	1.533	
1	1	93	2000	✓	26	✓✓	✓✓	✓✓			✓					559/2088	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	25✓					✓✓	✓✓								
24	20	116	MAX	15✓					✓✓	✓✓								

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	W
Bottom	Lat:	48 ° 49.03	N
	Lon:	128 ° 40.38	W
End	Lat:	48 ° 48.96	N
	Lon:	128 ° 40.10	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

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	HL					
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): JE

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 ☐ N

Time	UTC	Local
Start	1243	0443
Bottom	1322	
End	1354	

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 + P_o 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 mmm yyyy): 11 / 02 / 11

NISK Firing #	FIRE Niskin #	Sample #	Rosette Operation		Samples Taken			Oxygen Titrations							Comments
			Target Pressure	Confirmed ✓ Pressure	Oxy	Nut	Sal	Thx		Po					
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

Lat:	<u>48 ° 58 .06</u>	N
Lon:	<u>130 ° 40 .02</u>	W

Start

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: R2 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	DIL	PH	DOC				Flask Serial #	Value mL · L ⁻¹	
1	1	168	Bot-to	✓	2.4	✓	✓	✓	✓	✓				2056	2.289	
2	2	169	3000	✓	2.1	✓	✓	✓	✓	✓				1386	2.273	
3	3	170	3000	✓	2.2	✓	✓	✓	✓	✓				3061	2.278	Potential cont.
4	4	171	2500	✓	2.4	✓	✓	✓	✓	✓				3178	1.083	Slangard twisted.
5	5	172	2000	✓	2.6	✓	✓	✓	✓	✓				1201	1.439	
6	6	173	1500	✓	3.0	✓	✓	✓	✓	✓				1414	0.676	
7	7	174	1250	✓	3.4	✓	✓	✓	✓	✓				1327	0.377	
8	8	175	1000	✓	3.9	✓	✓	✓	✓	✓				3107	0.262	
9 ¹⁰	9	176	800	✓	4.2	✓	✓	✓	✓	✓				1335	0.333	0.334
10 ¹¹	10	177	600	✓	4.7	✓	✓	✓	✓	✓				570	0.467	
11 ¹²	11	178	400	✓	5.4	✓	✓	✓	✓	✓				3118	1.293	
12 ¹³	12	179	300	✓	5.8	✓	✓	✓	✓	✓				2060	1.900	
13 ¹⁴	13	180	250	✓	6.2	✓	✓	✓	✓	✓				3135	2.142	
14 ¹⁵	14	181	200	✓	6.4	✓	✓	✓	✓	✓				1459	2.696	
15 ¹⁶	15	182	175	✓	6.6	✓	✓	✓	✓	✓				612	2.987	
16 ¹⁷	16	183	150	✓	6.7	✓	✓	✓	✓	✓				3116	3.147	
17 ¹⁸	17	184	125	✓	7.0	✓	✓	✓	✓	✓				3164, 1406	3.538	3.533
18 ¹⁹	18	185	100	✓	7.1	✓	✓	✓	✓	✓				2000	4.137	
19 ²⁰	19	186	75	✓	7.6	✓	✓	✓	✓	✓				1302	5.905	
20 ²¹	20	187	50	✓	7.6	✓	✓	✓	✓	✓				1260	6.831	
21 ²²	21	188	25	✓	7.7	✓	✓	✓	✓	✓				2075	6.860	
22 ²³	22	189	10	✓	7.7	✓	✓	✓	✓	✓				3194	6.858	
23 ²⁴	23	190	5	✓	7.7	✓	✓	✓	✓	✓				2027	6.861	
24	24	213	1000	✓												EVAN, no sample #

Watchkeeper(s): HM/JE

Bottom Depth: 3010 m

Transmisso Cleaned: Y / N

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

Positional Information

Start
Lat: 48 ° 58.14 N
Lon: 130 ° 40.44 W

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: 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

top valve leaks

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

Nisk Firing #	Fir. Niskin #	Sample #	Rosette Operation		Samples Taken							Oxygen Titrations		Comments
			Target Pressure	Confirmed Pressure	Oxy DMS	Nut	Sal CHL	HPLC	DWSP	DWSP		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	☒												MILCO
2	215			MAX	☒	70				✓		✓					
3	216			5	☒			✓	✓	✓		✓					
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
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13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	

Watchkeeper(s): JE

Bottom Depth: 2896 m

Transmisso Cleaned: (Y) / N

	UTC	Local
Time 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): SE/HM

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

Time	UTC	Local
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	HAC			
1	219			MA7	☒				✓✓		✓✓			
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: ☒ / N

	UTC	Local
Time Start	1347	0547
Bottom	1416	
End	1442	

Positional Information

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

Start

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

Bottom

End Lat: 49 ° 12.03 N
Lon: 133 ° 39.95 W

End

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	DMSP	DMST	CHL	HPLC		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%	✓	87.7										
22	22	242	100%	✓	0										
23															
24															

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

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

Positional Information

Start
 Lat: 49 ° 16.29 N
 Lon: 134 ° 40.03 W

Bottom
 Lat: 49 ° 16.22 N
 Lon: 134 ° 40.02 W

End
 Lat: 49 ° 15.96 N
 Lon: 134 ° 40.09 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: P16 Event #: 42 Ship: TULLY UTC Date (dd mmm yyyy): 12 Feb. 2011

NISK FIRE		Sample #	Rosette Operation		Samples Taken										Oxygen Titrations		Comments
Firing #	Niskin #		Target Pressure	Confirmed Pressure	Oxy	Nut	Sal	Th ^a		Po					Flask Serial #	Value mL · L ⁻¹	
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

	UTC	Local
Time		
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⁻¹
Std Value: 0.7247 mL · L⁻¹
*Date Run: 15 12 11
Analyst: H.M.

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

3630 (3630)

Water Properties Group

Rosette Log

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

Cruise ID: 2011-09 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: 3834 m

Transmisso Cleaned: ☒ / N

	Time	UTC	Local
Start		1850	1050
Bottom		1908	
End		1923	

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 + P₀ 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 #	Firing #	Sample #	Rosette Operation		Samples Taken							Oxygen Titrations		Comments			
			Target Pressure	Confirmed ✓ Pressure	Oxy	Nut	Sal	Th ⁺		P ₀						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	DCH	✓	35						✓						
24	17	318	DCH	✓	35				✓								

Watchkeeper(s): H.M.

Bottom Depth: 3966 m

Transmisso Cleaned: ✓ 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: P20 Event #: 55 Ship: TULLY UTC Date (dd mmm/yyyy): 14 | 02 | 11

Firing #	Niskin #	Sample #	Rosette Operation		Samples Taken								Oxygen Titrations		Comments
			Target Pressure	Confirmed Pressure	Oxy	Nut	Sal	DIC	PH	DO			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	1487 d-pr 2.558
5	5	323	2500	✓ -42x	✓	✓	✓	✓	✓			465	1487	1.953	
6	6	324	2000	✓ -42x	✓	✓	✓	✓	✓	✓		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 - 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	3.865	
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 m

Transmisso Cleaned: ☒ Y / ☐ N

Time	UTC	Local
Start	1207	0402
Bottom	1314	
End	1442	

Positional Information

Start

Lat: 49 ° 34.05 N

Lon: 138 ° 40 08 W

Bottom

Lat: 49 ° 34.05 N

Lon: 138 ° 40 03 W

End

Lat: 49 ° 34.09 N

Lon: 138 ° 40.09 W

Oxygen Info For This Cast

Blank Value: 0.0025 mL · L⁻¹

Std Value: 0.7247 mL · L⁻¹

*Date Run: 15 | 2 | 11

Analyst: H.M.

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

③ DMS+ Stevers 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	✓	Nut	Sal	DMS	DMS	CHL	HPCL		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

Transmissio 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. 03 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: 2011-01

Station: P 20 1/2

Event #: 57

Ship: TULLY

UTC 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 WBottom
Lat: 49 ° 34.76 N
Lon: 138 ° 49.06 WEnd
Lat: 49 ° 34.76 N
Lon: 138 ° 49.10 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

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 mmm/yyyy): 15 02 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	387	Bot-10	✓	4309										559	3.247
2	2	388	4000	✓		✓									2088	3.167
3	3	389	3500	✓											3094	2.972
4	4	390	3000	✓											1487	2.594
5	5	391	2500	✓		✓	✓								1465	2.039
6	6	392	2000	✓											632	1.360
7	7	393	1500	✓											552	0.622
8	8	394	1250	✓											1175	0.395
9	9	395	1000	✓		✓									1496	0.365
10	10	396	800	✓		✓	✓								1483	0.404
11	11	397	600	✓											1306	0.440
12	12	398	400	✓											620	0.780
13	13	399	300	✓											1333	1.150
14	14	400	250	✓											1105	1.334
15	15	401	200	✓											1085	1.907
16	16	402	175	✓											611	2.317
17	17	403	150	✓											1126	3.118
18	18	404	125	✓		✓									1206	4.158
19	19	405	100	✓											510	6.518
20	20	406	75	✓		✓									1218	6.974
21	21	407	50	✓											505	6.983
22	22	408	25	✓											1301	6.980
23	23	409	10	✓											1374	6.989
24	24	410	5	✓											3157	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⁻¹
Std Value: _____ mL · L⁻¹
*Date Run: _____
Analyst: _____

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