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Hydrographic Measurements Collected Aboard the UNOLS Ship R/V Endeavor, 3 October - 20 October 2015: Western Boundary Time Series Cruise EN570 (AB1510)

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March 2016

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The findings and conclusion on this report are those of the authors and do not necessarily represent the views of the funding agency.

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Abstract

This report summarizes the October 3 - October 20, 2015 cruise on the UNOLS ship R/V Endeavor involving full-water-column CTD and lowered ADCP profiles, along with shipboard ADCP profiles, conducted within the Northwest Providence Channel, Florida Straits, and east of Abaco Island, Bahamas. At each station, a package consisting of a Seabird Electronics Model 9/11+ CTD O2 system, an RDI 150 kHz Workhorse Lowered Acoustic Doppler Current Profiler, a RDI 300 kHz Workhorse Lowered Acoustic Doppler Current Profiler, and up to 24 10-liter Niskin bottles, was lowered to the bottom. This report includes a description of the calibrations procedures and profiles of pressure, salinity (conductivity), temperature, and dissolved oxygen concentration. Water samples were also collected at various depths and analyzed for salinity and oxygen concentrations to aid with CTD calibration. A total of 44 CTD-O2/LADCP stations were occupied. PIES/CPIES telemetry was conducted at 6 sites. There was a successful recovery and deployments of a PIES at sites A2. There was also a successful deployment of the Adaptable Bottom Instrument Information Shuttle System ("ABIISS") for testing at site C. Mooring operations include recovery and redeployment of 3 tall moorings with a mixture of microcats and current meters and a bottom lander.

1 Introduction

The Abaco time series began in August 1984 when NOAA extended its Straits of Florida program to include measurements of western boundary current transports and water mass properties east of Abaco, the Bahamas. Since 1986, 45 hydrographic sections have been completed east of Abaco, most including direct velocity observations by Pegasus and/or Lowered Acoustic Doppler Current Profiler (LADCP). Transient tracer (CFC) measurements have been made on 8 of these sections. Current meter arrays were also maintained from April 1986 to April 1997. A new international program funded by the United Kingdom's Rapid Climate Change Program and the United States National Science Foundation began in March 2004 and is currently scheduled to end in 2021. Included in this program is a new deployment of current meter moorings along the Abaco section (the UK segment of the program continues with moorings across to the east edge of the Atlantic basin). Independently, the National Oceanic and Atmospheric Administration began a monitoring program in September 2004 utilizing inverted echo sounder moorings (some including bottom pressure measurements and near-bottom current meters) along the Abaco section. All of these programs are collaborating with cientific analysis and logistics including ship time.

The repeated hydrographic and tracer sampling at Abaco has established a high-resolution record of water mass properties in the Deep Western Boundary Current (DWBC) at 26°N, which for temperature and salinity can be reasonably constructed back to about 1985 (Vaughan and Molinari, 1997; Molinari et al., 1998). Events such as the intense convection period in the Labrador Sea and renewal of classical Labrador Sea Water in the 1980's are clearly reflected in the cooling and freshening of the DWBC waters off Abaco, and the arrival of a strong CFC pulse, approximately 10 years later (e.g. van Sebille et al., 2011). This program is unique in that it is not just a single time series site, but instead is a section from which transport can be directly calculated, of which very few are available in the ocean that approach a decade or more in length.

To achieve the goals of NOAA's strategic plan in terms of understanding the Atlantic Ocean's role in decadal and longer time scale climate variability, these continued time series observations at Abaco are seen as serving three main purposes:

1. Monitoring of the DWBC for watermass and transport signatures related to changes in the strengths and regions of high latitude water mass formation in the North Atlantic. Monitoring watermass properties in the DWBC at key locations is one part of an effort to track decadal changes in large-scale watermass properties.

2. Serving as a western boundary endpoint of a subtropical Meridional Overturning Circulation (MOC) heat flux monitoring system designed to measure the interior dynamic height difference across the Atlantic basin and the associated baroclinic heat transport.

3. Monitoring the intensity of the Antilles current as an index (together with the Florida Current) of inter-annual variability in the strength of the subtropical gyre. Variations in the strength of the subtropical gyre in relation to the North Atlantic Oscillation

(NAO) has been proposed as an important mechanism in the atmosphere-ocean feedback within coupled models (e.g. Latif and Barnett, 1996).

A hydrographic survey consisting of a repeat LADCP/CTD/rosette section in the western North Atlantic was carried out in February 2015 (Figure 1 and Table 2). The R/V Endeavor departed Ft. Lauderdale, FL on October 3, 2015. A total of 44 LADCP/CTD/Rosette stations were occupied. Water samples (up to 24 for each station), LADCP, and CTD data were collected on each cast typically within 20 m of the bottom. Salinity and dissolved oxygen samples were analyzed from the majority of bottles sampled on the rosette. The cruise ended in Ft. Lauderdale, FL on October 20, 2015.

Table 1: Cruise participants of R/V Endeavor Cruise AB1510, October 3–October 20, 2015.

Name	Responsibility	Affiliation	Nationality
Bill Johns	Chief Scientist	UM/RSMAS	USA
Chris Meinen	Co-Chief Scientist	NOAA/ AOML	USA
Uli Rivero	Data Pods	NOAA/AOML	USA
James Hooper	CTD processing	UM/CIMAS	USA
Tom Sevilla	Salinity analysis LADCP processing	UM/CIMAS,	USA
Grant Rawson	Oxygen analysis	UM/CIMAS	USA
Pedro Pena	Salinity analysis, IES operations	NOAA/AOML	USA
Adam Houk	LADCP processing Moorings	UM/RSMAS	USA
Mark Graham	Moorings	UM/RSMAS	
Cobi Christiansen	Moorings	UM/RSMAS	USA
Florent Aguesse	Student	UM/RSMAS	France
Johna Rudzin	Student	UM/RSMAS	USA

Table 2: Abaco Cruise – CTD Cast Summary

Station	Date	Time (GMT)	Latitude	Longitude	Depth
1	10/05/15	09:37:18	25.956N	76.898W	4513
2	10/05/15	16:44:30	26.510N	76.885W	741
3	10/05/15	18:35:04	26.488N	76.834W	1272
4	10/05/15	21:25:31	26.489N	76.752W	3870
5	10/06/15	01:46:47	26.491N	76.659W	4682
6	10/06/15	06:21:45	26.500N	76.568W	4897
7	10/06/15	11:09:17	26.488N	76.468W	4902
8	10/06/15	15:46:58	26.484N	76.351W	4898
9	10/06/15	20:33:03	26.474N	76.221W	4876
10	10/07/15	01:05:49	26.482N	76.087W	4866
11	10/07/15	05:41:56	26.478N	75.899W	4801
12	10/07/15	10:24:22	26.482N	75.720W	4751
13	10/07/15	15:41:07	26.486N	75.519W	4748
14	10/07/15	20:29:43	26.488N	75.313W	4705
15	10/08/15	01:18:50	26.488N	75.087W	4674
16	10/08/15	06:10:43	26.481N	74.809W	4598
17	10/08/15	11:02:44	26.489N	74.518W	4552
18	10/08/15	15:52:04	26.493N	74.225W	4607
19	10/08/15	20:58:01	26.508N	73.872W	4799
20	10/09/15	02:24:42	26.498N	73.485W	5024
21	10/09/15	07:48:11	26.498N	73.135W	5123
22	10/09/15	13:28:06	26.493N	72.776W	5203
23	10/09/15	19:13:39	26.501N	72.384W	5263
24	10/10/15	01:25:36	26.502N	71.997W	5372
25	10/10/15	10:00:09	26.506N	71.492W	5501
26	10/10/15	16:16:06	26.511N	70.981W	5576
27	10/10/15	22:41:01	26.489N	70.467W	5580
28	10/11/15	04:56:08	26.489N	69.983W	5577
29	10/11/15	11:26:49	26.506N	69.489W	5430
30	10/16/15	23:59:25	25.955N	76.896W	4444
31	10/17/15	16:19:03	26.434N	78.667W	748
32	10/17/15	17:49:43	26.336N	78.716W	667
33	10/17/15	19:05:39	26.254N	78.765W	508
34	10/17/15	20:19:23	26.169N	78.800W	439
35	10/17/15	21:35:35	26.070N	78.849W	293
36	10/18/15	04:25:25	27.008N	79.203W	466
37	10/18/15	05:50:12	27.008N	79.286W	600
38	10/18/15	07:02:32	27.011N	79.386W	650
39	10/18/15	08:25:48	27.017N	79.502W	745
40	10/18/15	09:58:55	27.018N	79.619W	620
41	10/18/15	11:20:08	27.025N	79.684W	515
42	10/18/15	13:02:00	27.017N	79.786W	370
43	10/18/15	14:19:18	27.027N	79.869W	235
44	10/18/15	15:21:21	27.012N	79.936W	120

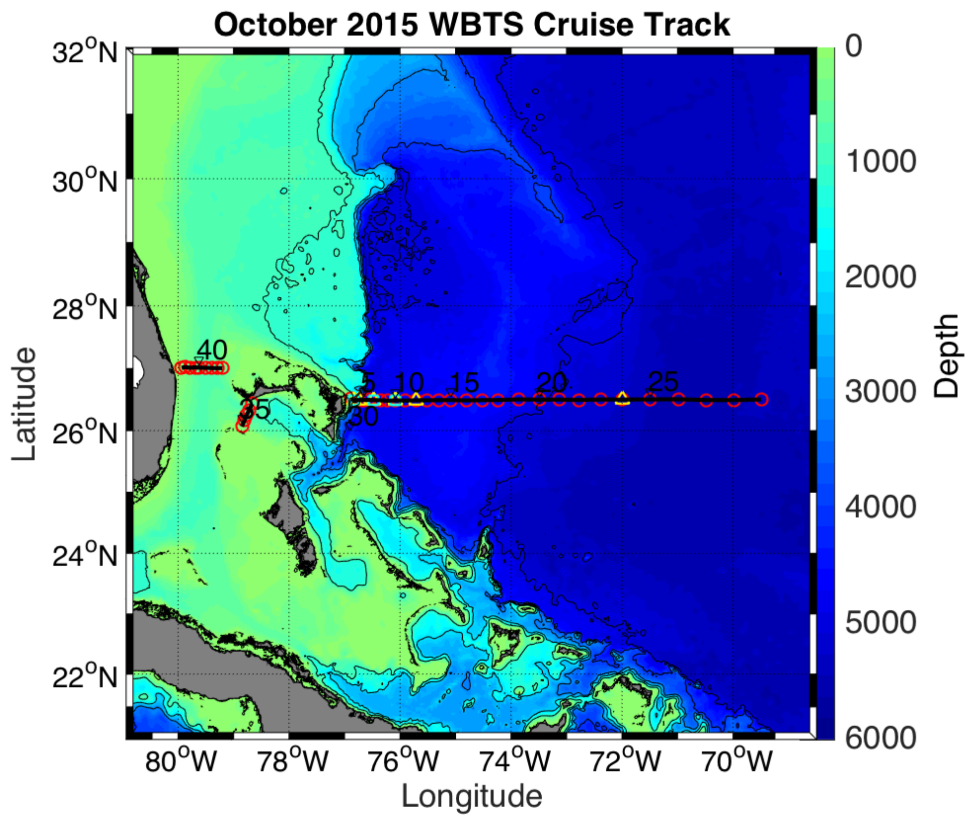

Figure 1: Abaco CTD station locations. The landmasses are shaded and the bathymetry is contoured at 1000 m intervals. The red dots are the CTD stations, the cyan squares are the mooring operations, and the yellow triangles are the IES operations.

2 Cruise Narrative

The following section based on a personal communication with Bill Johns.

The cruise departed from Port Everglades (Ft. Lauderdale), FL on October 3 at 0830 local time. The ship arrived off Bimini at 1330 local to try to launch a small boat to go in and complete our Bahamian check in, but it was found to be too rough to accomplish this safely, and so the ship steamed on to Port Lucaya. This resulted in a considerable delay as we had to wait until morning (0900 Sunday AM) to go in, and ultimately we completed the clear-in (including a visit by the Bahamian immigration officer to the ship) by 1500 Sunday October 4. After steaming the length of NW Providence channel and through Hole-in-the-wall, we stopped in deep water to do a test CTD/LADCP cast to 1000 m, followed by a calibration CTD ("cal-dip") cast to the full ocean depth (Station 001). This cal-dip cast, and another one later in the cruise (Station 30), were done to obtain in-situ calibration data for all the Seabird microcat instruments to be deployed on, and recovered from, the moorings. As usual for these casts, the outer ring of Niskin bottles was removed and small airplane straps were put on the frame so that the microcats could be clamped on. The first cal-dip cast suffered from a very large wire-angle, due to a strong southward surface current (1-1.5 kts) and winds from the SW at >20 kts, forcing the ship to steam almost with the surface current to maintain heading. As a result, the bottle stops - which are where the important calibration data are acquired - had significant vertical pressure changes, which hamper the calibration procedure. However, after examining the cast data it was determined that enough good data had been acquired so that the cal-dip cast did not need to be repeated.

Following this, the Abaco 26.5°N CTDO2/LADCP section was commenced on October 5th, and completed on October 11th (stations 2 to 29). The NOAA/AOML CTD/LADCP system was used, with a hybrid 150/300 kHz LADCP system using a NOAA 300 kHz Workhorse ADCP looking upward from the CTD frame and a U. Miami 150 kHz ADCP looking downward. The CTD and LADCP systems both functioned well for the entire section and no instruments or sensors had to be replaced, except for swap-out of the starcable in the middle part of the section due to ADCP communication problems. The wire angle problem we had during the cal-dip cast also persisted for the early casts on the Abaco line, and resulted as well in large horizontal ship movement during the stations. We had to start CTD 003 about 1 nmi south of its normal position, to make sure we would not drift into either mooring WB0 or WB1 during the cast. These wire-angle problems gradually subsided along the section as both the winds and currents decreased. On one cast (CTD022), the LADCPs lost power due to insufficient battery charging after the previous casts (it was determined that the charger had not been properly connected after the star-cable swap). Some of the LADCP casts showed high-error profiles in deep water on the eastern half of the line, which is (unfortunately) rather typical due to the very weak scattering environment there.

During the Abaco CTD section, acoustic telemetry was attempted at several of the PIES sites (PIES sites B, C, D, and E) while doing CTD stations nearby them, and this worked very well in all cases. (This was the first MOCHA cruise where we have tried this, rather than doing the PIES data telemetry as a separate operation.) At one of the sites (PIES C) the data telemetry was also done again - during a nighttime break in the mooring operations after the CTD section was completed - in order to collect more data than could be collected during the time of the CTD cast.

After the Abaco CTD line was completed, mooring operations began, luckily under very cooperative weather. All planned mooring operations (Tables 4 and 5) were successfully completed between October 13 & 16, beginning at mooring WBC and finishing at mooring WB0. The mooring operations all went relatively smoothly except that there were numerous tangles in the moorings when they came up, particularly on mooring WB3 (M420) where the segments between 3000 m and the bottom came up in reverse order, with several wire segments having to be stopped off and tended simultaneously. We also experienced several problems with the new XEOS radios and strobes used on these moorings: on moorings WB0 and WBC the radios were never heard, and mooring WB3 the strobe did not work when shielded from sunlight. In each of these cases the batteries were found to be drained after being opened (meaning most likely that they never turned off once deployed, i.e. that the conductivity bridge switch did not turn them off once underwater.) The radio antenna on mooring WB0 was also bent and the metal inside was exposed with signs of corrosion, but it still worked (in air) after replacing the drained batteries, so this was apparently not the main problem (although how and why it broke is not known.) Finally, the radio on WB3 did not work after it surfaced, or during its recovery, until after the top float was brought on deck, when it suddenly came on strongly. In contrast, both of the Argos beacons (used on WB3 and WBC) functioned normally, with several messages being received after surfacing.

The instruments on all of the moorings came up in good shape, with no signs of damage. Initial download of the data showed that all of the instruments collected full records which appeared to be of good quality.

During breaks in the mooring work, additional PIES operations were conducted (Table 3), including deployment of two PIES (at sites A2 and C, the latter being a new "datapod" PIES), and an attempted recovery of PIES-A2 (which was unsuccessful; this PIES had been malfunctioning for some time and had already had one failed recovery attempt on a previous cruise). Acoustic data telemetry was also performed at PIES site A. At the completion of all mooring and PIES operations, a final CTD cast (CTD 030) was done to provide post-recovery cal-dip data for the microcats recovered from mooring WB3.

On the evening of October 16th the ship returned back through Hole-in-the-wall, heading for a planned morning (0900 local) clear-out of the Bahamas at Port Lucaya on October 17th. Clear-out successfully completed at 1130. The CTD/LADCP section across Northwest Providence Channel (stations 31-35) was completed at 2130 on October 17th, and the final CTD/LADCP section across the Straits of Florida at 27°N (stations 36-44) was completed at 1530 on October 18th. Spikes were noted in the primary temperature sensor and salinity data on cast 39, and after this recurred again on cast 40 the primary temperature sensor was swapped. The pump on the primary side was also replaced after cast 41, and the pump cable was swapped after cast 42, which resulted in improved performance.

The scientific work of the cruise was finished with one day to spare, which was fortunate as a strong cold front descended over the Straits of Florida on the night of October 18th that would have made work in the Straits very difficult on the 19th. The ship arrived at the Port Everglades sea buoy at approximately 0400 local October 19th. Berthed by 0915. The cruise was very successful and all planned operations were accomplished.

3 Inverted Echo-Sounder Operations

NOAA/AOML maintains a line of pressure-equipped inverted echo sounders (PIES) along 26°30' N as part of its Western Boundary Time Series program. Regular maintenance the PIES array was also performed on the cruise. This maintenance consisted primarily of acoustic download of the last 8 months of daily-averaged data collected by the PIES. One PIES (Site C) was acoustically downloaded twice to allow for a longer download (i.e. lengthier file retrieved) on the second download. Unsuccessful efforts were also made to recover a malfunctioning PIES at Site A2; deployment of a replacement PIES at that site was successful. A new prototype 'datapod' satellite data transmission device for a bottom moored PIES, called the Adaptable Bottom Instrument Information Shuttle System ("ABIISS"), was deployed for testing beside the existing PIES at Site C. The operations involving PIES during the cruise are summarized in Table 3.

Table 3: Inverted echo-sounder locations and operation.

IES Site	Type	Latitude	Longitude	Date	Operation
A	PIES	026°30.938′ N	076°50.036′ W	10/15/15	Telemetry
A2	CPIES	026°30.062′ N	076°44.775′ W	10/15/15	Recovery
A2	CPIES	026°30.075′ N	076°44.782′ W	10/15/15	Deployed
B	PIES	026°29.470′ N	076°28.180′ W	10/6/15	Telemetry
C	PIES	026°30.020′ N	076°05.550′ W	10/(6,12)/15	Telemetry
C-ABIISS	PIES	026°30.040′ N	076°05.550′ W	10/12/15	Deployed
D	PIES	026°30.130′ N	075°42.330′ W	10/7/15	Telemetry
E	PIES	026°30.0′ N	071°59.998′ W	10/9/15	Telemetry

4 Mooring Operations

Four subsurface moorings were successfully recovered from the locations listed in Table 4. These moorings contained a mixture of current meters, Acoustic Doppler Current Profilers (ADCPs), and temperature/salinity recorders. Sites with an "L" in their name represent bottom lander moorings which contained only precision bottom pressure sensors.

Four moorings (3 taut-wire moorings and 1 bottom landers) were deployed at the locations listed in Table 5. Acoustic surveying of the on-bottom position of all moorings was successfully completed after each mooring deployment.

Table 4: Summary of mooring recovery operations.

Mooring Site	Mooring Number	Latitude (N)	Longitude (W)	Depth	Date of Recovery
WB0	M419	26° 30.54'	76° 50.51'	1005	10/16/2015
WB3	M420	26° 29.93'	76° 29.79'	4840	10/14/2015
WBC	M422	26° 30.84'	76° 06.24'	4809	10/13/2015
WBL3	M421	26° 29.36'	76° 29.19'	4845	10/13/2015

Table 5: Summary of mooring deployment operations.

Mooring Site	Mooring Number	Latitude (N)	Longitude (W)	Depth	Date of Deployment
WB0	M439	26° 30.52'	76° 50.47'	1006	10/16/2015
WB3	M440	26° 29.61'	76° 29.74'	4842	10/15/2015
WBC	M442	26° 30.76'	76° 06.35'	4819	10/14/2015
WBL3	M441	26° 28.89'	76° 28.86'	4845	10/16/2015

5 Standards and Pre-Cruise Calibrations

The CTD/O2 system is a real-time data acquisition system with the data from a Sea-Bird Electronics, Inc. (SBE) 9plus underwater unit transmitted via a conducting cable to a SBE 11plus deck unit (V2). The serial data from the underwater unit is sent to the deck unit in RS-232 NRZ format. The deck unit decodes the serial data and sends it to a personal computer for display and storage in a disk file using Sea-Bird Seasave software (version 7.23.2).

The SBE 911plus system transmits data from primary and auxiliary sensors in the form of binary numbers equivalent to the frequency or voltage outputs from those sensors. These are referred to as the raw data. The SBE software performs the calculations required to convert raw data to engineering units.

The SBE 911plus system is electrically and mechanically compatible with the standard, unmodified carousel water sampler, also made by Sea-Bird Electronics, Inc. A modem and carousel interface allows the 911plus system to control the operations of the carousel directly without interrupting the flow of data from the CTD.

The SBE 9plus underwater unit is configured with dual standard modular temperature (SBE 3 plus) and conductivity (SBE 4) sensors, which are mounted near the lower end cap. The conductivity cell entrance is co-planar with the tip of the temperature sensor probe. The pressure sensor is mounted inside the underwater unit main housing. A centrifugal pump module flushes water through sensor tubing at a constant rate independent of the CTD's motion to improve dynamic performance. Dual dissolved oxygen sensors (SBE 43) are added to the pumped sensor configuration following the temperature-conductivity (TC) pair. A reference temperature sensor is mounted to the SBE 9plus. A list of sensors used during the cruise can be seen in Table 6.

Table 6: Equipment used during AB1510

Instrument	SN	Stations	Use	Pre-Cruise Calibration	Comment
Sea-Bird SBE 32 24-palce Carousel Water Sampler	32 - 1090	0-17			
Sea-Bird SBE 32 24-palce Carousel Water Sampler	32 - 0794	18-44			
Sea-Bird SBE9plus CTD	1207	0-44		11/3/14	
Paroscientific Digiquartz Pressure Sensor	131013	0-44			
Sea-Bird SBE3plus Temperature Sensor	5855	0-40	Primary	9/5/15	
Sea-Bird SBE3plus Temperature Sensor	5236	41-44	Primary	10/10/14	
Sea-Bird SBE3plus Temperature Sensor	5237	0-44	Secondary	9/5/15	
Sea-Bird SBE35 Reference Temperature Sensor	0097	0-44	only	8/21/14	
Sea-Bird SBE4C Conductivity Sensor	4229	0-44	Primary	9/3/15	
Sea-Bird SBE4C Conductivity Sensor	4223	0-44	Secondary	9/3/15	
Sea-Bird SBE43 Dissolved Oxygen Sensor	2691	0-44	Primary	8/28/15	
Sea-Bird SBE43 Dissolved Oxygen Sensor	2949	0-44	Secondary	7/9/15	
Sea-Bird SBE5T Pump	7889	0-41	Primary		
Sea-Bird SBE5T Pump	7268	42-44	Primary		
Sea-Bird SBE5T Pump	7741	0-44	Secondary		
Simrad 807 Altimeter(gold)	980	0-27	Range - 280 m		2.928 scale
Kongsberg Altimeter(black)	1410123	28-44	Range - 304 m		4.687 scale
Valeport VA500	48591	2-30	Range - 100 m		15 scale (broken)
Valeport VA500	48592	32-44	Range - 100 m		15 scale
RDI LADCP - 150 kHz Broad Band (UM)	18144	0-44	Downward		
RDI LADCP - 300 kHz Workhorse (AOML)	21584	0-44	Upward		

5.1 Pressure

The Paroscientific series 4000 Digiquartz high pressure transducer uses a quartz crystal resonator whose frequency of oscillation varies with pressure induced stress measuring changes in pressure as small as 0.01 parts per million with an absolute range of 0 to 10,000 psia (0 to 6885 dbar). Repeatability, hysteresis and pressure conformance are 0.002% of full-scale. The nominal pressure frequency (0 to full scale) is 34 to 38 kHz. The nominal temperature frequency is 172 kHz ± 50 ppm/°C.

The pressure sensor utilized during AB1510 was s/n 1207. Pre-cruise sensor calibrations were performed at Sea-Bird Electronics, Inc. in Bellevue, Washington on November 2014. The following coefficient (Table 7) were entered into SEASAVE® using the configuration file:

Pressure coefficients are first formulated into:

$$\begin{aligned} c &= c_1 + c_2 * U + c_3 * U^2 \\ d &= d_1 + d_2 * U \\ t_0 &= t_1 + t_2 * U + t_3 * U^2 + t_4 * U^3 + t_5 * U^4 \end{aligned}$$

where U is temperature in degrees Celsius. Pressure is computed according to:

$$P\ (psia) = c * \left(1 - \frac{t_0^2}{t}\right) * \left[1 - d * \left(1 - \frac{t_0^2}{t}\right)\right]$$

where t is pressure period (μs). SEASAVE® automatically implements this equation.

Table 7: Pre-Cruise Calibration coefficients for the pressure sensor.

s/n 1207
November 3, 2014
c_1 = -3.999674e+04
c_2 = 4.123031e-01
c_3 = 1.243250e-02
d_1 = 3.467300e-02
d_2 = 0.000000e+00
t_1 = 3.045295+01
t_2 = -1.373450e-04
t_3 = 4.212880e-06
t_4 = 2.277210e-09
t_5 = 0.000000e+00
Slope = 1.00000000
Offset = 0.70000
AD590M = 1.279591e-02
AD590B = -8.694466e+00

5.2 Temperature

The temperature-sensing element is a glass-coated thermistor bead, pressure protected by a stainless steel tube. The sensor output frequency ranges from 5–13 kHz corresponding to temperatures from -5 to 35°C. The output frequency is inversely proportional to the square root of the thermistor resistance, which controls the output of a patented Wien Bridge circuit. The thermistor resistance is exponentially related to temperature. The SBE 3 thermometer has a typical accuracy/stability of ±0.004°C per year and resolution of 0.0003°C at 24 samples per second. The SBE 3 thermometer has a fast response time of 0.070 seconds.

Two temperature sensors (SBE 3plus) were used during AB1510, serial numbers (s/n) 5855 and 5237. Pre-cruise sensor calibrations were performed at Sea-Bird Electronics, Inc. in Bellevue, Washington during September 2015. The following coefficients (Table 8) were entered into SEASAVE® using the configuration file. SEASAVE® automatically implements the equation below and converts between ITS-90 and IPTS-68 temperature scales as desired. The Temperature (ITS-90) is computed from g, h, i, j and f_0 and f is the instrument frequency (kHz) coefficients as follows:

$$T\,(^\circ C) = \frac{1}{\left\{g + h * \left[\ln\left(\frac{f_0}{f}\right)\right] + i * \left[\ln^2\left(\frac{f_0}{f}\right)\right] + j * \left[\ln^3\left(\frac{f_0}{f}\right)\right]\right\}} - 273.15$$

Table 8: Pre-Cruise Calibration coefficients for the temperature sensors.

s/n 5855 September 5, 2015	s/n 5237 September 5, 2015	s/n 5236 October 10, 2014
g = 4.36503623e-03	g = 4.40986427e-03	g = 4.39587028e-03
h = 6.31055809e-04	h = 6.79315158e-04	h = 6.78643662e-04
i = 1.96265831e-05	i = 2.81290440e-05	i = 2.80700078e-05
j = 1.37161083e-06	j = 2.11883266e-06	j = 2.13896327e-06
f_0 = 1000.0	f_0 = 1000.0	f_0 = 1000.0

5.3 Conductivity

The flow-through conductivity-sensing element is a glass tube (cell) with three platinum electrodes (Seabird model SBE 4). The resistance measured between the center electrode and the end electrode pair is determined by the cell geometry and the specific conductance of the fluid within the cell, and controls the output frequency of a Wein Bridge circuit. The sensor has a frequency output of approximately 3 to 12 kHz corresponding to conductivity from 0 to 7 Siemens/meter (0 to 70 mmho/cm). The SBE 4 has a typical accuracy/stability of ±0.0003 $S{\cdot}m^{-1}$/month and resolution of 0.00004 $S{\cdot}m^{-1}$ at 24 scans per second.

Two conductivity sensors were used during AB1510, serial numbers (s/n) 4229 and 4223. Pre-cruise sensor calibrations were performed at Sea-Bird Electronics, Inc. in Bellevue, Washington during September 2015. The coefficients shown in Table 9 were entered into Seasave using the configuration file.

Conductivity calibration certificates show an equation containing the appropriate pressure-dependent correction term to account for the effect of hydrostatic loading (pressure) on the conductivity cell:

$$C\ (Siemens/meter) = \frac{(g + h * f^2 + i * f^3 + j * f^4)}{[10 * (1 + c_{t_{cor}} * t + c_{p_{cor}} * p)]}$$

where g, h, i, j, $c_{t_{cor}}$, and $c_{p_{cor}}$ are the calibrations coefficients shown above, f is the instrument frequency (kHz), t is the water temperature (degrees Celsius), and p is the water pressure (dbar). SEASAVE® automatically implements this equation.

5.4 Dissolved Oxygen

The SBE 43 dissolved oxygen sensor uses a membrane polarographic oxygen detector (MPOD). Oxygen sensors determine the dissolved oxygen concentration by counting the number of oxygen molecules per second (flux) that diffuse through a membrane. By knowing the flux of

Table 9: Pre-Cruise Calibration coefficients for the conductivity sensors.

s/n 4229 September 3, 2015	s/n 4223 September 3, 2015
g = -9.74051929e+00	g = -9.93009390e+00
h = 1.50386068e+00	h = 1.37372677e+00
i = -1.41804116e-03	i = -2.22811517e-03
j = 1.96057246e-04	j = 2.17271998e-04
CPcor = -9.5700e-08	CPcor = -9.5700e-08
CTcor = 3.2500e-06	CTcor = 3.2500e-06

oxygen and the geometry of the diffusion path, the concentration of oxygen can be computed. The permeability of the membrane to oxygen is a function of temperature and ambient pressure. In order to minimize the errors in the oxygen measurement due to the temperature differences between the water and the oxygen sensor, a temperature compensation is calculated using a temperature measured near the active surface of the sensor. The interface electronics output voltages proportional to the temperature-compensated oxygen current. Initial computation of dissolved oxygen in engineering units is done in the software. The range for dissolved oxygen is 120% of surface saturation in all natural waters, fresh and salt, and the nominal accuracy is 2% of saturation.

Under extreme pressure, changes can occur in gas permeable Teflon membranes that affect their permeability characteristics. Some of these changes (plasticization and amorphous/crystalinity ratios) have long time constants and depend on the sensor's time-pressure history. These slow processes result in hysteresis in long, deep casts. The hysteresis correction algorithm operates through the entire data profile and corrects the oxygen voltage values for changes in membrane permeability as pressure varies. At each measurement, the correction to the membrane permeability is calculated based on the current pressure and how long the sensor spent at previous pressures.

Sea-Bird has implemented an optional hysteresis correction for dissolved oxygen data. The correction algorithm requires a continuous time series of data, with no temporal data gaps (although a continuous time series is necessary, a constant sampling interval is not required). Prior to processing, do not remove any data from the downcast or upcast (if to be used), other than a surface soak at the beginning of the downcast.

Oxygen sensors 2691 and 2949 were used during AB1510. The following oxygen coefficients (Table 10) were entered into SEASAVE® using the configuration file:

The use of these constants in linear equations of the form $I = mV + b$ and $T = kV + c$ yield sensor membrane current and temperature (with maximum error of about 0.5 °C) as a function of sensor output voltage.

Dissolved oxygen concentration is calculated according to:

$$O\ (ml/l) = \{Soc * (V + V_{offset} + tau(T,S) * \frac{\delta v}{\delta t}) + p1 * station\}$$
$$*(1.0 + A*T + B*T^2 + C*T^3) * OXSAT(T,S) * e^{E*(\frac{P}{K})}$$

Table 10: Pre-Cruise Calibration coefficients for the dissolved oxygen sensors.

s/n 2691 August 28, 2015	s/n 2949 July 9, 2015
Soc = 0.44221	Soc = 0.42259
Voffset = -0.4924	Voffset = -0.5326
Tau20 = 1.05	Tau20 = 1.11
A = -4.4132e-03	A = -4.1927e-03
B = 2.4006e-04	B = 2.3144e-04
C = -3.3459e-06	C = -3.1279e-06
$E_{nominal}$ = 0.036	$E_{nominal}$ = 0.036

where Soc, V_{offset}, tau, A, B, C, E and $p1$ are the calibration coefficients shown above and V is the instrument voltage (V). T, S and P are the temperature, salinity and pressure measured by the CTD. K is the temperature in the absolute scale (K), $\delta v/\delta t$ is the oxygen voltage time derivative, *station* is the station number, and $OXSAT$ is the oxygen saturation value calculated according to (Weiss, 1970):

$$OXSAT(\theta, S) = \exp\left\{A_1 + A_2 * \left(\frac{100}{\theta}\right) + A_3 * \ln\left(\frac{\theta}{100}\right) + A_4 * \left(\frac{\theta}{100}\right) + S * \left[B_1 + B_2 * \left(\frac{\theta}{100}\right) + B_3 * \left(\frac{\theta}{100}\right)^2\right]\right\}$$

where θ is the absolute temperature (K); and

$$\begin{aligned} A_1 &= -173.4292 & B_1 &= -0.033096 \\ A_2 &= 249.6339 & B_2 &= 0.014259 \\ A_3 &= 143.3483 & B_3 &= -0.00170 \\ A_4 &= -21.8492. \end{aligned}$$

SEASAVE® automatically implements this equation.

The hysteresis correction is calculated, using the oxygen voltages, with the following algorithm:

$$D = 1 + H_1 * (e^{\left(\frac{P(i)}{H2}\right)} - 1)$$

$$C = e(-1 * \left(\frac{Time(i) - Time(i-1))}{H3}\right)$$

$$O_V(i) = O_{volt}(i) + V_{offset}$$

$$O_{newvolts}(i) = a * \frac{a}{D}$$

$$O_{finalvolts}(i) = O_{newvolts}(i) - V_{offset}$$

Where:

i = indexing variable (must be a continuous time series to work; can be performed on bin averaged data), where i = 1:end (end is largest data index point plus 1).
$P(i)$ = pressure (decibars) at index point i .
$Time(i)$ = time (seconds) from start of index point i.
$O_{volt}(i)$ = SBE 43 oxygen voltage output directly from sensor, with no calibration or hysteresis corrections, at index point i.
V_{offset} = correction for an electronic offset that is applied to voltage output of sensor. V_{offset} correction is always negative (see factory calibration sheet for this coefficient). V_{offset} is added to raw voltages prior to hysteresis correction. At end of hysteresis corrections, V_{offset} is removed prior to data conversion using SBE 43 calibration equation (see $O_{finalvolts}(i)$).
$O_V(i)$ = dissolved oxygen voltage value with V_{offset} correction (made prior to hysteresis correction) at index point i.
D and C are temporary variables used to simplify expression in processing loop.
$H1$ = amplitude of hysteresis correction function. Default = -0.033, range = -0.02 to -0.05 (varies from sensor to sensor).
$H2$ = function constant or curvature function for hysteresis. Default = 5000.
$H3$ = time constant for hysteresis (seconds). Default = 1450, range = 1200 to 2000 (varies from sensor to sensor).
$O_{newvolts}(i)$ = hysteresis-corrected oxygen value at index point i.
$O_{finalvolts}(i)$ = hysteresis-corrected oxygen value at index point i with V_{offset} removed.

This step is necessary prior to computing oxygen concentration using SBE 43 calibration equation.

5.5 Reference Temperature

The SBE 35RT is an accurate, ocean-range temperature sensor that is capable of measuring temperature in the ocean to depths of 6800 meters (22,300 ft). The SBE 35RT communicates via a standard RS-232 interface at 300 baud, 8 data bits, no parity. The SBE 35RT makes a temperature measurement each time a bottle fire confirmation is received, and stores the value in EEPROM. Each stored value contains the time and bottle position in addition to the temperature data, allowing comparison of the SBE 35RT record with CTD and water bottle data. Using one SBE 35RT eliminates the need for reversing thermometers, and provides higher accuracy temperature readings at lower cost. Calibration coefficients stored in EEPROM allow the SBE 35RT to transmit data in engineering units (Table 11). When configured in a real-time system, the SBE 35RT can use the system modem channel for two-way communications; it is not necessary to change cable connections to communicate with and retrieve data from the SBE 35RT. (2015, February 12). Retrieved from http://www.seabird.com/sites/default/files/documents/35RT_013.pdf.

The sensor measurement ranges from -5 to 35°C. The SBE 35RT digital reversing thermometer has a typical accuracy/stability of ±0.001°C per year and resolution of 0.000025°C.

Table 11: Pre-Cruise Calibration coefficients for the reference temperature.

s/n 0097 August 21, 2014
A0 = 4.214343e-03
A1 = -1.115737e-03
A2 = 1.719186e-04
A3 = -4.4132e-06
A4 = -9.611143e-07
Slope = 1.0000
Offset = 0.0000

6 Data Acquisition

CTD/rosette casts were performed with a package consisting of a 24-place, 10-liter rosette frame (AOML's pink frame), a 24-place water sampler (SBE32) and 24, 10-liter Bullister-style bottles. This package was deployed on all stations/casts. Underwater electronic components consisted of a Sea-Bird Electronics (SBE) 9 plus CTD with dual pumps and the following sensors: dual temperature (SBE3), dual conductivity (SBE4), dual dissolved oxygen (SBE43), reference temperature (SBE35), a fluorometer, and a Simrad 807 altimeter and a Valeport VA500 altimeter. The other underwater electronic components consisted of two RDI LADCPs. A total of 44 CTD/rosette casts were made, usually to within 20 m of the bottom.

The CTD's supplied a standard Sea-Bird format data stream at a data rate of 24 frames/second. The SBE9 plus CTD was connected to the SBE32 24-place pylon providing for single-conductor sea cable operations. Power to the SBE9 plus CTD, SBE32 pylon, auxiliary sensors, and altimeter was provided through the sea cable from the SBE911plus deck unit in the computer lab. The rosette system was suspended from a UNOLS-standard three-conductor 0.322" electro-mechanical sea cable.

The CTD was mounted vertically attached to the bottom center of the rosette frame. All SBE4 conductivity and SBE3 temperature sensors and their respective pumps were mounted vertically as recommended by SBE, outboard of the CTD. The CTD was outfitted with dual pumps. Primary temperature, conductivity, and dissolved oxygen were plumbed on one pump circuit and secondary temperature, conductivity, and dissolved oxygen on the other. Pump exhausts were attached to outside corners of the CTD cage and directed downward. The altimeter was mounted on the inside of a support strut adjacent to the bottom frame ring. The LADCP's were vertically mounted inside the bottle rings with one 150 kHz pointing down, the other 300 kHz transducer pointing up. The R/V Endeavors starboard J-frame CTD winch was used with the 24-place 10-liter rosette for all station/casts.

O-rings were changed as necessary and bottle maintenance was performed each day to insure proper closure and sealing. Valves were inspected for leaks and repaired or replaced as needed.

6.1 System Problems

- Carousel, s/n 1090, repeatedly did not fire niskin bottle 8. It was replaced with carousel, s/n 1079.

- Spikes in the primary temperature sensor, sn 5855, were noted in stations 39 and 40 and was replaced with sn 5236 for station 41.

6.2 Data Acquisition

The CTD data acquisition system consisted of an SBE-11plus (V2) deck unit and a networked generic PC workstation running Windows 7 located in the aft bridge. SBE Seasave software version 7.23.2 was used for data acquisition and to close bottles on the rosette.

The deck watch prepared the rosette typically after sampling the previous cast. All valves, vents, and lanyards were checked for proper orientation. The bottles were cocked and all hardware and connections rechecked. Fifteen minutes or so prior to station the Deck unit was powered on and an on-deck pre-cast pressure was obtained. Once on station, the syringes were removed from the CTD sensor intake ports. Tag lines were necessary for both deployments and recoveries during this cruise. As soon as it was in the water, the CTD deck unit was powered on and the data acquisition system started. As directed by the deck watch leader, the CTD was taken down to 10 m for 2 minutes to remove any air bubble from the sensor lines and to make sure the sensors were behaving appropriately. The CTD was brought back to just below the surface with the console operator hitting "Mark Scan" before beginning the descent. The profiling rate was no more than 30 m/min to 50 m, 45 m/min to 200 m, and no more than 60 m/min deeper than 200 m. Upon recover, the CTD deck unit was turned off just before recovery. The rosette was left on deck for sampling. The bottles and rosette were examined before samples were taken and anything unusual noted on the sample log.

The console watch monitored the progress of the deployment and quality of the CTD data through interactive graphics and operational displays. Additionally, the watch created a sample log for the deployment that would be later used to record the correspondence between rosette bottles and analytical samples taken. The altimeter channel, CTD pressure, wire-out and bathymetric depth were all monitored to determine the distance of the package from the bottom, usually allowing a safe approach to within 20 m.

On the up cast, the winch operator was directed to stop at each bottle trip depth. The CTD console operator waited 30 seconds before tripping a bottle using a "point and click" graphical trip button and 5 seconds after to allow the reference temperature sensor to sample. The data acquisition system responded with trip confirmation messages and the corresponding CTD data in a rosette bottle trip window on the display. All tripping attempts were noted on the console log. The console watch then directed the winch operator to raise the package up to the next bottle trip location.

After the last bottle was tripped, the console watch directed the deck watch to bring the rosette on deck. Once on deck, the console watch terminated the data acquisition, turned off the deck unit, and assisted with rosette sampling.

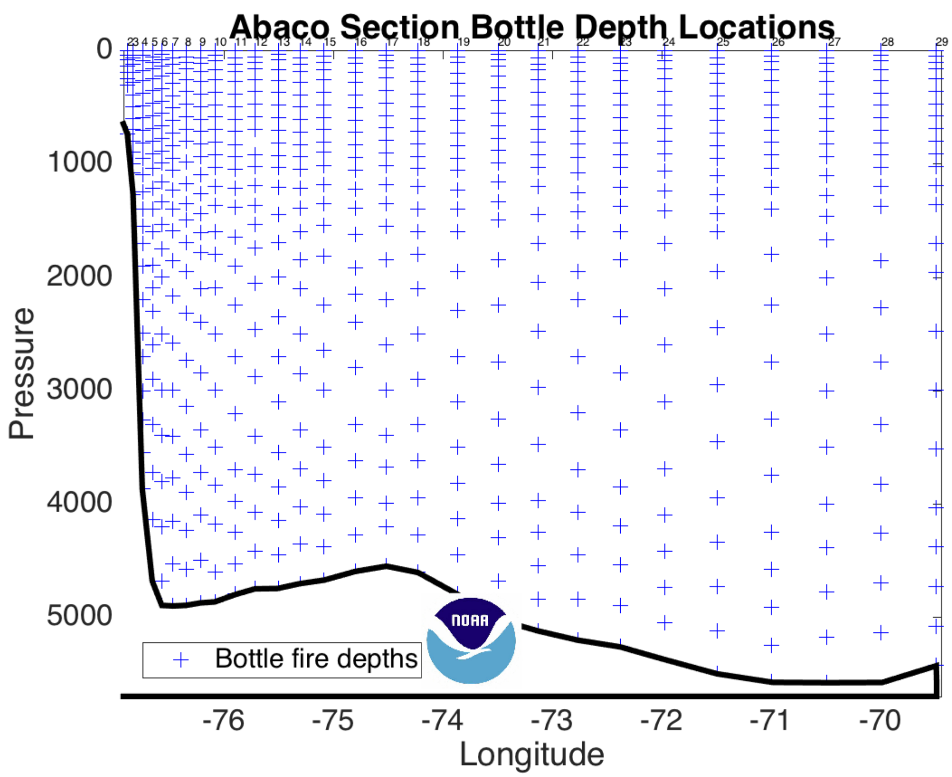

Figure 2: Bottle locations for 26.5°N Deep Western Boundary Current section east of Abaco Island.

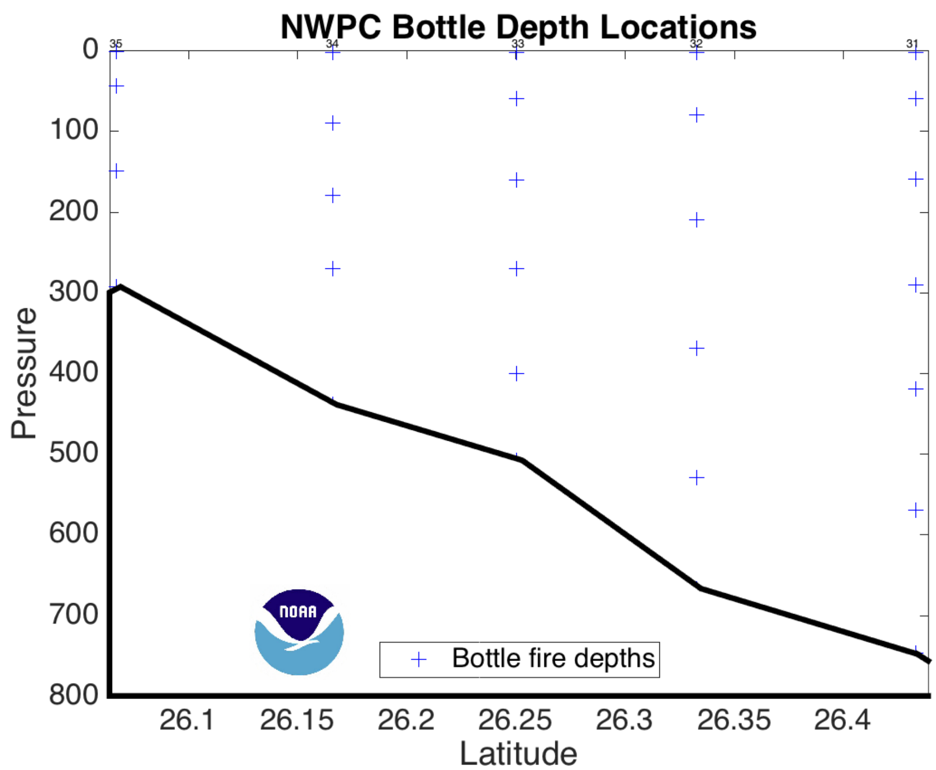

Figure 3: Bottle locations for along the Northwest Providence Channel section.

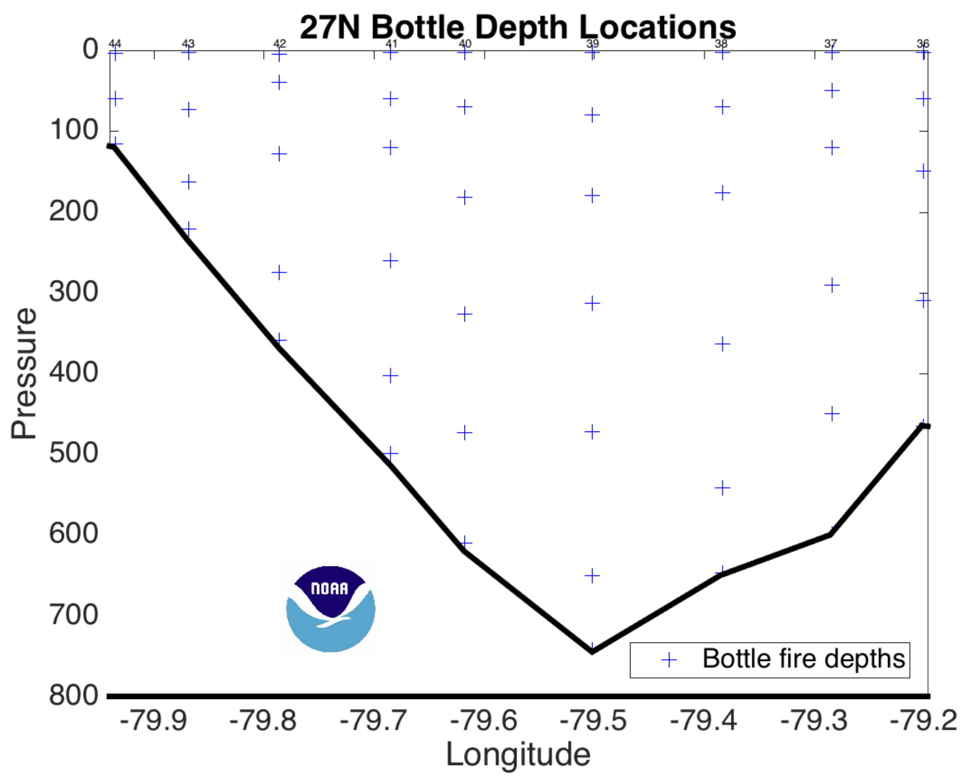

Figure 4: Bottle locations for 27°N section in the Florida Straits.

6.3 Shipboard CTD Data Processing

Shipboard CTD data processing was performed automatically at the end of each deployment using SEABIRD SBE Data Processing version 7.21k and AOML Matlab processing software. The raw CTD data and bottle trips acquired by SBE Seasave on the Windows 7 workstation were copied onto the CTD-PROC workstation, and processed to a 1-dbar series and a 1-second time series. Bottle trip values were extracted and a 1-decibar (dbar) down cast pressure series created.

Raw data are acquired from the instruments and are stored unmodified. The conversion module DATCNV uses the instrument configuration and pre-cruise factory calibration coefficients to create a converted engineering unit data file that is utilized by all SBEDataProc® post processing modules. Unless otherwise noted, all calibration parameters given are factory default values recommended by Sea Bird Electronics, Inc. The following is the SBEDataProc® processing module sequence and specifications for primary calibrated data (1 dbar averages) uses the following routines in order for reduction of CTD/O2 data from this cruise:

1. DATCNV converts raw data into engineering units and creates a .ROS bottle file. Both down and up casts were processed for scan, elapsed time(s), depth, pressure, t0 ITS-90 C, t1 ITS-90 C, c0 S/m, c1 S/m, salinity (PSU), salinity 2 (PSU), oxygen voltage V, oxygen 2 voltage V, altimeter, optical sensor, oxygen umol/kg, oxygen 2 umol/kg, oxygen mll/l, oxygen 2 ml/l, oxygen dv/dt, oxygen dv/dt 2, latitude, and longitude. The scan range offset is 0 seconds and the scan range duration is 5.5 seconds. MARKSCAN was used to determine the number of scans acquired on deck and while priming the system to exclude these scans from processing.

2. ALIGNCTD aligns temperature, conductivity, and oxygen measurements in time relative to pressure to ensure that derived parameters are made using measurements from the same parcel of water. Primary and secondary conductivity are automatically advanced by 0.073 seconds and both oxygen are advanced by an additional 0.073 seconds.

3. BOTTLESUM creates a summary of the bottle data. Bottle position, date, and time were output automatically. Pressure, temperature, conductivity, salinity, oxygen voltage and preliminary oxygen values were averaged over a 5 second interval.

4. WILDEDIT computes the standard deviation of 100 point bins, and then makes two passes through the data. The first pass flags points that differ from the mean by more than 2 standard deviations. A new standard deviation is computed excluding the flagged points and the second pass marks bad values greater than 20 standard deviations from the mean. For this data set, data were kept within a distance of 100 of the mean (i.e., all data).

5. FILTER applies a low pass filter to pressure with a time constant of 0.15 seconds. In order to produce zero phase (no time shift), the filter is first run forward through the file and then run backwards through the file.

6. CELLTM uses a recursive filter to remove conductivity cell thermal mass effects from measured conductivity. In areas with steep temperature gradients the thermal mass correction is on the order of 0.005 PSS-78. In other areas the correction is negligible. The value used for the thermal anomaly amplitude (alpha) was 0.03°C. The value used for the thermal anomaly time constant (1/beta) was 7.0°C.

7. LOOPEDIT removes scans associated with pressure slowdowns and reversals. If the CTD velocity is less than 0.25 m/s or the pressure is not greater than the previous maximum scan, the scan is omitted.

8. DERIVE uses 1 dbar averaged pressure, temperature, and conductivity to compute primary and secondary salinities. Oxygen voltage is used to calculate oxygen concentrations.

9. BINAVG averages the data into 1 dbar bins. Each bin is centered on an integer pressure value, e.g., the 1 dbar bin averages scans where pressure is between 0.5 dbar and 1.5 dbar. There is no surface bin. The number of points averaged in each bin is included in the data file.

10. STRIP removes the computed oxygen variable.

11. TRANS converts the binary data file into ASCII format.

12. SPLIT separates the cast into upcast and downcast values.

Package slowdowns and reversals owing to ship roll can move mixed water in tow to in front of the CTD sensors and create artificial density inversions and other artifacts. In addition to Seasoft module LOOPEDIT, a program computes values of density locally referenced between every 1 dbar of pressure to compute N^2 and linearly interpolates temperature, conductivity, and oxygen voltage over those records where N^2 is less than or equal to -1 x 10^{-5} s^{-2}. These data were retained but flagged as questionable in the final WOCE formatted files.

Final calibrations are applied to delooped data files. ITS-90 temperature, salinity, and oxygen are computed, and WOCE quality flags are created.

CTD data were examined at the completion of each deployment for clean corrected sensor response and any calibration shifts. As bottle salinity and oxygen results became available, they were used to refine shipboard conductivity and oxygen sensor calibrations.

A total of 44 casts were processed.

6.4 CTD Calibration Procedures

Laboratory calibrations of the CTD pressure, temperature, conductivity, and oxygen sensors were all performed at SBE. The calibration dates are listed in Table 6.

Secondary temperature, conductivity and dissolved oxygen (T2, C2 and DO2) sensors served as calibration checks for the reported primary sensors. During the cruise, it was determined that the secondary sensors behaved more stably during the cruise.

In-situ salinity and dissolved O2 check samples collected during each cast were used to calibrate the conductivity and dissolved O2 sensors.

6.4.1 Salinity Analysis

Two Guildline Autosals, model 8400B, located in salinity analysis room, were used for all salinity measurements. The first autosal used was provided by the R/V Endeavor for stations 1-5. The replacement autosal was from AOML for the remaining stations. The reason for swapping the autosals was unnecessary as it turned out a bad standard water value was entered to calculate the drift correction. The salinometer readings were logged on a computer using Ocean Scientific International's logging hardware and software. The Autosal's water bath temperature was set to 24°C, which the Autosal is designed to automatically maintain. The laboratory's temperature is typically set and maintained to just below 24°C to help further stabilize reading values and improve accuracy. This was accomplished by using a portable A/C unit to assist in stabilizing the room temperature. The room temperature was monitored by a digital thermometer with serial output logging on the salinity computer. Salinity analyses were performed after samples had equilibrated to laboratory temperature, usually at least 12 hours after collection. The salinometer was standardized for each group of samples analyzed (usually 2 casts and up to 52 samples) using two bottles of standard seawater: one at the beginning and end of each set of measurements. The salinometer output was logged to a computer file. The software prompted the analyst to flush the instrument's cell and change samples when appropriate. For each calibration standard, the salinometer cell was initially flushed 6 times before a set of conductivity ratio reading was taken. For each sample, the salinometer cell was initially flushed at least 3 times before a set of conductivity ratio readings were taken.

IAPSO Standard Seawater Batch P-158 was used to standardize all casts (Table 12).

Table 12: Nominal values for the batches of IAPSO standard seawater.

P-158
Use By: March 2018
K15: 0.99970
Salinity: 34.988

The salinity samples were collected in 200 ml Kimax high-alumina borosilicate bottles that had been rinsed at least three times with sample water prior to filling. The bottles were sealed with custom-made plastic insert thimbles and Nalgene screw caps. This assembly provides very low container dissolution and sample evaporation. Prior to sample collection, inserts were inspected for proper fit and loose inserts replaced to insure an airtight seal. Laboratory temperature was also monitored electronically throughout the cruise. PSS-78 salinity [UNES81] was calculated for each sample from the measured conductivity ratios. The offset between the initial standard seawater value and its reference value was applied to each sample. Then the difference (if any) between the initial and final vials of standard seawater was applied to each sample as a linear function of elapsed run time. The corrected salinity data was then incorporated into the cruise database. When duplicate measurements were deemed to have been collected and run properly, they were averaged and submitted with a quality flag of 6. On WBTS - AB1510, 728 salinity measurements were taken, including 69 duplicates, and approximately 32 vials of standard seawater (SSW) were used. Up to two duplicate samples drawn from most casts to determine total analytical precision.

The running standard calibration values for both autosals are shown in Figures 5 and 6. Through the course of the cruise, the autosal standards for the ship's autosal drifted by -0.00004 in conductivity ratio (about 0.0009 in salinity) and AOML's autosal drifted by -0.00008 in conductivity ratio (about 0.0015 in salinity). The precision of the salinity measurements during the cruise were estimated by using the duplicate samples. From the 69 duplicate samples (Table 13), which corresponds to 9.5% of the total samples collected during this cruise, the average residual for the duplicates was $6.0 \cdot 10$-4 PSU with and standard deviation of 0.0022 PSU (Figure 7).

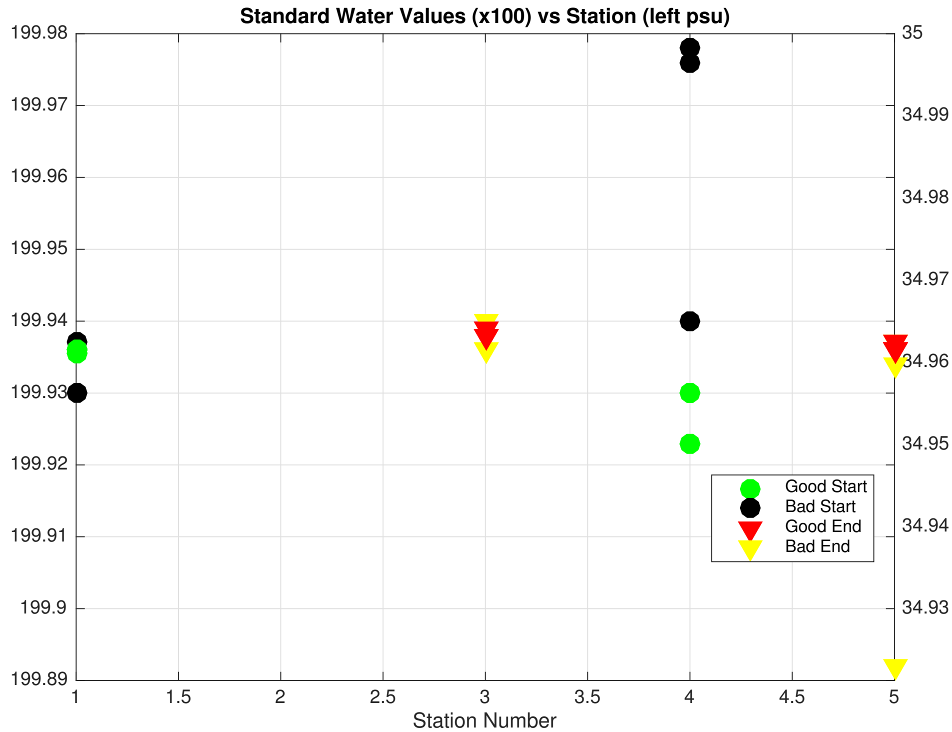

Figure 5: Standard vial calibrations throughout the cruise (ship autos).

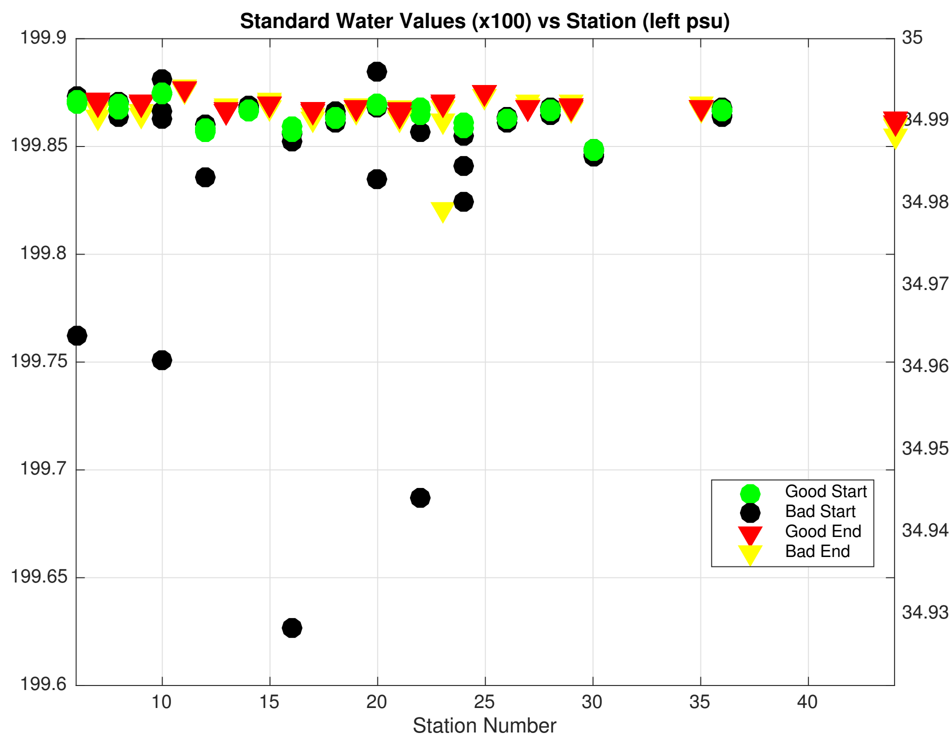

Figure 6: Standard vial calibrations throughout the cruise (AOML autosal).

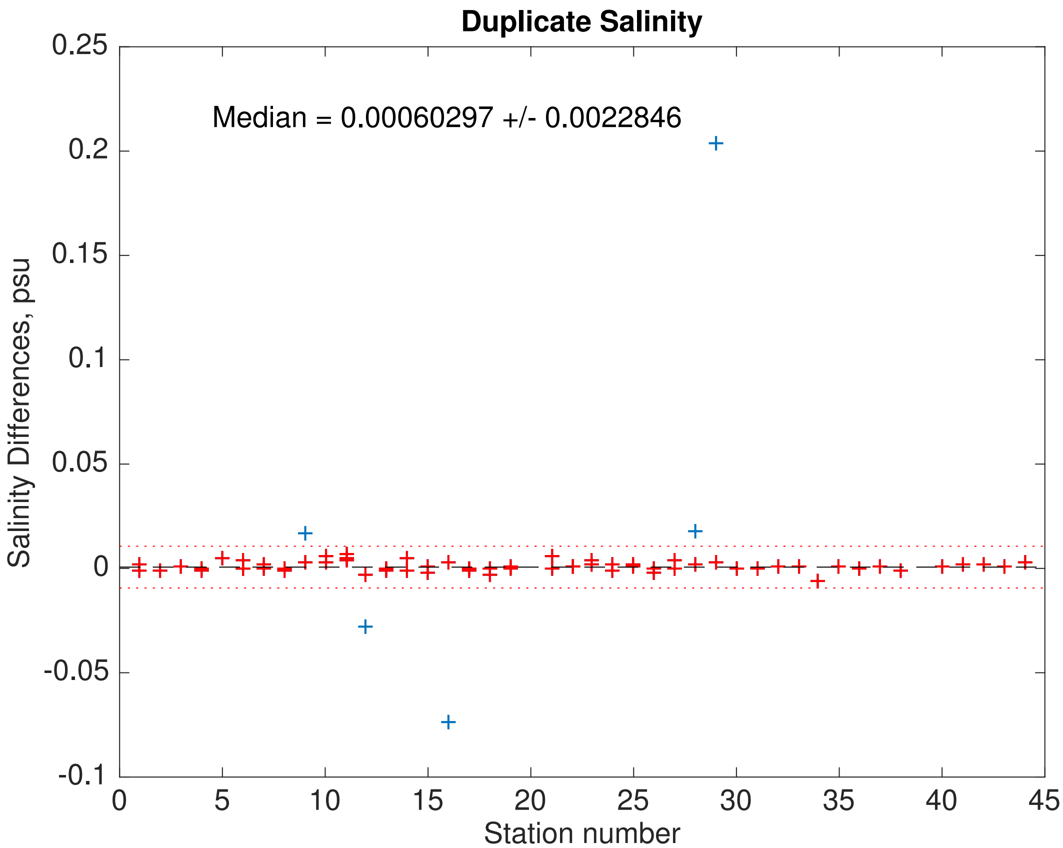

Figure 7: Salinity residuals of the duplicate samples.

Table 13: Duplicate salinity samples collected during the ABACO cruise.

Station	Niskin	Salinity1	Salinity2	Differences
1	10	34.958	34.957	0.001
1	21	36.667	36.669	-0.002
2	4	36.637	36.637	0.001
3	5	35.184	35.185	-0.001
4	10	34.992	34.992	-0.000
4	18	36.278	36.277	0.001
5	6	34.938	34.943	-0.005
6	1	34.884	34.884	-0.000
6	3	34.886	34.890	-0.004
6	6	34.925	34.925	0.000
7	3	34.889	34.891	-0.002
7	9	34.973	34.972	0.000
8	8	34.946	34.947	-0.000
8	24	36.631	36.630	0.001
9	6	34.924	34.941	-0.017
9	16	35.538	35.541	-0.003
10	4	34.891	34.897	-0.006
10	18	36.385	36.387	-0.003
11	1	34.877	34.884	-0.007
11	9	34.967	34.971	-0.004
11	15	35.211	35.215	-0.005
12	3	34.891	34.888	0.003
12	13	35.077	35.050	0.027
13	2	34.884	34.884	0.000
13	13	35.077	35.076	0.001
14	7	34.941	34.945	-0.005
14	22	36.743	36.743	0.001
15	7	34.937	34.935	0.002
15	16	35.493	35.494	-0.001
16	3	34.890	34.893	-0.003
16	13	35.048	34.975	0.073
17	11	35.025	35.024	0.000
17	21	36.652	36.652	0.001
18	3	34.887	34.884	0.003
18	13	35.074	35.074	0.000
19	5	34.902	34.903	-0.001
19	16	35.548	35.548	0.000
21	1	34.863	34.862	0.000
21	8	34.940	34.945	-0.006
22	5	34.901	34.902	-0.001
22	11	35.010	35.011	-0.001

23	3	34.882	34.884	-0.002
23	18	36.262	36.265	-0.004
24	6	34.921	34.923	-0.002
24	16	35.959	35.958	0.001
25	11	35.025	35.025	-0.001
25	21	36.616	36.618	-0.002
26	1	34.851	34.849	0.002
26	12	35.067	35.067	0.000
27	5	34.895	34.896	-0.000
27	20	36.601	36.605	-0.004
28	3	34.881	34.883	-0.002
28	5	34.897	34.915	-0.018
29	14	35.133	35.136	-0.003
29	19	36.323	36.527	-0.204
30	2	34.895	34.895	-0.000
31	2	35.823	35.824	-0.000
32	1	35.280	35.281	-0.001
33	4	36.644	36.644	-0.000
34	6	36.561	36.554	0.006
35	1	36.522	36.523	-0.001
36	2	36.567	36.567	0.000
37	2	35.935	35.936	-0.001
38	1	35.153	35.152	0.001
40	4	36.054	36.055	-0.001
41	6	36.626	36.628	-0.002
42	4	36.731	36.733	-0.002
43	2	36.321	36.322	-0.001
44	2	36.432	36.434	-0.003

6.4.2 Oxygen Analysis

Dissolved oxygen analyses were performed with an automated titrator using amperometric end-point detection (Langdon, 2010). Sample titration, data logging, and graphical display were performed with a PC running a LabView program written by Ulises Rivero of AOML. Thiosulfate (17.5g per 500 ml) was dispensed by a 2 ml Gilmont burette driven with a stepper motor controlled by the titrator. Tests in the lab were performed to confirm that the precision and accuracy of the volume dispensed were comparable or superior to the Dosimat 665. The whole-bottle titration technique of Carpenter (1965), with modifications by Culberson et al. (1991), was used. Four replicate 10 *ml* iodate standards were run every 3-4 days or at the initial fill of new Thiosulfate and once again after bottle has reached half volume, which ever came first. The reagent blank determined as the difference between V1 and V2, the volumes of Thiosulfate required to titrate 1ml aliquots of the iodate standard, was determined two times during the cruise at the beginning and middle. This method was found during pre-cruise testing to produce a more reproducible blank value than the value determined as the intercept of a standard curve.

Dissolved oxygen samples were drawn from Niskin bottles into calibrated 125-150ml iodine titration flasks using silicon tubing. Bottles were rinsed three times and filled from the bottom, overflowing three volumes while taking care not to entrain any bubbles. The CTD temperatures were used to calculate *umol/kg* concentrations. 1ml of MnCl2 and 1ml of NaOH/NaI were added immediately after drawing the sample was concluded using a ThermoScientific REPIPET II. The flasks were then stoppered and shaken well. Deionized water (DIW) was added to the neck of each flask to create a water seal. The total number of oxygen samples collected from the rosette was 762 including the duplicate samples, two taken at random every cast. The samples were stored in the lab in plastic totes at room temperature for 1.5 hours before analysis. The data was incorporated into the cruise database shortly after analysis. Thiosulfate normality was calculated from the laboratory temperature for each sample run.

The dispenser used for the standard solution (SOCOREX Calibrex 520) and the burette were calibrated gravimetrically just before the cruise. Oxygen flask volumes were determined gravimetrically with degassed deionized water at AOML. The correction for buoyancy was applied.

The first 13 stations of oxygens run showed lower oxygen concentration values, 3-5 *umol/kg* , when compared to historical data. It was determined that the first standard value used in the calculation, 710.99, was bad and the remaining three standards were good, 700.277, 701.297, 702.77. The three good standard values were used to calculate an average "good" standard value, 701.45, which was used to recalculate all the oxygen values, correcting the lower values of the first 13 stations.

The precision of the oxygen measurements during the cruise were estimated by using the duplicate samples. From the 56 duplicate samples (Table 14), which corresponds to 7.3% of the total samples collected during this cruise, the average residual for the duplicates was 0.0 *umol/kg* with and standard deviation of 0.38 *umol/kg* (Figure 8).

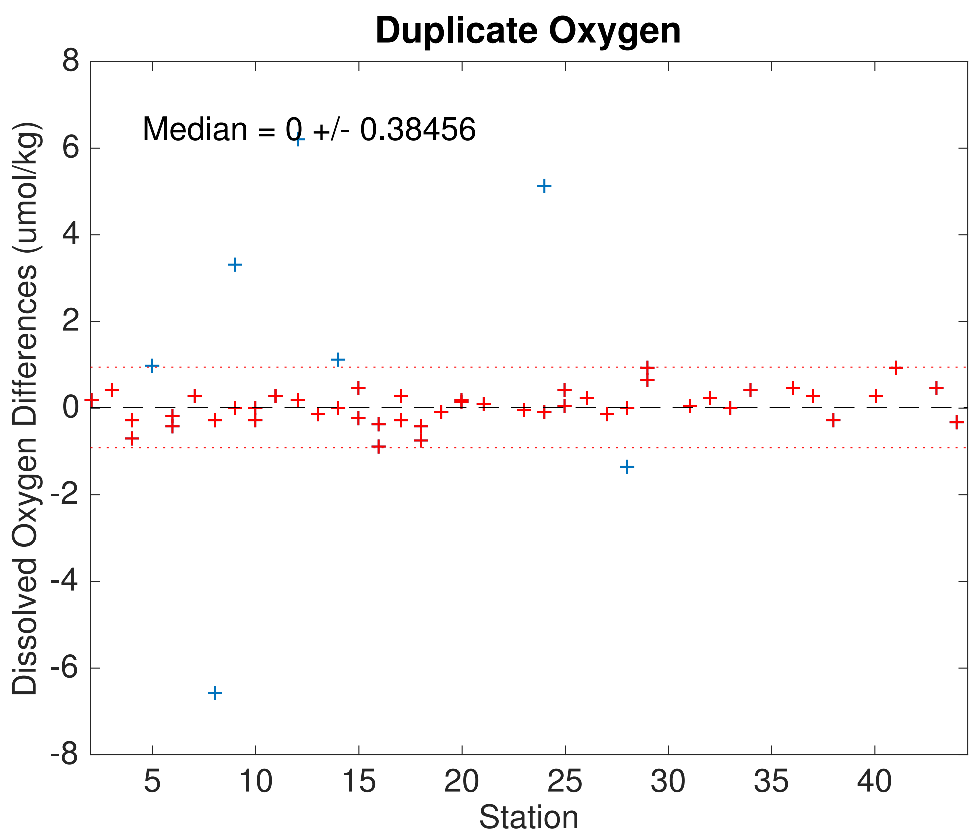

Figure 8: Oxygen residuals of the duplicate samples .

Table 14: Duplicate dissolved oxygen samples collected during the ABACO cruise (values in $umol/kg$).

Station	Niskin	Oxygen1	Oxygen2	Differences
2	8	201.7	201.9	-0.200
3	5	154.2	154.6	-0.400
4	10	263.6	263.3	0.300
4	18	184.4	183.7	0.700
5	14	225.3	226.3	-1.000
6	1	270.1	269.7	0.400
6	6	275.5	275.3	0.200
7	9	267.4	267.7	-0.300
8	8	269.3	269.0	0.300
8	24	195.4	188.8	6.600
9	6	271.0	271.0	0.000
9	16	144.1	147.4	-3.300
10	4	272.9	272.9	0.000
10	18	185.8	185.5	0.300
11	6	276.4	276.7	-0.300
11	8	271.5	271.8	-0.300
12	11	256.6	256.8	-0.200
12	13	202.7	208.9	-6.200
13	2	271.1	271.0	0.124
13	13	208.3	208.1	0.134
14	7	271.7	271.7	0.021
14	22	199.0	200.1	-1.112
15	7	272.2	272.7	-0.461
15	16	141.8	141.6	0.250
16	9	270.1	269.2	0.906
16	10	264.4	264.0	0.367
17	6	273.4	273.7	-0.265
17	9	268.7	268.4	0.286
18	3	274.4	273.9	0.424
18	13	195.1	194.3	0.769
19	5	276.8	276.7	0.102
20	9	268.5	268.6	-0.136
20	11	253.9	254.1	-0.203
21	12	238.3	238.4	-0.078
23	18	183.2	183.1	0.049
24	6	269.0	274.1	-5.110
24	13	160.7	160.6	0.074
25	9	267.7	268.2	-0.437
25	12	241.1	241.1	-0.031
26	12	229.8	230.0	-0.247
27	5	273.9	273.8	0.134

28	14	162.6	161.2	1.334
28	15	143.1	143.1	0.023
29	21	200.1	201.1	-0.917
29	22	210.1	210.7	-0.660
31	2	157.8	157.9	-0.047
32	10	198.4	198.6	-0.252
33	4	191.7	191.7	0.008
34	6	187.6	188.1	-0.404
36	2	191.9	192.4	-0.470
37	1	141.5	141.8	-0.290
38	1	131.8	131.5	0.270
40	6	153.6	153.9	-0.288
41	4	140.4	141.3	-0.924
43	1	130.6	131.1	-0.459
44	2	197.6	197.3	0.346

7 Post-Cruise Calibrations

Post cruise sensor calibrations were done at Sea-Bird Electronics, Inc. Secondary temperature, conductivity and dissolved oxygen sensors served as calibration checks for the reported primary sensors. In-situ salinity and dissolved oxygen samples collected during each cast were used to calibrate the conductivity and dissolved oxygen sensors. The digital reverse thermometer was used to monitor the temperature sensors for pressure dependencies or offsets.

Two sensor combinations were used during the cruise as listed in Table 6. Secondary TC pair T5237/C4223 was selected for final data reduction. Secondary conductivity post-calibration shows a drift since last calibration of -0.0006 PSU/month. Secondary temperature shows residual of -0.0007. The temperature residual is used to calculate the temperature offset since the last calibration and the conductivity drift is used as a check to the station drift coefficient we derive. No offset or drift correction was applied. Secondary oxygen sensor, s/n 2949, was used for the final data reduction. In addition to the Seasave processing modules, a group of Matlab script files called AOML/CTDCAL Toolbox were used. These scripts were based on earlier work of different groups as well as in modern statistical tools. They cover all the steps of the CTD data processing from the preliminary comparisons between sensors or bottle samples to data reductions and final sensors calibrations.

7.1 CTD Data Processing

By using the post cruise sensors calibrations; time drifts were estimated for the temperature and conductivity sensors (for estimated time drifts see the appropriate sections below). The processing module sequence used at sea is done again to include the time drifts as well the pressure correction. After this step the following Matlab scripts based on PMEL programs are applied to the CTD data:

- FILL_SURFACE was used to copy the first good value of salinity, potential temperature, oxygen and oxygen current back to the surface. The program then calculated temperature and conductivity, and zeroed doc/dt of oxygen current for those records.
- DESPIKE1 removed spikes from primary oxygen current and oxygen temperature data, as well as removing spikes from the primary conductivity sensor. Data were linearly interpolated over de-spiked records. Conductivity was back calculated, and sigma-theta and potential temperature were recomputed for the interpolated records.
- DESPIKE2 removed spikes from secondary sensors in the same method as DESPIKE1.
- Package slowdown and reversals due to ship roll can move mixed water in tow in front of the CTD sensors. This mixture can create artificial density inversions and other artifacts. In addition to the SEASOFT module LOOPEDIT, DELOOP, computes values of density locally referenced between every 1 dbar of pressure to compute $N^2 = (- g/p)\ (dp/dz)$ and linearly interpolated measured parameters over those records where $N^2 \leq -1.0$ e $-05\ s^{-2}$.

7.2 CTD Pressure

Pressure sensor calibration coefficients derived from the pre-cruise calibrations were applied to raw pressure data during each cast. Residual pressure offsets (the difference between the first and last submerged pressures) were examined to check for calibration shifts (see Figure 9 and Table 15). Pressure sensor s/n 1207 was used during the cruise with an initial pressure offset of 0.70 dbar applied. On deck pressures before the start of each cast was recorded and is plotted in Figure 9. The on deck pressure before and after the cast was stable at 0.2$\pm$ 0.1 dbar and 0.26 $\pm$ 0.1 dbar. This was accomplished by applying an offset of 0.23 dbar to the configuration files for a total offset of 0.47 dbar to the factory calibration.

Near surface pressure values (which is taken as the near-surface pressure at the markscan and the last fired bottle pressure) showed no remarkable trends over the cruise (2.98 $\pm$ 0.81 dbar before and 2.83 $\pm$ 0.63 dbar after (s/n 0363)).

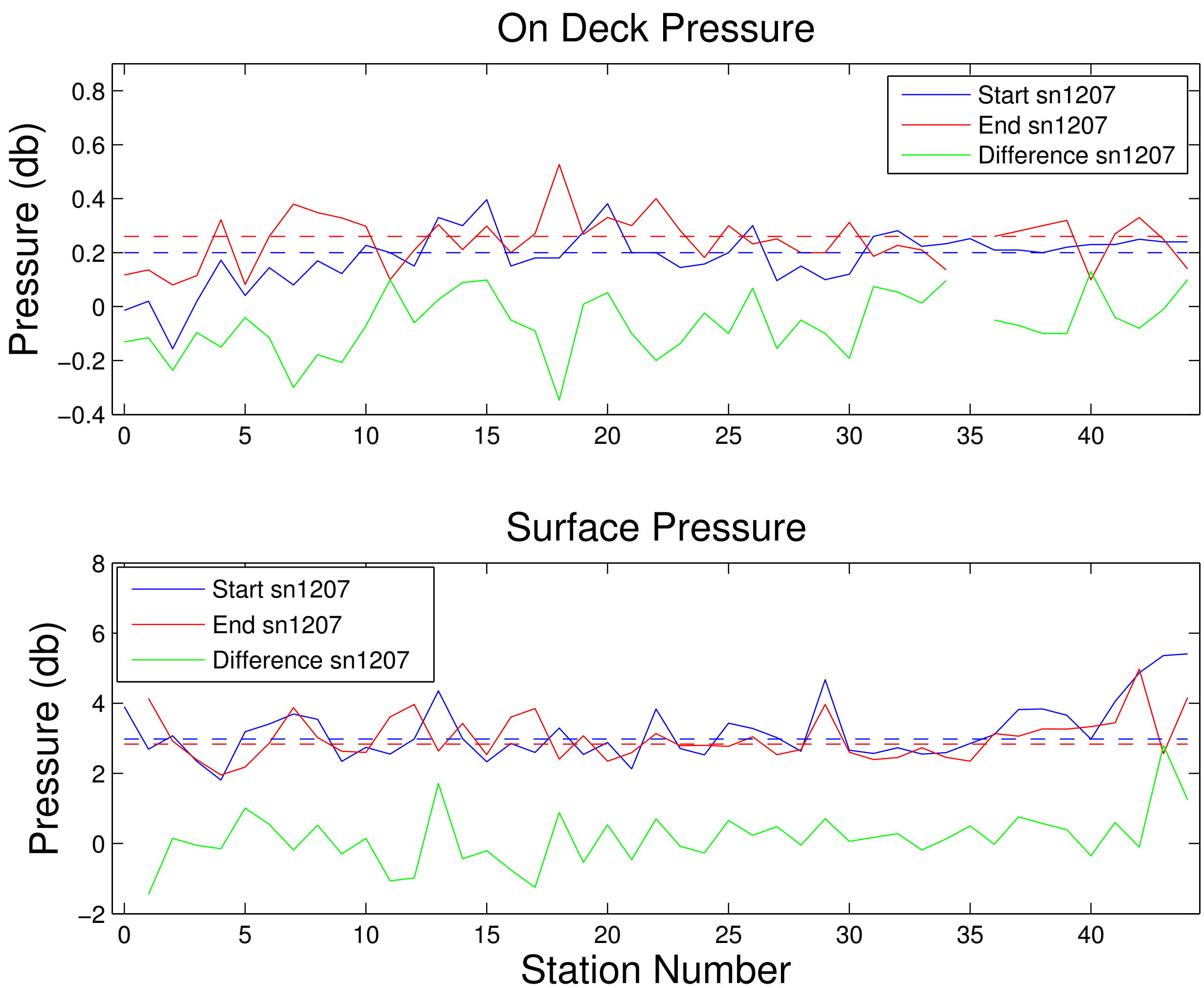

Figure 9: Pressure differences vs. station number. Top panel are the pressures measured on deck before the cast (blue),at the end of the upcast (red) and their respective difference (green) for s/n 1207. Bottom panel are the near sea surface pressure values measured at the start of the downcast (blue), at the end of the upcast (red) and their respective difference (green) for s/n 1207.

Table 15: Near surface Pressure values and scan number used to remove surface soak and on-deck values.

Station	Markscan	Deck Prs Start	Deck Prs End	Sfc Prs Start	Sfc Prs End
0	8361	-0.0140	0.1170	3.9000	NaN
1	4669	0.0200	0.1360	2.6900	4.1410
2	6347	-0.1560	0.0800	3.0700	2.9210
3	4640	0.0190	0.1150	2.3400	2.3890
4	5174	0.1720	0.3220	1.8100	1.9570
5	5340	0.0410	0.0820	3.1900	2.1780
6	5972	0.1440	0.2600	3.4100	2.8650
7	8501	0.0800	0.3800	3.6900	3.8710
8	7637	0.1700	0.3480	3.5400	3.0190
9	4940	0.1220	0.3290	2.3400	2.6340
10	4988	0.2270	0.2980	2.7400	2.5960
11	5448	0.2000	0.1000	2.5500	3.6140
12	5684	0.1500	0.2100	2.9800	3.9630
13	4886	0.3300	0.3040	4.3500	2.6380
14	4911	0.3000	0.2110	2.9900	3.4240
15	5633	0.3967	0.2984	2.3300	2.5350
16	5311	0.1500	0.2000	2.8500	3.6040
17	5353	0.1800	0.2700	2.6000	3.8510
18	5166	0.1800	0.5270	3.2900	2.4070
19	4562	0.2760	0.2677	2.5400	3.0750
20	5244	0.3813	0.3300	2.8800	2.3480
21	5430	0.2000	0.3000	2.1300	2.5940
22	4612	0.2000	0.4000	3.8400	3.1350
23	4852	0.1450	0.2820	2.7100	2.7890
24	4251	0.1580	0.1820	2.5300	2.8020
25	5253	0.2000	0.3000	3.4300	2.7710
26	5533	0.3000	0.2320	3.2800	3.0460
27	4637	0.0960	0.2510	3.0200	2.5350
28	5233	0.1500	0.2000	2.6300	2.6770
29	6083	0.1000	0.2000	4.6700	3.9640
30	5406	0.1200	0.3120	2.6600	2.6020
31	5318	0.2600	0.1860	2.5700	2.3920
32	4792	0.2810	0.2270	2.7300	2.4510
33	5271	0.2230	0.2100	2.5500	2.7310
34	5171	0.2330	0.1370	2.5900	2.4610
35	5621	0.2520	0	2.8500	2.3510
36	5262	0.2100	0.2600	3.1100	3.1340
37	5064	0.2100	0.2800	3.8200	3.0610
38	4779	0.2000	0.3000	3.8400	3.2680
39	5102	0.2200	0.3200	3.6600	3.2630
40	4900	0.2300	0.1000	2.9800	3.3330

41	5014	0.2300	0.2700	4.0500	3.4440
42	4166	0.2500	0.3300	4.8700	4.9720
43	5697	0.2400	0.2500	5.3600	2.5600
44	4503	0.2400	0.1400	5.4100	4.1640

7.3 CTD Temperature

Temperature sensor calibration coefficients derived from the pre-cruise calibrations were applied to raw primary and secondary temperature data during each cast. Data accuracy, reproducibility and stability were examined by tabulating the difference between the two different temperature sensors over a range of pressures (bottle trip locations) for each cast. These comparisons are summarized in Figure 10, which shows a median temperature difference between the two sensors of -0.0013 °C and a standard deviation of 0.0006 °C. The bottle and instrument differences are compared to a normal distribution using 2.8 * standard deviation to find clear outliers. After these procedures 666 data points (89.4 %) were used in the final calculations. The secondary sensor, s/n 5237, was used for all the final data values.

Following Seabird application note No. 31, a linear offset drift is applied, if necessary, between the pre-cruise calibration and the post-cruise calibration value. The corrected temperature and offset are computed according to:

$$T_{cor} = slope * T_{CTD} + offset$$

and

$$offset = b * (residual/n)$$

where T_{cor} is the corrected temperature, the slope is taken to be 1, T_{CTD} is the sensor temperature, b is number of days between pre-cruise calibration and the cast to be corrected, n is the number of days between pre- and post-cruise calibrations, and $residual$ is the residual from the post-calibration sheet (Sea-Bird Electronics, Inc., 2010).

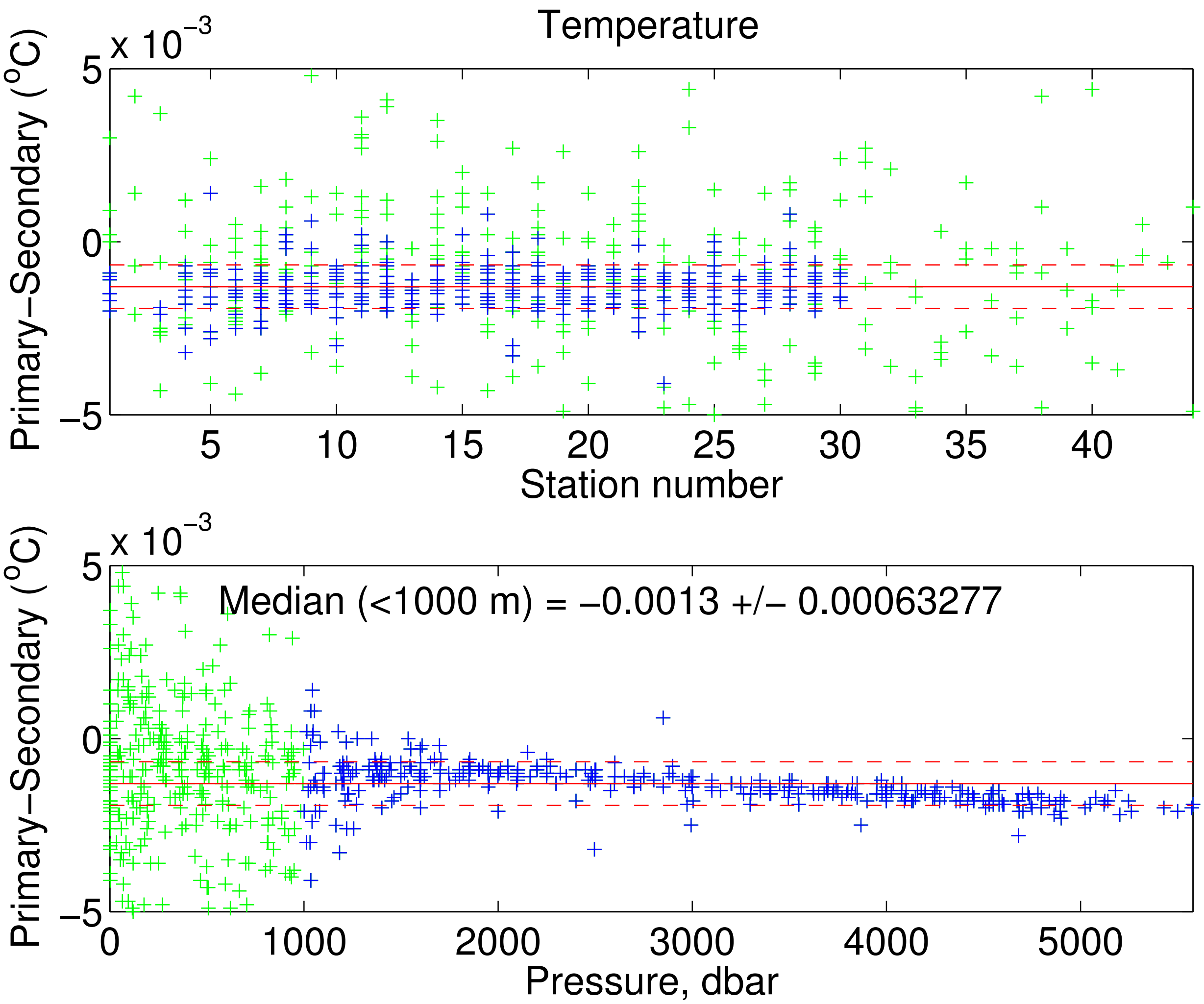

Figure 10: Temperature differences (before corrections) between sensors by station number (top) and pressure (bottom). The green represents the surface data down to 1000 dbar. The blue represents data below 1000 dbar. The red solid line represents the median with the red dashed representing the standard deviation (same for top and bottom).

A SBE 35RT reference temperature was used during the cruise as a check to monitor the behavior of the primary and secondary temperature sensors. This allows for corrections to be made if there is any significant pressure dependence or offset seen in the sensors throughout the cruise. Both sensors behaved well throughout the cruise and no corrections were necessary for final calibrations using the secondary temperature sensor.

In order to calibrate the CTD temperature data against the reference temperature we assume a constant additive correction (offset), multiplicative correction (slope), time drift correction (represented by station number) and where needed, a linear pressure-dependent term. A non-linear function is used to derive these coefficients and are applied to

$$T_{new} = [m * T_{CTD} + (p_1 * station) + b + pcor * P]$$

with

	s/n 5237 Sta 4-29	s/n 5855 Sta 4-29
m	1.0000017	1.0000129
p_1	0.0	0.0
b	-0.0004212	0.0002484
$pcor$	-1.1322821e-07	1.1095215e-07

where T_{bottle} is bottle temperature (°C), T_{CTD} is pre-cruise calibrated CTD temperature (°C), m is the temperature slope, b is the offset (°C), P is the pressure, $pcor$ is the pressure correction coefficient, $station$ is the station number and p_1 is the polynomial coefficient. The fit is also weighted in such way that the final solution is preferentially forced to fit the data below a specified depth, in this case 1000 dbar. Only the deep stations on the Abaco line, stations 4-29, were used to derive the temperature coefficients, but were used to calibrate all stations for the secondary sensor. The primary sensor was only corrected for stations 1 - 40. The primary was swapped out for stations 41-44 and was not corrected. The corrected temperature sensors are summarized in Figure 11, which shows a median temperature difference between the two sensors of 4.52 · 10-5 °C and a standard deviation of 0.0006 °C.

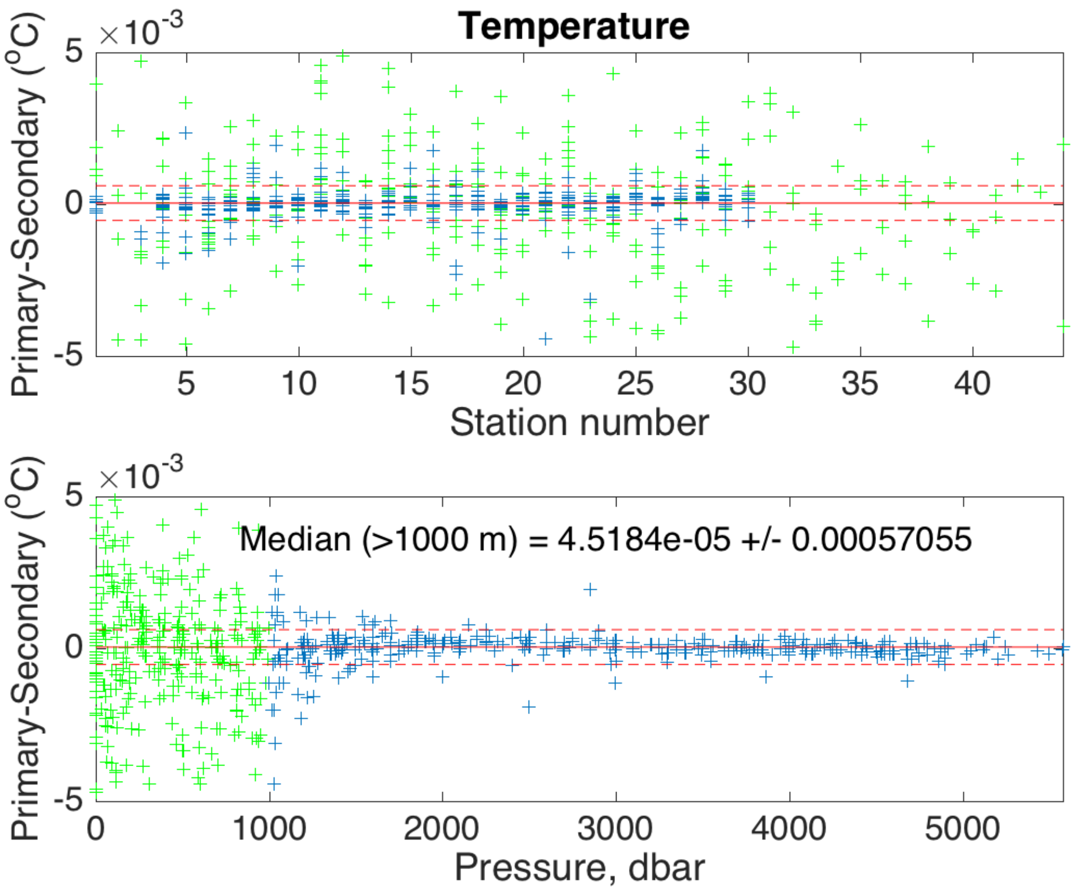

Figure 11: Temperature differences (after corrections) between sensors by station number (top) and pressure (bottom). The green represents the surface data down to 1000 dbar. The blue represents data below 1000 dbar. The red solid line represents the median with the red dashed representing the standard deviation (same for top and bottom).

7.4 Conductivity

Conductivity sensor calibration coefficients derived from the pre-cruise calibrations were applied to raw primary and secondary conductivities. Comparisons between the primary and secondary sensors and between each of the sensors to conductivity calculated from bottle salinities were used to derive conductivity corrections. Uncorrected C1-C2 are shown in Figure 12 to help identify sensor drift. Several conductivity sensors were used throughout the cruise. The sensors show a median difference of 9 · 10-5 mS/cm and a standard deviation of 0.0005 mS/cm. Both sensors showed reasonable values for the residuals. The uncalibrated secondary sensor comparison with the bottle salinities showed the better residuals (Figure 13). Therefore the secondary sensor, s/n 4223, was used for all the final data values. The bottle and instrument differences are compared to a normal distribution using 2.8 * standard deviation to find clear outliers. After these procedures 646 data points (88.7 %) were used in the final calculations.

In order to calibrate the CTD conductivity data against the sample conductivity we assume a constant additive correction (offset), multiplicative correction (slope), time drift correction (represented by station number) and where needed, a linear pressure-dependent term. A non-linear function is used to derive these coefficients and are applied to

$$C_{new} = [m * C_{CTD} + (p_1 * station) + b + pcor * P]$$

with

	s/n 4223 Stations 4-29
m	0.9999580
p_1	-1.2187094e-05
b	0.0019917
$pcor$	-3.9545152e-07

where C_{bottle} is bottle conductivity (mS/cm), C_{CTD} is pre-cruise calibrated CTD conductivity (mS/cm), m is the conductivity slope, b is the offset (mS/cm), P is the pressure, $pcor$ is the pressure correction coefficient, $station$ is the station number and p_1 is the polynomial coefficient. The fit is also weighted in such way that the final solution is preferentially forced to fit the data below a specified depth, in this case 1000 dbar. Only the deep stations on the Abaco line, stations 4-29, were used to derive the conductivity coefficients, but were used to calibrate all stations.

The coefficients estimated by the equation above were then applied to the CTD conductivities and the final results (Figure 14 to Figure 17) show a residual of 9.85 · 10-5 psu (3.44 · 10-5 psu for the data below 1000 dbar) and a standard deviation of 0.002 psu (0.001 psu for the data below 1000 dbar). Also 67.0% of the residuals for the data are within the confidence limits determined by the WOCE (± 0.002 psu) and this number increases to 75.5% if we consider only the data below 1000 dbar.

A final verification about the quality of the data was made by comparing the results of this cruise with some historical data (Figure 18 and Figure 19). Water mass properties are very stable, specially for deeper layers of the ocean, that way by comparing these values we can have a very good estimative of the quality of these data.

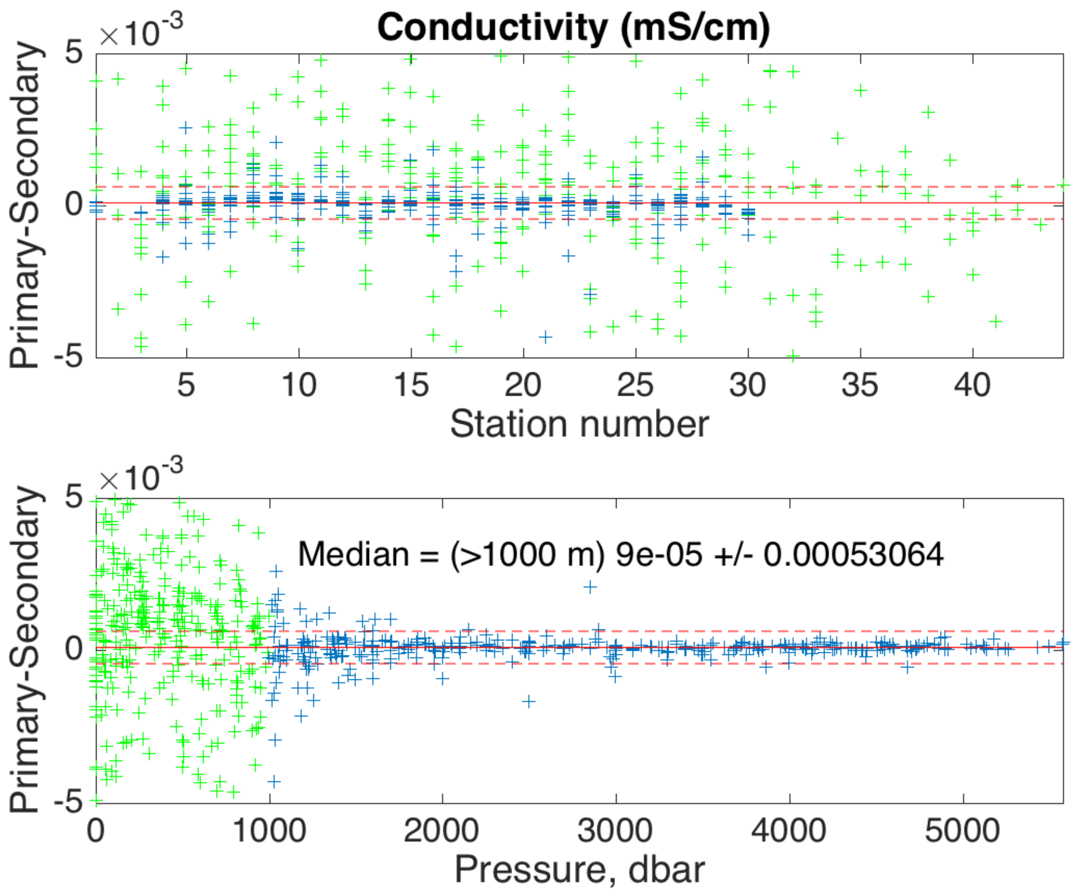

Figure 12: Conductivity (mS/cm) differences between sensors by station (top) and pressure (bottom). The red solid line represents the median with the red dashed representing the standard deviation.

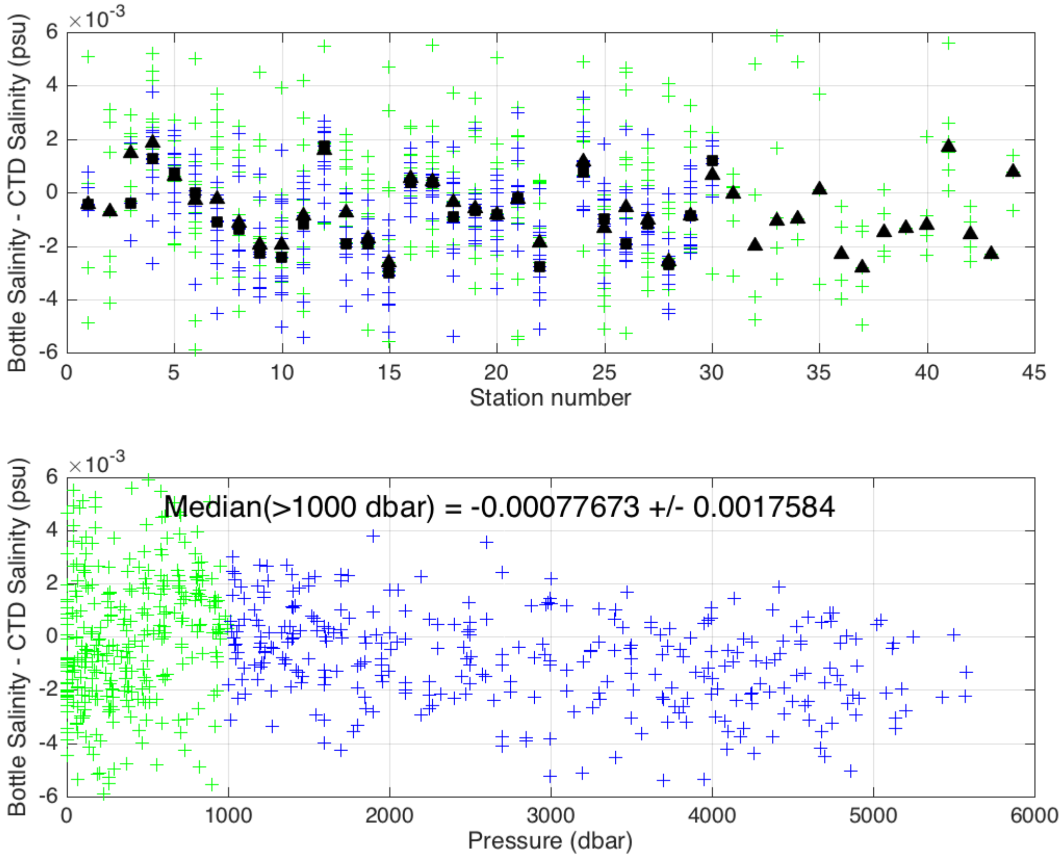

Figure 13: Bottle and uncalibrated secondary CTD salinity differences plotted against pressure. The green crosses represent all data points and the blue are the data points below 1000 dbar. The median was calculated using only the data below 1000 dbar.

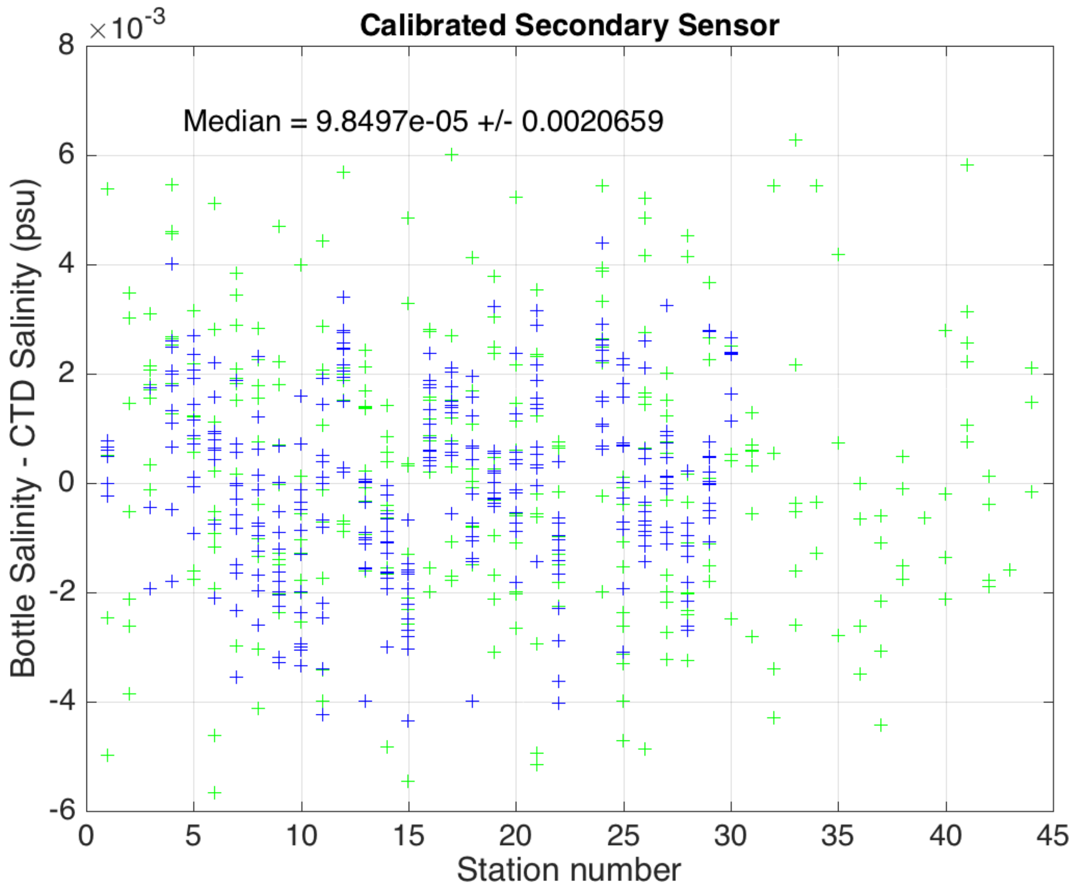

Figure 14: Bottle and calibrated secondary CTD salinity differences plotted vs. station.

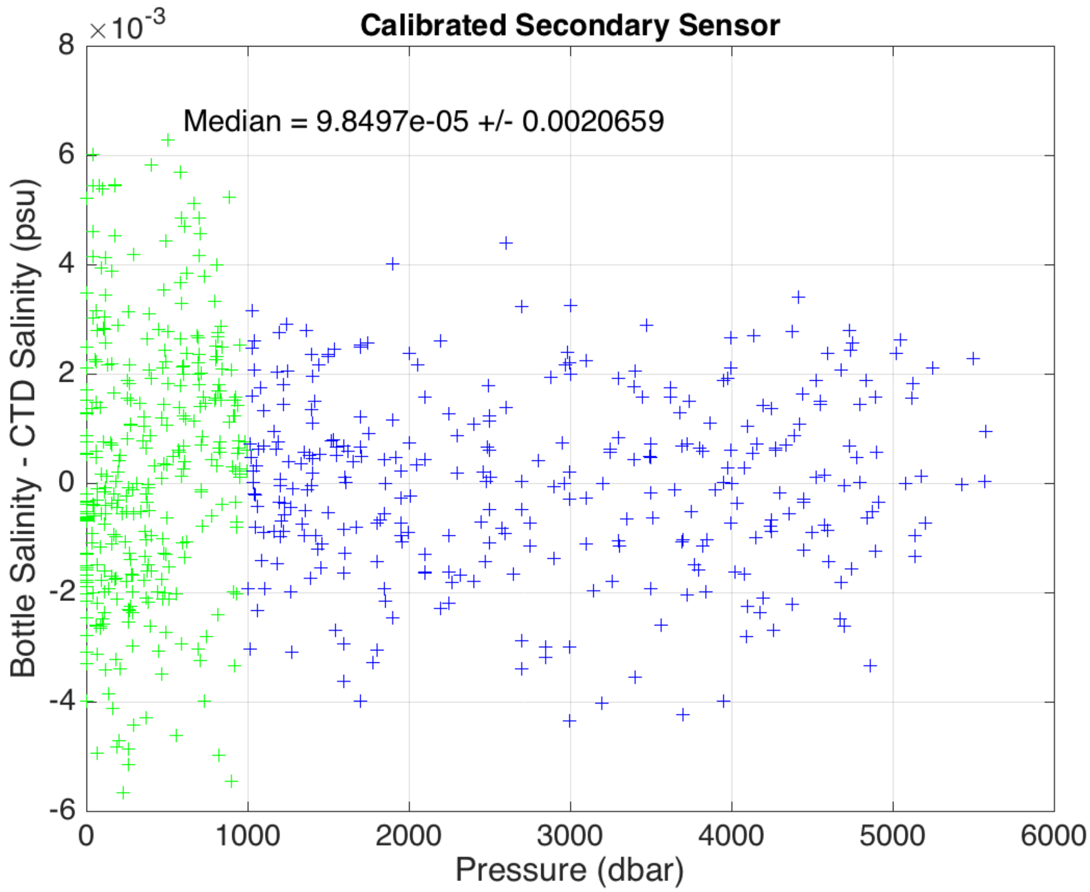

Figure 15: Bottle and calibrated secondary CTD salinity differences plotted vs. pressure.

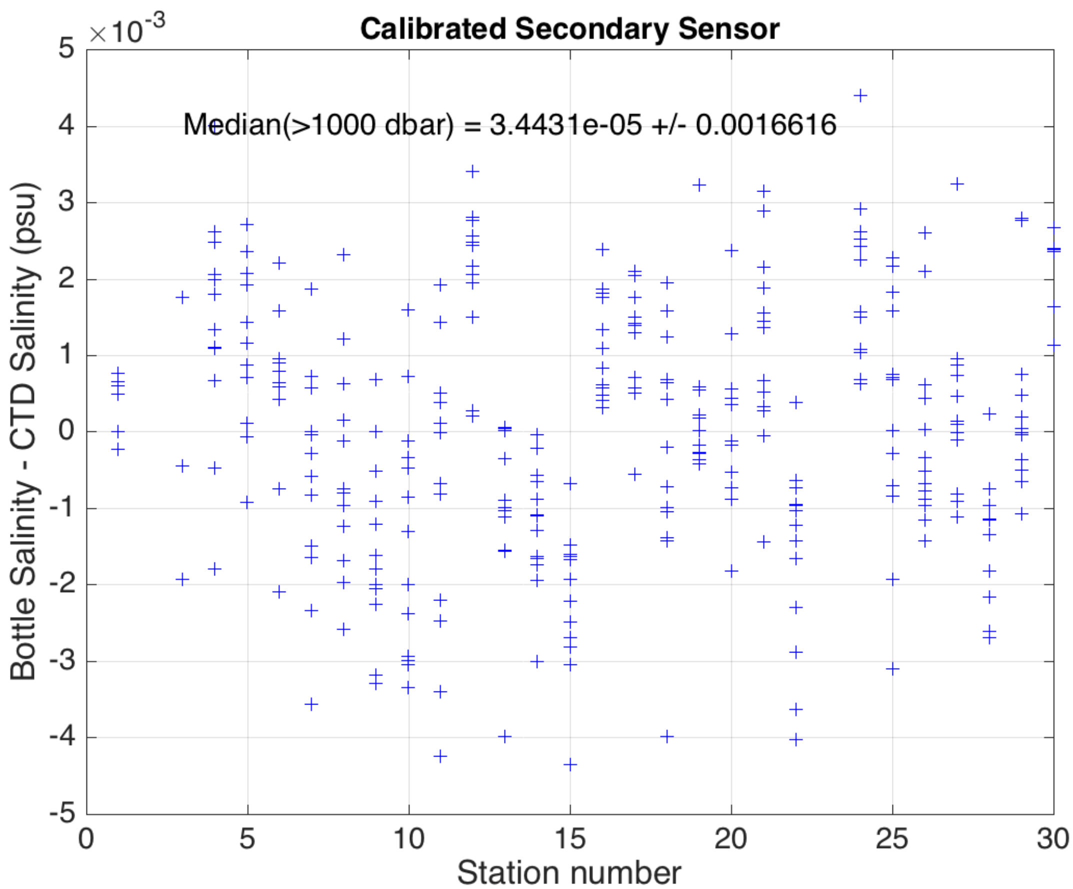

Figure 16: Bottle and calibrated secondary CTD salinity differences plotted vs. station below 1000 dbar.

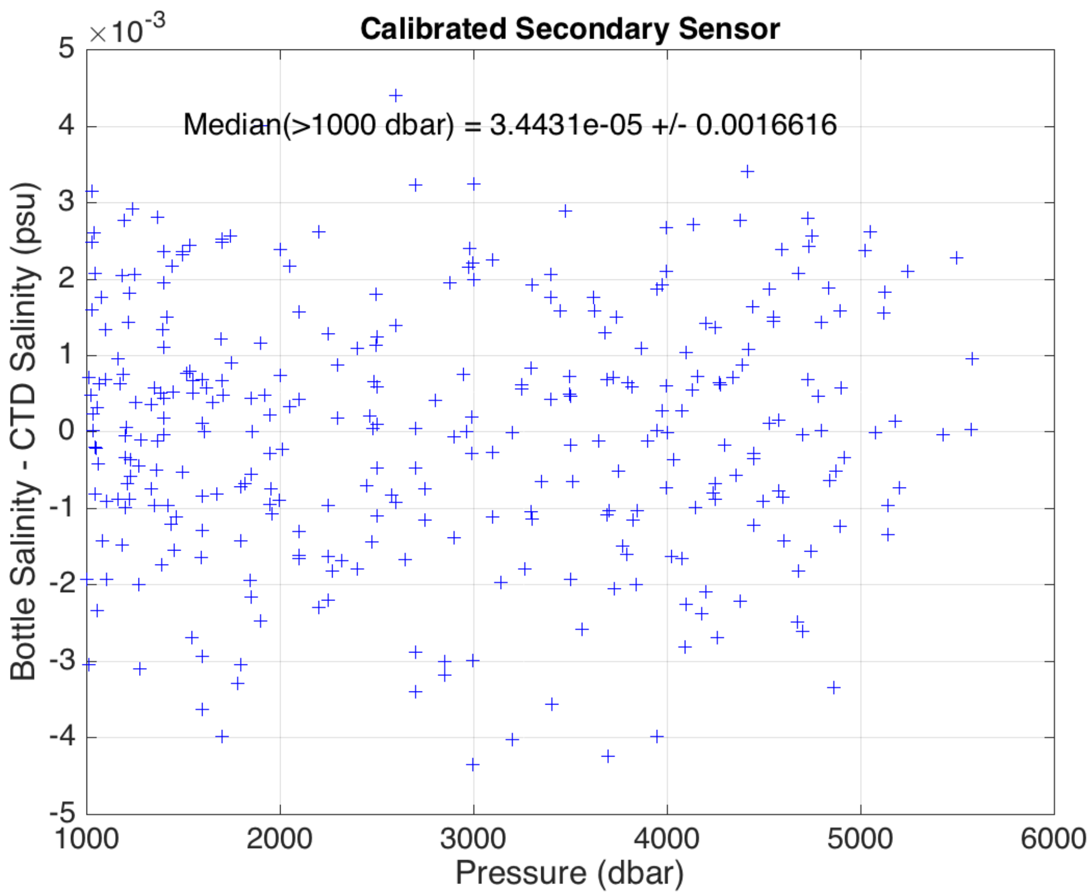

Figure 17: Bottle and calibrated secondary CTD salinity differences plotted vs. pressure below 1000 dbar.

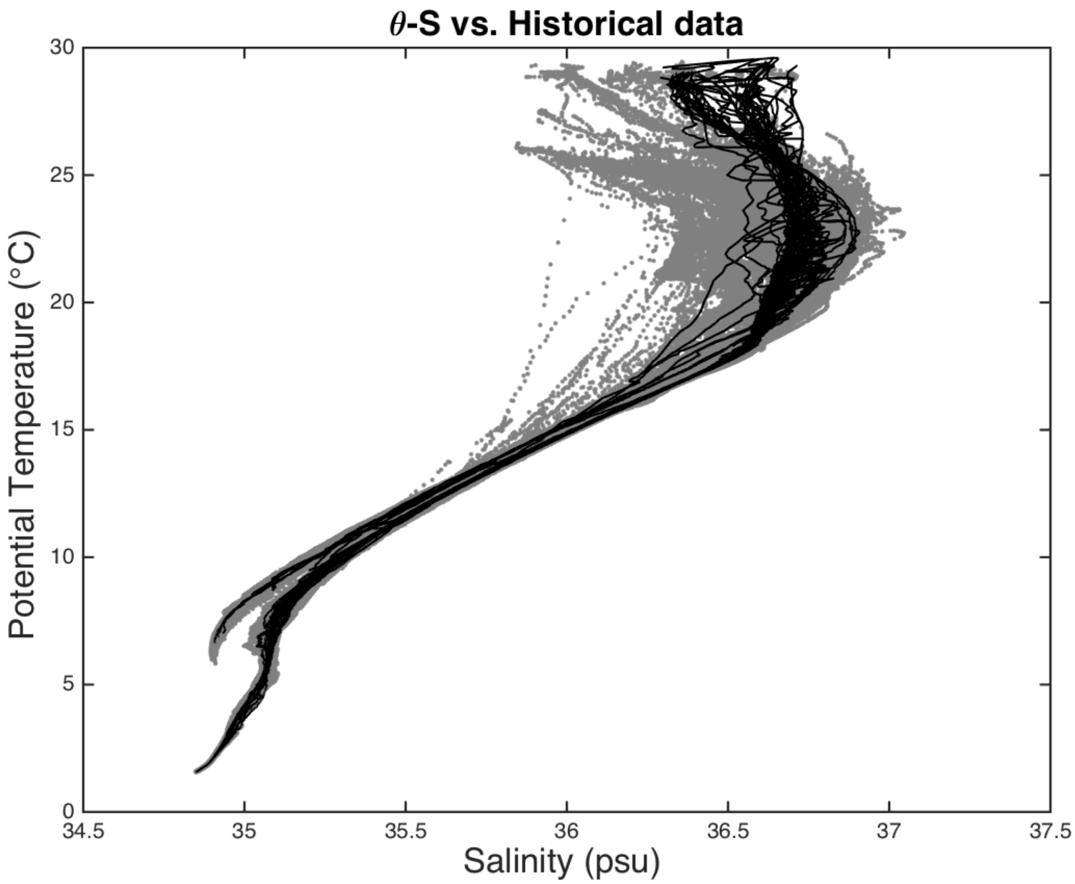

Figure 18: Potential Temperature - Salinity diagram for all stations. The solid black lines are the data collected during this cruise; the solid gray lines are data from the historical database.

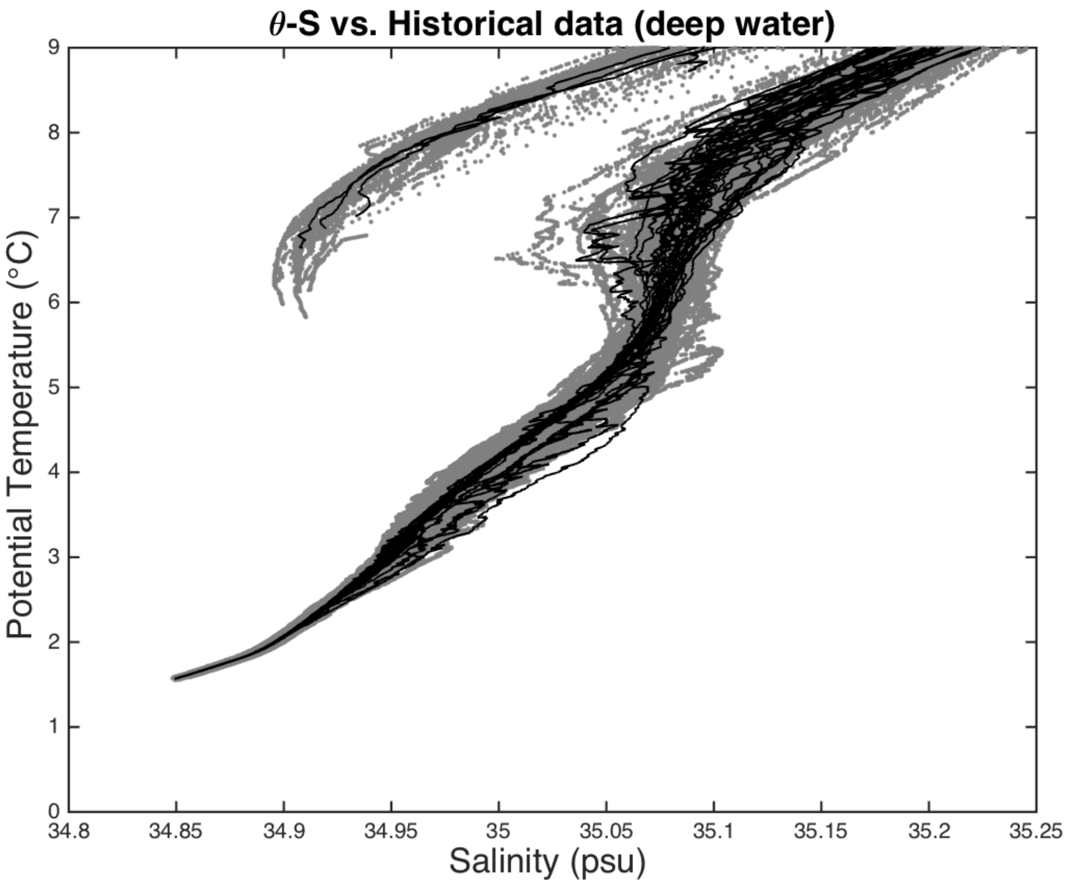

Figure 19: Potential Temperature - Salinity diagram for all stations. The solid black lines are the data collected during this cruise; the solid gray lines are data from the historical database.

7.5 Dissolved Oxygen

Three SBE43 dissolved O_2 (DO) sensors were used on this leg (Table 6). The DO sensors were calibrated to dissolved O2 check samples by matching the up cast bottle trips to down cast CTD data along neutral density surfaces, calculating CTD dissolved O_2, and then minimizing the residuals using a non-linear least-squares fitting procedure.

The algorithm used for converting oxygen sensor current and probe temperature measurements as described, requires a non-linear least squares regression technique in order to determine the best fit coefficients of the model for oxygen sensor behavior to the water sample observations. A non-linear least squares regression using the Gauss-Newton algorithm with Levenberg-Marquardt modifications for global convergence is used to profiles to the bottle data. This algorithm is independent of the first coefficients guess and demonstrates excellent convergence. This `oxfit.m` routine includes an optional time drift term (related with the station number), allowing all stations to be calibrated without breaking into discrete groupings. The Owens and Millard (1985) algorithm was modified as follows:

$$O\ (ml/l) = \{Soc * (V + V_{offset} + tau(T,S) * \frac{\delta v}{\delta t}) + p1 * station\}$$
$$*(1.0 + A * T + B * T^2 + C * T^3) * OXSAT(T,S) * e^{E*(\frac{P}{K})}$$

with

S/N 2949	
	Stations 0-9
Soc	0.4390511
V_offset	-0.4958750
tau	1.39
A	-0.0124063
B	0.00072313
C	-0.0000012
E	0.0350098
$p1$	0.0002019

where Soc, tau, V_{offset}, A, B, C, E and $p1$ are the calibration coefficients shown above and V is the instrument voltage (V). T, S and P are the temperature, salinity and pressure measured by the CTD. K is the temperature in the absolute scale, $station$ is the station number, and $OXSAT$ is the oxygen saturation.

A comparison between the primary and secondary sensors (Figure 20) was evaluated. The sensors show a median difference of -0.45 $umol/kg$ and a standard deviation of 1.33 $umol/kg$. The secondary sensor was chosen (Figure 21) and the uncalibrated sensor shows a median difference of 11.24 $umol/kg$ and a standard deviation of 3.33 $umol/kg$ compare to the oxygen bottle data.

Stations from 31 and on correspond to the Florida Straits and Northwest Providence Channel (where bottom depths do not exceed 800 m). Stations 4 - 29 were used to derived the coefficients for oxygen sensor, s/n 2949, but were used to calibrate all the stations. Also, analogous to the conductivity, the data is compared with a normal distribution using 2.8 * standard deviation to remove outliers. After these procedures 544 data points (77.1%) were used in the final calculations.

By minimizing the differences between the oxygen samples and the CTD oxygen estimated from the equation described in this section, the new coefficients above were calculated and then applied to the CTD original data (Figure 22 to Figure 25). The residual is -0.13 $umol/kg$ (-0.01 $umol/kg$ for the data below 1000 dbar) and the standard deviation 1.28 $umol/kg$ (1.19 $umol/kg$ for the data below 1000 dbar). Also 98.0% of the residuals for the data are within the confidence limits determined by the WOCE ($\pm$ 1% of the dissolved oxygen measured) and this number increase to 99.3% if we consider only the data below 1000 dbar.

A final verification about the quality of the data, like in the salinity data, was made by comparing the results of this cruise with some historical data available at the location of the Abaco section and the other sections (Figure 26 & Figure 27). Again by investigating water mass properties, particularly for deeper layers of the ocean, we can have an estimative of the quality of these data.

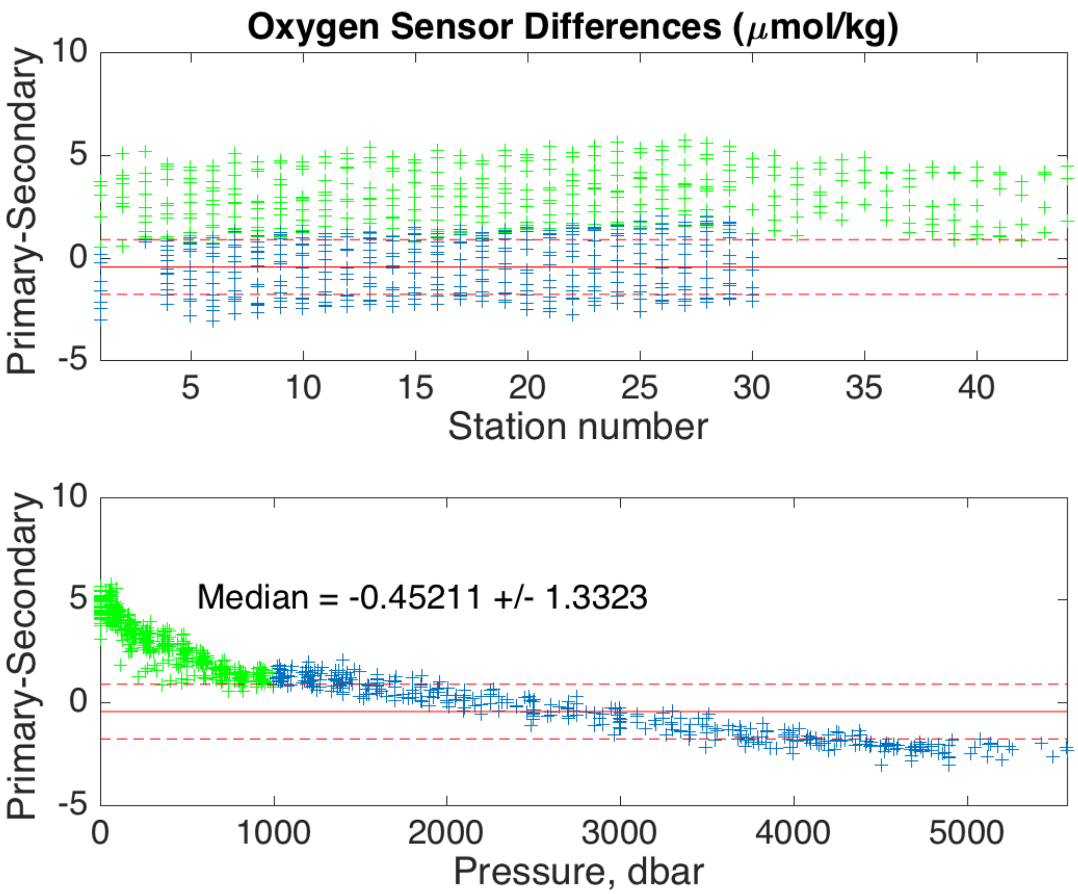

Figure 20: Dissolved oxygen differences between sensors by station (top) and by pressure (bottom). Sensor changes at station 15 and 24. The red solid line represents the median with the red dashed representing the standard deviation.

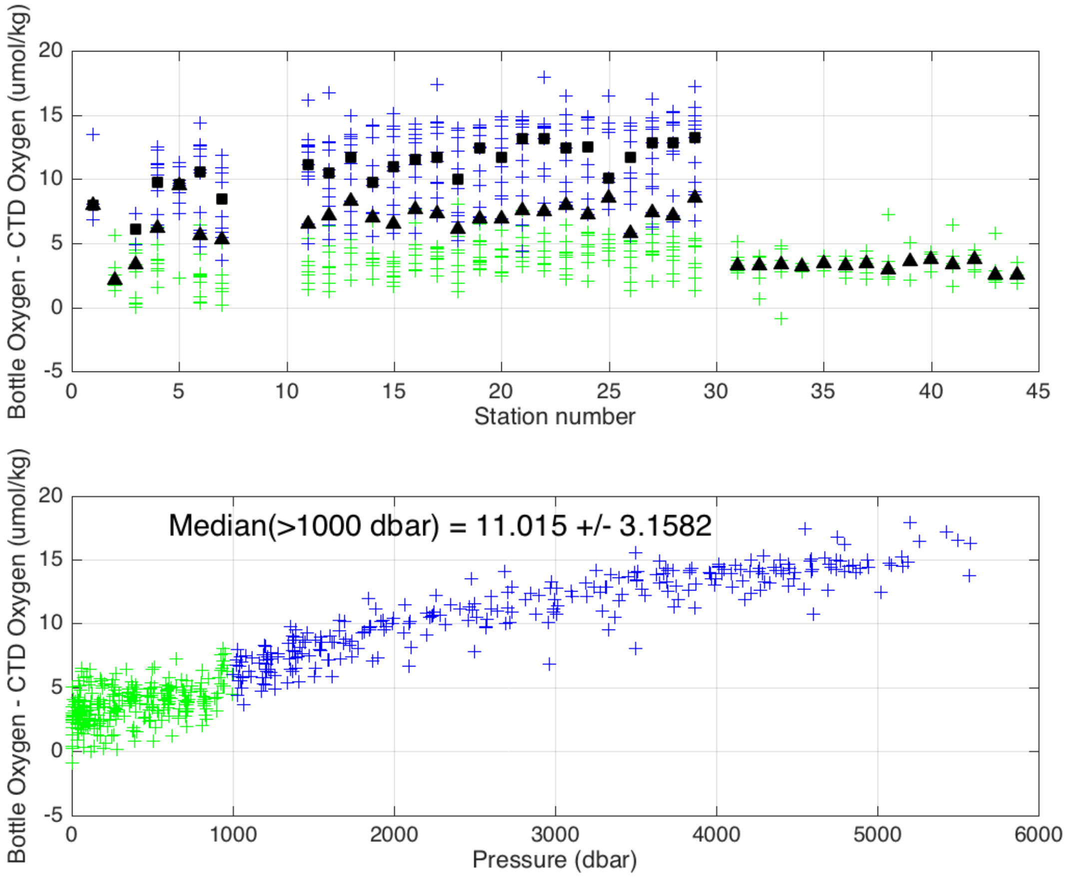

Figure 21: Bottle and uncalibrated secondary CTD oxygen differences plotted against station number. The green crosses represent all data points and the blue are the data points below 1000 dbar. The median was calculated using only the data below 1000 dbar.

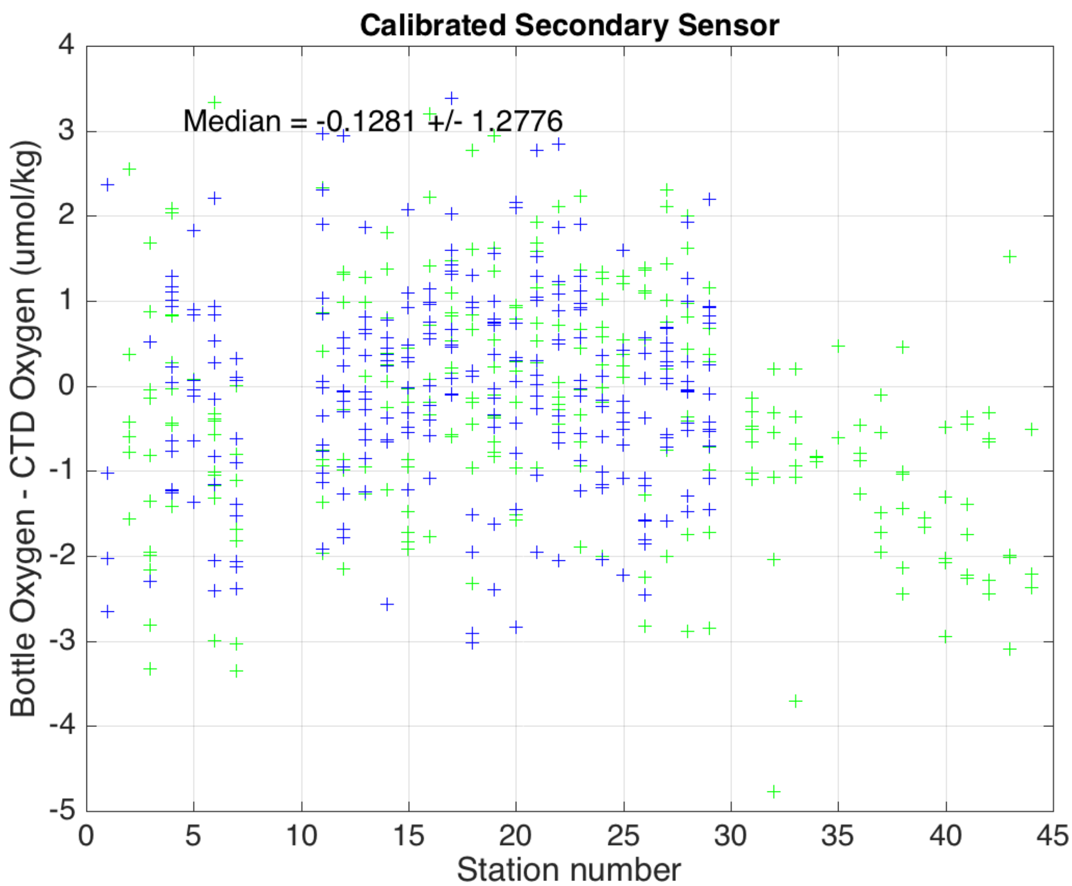

Figure 22: Bottle and calibrated secondary CTD oxygen differences plotted vs. station.

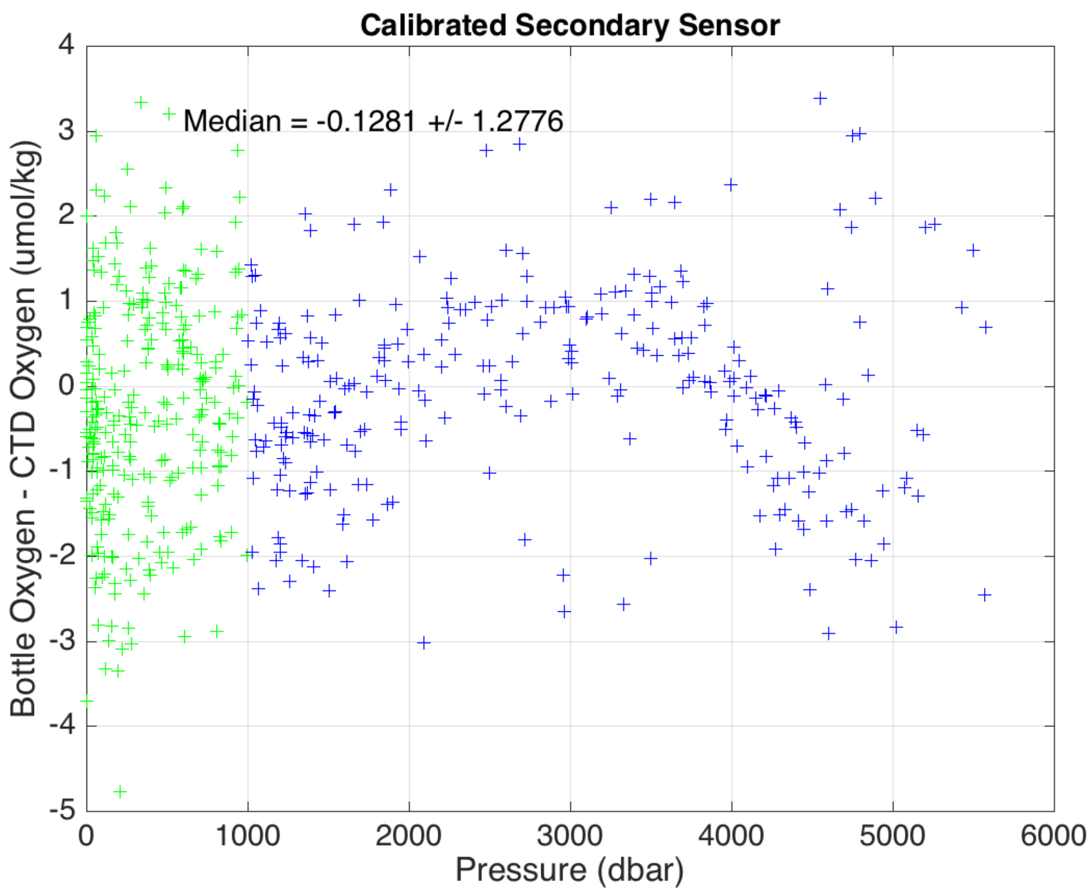

Figure 23: Bottle and calibrated secondary CTD oxygen differences plotted vs. pressure.

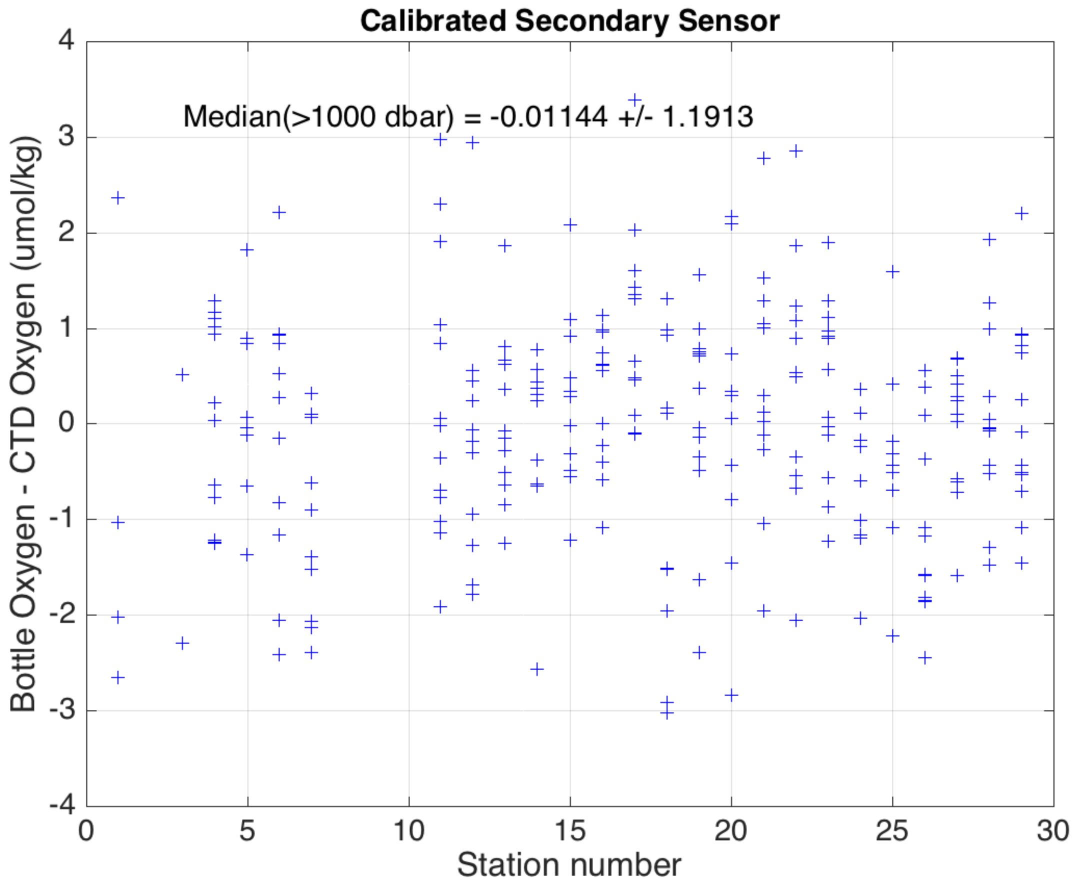

Figure 24: Bottle and calibrated secondary CTD oxygen differences plotted vs. station below 1000 dbar.

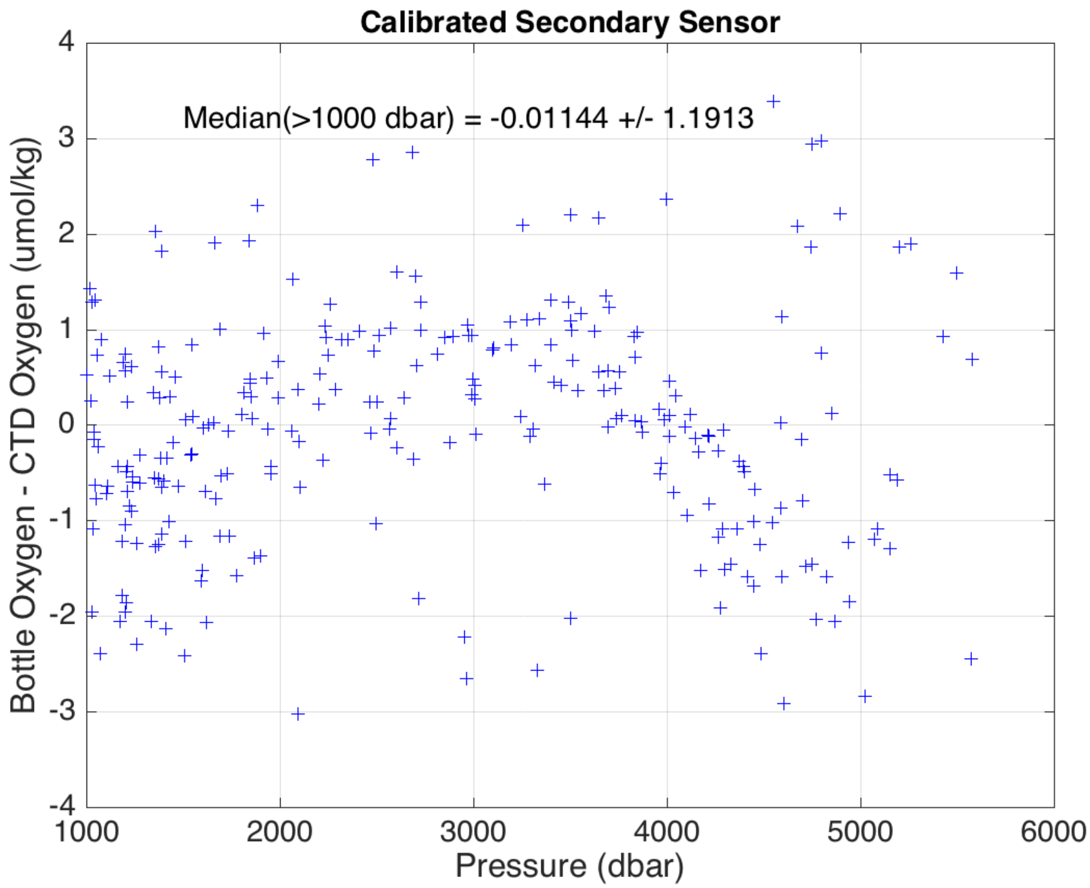

Figure 25: Bottle and calibrated secondary CTD oxygen differences plotted vs. pressure below 1000 dbar.

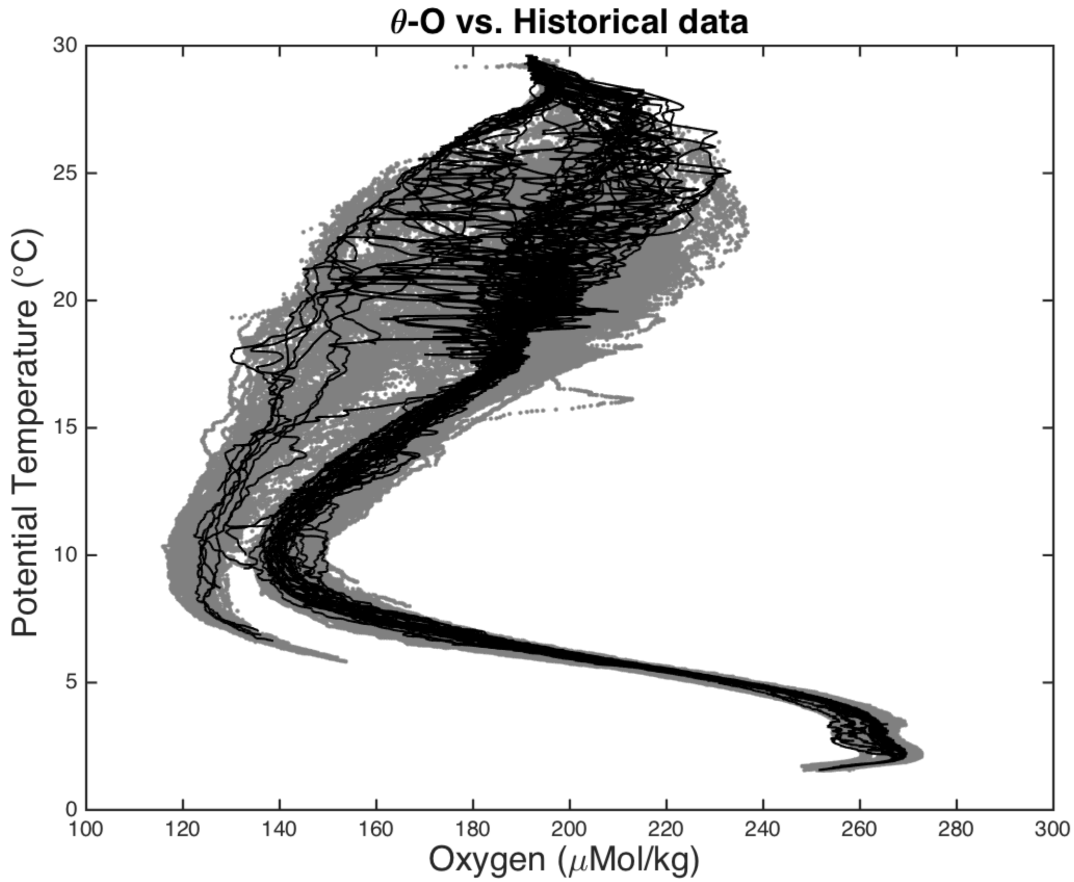

Figure 26: Potential Temperature - Oxygen diagram for all stations. The solid black lines are the data collected during this cruise; the solid gray lines are data from the historical database.

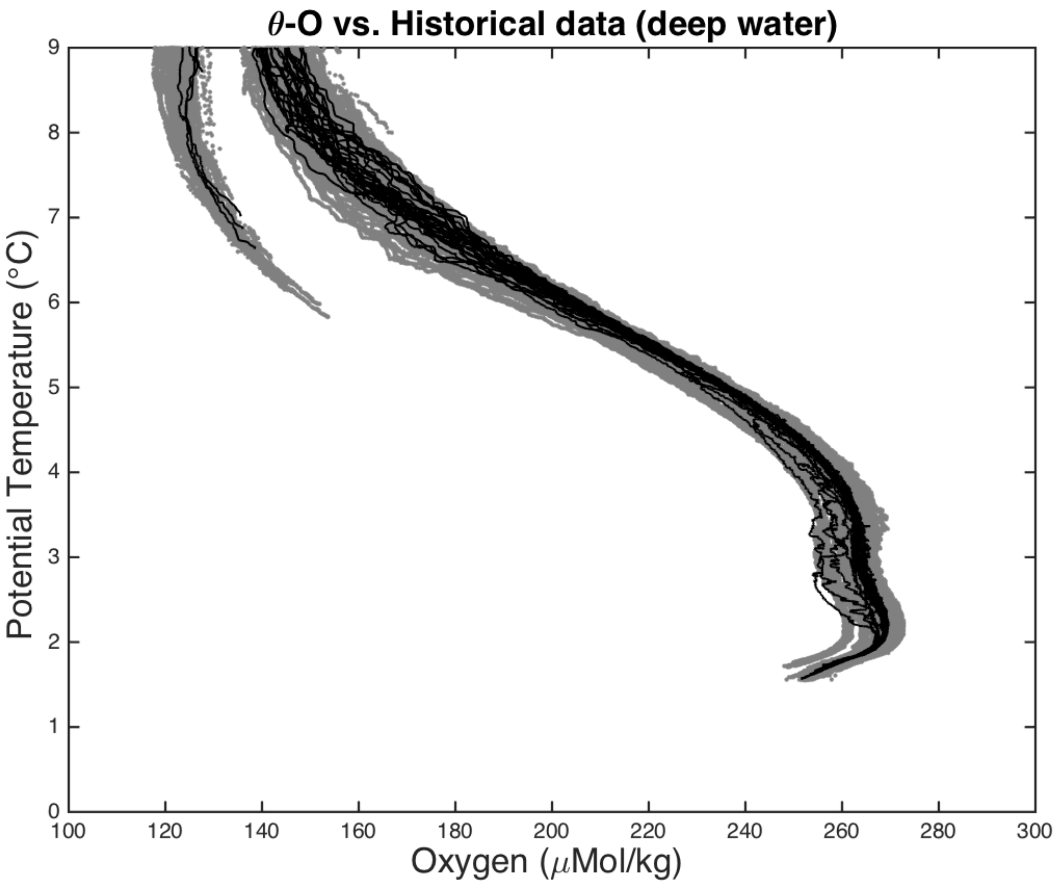

Figure 27: Potential Temperature - Oxygen diagram for all stations. The solid black lines are the data collected during this cruise; the solid gray lines are data from the historical database.

8 Final CTD Data Presentation

The final calibrated data files were used to produce the tables and station profile plots presented in Appendix A for each CTD station. The table on the top is in "standard depths" followed by the a table of the bottle trip depths. The corresponding profile plot is shown on the following page. Niskin bottle depths are presented on the right side of the profile plot. Bottle salinity and oxygen values are plotted as points in the three smaller plots.

Vertical sections of potential temperature, CTD salinity, neutral density, and CTD oxygen are contoured with pressure as the vertical axis and, for Abaco sections longitude as horizontal axis (Figure 28 to Figure 31). Nominal vertical exaggerations are 400:1 below 1000 dbar (lower panels) and 200:1 above 1000 dbar (upper panels). The Florida Current Section also uses longitude as the horizontal axis (Figure 32 to Figure 35). For the Northwest Providence Channel Sections latitude is used as horizontal axis (Figure 36 to Figure 39).

Post-cruise calibrations were applied to CTD data associated with bottle data using Matlab sub-routines (`apply_calibration.m`). WOCE quality flags were appended to bottle data records. "Bad values" (WOCE quality control value = 4) were flagged if the bottle samples failed the initial quality control and were not used for the calibration (which meant they typically fell outside 2.57 standard deviations of the difference between samples and uncalibrated CTD values). A second pass is applied, using the value of 2.5 times the standard deviation of the difference between calibrated CTD values and bottle samples, where bottle values may be flagged as "bad values" or as questionable (WOCE quality control value = 3).

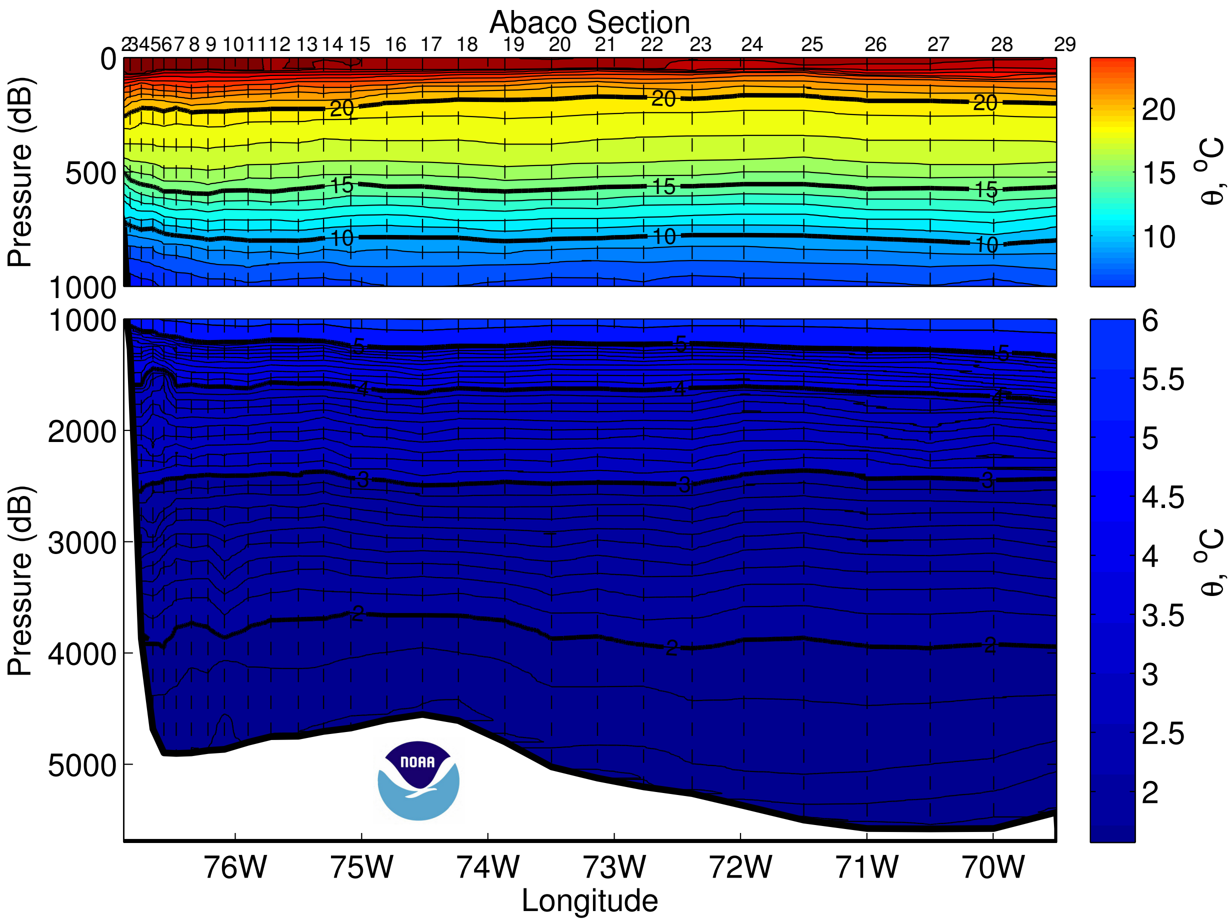

Figure 28: Potential Temperature (°C) section for the Abaco Section. Dashed vertical lines are the CTD station locations.

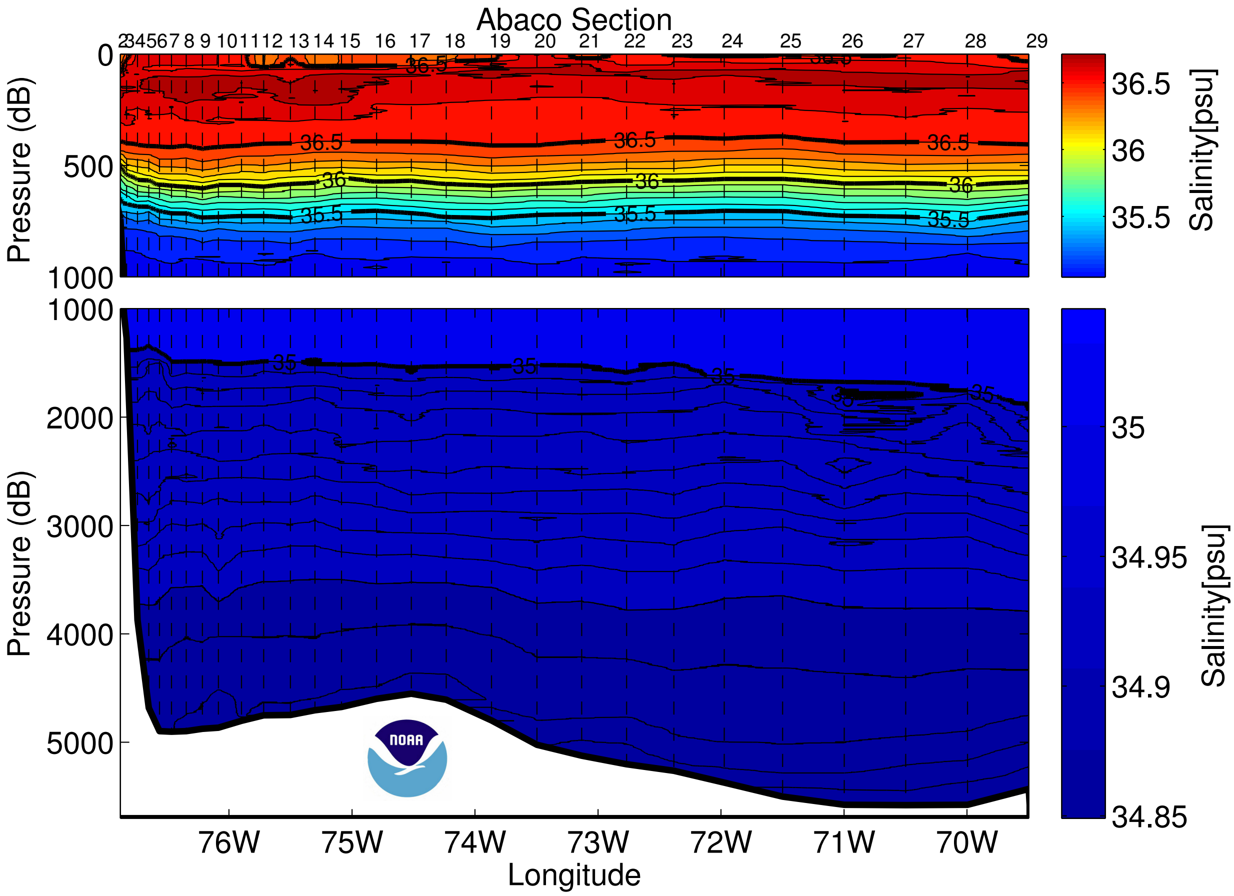

Figure 29: Salinity (PSS 78) section for the Abaco section. Dashed vertical lines are the CTD station locations.

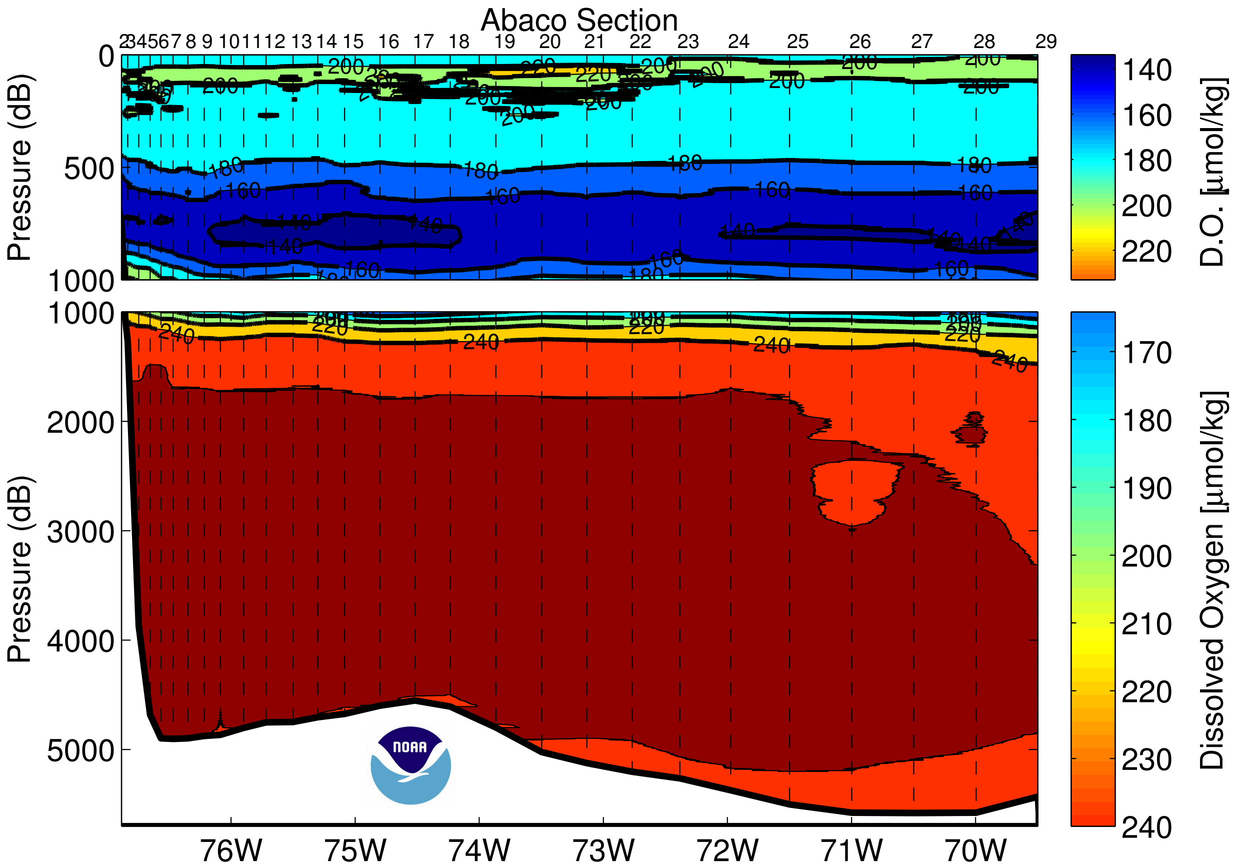

Figure 30: Dissolved Oxygen ($umol/kg$) section for the Abaco Section. Dashed vertical lines are the CTD station locations.

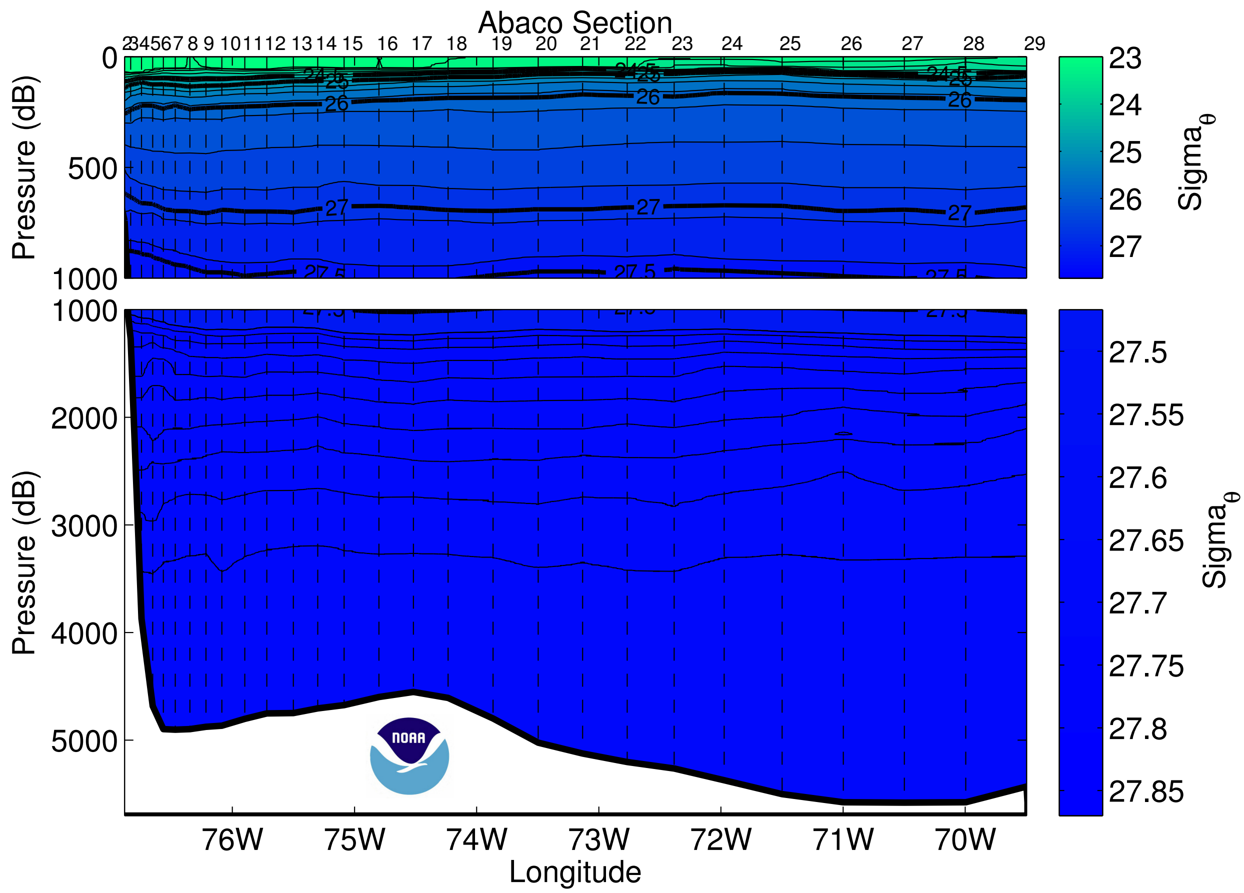

Figure 31: Neutral density (kg/m3) section for the Abaco Section. Dashed vertical lines are the CTD station locations.

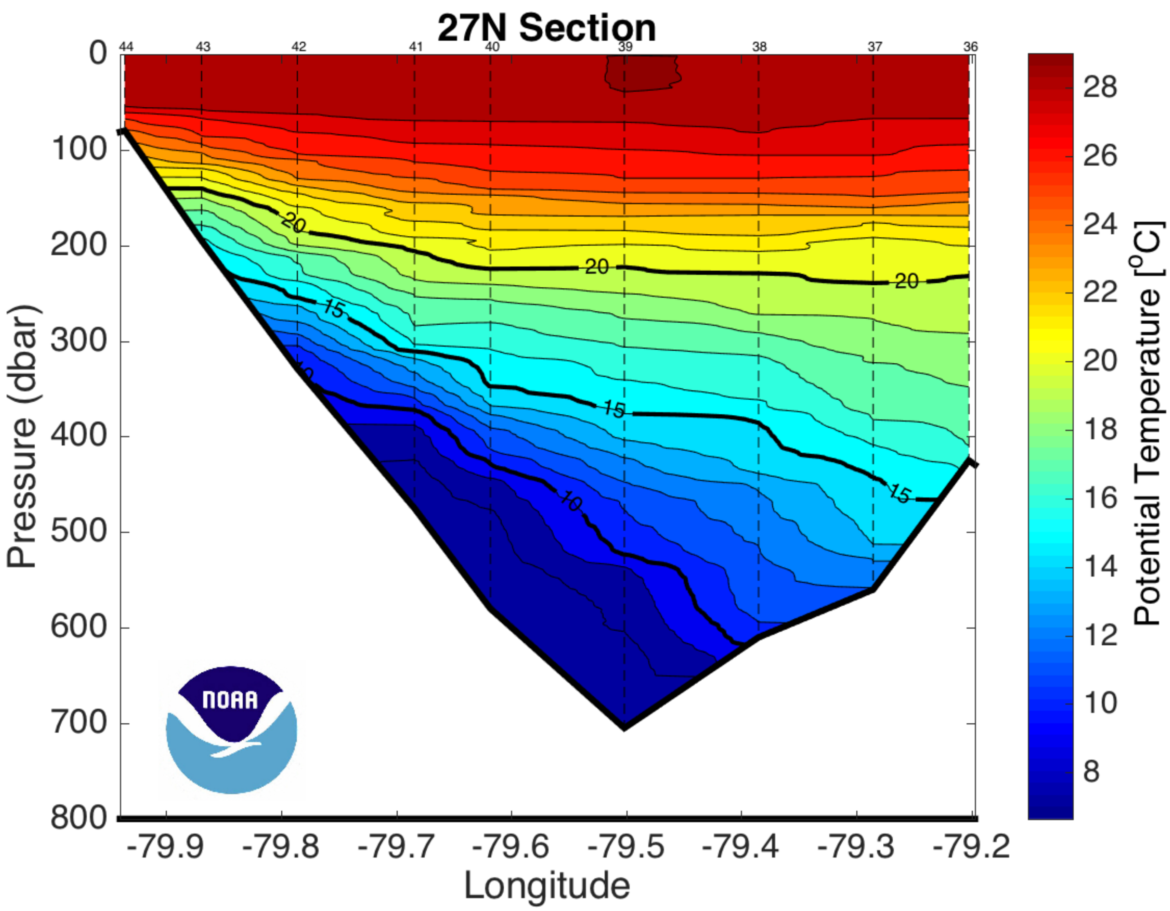

Figure 32: Potential Temperature (°C) section for the Florida Current North section. Dashed vertical lines are the CTD station locations.

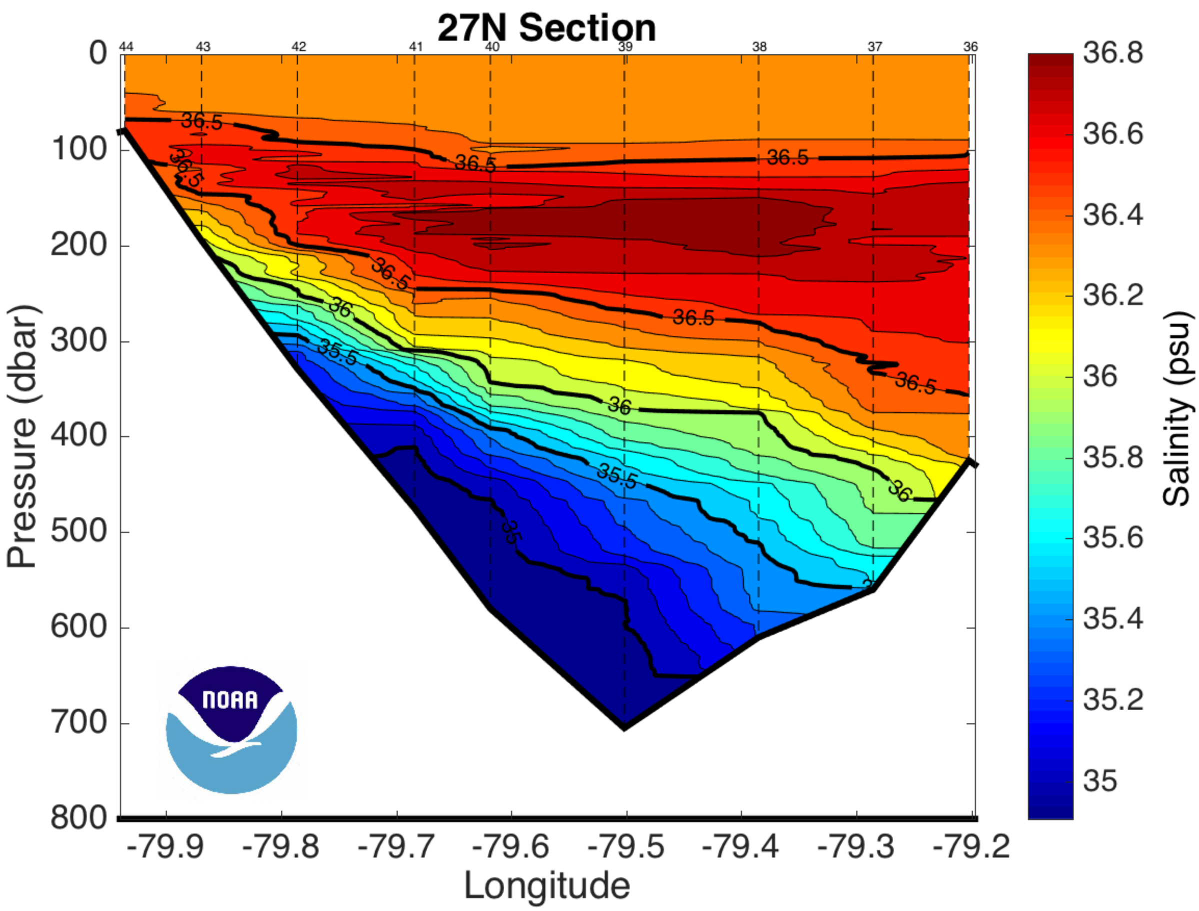

Figure 33: Salinity (PSS 78) section for the Florida Current North section. Dashed vertical lines are the CTD station locations.

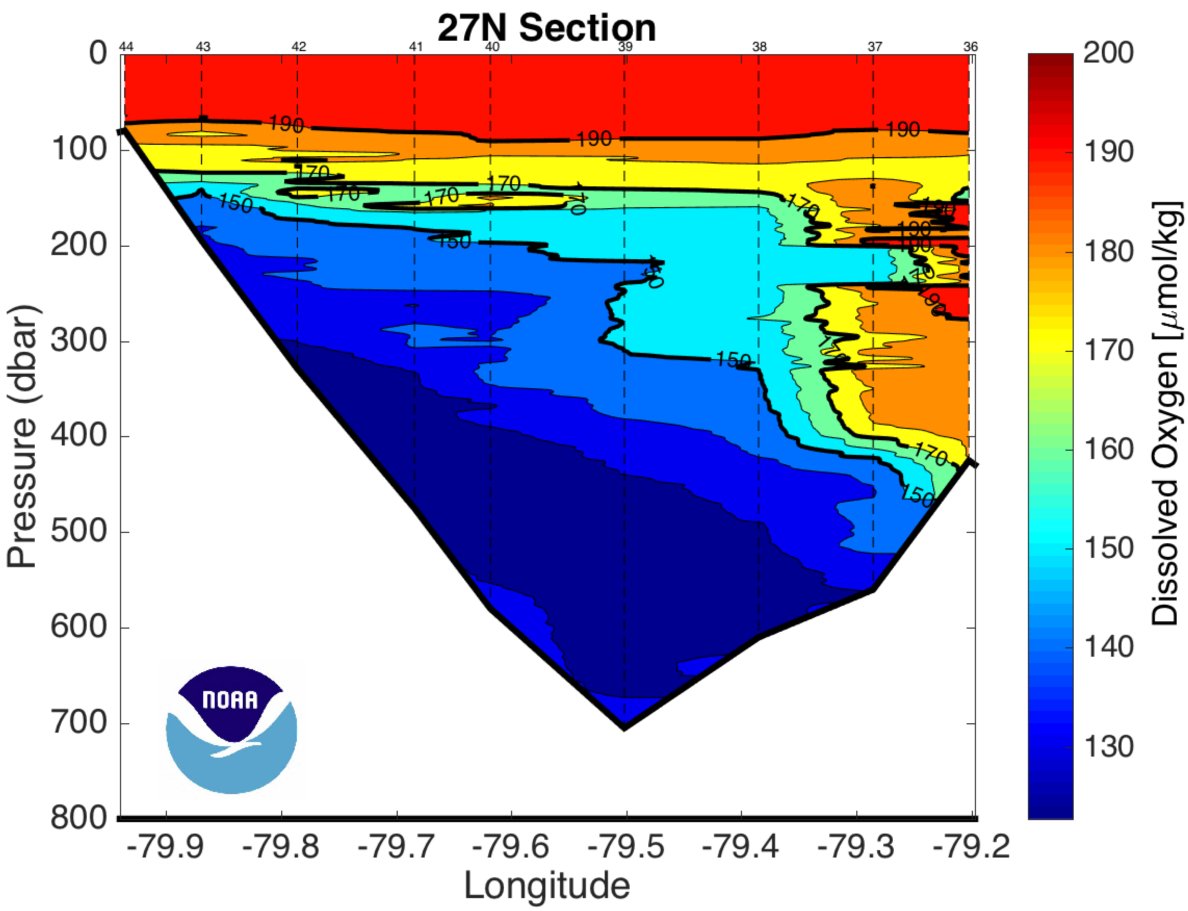

Figure 34: Dissolved Oxygen ($umol/kg$) section for the Florida Current North section. Dashed vertical lines are the CTD station locations.

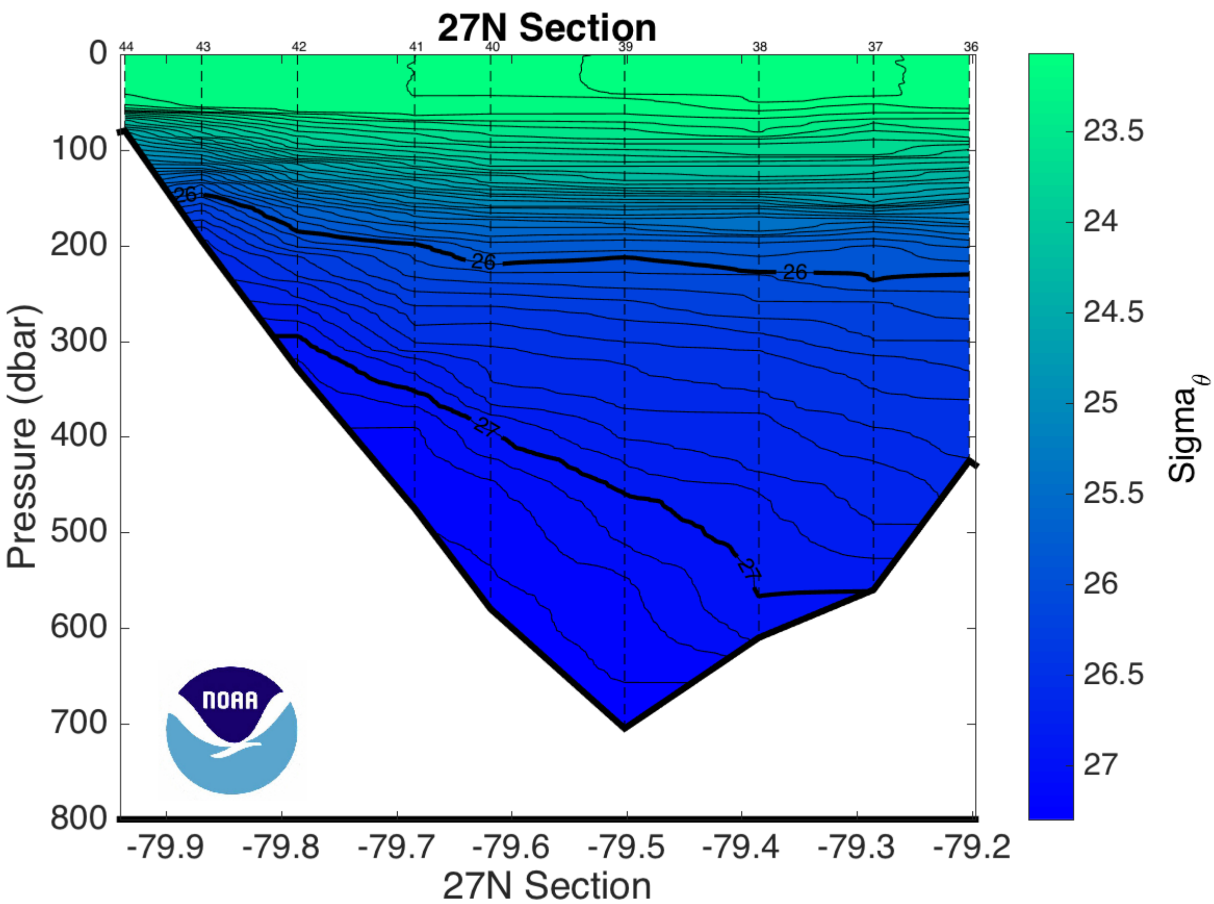

Figure 35: Neutral density (kg/m3) section for the Florida Current North section. Dashed vertical lines are the CTD station locations.

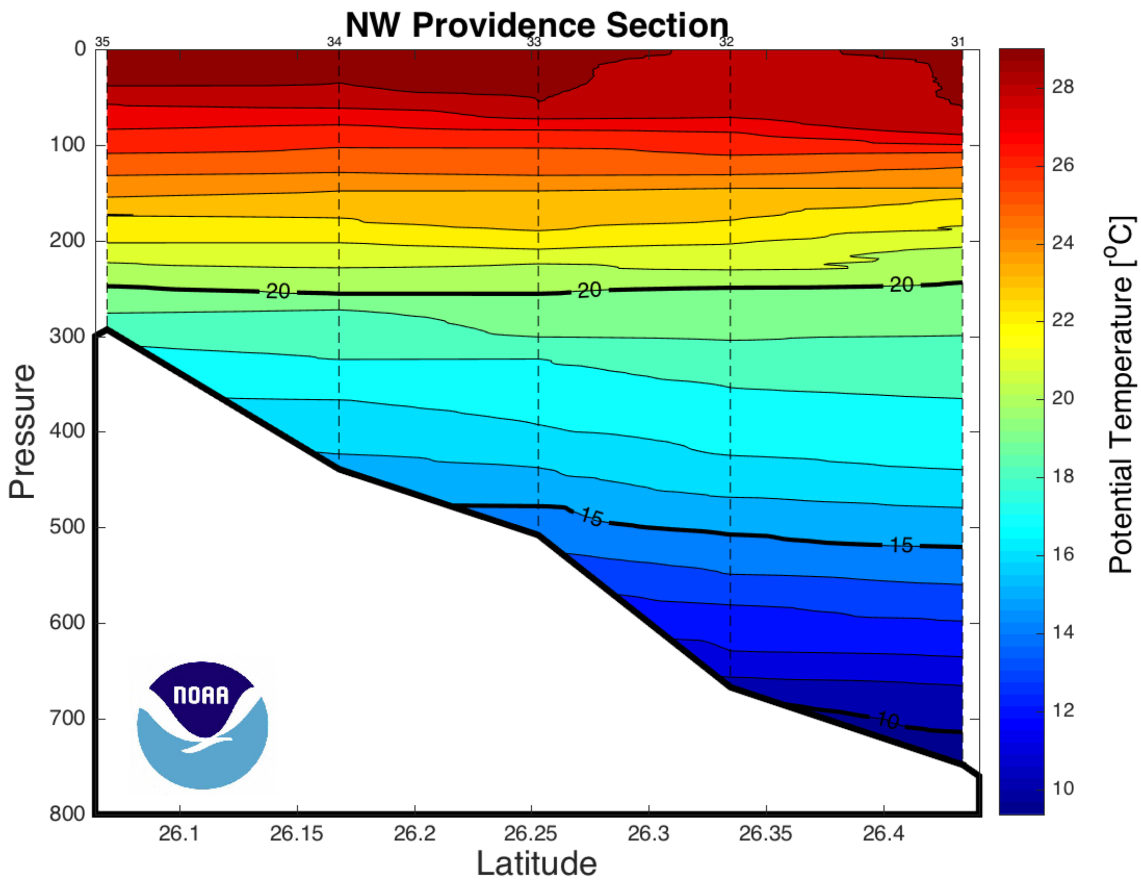

Figure 36: Potential Temperature (°C) section for the Northwest Providence Channel section. Dashed vertical lines are the CTD station locations.

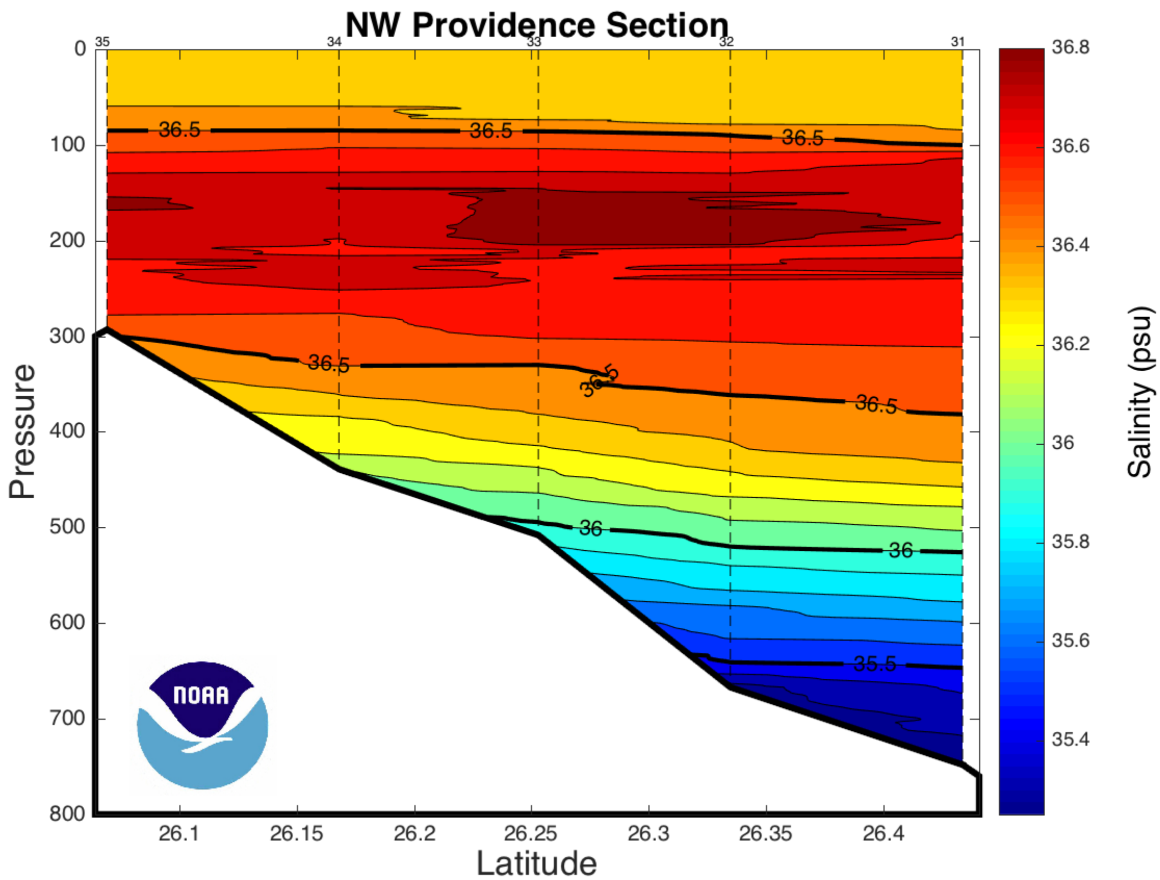

Figure 37: Salinity (PSS 78) section for the Northwest Providence Channel section. Dashed vertical lines are the CTD station locations.

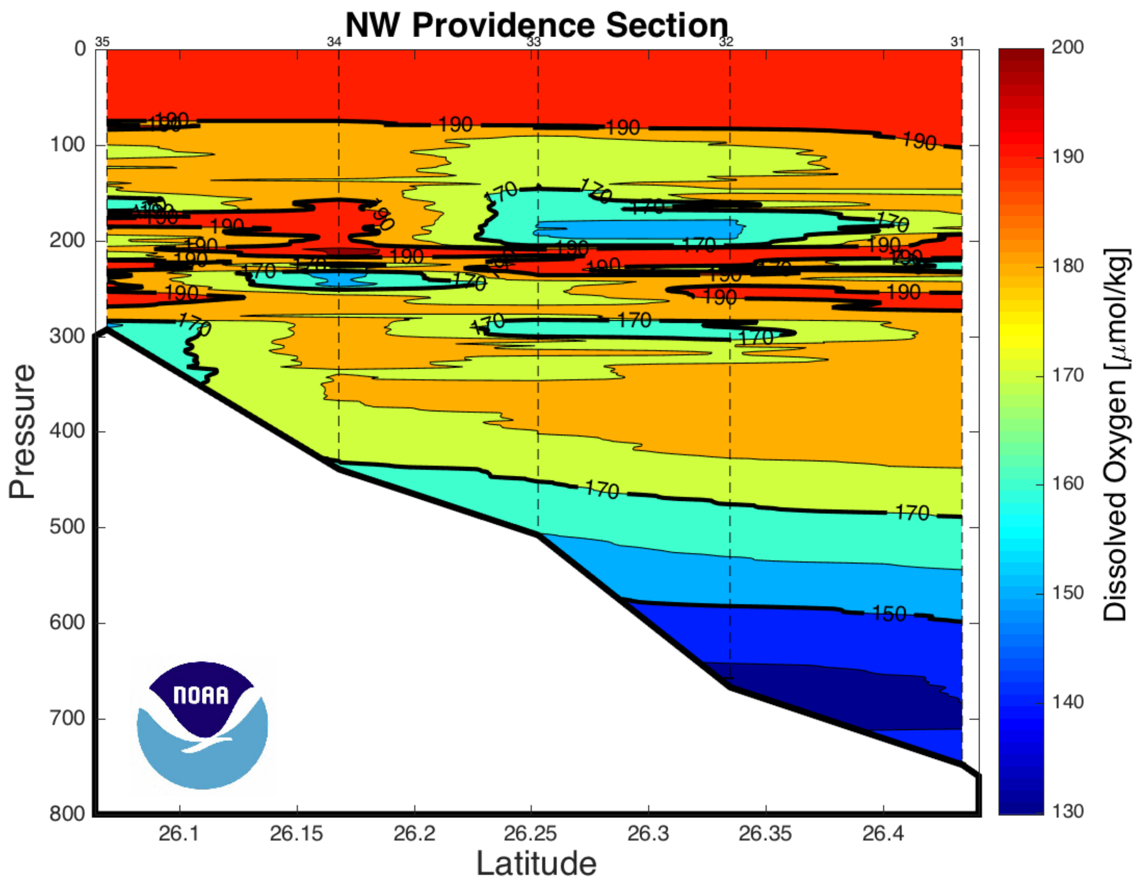

Figure 38: Dissolved Oxygen ($umol/kg$) section for the Northwest Providence Channel section. Dashed vertical lines are the CTD station locations.

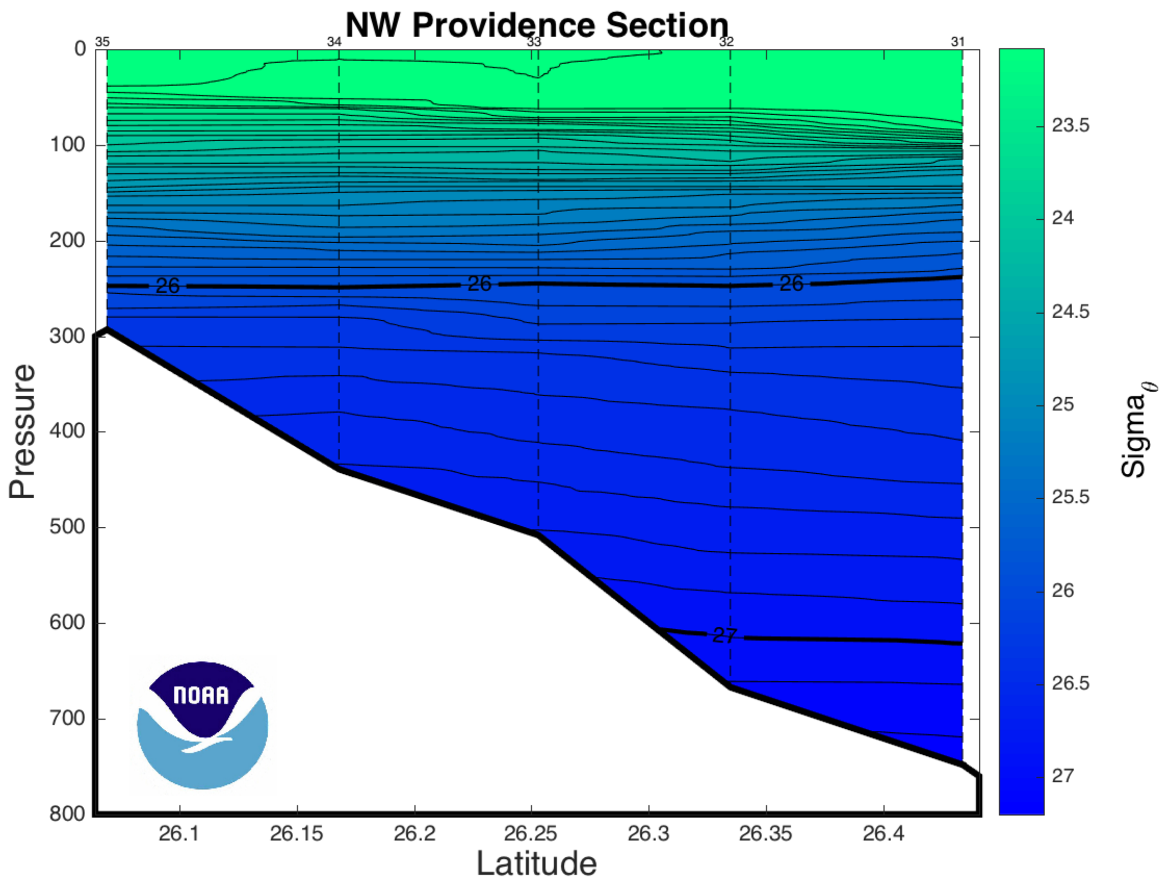

Figure 39: Neutral density (kg/m3) section for the Northwest Providence Channel section. Dashed vertical lines are the CTD station locations.

9 Acknowledgements

The successful completion of the cruise relied on dedicated assistance from many individuals on shore and on the UNOLS ship Endeavor. Funded investigators in the project and members of the Western Boundary Time Series, and the RAPID/MOC programs were instrumental in planning and executing the cruise. The participants in the cruise showed dedication and camaraderie during their 17 days at sea. Officers and crew of the Endeavor exhibited a high degree of professionalism and assistance to accomplish the mission and to make us feel at home during the voyage.

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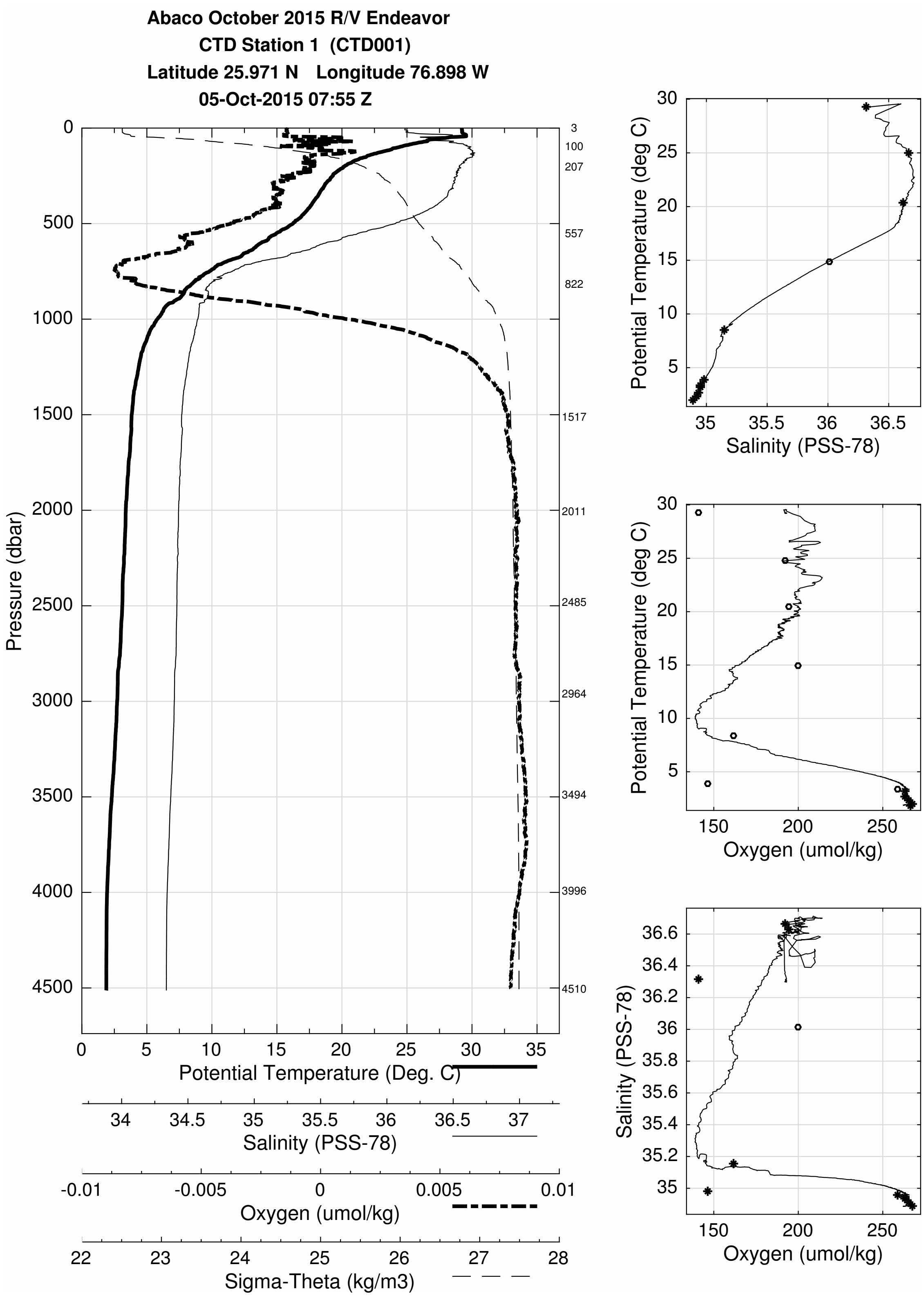
A Hydrographic - CTD Data

Abaco October 2015 R/V Endeavor
CTD Station 1 (CTD001)
Latitude 25.971N Longitude 76.898W
05-Oct-2015 07:55Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	29.217	29.216	36.301	192.7	0.005	22.968
10	29.225	29.222	36.299	192.0	0.049	22.965
20	29.234	29.229	36.305	193.2	0.098	22.967
30	29.344	29.336	36.389	191.9	0.147	22.994
50	28.130	28.119	36.438	209.7	0.242	23.437
75	25.997	25.980	36.561	199.2	0.342	24.218
100	24.411	24.390	36.685	199.4	0.428	24.800
125	23.066	23.040	36.698	213.6	0.502	25.210
150	21.903	21.873	36.699	198.6	0.568	25.545
200	20.241	20.204	36.621	200.3	0.682	25.944
250	19.337	19.291	36.609	191.0	0.783	26.176
300	18.720	18.666	36.582	188.4	0.876	26.317
400	17.739	17.670	36.491	188.3	1.050	26.496
500	16.321	16.240	36.242	175.3	1.212	26.648
600	13.894	13.806	35.833	163.9	1.358	26.872
700	11.147	11.057	35.430	142.6	1.483	27.100
800	8.820	8.731	35.172	145.6	1.586	27.296
900	7.335	7.245	35.114	175.4	1.671	27.474
1000	5.901	5.810	35.073	211.3	1.737	27.634
1100	5.112	5.018	35.046	236.4	1.792	27.710
1200	4.626	4.527	35.020	249.4	1.842	27.745
1300	4.351	4.245	35.004	255.3	1.889	27.763
1400	4.081	3.969	34.986	259.3	1.936	27.778
1500	3.950	3.830	34.977	261.2	1.981	27.786
1750	3.740	3.600	34.968	263.0	2.095	27.802
2000	3.539	3.378	34.959	264.2	2.209	27.816
2500	3.317	3.111	34.949	263.9	2.440	27.834
3000	2.964	2.714	34.934	265.0	2.671	27.858
3500	2.597	2.302	34.912	267.0	2.898	27.877
4000	2.283	1.941	34.891	264.9	3.117	27.889
4500	2.282	1.882	34.887	262.3	3.339	27.890

Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
4511	1	2.283	8.488	−999.000	−999.0
3996	2	2.287	1.945	34.892	268.0
3495	4	2.596	2.302	34.913	265.1
2965	6	2.985	2.739	34.934	262.6
2486	8	3.312	3.108	34.949	263.2
2012	10	3.537	3.375	34.957	258.5
1518	13	3.975	3.854	34.981	146.6
822	15	8.522	8.432	35.153	161.8
557	17	14.923	14.837	36.017	199.9
207	19	20.437	20.398	36.626	194.8
101	21	24.942	24.920	36.668	191.8
4	23	29.206	29.205	36.316	141.3

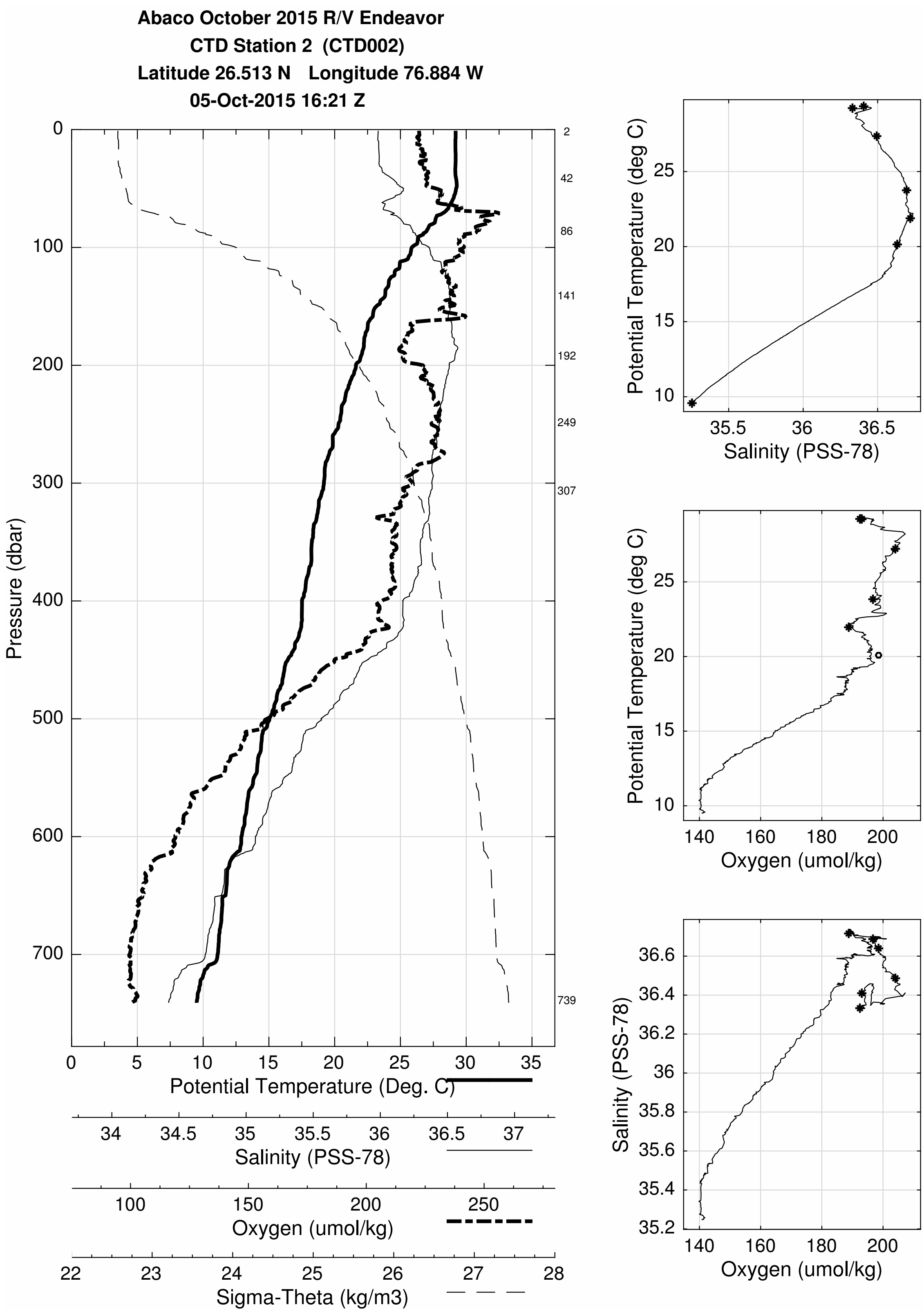


Abaco October 2015 R/V Endeavor
CTD Station 1 (CTD001)
Latitude 25.971 N Longitude 76.898 W
05-Oct-2015 07:55 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 2 (CTD002)
Latitude 26.513N Longitude 76.884W
05-Oct-2015 16:21Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	29.196	29.196	36.328	192.7	0.005	22.995
10	29.182	29.180	36.330	193.0	0.049	23.003
20	29.198	29.193	36.332	193.3	0.097	23.000
30	29.190	29.183	36.333	193.6	0.146	23.004
50	29.240	29.227	36.458	195.8	0.243	23.083
75	27.718	27.700	36.436	204.0	0.360	23.573
100	25.887	25.865	36.591	200.8	0.460	24.277
125	24.325	24.298	36.679	197.5	0.546	24.824
150	23.202	23.171	36.696	198.2	0.622	25.171
200	21.656	21.616	36.694	193.4	0.754	25.613
250	20.340	20.293	36.641	194.8	0.868	25.936
300	19.234	19.180	36.604	191.5	0.969	26.201
400	17.585	17.516	36.454	186.0	1.146	26.506
500	15.096	15.019	36.032	165.2	1.303	26.764
600	12.990	12.905	35.695	148.6	1.438	26.950
700	11.193	11.103	35.437	140.3	1.556	27.097

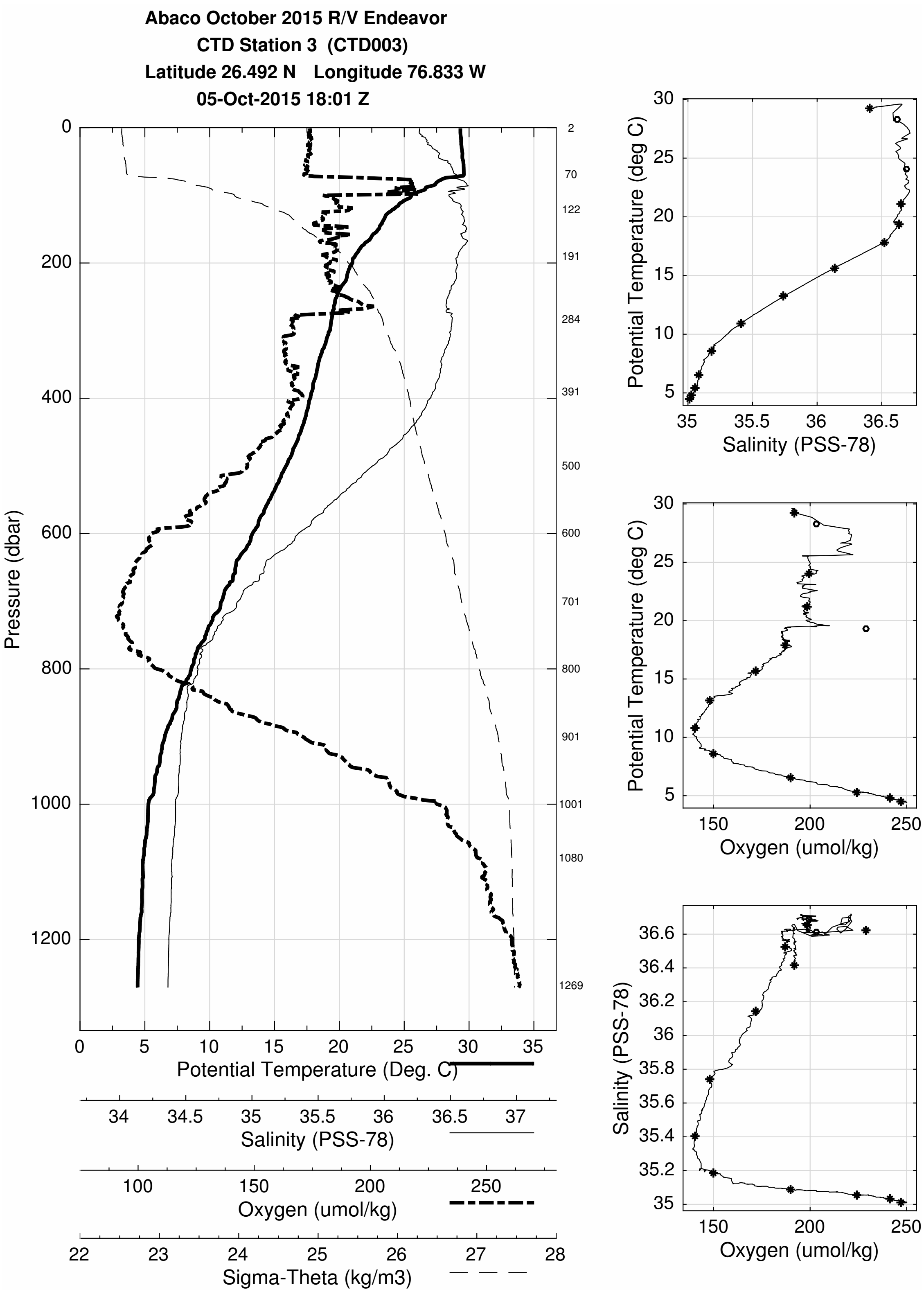
Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
740	1	9.618	9.532	35.254	−999.0
307	2	19.203	19.485	−999.000	−999.0
249	4	20.152	20.106	36.637	198.5
193	6	21.929	21.890	36.716	189.1
142	8	23.794	23.764	36.692	196.9
87	10	27.334	27.314	36.490	204.0
42	13	29.320	29.310	36.411	193.1
3	15	29.218	29.217	36.335	192.6


Abaco October 2015 R/V Endeavor
CTD Station 2 (CTD002)
Latitude 26.513 N Longitude 76.884 W
05-Oct-2015 16:21 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
2
42
86
141
192
249
307
739
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 3 (CTD003)
Latitude 26.492N Longitude 76.833W
05-Oct-2015 18:01Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	29.332	29.331	36.443	192.4	0.005	23.036
10	29.342	29.339	36.447	191.9	0.048	23.037
20	29.391	29.387	36.484	192.7	0.096	23.048
30	29.436	29.429	36.516	192.6	0.145	23.058
50	29.572	29.560	36.605	192.0	0.241	23.080
75	28.092	28.074	36.641	211.4	0.360	23.605
100	25.572	25.550	36.610	196.0	0.457	24.389
125	23.849	23.823	36.689	195.6	0.540	24.974
150	23.057	23.026	36.710	196.7	0.612	25.224
200	21.036	20.997	36.653	198.1	0.738	25.753
250	19.828	19.782	36.605	202.2	0.847	26.044
300	19.321	19.266	36.621	188.0	0.946	26.192
400	17.822	17.753	36.503	190.2	1.124	26.485
500	15.980	15.899	36.176	175.1	1.286	26.676
600	13.389	13.303	35.754	148.8	1.427	26.916
700	11.000	10.911	35.411	140.7	1.548	27.112
800	8.674	8.586	35.183	150.3	1.650	27.327
900	6.629	6.543	35.088	190.4	1.728	27.551
1000	5.361	5.274	35.055	227.4	1.789	27.686
1100	4.932	4.839	35.034	240.7	1.840	27.721
1200	4.633	4.534	35.017	247.8	1.890	27.742

Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
1270	1	4.558	4.453	35.012	247.3
1080	2	4.907	4.816	35.033	241.5
1001	3	5.450	5.362	35.056	224.4
902	4	6.583	6.497	35.086	190.1
801	5	8.721	8.632	35.185	150.3
702	6	10.954	10.865	35.406	140.8
600	7	13.282	13.196	35.740	148.1
501	8	15.748	15.668	36.142	171.7
392	9	17.939	17.871	36.525	187.3
284	10	19.357	19.305	36.628	229.3
192	11	21.177	21.139	36.651	198.9
122	12	24.146	24.120	36.686	199.8
70	13	28.344	28.327	36.617	203.1
2	14	29.291	29.290	36.411	192.1



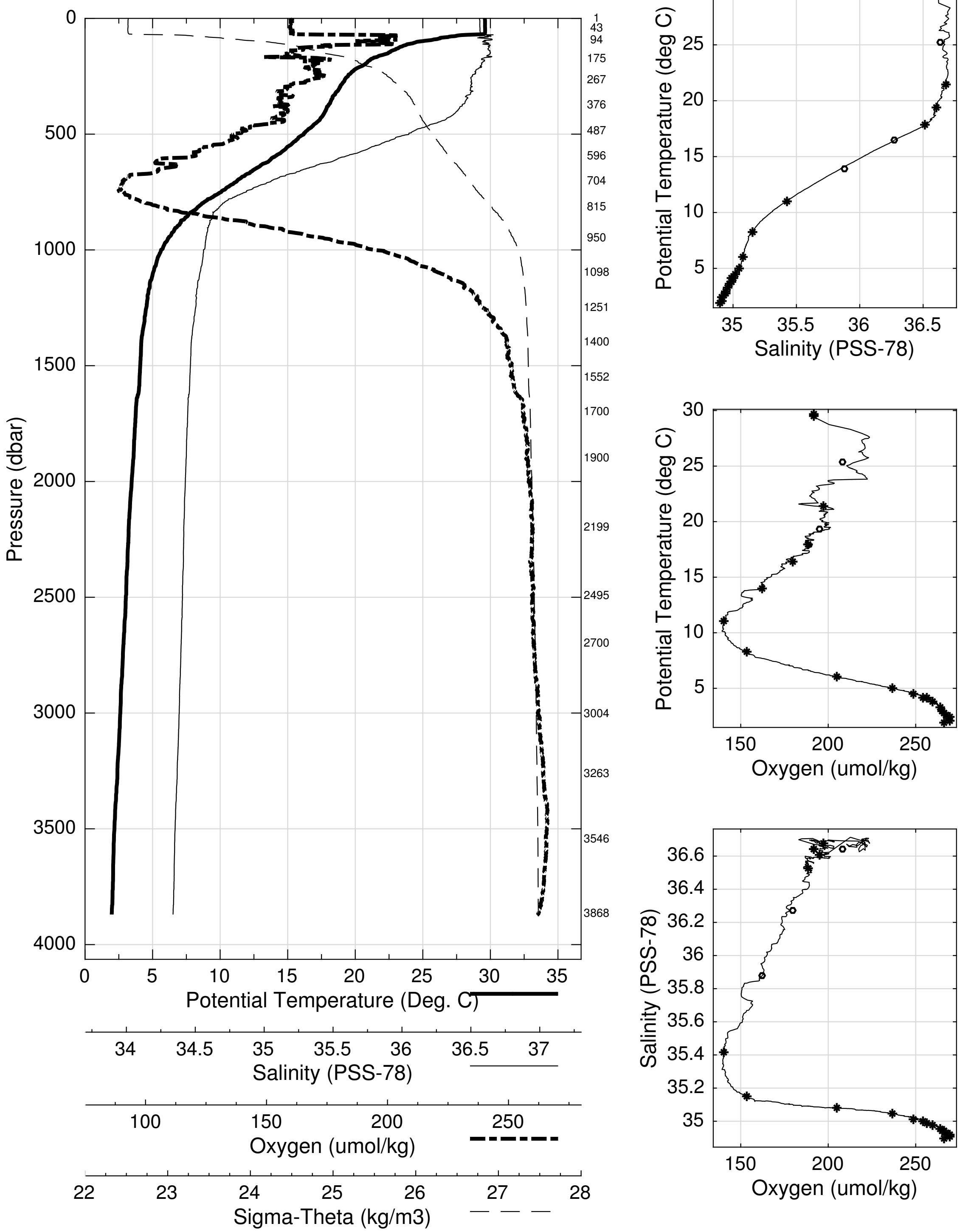
Abaco October 2015 R/V Endeavor
CTD Station 3 (CTD003)
Latitude 26.492 N Longitude 76.833 W
05-Oct-2015 18:01 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 4 (CTD004)
Latitude 26.494N Longitude 76.748W
05-Oct-2015 20:12Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	29.595	29.595	36.637	190.9	0.005	23.093
10	29.608	29.606	36.638	191.7	0.048	23.090
20	29.607	29.602	36.638	191.3	0.095	23.091
30	29.609	29.602	36.638	191.3	0.143	23.091
50	29.624	29.611	36.639	191.0	0.239	23.088
75	27.511	27.493	36.686	222.9	0.356	23.829
100	24.761	24.740	36.656	214.1	0.448	24.673
125	23.298	23.272	36.690	195.7	0.524	25.137
150	22.475	22.445	36.697	190.4	0.593	25.382
200	20.708	20.669	36.648	197.6	0.712	25.839
250	19.504	19.459	36.595	200.4	0.816	26.122
300	18.887	18.834	36.585	190.0	0.911	26.276
400	17.863	17.793	36.509	190.1	1.087	26.480
500	16.272	16.191	36.235	173.7	1.250	26.654
600	14.006	13.918	35.849	160.7	1.396	26.861
700	11.363	11.272	35.457	141.2	1.522	27.081
800	8.733	8.645	35.176	148.6	1.627	27.312
900	6.902	6.814	35.096	184.0	1.708	27.520
1000	5.714	5.625	35.068	216.2	1.771	27.654
1100	5.116	5.021	35.046	236.0	1.825	27.710
1200	4.722	4.622	35.024	247.1	1.876	27.738
1300	4.514	4.407	35.013	252.1	1.924	27.753
1400	4.276	4.162	34.997	256.0	1.972	27.767
1500	4.206	4.083	34.993	257.2	2.020	27.772
1750	3.850	3.708	34.976	261.0	2.138	27.797
2000	3.615	3.453	34.964	262.6	2.254	27.813
2500	3.226	3.022	34.947	263.7	2.482	27.841
3000	2.861	2.613	34.929	265.3	2.707	27.863
3500	2.469	2.178	34.906	268.1	2.926	27.882

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
3868	1	2.305	1.977	34.895	266.0
3546	2	2.429	2.133	34.909	269.4
3264	3	2.664	2.393	34.916	269.3
3004	4	2.868	2.619	34.931	266.8
2700	5	3.037	2.816	34.938	265.8
2496	6	3.176	2.973	34.947	265.0
2200	7	3.411	3.233	34.958	264.0
1900	8	3.717	3.563	34.972	283.6
1701	9	3.925	3.787	34.981	260.0
1552	10	4.194	4.066	34.992	256.3
1401	11	4.320	4.205	35.002	254.4
1251	12	4.562	4.459	35.016	249.1
1098	13	5.061	4.968	35.043	237.0
950	14	6.115	6.027	35.078	205.3
816	15	8.298	8.210	35.146	153.5
705	16	11.073	10.984	35.422	140.8
596	17	14.065	13.977	35.874	162.7
487	18	16.488	16.408	36.277	179.3
377	19	17.945	17.880	36.521	188.6
267	20	19.414	19.365	36.608	195.2
176	21	21.451	21.416	36.675	197.5
95	22	25.267	25.246	36.643	208.6
44	23	29.601	29.590	36.640	192.1
2	24	29.578	29.577	36.638	191.8

Abaco October 2015 R/V Endeavor
CTD Station 4 (CTD004)
Latitude 26.494 N Longitude 76.748 W
05-Oct-2015 20:12 Z

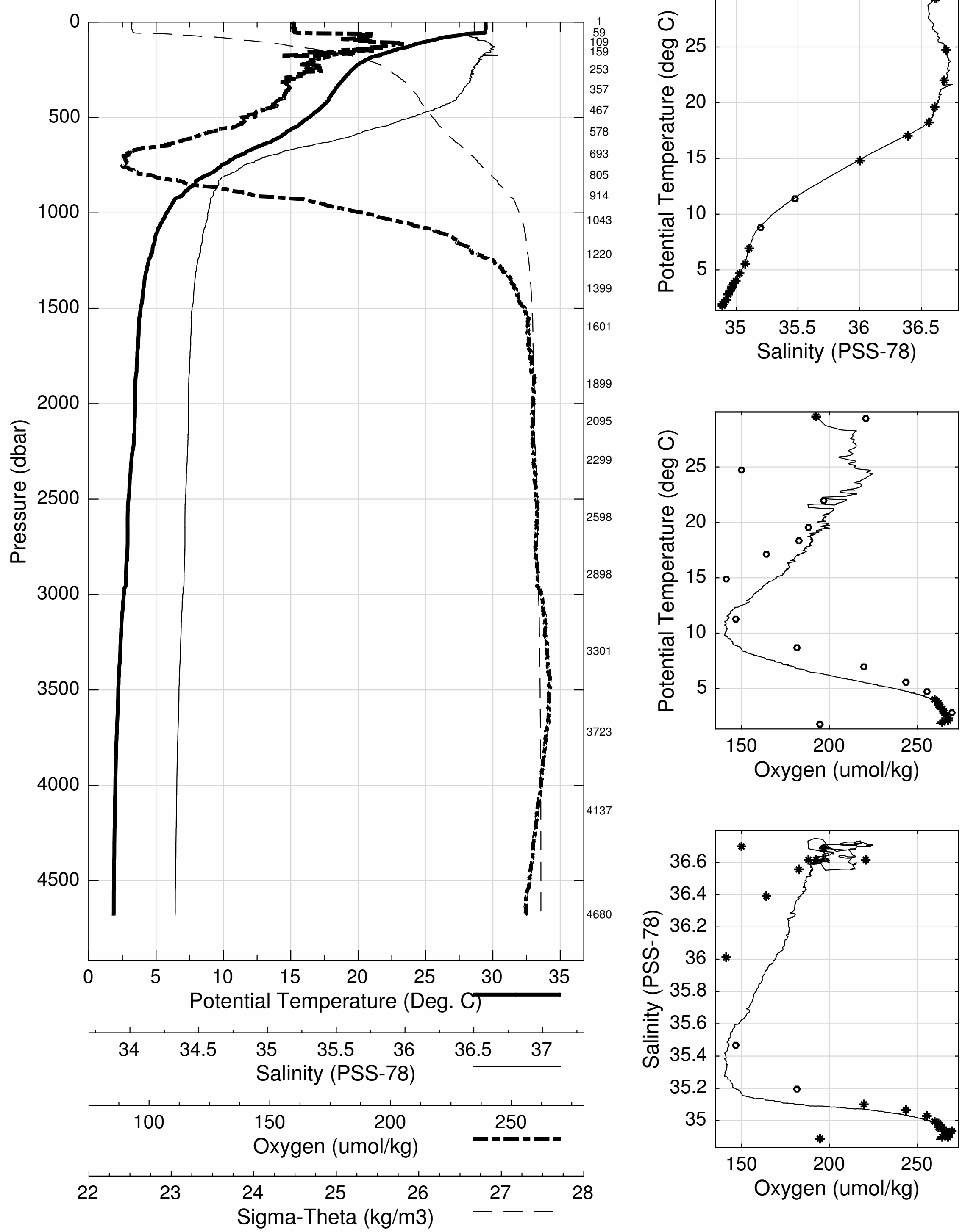


Abaco October 2015 R/V Endeavor
CTD Station 5 (CTD005)
Latitude 26.494N Longitude 76.657W
06-Oct-2015 00:20Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	29.467	29.467	36.617	191.2	0.005	23.121
10	29.467	29.465	36.616	191.6	0.047	23.121
20	29.475	29.470	36.616	191.7	0.095	23.119
30	29.478	29.471	36.615	192.2	0.142	23.119
50	29.451	29.438	36.619	191.7	0.238	23.132
75	26.960	26.942	36.600	215.3	0.348	23.942
100	25.182	25.160	36.684	214.2	0.439	24.565
125	23.943	23.917	36.723	219.5	0.519	24.971
150	22.563	22.532	36.708	213.6	0.590	25.364
200	20.556	20.518	36.638	198.1	0.710	25.872
250	19.598	19.552	36.607	197.3	0.815	26.107
300	18.948	18.894	36.595	190.4	0.911	26.268
400	17.902	17.832	36.513	188.7	1.088	26.473
500	16.409	16.327	36.245	175.9	1.252	26.630
600	14.354	14.264	35.900	162.4	1.402	26.827
700	11.228	11.138	35.430	141.6	1.529	27.085
800	8.917	8.828	35.193	147.7	1.633	27.297
900	7.128	7.038	35.107	178.1	1.716	27.497
1000	5.869	5.779	35.074	213.0	1.780	27.640
1100	5.186	5.091	35.048	235.0	1.835	27.703
1200	4.829	4.728	35.032	244.8	1.886	27.732
1300	4.418	4.311	35.007	254.2	1.935	27.759
1400	4.164	4.051	34.993	258.2	1.981	27.776
1500	3.972	3.852	34.982	260.9	2.027	27.787
1750	3.747	3.607	34.971	262.6	2.140	27.803
2000	3.603	3.441	34.962	263.4	2.254	27.813
2500	3.156	2.953	34.944	264.6	2.484	27.845
3000	2.857	2.610	34.928	265.8	2.711	27.863
3500	2.487	2.195	34.907	268.3	2.929	27.881
4000	2.323	1.979	34.894	265.7	3.146	27.889
4500	2.273	1.873	34.886	262.2	3.369	27.891

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
4681	1	2.278	1.856	34.886	194.6
4137	2	2.294	1.936	34.894	263.8
3724	3	2.390	2.076	34.901	267.8
3301	4	2.625	2.351	34.917	268.0
2899	5	3.009	2.769	34.936	269.6
2599	6	3.104	2.892	34.940	264.9
2299	7	3.329	3.143	34.953	264.4
2095	8	3.576	3.406	34.967	263.0
1899	9	3.609	3.457	34.964	262.4
1601	10	3.887	3.759	34.977	262.4
1400	11	4.185	4.071	34.997	259.4
1220	12	4.774	4.671	35.029	255.4
1044	13	5.578	5.486	35.070	243.4
914	14	6.932	6.842	35.101	219.3
806	15	8.853	8.763	35.196	181.2
694	16	11.414	11.324	35.471	146.3
578	17	14.981	14.891	36.010	140.8
467	18	17.197	17.118	36.388	163.8
358	19	18.354	18.291	36.560	183.1
253	20	19.621	19.574	36.612	187.8
160	21	22.066	22.034	36.682	196.8
110	22	24.717	24.693	36.705	149.8
60	23	29.464	29.449	36.620	221.0
2	24	29.440	29.439	36.611	192.1

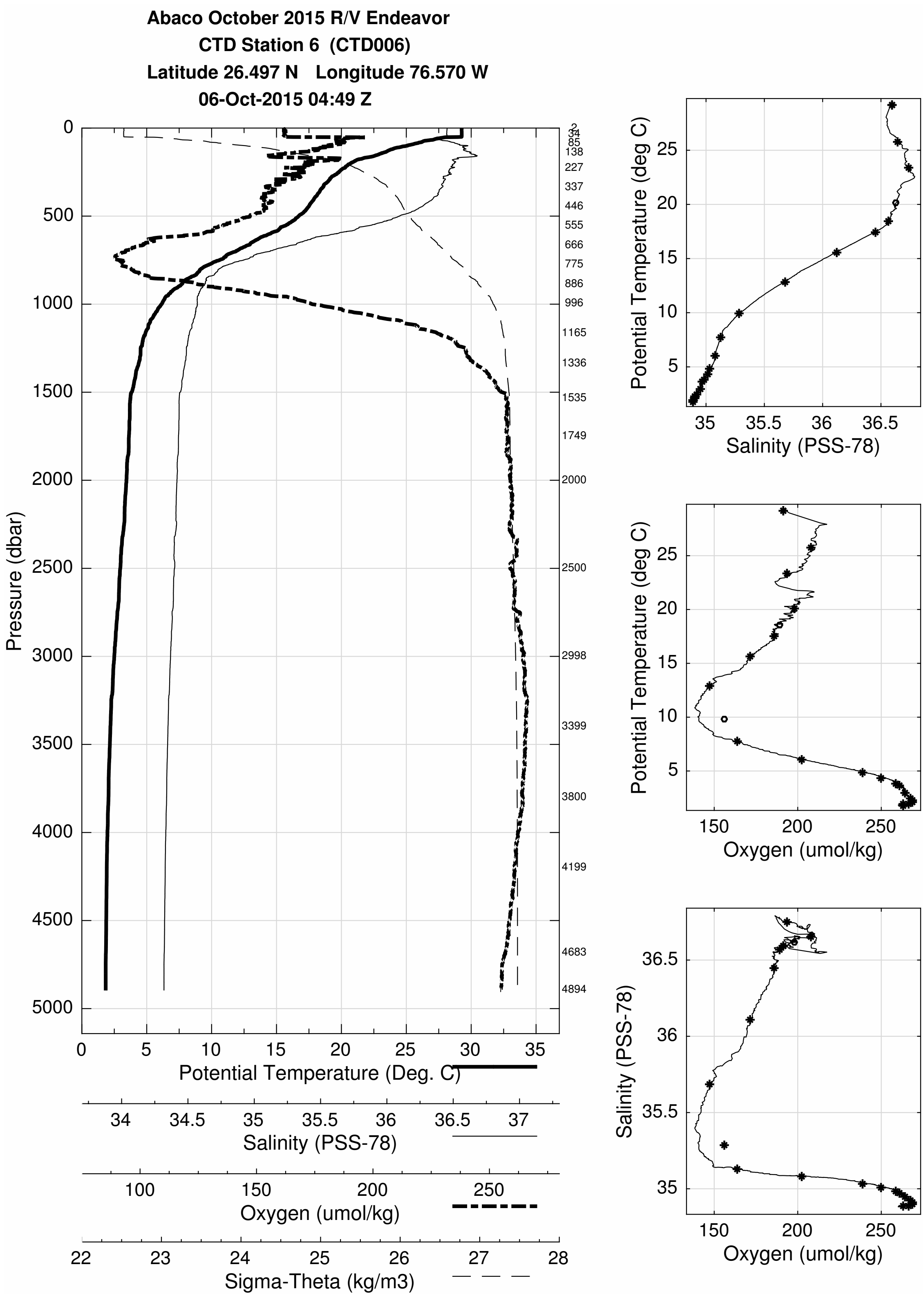
Abaco October 2015 R/V Endeavor
CTD Station 5 (CTD005)
Latitude 26.494 N Longitude 76.657 W
06-Oct-2015 00:20 Z



Abaco October 2015 R/V Endeavor
CTD Station 6 (CTD006)
Latitude 26.497N Longitude 76.570W
06-Oct-2015 04:49Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen $\mu mol \cdot kg^{-1}$	DynHt $m^2 \cdot s^{-2}$	SigT $kg \cdot m^{-3}$
1	29.268	29.267	36.608	192.0	0.005	23.182
10	29.266	29.263	36.606	192.2	0.047	23.182
20	29.276	29.271	36.605	191.9	0.094	23.179
30	29.279	29.271	36.604	192.0	0.141	23.178
50	29.273	29.261	36.605	192.1	0.235	23.182
75	26.315	26.298	36.615	210.0	0.337	24.158
100	25.081	25.059	36.734	206.6	0.427	24.634
125	23.724	23.698	36.706	202.7	0.505	25.024
150	22.892	22.862	36.771	188.9	0.576	25.318
200	20.742	20.704	36.650	200.2	0.699	25.831
250	19.840	19.794	36.616	197.7	0.805	26.049
300	19.061	19.007	36.588	192.5	0.903	26.234
400	17.970	17.900	36.521	185.8	1.082	26.463
500	16.784	16.701	36.315	181.1	1.249	26.596
600	14.590	14.499	35.931	165.8	1.402	26.800
700	11.974	11.880	35.529	142.0	1.534	27.023
800	9.259	9.168	35.217	144.0	1.643	27.261
900	7.539	7.446	35.120	168.6	1.732	27.450
1000	6.244	6.151	35.086	200.8	1.802	27.601
1100	5.367	5.271	35.061	229.0	1.860	27.692
1200	4.816	4.715	35.030	244.8	1.912	27.732
1300	4.586	4.478	35.016	250.2	1.961	27.748
1400	4.264	4.150	35.000	256.4	2.009	27.770
1500	3.952	3.832	34.980	260.6	2.056	27.788
1750	3.768	3.628	34.971	262.3	2.168	27.802
2000	3.592	3.431	34.961	263.2	2.283	27.813
2500	3.168	2.965	34.947	263.1	2.512	27.846
3000	2.746	2.501	34.923	267.1	2.733	27.868
3500	2.453	2.161	34.905	267.8	2.947	27.882
4000	2.315	1.972	34.894	265.7	3.162	27.889
4500	2.277	1.877	34.886	263.0	3.385	27.890

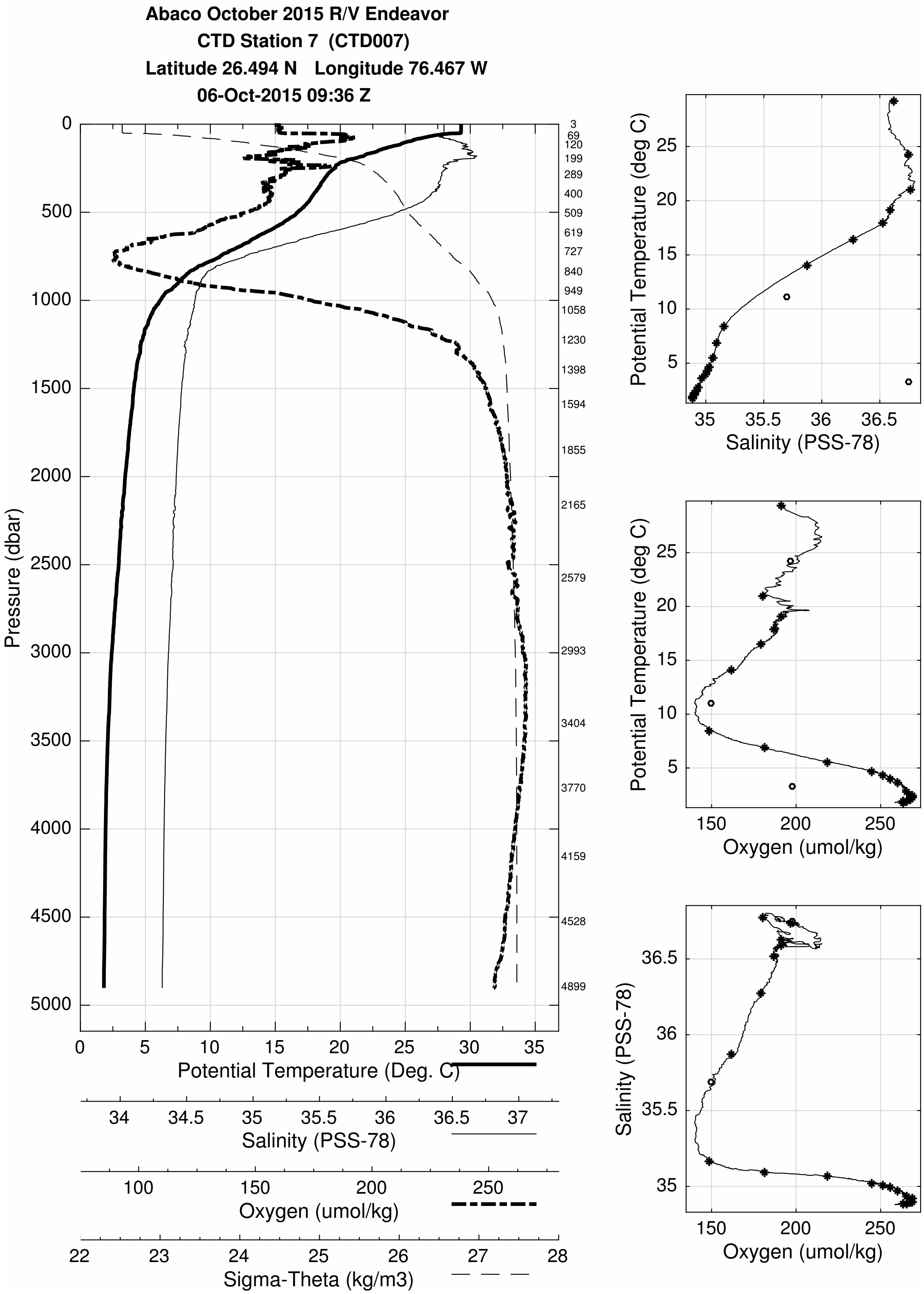
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen $\mu mol \cdot kg^{-1}$
4895	1	2.287	1.838	34.884	262.6
4683	2	2.274	8.653	−999.000	−999.0
4200	3	2.286	1.921	34.888	265.9
3801	4	2.369	2.047	34.899	268.7
3399	5	2.485	2.203	34.908	269.1
2999	6	2.741	2.496	34.925	267.9
2501	7	3.134	2.932	34.944	264.5
2000	8	3.612	6.683	−999.000	−999.0
1750	9	3.774	3.633	34.972	261.1
1535	10	3.927	3.804	34.980	258.8
1336	11	4.487	4.376	35.009	250.1
1165	12	4.943	4.844	35.035	239.3
997	13	6.179	6.086	35.082	202.5
886	14	7.777	7.685	35.131	164.2
775	15	9.956	9.864	35.286	156.5
667	16	12.965	12.871	35.680	147.3
556	17	15.669	15.581	36.114	171.9
447	18	17.517	17.441	36.451	185.3
337	19	18.594	18.534	36.565	189.4
228	20	20.124	20.081	36.622	197.6
139	21	23.373	23.344	36.745	193.2
86	22	25.807	25.788	36.649	207.8
35	23	29.269	29.261	36.590	191.8
3	24	29.247	29.246	36.591	191.5


Abaco October 2015 R/V Endeavor
CTD Station 6 (CTD006)
Latitude 26.497 N Longitude 76.570 W
06-Oct-2015 04:49 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 7 (CTD007)
Latitude 26.494N Longitude 76.467W
06-Oct-2015 09:36Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	29.291	29.291	36.603	190.7	0.005	23.170
10	29.298	29.295	36.601	191.2	0.047	23.167
20	29.300	29.295	36.602	193.1	0.094	23.168
30	29.303	29.295	36.601	190.9	0.141	23.167
50	29.279	29.267	36.601	192.2	0.235	23.177
75	26.567	26.550	36.595	213.7	0.339	24.063
100	25.172	25.150	36.687	207.0	0.430	24.571
125	24.053	24.026	36.728	200.8	0.511	24.942
150	22.947	22.916	36.766	192.6	0.583	25.298
200	20.744	20.706	36.695	190.6	0.706	25.865
250	19.613	19.567	36.618	196.0	0.810	26.111
300	18.928	18.874	36.582	192.3	0.906	26.263
400	18.001	17.932	36.523	189.1	1.084	26.456
500	16.809	16.726	36.319	181.4	1.251	26.593
600	14.724	14.633	35.955	167.3	1.404	26.790
700	12.140	12.046	35.557	144.1	1.538	27.013
800	9.476	9.383	35.236	142.3	1.650	27.241
900	7.637	7.544	35.117	164.0	1.738	27.433
1000	6.243	6.149	35.080	201.7	1.810	27.597
1100	5.446	5.349	35.057	226.3	1.868	27.679
1200	4.943	4.841	35.033	241.2	1.922	27.720
1300	4.710	4.601	35.025	246.9	1.972	27.741
1400	4.403	4.288	35.009	253.4	2.021	27.763
1500	4.236	4.113	34.999	256.3	2.069	27.773
1750	3.901	3.759	34.980	260.4	2.188	27.795
2000	3.610	3.449	34.966	262.6	2.304	27.815
2500	3.152	2.949	34.947	262.9	2.531	27.847
3000	2.654	2.410	34.918	267.5	2.748	27.872
3500	2.401	2.111	34.902	268.0	2.958	27.884
4000	2.286	1.944	34.892	265.1	3.171	27.889
4500	2.268	1.867	34.886	262.2	3.394	27.890

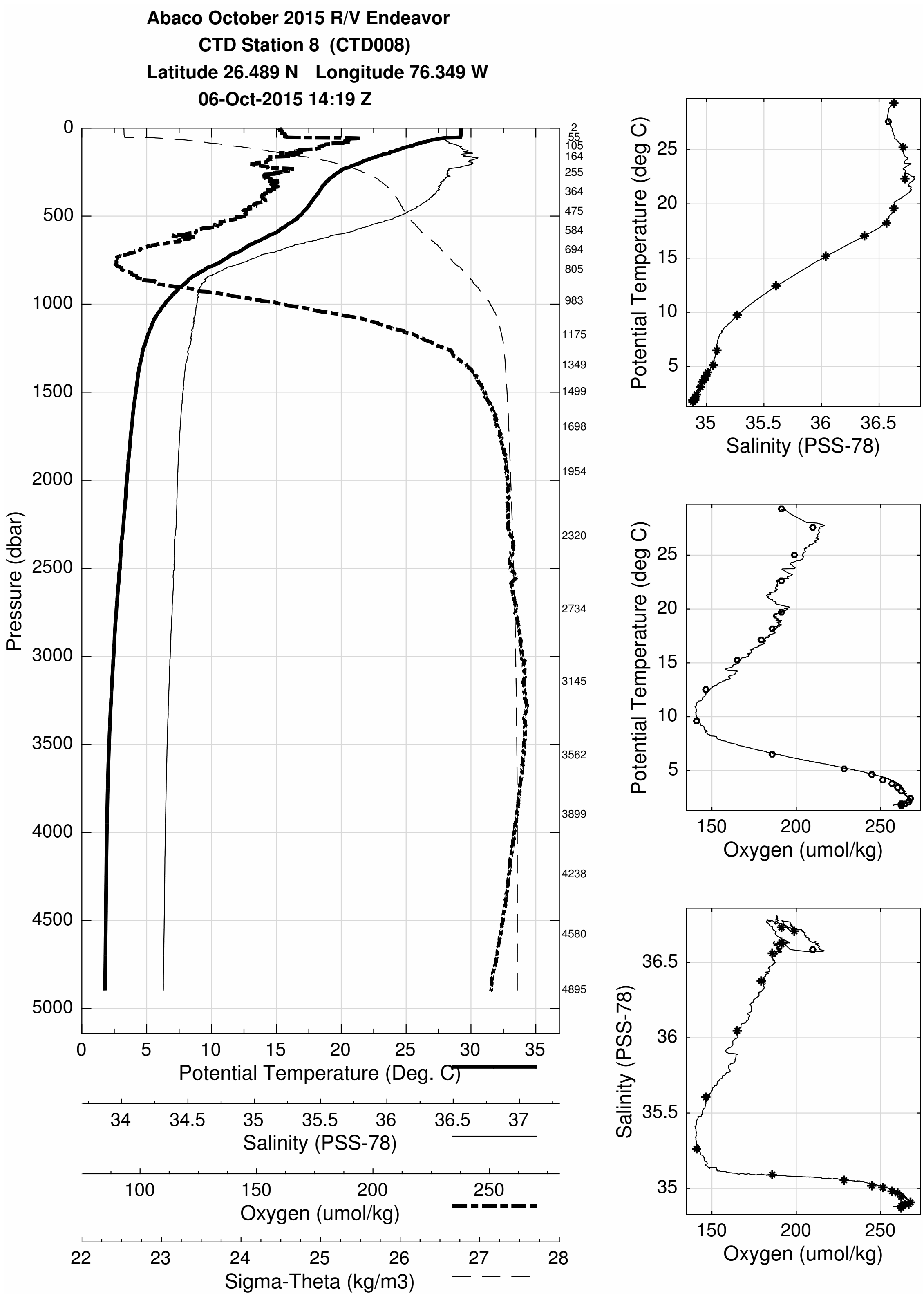
Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
4900	1	2.265	1.816	34.881	263.6
4529	2	2.269	1.865	34.887	263.7
4159	3	2.275	1.915	34.890	265.2
3771	4	2.320	2.003	34.894	267.2
3404	5	2.468	2.187	34.902	268.3
2994	6	2.673	2.430	34.919	268.2
2580	7	3.057	2.848	34.937	265.0
2165	8	3.462	3.280	36.746	197.5
1856	9	3.782	3.631	34.973	260.3
1595	10	4.099	3.969	34.989	255.7
1399	11	4.381	4.266	35.008	251.2
1230	12	4.805	4.701	35.022	244.4
1059	13	5.643	5.548	35.065	218.0
950	14	6.927	6.833	35.094	181.4
840	15	8.559	8.467	35.163	148.4
728	16	11.212	11.118	35.691	149.2
620	17	14.162	14.070	35.867	162.1
509	18	16.569	16.485	36.278	179.0
400	19	17.962	17.893	36.521	187.2
290	20	19.129	19.077	36.589	191.2
200	21	21.095	21.057	36.771	180.7
121	22	24.268	24.242	36.741	197.1
69	23	26.935	26.973	−999.000	−999.0
4	24	29.250	29.249	36.622	190.7


Abaco October 2015 R/V Endeavor
CTD Station 7 (CTD007)
Latitude 26.494 N Longitude 76.467 W
06-Oct-2015 09:36 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 8 (CTD008)
Latitude 26.489N Longitude 76.349W
06-Oct-2015 14:19Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	29.224	29.224	36.621	191.2	0.005	23.207
10	29.220	29.218	36.620	191.8	0.047	23.208
20	29.222	29.217	36.620	192.7	0.093	23.208
30	29.222	29.215	36.620	191.8	0.140	23.209
50	29.211	29.199	36.619	193.9	0.233	23.213
75	26.643	26.626	36.619	212.0	0.338	24.057
100	25.472	25.450	36.691	205.0	0.429	24.481
125	24.333	24.306	36.739	197.0	0.512	24.867
150	23.213	23.182	36.714	197.7	0.586	25.181
200	21.444	21.405	36.772	184.9	0.714	25.732
250	19.866	19.820	36.623	192.2	0.823	26.048
300	19.010	18.955	36.596	188.0	0.920	26.253
400	17.956	17.887	36.514	187.0	1.098	26.461
500	16.853	16.770	36.326	181.0	1.265	26.587
600	14.893	14.801	35.982	162.6	1.419	26.773
700	12.260	12.165	35.574	146.4	1.553	27.003
800	9.627	9.533	35.253	142.3	1.666	27.229
900	7.746	7.652	35.108	158.7	1.758	27.410
1000	6.472	6.376	35.084	192.8	1.832	27.570
1100	5.586	5.488	35.063	220.6	1.893	27.667
1200	5.089	4.985	35.050	236.6	1.948	27.716
1300	4.720	4.611	35.027	246.6	1.999	27.741
1400	4.459	4.343	35.008	252.3	2.048	27.756
1500	4.281	4.158	34.999	255.2	2.097	27.769
1750	3.896	3.754	34.978	260.3	2.216	27.794
2000	3.628	3.466	34.965	262.5	2.333	27.813
2500	3.133	2.930	34.945	263.4	2.559	27.848
3000	2.691	2.447	34.920	267.1	2.776	27.871
3500	2.392	2.102	34.902	267.7	2.987	27.885
4000	2.267	1.925	34.890	264.8	3.199	27.890
4500	2.248	1.848	34.884	261.1	3.420	27.891

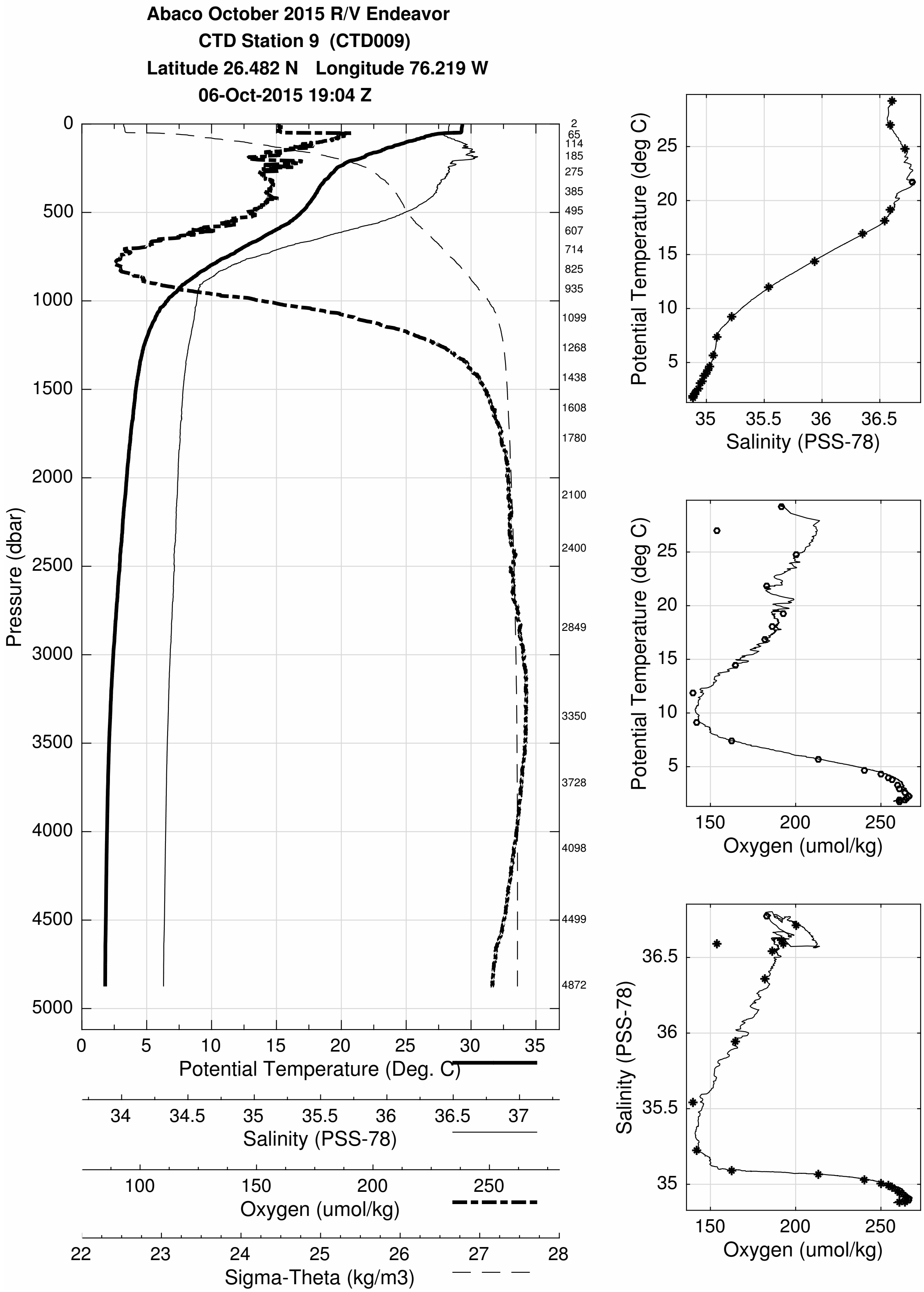
Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
4895	1	2.244	1.796	34.877	261.9
4580	2	2.244	1.835	34.883	262.3
4239	3	2.253	1.884	34.886	262.5
3900	4	2.281	1.950	34.892	264.2
3563	5	2.369	2.073	34.898	266.7
3145	6	2.589	2.332	34.913	267.4
2734	7	2.879	6.984	−999.000	−999.0
2320	8	3.288	3.100	34.947	261.9
1955	9	3.673	3.515	34.966	259.7
1698	10	3.962	3.824	34.982	256.9
1499	11	4.313	4.189	35.003	251.4
1349	12	4.635	4.522	35.017	244.8
1176	13	5.248	5.145	35.055	228.4
984	14	6.649	6.554	35.087	185.9
805	15	9.746	9.651	35.267	140.6
694	16	12.533	12.437	35.609	146.3
585	17	15.229	15.137	36.041	164.5
476	18	17.158	17.078	36.376	179.2
365	19	18.310	18.246	36.558	185.9
255	20	19.672	19.625	36.622	191.4
165	21	22.403	22.370	36.728	191.2
105	22	25.158	25.135	36.708	199.1
56	23	27.680	27.667	36.580	210.0
3	24	29.245	29.244	36.630	191.0


Abaco October 2015 R/V Endeavor
CTD Station 8 (CTD008)
Latitude 26.489 N Longitude 76.349 W
06-Oct-2015 14:19 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
2
55
105
164
255
364
475
584
694
805
983
1175
1349
1499
1698
1954
2320
2734
3145
3562
3899
4238
4580
4895
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 9 (CTD009)
Latitude 26.482N Longitude 76.219W
06-Oct-2015 19:04Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	29.325	29.324	36.630	191.7	0.005	23.179
10	29.321	29.318	36.627	191.5	0.047	23.179
20	29.292	29.287	36.625	191.4	0.094	23.188
30	29.281	29.274	36.625	192.6	0.141	23.192
50	28.613	28.601	36.572	197.2	0.234	23.379
75	26.429	26.412	36.619	210.3	0.335	24.126
100	25.131	25.109	36.691	205.3	0.425	24.586
125	24.069	24.043	36.715	202.5	0.505	24.928
150	23.147	23.116	36.765	193.8	0.578	25.239
200	21.279	21.240	36.764	184.5	0.704	25.771
250	19.706	19.659	36.631	189.9	0.810	26.097
300	19.079	19.024	36.604	187.4	0.907	26.241
400	18.060	17.990	36.535	188.4	1.086	26.451
500	16.987	16.903	36.356	181.8	1.254	26.579
600	15.014	14.921	36.014	166.6	1.410	26.772
700	12.476	12.380	35.606	148.9	1.546	26.986
800	10.015	9.919	35.295	142.2	1.661	27.197
900	8.068	7.973	35.117	152.6	1.757	27.370
1000	6.672	6.575	35.083	186.5	1.835	27.542
1100	5.746	5.647	35.066	215.8	1.899	27.650
1200	5.150	5.046	35.045	234.6	1.955	27.705
1300	4.746	4.636	35.024	246.1	2.007	27.736
1400	4.494	4.378	35.010	251.5	2.057	27.754
1500	4.285	4.162	34.998	255.3	2.105	27.768
1750	3.925	3.782	34.981	260.0	2.225	27.794
2000	3.618	3.456	34.967	262.4	2.341	27.815
2500	3.118	2.916	34.945	263.8	2.566	27.849
3000	2.667	2.423	34.919	267.4	2.783	27.872
3500	2.390	2.100	34.902	267.8	2.993	27.885
4000	2.282	1.940	34.891	265.1	3.206	27.889
4500	2.247	1.848	34.884	261.2	3.427	27.890

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
4872	1	2.244	1.799	34.878	260.9
4499	2	2.248	1.849	34.883	260.7
4098	3	2.270	1.917	34.888	264.5
3729	4	2.326	2.013	34.894	265.6
3350	5	2.462	2.186	34.897	266.4
2850	6	2.797	2.566	34.924	263.7
2401	7	3.211	3.017	34.947	261.2
2100	8	3.489	3.319	34.959	260.3
1780	9	3.907	3.762	34.978	257.0
1608	10	4.134	4.002	34.994	254.0
1439	11	4.397	4.278	35.005	250.1
1269	12	4.820	4.713	35.026	240.3
1099	13	5.724	5.624	35.065	213.6
935	14	7.471	7.375	35.090	162.3
826	15	9.302	9.207	35.221	141.4
715	16	11.987	11.891	35.539	140.3
607	17	14.530	14.438	35.939	165.0
495	18	16.962	16.879	36.353	182.1
386	19	18.171	18.103	36.546	186.8
276	20	19.249	19.198	36.594	192.5
186	21	21.833	21.796	36.777	183.5
115	22	24.794	24.769	36.717	200.0
65	23	26.973	26.958	36.592	154.0
2	24	29.197	29.197	36.610	191.4

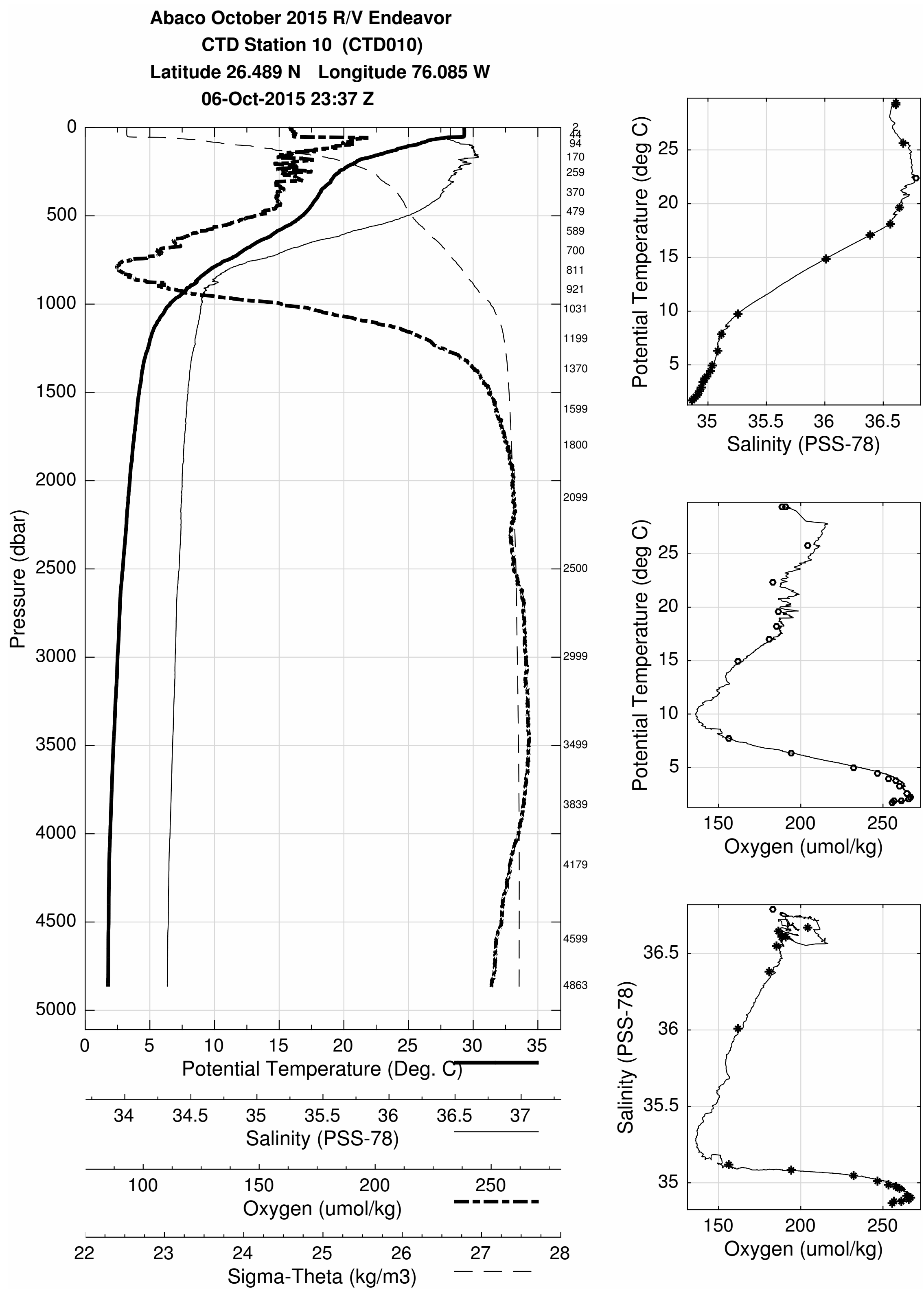


Abaco October 2015 R/V Endeavor
CTD Station 9 (CTD009)
Latitude 26.482 N Longitude 76.219 W
06-Oct-2015 19:04 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 10 (CTD010)
Latitude 26.489N Longitude 76.085W
06-Oct-2015 23:37Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	29.310	29.310	36.599	191.5	0.005	23.161
10	29.313	29.311	36.598	191.5	0.047	23.160
20	29.320	29.315	36.598	192.3	0.094	23.158
30	29.321	29.314	36.598	192.7	0.141	23.159
50	29.301	29.289	36.599	192.8	0.236	23.167
75	26.487	26.470	36.618	210.7	0.340	24.106
100	25.408	25.386	36.732	208.1	0.432	24.532
125	24.135	24.108	36.740	199.2	0.512	24.927
150	22.891	22.860	36.744	191.0	0.584	25.297
200	20.850	20.811	36.673	192.4	0.706	25.820
250	19.685	19.639	36.617	198.5	0.812	26.091
300	19.062	19.008	36.587	195.5	0.909	26.233
400	17.981	17.911	36.528	187.0	1.087	26.465
500	16.841	16.757	36.332	180.3	1.253	26.595
600	14.686	14.595	35.961	160.2	1.406	26.802
700	12.250	12.155	35.586	149.0	1.539	27.015
800	9.842	9.747	35.255	136.9	1.653	27.194
900	8.209	8.112	35.122	149.9	1.749	27.353
1000	6.653	6.556	35.083	188.8	1.829	27.546
1100	5.687	5.588	35.064	217.4	1.892	27.655
1200	5.121	5.017	35.043	235.1	1.947	27.708
1300	4.752	4.642	35.024	245.7	1.999	27.736
1400	4.477	4.361	35.010	252.2	2.049	27.755
1500	4.299	4.175	35.001	255.3	2.098	27.768
1750	3.928	3.786	34.981	259.8	2.217	27.793
2000	3.612	3.450	34.965	262.7	2.334	27.814
2500	3.105	2.903	34.946	262.9	2.558	27.851
3000	2.747	2.502	34.922	266.9	2.776	27.868
3500	2.478	2.186	34.907	267.6	2.993	27.882
4000	2.278	1.936	34.891	264.5	3.208	27.889
4500	2.214	1.815	34.880	259.1	3.427	27.890

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
4863	1	2.214	1.771	34.871	255.2
4600	2	2.198	1.788	34.876	256.4
4179	3	2.220	1.859	34.882	261.7
3839	4	2.336	2.010	34.894	265.5
3499	5	2.472	2.181	34.907	266.8
2999	6	2.747	2.502	34.919	264.9
2501	7	3.098	2.896	34.945	282.1
2099	8	3.505	3.335	34.960	259.8
1801	9	3.876	3.729	34.974	257.6
1599	10	4.133	4.002	34.988	253.4
1370	11	4.554	4.440	35.014	246.5
1200	12	5.122	5.018	35.042	232.0
1031	13	6.383	6.285	35.079	194.1
921	14	7.904	7.807	35.119	156.1
812	15	9.761	9.665	35.255	126.5
700	16	12.334	13.195	−999.000	−999.0
590	17	14.979	14.888	36.011	162.2
480	18	17.147	17.066	36.386	180.8
371	19	18.246	18.180	36.555	185.3
259	20	19.679	19.631	36.645	186.6
170	21	22.387	22.353	36.786	183.5
94	22	25.609	25.588	36.674	204.6
44	23	29.318	29.308	36.608	188.6
2	24	29.299	29.299	36.610	190.8


Abaco October 2015 R/V Endeavor
CTD Station 10 (CTD010)
Latitude 26.489 N Longitude 76.085 W
06-Oct-2015 23:37 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 11 (CTD011)
Latitude 26.485N Longitude 75.898W
07-Oct-2015 04:15Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	29.299	29.299	36.566	191.7	0.005	23.139
10	29.303	29.301	36.565	191.3	0.047	23.138
20	29.314	29.309	36.569	191.9	0.095	23.139
30	29.344	29.337	36.584	192.1	0.142	23.140
50	29.411	29.398	36.628	192.6	0.237	23.152
75	26.604	26.587	36.592	211.9	0.344	24.049
100	25.046	25.024	36.694	205.8	0.434	24.615
125	23.725	23.699	36.702	203.6	0.513	25.020
150	22.620	22.589	36.701	196.0	0.584	25.343
200	20.661	20.623	36.656	195.3	0.704	25.858
250	19.653	19.606	36.646	186.5	0.809	26.122
300	18.779	18.725	36.597	186.7	0.903	26.313
400	17.909	17.839	36.517	187.6	1.078	26.475
500	16.537	16.455	36.282	174.8	1.243	26.628
600	14.696	14.604	35.966	159.0	1.393	26.804
700	12.348	12.253	35.593	143.1	1.526	27.001
800	10.106	10.009	35.292	138.1	1.642	27.178
900	8.287	8.190	35.130	148.2	1.741	27.347
1000	6.896	6.798	35.086	179.4	1.822	27.515
1100	5.776	5.676	35.068	215.9	1.887	27.647
1200	5.122	5.018	35.043	234.0	1.943	27.707
1300	4.755	4.645	35.025	244.9	1.995	27.736
1400	4.495	4.379	35.010	251.6	2.045	27.753
1500	4.319	4.195	35.000	254.9	2.094	27.766
1750	3.902	3.760	34.979	260.1	2.214	27.794
2000	3.613	3.452	34.967	262.4	2.330	27.815
2500	3.091	2.889	34.944	263.9	2.554	27.850
3000	2.675	2.431	34.920	267.1	2.770	27.872
3500	2.390	2.101	34.902	268.0	2.981	27.885
4000	2.271	1.929	34.891	264.8	3.193	27.890
4500	2.250	1.850	34.884	261.3	3.414	27.891

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
4796	1	2.244	1.809	34.881	263.6
4528	2	2.246	1.843	34.883	262.3
4248	3	2.245	1.876	34.886	263.9
3977	4	2.276	1.937	34.893	267.0
3698	5	2.334	2.025	34.893	268.2
3203	6	2.546	2.284	34.912	269.1
2700	7	2.937	2.718	34.933	265.1
2250	8	3.341	3.160	34.953	264.3
1902	9	3.731	3.577	34.969	264.2
1652	10	4.048	3.914	34.987	260.6
1386	11	4.527	4.411	35.012	249.7
1218	12	5.057	4.952	35.031	236.0
1047	13	6.279	6.180	35.076	197.7
935	14	7.702	7.605	35.103	166.4
836	15	9.407	9.311	35.213	137.9
715	16	12.183	12.087	35.569	141.0
606	17	14.691	14.598	35.964	159.4
496	18	16.678	16.596	36.312	176.8
389	19	18.023	17.955	36.533	188.0
276	20	19.178	19.127	36.634	183.7
186	21	21.227	21.191	36.727	188.5
122	22	23.892	23.866	36.737	196.7
70	23	26.904	26.888	36.603	211.3
3	24	29.344	29.343	36.636	192.0

Abaco October 2015 R/V Endeavor
CTD Station 11 (CTD011)
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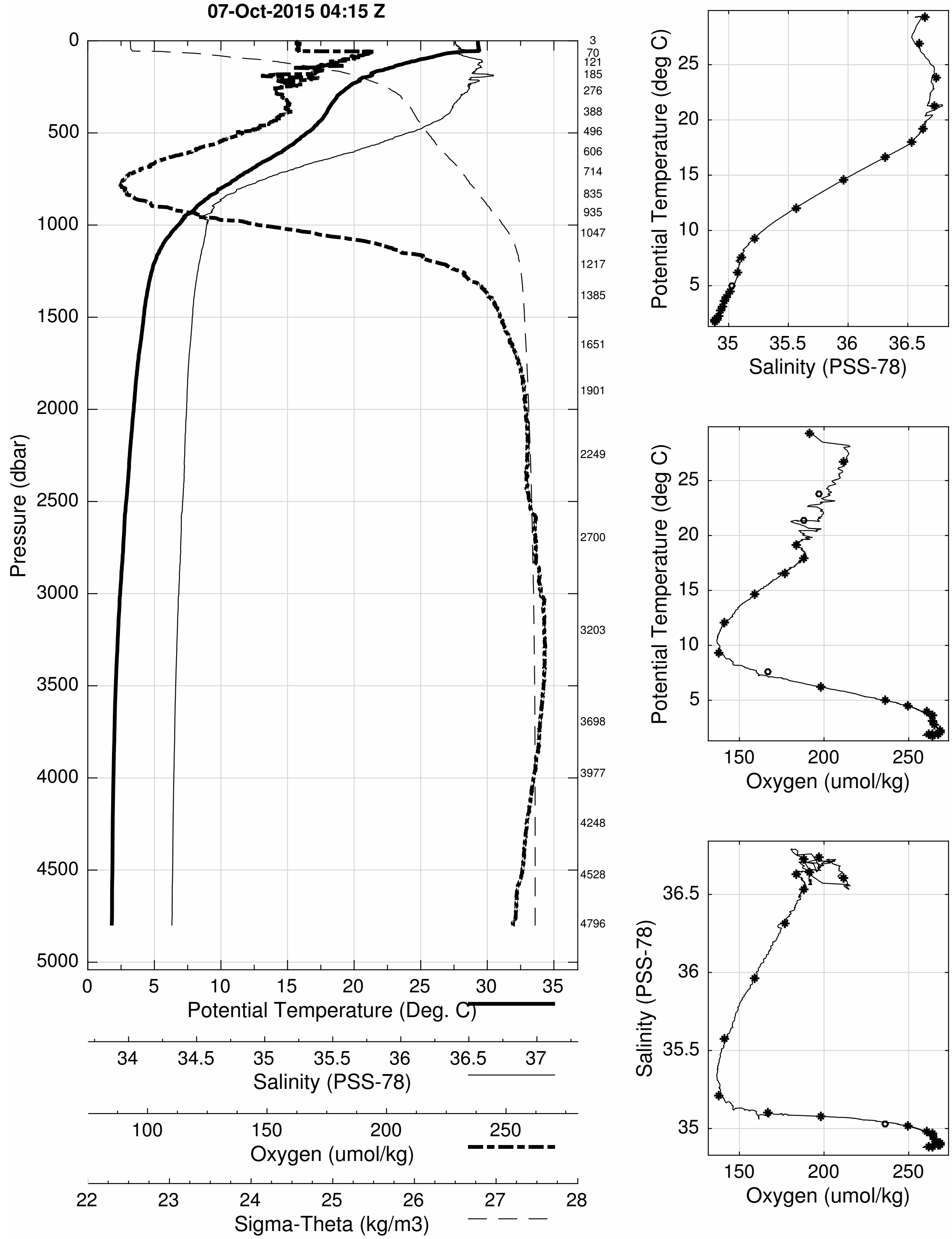
07-Oct-2015 04:15 Z



Abaco October 2015 R/V Endeavor
CTD Station 12 (CTD012)
Latitude 26.490N Longitude 75.718W
07-Oct-2015 08:56Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	28.822	28.822	36.292	193.7	0.005	23.094
10	28.827	28.824	36.291	193.7	0.048	23.093
20	28.832	28.827	36.291	194.2	0.095	23.092
30	28.834	28.826	36.291	194.2	0.143	23.092
50	28.836	28.824	36.293	193.8	0.239	23.094
75	26.341	26.324	36.617	212.0	0.345	24.152
100	24.810	24.788	36.720	206.3	0.432	24.706
125	23.572	23.546	36.745	190.8	0.509	25.098
150	22.349	22.318	36.715	192.6	0.578	25.431
200	20.636	20.598	36.658	197.1	0.698	25.866
250	19.593	19.547	36.640	183.2	0.801	26.133
300	18.712	18.658	36.588	186.0	0.895	26.323
400	17.827	17.758	36.506	185.4	1.069	26.486
500	16.675	16.592	36.305	177.4	1.233	26.613
600	14.815	14.723	35.985	159.3	1.384	26.793
700	12.242	12.147	35.574	141.9	1.519	27.007
800	10.072	9.976	35.289	138.4	1.633	27.182
900	8.135	8.039	35.100	146.1	1.731	27.347
1000	6.672	6.575	35.087	188.3	1.811	27.545
1100	5.618	5.519	35.062	220.5	1.874	27.662
1200	5.015	4.912	35.038	239.5	1.928	27.716
1300	4.728	4.619	35.023	246.6	1.979	27.737
1400	4.430	4.314	35.008	252.9	2.029	27.759
1500	4.261	4.138	34.999	256.2	2.077	27.771
1750	3.875	3.733	34.977	260.3	2.195	27.796
2000	3.581	3.419	34.964	262.8	2.311	27.816
2500	3.096	2.895	34.945	263.0	2.534	27.851
3000	2.649	2.406	34.919	267.1	2.748	27.873
3500	2.372	2.083	34.901	267.6	2.958	27.886
4000	2.264	1.922	34.890	264.7	3.169	27.890
4500	2.237	1.837	34.883	260.9	3.390	27.891

Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
4750	1	2.221	1.792	34.880	262.9
4417	2	2.240	1.850	34.887	262.9
4078	3	2.258	1.908	34.889	265.4
3741	4	2.299	1.986	34.896	267.6
3401	5	2.405	2.125	34.905	268.7
2881	6	2.743	2.510	34.926	266.1
2464	7	3.124	2.926	34.946	263.4
2052	8	3.508	3.342	34.963	262.9
1746	9	3.891	3.749	34.981	259.9
1536	10	4.183	4.057	34.996	256.2
1366	11	4.537	4.423	35.017	249.8
1196	12	5.076	4.973	35.044	236.0
1027	13	6.162	6.067	35.077	197.3
918	14	7.857	7.761	35.110	156.4
697	15	12.401	12.306	35.602	144.0
586	16	15.005	14.915	36.019	181.1
474	17	16.989	16.909	36.363	162.5
366	18	18.150	18.086	36.547	186.3
256	19	19.663	19.616	36.652	182.3
166	20	22.106	22.073	36.761	187.9
111	21	24.395	24.371	36.733	201.6
60	22	27.419	27.405	36.573	212.7
60	23	27.345	27.331	36.572	212.5
4	24	28.855	28.854	36.312	193.3

Abaco October 2015 R/V Endeavor
CTD Station 12 (CTD012)
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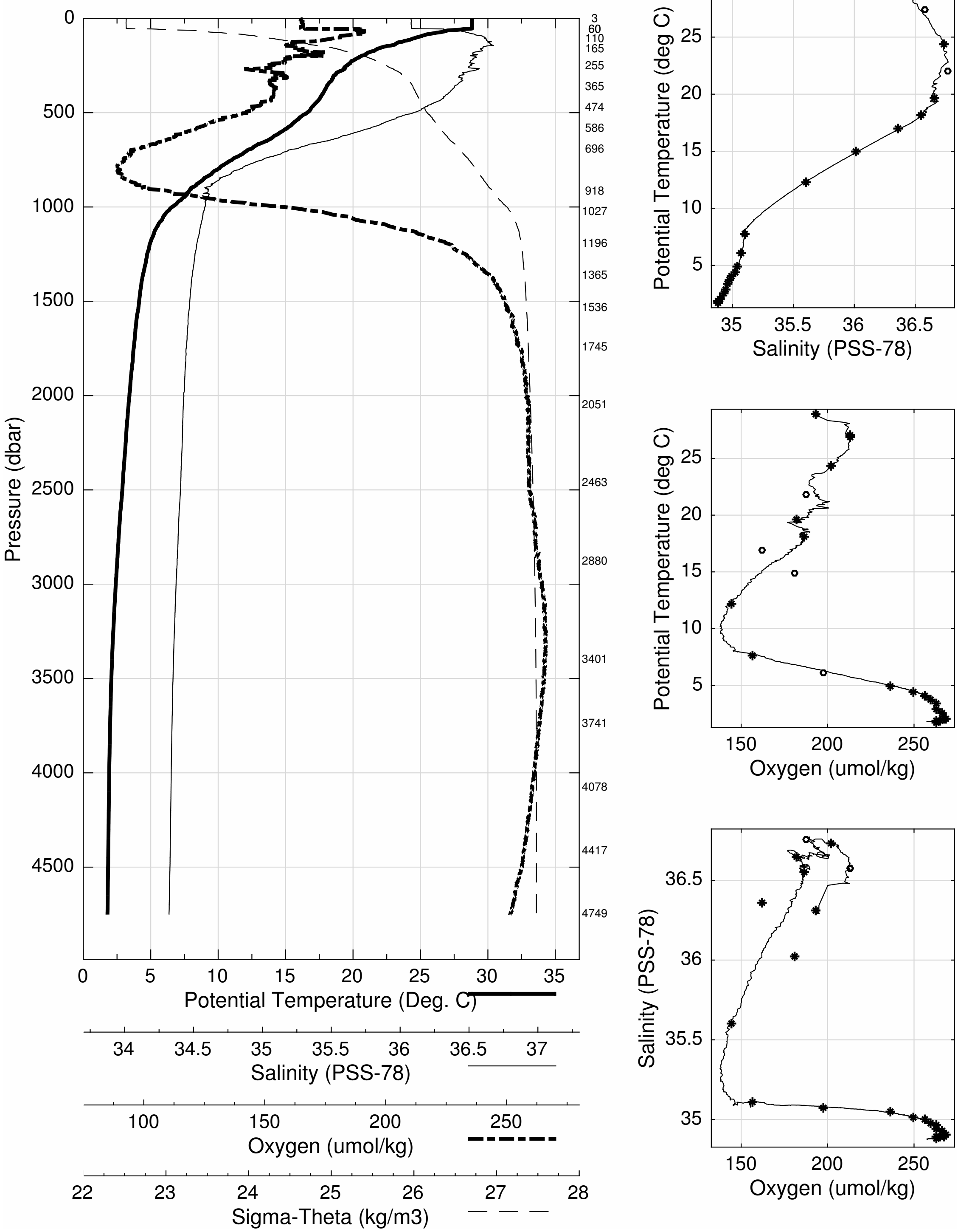
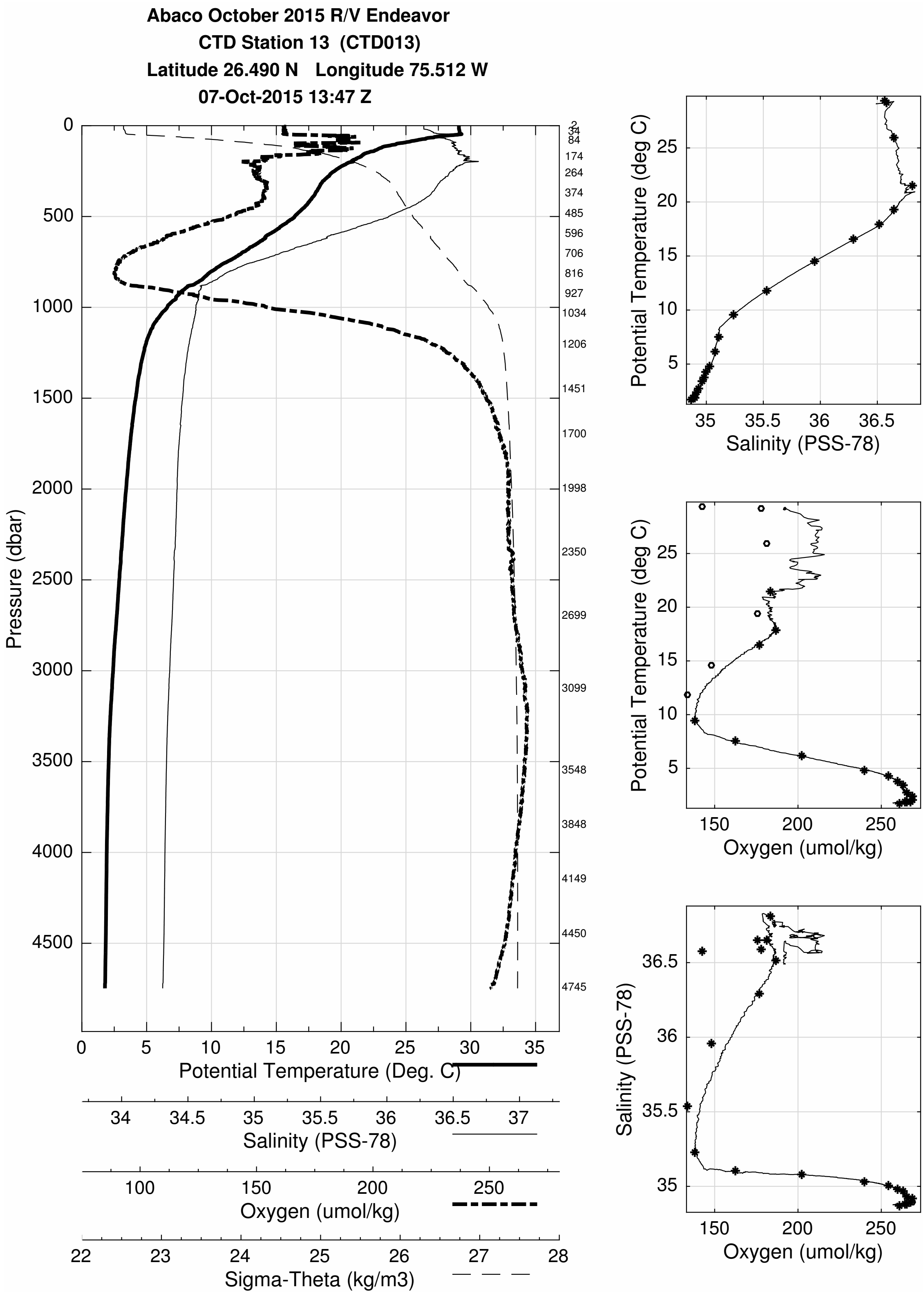
07-Oct-2015 08:56 Z



Abaco October 2015 R/V Endeavor
CTD Station 13 (CTD013)
Latitude 26.490N Longitude 75.512W
07-Oct-2015 13:47Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	29.085	29.085	36.493	191.6	0.005	23.157
10	29.087	29.085	36.491	191.7	0.047	23.156
20	29.099	29.095	36.501	191.2	0.094	23.159
30	29.139	29.131	36.536	192.2	0.141	23.174
50	28.961	28.949	36.615	195.4	0.235	23.295
75	26.228	26.211	36.637	210.7	0.338	24.202
100	24.294	24.273	36.679	197.6	0.424	24.832
125	22.977	22.952	36.684	213.4	0.497	25.225
150	22.003	21.973	36.706	203.6	0.564	25.522
200	20.751	20.713	36.775	179.2	0.680	25.924
250	19.532	19.486	36.667	182.1	0.782	26.170
300	18.752	18.698	36.605	184.6	0.875	26.326
400	17.817	17.748	36.502	185.9	1.049	26.486
500	16.495	16.413	36.274	174.3	1.212	26.632
600	14.496	14.406	35.931	156.3	1.362	26.820
700	12.445	12.349	35.609	143.5	1.495	26.994
800	10.129	10.033	35.292	138.4	1.611	27.174
900	8.024	7.929	35.113	152.8	1.710	27.373
1000	6.688	6.591	35.083	186.6	1.788	27.540
1100	5.591	5.493	35.062	221.7	1.851	27.666
1200	5.061	4.957	35.041	238.3	1.905	27.713
1300	4.714	4.604	35.023	247.3	1.957	27.739
1400	4.453	4.337	35.007	252.5	2.006	27.756
1500	4.274	4.151	34.999	255.9	2.055	27.769
1750	3.870	3.729	34.978	260.8	2.173	27.797
2000	3.577	3.416	34.966	262.4	2.288	27.818
2500	3.088	2.886	34.943	263.9	2.511	27.850
3000	2.653	2.410	34.920	267.0	2.725	27.874
3500	2.361	2.072	34.900	267.7	2.934	27.886
4000	2.264	1.922	34.890	264.9	3.145	27.890
4500	2.242	1.843	34.884	261.2	3.366	27.891

Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
4745	1	2.211	1.783	34.875	260.9
4450	2	2.245	1.852	34.884	263.7
4149	3	2.256	1.897	34.887	265.6
3849	4	2.281	1.956	34.892	267.5
3549	5	2.350	2.056	34.894	268.9
3100	6	2.576	2.324	34.914	268.7
2699	7	2.902	2.684	34.934	265.5
2351	8	3.215	6.790	−999.000	−999.0
1999	9	3.574	3.413	34.963	263.2
1700	10	3.894	3.757	34.976	259.7
1452	11	4.326	4.206	35.000	254.0
1206	12	4.950	4.847	35.034	240.4
1035	13	6.198	6.101	35.076	202.6
927	14	7.610	7.514	35.107	162.9
817	15	9.581	9.486	35.234	137.8
707	16	11.942	11.848	35.535	133.4
597	17	14.612	14.521	35.954	148.1
485	18	16.606	16.526	36.295	176.8
374	19	17.948	17.882	36.520	186.4
264	20	19.383	19.335	36.652	175.4
174	21	21.598	21.564	36.811	183.4
84	22	26.010	25.991	36.649	181.2
34	23	29.253	29.245	36.588	177.4
2	24	29.305	29.305	36.572	142.0

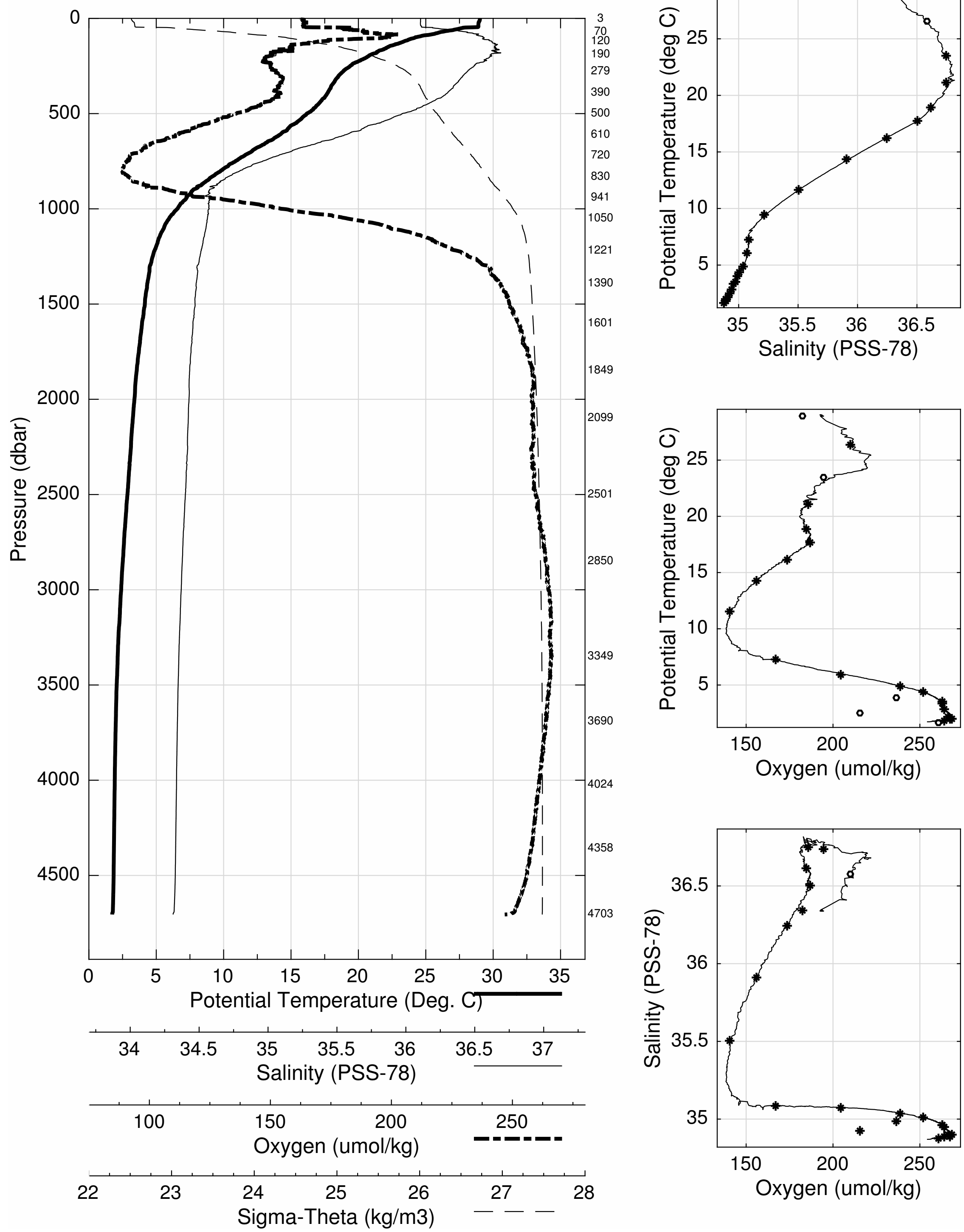

Abaco October 2015 R/V Endeavor
CTD Station 13 (CTD013)
Latitude 26.490 N Longitude 75.512 W
07-Oct-2015 13:47 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 14 (CTD014)
Latitude 26.492N Longitude 75.308W
07-Oct-2015 19:03Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	29.018	29.017	36.341	192.5	0.005	23.065
10	29.000	28.998	36.339	193.2	0.048	23.071
20	28.931	28.926	36.339	193.5	0.096	23.095
30	28.914	28.906	36.339	193.3	0.144	23.101
50	27.739	27.727	36.413	206.1	0.238	23.547
75	25.968	25.951	36.618	211.2	0.338	24.270
100	24.230	24.209	36.714	218.9	0.422	24.877
125	23.266	23.240	36.764	196.6	0.496	25.202
150	22.227	22.197	36.784	188.9	0.562	25.518
200	20.745	20.707	36.756	182.4	0.679	25.911
250	19.430	19.384	36.657	183.4	0.780	26.189
300	18.597	18.543	36.592	186.5	0.872	26.355
400	17.711	17.642	36.488	185.7	1.044	26.501
500	16.251	16.170	36.231	172.9	1.206	26.656
600	14.435	14.344	35.923	156.4	1.354	26.827
700	12.148	12.054	35.567	143.6	1.485	27.019
800	9.885	9.790	35.268	138.9	1.598	27.197
900	7.839	7.744	35.087	152.4	1.694	27.380
1000	6.672	6.575	35.084	186.7	1.772	27.544
1100	5.671	5.572	35.065	219.4	1.834	27.658
1200	5.083	4.979	35.042	236.9	1.889	27.711
1300	4.637	4.528	35.013	249.2	1.940	27.739
1400	4.441	4.325	35.006	253.0	1.990	27.756
1500	4.278	4.155	35.000	255.8	2.038	27.770
1750	3.847	3.706	34.976	260.9	2.156	27.798
2000	3.539	3.379	34.964	262.4	2.270	27.821
2500	3.064	2.863	34.943	263.4	2.491	27.852
3000	2.640	2.397	34.918	267.4	2.705	27.873
3500	2.353	2.064	34.900	267.4	2.913	27.886
4000	2.262	1.920	34.890	264.6	3.124	27.890
4500	2.236	1.837	34.883	260.9	3.344	27.891

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
4703	1	2.149	1.729	34.870	260.5
4359	2	2.243	1.861	34.885	264.5
4025	3	2.262	1.917	34.888	266.9
3690	4	2.307	1.999	34.895	268.3
3350	5	2.425	2.151	34.904	266.0
2851	6	2.776	2.545	34.922	215.9
2501	7	3.084	2.882	34.943	264.3
2100	8	3.442	3.274	34.959	263.2
1849	9	3.697	3.548	34.966	262.8
1601	10	4.077	3.947	34.987	236.2
1391	11	4.451	4.336	35.005	251.9
1221	12	5.006	4.901	35.036	238.3
1051	13	6.082	5.984	35.073	204.4
941	14	7.319	7.224	35.086	166.7
831	15	9.464	9.368	35.218	131.5
721	16	11.710	11.615	35.503	140.5
610	17	14.364	14.273	35.912	156.0
500	18	16.319	16.237	36.241	173.3
391	19	17.775	17.707	36.497	187.3
279	20	18.901	18.851	36.616	185.0
190	21	21.118	21.081	36.746	185.7
120	22	23.471	23.446	36.743	194.1
71	23	26.564	26.548	36.578	209.9
3	24	28.989	28.988	36.337	182.7

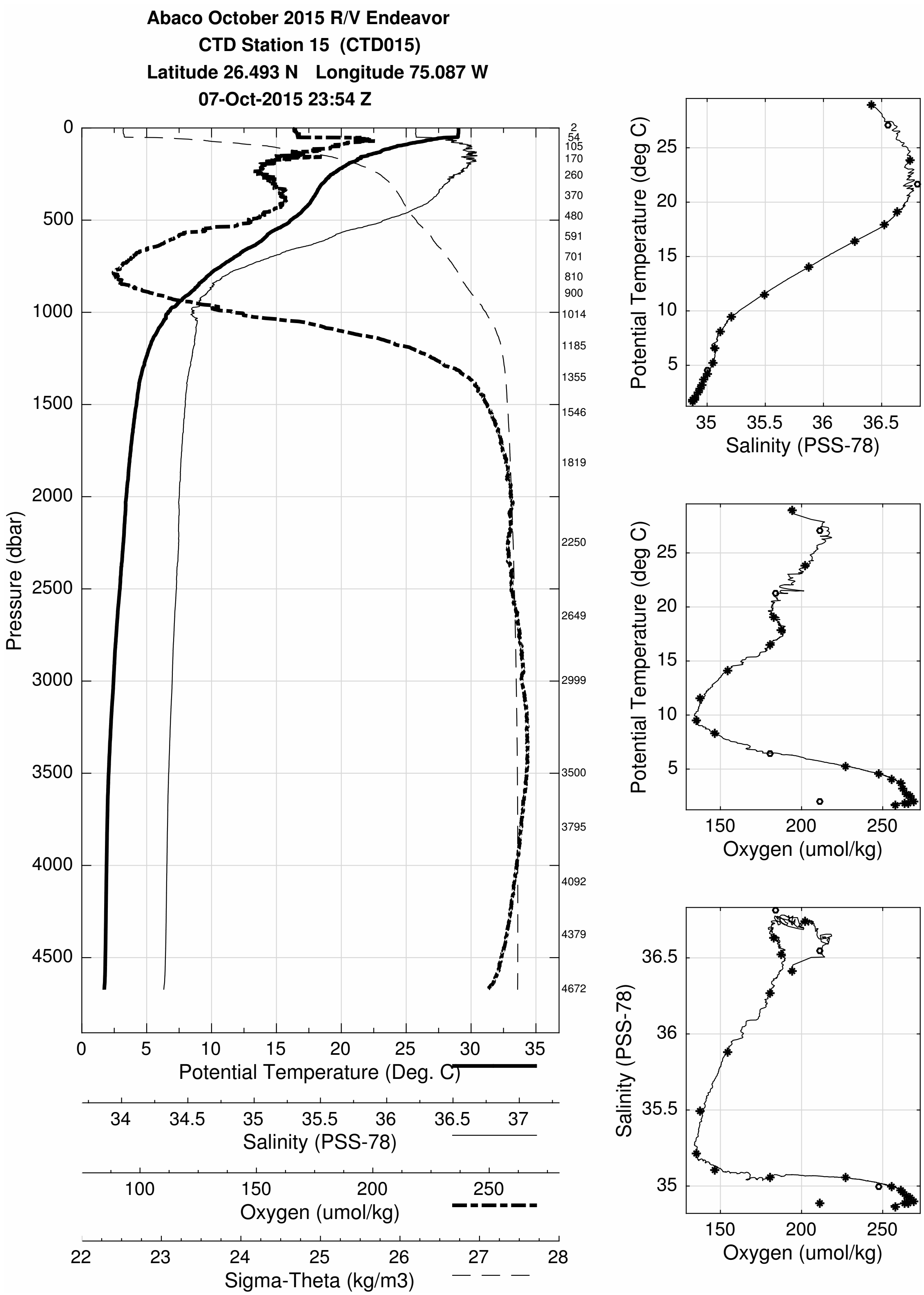
Abaco October 2015 R/V Endeavor
CTD Station 14 (CTD014)
Latitude 26.492 N Longitude 75.308 W
07-Oct-2015 19:03 Z



Abaco October 2015 R/V Endeavor
CTD Station 15 (CTD015)
Latitude 26.493N Longitude 75.087W
07-Oct-2015 23:54Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	29.025	29.025	36.409	192.7	0.005	23.114
10	29.037	29.035	36.408	192.5	0.048	23.110
20	29.037	29.032	36.408	193.3	0.095	23.111
30	29.030	29.022	36.406	193.5	0.143	23.113
50	28.986	28.973	36.410	193.0	0.238	23.132
75	26.113	26.097	36.635	214.9	0.338	24.237
100	24.303	24.281	36.740	205.9	0.423	24.875
125	23.124	23.098	36.715	200.4	0.496	25.207
150	22.086	22.056	36.781	189.3	0.562	25.556
200	20.439	20.401	36.726	183.4	0.676	25.971
250	19.353	19.307	36.661	180.3	0.776	26.211
300	18.632	18.578	36.598	185.7	0.867	26.351
400	17.707	17.638	36.487	189.7	1.039	26.501
500	16.182	16.101	36.214	178.3	1.201	26.659
600	14.120	14.031	35.873	153.6	1.347	26.856
700	11.863	11.769	35.519	140.5	1.476	27.037
800	9.837	9.742	35.247	135.5	1.588	27.189
900	8.375	8.277	35.128	147.4	1.687	27.332
1000	6.743	6.646	35.047	172.9	1.769	27.504
1100	5.944	5.842	35.068	207.3	1.836	27.626
1200	5.272	5.167	35.049	231.2	1.894	27.694
1300	4.827	4.717	35.029	243.5	1.947	27.731
1400	4.517	4.400	35.011	251.2	1.997	27.752
1500	4.332	4.208	35.002	254.9	2.047	27.765
1750	3.909	3.767	34.980	259.9	2.166	27.795
2000	3.591	3.429	34.965	262.6	2.282	27.816
2500	3.138	2.936	34.947	262.5	2.507	27.849
3000	2.687	2.443	34.922	265.9	2.723	27.872
3500	2.357	2.068	34.900	267.6	2.932	27.886
4000	2.248	1.907	34.889	264.6	3.143	27.890
4500	2.212	1.813	34.880	259.4	3.363	27.891

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
4673	1	2.151	1.734	34.868	258.2
4379	2	2.225	1.841	34.881	263.5
4092	3	2.242	1.891	34.885	265.8
3795	4	2.277	1.958	34.891	211.1
3500	5	2.357	2.068	34.898	269.1
2999	6	2.691	2.447	34.917	266.9
2650	7	2.976	2.761	34.936	265.1
2250	8	3.376	3.194	34.956	262.8
1820	9	3.813	3.665	34.973	261.4
1546	10	4.246	4.118	34.995	255.5
1355	11	4.640	4.527	34.998	248.1
1185	12	5.357	5.252	35.052	226.7
1015	13	6.681	6.582	35.061	180.6
901	14	8.257	8.160	35.107	146.0
811	15	9.541	9.447	35.210	134.7
702	16	11.657	11.565	35.494	138.0
591	17	14.123	14.035	35.877	154.1
481	18	16.507	16.428	36.274	180.8
370	19	17.952	17.888	36.525	187.2
260	20	19.149	19.102	36.638	183.2
170	21	21.628	21.594	36.813	184.2
105	22	23.864	23.842	36.745	202.6
55	23	27.160	27.147	36.551	211.4
2	24	29.004	29.004	36.409	193.7

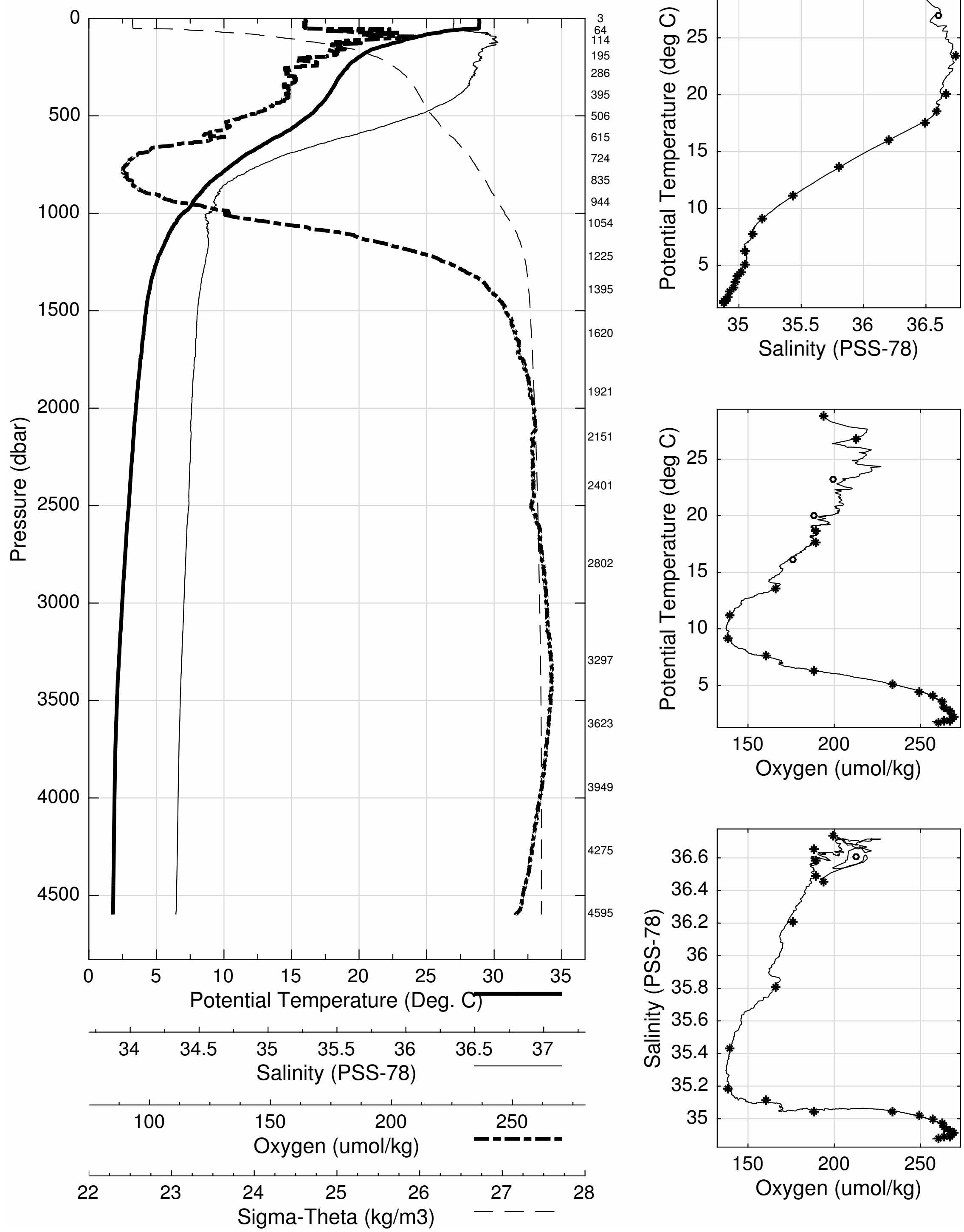

Abaco October 2015 R/V Endeavor
CTD Station 15 (CTD015)
Latitude 26.493 N Longitude 75.087 W
07-Oct-2015 23:54 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 16 (CTD016)
Latitude 26.488N Longitude 74.804W
08-Oct-2015 04:45Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	28.901	28.900	36.474	193.1	0.005	23.205
10	28.902	28.899	36.473	192.5	0.047	23.205
20	28.911	28.907	36.473	193.0	0.093	23.202
30	28.904	28.897	36.470	192.9	0.140	23.203
50	28.900	28.888	36.469	193.4	0.234	23.205
75	25.623	25.607	36.633	217.8	0.334	24.388
100	24.087	24.065	36.716	221.9	0.415	24.922
125	22.679	22.653	36.710	204.5	0.487	25.331
150	21.446	21.416	36.655	204.2	0.550	25.639
200	19.976	19.939	36.625	193.4	0.661	26.018
250	19.179	19.134	36.602	191.0	0.759	26.212
300	18.602	18.548	36.581	190.1	0.851	26.345
400	17.716	17.647	36.487	188.6	1.024	26.499
500	16.378	16.296	36.251	175.2	1.186	26.642
600	14.266	14.176	35.891	162.2	1.334	26.839
700	11.700	11.608	35.503	141.8	1.462	27.054
800	9.849	9.754	35.262	138.9	1.573	27.198
900	8.343	8.246	35.126	146.3	1.671	27.336
1000	7.077	6.977	35.061	170.2	1.755	27.470
1100	6.059	5.956	35.060	203.8	1.825	27.606
1200	5.426	5.320	35.057	227.0	1.885	27.683
1300	4.917	4.805	35.034	241.9	1.939	27.725
1400	4.591	4.473	35.014	249.8	1.990	27.747
1500	4.368	4.243	35.002	254.1	2.040	27.762
1750	3.961	3.818	34.982	259.3	2.161	27.791
2000	3.644	3.482	34.966	262.6	2.278	27.812
2500	3.167	2.964	34.951	261.8	2.504	27.849
3000	2.714	2.470	34.922	266.3	2.722	27.870
3500	2.368	2.079	34.901	267.8	2.933	27.886
4000	2.238	1.897	34.889	264.2	3.144	27.891
4500	2.205	1.807	34.880	259.2	3.363	27.890

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
4596	1	2.188	1.779	34.878	259.8
4275	2	2.222	1.850	34.885	263.9
3950	3	2.243	1.908	34.891	266.5
3623	4	2.311	2.010	34.899	268.3
3298	5	2.481	2.211	34.909	269.3
2802	6	2.862	2.635	34.931	266.6
2401	7	3.233	3.038	34.953	263.4
2152	8	3.464	6.752	−999.000	−999.0
1921	9	3.738	3.582	34.972	262.4
1620	10	4.152	4.019	34.992	257.1
1396	11	4.587	4.470	35.016	249.2
1225	12	5.197	5.090	35.048	233.9
1054	13	6.357	6.257	35.048	188.0
945	14	7.788	7.689	35.111	159.9
835	15	9.184	9.088	35.185	138.2
725	16	11.202	11.109	35.435	139.9
615	17	13.700	13.610	35.807	166.0
506	18	16.102	16.020	36.205	176.3
396	19	17.681	17.613	36.485	189.2
286	20	18.667	18.616	36.584	189.2
195	21	20.182	20.145	36.654	188.1
115	22	23.424	23.400	36.733	198.8
65	23	26.965	26.950	36.608	212.8
3	24	28.855	28.854	36.450	193.7

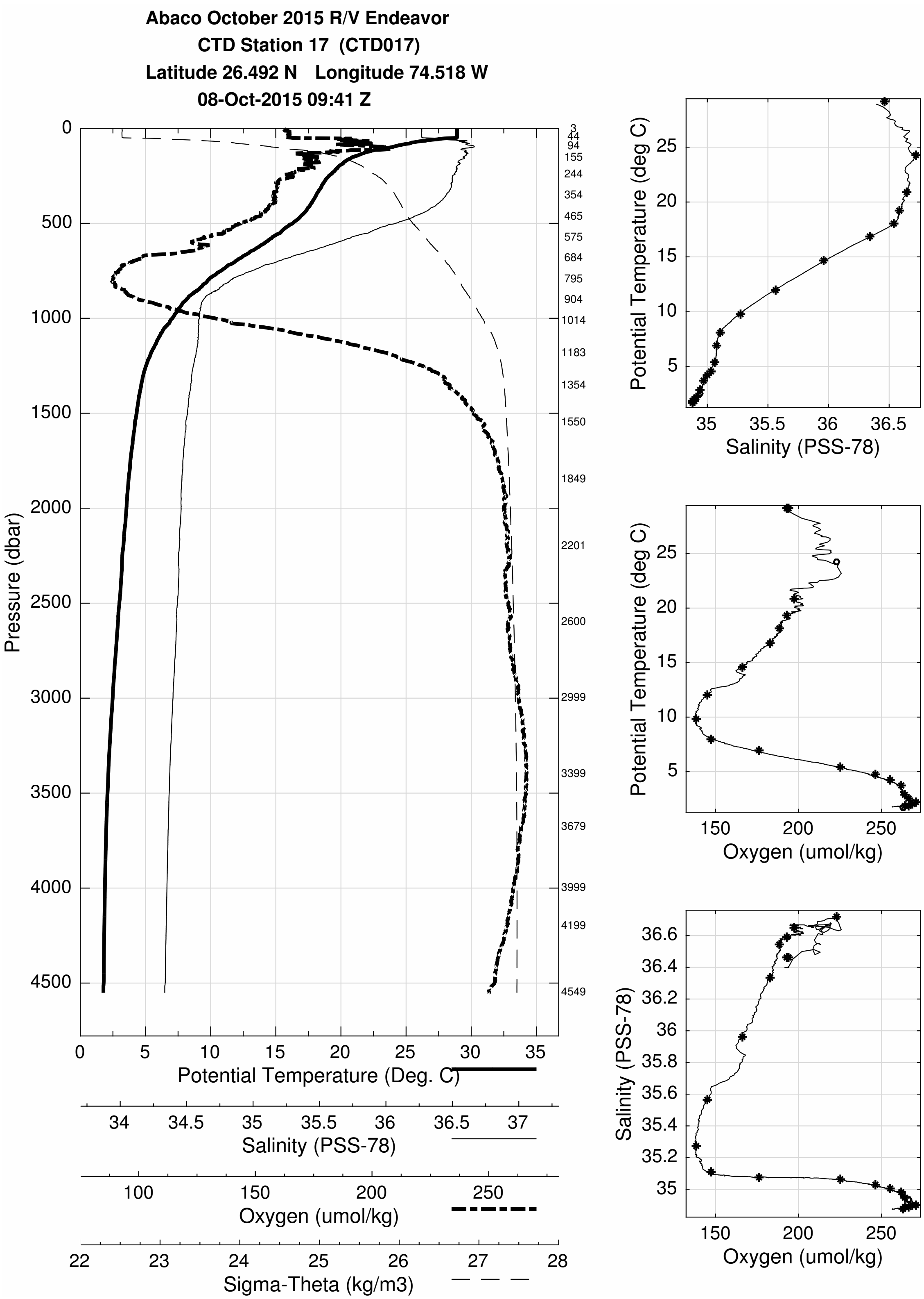
Abaco October 2015 R/V Endeavor
CTD Station 16 (CTD016)
Latitude 26.488 N Longitude 74.804 W
08-Oct-2015 04:45 Z



Abaco October 2015 R/V Endeavor
CTD Station 17 (CTD017)
Latitude 26.492N Longitude 74.518W
08-Oct-2015 09:41Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	28.911	28.910	36.399	192.4	0.005	23.145
10	28.906	28.903	36.398	193.1	0.047	23.147
20	28.916	28.911	36.398	192.8	0.094	23.144
30	28.920	28.913	36.398	193.4	0.142	23.143
50	28.886	28.874	36.407	194.2	0.236	23.163
75	25.441	25.424	36.654	210.2	0.335	24.461
100	23.833	23.812	36.702	223.3	0.416	24.987
125	21.907	21.883	36.656	208.5	0.485	25.510
150	20.987	20.958	36.645	200.9	0.545	25.759
200	19.869	19.832	36.606	199.5	0.652	26.032
250	19.119	19.074	36.581	195.1	0.751	26.211
300	18.591	18.537	36.574	189.3	0.843	26.343
400	17.733	17.664	36.488	187.1	1.016	26.496
500	16.372	16.290	36.243	178.1	1.179	26.637
600	14.300	14.210	35.898	162.5	1.327	26.836
700	11.989	11.895	35.545	143.8	1.457	27.033
800	9.879	9.784	35.264	137.7	1.569	27.195
900	8.250	8.153	35.106	145.6	1.667	27.334
1000	7.162	7.062	35.079	169.8	1.751	27.472
1100	6.135	6.032	35.071	202.9	1.821	27.605
1200	5.445	5.338	35.058	227.1	1.881	27.681
1300	4.943	4.831	35.035	241.3	1.935	27.722
1400	4.659	4.541	35.022	246.7	1.987	27.745
1500	4.449	4.324	35.011	251.7	2.037	27.760
1750	3.981	3.838	34.982	259.4	2.159	27.789
2000	3.703	3.540	34.972	261.5	2.277	27.811
2500	3.198	2.994	34.949	262.7	2.506	27.845
3000	2.725	2.480	34.924	265.9	2.725	27.871
3500	2.375	2.086	34.901	268.0	2.936	27.886
4000	2.226	1.886	34.888	264.1	3.146	27.891
4500	2.189	1.792	34.878	258.2	3.364	27.890

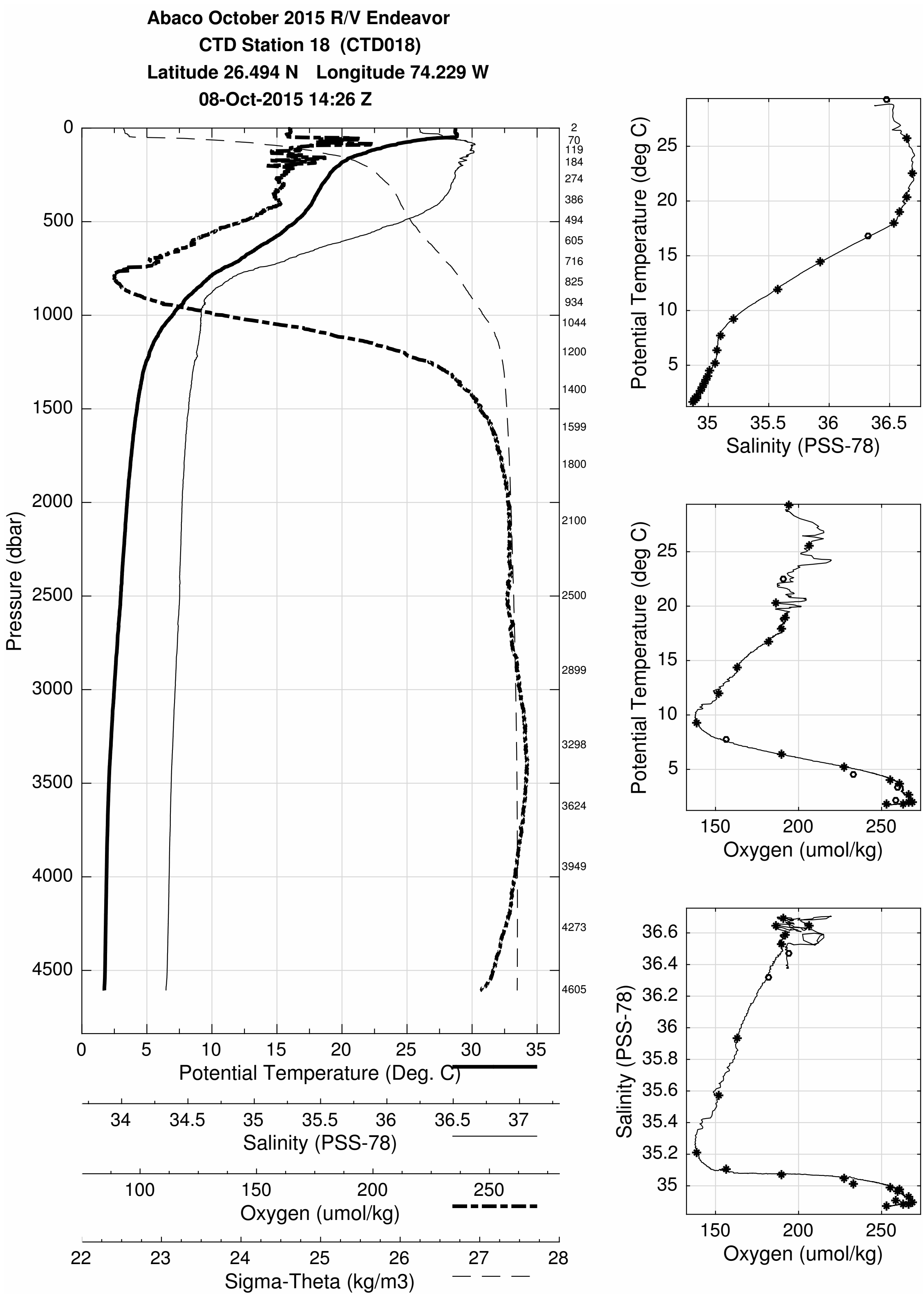
Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
4550	1	2.173	1.770	34.876	262.5
4200	2	2.204	1.841	34.885	264.2
4000	3	2.227	1.886	34.890	266.7
3679	4	2.296	1.989	34.897	269.0
3400	5	2.426	2.146	34.906	270.2
2999	6	2.710	2.466	34.934	266.2
2601	7	3.085	2.874	34.945	264.3
2201	8	3.494	6.844	−999.000	−999.0
1850	9	3.857	3.706	34.976	261.3
1550	10	4.315	4.187	35.000	254.9
1354	11	4.747	4.632	35.025	246.2
1184	12	5.482	5.377	35.059	225.4
1014	13	6.968	6.867	35.078	176.1
905	14	8.164	8.067	35.105	146.8
795	15	9.898	9.804	35.269	138.1
685	16	12.071	11.979	35.561	145.3
575	17	14.689	14.601	35.960	166.3
465	18	16.867	16.789	36.335	183.3
354	19	18.141	18.079	36.540	188.9
245	20	19.295	19.251	36.592	192.7
155	21	20.853	20.823	36.652	197.9
95	22	24.329	24.309	36.716	223.4
45	23	29.096	29.085	36.464	194.2
4	24	29.092	29.091	36.459	193.1


Abaco October 2015 R/V Endeavor
CTD Station 17 (CTD017)
Latitude 26.492 N Longitude 74.518 W
08-Oct-2015 09:41 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Oxygen (umol/kg)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 18 (CTD018)
Latitude 26.494N Longitude 74.229W
08-Oct-2015 14:26Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	28.727	28.727	36.378	193.2	0.005	23.191
10	28.706	28.704	36.378	193.1	0.047	23.198
20	28.702	28.697	36.379	193.4	0.093	23.202
30	28.786	28.779	36.437	192.8	0.140	23.218
50	28.321	28.309	36.525	197.2	0.233	23.440
75	25.010	24.994	36.660	204.5	0.327	24.598
100	23.327	23.306	36.687	196.7	0.403	25.124
125	22.062	22.037	36.701	187.4	0.471	25.500
150	20.967	20.938	36.653	194.2	0.531	25.770
200	19.823	19.786	36.634	187.9	0.638	26.065
250	19.070	19.025	36.588	192.3	0.734	26.229
300	18.542	18.489	36.565	191.6	0.826	26.348
400	17.770	17.701	36.495	190.3	0.998	26.492
500	16.523	16.441	36.273	178.1	1.162	26.625
600	14.553	14.462	35.934	162.7	1.312	26.810
700	12.320	12.225	35.596	148.9	1.444	27.009
800	9.879	9.784	35.265	137.7	1.558	27.196
900	8.268	8.171	35.114	146.3	1.656	27.338
1000	7.064	6.965	35.080	172.2	1.739	27.487
1100	5.992	5.890	35.070	205.7	1.807	27.622
1200	5.297	5.192	35.051	229.4	1.865	27.693
1300	4.835	4.724	35.029	242.6	1.919	27.730
1400	4.572	4.454	35.015	249.1	1.969	27.749
1500	4.363	4.239	35.005	253.2	2.019	27.765
1750	3.950	3.807	34.981	259.7	2.139	27.791
2000	3.636	3.474	34.965	262.2	2.256	27.812
2500	3.196	2.993	34.951	262.2	2.484	27.847
3000	2.730	2.485	34.924	266.1	2.704	27.870
3500	2.367	2.078	34.901	267.9	2.915	27.886
4000	2.239	1.898	34.888	264.4	3.126	27.890
4500	2.180	1.783	34.877	257.7	3.344	27.890

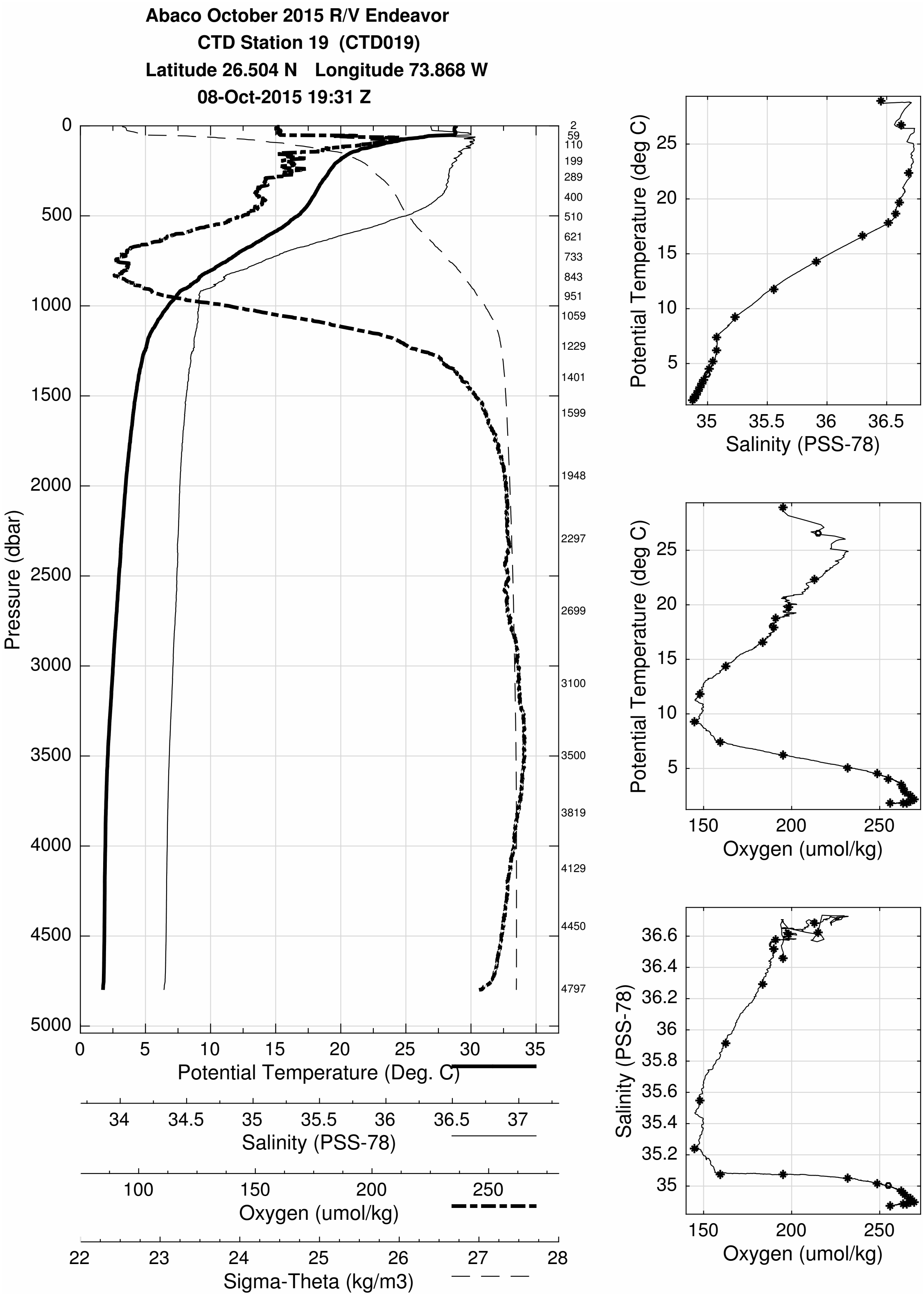
Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
4606	1	2.139	1.731	34.868	253.3
4274	2	2.202	1.830	34.883	262.7
3949	3	2.246	1.910	34.885	266.7
3625	4	2.320	2.019	34.898	269.0
3299	5	2.503	2.232	34.909	258.4
2900	6	2.819	2.582	34.927	266.2
2500	7	3.194	2.990	34.952	284.4
2100	8	3.536	3.366	34.961	259.5
1800	9	3.875	3.728	34.977	260.8
1600	10	4.157	4.025	34.991	255.6
1400	11	4.568	4.450	35.016	233.5
1200	12	5.295	5.190	35.051	227.8
1045	13	6.507	6.407	35.074	189.5
934	14	7.879	7.781	35.107	156.0
826	15	9.407	9.312	35.214	138.5
716	16	12.099	12.002	35.571	151.9
606	17	14.525	14.433	35.931	163.4
495	18	16.839	16.757	36.322	181.4
386	19	18.030	17.962	36.529	189.3
275	20	18.996	18.946	36.588	191.6
185	21	20.315	20.280	36.648	185.8
120	22	22.571	22.547	36.694	190.5
70	23	25.670	25.654	36.648	206.8
2	24	29.212	29.211	36.474	193.6


Abaco October 2015 R/V Endeavor
CTD Station 18 (CTD018)
Latitude 26.494 N Longitude 74.229 W
08-Oct-2015 14:26 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 19 (CTD019)
Latitude 26.504N Longitude 73.868W
08-Oct-2015 19:31Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	28.854	28.854	36.470	194.2	0.005	23.217
10	28.749	28.746	36.470	194.1	0.046	23.253
20	28.730	28.725	36.474	194.6	0.093	23.263
30	28.769	28.761	36.548	194.7	0.139	23.307
50	28.753	28.741	36.704	194.7	0.229	23.431
75	24.906	24.890	36.727	232.1	0.322	24.681
100	23.291	23.270	36.719	221.6	0.398	25.159
125	21.861	21.836	36.684	208.5	0.465	25.544
150	20.773	20.745	36.650	196.7	0.524	25.821
200	19.779	19.742	36.611	198.2	0.630	26.060
250	19.185	19.140	36.579	197.7	0.728	26.193
300	18.703	18.649	36.570	190.0	0.821	26.311
400	17.876	17.806	36.511	188.8	0.996	26.478
500	16.791	16.708	36.321	183.6	1.162	26.599
600	14.745	14.653	35.966	163.6	1.314	26.793
700	12.355	12.259	35.599	149.3	1.448	27.004
800	10.220	10.123	35.344	149.0	1.563	27.199
900	8.284	8.186	35.150	154.0	1.659	27.363
1000	6.848	6.750	35.081	179.5	1.739	27.517
1100	5.916	5.815	35.070	209.7	1.806	27.631
1200	5.259	5.154	35.052	230.9	1.863	27.698
1300	4.859	4.748	35.032	243.0	1.916	27.729
1400	4.580	4.462	35.017	249.1	1.967	27.750
1500	4.375	4.250	35.005	253.0	2.016	27.764
1750	3.969	3.826	34.982	259.2	2.137	27.790
2000	3.641	3.479	34.966	262.4	2.254	27.812
2500	3.165	2.962	34.948	262.9	2.481	27.847
3000	2.759	2.513	34.925	266.1	2.701	27.869
3500	2.396	2.107	34.903	268.1	2.915	27.885
4000	2.262	1.921	34.891	264.8	3.126	27.890
4500	2.243	1.844	34.884	261.2	3.346	27.891

Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
4798	1	2.169	1.736	34.871	256.4
4450	2	2.243	1.849	34.884	263.3
4130	3	2.243	1.887	34.888	265.3
3820	4	2.274	1.953	34.893	267.6
3501	5	2.394	2.104	34.903	269.3
3101	6	2.684	2.430	34.921	267.3
2699	7	2.999	2.779	34.942	264.6
2298	8	3.351	3.165	34.955	263.5
1948	9	3.704	3.546	34.969	262.1
1599	10	4.197	4.065	35.000	254.8
1401	11	4.596	4.478	35.016	248.5
1229	12	5.224	5.116	35.049	231.3
1060	13	6.325	6.225	35.074	195.2
951	14	7.506	7.408	35.080	159.3
843	15	9.341	9.243	35.234	144.5
734	16	11.937	11.839	35.548	148.2
621	17	14.386	14.292	35.912	162.3
510	18	16.674	16.590	36.299	183.4
400	19	17.913	17.843	36.515	190.0
290	20	18.792	18.740	36.572	190.5
200	21	19.753	19.716	36.608	197.9
110	22	22.464	22.441	36.686	213.2
59	23	26.824	26.810	36.623	215.5
3	24	28.988	28.987	36.457	194.9



Abaco October 2015 R/V Endeavor
CTD Station 19 (CTD019)
Latitude 26.504 N Longitude 73.868 W
08-Oct-2015 19:31 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 20 (CTD020)
Latitude 26.500N Longitude 73.490W
09-Oct-2015 00:56Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	29.305	29.305	36.715	192.7	0.005	23.250
10	28.793	28.791	36.682	192.3	0.046	23.398
20	28.643	28.638	36.687	194.3	0.090	23.453
30	28.612	28.605	36.691	194.9	0.135	23.467
50	27.636	27.624	36.654	207.7	0.223	23.762
75	24.243	24.227	36.732	229.0	0.309	24.885
100	22.625	22.605	36.695	216.8	0.380	25.334
125	21.185	21.160	36.624	209.7	0.443	25.687
150	20.670	20.642	36.625	205.1	0.500	25.829
200	19.670	19.633	36.594	201.0	0.605	26.075
250	19.160	19.114	36.589	193.5	0.703	26.207
300	18.723	18.669	36.570	190.5	0.796	26.307
400	17.903	17.833	36.514	189.4	0.971	26.474
500	16.632	16.549	36.292	180.2	1.136	26.614
600	14.452	14.361	35.920	161.4	1.287	26.821
700	12.182	12.088	35.573	148.3	1.419	27.018
800	9.987	9.891	35.320	149.0	1.531	27.221
900	8.031	7.935	35.136	157.5	1.625	27.390
1000	6.539	6.444	35.074	187.2	1.702	27.553
1100	5.750	5.650	35.066	215.0	1.766	27.649
1200	5.151	5.047	35.046	234.3	1.821	27.707
1300	4.791	4.681	35.028	244.1	1.873	27.734
1400	4.545	4.428	35.014	250.0	1.923	27.752
1500	4.341	4.217	35.003	253.9	1.973	27.765
1750	3.948	3.805	34.982	259.5	2.092	27.792
2000	3.658	3.496	34.968	262.0	2.210	27.812
2500	3.177	2.974	34.948	262.7	2.437	27.846
3000	2.784	2.538	34.927	264.9	2.658	27.868
3500	2.478	2.186	34.907	267.3	2.875	27.882
4000	2.301	1.958	34.893	265.6	3.090	27.889
4500	2.264	1.864	34.886	262.4	3.312	27.891
5000	2.202	1.743	34.871	255.2	3.545	27.889

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
5022	1	2.202	1.740	34.873	255.3
4680	2	2.259	1.837	34.881	263.4
4300	3	2.274	1.898	34.888	264.2
3999	4	2.302	1.960	34.892	271.0
3650	5	2.405	2.099	34.902	270.2
3250	6	2.617	2.348	34.917	269.0
2750	7	2.970	7.084	−999.000	−999.0
2250	8	3.404	3.222	34.959	263.5
1850	9	3.818	3.667	34.976	261.3
1499	10	4.305	4.181	35.001	254.3
1335	11	4.667	4.555	35.021	247.2
1164	12	5.298	5.196	35.052	229.2
995	13	6.552	6.457	35.073	186.5
885	14	8.157	8.062	35.145	155.6
775	15	10.489	10.393	35.374	155.6
665	16	13.023	12.929	35.693	151.7
555	17	15.546	15.458	36.099	171.3
445	18	17.419	17.343	36.433	171.2
335	19	18.331	18.272	36.555	191.1
225	20	19.326	19.285	36.587	195.3
135	21	20.700	20.674	36.592	206.3
85	22	23.097	23.080	36.696	218.6
35	23	28.613	28.605	36.677	195.2
2	24	28.822	28.823	−999.000	−999.0

Abaco October 2015 R/V Endeavor
CTD Station 20 (CTD020)
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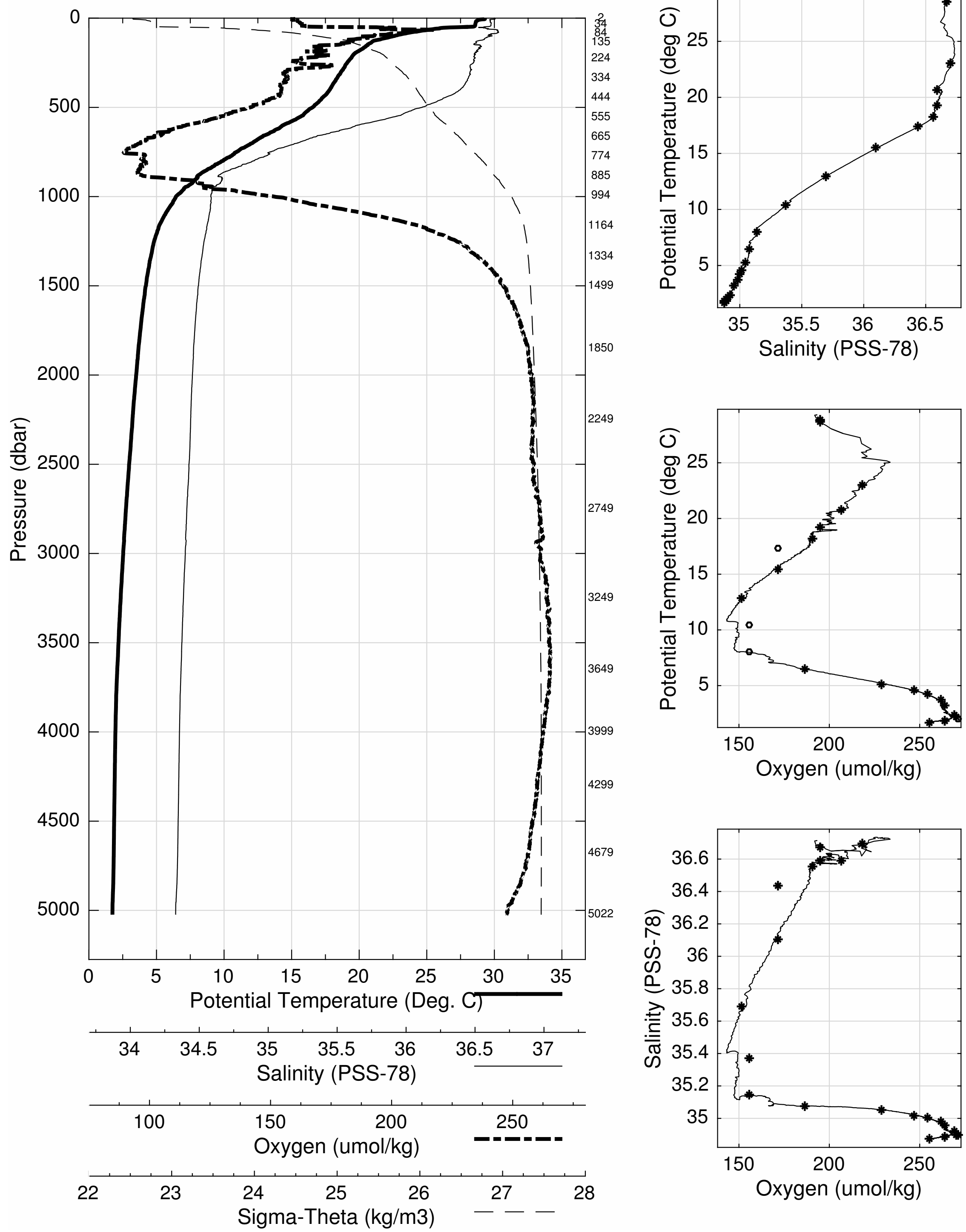
09-Oct-2015 00:56 Z

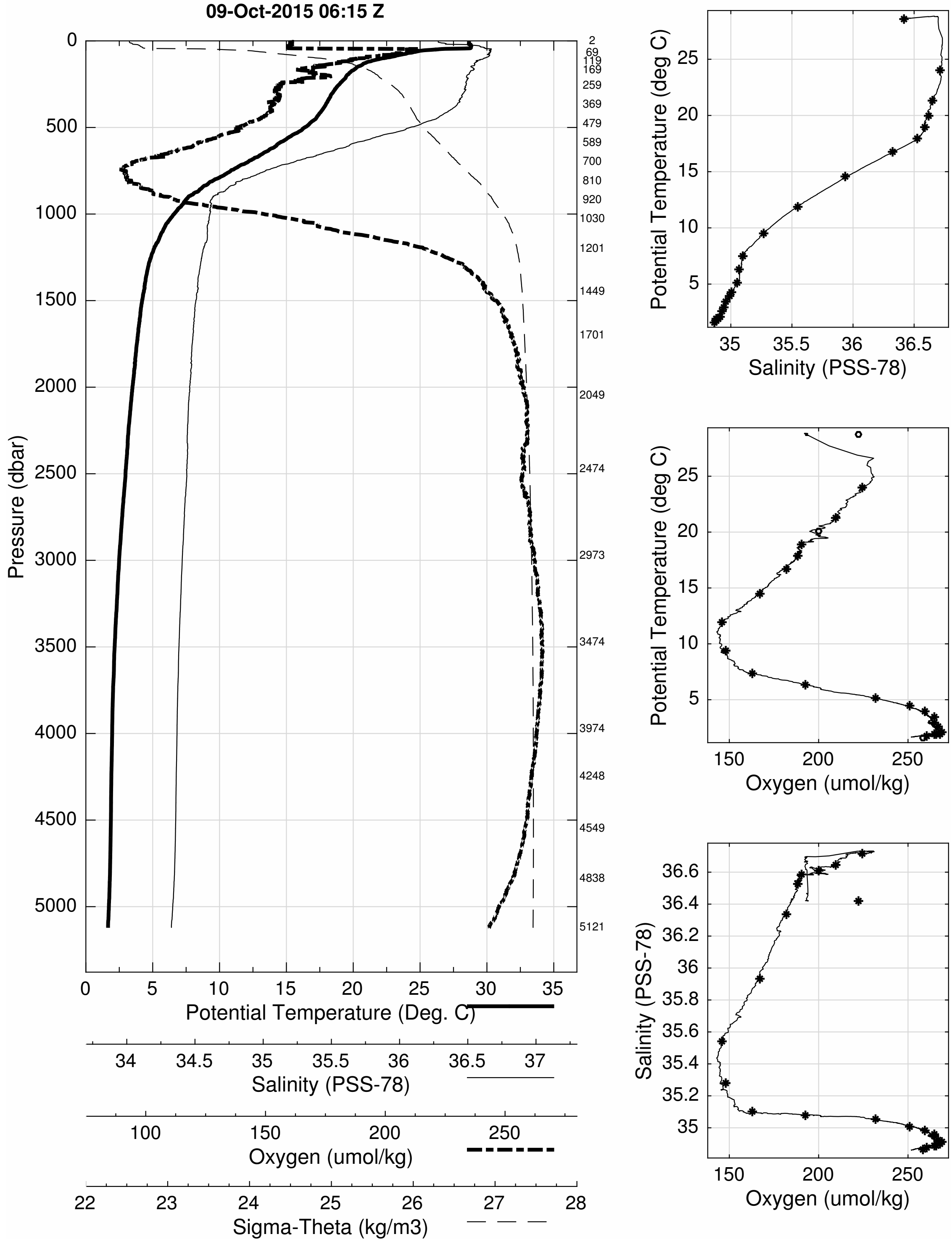


Abaco October 2015 R/V Endeavor
CTD Station 21 (CTD021)
Latitude 26.501N Longitude 73.134W
09-Oct-2015 06:15Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	28.658	28.658	36.422	193.6	0.005	23.247
10	28.670	28.668	36.434	193.2	0.046	23.252
20	28.685	28.680	36.500	194.0	0.092	23.298
30	28.841	28.834	36.664	192.6	0.138	23.370
50	26.128	26.117	36.727	227.3	0.223	24.300
75	23.929	23.913	36.713	226.1	0.304	24.965
100	22.227	22.207	36.688	215.0	0.374	25.442
125	21.010	20.985	36.639	208.2	0.434	25.746
150	20.346	20.317	36.613	202.2	0.489	25.908
200	19.549	19.512	36.589	204.5	0.592	26.103
250	19.020	18.975	36.584	190.0	0.688	26.239
300	18.522	18.468	36.570	188.6	0.779	26.358
400	17.748	17.679	36.491	187.6	0.951	26.494
500	16.446	16.364	36.256	177.1	1.114	26.630
600	14.382	14.291	35.904	165.0	1.263	26.824
700	12.207	12.112	35.578	146.8	1.395	27.017
800	9.733	9.638	35.275	144.8	1.507	27.229
900	7.777	7.683	35.107	156.7	1.599	27.405
1000	6.707	6.610	35.085	185.4	1.676	27.540
1100	5.853	5.752	35.072	207.4	1.741	27.641
1200	5.198	5.094	35.048	232.6	1.797	27.703
1300	4.789	4.678	35.030	243.9	1.849	27.736
1400	4.537	4.420	35.015	250.2	1.899	27.753
1500	4.330	4.206	35.004	253.8	1.949	27.768
1750	3.958	3.815	34.983	259.0	2.068	27.792
2000	3.645	3.483	34.967	262.0	2.185	27.813
2500	3.168	2.965	34.951	261.7	2.412	27.849
3000	2.733	2.488	34.924	265.3	2.631	27.871
3500	2.444	2.153	34.905	267.4	2.845	27.883
4000	2.311	1.968	34.894	265.9	3.060	27.889
4500	2.273	1.872	34.886	263.1	3.282	27.891
5000	2.179	1.721	34.869	254.7	3.515	27.888

Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
5121	1	2.132	1.660	34.863	258.5
4839	2	2.234	1.794	34.880	260.6
4549	3	2.263	1.857	34.886	264.4
4249	4	2.279	1.908	34.891	265.8
3974	5	2.308	1.968	34.894	267.8
3474	6	2.448	2.160	34.908	269.2
2973	7	2.757	2.514	34.928	266.5
2475	8	3.146	2.946	34.942	265.0
2050	9	3.567	3.401	34.963	264.3
1701	10	4.012	3.873	34.984	259.3
1449	11	4.469	4.348	35.012	250.9
1201	12	5.204	5.099	35.051	231.9
1030	13	6.332	6.235	35.074	192.4
920	14	7.525	7.430	35.101	162.9
810	15	9.576	9.482	35.275	148.0
700	16	11.942	11.848	35.543	145.8
590	17	14.600	14.510	35.937	167.1
480	18	16.832	16.752	36.331	181.6
369	19	18.002	17.938	36.530	188.0
259	20	18.988	18.941	36.583	191.0
170	21	20.041	20.010	36.612	200.3
120	22	21.263	21.240	36.645	209.8
70	23	24.112	24.097	36.717	224.4
2	24	28.657	28.656	36.423	222.3

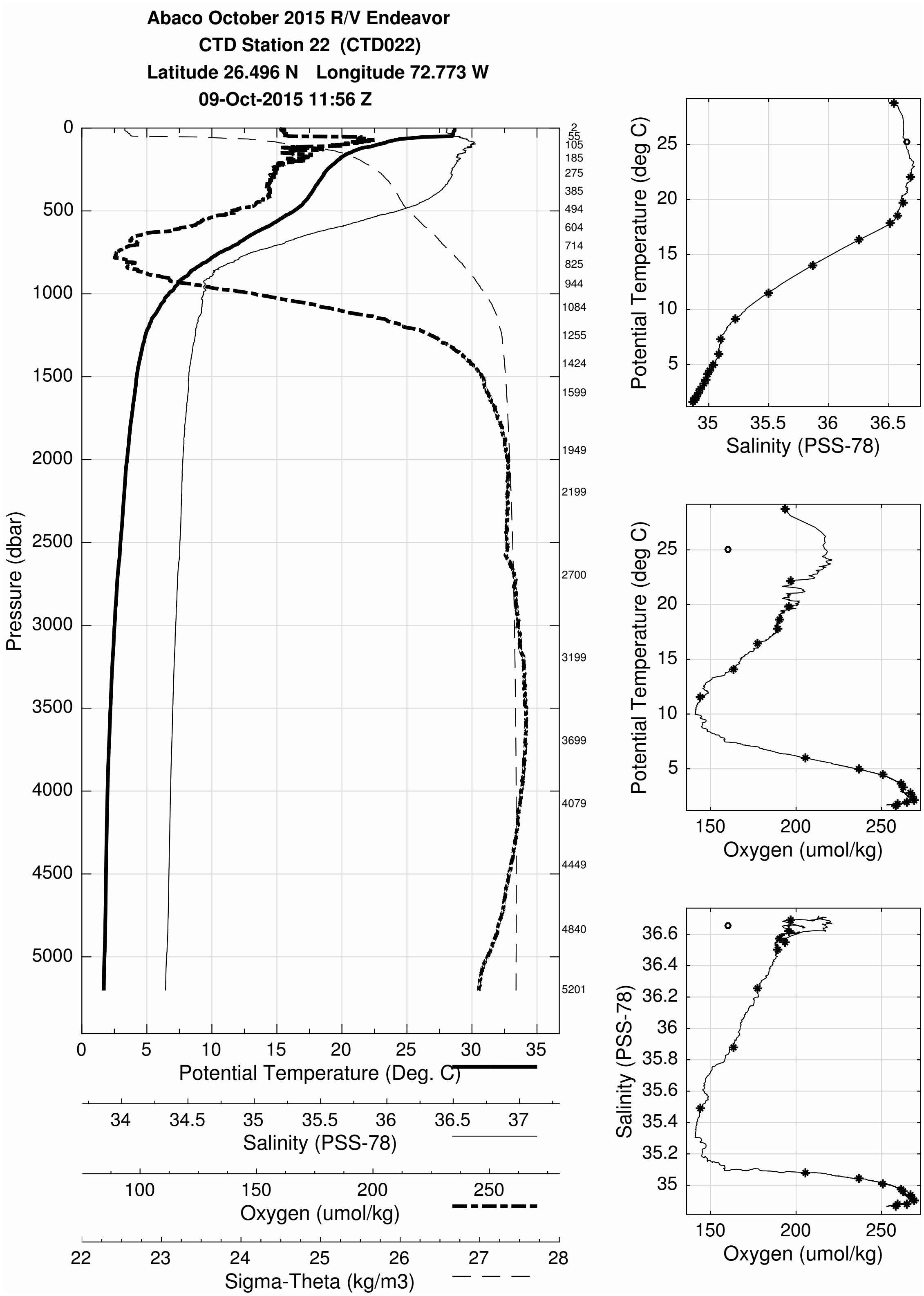
Abaco October 2015 R/V Endeavor
CTD Station 21 (CTD021)
Latitude 26.501 N Longitude 73.134 W
09-Oct-2015 06:15 Z



Abaco October 2015 R/V Endeavor
CTD Station 22 (CTD022)
Latitude 26.496N Longitude 72.773W
09-Oct-2015 11:56Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	28.670	28.670	36.546	192.5	0.005	23.336
10	28.672	28.669	36.545	192.3	0.045	23.335
20	28.592	28.587	36.541	192.8	0.091	23.360
30	28.563	28.556	36.549	193.3	0.136	23.376
50	28.138	28.126	36.588	196.7	0.226	23.548
75	23.984	23.969	36.673	217.6	0.311	24.918
100	22.768	22.747	36.689	210.0	0.383	25.289
125	21.382	21.357	36.650	204.3	0.446	25.652
150	20.608	20.580	36.651	191.9	0.503	25.866
200	19.651	19.614	36.612	196.8	0.607	26.094
250	18.928	18.883	36.580	190.3	0.703	26.259
300	18.496	18.443	36.569	189.6	0.793	26.364
400	17.640	17.571	36.475	188.5	0.964	26.509
500	16.396	16.314	36.252	176.7	1.126	26.638
600	14.194	14.105	35.879	161.7	1.274	26.844
700	12.066	11.971	35.562	148.5	1.403	27.031
800	9.776	9.681	35.279	143.9	1.514	27.224
900	7.979	7.884	35.129	155.8	1.608	27.392
1000	6.789	6.691	35.091	184.0	1.686	27.533
1100	5.937	5.836	35.080	210.3	1.751	27.637
1200	5.259	5.154	35.050	230.2	1.808	27.697
1300	4.837	4.726	35.032	243.0	1.861	27.732
1400	4.562	4.445	35.016	249.5	1.911	27.751
1500	4.341	4.217	35.003	254.0	1.960	27.766
1750	3.960	3.817	34.985	258.8	2.080	27.793
2000	3.636	3.474	34.968	262.1	2.197	27.814
2500	3.171	2.968	34.950	261.9	2.424	27.848
3000	2.760	2.515	34.925	265.1	2.643	27.869
3500	2.493	2.200	34.908	267.6	2.859	27.882
4000	2.319	1.976	34.895	266.2	3.076	27.889
4500	2.256	1.856	34.885	262.2	3.298	27.891
5000	2.200	1.741	34.871	255.7	3.531	27.889

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
5202	1	2.174	1.690	34.864	257.8
4840	2	2.236	1.795	34.877	259.8
4450	3	2.264	1.870	34.885	264.7
4080	4	2.302	1.950	34.891	−999.0
3699	5	2.414	2.102	34.901	269.1
3200	6	2.649	2.385	34.914	267.8
2700	7	2.989	2.769	34.935	266.7
2200	8	3.431	3.253	34.958	262.7
1950	9	3.715	3.556	34.970	261.8
1600	10	4.184	4.053	34.993	−999.0
1425	11	4.508	4.389	35.011	250.3
1256	12	5.032	4.923	35.044	236.6
1085	13	6.084	5.983	35.078	205.4
945	14	7.468	7.372	35.097	−999.0
825	15	9.291	9.196	35.229	−999.0
715	16	11.579	11.486	35.492	144.3
605	17	14.167	14.077	35.875	163.3
494	18	16.450	16.368	36.259	177.3
386	19	17.852	17.786	36.507	189.2
276	20	18.663	18.614	36.569	189.9
185	21	19.804	19.770	36.617	195.7
105	22	22.149	22.128	36.686	197.0
55	23	25.197	25.185	36.654	159.9
3	24	28.774	28.773	36.550	194.0

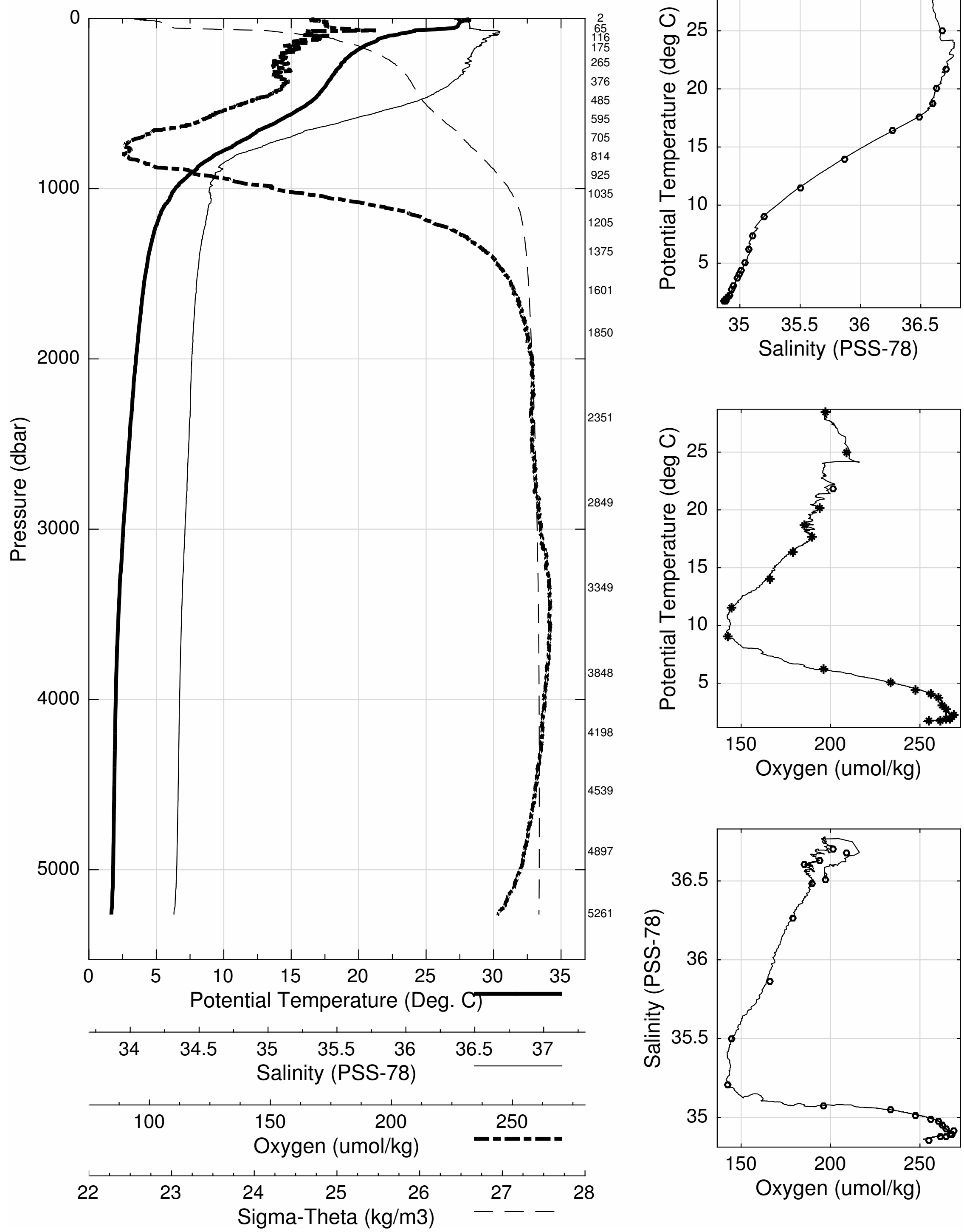

Abaco October 2015 R/V Endeavor
CTD Station 22 (CTD022)
Latitude 26.496 N Longitude 72.773 W
09-Oct-2015 11:56 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 23 (CTD023)
Latitude 26.502N Longitude 72.383W
09-Oct-2015 17:40Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	28.206	28.205	36.513	197.0	0.004	23.465
10	28.059	28.057	36.541	198.0	0.044	23.535
20	27.572	27.567	36.598	200.5	0.086	23.738
30	27.458	27.451	36.599	200.9	0.127	23.777
50	27.291	27.279	36.603	202.6	0.210	23.836
75	24.066	24.050	36.766	195.9	0.300	24.964
100	22.547	22.527	36.738	197.6	0.370	25.389
125	21.442	21.418	36.677	199.2	0.431	25.656
150	20.800	20.771	36.672	192.2	0.489	25.830
200	19.703	19.666	36.615	190.0	0.594	26.083
250	19.004	18.959	36.609	186.3	0.690	26.262
300	18.445	18.392	36.565	190.5	0.779	26.373
400	17.591	17.523	36.469	188.5	0.949	26.516
500	16.339	16.257	36.242	177.2	1.111	26.644
600	14.199	14.110	35.876	164.5	1.259	26.841
700	11.912	11.819	35.537	146.9	1.387	27.041
800	9.486	9.393	35.235	142.0	1.498	27.238
900	7.833	7.739	35.126	162.0	1.589	27.412
1000	6.493	6.397	35.071	186.1	1.664	27.557
1100	5.709	5.610	35.067	215.8	1.727	27.655
1200	5.176	5.072	35.049	232.8	1.782	27.706
1300	4.787	4.676	35.026	243.7	1.835	27.733
1400	4.518	4.401	35.011	250.4	1.885	27.752
1500	4.325	4.201	35.002	253.9	1.934	27.766
1750	3.954	3.811	34.982	259.2	2.054	27.791
2000	3.658	3.496	34.967	261.9	2.171	27.812
2500	3.178	2.975	34.949	262.4	2.399	27.847
3000	2.794	2.548	34.927	264.6	2.621	27.868
3500	2.486	2.194	34.907	267.3	2.838	27.882
4000	2.336	1.992	34.896	265.8	3.055	27.889
4500	2.289	1.888	34.888	263.4	3.279	27.891
5000	2.258	1.797	34.878	258.8	3.513	27.890

Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
5262	1	2.161	1.670	34.860	255.2
4898	2	2.263	1.815	34.878	261.8
4540	3	2.284	1.879	34.883	265.0
4199	4	2.310	1.944	34.887	267.1
3849	5	2.366	2.038	34.893	268.1
3350	6	2.563	2.285	34.909	268.8
2850	7	2.915	2.682	34.933	265.0
2351	8	3.309	3.118	34.951	262.8
1850	9	3.819	3.668	34.972	260.8
1601	10	4.149	4.017	34.990	256.4
1376	11	4.583	4.468	35.012	248.0
1205	12	5.176	5.071	35.048	233.4
1035	13	6.263	6.166	35.078	196.3
925	14	7.435	7.341	35.101	−999.0
815	15	9.126	9.033	35.201	142.4
706	16	11.609	11.517	35.500	144.4
595	17	14.102	14.013	35.863	165.6
485	18	16.442	16.362	36.264	178.4
377	19	17.722	17.657	36.489	189.8
265	20	18.779	18.731	36.604	185.6
176	21	20.139	20.106	36.630	193.9
116	22	21.799	21.776	36.704	201.0
65	23	25.094	25.080	36.677	208.7
3	24	28.365	28.364	36.501	197.6

Abaco October 2015 R/V Endeavor
CTD Station 23 (CTD023)
Latitude 26.502 N Longitude 72.383 W
09-Oct-2015 17:40 Z

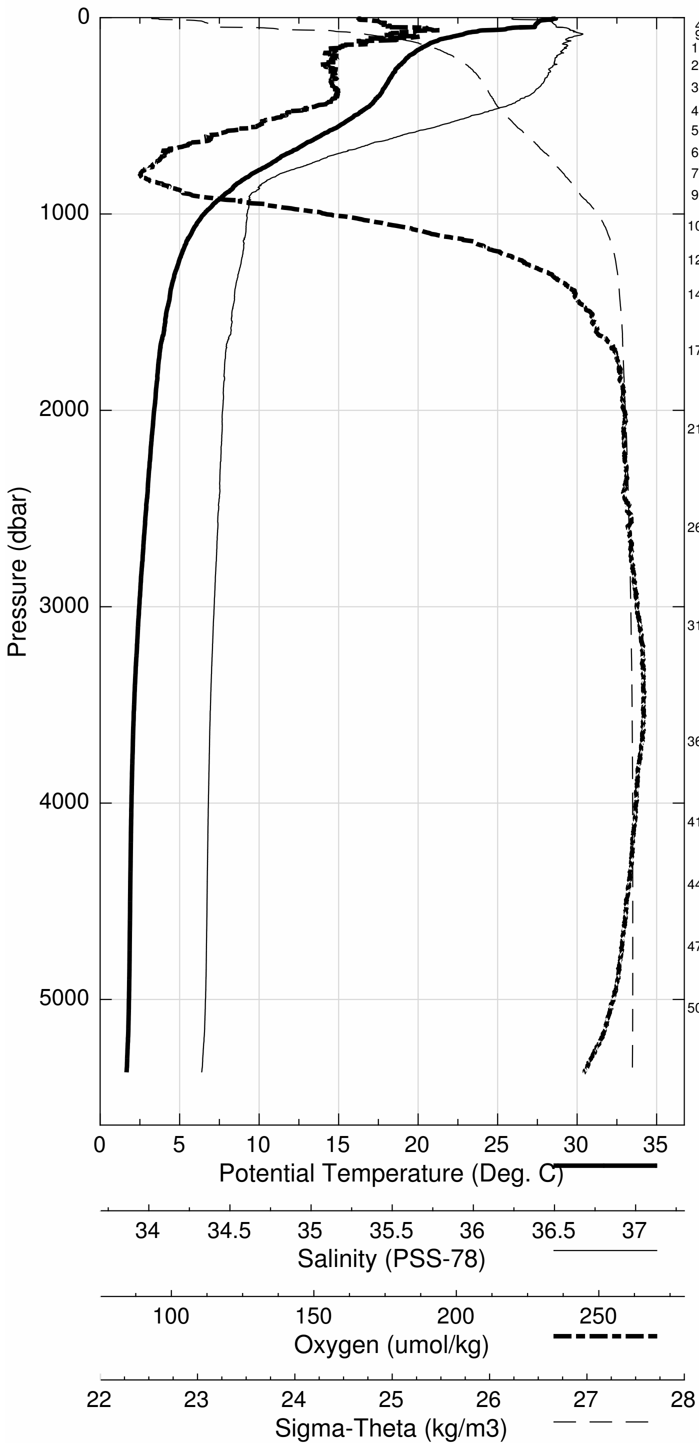


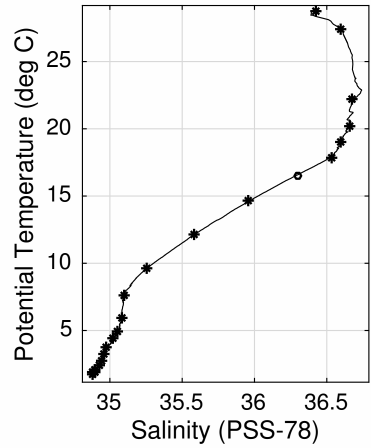
Abaco October 2015 R/V Endeavor
CTD Station 24 (CTD024)
Latitude 26.502N Longitude 71.990W
09-Oct-2015 23:51Z

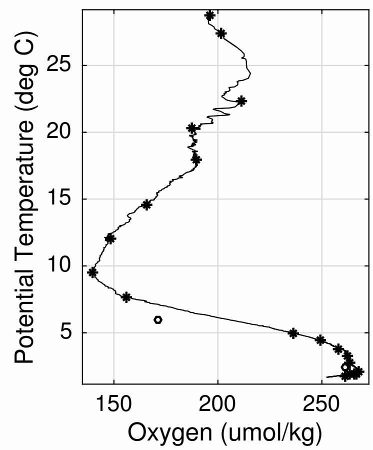
Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	28.669	28.668	36.396	195.1	0.005	23.223
10	28.334	28.332	36.433	195.4	0.046	23.363
20	27.593	27.589	36.582	200.4	0.089	23.719
30	27.468	27.461	36.595	201.6	0.130	23.771
50	26.377	26.366	36.644	209.0	0.212	24.159
75	23.297	23.282	36.708	205.5	0.293	25.148
100	22.043	22.023	36.688	209.2	0.360	25.494
125	20.961	20.937	36.658	197.5	0.419	25.774
150	20.341	20.313	36.658	190.6	0.473	25.943
200	19.423	19.387	36.612	189.7	0.574	26.154
250	18.817	18.772	36.593	186.8	0.668	26.298
300	18.357	18.305	36.565	188.3	0.756	26.395
400	17.593	17.525	36.469	190.2	0.926	26.515
500	16.057	15.976	36.190	175.7	1.086	26.669
600	13.991	13.903	35.847	157.4	1.232	26.862
700	11.681	11.589	35.511	146.2	1.359	27.064
800	9.570	9.477	35.240	139.9	1.468	27.228
900	7.933	7.839	35.104	152.7	1.562	27.380
1000	6.618	6.522	35.084	186.9	1.639	27.550
1100	5.828	5.727	35.077	213.5	1.702	27.649
1200	5.257	5.152	35.065	231.3	1.758	27.709
1300	4.824	4.714	35.043	243.2	1.810	27.742
1400	4.529	4.412	35.024	249.9	1.859	27.761
1500	4.293	4.169	35.010	254.0	1.908	27.776
1750	3.823	3.682	34.975	260.9	2.025	27.799
2000	3.560	3.399	34.964	262.4	2.139	27.819
2500	3.099	2.897	34.945	263.4	2.362	27.851
3000	2.705	2.461	34.923	265.5	2.578	27.871
3500	2.430	2.139	34.904	267.3	2.791	27.884
4000	2.314	1.971	34.894	265.4	3.005	27.889
4500	2.287	1.886	34.887	263.0	3.229	27.890
5000	2.273	1.811	34.880	259.7	3.464	27.890

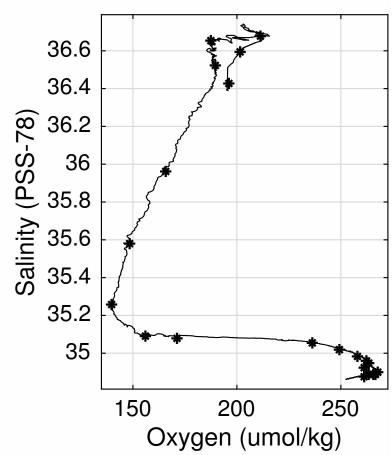
Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
5049	1	2.269	1.801	34.881	260.7
4736	2	2.286	1.857	34.887	263.5
4421	3	2.289	1.897	34.889	265.1
4101	4	2.302	1.947	34.893	266.6
3692	5	2.376	2.066	34.901	268.1
3101	6	2.663	2.409	34.922	261.7
2601	7	3.013	2.803	34.945	263.5
2101	8	3.452	3.283	34.962	262.4
1701	9	3.896	3.759	34.981	258.4
1416	10	4.483	4.365	35.024	249.5
1240	11	5.066	4.959	35.058	236.0
1066	12	6.016	5.917	35.080	171.6
910	13	7.714	7.620	35.092	156.4
799	14	9.638	9.544	35.253	140.1
691	15	12.160	12.066	35.578	148.9
581	16	14.667	14.579	35.959	165.3
482	17	16.600	16.520	36.295	−999.0
361	18	17.964	17.901	36.526	189.8
250	19	19.014	18.969	36.594	−999.0
160	20	20.245	20.215	36.659	188.0
95	21	22.220	22.201	36.675	210.8
45	22	27.416	27.405	36.599	201.7
3	23	28.805	28.804	36.425	196.1

Abaco October 2015 R/V Endeavor
CTD Station 24 (CTD024)
Latitude 26.502 N Longitude 71.990 W
09-Oct-2015 23:51 Z





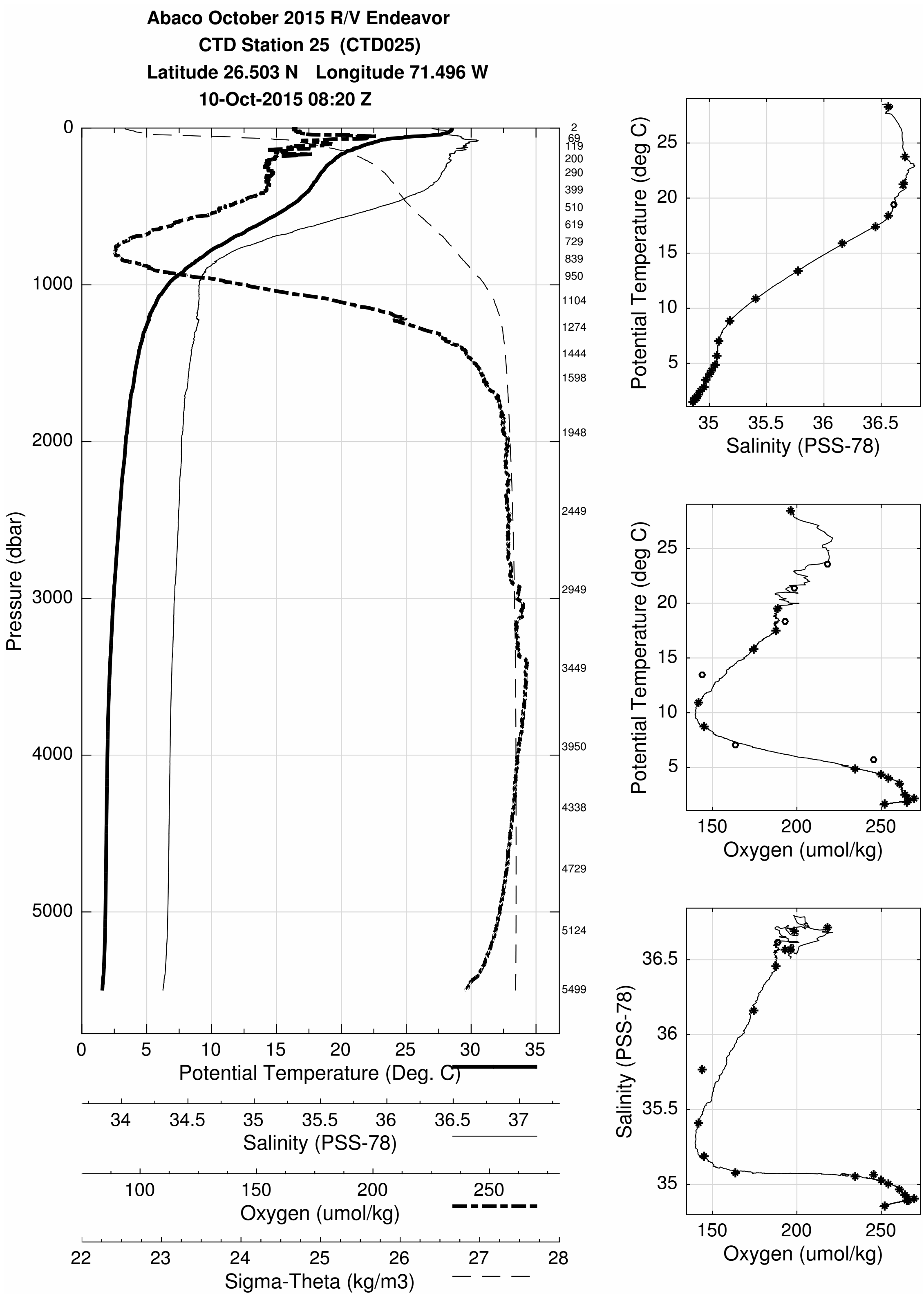




Abaco October 2015 R/V Endeavor
CTD Station 25 (CTD025)
Latitude 26.503N Longitude 71.496W
10-Oct-2015 08:20Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	28.503	28.502	36.510	196.0	0.005	23.365
10	28.466	28.464	36.540	195.8	0.045	23.400
20	28.386	28.381	36.600	196.1	0.089	23.473
30	28.116	28.109	36.587	198.4	0.133	23.553
50	26.386	26.375	36.671	217.1	0.216	24.177
75	23.156	23.140	36.754	204.9	0.296	25.224
100	22.133	22.113	36.724	206.2	0.361	25.496
125	21.301	21.277	36.705	193.4	0.422	25.716
150	20.443	20.414	36.651	193.6	0.477	25.911
200	19.510	19.474	36.617	188.8	0.579	26.135
250	18.830	18.786	36.596	187.1	0.673	26.296
300	18.370	18.317	36.564	188.9	0.762	26.392
400	17.559	17.491	36.460	187.0	0.931	26.517
500	16.056	15.975	36.192	174.0	1.091	26.671
600	14.053	13.965	35.857	159.0	1.237	26.857
700	11.755	11.663	35.516	145.2	1.364	27.054
800	9.741	9.646	35.259	140.1	1.474	27.215
900	8.059	7.963	35.117	152.0	1.570	27.371
1000	6.732	6.635	35.075	180.7	1.648	27.528
1100	5.888	5.787	35.072	208.2	1.714	27.637
1200	5.309	5.203	35.059	227.3	1.772	27.698
1300	4.906	4.795	35.049	238.4	1.824	27.738
1400	4.589	4.471	35.029	248.0	1.874	27.759
1500	4.360	4.236	35.016	251.9	1.923	27.774
1750	3.856	3.715	34.982	259.4	2.040	27.801
2000	3.548	3.387	34.965	262.3	2.154	27.820
2500	3.062	2.861	34.945	262.9	2.375	27.854
3000	2.688	2.444	34.922	265.1	2.590	27.872
3500	2.424	2.134	34.904	267.9	2.802	27.884
4000	2.312	1.969	34.894	265.2	3.016	27.889
4500	2.288	1.887	34.887	263.0	3.240	27.890
5000	2.279	1.817	34.880	259.7	3.475	27.890
5500	2.095	1.576	34.850	249.1	3.719	27.884

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
5500	1	2.094	1.575	34.852	251.8
5124	2	2.267	1.790	34.879	−999.0
4730	3	2.289	1.861	34.886	−999.0
4339	4	2.292	1.910	34.890	265.3
3951	5	2.320	1.982	34.895	266.6
3450	6	2.446	2.160	34.907	269.1
2950	7	2.726	2.486	34.926	264.1
2449	8	3.112	2.915	34.947	284.3
1949	9	3.611	3.454	34.971	260.7
1599	10	4.134	4.003	35.003	254.2
1444	11	4.470	4.349	35.025	249.3
1274	12	5.026	4.916	35.056	234.6
1105	13	5.789	5.689	35.070	245.7
950	14	7.133	7.038	35.080	163.0
840	15	8.911	8.817	35.183	144.5
730	16	10.967	10.874	35.404	141.2
620	17	13.482	13.392	35.769	143.5
511	18	15.895	15.813	36.161	174.5
399	19	17.529	17.460	36.450	187.4
290	20	18.409	18.358	36.564	193.4
201	21	19.484	19.447	36.617	188.7
120	22	21.296	21.273	36.688	198.3
70	23	23.763	23.748	36.710	217.8
3	24	28.355	28.355	36.567	196.6

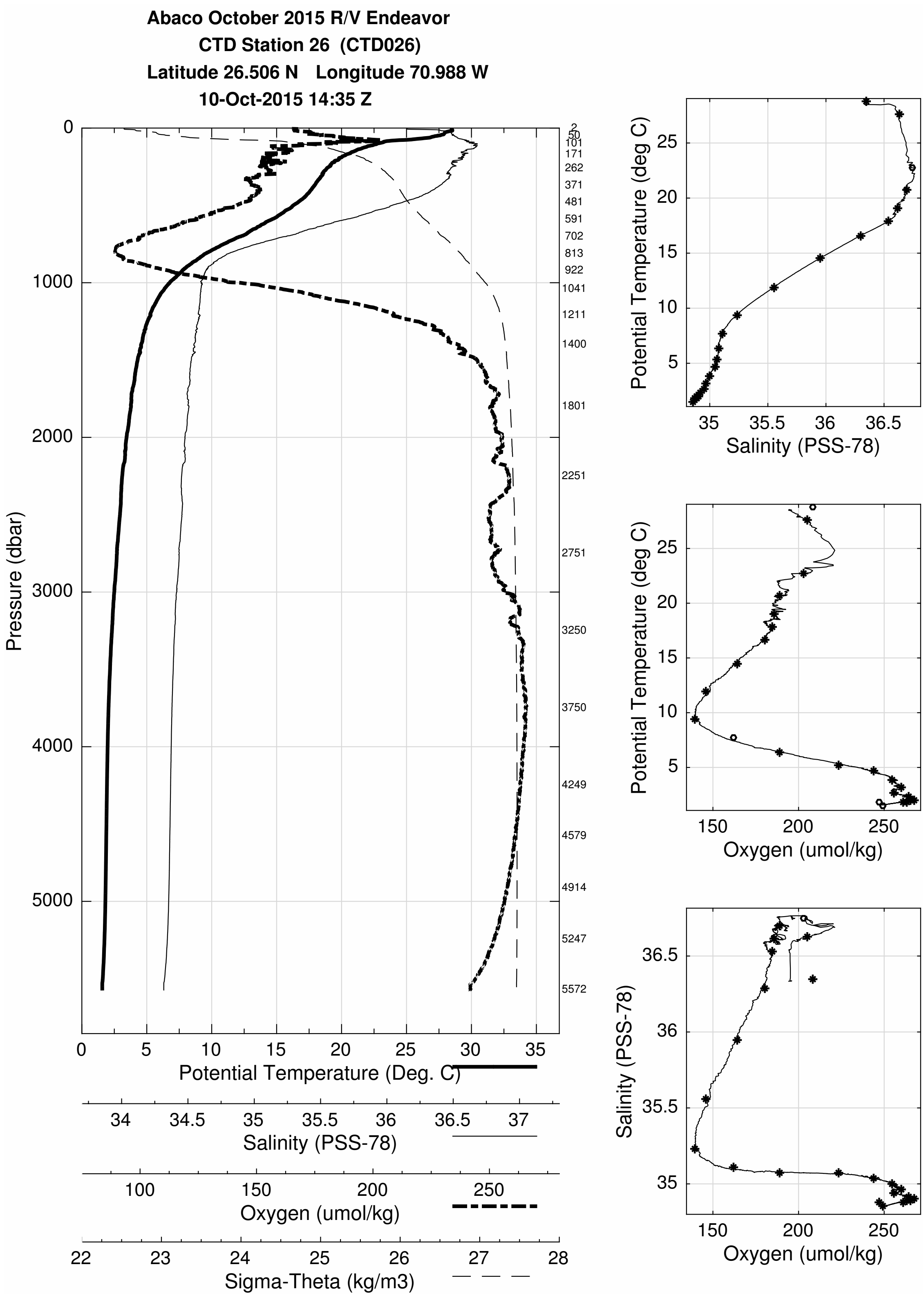


Abaco October 2015 R/V Endeavor
CTD Station 25 (CTD025)
Latitude 26.503 N Longitude 71.496 W
10-Oct-2015 08:20 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 26 (CTD026)
Latitude 26.506N Longitude 70.988W
10-Oct-2015 14:35Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	28.487	28.487	36.335	194.4	0.005	23.238
10	28.470	28.468	36.471	195.1	0.046	23.347
20	28.331	28.327	36.598	196.5	0.091	23.489
30	27.954	27.947	36.605	200.9	0.134	23.620
50	27.374	27.362	36.626	206.8	0.219	23.826
75	25.235	25.218	36.682	219.3	0.314	24.546
100	22.767	22.747	36.739	205.4	0.386	25.327
125	21.772	21.747	36.752	188.2	0.450	25.621
150	21.004	20.975	36.683	193.4	0.508	25.782
200	19.849	19.812	36.674	185.1	0.614	26.089
250	19.079	19.034	36.613	185.5	0.710	26.246
300	18.594	18.541	36.600	185.0	0.800	26.362
400	17.712	17.643	36.494	184.2	0.971	26.505
500	16.362	16.281	36.243	177.2	1.134	26.639
600	14.464	14.374	35.922	162.4	1.283	26.820
700	12.357	12.262	35.601	148.3	1.416	27.005
800	9.881	9.785	35.274	139.6	1.529	27.203
900	8.140	8.044	35.120	151.4	1.625	27.362
1000	6.868	6.769	35.081	178.1	1.706	27.515
1100	5.980	5.879	35.072	204.8	1.772	27.625
1200	5.383	5.277	35.060	225.4	1.831	27.690
1300	5.012	4.899	35.054	237.2	1.884	27.730
1400	4.688	4.569	35.034	245.0	1.935	27.752
1500	4.419	4.294	35.018	251.0	1.984	27.769
1750	3.947	3.804	34.994	256.9	2.103	27.802
2000	3.603	3.441	34.979	258.8	2.217	27.826
2500	3.141	2.938	34.961	255.2	2.437	27.860
3000	2.742	2.496	34.928	259.1	2.652	27.873
3500	2.462	2.171	34.908	264.8	2.865	27.884
4000	2.329	1.985	34.895	265.4	3.081	27.889
4500	2.296	1.895	34.888	263.3	3.305	27.890
5000	2.274	1.813	34.880	259.4	3.540	27.890
5500	2.130	1.609	34.855	250.6	3.784	27.886

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
5573	1	2.102	1.573	34.850	248.8
5247	2	2.234	1.743	34.874	246.9
4914	3	2.279	1.828	34.881	261.3
4579	4	2.293	1.882	34.886	263.6
4250	5	2.306	1.934	34.891	265.3
3750	6	2.382	2.066	34.900	267.1
3250	7	2.592	2.324	34.917	264.2
2751	8	2.952	2.728	34.945	255.7
2251	9	3.316	3.134	34.959	260.2
1801	10	3.961	3.813	35.002	254.7
1401	11	4.726	4.607	35.038	243.3
1212	12	5.409	5.301	35.067	223.7
1042	13	6.484	6.384	35.079	188.6
923	14	7.853	7.756	35.112	162.0
813	15	9.511	9.417	35.233	139.2
703	16	12.014	11.920	35.559	146.1
592	17	14.567	14.478	35.944	164.0
481	18	16.635	16.555	36.293	179.9
372	19	17.967	17.903	36.536	184.2
263	20	19.089	19.041	36.612	185.8
171	21	20.811	20.778	36.700	188.9
101	22	22.840	22.819	36.750	202.7
50	23	27.541	27.529	36.627	204.9
3	24	28.740	28.739	36.343	208.4

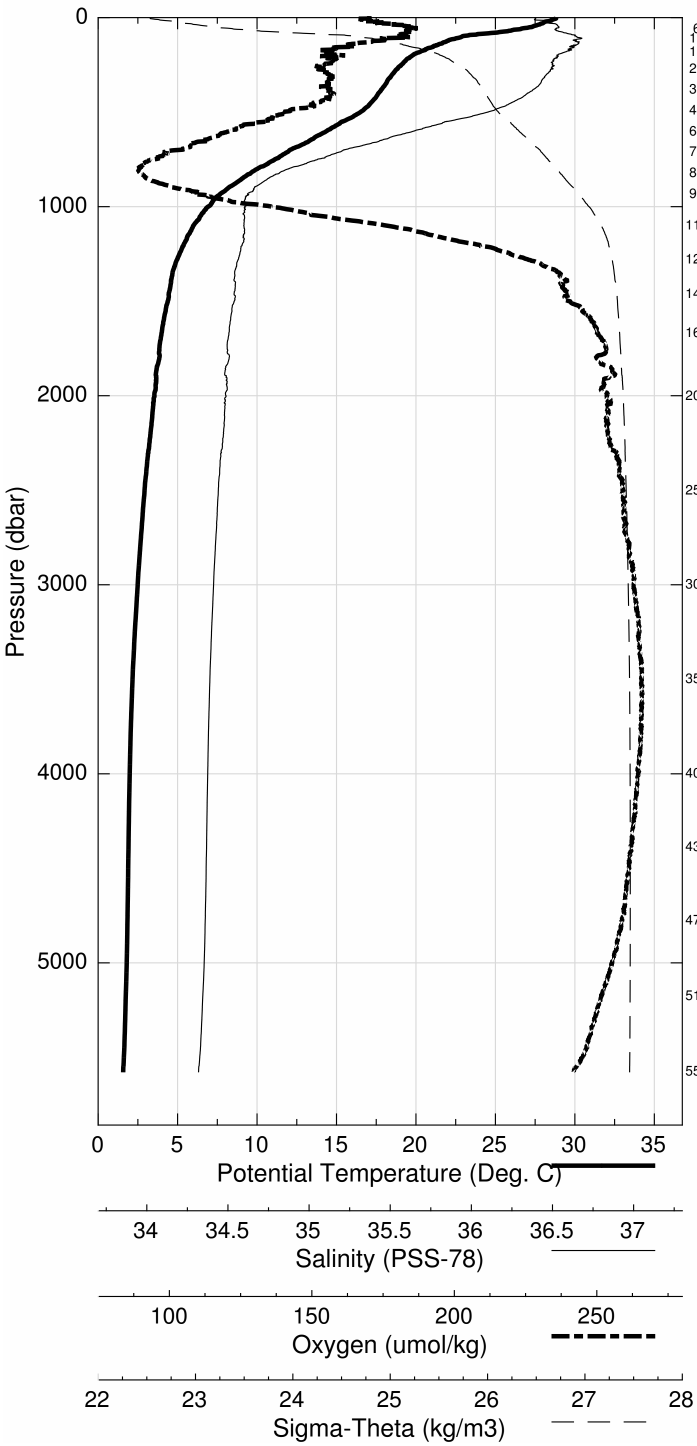

Abaco October 2015 R/V Endeavor
CTD Station 26 (CTD026)
Latitude 26.506 N Longitude 70.988 W
10-Oct-2015 14:35 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Oxygen (umol/kg)

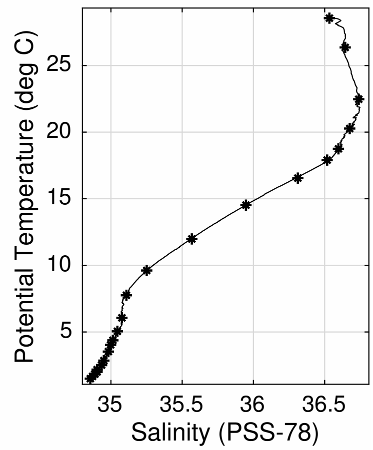
Abaco October 2015 R/V Endeavor
CTD Station 27 (CTD027)
Latitude 26.493N Longitude 70.479W
10-Oct-2015 20:56Z

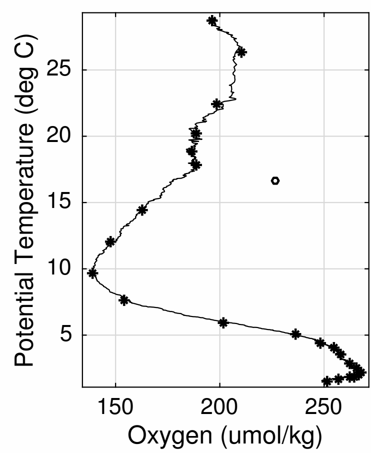
Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	$\mu mol \cdot kg^{-1}$	$m^2 \cdot s^{-2}$	$kg \cdot m^{-3}$
1	28.817	28.817	36.531	196.8	0.005	23.275
10	28.570	28.568	36.524	195.2	0.046	23.353
20	28.224	28.220	36.590	200.0	0.090	23.518
30	27.993	27.986	36.601	200.1	0.134	23.603
50	27.266	27.254	36.645	207.1	0.217	23.876
75	25.423	25.407	36.658	208.1	0.311	24.470
100	22.921	22.900	36.733	205.5	0.387	25.278
125	21.947	21.922	36.728	198.2	0.452	25.553
150	21.156	21.127	36.705	192.7	0.511	25.758
200	19.817	19.780	36.638	191.4	0.618	26.070
250	19.113	19.067	36.613	186.2	0.715	26.237
300	18.565	18.512	36.584	187.5	0.805	26.357
400	17.702	17.634	36.488	188.0	0.977	26.503
500	16.593	16.510	36.291	176.2	1.141	26.622
600	14.470	14.380	35.923	162.2	1.290	26.820
700	12.164	12.070	35.573	149.5	1.422	27.021
800	10.117	10.020	35.299	139.3	1.537	27.182
900	8.300	8.203	35.128	148.4	1.635	27.344
1000	7.011	6.911	35.080	172.8	1.718	27.494
1100	6.094	5.992	35.076	201.8	1.787	27.614
1200	5.493	5.386	35.068	224.6	1.846	27.683
1300	4.979	4.867	35.041	240.7	1.901	27.723
1400	4.707	4.588	35.034	245.9	1.952	27.750
1500	4.507	4.381	35.028	248.0	2.002	27.767
1750	3.995	3.851	34.993	257.3	2.122	27.796
2000	3.707	3.544	34.987	257.6	2.238	27.822
2500	3.124	2.921	34.949	261.7	2.462	27.852
3000	2.734	2.489	34.925	264.3	2.679	27.871
3500	2.455	2.164	34.907	266.4	2.893	27.884
4000	2.331	1.988	34.896	265.3	3.109	27.889
4500	2.292	1.891	34.888	263.1	3.333	27.891
5000	2.260	1.799	34.878	258.7	3.567	27.890
5500	2.141	1.620	34.856	251.2	3.811	27.886

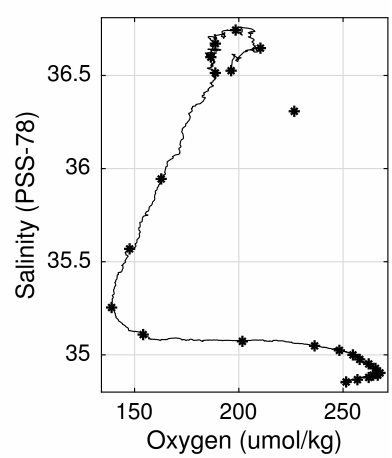
Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	$\mu mol \cdot kg^{-1}$
5579	1	2.105	1.575	34.851	251.0
5179	2	2.222	1.739	34.871	256.9
4780	3	2.277	1.842	34.884	262.3
4390	4	2.296	1.909	34.891	264.0
4001	5	2.328	1.985	34.895	266.4
3501	6	2.453	2.162	34.907	267.5
3003	7	2.729	2.484	34.928	265.0
2504	8	3.122	2.920	34.949	261.9
2004	9	3.658	3.495	34.978	258.0
1672	10	4.138	4.000	35.001	255.0
1464	11	4.540	4.417	35.021	248.7
1282	12	5.083	4.972	35.047	236.7
1103	13	6.093	5.990	35.077	201.7
936	14	7.849	7.751	35.107	154.1
826	15	9.743	9.645	35.256	138.8
715	16	12.091	11.994	35.566	147.1
605	17	14.559	14.467	35.940	162.8
496	18	16.710	16.628	36.309	226.2
385	19	17.900	17.833	36.517	189.0
275	20	18.833	18.784	36.603	186.6
185	21	20.296	20.261	36.675	189.0
114	22	22.545	22.521	36.746	198.3
65	23	26.377	26.362	36.645	210.0
2	24	28.613	28.612	36.531	196.3

Abaco October 2015 R/V Endeavor
CTD Station 27 (CTD027)
Latitude 26.493 N Longitude 70.479 W
10-Oct-2015 20:56 Z





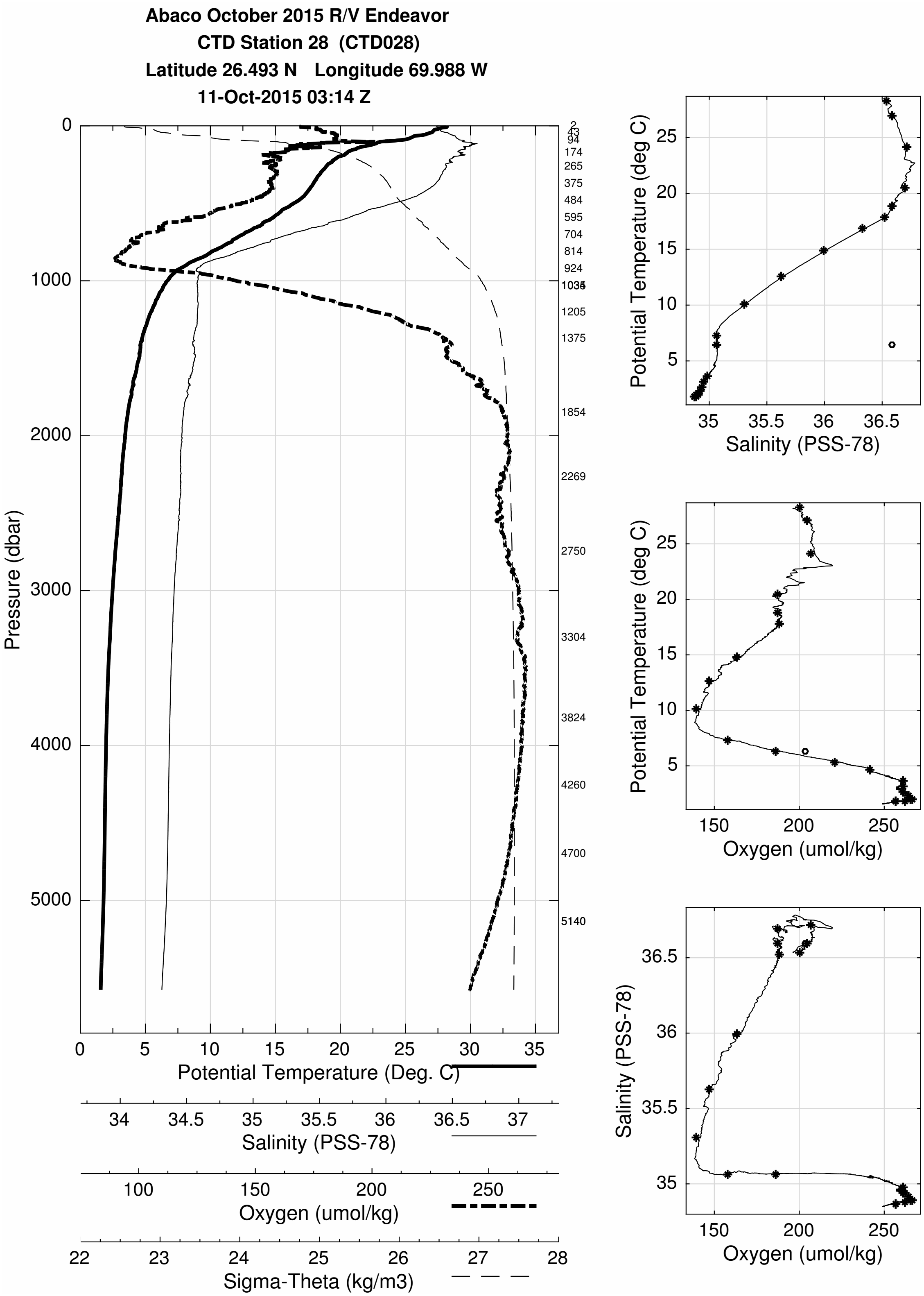




Abaco October 2015 R/V Endeavor
CTD Station 28 (CTD028)
Latitude 26.493N Longitude 69.988W
11-Oct-2015 03:14Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	28.197	28.197	36.536	196.5	0.004	23.486
10	27.974	27.972	36.572	199.4	0.044	23.586
20	27.534	27.529	36.550	201.2	0.086	23.715
30	27.185	27.178	36.559	203.0	0.127	23.835
50	26.747	26.735	36.610	207.3	0.207	24.016
75	25.476	25.459	36.655	207.6	0.299	24.451
100	23.459	23.438	36.702	212.1	0.382	25.097
125	22.316	22.291	36.742	194.9	0.449	25.459
150	21.226	21.197	36.712	193.0	0.509	25.743
200	19.860	19.822	36.636	189.0	0.616	26.057
250	19.071	19.026	36.590	189.4	0.714	26.231
300	18.553	18.500	36.570	189.4	0.805	26.350
400	17.770	17.701	36.498	188.1	0.977	26.494
500	16.474	16.392	36.264	178.2	1.141	26.629
600	14.763	14.671	35.975	161.2	1.291	26.796
700	12.624	12.527	35.637	147.7	1.426	26.981
800	10.511	10.412	35.355	142.6	1.545	27.158
900	8.231	8.134	35.092	142.8	1.645	27.326
1000	6.793	6.696	35.067	176.6	1.725	27.514
1100	6.093	5.991	35.070	200.0	1.793	27.609
1200	5.541	5.433	35.068	219.5	1.853	27.677
1300	5.118	5.004	35.059	233.1	1.908	27.722
1400	4.768	4.649	35.040	243.1	1.960	27.747
1500	4.642	4.514	35.051	242.2	2.010	27.771
1750	4.050	3.906	35.006	254.1	2.130	27.801
2000	3.603	3.441	34.972	260.4	2.246	27.820
2500	3.161	2.958	34.957	257.2	2.468	27.855
3000	2.720	2.475	34.924	263.9	2.684	27.872
3500	2.446	2.155	34.906	266.1	2.898	27.884
4000	2.322	1.979	34.895	265.1	3.113	27.889
4500	2.283	1.882	34.887	262.1	3.336	27.891
5000	2.245	1.784	34.877	257.5	3.570	27.890
5500	2.108	1.588	34.852	249.9	3.812	27.885

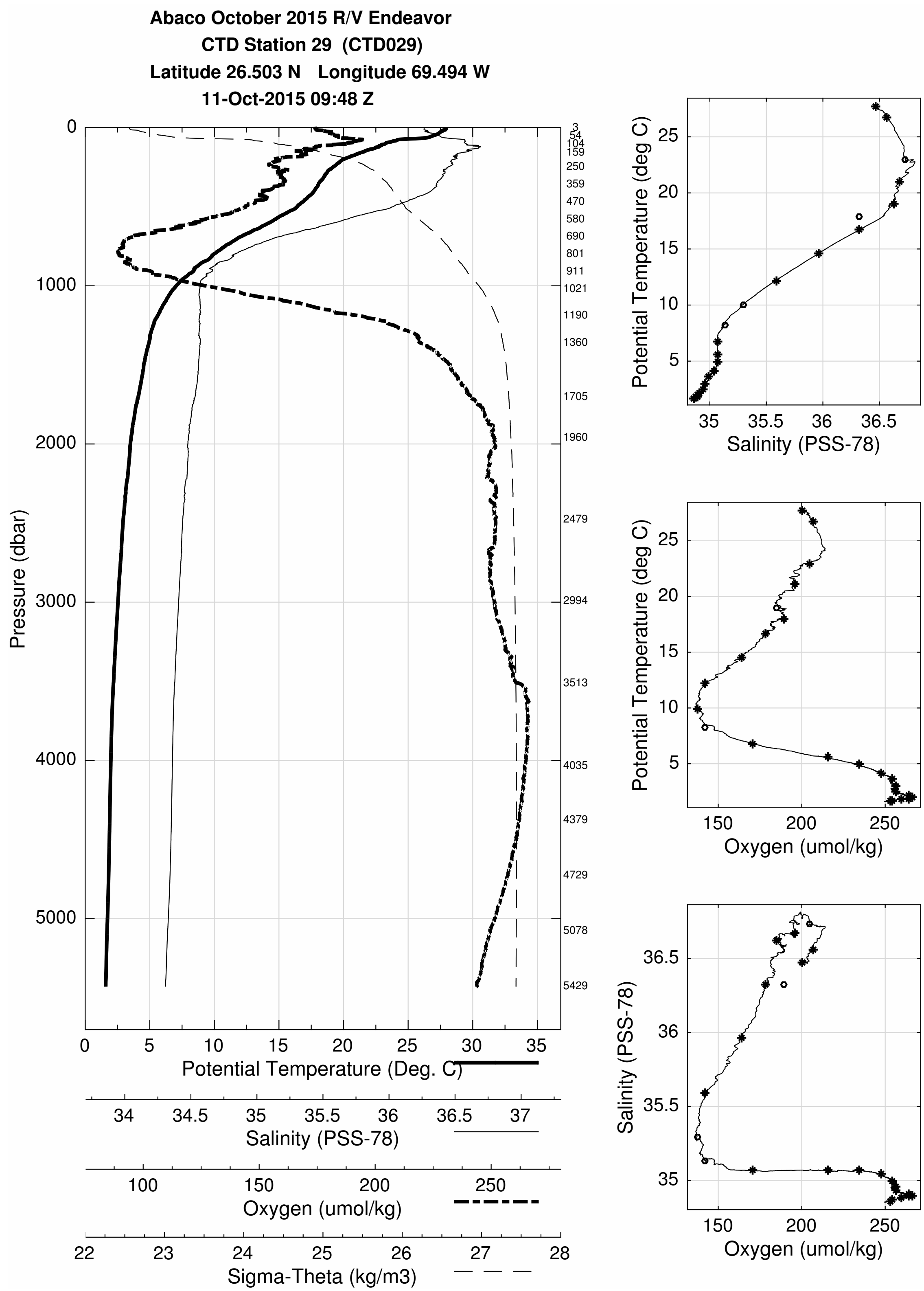
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
5140	1	2.213	1.736	34.870	256.3
5140	2	2.213	1.736	34.870	257.0
4700	3	2.276	1.851	34.882	261.9
4261	4	2.293	1.921	34.888	265.5
3825	5	2.349	2.024	34.897	266.4
3305	6	2.548	2.276	34.913	264.0
2750	7	2.929	2.706	34.938	261.1
2269	8	3.322	3.139	34.957	260.9
1855	9	3.823	3.672	34.980	261.1
1375	10	4.817	4.703	33.078	242.0
1205	11	5.485	5.381	33.106	221.3
1035	12	6.484	6.382	36.593	203.8
1036	13	6.464	6.365	35.066	186.4
925	14	7.406	7.312	35.059	158.2
815	15	10.208	10.109	35.309	139.3
705	16	12.621	12.523	35.632	147.3
595	17	14.920	14.829	35.999	162.8
485	18	16.869	16.788	36.333	−999.0
376	19	17.921	17.856	36.520	188.0
265	20	18.898	18.850	36.589	187.7
175	21	20.566	20.533	36.697	187.7
95	22	24.178	24.158	36.719	207.2
44	23	27.039	27.029	36.592	204.8
2	24	28.205	28.205	36.530	200.0


Abaco October 2015 R/V Endeavor
CTD Station 28 (CTD028)
Latitude 26.493 N Longitude 69.988 W
11-Oct-2015 03:14 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 29 (CTD029)
Latitude 26.503N Longitude 69.494W
11-Oct-2015 09:48Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	27.947	27.947	36.465	199.1	0.004	23.514
10	27.920	27.918	36.463	199.1	0.044	23.522
20	27.676	27.672	36.485	201.6	0.087	23.619
30	27.483	27.476	36.488	203.9	0.129	23.685
50	27.020	27.008	36.556	205.9	0.212	23.887
75	24.320	24.304	36.707	214.0	0.306	24.844
100	23.273	23.253	36.720	208.9	0.380	25.165
125	22.539	22.514	36.803	198.6	0.448	25.442
150	21.669	21.639	36.741	195.6	0.510	25.643
200	20.062	20.025	36.651	186.5	0.622	26.015
250	19.224	19.179	36.613	187.0	0.721	26.208
300	18.625	18.571	36.582	188.7	0.812	26.341
400	17.807	17.738	36.508	181.8	0.985	26.493
500	16.491	16.409	36.269	177.1	1.148	26.629
600	14.399	14.309	35.915	160.4	1.298	26.828
700	11.885	11.792	35.525	140.3	1.427	27.036
800	10.065	9.968	35.282	137.0	1.541	27.178
900	8.542	8.443	35.145	145.3	1.640	27.320
1000	7.149	7.049	35.069	164.3	1.726	27.466
1100	6.318	6.214	35.068	190.6	1.798	27.579
1200	5.656	5.547	35.065	215.1	1.861	27.661
1300	5.186	5.072	35.061	229.9	1.916	27.715
1400	4.926	4.805	35.066	235.7	1.969	27.750
1500	4.661	4.533	35.057	241.5	2.019	27.774
1750	4.103	3.958	35.022	249.9	2.139	27.808
2000	3.660	3.497	34.991	255.2	2.253	27.831
2500	3.128	2.926	34.959	255.7	2.473	27.859
3000	2.783	2.537	34.934	255.5	2.689	27.874
3500	2.495	2.203	34.911	262.0	2.904	27.884
4000	2.329	1.986	34.896	265.3	3.120	27.889
4500	2.273	1.873	34.887	262.3	3.343	27.891
5000	2.185	1.726	34.870	255.3	3.575	27.889

Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
5429	1	2.100	1.589	34.852	252.7
5078	2	2.163	1.695	34.866	254.5
4729	3	2.242	1.815	34.883	260.1
4379	4	2.285	1.899	34.892	264.4
4036	5	2.329	1.981	34.895	265.8
3514	6	2.494	2.200	34.909	264.0
2994	7	2.803	2.557	34.936	256.3
2479	8	3.157	2.956	34.961	256.0
1960	9	3.737	3.577	34.997	254.5
1705	10	4.276	4.133	35.041	247.4
1361	11	4.994	4.876	35.063	233.8
1190	12	5.638	5.531	35.064	215.7
1022	13	6.901	6.800	35.065	170.8
911	14	8.340	8.241	35.135	142.5
802	15	10.061	9.964	35.295	137.4
691	16	12.277	12.184	35.586	142.1
581	17	14.678	14.590	35.962	164.4
471	18	16.780	16.701	36.324	178.1
360	19	17.980	17.918	36.323	188.9
251	20	19.102	19.056	36.626	184.7
160	21	21.078	21.047	36.674	195.6
105	22	22.966	22.945	36.732	205.2
55	23	26.720	26.707	36.557	207.2
4	24	27.714	27.713	36.470	200.7

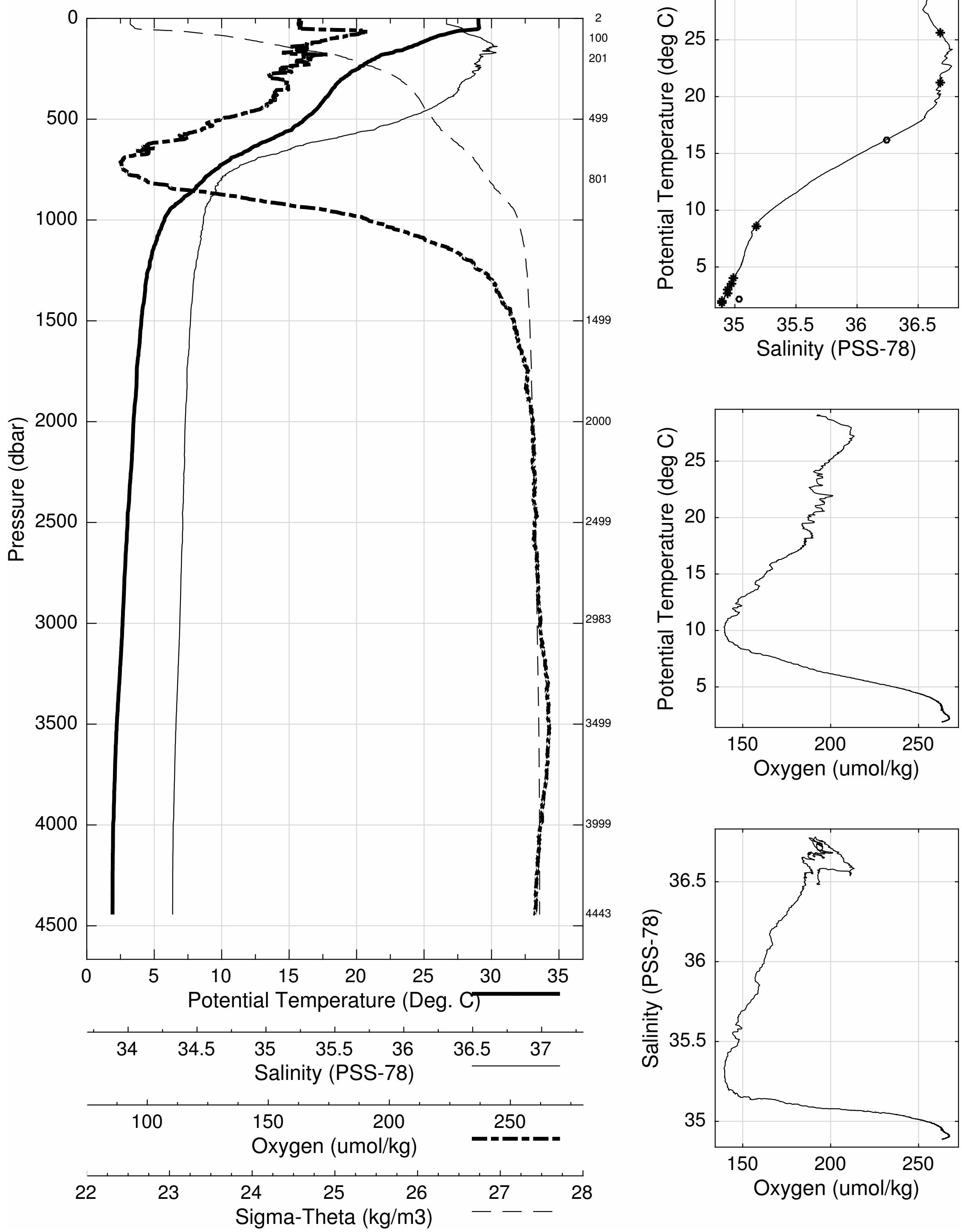

Abaco October 2015 R/V Endeavor
CTD Station 29 (CTD029)
Latitude 26.503 N Longitude 69.494 W
11-Oct-2015 09:48 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 30 (CTD030)
Latitude 25.955N Longitude 76.896W
16-Oct-2015 22:33Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	29.032	29.032	36.487	193.0	0.005	23.170
10	29.031	29.029	36.486	193.0	0.047	23.170
20	29.042	29.037	36.485	193.0	0.094	23.167
30	29.052	29.045	36.495	193.2	0.141	23.172
50	29.070	29.058	36.575	193.9	0.235	23.228
75	26.769	26.752	36.603	210.6	0.341	24.005
100	25.519	25.496	36.693	202.6	0.433	24.468
125	24.668	24.641	36.747	196.7	0.517	24.771
150	23.667	23.635	36.725	195.3	0.594	25.056
200	21.412	21.372	36.682	196.6	0.726	25.672
250	20.141	20.094	36.679	188.8	0.837	26.018
300	18.995	18.940	36.609	186.6	0.935	26.267
400	17.703	17.634	36.487	185.8	1.110	26.502
500	16.258	16.176	36.236	169.4	1.271	26.658
600	13.704	13.617	35.796	158.2	1.417	26.883
700	10.704	10.617	35.373	140.0	1.538	27.135
800	8.787	8.698	35.176	146.4	1.639	27.305
900	7.112	7.023	35.108	179.4	1.722	27.501
1000	5.850	5.760	35.069	213.5	1.786	27.638
1100	5.286	5.191	35.054	230.6	1.842	27.696
1200	4.806	4.705	35.028	243.8	1.894	27.732
1300	4.510	4.403	35.011	250.5	1.943	27.752
1400	4.363	4.248	35.003	253.6	1.991	27.762
1500	4.166	4.043	34.993	257.0	2.039	27.776
1750	3.850	3.708	34.973	261.0	2.156	27.795
2000	3.630	3.468	34.963	262.5	2.273	27.811
2500	3.228	3.023	34.948	263.2	2.504	27.842
3000	2.902	2.653	34.931	265.1	2.730	27.861
3500	2.515	2.222	34.909	267.4	2.952	27.880
4000	2.298	1.956	34.893	264.9	3.170	27.889

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
4443	1	2.306	1.912	34.891	−999.0
3999	2	2.295	1.953	34.895	−999.0
3500	4	2.512	2.219	35.036	−999.0
2983	6	2.930	2.682	34.935	−999.0
2499	8	3.219	3.015	34.948	−999.0
2000	10	3.625	3.463	34.964	−999.0
1499	13	4.175	4.053	34.996	−999.0
801	15	8.756	8.667	35.175	−999.0
500	17	16.224	16.143	36.238	−999.0
201	19	21.252	21.213	36.686	−999.0
100	21	25.716	25.694	36.681	−999.0
2	23	28.980	28.980	36.479	−999.0

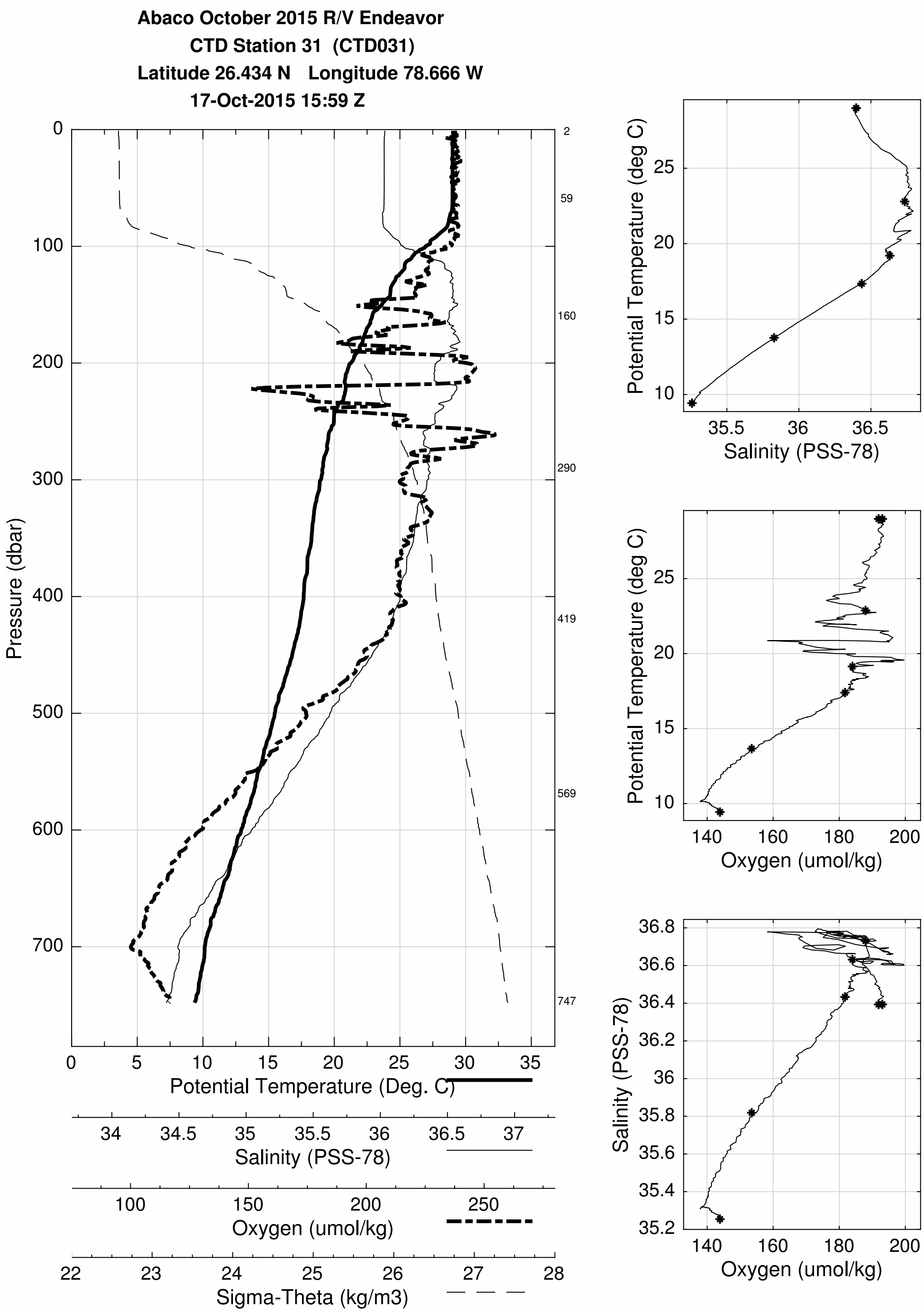
Abaco October 2015 R/V Endeavor
CTD Station 30 (CTD030)
Latitude 25.955 N Longitude 76.896 W
16-Oct-2015 22:33 Z



Abaco October 2015 R/V Endeavor
CTD Station 31 (CTD031)
Latitude 26.434N Longitude 78.666W
17-Oct-2015 15:59Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	29.042	29.041	36.399	192.7	0.005	23.101
10	29.021	29.018	36.396	192.2	0.048	23.106
20	29.016	29.011	36.396	193.0	0.095	23.109
30	29.017	29.009	36.396	192.7	0.143	23.109
50	29.021	29.009	36.396	193.0	0.238	23.110
75	28.804	28.786	36.389	193.5	0.357	23.179
100	26.974	26.950	36.497	191.3	0.469	23.861
125	24.945	24.918	36.748	187.4	0.559	24.688
150	23.652	23.621	36.781	177.4	0.637	25.103
200	21.299	21.260	36.671	194.7	0.767	25.695
250	20.019	19.972	36.664	183.5	0.876	26.039
300	19.031	18.977	36.624	183.7	0.974	26.269
400	17.739	17.670	36.479	183.6	1.149	26.487
500	15.542	15.463	36.110	167.5	1.309	26.724
600	13.000	12.916	35.698	149.7	1.447	26.951
700	10.224	10.139	35.309	137.9	1.562	27.169

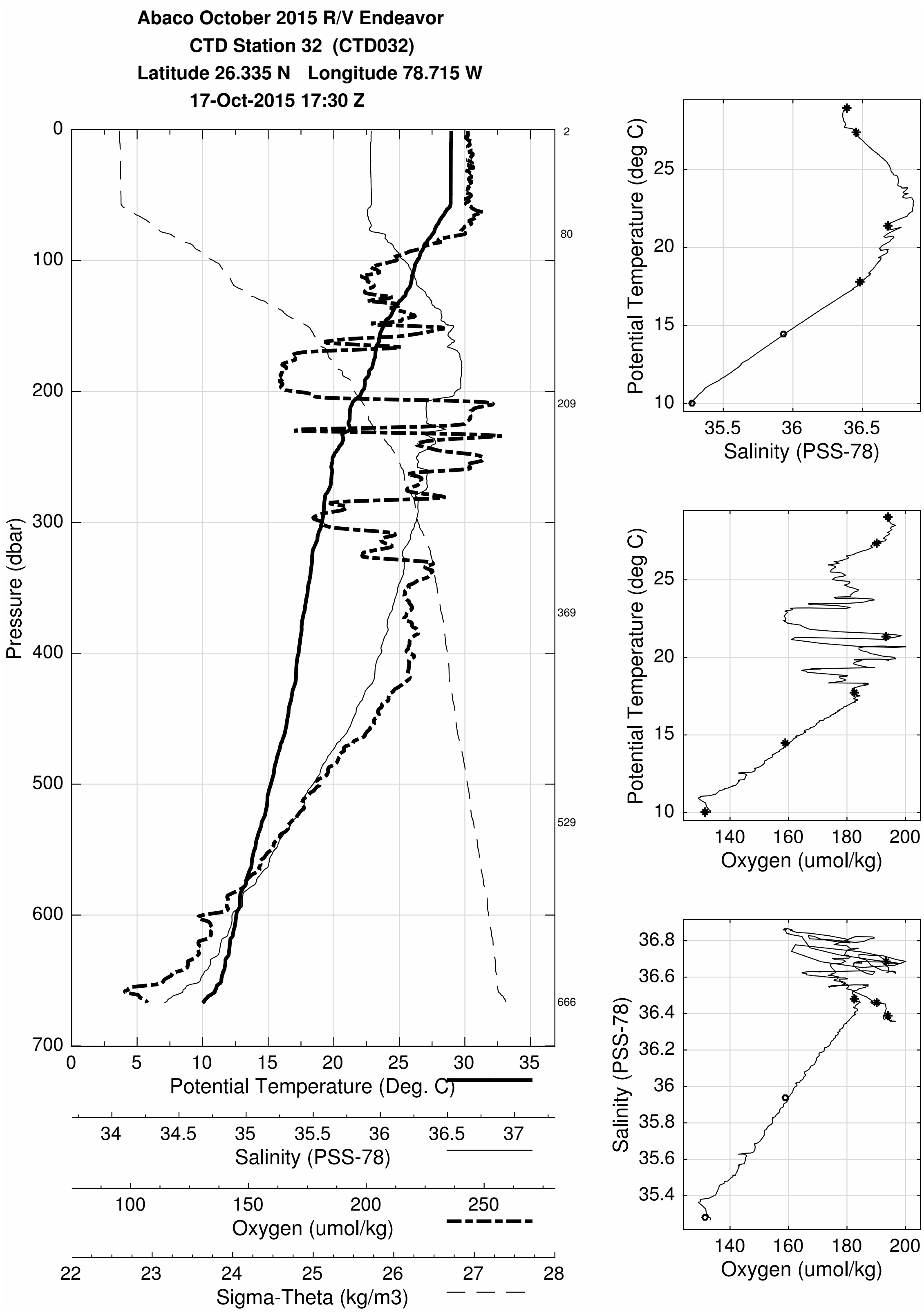
Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
747	1	9.482	9.395	35.254	144.1
569	2	13.801	13.717	35.823	153.7
420	4	17.459	17.387	36.433	181.7
290	6	19.198	19.145	36.633	183.7
160	8	22.851	22.818	36.735	187.8
60	10	29.015	29.000	36.394	192.2
2	13	29.026	29.026	36.395	193.2


Abaco October 2015 R/V Endeavor
CTD Station 31 (CTD031)
Latitude 26.434 N Longitude 78.666 W
17-Oct-2015 15:59 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
2
59
160
290
419
569
747
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 32 (CTD032)
Latitude 26.335N Longitude 78.715W
17-Oct-2015 17:30Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen $\mu mol \cdot kg^{-1}$	DynHt $m^2 \cdot s^{-2}$	SigT $kg \cdot m^{-3}$
1	28.963	28.963	36.378	193.7	0.005	23.112
10	28.948	28.946	36.375	193.8	0.048	23.115
20	28.936	28.931	36.375	194.5	0.095	23.120
30	28.935	28.928	36.375	193.6	0.143	23.121
50	28.933	28.921	36.379	194.5	0.238	23.126
75	27.780	27.762	36.370	193.0	0.353	23.503
100	26.390	26.367	36.558	180.3	0.456	24.094
125	25.526	25.499	36.672	174.6	0.549	24.452
150	23.854	23.822	36.823	182.9	0.629	25.075
200	22.197	22.157	36.832	161.2	0.765	25.567
250	19.985	19.939	36.623	196.5	0.880	26.016
300	19.161	19.107	36.618	166.2	0.979	26.231
400	17.380	17.312	36.431	182.8	1.152	26.538
500	15.284	15.206	36.065	165.9	1.307	26.747
600	12.650	12.567	35.629	143.8	1.443	26.967

Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen $\mu mol \cdot kg^{-1}$
667	1	10.052	9.972	35.280	131.3
530	2	14.553	14.473	35.937	158.8
370	4	17.818	17.754	36.482	182.6
210	6	21.472	21.431	36.682	193.5
80	8	27.404	27.385	36.460	190.3
2	10	28.986	28.985	36.385	194.0

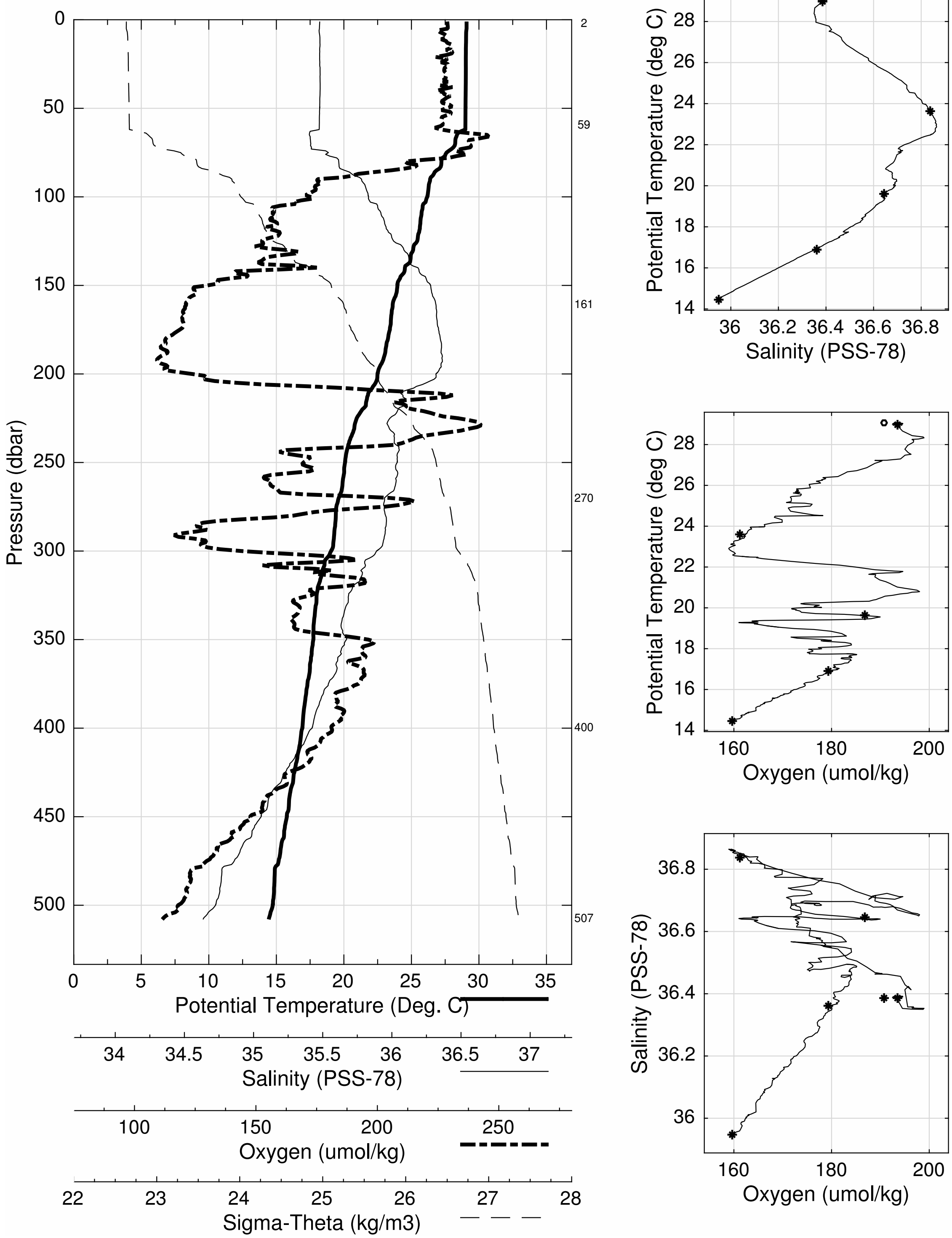

Abaco October 2015 R/V Endeavor
CTD Station 32 (CTD032)
Latitude 26.335 N Longitude 78.715 W
17-Oct-2015 17:30 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 33 (CTD033)
Latitude 26.253N Longitude 78.764W
17-Oct-2015 18:49Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	29.084	29.084	36.390	193.9	0.005	23.080
10	29.049	29.046	36.391	193.8	0.048	23.093
20	29.034	29.029	36.390	193.7	0.095	23.098
30	29.036	29.028	36.391	193.8	0.143	23.100
50	29.017	29.004	36.390	193.8	0.239	23.107
75	27.619	27.602	36.424	195.7	0.355	23.596
100	26.195	26.173	36.579	177.4	0.455	24.171
125	25.455	25.427	36.676	171.5	0.545	24.477
150	23.995	23.963	36.819	165.1	0.626	25.030
200	22.531	22.490	36.839	163.2	0.766	25.477
250	20.133	20.086	36.690	176.6	0.882	26.028
300	19.106	19.051	36.610	169.2	0.981	26.239
400	16.993	16.926	36.360	180.0	1.149	26.577
500	14.808	14.731	35.987	161.5	1.298	26.792

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
508	1	14.529	14.452	35.948	159.7
400	2	16.993	16.926	36.358	179.2
271	4	19.651	19.601	36.644	186.8
161	6	23.634	23.600	36.839	161.3
60	8	29.003	28.989	36.386	193.7
3	10	29.081	29.080	36.389	190.6

Abaco October 2015 R/V Endeavor
CTD Station 33 (CTD033)
Latitude 26.253 N Longitude 78.764 W
17-Oct-2015 18:49 Z

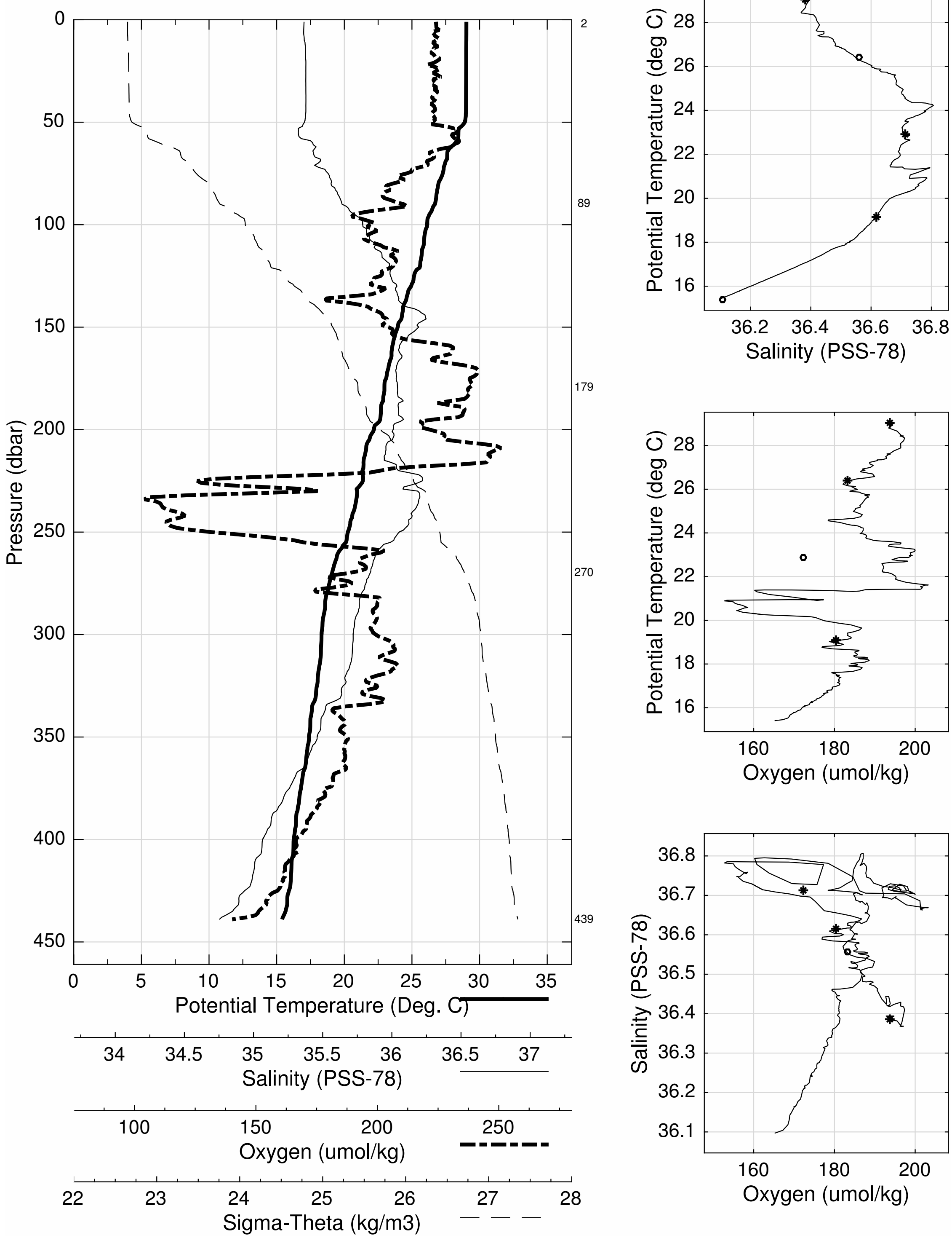


Abaco October 2015 R/V Endeavor
CTD Station 34 (CTD034)
Latitude 26.168N Longitude 78.799W
17-Oct-2015 20:03Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	29.024	29.024	36.388	194.0	0.005	23.098
10	29.023	29.020	36.388	194.1	0.048	23.100
20	29.016	29.011	36.394	194.3	0.095	23.107
30	29.011	29.004	36.394	193.8	0.143	23.110
50	28.918	28.906	36.389	194.2	0.238	23.139
75	27.293	27.276	36.470	189.9	0.349	23.737
100	26.150	26.128	36.589	184.6	0.448	24.193
125	25.187	25.160	36.685	186.2	0.538	24.566
150	23.980	23.948	36.781	187.3	0.618	25.006
200	22.228	22.188	36.694	193.2	0.760	25.452
250	20.307	20.260	36.714	162.2	0.875	26.000
300	18.368	18.315	36.556	185.5	0.969	26.386
400	16.324	16.259	36.245	174.2	1.133	26.646

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
439	1	15.473	15.404	36.110	−999.0
270	2	19.164	19.115	36.616	180.3
180	4	22.916	22.880	36.715	172.2
90	6	26.447	26.426	36.558	183.4
2	8	29.009	29.008	36.384	193.7

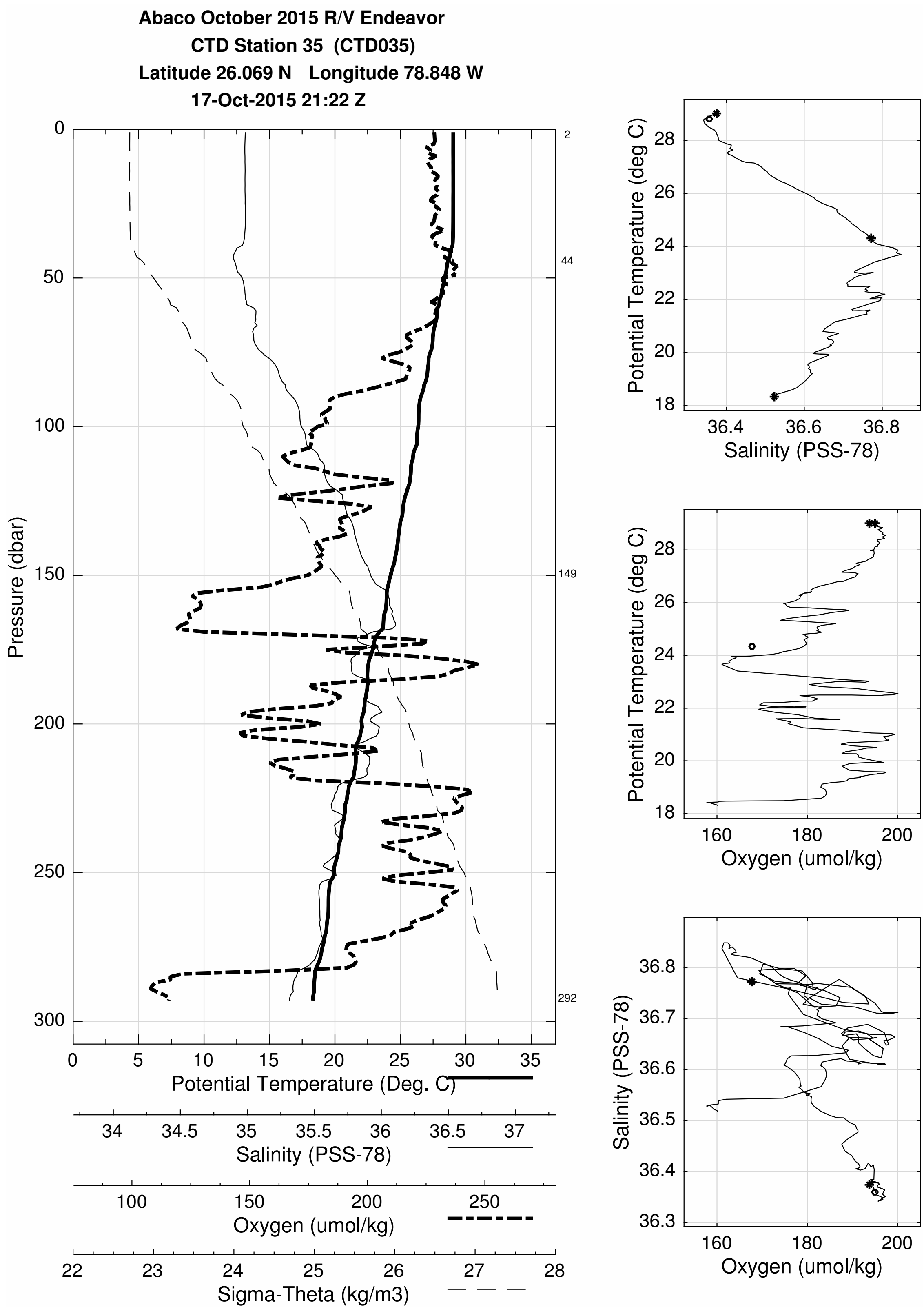
Abaco October 2015 R/V Endeavor
CTD Station 34 (CTD034)
Latitude 26.168 N Longitude 78.799 W
17-Oct-2015 20:03 Z



Abaco October 2015 R/V Endeavor
CTD Station 35 (CTD035)
Latitude 26.069N Longitude 78.848W
17-Oct-2015 21:22Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	29.038	29.037	36.380	194.4	0.005	23.088
10	29.042	29.039	36.379	193.8	0.048	23.086
20	29.046	29.041	36.379	194.6	0.096	23.086
30	29.041	29.033	36.380	194.4	0.143	23.089
50	28.398	28.386	36.370	195.5	0.238	23.298
75	27.304	27.286	36.431	189.8	0.348	23.704
100	26.384	26.362	36.555	179.3	0.448	24.093
125	25.318	25.290	36.685	179.0	0.540	24.527
150	24.289	24.257	36.771	178.0	0.622	24.906
200	22.090	22.050	36.784	179.7	0.760	25.560
250	19.980	19.933	36.662	193.3	0.875	26.048

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
293	1	18.373	18.321	36.522	−999.0
150	2	24.368	24.336	36.773	167.8
44	4	28.826	28.816	36.358	195.0
2	6	29.021	29.021	36.375	193.9

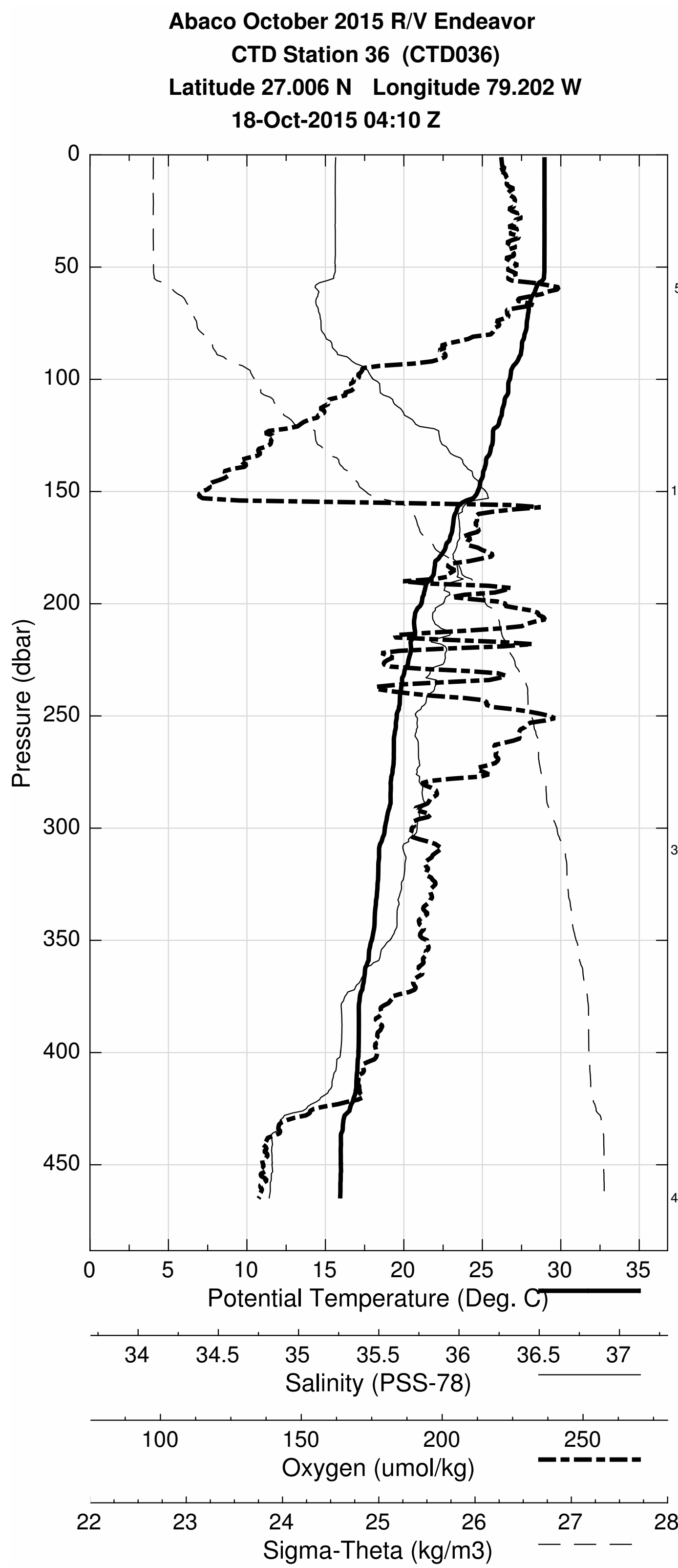


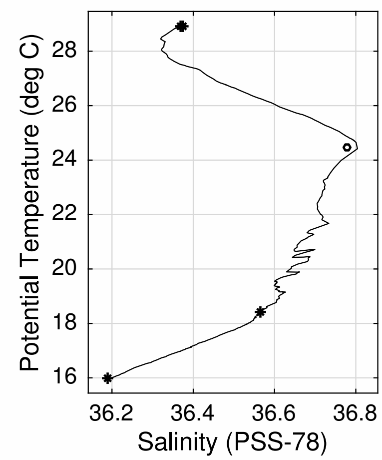
Abaco October 2015 R/V Endeavor
CTD Station 35 (CTD035)
Latitude 26.069 N Longitude 78.848 W
17-Oct-2015 21:22 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
2
44
149
292
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

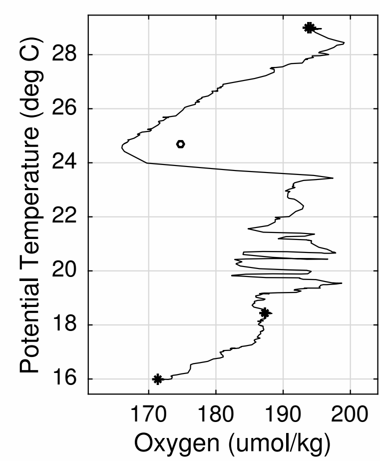
Abaco October 2015 R/V Endeavor
CTD Station 36 (CTD036)
Latitude 27.006N Longitude 79.202W
18-Oct-2015 04:10Z

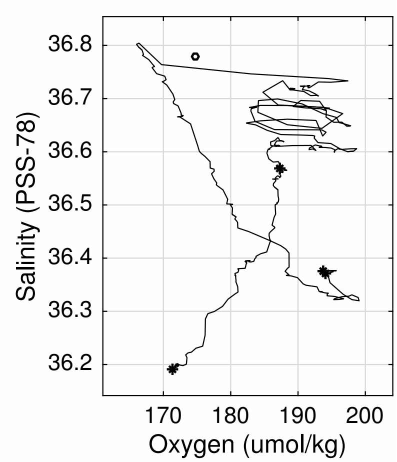
Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	28.961	28.961	36.378	193.8	0.005	23.112
10	28.964	28.961	36.376	194.3	0.048	23.111
20	28.964	28.959	36.377	195.1	0.095	23.112
30	28.968	28.961	36.376	195.1	0.143	23.111
50	28.968	28.956	36.376	194.8	0.238	23.113
75	27.848	27.830	36.337	193.6	0.353	23.456
100	26.777	26.754	36.482	180.2	0.460	23.914
125	25.706	25.679	36.666	172.8	0.556	24.392
150	24.734	24.701	36.797	166.3	0.641	24.791
200	21.153	21.114	36.677	194.2	0.774	25.740
250	19.591	19.545	36.601	198.3	0.881	26.104
300	18.840	18.786	36.605	185.6	0.977	26.303
400	17.176	17.109	36.391	182.4	1.146	26.556

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
465	1	16.028	15.953	36.191	171.3
310	2	18.502	18.447	36.567	187.2
150	4	24.502	24.469	36.779	174.9
60	6	28.956	28.942	36.370	194.1
3	8	28.949	28.949	36.374	193.7


Abaco October 2015 R/V Endeavor
CTD Station 36 (CTD036)
Latitude 27.006 N Longitude 79.202 W
18-Oct-2015 04:10 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
2
59
150
310
465


Potential Temperature (deg C)
Salinity (PSS-78)


Potential Temperature (deg C)
Oxygen (umol/kg)

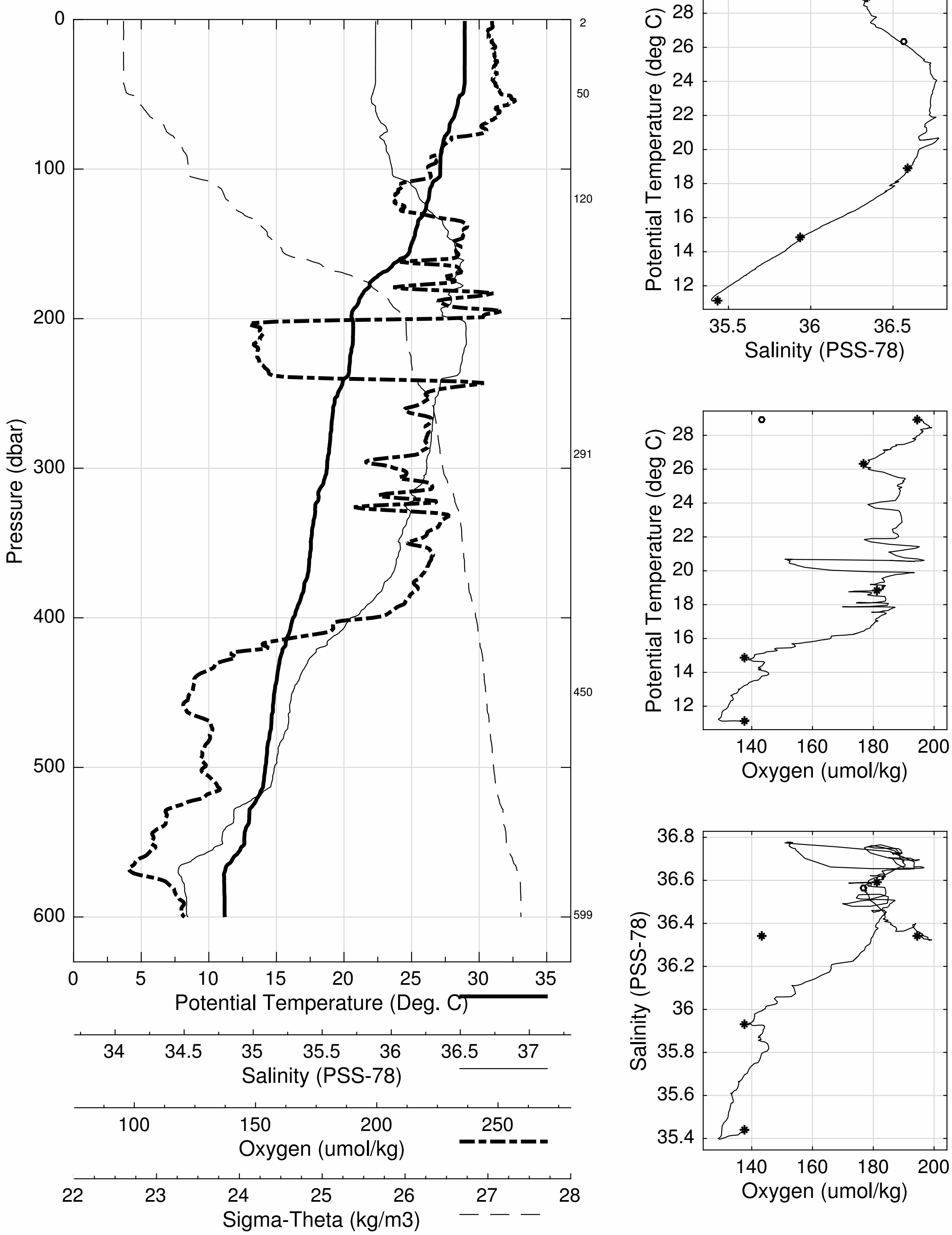

Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 37 (CTD037)
Latitude 27.006N Longitude 79.285W
18-Oct-2015 05:34Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	28.935	28.935	36.344	194.9	0.005	23.095
10	28.931	28.929	36.343	194.2	0.048	23.097
20	28.939	28.934	36.343	195.0	0.095	23.095
30	28.941	28.934	36.343	195.7	0.143	23.095
50	28.750	28.738	36.328	196.6	0.239	23.149
75	27.776	27.759	36.399	193.9	0.352	23.526
100	27.143	27.120	36.422	183.6	0.458	23.751
125	26.117	26.089	36.585	179.2	0.557	24.202
150	25.024	24.991	36.722	188.2	0.645	24.646
200	20.649	20.611	36.734	185.5	0.778	25.921
250	19.591	19.545	36.643	182.9	0.883	26.136
300	18.800	18.746	36.590	177.3	0.977	26.302
400	16.305	16.240	36.224	173.3	1.143	26.634
500	14.255	14.180	35.859	142.7	1.288	26.813
600	11.263	11.186	35.444	139.2	1.412	27.087

Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
599	1	11.250	11.173	35.439	137.9
450	2	14.883	14.814	35.935	137.9
291	4	18.903	18.851	36.593	181.1
121	6	26.316	26.289	36.566	177.0
50	8	28.927	28.914	36.338	194.4
3	10	28.929	28.929	36.338	143.0

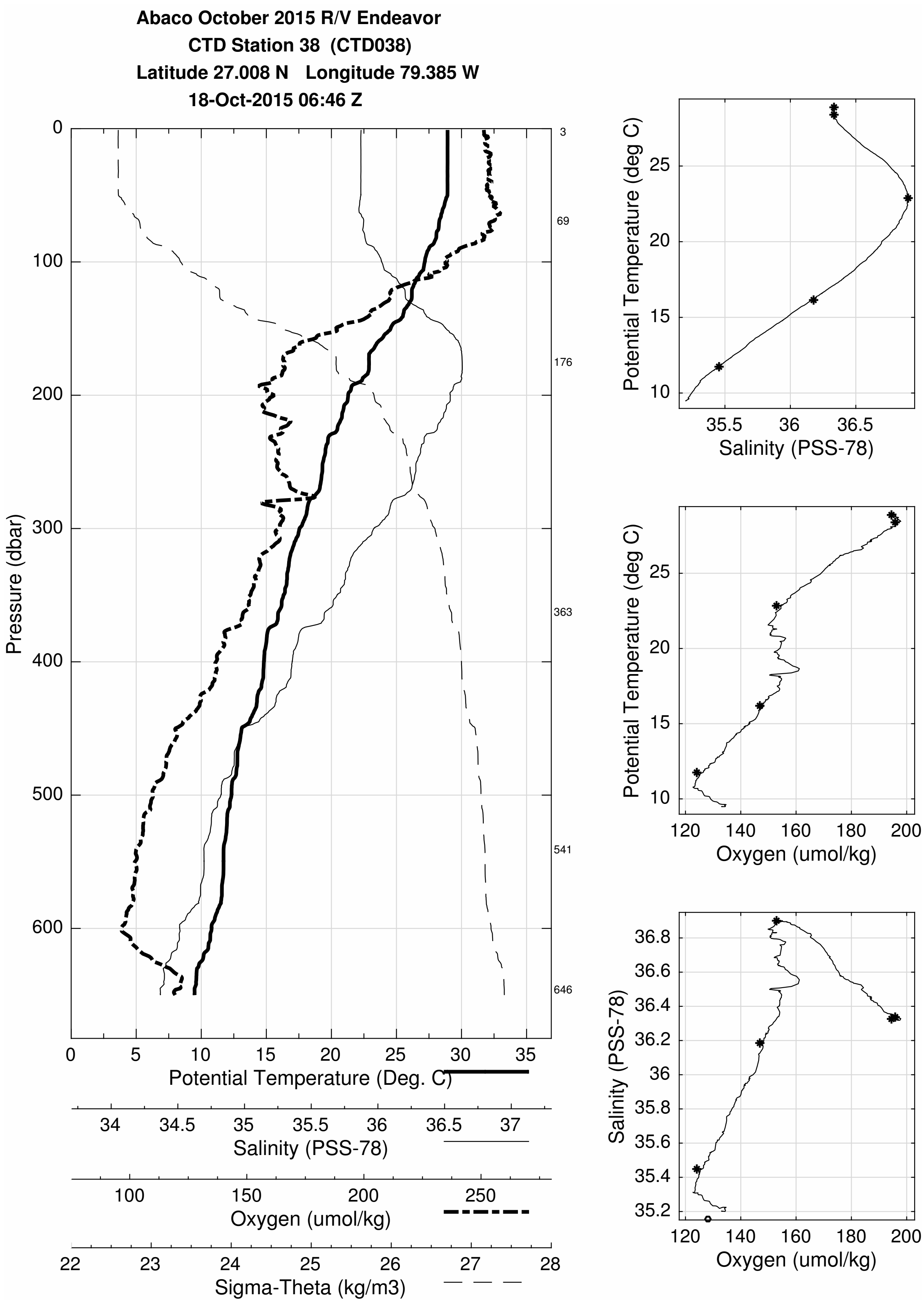
Abaco October 2015 R/V Endeavor
CTD Station 37 (CTD037)
Latitude 27.006 N Longitude 79.285 W
18-Oct-2015 05:34 Z



Abaco October 2015 R/V Endeavor
CTD Station 38 (CTD038)
Latitude 27.008N Longitude 79.385W
18-Oct-2015 06:46Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	$\mu mol \cdot kg^{-1}$	$m^2 \cdot s^{-2}$	$kg \cdot m^{-3}$
1	28.929	28.929	36.330	194.5	0.005	23.087
10	28.932	28.929	36.329	194.8	0.048	23.086
20	28.934	28.929	36.329	195.7	0.096	23.086
30	28.934	28.927	36.329	196.0	0.143	23.087
50	28.933	28.921	36.329	195.2	0.239	23.089
75	28.255	28.237	36.341	196.5	0.356	23.325
100	27.201	27.177	36.446	187.1	0.465	23.750
125	26.212	26.184	36.579	176.2	0.564	24.167
150	24.583	24.551	36.807	165.1	0.652	24.845
200	21.327	21.288	36.832	153.0	0.785	25.810
250	19.405	19.360	36.642	153.5	0.889	26.184
300	17.598	17.547	36.401	153.9	0.980	26.458
400	14.874	14.813	35.943	141.4	1.134	26.741
500	12.389	12.321	35.542	128.9	1.267	26.948
600	10.868	10.793	35.311	122.8	1.387	27.055

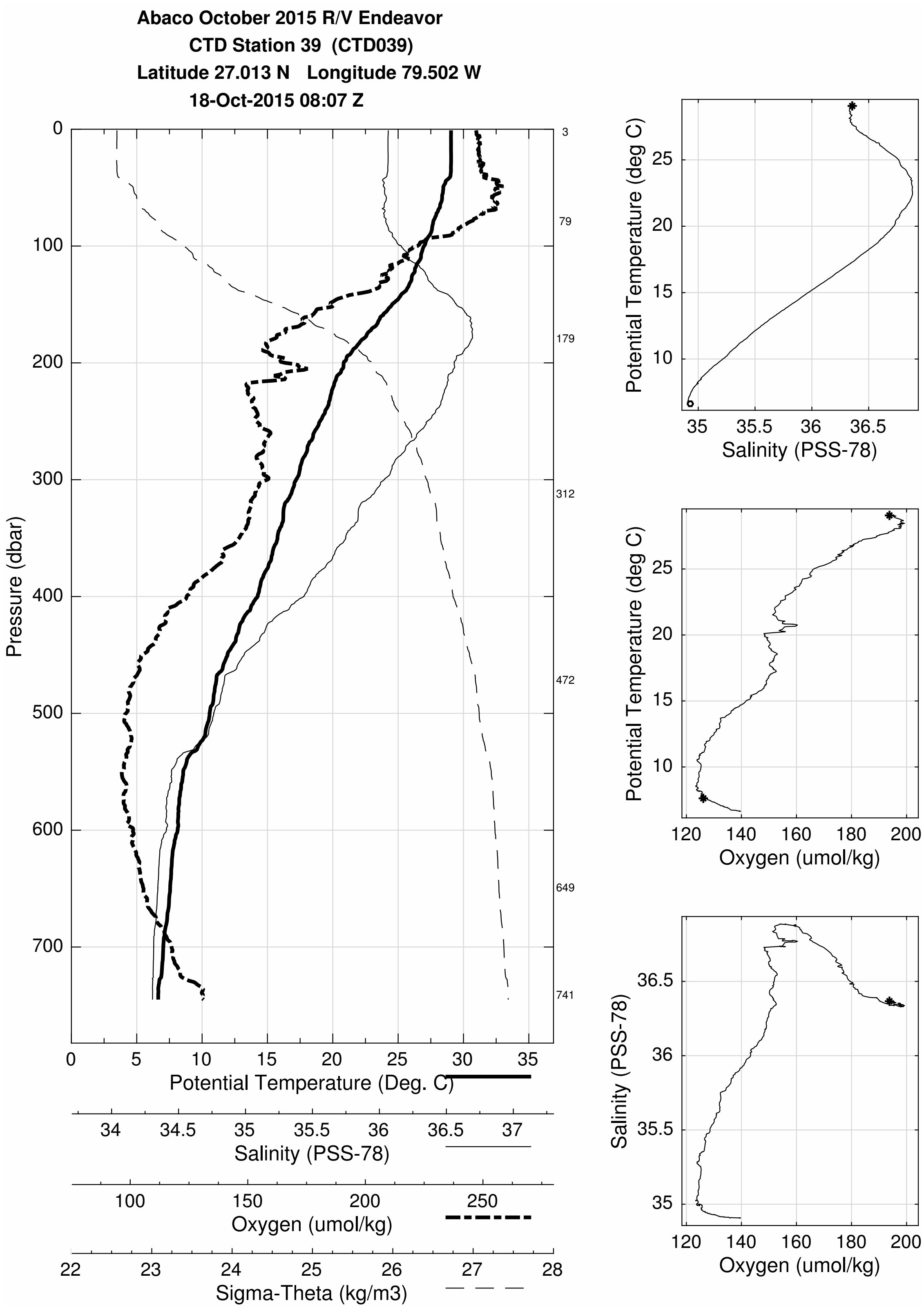
Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	$\mu mol \cdot kg^{-1}$
647	1	8.841	8.769	35.152	128.2
542	2	11.822	11.750	35.451	123.8
363	4	16.262	16.203	36.183	147.0
176	6	22.925	22.889	36.895	152.6
70	8	28.453	28.437	36.339	195.6
3	10	28.929	28.928	36.327	194.7


Abaco October 2015 R/V Endeavor
CTD Station 38 (CTD038)
Latitude 27.008 N Longitude 79.385 W
18-Oct-2015 06:46 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
3
69
176
363
541
646
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 39 (CTD039)
Latitude 27.013N Longitude 79.502W
18-Oct-2015 08:07Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	29.047	29.047	36.366	193.9	0.005	23.074
10	29.048	29.045	36.363	193.8	0.048	23.073
20	29.054	29.049	36.364	194.4	0.096	23.072
30	29.054	29.047	36.363	195.5	0.144	23.072
50	28.465	28.453	36.342	198.7	0.239	23.255
75	27.859	27.842	36.339	194.3	0.353	23.454
100	27.001	26.978	36.446	182.2	0.461	23.815
125	26.106	26.078	36.601	175.0	0.559	24.217
150	24.568	24.535	36.786	165.0	0.647	24.833
200	20.870	20.832	36.773	155.9	0.778	25.891
250	19.066	19.021	36.606	150.2	0.878	26.244
300	17.239	17.189	36.340	152.4	0.965	26.498
400	14.303	14.244	35.843	136.3	1.115	26.787
500	10.634	10.572	35.286	124.2	1.236	27.075
600	8.187	8.124	34.993	125.7	1.335	27.250
700	7.099	7.030	34.915	133.3	1.423	27.348

Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
742	1	6.711	6.641	34.935	−999.0
650	2	7.605	8.558	−999.000	−999.0
472	4	11.130	11.747	−999.000	−999.0
313	6	17.006	17.327	−999.000	−999.0
180	8	22.488	22.626	−999.000	−999.0
80	10	27.757	27.798	−999.000	−999.0
3	13	29.019	29.018	36.363	193.7

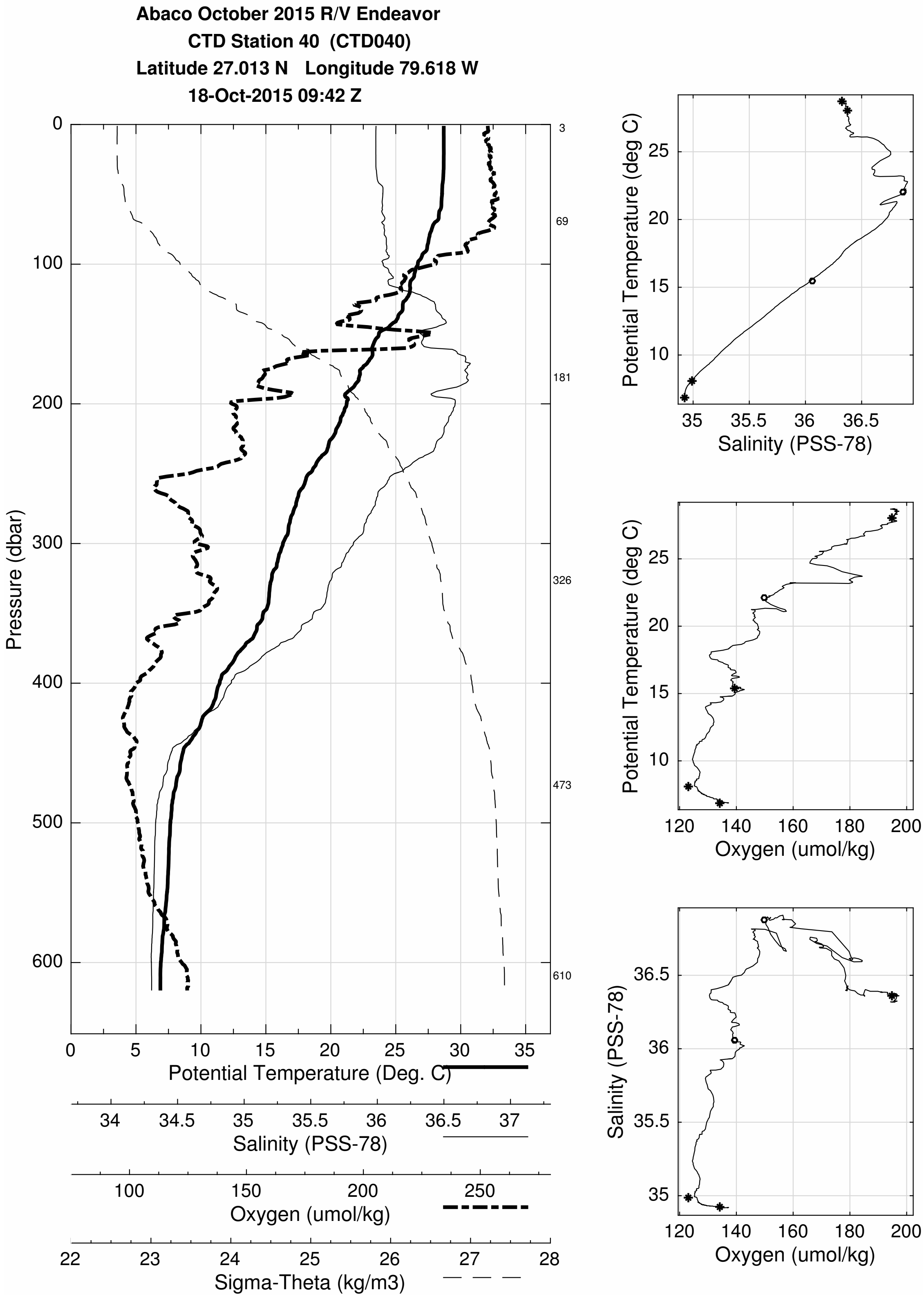


Abaco October 2015 R/V Endeavor
CTD Station 39 (CTD039)
Latitude 27.013 N Longitude 79.502 W
18-Oct-2015 08:07 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
3
79
179
312
472
649
741
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 40 (CTD040)
Latitude 27.013N Longitude 79.618W
18-Oct-2015 09:42Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	28.696	28.696	36.320	195.2	0.005	23.158
10	28.700	28.697	36.319	195.4	0.047	23.156
20	28.705	28.700	36.319	195.9	0.094	23.155
30	28.699	28.692	36.320	195.5	0.141	23.158
50	28.577	28.565	36.363	196.4	0.235	23.233
75	27.783	27.766	36.373	196.0	0.350	23.504
100	26.724	26.701	36.365	185.1	0.456	23.842
125	25.845	25.817	36.649	173.6	0.554	24.335
150	23.730	23.698	36.601	184.3	0.638	24.944
200	21.257	21.218	36.814	145.7	0.767	25.815
250	18.350	18.306	36.435	137.2	0.869	26.295
300	16.359	16.310	36.179	138.7	0.952	26.583
400	11.497	11.445	35.417	127.0	1.090	27.018
500	7.698	7.648	34.945	127.4	1.187	27.283
600	6.966	6.909	34.918	135.9	1.271	27.367

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
610	1	6.948	6.889	34.917	134.0
474	2	8.179	8.130	34.989	123.3
327	4	15.478	15.426	36.055	139.3
182	6	22.025	21.989	36.874	149.9
70	8	28.068	28.051	36.366	194.9
3	10	28.691	28.690	36.319	203.0

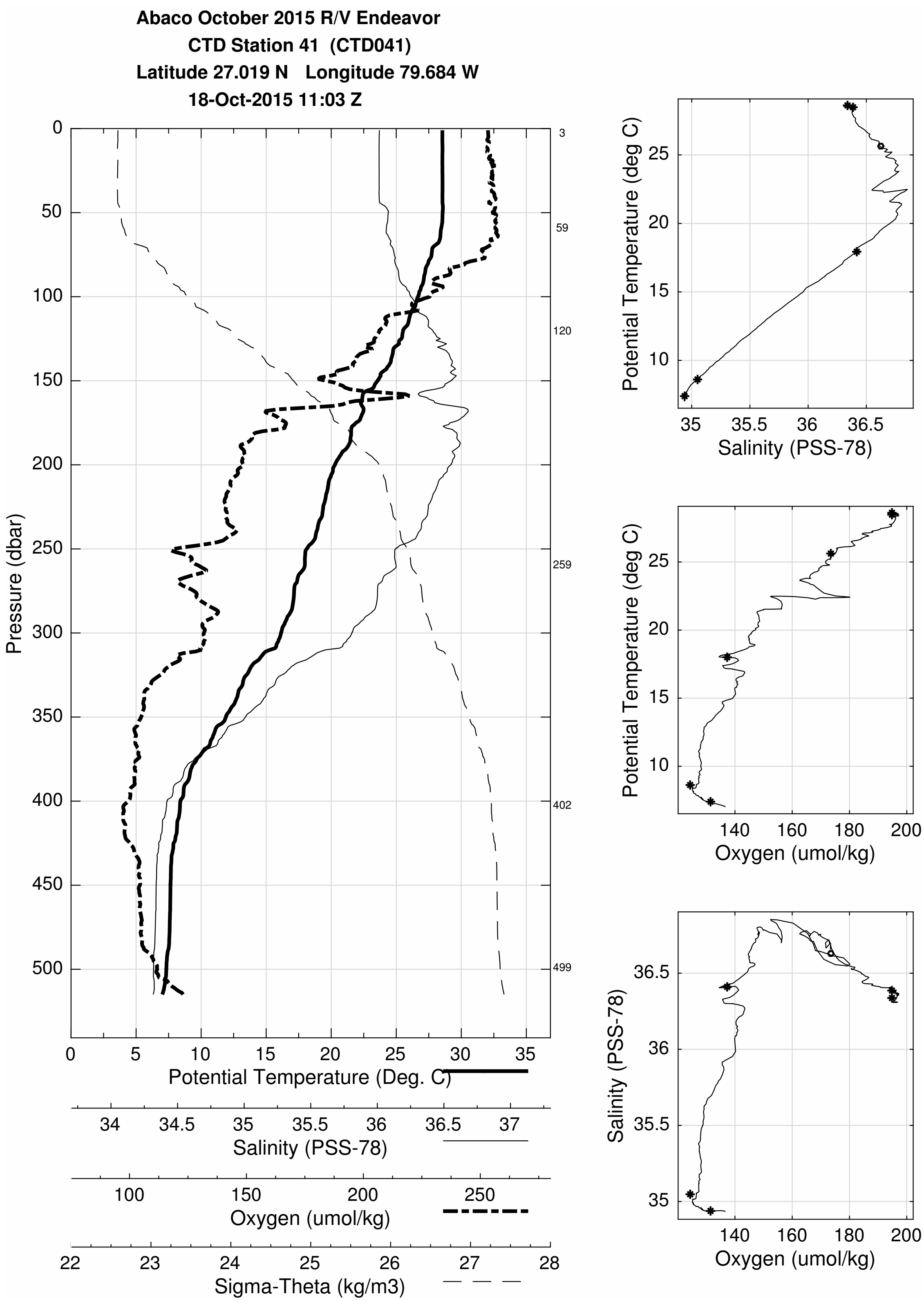


Abaco October 2015 R/V Endeavor
CTD Station 40 (CTD040)
Latitude 27.013 N Longitude 79.618 W
18-Oct-2015 09:42 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 41 (CTD041)
Latitude 27.019N Longitude 79.684W
18-Oct-2015 11:03Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	$\mu mol \cdot kg^{-1}$	$m^2 \cdot s^{-2}$	$kg \cdot m^{-3}$
1	28.546	28.546	36.311	195.2	0.005	23.201
10	28.553	28.551	36.309	195.4	0.047	23.198
20	28.547	28.543	36.309	196.1	0.093	23.200
30	28.563	28.556	36.310	196.2	0.140	23.196
50	28.579	28.567	36.365	196.0	0.234	23.234
75	27.732	27.715	36.401	194.6	0.348	23.542
100	26.696	26.673	36.504	184.1	0.452	23.955
125	25.432	25.404	36.682	173.4	0.546	24.489
150	23.590	23.559	36.746	164.1	0.625	25.095
200	20.326	20.289	36.746	148.3	0.749	26.017
250	18.160	18.116	36.408	134.9	0.846	26.322
300	16.191	16.143	36.143	140.7	0.928	26.595
400	8.445	8.402	35.018	126.2	1.045	27.226
500	7.373	7.324	34.936	131.7	1.131	27.323

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	$\mu mol \cdot kg^{-1}$
499	1	7.378	7.329	34.936	131.2
403	2	8.664	8.620	35.050	124.3
260	4	17.984	17.939	36.413	137.2
121	6	25.710	25.683	36.627	173.3
59	8	28.504	28.490	36.382	194.7
3	10	28.566	28.565	36.335	194.9

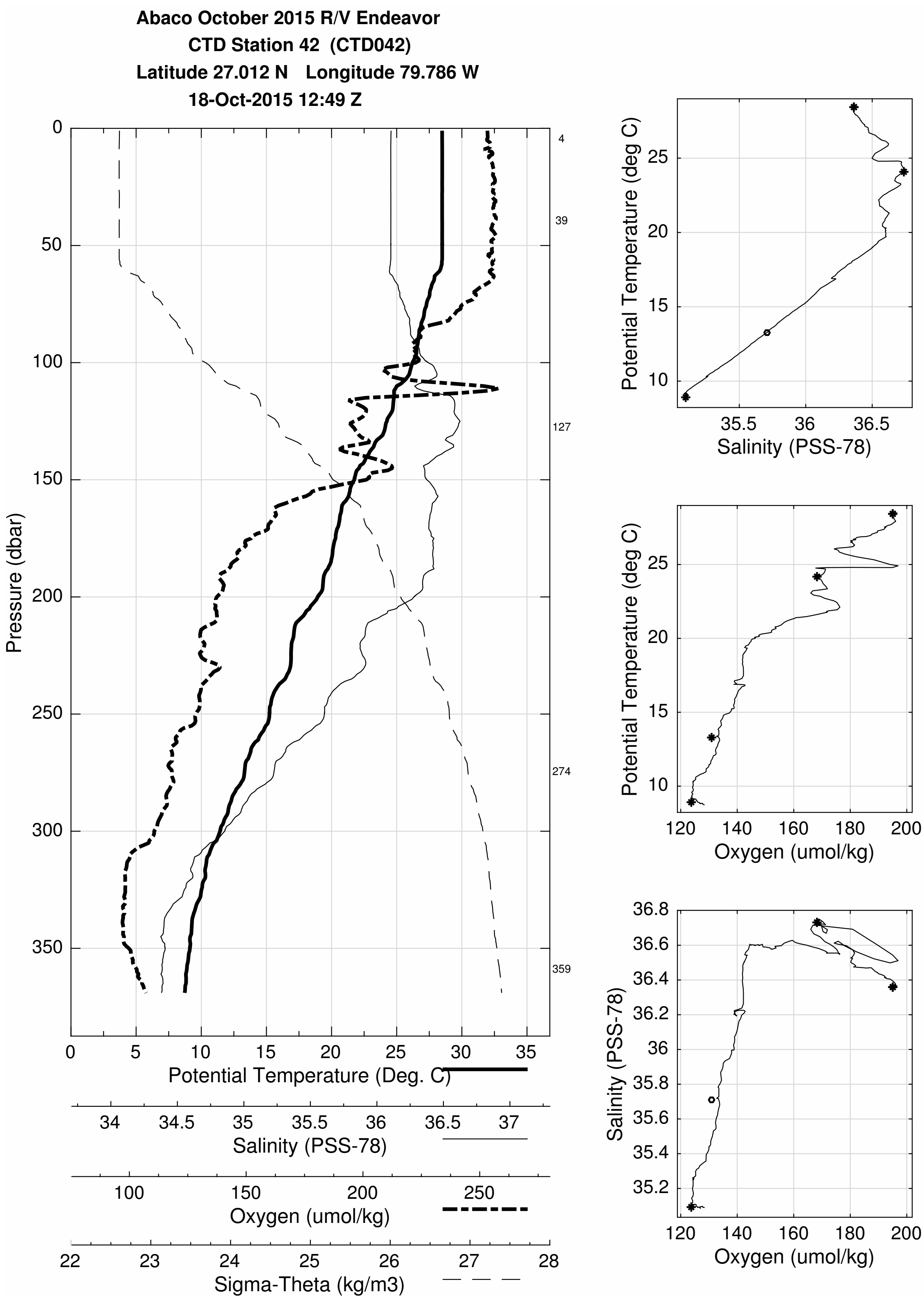


Abaco October 2015 R/V Endeavor
CTD Station 41 (CTD041)
Latitude 27.019 N Longitude 79.684 W
18-Oct-2015 11:03 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
3
59
120
259
402
499
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 42 (CTD042)
Latitude 27.012N Longitude 79.786W
18-Oct-2015 12:49Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	28.486	28.486	36.367	194.8	0.005	23.262
10	28.493	28.491	36.365	195.6	0.046	23.260
20	28.496	28.491	36.365	195.8	0.092	23.259
30	28.493	28.486	36.365	195.9	0.138	23.261
50	28.502	28.490	36.365	195.5	0.231	23.260
75	27.305	27.287	36.436	190.0	0.343	23.707
100	26.226	26.204	36.574	180.9	0.443	24.157
125	24.272	24.245	36.751	168.9	0.529	24.894
150	21.773	21.743	36.566	171.2	0.599	25.480
200	18.965	18.929	36.494	142.2	0.708	26.182
250	15.271	15.232	35.995	138.1	0.789	26.688
300	11.481	11.443	35.440	130.0	0.851	27.037

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
359	1	8.951	8.912	35.093	124.0
275	2	13.306	13.267	35.713	131.1
128	4	24.141	24.114	36.732	168.2
40	6	28.494	28.485	36.362	194.9
5	8	28.484	28.483	36.360	195.0



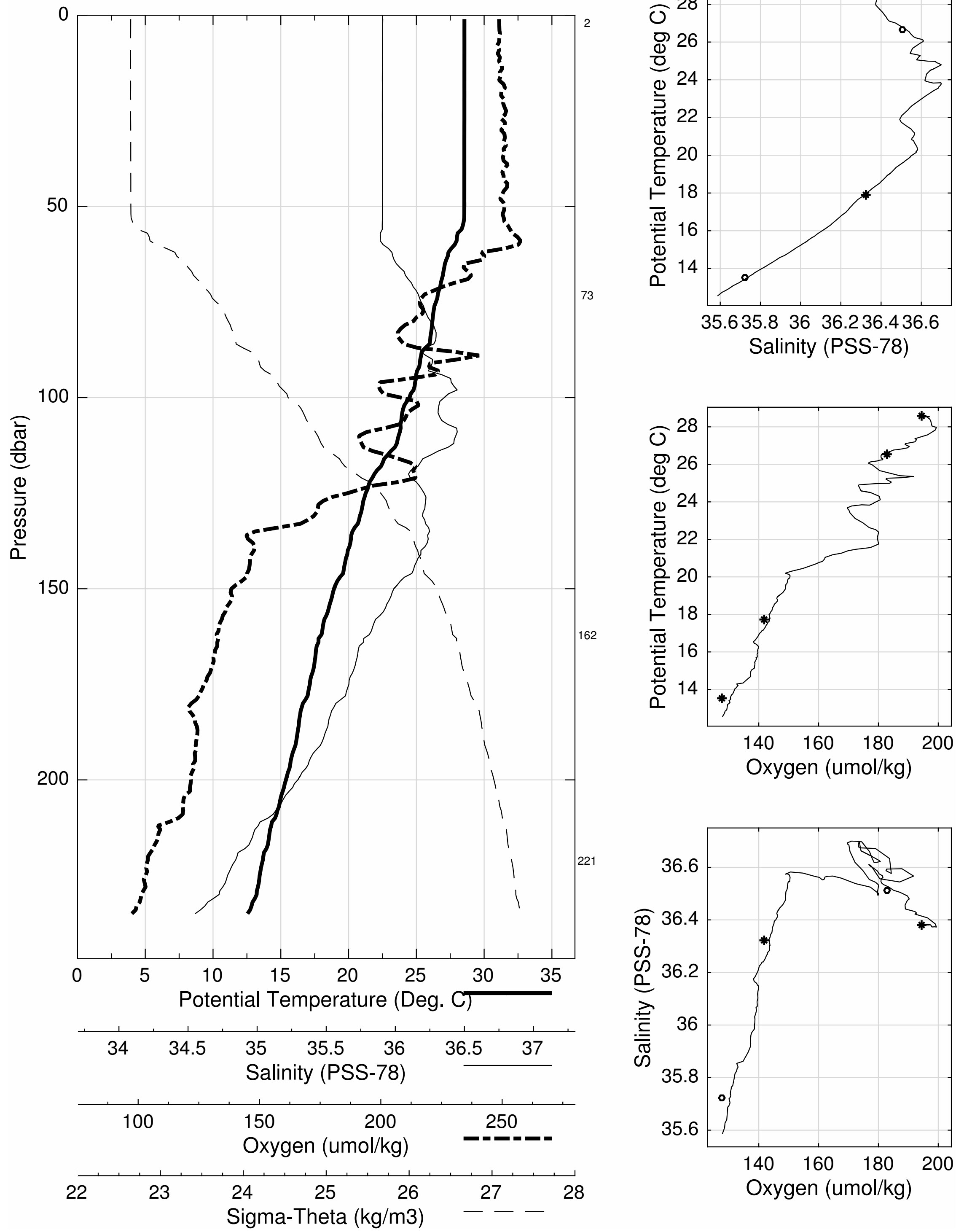
Abaco October 2015 R/V Endeavor
CTD Station 42 (CTD042)
Latitude 27.012 N Longitude 79.786 W
18-Oct-2015 12:49 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Abaco October 2015 R/V Endeavor
CTD Station 43 (CTD043)
Latitude 27.024N Longitude 79.869W
18-Oct-2015 14:08Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	28.546	28.545	36.383	195.4	0.005	23.255
10	28.547	28.545	36.382	195.2	0.046	23.254
20	28.549	28.544	36.382	195.9	0.092	23.254
30	28.549	28.542	36.382	195.8	0.139	23.255
50	28.551	28.539	36.382	196.4	0.231	23.256
75	26.464	26.447	36.546	180.8	0.338	24.060
100	24.519	24.498	36.644	177.3	0.427	24.737
125	21.285	21.261	36.559	167.6	0.499	25.609
150	18.955	18.928	36.430	146.2	0.553	26.133
200	15.413	15.382	36.023	138.7	0.635	26.675

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
221	1	13.597	13.565	35.720	127.4
162	2	17.918	17.890	36.322	141.6
74	4	26.638	26.621	36.511	183.0
2	6	28.549	28.548	36.382	194.7

Abaco October 2015 R/V Endeavor
CTD Station 43 (CTD043)
Latitude 27.024 N Longitude 79.869 W
18-Oct-2015 14:08 Z

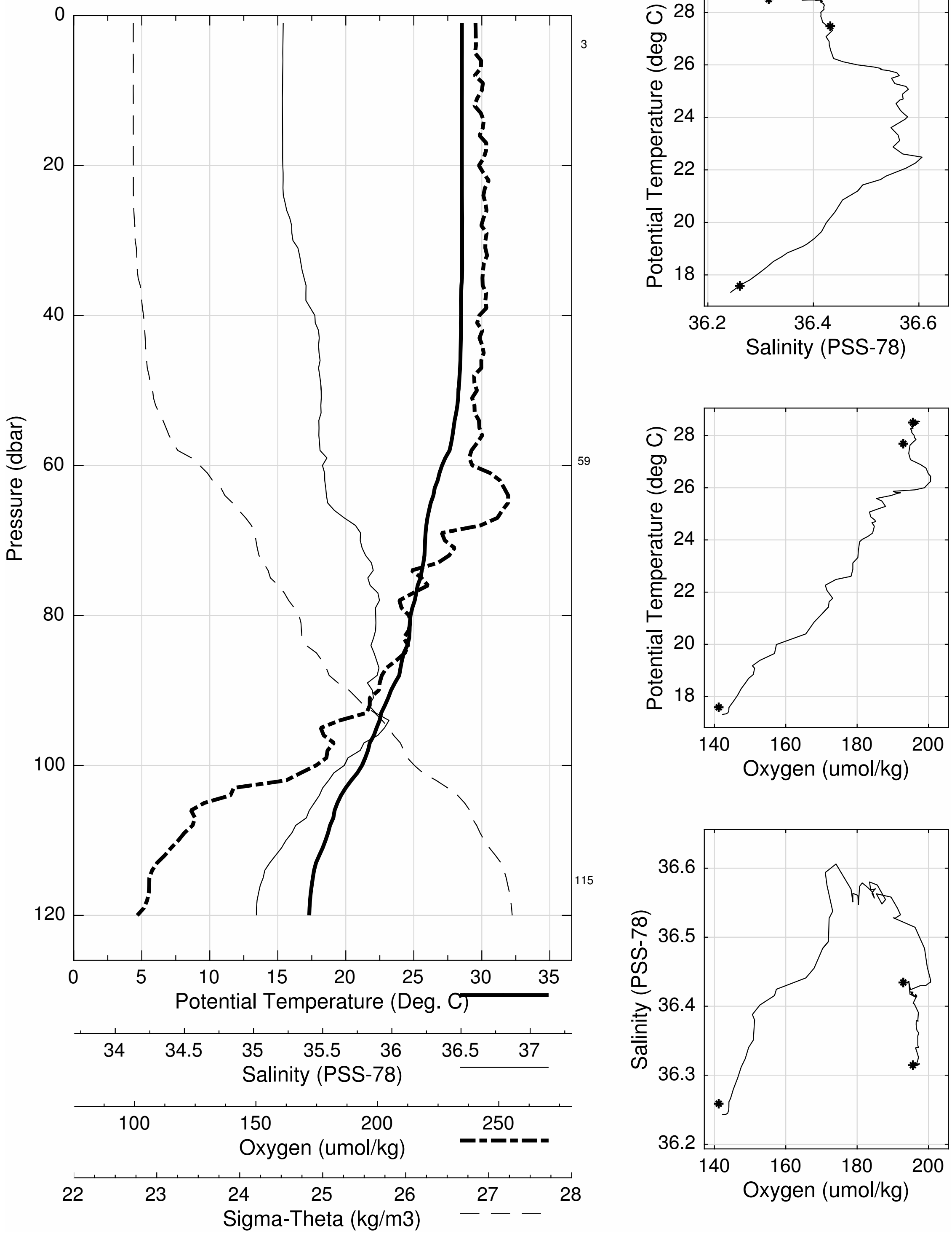


Abaco October 2015 R/V Endeavor
CTD Station 44 (CTD044)
Latitude 27.011N Longitude 79.936W
18-Oct-2015 15:14Z

Pressure	Temp90	PoTemp90	Salinity	Oxygen	DynHt	SigT
dbar	°C	°C	PSS-78	μmol·kg^{-1}	m^2·s^{-2}	kg·m^{-3}
1	28.536	28.536	36.317	195.5	0.005	23.208
10	28.535	28.533	36.315	196.4	0.047	23.208
20	28.537	28.533	36.315	196.0	0.093	23.208
30	28.556	28.549	36.343	197.0	0.140	23.224
50	28.292	28.280	36.420	195.7	0.232	23.371
75	25.507	25.490	36.548	186.9	0.333	24.361
100	21.212	21.193	36.484	170.3	0.408	25.571

Pressure	Niskin	Temp90	PoTemp90	Salinity	Oxygen
dbar		°C	°C	PSS-78	μmol·kg^{-1}
115	1	17.566	17.547	36.260	141.0
60	2	27.456	27.442	36.433	192.9
4	4	28.518	28.517	36.314	195.5

Abaco October 2015 R/V Endeavor
CTD Station 44 (CTD044)
Latitude 27.011 N Longitude 79.936 W
18-Oct-2015 15:14 Z



B WOCE Summary File

Table 16: Abaco Cruise – WOCE Summary File

SHIP/CRS EXPOCODE	WOCE SECT	STN	CAST	CAST TYPE	CAST DATE	UTC TIME	EVENT CODE	LAT	LON	NAV	UNC DPH	HT ABV BTM	WIRE OUT	MAX PRS	NO. BTLS	PARA-METERS	COMMENTS
WBTSEN	AB1510	1	1	ROS	10/05/2015	07:55	BE	25.991N	76.895W	GPS							
WBTSEN	AB1510	1	1	ROS	10/05/2015	09:36	BO	25.956N	76.898W	GPS	4434	20	-999	4513	12	1,2	nisk 1 spring broke,nisk 6 btm o-ring leak
WBTSEN	AB1510	1	1	ROS	10/05/2015	12:15	EN	25.900N	76.903W	GPS							
WBTSEN	AB1510	2	1	ROS	10/05/2015	16:21	BE	26.519N	76.883W	GPS							
WBTSEN	AB1510	2	1	ROS	10/05/2015	16:43	BO	26.510N	76.885W	GPS	734	74	5634	741	8	1,2	nisk 2 did not close, laynard got hung
WBTSEN	AB1510	2	1	ROS	10/05/2015	17:08	EN	26.499N	76.884W	GPS							
WBTSEN	AB1510	3	1	ROS	10/05/2015	18:01	BE	26.496N	76.832W	GPS							
WBTSEN	AB1510	3	1	ROS	10/05/2015	18:33	BO	26.488N	76.834W	GPS	1257	23	5768	1271	14	1,2	nisk 2 leaky petcock
WBTSEN	AB1510	3	1	ROS	10/05/2015	19:15	EN	26.479N	76.841W	GPS							
WBTSEN	AB1510	4	1	ROS	10/05/2015	20:12	BE	26.500N	76.744W	GPS							
WBTSEN	AB1510	4	1	ROS	10/05/2015	21:24	BO	26.489N	76.752W	GPS	3808	19	5592	3870	24	1,2	nisk 14 leaky petcock
WBTSEN	AB1510	4	1	ROS	10/05/2015	23:07	EN	26.476N	76.767W	GPS							
WBTSEN	AB1510	5	1	ROS	10/06/2015	00:20	BE	26.496N	76.653W	GPS							
WBTSEN	AB1510	5	1	ROS	10/06/2015	01:45	BO	26.491N	76.659W	GPS	4599	22	5582	4682	24	1,2	All bottles offset by on carousel
WBTSEN	AB1510	5	1	ROS	10/06/2015	03:38	EN	26.490N	76.673W	GPS							
WBTSEN	AB1510	6	1	ROS	10/06/2015	04:49	BE	26.499N	76.565W	GPS							
WBTSEN	AB1510	6	1	ROS	10/06/2015	06:20	BO	26.500N	76.568W	GPS	4808	70	5609	4897	24	1,2	nisk 8 did not close, stuck tooth
WBTSEN	AB1510	6	1	ROS	10/06/2015	08:20	EN	26.484N	76.542W	GPS							
WBTSEN	AB1510	7	1	ROS	10/06/2015	09:36	BE	26.499N	76.467W	GPS							
WBTSEN	AB1510	7	1	ROS	10/06/2015	11:08	BO	26.488N	76.468W	GPS	4812	23	5314	4902	24	1,2	nisk 8 warmer compared with 7 and 9
WBTSEN	AB1510	7	1	ROS	10/06/2015	13:03	EN	26.476N	76.466W	GPS							
WBTSEN	AB1510	8	1	ROS	10/06/2015	14:19	BE	26.496N	76.347W	GPS							
WBTSEN	AB1510	8	1	ROS	10/06/2015	15:45	BO	26.484N	76.351W	GPS	4808	17	5215	4897	24	1,2	nisk 7 compromised during recovery
WBTSEN	AB1510	8	1	ROS	10/06/2015	17:38	EN	26.467N	76.356W	GPS							
WBTSEN	AB1510	9	1	ROS	10/06/2015	19:04	BE	26.492N	76.216W	GPS							
WBTSEN	AB1510	9	1	ROS	10/06/2015	20:31	BO	26.474N	76.221W	GPS	4786	21	5229	4875	24	1,2	
WBTSEN	AB1510	9	1	ROS	10/06/2015	22:26	EN	26.450N	76.234W	GPS							
WBTSEN	AB1510	10	1	ROS	10/06/2015	23:38	BE	26.498N	76.009W	GPS							
WBTSEN	AB1510	10	1	ROS	10/07/2015	01:04	BO	26.482N	76.087W	GPS	4777	18	4925	4866	24	1,2	nisk 16 compromised during recovery
WBTSEN	AB1510	10	1	ROS	10/07/2015	02:55	EN	26.462N	76.092W	GPS							
WBTSEN	AB1510	11	1	ROS	10/07/2015	04:15	BE	26.495N	75.899W	GPS							
WBTSEN	AB1510	11	1	ROS	10/07/2015	05:40	BO	26.478N	75.899W	GPS	4712	29	4720	4801	24	1,2	
WBTSEN	AB1510	11	1	ROS	10/07/2015	07:38	EN	26.452N	75.901W	GPS							
WBTSEN	AB1510	12	1	ROS	10/07/2015	08:56	BE	26.498N	75.718W	GPS							
WBTSEN	AB1510	12	1	ROS	10/07/2015	10:23	BO	26.482N	75.720W	GPS	4667	27	4537	4751	24	1,2	
WBTSEN	AB1510	12	1	ROS	10/07/2015	12:19	EN	26.460N	75.733W	GPS							
WBTSEN	AB1510	13	1	ROS	10/07/2015	13:47	BE	26.498N	75.501W	GPS							
WBTSEN	AB1510	13	1	ROS	10/07/2015	15:39	BO	26.486N	75.519W	GPS	4662	23	4492	4748	24	1,2	nisk 8 did not fire
WBTSEN	AB1510	13	1	ROS	10/07/2015	17:34	EN	26.475N	75.537W	GPS							
WBTSEN	AB1510	14	1	ROS	10/07/2015	19:03	BE	26.497N	75.301W	GPS							
WBTSEN	AB1510	14	1	ROS	10/07/2015	20:28	BO	26.488N	75.313W	GPS	4621	19	4739	4705	24	1,2	
WBTSEN	AB1510	14	1	ROS	10/07/2015	22:20	EN	26.477N	75.331W	GPS							
WBTSEN	AB1510	15	1	ROS	10/07/2015	23:54	BE	26.499N	75.086W	GPS							
WBTSEN	AB1510	15	1	ROS	10/08/2015	01:17	BO	26.488N	75.087W	GPS	4592	18	4750	4674	24	1,2	
WBTSEN	AB1510	15	1	ROS	10/08/2015	03:06	EN	26.476N	75.092W	GPS							
WBTSEN	AB1510	16	1	ROS	10/08/2015	04:45	BE	26.498N	74.741W	GPS							
WBTSEN	AB1510	16	1	ROS	10/08/2015	06:09	BO	26.481N	74.809W	GPS	4517	22	-999	4598	24	1,2	nisk 8 did not fire
WBTSEN	AB1510	16	1	ROS	10/08/2015	08:00	EN	26.465N	74.808W	GPS							
WBTSEN	AB1510	17	1	ROS	10/08/2015	09:41	BE	26.498N	74.518W	GPS							
WBTSEN	AB1510	17	1	ROS	10/08/2015	11:01	BO	26.489N	74.518W	GPS	4472	23	4761	4551	24	1,2	nisk 8 did not fire
WBTSEN	AB1510	17	1	ROS	10/08/2015	12:54	EN	26.480N	74.519W	GPS							
WBTSEN	AB1510	18	1	ROS	10/08/2015	14:26	BE	26.499N	74.233W	GPS							
WBTSEN	AB1510	18	1	ROS	10/08/2015	15:50	BO	26.493N	74.225W	GPS	4527	24	4820	4607	24	1,2	
WBTSEN	AB1510	18	1	ROS	10/08/2015	17:37	EN	26.484N	74.217W	GPS							
WBTSEN	AB1510	19	1	ROS	10/08/2015	19:32	BE	26.501N	73.865W	GPS							
WBTSEN	AB1510	19	1	ROS	10/08/2015	20:56	BO	26.508N	73.872W	GPS	4713	19	4810	4799	24	1,2	nisk 17 leaking bottom cap
WBTSEN	AB1510	19	1	ROS	10/08/2015	22:52	EN	26.491N	73.883W	GPS							
WBTSEN	AB1510	20	1	ROS	10/09/2015	00:56	BE	26.501N	73.496W	GPS							
WBTSEN	AB1510	20	1	ROS	10/09/2015	02:23	BO	26.498N	73.485W	GPS	4932	22	4770	5024	24	1,2	nisk 7 compromised during recovery
WBTSEN	AB1510	20	1	ROS	10/09/2015	04:18	EN	26.494N	73.472W	GPS							
WBTSEN	AB1510	21	1	ROS	10/09/2015	06:16	BE	26.501N	73.132W	GPS							
WBTSEN	AB1510	21	1	ROS	10/09/2015	07:46	BO	26.498N	73.135W	GPS	5028	22	5094	5122	24	1,2	

WBTSEN	AB1510	21	1	ROS	10/09/2015	09:50	EN	26.487N	73.144W	GPS							
WBTSEN	AB1510	22	1	ROS	10/09/2015	11:56	BE	26.500N	72.768W	GPS							
WBTSEN	AB1510	22	1	ROS	10/09/2015	13:26	BO	26.493N	72.776W	GPS	5106	28	5035	5203	24	1,2	nisk 6 and 7 minor bottom cap drip
WBTSEN	AB1510	22	1	ROS	10/09/2015	15:26	EN	26.481N	72.783W	GPS							
WBTSEN	AB1510	23	1	ROS	10/09/2015	17:40	BE	26.501N	72.383W	GPS							
WBTSEN	AB1510	23	1	ROS	10/09/2015	19:12	BO	26.501N	72.384W	GPS	5164	21	4871	5263	24	1,2	
WBTSEN	AB1510	23	1	ROS	10/09/2015	21:15	EN	26.502N	72.408W	GPS							
WBTSEN	AB1510	24	1	ROS	10/09/2015	23:51	BE	26.501N	71.975W	GPS							
WBTSEN	AB1510	24	1	ROS	10/10/2015	01:24	BO	26.502N	71.997W	GPS	4347	228	4855	5371	23	1,2	
WBTSEN	AB1510	24	1	ROS	10/10/2015	03:29	EN	26.508N	72.019W	GPS							
WBTSEN	AB1510	25	1	ROS	10/10/2015	08:20	BE	26.500N	71.499W	GPS							
WBTSEN	AB1510	25	1	ROS	10/10/2015	09:58	BO	26.506N	71.492W	GPS	5395	29	4691	5501	24	1,2	
WBTSEN	AB1510	25	1	ROS	10/10/2015	12:06	EN	26.511N	71.477W	GPS							
WBTSEN	AB1510	26	1	ROS	10/10/2015	14:35	BE	26.500N	70.997W	GPS							
WBTSEN	AB1510	26	1	ROS	10/10/2015	16:14	BO	26.511N	70.981W	GPS	5465	21	3766	5576	24	1,2	oxygen chemicals left in the sun
WBTSEN	AB1510	26	1	ROS	10/10/2015	18:27	EN	26.529N	70.957W	GPS							
WBTSEN	AB1510	27	1	ROS	10/10/2015	20:57	BE	26.499N	70.498W	GPS							
WBTSEN	AB1510	27	1	ROS	10/10/2015	22:39	BO	26.489N	70.467W	GPS	5471	20	1273	5579	24	1,2	
WBTSEN	AB1510	27	1	ROS	10/11/2015	00:53	EN	26.482N	70.444W	GPS							
WBTSEN	AB1510	28	1	ROS	10/11/2015	03:15	BE	26.499N	69.996W	GPS							
WBTSEN	AB1510	28	1	ROS	10/11/2015	04:54	BO	26.489N	69.983W	GPS	4619	470	470	5577	24	1,2	nisk 12 warm compared to 11 and 13
WBTSEN	AB1510	28	1	ROS	10/11/2015	07:02	EN	26.481N	69.974W	GPS							
WBTSEN	AB1510	29	1	ROS	10/11/2015	09:48	BE	26.500N	69.435W	GPS							
WBTSEN	AB1510	29	1	ROS	10/11/2015	11:25	BO	26.506N	69.489W	GPS	5326	47	285	5430	24	1,2	
WBTSEN	AB1510	29	1	ROS	10/11/2015	13:26	EN	26.504N	69.466W	GPS							
WBTSEN	AB1510	30	1	ROS	10/16/2015	22:33	BE	25.954N	76.895W	GPS							
WBTSEN	AB1510	30	1	ROS	10/16/2015	23:58	BO	25.955N	76.896W	GPS	4369	28	441	4444	12	1,2	nisk 4,17 bottom cap leaking after vented
WBTSEN	AB1510	30	1	ROS	10/17/2015	02:17	EN	25.959N	76.885W	GPS							
WBTSEN	AB1510	31	1	ROS	10/17/2015	15:59	BE	26.434N	78.666W	GPS							
WBTSEN	AB1510	31	1	ROS	10/17/2015	16:17	BO	26.434N	78.667W	GPS	741	33	510	748	7	1,2	nisk 4 bottom cap leaking after vented
WBTSEN	AB1510	31	1	ROS	10/17/2015	16:40	EN	26.435N	78.667W	GPS							
WBTSEN	AB1510	32	1	ROS	10/17/2015	17:31	BE	26.333N	78.715W	GPS							
WBTSEN	AB1510	32	1	ROS	10/17/2015	17:48	BO	26.336N	78.716W	GPS	662	41	686	667	6	1,2	nisk 4 leaked again (replaced bottle)
WBTSEN	AB1510	32	1	ROS	10/17/2015	18:07	EN	26.338N	78.718W	GPS							
WBTSEN	AB1510	33	1	ROS	10/17/2015	18:49	BE	26.251N	78.764W	GPS							
WBTSEN	AB1510	33	1	ROS	10/17/2015	19:04	BO	26.254N	78.765W	GPS	504	106	757	508	6	1,2	
WBTSEN	AB1510	33	1	ROS	10/17/2015	19:22	EN	26.257N	78.767W	GPS							
WBTSEN	AB1510	34	1	ROS	10/17/2015	20:04	BE	26.167N	78.737W	GPS							
WBTSEN	AB1510	34	1	ROS	10/17/2015	20:18	BO	26.168N	78.800W	GPS	436	34	496	439	5	1,2	
WBTSEN	AB1510	34	1	ROS	10/17/2015	20:33	EN	26.170N	78.801W	GPS							
WBTSEN	AB1510	35	1	ROS	10/17/2015	21:22	BE	26.068N	78.848W	GPS							
WBTSEN	AB1510	35	1	ROS	10/17/2015	21:34	BO	26.070N	78.849W	GPS	290	30	610	293	4	1,2	
WBTSEN	AB1510	35	1	ROS	10/17/2015	21:45	EN	26.071N	78.850W	GPS							
WBTSEN	AB1510	36	1	ROS	10/18/2015	04:10	BE	27.003N	79.201W	GPS							
WBTSEN	AB1510	36	1	ROS	10/18/2015	04:24	BO	27.008N	79.203W	GPS	462	36	702	465	5	1,2	
WBTSEN	AB1510	36	1	ROS	10/18/2015	04:39	EN	27.013N	79.206W	GPS							
WBTSEN	AB1510	37	1	ROS	10/18/2015	05:35	BE	27.002N	79.284W	GPS							
WBTSEN	AB1510	37	1	ROS	10/18/2015	05:48	BO	27.008N	79.286W	GPS	594	37	814	600	6	1,2	
WBTSEN	AB1510	37	1	ROS	10/18/2015	06:08	EN	27.016N	79.289W	GPS							
WBTSEN	AB1510	38	1	ROS	10/18/2015	06:46	BE	27.002N	79.384W	GPS							
WBTSEN	AB1510	38	1	ROS	10/18/2015	07:01	BO	27.010N	79.386W	GPS	641	31	714	650	6	1,2	
WBTSEN	AB1510	38	1	ROS	10/18/2015	07:22	EN	27.022N	79.389W	GPS							
WBTSEN	AB1510	39	1	ROS	10/18/2015	08:07	BE	27.006N	79.501W	GPS							
WBTSEN	AB1510	39	1	ROS	10/18/2015	08:24	BO	27.017N	79.502W	GPS	736	39	560	745	7	1,2	Niskins cocked wrong.Only 2 bottles got w
WBTSEN	AB1510	39	1	ROS	10/18/2015	08:50	EN	27.035N	79.503W	GPS							
WBTSEN	AB1510	40	1	ROS	10/18/2015	09:42	BE	27.006N	79.617W	GPS							
WBTSEN	AB1510	40	1	ROS	10/18/2015	09:57	BO	27.018N	79.619W	GPS	605	59	462	620	6	1,2	
WBTSEN	AB1510	40	1	ROS	10/18/2015	10:20	EN	27.036N	79.620W	GPS							
WBTSEN	AB1510	41	1	ROS	10/18/2015	11:03	BE	27.011N	79.684W	GPS							
WBTSEN	AB1510	41	1	ROS	10/18/2015	11:18	BO	27.024N	79.684W	GPS	496	34	332	515	6	1,2	
WBTSEN	AB1510	41	1	ROS	10/18/2015	11:40	EN	27.043N	79.683W	GPS							
WBTSEN	AB1510	42	1	ROS	10/18/2015	12:49	BE	27.006N	79.744W	GPS							
WBTSEN	AB1510	42	1	ROS	10/18/2015	13:00	BO	27.016N	79.786W	GPS	357	29	467	369	5	1,2	
WBTSEN	AB1510	42	1	ROS	10/18/2015	13:16	EN	27.030N	79.787W	GPS							
WBTSEN	AB1510	43	1	ROS	10/18/2015	14:08	BE	27.017N	79.868W	GPS							
WBTSEN	AB1510	43	1	ROS	10/18/2015	14:18	BO	27.026N	79.869W	GPS	220	84	338	235	4	1,2	

WBTSEN	AB1510	43	1	ROS	10/18/2015	14:30	EN	27.037N	79.871W	GPS						
WBTSEN	AB1510	44	1	ROS	10/18/2015	15:14	BE	27.007N	79.935W	GPS						
WBTSEN	AB1510	44	1	ROS	10/18/2015	15:20	BO	27.012N	79.936W	GPS	115	28	483	120	3	1,2
WBTSEN	AB1510	44	1	ROS	10/18/2015	15:28	EN	27.018N	79.938W	GPS						

Note:Parameter 1 - salinity sampled, Parameter 2 - oxygen sampled

C WOCE Bottle Summary File

Table 17: Florida Current Cruise – WOCE Bottle Summary File

SHIP/CRS EXPOCODE	WOCE SECT	STN	CAST	BTL#	BTL# Flag	DATE	UTC TIME	LAT	LON	DEPTH	CTD PRS	CTD TMP	CTD SAL	SAL FLAG	BTL SAL	SAL FLAG	CTD OXY	OXY FLAG	BTL OXY	OXY FLAG
WBTSEN	AB1510	1	1	1	2	20151005	0936	25.956N	76.898W	4434	4511	2.283	34.888	2	-999.000	9	250.6	2	266.9	4
WBTSEN	AB1510	1	1	2	2	20151005	0948	25.953N	76.898W	3933	3996	2.287	34.892	2	34.892	2	265.7	2	268.0	2
WBTSEN	AB1510	1	1	3	2	20151005	1000	25.948N	76.899W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	1	1	4	2	20151005	1017	25.943N	76.900W	3444	3495	2.596	34.913	2	34.913	2	267.1	2	265.1	2
WBTSEN	AB1510	1	1	5	2	20151005	1031	25.939N	76.900W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	1	1	6	2	20151005	1048	25.933N	76.901W	2925	2965	2.985	34.934	2	34.934	2	265.2	2	262.6	2
WBTSEN	AB1510	1	1	7	2	20151005	1104	25.927N	76.902W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	1	1	8	2	20151005	1126	25.918N	76.904W	2455	2486	3.312	34.949	2	34.949	2	264.2	2	263.2	2
WBTSEN	AB1510	1	1	9	2	20151005	1145	25.911N	76.903W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	1	1	10	2	20151005	1158	25.907N	76.903W	1989	2012	3.536	34.958	2	34.957	6	255.6	2	258.5	4
WBTSEN	AB1510	1	1	11	2	20151005	1205	25.904N	76.903W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	1	1	12	2	20151005	1214	25.900N	76.903W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	1	1	13	2	-999.000	-999.000	-999.000N	-999.000W	1502	1518	3.975	34.980	2	34.981	2	253.4	2	146.6	4
WBTSEN	AB1510	1	1	14	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	1	1	15	2	-999.000	-999.000	-999.000N	-999.000W	815	822	8.518	35.158	2	35.153	2	143.6	2	161.8	4
WBTSEN	AB1510	1	1	16	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	1	1	17	2	-999.000	-999.000	-999.000N	-999.000W	553	557	14.922	36.004	2	36.017	4	160.0	2	199.9	4
WBTSEN	AB1510	1	1	18	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	1	1	19	2	-999.000	-999.000	-999.000N	-999.000W	206	207	20.436	36.625	2	36.626	2	196.6	2	194.8	4
WBTSEN	AB1510	1	1	20	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	1	1	21	2	-999.000	-999.000	-999.000N	-999.000W	100	101	24.940	36.663	2	36.668	6	197.0	2	191.8	4
WBTSEN	AB1510	1	1	22	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	1	1	23	2	-999.000	-999.000	-999.000N	-999.000W	4	4	29.206	36.319	2	36.316	2	190.8	2	141.3	4
WBTSEN	AB1510	1	1	24	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	2	1	1	2	20151005	1644	26.510N	76.885W	734	740	9.629	35.252	2	35.254	2	-999.0	9	-999.0	9
WBTSEN	AB1510	2	1	2	2	20151005	1653	26.506N	76.885W	305	307	19.207	36.603	2	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	2	1	3	2	20151005	1655	26.505N	76.885W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	2	1	4	2	20151005	1658	26.504N	76.884W	247	249	20.147	36.638	2	36.637	6	196.0	2	198.5	2
WBTSEN	AB1510	2	1	5	2	20151005	1701	26.502N	76.884W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	2	1	6	2	20151005	1703	26.501N	76.884W	191	193	21.930	36.718	2	36.716	2	189.9	2	189.1	2
WBTSEN	AB1510	2	1	7	2	20151005	1705	26.500N	76.884W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	2	1	8	2	20151005	1707	26.499N	76.884W	141	142	23.805	36.696	2	36.692	2	198.5	2	196.9	6
WBTSEN	AB1510	2	1	9	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	2	1	10	2	-999.000	-999.000	-999.000N	-999.000W	86	87	27.342	36.493	2	36.490	2	203.6	2	204.0	2
WBTSEN	AB1510	2	1	11	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	2	1	12	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	2	1	13	2	-999.000	-999.000	-999.000N	-999.000W	42	42	29.318	36.408	2	36.411	2	193.5	2	193.1	2
WBTSEN	AB1510	2	1	14	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	2	1	15	2	-999.000	-999.000	-999.000N	-999.000W	3	3	29.218	36.331	2	36.335	2	193.2	2	192.6	2
WBTSEN	AB1510	2	1	16	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	2	1	17	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	2	1	18	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	2	1	19	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	2	1	20	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	2	1	21	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	2	1	22	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	2	1	23	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	2	1	24	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	3	1	1	2	20151005	1834	26.488N	76.834W	1257	1270	4.559	35.013	2	35.012	2	249.6	2	247.3	2
WBTSEN	AB1510	3	1	2	2	20151005	1839	26.487N	76.835W	1071	1080	4.908	35.031	2	35.033	2	241.0	2	241.5	2
WBTSEN	AB1510	3	1	3	2	20151005	1841	26.486N	76.836W	992	1001	5.451	35.058	2	35.056	2	226.4	2	224.4	2
WBTSEN	AB1510	3	1	4	2	20151005	1844	26.486N	76.836W	894	902	6.585	35.084	2	35.086	2	190.9	2	190.1	2
WBTSEN	AB1510	3	1	5	2	20151005	1847	26.485N	76.836W	794	801	8.728	35.183	2	35.185	6	149.4	2	150.3	6
WBTSEN	AB1510	3	1	6	2	20151005	1850	26.485N	76.837W	696	702	10.959	35.404	2	35.406	2	140.8	2	140.8	2
WBTSEN	AB1510	3	1	7	2	20151005	1853	26.484N	76.837W	595	600	13.286	35.738	2	35.740	2	148.3	2	148.1	2
WBTSEN	AB1510	3	1	8	2	20151005	1856	26.484N	76.838W	497	501	15.751	36.141	2	36.142	2	173.7	2	171.7	2
WBTSEN	AB1510	3	1	9	2	20151005	1859	26.483N	76.838W	389	392	17.941	36.522	2	36.525	2	189.5	2	187.3	2
WBTSEN	AB1510	3	1	10	2	20151005	1902	26.482N	76.839W	282	284	19.359	36.628	2	36.628	2	184.5	2	229.3	4
WBTSEN	AB1510	3	1	11	2	20151005	1905	26.482N	76.839W	190	192	21.178	36.652	2	36.651	2	197.2	2	198.9	2
WBTSEN	AB1510	3	1	12	2	20151005	1908	26.481N	76.840W	121	122	24.145	36.693	2	36.686	4	203.2	2	199.8	2
WBTSEN	AB1510	3	1	13	2	20151005	1910	26.480N	76.840W	70	70	28.433	36.592	2	36.617	4	205.9	2	203.1	2
WBTSEN	AB1510	3	1	14	2	20151005	1914	26.479N	76.841W	2	2	29.286	36.409	2	36.411	2	193.4	2	192.1	2

WBTSEN	AB1510	3	1	15	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	3	1	16	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	3	1	17	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	3	1	18	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	3	1	19	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	3	1	20	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	3	1	21	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	3	1	22	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	3	1	23	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	3	1	24	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	4	1	1	2	20151005	2125	26.489N	76.752W	3808	3868	2.305	34.894	2	34.895	2	265.9	2	266.0	2
WBTSEN	AB1510	4	1	2	2	20151005	2132	26.488N	76.753W	3494	3546	2.429	34.904	2	34.909	4	268.2	2	269.4	2
WBTSEN	AB1510	4	1	3	2	20151005	2139	26.487N	76.754W	3217	3264	2.665	34.917	2	34.916	2	268.2	2	269.3	2
WBTSEN	AB1510	4	1	4	2	20151005	2144	26.486N	76.755W	2964	3004	2.868	34.929	2	34.931	2	265.8	2	266.8	2
WBTSEN	AB1510	4	1	5	2	20151005	2152	26.486N	76.755W	2666	2700	3.037	34.939	2	34.938	2	264.5	2	265.8	2
WBTSEN	AB1510	4	1	6	2	20151005	2157	26.485N	76.755W	2465	2496	3.178	34.945	2	34.947	2	264.0	2	265.0	2
WBTSEN	AB1510	4	1	7	2	20151005	2203	26.484N	76.757W	2174	2200	3.411	34.956	2	34.958	2	263.7	2	264.0	2
WBTSEN	AB1510	4	1	8	2	20151005	2210	26.484N	76.758W	1879	1900	3.717	34.968	2	34.972	2	254.0	2	283.6	4
WBTSEN	AB1510	4	1	9	2	20151005	2214	26.483N	76.759W	1683	1701	3.925	34.979	2	34.981	2	260.8	2	260.0	2
WBTSEN	AB1510	4	1	10	2	20151005	2219	26.483N	76.760W	1536	1552	4.193	34.991	2	34.992	6	257.6	2	256.3	6
WBTSEN	AB1510	4	1	11	2	20151005	2223	26.482N	76.760W	1387	1401	4.320	35.001	2	35.002	2	255.7	2	254.4	2
WBTSEN	AB1510	4	1	12	2	20151005	2227	26.482N	76.761W	1239	1251	4.562	35.014	2	35.016	2	250.3	2	249.1	2
WBTSEN	AB1510	4	1	13	2	20151005	2231	26.481N	76.762W	1088	1098	5.061	35.042	2	35.043	2	237.7	2	237.0	2
WBTSEN	AB1510	4	1	14	2	20151005	2234	26.480N	76.762W	942	950	6.115	35.076	2	35.078	2	204.5	2	205.3	2
WBTSEN	AB1510	4	1	15	2	20151005	2238	26.480N	76.763W	809	816	8.297	35.144	2	35.146	2	153.9	2	153.5	2
WBTSEN	AB1510	4	1	16	2	20151005	2242	26.479N	76.763W	699	705	11.073	35.417	2	35.422	2	140.5	2	140.8	2
WBTSEN	AB1510	4	1	17	2	20151005	2245	26.479N	76.764W	591	596	14.058	35.860	2	35.874	4	160.6	2	162.7	2
WBTSEN	AB1510	4	1	18	2	20151005	2248	26.479N	76.764W	483	487	16.488	36.267	2	36.277	4	177.2	2	179.3	6
WBTSEN	AB1510	4	1	19	2	20151005	2251	26.478N	76.764W	374	377	17.943	36.518	2	36.521	2	190.0	2	188.6	2
WBTSEN	AB1510	4	1	20	2	20151005	2255	26.477N	76.765W	266	267	19.412	36.606	2	36.608	2	196.4	2	195.2	4
WBTSEN	AB1510	4	1	21	2	20151005	2258	26.477N	76.765W	174	176	21.443	36.670	2	36.675	2	198.0	2	197.5	2
WBTSEN	AB1510	4	1	22	2	20151005	2301	26.477N	76.766W	94	95	25.265	36.651	2	36.643	4	211.9	2	208.6	4
WBTSEN	AB1510	4	1	23	2	20151005	2304	26.476N	76.766W	43	44	29.602	36.635	2	36.640	2	192.1	2	192.1	2
WBTSEN	AB1510	4	1	24	2	20151005	2306	26.476N	76.766W	2	2	29.579	36.637	2	36.638	2	191.0	2	191.8	2
WBTSEN	AB1510	5	1	1	2	20151006	0148	26.490N	76.659W	4599	4681	2.279	34.884	2	34.886	2	248.9	2	194.6	4
WBTSEN	AB1510	5	1	2	2	20151006	0158	26.488N	76.660W	4071	4137	2.295	34.891	2	34.894	2	253.9	2	263.8	4
WBTSEN	AB1510	5	1	3	2	20151006	0206	26.487N	76.661W	3667	3724	2.390	34.900	2	34.901	2	267.8	2	267.8	2
WBTSEN	AB1510	5	1	4	2	20151006	0214	26.488N	76.663W	3254	3301	2.625	34.915	2	34.917	2	268.1	2	268.0	2
WBTSEN	AB1510	5	1	5	2	20151006	0222	26.489N	76.663W	2860	2899	3.008	34.936	2	34.936	2	255.3	2	269.6	4
WBTSEN	AB1510	5	1	6	2	20151006	0228	26.489N	76.664W	2566	2599	3.104	34.941	2	34.940	6	265.0	2	264.9	2
WBTSEN	AB1510	5	1	7	2	20151006	0234	26.490N	76.666W	2272	2299	3.329	34.952	2	34.953	2	263.5	2	264.4	2
WBTSEN	AB1510	5	1	8	2	20151006	0240	26.490N	76.667W	2071	2095	3.576	34.961	2	34.967	4	263.6	2	263.0	2
WBTSEN	AB1510	5	1	9	2	20151006	0244	26.491N	76.668W	1878	1899	3.609	34.963	2	34.964	2	263.8	2	262.4	2
WBTSEN	AB1510	5	1	10	2	20151006	0250	26.491N	76.669W	1585	1601	3.887	34.977	2	34.977	2	261.6	2	262.4	2
WBTSEN	AB1510	5	1	11	2	20151006	0255	26.492N	76.670W	1386	1400	4.184	34.995	2	34.997	2	257.6	2	259.4	2
WBTSEN	AB1510	5	1	12	2	20151006	0259	26.492N	76.671W	1209	1220	4.775	35.028	2	35.029	2	238.4	2	255.4	4
WBTSEN	AB1510	5	1	13	2	20151006	0304	26.493N	76.672W	1034	1044	5.576	35.068	2	35.070	2	216.3	2	243.4	4
WBTSEN	AB1510	5	1	14	2	20151006	0307	26.493N	76.673W	906	914	6.932	35.099	2	35.101	2	175.3	2	219.3	4
WBTSEN	AB1510	5	1	15	2	20151006	0311	26.494N	76.673W	799	806	8.838	35.184	2	35.196	4	144.8	2	181.2	4
WBTSEN	AB1510	5	1	16	2	20151006	0314	26.494N	76.673W	688	694	11.407	35.455	2	35.471	4	138.9	2	146.3	4
WBTSEN	AB1510	5	1	17	2	20151006	0318	26.493N	76.673W	574	578	14.981	36.010	2	36.010	2	165.2	2	140.8	4
WBTSEN	AB1510	5	1	18	2	20151006	0321	26.492N	76.673W	464	467	17.200	36.390	2	36.388	2	179.4	2	163.8	4
WBTSEN	AB1510	5	1	19	2	20151006	0323	26.491N	76.673W	355	358	18.354	36.559	2	36.560	2	186.9	2	183.1	4
WBTSEN	AB1510	5	1	20	2	20151006	0327	26.491N	76.673W	251	253	19.620	36.611	2	36.612	2	194.0	2	187.8	4
WBTSEN	AB1510	5	1	21	2	20151006	0330	26.491N	76.673W	159	160	22.063	36.680	2	36.682	2	205.3	2	196.8	4
WBTSEN	AB1510	5	1	22	2	20151006	0332	26.490N	76.672W	109	110	24.708	36.707	2	36.705	2	219.6	2	149.8	4
WBTSEN	AB1510	5	1	23	2	20151006	0335	26.490N	76.673W	59	60	29.465	36.617	2	36.620	2	190.4	2	221.0	4
WBTSEN	AB1510	5	1	24	2	20151006	0337	26.490N	76.673W	2	2	29.444	36.610	2	36.611	2	192.0	2	192.1	2
WBTSEN	AB1510	6	1	1	2	20151006	0621	26.500N	76.568W	4808	4895	2.288	34.883	2	34.884	6	260.4	2	262.6	6
WBTSEN	AB1510	6	1	2	2	20151006	0626	26.499N	76.566W	4602	4683	2.274	34.886	2	-999.000	9	263.5	2	263.4	2
WBTSEN	AB1510	6	1	3	2	20151006	0636	26.498N	76.564W	4132	4200	2.286	34.890	2	34.888	6	266.7	2	265.9	2
WBTSEN	AB1510	6	1	4	2	20151006	0644	26.497N	76.562W	3742	3801	2.369	34.899	2	34.899	2	267.8	2	268.7	2
WBTSEN	AB1510	6	1	5	2	20151006	0652	26.496N	76.560W	3350	3399	2.485	34.907	2	34.908	2	268.3	2	269.1	2
WBTSEN	AB1510	6	1	6	2	20151006	0700	26.495N	76.558W	2958	2999	2.741	34.922	2	34.925	6	267.7	2	267.9	6
WBTSEN	AB1510	6	1	7	2	20151006	0710	26.494N	76.556W	2470	2501	3.134	34.943	2	34.944	2	263.6	2	264.5	2
WBTSEN	AB1510	6	1	8	2	20151006	0720	26.492N	76.553W	1978	2000	3.613	34.963	2	-999.000	9	-999.0	9	-999.0	9

WBTSEN	AB1510	6	1	9	2	20151006	0725	26.492N	76.552W	1731	1750	3.774	34.972	2	34.972	2	262.3	2	261.1	2
WBTSEN	AB1510	6	1	10	2	20151006	0730	26.491N	76.551W	1520	1535	3.927	34.980	2	34.980	2	261.2	2	258.8	2
WBTSEN	AB1510	6	1	11	2	20151006	0735	26.491N	76.549W	1323	1336	4.487	35.009	2	35.009	2	252.1	2	250.1	2
WBTSEN	AB1510	6	1	12	2	20151006	0740	26.490N	76.548W	1154	1165	4.945	35.034	2	35.035	2	241.3	2	239.3	2
WBTSEN	AB1510	6	1	13	2	20151006	0744	26.490N	76.547W	988	997	6.178	35.081	2	35.082	2	202.0	2	202.5	2
WBTSEN	AB1510	6	1	14	2	20151006	0747	26.489N	76.547W	878	886	7.778	35.129	2	35.131	2	164.5	2	164.2	2
WBTSEN	AB1510	6	1	15	2	20151006	0751	26.489N	76.546W	769	775	9.957	35.285	2	35.286	2	137.1	2	156.5	4
WBTSEN	AB1510	6	1	16	2	20151006	0755	26.489N	76.545W	661	667	12.968	35.675	2	35.680	2	147.9	2	147.3	2
WBTSEN	AB1510	6	1	17	2	20151006	0758	26.488N	76.544W	551	556	15.671	36.119	2	36.114	2	172.3	2	171.9	2
WBTSEN	AB1510	6	1	18	2	20151006	0802	26.488N	76.544W	443	447	17.518	36.448	2	36.451	2	185.7	2	185.3	2
WBTSEN	AB1510	6	1	19	2	20151006	0805	26.487N	76.543W	335	337	18.594	36.566	2	36.565	2	186.1	2	189.4	2
WBTSEN	AB1510	6	1	20	2	20151006	0809	26.487N	76.542W	226	228	20.125	36.628	2	36.622	2	198.6	2	197.6	2
WBTSEN	AB1510	6	1	21	2	20151006	0812	26.486N	76.542W	138	139	23.374	36.747	2	36.745	2	196.2	2	193.2	2
WBTSEN	AB1510	6	1	22	2	20151006	0815	26.485N	76.542W	85	86	25.808	36.650	2	36.649	2	209.0	2	207.8	2
WBTSEN	AB1510	6	1	23	2	20151006	0817	26.485N	76.542W	35	35	29.268	36.591	2	36.590	2	192.8	2	191.8	2
WBTSEN	AB1510	6	1	24	2	20151006	0819	26.484N	76.542W	3	3	29.246	36.591	2	36.591	2	192.8	2	191.5	2
WBTSEN	AB1510	7	1	1	2	20151006	1108	26.488N	76.468W	4812	4900	2.266	34.880	2	34.881	2	246.4	2	263.6	4
WBTSEN	AB1510	7	1	2	2	20151006	1116	26.487N	76.468W	4452	4529	2.269	34.885	2	34.887	2	251.2	2	263.7	4
WBTSEN	AB1510	7	1	3	2	20151006	1124	26.486N	76.468W	4092	4159	2.275	34.889	2	34.890	6	266.7	2	265.2	2
WBTSEN	AB1510	7	1	4	2	20151006	1132	26.485N	76.468W	3713	3771	2.320	34.895	2	34.894	2	267.1	2	267.2	2
WBTSEN	AB1510	7	1	5	2	20151006	1140	26.485N	76.468W	3355	3404	2.468	34.906	2	34.902	2	268.9	2	268.3	2
WBTSEN	AB1510	7	1	6	2	20151006	1149	26.484N	76.467W	2953	2994	2.674	34.920	2	34.919	2	267.9	2	268.2	2
WBTSEN	AB1510	7	1	7	2	20151006	1157	26.484N	76.468W	2547	2580	3.057	34.938	2	34.937	2	265.0	2	265.0	2
WBTSEN	AB1510	7	1	8	2	20151006	1205	26.483N	76.469W	2140	2165	3.461	34.962	2	36.746	4	254.7	2	197.5	4
WBTSEN	AB1510	7	1	9	2	20151006	1211	26.482N	76.469W	1835	1856	3.781	34.973	2	34.973	6	261.7	2	260.3	6
WBTSEN	AB1510	7	1	10	2	20151006	1217	26.481N	76.469W	1578	1595	4.100	34.991	2	34.989	2	257.8	2	255.7	2
WBTSEN	AB1510	7	1	11	2	20151006	1222	26.480N	76.468W	1385	1399	4.381	35.008	2	35.008	2	253.4	2	251.2	2
WBTSEN	AB1510	7	1	12	2	20151006	1226	26.480N	76.468W	1218	1230	4.805	35.022	2	35.022	2	245.3	2	244.4	2
WBTSEN	AB1510	7	1	13	2	20151006	1230	26.479N	76.468W	1049	1059	5.643	35.067	2	35.065	2	220.4	2	218.0	2
WBTSEN	AB1510	7	1	14	2	20151006	1233	26.479N	76.468W	941	950	6.930	35.094	2	35.094	2	181.4	2	181.4	2
WBTSEN	AB1510	7	1	15	2	20151006	1236	26.478N	76.468W	833	840	8.559	35.161	2	35.163	2	150.3	2	148.4	2
WBTSEN	AB1510	7	1	16	2	20151006	1239	26.478N	76.468W	722	728	11.213	35.430	2	35.691	4	136.5	2	149.2	4
WBTSEN	AB1510	7	1	17	2	20151006	1242	26.478N	76.468W	615	620	14.160	35.863	2	35.867	2	163.7	2	162.1	2
WBTSEN	AB1510	7	1	18	2	20151006	1245	26.477N	76.467W	505	509	16.569	36.277	2	36.278	2	180.1	2	179.0	2
WBTSEN	AB1510	7	1	19	2	20151006	1248	26.477N	76.467W	397	400	17.962	36.519	2	36.521	2	188.8	2	187.2	2
WBTSEN	AB1510	7	1	20	2	20151006	1252	26.477N	76.467W	288	290	19.129	36.592	2	36.589	2	194.2	2	191.2	2
WBTSEN	AB1510	7	1	21	2	20151006	1254	26.476N	76.467W	198	200	21.094	36.768	2	36.771	2	184.1	2	180.7	2
WBTSEN	AB1510	7	1	22	2	20151006	1257	26.476N	76.466W	120	121	24.248	36.737	2	36.741	2	198.3	2	197.1	4
WBTSEN	AB1510	7	1	23	2	20151006	1300	26.476N	76.466W	69	69	26.942	36.594	2	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	7	1	24	2	20151006	1303	26.476N	76.466W	4	4	29.250	36.621	2	36.622	2	191.5	2	190.7	2
WBTSEN	AB1510	8	1	1	2	20151006	1547	26.484N	76.351W	4808	4895	2.244	34.878	2	34.877	2	244.6	2	261.9	4
WBTSEN	AB1510	8	1	2	2	20151006	1554	26.483N	76.351W	4502	4580	2.244	34.882	2	34.883	2	249.2	2	262.3	4
WBTSEN	AB1510	8	1	3	2	20151006	1601	26.482N	76.352W	4170	4239	2.253	34.887	2	34.886	2	252.0	2	262.5	4
WBTSEN	AB1510	8	1	4	2	20151006	1608	26.482N	76.352W	3839	3900	2.281	34.892	2	34.892	2	254.3	2	264.2	4
WBTSEN	AB1510	8	1	5	2	20151006	1615	26.481N	76.352W	3510	3563	2.369	34.900	2	34.898	2	256.5	2	266.7	4
WBTSEN	AB1510	8	1	6	2	20151006	1623	26.479N	76.353W	3101	3145	2.589	34.915	2	34.913	2	257.1	2	267.4	4
WBTSEN	AB1510	8	1	7	2	20151006	1631	26.478N	76.354W	2699	2734	2.879	34.933	2	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	8	1	8	2	20151006	1639	26.477N	76.354W	2292	2320	3.288	34.948	2	34.947	6	254.2	2	261.9	4
WBTSEN	AB1510	8	1	9	2	20151006	1646	26.476N	76.354W	1933	1955	3.673	34.967	2	34.966	2	253.8	2	259.7	4
WBTSEN	AB1510	8	1	10	2	20151006	1651	26.475N	76.355W	1680	1698	3.961	34.981	2	34.982	2	251.3	2	256.9	4
WBTSEN	AB1510	8	1	11	2	20151006	1656	26.474N	76.355W	1484	1499	4.313	35.000	2	35.003	2	247.2	2	251.4	4
WBTSEN	AB1510	8	1	12	2	20151006	1659	26.473N	76.355W	1336	1349	4.634	35.018	2	35.017	2	240.5	2	244.8	4
WBTSEN	AB1510	8	1	13	2	20151006	1703	26.472N	76.356W	1165	1176	5.247	35.054	2	35.055	2	225.2	2	228.4	4
WBTSEN	AB1510	8	1	14	2	20151006	1707	26.472N	76.356W	975	984	6.650	35.086	2	35.087	2	181.1	2	185.9	4
WBTSEN	AB1510	8	1	15	2	20151006	1711	26.471N	76.356W	798	805	9.746	35.265	2	35.267	2	138.4	2	140.6	4
WBTSEN	AB1510	8	1	16	2	20151006	1714	26.471N	76.356W	689	694	12.533	35.612	2	35.609	2	145.1	2	146.3	4
WBTSEN	AB1510	8	1	17	2	20151006	1717	26.470N	76.356W	580	585	15.228	36.039	2	36.041	2	162.7	2	164.5	4
WBTSEN	AB1510	8	1	18	2	20151006	1720	26.470N	76.356W	472	476	17.158	36.377	2	36.376	2	178.3	2	179.2	4
WBTSEN	AB1510	8	1	19	2	20151006	1724	26.469N	76.356W	362	365	18.311	36.560	2	36.558	2	185.2	2	185.9	4
WBTSEN	AB1510	8	1	20	2	20151006	1727	26.469N	76.356W	253	255	19.670	36.620	2	36.622	2	188.2	2	191.4	4
WBTSEN	AB1510	8	1	21	2	20151006	1730	26.468N	76.356W	164	165	22.400	36.732	2	36.728	2	185.0	2	191.2	4
WBTSEN	AB1510	8	1	22	2	20151006	1732	26.468N	76.356W	104	105	25.156	36.705	2	36.708	2	200.3	2	199.1	4
WBTSEN	AB1510	8	1	23	2	20151006	1734	26.467N	76.356W	55	56	27.686	36.569	2	36.580	4	210.7	2	210.0	4
WBTSEN	AB1510	8	1	24	2	20151006	1737	26.466N	76.356W	3	3	29.245	36.631	2	36.630	6	191.9	2	191.0	4
WBTSEN	AB1510	9	1	1	2	20151006	2032	26.474N	76.221W	4786	4872	2.244	34.878	2	34.878	2	244.8	2	260.9	4
WBTSEN	AB1510	9	1	2	2	20151006	2040	26.472N	76.221W	4423	4499	2.248	34.884	2	34.883	2	250.2	2	260.7	4

WBTSEN	AB1510	9	1	3	2	20151006	2049	26.471N	76.222W	4033	4098	2.270	34.890	2	34.888	2	253.2	2	264.5	4
WBTSEN	AB1510	9	1	4	2	20151006	2056	26.469N	76.223W	3672	3729	2.326	34.896	2	34.894	2	255.5	2	265.6	4
WBTSEN	AB1510	9	1	5	2	20151006	2104	26.468N	76.224W	3302	3350	2.462	34.908	2	34.897	4	257.0	2	266.4	4
WBTSEN	AB1510	9	1	6	2	20151006	2113	26.466N	76.225W	2812	2850	2.795	34.928	2	34.924	2	255.9	2	263.7	4
WBTSEN	AB1510	9	1	7	2	20151006	2122	26.464N	76.225W	2371	2401	3.212	34.948	2	34.947	2	254.3	2	261.2	4
WBTSEN	AB1510	9	1	8	2	20151006	2129	26.463N	76.226W	2076	2100	3.488	34.960	2	34.959	2	253.5	2	260.3	4
WBTSEN	AB1510	9	1	9	2	20151006	2135	26.462N	76.227W	1761	1780	3.907	34.981	2	34.978	2	251.9	2	257.0	4
WBTSEN	AB1510	9	1	10	2	20151006	2140	26.461N	76.227W	1592	1608	4.133	34.994	2	34.994	2	250.4	2	254.0	4
WBTSEN	AB1510	9	1	11	2	20151006	2144	26.460N	76.227W	1424	1439	4.397	35.006	2	35.005	2	245.9	2	250.1	4
WBTSEN	AB1510	9	1	12	2	20151006	2148	26.459N	76.228W	1257	1269	4.820	35.028	2	35.026	2	236.5	2	240.3	4
WBTSEN	AB1510	9	1	13	2	20151006	2152	26.458N	76.228W	1089	1099	5.724	35.064	2	35.065	2	210.0	2	213.6	4
WBTSEN	AB1510	9	1	14	2	20151006	2156	26.457N	76.229W	927	935	7.470	35.092	2	35.090	2	158.6	2	162.3	4
WBTSEN	AB1510	9	1	15	2	20151006	2159	26.456N	76.229W	819	826	9.296	35.219	2	35.221	2	139.1	2	141.4	4
WBTSEN	AB1510	9	1	16	2	20151006	2202	26.455N	76.230W	709	715	11.987	35.539	2	35.539	6	141.7	2	140.3	4
WBTSEN	AB1510	9	1	17	2	20151006	2206	26.455N	76.230W	602	607	14.524	35.934	2	35.939	2	160.2	2	165.0	4
WBTSEN	AB1510	9	1	18	2	20151006	2209	26.454N	76.231W	491	495	16.962	36.351	2	36.353	2	178.9	2	182.1	4
WBTSEN	AB1510	9	1	19	2	20151006	2212	26.453N	76.231W	383	386	18.169	36.546	2	36.546	2	184.8	2	186.8	4
WBTSEN	AB1510	9	1	20	2	20151006	2215	26.453N	76.232W	274	276	19.248	36.595	2	36.594	2	183.3	2	192.5	4
WBTSEN	AB1510	9	1	21	2	20151006	2218	26.452N	76.233W	184	186	21.822	36.798	2	36.777	4	180.8	2	183.5	4
WBTSEN	AB1510	9	1	22	2	20151006	2220	26.451N	76.233W	114	115	24.795	36.720	2	36.717	2	198.7	2	200.0	4
WBTSEN	AB1510	9	1	23	2	20151006	2222	26.451N	76.234W	65	65	26.967	36.594	2	36.592	2	208.7	2	154.0	4
WBTSEN	AB1510	9	1	24	2	20151006	2225	26.450N	76.234W	2	2	29.200	36.611	2	36.610	2	188.9	2	191.4	4
WBTSEN	AB1510	10	1	1	2	20151007	0105	26.482N	76.087W	4777	4863	2.214	34.874	2	34.871	2	243.1	2	255.2	4
WBTSEN	AB1510	10	1	2	2	20151007	0111	26.481N	76.088W	4521	4600	2.198	34.877	2	34.876	2	246.1	2	256.4	4
WBTSEN	AB1510	10	1	3	2	20151007	0119	26.480N	76.088W	4111	4179	2.220	34.885	2	34.882	2	250.5	2	261.7	4
WBTSEN	AB1510	10	1	4	2	20151007	0126	26.479N	76.088W	3780	3839	2.336	34.896	2	34.894	6	254.9	2	265.5	4
WBTSEN	AB1510	10	1	5	2	20151007	0132	26.478N	76.088W	3448	3499	2.472	34.906	2	34.907	2	256.6	2	266.8	4
WBTSEN	AB1510	10	1	6	2	20151007	0141	26.476N	76.089W	2959	2999	2.747	34.922	2	34.919	2	256.6	2	264.9	4
WBTSEN	AB1510	10	1	7	2	20151007	0151	26.475N	76.089W	2469	2501	3.098	34.945	2	34.945	2	253.1	2	282.1	4
WBTSEN	AB1510	10	1	8	2	20151007	0158	26.473N	76.089W	2075	2099	3.505	34.962	2	34.960	2	254.0	2	259.8	4
WBTSEN	AB1510	10	1	9	2	20151007	0204	26.472N	76.090W	1782	1801	3.876	34.977	2	34.974	2	251.9	2	257.6	4
WBTSEN	AB1510	10	1	10	2	20151007	0209	26.471N	76.090W	1583	1599	4.133	34.991	2	34.988	2	249.1	2	253.4	4
WBTSEN	AB1510	10	1	11	2	20151007	0214	26.470N	76.090W	1357	1370	4.554	35.014	2	35.014	2	242.9	2	246.5	4
WBTSEN	AB1510	10	1	12	2	20151007	0218	26.469N	76.090W	1188	1200	5.121	35.042	2	35.042	2	228.2	2	232.0	4
WBTSEN	AB1510	10	1	13	2	20151007	0222	26.468N	76.090W	1022	1031	6.385	35.077	2	35.079	2	191.2	2	194.1	4
WBTSEN	AB1510	10	1	14	2	20151007	0225	26.468N	76.090W	913	921	7.906	35.122	2	35.119	2	151.3	2	156.1	4
WBTSEN	AB1510	10	1	15	2	20151007	0229	26.467N	76.090W	805	812	9.763	35.251	2	35.255	2	132.9	2	126.5	4
WBTSEN	AB1510	10	1	16	2	20151007	0232	26.466N	76.090W	694	700	12.337	35.599	2	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	10	1	17	2	20151007	0235	26.466N	76.091W	585	590	14.985	36.010	2	36.011	2	160.3	2	162.2	4
WBTSEN	AB1510	10	1	18	2	20151007	0238	26.465N	76.091W	476	480	17.148	36.387	2	36.386	6	179.7	2	180.8	4
WBTSEN	AB1510	10	1	19	2	20151007	0241	26.464N	76.091W	368	371	18.246	36.556	2	36.555	2	185.0	2	185.3	4
WBTSEN	AB1510	10	1	20	2	20151007	0244	26.464N	76.091W	258	259	19.684	36.647	2	36.645	2	190.6	2	186.6	4
WBTSEN	AB1510	10	1	21	2	20151007	0247	26.463N	76.091W	169	170	22.381	36.794	2	36.786	4	184.3	2	183.5	4
WBTSEN	AB1510	10	1	22	2	20151007	0249	26.463N	76.091W	94	94	25.607	36.675	2	36.674	2	206.1	2	204.6	4
WBTSEN	AB1510	10	1	23	2	20151007	0252	26.462N	76.091W	44	44	29.317	36.610	2	36.608	2	190.5	2	188.6	4
WBTSEN	AB1510	10	1	24	2	20151007	0254	26.461N	76.092W	2	2	29.299	36.611	2	36.610	2	190.2	2	190.8	4
WBTSEN	AB1510	11	1	1	2	20151007	0543	26.477N	75.900W	4712	4796	2.244	34.879	2	34.881	6	260.6	2	263.6	2
WBTSEN	AB1510	11	1	2	2	20151007	0549	26.476N	75.899W	4451	4528	2.246	34.883	2	34.883	2	263.3	2	262.3	2
WBTSEN	AB1510	11	1	3	2	20151007	0555	26.475N	75.899W	4179	4248	2.245	34.886	2	34.886	2	265.9	2	263.9	2
WBTSEN	AB1510	11	1	4	2	20151007	0600	26.474N	75.899W	3915	3977	2.276	34.892	2	34.893	2	266.9	2	267.0	2
WBTSEN	AB1510	11	1	5	2	20151007	0606	26.473N	75.899W	3642	3698	2.334	34.897	2	34.893	2	268.2	2	268.2	2
WBTSEN	AB1510	11	1	6	2	20151007	0616	26.471N	75.899W	3158	3203	2.546	34.912	2	34.912	2	268.2	2	269.1	6
WBTSEN	AB1510	11	1	7	2	20151007	0626	26.469N	75.900W	2665	2700	2.937	34.936	2	34.933	2	265.5	2	265.1	2
WBTSEN	AB1510	11	1	8	2	20151007	0635	26.468N	75.900W	2223	2250	3.341	34.955	2	34.953	2	263.3	2	264.3	6
WBTSEN	AB1510	11	1	9	2	20151007	0643	26.466N	75.901W	1881	1902	3.731	34.971	2	34.969	6	261.9	2	264.2	2
WBTSEN	AB1510	11	1	10	2	20151007	0649	26.465N	75.901W	1635	1652	4.048	34.986	2	34.987	2	258.7	2	260.6	2
WBTSEN	AB1510	11	1	11	2	20151007	0655	26.463N	75.901W	1372	1386	4.527	35.011	2	35.012	2	250.8	2	249.7	2
WBTSEN	AB1510	11	1	12	2	20151007	0659	26.462N	75.901W	1206	1218	5.056	35.040	2	35.031	4	236.7	2	236.0	2
WBTSEN	AB1510	11	1	13	2	20151007	0703	26.461N	75.901W	1038	1047	6.278	35.077	2	35.076	2	198.5	2	197.7	2
WBTSEN	AB1510	11	1	14	2	20151007	0707	26.461N	75.901W	927	935	7.702	35.103	2	35.103	2	155.1	2	166.4	4
WBTSEN	AB1510	11	1	15	2	20151007	0710	26.460N	75.901W	829	836	9.407	35.210	2	35.213	6	138.9	2	137.9	2
WBTSEN	AB1510	11	1	16	2	20151007	0713	26.459N	75.901W	709	715	12.182	35.569	2	35.569	2	141.8	2	141.0	2
WBTSEN	AB1510	11	1	17	2	20151007	0716	26.458N	75.901W	602	606	14.686	35.962	2	35.964	2	159.0	2	159.4	2
WBTSEN	AB1510	11	1	18	2	20151007	0720	26.457N	75.901W	492	496	16.676	36.307	2	36.312	2	174.5	2	176.8	2
WBTSEN	AB1510	11	1	19	2	20151007	0723	26.456N	75.901W	386	389	18.019	36.531	2	36.533	2	189.4	2	188.0	2
WBTSEN	AB1510	11	1	20	2	20151007	0727	26.455N	75.901W	275	276	19.177	36.632	2	36.634	2	184.6	2	183.7	2

WBTSEN	AB1510	11	1	21	2	20151007	0729	26.454N	75.901W	185	186	21.224	36.729	2	36.727	2	179.1	2	188.5	4
WBTSEN	AB1510	11	1	22	2	20151007	0732	26.454N	75.901W	121	122	23.890	36.740	2	36.737	2	198.9	2	196.7	4
WBTSEN	AB1510	11	1	23	2	20151007	0734	26.453N	75.901W	70	70	26.900	36.605	2	36.603	2	213.3	2	211.3	2
WBTSEN	AB1510	11	1	24	2	20151007	0737	26.452N	75.901W	3	3	29.343	36.640	2	36.636	2	191.1	2	192.0	2
WBTSEN	AB1510	12	1	1	2	20151007	1025	26.482N	75.721W	4667	4750	2.221	34.877	2	34.880	2	259.9	2	262.9	2
WBTSEN	AB1510	12	1	2	2	20151007	1032	26.480N	75.721W	4343	4417	2.240	34.884	2	34.887	2	264.6	2	262.9	2
WBTSEN	AB1510	12	1	3	2	20151007	1039	26.479N	75.722W	4013	4078	2.258	34.889	2	34.889	6	266.4	2	265.4	2
WBTSEN	AB1510	12	1	4	2	20151007	1046	26.478N	75.723W	3684	3741	2.299	34.895	2	34.896	2	267.1	2	267.6	2
WBTSEN	AB1510	12	1	5	2	20151007	1054	26.477N	75.724W	3352	3401	2.405	34.903	2	34.905	2	268.3	2	268.7	2
WBTSEN	AB1510	12	1	6	2	20151007	1105	26.476N	75.724W	2842	2881	2.743	34.924	2	34.926	2	266.3	2	266.1	2
WBTSEN	AB1510	12	1	7	2	20151007	1113	26.474N	75.725W	2433	2464	3.124	34.946	2	34.946	2	263.1	2	263.4	2
WBTSEN	AB1510	12	1	8	2	20151007	1122	26.472N	75.726W	2028	2052	3.507	34.961	2	34.963	2	263.0	2	262.9	2
WBTSEN	AB1510	12	1	9	2	20151007	1129	26.471N	75.727W	1727	1746	3.891	34.978	2	34.981	2	259.9	2	259.9	2
WBTSEN	AB1510	12	1	10	2	20151007	1135	26.470N	75.727W	1521	1536	4.182	34.994	2	34.996	2	256.5	2	256.2	2
WBTSEN	AB1510	12	1	11	2	20151007	1139	26.469N	75.727W	1353	1366	4.537	35.014	2	35.017	2	251.0	2	249.8	6
WBTSEN	AB1510	12	1	12	2	20151007	1143	26.468N	75.728W	1185	1196	5.077	35.041	2	35.044	2	237.7	2	236.0	2
WBTSEN	AB1510	12	1	13	2	20151007	1148	26.467N	75.729W	1018	1027	6.162	35.074	2	35.077	2	197.0	2	197.3	4
WBTSEN	AB1510	12	1	14	2	20151007	1151	26.467N	75.729W	910	918	7.857	35.108	2	35.110	2	155.1	2	156.4	2
WBTSEN	AB1510	12	1	15	2	20151007	1156	26.466N	75.730W	691	697	12.401	35.600	2	35.602	2	142.7	2	144.0	2
WBTSEN	AB1510	12	1	16	2	20151007	1159	26.465N	75.730W	582	586	14.999	36.013	2	36.019	2	158.5	2	181.1	4
WBTSEN	AB1510	12	1	17	2	20151007	1202	26.464N	75.731W	471	474	16.988	36.361	2	36.363	2	176.5	2	162.5	4
WBTSEN	AB1510	12	1	18	2	20151007	1205	26.464N	75.731W	363	366	18.145	36.548	2	36.547	2	185.3	2	186.3	2
WBTSEN	AB1510	12	1	19	2	20151007	1208	26.463N	75.732W	254	256	19.661	36.650	2	36.652	2	184.5	2	182.3	2
WBTSEN	AB1510	12	1	20	2	20151007	1211	26.462N	75.732W	164	166	22.104	36.769	2	36.761	4	190.0	2	187.9	4
WBTSEN	AB1510	12	1	21	2	20151007	1213	26.462N	75.733W	110	111	24.390	36.734	2	36.733	2	202.6	2	201.6	2
WBTSEN	AB1510	12	1	22	2	20151007	1216	26.461N	75.733W	60	60	27.413	36.582	2	36.573	4	212.9	2	212.7	2
WBTSEN	AB1510	12	1	23	2	20151007	1216	26.461N	75.733W	60	60	27.339	36.584	2	36.572	4	212.8	2	212.5	2
WBTSEN	AB1510	12	1	24	2	20151007	1219	26.460N	75.734W	4	4	28.856	36.312	2	36.312	2	194.2	2	193.3	2
WBTSEN	AB1510	13	1	1	2	20151007	1541	26.486N	75.519W	4662	4745	2.212	34.876	2	34.875	2	259.0	2	260.9	2
WBTSEN	AB1510	13	1	2	2	20151007	1548	26.485N	75.520W	4375	4450	2.245	34.884	2	34.884	6	264.9	2	263.7	6
WBTSEN	AB1510	13	1	3	2	20151007	1554	26.485N	75.521W	4082	4149	2.256	34.888	2	34.887	2	265.9	2	265.6	2
WBTSEN	AB1510	13	1	4	2	20151007	1601	26.485N	75.522W	3789	3849	2.281	34.893	2	34.892	2	267.6	2	267.5	2
WBTSEN	AB1510	13	1	5	2	20151007	1607	26.484N	75.523W	3496	3549	2.350	34.900	2	34.894	4	268.6	2	268.9	2
WBTSEN	AB1510	13	1	6	2	20151007	1615	26.483N	75.525W	3057	3100	2.576	34.915	2	34.914	2	267.9	2	268.7	2
WBTSEN	AB1510	13	1	7	2	20151007	1624	26.482N	75.525W	2664	2699	2.902	34.934	2	34.934	2	264.8	2	265.5	2
WBTSEN	AB1510	13	1	8	2	20151007	1631	26.482N	75.526W	2322	2351	3.215	34.950	2	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	13	1	9	2	20151007	1638	26.481N	75.527W	1976	1999	3.574	34.964	2	34.963	2	262.5	2	263.2	2
WBTSEN	AB1510	13	1	10	2	20151007	1644	26.480N	75.528W	1682	1700	3.895	34.980	2	34.976	2	260.2	2	259.7	2
WBTSEN	AB1510	13	1	11	2	20151007	1650	26.480N	75.530W	1437	1452	4.327	35.002	2	35.000	2	254.7	2	254.0	2
WBTSEN	AB1510	13	1	12	2	20151007	1656	26.479N	75.531W	1195	1206	4.950	35.034	2	35.034	2	241.3	2	240.4	2
WBTSEN	AB1510	13	1	13	2	20151007	1700	26.479N	75.531W	1025	1035	6.198	35.076	2	35.076	6	202.8	2	202.6	6
WBTSEN	AB1510	13	1	14	2	20151007	1703	26.478N	75.532W	919	927	7.613	35.106	2	35.107	2	162.8	2	162.9	2
WBTSEN	AB1510	13	1	15	2	20151007	1707	26.478N	75.533W	810	817	9.583	35.232	2	35.234	2	138.8	2	137.8	2
WBTSEN	AB1510	13	1	16	2	20151007	1710	26.478N	75.533W	701	707	11.943	35.534	2	35.535	2	137.6	2	133.4	4
WBTSEN	AB1510	13	1	17	2	20151007	1713	26.477N	75.534W	592	597	14.611	35.952	2	35.954	2	153.6	2	148.1	4
WBTSEN	AB1510	13	1	18	2	20151007	1716	26.477N	75.534W	482	485	16.612	36.293	2	36.295	2	175.9	2	176.8	2
WBTSEN	AB1510	13	1	19	2	20151007	1719	26.477N	75.535W	372	374	17.948	36.521	2	36.520	2	185.1	2	186.4	2
WBTSEN	AB1510	13	1	20	2	20151007	1723	26.476N	75.535W	262	264	19.389	36.652	2	36.652	2	179.8	2	175.4	4
WBTSEN	AB1510	13	1	21	2	20151007	1726	26.476N	75.536W	173	174	21.598	36.812	2	36.811	2	184.7	2	183.4	2
WBTSEN	AB1510	13	1	22	2	20151007	1729	26.476N	75.536W	84	84	26.012	36.648	2	36.649	2	206.6	2	181.2	4
WBTSEN	AB1510	13	1	23	2	20151007	1731	26.475N	75.536W	34	34	29.255	36.586	2	36.588	2	189.7	2	177.4	4
WBTSEN	AB1510	13	1	24	2	20151007	1734	26.475N	75.537W	2	2	29.306	36.573	2	36.572	2	190.9	2	142.0	4
WBTSEN	AB1510	14	1	1	2	20151007	2030	26.488N	75.314W	4621	4703	2.150	34.870	2	34.870	2	241.2	2	260.5	4
WBTSEN	AB1510	14	1	2	2	20151007	2037	26.488N	75.314W	4286	4359	2.243	34.885	2	34.885	2	264.9	2	264.5	2
WBTSEN	AB1510	14	1	3	2	20151007	2044	26.487N	75.315W	3961	4025	2.262	34.890	2	34.888	2	266.6	2	266.9	2
WBTSEN	AB1510	14	1	4	2	20151007	2051	26.486N	75.316W	3635	3690	2.307	34.896	2	34.895	2	267.7	2	268.3	2
WBTSEN	AB1510	14	1	5	2	20151007	2058	26.486N	75.317W	3302	3350	2.425	34.905	2	34.904	2	268.6	2	266.0	2
WBTSEN	AB1510	14	1	6	2	20151007	2107	26.485N	75.318W	2813	2851	2.776	34.925	2	34.922	2	255.5	2	215.9	4
WBTSEN	AB1510	14	1	7	2	20151007	2114	26.484N	75.319W	2470	2501	3.084	34.944	2	34.943	6	263.5	2	264.3	6
WBTSEN	AB1510	14	1	8	2	20151007	2122	26.484N	75.321W	2075	2100	3.442	34.960	2	34.959	2	262.8	2	263.2	2
WBTSEN	AB1510	14	1	9	2	20151007	2128	26.483N	75.322W	1829	1849	3.696	34.968	2	34.966	2	262.3	2	262.8	2
WBTSEN	AB1510	14	1	10	2	20151007	2134	26.482N	75.323W	1584	1601	4.077	34.989	2	34.987	2	249.8	2	236.2	4
WBTSEN	AB1510	14	1	11	2	20151007	2139	26.482N	75.323W	1377	1391	4.451	35.006	2	35.005	2	252.6	2	251.9	2
WBTSEN	AB1510	14	1	12	2	20151007	2143	26.481N	75.324W	1210	1221	5.006	35.037	2	35.036	2	238.0	2	238.3	2
WBTSEN	AB1510	14	1	13	2	20151007	2147	26.481N	75.325W	1041	1051	6.082	35.073	2	35.073	2	205.1	2	204.4	2
WBTSEN	AB1510	14	1	14	2	20151007	2150	26.480N	75.325W	933	941	7.315	35.085	2	35.086	2	165.4	2	166.7	2

WBTSEN	AB1510	14	1	15	2	20151007	2153	26.480N	75.326W	824	831	9.463	35.218	2	35.218	2	134.9	2	131.5	4
WBTSEN	AB1510	14	1	16	2	20151007	2156	26.480N	75.327W	715	721	11.708	35.502	2	35.503	2	140.4	2	140.5	2
WBTSEN	AB1510	14	1	17	2	20151007	2159	26.479N	75.327W	605	610	14.365	35.912	2	35.912	2	155.6	2	156.0	2
WBTSEN	AB1510	14	1	18	2	20151007	2202	26.479N	75.328W	496	500	16.318	36.242	2	36.241	2	173.1	2	173.3	2
WBTSEN	AB1510	14	1	19	2	20151007	2205	26.478N	75.329W	388	391	17.774	36.498	2	36.497	2	186.5	2	187.3	2
WBTSEN	AB1510	14	1	20	2	20151007	2208	26.478N	75.329W	277	279	18.900	36.618	2	36.616	2	185.2	2	185.0	2
WBTSEN	AB1510	14	1	21	2	20151007	2211	26.478N	75.330W	189	190	21.116	36.751	2	36.746	2	183.9	2	185.7	2
WBTSEN	AB1510	14	1	22	2	20151007	2214	26.477N	75.330W	120	120	23.467	36.743	2	36.743	6	196.4	2	194.1	4
WBTSEN	AB1510	14	1	23	2	20151007	2216	26.477N	75.331W	70	71	26.567	36.627	2	36.578	4	211.1	2	209.9	2
WBTSEN	AB1510	14	1	24	2	20151007	2219	26.477N	75.332W	3	3	28.988	36.339	2	36.337	2	190.5	2	182.7	4
WBTSEN	AB1510	15	1	1	2	20151008	0118	26.488N	75.087W	4592	4673	2.151	34.870	2	34.868	2	256.1	2	258.2	2
WBTSEN	AB1510	15	1	2	2	20151008	0124	26.487N	75.087W	4306	4379	2.226	34.883	2	34.881	2	264.0	2	263.5	2
WBTSEN	AB1510	15	1	3	2	20151008	0130	26.487N	75.087W	4027	4092	2.243	34.888	2	34.885	2	265.8	2	265.8	2
WBTSEN	AB1510	15	1	4	2	20151008	0138	26.486N	75.087W	3737	3795	2.277	34.893	2	34.891	2	254.1	2	211.1	4
WBTSEN	AB1510	15	1	5	2	20151008	0144	26.485N	75.087W	3449	3500	2.357	34.900	2	34.898	2	268.0	2	269.1	2
WBTSEN	AB1510	15	1	6	2	20151008	0154	26.485N	75.087W	2958	2999	2.691	34.922	2	34.917	2	266.4	2	266.9	2
WBTSEN	AB1510	15	1	7	2	20151008	0200	26.484N	75.087W	2616	2650	2.975	34.938	2	34.936	6	264.8	2	265.1	6
WBTSEN	AB1510	15	1	8	2	20151008	0208	26.483N	75.088W	2224	2250	3.376	34.958	2	34.956	2	261.9	2	262.8	2
WBTSEN	AB1510	15	1	9	2	20151008	0216	26.482N	75.088W	1800	1820	3.812	34.974	2	34.973	2	261.1	2	261.4	2
WBTSEN	AB1510	15	1	10	2	20151008	0222	26.482N	75.088W	1531	1546	4.246	34.998	2	34.995	2	255.9	2	255.5	2
WBTSEN	AB1510	15	1	11	2	20151008	0226	26.481N	75.089W	1342	1355	4.641	35.017	2	34.998	4	248.7	2	248.1	2
WBTSEN	AB1510	15	1	12	2	20151008	0230	26.480N	75.089W	1174	1185	5.357	35.053	2	35.052	2	227.9	2	226.7	2
WBTSEN	AB1510	15	1	13	2	20151008	0234	26.480N	75.089W	1006	1015	6.679	35.064	2	35.061	2	171.0	2	180.6	4
WBTSEN	AB1510	15	1	14	2	20151008	0237	26.480N	75.089W	893	901	8.256	35.113	2	35.107	2	147.7	2	146.0	2
WBTSEN	AB1510	15	1	15	2	20151008	0240	26.479N	75.090W	804	811	9.539	35.209	2	35.210	2	135.6	2	134.7	2
WBTSEN	AB1510	15	1	16	2	20151008	0243	26.479N	75.090W	696	702	11.649	35.489	2	35.494	6	139.9	2	138.0	6
WBTSEN	AB1510	15	1	17	2	20151008	0245	26.479N	75.090W	587	591	14.120	35.874	2	35.877	2	153.6	2	154.1	2
WBTSEN	AB1510	15	1	18	2	20151008	0249	26.478N	75.091W	477	481	16.504	36.274	2	36.274	2	181.7	2	180.8	2
WBTSEN	AB1510	15	1	19	2	20151008	0252	26.478N	75.091W	367	370	17.952	36.527	2	36.525	2	189.0	2	187.2	2
WBTSEN	AB1510	15	1	20	2	20151008	0255	26.477N	75.091W	258	260	19.148	36.640	2	36.638	2	183.4	2	183.2	2
WBTSEN	AB1510	15	1	21	2	20151008	0258	26.477N	75.092W	169	170	21.635	36.842	2	36.813	4	186.5	2	184.2	4
WBTSEN	AB1510	15	1	22	2	20151008	0300	26.477N	75.092W	104	105	23.864	36.747	2	36.745	2	204.1	2	202.6	2
WBTSEN	AB1510	15	1	23	2	20151008	0303	26.476N	75.092W	55	55	27.159	36.560	2	36.551	4	212.5	2	211.4	4
WBTSEN	AB1510	15	1	24	2	20151008	0305	26.476N	75.093W	2	2	29.004	36.411	2	36.409	2	193.7	2	193.7	2
WBTSEN	AB1510	16	1	1	2	20151008	0610	26.481N	74.809W	4517	4596	2.188	34.876	2	34.878	2	258.7	2	259.8	2
WBTSEN	AB1510	16	1	2	2	20151008	0616	26.480N	74.809W	4205	4275	2.222	34.884	2	34.885	2	265.0	2	263.9	2
WBTSEN	AB1510	16	1	3	2	20151008	0623	26.478N	74.809W	3888	3950	2.243	34.890	2	34.891	6	266.9	2	266.5	2
WBTSEN	AB1510	16	1	4	2	20151008	0630	26.477N	74.810W	3569	3623	2.311	34.897	2	34.899	2	267.8	2	268.3	2
WBTSEN	AB1510	16	1	5	2	20151008	0637	26.475N	74.810W	3251	3298	2.482	34.909	2	34.909	2	268.6	2	269.3	2
WBTSEN	AB1510	16	1	6	2	20151008	0647	26.474N	74.810W	2765	2802	2.862	34.930	2	34.931	2	265.8	2	266.6	2
WBTSEN	AB1510	16	1	7	2	20151008	0655	26.474N	74.809W	2372	2401	3.233	34.952	2	34.953	2	262.4	2	263.4	2
WBTSEN	AB1510	16	1	8	2	20151008	0701	26.473N	74.809W	2127	2152	3.463	34.963	2	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	16	1	9	2	20151008	0706	26.473N	74.809W	1900	1921	3.738	34.971	2	34.972	2	261.4	2	262.4	6
WBTSEN	AB1510	16	1	10	2	20151008	0713	26.472N	74.808W	1604	1620	4.152	34.992	2	34.992	2	257.1	2	257.1	6
WBTSEN	AB1510	16	1	11	2	20151008	0718	26.472N	74.808W	1382	1396	4.587	35.014	2	35.016	2	249.8	2	249.2	2
WBTSEN	AB1510	16	1	12	2	20151008	0722	26.471N	74.808W	1214	1225	5.197	35.046	2	35.048	2	233.3	2	233.9	2
WBTSEN	AB1510	16	1	13	2	20151008	0726	26.471N	74.808W	1045	1054	6.355	35.048	2	35.048	2	188.2	2	188.0	2
WBTSEN	AB1510	16	1	14	2	20151008	0729	26.470N	74.808W	937	945	7.787	35.111	2	35.111	2	157.7	2	159.9	2
WBTSEN	AB1510	16	1	15	2	20151008	0732	26.470N	74.808W	828	835	9.183	35.183	2	35.185	2	140.0	2	138.2	2
WBTSEN	AB1510	16	1	16	2	20151008	0736	26.469N	74.808W	719	725	11.204	35.433	2	35.435	2	139.9	2	139.9	2
WBTSEN	AB1510	16	1	17	2	20151008	0739	26.469N	74.808W	611	615	13.702	35.806	2	35.807	2	165.3	2	166.0	2
WBTSEN	AB1510	16	1	18	2	20151008	0742	26.468N	74.808W	502	506	16.106	36.202	2	36.205	2	173.1	2	176.3	2
WBTSEN	AB1510	16	1	19	2	20151008	0745	26.468N	74.808W	393	396	17.686	36.485	2	36.485	2	187.8	2	189.2	2
WBTSEN	AB1510	16	1	20	2	20151008	0748	26.467N	74.808W	284	286	18.668	36.586	2	36.584	2	188.2	2	189.2	2
WBTSEN	AB1510	16	1	21	2	20151008	0751	26.467N	74.808W	194	195	20.182	36.654	2	36.654	2	195.8	2	188.1	4
WBTSEN	AB1510	16	1	22	2	20151008	0754	26.466N	74.808W	114	115	23.425	36.730	2	36.733	2	204.9	2	198.8	4
WBTSEN	AB1510	16	1	23	2	20151008	0757	26.466N	74.808W	64	65	26.972	36.566	2	36.608	4	213.2	2	212.8	2
WBTSEN	AB1510	16	1	24	2	20151008	0759	26.465N	74.808W	3	3	28.853	36.452	2	36.450	2	193.9	2	193.7	2
WBTSEN	AB1510	17	1	1	2	20151008	1103	26.489N	74.518W	4472	4550	2.173	34.875	2	34.876	2	259.1	2	262.5	2
WBTSEN	AB1510	17	1	2	2	20151008	1111	26.488N	74.518W	4132	4200	2.204	34.883	2	34.885	2	264.3	2	264.2	2
WBTSEN	AB1510	17	1	3	2	20151008	1116	26.488N	74.518W	3937	4000	2.227	34.888	2	34.890	2	266.2	2	266.7	2
WBTSEN	AB1510	17	1	4	2	20151008	1122	26.488N	74.518W	3624	3679	2.296	34.895	2	34.897	2	267.6	2	269.0	2
WBTSEN	AB1510	17	1	5	2	20151008	1129	26.487N	74.518W	3351	3400	2.426	34.904	2	34.906	2	268.9	2	270.2	2
WBTSEN	AB1510	17	1	6	2	20151008	1137	26.487N	74.518W	2959	2999	2.710	34.924	2	34.934	4	266.3	2	266.2	6
WBTSEN	AB1510	17	1	7	2	20151008	1145	26.486N	74.518W	2568	2601	3.085	34.944	2	34.945	2	262.7	2	264.3	2
WBTSEN	AB1510	17	1	8	2	20151008	1154	26.486N	74.518W	2176	2201	3.494	34.963	2	-999.000	9	-999.0	9	-999.0	9

WBTSEN	AB1510	17	1	9	2	20151008	1200	26.485N	74.519W	1830	1850	3.857	34.977	2	34.976	2	260.8	2	261.3	6
WBTSEN	AB1510	17	1	10	2	20151008	1207	26.485N	74.519W	1534	1550	4.315	34.999	2	35.000	2	254.8	2	254.9	2
WBTSEN	AB1510	17	1	11	2	20151008	1212	26.484N	74.519W	1341	1354	4.747	35.024	2	35.025	6	244.2	2	246.2	2
WBTSEN	AB1510	17	1	12	2	20151008	1215	26.484N	74.519W	1173	1184	5.484	35.057	2	35.059	2	224.8	2	225.4	2
WBTSEN	AB1510	17	1	13	2	20151008	1219	26.484N	74.519W	1005	1014	6.970	35.077	2	35.078	2	174.7	2	176.1	2
WBTSEN	AB1510	17	1	14	2	20151008	1222	26.483N	74.519W	897	905	8.167	35.105	2	35.105	2	147.3	2	146.8	2
WBTSEN	AB1510	17	1	15	2	20151008	1225	26.483N	74.519W	789	795	9.904	35.267	2	35.269	2	137.9	2	138.1	2
WBTSEN	AB1510	17	1	16	2	20151008	1229	26.483N	74.519W	679	685	12.071	35.558	2	35.561	2	144.5	2	145.3	2
WBTSEN	AB1510	17	1	17	2	20151008	1232	26.483N	74.519W	570	575	14.688	35.958	2	35.960	2	165.8	2	166.3	2
WBTSEN	AB1510	17	1	18	2	20151008	1235	26.483N	74.519W	462	465	16.867	36.334	2	36.335	2	182.4	2	183.3	2
WBTSEN	AB1510	17	1	19	2	20151008	1238	26.482N	74.519W	351	354	18.140	36.540	2	36.540	2	187.8	2	188.9	2
WBTSEN	AB1510	17	1	20	2	20151008	1241	26.482N	74.519W	243	245	19.295	36.593	2	36.592	2	193.2	2	192.7	2
WBTSEN	AB1510	17	1	21	2	20151008	1244	26.482N	74.519W	154	155	20.854	36.654	2	36.652	6	197.7	2	197.9	2
WBTSEN	AB1510	17	1	22	2	20151008	1246	26.481N	74.519W	94	95	24.330	36.718	2	36.716	2	214.0	2	223.4	4
WBTSEN	AB1510	17	1	23	2	20151008	1249	26.481N	74.519W	44	45	29.093	36.458	2	36.464	2	192.7	2	194.2	2
WBTSEN	AB1510	17	1	24	2	20151008	1251	26.481N	74.519W	4	4	29.091	36.460	2	36.459	2	192.9	2	193.1	2
WBTSEN	AB1510	18	1	1	2	20151008	1551	26.493N	74.225W	4527	4606	2.139	34.870	2	34.868	2	256.2	2	253.3	2
WBTSEN	AB1510	18	1	2	2	20151008	1558	26.493N	74.225W	4204	4274	2.202	34.882	2	34.883	2	264.2	2	262.7	2
WBTSEN	AB1510	18	1	3	2	20151008	1605	26.493N	74.224W	3887	3949	2.246	34.889	2	34.885	6	266.5	2	266.7	6
WBTSEN	AB1510	18	1	4	2	20151008	1611	26.493N	74.223W	3570	3625	2.320	34.897	2	34.898	2	268.1	2	269.0	2
WBTSEN	AB1510	18	1	5	2	20151008	1618	26.493N	74.222W	3252	3299	2.503	34.910	2	34.909	2	256.3	2	258.4	4
WBTSEN	AB1510	18	1	6	2	20151008	1625	26.492N	74.222W	2861	2900	2.819	34.929	2	34.927	2	265.3	2	266.2	2
WBTSEN	AB1510	18	1	7	2	20151008	1633	26.491N	74.221W	2469	2500	3.194	34.951	2	34.952	2	251.9	2	284.4	4
WBTSEN	AB1510	18	1	8	2	20151008	1641	26.490N	74.220W	2076	2100	3.536	34.960	2	34.961	2	262.6	2	259.5	2
WBTSEN	AB1510	18	1	9	2	20151008	1647	26.490N	74.220W	1781	1800	3.875	34.978	2	34.977	2	260.7	2	260.8	2
WBTSEN	AB1510	18	1	10	2	20151008	1652	26.489N	74.219W	1583	1600	4.158	34.990	2	34.991	2	257.1	2	255.6	2
WBTSEN	AB1510	18	1	11	2	20151008	1656	26.489N	74.219W	1387	1400	4.567	35.014	2	35.016	2	241.0	2	233.5	4
WBTSEN	AB1510	18	1	12	2	20151008	1701	26.488N	74.218W	1189	1200	5.295	35.052	2	35.051	2	229.8	2	227.8	2
WBTSEN	AB1510	18	1	13	2	20151008	1705	26.488N	74.218W	1035	1045	6.506	35.074	2	35.074	6	188.2	2	189.5	6
WBTSEN	AB1510	18	1	14	2	20151008	1708	26.488N	74.218W	926	934	7.878	35.108	2	35.107	2	153.2	2	156.0	2
WBTSEN	AB1510	18	1	15	2	20151008	1710	26.487N	74.217W	819	826	9.408	35.213	2	35.214	2	139.0	2	138.5	2
WBTSEN	AB1510	18	1	16	2	20151008	1714	26.487N	74.217W	710	716	12.101	35.572	2	35.571	2	150.3	2	151.9	2
WBTSEN	AB1510	18	1	17	2	20151008	1717	26.487N	74.217W	601	606	14.524	35.930	2	35.931	2	162.8	2	163.4	2
WBTSEN	AB1510	18	1	18	2	20151008	1720	26.486N	74.217W	491	495	16.838	36.328	2	36.322	4	181.6	2	181.4	2
WBTSEN	AB1510	18	1	19	2	20151008	1723	26.486N	74.217W	383	386	18.029	36.529	2	36.529	2	188.7	2	189.3	2
WBTSEN	AB1510	18	1	20	2	20151008	1726	26.486N	74.217W	273	275	18.996	36.587	2	36.588	2	190.8	2	191.6	2
WBTSEN	AB1510	18	1	21	2	20151008	1729	26.485N	74.217W	183	185	20.313	36.648	2	36.648	2	188.2	2	185.8	2
WBTSEN	AB1510	18	1	22	2	20151008	1731	26.485N	74.217W	119	120	22.572	36.689	2	36.694	2	191.2	2	190.5	4
WBTSEN	AB1510	18	1	23	2	20151008	1733	26.485N	74.217W	70	70	25.667	36.649	2	36.648	2	207.8	2	206.8	2
WBTSEN	AB1510	18	1	24	2	20151008	1736	26.484N	74.217W	2	2	29.336	36.457	2	36.474	4	193.7	2	193.6	2
WBTSEN	AB1510	19	1	1	2	20151008	2057	26.508N	73.873W	4713	4798	2.169	34.871	2	34.871	2	255.7	2	256.4	2
WBTSEN	AB1510	19	1	2	2	20151008	2105	26.508N	73.873W	4375	4450	2.243	34.884	2	34.884	2	265.7	2	263.3	2
WBTSEN	AB1510	19	1	3	2	20151008	2111	26.507N	73.874W	4063	4130	2.243	34.888	2	34.888	2	265.5	2	265.3	2
WBTSEN	AB1510	19	1	4	2	20151008	2118	26.506N	73.875W	3761	3820	2.274	34.893	2	34.893	2	266.9	2	267.6	2
WBTSEN	AB1510	19	1	5	2	20151008	2125	26.505N	73.875W	3449	3501	2.393	34.903	2	34.903	6	268.3	2	269.3	6
WBTSEN	AB1510	19	1	6	2	20151008	2133	26.504N	73.874W	3058	3101	2.684	34.921	2	34.921	2	266.6	2	267.3	2
WBTSEN	AB1510	19	1	7	2	20151008	2141	26.503N	73.875W	2664	2699	2.999	34.939	2	34.942	2	263.0	2	264.6	2
WBTSEN	AB1510	19	1	8	2	20151008	2148	26.501N	73.876W	2270	2298	3.352	34.954	2	34.955	2	263.2	2	263.5	2
WBTSEN	AB1510	19	1	9	2	20151008	2155	26.499N	73.877W	1927	1948	3.704	34.969	2	34.969	2	262.2	2	262.1	2
WBTSEN	AB1510	19	1	10	2	20151008	2203	26.498N	73.877W	1583	1599	4.197	34.995	2	35.000	4	256.5	2	254.8	2
WBTSEN	AB1510	19	1	11	2	20151008	2207	26.497N	73.878W	1388	1401	4.596	35.016	2	35.016	2	248.8	2	248.5	2
WBTSEN	AB1510	19	1	12	2	20151008	2212	26.496N	73.878W	1218	1229	5.224	35.050	2	35.049	2	231.8	2	231.3	2
WBTSEN	AB1510	19	1	13	2	20151008	2216	26.495N	73.879W	1050	1060	6.326	35.074	2	35.074	2	194.5	2	195.2	2
WBTSEN	AB1510	19	1	14	2	20151008	2219	26.494N	73.879W	943	951	7.508	35.079	2	35.080	2	159.6	2	159.3	2
WBTSEN	AB1510	19	1	15	2	20151008	2222	26.494N	73.879W	836	843	9.343	35.232	2	35.234	2	145.3	2	144.5	2
WBTSEN	AB1510	19	1	16	2	20151008	2226	26.493N	73.880W	728	734	11.937	35.544	2	35.548	6	148.8	2	148.2	2
WBTSEN	AB1510	19	1	17	2	20151008	2229	26.493N	73.880W	616	621	14.390	35.910	2	35.912	2	161.0	2	162.3	2
WBTSEN	AB1510	19	1	18	2	20151008	2233	26.493N	73.881W	507	510	16.675	36.301	2	36.299	2	183.2	2	183.4	2
WBTSEN	AB1510	19	1	19	2	20151008	2236	26.493N	73.881W	397	400	17.913	36.516	2	36.515	2	188.4	2	190.0	2
WBTSEN	AB1510	19	1	20	2	20151008	2239	26.492N	73.882W	288	290	18.791	36.574	2	36.572	2	190.6	2	190.5	2
WBTSEN	AB1510	19	1	21	2	20151008	2242	26.492N	73.882W	198	200	19.755	36.608	2	36.608	2	198.2	2	197.9	2
WBTSEN	AB1510	19	1	22	2	20151008	2244	26.492N	73.882W	109	110	22.460	36.683	2	36.686	2	214.0	2	213.2	2
WBTSEN	AB1510	19	1	23	2	20151008	2247	26.492N	73.883W	59	59	26.830	36.622	2	36.623	2	212.5	2	215.5	2
WBTSEN	AB1510	19	1	24	2	20151008	2250	26.492N	73.883W	3	3	28.989	36.460	2	36.457	2	194.4	2	194.9	2
WBTSEN	AB1510	20	1	1	2	20151009	0227	26.498N	73.485W	4932	5022	2.202	34.871	2	34.873	2	258.1	2	255.3	2
WBTSEN	AB1510	20	1	2	2	20151009	0234	26.497N	73.484W	4599	4680	2.259	34.883	2	34.881	2	264.1	2	263.4	2

WBTSEN	AB1510	20	1	3	2	20151009	0241	26.497N	73.483W	4229	4300	2.274	34.889	2	34.888	2	265.6	2	264.2	2
WBTSEN	AB1510	20	1	4	2	20151009	0247	26.497N	73.482W	3936	3999	2.302	34.893	2	34.892	2	253.2	2	271.0	4
WBTSEN	AB1510	20	1	5	2	20151009	0254	26.497N	73.481W	3595	3650	2.405	34.902	2	34.902	2	268.0	2	270.2	2
WBTSEN	AB1510	20	1	6	2	20151009	0302	26.497N	73.481W	3204	3250	2.616	34.916	2	34.917	2	266.9	2	269.0	2
WBTSEN	AB1510	20	1	7	2	20151009	0311	26.496N	73.479W	2714	2750	2.970	34.937	2	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	20	1	8	2	20151009	0320	26.496N	73.478W	2223	2250	3.404	34.958	2	34.959	2	262.7	2	263.5	2
WBTSEN	AB1510	20	1	9	2	20151009	0328	26.496N	73.477W	1830	1850	3.817	34.975	2	34.976	2	261.0	2	261.3	6
WBTSEN	AB1510	20	1	10	2	20151009	0335	26.496N	73.476W	1484	1499	4.304	35.001	2	35.001	2	254.3	2	254.3	2
WBTSEN	AB1510	20	1	11	2	20151009	0338	26.496N	73.476W	1322	1335	4.667	35.021	2	35.021	2	246.8	2	247.2	6
WBTSEN	AB1510	20	1	12	2	20151009	0342	26.496N	73.476W	1154	1164	5.298	35.052	2	35.052	2	229.7	2	229.2	2
WBTSEN	AB1510	20	1	13	2	20151009	0346	26.495N	73.475W	986	995	6.552	35.072	2	35.073	2	186.7	2	186.5	2
WBTSEN	AB1510	20	1	14	2	20151009	0349	26.495N	73.475W	878	885	8.158	35.140	2	35.145	2	146.0	2	155.6	4
WBTSEN	AB1510	20	1	15	2	20151009	0352	26.495N	73.474W	768	775	10.495	35.375	2	35.374	2	145.0	2	155.6	4
WBTSEN	AB1510	20	1	16	2	20151009	0355	26.495N	73.474W	660	665	13.022	35.692	2	35.693	2	152.7	2	151.7	2
WBTSEN	AB1510	20	1	17	2	20151009	0358	26.495N	73.474W	551	555	15.546	36.101	2	36.099	2	170.4	2	171.3	2
WBTSEN	AB1510	20	1	18	2	20151009	0401	26.495N	73.474W	441	445	17.420	36.435	2	36.433	2	184.0	2	171.2	4
WBTSEN	AB1510	20	1	19	2	20151009	0404	26.495N	73.473W	332	335	18.329	36.554	2	36.555	2	190.1	2	191.1	2
WBTSEN	AB1510	20	1	20	2	20151009	0407	26.494N	73.473W	223	225	19.325	36.588	2	36.587	2	195.1	2	195.3	2
WBTSEN	AB1510	20	1	21	2	20151009	0410	26.494N	73.473W	134	135	20.699	36.590	2	36.592	2	207.8	2	206.3	2
WBTSEN	AB1510	20	1	22	2	20151009	0412	26.494N	73.473W	84	85	23.107	36.699	2	36.696	2	220.2	2	218.6	2
WBTSEN	AB1510	20	1	23	2	20151009	0414	26.494N	73.472W	35	35	28.623	36.678	2	36.677	2	194.4	2	195.2	2
WBTSEN	AB1510	20	1	24	2	20151009	0418	26.494N	73.472W	2	2	28.825	36.559	2	-999.000	9	194.3	2	194.6	2
WBTSEN	AB1510	21	1	1	2	20151009	0747	26.498N	73.135W	5028	5121	2.132	34.861	2	34.863	6	239.3	2	258.5	4
WBTSEN	AB1510	21	1	2	2	20151009	0754	26.498N	73.135W	4753	4839	2.234	34.878	2	34.880	2	260.5	2	260.6	2
WBTSEN	AB1510	21	1	3	2	20151009	0800	26.497N	73.135W	4472	4549	2.263	34.885	2	34.886	2	264.4	2	264.4	2
WBTSEN	AB1510	21	1	4	2	20151009	0807	26.497N	73.135W	4179	4249	2.279	34.889	2	34.891	2	266.1	2	265.8	2
WBTSEN	AB1510	21	1	5	2	20151009	0813	26.496N	73.136W	3912	3974	2.308	34.894	2	34.894	2	267.9	2	267.8	2
WBTSEN	AB1510	21	1	6	2	20151009	0823	26.496N	73.136W	3423	3474	2.448	34.906	2	34.908	2	267.9	2	269.2	2
WBTSEN	AB1510	21	1	7	2	20151009	0833	26.495N	73.136W	2933	2973	2.758	34.926	2	34.928	2	265.4	2	266.5	2
WBTSEN	AB1510	21	1	8	2	20151009	0842	26.494N	73.137W	2444	2475	3.146	34.944	2	34.942	6	262.2	2	265.0	2
WBTSEN	AB1510	21	1	9	2	20151009	0851	26.494N	73.138W	2027	2050	3.566	34.963	2	34.963	2	262.8	2	264.3	2
WBTSEN	AB1510	21	1	10	2	20151009	0858	26.493N	73.138W	1683	1701	4.012	34.984	2	34.984	2	258.3	2	259.3	2
WBTSEN	AB1510	21	1	11	2	20151009	0904	26.492N	73.139W	1435	1449	4.469	35.011	2	35.012	2	250.6	2	250.9	2
WBTSEN	AB1510	21	1	12	2	20151009	0910	26.492N	73.139W	1190	1201	5.204	35.051	2	35.051	2	233.0	2	231.9	6
WBTSEN	AB1510	21	1	13	2	20151009	0915	26.492N	73.140W	1021	1030	6.337	35.071	2	35.074	2	194.4	2	192.4	2
WBTSEN	AB1510	21	1	14	2	20151009	0918	26.491N	73.140W	912	920	7.525	35.100	2	35.101	2	160.9	2	162.9	2
WBTSEN	AB1510	21	1	15	2	20151009	0922	26.491N	73.140W	803	810	9.577	35.272	2	35.275	2	146.4	2	148.0	2
WBTSEN	AB1510	21	1	16	2	20151009	0925	26.491N	73.141W	695	700	11.942	35.540	2	35.543	2	146.8	2	145.8	2
WBTSEN	AB1510	21	1	17	2	20151009	0928	26.490N	73.141W	585	590	14.600	35.940	2	35.937	2	165.9	2	167.1	2
WBTSEN	AB1510	21	1	18	2	20151009	0932	26.490N	73.142W	476	480	16.832	36.328	2	36.331	2	180.9	2	181.6	2
WBTSEN	AB1510	21	1	19	2	20151009	0935	26.489N	73.142W	367	369	18.001	36.530	2	36.530	2	187.7	2	188.0	2
WBTSEN	AB1510	21	1	20	2	20151009	0938	26.489N	73.142W	258	259	18.988	36.589	2	36.583	2	190.4	2	191.0	2
WBTSEN	AB1510	21	1	21	2	20151009	0941	26.488N	73.143W	169	170	20.041	36.612	2	36.612	2	191.3	2	200.3	4
WBTSEN	AB1510	21	1	22	2	20151009	0944	26.488N	73.143W	119	120	21.264	36.646	2	36.645	2	208.2	2	209.8	2
WBTSEN	AB1510	21	1	23	2	20151009	0947	26.488N	73.143W	69	70	24.112	36.722	2	36.717	2	224.6	2	224.4	2
WBTSEN	AB1510	21	1	24	2	20151009	0950	26.487N	73.144W	2	2	28.656	36.424	2	36.423	2	191.3	2	222.3	4
WBTSEN	AB1510	22	1	1	2	20151009	1327	26.493N	72.776W	5106	5202	2.174	34.865	2	34.864	2	255.9	2	257.8	2
WBTSEN	AB1510	22	1	2	2	20151009	1334	26.493N	72.776W	4754	4840	2.236	34.878	2	34.877	2	261.9	2	259.8	2
WBTSEN	AB1510	22	1	3	2	20151009	1342	26.492N	72.777W	4375	4450	2.264	34.886	2	34.885	2	265.4	2	264.7	2
WBTSEN	AB1510	22	1	4	2	20151009	1349	26.491N	72.777W	4014	4080	2.302	34.893	2	34.891	2	-999.0	9	-999.0	9
WBTSEN	AB1510	22	1	5	2	20151009	1357	26.491N	72.777W	3643	3699	2.414	34.902	2	34.901	6	267.9	2	269.1	2
WBTSEN	AB1510	22	1	6	2	20151009	1406	26.490N	72.778W	3155	3200	2.649	34.918	2	34.914	2	266.7	2	267.8	2
WBTSEN	AB1510	22	1	7	2	20151009	1417	26.489N	72.779W	2666	2700	2.988	34.938	2	34.935	2	263.8	2	266.7	2
WBTSEN	AB1510	22	1	8	2	20151009	1426	26.489N	72.779W	2174	2200	3.431	34.960	2	34.958	2	262.2	2	262.7	2
WBTSEN	AB1510	22	1	9	2	20151009	1432	26.488N	72.780W	1928	1950	3.715	34.971	2	34.970	2	261.3	2	261.8	2
WBTSEN	AB1510	22	1	10	2	20151009	1438	26.487N	72.780W	1583	1600	4.184	34.996	2	34.993	2	-999.0	9	-999.0	9
WBTSEN	AB1510	22	1	11	2	20151009	1443	26.487N	72.780W	1410	1425	4.508	35.012	2	35.011	6	250.6	2	250.3	2
WBTSEN	AB1510	22	1	12	2	20151009	1448	26.486N	72.780W	1244	1256	5.033	35.043	2	35.044	2	237.2	2	236.6	2
WBTSEN	AB1510	22	1	13	2	20151009	1452	26.486N	72.781W	1075	1085	6.083	35.080	2	35.078	2	204.6	2	205.4	2
WBTSEN	AB1510	22	1	14	2	20151009	1455	26.485N	72.781W	937	945	7.468	35.097	2	35.097	2	-999.0	9	-999.0	9
WBTSEN	AB1510	22	1	15	2	20151009	1459	26.485N	72.781W	818	825	9.289	35.229	2	35.229	2	-999.0	9	-999.0	9
WBTSEN	AB1510	22	1	16	2	20151009	1503	26.485N	72.782W	709	715	11.578	35.492	2	35.492	2	144.6	2	144.3	2
WBTSEN	AB1510	22	1	17	2	20151009	1506	26.484N	72.782W	600	605	14.167	35.874	2	35.875	2	161.2	2	163.3	2
WBTSEN	AB1510	22	1	18	2	20151009	1509	26.484N	72.783W	491	494	16.451	36.260	2	36.259	2	177.5	2	177.3	2
WBTSEN	AB1510	22	1	19	2	20151009	1512	26.483N	72.783W	383	386	17.850	36.508	2	36.507	2	188.5	2	189.2	2
WBTSEN	AB1510	22	1	20	2	20151009	1515	26.483N	72.783W	274	276	18.663	36.571	2	36.569	2	190.3	2	189.9	2

WBTSEN	AB1510	22	1	21	2	20151009	1518	26.482N	72.783W	184	185	19.803	36.618	2	36.617	2	194.5	2	195.7	2
WBTSEN	AB1510	22	1	22	2	20151009	1520	26.482N	72.783W	105	105	22.147	36.685	2	36.686	2	197.2	2	197.0	2
WBTSEN	AB1510	22	1	23	2	20151009	1522	26.482N	72.783W	55	55	25.204	36.648	2	36.654	4	213.0	2	159.9	4
WBTSEN	AB1510	22	1	24	2	20151009	1526	26.481N	72.783W	3	3	28.770	36.552	2	36.550	2	193.9	2	194.0	2
WBTSEN	AB1510	23	1	1	2	20151009	1915	26.501N	72.384W	5164	5262	2.161	34.864	2	34.860	4	253.3	2	255.2	2
WBTSEN	AB1510	23	1	2	2	20151009	1922	26.500N	72.385W	4811	4898	2.263	34.882	2	34.878	4	263.1	2	261.8	2
WBTSEN	AB1510	23	1	3	2	20151009	1930	26.500N	72.386W	4463	4540	2.284	34.889	2	34.883	4	265.9	2	265.0	2
WBTSEN	AB1510	23	1	4	2	20151009	1936	26.500N	72.387W	4131	4199	2.310	34.894	2	34.887	4	267.2	2	267.1	2
WBTSEN	AB1510	23	1	5	2	20151009	1943	26.500N	72.388W	3789	3849	2.366	34.900	2	34.893	4	267.1	2	268.1	2
WBTSEN	AB1510	23	1	6	2	20151009	1952	26.500N	72.390W	3301	3350	2.562	34.914	2	34.909	4	267.7	2	268.8	2
WBTSEN	AB1510	23	1	7	2	20151009	2002	26.500N	72.392W	2812	2850	2.915	34.935	2	34.933	4	264.1	2	265.0	2
WBTSEN	AB1510	23	1	8	2	20151009	2011	26.500N	72.393W	2323	2351	3.309	34.956	2	34.951	4	261.9	2	262.8	2
WBTSEN	AB1510	23	1	9	2	20151009	2021	26.501N	72.395W	1830	1850	3.818	34.975	2	34.972	4	260.7	2	260.8	2
WBTSEN	AB1510	23	1	10	2	20151009	2027	26.501N	72.396W	1585	1601	4.149	34.992	2	34.990	4	256.5	2	256.4	2
WBTSEN	AB1510	23	1	11	2	20151009	2032	26.501N	72.397W	1362	1376	4.583	35.015	2	35.012	4	248.6	2	248.0	2
WBTSEN	AB1510	23	1	12	2	20151009	2037	26.501N	72.398W	1194	1205	5.176	35.049	2	35.048	4	232.9	2	233.4	2
WBTSEN	AB1510	23	1	13	2	20151009	2041	26.501N	72.399W	1026	1035	6.266	35.077	2	35.078	4	195.0	2	196.3	2
WBTSEN	AB1510	23	1	14	2	20151009	2044	26.502N	72.400W	917	925	7.435	35.102	2	35.101	4	-999.0	9	-999.0	9
WBTSEN	AB1510	23	1	15	2	20151009	2048	26.502N	72.401W	808	815	9.127	35.201	2	35.201	4	143.4	2	142.4	2
WBTSEN	AB1510	23	1	16	2	20151009	2051	26.502N	72.401W	700	706	11.613	35.495	2	35.500	4	144.8	2	144.4	2
WBTSEN	AB1510	23	1	17	2	20151009	2054	26.502N	72.402W	590	595	14.105	35.859	2	35.863	4	164.3	2	165.6	2
WBTSEN	AB1510	23	1	18	2	20151009	2057	26.502N	72.403W	482	485	16.442	36.262	2	36.264	4	177.8	2	178.4	6
WBTSEN	AB1510	23	1	19	2	20151009	2100	26.502N	72.404W	374	377	17.723	36.490	2	36.489	4	189.4	2	189.8	2
WBTSEN	AB1510	23	1	20	2	20151009	2104	26.502N	72.405W	263	265	18.778	36.606	2	36.604	4	186.2	2	185.6	2
WBTSEN	AB1510	23	1	21	2	20151009	2106	26.502N	72.406W	175	176	20.139	36.632	2	36.630	4	193.9	2	193.9	2
WBTSEN	AB1510	23	1	22	2	20151009	2109	26.502N	72.406W	115	116	21.803	36.703	2	36.704	4	198.7	2	201.0	2
WBTSEN	AB1510	23	1	23	2	20151009	2111	26.502N	72.407W	65	65	25.115	36.673	2	36.677	4	210.6	2	208.7	2
WBTSEN	AB1510	23	1	24	2	20151009	2115	26.502N	72.408W	3	3	28.439	36.500	2	36.501	4	197.6	2	197.6	2
WBTSEN	AB1510	24	1	1	2	20151010	0133	26.503N	71.999W	4957	5049	2.269	34.878	2	34.881	2	261.9	2	260.7	2
WBTSEN	AB1510	24	1	2	2	20151010	0140	26.503N	72.000W	4653	4736	2.286	34.884	2	34.887	2	265.6	2	263.5	2
WBTSEN	AB1510	24	1	3	2	20151010	0146	26.503N	72.001W	4347	4421	2.288	34.888	2	34.889	2	266.1	2	265.1	2
WBTSEN	AB1510	24	1	4	2	20151010	0153	26.503N	72.001W	4035	4101	2.301	34.892	2	34.893	2	266.5	2	266.6	2
WBTSEN	AB1510	24	1	5	2	20151010	0201	26.504N	72.002W	3636	3692	2.376	34.900	2	34.901	2	267.8	2	268.1	2
WBTSEN	AB1510	24	1	6	2	20151010	0213	26.504N	72.004W	3058	3101	2.663	34.920	2	34.922	6	254.1	2	261.7	4
WBTSEN	AB1510	24	1	7	2	20151010	0222	26.505N	72.005W	2568	2601	3.013	34.941	2	34.945	2	263.7	2	263.5	2
WBTSEN	AB1510	24	1	8	2	20151010	0232	26.505N	72.007W	2077	2101	3.451	34.961	2	34.962	2	262.6	2	262.4	2
WBTSEN	AB1510	24	1	9	2	20151010	0240	26.506N	72.008W	1683	1701	3.897	34.979	2	34.981	2	259.5	2	258.4	2
WBTSEN	AB1510	24	1	10	2	20151010	0246	26.506N	72.009W	1402	1416	4.483	35.022	2	35.024	2	250.6	2	249.5	2
WBTSEN	AB1510	24	1	11	2	20151010	0250	26.507N	72.009W	1228	1240	5.067	35.055	2	35.058	2	236.6	2	236.0	2
WBTSEN	AB1510	24	1	12	2	20151010	0254	26.507N	72.010W	1057	1066	6.016	35.079	2	35.080	2	200.5	2	171.6	4
WBTSEN	AB1510	24	1	13	2	20151010	0258	26.507N	72.011W	902	910	7.715	35.094	2	35.092	2	156.4	2	156.4	6
WBTSEN	AB1510	24	1	14	2	20151010	0301	26.507N	72.012W	793	799	9.643	35.250	2	35.253	2	140.3	2	140.1	2
WBTSEN	AB1510	24	1	15	2	20151010	0304	26.507N	72.012W	686	691	12.161	35.576	2	35.578	2	147.7	2	148.9	2
WBTSEN	AB1510	24	1	16	2	20151010	0307	26.508N	72.013W	577	581	14.668	35.956	2	35.959	6	165.0	2	165.3	2
WBTSEN	AB1510	24	1	17	2	20151010	0310	26.508N	72.014W	478	482	16.600	36.288	2	36.295	4	-999.0	9	-999.0	9
WBTSEN	AB1510	24	1	18	2	20151010	0314	26.508N	72.015W	359	361	17.965	36.525	2	36.526	2	188.8	2	189.8	2
WBTSEN	AB1510	24	1	19	2	20151010	0317	26.508N	72.016W	249	250	19.013	36.595	2	36.594	2	-999.0	9	-999.0	9
WBTSEN	AB1510	24	1	20	2	20151010	0319	26.508N	72.016W	159	160	20.246	36.655	2	36.659	2	190.0	2	188.0	2
WBTSEN	AB1510	24	1	21	2	20151010	0322	26.508N	72.017W	94	95	22.224	36.671	2	36.675	2	209.5	2	210.8	2
WBTSEN	AB1510	24	1	22	2	20151010	0325	26.508N	72.018W	45	45	27.410	36.594	2	36.599	2	201.1	2	201.7	2
WBTSEN	AB1510	24	1	23	2	20151010	0328	26.508N	72.019W	3	3	28.800	36.422	2	36.425	2	195.4	2	196.1	2
WBTSEN	AB1510	24	1	24	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	25	1	1	2	20151010	1000	26.506N	71.492W	5395	5500	2.094	34.850	2	34.852	2	250.2	2	251.8	2
WBTSEN	AB1510	25	1	2	2	20151010	1008	26.506N	71.491W	5031	5124	2.267	34.877	2	34.879	2	-999.0	9	-999.0	9
WBTSEN	AB1510	25	1	3	2	20151010	1016	26.507N	71.491W	4647	4730	2.289	34.885	2	34.886	2	-999.0	9	-999.0	9
WBTSEN	AB1510	25	1	4	2	20151010	1024	26.507N	71.490W	4267	4339	2.292	34.889	2	34.890	2	266.4	2	265.3	2
WBTSEN	AB1510	25	1	5	2	20151010	1032	26.507N	71.489W	3889	3951	2.319	34.895	2	34.895	2	267.1	2	266.6	2
WBTSEN	AB1510	25	1	6	2	20151010	1042	26.507N	71.488W	3399	3450	2.446	34.905	2	34.907	2	268.7	2	269.1	2
WBTSEN	AB1510	25	1	7	2	20151010	1052	26.507N	71.487W	2910	2950	2.726	34.925	2	34.926	2	266.3	2	264.1	2
WBTSEN	AB1510	25	1	8	2	20151010	1102	26.508N	71.486W	2419	2449	3.112	34.947	2	34.947	2	251.4	2	284.3	4
WBTSEN	AB1510	25	1	9	2	20151010	1112	26.508N	71.485W	1927	1949	3.611	34.971	2	34.971	2	261.1	2	260.7	6
WBTSEN	AB1510	25	1	10	2	20151010	1120	26.509N	71.484W	1582	1599	4.133	35.004	2	35.003	2	254.9	2	254.2	2
WBTSEN	AB1510	25	1	11	2	20151010	1124	26.509N	71.484W	1430	1444	4.470	35.023	2	35.025	6	249.5	2	249.3	2
WBTSEN	AB1510	25	1	12	2	20151010	1128	26.509N	71.483W	1262	1274	5.025	35.059	2	35.056	2	234.9	2	234.6	6
WBTSEN	AB1510	25	1	13	2	20151010	1132	26.510N	71.483W	1095	1105	5.789	35.071	2	35.070	2	205.2	2	245.7	4
WBTSEN	AB1510	25	1	14	2	20151010	1136	26.509N	71.482W	942	950	7.139	35.080	2	35.080	2	163.8	2	163.0	4

WBTSEN	AB1510	25	1	15	2	20151010	1139	26.509N	71.482W	832	840	8.912	35.183	2	35.183	2	144.1	2	144.5	2
WBTSEN	AB1510	25	1	16	2	20151010	1142	26.510N	71.481W	724	730	10.966	35.408	2	35.404	2	141.1	2	141.2	2
WBTSEN	AB1510	25	1	17	2	20151010	1145	26.510N	71.481W	615	620	13.483	35.770	2	35.769	2	153.3	2	143.5	4
WBTSEN	AB1510	25	1	18	2	20151010	1149	26.510N	71.480W	507	511	15.895	36.162	2	36.161	2	173.3	2	174.5	2
WBTSEN	AB1510	25	1	19	2	20151010	1152	26.510N	71.479W	396	399	17.527	36.453	2	36.450	2	186.9	2	187.4	2
WBTSEN	AB1510	25	1	20	2	20151010	1155	26.511N	71.479W	288	290	18.409	36.567	2	36.564	2	184.9	2	193.4	4
WBTSEN	AB1510	25	1	21	2	20151010	1158	26.511N	71.478W	199	201	19.481	36.622	2	36.617	6	187.4	2	188.7	2
WBTSEN	AB1510	25	1	22	2	20151010	1200	26.511N	71.478W	119	120	21.300	36.688	2	36.688	2	190.5	2	198.3	4
WBTSEN	AB1510	25	1	23	2	20151010	1203	26.511N	71.477W	69	70	23.765	36.713	2	36.710	2	209.2	2	217.8	4
WBTSEN	AB1510	25	1	24	2	20151010	1206	26.511N	71.477W	3	3	28.356	36.571	2	36.567	2	196.4	2	196.6	2
WBTSEN	AB1510	26	1	1	2	20151010	1617	26.511N	70.981W	5465	5573	2.102	34.850	2	34.850	6	251.3	2	248.8	2
WBTSEN	AB1510	26	1	2	2	20151010	1623	26.512N	70.980W	5150	5247	2.234	34.872	2	34.874	2	242.6	2	246.9	4
WBTSEN	AB1510	26	1	3	2	20151010	1630	26.512N	70.979W	4827	4914	2.279	34.882	2	34.881	2	263.1	2	261.3	2
WBTSEN	AB1510	26	1	4	2	20151010	1637	26.513N	70.978W	4501	4579	2.293	34.887	2	34.886	2	265.2	2	263.6	2
WBTSEN	AB1510	26	1	5	2	20151010	1644	26.514N	70.978W	4180	4250	2.306	34.891	2	34.891	2	266.5	2	265.3	2
WBTSEN	AB1510	26	1	6	2	20151010	1654	26.515N	70.976W	3693	3750	2.382	34.901	2	34.900	2	266.7	2	267.1	2
WBTSEN	AB1510	26	1	7	2	20151010	1703	26.516N	70.975W	3204	3250	2.592	34.917	2	34.917	2	264.1	2	264.2	2
WBTSEN	AB1510	26	1	8	2	20151010	1714	26.517N	70.974W	2715	2751	2.952	34.946	2	34.945	2	257.5	2	255.7	2
WBTSEN	AB1510	26	1	9	2	20151010	1723	26.519N	70.972W	2224	2251	3.315	34.960	2	34.959	2	260.6	2	260.2	2
WBTSEN	AB1510	26	1	10	2	20151010	1732	26.520N	70.971W	1782	1801	3.961	35.003	2	35.002	2	256.3	2	254.7	2
WBTSEN	AB1510	26	1	11	2	20151010	1742	26.521N	70.969W	1387	1401	4.727	35.037	2	35.038	2	242.7	2	243.3	2
WBTSEN	AB1510	26	1	12	2	20151010	1747	26.522N	70.968W	1201	1212	5.409	35.068	2	35.067	6	225.6	2	223.7	6
WBTSEN	AB1510	26	1	13	2	20151010	1751	26.523N	70.967W	1032	1042	6.485	35.076	2	35.079	2	189.7	2	188.6	2
WBTSEN	AB1510	26	1	14	2	20151010	1755	26.523N	70.966W	915	923	7.857	35.111	2	35.112	2	150.3	2	162.0	4
WBTSEN	AB1510	26	1	15	2	20151010	1758	26.524N	70.966W	806	813	9.514	35.230	2	35.233	2	140.3	2	139.2	2
WBTSEN	AB1510	26	1	16	2	20151010	1801	26.524N	70.965W	697	703	12.021	35.555	2	35.559	2	147.3	2	146.1	2
WBTSEN	AB1510	26	1	17	2	20151010	1804	26.525N	70.965W	587	592	14.572	35.939	2	35.944	2	163.5	2	164.0	2
WBTSEN	AB1510	26	1	18	2	20151010	1808	26.525N	70.964W	478	481	16.634	36.291	2	36.293	2	178.8	2	179.9	2
WBTSEN	AB1510	26	1	19	2	20151010	1811	26.526N	70.963W	369	372	17.969	36.535	2	36.536	2	182.8	2	184.2	2
WBTSEN	AB1510	26	1	20	2	20151010	1815	26.527N	70.962W	261	263	19.088	36.617	2	36.612	2	184.7	2	185.8	2
WBTSEN	AB1510	26	1	21	2	20151010	1818	26.527N	70.961W	170	171	20.816	36.698	2	36.700	2	191.7	2	188.9	2
WBTSEN	AB1510	26	1	22	2	20151010	1820	26.528N	70.960W	101	101	22.842	36.757	2	36.750	4	204.9	2	202.7	2
WBTSEN	AB1510	26	1	23	2	20151010	1823	26.528N	70.959W	50	50	27.541	36.628	2	36.627	2	203.6	2	204.9	2
WBTSEN	AB1510	26	1	24	2	20151010	1826	26.529N	70.957W	3	3	28.742	36.338	2	36.343	2	193.3	2	208.4	4
WBTSEN	AB1510	27	1	1	2	20151010	2242	26.489N	70.466W	5471	5579	2.105	34.850	2	34.851	2	250.3	2	251.0	2
WBTSEN	AB1510	27	1	2	2	20151010	2249	26.489N	70.465W	5084	5179	2.222	34.871	2	34.871	2	257.5	2	256.9	2
WBTSEN	AB1510	27	1	3	2	20151010	2258	26.488N	70.463W	4696	4780	2.277	34.883	2	34.884	2	263.9	2	262.3	2
WBTSEN	AB1510	27	1	4	2	20151010	2306	26.488N	70.462W	4317	4390	2.296	34.890	2	34.891	2	265.6	2	264.0	2
WBTSEN	AB1510	27	1	5	2	20151010	2315	26.487N	70.460W	3937	4001	2.328	34.895	2	34.895	6	266.3	2	266.4	6
WBTSEN	AB1510	27	1	6	2	20151010	2325	26.487N	70.458W	3450	3501	2.453	34.907	2	34.907	2	266.8	2	267.5	2
WBTSEN	AB1510	27	1	7	2	20151010	2336	26.486N	70.456W	2962	3003	2.729	34.925	2	34.928	2	264.6	2	265.0	2
WBTSEN	AB1510	27	1	8	2	20151010	2346	26.485N	70.454W	2473	2504	3.122	34.949	2	34.949	2	261.6	2	261.9	2
WBTSEN	AB1510	27	1	9	2	20151010	2357	26.485N	70.453W	1981	2004	3.658	34.977	2	34.978	2	257.7	2	258.0	2
WBTSEN	AB1510	27	1	10	2	20151011	0004	26.484N	70.451W	1655	1672	4.138	35.002	2	35.001	2	255.0	2	255.0	2
WBTSEN	AB1510	27	1	11	2	20151011	0009	26.484N	70.451W	1450	1464	4.541	35.022	2	35.021	2	248.2	2	248.7	2
WBTSEN	AB1510	27	1	12	2	20151011	0014	26.484N	70.450W	1270	1282	5.084	35.048	2	35.047	2	237.3	2	236.7	2
WBTSEN	AB1510	27	1	13	2	20151011	0019	26.484N	70.449W	1093	1103	6.093	35.077	2	35.077	2	202.4	2	201.7	2
WBTSEN	AB1510	27	1	14	2	20151011	0023	26.483N	70.448W	928	936	7.852	35.107	2	35.107	2	153.4	2	154.1	2
WBTSEN	AB1510	27	1	15	2	20151011	0026	26.483N	70.448W	819	826	9.746	35.256	2	35.256	2	139.5	2	138.8	2
WBTSEN	AB1510	27	1	16	2	20151011	0029	26.483N	70.447W	710	715	12.096	35.564	2	35.566	2	147.0	2	147.1	2
WBTSEN	AB1510	27	1	17	2	20151011	0033	26.483N	70.447W	600	605	14.567	35.939	2	35.940	2	162.6	2	162.8	2
WBTSEN	AB1510	27	1	18	2	20151011	0036	26.483N	70.446W	492	496	16.708	36.312	2	36.309	2	173.5	2	226.2	4
WBTSEN	AB1510	27	1	19	2	20151011	0039	26.483N	70.446W	382	385	17.901	36.519	2	36.517	2	188.0	2	189.0	2
WBTSEN	AB1510	27	1	20	2	20151011	0042	26.483N	70.445W	273	275	18.833	36.602	2	36.603	6	184.5	2	186.6	2
WBTSEN	AB1510	27	1	21	2	20151011	0044	26.483N	70.445W	184	185	20.296	36.678	2	36.675	2	187.5	2	189.0	2
WBTSEN	AB1510	27	1	22	2	20151011	0047	26.482N	70.444W	114	114	22.538	36.748	2	36.746	2	200.3	2	198.3	2
WBTSEN	AB1510	27	1	23	2	20151011	0050	26.482N	70.444W	64	65	26.381	36.646	2	36.645	2	207.6	2	210.0	2
WBTSEN	AB1510	27	1	24	2	20151011	0053	26.482N	70.444W	2	2	28.612	36.533	2	36.531	2	195.6	2	196.3	2
WBTSEN	AB1510	28	1	1	2	20151011	0504	26.489N	69.983W	5046	5140	2.213	34.871	2	34.870	2	257.6	2	256.3	2
WBTSEN	AB1510	28	1	2	2	20151011	0504	26.489N	69.983W	5046	5140	2.213	34.871	2	34.870	2	257.5	2	257.0	2
WBTSEN	AB1510	28	1	3	2	20151011	0513	26.488N	69.982W	4619	4700	2.276	34.884	2	34.882	6	263.4	2	261.9	2
WBTSEN	AB1510	28	1	4	2	20151011	0521	26.488N	69.981W	4191	4261	2.293	34.891	2	34.888	2	265.6	2	265.5	2
WBTSEN	AB1510	28	1	5	2	20151011	0530	26.488N	69.981W	3766	3825	2.348	34.898	2	34.897	2	266.4	2	266.4	2
WBTSEN	AB1510	28	1	6	2	20151011	0540	26.487N	69.980W	3258	3305	2.548	34.914	2	34.913	2	264.1	2	264.0	2
WBTSEN	AB1510	28	1	7	2	20151011	0550	26.487N	69.980W	2714	2750	2.929	34.939	2	34.938	2	260.1	2	261.1	2
WBTSEN	AB1510	28	1	8	2	20151011	0600	26.486N	69.979W	2242	2269	3.322	34.959	2	34.957	2	259.6	2	260.9	2

WBTSEN	AB1510	28	1	9	2	20151011	0608	26.486N	69.978W	1834	1855	3.822	34.983	2	34.980	2	259.1	2	261.1	2
WBTSEN	AB1510	28	1	10	2	20151011	0618	26.485N	69.978W	1362	1375	4.816	35.039	2	33.078	4	241.7	2	242.0	2
WBTSEN	AB1510	28	1	11	2	20151011	0622	26.485N	69.977W	1194	1205	5.485	35.067	2	33.106	4	221.8	2	221.3	2
WBTSEN	AB1510	28	1	12	2	20151011	0626	26.484N	69.977W	1026	1035	6.483	35.068	2	36.593	4	179.6	2	203.8	4
WBTSEN	AB1510	28	1	13	2	20151011	0631	26.484N	69.977W	1026	1036	6.462	35.066	2	35.066	2	186.5	2	186.4	2
WBTSEN	AB1510	28	1	14	2	20151011	0634	26.484N	69.977W	917	925	7.416	35.059	2	35.059	2	157.4	2	158.2	2
WBTSEN	AB1510	28	1	15	2	20151011	0637	26.483N	69.976W	808	815	10.210	35.312	2	35.309	2	142.2	2	139.3	6
WBTSEN	AB1510	28	1	16	2	20151011	0640	26.483N	69.976W	699	705	12.620	35.635	2	35.632	2	147.6	2	147.3	2
WBTSEN	AB1510	28	1	17	2	20151011	0643	26.483N	69.976W	590	595	14.919	36.000	2	35.999	2	162.0	2	162.8	2
WBTSEN	AB1510	28	1	18	2	20151011	0646	26.483N	69.975W	481	485	16.868	36.335	2	36.333	2	-999.0	9	-999.0	9
WBTSEN	AB1510	28	1	19	2	20151011	0649	26.482N	69.975W	373	376	17.919	36.520	2	36.520	2	187.5	2	188.0	2
WBTSEN	AB1510	28	1	20	2	20151011	0652	26.482N	69.975W	263	265	18.898	36.592	2	36.589	2	186.7	2	187.7	2
WBTSEN	AB1510	28	1	21	2	20151011	0654	26.482N	69.975W	174	175	20.565	36.692	2	36.697	2	188.1	2	187.7	2
WBTSEN	AB1510	28	1	22	2	20151011	0657	26.482N	69.975W	94	95	24.176	36.719	2	36.719	2	209.0	2	207.2	2
WBTSEN	AB1510	28	1	23	2	20151011	0659	26.481N	69.974W	44	44	27.037	36.588	2	36.592	2	203.2	2	204.8	2
WBTSEN	AB1510	28	1	24	2	20151011	0702	26.481N	69.974W	2	2	28.206	36.532	2	36.530	2	198.0	2	200.0	2
WBTSEN	AB1510	29	1	1	2	20151011	1128	26.506N	69.488W	5326	5429	2.100	34.852	2	34.852	2	251.8	2	252.7	2
WBTSEN	AB1510	29	1	2	2	20151011	1135	26.506N	69.487W	4986	5078	2.163	34.866	2	34.866	2	255.5	2	254.5	2
WBTSEN	AB1510	29	1	3	2	20151011	1142	26.506N	69.486W	4647	4729	2.242	34.880	2	34.883	2	261.5	2	260.1	2
WBTSEN	AB1510	29	1	4	2	20151011	1149	26.507N	69.485W	4306	4379	2.285	34.889	2	34.892	2	264.9	2	264.4	2
WBTSEN	AB1510	29	1	5	2	20151011	1156	26.506N	69.484W	3971	4036	2.328	34.896	2	34.895	2	266.5	2	265.8	2
WBTSEN	AB1510	29	1	6	2	20151011	1205	26.506N	69.482W	3462	3514	2.493	34.910	2	34.909	2	261.8	2	264.0	2
WBTSEN	AB1510	29	1	7	2	20151011	1215	26.506N	69.480W	2954	2994	2.802	34.935	2	34.936	2	255.3	2	256.3	2
WBTSEN	AB1510	29	1	8	2	20151011	1224	26.505N	69.478W	2449	2479	3.156	34.961	2	34.961	2	256.1	2	256.0	2
WBTSEN	AB1510	29	1	9	2	20151011	1234	26.505N	69.476W	1938	1960	3.737	34.998	2	34.997	2	255.0	2	254.5	2
WBTSEN	AB1510	29	1	10	2	20151011	1239	26.505N	69.475W	1687	1705	4.275	35.041	2	35.041	2	247.9	2	247.4	2
WBTSEN	AB1510	29	1	11	2	20151011	1246	26.505N	69.474W	1348	1361	4.994	35.064	2	35.063	2	233.0	2	233.8	2
WBTSEN	AB1510	29	1	12	2	20151011	1250	26.504N	69.473W	1179	1190	5.638	35.063	2	35.064	2	215.0	2	215.7	2
WBTSEN	AB1510	29	1	13	2	20151011	1255	26.504N	69.472W	1013	1022	6.901	35.064	2	35.065	2	170.5	2	170.8	2
WBTSEN	AB1510	29	1	14	2	20151011	1258	26.504N	69.471W	903	911	8.345	35.126	2	35.135	4	142.0	2	142.5	4
WBTSEN	AB1510	29	1	15	2	20151011	1301	26.504N	69.471W	795	802	10.064	35.287	2	35.295	4	137.1	2	137.4	2
WBTSEN	AB1510	29	1	16	2	20151011	1304	26.504N	69.470W	685	691	12.290	35.583	2	35.586	2	141.7	2	142.1	2
WBTSEN	AB1510	29	1	17	2	20151011	1307	26.504N	69.470W	576	581	14.679	35.958	2	35.962	2	163.3	2	164.4	2
WBTSEN	AB1510	29	1	18	2	20151011	1310	26.504N	69.469W	467	471	16.779	36.324	2	36.324	2	179.8	2	178.1	2
WBTSEN	AB1510	29	1	19	2	20151011	1313	26.504N	69.468W	357	360	17.979	36.529	2	36.323	4	181.4	2	188.9	4
WBTSEN	AB1510	29	1	20	2	20151011	1316	26.504N	69.468W	249	251	19.104	36.627	2	36.626	2	187.5	2	184.7	2
WBTSEN	AB1510	29	1	21	2	20151011	1319	26.504N	69.467W	159	160	21.076	36.675	2	36.674	2	196.6	2	195.6	6
WBTSEN	AB1510	29	1	22	2	20151011	1321	26.504N	69.467W	104	105	22.967	36.719	2	36.732	4	204.3	2	205.2	6
WBTSEN	AB1510	29	1	23	2	20151011	1324	26.504N	69.466W	55	55	26.722	36.555	2	36.557	2	206.5	2	207.2	2
WBTSEN	AB1510	29	1	24	2	20151011	1326	26.504N	69.466W	4	4	27.712	36.472	2	36.470	2	201.4	2	200.7	2
WBTSEN	AB1510	30	1	1	2	20151016	2359	25.955N	76.896W	4369	4443	2.306	34.889	2	34.891	2	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	2	2	20151017	0012	25.955N	76.896W	3936	3999	2.295	34.892	2	34.895	6	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	3	2	20151017	0026	25.955N	76.895W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	4	2	20151017	0041	25.956N	76.894W	3448	3500	2.512	34.910	2	35.036	4	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	5	2	20151017	0054	25.956N	76.893W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	6	2	20151017	0108	25.956N	76.892W	2943	2983	2.929	34.932	2	34.935	2	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	7	2	20151017	0122	25.957N	76.891W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	8	2	20151017	0139	25.958N	76.889W	2468	2499	3.218	34.947	2	34.948	2	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	9	2	20151017	0149	25.958N	76.888W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	10	2	20151017	0200	25.958N	76.887W	1978	2000	3.625	34.962	2	34.964	2	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	11	2	20151017	0207	25.959N	76.886W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	12	2	20151017	0216	25.959N	76.885W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	13	2	-999.000	-999.000	-999.000N	-999.000W	1484	1499	4.176	34.993	2	34.996	2	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	14	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	15	2	-999.000	-999.000	-999.000N	-999.000W	795	801	8.755	35.172	2	35.175	2	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	16	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	17	2	-999.000	-999.000	-999.000N	-999.000W	496	500	16.223	36.231	2	36.238	4	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	18	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	19	2	-999.000	-999.000	-999.000N	-999.000W	200	201	21.250	36.686	2	36.686	2	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	20	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	21	2	-999.000	-999.000	-999.000N	-999.000W	100	100	25.713	36.684	2	36.681	2	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	22	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	23	2	-999.000	-999.000	-999.000N	-999.000W	2	2	28.980	36.479	2	36.479	2	-999.0	9	-999.0	9
WBTSEN	AB1510	30	1	24	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	31	1	1	2	20151017	1620	26.434N	78.667W	741	747	9.523	35.257	2	35.254	2	144.2	2	144.1	2
WBTSEN	AB1510	31	1	2	2	20151017	1624	26.434N	78.667W	565	569	13.797	35.823	2	35.823	6	154.8	2	153.7	6

WBTSEN	AB1510	31	1	3	2	20151017	1627	26.434N	78.667W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	31	1	4	2	20151017	1631	26.434N	78.667W	417	420	17.456	36.433	2	36.433	2	182.2	2	181.7	2
WBTSEN	AB1510	31	1	5	2	20151017	1634	26.435N	78.667W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	31	1	6	2	20151017	1637	26.435N	78.667W	288	290	19.198	36.634	2	36.633	2	184.8	2	183.7	2
WBTSEN	AB1510	31	1	7	2	20151017	1640	26.435N	78.667W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	31	1	8	2	-999.000	-999.000	-999.000N	-999.000W	159	160	22.853	36.735	2	36.735	2	188.4	2	187.8	2
WBTSEN	AB1510	31	1	9	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	31	1	10	2	-999.000	-999.000	-999.000N	-999.000W	59	60	29.012	36.393	2	36.394	2	192.7	2	192.2	2
WBTSEN	AB1510	31	1	11	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	31	1	12	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	31	1	13	2	-999.000	-999.000	-999.000N	-999.000W	2	2	29.028	36.394	2	36.395	2	193.5	2	193.2	2
WBTSEN	AB1510	31	1	14	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	31	1	15	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	31	1	16	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	31	1	17	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	31	1	18	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	31	1	19	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	31	1	20	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	31	1	21	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	31	1	22	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	31	1	23	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	31	1	24	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	32	1	1	2	20151017	1749	26.336N	78.716W	662	667	10.052	35.265	2	35.280	4	133.3	2	131.3	2
WBTSEN	AB1510	32	1	2	2	20151017	1752	26.336N	78.716W	526	530	14.550	35.943	2	35.937	4	159.9	2	158.8	2
WBTSEN	AB1510	32	1	3	2	20151017	1756	26.337N	78.717W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	32	1	4	2	20151017	1800	26.337N	78.717W	367	370	17.817	36.486	2	36.482	2	182.9	2	182.6	2
WBTSEN	AB1510	32	1	5	2	20151017	1803	26.337N	78.718W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	32	1	6	2	20151017	1807	26.338N	78.718W	208	210	21.474	36.686	2	36.682	2	198.3	2	193.5	2
WBTSEN	AB1510	32	1	7	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	32	1	8	2	-999.000	-999.000	-999.000N	-999.000W	80	80	27.395	36.455	2	36.460	2	190.1	2	190.3	2
WBTSEN	AB1510	32	1	9	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	32	1	10	2	-999.000	-999.000	-999.000N	-999.000W	2	2	28.991	36.385	2	36.385	2	194.6	2	194.0	6
WBTSEN	AB1510	32	1	11	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	32	1	12	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	32	1	13	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	32	1	14	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	32	1	15	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	32	1	16	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	32	1	17	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	32	1	18	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	32	1	19	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	32	1	20	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	32	1	21	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	32	1	22	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	32	1	23	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	32	1	24	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	33	1	1	2	20151017	1905	26.254N	78.765W	504	508	14.533	35.942	2	35.948	2	159.5	2	159.7	2
WBTSEN	AB1510	33	1	2	2	20151017	1908	26.255N	78.765W	397	400	16.994	36.360	2	36.358	2	180.3	2	179.2	2
WBTSEN	AB1510	33	1	3	2	20151017	1911	26.255N	78.766W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	33	1	4	2	20151017	1915	26.256N	78.766W	269	271	19.655	36.642	2	36.644	6	187.2	2	186.8	6
WBTSEN	AB1510	33	1	5	2	20151017	1919	26.256N	78.766W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	33	1	6	2	20151017	1922	26.257N	78.767W	160	161	23.634	36.840	2	36.839	2	162.2	2	161.3	2
WBTSEN	AB1510	33	1	7	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	33	1	8	2	-999.000	-999.000	-999.000N	-999.000W	59	60	28.991	36.389	2	36.386	2	194.4	2	193.7	2
WBTSEN	AB1510	33	1	9	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	33	1	10	2	-999.000	-999.000	-999.000N	-999.000W	2	3	29.084	36.389	2	36.389	2	194.3	2	190.6	2
WBTSEN	AB1510	33	1	11	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	33	1	12	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	33	1	13	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	33	1	14	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	33	1	15	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	33	1	16	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	33	1	17	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	33	1	18	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	33	1	19	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	33	1	20	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9

WBTSEN	AB1510	33	1	21	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	33	1	22	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	33	1	23	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	33	1	24	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	34	1	1	2	20151017	2019	26.169N	78.800W	436	439	15.476	36.098	2	36.110	4	-999.0	9	-999.0	9
WBTSEN	AB1510	34	1	2	2	20151017	2023	26.169N	78.800W	268	270	19.163	36.617	2	36.616	2	181.2	2	180.3	2
WBTSEN	AB1510	34	1	3	2	20151017	2026	26.169N	78.800W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	34	1	4	2	20151017	2029	26.169N	78.801W	178	180	22.918	36.709	2	36.715	2	194.0	2	172.2	4
WBTSEN	AB1510	34	1	5	2	20151017	2032	26.170N	78.801W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	34	1	6	2	-999.000	-999.000	-999.000N	-999.000W	89	90	26.437	36.551	2	36.558	4	184.3	2	183.4	6
WBTSEN	AB1510	34	1	7	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	34	1	8	2	-999.000	-999.000	-999.000N	-999.000W	2	2	29.011	36.384	2	36.384	2	194.6	2	193.7	2
WBTSEN	AB1510	34	1	9	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	34	1	10	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	34	1	11	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	34	1	12	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	34	1	13	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	34	1	14	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	34	1	15	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	34	1	16	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	34	1	17	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	34	1	18	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	34	1	19	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	34	1	20	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	34	1	21	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	34	1	22	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	34	1	23	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	34	1	24	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	1	2	20151017	2135	26.070N	78.849W	290	293	18.370	36.518	2	36.522	6	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	2	2	20151017	2139	26.070N	78.849W	149	150	24.367	36.772	2	36.773	2	174.3	2	167.8	4
WBTSEN	AB1510	35	1	3	2	20151017	2142	26.071N	78.850W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	4	2	20151017	2145	26.071N	78.850W	44	44	28.826	36.348	2	36.358	4	194.5	2	195.0	2
WBTSEN	AB1510	35	1	5	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	6	2	-999.000	-999.000	-999.000N	-999.000W	2	2	29.023	36.378	2	36.375	2	194.5	2	193.9	2
WBTSEN	AB1510	35	1	7	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	8	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	9	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	10	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	11	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	12	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	13	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	14	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	15	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	16	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	17	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	18	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	19	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	20	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	21	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	22	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	23	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	35	1	24	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	36	1	1	2	20151018	0425	27.008N	79.203W	462	465	16.036	36.195	2	36.191	2	172.2	2	171.3	2
WBTSEN	AB1510	36	1	2	2	20151018	0429	27.009N	79.204W	308	310	18.503	36.567	2	36.567	6	187.7	2	187.2	6
WBTSEN	AB1510	36	1	3	2	20151018	0433	27.011N	79.205W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	36	1	4	2	20151018	0436	27.012N	79.205W	149	150	24.529	36.807	2	36.779	4	161.7	2	174.9	4
WBTSEN	AB1510	36	1	5	2	20151018	0439	27.013N	79.206W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	36	1	6	2	-999.000	-999.000	-999.000N	-999.000W	60	60	28.958	36.373	2	36.370	2	194.9	2	194.1	2
WBTSEN	AB1510	36	1	7	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	36	1	8	2	-999.000	-999.000	-999.000N	-999.000W	3	3	28.949	36.375	2	36.374	2	194.9	2	193.7	2
WBTSEN	AB1510	36	1	9	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	36	1	10	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	36	1	11	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	36	1	12	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	36	1	13	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	36	1	14	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9

WBTSEN	AB1510	36	1	15	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	36	1	16	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	36	1	17	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	36	1	18	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	36	1	19	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	36	1	20	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	36	1	21	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	36	1	22	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	36	1	23	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	36	1	24	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	37	1	1	2	20151018	0551	27.009N	79.287W	594	599	11.243	35.440	2	35.439	2	139.6	2	137.9	6
WBTSEN	AB1510	37	1	2	2	20151018	0555	27.011N	79.287W	447	450	14.883	35.939	2	35.935	6	139.9	2	137.9	2
WBTSEN	AB1510	37	1	3	2	20151018	0558	27.013N	79.288W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	37	1	4	2	20151018	0602	27.014N	79.289W	289	291	18.903	36.598	2	36.593	2	181.3	2	181.1	2
WBTSEN	AB1510	37	1	5	2	20151018	0605	27.015N	79.289W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	37	1	6	2	20151018	0607	27.017N	79.289W	120	121	26.319	36.550	2	36.566	4	177.5	2	177.0	2
WBTSEN	AB1510	37	1	7	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	37	1	8	2	-999.000	-999.000	-999.000N	-999.000W	50	50	28.928	36.339	2	36.338	2	195.9	2	194.4	2
WBTSEN	AB1510	37	1	9	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	37	1	10	2	-999.000	-999.000	-999.000N	-999.000W	3	3	28.929	36.340	2	36.338	2	192.3	2	143.0	4
WBTSEN	AB1510	37	1	11	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	37	1	12	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	37	1	13	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	37	1	14	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	37	1	15	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	37	1	16	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	37	1	17	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	37	1	18	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	37	1	19	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	37	1	20	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	37	1	21	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	37	1	22	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	37	1	23	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	37	1	24	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	38	1	1	2	20151018	0703	27.012N	79.386W	641	647	8.815	35.079	2	35.152	4	127.7	2	128.2	6
WBTSEN	AB1510	38	1	2	2	20151018	0706	27.014N	79.387W	537	542	11.820	35.450	2	35.451	2	125.9	2	123.8	2
WBTSEN	AB1510	38	1	3	2	20151018	0711	27.016N	79.387W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	38	1	4	2	20151018	0715	27.019N	79.388W	360	363	16.256	36.176	2	36.183	4	148.0	2	147.0	2
WBTSEN	AB1510	38	1	5	2	20151018	0718	27.020N	79.389W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	38	1	6	2	20151018	0721	27.022N	79.389W	175	176	22.929	36.897	2	36.895	2	155.1	2	152.6	2
WBTSEN	AB1510	38	1	7	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	38	1	8	2	-999.000	-999.000	-999.000N	-999.000W	69	70	28.447	36.339	2	36.339	2	196.6	2	195.6	2
WBTSEN	AB1510	38	1	9	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	38	1	10	2	-999.000	-999.000	-999.000N	-999.000W	3	3	28.928	36.328	2	36.327	2	196.2	2	194.7	2
WBTSEN	AB1510	38	1	11	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	38	1	12	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	38	1	13	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	38	1	14	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	38	1	15	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	38	1	16	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	38	1	17	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	38	1	18	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	38	1	19	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	38	1	20	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	38	1	21	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	38	1	22	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	38	1	23	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	38	1	24	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	1	2	20151018	0827	27.019N	79.502W	736	742	6.712	34.908	2	34.935	4	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	2	2	20151018	0830	27.021N	79.502W	645	650	7.606	34.939	2	-999.000	9	127.7	2	126.0	2
WBTSEN	AB1510	39	1	3	2	20151018	0834	27.024N	79.502W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	4	2	20151018	0839	27.028N	79.502W	469	472	11.129	35.352	2	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	5	2	20151018	0843	27.030N	79.503W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	6	2	20151018	0846	27.033N	79.503W	311	313	16.993	36.296	2	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	7	2	20151018	0850	27.035N	79.503W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	8	2	-999.000	-999.000	-999.000N	-999.000W	179	180	22.480	36.890	2	-999.000	9	-999.0	9	-999.0	9

WBTSEN	AB1510	39	1	9	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	10	2	-999.000	-999.000	-999.000N	-999.000W	79	80	27.763	36.347	2	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	11	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	12	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	13	2	-999.000	-999.000	-999.000N	-999.000W	3	3	29.026	36.364	2	36.363	2	195.3	2	193.7	2
WBTSEN	AB1510	39	1	14	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	15	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	16	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	17	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	18	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	19	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	20	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	21	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	22	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	23	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	39	1	24	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	40	1	1	2	20151018	1000	27.020N	79.619W	605	610	6.950	34.919	2	34.917	2	136.9	2	134.0	2
WBTSEN	AB1510	40	1	2	2	20151018	1004	27.023N	79.620W	470	474	8.180	34.991	2	34.989	2	125.4	2	123.3	2
WBTSEN	AB1510	40	1	3	2	20151018	1009	27.027N	79.621W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	40	1	4	2	20151018	1013	27.031N	79.620W	324	327	15.470	36.038	2	36.055	4	141.3	2	139.3	2
WBTSEN	AB1510	40	1	5	2	20151018	1017	27.034N	79.620W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	40	1	6	2	20151018	1020	27.037N	79.620W	180	182	22.172	36.898	2	36.874	4	151.2	2	149.9	6
WBTSEN	AB1510	40	1	7	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	40	1	8	2	-999.000	-999.000	-999.000N	-999.000W	69	70	28.062	36.364	2	36.366	2	195.3	2	194.9	2
WBTSEN	AB1510	40	1	9	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	40	1	10	2	-999.000	-999.000	-999.000N	-999.000W	3	3	28.692	36.319	2	36.319	2	192.0	2	203.0	4
WBTSEN	AB1510	40	1	11	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	40	1	12	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	40	1	13	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	40	1	14	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	40	1	15	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	40	1	16	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	40	1	17	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	40	1	18	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	40	1	19	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	40	1	20	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	40	1	21	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	40	1	22	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	40	1	23	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	40	1	24	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	41	1	1	2	20151018	1121	27.026N	79.684W	496	499	7.381	34.935	2	34.936	2	131.7	2	131.2	2
WBTSEN	AB1510	41	1	2	2	20151018	1124	27.029N	79.683W	400	403	8.647	35.044	2	35.050	2	126.6	2	124.3	2
WBTSEN	AB1510	41	1	3	2	20151018	1129	27.034N	79.683W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	41	1	4	2	20151018	1133	27.038N	79.683W	258	260	17.966	36.410	2	36.413	2	139.0	2	137.2	6
WBTSEN	AB1510	41	1	5	2	20151018	1137	27.041N	79.683W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	41	1	6	2	20151018	1139	27.044N	79.683W	120	121	25.666	36.624	2	36.627	6	174.7	2	173.3	2
WBTSEN	AB1510	41	1	7	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	41	1	8	2	-999.000	-999.000	-999.000N	-999.000W	59	59	28.504	36.380	2	36.382	2	196.9	2	194.7	2
WBTSEN	AB1510	41	1	9	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	41	1	10	2	-999.000	-999.000	-999.000N	-999.000W	3	3	28.567	36.334	2	36.335	2	195.3	2	194.9	2
WBTSEN	AB1510	41	1	11	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	41	1	12	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	41	1	13	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	41	1	14	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	41	1	15	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	41	1	16	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	41	1	17	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	41	1	18	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	41	1	19	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	41	1	20	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	41	1	21	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	41	1	22	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	41	1	23	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	41	1	24	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	42	1	1	2	20151018	1303	27.018N	79.786W	357	359	8.965	35.095	2	35.093	2	126.4	2	124.0	2
WBTSEN	AB1510	42	1	2	2	20151018	1305	27.020N	79.786W	273	275	13.284	35.704	2	35.713	4	133.4	2	131.1	2

WBTSEN	AB1510	42	1	3	2	20151018	1310	27.025N	79.787W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	42	1	4	2	20151018	1313	27.028N	79.787W	127	128	24.125	36.732	2	36.732	6	168.5	2	168.2	2
WBTSEN	AB1510	42	1	5	2	20151018	1315	27.030N	79.787W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	42	1	6	2	-999.000	-999.000	-999.000N	-999.000W	39	40	28.494	36.362	2	36.362	2	195.5	2	194.9	2
WBTSEN	AB1510	42	1	7	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	42	1	8	2	-999.000	-999.000	-999.000N	-999.000W	5	5	28.483	36.362	2	36.360	2	195.6	2	195.0	2
WBTSEN	AB1510	42	1	9	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	42	1	10	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	42	1	11	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	42	1	12	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	42	1	13	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	42	1	14	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	42	1	15	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	42	1	16	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	42	1	17	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	42	1	18	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	42	1	19	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	42	1	20	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	42	1	21	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	42	1	22	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	42	1	23	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	42	1	24	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	43	1	1	2	20151018	1420	27.028N	79.870W	220	221	13.625	35.748	2	35.720	4	130.5	2	127.4	6
WBTSEN	AB1510	43	1	2	2	20151018	1423	27.031N	79.870W	161	162	17.886	36.313	2	36.322	4	143.6	2	141.6	2
WBTSEN	AB1510	43	1	3	2	20151018	1426	27.035N	79.871W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	43	1	4	2	20151018	1429	27.037N	79.871W	73	74	26.625	36.534	2	36.511	4	181.5	2	183.0	2
WBTSEN	AB1510	43	1	5	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	43	1	6	2	-999.000	-999.000	-999.000N	-999.000W	2	2	28.549	36.384	2	36.382	2	196.7	2	194.7	2
WBTSEN	AB1510	43	1	7	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	43	1	8	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	43	1	9	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	43	1	10	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	43	1	11	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	43	1	12	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	43	1	13	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	43	1	14	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	43	1	15	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	43	1	16	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	43	1	17	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	43	1	18	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	43	1	19	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	43	1	20	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	43	1	21	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	43	1	22	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	43	1	23	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	43	1	24	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	44	1	1	2	20151018	1522	27.013N	79.937W	115	115	17.570	36.260	2	36.260	2	143.2	2	141.0	2
WBTSEN	AB1510	44	1	2	2	20151018	1525	27.016N	79.938W	59	60	27.439	36.432	2	36.433	6	195.3	2	192.9	6
WBTSEN	AB1510	44	1	3	2	20151018	1528	27.019N	79.938W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	44	1	4	2	-999.000	-999.000	-999.000N	-999.000W	4	4	28.516	36.312	2	36.314	2	196.1	2	195.5	2
WBTSEN	AB1510	44	1	5	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	44	1	6	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	44	1	7	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	44	1	8	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	44	1	9	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	44	1	10	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	44	1	11	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	44	1	12	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	44	1	13	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	44	1	14	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	44	1	15	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	44	1	16	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	44	1	17	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	44	1	18	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	44	1	19	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	44	1	20	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9

WBTSEN	AB1510	44	1	21	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	44	1	22	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	44	1	23	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
WBTSEN	AB1510	44	1	24	2	-999.000	-999.000	-999.000N	-999.000W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9