August 31st | 2010

Ryan Chouest daily data transmission and report

Period covered: *1204 hrs* 08/30/2010 – *0702 hrs* 08/31/2010

95.395 - Nautical miles covered

Vessel science party:

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Cruise notes:

The *Ryan Chouest* left Theodore when the weather conditions appeared more favourable and began the planned route of Cruise 13 to Port Fouchon. The rough seas prohibited the deployment of the underway fluorometry pump. Collection of the echo sounder survey data and vertical casts continued (Figure 1).

Science results and preliminary interpretation:

Fluorometry results

No underway system was deployed due to the rough weather condition.

Surface Observations

There are no new surface observations to report.

EK-60 Echosounder results

7 echosounder contacts were observed at four localities during this report period (Figure 1).

Vertical Casts

Three vertical fluorometry/CTD cast was completed during this report period (Figure1, Figures 4, 5, 6). The fluorometers results presented showed low level of hydrocarbon concentrations in all casts. In Cast4 and Cast5 both flurometers displayed gradual increase along the water column up to the surface, while in Cast 6 the inferred PAH concentration was relatively constant from surface down to 10m depth.

Planned route for cruise 13:

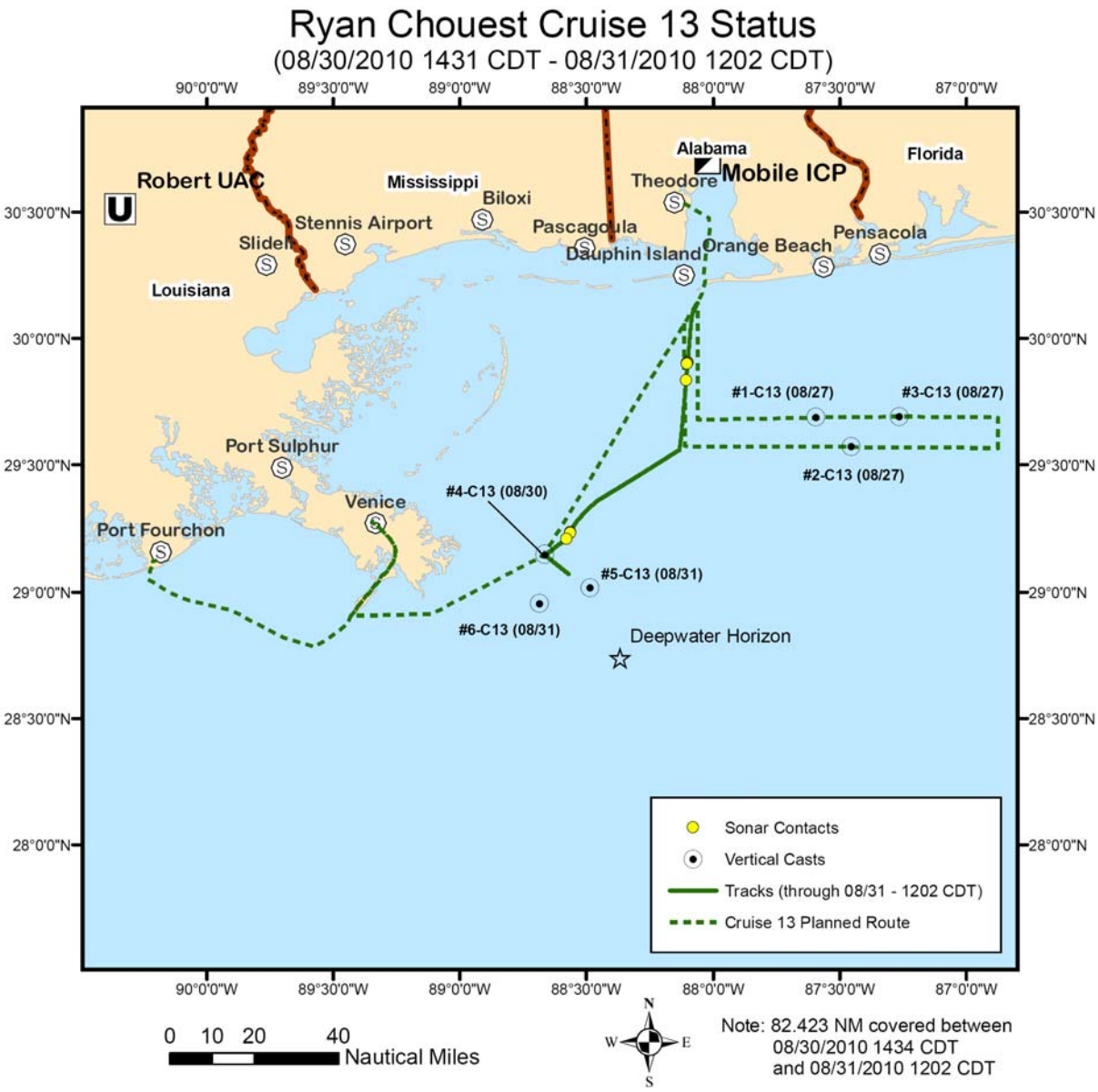

Figure 1: Planned route for cruise 13 versus the actual route plotted between 08/30/2010 – 08/31/2010. Breaks between track data occur when underway system was not deployed due to inclement seas.

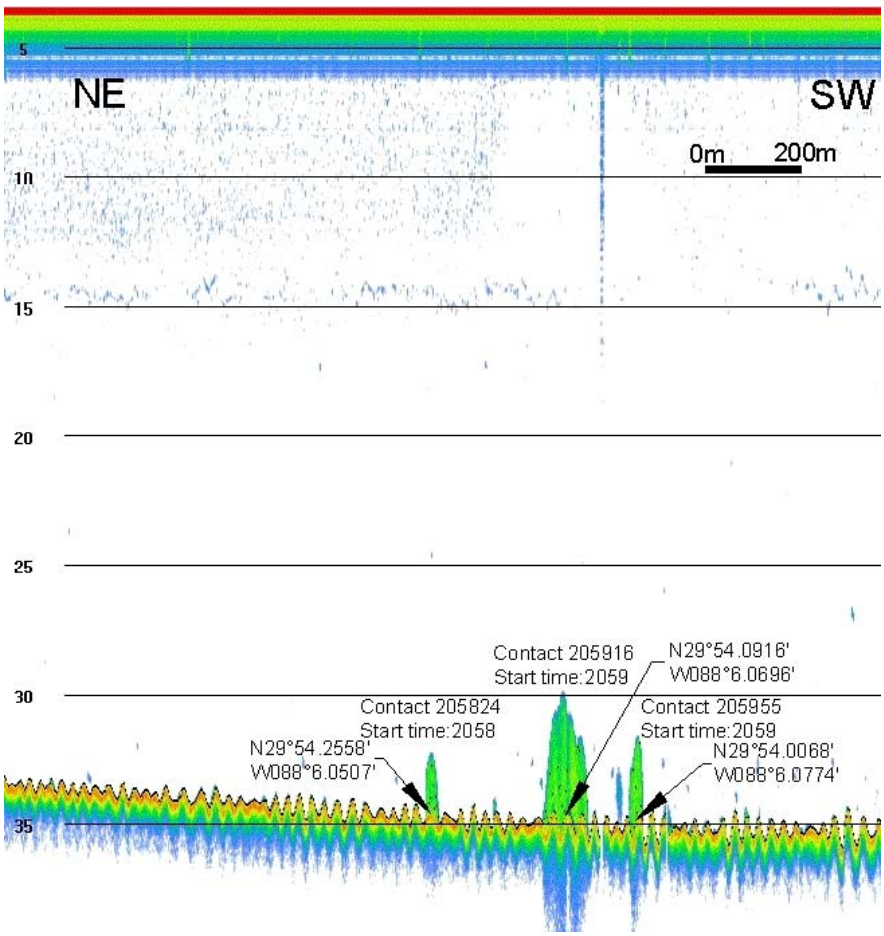

Figure 2. Contacts as marked on figure 1 along track line from Theodore to Southwestern Pass of the Mississippi River. This line is oriented from Northeast on the left to Southwest. a) Contact_08302010_205824. Description: Bottom contact. Time (CST): 08/30/2010 15:58:24. Location: 29° 54.2558N, 88° 06.0507W. Depth: 32.1m to 34.9m. b) Contact_08302010_205916. Description: Bottom contact. Time (CST): 08/30/2010 15:59:16. Location: 29° 54.0916N; 88° 06.0696W. Depth: 29.8m to 35.1m. c) Contact_08302010_205955. Description: Bottom contact. Time (CST): 08/30/2010 15:59:55. Location: 29° 54.0068N, 88° 06.0774W. Depth: 31.5m to 35.0m.

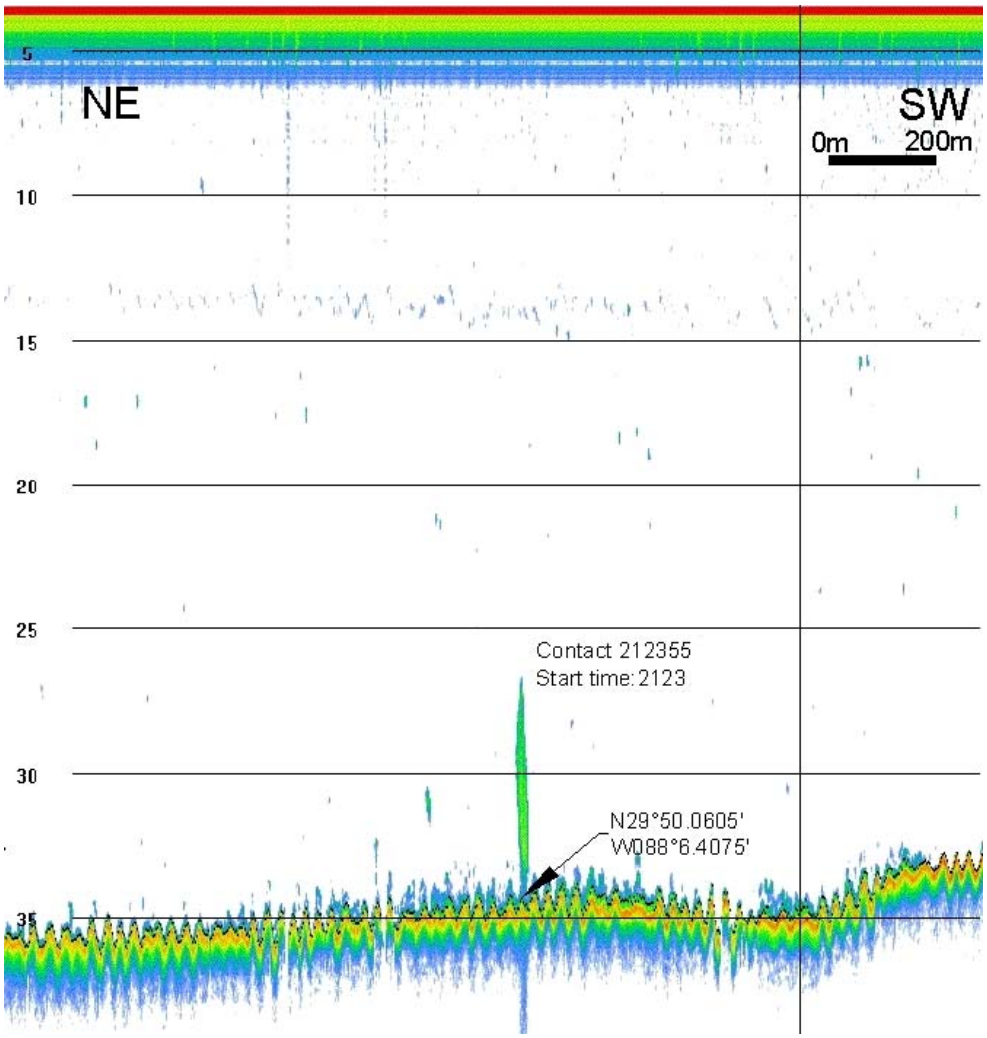

Figure 3. Contact_08302010_212335. Description: Bottom contact with straight trail to midwater. Time (CST): 08/30/2010 16:23:35. Location: 29° 50.0605N, 88° 06.4075W. Depth: 26.9m to 34.9m.

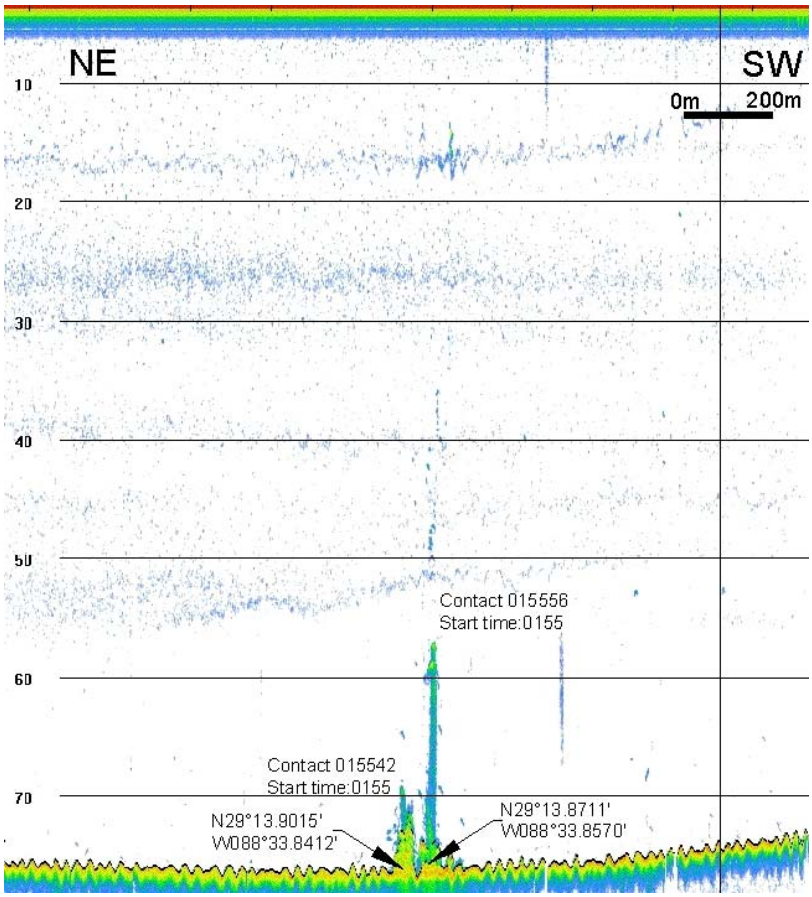

Figure 4. 2 contacts identified. a) Contact_08302010_015542. Description: Bottom contact. Time (CST): 08/30/2010 20:55:42. Location: 29° 13.90115N, 88° 33.8412W. Depth: 68.5m to 76.6m. b) Contact_08302010_015556. Description: Bottom to midwater contact with straight trail to near surface. Time (CST): 08/30/2010 20:55:56. Location: 29° 13.8711N, 88° 33.8570W. Depth: 56.9m to 76.0m.

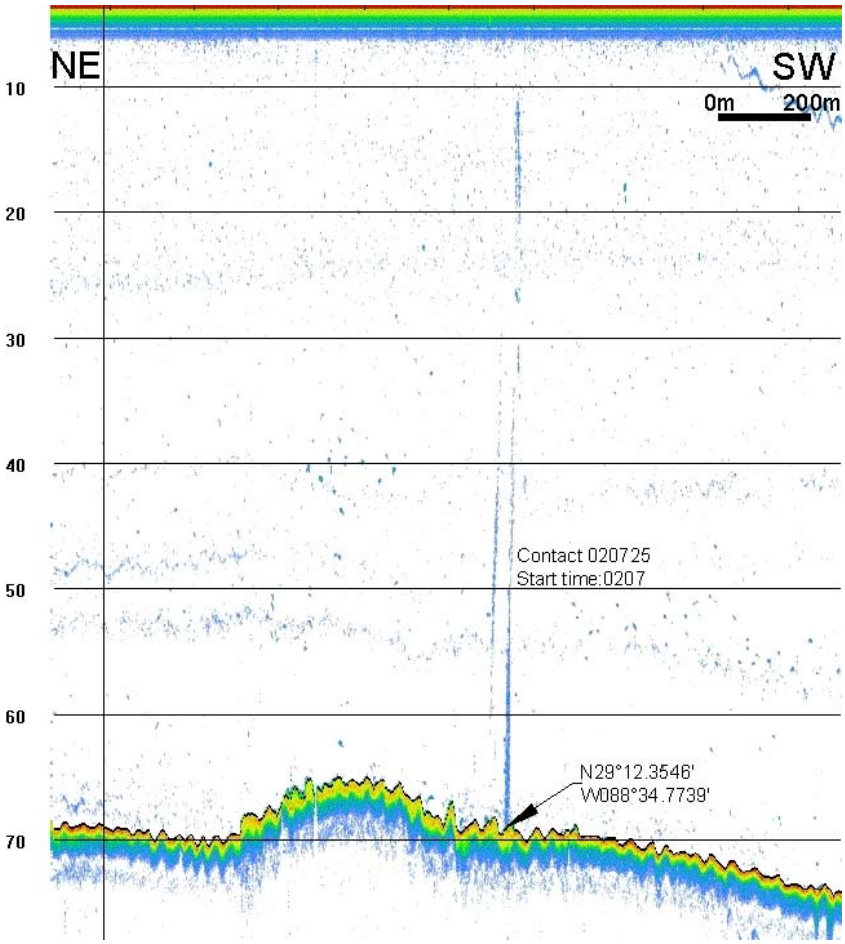

Figure 5. Contact_08302010_020725. Description: Broken trail from bottom to near surface after similar midwater contact. Time (CST): 08/30/2010 21:07:25. Location: 29° 12.3546N, 88° 34.7739W. Depth: 10.2m to 69.1m.

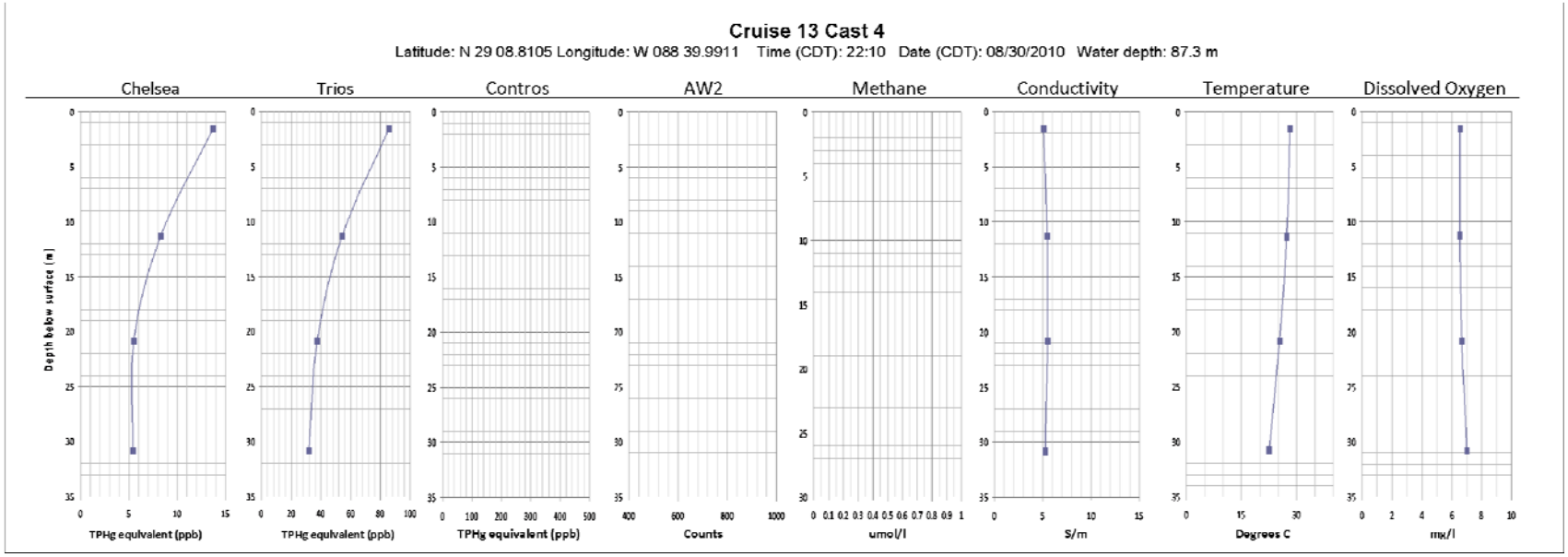

Figure 6. The results obtained for Cruise 13 vertical cast 4 (#4-C13) down to 31 m. The sensor fluorometry results for the Chelsea, Trios sensors and water samples were obtained from waters pumped to the surface. Conductivity, temperature, depth and dissolved oxygen measurements were obtained from a SBE 19+ system and oxygen sensor attached to the submersible pump used to draw the water into the sensor tank on the surface.

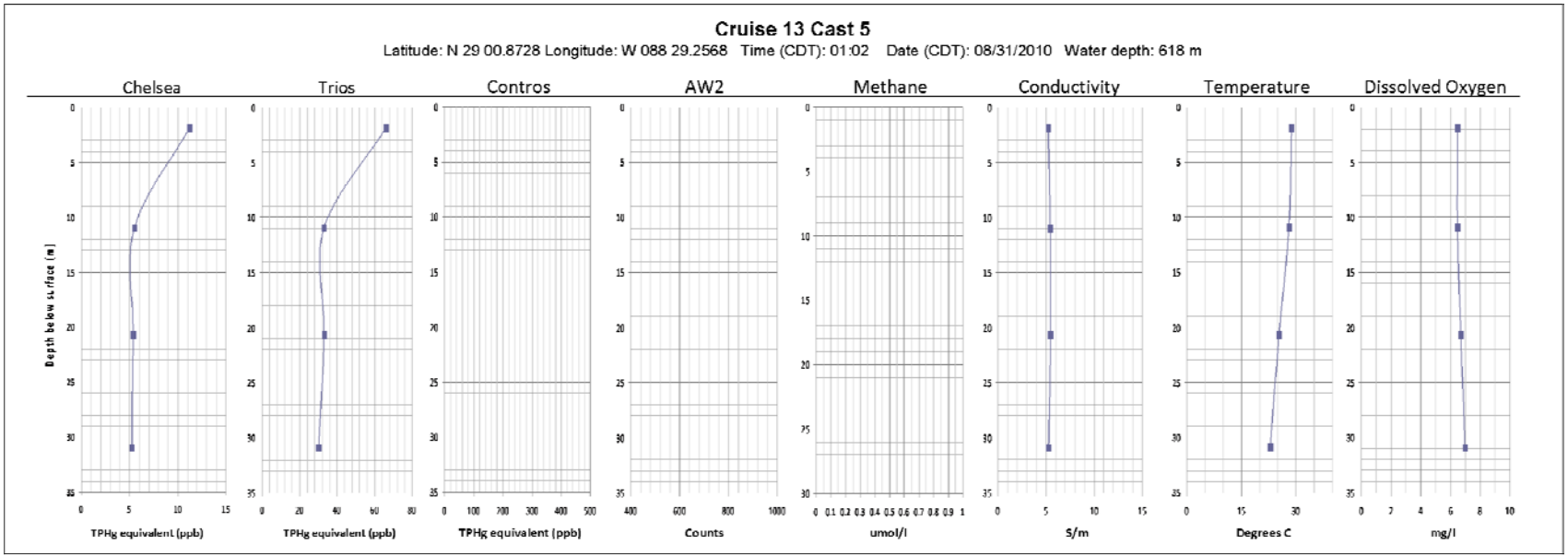

Figure 7. The results obtained for Cruise 13 vertical cast 5 (#5-C13) down to 31 m. The sensor fluorometry results for the Chelsea, Trios sensors and water samples were obtained from waters pumped to the surface. Conductivity, temperature, depth and dissolved oxygen measurements were obtained from a SBE 19+ system and oxygen sensor attached to the submersible pump used to draw the water into the sensor tank on the surface.

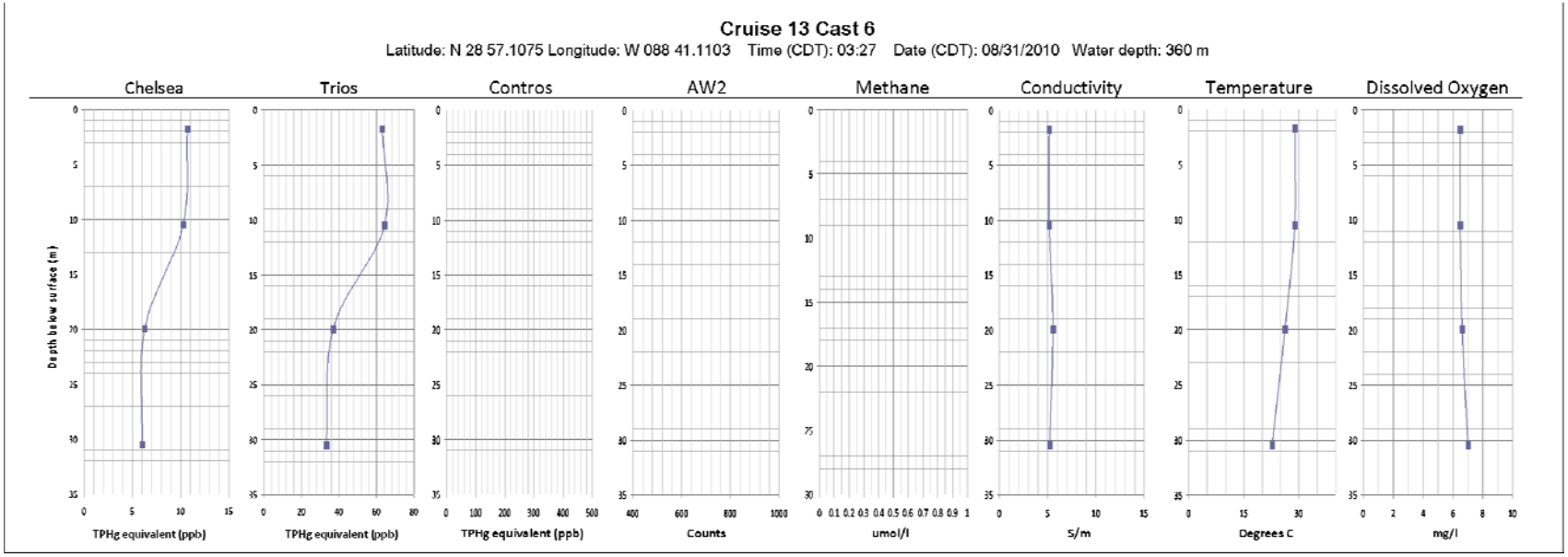

Figure 8. The results obtained for Cruise 13 vertical cast 6 (#6-C13) down to 31 m. The sensor fluorometry results for the Chelsea, Trios sensors and water samples were obtained from waters pumped to the surface. Conductivity, temperature, depth and dissolved oxygen measurements were obtained from a 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:

Observations of sea-surface conditions were made throughout. Vertical fluorometry and CTD cast data is collected from three completed casts. The EK-60 echo sounder is continuously collecting data to evaluate the seabed and water column for possible seeps. We continue to analyse water samples using the GCMS.
Two sensors from CSIRO and one sensor from Liquidr were calibrated with carbazole solution and oil/water extract.

Problems/operational issues:

The underway system was not deployed due to rough seas. The big waves caused damages to several instrument/facilities; these include the AW40 sensor and the air conditioner in the CSIRO office container, which were down because seawater got into the connectors. The AW40's sensor probe has been replaced to restore the AW40's functionality.

Selected Photographs:

No additional photographs were taken during this leg of the cruise

Planned activities for next 24 hours:

The *Ryan Chouest* will continue the planned route to Port Fouchon. We will survey the southwestern pass of the Mississippi River delta to Venice, Louisiana and back. Surface water samples, vertical casts, and underway tow data along the track will be collected. Upon arrival at Port Fouchon, modifications will begin in preparation for the addition of the CTD sensor. During our time at dock we will repair the underway tow departure from port is estimated on 09/04/10.

Full Crew List:

William A. Smith	MASTER	Brian Corley	Mate
Robert Thompson	ENG	Kevin Hartley	ENG
Elijah Benjamin	O/S	Arthur Triggs	O/S
Steven Morgan	OS/Cook	Patrick Anderson	A/B
Kile Blunt	A/B/Cook	Curt Walker	Entrix
Rebecca Tedford	BP	Stephane Armand	CSIRO
Xiubin Qi	CSIRO	Charlotte Stalvies	CSIRO
Andy Revill	CSIRO	Bobby Patrick	C&C
Tim MacEwan	C&C	Josh Shaw	C-Port
Brett Bundick	C&C	Larry Luke	C-Port
David Duplechain	C&C		

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interim results only, which require further analysis. No reliance or actions must therefore be made on that information without seeking further expert professional and technical advice.