

20th September 2010 Ryan Chouest Status Report, Cruise 16 – Day 4.

Cruise operations summary

The Ryan Chouest experienced mechanical problems with its thrusters at 1130 on the 09/18/10 and was unable to use Dynamic Positioning to hold the vessel in position to enable accurate deployment of the CTD carousel. The vessel therefore returned to Port for repairs and was not back on site to continue operations until the morning of the 20th September. A summary of operations is provided in Table 1.

Table 1. Summary of Cruise 16 operations

Date	Day	Summary
17 Sep 10	1	Location MC 110-01 investigated. Seep located. Cast at Station RC001 Location MC 109-01 investigated. No seep detected. No cast.
18 Sep 10	2	Thruster problems returned to Port in Theodore.
19 Sep 10	3	Fixing thruster problems in Port in Theodore followed by return transit to site to continue operations.
20 Sep 10	4	Location MC 110-02 investigated. Seep located. Cast at Station RC002 Location MC 110-03 investigated. Seep located. Cast at Station RC003 Location MC 110-04 investigated. Seep located. Cast at Station RC004 Location MC 113-01 investigated. Seep located. Cast at Station RC005

Weather and sea conditions

The day was slightly overcast with occasional sunshine. The winds were easterly throughout the day and between 5 to 10 knots. Seas were between 1 to 3 feet wave height.

Today's weather conditions are summarized in Table 2, below.

Table 2 – Summary of the Weather for 20th September 2010

Time	Wind	Sea	Weather
1000	10 kts E	1 – 3 ft	Overcast
1400	7.5 kts E	2 – 3 ft	Overcast
1700	8 kts E	2 – 3 ft.	Overcast

Sample locations and Fluorescence, DO and methane Traces.

The objective of Cruise 16 is to re-occupy sites which have been identified as being possible natural hydrocarbon seeps and to acquire water samples from within the vicinity of the seeps for chemical analysis. The general location of these potential seeps was primarily based upon echosounder contact information from previous Ryan Chouest Cruises 8, 10, 11, 12, 13 and 14. In order to relocate the seeps the vessel transited initially to the coordinates of these previous contacts and carried out a 'cloverleaf' pattern echosounder survey to relocate and characterize

the seep prior to performing CTD casts. If the location of the potential seep could not be reoccupied no CTD cast was performed.

Location MC110-02 - Station RC002 was the first site to be investigated. It is located 29.6 NM WNW of the well-head in a water depth of 370m at N28° 51.5592 W088° 54.1395. There was no fluorescence or methane signal but a slight rise in dissolved oxygen was observed between 330-350m. Water samples were collected at 362m, 336m, 270m, and 184m for further chemical analysis.

Location MC110-03 - Station RC003 was the second site to be investigated and is located 0.49 NM ENE of Station RC002 in a water depth of 389m at N28° 51.6670 W088° 54.6522. There was no fluorescence or methane signal or dip in dissolved oxygen. Water samples were collected at 389m, 339m 289m and 195m..

Location MC110-04 - Station RC004 was the third site to be investigated and is located 0.56 NM SW of Station RC003 in a water depth of 410m at N28° 51.2248 W088° 54.1479. There was no fluorescence or methane signal or dip in dissolved oxygen. Water samples were collected at 400m, 361m 311m and 305m.

Location MC113-01 - Station RC005 was the fourth site to be investigated and is located 7.52 NM E of Station RC003 in a water depth of 515m at N28° 52.1183 W088° 45.1028. There was no fluorescence or methane signal or dip in dissolved oxygen. Water samples were collected at 508m, 465m 415m and 257m.

The locations and results of the CTD casts conducted today are summarized in Table 3 and Figure 1, below.

Table 3 – Station Summary for 20th September 2010

Station	Sampling Location	Fluorescence Signal	Signal Depth	DO Depression	Depression Depth	Methane Signal	Signal Depth
RC002	MC110-02 Lat: N28°51.5592 Long: W88°54.1395 Cast duration: 0917-0952	No	-	No	-	No	-
RC003	MC 110-03 Lat: N28°51.6670 Long: W88°54.6522 Cast duration: 1424-1456	No	-	No	-	No	-
RC004	MC 110-04 Lat: N28°51.2248 Long: W88°54.1479 Cast duration: 1710-1734	No	-	No	-	No	-

RC005	MC 113-01 Lat: N28°52.1183 Long: W88°45.1028 Cast duration: 2109-2155	No	-	No	-	No	-
-------	---	----	---	----	---	----	---

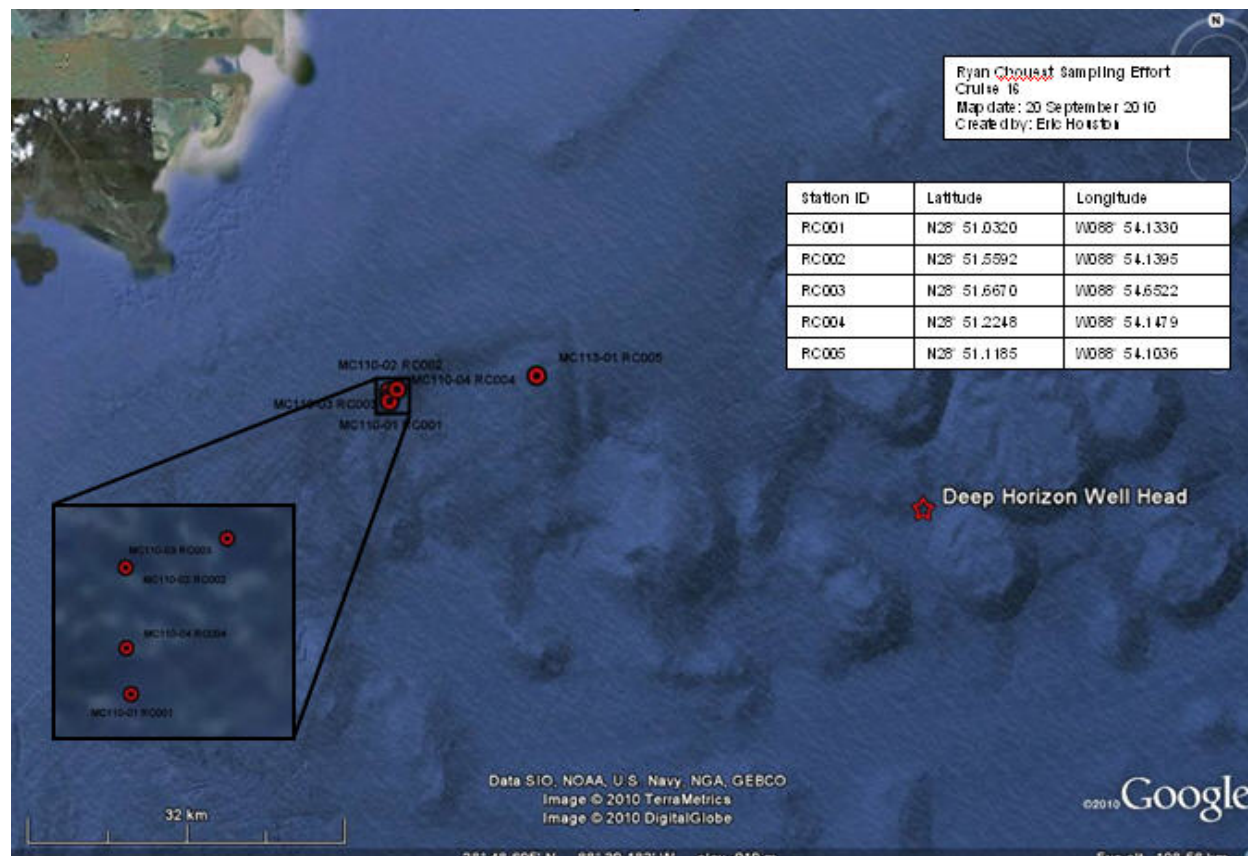


Figure 1 – Sampling Effort for Cruise 16 from 17-20 September 2010.