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| *Seabed Sampling and Baited Camera Operations* | |
| Vessel | R/V Gyre |
| Summary Report Number | 05 |
| Operating equipment | MEGA Corer (12 core unit) |
| Date | 26 September 2010 |
| Completed casts (12 hr) | 3 |
| Report compiled by | Richard Bowen |

Seabed Sampling Locations



All cores were processed and stored in accordance with SOPGY01. GC/MS and toxicology testing was conducted offshore. Samples were prepared and stored for hydrocarbon, trace metal, BTEX, grainsize, total inorganic carbon, total organic carbon, meiofauna, macrofauna and microbiology testing and analysis onshore.

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| **Station NF\_010**  **Lat: 28.757164**  **Long: -88.388669**  Cores recovered: 12 out of 12  Supernatant water  *Visible contamination*: None  *Olfactible contamination*: None  *Toxicology*: tested using an Azur Microtox 500 water purity monitoring system which measures the bioluminescence inhibition of the bacteria Vibrio fischeri after sample exposure at various sample concentrations. No appreciable inhibition was exhibited after periods of 5 and 15 minutes indicating that the bacteria had not been exposed to the toxic effects of typical pollutants.  Sediment  *Visible contamination*: There is possible oil contamination in the top two layers (0–3 cm & 3–9 cm) - small black globs (<0.5cm) which smear when pressed.  *Olfactible contamination*: There was no petroleum smell in this sample.  *Description*: 24cm soft grey clay overlaid with 6cm less consolidated grey clay topped with 3cm soupy brown ooze.  *Gas Chromatography & Mass Spectroscopy*: The top 3cm of sediment core was sampled and analysed for EPA priority pollutant PAHs and Corexit 9500 dispersant. The sample was also screened for the source oil fingerprint. None of the target analytes were detected. No source oil was detected. |  |

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| **Station NF\_011**  **Lat: 28.765306**  **Long: -88.366883**  Cores recovered: 12 out of 12  Supernatant water  *Visible contamination*: None  *Olfactible contamination*: None  *Toxicology*: tested using an Azur Microtox 500 water purity monitoring system which measures the bioluminescence inhibition of the bacteria Vibrio fischeri after sample exposure at various sample concentrations. No appreciable inhibition was exhibited after periods of 5 and 15 minutes indicating that the bacteria had not been exposed to the toxic effects of typical pollutants.  Sediment  *Visible contamination*: Possible oil contamination in top 3-5cms. Oily sheen found in other samples from this site.  *Olfactible contamination*: Oily smell found in other samples from this site.  *Description*: Approx 25cm soft grey clay overlaid with 8cm less compacted/less cohesive grey clay topped by 3cm brown ooze. There is a thin layer (0.2cm) of fine flocculent at the water/sediment interface and a black band at 3-5cm. From outside the core barrel, clear layers were visible, but when the core was extruded and sliced lengthwise these layers were not visible  *Gas Chromatography & Mass Spectroscopy*: The top 3cm of sediment core was sampled and analysed for EPA priority pollutant PAHs and Corexit 9500 dispersant. The sample was also screened for the source oil fingerprint. None of the target analytes were detected, although small concentrations of higher molecular weight compounds were present in the sample. |  |

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| **Station NF\_012**  **Lat: 28.757853**  **Long: -88.344461**  Cores recovered: 11 out of 12  Supernatant water  *Visible contamination*: The supernantant was unusually opaque and yellow.  *Olfactible contamination*: None  *Toxicology*: tested using an Azur Microtox 500 water purity monitoring system which measures the bioluminescence inhibition of the bacteria Vibrio fischeri after sample exposure at various sample concentrations. No appreciable inhibition was exhibited after periods of 5 and 15 minutes indicating that the bacteria had not been exposed to the toxic effects of typical pollutants.  Sediment  *Visible contamination*: Possible contamination in top 3-5 cms.  *Olfactible contamination*: None  *Description*: 18 cms soft dark grey clay overlaid with 14cm less compacted/cohesive grey clay topped with 3cm soupy brown ooze. The core had a separation gap which accounts for 2 cms.  *Gas Chromatography & Mass Spectroscopy*: The top 3cm of sediment core was sampled and analysed for EPA priority pollutant PAHs and Corexit 9500 dispersant. The sample was also screened for the source oil fingerprint. Target analytes were detected. Initial screening indicates the presence of source oil. |  |