

Cruise: TN376 Date: 1/27/20
 Str: 001 Lat: -38.583 Long: 24.001E
 TN376-001-01

Cast Log
 Cast event
 End cast event

20200127.0307.001

Always at 770 call the 11.

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr.	Sal.	CPAR	Comments
	0415	1	3.6	23/24		21.19	35.64	7.2 e1				7.14R 50% 50
	0412	10	10.1	21/22		21.20	35.64	3.57 e1				36.81 1
	0410	15.6	15.6	19/20		21.20	35.64	2.49 e1				21.17 3
	0408	21.5	22.7	17/18		21.19	35.63	1.98 e1				11.77 4
	0406	30	30	15/16		21.18	35.63	1.4 e1				5.07 5
	0404	33.4	33.0	13/14		21.19	35.63	1.13 e1				8.55 6
	0402	39.5	39.5	11/12		21.16	35.63	7.8 e0				1.93 7
	0359	77	78.0	9/10		19.58	35.58	6.2 e-1				17. Fluor Max 8
	0356	95	99	7/8		19.00	35.60	5e-2				one O2 min 9
	0351	140	190.3	5/6		17.66	35.59					one O2 Peak 10
	0345	360	361	3/4		15.48	35.43					O2 min 11
20200127.0335	0335	750	750.3	1/2		10.92	34.41					SAMW 26.75 12

Event

NISK
#

Act
Z

20200127.0307.001

13

1, 2

750

3, 4

361

5, 6

190.3

7, 8

99

9, 10

78 FL
Max

11, 12

40

13, 14

33

15, 16

30

17, 18

23

19, 20

16

21, 22

10

23, 24

4

Cruise: *TW376* Date: *1/27/20*
 Stn: *002* Lat: *-38.7167* Long: *026.2328*

Cast Log

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
<i>20200127.2007</i>	<i>2037</i>	<i>750</i>	<i>749</i>	<i>1,2</i>		<i>3.99</i>	<i>34.36</i>	<i>—</i>			<i>—</i>	<i>30 m/minute down</i>
	<i>2043</i>	<i>600</i>	<i>600</i>	<i>3,4</i>		<i>4.67</i>	<i>34.38</i>	<i>—</i>			<i>—</i>	<i>O2 Peak</i>
	<i>2047</i>	<i>450</i>	<i>450</i>	<i>5,6</i>		<i>6.39</i>	<i>34.49</i>					
	<i>2052</i>	<i>300</i>	<i>300</i>	<i>7,8</i>		<i>9.44</i>	<i>34.82</i>					
	<i>2056</i>	<i>200</i>	<i>200</i>	<i>9,10</i>		<i>11.68</i>	<i>34.46</i>					
	<i>2058</i>	<i>150</i>	<i>150</i>	<i>11,12</i>		<i>13.41</i>	<i>35.12</i>					
	<i>2100</i>	<i>100</i>	<i>100</i>	<i>13,14</i>		<i>14.70</i>	<i>35.22</i>					
	<i>2103</i>	<i>80</i>	<i>80</i>	<i>15,16</i>		<i>15.35</i>	<i>35.23</i>					<i>Forget # 16</i>
	<i>2107</i>	<i>65</i>	<i>64</i>	<i>17,18</i>		<i>16.22</i>	<i>35.25</i>					<i>Chl Max</i>
	<i>2109</i>	<i>40</i>	<i>40</i>	<i>19,20</i>		<i>19.07</i>	<i>35.33</i>					
	<i>2111</i>	<i>20</i>	<i>20</i>	<i>21,22</i>		<i>19.08</i>	<i>35.34</i>					
	<i>2112</i>	<i>Surf</i>	<i>5</i>	<i>23,24</i>		<i>14.08</i>	<i>35.34</i>					

STATION 2
EVENT # 20200127.2007

Bottle #	Depth
1, 2	749
3, 4	600
5, 6	450
7, 8	300
9, 10	200
11, 12	150
13, 14	100
15, 16	80
16, 17, 18	65 ^{chl} MAX
19, 20	40
21, 22	20
23, 24	5

Cruise: TN376 Date: 2/2/2020
 Sn: 010.01 Lat: -37.4751 Long: 34.1997

Cast Log

Eddy center

Beck

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
20200202 .1220	1239	750	750	1,2	1	4.963	34.35					
	1244	600	600	3,4	4	6.150	34.40					
	1249	450	450	5,6	7	8.372	34.58					
	1254	300	300	7,8	10	9.975	34.60					
	1258	200	201	9,10	11	10.440	34.67					O ₂ Peak
	1301	150	150	11,12	13	11.240	34.86					
	1305	100	100	13,14	15	12.60	34.97					
	1307	80	80	15,16 17		13.38	35.04					3 bottles
	1310	60	60	18,19		14.29	35.07					* CH1 Mex
	1313	40	40	20		18.05	35.17					1 Bottle
	1316	20	20	21,22		18.19	35.19					
	1318	3.5	5	23,24		18.60	35.20					

20200202, 1220

STATION 10

<u>Bottle</u>	<u>Depth</u>	
1, 2	750	1
3, 4	600	2
5, 6	450	3
7, 8	300	4
9, 10	201	5
11, 12	150	6
13, 14	100	7
15, 16, 17	80	8
18 , 18, 19	60	* CH
20 , 20	40	MAX
21, 22	20	"
23, 24	5	"

Cruise: **TN376** Date: **2/2/20**
 Site: **11** Lat: **-39.0015** Long: **34.2000**

Cast Log

N Cold's Interven

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
20200202 1610	1629	750	750	1,2		5.52	34.34					
	1634	600	600	3,4		7.49	34.49					
	1638	450	450	5,6		9.35	34.66					
	1643	300	302	7,8		10.82	34.79					
	1648	200	200	9,10		12.30	35.04					
	1650	150	150	11,12		13.04	35.12					
	1653	100	100	13,14		14.48	35.36					
	1655	80	80	15,16		14.90	35.32					
	1657	60	60	17,18		15.67	35.38					
	1659	40	40	19,20		16.38	35.28					chl MAX
	1701	20	20	21,22		18.60	35.26					
	1702	Scat	4.5	23,24		20.29	35.47					

chl MAX ~ 4dm
Fluor MIN ~ 20m

EVENT 20200202.1610

STN 11

Bottle #

Depth

1, 2

750

3, 4

600

5, 6

450

7, 8

302

9, 10

200

11, 12

150

13, 14

100

15, 16

80

17, 18

60

19, 20

40

21, 22

20

23, 24

4.5

Cruise: TN376 Date: 2/2/20
 Stn: 12 Lat: -38.5010 Long: 34.1995

Cast Log

N Coldy Edge

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
20200202. 2036	2054	750	752	1,2		8.105	34.59					
	2059	600	599	3,4		10.25	34.82					
	2105	400	401	5,6		12.06	34.98					
	2111	200	202	7,8		15.92	35.46					
	2115	150	151	9,10		17.19	35.57					
	2117	100	101	11,12		18.08	35.59					
	2120	74	75	13,14		18.67	35.58					
	2123	50	54	15,16		19.62	35.57					chl max
	2125	42	42	17,18		20.60	35.61					
	2127	27	27	19,20		21.15	35.82					
	2129	19.6	19	21,22		21.21	35.6					
	2131	12.6	12	23,24		21.21	35.59					

chl max 50 m

20200202. 2036

STN 12

<u>Bottle</u>	<u>Depth</u>
1, 2	752
3, 4	599
5, 6	401
7, 8	202
9, 10	151
11, 12	101
13, 14	75
15, 16	54
17, 18	42
19, 20	27
21, 22	19
23, 24	12

East Eddy

Z = 52-24 m

Cruise: 7N376 Date: Feb 3, 2020
 Srt: 013.001 Lat: -39.4952 Long: 035.4670

Cast Log

Event Deploy 202002031030
 Event Recover 202002031140

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
	1100	750	750.2	1/2		5.46	34.37					
	1105	590	590.0	3/4		7.25	34.49					
	1110	500	500.3	5/6		8.31	34.59					
	1113	440	440.1	7/8		8.99	34.63					
	1115	380	380.4	9/10		9.68	34.69					
	1121	280	280.1	11/12		10.37	34.67					
	1124	140	140.7	13/14		11.28	34.74					
	1127	97	98.5	15/16		12.38	34.91					
	1130	70	70.1	17/18		12.88	34.88					
	1132	52	52.6	19/20		13.93	34.77					
	1136	30	30.0	21/22		17.43	35.13					3° Fluor max
	1137	10	10.0	23/24		17.23	34.88					2° Fluor max
												10 Fluor max

SAMCAT 80-700
 surf 66' = 5.91E-4

STN. 013.01

Event
NISKIN

202002031030

Act Z

1/2

750.2

3/4

590.0

5/6

500.3

7/8

440.1

9/10

380.4

11/12

240.1

13/14

140.7

15/16

98.5

17/18

70.1

19/20

52.6

21/22

30.0

23/24

10.0

3° FLUOR MAX

2° FLUOR MAX

1° FLUOR MAX

Cruise: 7N36 Date: 2/3/20
 Stn: 14 Lat: -39.475 Long: 34.8335

Cast Log

East Coldy Interson

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
20200203	1506	750	750	1/2	1/2	5.26	34.35					
1449	1511	600	601	3/4	3/4	6.82	34.46					
	1515	450	450	5/6	5/6	9.02	34.66					
	1519	350	340	7/8	7/8	10.22	34.77					Temp/SAL Peak
	1522	250	251	9/10	9/10	10.39	34.68					O ₂ Peak
	1526	150	150	11/12	11/12	11.27	34.76					
	1529	100	100	13/14	13/14	12.20	34.86					3 bottles
	1531	80	79	15/16	15/16	12.53	34.85					3 bottles
	1535	60	60	19	19	13.31	34.77					
	1537	40	40	20	20	15.17	34.68					
	1539	20	20	21/22	21/22	16.43	34.67					
	1541	SCRF	4.1	23/24	23/24	16.74	34.67					} C41 MAX

STN 14
20200203.1449

BOTTLE	DEPTH
1/2	750
3/4	601
5/6	450
7/8	340
9/10	251
11/12	150
13/14/15	100
14 /16/17/18	79
17 / 18 19	60
19 /20	40
21/22	20
23/24	4.1

Cruise: ~~TM376~~ Date: 2/3/2003
 Str: 15 Lat: -39.4748 Long: 34.2003

Cast Log

Eddy Center

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
20200203. 1847	1906	750	725	1/2	.	5.13	34.34					02 spike
	1910	600	600	3/4		6.47	34.44					
	1915	450	450	5/6		8.44	34.60					—
	1918	350	351	7/8		9.83	34.72					
	1923	200	200	9/10		11.05	34.79					
	1925	150	149	11/12		11.88	34.91					
	1928	100	99	13/14		13.18	35.1					
	1930	80	80	15/16		13.33	35.06					
	1932	50	50	17/18		14.69	35.11					
	1936	34	33	19/20		16.72	34.94					Cul max
	1938	20	20	21/22		17.17	34.93					
	1940	Surface	4	23/24		17.55	34.98					

Cul max 34 m - Super narrow

STN 15
20200203.1847

<u>BOTTLE</u>	<u>DEPTH</u>
<u>1/2</u>	<u>725</u>
<u>3/4</u>	<u>600</u>
<u>5/6</u>	<u>450</u>
<u>7/8</u>	<u>351</u>
<u>9/10</u>	<u>200</u>
<u>11/12</u>	<u>149</u>
<u>13/14</u>	<u>99</u>
<u>15/16</u>	<u>80</u>
<u>17/18</u>	<u>50</u>
<u>19/20</u>	<u>33 *</u>
<u>21/22</u>	<u>20</u>
<u>23/24</u>	<u>4</u>

Cruise: TN376 Date: 2/3/20
 Stn: 016.01 Lat: -39.4754 Long: 33.5653

Cast Log

West Saddle Island

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
20200203. 2241	2259	750	750	1/2		4.96	34.37					
	2304	550	550	3/4		6.61	34.43					
	2307	450	450	5/6		8.18	34.56					
	2311	350	350	7/8		9.39	34.67					
	2315	250	250	9/10		10.06	34.66					
	2321	150	151	11/12		11.50	34.89					T/S bump
	2323	100	100	13/14		11.92	34.83					
	2325	80	80	15/16		12.24	34.83					
	2327	60	60	17/18		12.51	34.78					
	2330	30	30	19/20		16.33.	34.72					
	2332	15	15	21/22		16.69	34.71					
	2334	Surf	3.5	23/24		16.85	34.68					

STN 16
20200203.2241

BOTTLE #	DEPTH
1/2	750
3/4	550
5/6	450
7/8	350
9/10	250
11/12	151
13/14	100
15/16	80
17/18	60
19/20	30
21/22	15
23/24	3.5

W. Caledon Edge

Z=4239

Cruise: TN 376 Date: 2/4/2020
 Stn: 017.01 Lat: -39.4747 Long: 032.9167

Cast Log
 Deploy event 202002040223
 Recover event 202002040325
 Recover lat -39.4749 032.91630E

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
	0245750		750.1	1/2		4.44	34.32					
	0250580		680.1	3/4		5.69	34.33					
	0254440		440.0	5/6		7.85	34.53					
	0300200		200.0	3/8		10.14	34.65					
	0304105		105.1	9/10		10.99	34.67					
	030838		37.9	11/12		14.37	34.57					
	031023		23.0	12/13		14.47	34.56					
	031318.0		17.7	14/15/16		14.53	34.56					Fluorometry
	031613.0		13.2	17/18		15.38	34.58					
	03178.4		8.0	19/20		15.84	34.58					
	03196.1		5.9	21/22		15.81	34.58					
	03243.9		3.9	23/24		15.88	34.58					

SAMWJ=100-620
 66'-4.8e-4

STN 017.01

Event 202002040222

Niskin#

Act Z

1/2

750.1

3/4

580.1

5/6

440.0

7/8

200.0

9/10

105.1

11

37.9

12/13

23.0

14/15/16

17.7

17/18

13.2

19/20

8.0

21/22

5.9

23/24

3.9

Cruise: **TN376** Date: **2/5/20**
 Stn: **18.02** Lat: **-35.8820** Long: **36.9710**

Cast Log
West Caddy 3 Trawlers

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
2020205. 1840	1900	750	750	1/2		7.47	34.53					
	1906	500	500	3/4		10.61	34.81					
	1911	350	351	5/6		12.46	35.04					
	1916	200	202	7/8		14.87	35.34					
	1920	92	93	9/10		17.63	35.51					
	1926	72	84	11/12		18.03	35.51					Cul Max
	1929	62	62	13/14		20.30	35.57					
	1930	52	52	15/16		20.64	35.56					
	1933	38	38	17/18		20.80	35.55					Attenuation minimum
	1934	33.5	33	19/20		20.85	35.55					
	1937	24.3	24	20/22		20.92	35.55					
	1939	15.6	15	23/24		21.01	35.55					

Cul Max 60-80 (72)
 bt close (70)

SAMU 350 → 350
 (still in it)

STN 18.02
20200205. 1840

<u>BOTTLE</u>	<u>DEPTH</u>
<u>1/2</u>	<u>750</u>
<u>3/4</u>	<u>500</u>
<u>5/6</u>	<u>351</u>
<u>7/8</u>	<u>202</u>
<u>9/10</u>	<u>93</u>
<u>11/12</u>	<u>84</u> *
<u>13/14</u>	<u>62</u>
<u>15/16</u>	<u>52</u>
<u>17/18</u>	<u>38</u>
<u>19/20</u>	<u>33</u>
<u>21/22</u>	<u>24</u>
<u>23/24</u>	<u>15</u>

5 Caddy 3

Cruise: TW376 Date: 2/6/20

Stn: 19.01

Lat: 36.6168

Long: 37.6274

Cast Log

-36.37.008 = 37.39.644

Event #	GMT Time	Target Depth	Actual Depth	Miskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
2020206. 2302	2330	750	750	1/2		8.81	34.66					
	2335	600	600	3/4		10.46	34.85					
	2342	420	420	5/6		12.06	34.99					
	2347	300	301	7/8		13.53	35.18					
	2351	200	199	9/10		15.38	35.41					
	2354	150	150	11/12		16.31	35.42					
	2357	100	101	13/14		17.42	35.54					
	2400	75	75	15/16		17.91	35.57					Ch1 Max
	0002	60	60	17/18		18.80	35.57					
	0004	40	40	19/20		20.04	35.61					
	0006	20	20	21/22		20.59	35.61					
	0010	ScF	14	23/24		21.67	35.60					

Broad Ch1 max - centered @ 75

SAWED 400 → 750

STN 19
20200206.

<u>BOTTLE</u>	<u>DEPTH</u>
<u>1/2</u>	<u>750</u>
<u>3/4</u>	<u>600</u>
<u>5/6</u>	<u>420</u>
<u>7/8</u>	<u>301</u>
<u>9/10</u>	<u>199</u>
<u>11/12</u>	<u>150</u>
<u>13/14</u>	<u>101</u>
<u>15/16</u>	<u>75</u>
<u>17/18</u>	<u>60</u>
<u>19/20</u>	<u>40</u>
<u>21/22</u>	<u>20</u>
<u>23/24</u>	<u>14</u>

Eddy Intersect South

Cruise: T0376 Date: 2/7/2020
 Snn: 020.01 Lat: -36.2005 Long: 037.6273

Cast Log

Z = 5423
 Event Deploy: 2020020702355
 Event Recover: 202002070343

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
	0306	750	750.3	1/2		6.02	34.41					
	0310	650	649.7	3/4		7.37	34.51					
	0314	500	500.1	5/6		9.07	34.66					
	0319	345	346.1	7/8		10.42	34.75					
	0323	240	240.8	9/10		11.53	34.87					
	0327	140	140.1	11/12		13.08	35.02					
	0330	71.5	71.4	13/14		15.30	35.17					
	0333	56.0	57.1	15/16		16.88	35.31					FL Mo-X (a little above)
	0335	40.6	40.6	17/18		20.1	35.45					
	0337	26.1	26.1	19/20		20.9	35.44					
	0338	18.9	18.9	21/22		21.2	35.43					
	0340	12.2	12.3	23/24		21.24	35.43					

bb' = 4.8E-4

MLE = 36 m
 FLE max = 56 m

Made water 160m - 750m

STN 020.01

EVENT 20200207.0235

NISKIN

ACT Z (m)

1/2

750.3

3/4

649.7

5/6

500.1

7/8

346.1

9/10

240.8

11/12

140.1

13/14

71.4

15/16

57.1

FL
Max

17/18

40.6

19/20

26.1

21/22

18.9

in
Mixed
Layer

23/24

12.3

Eddy 3 center

Cruise: 9N336 Date: 2/3/2020
 Stn: 2101 Lat: -35.8856 Long: 037.6299

Cast Log

Deployment Event: 202002070736
 Recovery Event: 0837

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
	0803	750	750.0	1/2		5.86	34.40					
	0808	600	599.8	3/4		7.72	34.54					
	0812	450	450.1	5/6		9.54	34.71					
	0817	350	350.2	7/8		10.85	34.84					
	0819	280	280.2	9/10		11.44	34.87					
	0823	150	150.0	11/12		13.50	35.14					
	0825	100	100.5	13/14		13.74	35.12					
	0828	70	70.2	15/16		15.16	35.19					
	0830	57	57.0	17/18		15.37	35.18					FL Max (Note)
	0832	40	40.0	19/20		17.07	35.16					
	0834	20	20.1	21/22		20.58	35.27					
	0836	5	5.0	23/24		21.02	35.27					

Lots of underflow of less soft back O₂ in top 100m
 Very hard to get surface

bb' = 2.07E-4
 FL max 59-60 (Input 59m)
 SAMW = 60-80m to 750

STN 21.01

EVENT 202002070736

NISKIN

ACT 2

1/2

750.0

3/4

599.8

5/6

450.1

7/8

350.2

9/10

280.2

11/12

150.0

13/14

100.5

15/16

70.2

17/18

57.0

19/20

40.0

21/22

20.1

23/24

5.0

Cruise: **TN376** Date: **7 Feb 2020**
 Stn: **22.01** Lat: **-35.4027** Long: **037.6805**

Cast Log

Eddy Interior North
Event deployed 20200207, 1201:
Event recovered 20200207, 1318

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
	1228	750	749.7	1/2		7.15	34.49					
	1234	650	654.3	3/4		8.49	34.608					
	1244	420	420.3	5/6		10.53	34.73					
	1247	350	350.1	7/8		11.49	34.89					
	1234	215	217	9/10		12.88	35.02					
	1300	115	114	11/12		15.72	35.40					
	1302	90	90	13/14		16.71	35.33					* chl max
	1304	70	70	15/16		19.00	35.42					
	1305	55	56	17/18		20.41	35.57					
	1309	20	29	19/20		20.92	35.57					
	1311	20	20	21/22		21.25	35.51					
	1313	10	11	23/24		21.74	35.51					

b6' = 3.84e-4
 FL max @ 88 m
 SAMW 300-750

STATION 22
20200207. 1228

<u>Bottle</u>	<u>Depth</u>
1/2	750
3/4	654
5/6	420
7/8	350
9/10	217
11/12	114
13/14	90
15/16	70
17/18	56
19/20	29
21/22	20
23/24	11

Color Center

Z=5511

Cruise: T0376
Stn: 23,01

Date: 2/8/80

Lat: -35.8823
Long: 037.6286

Cast Log

Event deploy 202002080314
Event recover 202002080434

-35.8823
-037.6286
Neavey A -35.8840 037.6258

Event #	GMT Time	Target Depth	Actual Depth	Miskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
	0346	750	750.0	1/2		6.01	34.41					
	0352	600	600.0	3/4		7.60	34.53					
	0357	510	510.0	5/6		8.63	34.62					
	0403	400	400.6	7/8		10.13	34.77					
	0409	250	250.0	9/10		11.68	34.87					
	0415	100	100.9	11/12		14.04	35.13					
	0418	74.0	74.3	13/14		15.16	35.21					
	0421	57.0	60.3	15/16		15.57	35.19					
	0424	46.0	48.0	17/18		17.59	35.18					
	0426	27.0	27.0	19/20		20.97	35.39					
	0428	19.6	20.5	21/22		20.98	35.38					
	0430	12.6	12.8	23/24		20.98	35.38					

FL max
very narrow peaks!
beam after
peak

b6' = 4.34 x 10⁻⁴

FL max 58m

MLZ 37m

SAMW 200-750

STN 23.01 Eddy Center

Event 202002080314

NISKIN

Depth

1/2

750.0

3/4

600.0

5/6

510.0

7/8

400.6

9/10

250.0

11/12

100.9

13/14

74.3

15/16

60.3

FL max

17/18

48.0

~~FL~~ max
ATTEN

19/20

27.0

21/22

20.5

23/24

12.8

Colony 3 Interior West

Z=4567 m

Cruise: T13346 Date: 2/8/20
 Stn: 024.01 Lat: -35.8829 Long: 037.4005
 = 35°52.974' = 037°24.03'

Cast Log Event deploy 202002080803
 Event recovered 202002080917
 Recovered Lat -35.8829 Lon 037.4005

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
	0828	750	750.1	1/2		6.20	34.42					
	0837	550	549.9	3/4		8.60	34.62					
	0843	450	450.5	5/6		9.68	34.72					
	0850	300	300.0	7/8		10.76	34.76					
	0859	190	190.0	9/10		12.96						
	0859	92	92.1	11/12		14.51	35.22					
	0902	75	75.0	13/14		14.96	35.18					
	0905	63	60.5	15/16		15.17	35.16					
	0907	54	54.0	17/18		15.39	35.16					10 FL max
	0911	40	41.	19/20		17.25	35.26					20 FL max
	0914	20	20.0	21/22		20.73	35.29					
	0916	10	9.4	23/24		20.73	35.29					

10 FL max = 2.49e-4

450m upcast

10 FL max Max 163 m
 Fluor/beam c. 1000 m
 2° Fluor max 49 m w/ beam
 Fluor beam

CTD Cast 024.01

Event 202002080803

ZACT

1/2

750.1

3/4

549.9

5/6

450.5

7/8

300.0

9/10

190

11/12

92.1

13/14

75.0

15/16

60.5

17/18

54.0

19/20

41.0

21/22

20.0

23/24

9.4

Colony # 3 west?

Cruise: T10376 Date: 2/18/20
 Str: 25.01 Lat: -35.8749 Long: 36.6384
 -35° 52.788 36° 38.304'

Cast Log

Recovered @ 1400

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
20200208 1255	1317	750	750	1/2		9.25	34.70					
	1322	600	600	3/4		11.18	34.99					
	1326	500	500	5/6		12.19	35.08					
	1330	400	400	7/6		13.31	35.24					
	1334	320	320	9/10		14.34	35.35					
	1340	200	200	11/12		15.99	35.48					
	1344	100	100	13/14		17.43	35.57					
	1347	80	80	15/16		17.80	35.59					
	1352	67	58	17/18		18.26	35.58					C41 Max
	1354	40	40	19/20		20.57	35.59					
	1356	20	20	21/22		21.16	35.60					
	1358	50F	8	23/24		21.15	35.60					

C41 Max ≈ 60.20

STATION 25.01
2020 0208. 1255

<u>BOTTLE #</u>	<u>DEPTH</u>
<u>1/2</u>	<u>750</u>
<u>3/4</u>	<u>600</u>
<u>5/6</u>	<u>500</u>
<u>7/8</u>	<u>400</u>
<u>9/10</u>	<u>320</u>
<u>11/12</u>	<u>200</u>
<u>13/14</u>	<u>100</u>
<u>15/16</u>	<u>80</u>
<u>17/18</u>	<u>58 *</u>
<u>19/20</u>	<u>40</u>
<u>21/22</u>	<u>20</u>
<u>23/24</u>	

Filament's Line West

Cruise: ~~T10376~~ 20200216.
 Date: 2/16/20
 Lat: -41.4962
 Long: 30.9487
 Stn: 26

Cast Log

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
20200216. 1726	1748	750	748	1/2		5.00	34.31					
	1752	600	600	3/4		7.19	34.53					
	1758	500	500	5/6		8.05	34.56					
	1802	400	400	7/8		9.61	34.73					
	1807	250	251	9/10		10.81	34.79					
	1813	150	150	11/12		12.15	34.92					
	1816	90	91	13/14		13.32	35.09					
	1820	65	65	15/16		14.30	35.14					
	1823	48	48	17/18		15.82	35.15					*Chl Mex
	1826	35	35	19/20		17.80	35.26					
	1828	20	20	21/22		17.09	35.33					
	1830	10	10	23/24		19.14	35.33					

TN376 CTD bottle depths

Stn # 26

Time (GMT) 1726

Event # 20200216.1726

Lat. 41.4962

Lon. 30.9487

Nisk #	Z triggered	Comments
1/2	748	
3/4	600	
5/6	500	
7/8	400	
9/10	251	
11/12	150	
13/14	91	
15/16	65	
17/18	48	chl max
19/20	35	
21/22	20	
23/24	10	

TN376 CTD trip-on-the-fly CTD Firing Depths

Stn # 27 Time (GMT) 2008

Event # 20200216, 2008

Lat. -41.5002 Lon. 31.2148

Nisk #	Z _{target}	Comments	Samp?
1	750	✓ T= 4.83 S= 34.31 Btm @ 2028	
2	700	✓	
3	650	✓	
4	600	✓	
5	550	✓	
6	500	✓	
7	450	✓	
8	400	✓	
9	350	✓	
10	300	✓	
11	250	✓	
12	200	✓	
13	150	✓	
14	130	✓	
15	110	✓	
16	100	✓	
17	90	✓	
18	80	✓	
19	70	✓	
20	60	✓	
21	50	✓	
22	40	✓	
23	30	✓	
24	20	✓ T= 16.94 S= 34.89 2049	

(41) MAX= 26

Fluorant Intoxics test

Cruise: TN376 Date: 2/16/20
 Str: 28.01 Lat: -41.5999 Long: 31.4010

Cast Log
 Productivity

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
20200216, 2208	2229	750	750	1/2		4.66	34.33					
	2238	450	451	3/4		7.34	34.46					
	2243	300	300	5/6		9.40	34.63					
	2248	150	151	7/8		11.24	34.79					
	2252	100	100	9/10		11.01	34.66					
	2259	41	42	11/12		13.76	34.69					
	2300	32	32	13/14		14.30	34.71					Chlorophyll
	2302	27	27	15/16		15.20	34.84					
	2304	23	23	17/18		16.34	34.89					
	2306	15	15	19/20		16.46	34.79					
	2308	11	11	21/22		16.46	34.79					
	2310	7	7	23/24		16.46	34.79					

32m Chl Max

TN376 CTD bottle depths

Stn # **28.01** Time (GMT)

Event # **20200216.**

Lat.

Lon.

Nisk #	Z triggered	Comments
1/2	750	
3/4	451	
5/6	300	
7/8	151	
9/10	100	
11/12	42	
13/14	32	CHL MAX
15/16	27	
17/18	23	
19/20	15	
21/22	11	
23/24	7	

Cruise: **TN376** Date: **2/17/20**
 Sht: **29** Lat: **-41.4394** Long: **031.7449**
RLR on Fly

Cast Log
Dolphin Event 20200217.0507
Record Event 20200217.0553
Recon Lat -41.5001 **Long 031.7531**

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr.	Sal.	CPAR	Comments
1	0528	750		1		4.15	34.57					
2		700		2		4.37	34.269					
3		650		3		4.67	34.6					
4		600		4			34.3					
5		550	485	5			34.3					
6		500		6		7.0	34.4					
7		450		7		7.8	34.5					
8		400		8		8.2	34.5					
9		350		9		8.6	34.6					
10		300		10		9.5	34.6					
11		250		11		9.6	34.5					
12		200		12		9.9	34.6					
13		150		13		10.1	34.6					
14		110	106	14		10.3	34.6					
15		100	101	15		10.4	34.52					
16		90		16		10.4	34.5					
17		80		17		10.5	34.5					
18		70		18		10.6	34.5					
19		60		19		11	34.5					
20		50		20		11.8	34.5					
21		40		21		13	34.6					
22		30		22		13.5	34.6					
23		20		23		14.2	34.6					
24		15	15.8	24								

MLZ = 15m
 all way in top ml
 20 fms way 30-60m
 SAMU 70m - 500m

TN376 CTD trip-on-the-fly CTD Firing Depths

Stn # 29 Time (GMT) 0507

Event # 20200217.0507

Lat. -41.4444

Lon. 031.7449

Nisk #	Z _{target}	Comments	Samp?
1	750		
2	700		
3	650		
4	600		
5	550		
6	500	485	
7	450		
8	400		
9	350		
10	300		
11	250		
12	200		
13	150		
14	130		
15	110	106	
16	100	101	
17	90		
18	80		
19	70		
20	60		
21	50		
22	40		
23	30		
24	20	15.8	

Fl Max

Mixed Layer
Top 15m

Flament south center

Z=4660

Cruise: ~~M376~~ Date: 2/17/20
 Stn: 30.01 Lat: -41.5001 Long: 032.3139

Cast Log
 Recorder event: 20200217.0818
 Recorder event: 20200217.0917
 Recorder Lat: -41.5001 Lon: 032.3139

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr.	Sal.	Bottle	Bottle	CPAR	Comments
	0837	750	750.1	1/2		4.43	34.38							
	0842	800	600.4	3/4		5.40	34.37							
	0849	420	420.0	5/6/8		7.63	34.59							
	0855	250	250.1	8		9.14	34.70							
	0858	200	200.1	9/10		9.84	34.79							
	0903	110	110.2	11/12		12.76	35.10							
	0906	80	79.9	13/14		15.54	35.22							
	0907	70	69.9	15/16		16.24	35.25							
	0909	60	60.0	17/18		16.26	35.23							
	0910	50	50.0	19/20		16.46	35.25							
	0913	30	30.1	21/22		17.30	35.18							
	0916	5	5.0	23/24		17.46	35.19							

$b_b' = 1.18E-3 \text{ m}^{-1}$

$M_L Z = 35 \text{ m}$

FLMAX 45-60m

Pyrosilicic ~42m

SAMUD 110-350

TN376 CTD bottle depths

Stn # 30-01

Time (GMT) 0818

Event # 202000217.0818

Lat. -41.5001

Lon. 032.3139

Nisk #	Z triggered	Comments
1/2	750.1	
3/4	600.4	
5/6/7	420.0	
7/8	250.1	
9/10	200.1	
11/12	110.2	
13/14	79.9	
15/16	69.9	
17/18	60.0	FL Max
19/20	50.0	FL Max
21/22	30.1	Mixed Layer
23/24	5.0	

Cruise: **TN376** Date: **2/17/2020**
 Stn: **031.01** Lat: **-41.49985** Long: **032.6504E**

Cast Log

Z = 4676 m
Event deploy 20200217.1058
Recover deploy 20200217.1149
Recover Lat -41.4998 Lon 032.6504

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr.	Sal.	Bottle	Bottle	CPAR	Comments
	1114	750	751.2	1		4.53	37.35							
		700	700.1	2		4.66								
		650	650.0	3		5.06								
		600	600.5	4		5.54								
		550	546.0	5		6.23								
		500	499.9	6		6.96								
		450	449.7	7		7.82								
		400	399.7	8		8.39								
		350	348.7	9		9.11								
		300	300.0	10		9.46								
		250	245	11		9.62								
		200	200.2	12		10.82								
		150	150.3	13		11.32								
		130	131	14		11.72								
		110	109.5	15		11.78								
		100	99.9	16		11.16								
		90	90.3	17		11.53								
		80	79.7	18		11.82								
		70	69.9	19		12.15								
		60	60.2	20		13.16								
		50	49.9	21		15.47								
		40	40.2	22		15.87								
		30	29.9	23		16.14								
	1144	20	20.2	24		16.77	35.01							

1° FL Max 35m
Mixed Layer 20m

2° FL Max 14m, 20-30m
OT 26.5-271=100-650m

TN376 CTD trip-on-the-fly CTD Firing Depths

Stn # 031.01 Time (GMT) 1058

Event # 20200217.1058

Lat. -41.4998

Lon. 032.6504

Nisk #	Z _{target}	Comments	Samp?
1	750		
2	700		
3	650		
4	600		
5	550		
6	500		
7	450		
8	400		
9	350		
10	300		
11	250 245		
12	200		
13	150		
14	130		
15	110		
16	100		
17	90		
18	80		
19	70		
20	60		
21	50		
22	40		
23	30		
24	20		

Filament inferior east
South line

Cruise: TN376 Date: 2/17/20
Stn: 32.01 Lat: -41.500 Long: 32.9884

Cast Log

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
20200217. 1337	1357	750	750	1/2		4.51	34.31					
	1403	600	600	3/4		5.25	34.28					
	1407	500	500	5/6		7.04	34.45					
	1412	400	401	7/8		8.58	34.57					
	1416	300	300	9/10		9.72	34.65					
	1421	200	201	11/12		10.16	34.62					
	1425	150	150	13/14		11.15	34.76					
	1428	100	101	15/16		11.97	34.85					
	1431	75	75	17/18		11.96	34.77					
	1435	49	48	19/20		16.32	35.17					* dcm
	1437	25	26	21/22		16.78	35.15					
	1440	12	12	23/24		17.05	34.93					*

TN376 CTD bottle depths

Stn # 32.01 Time (GMT) ~~1342~~ 1337

Event # 20200217. ~~1342~~ 1337

Lat. -41.500 Lon. 32.9889

Nisk #	Z triggered	Comments
1/2	750	
3/4	600	
5/6	500	
7/8	401	
9/10	300	
11/12	201	
13/14	150	
15/16	101	
17/18	75	
19/20	48	* DCM
21/22	26	
23/24	12 12	

TN376 CTD trip-on-the-fly CTD Firing Depths

Stn # 33.01 Time (GMT) 1641

Event # 20200217.1641

Lat. -41.5001

Lon. 33.3276

Nisk #	Z _{target}	Comments	Samp?
(1)	750	✓ 1710 T=53.4 S=34.42	
2	700	✓	
3	650	✓	
(4)	600	✓	
5	550	✓	
6	500	✓	
(7)	450	✓	
8	400	✓	
9	350	✓	
7 (10)	300	✓	
11	250	✓	
12	200	✓	
(13)	150	✓	
14	130	✓	
15	110	✓	
(16)	100	✓	
17	90	✓	
18	80	✓	
19	70	✓	
(20)	60	✓	
21	50	✓ Chl max	
22	40	✓	
(23)	30	✓	
24	20	✓ T=17.83 S=39.19 (1731)	

30-35 Knots wsw
 > 5m seas

South line east end

Cruise: T0376 Date: 2/17/20
 Str: 39.01 Lat: -41.5013 Long: 33.6692

Cast Log

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
200017. 2004	2040	750	749	1/2		5.03	34.37					
	2047	600	601	3/4		6.43	34.42					
	2050	500	500	5/6		7.81	34.55					
	2056	400	400	7/8		9.08	34.64					
	2059	300	300	9/10		10.67	34.70					
	2103	220	221	11/12		10.78	34.76					
	2108	100	100	13/14		13.22	35.07					
	2110	75	75	15/16		13.98	35.12					
	2113	55	57	17/18		16.81	35.18					* Cn/MGX
	2116	40	40	19/20		17.46	35.19					
	2118	20	19	21/22		19.53	35.19					
	2120	50ft	7	23/24		17.52	35.19					

Cn/MGX 55m

TN376 CTD bottle depths

Stn # 34.01 Time (GMT) 2004

Event # 20200217.2004

Lat. -41.5013

Lon. 33.6692

Nisk #	Z triggered	Comments
1/2	749	
3/4	601	
5/6	500	
7/8	400	
9/10	300	
11/12	221	
13/14	100	
15/16	75	
17/18	57	* Chl max
19/20	40	
21/22	19	
23/24	7	

Next and middle line

Cruise: TN376 Date: 2/18
 Stn: 35.01 Lat: -40.5007 Long: 31.2899

Cast Log

Event #	GMT Time	Target Depth	Actual Depth	Miskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
20200218. 1751	1812	750	751	1/2		5.01	34.33					
	1820	500	501	3/4		7.98	34.55					
	1825	350	352	5/6		8.91	34.52					
	1832	200	200	7/8		10.84	34.75					
	1835	150	150	9/10		11.42	34.80					
	1839	100	101	11/12		12.77	34.94					
	1841	80	80	13/14		14.52	35.13					
	1844	60	60	15/16		15.53	35.17					
	1846	45	48	17/18		15.95	35.08					* Cul Max
	1848	30	30	19/20		17.79	35.22					
	1850	15	15	21/22		17.81	35.21					
	1851	surf	5	23/24		17.72	35.20					

Cul Max 45

TN376 CTD bottle depths

Stn # 35

Time (GMT) 1751

Event # 20200210. 1751

Lat. -40.5007

Lon. 31.2899

Nisk #	Z triggered	Comments
1/2	751	
3/4	501	
5/6	352	
7/8	200	
9/10	150	
11/12	101	
13/14	80	
15/16	60	
17/18	40	* CHL MAX
19/20	30	
21/22	15	
23/24	5	

TN376 CTD trip-on-the-fly CTD Firing Depths

Stn # 36 Time 2034

Event # 20200218.2034

Lat - 40.5005 Lon 31.6431

Nisk #	Z _{target}	Comments	Samp?
1	750	✓ 2054 T=4.64 S=34.32	
2	700	✓	
3	650	✓	
4	600	✓	
5	550	✓	
6	500	✓	
7	450	✓	
8	400	✓	
9	350	✓	
10	300	✓	
11	250	✓	
12	200	✓	
13	150	✓	
14	130	✓	
15	110	✓	
16	100	✓	
17	90	✓	
18	80	✓	
19	70	✓	
20	60	✓	
21	50	✓	
22	40	✓	
23	30	✓	
24	20	✓	

CHL MAX ≈ 36

Enlèvement mouton en mer. ligne
west side

Cruise: *TN376* Date: *2/18*
 Str: *37.01* Lat: *-40.5001* Long: *31.9335*

Cast Log

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Sal. Bottle Bottle	CPAR	Comments
<i>20200218. 2245</i>	<i>2305</i>	<i>750</i>	<i>750</i>	<i>1/2</i>		<i>4.36</i>	<i>34.26</i>				
	<i>2310</i>	<i>600</i>	<i>601</i>	<i>3/4</i>		<i>5.76</i>	<i>34.33</i>				
	<i>2316</i>	<i>400</i>	<i>400</i>	<i>5/6</i>		<i>8.86</i>	<i>34.62</i>				
	<i>2319</i>	<i>320</i>	<i>321</i>	<i>7/8</i>		<i>9.98</i>	<i>34.73</i>				
	<i>2323</i>	<i>250</i>	<i>251</i>	<i>9/10</i>		<i>10.11</i>	<i>34.65</i>				
	<i>2328</i>	<i>100</i>	<i>100</i>	<i>11/12</i>		<i>12.47</i>	<i>34.93</i>				
	<i>2331</i>	<i>80</i>	<i>81</i>	<i>13/14</i>		<i>13.32</i>	<i>35.07</i>				
	<i>2333</i>	<i>60</i>	<i>60</i>	<i>15/16</i>		<i>13.65</i>	<i>34.39</i>				
	<i>2335</i>	<i>40</i>	<i>40</i>	<i>17/18</i>		<i>15.03</i>	<i>34.98</i>				
	<i>2337</i>	<i>25</i>	<i>25</i>	<i>19/20</i>		<i>16.06</i>	<i>34.89</i>				<i>X Chl Max</i>
	<i>2340</i>	<i>15</i>	<i>15</i>	<i>21/22</i>		<i>16.10</i>	<i>34.89</i>				
	<i>2342</i>	<i>Surf</i>	<i>4</i>	<i>23/24</i>		<i>16.14</i>	<i>34.9</i>				

TN376 CTD bottle depths

Stn # 37

Time (GMT) 2245

Event # 20200218.2245

Lat. -46.5001

Lon. 31.9335

Nisk #	Z triggered	Comments
1/2	750	
3/4	601	
5/6	400	
7/8	321	
9/10	251	
11/12	100	
13/14	81	
15/16	60	
17/18	40	
19/20	25	* C _W MAX
21/22	15	
23/24	4	

Trip 84

Cruise: **TN336** Date: **2/19/2020**
 Stn: **038.01** Lat: **~40.5001** Long: **032.2260°**

Cast Log
 Deploy Event **20200219.0105**
 Recover Event **20200219.0149**
 Recover Lat **-40.4999°** Lon **032.2261**

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
	0129	750	750.2	1		4.29	34.29					
		700	700.3	2		4.44						
		650	650.0	3		4.96						
		600	599.6	4		5.46						
		550	549.4	5		6.04						
		500	500.0	6		6.8						
		450	449.9	7		7.68						
		400	400.4	8		8.31						
		350	349.6	9		9.14						
		300	299.9	10		8.93						
		250	250.0	11		9.38						
		200	199.2	12		9.89						
		150	149.9	13		10.49						
		130	130.0	14		10.76						
		110	110.0	15		10.98						
		100	100.1	16		11.12						
		90	90.0	17		11.38						
		80	79.8	18		11.4						
		70	70.3	19		11.84						
		60	59.3	20		12.85						
		50	49.6	21		13.80						
		40	39.8	22		14.03						
		30	30.4	23		13.66						
	0145	20 15	15.0	24		15.27	34.86					

NAL=20m

FL Max 20m → 50m

026.5 90m

022.1 700m

TN376 CTD trip-on-the-fly CTD Firing Depths

Stn # 038.01 Time (GMT) 0105

Event # 20200219.0105

Lat. -40.5001°

Lon. 032.2260°

Nisk #	L _{target}	Comments	Samp?
1	750		
2	700		
3	650		
4	600		
5	550		
6	500		
7	450		
8	400		
9	350		
10	300		
11	250		
12	200		
13	150		
14	130		
15	110		
16	100		
17	90		
18	80		
19	70		
20	60		
21	50		
22	40		
23	30		
24	20/15		

Mixed layer = 20m
FL Max 0-20m

Mud bottom line center str

Z=4206

Cruise: TN376 Date: 2/14/2020
 Str: 039.01 Lat: -40.5001° Long: 032.6202°

Cast Log
 Deploy Event 20200219.0333
 Recover Event 20200219.0435
 Recover Lat -40.5001 Lon 032.6202

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
	0358	750	750.0	1/2		4.39	34.34					
	0403	580	580.3	3/4		5.59	34.36					
	0408	400	400.3	5/6		7.85	34.53					
	0413	260	261.8	9/8		9.66	34.67					
	0417	160	160.3	9/10		9.86	34.56					
	0421	90	90.2	11/12		10.56	34.52					
	0423	60	60.1	13/14		11.74	34.54					0.1%
	0425	47	46.8	15/16		13.96	34.66					1%
	0427	34.1	34.9	17/18		15.18	34.79					
	0429	21.9	22.1	19/20		16.58	34.75					Max Fluor
	0430	15.9	15.7	21/22		16.58	34.75					Thrufoot Mixed
	0432	10.2	10.1	23/24		16.58	34.75					ML

b6'=1.97E-3

ML = 30m

$\sigma_t = 26$ at 100m

$\sigma_t = 29.1$ at 2500m

TN376 CTD bottle depths

Stn # 039.01 Time (GMT) 0339

Event # 20200219-0339

Lat. -40.5001°

Lon. 032.6202

Nisk #	Z triggered	Comments
1/2	750.0	
3/4	580.3	
5/6	400.3	
7/8	261.8	
9/10	160.3	
11/12	90.2	
13/14	60.1	
15/16	46.8	
17/18	34.9	
19/20	22.1	Max Fluorescence throughout top 3 sample depths (in mixed layer, which extends to 30m)
21/22	15.7	
23/24	10.1	

Cruise: TN34 Date: 2/19/20 Time 0745
 Sht: 040.01 Lat: -40.5009 Long: 082.8125

Cast Log
 Reel 20200219.0745
 Recover event 20200219.0827
 Recover Lat -40.5009° Long 082.8125°

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
	0806	750	750.1	1		4.45	34.35					
		700	700.1	2								
		650	644.8	3								
		600	600.0	4								
		550	544.8	5								
		500	499.5	6								
		450	450.5	7								
		400	400.7	8								
		350	344.7	9								
		300	300.1	10								
		250	250.0	11								
		200	200.0	12								
		150	150.7	13								
		130	130.1	14								
		110	110.1	15								
		100	100.0	16								
		90	90.1	17								
		80	79.9	18								
		70	69.9	19								
		60	60.0	20								
		50	49.3	21								
		40	39.7	22								
		30	30.4	23								
	0826	15	14.0	24		16.61	34.74					

Fluor max 20-30m
 MLD = 34m
 @ 26.5 ~ 100m
 @ 27.1 ~ 500m

TN376 CTD trip-on-the-fly CTD Firing Depths

Stn # 040,01 Time (GMT) 0745

Event # 20200219.0745

Lat. -40.5009°

Lon. 032.8125°

Nisk #	L _{target}	Comments	Samp?
1	750	All bottles w/m 0.5 m of target depths	
2	700		
3	650		
4	600		
5	550		
6	500		
7	450		
8	400		
9	350		
10	300		
11	250		
12	200		
13	150		
14	130		
15	110		
16	100		
17	90		
18	80		
19	70		
20	60		
21	50		
22	40		
23	30		
24	20	15 ✓	

Must section from bloomout
interior boat

Z=4019m

Cruise: TN376 Date: 2/19/2020 Time 0438
Stn: 041.01 Lat: -40.5021 Long: 033.0497

Cast Log
Deploy Event 20200219.0438
Recover Event 20200219.1038
Recover Lat -40.5099 Lon 033.0490

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
	0959	750	750.0	1/2		4.34	34.31					
	1004	635	634.9	3/4		4.91	34.30					
	1009	450	451.5	5/6		7.11	34.45					
	1017	175	175.6	7/8		9.63	34.54					
	1021	90	90.2	9/10		10.60	34.53					
	1023	64.8	64.8	11/12		13.21	34.61					Sharp salinity max and O2 maximum
	1026	50	50.4	13/14		14.08	34.59					
	1028	40	40.4	15/16		15.13	34.63					
	1030	30	30.2	17/18		15.85	34.68					FL Max
	1032	20	20.5	19/20		15.89	34.69					
	1034	14	12.6	21/22		15.43	34.69					
	1036	5	5.0	23/24		16.15	34.69					

bb' = 1.5e-3

σ_θ = 100m

σ_ρ = 550m

MLZ = 25m

FL Max = 25-32m

2-FL Max (sharp) at 14m (not true max!)

TN376 CTD trip-on-the-fly CTD Firing Depths

Stn # 42.01 Time (GMT) 1211

Event # 20200219, 1211

Lat. -40.5007

Lon. 33.4038

Nisk #	z_{target}	Comments	Samp?
1	750	✓ Time = 1228 T=4.275 = 34.27	
2	700	✓	
3	650	✓	
4	600	✓	
5	550	✓	
6	500	✓	
7	450	✓	
8	400	✓	
9	350	✓	
10	300	✓	
11	250	✓	
12	200	✓	
13	150	✓	
14	130	✓	
15	110	✓	
16	100	✓	
17	90	✓	
18	80	✓	
19	70	✓	
20	60	✓	
21	50	✓	
22	40	✓	
23	30	✓	
24	20	✓ 1245 T=17.375 = 34.78	

CHL MAX $\approx$ 24m

Mudde filament section
East end

Cruise: T10376 Date: 2/14/20
Stn: 43.01 Lat: -40.5000 Long: 33.7022

Cast Log

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
20200219. 1409	1426	750	750	1/2		4.91	34.35					
	1431	625	625	3/4		5.92	34.39					
	1434	500	500	5/6/7		7.54	34.52					Extra to file
	1440	350	350	8		9.17	34.63					
	1444	200	200	9/10		10.80	34.77					
	1448	100	100	11/12		12.65	35.02					
	1450	75	75	13/14		13.17	35.05					
	1453	48	48	15/16		13.95	35.08					
	1455	30	30	17/18		16.54	34.74					
	1456	20	20	19/20		17.27	34.75					* C41 max
	1459	12	12	21/22		17.32	34.75					
	1500	Surf	5	23/24		17.57	34.75					

C41 max 18-20

Small bump = 48

Fluorant N section west end

Z = 5492

Cruise: TN376 Date: 02/20/2020 Time: 0837 GMT
 Str: 4401 Lat: -39.5005° Long: 032.0444°

Cast Log
 Deploy Event 20200220.0837
 Recover Event 20200220.0936
 Recover Lat -39.5005° Long 032.0444

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
	0857	750	750.1	1/2		5.40	34.38					
	0900	680	679.7	3/4		5.62	34.39					
	0905	500	500.3	5/6		8.45	34.61					
	0911	300	300.2	7/8		11.36	34.95					
	0914	210	210.2	9/10		12.78	35.17					
	0918	100	100.1	11/12		13.84	35.17					
	0920	75	75.0	13/14		14.56	35.23					
	0922	60	60.0	15/16		15.77	35.29					
	0927	46	46.0	17/18		16.43	35.24					FL MAX
	0929	33	32.9	19/20		19.25	35.48					
	0931	20	20.0	21/22		19.29	35.49					
	0933	5	5.0	23/24		19.30	35.49					

Intense inter heating in upper 500m

1h
 } M.L.

FL MAX 45m
 ML Z = 31m
 $\frac{\sigma_\theta}{\sigma_\theta} = 26.15$ at 150m
 $\sigma_\theta = 27.1$ at 710m

TN376 CTD bottle depths

Stn # 044.01 Time (GMT) 0837

Event # 20200220.0837

Lat. 39.5005

Lon. 032.0444°

Nisk #	Z triggered	Comments
1/2	750.1	
3/4	679.7	
5/6	500.3	
7/8	300.2	
9/10	210.2	
11/12	100.1	
13/14	75.0	
15/16	60.0	
17/18	46.0	FL MAX
19/20	32.9	31m MLD
21/22	20.0	
23/24	5.0	

Cruise: 7N376 Date: 2/20/2020
 Sni: 45.01 Lat: -39.4946 Long: 032.4192

Cast Log

Z=4064m
 Event deploy 20200220.1128
 Event Recover 20200220.1209
 Recover Lat=-39.49497 Lon 032.4190

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr.	Sal.	CPAR	Comments
	1148	750	750.1	1		4.73	34.33					
		700	700.2	2								
		650	649.9	3								
		600	600.1	4								
		550	550.2	5								
		500	500.3	6								
		450	451.0	7								
		400	400.3	8								
		350	350.0	9								
		300	299.5	10								
		250	249.8	11								
		200	200.0	12								
		150	149.4	13								
		130	130.2	14								
		110	100.3	15								
		100	92	16								
		90	90	17								
		80	79.9	18								
		70	70.4	19								
		60	60.0	20								
		50	51.3	21								
		40	39.9	22								
		30	30.1	23								
		15		24								
	1205					19.17	35.084					

b5' ~ 12-3 and clankings
 FL max 30-35m
 150m
 26.5
 27.1 700m

TN376 CTD trip-on-the-fly CTD Firing Depths

Stn # 4501 Time (GMT) 1128

Event # 20200220.1128

Lat. -39.4496° Lon. 032.4172°

Nisk #	z_{target}	Comments	Samp?
1	750		
2	700		
3	650		
4	600		
5	550		
6	500		
7	450		
8	400		
9	350		
10	300		
11	250		
12	200		
13	150		
14	130		
15	110 100.3		
16	100 92		
17	90		
18	80		
19	70		
20	60		
21	50		
22	40		
23	30		
24	20 15		

Flament N section interior west

Cruise: *TW376* Date: *2/20/20*

Str: *46.01* Lat: *-39.5006* Long: *32.6682*

Cast Log

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
<i>20200220. 1331</i>	<i>1350</i>	<i>750</i>	<i>750</i>	<i>1/2</i>		<i>4.73</i>	<i>34.33</i>					
	<i>1354</i>	<i>650</i>	<i>651</i>	<i>3/4</i>		<i>4.55</i>	<i>34.19</i>					
	<i>1400</i>	<i>450</i>	<i>450</i>	<i>5/6</i>		<i>8.17</i>	<i>34.56</i>					
	<i>1405</i>	<i>300</i>	<i>300</i>	<i>7/8</i>		<i>9.69</i>	<i>34.64</i>					
	<i>1410</i>	<i>150</i>	<i>150</i>	<i>9/10</i>		<i>11.21</i>	<i>34.8</i>					
	<i>1413</i>	<i>100</i>	<i>100</i>	<i>11/12</i>		<i>12.14</i>	<i>34.93</i>					
	<i>1416</i>	<i>75</i>	<i>75</i>	<i>13/14</i>		<i>12.73</i>	<i>34.96</i>					
	<i>1418</i>	<i>50</i>	<i>50</i>	<i>15/16</i>		<i>14.01</i>	<i>34.96</i>					
	<i>1420</i>	<i>35</i>	<i>36</i>	<i>17/18</i>		<i>15.05</i>	<i>34.87</i>					
	<i>1422</i>	<i>25</i>	<i>26</i>	<i>19/20</i>		<i>15.78</i>	<i>34.84</i>					<i>* Chl max</i>
	<i>1425</i>	<i>15</i>	<i>15</i>	<i>21/22</i>		<i>16.60</i>	<i>34.89</i>					
	<i>1426</i>	<i>Scnf</i>	<i>4</i>	<i>23/24</i>		<i>16.71</i>	<i>34.90</i>					

TN376 CTD bottle depths

Stn # 46.01

Time (GMT)

1331

Event # 20200220.1331

Lat. - 39.5006

Lon. 32.6682

Nisk #

Z triggered

Comments

1/2

750

3/4

651

5/6

450

7/8

300

9/10

150

11/12

100

13/14

75

15/16

50

17/18

36

19/20

26

* CH

21/22

15

23/24

4

TN376 CTD trip-on-the-fly CTD Firing Depths

Stn # 47.01 Time (GMT) 1546

Event # 20200220.1546

Lat. -39.5006

Lon. 32.9017

Nisk #	Z _{target}	Comments	Samp?
1	750	✓ T=16.04 Temp=4.93 S=34.35	
2	700	✓	
3	650	✓	
4	600	✓	
5	550	✓	
6	500	✓	
7	450	✓	
8	400	✓	
9	350	✓	
10	300	✓	
11	250	✓	
12	200	✓	
13	150	✓	
14	130	✓	
15	110	✓	
16	100	✓	
17	90	✓	
18	80	✓	
19	70	✓	
20	60	✓	
21	50	✓	
22	40	✓	
23	30	✓	
24	20	✓ 1623 T=16.62 S=34.79	

30 m Mixed Layer
No chl peak

Fluorescent invertebrate section center

Cast Log

Cruise: TW376 Date: 2/20/19
 Stn: 486.01 Lat: -39.5003 Long: 33.2096

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
20200220-1851	1909	750	750	1/2		4.59	34.33					
	1915	500	500	3/4		6.68	34.43					
	1920	300	300	5/6		9.37	34.65					
	1924	150	150	7/8		10.55	34.67					
	1927	100	101	9/10		10.59	34.55					
	1930	60	60	11/12		12.25	34.64					
	1933	32	32	13/14		15.92	34.59					
	1934	25	25	15/16		16.99	34.63					* Ctl May
	1936	18	18	17/18		17.04	34.63					
	1938	12	12	19/20		17.05	34.64					
	1940	8	8	21/22		17.05	34.64					
	1941	5	6	23/24		17.04	34.64					

No Apparent Ctl May - mixed down to 30m



TN376 CTD bottle depths

Stn # **20200220**. Time (GMT) **1951**

Event # **48.01**

Lat. **-39.5003**

Lon. **33.2096**

Nisk #	Z triggered	Comments
--------	-------------	----------

1/2	750	
-----	-----	--

3/4	500	
-----	-----	--

5/6	300	
-----	-----	--

7/8	150	
-----	-----	--

9/10	100	
------	-----	--

11/12	60	
-------	----	--

13/14	32	
-------	----	--

15/16	25	*
-------	----	---

17/18	18	
-------	----	--

19/20	12	
-------	----	--

21/22	8	
-------	---	--

23/24	6	
-------	---	--

TN376 CTD trip-on-the-fly CTD Firing Depths

Stn # 49.01 Time (GMT) 2052

Event # 20200220, 2052

Lat. 39.5002

Lon. 33.3995

Nisk #	Z _{target}	Comments	Samp?
1	750	✓ 2113 T=4.66 S=34.33	
2	700	✓	
3	650	✓	
4	600	✓	
5	550	✓	
6	500	✓	
7	450	✓	
8	400	✓	
9	350	✓	
10	300	✓	
11	250	✓	
12	200	✓	
13	150	✓	
14	130	✓	
15	110	✓	
16	100	✓	
17	90	✓	
18	80	✓	
19	70	✓	
20	60	✓	
21	50	✓	
22	40	✓	
23	30	✓	
24	12	2130 T=17.33 S=34.62	

Filament N section Interior East

Cruise: TW376 Date: 2/20
 Stn: 50.1 Lat: -39.5005 Long: 33.6501

Cast Log

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
2000220. 2255	2315	750	749	1/2		4.79	34.34					
	2322	500	500	3/4		7.29	34.48					
	2328	300	300	5/6		9.61	34.64					
	2332	200	200	7/8		9.78	34.56					
	2336	100	101	9/10		11.32	34.72					
	2339	60	61	11/12		12.45	34.7					
	2342	32	32	13/14		14.80	34.62					
	2344	25	25	15/16		17.03	34.65					* Cw Max
	2346	18	18	17/18		17.16	34.64					
	2348	12	12	19/20		17.17	34.64					
	2349	8	8	21/22		17.17	34.64					
	2350	6	6	23/24		17.17	34.64					

Mixed Layer = 30 m

TN376 CTD bottle depths

Stn # 50.1

Time (GMT) 2255

Event # 20200220.2255

Lat. -39.5005

Lon. 33.6501

Nisk #	Z triggered	Comments
1/2	749	
3/4	500	
5/6	300	
7/8	200	
9/10	101	
11/12	61	
13/14	32	
15/16	25	* CHI MAX
17/18	18	
19/20	12	
21/22	8	
23/24	6	

Trip in Fly

Cruise: TN376 Date: 2/21/20 Time 0238GMT
 Str: 051.01 Lat: -39.5002 Long: 033.8337

Cast Log

Doppler Event 20200221.0238
 Recorder Event 20200221.0323

Recover Lat -39.5027 Lon 033.8384E

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
		750	750.1	1		4.88	34.32					
		700	699.8	2								
		650	644.7	3								
		600	600.2	4								
		550	549.7	5								
		500	449.3	6								
		450	450.2	7								
		400	400.0	8								
		350	356	9								
		300	299.9	10								
		250	249.4	11								
		200	200.3	12								
		150	148.8	13								
		130	128.7	14								
		110	109.7	15								
		100	100.3	16								
		90	89.7	17								
		80	81.2	18								
		70	64.5	19								
		60	59.7	20								
		50	49.8	21								
		40	34.3	22								
		30	30.7	23								
		15	15.1	24								
0316						17.35	34.68					

66' 1.09E-3

FL May 20m → 20m

00 = 26.5 = 100m

00 = 27.1 = 650m

ML =

TN376 CTD trip-on-the-fly CTD Firing Depths

Stn # 51.01 Time (GMT) 0238

Event # 20200221.0238

Lat. -39.5002

Lon. 033.8337

Nisk #	Z _{target}	Comments	Samp?
1	750		
2	700		
3	650		
4	600		
5	550		
6	500		
7	450		
8	400		
9	350	356	
10	300		
11	250		
12	200		
13	150		
14	130		
15	110		
16	100		
17	90		
18	80		
19	70		
20	60		
21	50		
22	40		
23	30		
24	20 15		

Flament N section East end

Z=4332

Cruise: TN376 Date: 2/21/20 Time: 0418 GMT
 Stn: 052.1 Lat: -39.5003 Long: 033.9197

Cast Log
 Deploy Event 20200221.0418
 Recover Event 20200221.0518
 Recover Lat -39.5034 Lon 034.0039

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
	0439	750	750.2	1/2		5.14	34.35					
	0447	500	500.6	3/4		8.06	34.55					
	0451	400	399.9	5/6		9.33	34.67					
	0457	200	199.7	7/8		11.39	34.86					
	0502	100	100.1	9/10		13.10	35.06					
	0504	80	80.0	11/12		13.16	35.01					
	0507	60	60.1	13/14		14.01	34.87					
	0510	40	40.5	15/16		14.84	34.83					
	0512	30	30.2	17/18		15.21	34.78					
	0514	20	20.2	19/20		16.84	34.83					
	0516	10	10.2	21/22		17.10	34.83					
	0517	3	4.9	23/24		17.10	34.83					

66' ± 1998-3

FL Max. 10 m TOP 20 m

σ_θ = 26.5 at 100 m

σ_θ = 27.1 at 240 m

ML = 20 m

TN376 CTD bottle depths

Stn # 052.1 Time (GMT) 0418

Event # 20200221.0418

Lat. - 39.5003

Lon. 033.9997

Nisk #	Z triggered	Comments
1/2	750.2	
3/4	500.6	
5/6	399.9	
7/8	199.7	
9/10	100.1	
11/12	80.0	
13/14	60.1	
15/16	40.5	
17/18	30.2	
19/20	20.2	
21/22	10.2	
23/24	4.9	

~~Aborted Cast~~ CAST Card

TN376 DEEP CAST

Stn # **53**

Time (GMT) **1831**

Bottom Depth **5060**

Event # **20200221.1831**

Lat. **-37.3010**

Lon. **35.3610**

Nisk #

Z_{target}

Z_{actual}

TIME TEMP SAL

COMMENTS

1		5040				
2		5040				
3		4500				
4		4000				
5		3500				
6		3250				
7		3000				
8		2750				
9		2500				
10		2250				
11		2000				
12		1750				
13		1500				
14		1250				SAL minimum
15		1000				
16		750				
17		500				
18		400				
19		300				
20		200				
21		100				
22		76				* CH MY
23		45				
24		10				

TN376 DEEP CAST

Stn # 53.1 Time (GMT) 183/ Bottom Depth 5060

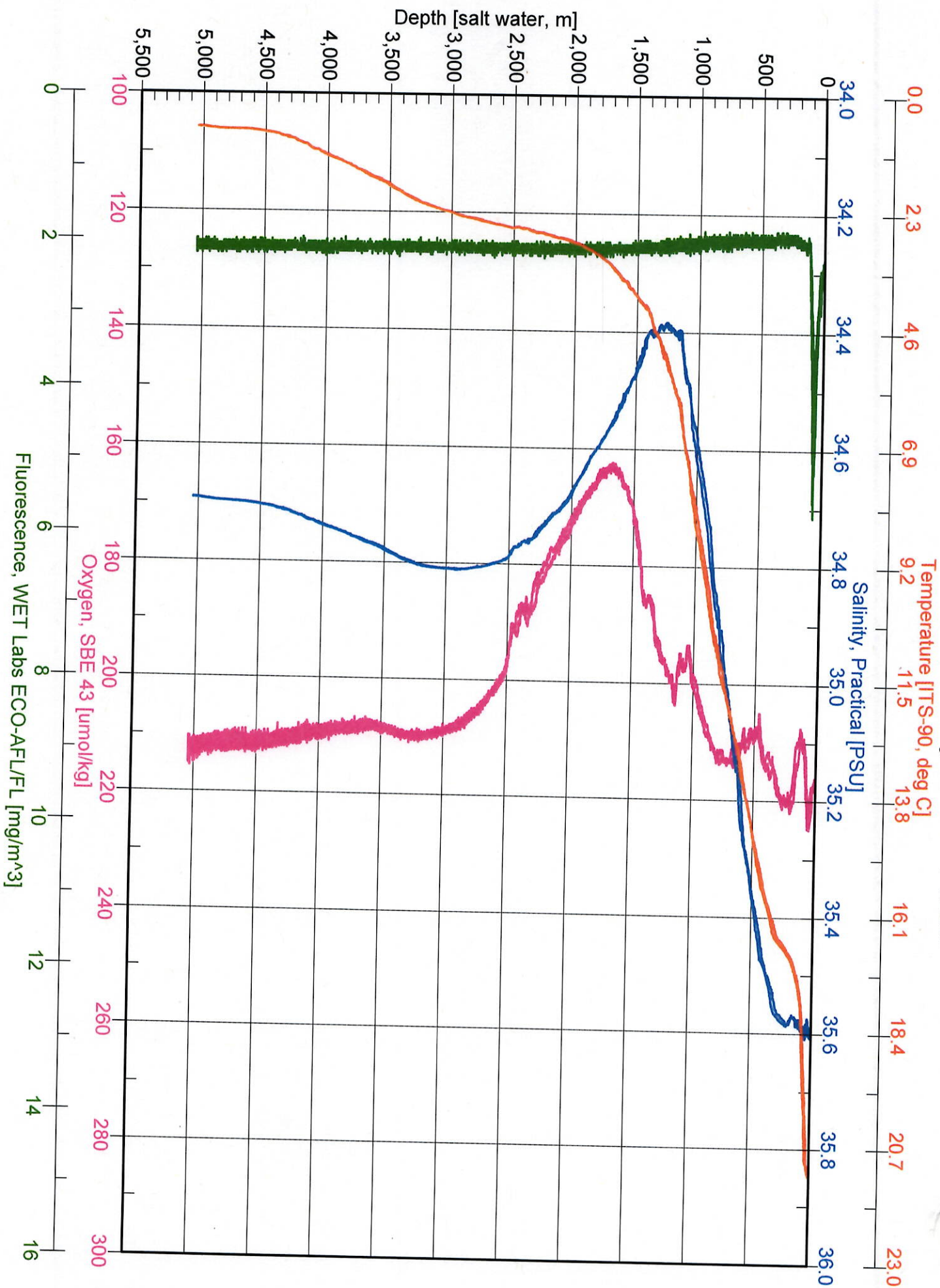
Event # 20200221.1831

Lat. -37.3010

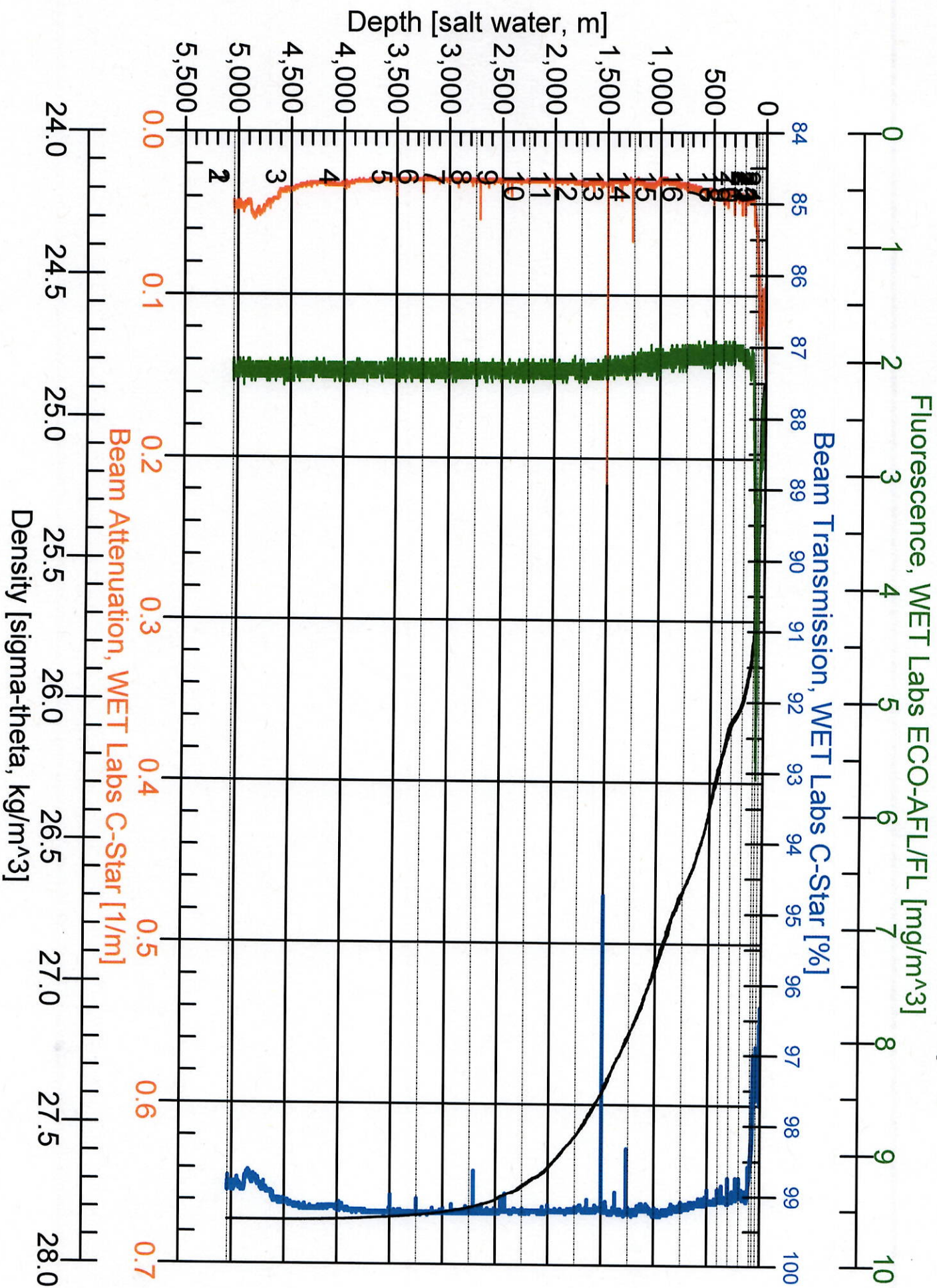
Lon. 35.3610

Nisk #	Z _{target}	Z _{actual}	TIME	TEMP	SAL	COMMENTS
1	5050	5040	2012	0.67	34.69	Flaky Altimeter readings
2	5050	5040	"	"	"	
3	4500	4500	2024	0.77	34.70	
4	4000	4000	2035	1.20	34.74	
5	3500	3500	2046	1.77	34.78	
6	3250	3250	2054	2.12	34.80	
7	3000	3000	2100	2.31	34.81	
8	2750	2750	2107	2.47	34.81	
9	2500	2500	2114	2.61	34.79	
10	2250	2250	2120	2.70	34.74	
11	2000	2000	2126	2.88	34.68	
12	1750	1750	2133	3.24	34.58	O ₂ minimum
13	1500	1499	2139	3.92	34.52	
14	1250	1250	2146	5.16	34.39	Salinity Min
15	1000	1000	2152	8.14	34.59	
16	750	750	2158	11.56	34.98	
17	500	500	2205	14.49	35.36	
18	400	400	2208	15.61	35.48	
19	300	300	2212	16.43	35.55	
20	200	200	2215	16.83	35.59	
21	100	100	2219	17.62	35.58	
22	75	76	2222	18.41	35.59	chl max
23	45	45	2225	19.95	35.60	
24	10	10	2228	21.27	35.60	

TN376-053-01.hex: mary O-S-F-T 80M



TN376-053-01.hex: Nitrate-Temp-FL vs depth



Colony 3 second samplings
East end

Cruise: TM376 Date: 02/22
Str: 54.01 Lat: -36.3006 Long: 37.3003

Cast Log

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
20000222, 1243	1302	750	750	1/2		8.91	34.66					
	1306	670	671	3/4		9.68	34.71					
	1311	500	501	5/6		11.89	34.98					
	1316	350	350	7/8		13.53	35.17					
	1321	200	200	9/10		16.00	35.51					
	1326	110	110	11/12		17.44	35.58					
	1329	75	76	13/14		18.26	35.60					
	1331	70	70	15/16		18.45	35.58					
	1333	60	60	17/18		19.13	35.56					*
	1336	40	41	19/20		20.37	35.53					
	1338	20	20	21/22		22.63	35.59					
	1340	50 ft	6	23/24		23.15	35.60					

CH1 MAX ~

(60)

70 } Small pecks
75 }

TN376 CTD bottle depths

Stn # 54.01

Time (GMT) 1243

Event # 20200222.1243

Lat. -36.3006

Lon. 37.3003

Nisk #	Z triggered	Comments
1/2	750	
3/4	810 670	
5/6	501	
7/8	350	
9/10	200	
11/12	110	
13/14	76	
15/16	70	
17/18	60	* CHL MAX
19/20	41	
21/22	20	
23/24	6	

TN376 CTD trip-on-the-fly CTD Firing Depths

Stn # 55 Time (GMT) 1759

Event # 20200221. 1759

Lat. -36.3004 Lon. 36.9000

Nisk #	Z _{target}	Comments	Samp?
1	750	✓ Time 1818	T=7.13 S _{cl} =34.48
2	700	✓	
3	650	✓	
4	600	✓	
5	550	✓	
6	500	✓	
7	450	✓	
8	400	✓	
9	350	✓	
10	300	✓	
11	250	✓	
12	200	✓	
13	150	✓	
14	130	✓	
15	110 113	✓	
16	100 110	✓	
17	90 100	✓	
18	80 90	✓	
19	70 80	✓	
20	60 67	✓	
21	50 60	✓	
22	40		
23	30	✓	
24	20	✓ Time 1836	T=21.83 S=35.39

chl max ≈ 65

Eddy 3 - 2nd sampling
Eddy 1st survey east

Cruise: T0376 Date: 2/22
Stn: 56.01 Lat: -36.3000 Long: 36.7518

Cast Log

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
20200223 2300	2319	750	751	1/2		6.83	34.46					
	2324	600	600	3/4		8.79	34.63					
	2328	450	450	5/6		10.41	34.81					
	2332	350	350	7/8		11.00	34.80					
	2337	200	201	9/10		13.21	35.12					
	2341	100	100	11/12		15.08	35.25					
	2343	83	83	13/14		15.47	35.19					
	2348	65	70	15/16		16.30	35.2					
	2350	47	48	17/18		20.41	35.39					
	2353	30	30	19/20		21.32	35.34					
	2354	22	22	21/22		21.45	35.38					
	2357	14	14	23/24		21.53	35.32					

C41 May 65

TN376 CTD bottle depths

Stn # 56.01 Time (GMT) 2300

Event # 20200222.2300

Lat. ~36.3000

Lon. 36.7518

Nisk #	Z triggered	Comments
1/2	751	
3/4	600	
5/6	450	
7/8	350	
9/10	200	
11/12	100	
13/14	83	
15/16	70	* CHI MAX
17/18	48	
19/20	30	
21/22	22	
23/24	14	

Cruise: **TN376** Date: **2/23/20** Time **0521**
 Stn: **06701** Lat: **-36.292** Long: **036.5988**

Deploy Event **20200223.0521**
 Recover Event **20200623**
 Recover Lat **-36.3022** Lon **036.6057**

Event #	GMT Time	Target Depth	Actual Depth	Miskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
	0650	750	750.1	1		6.50	34.43					
		700	699.1	2								
		650	650.1	3								
		600	600.0	4								
		550	581	5								
		500	499.0	6								
		450	449.8	7								
		400	400.1	8								
		350	350.0	9								
		300	300.6	10								
		250	250.3	11								
		200	199.5	12								
		150	153	13								
	X	130	120.6	14								
		110	110.2	15								
		100	100.8	16								
		90	90.0	17								
		80	80.2	18								
		70	69.2	19								
		60	59.8	20								
		50	49.8	21								
		40	40.5	22								
		30	30.2	23								
	0616	15	14.9	24			21.15 35.31					

blowdown 30-35, 1st pass 5-6m
 standing east of 10m (not coming up to 5m) as
 it will be in ml

bb' 3.2E-4
 ml 33m
 FC max 68m

TN376 CTD trip-on-the-fly CTD Firing Depths

Stn # 057.01 Time (GMT) 0521

Event # 20200223.0521

Lat. -36.2992

Lon. 036.5988

Nisk #	Z _{target}	Comments	Samp?
1	750		
2	700		
3	650		
4	600		
5	550		
6	500		
7	450		
8	400		
9	350		
10	300		
11	250		
12	200		
13	150	153.0	
14	130	120.6	
15	110		
16	100		
17	90		
18	80		
19	70		*FL Max
20	60		
21	50		
22	40		
23	30		
24	20	15	

Mixed layer = 33m

Eddy Center 2nd sampling
Time 0826

Z: 5806m

Cruise: TN376 Date: 23 Feb 2020
Stn: 058.01 Lat: -36.3001 Long: 036.3803

Cast Log

Deploy Event 20200223 0826
Recover Event 20200223 0949
Recover lat 36.3023 lon 036.3862

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
	0903	750	749.9	1/2		5.93	34.40					
	0908	640	640.5	3/4		7.45	34.52					
	0914	500	500.6	5/6		9.46	34.69					
	0923	240	240.3	7/8		12.09	34.92					
	0928	130	130.0	9/10		14.11	35.24					
	0932	100	100.0	11/12		14.51	35.18					
	0934	80	80.1	13/14		15.36	35.21					
	0936	70	70.6	15/16		15.54	35.23					
	0938	60	60.0	17/18		16.41	35.31					
	0941	40	40.0	19/20		20.94	35.36					
	0945	20	20.1	21/22		21.17	35.38					
	0948	5	5.1	23/24		21.17	35.38					

1° FL max = 68m
2° FL Max = 78m
Reconc plebs 70m
bb = 25E-4
ML = 32m
Z₀ = 26.5 ~ 200m

Z₀ = 27.1 = 700

TN376 CTD bottle depths

Stn # 058.01 Time (GMT) 0826

Event # 20200223.0826

Lat. -36.3001

Lon. 036.3803

Nisk #	Z triggered	Comments
1/2	749.9	
3/4	640.5	
5/6	500.6	
7/8	240.3	
9/10	130.0	
11/12	100.0	
13/14	80.1	
15/16	70.6	
17/18	60.0	
19/20	40.0	
21/22	20.1	
23/24	5.1	No Bottle 24 No Fire

N10 SC5 GPS

Cruise: TN376 Date: 2/23/20 Time 1113
 Str: 59.01 Lat: -36 Long: 036

Cast Log

Recovery Lat

-36.3024

Long 036.3858 Note skip GPS is out!

Deploy Event 20200223.1113

Recovery Event 20200223.1209

Not Collect

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Sal.	Bottle	Bottle	CPAR	Comments
	1135	750	750.1	1		5.97	34.39						
		700	688	2									
		650	630	3									
		600	599	4									
		550	550.1	5									
		500	501	6									
		450	449	7									
		400	400.4	8									
		350	349	9									
		300	300.5	10									
		250	249	11									
		200	199.8	12									
		150	149.9	13									
		130	229.9	14									
		110	109.6	15									
		100	99.2	16									
		90	91.9	17									
		80	79.5	18									
		70	70.0	19									
		60	59.9	20									
		50	50.1	21									
		40	39.5	22									
		30	30.6	23									
		20	14.9	24									
	1206	15		24		24.12	35.38						

bob = 2.8e-4
 PL max = 65m

Z₀ 36.5 = 200m

Z₀ 27.1 = 750m

TN376 CTD trip-on-the-fly CTD Firing Depths

Stn # 59.01 Time (GMT) 1113

Event # 20200223.1113

Lat. -36.3024

Lon. 36.3858

Nisk # L_{target}

Comments

Samp?

1	750		
2	700	688m	
3	650	630m	
4	600		
5	550		
6	500		
7	450		
8	400		
9	350		
10	300		
11	250		
12	200		
13	150		
14	130		
15	110		
16	100		
17	90		
18	80		
19	70		
20	60		
21	50		
22	40		
23	30		
24	20		

NO SC Position in
CTD Data

NMFS SCIENCE
Feed is out.

Cruise: TN376 Date:
Sta: 60.1 Lat: $-36^{\circ}17.959$ Long: $36^{\circ}8.955$

Cast Log
Eddy 3 second occupation
Eddy interior west

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
2000223. 1258	1331	750	750	1/2	6.05	34.40						
	1338	600	600	3/4	8.03	34.56						
	1342	450	450	5/6	9.90	34.74						
	1355	300	301	7/8	11.29	34.84						
	1402	200	201	9/10	12.52	35.02						
	1406	150	151	11/12	13.39	35.10						
	1410	100	101	13/14	15.20	35.34						
	1415	75	81	15/16	15.56	35.27						* C41 MAX
	1418	60	60	17/18	16.11	35.29						
	1421	40	41	19/20	19.89	35.33						
	1424	20	20	21/22	21.06	35.35						
	1426	surf	5	23/24	21.05	35.35						

TN376 CTD bottle depths

Stn # 60.1

Time (GMT) 1258

Event # 20200223.1258

Lat. $-36^{\circ} 17.759$

Lon. $36^{\circ} 8.955$

Nisk #	Z triggered	Comments
1/2	750	
3/4	600	
5/6	450	
7/8	300 301	
9/10	201	
11/12	100 151	
13/14	101	
15/16	81	* Chl MAX
17/18	60	
19/20	41	
21/22	20	
23/24	5	

TN376 CTD trip-on-the-fly CTD Firing Depths

Stn # 61.01 Time (GMT) 1606

Event # 20200223.1606

Lat. -36.2985

Lon. 35.9658

Nisk #	Z _{target}	Comments	Samp?
1	750	✓	Time 1642 T=6.21 S=34.41
2	700	✓	
3	650	✓	
4	600	✓	
5	550	✓	
6	500	✓	
7	450	✓	
8	400	✓	
9	350	✓	
10	300	✓	
11	250	✓	
12	200	✓	
13	150	✓	
14	130	✓	
15	110	✓	
16	100	✓	
17	90	✓	
18	80	✓	
19	70	✓	
20	60	✓	Cul Max
21	50	✓	
22	40	✓	
23	30	✓	
24	20 15	1717	T=21.03 S=35.37

Station 3 Neocapitation
Caddy North

Time 0249

Cruise: TN376
Sta: 062.01

Date: 2/24/20

Lat: -35.3847 Long: 036.3815

Cast Log

Depth Event 20200224.0249

Recover Event 20200224.04

Recover Lat -35.3847 Lon 036.23.239'

Z = 5381

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
	0313	750	751.0	1/2		9.00	34.66					
	0318	600	599.1	3		10.93	34.88					
	0324	470	470.1	4/5		12.58	35.13					
	0337	350	351.1	6/7/8		13.81	35.29					
	0343	200	200.0	9/10		15.62	35.47					
	0347	105	105.2	11/12		17.21	35.57					
	0349	90	90.0	13/14		17.86	35.58					
	0352	73	73.1	15/16		18.54	35.59					
	0355	65	65.3	17/18		19.00	35.61					FL max
	0356	58	58.0	19/20		19.35	35.60					
	0400	36	36.5	21/22		21.54	35.61					
	0402	5	5.0	23/24		21.53	35.61					

Salinity max at 80m above w/ O₂ min (usually opposite)

ML = 42m

Z₀₅ 26.5 = 400m

10 FL max = 64

Z₀₅ 29.1 = > 750m

20 FL max = 58

Page #

66' = 9 E-5

TN376 CTD bottle depths

Stn # 062.01 Time (GMT) 0249

Event # 20200224.0249

Lat. -35.3847

Lon. 036.3815

Nisk #	Z triggered	Comments
1/2	751	
3/4	599.1	Trapped only 1 bottle
5/6 4/5	470.1	
6/7/8	351.1	
9/10	200.0	
11/12	105.2	
13/14	90.0	
15/16	73.1	
17/18	65.3	* FL MAX
19/20	58.0	
21/22	36.5	
23/24	5.0	

Cruise: **TN376** Date: **24 Feb**
 Sht: **063.01** Lat: **-35.7343**

Trind: **0611**
 Long: **036.3809**

Cast Log
 deploy event 20200224.0611
 recover event 20200224.0655
 recover lat = -35.7480 lon 036.3851

Z = 5180

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
	0634	750	750.2	1		8.01	34.58					
		700	700.1	2								
		650	650.2	3								
		600	600.8	4								
		550	548.9	5								
		500	500.1	6								
		450	450.0	7								
		400	400.4	8								
		350	350.6	9								
		300	300.0	10								
		250	249.5	11								
		200	200.1	12								
		150	149.9	13								
		130	130.0	14								
		110	110.0	15								
		100	99.8	16								
		90	89.5	17								
		80	80.5	18								
		70	70.0	19								
		60	60.2	20								
		50	49.1	21								
		40	39.4	22								
		30	30.0	23								
		15	14.9	24								
	0653					21.52	35.57					

Thermobug by Salinity and CTD capturing in surface.
 then deeper the 80 m opposite thermobug

FL MAX 74-78m

bb' = 1.82-4

Z 026.6 = 300m

Z 027.1 = 2750m

MLZ = 411m

TN376 CTD trip-on-the-fly CTD Firing Depths

Stn # 063.01 Time (GMT) 0611

Event # 20200224.0611

Lat. -35.7343

Lon. 036.3809

Nisk #	L _{target}	Comments	Samp?
1	750	✓	
2	700	✓	
3	650		
4	600		
5	550		
6	500		
7	450		
8	400		
9	350		
10	300		
11	250		
12	200		
13	150		
14	130		
15	110		
16	100		
17	90		
18	80		
19	70		
20	60		
21	50		
22	40		
23	30	✓	
24	20 15		

Edley's 3 re-occupation
North edley interview

Cruise: TN376 Date: 2/24/20 Time 0850
Stn: 064.01 Lat: -36.0738° Long: 036.3818

Cast Log
Deploy event 20200224, 0850
Recover event 20200224, 0951
Recover lat 36.0838 Lon 036.3843

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
	0912	750	750.1	1/2		6.53	34.44					
	0918	600	601.5	3/4		8.78	34.63					
	0922	480	480.5	5/6		10.26	34.78					
	0925	400	400.3	3/8		10.72	34.79					
	0931	240	240.2	3/10		12.33	34.96					
	0935	140	140.1	1/12		14.46	35.33					
	0939	90	90.1	13/14		16.58	35.42					
	0941	78	78.4	15/16		17.02	35.38					*FL Max
	0943	62	62.1	17/18		19.22	35.41					
	0946	45	45.4	19/20		21.25	35.53					
	0948	20	20.1	21/22		21.25	35.53					
	0950	5	7.1	23/24		21.25	35.53					

lots of underleavings in upper 300m

ob = 1.67e-4
FD max = 78m
MLZ = 49m
Z₀₆ 24.5 = 250m
Z₀₆ 29.1 = 7750m

TN376 CTD bottle depths

Stn # 064 Time (GMT)

Event #

Lat.

Lon.

Nisk #	Z triggered	Comments
1/2	750.1	
3/4	601.5	
5/6	480.5	
7/8	400.3	
9/10	240.2	
11/12	140.1	
13/14	90.1	
15/16	78.4	*FL Max
17/18	62.1	
19/20	45.4	
21/22	20.1	
23/24	7.1	

Trip in FR

Cruise: TN396 Date: 2/24/20 Time: 1044
 Stn: 065.01 Lat: -36.1698 Long: 036.3796

Cast Log
 deploy event 20200224.1044
 recover event 20200224.1130
 recover lat -36.1719 lon 036.3780

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr.	Sal.	Bottle	CPAR	Comments
	1107	750	751	1		6.47	34.42						
		700	699.5	2									
		650	650.3	3									
		600	600.3	4									
		550	549.8	5									
		500	500.0	6									
		450	450.0	7									
		400	400.4	8									
		350	350.0	9									
		300	300.6	10									
		250	250.0	11									
		200	200.4	12									
		150	149.9	13									
		130	130.3	14									
		110	109.5	15									
		100	100.5	16									
		90	89.9	17									
		80	80.0	18									
		70	69.9	19									
		60	60.4	20									
		50	49.9	21									
		40	39.9	22									
		30	30.0	23									
	1128	15	14.8	24		21.08	35.385						

lots of interlockings

bb' = 3.44e-4 → 1.8e-4
 MLZ = 44 m
 FLWOT = 95 m
 Z₀₀ 26.5 ~ 300 m
 Z₀₀ 27.1 ~ 750 m

TN376 CTD trip-on-the-fly CTD Firing Depths

Stn # 065.01 Time (GMT)

Event # 20200224.1044

Lat. -36.1698

Lon. 036.3776

Nisk #	Z _{target}	Comments	Samp?
1	750	<i>all tripped fine</i>	
2	700		
3	650		
4	600		
5	550		
6	500		
7	450		
8	400		
9	350		
10	300		
11	250		
12	200		
13	150		
14	130		
15	110		
16	100		
17	90		
18	80		
19	70		
20	60		
21	50		
22	40		
23	30		
24	20 15	<i>✓</i>	

Cruise: TN376 Date: 2/24 1259 GMT
 Stn: 66.01 Lat: -36.2939 Long: 36.3793

Cast Log

Eddy Center and time
 180514 east lane, too rough!
 event 20200224.1259

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
20200224, 1256	1326	750	750	1/2		6.37	34.42					
	1336	600	601	3/4		8.45	34.62					
	1342	500	500	5/6		9.51	34.70					
	1349	400	401	7/8		10.30	34.73					
	1400	200	201	9/10		13.01	35.09					
	1406	100	101	11/12		14.81	35.18					
	1409	80	80	13/14		16.11	35.32					
	1412	63	70	15/16		16.72	35.33					*Chl max
	1415	46	47	17/18		20.80	35.36					
	1419	29	30	19/20		20.86	35.36					
	1421	21	21	21/22		20.87	35.36					
	1423	14	15	23/24		20.80	35.36					

Chl max 63

TN376 CTD bottle depths

Stn # 66.01

Time (GMT) 1256

Event # 20200224.1256

Lat. - 36.2939

Lon. 36.3739

Nisk #	Z triggered	Comments
--------	-------------	----------

1/2	750	
-----	-----	--

3/4	601	
-----	-----	--

5/6	500	
-----	-----	--

7/8	401	
-----	-----	--

9/10	201	
------	-----	--

11/12	101	
-------	-----	--

13/14	80	
-------	----	--

15/16	70	*
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17/18	47	
-------	----	--

19/20	30	
-------	----	--

21/22	21	
-------	----	--

23/24	15	
-------	----	--

Sidey 3 - No-occupation
Time in 10's past degree before
3rd CTD segment of each cast

Cruise: YN376 Date: 2/25/20
Siri: 067.01 Lat: 36° 41.008' N Long: 036° 32.768' W

Cast Log

Event deployment 20200225-0455
Event Recover 20200225-0541
Recover Lat -36.6838 Lon 036.3796

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr.	Sal.	CPAR	Comments
	0518	750	751.3	1/2		6.28	34.43					
		700	699.9	3								
		650	600.0	4								
		600	549.8	5								
		550	500.2	6								
		500	449.0	7								
		450	399.0	8								
		400	349.8	9								
		350	301.0	10								
		300	249.0	11								
		250	200.0	12								
		200	150.5	13								
		150	130.4	14								
		130	110.1	15								
		110	99.5	16								
		100	90.0	17								
		80	80.0	18								
		70	70.0	19								
		60	60.3	20								
		50	50.0	21								
		40	39.6	22								
		30	30.1	23								
		15	15	24		20.76	35.11					

FL Max

66' = 2.6E-4, 4.6E-4
MLZ = 35m

10 FL Max 59m

20 FL Maxima 44m, 75m

700 26.5 = 200m

700 27.1 = 750m

TN376 CTD trip-on-the-fly CTD Firing Depths

Stn # 067.01 Time (GMT)

Event # 20200225.0455

Lat. -36.6835

Lon. 036.3793

Nisk #	L _{target}	Comments	Samp?
1/2	750		
2	700		
3	650		
4	600		
5	550		
6	500		
7	450		
8	400		
9	350		
10	300		
11	250		
12	200		
13	150		
14	130		
15	110		
16	100		
17	90		
18	80		
19	70		
20	60		
21	50		
22	40		
23	30		
24	20 15		

Colony 3 near companion
early interior south

Z = 5803

Cruise: TN376 Date: 8/25/20 Time: 0650
Str: Lat: -36.5429° Long: 036.3815°

Cast Log
Event deploy 20200225.0650
Event recover 20200225.0757
Recover lat -36.5436 lon 036.3821

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr.	Sal.	Bottle	CPAR	Comments
	0715	750	750.1	1/2		6.12	34.41						
	0719	700	701.2	3/4		6.72	34.45						
	0723	600	601.2	5/6		8.34	34.59						
	0727	500	500.2	7/8		9.54	34.70						
	0731	400	400.3	9/10		10.83	34.85						
	0736	250	250.1	11/12		12.10	34.92						
	0741	105	105.8	13/14		14.71	35.19						
	0743	90	90.0	15/16		15.11	35.20						
	0746	70	70.1	17/18		15.81	35.26						
	0750	55	56.2	19/20		17.59	35.34						
	0752	40	40.1	21/22		20.71	35.38						
	0754	5	4.0	23/24		20.74	35.38						

bb1 = 3.1E-4
MLD = 45m
Z0.5 = 300m
Z0.2 = 750m
1° FLOW = 70m
20F0 may = 84m

TN376 CTD bottle depths

Stn # 068.01

Time (GMT) 0650

Event # 20200225.0650

Lat. - 36.5429°

Lon. 036.3815°

Nisk #

Z triggered

Comments

1/2

750.1

3/4

701.2

5/6

601.2

7/8

500.2

9/10

400.3

11/12

250.1

13/14

105.8

15/16

90.0

17/18

70.1

FZ Max

19/20

56.2

21/22

40.1

23/24

4

edge 3m - observation; one str south of edge center
 Trip in Rky

Z = 5901

Cruise: TN376 Date: 2/25/00 Time 0850

Stn: 069.01 Lat: -36.4420 Long: 036.3810

Cast Log

Event deploy 20200225.0850
 Event recover
 Recovered Lat

len

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr.	Sal.	Bottle	Bottle	CPAR	Comments
	0919	750	749.9	1		6.29	34.41							
		700	699.9	2										
		650	649.1	3										
		600	600.0	4										
		550	550.1	5										
		500	499.1	6										
		450	449.4	7										
		400	400.4	8										
		350	349.8	9										
		300	300.0	10										
		250	249.8	11										
		200	200.1	12										
		150	150.0	13										
		130	120.0	14										
		110	109.9	15										
		100	101.0	16										
		90	90.0	17										
		80	80.0	18										
		70	70.0	19										
		60	60.0	20										
		50	50.0	21										
		40	40.0	22										
		30	30.2	23										
	0933	15	15.2	24		20.72	35.35							

bb' 3.57E-4
 10 Fluor max 66m
 20 Fluor max 56m, 34m
 Z 0626.5 = 240m
 Z 0627.1 = ~750m ending depth

Prod cost - ^{Estdy 3 Neocapitation} ^{Estdy center}

Cruise: TN376 Date: 2/25/2020 Time 1044
 Str: 070.01 Lat: -36.3032 Long: 036.3831

^{Z = 5806}
 Deploy Event 20200225.1044
 Cast Log Recover Event 20200225.1151
 Recover Lat -36.3099 Lon 036.3927

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
	1107	750	750.0	1/2		6.41	34.43					
	1111	660	661.0	3/4		7.80	34.55					
	1116	550	553.0	5/6		9.01	34.65					
	1121	450	450.2	7/8		10.26	34.79					
	1127	225	225.2	9/10		13.13	35.12					
	1132	120	120.1	11/12		15.22	35.28					
	1135	97	97.3	13/14		15.67	35.27					
	1138	762	81.8	15/16		16.67	35.37					FTD max
	1141	551 611	61.0	17/18		18.15	35.33?					
	1144	35.4	35.4	19/20		21.12	35.49					
	1146	25.7	25.8	21/22		21.13	35.49					
	1148	16.5	16.6	23/24		21.16	35.49					

bb' = 2.59e-4

10 Fluor Max = 76m 20 Fluor 35m

Z₀₆ 26.5 = 250

Z₀₆ 27.1 = 750

MLT = 46M

Eddy 3 no occupation
South eddy edge

Cruise: T0376
Date: 2/25/20
Stn: 71
Lat: -37° 21' 71
Long: 363790

Cast Log

Event #	GMT Time	Target Depth	Actual Depth	Niskin #	Sample #	CTD Temp	CTD Sal	PAR	Nutr. Bottle	Sal. Bottle	CPAR	Comments
20200225-1853	1912	750	750	1/2		8.64	34.61					
	1917	600	600	3/4		10.57	34.83					
	1921	500	500	5/6		11.52	34.94					
	1926	350	351	7/8		13.12	35.15					
	1930	250	251	9/10		14.92	35.26					
	1934	150	151	11/12		16.71	35.48					
	1937	90	96	13/14		18.00	35.55					
	1940	68	72	15/16		18.38	35.49					* Chl max
	1942	45	45	17/18		20.95	35.61					
	1944	30	30	19/20		21.15	35.63					
	1946	15	15	21/22		21.15	35.63					
	1948	5	5	23/24		21.15	35.63					

Chl Max = 68 m

σ_t = 22.65 = 25 m
σ_t = 27.1 = did not reach 27.1
55' = 1.5 e⁻⁴

TN376 DEEP CAST

Stn # 72.01 Time (GMT) 1801 Bottom Depth

Event # 20200226.1801

5217

Lat. 34.4252

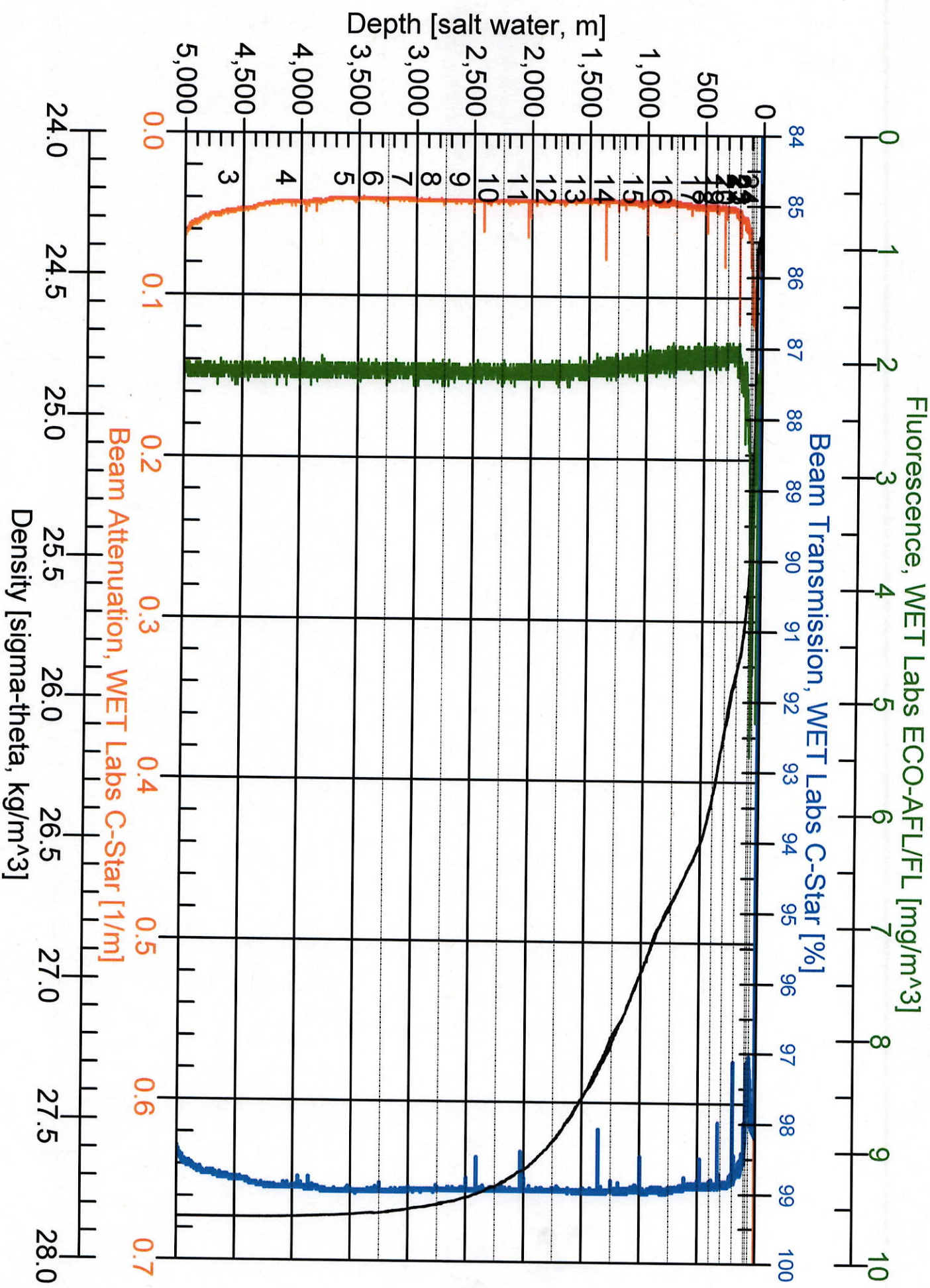
Lon. 38.0417

Nisk # Z_{target} Z_{actual} TIME TEMP SAL COMMENTS

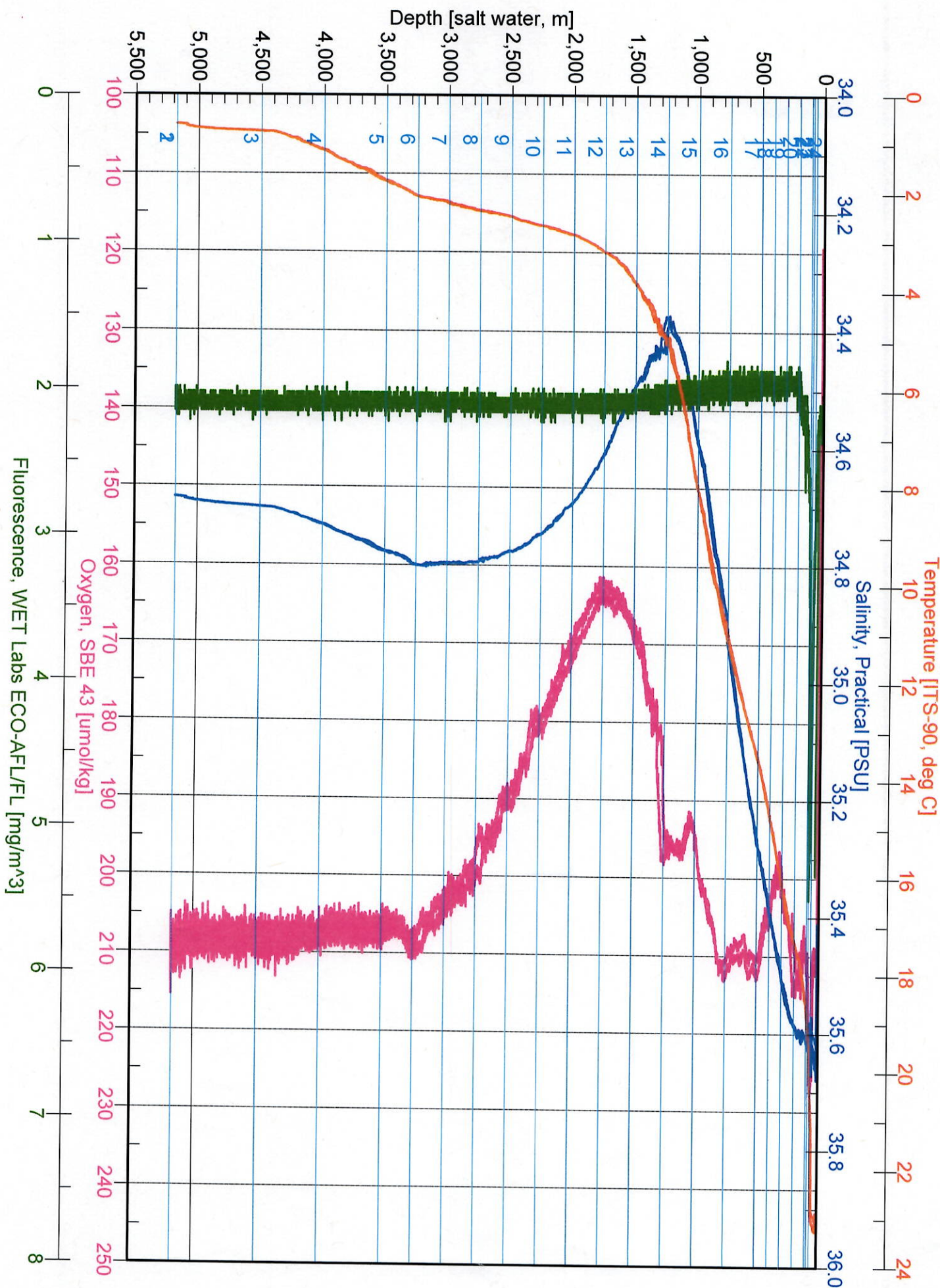
1	5200	5175	1938	0.61	34.68	No Altimeter
2	5200	5175	"	"	"	thick Nepheloid layer
3	4500	4500	1954	0.75	34.70	
4	4000	4001	2005	1.13	34.73	
5	3500	3500	2015	1.75	34.78	
6	3250	3250	2022	2.07	34.80	O ₂ peak
7	3000	3000	2029	2.18	34.80	
8	2750	2750	2035	2.35	34.79	
9	2500	2500	2042	2.48	34.78	
10	2250	2250	2048	2.67	34.75	
11	2000	2000	2054	2.85	34.69	
12	1750	1750	2100	3.21	34.61	O ₂ min.
13	1500	1500	2107	3.87	34.49	
14	1250	1250	2113	4.96	34.40	Salinity min.
15	1000	1000	2120	8.03	34.59	
16	750	750	2126	11.02	34.91	
17	500	500	2133	13.52	35.27	
18	400	400	2137	14.79	35.39	
19	300	300	2141	16.16	35.50	
20	200	200	2145	17.30	35.58	
21	100	100	2148	18.70	35.61	
22	85	86	2151	19.10	35.60	chl MAX
23	65	65	2153	20.52	35.59	
24	surf	4	2157	23.17	35.64	

chl max ≈ 85m

TN376-072-01.hex: Nitrate-Temp-FL vs depth



TN376-072-01.hex ,mary O-S-F-T 80M



TN376 DEEP CAST

Stn # 073.01 Time (GMT) 1000

Bottom Depth 5064

Event # 20200229/1000 = Event Japling

Lat. 27.4089°

Lon. 049.8218

Nisk # Z_{target} Z_{actual} TIME TEMP SAL COMMENTS

1	5050	5045	1138	0.9662	34.70	
2	5050	5045	1139	0.9664	34.70	
3	5000	5001	1142	0.9605	34.70	
4	4500	4500	1152	0.949	34.699	
5	4000	4000.0	1203	1.091	34.71	
6	3500	3499.7	1213	1.475	34.73	
7	3000	3000.0	1224	1.94	34.73	
8	2500	2499.5	1234	2.225	34.74	
9	2000	2000.0	1245	2.443	34.71	
10	1850	1849.0	1249	2.6305	34.68	Local O ₂ max
11	1350	1350	1301	3.80	34.56	O ₂ min
12	1150	1150.4	1307	4.38	34.46	
13	1050	1049.7	1312	4.968	34.399	Sal minimum
14	900	899.5	1317	6.92	34.49	
15	800	800.0	1321	8.34	34.61	
16	700	700.5	1325	9.96	34.77	
17	600	601	1329	11.06	34.92	
18	500	499	1333	12.19	35.09	
19	400	398	1340	13.23	35.24	
20	300	301	1341	14.06	35.34	
21	200	200	1345	15.33	35.46	
22	100	101	1349	16.99	35.55	Lower Fluor max
23	85	85	1351	17.52	35.57	FLUOR MAX
24	10	10	1355	25.54	35.57	SURF M.L.

↑
Fluor
of O₂
SALIN?
↓

Event recover 20200229/1356 Recover Time 1356

Recover Lat 27.4088 Lon 049.8221

Z_{O₂} 26.5 = 500m

Z_{O₂} 27.1 = ~1000m

TN376 DEEP CAST

Stn # 073.01 Time (GMT) 1000

Bottom Depth 5064

Event # 20200229.1000

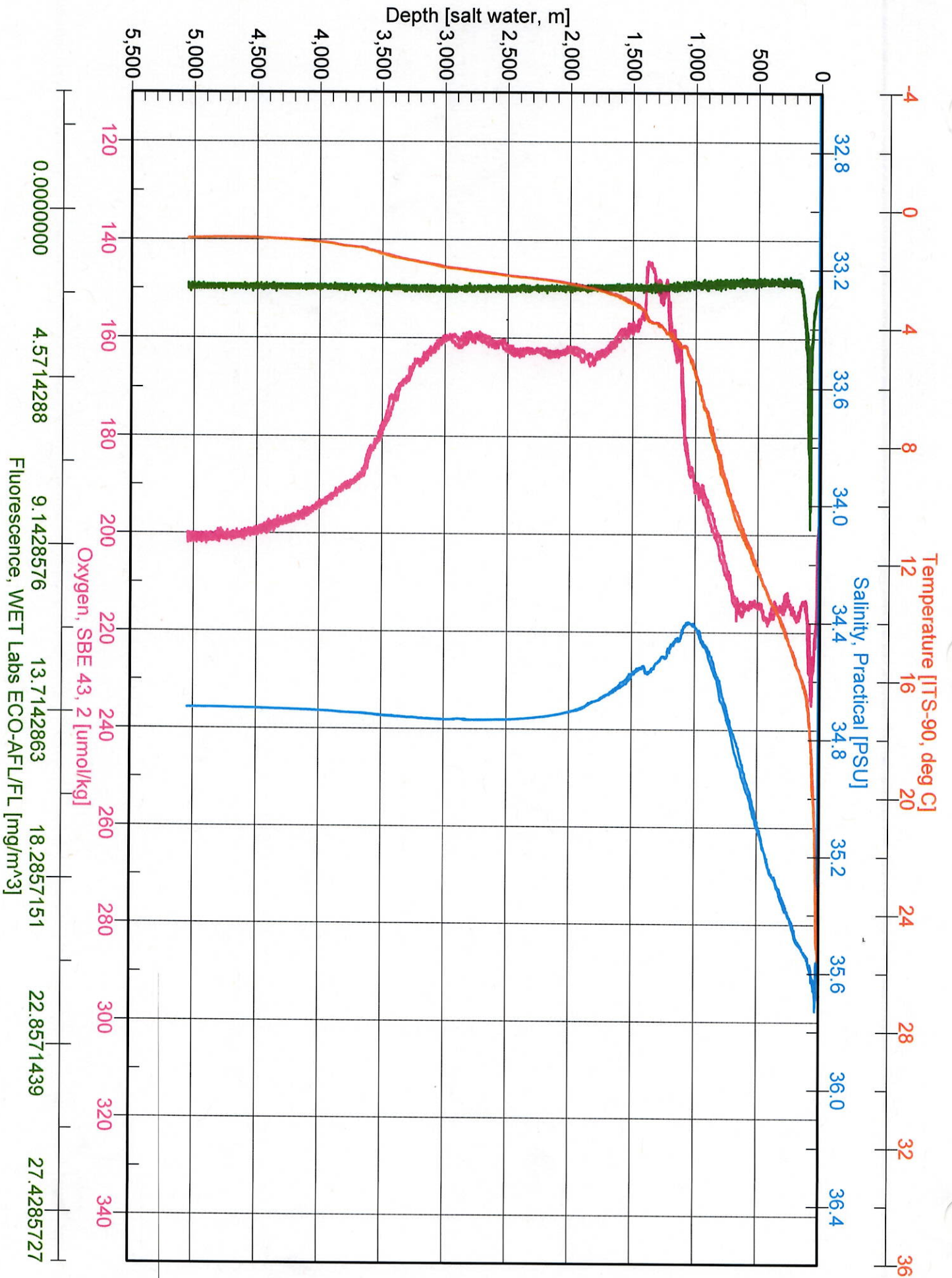
Lat. 27.4089

Lon. 049.8218

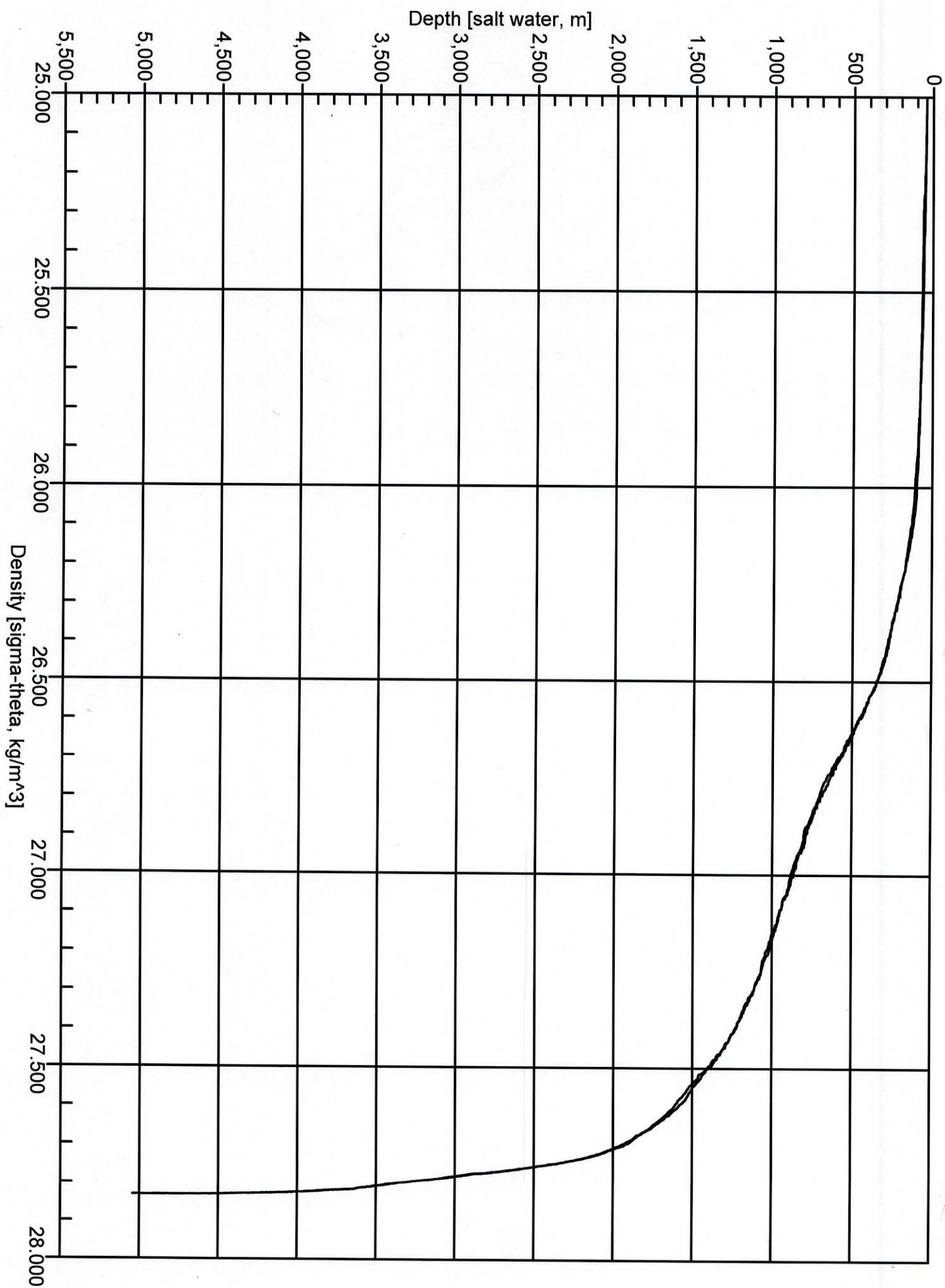
Nisk # Z_{target} Z_{actual}

TIME TEMP SAL COMMENTS

1		5045				
2		5045				
3		5001				
4		4500				
5		4000				
6		3499.7				
7		3000				
8		2499.5				
9		2000.0				
10		1849				Local O ₂ Max
11		1350				O ₂ Min
12		1150.4				
13		1049.7				Salinity min
14		899.5				
15		800.0				
16		700.5				
17		601				
18		499				
19		398				
20		301				
21		200				
22		101				FLUOR Max
23		85				FLUOR Max
24		10				SURF Mixed Layer



TN376-01.hex



TN376-073-01.hex: Nitrate-Temp-FL vs depth

