

OC415-1 VPR LOG, June 20th-July 15th, McGillicuddy

VPR Number	Event Log Number	Start Date	Start Time	Start Latitude	Start Longitude	Log File Names
1	46/47	06/24/05	7:30	32.55.259	65.51.550	06240719.y05
		End Date	End Time	End Latitude	End Longitude	
		06/24/05	10:37			06240730.y05

**Comments, Description:**

Launched and aborted due to heavy nose and shallow water program. Was to be C5 cross section.

Sent emails home for new software, removed 10# bow weight. Waited on removing lower stiffener bars on rear skids

VPR Number	Event Log Number	Start Date	Start Time	Start Latitude	Start Longitude	Log File Names
2	76	06/26/05	1:00	31.4.825	64.51.967	06260059.y05
		End Date	End Time	End Latitude	End Longitude	
		06/26/05	17:59			

**Comments, Description:**

A4 cross section, good tow

VPR Number	Event Log Number	Start Date	Start Time	Start Latitude	Start Longitude	Log File Names
3	83	06/26/05	20:18	31.06.901	65.47.22	06262018.y05
		End Date	End Time	End Latitude	End Longitude	
		06/27/05	1:40			06270211.y05

**Comments, Description:**

A-4 to A3 transit; Optolink fiber optic connector on VPR loose. Loss in data; aborted tow.

OC415-1 VPR LOG, June 20th-July 15th, McGillicuddy

VPR Number	Event Log Number	Start Date	Start Time	Start Latitude	Start Longitude	Log File Names
4	85	06/27/05	3:00	30.27.44	65.47.22	06270248.y05
		End Date	End Time	End Latitude	End Longitude	
		06/28/05	7:00			

Comments, Description:

Reattempt A4 to C3 Transit. Good Tow

VPR Number	Event Log Number	Start Date	Start Time	Start Latitude	Start Longitude	Log File Names
5	127	06/30/05	15:35	32.65.	62.8	06301534.y05
		End Date	End Time	End Latitude	End Longitude	
		07/01/05	0:43			

Comments, Description:

Hydrostation S to A5 (aborted) Now Optolink connector to flight control loose.

VPR Number	Event Log Number	Start Date	Start Time	Start Latitude	Start Longitude	Log File Names
6	160	07/02/05	9:04	32.41.889	61.57.205	07020856.y05
		End Date	End Time	End Latitude	End Longitude	
		07/04/05	0:40			

Comments, Description:

E-W section of A5, transit to A4 through BATS

**OC415-1 VPR LOG, June 20th-July 15th, McGillicuddy**

VPR Number	Event Log Number	Start Date	Start Time	Start Latitude	Start Longitude	Log File Names
7	304/314	07/09/05	23:15	32.29.817	66.52.861	07092315.y05
		End Date	End Time	End Latitude	End Longitude	
		07/10/05	10:43			

**Comments, Description:**

Search for C5 Eddie Center, Asscent 4 minutes/climb angle 22; decent 2 minutes/dive angle 12. Not very stable, plan to improve before next tow.

VPR Number	Event Log Number	Start Date	Start Time	Start Latitude	Start Longitude	Log File Names
8	333/346	07/11/05	19:03	31.38.173	66.30.217	07111903.y05
		End Date	End Time	End Latitude	End Longitude	
		07/12/05	13:01			

**Comments, Description:**

A4 Eddy Survey moved Faffer counter weight on right wing to the back. Flew unstable, reduced climb angle to 16, decent angle 8  
 Asscent time 7 min, decent time 3 min. 10 meter to 130 meter depths

VPR Number	Event Log Number	Start Date	Start Time	Start Latitude	Start Longitude	Log File Names
9	350/377	07/12/05	17:37	30.00.744	66.31.064	07121737.y05
		End Date	End Time	End Latitude	End Longitude	
		07/14/05	11:18			

**Comments, Description:**

Moved faffer counter balance weight inside wing pod behind strobe, Cut off rear skid stabilizer bars as Fred suggested.

Flies great, very stable.

assent 5 min, climb angle 17, decent 3 min, dive angle 4, this was lower resolution for Faffer guys

could use climb angle 22 and dive angle 12 for 5.5 min top to top towyo

**OC415-1 VPR LOG, June 20th-July 15th, McGillicuddy**

VPR Number	Event Log Number	Start Date	Start Time	Start Latitude	Start Longitude	Log File Names
10	387/389	07/14/05	17:26	30.43.395	66.42.376	07141724.y05
		End Date	End Time	End Latitude	End Longitude	
		07/14/05	20:18			
<b>Comments, Description:</b>						
A4 Eddy Survey						
VPR was launched, paying out fairing in skim mode, all fairing out, VPR kiting to left. Put it into 10 m depth follow mode and it dove and did a roll over. Held there for a bit, all was stable.						
Continued without issue.						

### CTD Log Sheet *Test cast 1*

cruise: <i>Oc 415-1</i>	type: <i>CTD Test</i>	station: <i>Test on shelf</i>
leg: <i>1</i>	cast #: <i>OC415001</i>	depth: <i>56 M</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>20-Jun-05</i>	<i>19:33</i>	<i>40 45.19</i>	<i>70 32.87</i>	<i>CTD</i>	<i>Test 1-on shelf</i>
On Deck	<i>20-Jun-05</i>	<i>19 43</i>	<i>40 45.31</i>	<i>70 32.83</i>		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		<i>20</i>	<i>20</i>			drop#:
2	23						
3	22						
4	21						
5	20						
6	19						
7	18						
8	17						
9	16						
10	15						
11	14				<i>1937</i>		
12	13		<i>20</i>	<i>21</i>	<i>1937</i>	<i>7.146</i>	
13	12						
14	11						
15	10						
16	9				<i>1939</i>		
17	8				<i>1939</i>		
18	7				<i>1940</i>		
19	6				<i>1940</i>		
20	5				<i>1940</i>		
21	4				<i>1941</i>	<i>7.16</i>	
22	3						
23	2		<i>20</i>	<i>21</i>			
24	1				<i>1941</i>	<i>7.16</i>	

### CTD Log Sheet

cruise: 00415-1	type: TEST CAST	station: 2
leg: 1	cast #: 00415002	depth: 126 m

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	21 JUN 05	0004	40 8.068	70 6.274		
On Deck	21 JUN 05	0011	40 8.144	70 6.490		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		20 m				drop#:
2	23						
3	22						
4	21						
5	20						
6	19						
7	18						7.68
8	17						
9	16						
10	15						
11	14						
12	13						
13	12						
14	11						
15	10						
16	9						
17	8				<del>7.780</del>		7.780
18	7						
19	6						
20	5						
21	4				<del>7.824</del>		7.824
22	3						
23	2						
24	1			20 m			

### CTD Log Sheet

cruise: 0C415-1	type: TEST CAST	station: 3
leg: )	cast #: 0C415003	depth: 4862 m

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	21 JUN 05	2019	37 06.07	68 05.45		
On Deck	21 JUN 05					

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		20				drop#:
2	23		}				
3	22						
4	21						
5	20						
6	19						
7	18						
8	17						
9	16						
10	15						
11	14						
12	13						
13	12						
14	11						
15	10						
16	9						
17	8						
18	7						
19	6						
20	5						
21	4						
22	3						
23	2						
24	1			20			

### CTD Log Sheet

cruise: <i>OC 415-1</i>	type:	station: <i>4</i>
leg: <i>Leg 1</i>	cast #: <i>0c415004.</i>	depth: <i>700</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>23 JUN 05</i>	<i>0016</i>	<i>33 3.812</i>	<i>66 29.853</i>		
On Deck	<i>23 JUN 05</i>	<i>0056</i>	<i>33 3.906</i>	<i>66 29.266</i>		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	<i>0056</i>	<i>25.470</i>	drop#:
2	23		0	3	<i>0055</i>	<i>25.492</i>	
3	22		20	20	<i>0054</i>	<i>22.960</i>	
4	21		20	20	<i>0054</i>	<i>22.915</i>	
5	20		40	40	<i>0053</i>	<i>21.408</i>	
6	19		40	40	<i>0053</i>	<i>21.402</i>	
7	18		60	60	<i>0052</i>	<i>19.791</i>	
8	17		60	60	<i>0052</i>	<i>19.766</i>	
9	16		70	70	<i>0051</i>	<i>19.113</i>	
10	15		70	70	<i>0051</i>	<i>19.104</i>	
11	14		80	80	<i>0050</i>	<i>18.868</i>	
12	13		80	80	<i>0050</i>	<i>18.963</i>	
13	12		90	90	<i>0049</i>	<i>18.652</i>	
14	11		100	100	<i>0049</i>	<i>18.472</i>	
15	10		100	100	<i>0048</i>	<i>18.490</i>	
16	9		110	110	<i>0047</i>	<i>18.373</i>	
17	8		120	120	<i>0047</i>	<i>18.331</i>	
18	7		120	120	<i>0047</i>	<i>18.332</i>	
19	6		140	140	<i>0046</i>	<i>18.260</i>	ON UPCAST @
20	5		140	140	<i>0045</i>	<i>18.262</i>	400 m FLANKING SEA
21	4		200	200	<i>0044</i>	<i>18.145</i>	GET "DIRTY"?
22	3		300	300	<i>0042</i>	<i>17.809</i>	
23	2		500	501	<i>0039</i>	<i>15.003</i>	
24	1		700	700	<i>0033</i>	<i>10.748</i>	

### CTD Log Sheet

cruise: 415-1	type:	station: 5
leg: 1	cast #: ac 415005	depth: Cont 700 bottom

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	23 JUN 05	0846	33 3.72	66 4.67		
On Deck	23 JUN 05	0749	33 3.498	66 4.117		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	2	0749	25.234	drop#:
2	23		0	2	0948	25.233	
3	22		20	20	0947	22.130	
4	21		20	20	0947	22.137	
5	20		40	40	0945	21.006	
6	19		40	40	0945	20.970	
7	18		60	60	0942	19.250	
8	17		60	60	0942	19.261	
9	16		70	71	0940	18.816	
10	15		70	71	0940	18.818	
11	14		80	80	0939	18.663	
12	13		80	80	0937	18.667	
13	12		90	91	0936	18.541	
14	11		100	101	0935	18.497	
15	10		100	100	0934	18.501	
16	9		110	110	0933	18.443	
17	8		120	121	0932	18.384	
18	7		120	120	0931	18.394	
19	6		140	141	0930	18.321	
20	5		140	140	0929	18.329	
21	4		200	200.5	0926	18.180	
22	3		300	301	0921	17.662	
23	2		500	501	0914	14.558	
24	1		700	700	0907	7.950	

## CTD Log Sheet

3.614e-1

cruise: 415-1	type: CTD	station: 6
leg: )	cast #: 0415006	depth: 700m Cast

## Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	23 JUN 05	1204	33 03.691	65 39.967		
On Deck	23 JUN 05	1256	33 03.715	65 40.344		

## Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	2	1256	25.080	drop#:
2	23		0	2	1256	25.080	
3	22		20	20	1254	22.091	
4	21		20	20	1254	22.054	
5	20		40	40	1252	20.757	
6	19		40	40	1252	20.747	
7	18		60	60	1250	19.142	
8	17		60	60	1249	19.132	
9	16		70	70	1248	18.919	
10	15		70	70	1248	18.927	
11	14		80	80	1246	18.788	chl max
12	13		80	80	1246	18.800	
13	12		90	90	1245	18.599	
14	11		100	100	1244	18.518	
15	10		100	100	1243	18.52	
16	9		110	110	1241	18.444	
17	8		120	120	1240	18.360	
18	7		120	120	1240	18.364	
19	6		140	140	1238	18.296	
20	5		140	140	1238	18.300	
21	4		200	200	1236	18.130	
22	3		300	300	1232	17.362	failed to trip
23	2		500	500	1227	14.638	
24	1		700	700	1220	10.299	

### CTD Log Sheet

cruise: <u>OC 415-1</u>	type: <u>CTD</u>	station: <u>17</u>
leg: <u>1</u>	cast #: <u>OC415007</u>	depth: <u>700m Cont</u>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<u>23-Jun-05</u>	<u>1516</u>	<u>33 03.710</u>	<u>65 14.952</u>	<u>CTD</u>	
On Deck	<u>11</u>	<u>1551</u>	<u>33 03.775</u>	<u>65 14.987</u>		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	1551	25.365	drop#:
2	23		0	3	1551	25.355	
3	22		20	20	1549	22.532	
4	21		20	20	1549	22.513	
5	20		40	40	1548	21.423	
6	19		40	40	1548	21.481	
7	18		60	60	1546	20.108	
8	17		60	60	1546	20.138	
9	16		70	70	1545	19.836	
10	15		70	70	1545	19.837	
11	14		80	80	1544	19.374	
12	13		80	80	1544	19.390	
13	12		90	90	1543	19.183	
14	11		100	100	1542	18.943	
15	10		100	100	1542	18.941	
16	9		110	110	1541	18.836	
17	8		120	120	1541	18.692	
18	7		120	120	1540	18.693	
19	6		140	140	1540	<del>18.6</del>	
20	5		140	140	1539		
21	4		200	200	1538	18.299	
22	3		300	300	1536	18.063	
23	2		500	500	1532	15.850	
24	1		700	700	1528	11.333	

### CTD Log Sheet

cruise: 0C415-1	type:	station: 8
leg: 1	cast #: 0C415008	depth: 120 m

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	24 JUN 05	0042	32 52.817	155 52.416		INCUBATION CAST
On Deck	24 JUN 05	0055	32 52.812	155 52.378		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		40	40	0054	21.194	drop#:
2	23		40	40	0053	21.131	
3	22		40	40	0053	21.171	
4	21		40	39	0053	21.111	
5	20		40	40	0053	21.065	
6	19		40	40	0052	21.058	
7	18		40	40	0052	21.045	
8	17		40	41	0052	21.046	
9	16		40	40	0052	21.030	
10	15		40	40	0051	21.023	
11	14		40	40	0051	21.023	
12	13		40	40	0051	21.026	
13	12		80	79	0050	18.407	
14	11		80	80	0050	18.410	
15	10		80	80	0049	18.407	
16	9			80	0049	18.407	
17	8			80	0049	18.405	
18	7			79	0049	18.400	
19	6			80	0048	18.405	
20	5			80	0048	18.407	
21	4			80	0048	18.407	
22	3			79	0048	18.403	
23	2			80	0047	18.405	
24	1		80	80	0047	18.406	

### CTD Log Sheet

cruise: <u>02 415-1</u>	type:	station: <u>9</u>
leg: <u>1</u>	cast #: <u>02 415 009</u>	depth: <u>700</u>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<u>24 JUN 05</u>	<u>0133</u>	<u>32.52.676</u>	<u>65 52.110</u>		
On Deck	<u>24 JUN 05</u>	<u>0208</u>	<u>32 52.558</u>	<u>65 51.936</u>		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired <sup>db</sup> Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	0207	25.395	drop#:
2	23		0	3	0207	25.428	
3	22		20	20	0206	21.837	
4	21		20	20	0206	21.793	
5	20		40	40	0205	20.951	
6	19		40	40	0205	20.809	
7	18		60	60	0204	19.948	
8	17		60	60	0204	19.711	
9	16		70	70	0203	18.521	
10	15		70	70	0203	18.488	
11	14		80	79.5	0202	18.385	
12	13		80	80	0202	18.377	
13	12		90	90	0201	18.247	
14	11		100	100	0201	18.199	
15	10		100	100	0200	18.187	
16	9		110	110	0200	18.173	
17	8		120	120	0159	18.146	
18	7		120	120	0159	18.138	
19	6		140	140	0158	18.061	
20	5		140	140	0158	18.060	
21	4		200	200	0156	17.965	
22	3		300	300	0154	16.745	
23	2		500	500	0150	12.870	
24	1		700	700	0147	9.519	

### CTD Log Sheet

cruise: 0415-1	type:	station: 10
leg: )	cast #: 0415010	depth: 700

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	25 JUN 05	0658	31 5.047	65 37.800		
On Deck	25 JUN 05	0750	31 5.202	65 40.041		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	0750	25.608	drop#:
2	23		0	3	0750	25.605	
3	22		20	20	0748	24.046	
4	21		20	20	0747	23.903	
5	20		40	40	0745	21.171	
6	19		40	40	0745	21.170	
7	18		60	60	0744	20.226	
8	17		60	60	0744	20.185	
9	16		70	70	0743	19.757	
10	15		70	70	0742	19.742	
11	14		80	80	0741	19.576	
12	13		80	80	0741	19.470	
13	12		90	90	0740	19.396	
14	11		100	100	0740	19.326	
15	10		100	100	0739	19.292	
16	9		110	110	0738	19.259	
17	8		120	120	0738	19.230	
18	7		120	120	0737	19.230	
19	6		140	140	0736	19.185	
20	5		140	140	0736	19.184	
21	4		200	200	0734	19.025	
22	3		300	300	0730	18.631	
23	2		500	500	0724	18.008	
24	1		700	700	0719	15.621	

### CTD Log Sheet

cruise: 0C415-1	type:	station: 11
leg: 1	cast #: 0C415011	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	25 JUN 05	1005	31 4.948	66 4.723		
On Deck	25 JUN 05	1100	31 5.424	66 4.808		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	1100	25.733	drop#:
2	23		0	3	1100	25.733	
3	22		20	20	1059	24.405	
4	21		20	20	1058	24.382	
5	20		40	40	1057	21.125	
6	19		40	40	1056	21.000	
7	18		60	60	1055	20.443	
8	17		60	60	1054	20.374	
9	16		70	70	1053	20.149	
10	15		70	70	1053	20.142	
11	14		80	80	1052	19.903	
12	13		80	80	1052	19.900	
13	12		90	90	1050	19.745	
14	11		100	100	1049	19.560	
15	10		100	100	1049	19.537	
16	9		110	110	1047	19.409	
17	8		120	120	1046	19.336	
18	7		120	120	1046	19.334	
19	6		140	140	1044	19.221	
20	5		140	140	1044	19.222	
21	4		200	200	1040	19.025	
22	3		300	300	1037	18.703	failed to close
23	2		500	500	1031	17.896	
24	1		700	700	1025	15.382	

### CTD Log Sheet

cruise: <i>OC 415-1</i>	type: <i>CTD</i>	station: <i>12</i>
leg: <i>1</i>	cast #: <i>OC 415012</i>	depth: <i>700</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>25-Jun-05</i>	<i>1316</i>	<i>31 04.990</i>	<i>66 29.711</i>	<i>CTD</i>	
On Deck	<i>11</i>	<i>1353</i>	<i>31 05.66</i>	<i>66 29.213</i>		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	1354	26.070	drop#:
2	23		0	2	1353	26.077	
3	22		20	20	1352	24.755	
4	21		20	20	1352	24.760	
5	20		40	40	1351	22.168	
6	19		40	40	1351	22.190	
7	18		50	61	1350	20.740	
8	17		60	60	1350	20.741	
9	16		70	70	1349	20.355	
10	15		70	70	1349	20.439	
11	14		80	80	1348	20.091	
12	13		80	80	1348	20.108	
13	12		90	90	1346	19.941	
14	11		100	100	1346	19.797	
15	10		100	100	1346	19.821	
16	9		110	110	1345	19.670	
17	8		120	120	1344	19.559	
18	7		120	120	1344	19.561	
19	6		140	140	1343	19.320	
20	5		140	140	1342	19.342	
21	4		200	200	1340	19.013	
22	3		300	300	1338	18.676	Failed to close
23	2		500	500	1335	17.677	
24	1		700	700	1330	14.369	

### CTD Log Sheet

cruise: <i>02415-1</i>	type: <i>CTD</i>	station: <i>73</i>
leg: <i>1</i>	cast #: <i>0C45013</i>	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>25-Jun-05</i>	<i>2013</i>	<i>31 04.740</i>	<i>65 14.773</i>	<i>CTD</i>	
On Deck	<i>'</i>	<i>2101</i>	<i>31 04.141</i>	<i>65 14.986</i>		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		<i>0</i>	<i>3</i>	<i>2100</i>	<i>25.986</i>	drop#:
2	23		<i>0</i>	<i>3</i>	<i>2100</i>	<i>25.987</i>	
3	22		<i>20</i>	<i>20</i>	<i>2059</i>	<i>25.530</i>	
4	21		<i>20</i>	<i>20</i>	<i>2059</i>	<i>25.758</i>	
5	20		<i>40</i>	<i>40</i>	<i>2057</i>	<i>22.087</i>	
6	19		<i>40</i>	<i>40</i>	<i>2057</i>	<i>22.060</i>	
7	18		<i>60</i>	<i>60</i>	<i>2055</i>	<i>20.689</i>	
8	17		<i>60</i>	<i>60</i>	<i>2055</i>	<i>20.623</i>	
9	16		<i>70</i>	<i>70</i>	<i>2053</i>	<i>19.994</i>	
10	15		<i>70</i>	<i>70</i>	<i>2053</i>	<i>20.000</i>	
11	14		<i>80</i>	<i>80</i>	<i>2052</i>	<i>19.755</i>	
12	13		<i>80</i>	<i>80</i>	<i>2052</i>	<i>19.759</i>	
13	12		<i>90</i>	<i>90</i>	<i>2051</i>	<i>19.518</i>	
14	11		<i>100</i>	<i>100</i>	<i>2050</i>	<i>19.388</i>	
15	10		<i>100</i>	<i>100</i>	<i>2049</i>	<i>19.387</i>	
16	9		<i>110</i>	<i>110</i>	<i>2048</i>	<i>19.233</i>	
17	8		<i>120</i>	<i>120</i>	<i>2047</i>	<i>19.150</i>	<i>Chl Max</i>
18	7		<i>120</i>	<i>120</i>	<i>2047</i>	<i>19.148</i>	
19	6		<i>140</i>	<i>140</i>	<i>2045</i>	<i>19.045</i>	
20	5		<i>140</i>	<i>140</i>	<i>2045</i>	<i>19.045</i>	
21	4		<i>200</i>	<i>200</i>	<i>2043</i>	<i>18.984</i>	
22	3		<i>300</i>	<i>300</i>	<i>2040</i>	<i>18.740</i>	<i>closed OK</i>
23	2		<i>500</i>	<i>500</i>	<i>2034</i>	<i>17.890</i>	
24	1		<i>700</i>	<i>700</i>	<i>2029</i>	<i>14.764</i>	

### CTD Log Sheet

cruise: <i>OC 415-1</i>	type: <i>CTD Shallow</i>	station: <i>14</i>
leg: <i>1</i>	cast #: <i>OC415 014</i>	depth: <i>40m only</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>25-Jun-04</i>	<i>2325</i>	<i>31 04.912</i>	<i>64 49.908</i>	<i>CTD</i>	<i>Shallow cast to</i>
On Deck						<i>40 M. for In-situ</i>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		<i>40</i>	<i>40</i>	<i>2330</i>	<i>21.833</i>	drop#:
2	23		<i>40</i>	↑	↑	↑	
3	22		<i>40</i>				
4	21		<i>40</i>				
5	20		<i>40</i>				
6	19		<i>40</i>				
7	18		<i>40</i>				
8	17		<i>40</i>				
9	16		<i>40</i>				
10	15		<i>40</i>				
11	14		<i>40</i>				
12	13		<i>40</i>				
13	12		<i>40</i>				
14	11		<i>40</i>				
15	10		<i>40</i>				
16	9		<i>40</i>				
17	8		<i>40</i>				
18	7		<i>40</i>				
19	6		<i>40</i>				
20	5		<i>40</i>				
21	4		<i>1</i>				
22	3						
23	2						
24	1		<i>40</i>	<i>2327</i>	<i>2327</i>	<i>21.726</i>	

### CTD Log Sheet

cruise: <i>00415-1</i>	type: <i>CTD</i>	station: <i>15</i>
leg: <i>1</i>	cast #: <i>00415015</i>	depth: <i>200</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>25 JUN 05</i>	<i>23 59</i>	<i>31 4.726</i>	<i>64 49.752</i>		
On Deck	<i>26 JUN 05</i>	<i>00 35</i>	<i>31 4.410</i>	<i>64 50.225</i>		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		<i>0</i>	<i>3</i>	<i>0035</i>	<i>25.584</i>	drop#:
2	23		<i>0</i>	<i>3</i>	<i>0034</i>	<i>25.580</i>	
3	22		<i>20</i>	<i>20</i>	<i>0034</i>	<i>22.712</i>	
4	21		<i>20</i>	<i>20</i>	<i>0033</i>	<i>22.556</i>	
5	20		<i>40</i>	<i>40</i>	<i>0033</i>	<i>21.801</i>	
6	19		<i>40</i>	<i>40</i>	<i>0032</i>	<i>21.791</i>	
7	18		<i>60</i>	<i>60</i>	<i>0032</i>	<i>20.656</i>	
8	17		<i>60</i>	<i>60</i>	<i>0031</i>	<i>20.659</i>	
9	16		<i>70</i>	<i>70</i>	<i>0030</i>	<i>20.287</i>	
10	15		<i>70</i>	<i>70</i>	<i>0030</i>	<i>20.291</i>	
11	14		<i>80</i>	<i>80</i>	<i>0029</i>	<i>20.313</i>	
12	13		<i>80</i>	<i>80</i>	<i>0029</i>	<i>20.310</i>	
13	12		<i>90</i>	<i>90</i>	<i>0028</i>	<i>19.860</i>	
14	11		<i>100</i>	<i>100</i>	<i>0028</i>	<i>19.657</i>	
15	10		<i>100</i>	<i>100</i>	<i>0028</i>	<i>19.658</i>	
16	9		<i>110</i>	<i>110</i>	<i>0027</i>	<i>19.528</i>	
17	8		<i>120</i>	<i>120</i>	<i>0026</i>	<i>19.315</i>	
18	7		<i>120</i>	<i>120</i>	<i>0026</i>	<i>19.315</i>	
19	6		<i>140</i>	<i>140</i>	<i>0025</i>	<i>19.087</i>	
20	5		<i>140</i>	<i>140</i>	<i>0025</i>	<i>19.085</i>	
21	4		<i>200</i>	<i>200</i>	<i>0023</i>	<i>18.764</i>	
22	3		<i>300</i>	<i>300</i>	<i>0020</i>	<i>18.300</i>	
23	2		<i>500</i>	<i>500</i>	<i>0017</i>	<i>17.212</i>	
24	1		<i>700</i>	<i>700</i>	<i>0013</i>	<i>13.402</i>	

### CTD Log Sheet

cruise: <i>Oe 415-1</i>	type: <i>CTD</i>	station: <i>16 Special AY hotspot</i>
leg: <i>1</i>	cast #: <i>OC15016</i>	depth: <i>140 M</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>26-Jun-05</i>	<i>1921</i>	<i>31 04.92</i>	<i>65 53.95</i>	<i>CTD</i>	
On Deck		<i>1940</i>	<i>31 04.908</i>	<i>65 54.086</i>		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	1940	26.185	drop#:
2	23		0	3	1939	26.172	
3	22		0	3	1939	26.146	
4	21		40	40	1937	21.188	
5	20		40	40	1937	21.208	
6	19		40	40	1937	21.185	
7	18		60	60	1936	20.036	
8	17		60	60	1935	20.035	
9	16		60	60	1935	20.021	
10	15		80	80		19.585	
11	14		80	80	1934	19.592	
12	13		80	80	1934	19.595	
13	12		100	100		19.362	
14	11		100	100	1932	19.362	
15	10		100	100	1931	19.363	
16	9		106	106		19.297	<i>Chl Max</i>
17	8		106	106			
18	7		106	106	1930	19.297	
19	6		120	120	1928	19.232	
20	5		120	120			
21	4		120	120	1928	19.232	
22	3		140	140	1926	19.183	
23	2		140	140	1926		
24	1		140		1926	19.183	

### CTD Log Sheet

cruise: GC415-1	type:	station: 17
leg: 1	cast #: GC415017	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	28 JUN 05	1010	28 44.374	64 24.746		
On Deck	28 JUN 05	1105	28 45.158	64 24.981		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	1105	26.746	drop#:
2	23		0	3	1105	26.749	
3	22		20	20	1103	25.031	
4	21		20	20	1103	25.161	
5	20		40	40	1101	22.659	
6	19		40	40	1101	22.610	
7	18		60	60	1059	20.915	
8	17		60	60.4	1059	20.929	
9	16		70	70	1057	20.562	
10	15		70	70	1057	20.552	
11	14		80	80.5	1056	20.255	
12	13		80	80	1056	20.267	
13	12		90	90	1054	20.014	
14	11		100	100	1053	19.877	
15	10		100	100	1052	19.878	
16	9		110	110	1051	19.677	
17	8		120	120	1050	19.412	
18	7		120	120	1050	19.419	
19	6		140	140	1049	19.120	
20	5		140	140	1049	19.120	
21	4		200	200	1045	18.588	
22	3		300	301	1042	18.012	
23	2		500	500	1036	15.433	
24	1		700	700	1031	11.085	

### CTD Log Sheet

cruise: <i>Oc 415-1</i>	type: <i>CTD</i>	station: <i>18</i>
leg: <i>1</i>	cast #: <i>0c415018</i>	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>28-Jun-05</i>	<i>1321</i>	<i>28 44.638</i>	<i>64 49.896</i>	<i>CTD</i>	
On Deck	<i>h</i>	<i>1358</i>	<i>28 45.378</i>	<i>64 49.832</i>		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	1358	26.264	drop#:
2	23		0	3	1358	26.268	
3	22		20	20	1357	24.184	
4	21		20	20	1356	24.244	
5	20		40	40	1356	21.512	
6	19		40	40	1355	21.525	
7	18		60	60	1354	20.669	
8	17		60	60	1354	20.666	
9	16		70	70	1354	20.408	
10	15		70	70	1353	20.422	
11	14		80	80	1353	20.011	
12	13		80	80	1353	20.029	
13	12		90	90	1352	19.663	
14	11		100	100	1351	19.389	
15	10		100	100	1351	19.400	
16	9		110	110	1350	19.225	
17	8		120	120	1349	19.049	
18	7		120	120	1349	19.057	
19	6		140	140	1348	18.874	
20	5		140	140	1348	18.807	
21	4		200	200	1345	18.339	
22	3		300	300	1343	17.745	
23	2		500	500	1339	15.010	
24	1		700	700	1335	10.961	

### CTD Log Sheet

cruise: <b>OC 415-1</b>	type: <b>CTD</b>	station: <b>19</b>
leg: <b>1</b>	cast #: <b>OC 415 019</b>	depth: <b>700</b>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<b>28-Jun-05</b>	<b>2023</b>	<b>28 44.504</b>	<b>66 04.568</b>	<b>CTD</b>	
On Deck		<b>2110</b>	<b>28 44.868</b>	<b>66 04.868</b>		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	2100	27.101	drop#:
2	23		0	3	2109	27.102	
3	22		20	20	2108	24.007	
4	21		20	20	2108	23.995	
5	20		40	40	2106	22.314	
6	19		40	40	2106	22.308	
7	18		60	60	2104	21.197	
8	17		60	60	2104	21.207	
9	16		70	70	2103	20.893	
10	15		70	70	2103	20.803	
11	14		80	80	2101	20.476	
12	13		80	80	2101	20.460	
13	12		90	90	2100	20.209	
14	11		100	100	2059	19.941	
15	10		100	100	2059	19.937	
16	9		110	110	2058	19.810	
17	8		120	120	2057	19.645	
18	7		120	120	2056	19.644	
19	6		140	140	2055	19.429	
20	5		140	140	2055	19.421	
21	4		200	200	2052	18.769	
22	3		300	300	2048	18.176	
23	2		500	500	2044	16.146	
24	1		700	700	2039	11.653	

### CTD Log Sheet

cruise: <u>OC415-1</u>	type: <u>CTD</u>	station: <u>20</u>
leg: <u>1</u>	cast #: <u>OC415020</u>	depth: <u>700</u>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<u>28 Jun 05</u>	<u>2340</u>	<u>28 44.36</u>	<u>65 39.26</u>	<u>CTD</u>	
On Deck	<u>29 JUN 05</u>	<u>0020</u>	<u>28 44.712</u>	<u>65 38.926</u>		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	2	0020	26.466	drop#:
2	23		0	2	0020	26.456	
3	22		20	20	0019	26.464	
4	21		20	20	0019	26.371	
5	20		40	40.5	0018	22.031	
6	19		40	40	0017	22.070	
7	18		60	60	0017	20.749	
8	17		60	60	0016	20.745	
9	16		70	70	0016	20.307	
10	15		70	70	0015	20.256	
11	14		80	80	0014	19.916	
12	13		80	80	0014	19.923	
13	12		90	89.6	0013	19.570	
14	11		100	100.6	0012	19.379	
15	10		100	100	0012	19.384	
16	9		110	110	0011	19.233	
17	8		120	120	0010	17.074	
18	7		120	120	0009	19.008	
19	6		140	140	0008	18.701	
20	5		140	140	0007	18.904	
21	4		200	200	0005	18.526	
22	3		300	300	0002	18.183	
23	2		500	500	2358	15.747	
24	1		700	700	2355	11.315	

### CTD Log Sheet

cruise: 06415-1	type:	station: 21
leg: 1	cast #: 06415021	depth: 120 m

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	29 JUN 05	0541	29 44.40	65 14.965		INCUBATION CAST
On Deck	29 JUN 05	0558	28 44.260	65 15.090		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		40	40	0556	22.273	drop#:
2	23			40	0556	22.252	
3	22			40	0556	22.277	
4	21			40	0556	22.215	
5	20			40	0555	22.145	
6	19			40	0555	22.177	
7	18			40	0555	22.135	
8	17			40	0555	22.106	
9	16			40	0555	22.058	
10	15			40	0555	22.040	
11	14			40	0554	22.030	
12	13		40	40	0554	22.010	
13	12		60	60	0552	20.358	
14	11			60	0552	20.339	
15	10			60	0552	20.335	
16	9			60	0552	20.339	
17	8			60	0552	20.335	
18	7			60	0551	20.336	
19	6			60	0551	20.333	
20	5			60	0551	20.338	
21	4			60	0551	20.330	
22	3			60	0551	20.325	
23	2			60	0550	20.327	
24	1		60	60	0550	20.333	

### CTD Log Sheet

cruise: 0C415-1	type:	station: 22
leg: 1	cast #: 0C415022	depth: 700 m

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	29 JUN 05	0627	28 43.998	65 15.356		
On Deck	29 JUN 05	0716	28 43.416	65 15.851		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	0716	26.505	drop#:
2	23		0	3	0716	26.505	
3	22		20	20	0715	26.510	
4	21		20	20	0715	26.510	
5	20		40	40	0714	22.690	
6	19		40	40	0714	22.708	
7	18		60	60	0712	20.344	
8	17		60	60	0712	20.344	
9	16		70	70	0711	20.605	
10	15		70	70	0711	20.604	
11	14		80	80	0711	19.715	
12	13		80	80	0710	19.712	
13	12		90	90	0710	19.171	
14	11		100	100	0709	19.056	
15	10		100	100	0709	19.057	
16	9		110	110	0708	18.925	
17	8		120	120	0707	18.831	
18	7		120	120	0707	18.830	
19	6		140	140	0706	18.573	
20	5		140	140	0706	18.572	
21	4		200	200	0703	18.176	
22	3		300	300	0700	17.561	
23	2		500	500	0654	14.972	
24	1		700	700	0649	10.554	

### CTD Log Sheet

cruise: <u>02415</u>	type:	station: <u>Z3</u>
leg: <u>1</u>	cast #: <u>02415023</u>	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<u>30 JUN 05</u>	<u>0442</u>	<u>31 39.797</u>	<u>64 10.133</u>		<u>AT BATS</u>
On Deck	<u>30 JUN 05</u>	<u>0529</u>	<u>31 39.966</u>	<u>64 10.506</u>		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	0529	25.646	drop#:
2	23		0	3	0528	25.649	
3	22		20	20	0527	25.438	
4	21		20	20	0527	25.325	
5	20		40	40	0526	22.042	
6	19		40	40	0526	21.736	
7	18		60	60	0525	20.700	
8	17		60	60	0525	20.579	
9	16		70	70	0524	20.270	
10	15		70	70	0524	20.223	
11	14		80	80	0523	20.009	
12	13		80	80	0523	19.903	
13	12		90	90	0522	19.774	
14	11		100	100	0521	19.524	
15	10		100	100	0521	19.531	
16	9		110	110	0520	19.355	
17	8		120	120	0520	19.262	
18	7		120	120	0519	19.242	
19	6		140	140	0518	19.052	
20	5		140	140	0518	19.030	
21	4		200	200	0516	18.695	
22	3		300	300	0512	18.032	
23	2		500	500	0506	15.849	
24	1		700	701	0501	12.043	

### CTD Log Sheet

cruise: 415-1	type:	station: 24
leg: 1	cast #: 00415024	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	1 JUL 05	0807	32 42.217	62 44.948		
On Deck	1 JUL 05	0857	32 42.192	62 45.072		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	0857	24.713	drop#:
2	23		0	3	0857	24.712	
3	22		20	20	0855	22.480	
4	21		20	20	0855	22.339	
5	20		40	40	0853	20.024	
6	19		40	40	0853	19.858	
7	18		60	60	0851	19.428	
8	17		60	60	0851	19.358	
9	16		70	70	0849	19.253	
10	15		70	70	0849	19.248	
11	14		80	80	0848	19.188	
12	13		80	80	0848	19.187	
13	12		90	90	0846	19.109	
14	11		100	100	0845	19.015	
15	10		100	100	0845	19.011	
16	9		110	110	0844	18.988	
17	8		120	120	0842	18.977	
18	7		120	120	0842	18.977	
19	6		140	140	0840	18.963	
20	5		140	140	0840	18.963	
21	4		200	200	0838	18.872	
22	3		300	300	0834	18.009	
23	2		500	500	0830	16.834	
24	1		700	700	0825	16.503	

### CTD Log Sheet

cruise: 415-1	type:	station: 25
leg: )	cast #: 0c415025	depth: 200

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	1 JUL 05	1103	32 42.130	63 10.077		
On Deck	1 JUL 05	1150	32 42.437	63 10.315		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	1149	25.036	drop#:
2	23		0	2.5	1149	25.031	
3	22		20	20	1148	22.621	
4	21		20	20	1148	22.371	
5	20		40	40	1147	20.204	
6	19		40	40	1147	20.185	
7	18		60	60	1146	19.550	
8	17		60	60	1146	19.524	
9	16		70	70	1145	19.289	
10	15		70	70	1145	19.288	
11	14		80	80	1144	19.158	
12	13		80	80	1143	19.159	
13	12		90	90	1142	19.119	
14	11		100	100	1141	19.058	
15	10		100	100	1141	19.058	
16	9		110	110	1140	19.036	
17	8		120	120	1139	19.020	
18	7		120	120	1138	19.019	
19	6		140	140	1137	18.998	
20	5		140	140	1137	18.998	
21	4		200	200	1134	18.927	
22	3		300	300	1131	18.237	
23	2		500	500	1126	17.205	
24	1		700	700	1121	15.745	

### CTD Log Sheet

cruise: <i>OC 415-1</i>	type: <i>CTD</i>	station: <i>26</i>
leg: <i>1</i>	cast #: <i>OC 415026</i>	depth: <i>700</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>1-JUL-05</i>	<i>1355</i>	<i>32 42.334</i>	<i>63 35.094</i>	<i>CTD</i>	
On Deck		<i>1431</i>	<i>32 42.836</i>	<i>63 35.285</i>		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	2	1431	25.140	drop#:
2	23		0	2	1431	25.140	
3	22		20	20	1430	23.394	
4	21		20	20	1429	23.370	
5	20		40	40	1429	20.805	
6	19		40	40	1429	20.804	
7	18		60	60	1428	19.951	
8	17		60	60	1428	19.955	
9	16		70	70	1427	19.657	
10	15		70	70	1427	19.656	
11	14		80	80	1426	19.408	
12	13		80	80	1426	19.391	
13	12		90	90	1425	19.274	
14	11		100	100	1424	19.148	
15	10		100	100	1424	19.197	
16	9		110	110	1423	19.063	
17	8		120	120	1423	19.039	
18	7		120	120	1422	19.031	
19	6		140	140	1421	18.996	
20	5		140	140	1421	18.996	
21	4		200	200	1419	18.800	
22	3		300	300	1417	18.228	
23	2		500	500	1413	17.400	
24	1		700	700	1409	14.491	

### CTD Log Sheet

cruise: <i>OC 415-1</i>	type: <i>CTD</i>	station: <i>27</i>
leg: <i>1</i>	cast #: <i>OC415027</i>	depth: <i>1500 m</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>1-Jul-05</i>	<i>1854</i>	<i>32 42.236</i>	<i>62 45.252</i>	<i>CTD</i>	<i>deep cast</i>
On Deck	<i>"</i>	<i>2017</i>	<i>32 42.194</i>	<i>62 46.076</i>		<i>No PAR sensor</i>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	<i>2</i>	<i>2017</i>	<i>24.989</i>	drop#:
2	23		50	<i>50</i>	<i>2015</i>	<i>19.923</i>	
3	22		100	<i>100</i>	<i>2013</i>	<i>19.003</i>	
4	21		150	<i>150</i>	<i>2012</i>	<i>18.950</i>	
5	20		200	<i>200</i>	<i>2010</i>	<i>18.701</i>	
6	19		250	<i>250</i>	<i>2008</i>	<i>18.210</i>	
7	18		300	<i>300</i>	<i>2006</i>	<i>18.007</i>	
8	17		350	<i>350</i>	<i>2004</i>	<i>17.938</i>	
9	16		400	<i>400</i>	<i>2002</i>	<i>17.764</i>	
10	15		450	<i>450</i>	<i>2000</i>	<i>17.409</i>	
11	14		500	<i>500</i>	<i>1958</i>	<i>16.862</i>	
12	13		550	<i>550</i>	<i>1956</i>	<i>16.661</i>	
13	12		600	<i>600</i>	<i>1955</i>	<i>16.575</i>	
14	11		650	<i>650</i>	<i>1953</i>	<i>16.539</i>	
15	10		700	<i>700</i>	<i>1951</i>	<i>16.493</i>	
16	9		750	<i>748</i>	<i>1948</i>	<i>16.407</i>	
17	8		800	<i>800</i>	<i>1946</i>	<i>16.411</i>	
18	7		900	<i>899</i>	<i>1944</i>	<i>13.680</i>	
19	6		1000	<i>998</i>	<i>1941</i>	<i>10.706</i>	
20	5		1100	<i>1100</i>	<i>1938</i>	<i>8.580</i>	
21	4		1200	<i>1200</i>	<i>1935</i>	<i>7.195</i>	
22	3		1300	<i>1300</i>	<i>1932</i>	<i>6.340</i>	
23	2		1400	<i>1400</i>	<i>1929</i>	<i>5.656</i>	
24	1		1500	<i>1500</i>	<i>1926</i>	<i>5.193</i>	

### CTD Log Sheet

cruise: <i>OC415-1</i>	type: <i>CTD</i>	station: <i>28</i>
leg: <i>1</i>	cast #: <i>OC415028</i>	depth: <i>700</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>1-JUL-05</i>	<i>2230</i>	<i>32 42.134</i>	<i>62 20.185</i>	<i>CTD</i>	<i>PAA back on</i>
On Deck		<i>2314</i>	<i>32 41.857</i>	<i>62 20.502</i>		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	2314	25.468	drop#:
2	23		0	3	2314	25.442	
3	22		20	20	2312	23.053	
4	21		20	20	2312	23.000	
5	20		40	40	2310	21.468	
6	19		40	40	2310	21.471	
7	18		60	60	2308	20.476	
8	17		60	60	2308	20.460	
9	16		70	70	2307	19.820	
10	15		70	70	2307	19.811	
11	14		80	80	2306	19.644	
12	13		80	80	2306	19.631	
13	12		90	90	2304	19.551	
14	11		100	100	2303	19.440	
15	10		100	100	2303	19.481	
16	9		110	110	2302	19.227	
17	8		120	120	2301	19.112	
18	7		120	120	2301	19.119	
19	6		140	140	2259	19.030	
20	5		140	140	2259	19.030	
21	4		200	200	2257	18.937	
22	3		300	300	2254	18.365	
23	2		500	500	2250	18.013	
24	1		700	700	2245	14.999	

### CTD Log Sheet

cruise: 0c415	type:	station: 29
leg: 1	cast #: 0c415029	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	2 JUL 05	0405	32 39.294	62 39.479		INCUBATION CAST
On Deck	2 JUL 05	0420	32 39.241	62 39.331		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		40	41	0419	21.308	drop#:
2	23			41	0418	21.330	
3	22			41	0418	21.290	
4	21			40.9	0418	21.278	
5	20			41	0418	21.287	
6	19			41	0417	21.291	
7	18			41	0417	21.300	
8	17			41	0417	21.301	
9	16			41	0417	21.300	
10	15			40	0417	21.310	
11	14			40	0417	21.332	
12	13		40	40	0416	21.230	
13	12		20	71	0415	19.469	
14	11			71	0415	19.475	
15	10			71	0415	19.489	
16	9			70 71	0415	19.509	
17	8			70 71	0414	19.522	
18	7			70	0414	19.521	
19	6			70	0414	19.521	
20	5			70	0414	19.521	
21	4			70	0414	19.524	
22	3			70	0413	19.520	
23	2			70	0413	19.518	
24	1		70	70	0413	19.516	

### CTD Log Sheet

cruise: 0C415-1	type:	station: 30
leg: 1	cast #: 0C415030	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	2 JUL 05	0803	32 42.160	61 55.188		
On Deck	2 JUL 05	0847	32 42.078	61 55.578		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	2	0847	25.265	drop#:
2	23		0	2	0847	25.257	
3	22		20	20	0846	23.260	
4	21		20	20	0845	23.159	
5	20		40	40	0844	21.292	
6	19		40	40	0844	21.281	
7	18		60	60	0842	20.329	
8	17		60	60	0842	20.274	
9	16		70	70	0841	19.891	
10	15		70	70	0841	19.884	
11	14		80	80	0840	19.700	
12	13		80	80	0839	19.672	
13	12		90	90	0838	19.267	
14	11		100	100	0837	19.181	
15	10		100	100	0837	19.178	
16	9		110	110	0836	19.005	
17	8		120	120	0835	18.966	
18	7		120	120	0835	18.967	
19	6		140	140	0834	18.812	
20	5		140	140	0834	18.803	
21	4		200	200	0832	18.504	
22	3		300	300	0829	18.204	
23	2		500	500	0825	17.991	
24	1		700	700	0820	15.225	

### CTD Log Sheet

cruise: 0c415-1	type:	station: 31
leg: 1	cast #: 0c415031	depth:

#### Position Information

A4

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	4 JUL 05	0516	30 54.055	66 17.294		Eddy Center
On Deck	4 JUL 05	0604	30 54.347	66 17.158		Grid 2317

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	0604	25.986	drop#:
2	23		0	3	0604	25.984	
3	22		20	20	0603	24.416	
4	21		20	20	0602	24.603	
5	20		40	40	0601	20.787	
6	19		40	40	0601	20.575	
7	18		60	60	0600	19.713	
8	17		60	60	0600	19.709	
9	16		70	70	0559	19.450	
10	15		70	70	0559	19.416	
11	14		80	80	0558	19.375	
12	13		80	80	0558	19.363	
13	12		90	90	0557	19.306	
14	11		100	100	0556	19.250	
15	10		100	100	0556	19.249	
16	9		110	110	0555	19.208	
17	8		120	120	0554	19.188	
18	7		120	120	0554	19.188	
19	6		140	140	0553	19.161	
20	5		140	140	0553	19.161	
21	4		200	200	0551	18.924	
22	3		300	300	0547	18.623	
23	2		500	500	0542	18.001	
24	1		700	700	0537	15.750	

### CTD Log Sheet

cruise: 0415-1	type:	station: 32
leg: 1	cast #: 0415032	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	4 JUL 05	0802	31 4.874	66 17.262		20 Km N
On Deck	4 JUL 05	0850	31 5.126	66 16.895		Grid 2376

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	0850	20.090	drop#:
2	23		0	3	0850	20.092	
3	22		20	20	0849	23.593	
4	21		20	20	0848	23.320	
5	20		40	40	0847	20.747	
6	19		40	40	0846	20.744	
7	18		60	60	0845	19.842	
8	17		60	60	0844	19.776	
9	16		70	70	0843	19.537	
10	15		70	70	0843	19.518	
11	14		80	80	0842	19.267	
12	13		80	80	0842	19.246	
13	12		90	90	0841	19.149	
14	11		100	100	0839	19.092	
15	10		100	100	0839	19.092	
16	9		110	110	0838	19.050	
17	8		120	120	0837	19.036	
18	7		120	120	0837	19.035	
19	6		140	140	0835	19.011	
20	5		140	140	0835	19.011	
21	4		200	200	0833	18.955	
22	3		300	300	0829	18.052	
23	2		500	500	0825	18.023	
24	1		700	700	0820	15.580	

### CTD Log Sheet

cruise: 0C415	type:	station: 33
leg: 1	cast #: 0C415 033	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	4 JUL 05	1017	31 4.850	66 4.848		NE of Center Grid 2377
On Deck	4 JUL 05	1103	31 4.944	66 4.518		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	2	1103	26.177	drop#:
2	23		0	3	1102	26.179	
3	22		20	20	1101	22.757	
4	21		20	20	1101	22.503	
5	20		40	40	1100	20.640	
6	19		40	40	1059	20.624	
7	18		60	60	1058	19.801	
8	17		60	60	1058	19.798	
9	16		70	70	1057	19.559	
10	15		70	70	1056	19.552	
11	14		80	80	1055	19.413	
12	13		80	80	1055	19.410	
13	12		90	90	1054	19.323	
14	11		100	100	1053	19.245	
15	10		100	100	1053	19.247	
16	9		110	110	1052	19.219	
17	8		120	120	1051	19.191	
18	7		120	120	1051	19.191	
19	6		140	140	1050	19.117	
20	5		140	140	1049	19.116	
21	4		200	200	1047	18.894	
22	3		300	300	1045	18.585	
23	2		500	500	1040	17.964	
24	1		700	700	1036	14.459	

### CTD Log Sheet

cruise: 06415	type: CTD	station: 34
leg: 1	cast #: 06415 034	depth: 700

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	7/4/03	1237	30 53.9	66 05.0		E 20km
On Deck		1313	30 53.75	66 04.78		Grid 2318

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	2	1313	26.184	drop#:
2	23		0	2	1313	26.181	
3	22		20	20	1311	23.907	
4	21		20	20	1311	23.820	
5	20		40	40	1310	21.358	
6	19		40	40	1310	21.362	
7	18		60	60	1309	19.966	
8	17		60	60	1309	19.962	
9	16		70	70	1308	19.683	
10	15		70	70	1308	19.687	
11	14		80	80	1307	19.473	
12	13		80	80	1307	19.473	
13	12		90	90	1306	19.397	.458
14	11		100	100	1305	19.320	
15	10		100	100	1305	19.324	1.2
16	9		110	110	1303	19.280	3.51 chd 0.8
17	8		120	120	1302	19.228	
18	7		120	120	1302	19.229	
19	6		140	141	1301	19.164	
20	5		140	140	1300	19.189	
21	4		200	200	1259	19.002	
22	3		300	300	1257	18.542	
23	2		500	500	1253	17.975	
24	1		700	700	1249	14.826	

### CTD Log Sheet

cruise: <i>OC415-1</i>	type: <i>CTD</i>	station: <i>35</i>
leg: <i>1</i>	cast #: <del><i>0255</i></del> <i>OC415035</i>	depth: <i>700</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>4-Jul-05</i>	<i>1805</i>	<i>3043.25</i>	<i>66 17.33</i>		<i>20 Km S of Center</i>
On Deck		<i>1849</i>	<i>30 43.68</i>	<i>66 17.56</i>		<i>Grid 2258</i>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	2	1849	26.421	drop#:
2	23		0	2	1849	26.422	
3	22		20	20	1848	24.408	
4	21		20	20	1848	24.391	
5	20		40	40	1846	21.020	
6	19		40	40	1846	20.998	
7	18		60	60	1845	19.995	
8	17		60	60	1845	19.991	
9	16		70	70	1844	19.794	
10	15		70	70	1844	19.797	
11	14		80	80	1843	19.694	.325
12	13		80	80	1843	19.620	
13	12		90	90	1842	19.458	.495
14	11		100	100	1841	19.350	2.10 chl Max
15	10		100	100	1841	19.355	1.95
16	9		110	110	1840	19.301	1.545 chl
17	8		120	120	1839	19.252	.645
18	7		120	120	1839	19.253	.545
19	6		140	140	1838	19.191	
20	5		140	140	1838	19.192	
21	4		200	200	1836	19.032	
22	3		300	300	1833	18.671	
23	2		500	500	1827	17.998	
24	1		700	700	1822	15.601	

### CTD Log Sheet

cruise: <i>OC 415-1</i>	type: <i>CTD</i>	station: <i>36</i>
leg: <i></i>	cast #: <i>OC 415036</i>	depth: <i>700</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>4-Jul-05</i>	<i>2001</i>	<i>30 43.31</i>	<i>66 29.77</i>	<i>CTD</i>	<i>SW of center</i>
On Deck		<i>2044</i>	<i>30 43.73</i>	<i>66 29.62</i>		<i>Grid 2257</i>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		<i>0</i>	<i>2</i>	<i>2044</i>	<i>26.856</i>	<i>drop#:</i>
2	23		<i>0</i>	<i>2</i>	<i>2044</i>	<i>26.851</i>	
3	22		<i>20</i>	<i>20</i>	<i>2043</i>	<i>26.086</i>	
4	21		<i>20</i>	<i>20</i>	<i>2043</i>	<i>26.000</i>	
5	20		<i>40</i>	<i>40</i>	<i>2041</i>	<i>22.340</i>	
6	19		<i>40</i>	<i>40</i>	<i>2041</i>	<i>22.294</i>	
7	18		<i>60</i>	<i>60</i>	<i>2039</i>	<i>20.545</i>	
8	17		<i>60</i>	<i>60</i>	<i>2039</i>	<i>20.543</i>	
9	16		<i>70</i>	<i>70</i>	<i>2038</i>	<i>20.053</i>	
10	15		<i>70</i>	<i>70</i>	<i>2038</i>	<i>20.060</i>	
11	14		<i>80</i>	<i>80</i>	<i>2037</i>	<i>19.812</i>	
12	13		<i>80</i>	<i>80</i>	<i>2037</i>	<i>19.835</i>	
13	12		<i>90</i>	<i>90</i>	<i>2036</i>	<i>19.662</i>	
14	11		<i>100</i>	<i>100</i>	<i>2035</i>	<i>19.547</i>	
15	10		<i>100</i>	<i>100</i>	<i>2035</i>	<i>19.549</i>	<i>.41</i>
16	9		<i>110</i>	<i>110</i>	<i>2033</i>	<i>19.404</i>	<i>.63</i>
17	8		<i>120</i>	<i>120</i>	<i>2032</i>	<i>19.315</i>	<i>1.4 Ehl Max</i>
18	7		<i>120</i>	<i>120</i>	<i>2032</i>	<i>19.313</i>	<i>1.25</i>
19	6		<i>140</i>	<i>140</i>	<i>2030</i>	<i>19.205</i>	<i>.296</i>
20	5		<i>140</i>	<i>140</i>	<i>2030</i>	<i>19.205</i>	
21	4		<i>200</i>	<i>200</i>	<i>2028</i>	<i>19.044</i>	
22	3		<i>300</i>	<i>300</i>	<i>2025</i>	<i>18.782</i>	
23	2		<i>500</i>	<i>500</i>	<i>2021</i>	<i>17.958</i>	
24	1		<i>700</i>	<i>700</i>	<i>2018</i>	<i>15.220</i>	

### CTD Log Sheet

cruise: <i>OC415-1</i>	type: <i>CTD</i>	station: <i>37</i>
leg: <i>1</i>	cast #: <i>OC415037</i>	depth: <i>700</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>4-JUL-05</i>	<i>2201</i>	<i>30 54.13</i>	<i>66 29.83</i>	<i>CTD</i>	<i>20 KM W of Center</i>
On Deck		<i>2243</i>	<i>30 54.52</i>	<i>66 29.41</i>		<i>Grid 2316</i>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	2	2243	26.638	drop#:
2	23		0	2	2243	26.637	
3	22		20	20	2242	24.195	
4	21		20	20	2242	24.101	
5	20		40	40	2240	21.022	
6	19		40	40	2240	21.054	
7	18		60	60	2239	19.900	
8	17		60	60	2239	19.891	
9	16		70	70	2238	19.606	
10	15		70	70	2238	19.610	
11	14		80	80	2236	19.460	
12	13		80	80	2236	19.455	0.3
13	12		90	90	2235	19.352	0.8
14	11		100	100	2234	19.269	3.3 <i>chl</i>
15	10		100	100	2234	19.269	3.00 <i>Max</i>
16	9		110	110	2232	19.221	.340
17	8		120	120	2231	19.195	
18	7		120	120	2231	19.195	
19	6		140	140	2229	19.145	
20	5		140	140	2229	19.144	
21	4		200	200	2227	19.013	
22	3		300	300	2224	18.68	
23	2		500	500	2219	17.982	
24	1		700	700	2215	15.463	

### CTD Log Sheet

cruise: <i>OC 415-1</i>	type:	station: <i>38</i>
leg: <i>1</i>	cast #: <i>OC415038</i>	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>4 JUL 05</i>	<i>2358</i>	<i>31 4.815</i>	<i>66 29.849</i>		<i>NW of A4 center <del>28</del></i>
On Deck	<i>5 JUL 05</i>	<i>0034</i>	<i>31 4.994</i>	<i>66 29.704</i>		<i>grid 2375</i>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	2	0034	20.371	drop#:
2	23		0	3	0033	20.356	
3	22		20	20	0033	23.617	
4	21		20	20	0032	23.620	
5	20		40	40	0032	21.465	
6	19		40	40	0031	21.524	
7	18		60	60	0031	20.421	
8	17		60	60	0031	20.408	
9	16		70	70	0030	20.175	
10	15		70	70	0030	20.052	
11	14		80	80	0029	19.962	
12	13		80	80	0029	19.919	<i>M9 chl/l</i>
13	12		90	90	0028	19.601	<i>0.442</i>
14	11		100	100	0027	19.417	<i>0.948</i>
15	10		100	100	0027	19.405	<i>0.823</i>
16	9		110	110	0026	19.325	<i>0.838</i>
17	8		120	120	0025	19.241	<i>0.750</i>
18	7		120	120	0025	19.240	<i>0.757</i>
19	6		140	140	0024	19.173	<i>0.281</i>
20	5		140	140	0024	19.173	<i>0.244</i>
21	4		200	200	0022	19.011	
22	3		300	300	0020	18.729	
23	2		500	500	0016	18.036	
24	1		700	700	0012	15.459	

### CTD Log Sheet

cruise: 0C415-1	type:	station: 39
leg: 1	cast #: 0C415039	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	5 JUL 05	0552	30 43.184	66 4.836		SE of Center (2259)
On Deck	5 JUL 05	0638	30 42.991	66 4.591		grid 2259

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	0637	26.453	drop#:
2	23		0	3.6	0637	26.453	
3	22		20	20	0636	25.727	
4	21		20	20	0636	25.784	
5	20		40	40.5	0634	22.173	
6	19		40	40	0634	22.175	
7	18		60	60	0633	20.864	
8	17		60	60	0633	20.842	
9	16		70	70	0632	20.430	
10	15		70	70	0632	20.436	
11	14		80	80	0631	20.074	
12	13		80	80	0631	20.066	my chel/l
13	12		90	90	0630	19.822	0.354
14	11		100	100	0629	19.571	0.391
15	10		100	100	0629	17.553	0.428
16	9		110	110	0628	19.334	0.728
17	8		120	120	0627	19.265	0.472
18	7		120	120	0627	19.265	0.552
19	6		140	140.6	0626	19.148	0.105
20	5		140	140	0625	19.157	0.120
21	4		200	200	0624	18.974	
22	3		300	300	0621	18.606	
23	2		500	500	0616	17.922	
24	1		700	700	0612	15.143	

### CTD Log Sheet

cruise: 0415-1	type:	station: 40
leg: 1	cast #: 0415040	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	5 JUL 05	1053	30 10.807	65 27.391		
On Deck	5 JUL 05	1138	30 10.884	65 27.206		Grid 2085

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	1138	26.385	drop#:
2	23		0	3	1137	26.383	
3	22		20	20	1136	23.950	
4	21		20	20	1136	23.752	
5	20		40	40	1134	22.061	
6	19		40	40	1134	22.047	
7	18		60	60	1133	20.746	
8	17		60	60	1133	20.704	
9	16		70	70	1132	20.370	
10	15		70	70	1132	20.383	mg chl/L
11	14		80	80	1131	20.165	.420
12	13		80	80	1131	20.161	.457
13	12		90	90	1129	19.900	.501
14	11		100	100	1128	19.681	.962
15	10		100	100	1128	19.684	.700
16	9		110	110	1127	19.437	.662
17	8		120	120	1126	19.311	.486
18	7		120	120	1126	19.309	.516
19	6		140	140	1124	19.118	.289
20	5		140	140	1124	19.117	.300
21	4		200	200	1122	18.822	
22	3		300	300	1120	18.442	
23	2		500	500	1115	17.017	
24	1		700	700	1111	13.571	

### CTD Log Sheet

cruise: <b>415-1</b>	type: <b>CTD</b>	station: <b>41</b>
leg: <b>1</b>	cast #: <b>OC 415041</b>	depth: <b>700</b>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<b>5-Jul-05</b>	<b>1457</b>	<b>30 32.42</b>	<b>118 52.44</b>	<b>CTD</b>	<b>SE 56 KM</b>
On Deck		<b>1530</b>	<b>30 32.45</b>	<b>66652.39</b>		<b>Grid 2201</b>

#### Niskin Information *Software problems at start of cast*

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Computer power cycle then OK Remarks
1	24		0	2	1530	26.660	drop#:
2	23		0	2	1530	26.660	
3	22		20	20	1529	25.526	
4	21		20	20	1529	25.831	
5	20		40	40	1528	22.132	
6	19		40	40	1528	22.133	
7	18		60	60	1527	20.944	
8	17		60	60	1527	20.953	
9	16		70	70	1526	20.436	
10	15		70	70	1526	20.410	
11	14		80	80	1525	20.101	
12	13		80	80	1525	20.098	
13	12		90	90	1525	19.841	
14	11		100	100	1524	19.629	
15	10		100	100	1524	19.629	
16	9		110	110	1523	19.438	<i>che Max</i>
17	8		120	120	1523	19.346	
18	7		120	120	1523	19.346	
19	6		140	140	1521	19.196	
20	5		140	140	1521	19.197	
21	4		200	200	1520	18.913	
22	3		300	300	1518	18.580	
23	2		500	500	1514	17.747	
24	1		700	700	1510	14.598	

### CTD Log Sheet

cruise: 02415-1	type: CTD	station: 42
leg: 1	cast #: 02415042	depth: 700

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	5-Jul-05	2144	31 15.58	66 42.27	CTD	56 Km NW of Abcenter
On Deck		2226	31 15.52	66 41.71		Grid 2433

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	2	2226	27.101	drop#:
2	23		0	3	2226	27.104	
3	22		20	20	2225	25.507	
4	21		20	20	2225	25.488	
5	20		40	40	2223	21.952	
6	19		40	40	2223	21.944	
7	18		60	60	2222	21.021	
8	17		60	60	2221	21.049	
9	16		70	70	2220	20.412	
10	15		70	70	2220	20.440	
11	14		80	80	2219	20.013	
12	13		80	80	2219	20.011	
13	12		90	90	2218	19.841	
14	11		100	100	2216	19.635	
15	10		100	100	2216	19.625	
16	9		110	110	2215	19.503	
17	8		120	120	2214	19.420	
18	7		120	120	2214	19.421	
19	6		140	140	2213	19.297	
20	5		140	140	2213	19.282	
21	4		200	200	2210	19.045	
22	3		300	300	2207	18.708	
23	2		500	500	2202	17.982	
24	1		700	700	2158	15.242	

### CTD Log Sheet

cruise: 415-1	type:	station: 43
leg: 1	cast #: 0415043	depth: 120 M

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	5 JUL 05	0504	31 37.334	67 7.235		INCUBATION CAST
On Deck	5 JUL 05	0521	31 37.441	67 7.265		Grid 2549

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		120	120	0516	19.427	drop#:
2	23			120	0516	19.428	
3	22			120	0516	19.433	
4	21			120	0516	19.428	
5	20			120	0516	19.429	
6	19			120	0515	19.430	
7	18			120	0515	19.430	
8	17			120	0515	19.434	
9	16			120	0515	19.435	
10	15			120	0515	19.431	
11	14			120	0515	19.434	
12	13			120	0514	19.435	
13	12			120	0514	19.439	
14	11			120	0514	19.435	
15	10			120	0514	19.433	
16	9			119.5	0514	19.435	
17	8			120	0513	19.436	
18	7			120	0513	19.432	
19	6			119	0513	19.436	
20	5			120	0513	19.439	
21	4			120	0513	19.432	
22	3			120	0512	19.432	
23	2			119	0512	19.431	
24	1		120	120	0512	19.427	

### CTD Log Sheet

cruise: 0C415-1	type:	station: 44
leg: 1	cast #: 0C415044	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	6 Jul 05	0535	31 37.499	67 7.312		
On Deck	6 Jul 05	0618	31 37.684	67 7.454		Grid 2549

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	2	0618	25.590	drop#:
2	23		0	2	0617	26.407	
3	22		20	20	0617	25.354	
4	21		20	20	0616	25.329	
5	20		40	40	0615	22.418	
6	19		40	40.5	0615	22.376	
7	18		60	60	0614	20.979	
8	17		60	60	0614	20.897	
9	16		70	70	0613	20.647	
10	15		70	70	0613	20.641	
11	14		80	80	0613	20.180	
12	13		80	80	0612	20.161	
13	12		90	90	0612	19.892	
14	11		100	100	0611	19.745	
15	10		100	100.5	0611	19.739	
16	9		110	110	0610	19.579	
17	8		120	120	0610	19.471	
18	7		120	120	0609	19.458	
19	6		140	140	0609	19.262	
20	5		140	140	0608	17.253	
21	4		200	200	0607	19.007	
22	3		300	300	0604	18.656	
23	2		500	500	0559	17.500	
24	1		700	700	0554	14.292	

### CTD Log Sheet

cruise: 415-1	type:	station: 45
leg: 1	cast #: 00415045	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	6 JUL 05	1034	31 37.321	66 17.334		
On Deck	6 JUL 05	1119	31 37.331	66 17.011		Grid 2553

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	1119	26.145	drop#:
2	23		0	3	1118	26.142	
3	22		20	20	1117	25.444	
4	21		20	20	1117	25.571	
5	20		40	40	1116	22.089	
6	19		40	40	1115	21.971	
7	18		60	60	1114	21.201	
8	17		60	60	1114	21.168	
9	16		70	70	1113	20.923	
10	15		70	70	1113	20.902	
11	14		80	80	1112	20.588	
12	13		80	80	1111	20.556	mg chl/l
13	12		90	90	1110	20.269	0.413
14	11		100	100	1109	20.108	1.431
15	10		100	100	1109	20.109	1.658
16	9		110	110	1107	19.941	1.072
17	8		120	120	1106	19.733	.640
18	7		120	120	1106	19.730	.625
19	6		140	140	1104	19.422	.309
20	5		140	140	1104	17.413	.391
21	4		200	200	1102	18.929	
22	3		300	300	1100	18.577	
23	2		500	500	1056	17.655	
24	1		700	700	1051	14.640	

### CTD Log Sheet

cruise: <i>OC 415-1</i>	type: <i>CTD</i>	station: <i>46</i>
leg: <i>1</i>	cast #: <i>OC 415046</i>	depth: <i>700</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>6-16-05</i>	<i>1359</i>	<i>31 15.72</i>	<i>66 17.17</i>		<i>40km N of Center</i>
On Deck		<i>1437</i>	<i>31 15.77</i>	<i>66 16.75</i>		<i>grid 2435</i>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	2	1437	26.856	drop#:
2	23		0	2	1437	26.830	
3	22		20	20	1436	24.208	
4	21		20	20	1436	24.101	
5	20		40	40	1435	21.491	
6	19		40	40	1434	21.445	
7	18		60	60	1433	20.489	
8	17		60	60	1433	20.472	
9	16		70	70	1431	20.145	
10	15		70	70	1431	20.145	
11	14		80	80	1430	19.832	
12	13		80	80	1430	19.823	
13	12		90	90	1429	19.630	
14	11		100	100	1428	19.499	
15	10		100	<u>110</u>	1427	19.330	<i>fired at wrong depth</i>
16	9		110	110	1427	19.330	
17	8		120	120	1425	19.265	
18	7		120	120	1425	19.265	
19	6		140	140	1424	19.192	
20	5		140	140	1424	19.186	
21	4		200	200	1421	18.993	
22	3		300	300	1419	18.700	
23	2		500	500	1414	17.910	
24	1		700	700	1410	15.074	

### CTD Log Sheet

cruise: <i>OC415-1</i>	type: <i>CTD</i>	station: <i>47</i>
leg: <i>1</i>	cast #: <i>OC415047</i>	depth: <i>700</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>6-Jul-05</i>	<i>1602</i>	<i>31 04.879</i>	<i>66 17.233</i>	<i>CTD</i>	<i>20 Km N of center</i>
On Deck		<i>1656</i>	<i>31 04.94</i>	<i>66 16.78</i>		<i>grid 2376</i>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		<i>0</i>	<i>3</i>	<i>1656</i>	<i>26.734</i>	<i>drop#:</i>
2	23		<i>0</i>	<i>3</i>	<i>1656</i>	<i>26.762</i>	
3	22		<i>20</i>	<i>20</i>	<i>1655</i>	<i>24.502</i>	
4	21		<i>20</i>	<i>20</i>	<i>1655</i>	<i>24.522</i>	
5	20		<i>40</i>	<i>40</i>	<i>1653</i>	<i>22.009</i>	
6	19		<i>40</i>	<i>40</i>	<i>1653</i>	<i>21.918</i>	
7	18		<i>60</i>	<i>60</i>	<i>1651</i>	<i>20.271</i>	
8	17		<i>60</i>	<i>60</i>	<i>1651</i>	<i>20.105</i>	
9	16		<i>70</i>	<i>70</i>	<i>1649</i>	<i>19.823</i>	
10	15		<i>70</i>	<i>70</i>	<i>1649</i>	<i>19.808</i>	
11	14		<i>80</i>	<i>80</i>	<i>1648</i>	<i>19.535</i>	
12	13		<i>80</i>	<i>80</i>	<i>1648</i>	<i>19.525</i>	<i>34</i>
13	12		<i>90</i>	<i>90</i>	<i>1647</i>	<i>19.413</i>	
14	11		<i>100</i>	<i>100</i>	<i>1646</i>	<i>19.387</i>	<i>.42</i>
15	10		<i>100</i>	<i>100</i>	<i>1646</i>	<i>19.340</i>	
16	9		<i>110</i>	<i>110</i>	<i>1644</i>	<i>19.277</i>	<i>2.6 cal max</i>
17	8		<i>120</i>	<i>120</i>	<i>1643</i>	<i>19.228</i>	
18	7		<i>120</i>	<i>120</i>	<i>1643</i>	<i>19.226</i>	
19	6		<i>140</i>	<i>139</i>	<i>1641</i>	<i>19.180</i>	
20	5		<i>140</i>	<i>140</i>	<i>1641</i>	<i>19.181</i>	
21	4		<i>200</i>	<i>200</i>	<i>1639</i>	<i>18.964</i>	
22	3		<i>300</i>	<i>300</i>	<i>1635</i>	<i>18.656</i>	
23	2		<i>500</i>	<i>500</i>	<i>1629</i>	<i>17.983</i>	
24	1		<i>700</i>	<i>700</i>	<i>1623</i>	<i>15.340</i>	

### CTD Log Sheet

cruise: <i>OC 715-1</i>	type: <i>CTD</i>	station: <i>48</i>
leg: <i>1</i>	cast #: <i>OC 415048</i>	depth: <i>700</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>6-Jul-05</i>	<i>1821</i>	<i>30 54.04</i>	<i>66 17.25</i>	<i>CTD</i>	<i>At Eddy Center</i>
On Deck		<i>1913</i>	<i>30 53.98</i>	<i>66 16.98</i>		<i>Grid 2317</i>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		<i>0</i>	<i>3</i>	<i>1913</i>	<i>26.946</i>	<i>drop#:</i>
2	23		<i>0</i>	<i>2</i>	<i>1913</i>	<i>26.917</i>	
3	22		<i>20</i>	<i>20</i>	<i>1912</i>	<i>24.616</i>	
4	21		<i>20</i>	<i>20</i>	<i>1912</i>	<i>25.654</i>	
5	20		<i>40</i>	<i>40</i>	<i>1910</i>	<i>20.232</i>	
6	19		<i>40</i>	<i>40</i>	<i>1910</i>	<i>20.213</i>	
7	18		<i>60</i>	<i>60</i>	<i>1908</i>	<i>19.611</i>	
8	17		<i>60</i>	<i>60</i>	<i>1908</i>	<i>19.601</i>	<i>-18</i>
9	16		<i>70</i>	<i>70</i>	<i>1907</i>	<i>19.482</i>	
10	15		<i>70</i>	<i>70</i>	<i>1907</i>	<i>19.441</i>	<i>-30</i>
11	14		<i>80</i>	<i>80</i>	<i>1905</i>	<i>19.323</i>	
12	13		<i>80</i>	<i>80</i>	<i>1905</i>	<i>19.318</i>	<i>2.03</i>
13	12		<i>90</i>	<i>89</i>	<i>1904</i>	<i>19.247</i>	<i>1.8 - 2.28</i>
14	11		<i>100</i>	<i>100</i>	<i>1902</i>	<i>19.193</i>	<i>.60</i>
15	10		<i>100</i>	<i>100</i>	<i>1902</i>	<i>19.192</i>	<i>.50</i>
16	9		<i>110</i>	<i>110</i>	<i>1901</i>	<i>19.171</i>	
17	8		<i>120</i>	<i>120</i>	<i>1859</i>	<i>19.149</i>	
18	7		<i>120</i>	<i>120</i>	<i>1859</i>	<i>19.149</i>	
19	6		<i>140</i>	<i>140</i>	<i>1858</i>	<i>19.025</i>	
20	5		<i>140</i>	<i>140</i>	<i>1858</i>	<i>19.071</i>	
21	4		<i>200</i>	<i>200</i>	<i>1856</i>	<i>18.872</i>	
22	3		<i>300</i>	<i>300</i>	<i>1853</i>	<i>18.586</i>	
23	2		<i>500</i>	<i>500</i>	<i>1847</i>	<i>17.997</i>	
24	1		<i>700</i>	<i>700</i>	<i>1840</i>	<i>14.998</i>	

### CTD Log Sheet

cruise: <b>OC415-1</b>	type: <b>CTD</b>	station: <b>49</b>
leg: <b>1</b>	cast #: <b>00415049</b>	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<b>6-Jul-05</b>	<b>2026</b>	<b>30 43.04</b>	<b>66 17.285</b>	<b>CTD</b>	<b>20km S of Center</b>
On Deck		<b>2114</b>	<b>30 42.95</b>	<b>66 17.412</b>		<b>Grid 2258</b>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	2	2114	26.932	drop#:
2	23		0	2	2114	26.806	
3	22		20	20	2112	24.654	
4	21		20	20	2112	24.661	
5	20		40	40	2110	21.095	
6	19		40	40	2110	21.044	
7	18		60	60	2108	19.752	
8	17		60	60	2108	19.729	
9	16		70	70	2106	19.453	
10	15		70	70	2106	19.484	*
11	14		80	80	2105	19.249	
12	13		80	80	2105	19.251	.51
13	12		90	90	2103	19.137	.977 <sup>elt</sup> Max
14	11		100	100	2102	19.081	
15	10		100	100	2102	19.082	.77
16	9		110	110	2100	19.049	.52
17	8		120	120	2059	19.034	
18	7		120	120	2059	19.034	
19	6		140	140	2057	19.002	
20	5		140	140	2057	19.002	
21	4		200	200	2055	18.935	
22	3		300	300	2052	18.638	
23	2		500	500	2047	18.020	
24	1		700	700	2042	15.401	

### CTD Log Sheet

cruise: <i>0c 415-1</i>	type: <i>CTD</i>	station: <i>50</i>
leg: <i>1</i>	cast #: <i>0c 415050</i>	depth: <i>700</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>6-Jul-05</i>	<i>2222</i>	<i>30 32.405</i>	<i>66 17.342</i>	<i>CTD</i>	<i>40 km S of Center</i>
On Deck		<i>2307</i>	<i>30 32.316</i>	<i>66 17.342</i>		<i>2199 Grid.</i>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		<i>0</i>	<i>3</i>	<i>2307</i>	<i>27.096</i>	drop#:
2	23		<i>0</i>	<i>3</i>	<i>2307</i>	<i>26.864</i>	
3	22		<i>20</i>	<i>20</i>	<i>2305</i>	<i>24.628</i>	
4	21		<i>20</i>	<i>20</i>	<i>2305</i>	<i>24.558</i>	
5	20		<i>40</i>	<i>40</i>	<i>2303</i>	<i>21.685</i>	
6	19		<i>40</i>	<i>40</i>	<i>2303</i>	<i>21.699</i>	
7	18		<i>60</i>	<i>60</i>	<i>2302</i>	<i>20.623</i>	
8	17		<i>60</i>	<i>60</i>	<i>2302</i>	<i>20.624</i>	
9	16		<i>70</i>	<i>70</i>	<i>2300</i>	<i>20.195</i>	
10	15		<i>70</i>	<i>70</i>	<i>2300</i>	<i>20.199</i>	
11	14		<i>80</i>	<i>80</i>	<i>2259</i>	<i>19.967</i>	
12	13		<i>80</i>	<i>80</i>	<i>2259</i>	<i>19.965</i>	<i>.29</i>
13	12		<i>90</i>	<i>90</i>	<i>2257</i>	<i>19.722</i>	<i>.37</i>
14	11		<i>100</i>	<i>100</i>	<i>2256</i>	<i>19.537</i>	
15	10		<i>100</i>	<i>100</i>	<i>2256</i>	<i>19.534</i>	<i>.62</i>
16	9		<i>110</i>	<i>110</i>	<i>2255</i>	<i>19.391</i>	<i>.71 chl Max</i>
17	8		<i>120</i>	<i>120</i>	<i>2253</i>	<i>19.282</i>	
18	7		<i>120</i>	<i>120</i>	<i>2253</i>	<i>19.278</i>	
19	6		<i>140</i>	<i>140</i>	<i>2251</i>	<i>19.147</i>	
20	5		<i>140</i>	<i>140</i>	<i>2251</i>	<i>19.149</i>	
21	4		<i>200</i>	<i>200</i>	<i>2249</i>	<i>18.918</i>	
22	3		<i>300</i>	<i>300</i>	<i>2246</i>	<i>18.612</i>	
23	2		<i>500</i>	<i>500</i>	<i>2241</i>	<i>17.917</i>	
24	1		<i>700</i>	<i>700</i>	<i>2237</i>	<i>14.673</i>	

*15 min*

### CTD Log Sheet

cruise: 415-1	type:	station: 51
leg: )	cast #: 00415051	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	7 JUL 05	0530	30 10.797	66 17.453		
On Deck	7 JUL 05	0619	30 10.618	66 17.796		Grid 2081

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	0619	26.833	drop#:
2	23		0	3	0619	26.933	
3	22		20	20	0618	24.907	
4	21		20	20	0617	24.785	
5	20		40	40	0616	22.277	
6	19		40	40	0616	22.236	
7	18		60	60	0615	21.143	
8	17		60	60	0614	21.141	
9	16		70	70	0613	20.513	
10	15		70	70	0613	20.493	
11	14		80	80	0612	20.176	
12	13		80	80	0612	20.141	mg chl/l
13	12		90	90	0611	19.839	.450
14	11		100	100	0610	19.636	.669
15	10		100	100	0610	19.637	.662
16	9		110	110	0609	19.477	.530
17	8		120	120	0608	19.343	.457
18	7		120	120	0608	19.321	.472
19	6		140	140	0607	19.226	.288
20	5		140	140	0606	19.205	.303
21	4		200	200	0604	18.933	
22	3		300	300	0602	18.479	
23	2		500	500	0556	17.221	
24	1		700	700	0551	13.815	

21 min

### CTD Log Sheet

cruise: 0C415-1	type:	station: 52
leg: 1	cast #: 0C415052	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	7 Jul 05	1026	30 10.833	67 7.292		
On Deck	7 Jul 05	1113	30 11.314	67 7.669		Grid 20??

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	1113	26.814	drop#:
2	23		0	3	1113	26.808	
3	22		20	20	1111	24.802	
4	21		20	20	1111	24.659	
5	20		40	40	1110	21.731	
6	19		40	40	1109	21.707	
7	18		60	60	1108	20.668	
8	17		60	60	1108	20.650	
9	16		70	70	1107	20.362	
10	15		70	70	1106	20.355	
11	14		80	80	1106	20.071	
12	13		80	80	1105	20.071	mg chl/l
13	12		90	90	1104	19.885	.310
14	11		100	100	1103	19.754	.435
15	10		100	100	1103	19.733	.354
16	9		110	110	1102	19.616	.520 - .7
17	8		120	120	1100	19.455	.450
18	7		120	120	1100	19.444	.596
19	6		140	140	1059	19.215	.318
20	5		140	140	1059	19.202	.371
21	4		200	200	1057	18.768	
22	3		300	300	1054	18.412	
23	2		500	500	1050	17.046	
24	1		700	700	1045	13.499	

19 min

### CTD Log Sheet

cruise: <b>OC 415-1</b>	type: <b>CTD</b>	station: <b>53</b>
leg: <b>1</b>	cast #: <b>OC 415053</b>	depth: <b>700</b>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<b>07-Jul-05</b>	<b>1412</b>	<b>30 32.53</b>	<b>66 42.47</b>	<b>CTD</b>	<b>56KM SW of Cent</b>
On Deck		<b>1448</b>	<b>30 33.07</b>	<b>66 42.46</b>		<b>Grid 2197</b>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	1448	27.082	drop#:
2	23		0	3	1448	27.082	
3	22		20	20	1447	25.921	
4	21		20	20	1447	25.948	
5	20		40	40	1446	22.233	
6	19		40	40	1446	22.235	
7	18		60	60	1444	20.740	
8	17		60	60	1444	20.735	
9	16		70	70	1443	20.419	
10	15		70	70	1443	20.410	
11	14		80	80	1442	20.025	
12	13		80	80	1442	20.025	-
13	12		90	90	1441	19.740	.24
14	11		100	100	1440	19.589	.44
15	10		100	100	1440	19.598	.41
16	9		110	110	1439	19.485	.76
17	8		120	120	1438	19.347	.60
18	7		120	120	1438	19.349	.75
19	6		140	140	1436	19.214	
20	5		140	140	1436	19.224	
21	4		200	200	1434	19.038	
22	3		300	300	1432	18.650	
23	2		500	500	1428	17.790	
24	1		700	700	1424	14.690	

12 min

### CTD Log Sheet

cruise: <b>OC 915-1</b>	type: <b>CTD</b>	station: <b>54</b>
leg: <b>1</b>	cast #: <b>OC 415 054</b>	depth: <b>700</b>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<b>07-Jul-05</b>	<b>1636</b>	<b>30 43.279</b>	<b>66 29.67</b>		<b>28 KM SW of Center</b>
On Deck		<b>1721</b>	<b>30 43.637</b>	<b>66 29.25</b>		<b>Grid 2257</b>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	4	1721	21.363	drop#:
2	23		0	3	1721	22.372	
3	22		20	19	1719	23.235	
4	21		20	20	1719	23.302	
5	20		40	40	1718	21.174	
6	19		40	40	1718	21.252	
7	18		60	60	1717	20.008	
8	17		60	60	1717	20.013	
9	16		70	70	1716	19.675	
10	15		70	70	1716	19.677	
11	14		80	80	1715	19.577	
12	13		80	80	1715	19.58	40
13	12		90	90	1714	19.381	.98 <i>Chl Max</i>
14	11		100	100	1712	19.170	.71
15	10		100	100	1712	19.184	.77
16	9		110	110	1711	19.107	.625
17	8		120	120	1710	19.096	.420
18	7		120	120	1710	19.092	
19	6		140	140	1709	19.015	.16
20	5		140	141	1709	19.015	
21	4		200	200	1705	18.944	
22	3		300	300	1703	18.654	
23	2		500	500	1658	18.034	
24	1		700	700	1654	15.465	

*18 min*

### CTD Log Sheet

cruise: <b>OC 415-1</b>	type: <b>CTD</b>	station: <b>55</b>
leg: <b>1</b>	cast #: <b>OC415055</b>	depth: <b>200</b>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<b>07-JUL-05</b>	<b>1907</b>	<b>30 53.98</b>	<b>66 17.13</b>	<b>CTD</b>	<b>A4 Eddy Center</b>
On Deck		<b>1954</b>	<b>30 53.698</b>	<b>66 16.619</b>		<b>2317</b>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	1954	27.016	drop#:
2	23		0	3	1954	26.916	
3	22		20	20	1952	22.758	
4	21		20	20	1952	22.426	
5	20		40	40	1951	20.175	
6	19		40	40	1950	20.156	
7	18		60	60	1949	19.644	
8	17		60	60	1949	19.643	
9	16		70	70	1948	19.447	310
10	15		70	70	1948	19.449	
11	14		80	80	1946	19.331	
12	13		80	80	1946	19.353	.45
13	12		90	90	1944	19.295	1.38
14	11		100	100	1942	19.239	2.26 <i>chl Max</i>
15	10		100	100	1942	19.242	2.1
16	9		110	110	1941	19.224	1.2
17	8		120	120	1940	19.193	.56
18	7		120	120	1940	19.200	.67
19	6		140	140	1938	19.160	
20	5		140	140	1938	19.160	
21	4		200	200	1935	18.964	
22	3		300	300	1932	18.580	
23	2		500	500	1928	17.982	
24	1		700	700	1923	14.918	

### CTD Log Sheet

cruise: OC 415-1	type: CTD	station: 56
leg: 1	cast #: OC 4150 56	depth: 700

#### Position Information

CTD Status	Date (z)	2207 Time (z)	31 04.78 Latitude	66 04.82 Longitude	System	Remarks
In Water	7-Jul-05	<del>2136</del>	<del>31 04.64</del>	<del>66 04.72</del>	CTD	28 KM NE of center
On Deck		2250	31 04.169	66 04.586		grid 2377

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	0	2250	27.473	drop#:
2	23		0	2	2250	27.490	
3	22		20	20	2248	25.323	
4	21		20	20	2248	24.940	
5	20		40	40	2247	22.121	
6	19		40	40	2247	22.130	
7	18		60	60	2245	20.777	
8	17		60	60	2245	20.754	
9	16		70	70	2244	20.330	
10	15		70	70	2244	20.320	
11	14		80	80	2243	19.960	
12	13		80	80	2243	19.991	
13	12		90	90	2242	19.724	.38
14	11		100	100	2241	19.482	
15	10		100	100	2241	19.470	.61
16	9		110	110	2239	18.363	.860 <i>Chl May</i>
17	8		120	120	2238	19.290	
18	7		120	120	2238	19.292	
19	6		140	140	2236	19.186	.24
20	5		140	140	2235	19.187	
21	4		200	200	2234	18.970	
22	3		300	300	2232	18.693	
23	2		500	500	—	—	
24	1		700	700	—	—	

### CTD Log Sheet

cruise: 00415-1	type:	station: 57
leg: 1	cast #: 00415057	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	8 JUL 05	0031	31 15.577	65 52.433		56 KM NE of Center
On Deck	8 JUL 05	0104	31 15.252	65 52.380		Grid 2437

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	2	0104	26.771	drop#:
2	23		0	2	0104	26.764	
3	22		20	20	0103	25.665	
4	21		20	20	0103	25.626	
5	20		40	40	0102	22.751	
6	19		40	40	0102	22.666	
7	18		60	60	0101	21.076	
8	17		60	60	0101	21.057	
9	16		70	69.6	0100	20.691	
10	15		70	70	0100	20.661	
11	14		80	80	0100	20.477	
12	13		80	80	0059	20.315	
13	12		90	90	0059	20.011	mt chl/l
14	11		100	100	0058	19.797	.450
15	10		100	100	0058	19.714	.318
16	9		110	110	0057	19.577	.845
17	8		120	120.6	0057	19.484	.677
18	7		120	120	0056	19.449	.625
19	6		140	140	0055	19.242	.376
20	5		140	140	0055	19.235	.420
21	4		200	200	0054	19.965	
22	3		300	300	0052	18.645	
23	2		500	500	0048	17.540	
24	1		700	700	0044	14.250	

### CTD Log Sheet

cruise: 0415-1	type:	station: 58
leg: 1	cast #: 0415058	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	5 JUL 05	0315	31 15.660	65 27.516		40KM N + 80KM E of Cato
On Deck	8 JUL 05	0350	31 15.434	65 27.444		Grid 2439

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	<del>0</del> 3	0350	27.147	drop#:
2	23		0	3	0349	27.147	
3	22		20	20	0348	23.165	
4	21		20	20	0348	23.156	
5	20		40	40	0347	21.511	
6	19		40	40	0347	21.492	
7	18		60	60	0346	20.259	
8	17		60	60	0346	20.253	
9	16		70	70	0345	20.249	
10	15		70	70	0345	20.220	
11	14		80	80	0344	20.092	
12	13		80	80	0344	20.091	M4 60/L
13	12		90	90	0343	19.855	.318
14	11		100	100	0343	19.605	.772
15	10		100	100	0342	19.609	.743
16	9		110	110	0341	19.449	.700
17	8		120	120	0340	19.275	.552
18	7		120	120	0337	19.251	.545
19	6		140	140	0337	19.071	.157
20	5		140	140	0338	19.032	.149
21	4		200	200	0337	18.692	
22	3		300	300	0335	18.400	
23	2		500	500	0331	16.982	
24	1		700	700	0328	13.090	

### CTD Log Sheet

cruise: 0c415-1	type:	station: 59
leg: 1	cast #: 0c415059	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	8 JUL 05	0557	30 53.950	65 27.409		80 KM E of Center
On Deck	8 JUL 05	0639	30 53.207	65 27.379		Grid 2321

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	0639	27.172	drop#:
2	23		0	3	0639	27.153	
3	22		20	20	0638	25.345	
4	21		20	20	0637	25.326	
5	20		40	40	0636	22.266	
6	19		40	40	0636	22.206	
7	18		60	60	0635	20.513	
8	17		60	60	0635	20.514	
9	16		70	70	0634	20.209	
10	15		70	70	0634	20.211	
11	14		80	80	0633	19.896	
12	13		80	80	0633	19.893	
13	12		90	90	0632	19.688	mg chl/l
14	11		100	100	0631	19.500	.494
15	10		100	100	0631	19.500	.559
16	9		110	110	0630	19.421	.772
17	8		120	120	0629	19.329	.508
18	7		120	120	0629	19.328	.479
19	6		140	140	0628	19.177	.222
20	5		140	140	0627	19.178	.186
21	4		200	200	0626	18.944	
22	3		300	300	0623	18.566	
23	2		500	500	0619	17.061	
24	1		700	700	0615	13.528	

### CTD Log Sheet

cruise: 02415-1	type:	station: 60
leg: 1	cast #: 02415060	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	8 JUL 05	0849	30 54.039	65 52.282		40 KM E of Center
On Deck	8 JUL 05	0936	30 53.842	65 52.511		Grid 2319

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	0936	27.177	drop#:
2	23		0	2.5	0936	27.170	
3	22		20	20	0934	24.385	
4	21		20	20	0934	24.265	
5	20		40	40	0933	22.366	
6	19		40	40	0933	22.369	
7	18		60	60	0931	20.873	
8	17		60	60	0931	20.905	
9	16		70	70	0930	20.470	
10	15		70	70	0930	20.479	
11	14		80	80	0929	20.138	
12	13		80	80	0929	20.137	
13	12		90	90	0928	19.868	my ch2/l
14	11		100	100	0926	19.686	.384
15	10		100	100	0925	19.677	.325
16	9		110	110	0924	19.497	.684
17	8		120	120	0923	19.381	.603
18	7		120	120	0922	19.380	.611
19	6		140	140	0921	19.224	.256
20	5		140	140	0921	19.224	.288
21	4		200	200	0919	18.981	
22	3		300	300	0916	18.581	
23	2		500	500	0911	17.385	
24	1		700	700	0906	14.346	

### CTD Log Sheet

cruise: 00415-1	type:	station: 61
leg: 1	cast #: 00415061	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	8 JUL 05	1057	30 54.065	66 4.858		20 KM E of Carter
On Deck	8 JUL 05	1144	30 53.930	66 5.084		Grid 23/8

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	2	1143	27.435	drop#:
2	23		0	3	1143	27.430	
3	22		20	20	1142	23.911	
4	21		20	20	1141	23.005	
5	20		40	40	1140	21.320	
6	19		40	40	1140	21.333	
7	18		60	60	1139	20.515	
8	17		60	60	1138	20.522	
9	16		70	70	1138	20.101	
10	15		70	70	1137	20.976	
11	14		80	80	1136	19.849	
12	13		80	80	1136	19.848	my chel/l
13	12		90	90	1134	19.699	.281
14	11		100	100	1133	19.530	.787
15	10		100	100	1132	19.527	.743
16	9		110	110	1131	19.404	.699
17	8		120	120	1130	19.310	.559
18	7		120	120	1130	19.312	.655
19	6		140	140	1128	19.173	.179
20	5		140	140	1128	19.177	.222
21	4		200	200	1126	18.990	
22	3		300	300	1123	18.670	
23	2		500	500	1119	17.889	
24	1		700	700	1114	14.891	

### CTD Log Sheet

*High res Nuts. A4 code*

cruise: 00415-1	type:	station: 62
leg: 1	cast #: 00415061	depth: 150

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	7/9/05	1626	30 53.9	66. 16.9		
On Deck		1646				

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24	✓	0				drop#:
2	23	✓	20				
3	22	✓	40				
4	21	✓	50				
5	20	✓	55				
6	19	✓	60				
7	18	✓	65				
8	17	✓	70				
9	16	✓	75				
10	15	✓	80				
11	14	✓	85				
12	13	✓	90				
13	12	✓	95				
14	11	✓	100				
15	10	✓	105				
16	9	✓	110				
17	8	✓	115				
18	7	✓	120				
19	6	✓	125				
20	5	✓	130				
21	4	✓	135				
22	3	✓	140				
23	2	✓	145				
24	1	✓	150				

### CTD Log Sheet

cruise: <i>OC 415-1</i>	type: <i>CTD</i>	station: <i>63</i>
leg: <i>1</i>	cast #: <i>OC415063</i>	depth: <i>700</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>08-JUL-05</i>	<i>1815</i>	<i>30 54.498</i>	<i>66 17.437</i>	<i>CTD</i>	<i>Eddy Center W. Weather 6/10</i>
On Deck		<i>1850</i>	<i>30 59.232</i>	<i>66 17.015</i>		<i>Grid 2317</i>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	2		27.710	drop#:
2	23		0	2		27.428	
3	22		20	20	1853	23.747	
4	21		20	20	1853	23.760	
5	20		40	40	1852	20.400	
6	19		40	40	1852	20.399	
7	18		60	60	1850	19.681	
8	17		60	60	1850	19.688	
9	16		70	69	1849	19.522	
10	15		70	70	1849	19.523	
11	14		80	80	1848	19.876	
12	13		80	80	1848	19.372	.50
13	12		90	90	1847	19.326	.86
14	11		100	100	1846	19.253	
15	10		100	100	1845	19.253	1.34
16	9		110	110	1844	19.215	
17	8		120	120	1843	19.198	
18	7		120	120	1843	19.200	.36
19	6		140	140	1842	19.171	.222
20	5		140	140	1842	19.173	
21	4		200	200	1840	19.015	
22	3		300	300	1838	18.585	
23	2		500	500	1834	17.989	
24	1		700	700	1830	15.221	

### CTD Log Sheet

cruise: 02415-1	type: CTD	station: 64
leg: 1	cast #: 02415064	depth: 700

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	8-Jul-05	2019	30 54.097	66 29.701	CTD	20 KM W of Center
On Deck	"	2100	30 54.217	66 29.278		Grid 2316

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	2100	27.388	drop#:
2	23		0	3	2100	27.407	
3	22		20	20	2059	23.170	
4	21		20	20	2059	23.081	
5	20		40	40	2059	21.026	
6	19		40	40	2057	21.040	
7	18		60	60	2056	19.847	
8	17		60	60	2056	19.822	
9	16		70	70	2055	19.670	, 22
10	15		70	70	2055	19.642	
11	14		80	80	2054	19.54	
12	13		80	80	2054	19.54	.79
13	12		90	90	2053	19.378	1.10 <i>chl max</i>
14	11		100	100	2051	19.203	.904
15	10		100	100	2051	19.204	
16	9		110	110	2050	19.108	.794
17	8		120	120	2049	19.066	.647
18	7		120	120	2049	19.063	
19	6		140	140	2048	19.023	
20	5		140	140	2048	19.022	
21	4		200	200	2046	18.934	
22	3		300	300	2043	18.654	
23	2		500	500	2039	18.019	
24	1		700	700	2034	16.844	

### CTD Log Sheet

cruise: <u>OC415-1</u>	type: <u>CTD</u>	station: <u>65</u>
leg: <u>1</u>	cast #: <u>OC415065</u>	depth: <u>700</u>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<u>8-Jul-05</u>	<u>2218</u>	<u>30 54.049</u>	<u>66 42.21</u>	<u>CTD</u>	<u>40 Km W of center</u>
On Deck		<u>2302</u>	<u>30 53.995</u>	<u>66 41.74</u>		<u>Grid 2315</u>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	2301	27.120	drop#:
2	23		0	3	2301	27.411	
3	22		20	20	2300	24.730	
4	21		20	20	2300	24.704	
5	20		40	40	2259	22.047	
6	19		40	40	2259	22.044	
7	18		60	60	2258	20.489	
8	17		60	60	2258	20.485	
9	16		70	70	2256	20.23	
10	15		70	70	2256	20.231	
11	14		80	80	2255	19.949	
12	13		80	80	2255	19.950	
13	12		90	90	2254	19.666	.42
14	11		100	100	2253	19.599	
15	10		100	100	2253	19.588	.74
16	9		110	110	2251	19.44	.93 <i>chl max</i>
17	8		120	120	2250	19.349	.80
18	7		120	120	2250	19.349	
19	6		140	140	2248	19.187	
20	5		140	140	2248	19.212	
21	4		200	200	2246	18.975	
22	3		300	300	2243	18.698	
23	2		500	500	2239	18.122	
24	1		700	700	2234	15.675	

### CTD Log Sheet

cruise: <u>02415-1</u>	type:	station: <u>66</u>
leg: <u>1</u>	cast #: <u>0C415065</u>	depth: <u>140 m</u>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<u>9 JUL 05</u>	<u>0435</u>	<u>30 53.964</u>	<u>66 17.372</u>		<u>INCUBATION CASS</u>
On Deck	<u>9 JUL 05</u>	<u>0452</u>	<u>30 53.936</u>	<u>66 17.442</u>		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		40	40	0451	21.613	drop#:
2	23			40	0451	21.610	
3	22			40	0451	21.617	
4	21			40	0450	21.612	
5	20			40	0450	21.621	
6	19		40	40	0450	21.618	
7	18		60	60	0449	20.671	
8	17		60	60	0449	20.674	
9	16		80	80	0448	20.605	
10	15		80	80	0448	20.607	
11	14		120	120	0446	19.325	
12	13		120	120	0446	19.324	
13	12		130	130	0445	19.271	
14	11			130	0445	19.270	
15	10			130	0445	19.273	
16	9			129	0444	19.273	
17	8			129	0444	19.275	
18	7			130	0444	19.280	
19	6						
20	5						
21	4						
22	3						
23	2						
24	1		130	130			

### CTD Log Sheet

cruise: 0C415-1	type:	station: 67
leg: 1	cast #: 0C415067	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	9 JUL 05	0848	30 54.119	67 7.292		INCUBATION CAST
On Deck	9 JUL 05	0858	30 54.282	67 7.343		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		40	40	0856	22.741	drop#:
2	23			40	0856	22.723	
3	22			40	0856	22.680	
4	21			40	0856	22.680	
5	20			40	0856	22.664	
6	19			40	0856	22.656	
7	18			40	0855	22.615	
8	17			40	0855	22.533	
9	16			40	0855	22.601	
10	15			40	0855	22.567	
11	14			40	0855	22.608	
12	13			40	0854	22.561	
13	12			40	0854	22.625	
14	11			40	0854	22.616	
15	10			40	0854	22.622	
16	9			40	0854	22.648	
17	8			39	0854	22.645	
18	7			40	0853	22.591	
19	6			40	0853	22.621	
20	5			40			
21	4			40	0853	22.619	
22	3			40			
23	2			40	0852	22.627	
24	1		40	40	0852	22.621	

### CTD Log Sheet

cruise: 0c415-1	type:	station: 68
leg: 1	cast #: 0c415068	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	9 JUL 05	0926	30 54.074	67 7.292		
On Deck	9 JUL 05	1012	30 54.570	67 7.673		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	1012	27.163	drop#:
2	23		0	3	1012	27.148	
3	22		20	20	1010	24.664	
4	21		20	20	1010	24.559	
5	20		40	40	1009	22.464	
6	19		40	40	1009	22.460	
7	18		60	60	1008	21.162	
8	17		60	60	1008	21.155	
9	16		70	70	1007	20.571	
10	15		70	70	1006	20.560	
11	14		80	80	1005	20.184	
12	13		80	80	1005	20.169	
13	12		90	90	1004	19.899	µg chl/l
14	11		100	100	1002	19.701	.516
15	10		100	100	1002	19.693	.508
16	9		110	110	1001	19.544	.787
17	8		120	120	1000	19.449	.640
18	7		120	120	0959	19.463	.576
19	6		140	140	0958	19.272	.442
20	5		140	140	0958	19.276	.530
21	4		200	200	0956	18.967	
22	3		300	300	0953	18.608	
23	2		500	500	0949	17.677	
24	1		700	700	0944	14.471	

### CTD Log Sheet

cruise: <i>OCY15</i>	type: <i>CTD</i>	station: <i>69</i>
leg: <i>1</i>	cast #: <i>OCY15069</i>	depth: <i>700</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>9-Jul-05</i>	<i>1702</i>	<i>31 35.66</i>	<i>67 05.62</i>		<i>Cast to Cal:6 Meters</i>
On Deck		<i>1737</i>	<i>31 35.79</i>	<i>67 05.25</i>		<i>sensors <del>not</del></i>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		<i>Spc</i>	<i>3</i>	<i>1737</i>		drop#:
2	23		<i>20</i>	<i>20</i>			
3	22		<i>30</i>	<i>30</i>			
4	21		<i>40</i>	<i>40</i>			
5	20		<i>50</i>	<i>50</i>			
6	19		<i>60</i>	<i>60</i>			
7	18		<i>70</i>	<i>70</i>			
8	17		<i>80</i>	<i>80</i>			
9	16		<i>90</i>	<i>90</i>			
10	15		<i>100</i>	<i>100</i>			
11	14		<i>110</i>	<i>110</i>			
12	13		<i>120</i>	<i>120</i>			
13	12		<i>140</i>	<i>140</i>			
14	11		<i>200</i>	<i>200</i>			
15	10		<i>250</i>	<i>250</i>			
16	9		<i>300</i>	<i>300</i>			
17	8		<i>350</i>	<i>350</i>			
18	7		<i>400</i>	<i>400</i>			
19	6		<i>450</i>	<i>450</i>			
20	5		<i>500</i>	<i>500</i>			
21	4		<i>550</i>	<i>550</i>			
22	3		<i>600</i>	<i>600</i>			
23	2		<i>650</i>	<i>650</i>			
24	1		<i>700</i>	<i>700</i>	<i>1721</i>		

### CTD Log Sheet

cruise: 0415-1	type:	station: 70
leg: 1	cast #: 0415070	depth: 700

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	10 JUL 05	1204	33 25.242	66 42.270	CTD	C5 Eddy Center
On Deck	10 JUL 05	1236	33 25.4	66 42.4		grid 3141

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	1235	27.648	drop#:
2	23		0	3	1235	27.648	
3	22		20	20	1234	24.269	
4	21		20	20	1234	24.313	
5	20		40	40	1233	21.868	.105
6	19		40	40	1233	21.855	
7	18		60	60	1232	20.382	.32
8	17		60	60	1232	20.303	
9	16		70	70	1231	19.597	.48
10	15		70	70	1231	19.597	
11	14		80	80	1230	18.976	.51
12	13		80	80	1230	18.902	
13	12		90	90	1829	18.639	.70 <i>chl Max</i>
14	11		100	100	1829	18.433	.50
15	10		100	100	1829	18.432	
16	9		110	110	1228	18.289	.51
17	8		120	120	1227	18.198	
18	7		120	120	1227	18.197	.48
19	6		140	140	1226	18.097	
20	5		140	140	1226	18.095	.193
21	4		200	200	1224	17.607	
22	3		300	300	1222	16.720	
23	2		500	500	1219	14.272	
24	1		700	700	10204	10.204	

### CTD Log Sheet

cruise: <i>OC 4157</i>	type: <i>CTD</i>	station: <i>71</i>
leg: <i>1</i>	cast #: <i>OC 415071</i>	depth: <i>700</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>10-Jul-05</i>	<i>1409</i>	<i>33 25.421</i>	<i>66 29.78</i>	<i>CTD</i>	<i>20 Km E of C5 center</i>
On Deck		<i>1443</i>	<i>33 25.658</i>	<i>66 29.945</i>		<i>Grid 3142</i>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	2	1443	27.875	drop#:
2	23		0	2	1443	27.865	
3	22		20	20	1442	27.981	
4	21		20	20	1442	25.004	
5	20		40	40	1440	22.060	
6	19		40	40	1440	21.984	
7	18		60	60	1439	20.523	
8	17		60	60	1439	20.575	
9	16		70	70	1438	19.667	
10	15		70	70	1438	19.694	.3
11	14		80	80	1437	19.081	.50
12	13		80	80	1437	19.082	
13	12		90	90	1436	18.848	.50
14	11		100	100	1435	18.668	.75 <i>Chl</i>
15	10		100	100	1435	18.669	.72 <i>Moys</i>
16	9		110	110	1434	18.467	.71
17	8		120	120	1433	18.327	
18	7		120	120	1433	18.325	
19	6		140	140	1432	18.187	
20	5		140	140	1432	18.187	
21	4		200	200	1430	17.850	
22	3		300	300	1428	17.172	
23	2		500	500	1424	14.561	
24	1		700	700	1420	11.040	

### CTD Log Sheet

cruise: <i>Oe 415-1</i>	type: <i>CTD</i>	station: <i>72</i>
leg: <i>1</i>	cast #: <i>OC 415072</i>	depth: <i>700</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>10-Jul-05</i>	<i>1706</i>	<i>33 25.346</i>	<i>66 04 836</i>	<i>CTD</i>	<i>60 Km E of C5 center</i>
On Deck		<i>1746</i>	<i>33 25.567</i>	<i>66 05.056</i>		<i>Grid 3144</i>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	0	1745	27.451	drop#:
2	23		0	0	1745	27.415	
3	22		20	20	1744	24.689	
4	21		20	20	1744	24.700	
5	20		40	40	1743	22.055	
6	19		40	40	1743	22.001	
7	18		60	60	1741	20.353	
8	17		60	60	1741	20.358	
9	16		70	70	1740	19.592	.25
10	15		70	70	1740	19.587	
11	14		80	79	1739	19.182	.50
12	13		80	80	1739	19.187	
13	12		90	90	1738	18.880	.75
14	11		100	100	1737	18.690	.78
15	10		100	100	1737	18.691	.83 <i>Cal May</i>
16	9		110	110	1736	18.563	.72
17	8		120	120	1735	18.472	.43
18	7		120	120	1735	18.472	
19	6		140	140	1734	18.375	.20
20	5		140	140	1734	18.380	
21	4		200	200	1732	18.204	
22	3		300	300	1730	17.989	
23	2		500	500	1726	15.581	
24	1		700	700	1722	11.650	

### CTD Log Sheet

cruise: <u>OC 415-1</u>	type: <u>CTD</u>	station: <u>73</u>
leg: <u>/</u>	cast #: <u>OC 415 073</u>	depth: <u>700</u>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<u>10-Jul-05</u>	<u>2114</u>	<u>33 14.58</u>	<u>66 42.228</u>	<u>CTD</u>	<u>20 KM S of C5 center</u>
On Deck		<u>2155</u>	<u>33 14.76</u>	<u>66 41.99</u>		<u>Grid 3082</u>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		<u>0</u>	<u>2</u>	<u>2155</u>	<u>27.466</u>	drop#:
2	23		<u>0</u>	<u>2</u>	<u>2155</u>	<u>27.232</u>	
3	22		<u>20</u>	<u>20</u>	<u>2154</u>	<u>24.322</u>	
4	21		<u>20</u>	<u>20</u>	<u>2154</u>	<u>24.110</u>	
5	20		<u>40</u>	<u>40</u>	<u>2152</u>	<u>21.950</u>	
6	19		<u>40</u>	<u>40</u>	<u>2152</u>	<u>21.740</u>	
7	18		<u>60</u>	<u>60</u>	<u>2151</u>	<u>21.002</u>	
8	17		<u>60</u>	<u>60</u>	<u>2151</u>	<u>20.892</u>	
9	16		<u>70</u>	<u>70</u>	<u>2150</u>	<u>20.366</u>	
10	15		<u>70</u>	<u>70</u>	<u>2150</u>	<u>20.190</u>	
11	14		<u>80</u>	<u>80</u>	<u>2148</u>	<u>19.723</u>	
12	13		<u>80</u>	<u>80</u>	<u>2148</u>	<u>19.680</u>	
13	12		<u>90</u>	<u>90</u>	<u>2147</u>	<u>19.119</u>	
14	11		<u>100</u>	<u>100</u>	<u>2146</u>	<u>18.854</u>	
15	10		<u>100</u>	<u>100</u>	<u>2146</u>	<u>18.860</u>	
16	9		<u>110</u>	<u>110</u>	<u>2144</u>	<u>18.638</u>	
17	8		<u>120</u>	<u>120</u>	<u>2142</u>	<u>18.454</u>	
18	7		<u>120</u>	<u>120</u>	<u>2142</u>	<u>18.445</u>	
19	6		<u>140</u>	<u>140</u>	<u>2141</u>	<u>18.167</u>	
20	5		<u>140</u>	<u>140</u>	<u>2140</u>	<u>18.177</u>	
21	4		<u>200</u>	<u>200</u>	<u>2139</u>	<u>17.529</u>	
22	3		<u>300</u>	<u>300</u>	<u>2136</u>	<u>16.838</u>	
23	2		<u>500</u>	<u>500</u>	<u>2133</u>	<u>14.446</u>	
24	1		<u>700</u>	<u>700</u>	<u>2129</u>	<u>10.720</u>	

### CTD Log Sheet

cruise: <i>0c415-1</i>	type: <i>CTD</i>	station: <i>74</i>
leg: <i>1</i>	cast #: <i>0C415074</i>	depth: <i>700</i>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<i>10-Jul-05</i>	<i>2331</i>	<i>33 25.367</i>	<i>66 54.804</i>	<i>CTD</i>	<i>20 Km W of Center</i>
On Deck	<i>11 JUL 05</i>	<i>0007</i>	<i>33 25.460</i>	<i>66 54.716</i>		<i>grid 3140</i>

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	<i>2</i>	<i>0007</i>	<i>28.245</i>	drop#:
2	23		0	<i>2</i>	<i>0007</i>	<i>28.216</i>	
3	22		20	<i>20</i>	<i>0006</i>	<i>25.750</i>	
4	21		20	<i>20</i>	<i>0005</i>	<i>25.707</i>	
5	20		40	<i>40</i>	<i>0005</i>	<i>21.797</i>	
6	19		40	<i>40</i>	<i>0004</i>	<i>21.809</i>	
7	18		60	<i>60</i>	<i>0003</i>	<i>20.419</i>	
8	17		60	<i>60</i>	<i>0003</i>	<i>20.425</i>	
9	16		70	<i>70</i>	<i>0002</i>	<i>19.797</i>	
10	15		70	<i>70</i>	<i>0002</i>	<i>19.768</i>	
11	14		80	<i>80</i>	<i>0002</i>	<i>18.977</i>	
12	13		80	<i>80</i>	<i>0001</i>	<i>18.990</i>	<i>ny cell</i>
13	12		90	<i>90</i>	<i>0000</i>	<i>18.516</i>	<i>.542</i>
14	11		100	<i>100</i>	<i>2359</i>	<i>18.287</i>	<i>.904</i>
15	10		100	<i>100</i>	<i>2359</i>	<i>18.287</i>	<i>.882</i>
16	9		110	<i>110</i>	<i>2358</i>	<i>18.187</i>	<i>.589</i>
17	8		120	<i>120</i>	<i>2358</i>	<i>18.150</i>	<i>.281</i>
18	7		120	<i>120</i>	<i>2358</i>	<i>18.150</i>	<i>.296</i>
19	6		140	<i>140</i>	<i>2357</i>	<i>18.088</i>	<i>.120</i>
20	5		140	<i>140</i>	<i>2356</i>	<i>18.086</i>	<i>.105</i>
21	4		200	<i>200</i>	<i>2355</i>	<i>17.872</i>	
22	3		300	<i>300</i>	<i>2353</i>	<i>16.790</i>	
23	2		500	<i>500</i>	<i>2349</i>	<i>14.180</i>	
24	1		700	<i>700</i>	<i>2346</i>	<i>10.090</i>	

### CTD Log Sheet

cruise: 0C415-1	type:	station: 75
leg: )	cast #: 0C415075	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	11 Jul 05	0444	33 25.443	66 42.360		
On Deck	11 Jul 05	0502	33 25.418	66 42.428		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		50	50	0500	21.612	drop#:
2	23		50	50	0500	21.662	
3	22		50	50	0500	21.606	
4	21		50	50	0500	21.596	
5	20		50	50	0459	21.599	
6	19		50	50	0459	21.599	
7	18		50	50	0459	21.593	
8	17		50	50	0459	21.584	
9	16		70	70	0458	19.122	
10	15		70	70	0458	19.120	
11	14		95	95	0457	18.456	
12	13		95	95	0457	18.456	
13	12		95	95	0457	18.453	
14	11		95	95	0456	18.441	
15	10		95	95	0456	18.426	
16	9		95	95	0456	18.424	
17	8		95	95	0456	18.412	
18	7		95	95	0455	18.410	
19	6		95	95	0455	18.414	
20	5		95	95	0455	18.414	
21	4		95	95	0455	18.411	
22	3		95	95	0455	18.413	
23	2		110	110	0454	18.317	
24	1		110	110	0454	18.314	

### CTD Log Sheet

cruise: 0C415-1	type:	station: 76
leg: 1	cast #: 0C415076	depth: LOCATION # 3138

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	11 JUL 05	0802	33 25.356	67 19.790		
On Deck	11 JUL 05	0847	33 25.280	67 20.371		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	2	0847	27.715	drop#:
2	23		0	2	0847	27.714	
3	22		20	20	0846	23.259	
4	21		20	20	0845	23.348	
5	20		40	40	0844	21.671	
6	19		40	40	0844	21.665	
7	18		60	60	0843	19.507	
8	17		60	60	0842	19.482	
9	16		70	70	0841	19.971	
10	15		70	70	0841	19.991	
11	14		80	80	0840	18.788	mg chl/l
12	13		80	80	0840	18.788	.662
13	12		90	90	0839	18.508	.920 ←
14	11		100	100	0837	18.382	.750
15	10		100	100	0837	18.379	.691
16	9		110	110	0836	18.302	.406
17	8		120	120	0835	18.272	
18	7		120	120	0835	18.273	
19	6		140	141	0834	18.202	
20	5		140	140	0833	18.198	
21	4		200	200	0831	18.034	
22	3		300	300	0828	17.342	
23	2		500	500	0823	14.545	
24	1		700	700	0819	10.586	

### CTD Log Sheet

2.23  
3.76  
2.26  
1.68  
1.00  
SPAR

cruise: Oc 415-1	type: CTD	station: 77
leg: 1	cast #: OC415077	depth: 700

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	12-Jul-05	1640	30 00.01	66 29.90	CTD	After Moccness
On Deck		1716	29 59.93	66 30.037		grid 2021

#### Niskin Information

outside A4 to S.

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		10	10	1715	27.275	drop#:
2	23						
3	22						
4	21						
5	20						
6	19						
7	18						
8	17						
9	16						
10	15						
11	14						
12	13						
13	12						
14	11						
15	10						
16	9						
17	8		10	10			
18	7		10	10	1712	27.167	
19	6		80	80	1711	20.085	
20	5		80	80		20.009	
21	4		100	100	1709	19.612	
22	3		100	100	1708	19.608	.655
23	2		120	120		19.369	
24	1		120	120	1707	19.367	

### CTD Log Sheet

cruise: 0C415-1	type:	station: 78
leg: 1	cast #: 0C415078	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	14 JUL 05	1144	30 43.200	66 42.544		EC
On Deck	14 JUL 05	1221	30 43.597	66 42.509		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	1221	28.382	drop#:
2	23		0	3	1221	28.370	
3	22		20	20	1220	22.704	
4	21		20	20	1220	22.585	
5	20		40	40	1219	20.570	
6	19		40	40	1219	20.571	
7	18		60	60	1218	19.697	
8	17		60	60	1218	19.700	µg chl/l
9	16		70	70	1217	19.471	.215
10	15		70	70	1217	19.469	.208
11	14		80	80	1216	19.280	.896
12	13		80	80	1216	19.212	1.065
13	12		90	90	1214	19.188	.684
14	11		100	100	1213	19.120	.860
15	10		100	100	1213	19.112	.750
16	9		110	110	1212	19.049	
17	8		120	120	1212	19.033	
18	7		120	120	1212	19.032	
19	6		140	140	1210	19.008	
20	5		140	140	1210	19.008	
21	4		200	200	1209	18.936	
22	3		300	300	1206	18.607	
23	2		500	500	1203	17.997	
24	1		700	700	1159	15.599	

### CTD Log Sheet

cruise: <u>OC415-1</u>	type:	station: <u>79</u>
leg:	cast #: <u>OC415079</u>	depth: <u>150</u>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water		<u>1445</u>	<u>30 43.45</u>	<u>66 42.104</u>		
On Deck						

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0				drop#:
2	23	✓	20				
3	22	✓	40				
4	21	✓	50				
5	20	✓	55				
6	19	✓	60				
7	18	✓	65				
8	17	✓	70				
9	16	✓	75				
10	15	✓	80				
11	14	✓	85				
12	13	✓	90				
13	12	✓	95				
14	11	✓	100				
15	10	✓	105				
16	9	✓	110				
17	8	✓	115				
18	7	✓	120				
19	6	✓	125				
20	5	✓	130				
21	4	✓	135				
22	3	✓	140				
23	2	✓	145				
24	1	✓	150				

### CTD Log Sheet

cruise: <u>0C415</u>	type:	station: <u>80</u>
leg:	cast #: <u>0C415 080</u>	depth: <u>700</u>

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	<u>14-Jul-05</u>	<u>1542</u>	<u>30 48.96</u>	<u>66 48.47</u>	<u>CTD</u>	<u>~ 9 Nm. NW of EC</u>
On Deck		<u>1623</u>	<u>30 49.57</u>	<u>66 49.95</u>		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		0	3	1623	28.606	drop#:
2	23		20	20	1622	23.975	
3	22		40	40	1621	20.847	
4	21		50	50	1620	20.303	
5	20		60 <del>55</del>	60	1619	19.951	
6	19		70 <del>60</del>	70	1619	19.633	
7	18		75 <del>65</del>	75	1618	19.512	
8	17		80 <del>70</del>	80	1617	19.467	
9	16		85 <del>75</del>	85	1617	19.428	
10	15		90 <del>85</del>	90	1616	19.322	
11	14		95 <del>85</del>	95	1615	19.222	
12	13		100 <del>90</del>	100	1615	19.214	
13	12		105 <del>95</del>	105	1614	19.200	
14	11		110 <del>100</del>	110	1613	19.169	
15	10		115 <del>105</del>	115	1613	19.137	
16	9		120 <del>110</del>	120	1612	19.121	
17	8		130 <del>115</del>	130	1612	19.086	
18	7		140 <del>120</del>	140	1611	19.068	
19	6		150 <del>125</del>	150	1610	19.052	
20	5		160 <del>130</del>	160	1609	19.040	
21	4		170 <del>135</del>	170	1609	19.031	
22	3		180 <del>140</del>	180	1608	19.018	
23	2		190 <del>145</del>	190	1608	18.999	
24	1		200 <del>150</del>	200	1607	18.985	

### CTD Log Sheet

cruise: 0C415-1	type:	station: 81
leg: )	cast #: 0C415081	depth:

#### Position Information

CTD Status	Date (z)	Time (z)	Latitude	Longitude	System	Remarks
In Water	15 JUL 05	0134	31 30.348	65 37.348		
On Deck	15 JUL 05	0206	31 30.550	65 37.746		

#### Niskin Information

Niskin #on CTD	Niskin Serial #/CTD	Unique Bottle ID	Desired Depth (m)	Actual Depth (m)	Time Fired (z)	Temp At Bottle Fire	Remarks
1	24		40	40	0205	22.924	drop#:
2	23			40	0204	22.822	
3	22			40	0204	22.823	
4	21			40	0204	22.822	
5	20			40	0204	22.825	
6	19			40	0204	22.838	
7	18			40	0204	22.842	
8	17			40	0203	22.891	
9	16			40	0203	22.899	
10	15			40	0203	22.885	
11	14			40	0203	22.950	
12	13			40	0203	23.040	
13	12			40	0202	23.066	
14	11			40	0202	23.074	
15	10			40	0202	23.080	
16	9			40	0202	23.082	
17	8			40	0202	23.079	
18	7			40	0202	23.101	
19	6			40	0201	23.100	
20	5		40	40	0201	23.091	
21	4		120	120	0159	19.548	Chl max
22	3		120	120	0159	19.543	Chl max
23	2		500	500	0152	15.649	
24	1		500	500	0152	16.645	

## OC415-1 XBT Log

XBT #	Seq. Probe #	Date	Time (GMT)	Latitude	Longitude	Comment
2	T7_00002	21 Jun-05	<del>2047</del> <sup>Market 2149</sup>	37 05.82	68 04.639	Test cont
<del>3</del>	<del>missing</del>					
<del>4</del>	<del>T7_00004</del>	22-June05	1134	34 44.394	66 34.794	Start N-S across C-5
6	T7_00006	"	1232	34 34.367	66 34.320	
7	T7_00007	"	1330	34 24.416	66 33.813	
8	T7_00008	"	1430	34 14.222	66 33.340	
9	T7_00009	"	1530	34 03.458	66 32.822	
10	T7_00010	"	1630	33 52.948	66 32.332	
11	T7_00011	"	1730	33 42.716	66 31.808	
12	T7_00012	"	1830	33 32.565	66 31.300	
13	T7_00013	"	1930	33 22.358	66 30.769	
14	14	"	2030	33 12.4939	66 30.2778	
15	15	"	2123	33 03.691	66 29.813	
16						Abort
17				box trace		
18				"	"	
19	T7_00019	"	2259	32 51.891	66 29.920	
20	T7_00020	23 JUN 05	0739	33 3.79102	66 17.28418	
21	T7_00021	"	1053	33 03.787	65 52.317	
22	22	"	1407	33 3.7	65 27.5	
23	T7_00023	"	1720	32 53.08	65 14.88	
24	T7_00024	"	1820	32 52.98	65 27.27	
25	T7_00025	"	1920	32 52.97	65 39.75	
26	T7_00026	"	2021	32 52.97	65 52.36	
27	T7_00027	"	2121	32 52.97	66 04.88	
28	T7_00028	"	2230	32 42.16	66 04.87	

T 700 M  
 14.  
 14.37  
 13.65  
 13.15  
 12.45  
 12.08  
 11.45  
 11.09  
 10.69  
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 10.41  
 10.44  
 9.35  
 10.47  
 10.29  
 9.59  
 9.33  
 9.43  
 9.91  
 9.59

## OC415-1 XBT Log

XBT #	Seq. Probe #	Date	Time (GMT)	Latitude	Longitude	Comment	
29	29	23-Jun-05	2329	32 42.21	65 52.25		<del>20.54</del> TEMP @ 760m
30	30	24-Jun-05	1349	32 31.34	65 52.23	N-S line through A4	10.23
31	31	"	1448	32 20.57	65 52.29	↑	11.28
32	32	"	1546	32 09.76	65 52.32	↓	11.72
33	33	"	1647	31 58.94	65 52.32		12.57
34	T7_00034	"	1749	31 48.17	65 52.32		13.27
35	T7_00035	"	1852	31 37.43	65 52.31		13.86
36	T7_00036	"	1954	31 26.48	65 52.32		14.25
37	T7_00037	"	2055	31 15.63	65 52.33		14.71
38	T7_00038	"	2155	31 04.83	65 52.32		15.10
39	T7_00039	"	2257	30 54.05	65 52.30		13.44
40	40	25 JUN 05	0006	30 54.048	65 39.710	<del>W-E</del>	12.6
41	41	"	0109	30 54.033	65 27.464		13.6
42	42	"	0212	31 4.810	65 27.323		13.65
43	43	"	0311	31 4.871	65 39.711		13.7
44	44	"	1208	31 04.854	66 17.284		14.65
45	45	"	2207	31 4.862	65 2.415		12.7
46	46	26 Jun	2159	31 3.4	65 54.4		14.93
47	47	"	2259	30 55.93	65 57.46		13.51
48	48	"	2359	30 48.14	65 58.48		13.47
49	49	27 Jun	0204	30 35.29	65 49.56		14.48
50	50	"	0329	30 24.573	65 40.888		12.8
51	51	"	0430	30 18.155	65 35.560		12.65
52	52	"	0529	30 11.738	65 30.283		12.3
53	53	"	0630	30 5.177	65 24.950		11.6
54	54	"	0729	29 58.688	65 19.642		11.15

## OC415-1 XBT Log

XBT #	Seq. Probe #	Date	Time (GMT)	Latitude	Longitude	Comment TEMP @ 700m
55	55	27 JUN 05	0829	29 52.322	65 14.477	11.0
56	56	"	0929	29 41.377	65 9.533	10.6
57	57	"	1029	29 40.174	65 4.450	10.6
58	58	"	1129	29 33.839	64 59.26	10.0
59	59	"	1230	29 29.202	64 53.928	10.84
60	60	"	1329	29 20.722	64 48.790	11.18
61	61	"	1430	29 14.243	64 43.721	11.00
62	62	"	1529	29 09.906	64 38.897	10.75
63	63	"	1629	29 02.260	64 33.026	10.85
64	64	"	1730	28 56.716	64 26.756	10.69
65	65	"	1910	28 44.333	64 24.961	10.79
66	66	"	2040	28 44.359	64 32.591	10.48
67	67	"	2204	28 44.340	64 42.946	10.45
68	68	"	2326	28 44.338	65 02.400	10.94
69	69	28 JUN 05	0048	28 44.3479	65 14.87402	10.51
70	70	"	0213	28 44.3359	65 27.35986	BAD, wire touches side XXX
71	71	"	0218	28 44.09497	65 27.85986	10.43
72	72	"	0335	28 33.5869	65 27.357	10.95
73	73	"	0500	28 33.549	65 14.969	10.59
74	74	"	1913	28 44.344	65 52.349	10.90
75	75	30 JUN 05	0539	31 40.076	64 10.734	AT BATS
76	76	"	1432	32 19.13	64 28.37	12.06
77	77	"	1529	32 21.41	64 16.982	12.13
78	78	"	1635	32 23.370	64 07.129	12.38
79	79	"	1730	32 25.068	63 59.034	12.70
80	80	"	1830	32 26.820	63 50.038	13.18

700

10.84

11.18

11.00

10.75

10.85

10.69

10.79

10.48

10.45

10.94

10.51

XXX

10.43

10.95

10.59

10.90

11.72

12.06

12.13

12.38

12.70

13.18

## OC415-1 XBT Log

XBT #	Seq. Probe #	Date	Time (GMT)	Latitude	Longitude	Comment
81	T7_00081	30-Jun-05	1930	32 28.533	63 41.144	
82	82	"	2030	32 30.304	63 32.204	
83	83	"	2130	32 32.057	63 23.209	
84	84	"	2230	32 33.808	63 14.363	
85	85	"	2330	32 35.551	63 05.466	
86	86	1 JUL 05	0100	32 38.203	62 52.105	
87	87	"	0200	32 40.594	62 40.313	
88	88	"	0239	32 42.145	62 32.788	
89	89	"	0340	32 52.827	62 32.615	
90	90	"	0443	32 53.000	62 45.055	
91	91	"	0547	32 52.983	62 57.516	
92	92	"	0653	32 42.253	62 57.597	
93	93	"	0754	32 42.180	62 45.127	
94	94	"	1249	32 42.200	63 22.503	
95	95	2 JUL 05	0654	32 42.174	62 7.714	
96	96	"	1930	32 42.183	63 35.015	
97	97	"	2030	32 35.914	63 39.249	
98	98	"	2130	32 28.667	63 43.139	
99	99	"	2230	32 20.921	63 47.367	
100	100	"	2330	32 13.679	63 51.244	
101	101	3 JUL 05	0029	32 6.441	63 55.131	
102	102	"	0129	<del>31</del> 31 59.242	63 59.242	
103	103	"	0229	31 52.003	64 3.062	
104	104	"	0329	31 44.815	64 7.138	
105	105	"	0413	31 39.938	64 10.053	
106	105	"	0500	31 36.709	64 17.101	

T@700m

13.66  
13.97  
14.85  
14.95  
16.25  
16.60  
16.49  
15.72  
15.59  
16.09  
15.74  
16.50  
16.55  
14.63  
14.44  
14.86  
14.40  
14.19  
13.74  
13.15  
12.94  
12.56  
12.06  
12.15  
11.71  
11.78

107 107 failed 0600 31 33.554 64 25.155 FAILED

## OC415-1 XBT Log

XBT #	Seq. Probe #	Date	Time (GMT)	Latitude	Longitude	Comment	T @ 700 m
108	108	7/3/05	0603	31° 33.312N	64° 25.588W		11.61
109	109	"	0700	31 30.174	64 33.619		11.69
110	110	"	0820	31 25.827	64 44.874	SD WPH seq Revert to 627	11.70
111	111	"	0900	31 23.541	64 50.629	files renamed to 10711	12.29
112	112	"	1000	31 20.240	64 59.185	Sequence Revert -	12.34
113	113	"	1100	31 16.907	65 7.658		12.51
114	114	"	1200	31 13.647	65 15.931		12.96
115	115	"	1259	31 10.55	65 24.2		13.53
116	116	"	1400	31 07.416	65 32.702		13.58
117	117	"	1449	31 04.87	65 39.82		14.02
118	118	"	1611	31 04.857	65 52.428		14.33
119	119	"	1733	31 04.862	66 04.993		13.78
120	120	"	1857	31 04.873	66 17.384		14.40
121	121	"	2017	31 04.863	66 29.695		15.13
122	122	"	2137	30 54.065	66 29.836		15.19
123	123	"	2303	30 54.056	66 17.329		15.18
124	124	4 Jul 05	<del>2332</del> <sup>0023</sup>	30° 54.044	66° 05.021		14.29
125	125	5 July	1309	30 21.6	65 39.8		13.63
126	126	6 Jul 05	0002	31 26.386	66 54.708		14.47
127	127	"	0725	31 37.315	66 54.769		14.01
128	128	"	0830	31 37.315	66 42.294		14.36
129	129	"	0932	31 37.320	66 29.870		14.29
130	130	"	1225	31 26.422	66 17.332		14.33
131	131	7-Jul-05	0010	30 21.657	66 17.356		
132	132	"	0720	30 10.798	66 29.817		13.58
133	133	"	0818	30 10.829	66 42.282		13.15

## OC415-1 XBT Log

XBT #	Seq. Probe #	Date	Time (GMT)	Latitude	Longitude	Comment
134	134	7 JUL 05	0918	30 10.810	66 54.761	BAD
135	135	7 JUL 05	0921	30 10.830	66 54.914	BAD
136	136	"	0925	30 10.867	66 55.255	OK
137	137	"	1242	30 21.591	66 54.80	
138	138	8 JUL 05	0209	31 15.659	65 39.871	
139	139	"	0455	31 4.844	65 27.355	
140	140	"	0744	30 54.061	65 39.816	
141	141	9 JUL 05	0746	30 54.080	66 54.754	
142	142	9 JUL 05	1800	31 38.526	67 04.717	
143	143	"	1900	31 48.139	67 02.589	
144	144	"	2000	31 57.968	67 00.305	
145	145	"	2100	32 07.943	66 57.971	
146	146	"	2200	32 17.948	66 55.675	
147	147	"	2300	32 28.183	66 53.262	
148	148	"	2359	32 35.462	66 51.940	
149	149	10 JUL 05	0059	32 43.331	66 56.126	
150	150	"	0200	32 51.245	66 48.225	
151	151	"	0300	32 58.176	66 46.296	
152	152	"	0401	33 7.075	66 43.896	
153	153	"	0500	33 14.917	66 42.262	
154	154	"	0621	33 25.408	66 42.315	
155	155	"	0749	33 25.389	66 54.802	
156	156	"	0918	33 14.571	66 54.772	
157	157	"	1600	33 25.390	66 17.491	
158	158	11 JUL 05	0659	33 25.389	67 7.276	
159	159	"	2034	33 26.451	66 29.831	

T @ 700 m

13.07

13.21

12.77

13.48

14.41

13.92

14.00

14.27

13.72

13.54

13.02

12.41

12.01

11.79

10.74

10.46

10.19

9.85

10.00

10.05

10.89

10.19

14.44

## OC415-1 XBT Log

XBT #	Seq. Probe #	Date	Time (GMT)	Latitude	Longitude	Comment	
160	TH_00160	11 JUL 05	2156	31 15.591	66 29.817	grid 2484 ↓	14.70
161	161	"	2316	31 04.832	66 29.823	grid 2375 ↓	14.78
162	162	12 JUL 05	0033	30 54.116	66 29.812	2316 ↓	15.23
163	163	"	0155	30 43.372	66 29.831	2257 ↓	
164	164	"	0316	30 32.541	66 29.855	2198 ↓	13.59
165	165	"	0438	30 32.484	66 42.407	2197 ←	13.68
166	166	"	0607	30 43.301	66 42.269	2256 ↑	15.36
167	167	"	0817	30 32.498	66 29.884	BAD <del>2198</del>	
168	168	"	0820	30 32.179	66 29.755	OK #2198 ↓	13.45
169	169	"	0944	30 21.400	66 29.843	grid #2139 ↓	13.08
170	170	"	1110	30 10.777	66 29.822	#2080	13.51
171	171	"	1231	30 00.027	66 29.846	2021	13.06
172	172	"	1924	30 10.810	66 42.325	2079	13.59
173	173	"	2122	30 21.632	66 54.825	2137	14.01
174	174	"	2319	30 32.488	67 07.276	2195	14.35
175	175	13 JUL 05	0111	30 43.239	67 19.706	2253	14.07
176	176	"	0235	30 43.269	67 7.364	2254	13.90
177	177	"	0357	30 43.245	66 54.742	2255	15.08
178	178	"	0520	30 43.255	66 42.270	2256	15.75
179	179	"	0643	30 43.241	66 29.782	2257	15.08
180	180	"	0806	30 43.256	66 17.386	2258	14.31
181	181	"	0929	30 43.253	66 4.868	2259	13.72
182	182	"	1051	30 43.244	65 52.330	2260	12.97
183	183	"	1214	30 43.193	65 39.736	2261	12.23
184	184	"	1446	30 32.406	65 58.633	2200a	13.33
185	185	"	1716	30 21.595	66 17.363	2140	14.30



OC415-1 Event Log

Event #	Date	Time (GMT)	Lat.	Long.	Description
1	6/20/05	1415			Departure
2		1445			Under way Alexandria Sampling begins
3		2230			CTD #1 (test)
4	6/21/05	0000			Alexandria sampling completed
5		0005			CTD #2 (test)
6		2019	37 06.07	68 05.45	CTD #3 (test)
7		2034	37°06.13	68 05.17	Light Probe (test)
8		2047	37 05.82	68 04.64	XBT Seq 2 (test) <sup>no Seq 3</sup>
9	6/22/05	1134	34 44.394	66 34.794	XBT Seq 3 <sup>start of transect across C5</sup>
10	"	1232	34 34.367	66 34.320	XBT Seq 6 (no Seq 5)
11	"	1330	34 24.416	66 33.813	XBT Seq 7
12	"	1430	34 14.222	66 33.340	XBT Seq 8
13	"	1530	34 03.450	66 32.822	XBT Seq 9
14	"	1630	33 52.948	66 32.332	XBT Seq 10
15	"	1730	33 42.716	66 31.808	XBT Seq 11
16	"	1830	33 32.565	66 31.300	XBT Seq 12
17	"	1930	33 22.350	66 30.769	XBT Seq 13
18	"	2020	33 12.49	66 30.28	XBT 14
19	"	2123	33 03.691	66 29.813	XBT 15 <sup>16, 17, 18 Abort bad drops.</sup>
20	"	2259	32 51.891	66 29.92	XBT 19
21	6/23/05	0016	33 3.692	66 29.853	CTD #4
22	6/23/05	0018	33°03.708	66 29.789	Surface Plankton Tow - S1
23	"	0230	33°03.224	66 29.49	MORNESS #1
24	"	0742	33 3.791	66 17.284	XBT 20
25	"	0949	33 3.498	66 4.117	CTD #5
26	"	1053	33 3.787	65 52.317	XBT 21
27	"	1204	33 3.691	65 39.967	CTD #6 Launch

OC415-1 Event Log

Event #	Date	Time (GMT)	Lat.	Long.	Description
28	23-JUN-05	1256	33 3.691	65 39.967	CTD #6 recovery (3028)
29	"	1407	33 3.7	65 27.5	XBT #22.
30	"	1516	33 03.71	65 14.94	CTD #7 in water
31	"	1551	33 03.78	65 14.99	CTD #7 recovery
32	"	1600	33 03.75	65 15.02	LP #2 to 150m
33	"	1720	32 53.08	65 14.88	XBT #23
34	"	1820	32 52.98	65 27.27	XBT #24
35	"	1920	32 52.97	65 39.75	XBT #25
36	"	2021	32 52.97	65 52.36	XBT #26
37	"	2121	32 52.97	66 04.88	XBT #27
38	"	2230	32 42.16	66 04.87	XBT #28
39	"	2329	32 42.21	65 52.25	XBT #29
40	24 JUN 05	0042	32 52.87	65 52.42	CTD #8 IN WATER
41	"	0055	32 52.91	65 52.38	CTD #8 ON DECK
42	"	0133	32 52.676	65 52.110	CTD #9 IN WATER
43	"	0135	"	"	Surface Plankton Tow #502
44	"	0209	32 52.558	65 51.936	CTD #9 ON DECK
45	"	0328	32 52.911	65 52.296	MOCNESS m-415-02
46	"	0635 <sup>VPR LOG</sup> 7:30	32 55.259	65 51.550	VPR DEPLOYED VPR 1
47	"	1037	32 58.520	65 25.093	VPR RECOVERED Ballast issues
48	"	1349	32 31.34	65 52.23	XBT #30 N-S in A4
49	"	1448	32 20.57	65 52.29	XBT #31
50	"	1546	32 09.76	65 52.32	XBT #32
51	"	1647	31 58.94	65 52.32	XBT #33
52	"	1749	31 48.17	65 52.32	XBT #34
53	"	1852	31 37.43	65 52.31	XBT #35
54	"	1954	31 26.43	65 52.32	XBT #36

OC415-1 Event Log

Event #	Date	Time (GMT)	Lat.	Long.	Description
55	24-Jun-05	2055	31 15.63	65 52.33	XBT 37
56	"	2155	31 04.83	65 52.32	XBT 38
57	"	2257	30 54.05	65 52.30	XBT 39
58	25 JUN 05	0006	30 54.048	65 39.910	XBT 40
59	"	0109	30 54.033	65 27.464	XBT 41
60	"	0212	31 4.810	65 27.323	XBT 42
61	"	0311	31 4.871	65 39.711	XBT 43
62	"	0325	31 5.505	65 39.102	MORNING
63	"	0658	31 5.047	65 39.800	CTD #10
64	"	1005	31 5.424	66 4.808	CTD #11
65	"	1208	31 04.854	66 17.284	XBT 44
66	"	1316	31 04.990	66 29.213	CTD #12
67	"	1402	31 05.22	66 29.02	LP #3
68	"	2013	31 04.74	65 14.773	CTD #13 launch
69	"	<del>2010</del> 2010	31 04.729	65 14.768	Surface Tow S03
70	"	<del>2108</del> 2108	31 04.74	65 14.988	CTD #13 aboard
71	"	2207	31 4.852	65 02.415	XBT # 45
72	"	2325	31 04.912	64 49.908	CTD #14 Shallow to 40m.
73	"	2359	31 4.726	64 49.952	CTD #15 IN WATER
74	26 Jun 05	0000	31 04.702	64 49.972	Surface Tow S04
75	"	0035	31 4.410	64 50.225	CTD #15 ON DECK
76	"	0100	31 4.825	64 51.967	VPR DEPLOYED VPR2
77	"	1921	31 04.92	65 53.95	CTD #16 Shallow to 140m all hot spot
78	"	1918	31 4.920	65 53.954	Surface Tow S05
79	"	1948	31 04.93	65 54.13	LP #4 to 155
80	"	2159	31 3.4	65 54.4	XBT 46
81	"	2259	30 55.93	65 57.46	XBT 47

VPR Recovered

VPR3 Deployed 20:18

OC415-1 Event Log

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Event #	Date	Time (GMT)	Lat.	Long.	Description
<del>78</del>	26 JUN 05	2359	30 48.14	65 59.48	XBT 48
83	27 JUN 05	0140	30 37.60	65 51.44	VPN RECOVERED VPR 3
84	27 JUN 05	0204	30 35.29	65 49.56	XBT 49
85	"	0300 <del>0218</del>	30 27.44	65 43.22	VPN DEPLOYED VPR 4
86	"	0329	30 24.57	65 40.88	XBT 50
87	"	0430	30 18.165	65 35.56	XBT 51
88	"	0529	30 11.738	65 30.283	XBT 52
89	"	0630	30 5.197	65 24.950	XBT 53
90	"	0729	29 58.688	65 19.642	XBT 54
91	"	0829	29 52.322	65 14.477	XBT 55
92	"	0929	29 46.377	65 9.533	XBT 56
93	"	1029	29 40.174	65 4.450	XBT 57
94	"	1129	29 33.84	64 59.26	XBT 58
95	"	1230	29 27.202	64 53.928	XBT 59
96	"	1329	29 20.722	64 48.790	XBT 60
97	"	1430	29 14.243	64 43.721	XBT 61
98	"	1530	29 07.906	64 38.897	XBT 62
99	"	1629	29 02.260	64 33.026	XBT 63
100	"	1730	28 56.716	64 26.756	XBT 64
101	"	1910	28 44.33	64 24.961	XBT 65
102	"	2040	28 44.359	64 37.571	XBT 66
103	"	2204	28 44.340	64 49.946	XBT 67
104	"	2326	28 44.338	65 02.100	XBT 68
105	28 JUN 05	0048	28 44.348	65 14.874	XBT 69
106	"	0213	28 44.336	65 27.359	XBT 70 - BAD -
107	"	0218	28 44.095	65 27.860	XBT 71
108	"	0335	28 33.587	65 27.357	XBT 72

OC415-1 Event Log

Event #	Date	Time (GMT)	Lat.	Long.	Description
109	28 JUN 05	0500	28 33.549	65 14.969	XBT # 73
110	"	0700	28 40	65 10	JPR RECOVERY VPR4
111	"	1010	28 44.37	64 24.95	CTD # 17
112	"	1321	28 44.638	64 49.88	CTD # 18
113	"	1406	28 45.50	64 49.88	LP # 45 <sup>sum</sup>
114	"	1913	28 44.344	65 52.348	XBT # 74
115	"	2023	28 44.504	66 04.568	CTD # 19
116	"	2024	28 44.500	66 04.566	Surface Tow 506
117	"	2117	28 44.93	66 04.73	LP # 5:6 <sup>sum</sup>
118	"	2376	28 44.36	65 39.76	CTD # 20
119	29 Jun 05	0226	28 44.472	65 14.940	Mocness m-415-04
120	"	0541	28 44.400	65 15.090	CTD # 21
121	"	0627	28 43.998	65 15.356	CTD # 22
122	30 Jun 05	0128	31 39.812	64 09.995	MOCNESS # 5
123	"	0442	31 37.987	64 10.133	CTD # 23 AT BATS
124	"	0539	31 40.076	64 10.734	XBT # 75 AT BATS
125	"	1432	32 17.13	64 28.37	XBT # 76
126	"	1529	32 21.41	64 16.98	XBT # 77
128	"	1635	32 23.37	64 09.129	XBT # 78
129	"	1730	32 25.068	63 59.034	XBT # 79
130	"	1830	32 26.82	63 50.038	XBT # 80
131	"	1930	32 28.533	63 41.144	XBT # 81
127	"	1535	32.65?	62.8?	VPR Launch VPR 5
132	"	2030	32 30.304	63 32.204	XBT # 82
133	"	2130	32 32.057	63 23.209	XBT # 83
134	"	2230	32 33.808	63 14.363	XBT # 84
135	"	2330	32 35.531	63 05.466	XBT # 85

OC415-1 Event Log

Event #	Date	Time (GMT)	Lat.	Long.	Description
136	01-JUL-05	0043	32 32.59	62 55.22	VPR Recovery VPR5
137	"	0100	32 38.263	62 52.105	XBT #86
139	"	0200	32 40.594	62 40.313	XBT 87
139	"	0239	32 42.145	62 32.788	XBT 88
140	"	0346	32 52.827	62 32.615	XBT 89
141	"	0443	32 53.000	62 45.055	XBT 90
142	"	0547	32 52.983	62 59.516	XBT 91
143	"	0653	32 42.253	62 57.599	XBT 92
144	"	0754	32 42.180	62 45.127	XBT 93
145	"	0807	32 42.217	62 44.948	CTD #24 IN WATER
146	"	0857	32 42.192	62 45.072	CTD #24 ON DECK
147	"	1103	32 42.130	63 10.077	CTD #25 IN WATER
148	"	1150	32 42.437	63 10.315	CTD #25 ON DECK
149	"	1249	32 42.200	63 22.503	XBT 94
150	"	1355	32 42.384	63 35.094	CTD #26 launch
151	"	1437	32 42.97	63 35.30	LP# <del>87</del> <sup>DWH</sup> to 150m
152	"	1854	32 42.236	64 45.252	CTD #27
153	"	1905	32 42.23	62 45.435	Surface Tows S08, S09
154	"	2230	32 42.13	62 20.185	CTD #28
155	"	2236	32 42.125	62 20.21	Surface Tow S10
156					MOCNESS
157	2 JUL 05	0405	32 39.294	62 39.479	CTD #29 INCUBATION CAST
158	"	0654	32 42.174	62 7.714	XBT #95
159	"	0803	32 42.160	61 55.188	CTD #30
160	"	0904	32 41.889	61 57.205	VPR DEPLOYED VPR6
161	"	1930	32 42.183	63 35.015	XBT #96
162	"	2030	32 35.914	63 39.249	XBT #97

OC415-1 Event Log

Event #	Date	Time (GMT)	Lat.	Long.	Description
163	2-Jul-05	2130	32 28.667	63 43.139	XBT # 98
164	"	2230	32 20.921	63 42.368	XBT # 99
165	"	2330	32 13.679	63 51.244	XBT # 100
166	3 Jul 05	0029	32 6.491	63 55.131	XBT 101
167	"	0129	31 59.242	63 59.242	XBT 102
168	"	0229	31 52.003	64 3.062	XBT 103
169	"	0329	31 44.816	64 7.138	XBT 104
170	"	0413	31 39.938	64 10.053	XBT 105
171	"	0500	31 36.709	64 12.101	XBT 106
172	"	0603	31° 33' 312	64° 25' 588	XBT 108 ; 107 FAILED
173	"	0700	31 30.124	64 33.619	XBT 109
174	"	0820	31 25.827	64 44.874	XBT 110
175	"	0900	31 23.541	64 50.627	XBT 111
176	"	1000	31 20.240	64 59.185	XBT 112
177	"	1100	31 16.907	65 7.658	XBT 113
178	"	1200	31 13.697	65 15.931	XBT 114
179	"	1259	31 10.55	65 24.2	XBT 115
180	"	1400	31 07.416	65 32.702	XBT 116
181	"	1449	31 04.87	65 39.82	XBT 117
182	"	1611	31 04.875	65 52.428	XBT 118
183	"	1733	31 04.862	66 04.993	XBT 119
184	"	1857	31 04.873	66 18.384	XBT 120
185	"	2017	31 04.863	66 29.675	XBT 121
186	"	2137	30 59.065	66 29.836	XBT 122
187	"	2303	30 54.056	66 17.329	XBT 123
188	"	2332	30° 54' .044	66° 05' .021	XBT 124
189	4 JUL 05	0040			VPR RECOVERED

OC415-1 Event Log

Event #	Date	Time (GMT)	Lat.	Long.	Description
190	4 JUL 05	0155	30 53.809	66 17.35	MORNESS
191	"	0516	30 54.055	66 17.294	CTD 31
192	"	0802	31 4.874	66 16.895	CTD 32
193	"	1017	31 4.850	66 4.848	CTD 33 IN WATER
194	"	1103	31 4.844	66 4.518	CTD 33 ON DECK
195	"	1224	30 54.00	66 04.92	L P #8 <sup>DM</sup>
196	"	1237	30 53.9	66 05.0	CTD 34 in water
197	"	1313	30 53.75	66 04.78	" 34 on deck
198	"	1435	30 53.55	66 17.15	MORNESS m-415-08
199	"	1805	30 43.25	66 17.33	CTD 35 in water
200	"	1849	30 43.68	66 17.56	CTD 35 on board
201	"	2001	30 43.31	66 29.77	CTD 36 in water
202	"	2044	30 43.73	66 29.62	CTD 36 on board
203	"	<del>2044</del> 2201	30 54.13	66 29.83	CTD 37 in water
204	"	2243	30 54.52	66 29.41	CTD 37 on board
205	"	2358	31 4.915	66 29.849	CTD 38 IN WATER
206	5 JUL 05	0034	31 4.774	66 29.304	CTD 38 ON DECK
207	"	0201	30 54.296	66 17.613	MORNESS
208	"	0552	30 43.184	66 4.830	CTD 39 IN WATER
209	"	0538	30 42.791	66 4.591	CTD 39 ON DECK
210	"	1053	30 10.807	65 27.391	CTD 40 IN WATER
211	"	1138	30 10.884	65 27.206	CTD 40 ON DECK
212	"	1309	30 21.6	65 39.8	XBT 125
213	"	1457	30 32.42	65 52.44	CTD 41 in water
214	"	1530	30 32.45	65 52.39	CTD 41 on board
215	"	1536	30 32.45	65 52.35	L P #9
216	"	2144	31 15.58	66 42.27	CTD 42 in water

OC415-1 Event Log

Event #	Date	Time (GMT)	Lat.	Long.	Description
217	05 JUL 05	2226	31 15.52	66 41.71	CTD 42 on board
218	6 JUL 05	0002	31 26.386	66 54.708	XBT 126
219	"	0141	31 37.35	67 7.39	MORNESS
220	"	0504	31 37.334	67 7.235	CTD 43 INCUBATION CAST
221	"	0535	31 37.499	67 7.312	CTD 44 IN WATER
222	"	0618	31 37.684	67 7.454	CTD 44 ON DECK
223	"	0725	31 37.315	66 54.769	XBT 127
234	"	0830	31 37.345	66 42.294	XBT 128
235	"	0932	31 37.320	66 29.870	XBT 129
236	"	1034	31 37.321	66 17.334	CTD 45 IN WATER
237	"	1119	31 37.331	66 17.011	CTD 45 ON DECK
238	"	1225	31 26.422	66 17.332	XBT 130
239	"	1238(?)	31 26.066	66 16.978	Glider Launch
240	"	1359	31 15.72	66 17.17	CTD 46 in water
241	"	1437	31 15.77	66 16.75	CTD 46 on deck
242	"	1443	31 15.78	66 16.65	LP # 10
243	"	1602	31 04.88	66 17.23	CTD 47 in water
244	"	1656	31 04.94	66 16.78	CTD 47 on deck
245	"	1702	31 04.95	66 16.72	LP # 11
246	"	1821	30 54.04	66 17.25	CTD 48 in water
247	"	1828	30 54.03	66 17.15	Surface Tow S12
248	"	1913	30 53.98	66 16.98	CTD 48 on board
249	"	2026	30 43.04	66 17.285	CTD 49 in water
250	"	2033	30 43.04	66 17.25	Surface Tow S13
251	"	2114	30 42.95	66 17.412	CTD 49 on board
252	"	2222	30 32.405	66 17.342	CTD 50 in water
253	"	2307	30 32.316	66 17.342	CTD 50 on board

OC415-1 Event Log

Event #	Date	Time (GMT)	Lat.	Long.	Description
254	7 JUL 05	0010	30 21.657	66 17.356	XBT 131
255	"	0154	30 10.79	66 17.45	MOLNESS M-415-11
256	"	0530	30 10.797	66 17.453	CTD 51 IN WATER
257	"	0619	30 10.618	66 17.796	CTD 51 ON DECK
258	"	0720	30 10.798	66 29.817	XBT 132
259	"	0818	30 10.829	66 42.282	XBT 133
260	"	0918	30 10.810	66 54.761	XBT 134 BAD
261	"	0921	30 10.830	66 54.914	XBT 135 BAD
262	"	0925	30 10.867	66 55.255	XBT 136 OK
263	"	1026	30 10.833	67 7.292	CTD 52 IN WATER
264	"	1113	30 11.314	67 7.669	CTD 52 ON DECK
255	"	1242	30 21.591	66 54.80	XBT 137
256	"	1412	30 32.53	66 42.47	CTD 53 in water
257	"	1448	30 33.07	66 42.46	CTD 53 on board
258	"	1456	30 33.12	66 42.52	L P#12 to 177M
259	"	1636	30 43.279	66 29.67	CTD 54 in water
260	"	1721	30 43.637	66 29.25	CTD 54 on deck
261	"	1729	30 43.62	66 29.15	LP #13
262	"	1907	30 53.98	66 17.13	CTD 55 in water
263	"	1909	30 53.97	66 17.05	Surface Tow S14
264	"	1954	30 53.698	66 16.619	CTD 55 on board
265	"	2207	31 04.78	66 09.82	CTD 56 in water
266	"	2205	31 04.793	66 04.830	Surface Tow S15
267	"	2250	31 04.169	66 04.536	CTD 56 on board
268	8 JUL 05	0031	31 15.597	65 52.433	CTD 57 in water
269	8 Jul 05	0031	31 15.57	65 52.43	Surface Tow S16
270	"	0104	31 15.252	65 52.380	CTD 57 ON DECK

OC415-1 Event Log

Event #	Date	Time (GMT)	Lat.	Long.	Description
271	8 Jul 05	0209	31 15.659	65 39.871	XBT 138
272	"	0315	31 15.660	65 27.516	CTD 58 IN WATER
273	"	0350	31 15.434	65 27.444	CTD 58 ON DECK
274	"	0455	31 4.844	65 27.355	XBT 139
275	"	0557	30 53.950	65 27.408	CTD 59 IN WATER
276	"	0639	30 53.207	65 27.379	CTD 59 ON DECK
277	"	0744	30 54.061	65 39.816	XBT 140
278	"	0849	30 54.039	65 52.282	CTD 60 IN WATER
279	"	0936	30 53.842	65 52.511	CTD 60 ON DECK
280	"	1057	30 54.065	66 4.858	CTD 61 IN WATER
281	"	1144	30 53.930	66 5.084	CTD 61 ON DECK
282	"	1328	30 53.906	66 17.195	MOC TOW
283	"	1626	30 53.9	66 16.9	CTD 62 - high res Nuts.
284	"	1815	30 54.498	66 17.437	CTD 63 in water
285	"	1850	30 54.232	66 17.015	CTD 63 on board
286	"	1858	30 54.22	66 16.92	LP #14
287	"	2019	30 54.097	66 29.70	CTD 64 in water
288	"	2000	30 54.217	66 29.278	CTD 64 on board
289	"	2218	30 54.049	66 42.21	CTD 65 in water
289	"	2302	30 53.995	66 41.74	CTD 65 on board
290	9 Jul 05	0113	30 54.082	66 17.44	MOCNESS
291	9 Jul 05	0435	30 53.964	66 17.372	CTD 66 INCUBATION CAST
292	"	0746	30 54.080	66 54.754	XBT 141
293	"	0848	30 54.119	67 7.292	CTD 67 INCUBATION CAST
294	"	0926	30 54.074	67 7.292	CTD 68 IN WATER
295	"	1012	30 54.570	67 7.673	CTD 68 ON DECK
296	"	1415	31 37.17	67 7.325	MOCNESS

OC415-1 Event Log

Event #	Date	Time (GMT)	Lat.	Long.	Description
297	09-Jul-05	1702	31 35.66	67 05.62	CTD 69 for Macness Calib
298	"	1800	31 38.526	67 04.717	XBT 142
299	"	1900	31 48.139	67 02.589	XBT 143
300	"	2000	31 57.968	67 00.305	XBT 144
301	"	2100	32 07.943	66 57.97	XBT 145
302	"	2200	32 17.948	66 55.675	XBT 146
303	"	2800	32 28.183	66 53.262	XBT 147
304	09-Jul-05	23:15	32 29.817	66 52.861	VPR 7 in water
305	"	2359	32 35.462	66 51.946	XBT 148
306	10 Jul 05	0059	32 43.331	66 50.124	XBT 149
307	"	0200	32 51.245	66 48.225	XBT 150
308	"	0300	32 59.194	66 46.290	XBT 151
309	"	0401	33 7.075	66 43.896	XBT 152
310	"	0500	33 14.817	66 42.222	XBT 153
311	"	0621	33 25.408	66 42.315	XBT 154
312	"	0749	33 25.391	66 54.802	XBT 155
313	"	0918	33 14.571	66 54.772	XBT 156
314	"	1050	33 14.95	66 48.88	VPR recovery
315	"	1204	33 25.24	66 42.27	CTD 70 in water
316	"	1236	33 25.4	66 42.4	CTD 70 on board
317	"	1241	33 25.5	66 42.43	LP #15
318	"	1409	33 25.42	66 29.98	CTD 71 in water
319	"	1443	33 25.66	66 29.95	CTD 71 on board
320	"	1450	33 25.75	66 29.93	LP #16
321	"	1706	33 25.35	66 04.84	CTD 72 in water
322	"	1746	33 25.57	66 05.06	CTD 72 on deck
323	"	1750	33 25.75	66 05.07	LP #17

**OC415-1 Event Log**

Event #	Date	Time (GMT)	Lat.	Long.	Description
324	10-JUL-05	2114	33 14.58	66 42.23	CTD 73 in water
325	"	2155	33 14.76	66 46.99	CTD 73 on board
326	"	2331	33 25.367	66 54.804	CTD 74 IN WATER
327	11 JUL 05	0007	33 25.460	66 54.716	CTD 74 ON DECK
328	"	<del>0444</del>	33 25.443	66 42.360	MOCNESS
329	"	0444	33 25.443	66 42.360	CTD 75 INCUBATION CAST
330	"	0859	33 25.389	67 7.270	XBT 158
331	"	0802	33 25.356	67 19.790	CTD 76 IN WATER
332	"	0847	33 25.280	67 20.371	CTD 76 ON DECK
333	"	1906	31 37.70	66 29.99	VPR Launch
334	"	2034	31 26.451	66 29.83	XBT 159
335	"	2156	31 15.591	66 29.817	XBT 160
336	"	2316	31 04.832	66 29.823	XBT 161
337	12 JUL 05	0033	30 54.116	66 29.812	XBT 162
338	"	0155	30 43.372	66 29.831	XBT 163
339	"	0316	30 32.541	66 29.855	XBT 164
340	"	0438	30 32.484	66 42.407	XBT 165
341	"	0607	30 43.361	66 42.269	XBT 166
342	"	0817	30 32.498	66 29.984	XBT 167 BAD
343	"	0820	30 32.179	66 29.755	XBT 168 OK
344	"	<del>0944</del> <del>1110</del>	30 <del>10.777</del> <sup>21.400</sup>	66 29.822	XBT 169
344	"	1110	30 10.777	66 29.822	XBT 170
345	"	1231	30 00.027	66 29.846	XBT 171
346	"	1312	29 58.8	66 29.1	VPR recovery
347	"	1326	29 59.28	66 29.72	MOCNESS #16
348	"	1640	30 00.01	66 29.90	CTD 77 in water
349	"	1716	29 59.93	66 30.04	CTD 77 on board.

OC415-1 Event Log

Event #	Date	Time (GMT)	Lat.	Long.	Description
350	12-Jul-05	17:37:38	30:40.77	66:31.06	VPR Launch VPR9
351	"	1924	30 10.81	66 42.325	XBT 172
352	"	2122	30 21.632	66 54.825	XBT 173
353	"	2319	30 32.488	67 07.276	XBT 174
354	13 JUL 05	0111	30 43.239	67 19.700	XBT 175
355	"	0235	30 43.269	67 2.364	XBT 176
356	"	0357	30 43.245	66 54.742	XBT 177
357	"	0520	30 43.255	66 42.270	XBT 178
358	"	0643	30 43.241	66 29.782	XBT 179
359	"	0806	30 43.256	66 17.386	XBT 180
360	"	0929	30 43.253	66 4.868	XBT 181
361	"	1051	30 43.244	65 52.330	XBT 182
362	"	1214	30 43.193	65 39.736	XBT 183
363	"	1446	30 32.406	65 58.633	XBT 184
364	"	1716	30 21.595	66 17.363	XBT 185
365	"	1914	30 32.475	66 29.830	XBT 186
366	"	2011	30 38.11	66 36.37	XBT 187
367	"	2104	30 43.267	66 42.281	XBT 188
368	"	2257	30 54.06	66 54.79	XBT 189
369	14 July	0022	30 54.06	66 42.36	XBT 190
370	"	0100	30 54.04	66 36.05	XBT 191
371	"	0219	30 43.335	66 31.075	XBT 192
372	"	0258	30 37.950	66 36.080	XBT 193
373	"	0337	30 32.545	66 36.079	XBT 194
374	"	0459	30 21.570	66 36.075	XBT 195
375	"	0547	30 21.608	66 42.308	XBT 196
376	"	0704	30 21.619	66 54.808	XBT 197

