August 2nd | 2010

Ryan Chouest daily data transmission and report

Period covered: *1135hrs* 08/01/2010 - *1219hrs* 08/02/2010

120.160 - Nautical miles covered

Vessel science party:

Andrew Ross (Andrew.Ross@csiro.au), David Fuentes(David.Fuentes@csiro.au), Emma Crooke (Emma.Crooke@csiro.au), Asrar Talukder (Asrar.Talukder@csiro.au), Tosin Majekodunmi (Tosin.Majekodunmi@bp.com), Curtis Walker (cwalker@entrix.com), Quinn Guidrey (quinn.guidrey@cctechnol.com), Jen Carlson (jen.carlson@cctechnol.com), Kelly Bates (kelly.bates@cctechnol.com), Jay Ridgeway (Jay.Ridgeway@cctechnol.com), Mathew Baham (Mathew.Baham@cctechnol.com), Joseph Watson (Joseph.Watson@cctechnol.com)

Contact details:

+ 1 337 761 9830 – Sat phone
+ 1 337-761-9830 – Broadband phone ship office 1
+ 1 337-761-9827 – Broadband phone ship office 2
+ 1 337-761-9826 - Broadband phone ship bridge

Cruise notes:

The *Ryan Chouest* vessel cruised northeast towards the Port Fourchon to pick up supplies, with the underway pump in operation. Along the way, the vertical cast was deployed at locations shown in Figure 1.

Science results and preliminary interpretation:

Fluorometry results

The Chelsea and Trios sensors measured minimal levels of inferred hydrocarbons through the track travelled for the period shown in figure 2. The Contros sensor, on the other hand, shows mid levels of inferred hydrocarbon concentration along the track in Figure 4.

Surface Observations

No significant surface observation noted during this period.

EK-60 Echosounder results

Echosounder contacts were made during this period were assigned as possible seeps (Figures 10-12). These features appear to emanate from relatively level sea floor through possibly multiple outlets in proximity to one another. Further studies of this area would be warranted to establish the nature of these features.

Vertical casts

Six vertical casts were made during the report period in shallow waters between 20 and 30 meters water depth (Figures 5-9). The majority of the casts show increasing fluorometry results toward the surface. However there are some unusual opposing results with in the fluorometry results which may be able to be further described with the complimentary GCMS derived data set. Interpretation of the results will take place in the final cruise report after the coastal transect is completed.

Science Operations:

Fluorometer measurements were logged for the majority of the period and observations of sea-surface conditions were made throughout. The EK-60 echo sounder is continuously collecting data to evaluate the seabed and water column for possible seeps. In addition 6 vertical casts were performed in waters ranging from 20-30m.

Problems/operational issues:

No problems reported for the period covered.

Planned route for cruise 11:

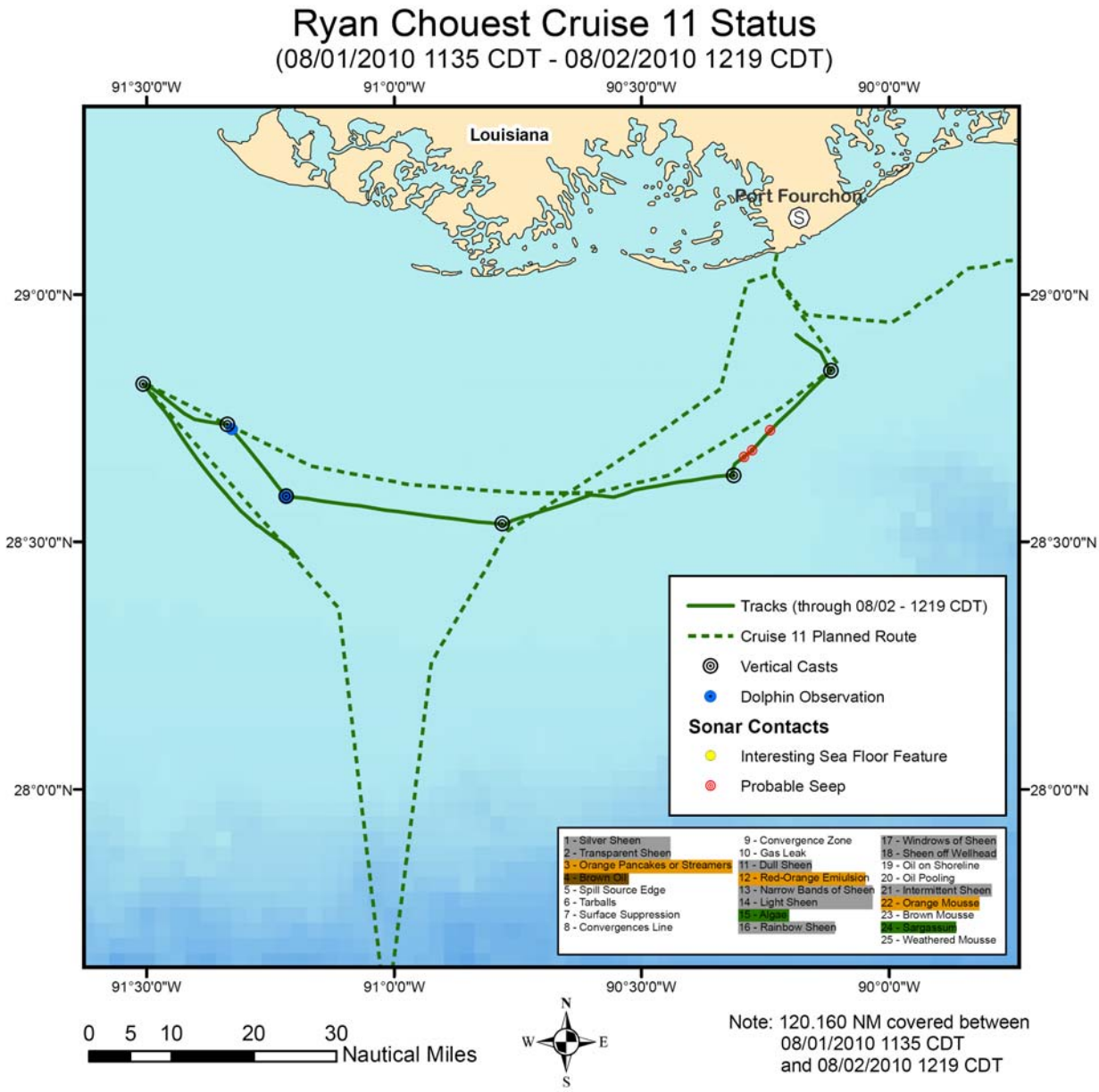

Figure 1: Planned route for cruise 11 versus the actual route plotted between 08/01/2010 – 08/02/2010.

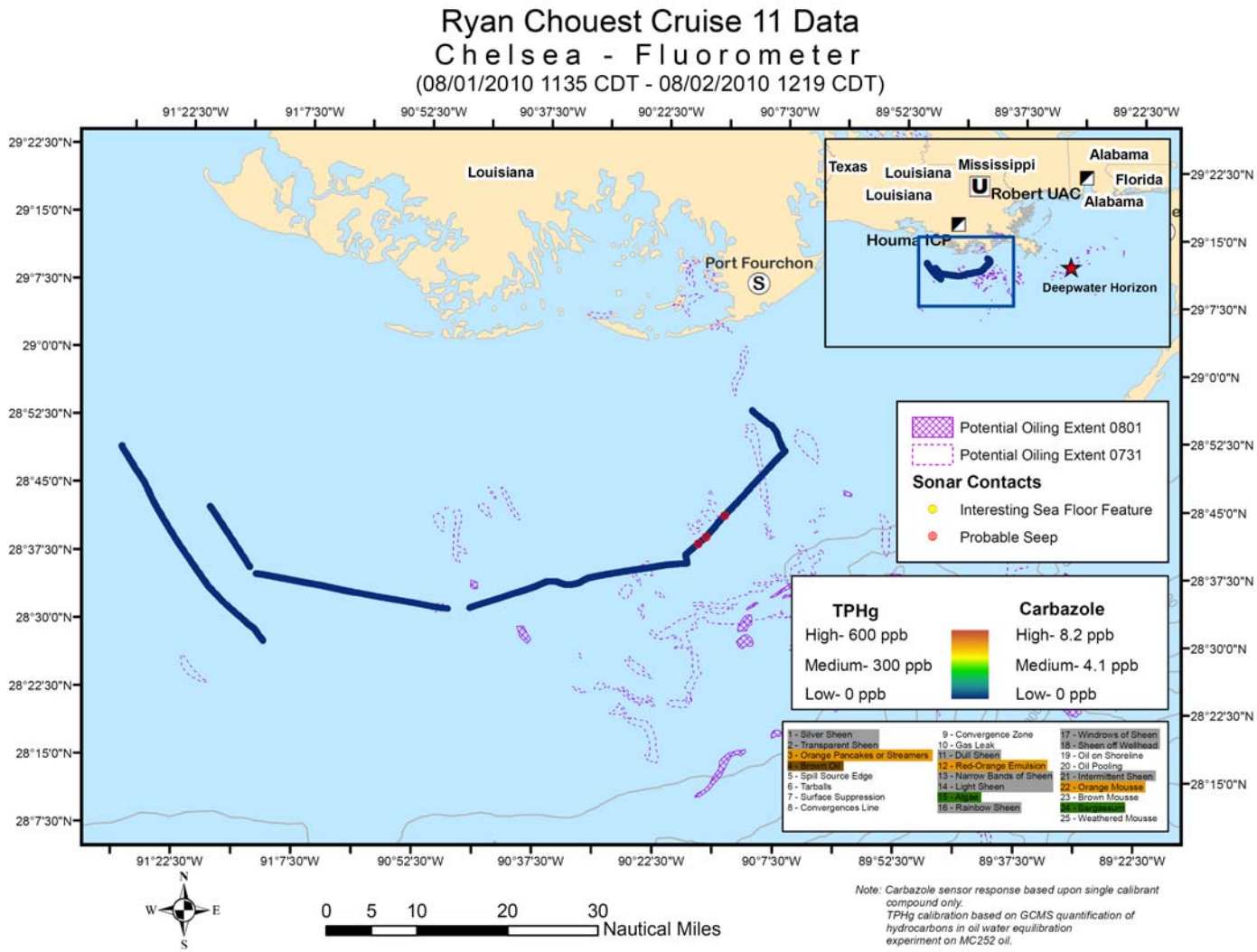

Figure 2. Chelsea fluorometer results plotted with location on cruise track 11. Breaks in data occur when either data quality is poor or the systems were turned off due to pump problems. Purple lines represent depth contours of 100 m intervals.

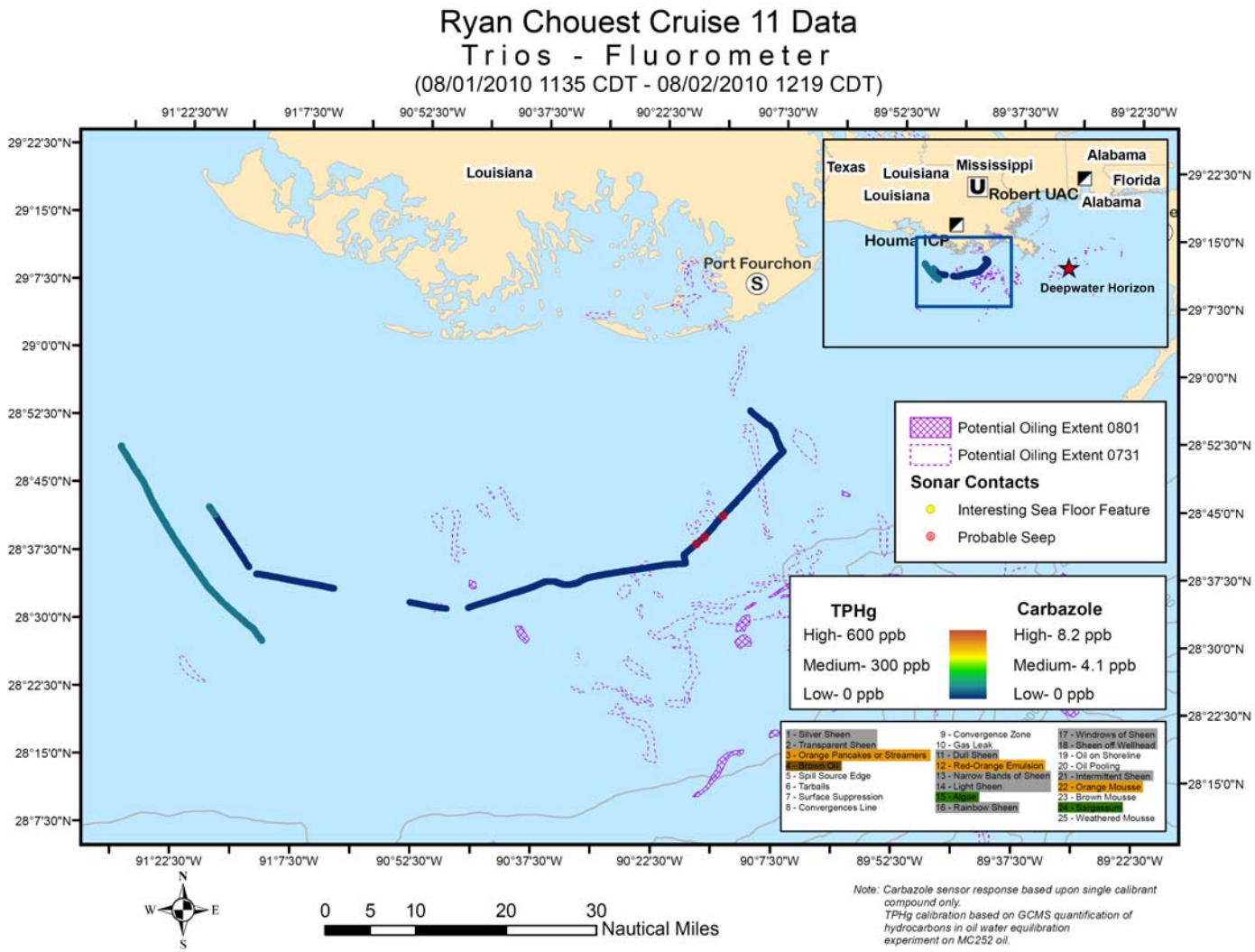

Figure 3. Trios fluorometer results plotted with location on cruise track 11. Breaks in data occur when either data quality is poor or the systems were turned off due to pump problems. Purple lines represent depth contours of 100 m intervals.

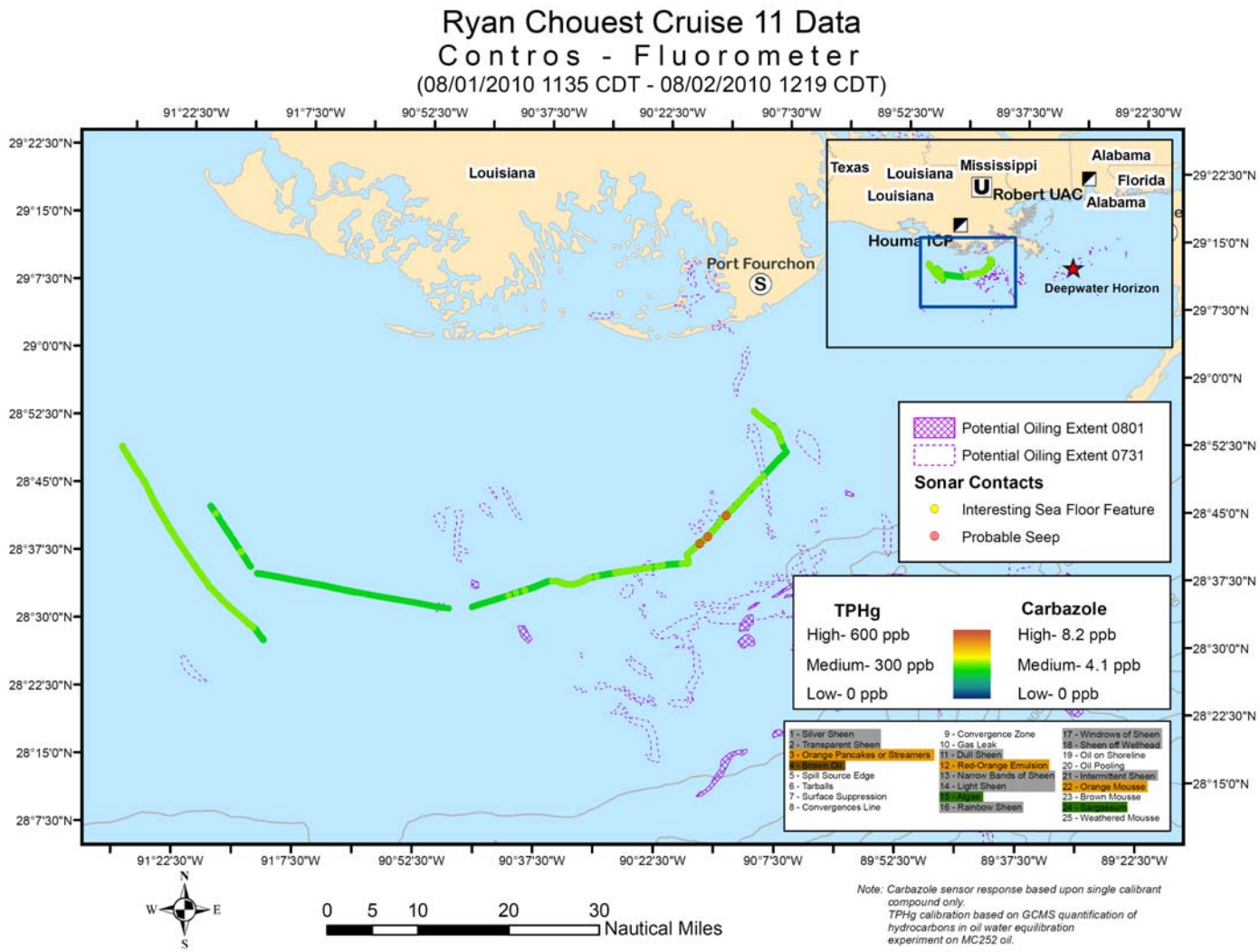

Figure 4. Contros fluorometer results plotted with location on cruise track 11. Breaks in data occur when either data quality is poor or the systems were turned off due to pump problems. Purple lines represent depth contours of 100 m intervals.

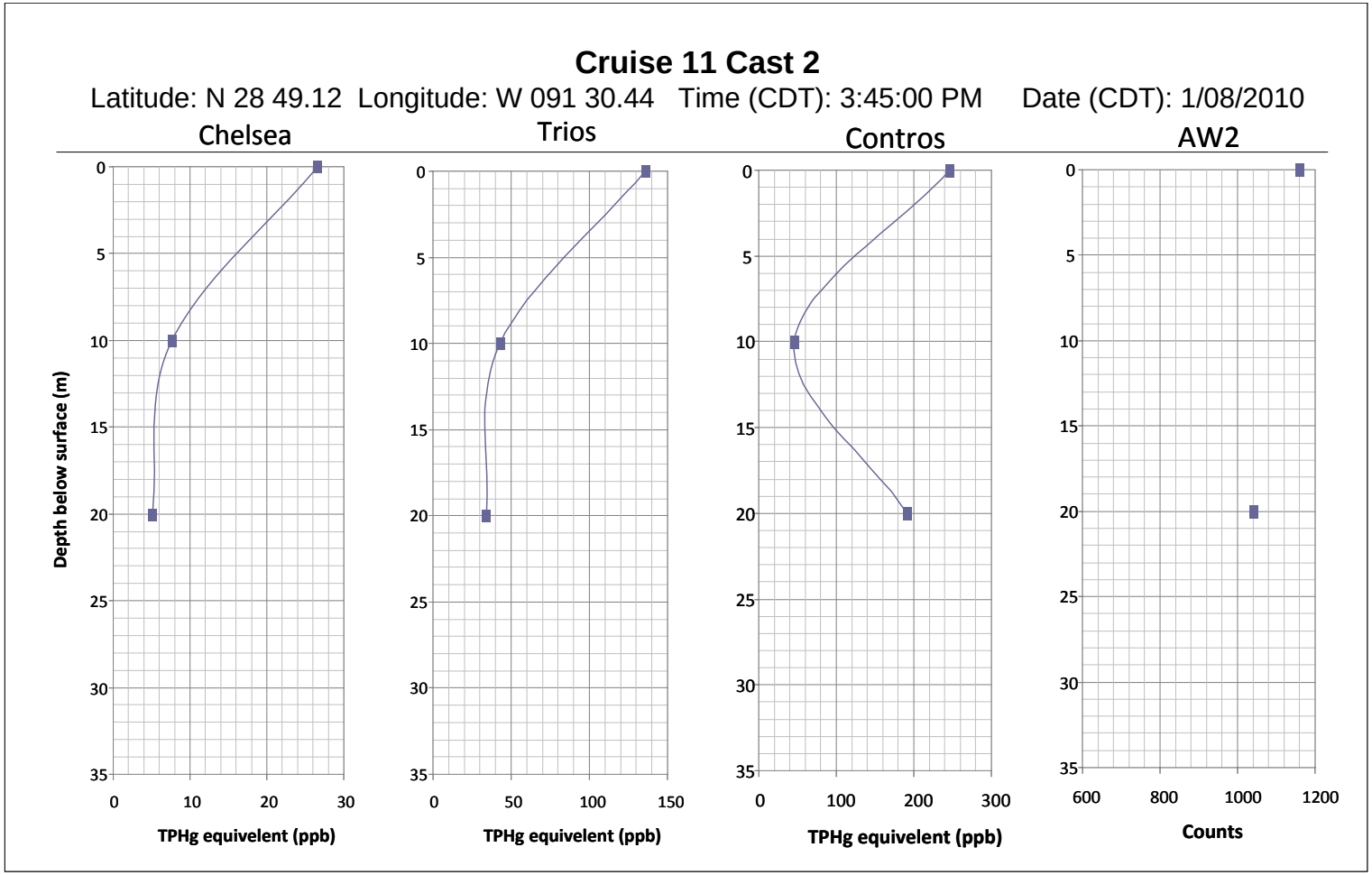

Figure 5. The results obtained for Cruise 11 vertical cast 2. The sensor results for the Chelsea, Trios Contros and AW40 sensor were obtained from waters pumped to the surface. CTD values were not recorded.

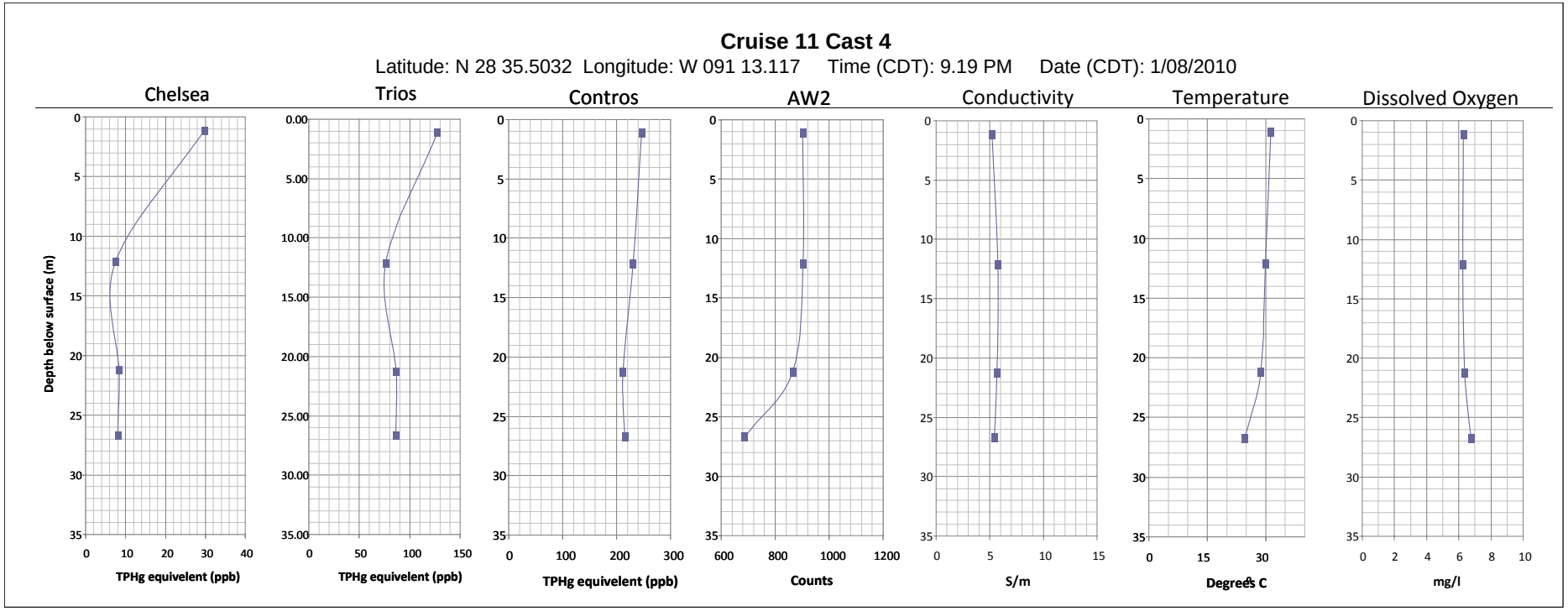

Figure 6. The results obtained for Cruise 11 vertical cast 4. The sensor results for the Chelsea, Trios Contros and AW40 sensor were obtained from waters pumped to the surface. Conductivity, temperature, depth and dissolved oxygen measurements were obtained from a SBE 19+ system and oxygen s attached to the submersible pump used to draw the water into the sensor tank on the surface.

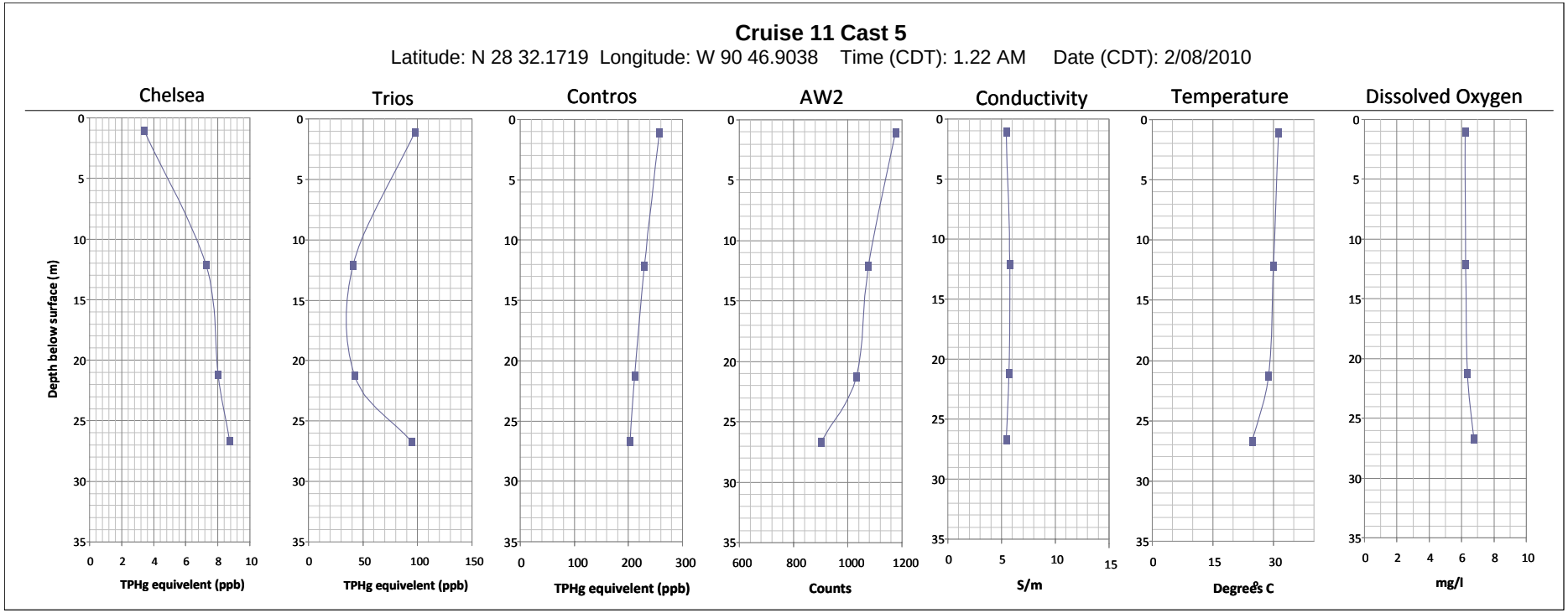

Figure 7. The results obtained for Cruise 11 vertical cast 5. The sensor results for the Chelsea, Trios Contros and AW40 sensor were obtained from waters pumped to the surface. Conductivity, temperature, depth and dissolved oxygen measurements were obtained from a SBE 19+ system and oxygen s attached to the submersible pump used to draw the water into the sensor tank on the surface.

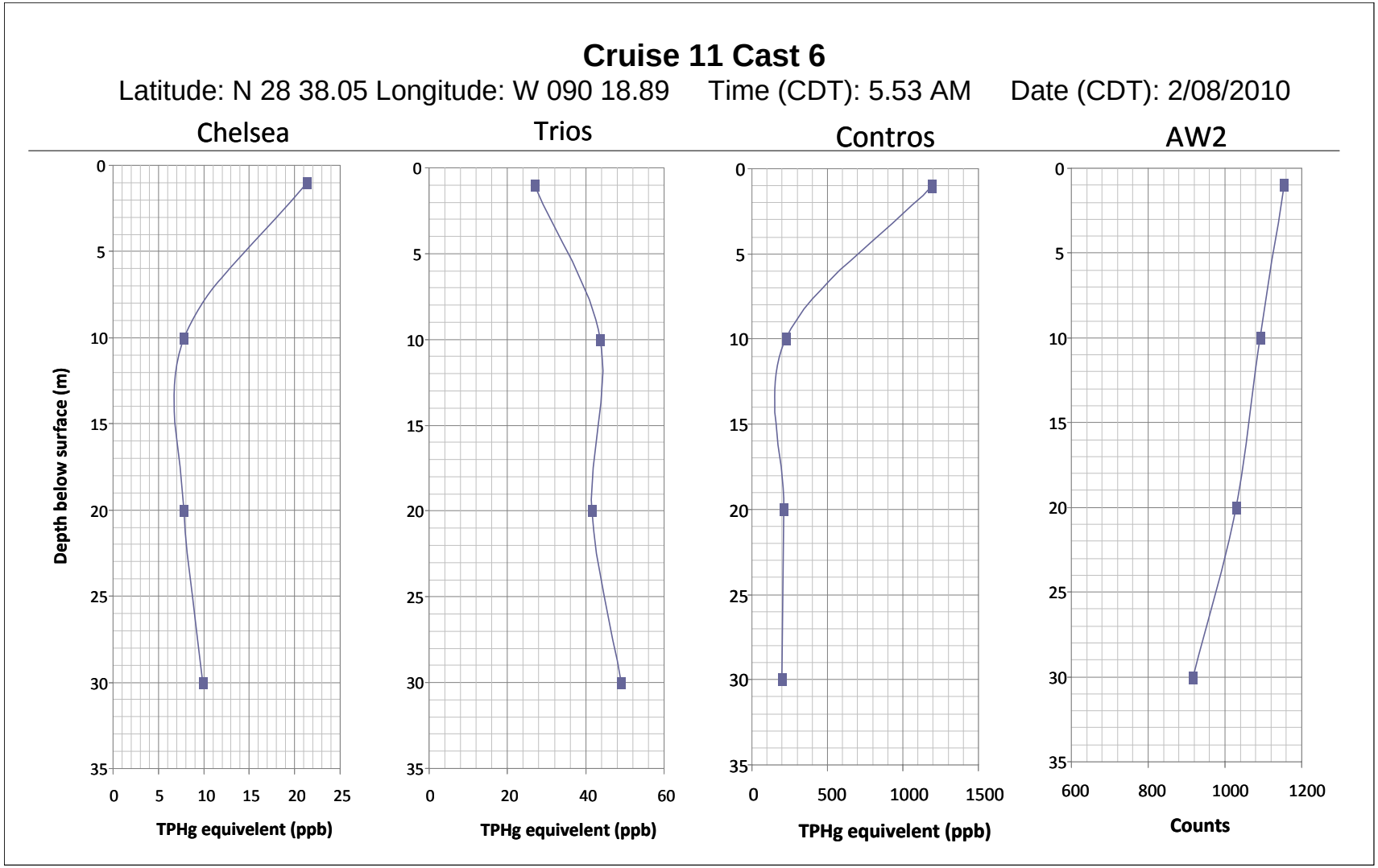

Figure 8. The results obtained for Cruise 11 vertical cast 2. The sensor results for the Chelsea, Trios Contros and AW40 sensor were obtained from waters pumped to the surface. CTD values were not recorded.

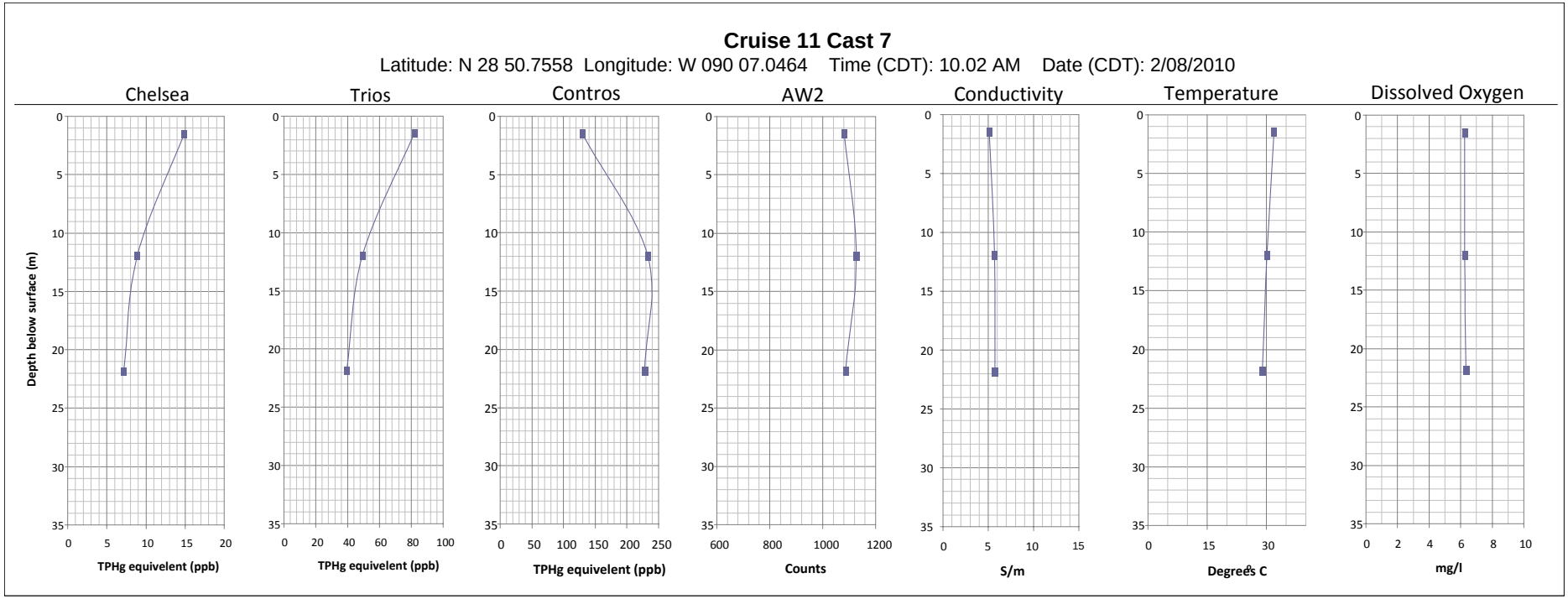

Figure 9. The results obtained for Cruise 11 vertical cast 7. The sensor results for the Chelsea, Trios Contros and AW40 sensor were obtained from waters pumped to the surface. Conductivity, temperature, depth and dissolved oxygen measurements were obtained from a SBE 19+ system and oxygen s attached to the submersible pump used to draw the water into the sensor tank on the surface.

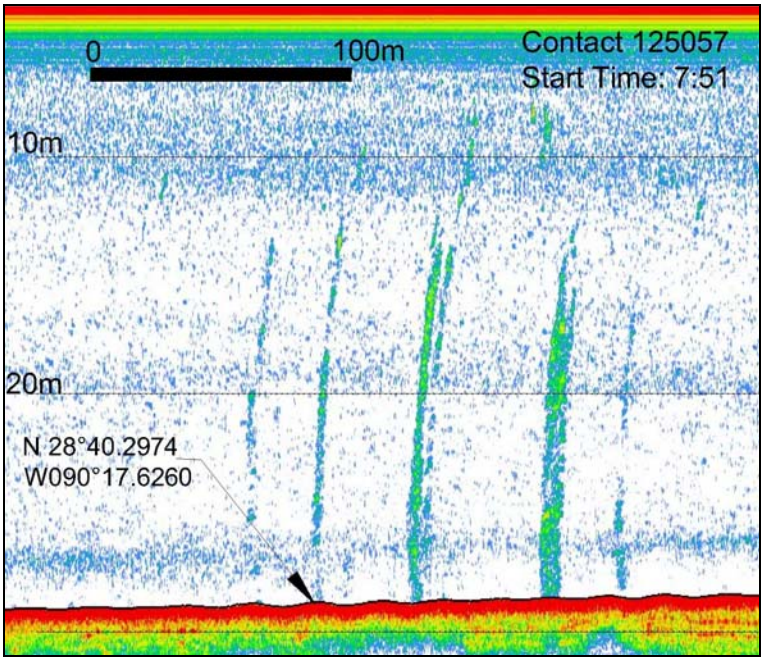

Figure 10. Contact_08022010_125057. Description: Possible multiple seeps**.** Time (CDT): 08/02/2010 0751hrs Location: 28**°** 40.2974N; 90° 17.6260W. Depth displayed: 13.09m to 28.47m.

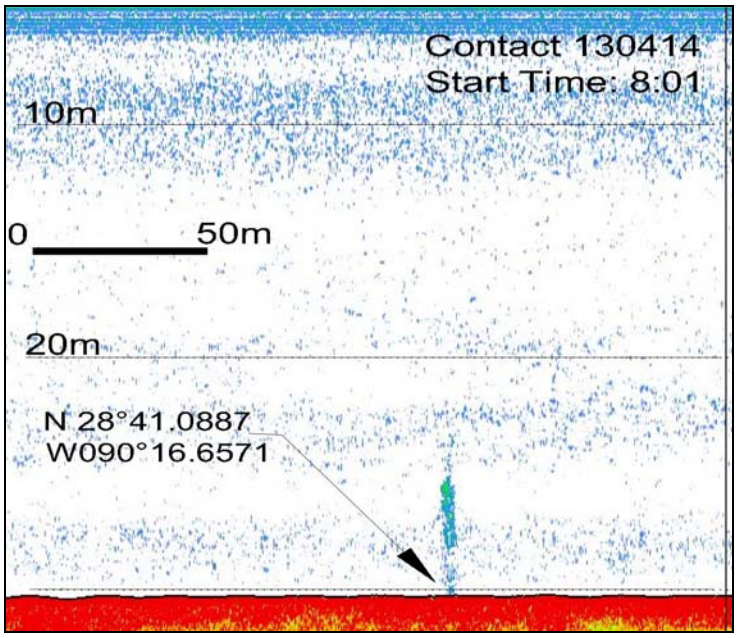

Figure 11. Contact_08022010_130414. Description: Possible seep**.** Time (CDT): 08/02/2010 0801hrs Location: 28**°** 41.0887N; 90° 16.6571W. Depth displayed: 21.74m to 30.67m.

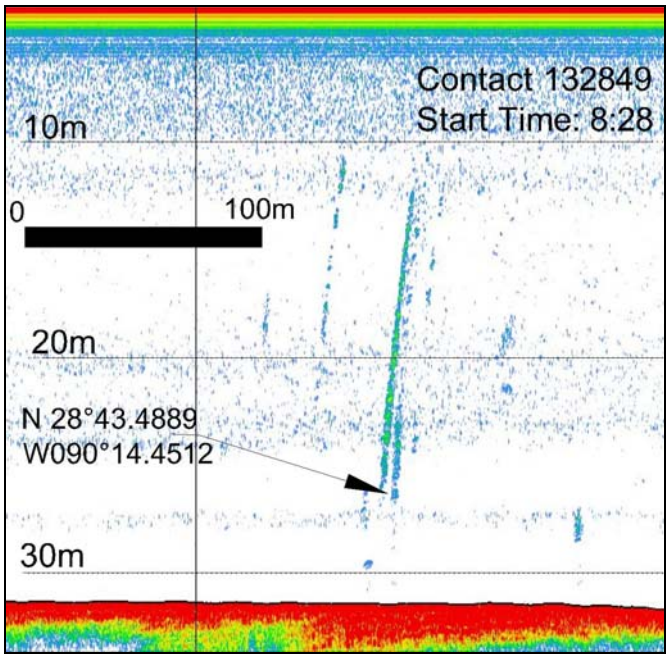

Figure 12. Contact_08022010_132849. Description: Possible seep**.** Time (CDT): 08/02/2010 0828hrs Location: 28**°** 43.4889N; 90° 14.4512W. Depth displayed: 12.98m to 26.12m.

Planned activities for next 24 hours:

The *Ryan Chouest* will head northeast on a coastal transect performing a number of vertical casts along the 30m bathymetric contour at approximately 20 nautical mile spacing, along the gulf coastlines of Louisiana, Mississippi, Alabama and west Florida (Figure 1).

Selected Photos:

No photographs were taken over the cruise period.

Full Crew List:

William A. Smith	MASTER	Brian Corley	Mate
Craig Lyons	ENG	Patrick Cousin	A/B
Mark Harmon	A/B	Arthur Triggs	O/S
Elijah Benjamin	O/S	Patric Anderson	QMED
Kile Blunt	OS/Cook	Roderick Baker	OS/Cook
Tosin Majekodunmi	BP	Curtis Walker	Entrix
Andrew Ross	CSIRO	David Fuentes	CSIRO
Emma Crooke	CSIRO	Asrar Talukder	CSIRO
Quinn Guidrey	C&C	Kelly Bates	C&C
Jen Carlson	C&C	Mathew Baham	C&C
Joseph Watson	C&C	Jay Ridgeway	C&C
Josh Chauffe	C-Port	Larry Luke	C-Port