21st September 2010 Ryan Chouest Status Report, Cruise 16 – Day 5.

Cruise operations summary

The Ryan Chouest continued on its Cruise 16 plan transiting overnight to MC118 to investigate this area before returning to Port in Theodore for a crew change. A summary of operations for Cruise 16 from 09/17 – 09/21 is provided in Table 1.

Table 1. Summary of Cruise 16 Operations

Date	Day	Summary
17 Sep 10	1	Location MC 110-01investigated. Seep located. Cast at Station **RCOO1** 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**
21 Sep 10	5	Location MC 110-1 investigated. Seep located. Cast at Station **RC006** and **RC007**

Weather and sea conditions

The day was slightly sunny with some cloud cover. The winds strengthened throughout the day from 13 to 21 knots. Seas were between 2 to 6 feet wave height.

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

Table 2 – Summary of the Weather for 21st September 2010

Time	Wind	Sea	Weather
0700	13 kts E	2-4 ft	Sunny
1400	17 kts E	2-4 ft	Sunny
1900	21 kts NE	5-6 ft	Sunny

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 MC118-01 was the first site to be investigated and is located 9.65 NM NW of the well head. Two casts were performed adjacent to one another. Station RC006 at N28° 51.1103 W088° 29.4994 and Station RC007 in a water depth of 883m and RC007 at N28° 51.1276 W88° 29.5062 in a water depth of 881m.There was no fluorescence or methane signal or dip in dissolved oxygen during either cast. Water samples for RC006 were collected at 882m, 833m 783m and 441m and for RC007 at 881m, 841m, 791m and 445m.

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

Table 3 – Station Summary for 21st September 2010

Station	Sampling Location	Fluorescence Signal	Signal Depth	DO Depression	Depression Depth	Methane Signal	Signal Depth
RC006	**MC118-01 Lat: N28°51.1103 Long: W88°29.4994 Cast duration: 0708-0800**	**No**	**-**	**No**	**-**	**No**	**-**
RC007	**MC 118-01 Lat: N28°51.1276 Long: W88°29.5062 Cast duration: 1359-1458**	**No**	**-**	**No**	**-**	**No**	**-**

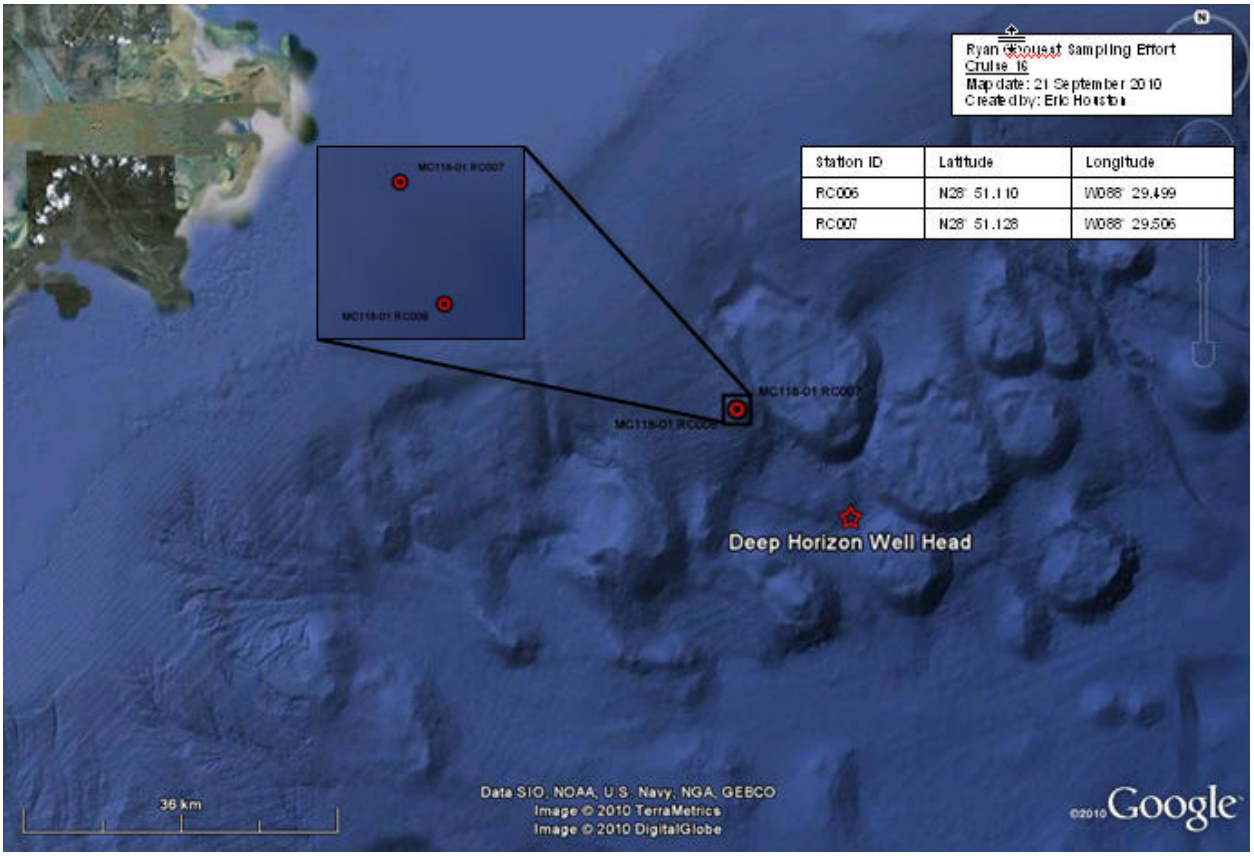

Figure 1 – Sampling Effort for Cruise 16 from 21 September 2010.