August 14th | 2010

Ryan Chouest daily data transmission and report

Period covered: *2158hrs* 08/13/2010 - *0910hrs* 08/14/2010

59.56 - Nautical miles covered

Vessel science party:

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Cruise notes:

The *Ryan Chouest* continued on the planned cruise 12 route, with the echo sounder and underway pump system, along the coastal transect towards and across the western coast of Florida rejoining the previous Cruise 2 track along the gulf coastlines of Alabama and west Florida. (Figure 1).

Science results and preliminary interpretation:

Fluorometry results

The Chelsea and Trios sensors indicate baseline to very low inferred hydrocarbons concentrations through the reporting period (Figures 2 and 3). The Contros sensor showed medium levels of inferred hydrocarbons throughout the cruise track, which is inconsistent with the Chelsea and Trios fluorometers (Figure 4). The low signal to noise ratio problem continues to be a problem for the Contros sensor. As a result, the data shown in Figure 4 are misleading, and we will likely not present the Contros data in future reports until we can change out the instrument.

Surface Observations

Surface observations consisted only of sargassum. Sight locations are displayed in Figure 1.

EK-60 Echosounder results

No echosounder contacts related to seabed seep activities were observed during this report period.

Vertical Casts

Two vertical fluorometry/CTD casts were taken during this report period (figures 4 & 5). These show low inferred concentrations of hydrocarbons in the water column. Cast 1 shows a homogenous profile with little compositional difference between the base and top of the cast. The second cast shows higher inferred hydrocarbon concentrations within the top 20 metres of the water column when compared with the basal sample with hydrocarbon concentration increasing towards the surface.

Planned route for cruise 12:

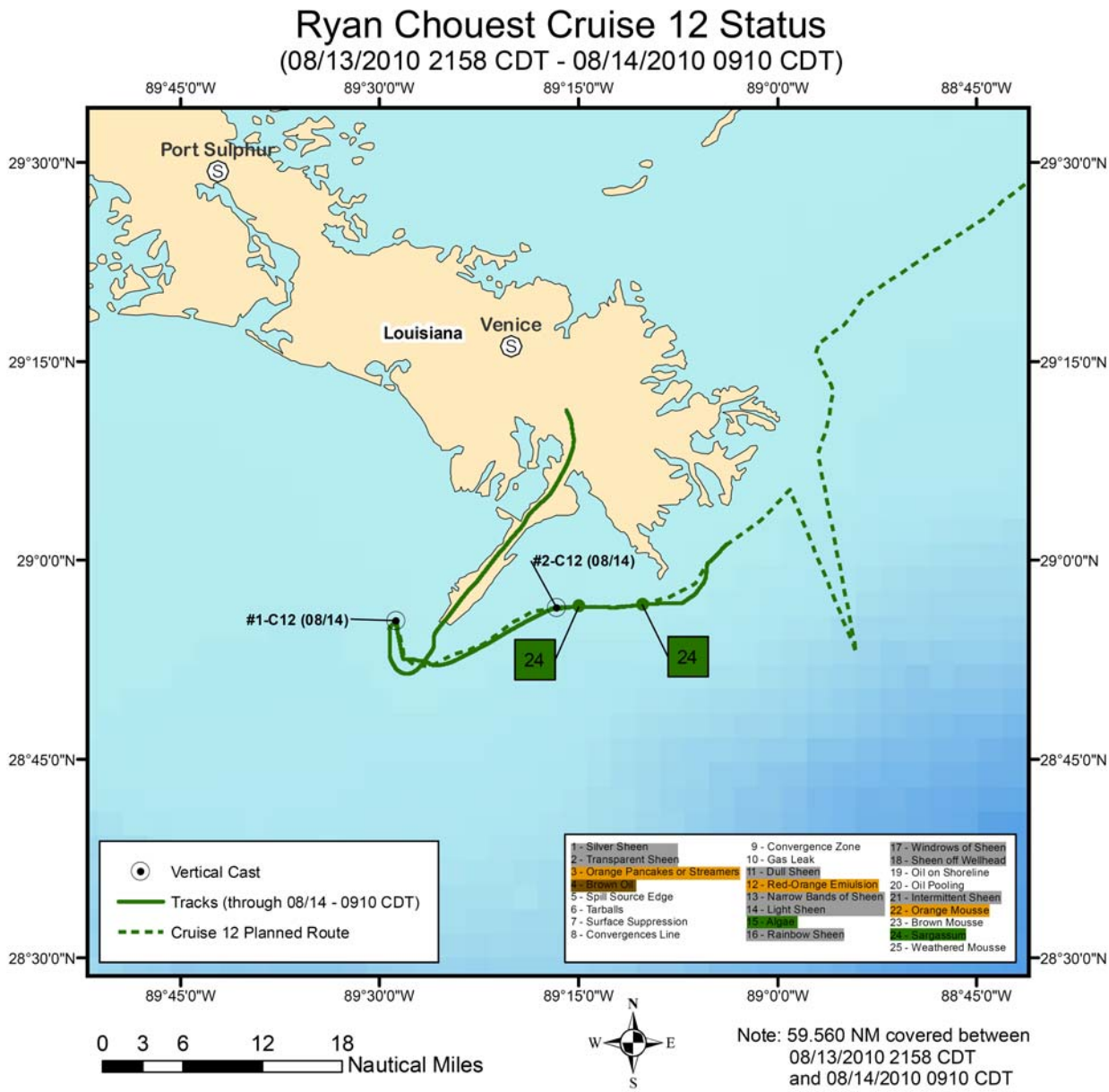

Figure 1: Planned route for cruise 12 versus the actual route plotted between 08/13/2010 – 08/14/2010.

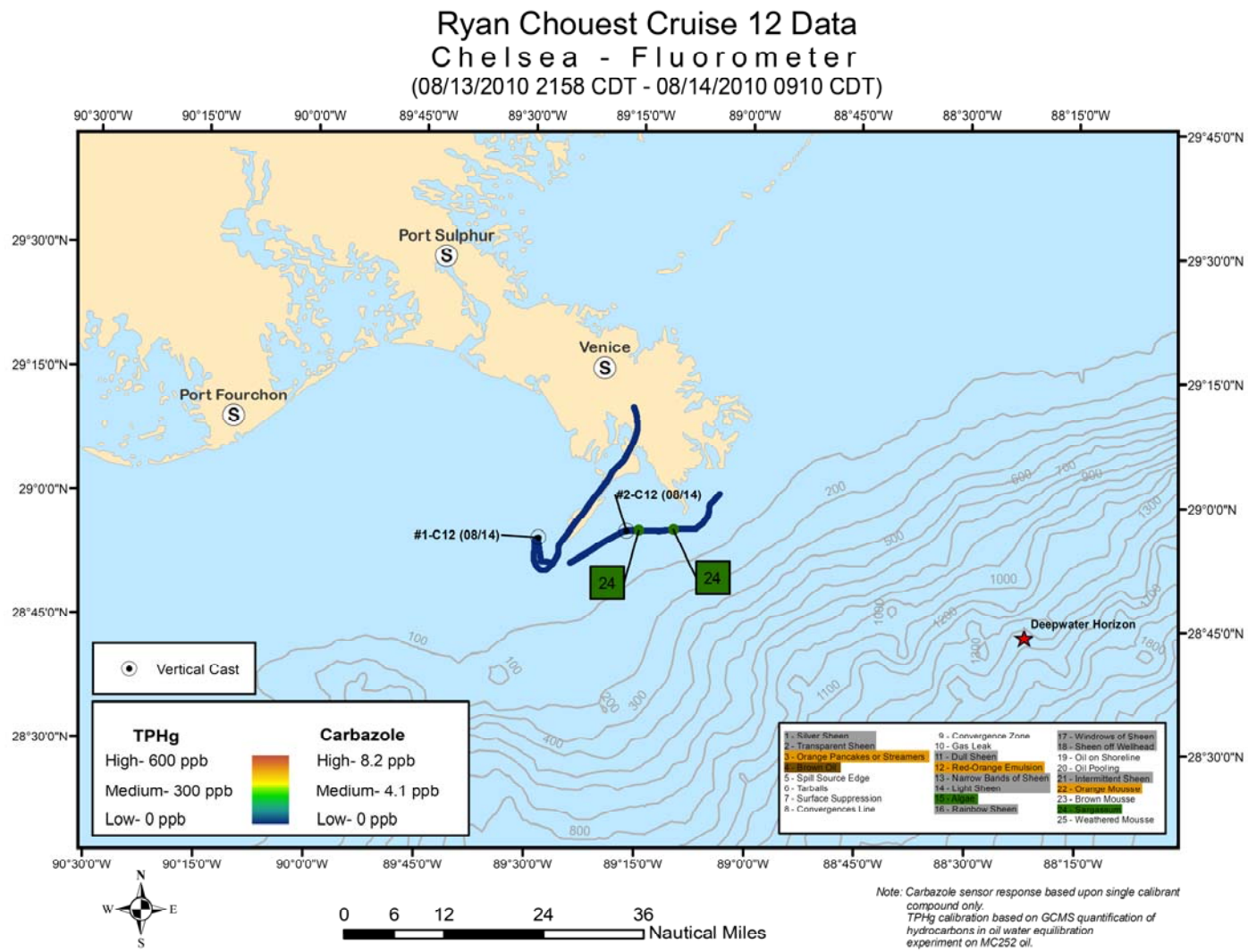

Figure 2. Chelsea fluorometer results plotted with location on cruise track 12. Breaks in data occur when either data quality is poor or the systems were turned off due to pump problems. Purple lines represent depth contours of 100 m intervals.

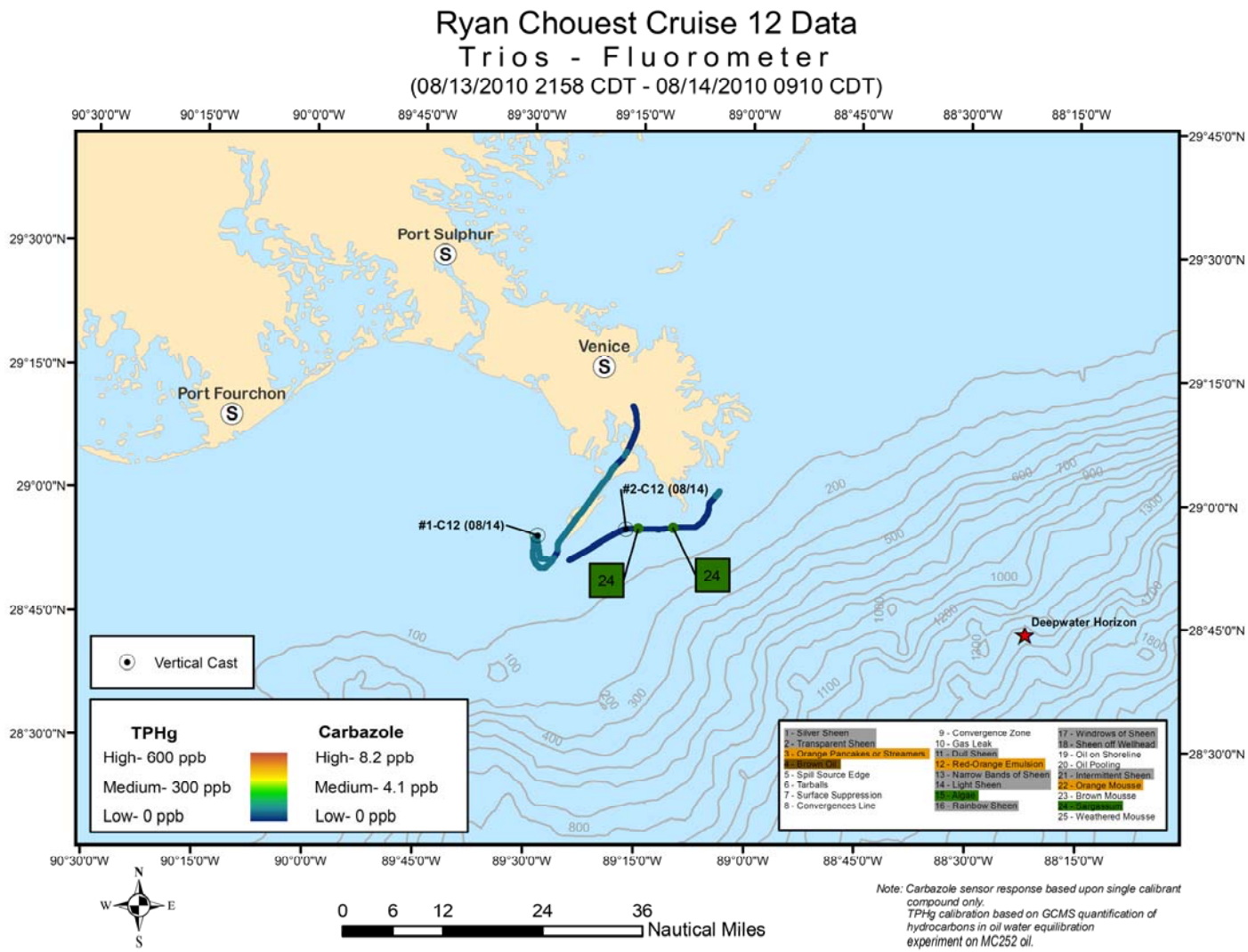

Figure 3. Trios fluorometer results plotted with location on cruise track 12. Breaks in data occur when either data quality is poor or the systems were turned off due to pump problems. Purple lines represent depth contours of 100 m intervals.

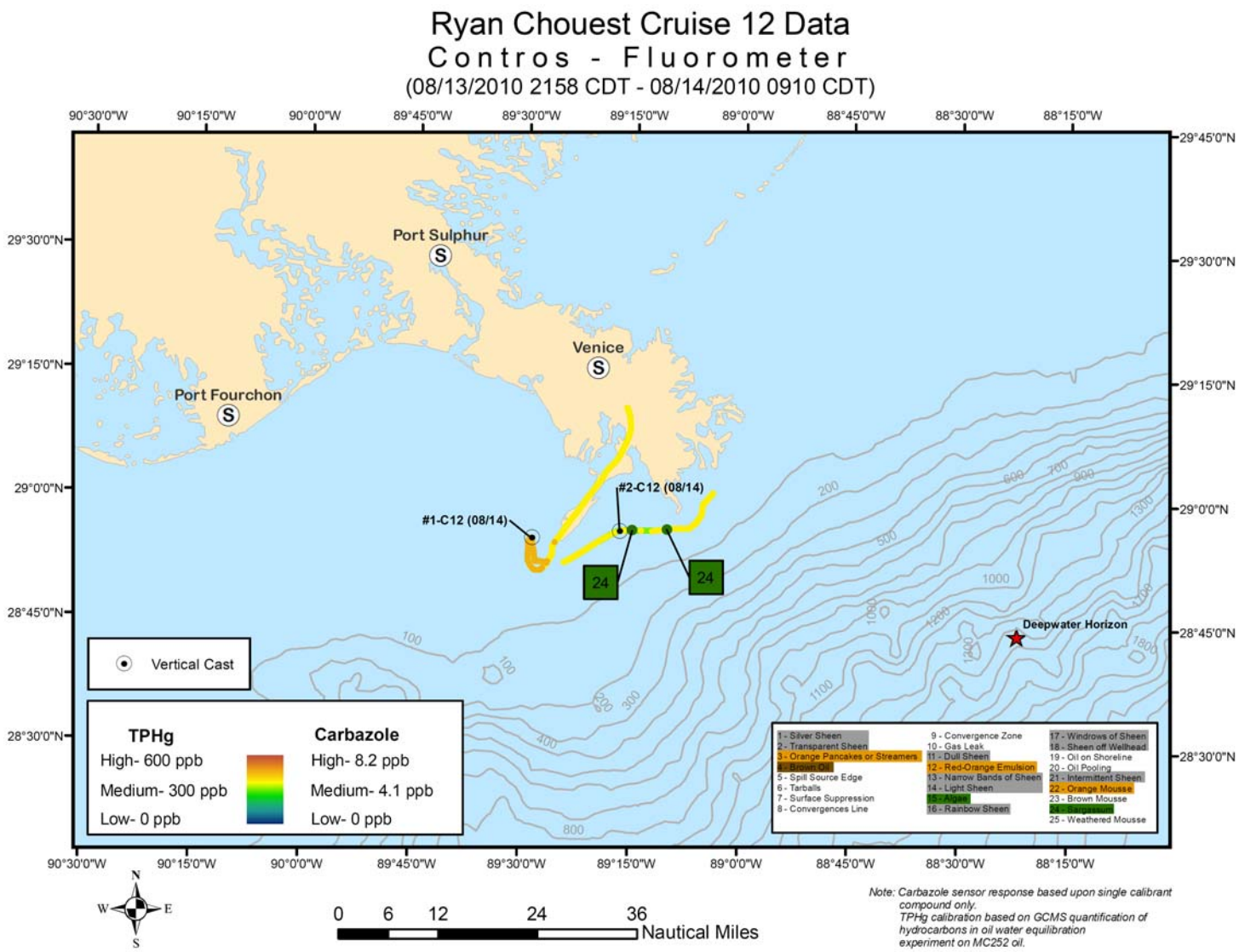

Figure 4. Contros fluorometer results plotted with location on cruise track 12. Breaks in data occur when either data quality is poor or the systems were turned off due to pump problems. Purple lines represent depth contours of 100 m intervals.

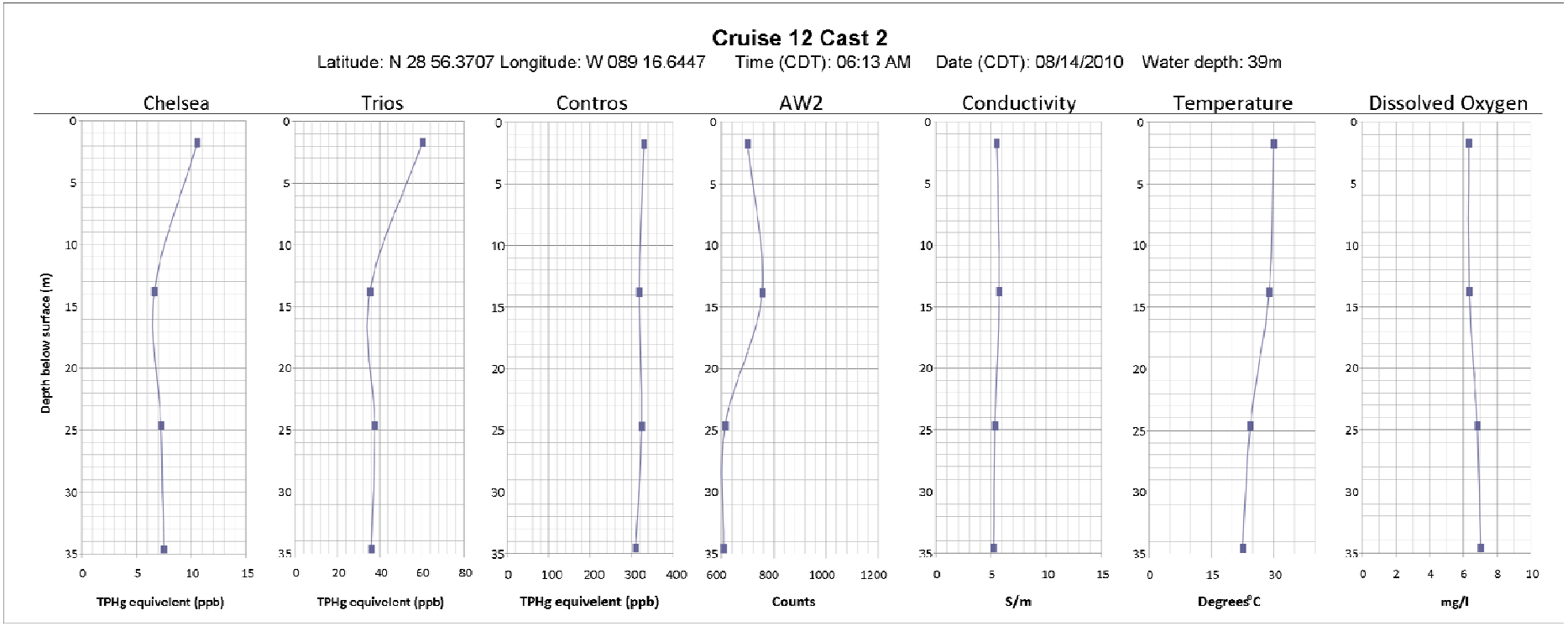

Figure 5. The results obtained for Cruise 12 vertical cast 1 down to35 m. The sensor fluorometry results for the Chelsea, Trios and Contros sensors and water samples were obtained from waters pumped to the surface. Conductivity, temperature, depth and dissolved oxygen measurements were obtained from a SBE 19+ system and oxygen sensor attached to the submersible pump used to draw the water into the sensor tank on the surface.

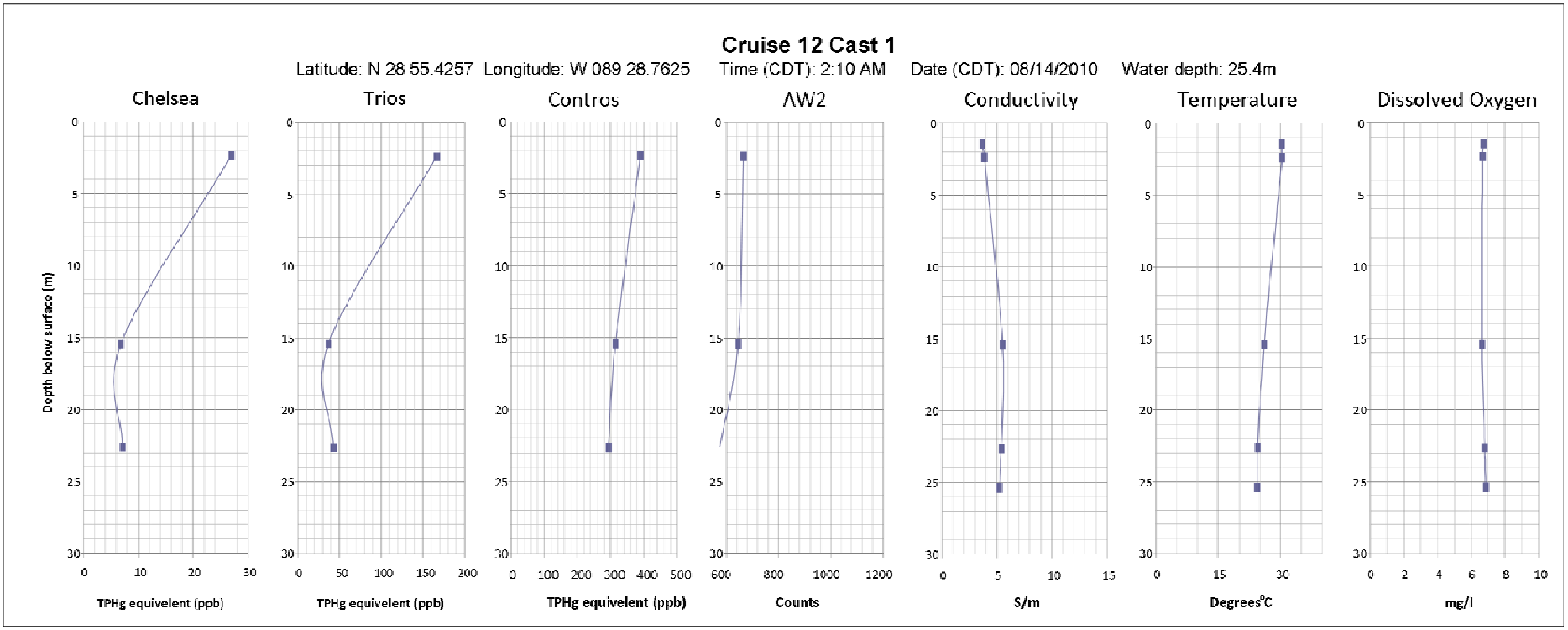

Figure 6. The results obtained for Cruise 12 vertical cast 2 down to27 m. The sensor fluorometry results for the Chelsea, Trios and Contros sensors and water samples were obtained from waters pumped to the surface. Conductivity, temperature, depth and dissolved oxygen measurements were obtained from a SBE 19+ system and oxygen sensor attached to the submersible pump used to draw the water into the sensor tank on the surface.

Science Operations:

Fluorometer measurements were logged for the majority of the period and observations of sea-surface conditions were made throughout. Vertical fluorometry and CTD casts are taken approximately every 20 nautical miles and sample the upper 30m. The EK-60 echo sounder is continuously collecting data to evaluate the seabed and water column for possible seeps.

Problems/operational issues:

No additional problems are reported for the period covered.

Selected Photographs:

No photographs taken during the reporting period.

Planned activities for next 24 hours:

The *Ryan Chouest* will continue head east towards the Alabama and Florida coasts with the cruise 12 track. Along the way, we will perform vertical fluorometry casts every 20 nautical miles and continuously record echo sounder data.

Full Crew List:

William A. Smith	MASTER	Brian Corley	Mate
Craig Lyons	ENG	Robert Thompson	ENG
Elijah Benjamin	O/S	Arthur Triggs	O/S
Roderick Baker	OS/Cook	Patrick Anderson	A/B
Kile Blunt	A/B/Cook	Guilherme de Almeida	Entrix
Lawrence Febo	BP	David Fuentes	CSIRO
Andrew Ross	CSIRO	Asrar Talukder	CSIRO
Emma Crooke	CSIRO	Kelly Bates	C&C
Tim MacEwan	C&C	Mathew Baham	C&C
Brett Bundick	C&C	David Duplechain	C&C
Bobby Patrick	C&C	Ben Autin	C-Port
Braden Wilson	C-Port		

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