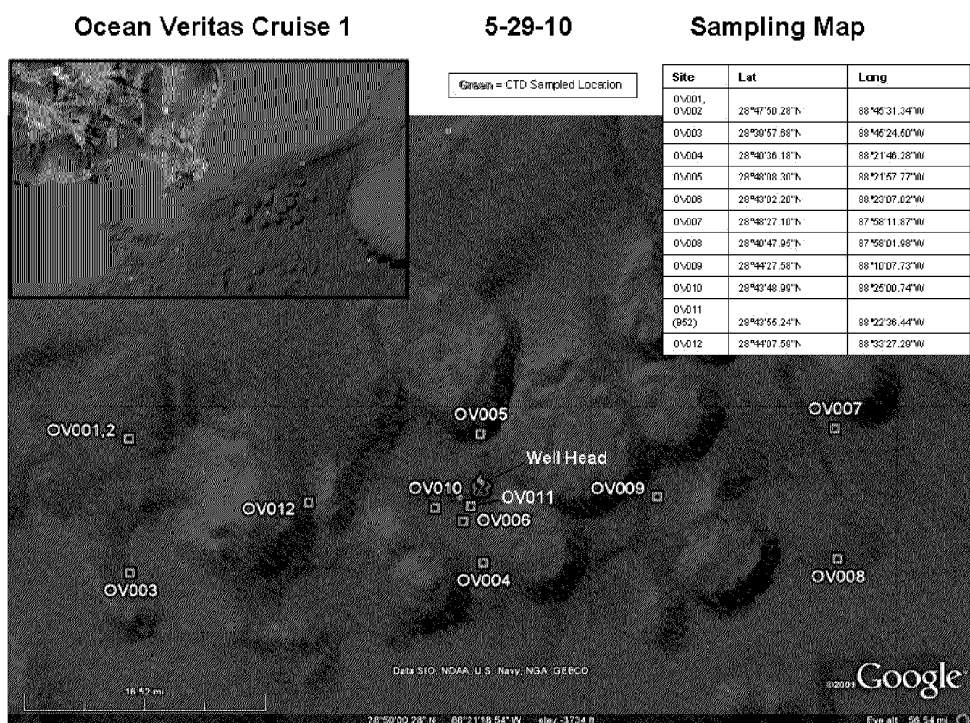


Research Vessel Ocean Veritas

Monitoring of Water Quality and Chemistry in the vicinity of the MC252 Oil Spill Location

Cruise #1 May 27th - 1st June 2010



These data are being collected to analyze the water column near the MC252 oil spill for Hydrocarbon and Dissolved Oxygen content, and Toxicity.

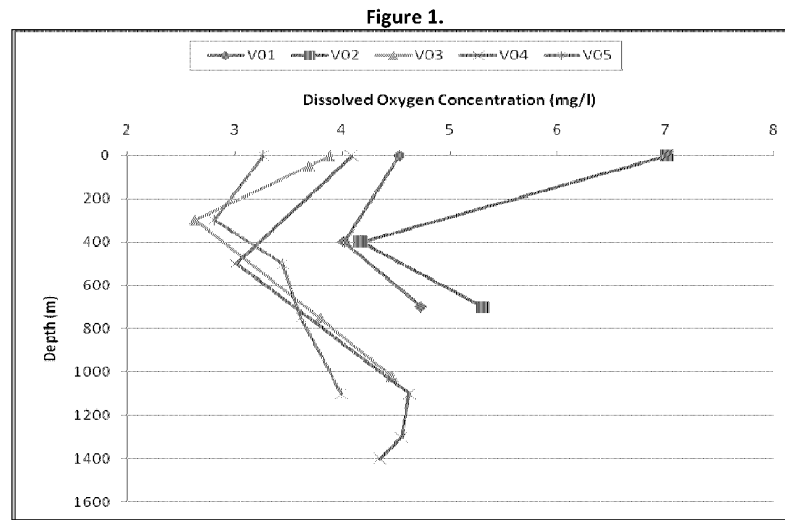
Summary Table Cruise 1	Number of Samples With :-		
Total CTD Runs	Significant Hydrocarbon Content	Dissolved Oxygen below Specified Limit	Toxicity Indicated
11	0	0	No Available Data

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Dissolved oxygen measurement :

The SBE Dissolved Oxygen sensor on the CTD package developed a problem and handheld measurements were taken using an Extech DO700 hand held probe on samples collected from casts deployed at stations V01-V05. After completion of V05, there was insufficient sampling equipment to continue these measurements. These results are presented in Figure 1 (note that V01 and V02 were the same location).



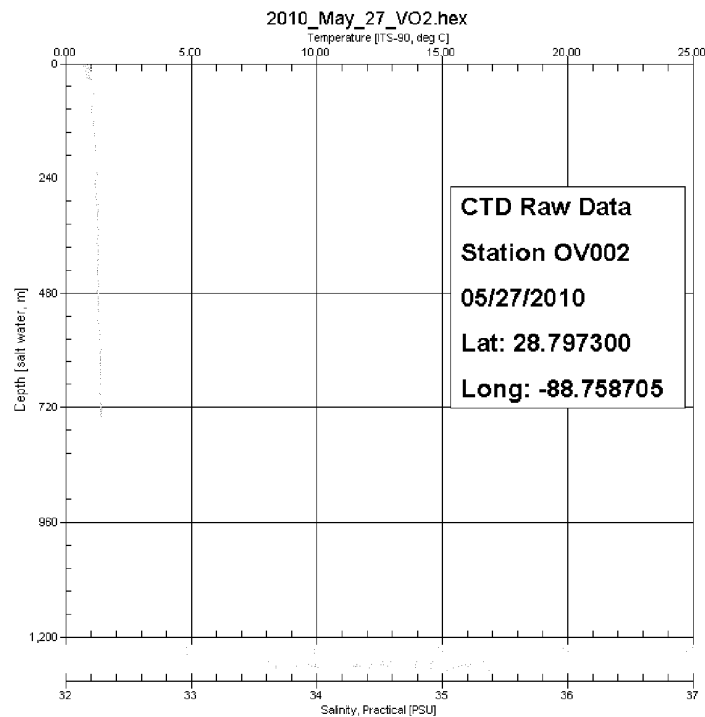
The lowest concentration measured by the Extech hand held probe was 2.5mg/l at 300 metres / 984 feet at station V03, and hence, all dissolved oxygen measurements are above the lower limit (2.0 mg/l) of the applicable documents controlling the use of dispersants for subsea injection for the MC252 spill

Toxicity data:

Rototox tests were carried out on samples at location V010. The protocol states that a mortality rate greater than 10% in the control sample of seawater nullifies the bioassay. Rototox tests on these samples proved to only have one (within test) control mortality rate that would not nullify the entire test set. Additionally the straight sea water control set had mortality rates exceeding 10%. For these reasons, the toxicity test data has to be discarded.

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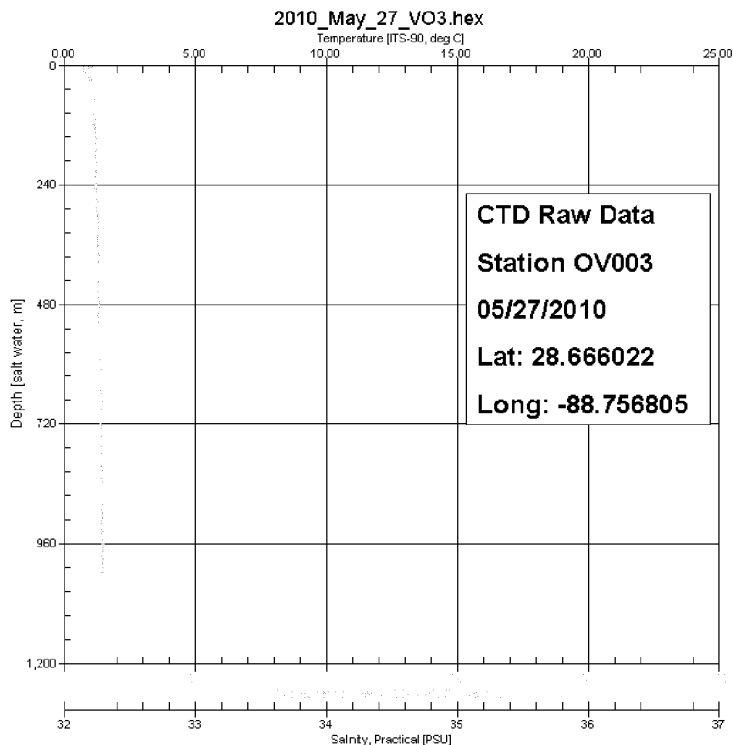
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Conductivity, Temperature Depth (CTD) Sensor Information <u>Station OV002</u>				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	<u>No Anomaly</u> <u>6 parts per billion</u> <u>background</u>	N/A	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 ml/l	4ml/l	400meters 1312feet	Acceptable
Toxicity Results	No Available Data			
Data Source	Ocean Veritas Cruise Science team - NOAA, EPA, & BP representatives on board			
Sources and References				
Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Effluent Standard) permits for Offshore Gulf of Mexico installations contain a NOT TO EXCEED limit of 42 mg/L (42 parts per million) on a daily basis AND a NOT TO EXCEED limit of 29 mg/L per day (29 parts per million) on a monthly basis.				
Note #2. 2 milliliters per Liter (2 parts per million) is the lower limit for Dissolved Oxygen specified by the applicable documents controlling the use of dispersant in subsea injection for the MC 252 oil spill.				
Note #3. Green Curve is Fluorescence on a scale of 0 to 100 milligrams per cubic meter (0 to 100 parts per billion) Grey Curve is Dissolved Oxygen on a scale of 0 to 20 milliliters per Liter Blue curve is Temperature on a scale of 4 to 24 degrees Centigrade (39 to 75 degrees Fahrenheit) Red Curve is Salinity on a scale of 32 to 37 parts per thousand				

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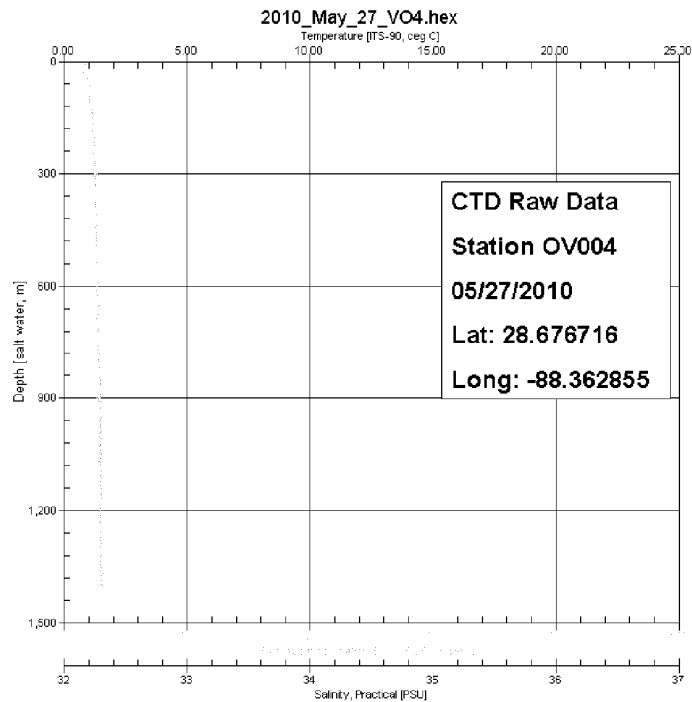


Conductivity, Temperature Depth (CTD) Sensor Information Station OV003				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	No Anomaly 6 parts per billion background	N/A	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 ml/l	2.5ml/l	300metres 984feet	Acceptable
Toxicity Results	No Available Data			
Data Source	Ocean Veritas Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References
Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Effluent Standard) permits for Offshore Gulf of Mexico installations contain a NOT TO EXCEED limit of 42 mg/L (42 parts per million) on a daily basis AND a NOT TO EXCEED limit of 29 mg/L per day (29 parts per million) on a monthly basis.
Note #2. 2 milliliters per Liter (2 parts per million) is the lower limit for Dissolved Oxygen specified by the applicable documents controlling the use of dispersant in subsea injection for the MC 252 oil spill.
Note #3. Green Curve is Fluorescence on a scale of 0 to 100 milligrams per cubic meter (0 to 100 parts per billion) Grey Curve is Dissolved Oxygen on a scale of 0 to 20 milliliters per Liter Blue curve is Temperature on a scale of 4 to 24 degrees Centigrade (39 to 75 degrees Fahrenheit) Red Curve is Salinity on a scale of 32 to 37 parts per thousand

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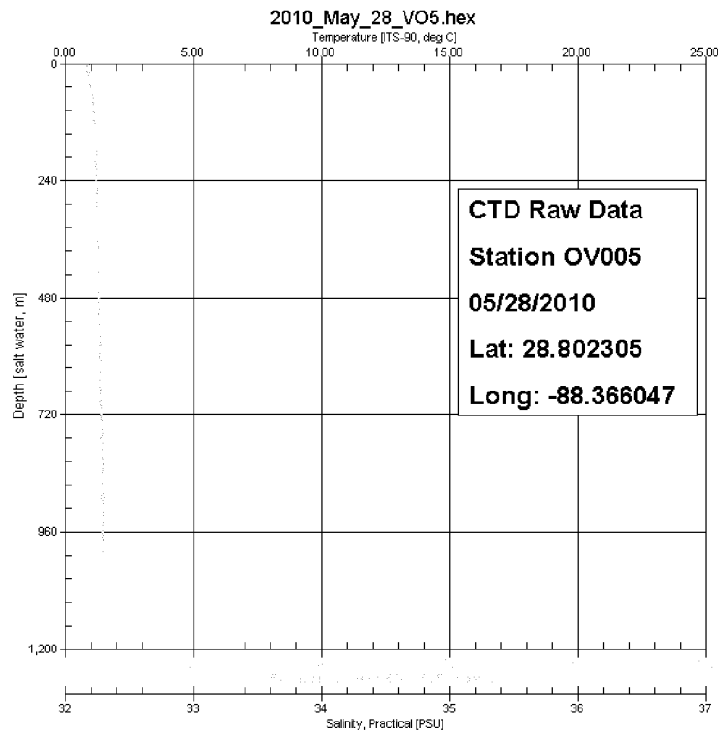


Conductivity, Temperature Depth (CTD) Sensor Information Station OV004				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	No Anomaly 6 parts per billion background	N/A	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 ml/l	3ml/l	500metres 1640feet	Acceptable
Toxicity Results	No Available Data			
Data Source	Ocean Veritas Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References
<p>Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Effluent Standard) permits for Offshore Gulf of Mexico installations contain a NOT TO EXCEED limit of 42 mg/L (42 parts per million) on a daily basis AND a NOT TO EXCEED limit of 29 mg/L per day (29 parts per million) on a monthly basis.</p> <p>Note #2. 2 milliliters per Liter (2 parts per million) is the lower limit for Dissolved Oxygen specified by the applicable documents controlling the use of dispersant in subsea injection for the MC 252 oil spill.</p> <p>Note #3. Green Curve is Fluorescence on a scale of 0 to 100 milligrams per cubic meter (0 to 100 parts per billion) Grey Curve is Dissolved Oxygen on a scale of 0 to 20 milliliters per Liter Blue curve is Temperature on a scale of 4 to 24 degrees Centigrade (39 to 75 degrees Fahrenheit) Red Curve is Salinity on a scale of 32 to 37 parts per thousand</p>

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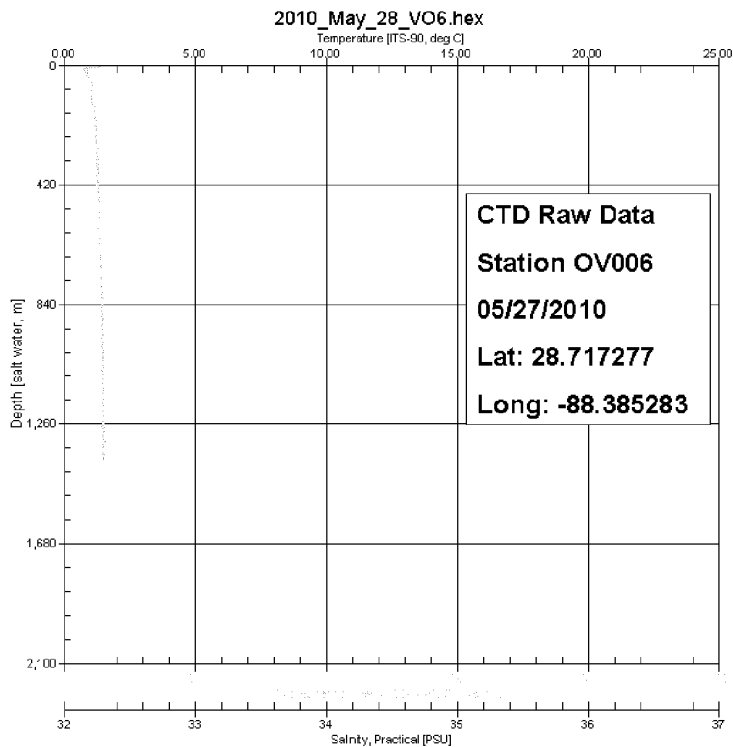


Conductivity, Temperature Depth (CTD) Sensor Information Station OV005				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	<u>No Anomaly</u> <u>6 parts per billion</u> <u>background</u>	N/A	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 ml/l	3ml/l	300metres 984feet	Acceptable
Toxicity Results	No Available Data			
Data Source	Ocean Veritas Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References
<p>Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Effluent Standard) permits for Offshore Gulf of Mexico installations contain a NOT TO EXCEED limit of 42 mg/L (42 parts per million) on a daily basis AND a NOT TO EXCEED limit of 29 mg/L per day (29 parts per million) on a monthly basis.</p> <p>Note #2. 2 milliliters per Liter (2 parts per million) is the lower limit for Dissolved Oxygen specified by the applicable documents controlling the use of dispersant in subsea injection for the MC 252 oil spill.</p> <p>Note #3.</p> <p>Green Curve is Fluorescence on a scale of 0 to 100 milligrams per cubic meter (0 to 100 parts per billion)</p> <p>Grey Curve is Dissolved Oxygen on a scale of 0 to 20 milliliters per Liter</p> <p>Blue curve is Temperature on a scale of 4 to 24 degrees Centigrade (39 to 75 degrees Fahrenheit)</p> <p>Red Curve is Salinity on a scale of 32 to 37 parts per thousand</p>

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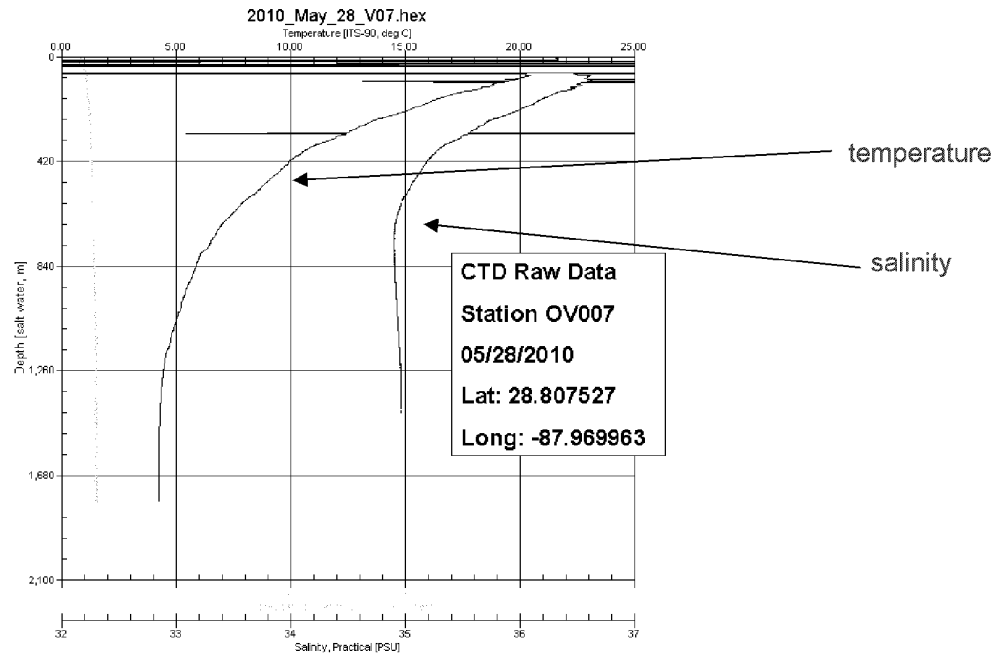


Conductivity, Temperature Depth (CTD) Sensor Information Station OV006				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	No Anomaly 6 parts per billion background	N/A	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 ml/l	No Available Data due to CTD malfunction		
Toxicity Results	No Available Data			
Data Source	Ocean Veritas Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References
Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Effluent Standard) permits for Offshore Gulf of Mexico installations contain a NOT TO EXCEED limit of 42 mg/L (42 parts per million) on a daily basis AND a NOT TO EXCEED limit of 29 mg/L per day (29 parts per million) on a monthly basis.
Note #2. 2 milliliters per Liter (2 parts per million) is the lower limit for Dissolved Oxygen specified by the applicable documents controlling the use of dispersant in subsea injection for the MC 252 oil spill.
Note #3. Green Curve is Fluorescence on a scale of 0 to 100 milligrams per cubic meter (0 to 100 parts per billion) Grey Curve is Dissolved Oxygen on a scale of 0 to 20 milliliters per Liter Blue curve is Temperature on a scale of 4 to 24 degrees Centigrade (39 to 75 degrees Fahrenheit) Red Curve is Salinity on a scale of 32 to 37 parts per thousand

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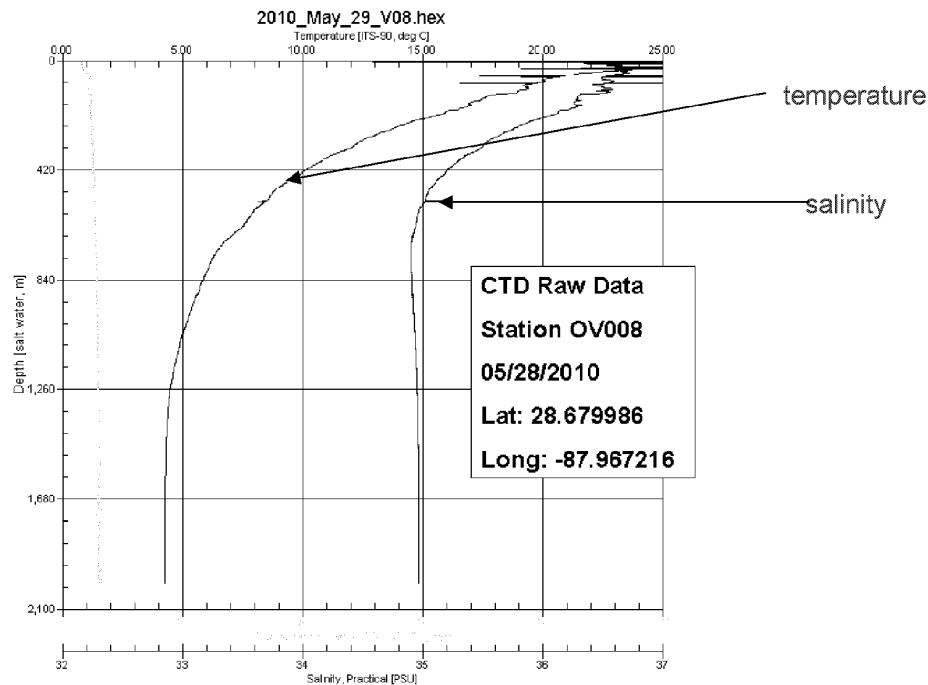


Conductivity, Temperature Depth (CTD) Sensor Information Station OV007				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	<u>No Anomaly</u> 6 parts per billion <u>background</u>	N/A	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 ml/l	No Available Data due to CTD malfunction		
Toxicity Results	No Available Data			
Data Source	Ocean Veritas Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References
<p>Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Effluent Standard) permits for Offshore Gulf of Mexico installations contain a NOT TO EXCEED limit of 42 mg/L (42 parts per million) on a daily basis AND a NOT TO EXCEED limit of 29 mg/L per day (29 parts per million) on a monthly basis.</p> <p>Note #2. 2 milliliters per Liter (2 parts per million) is the lower limit for Dissolved Oxygen specified by the applicable documents controlling the use of dispersant in subsea injection for the MC 252 oil spill.</p> <p>Note #3. Green Curve is Fluorescence on a scale of 0 to 100 milligrams per cubic meter (0 to 100 parts per billion) Grey Curve is Dissolved Oxygen on a scale of 0 to 20 milliliters per Liter Blue curve is Temperature on a scale of 4 to 24 degrees Centigrade (39 to 75 degrees Fahrenheit) Red Curve is Salinity on a scale of 32 to 37 parts per thousand</p>

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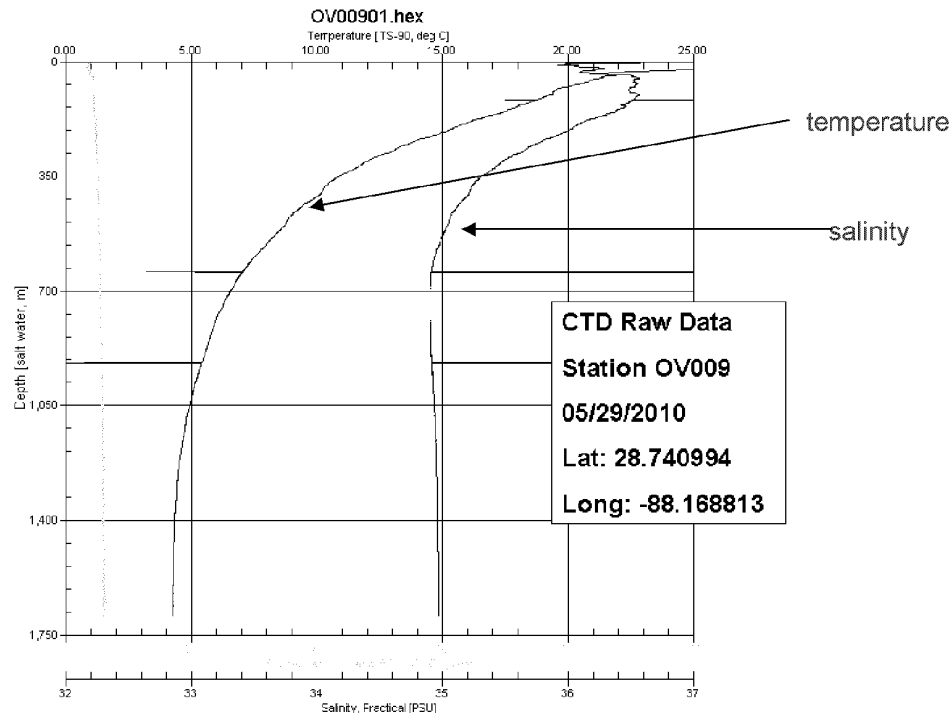


Conductivity, Temperature Depth (CTD) Sensor Information Station OV008				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorimetry Reading (Note #1)	29 parts per million	<u>No Anomaly</u> 6 parts per billion <u>background</u>	N/A	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 ml/l	No Available Data due to CTD malfunction		
Toxicity Results	No Available Data			
Data Source	Ocean Veritas Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References
Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Effluent Standard) permits for Offshore Gulf of Mexico installations contain a NOT TO EXCEED limit of 42 mg/L (42 parts per million) on a daily basis AND a NOT TO EXCEED limit of 29 mg/L per day (29 parts per million) on a monthly basis.
Note #2. 2 milliliters per Liter (2 parts per million) is the lower limit for Dissolved Oxygen specified by the applicable documents controlling the use of dispersant in subsea injection for the MC 252 oil spill.
Note #3. Green Curve is Fluorescence on a scale of 0 to 100 milligrams per cubic meter (0 to 100 parts per billion) Grey Curve is Dissolved Oxygen on a scale of 0 to 20 milliliters per Liter Blue curve is Temperature on a scale of 4 to 24 degrees Centigrade (39 to 75 degrees Fahrenheit) Red Curve is Salinity on a scale of 32 to 37 parts per thousand

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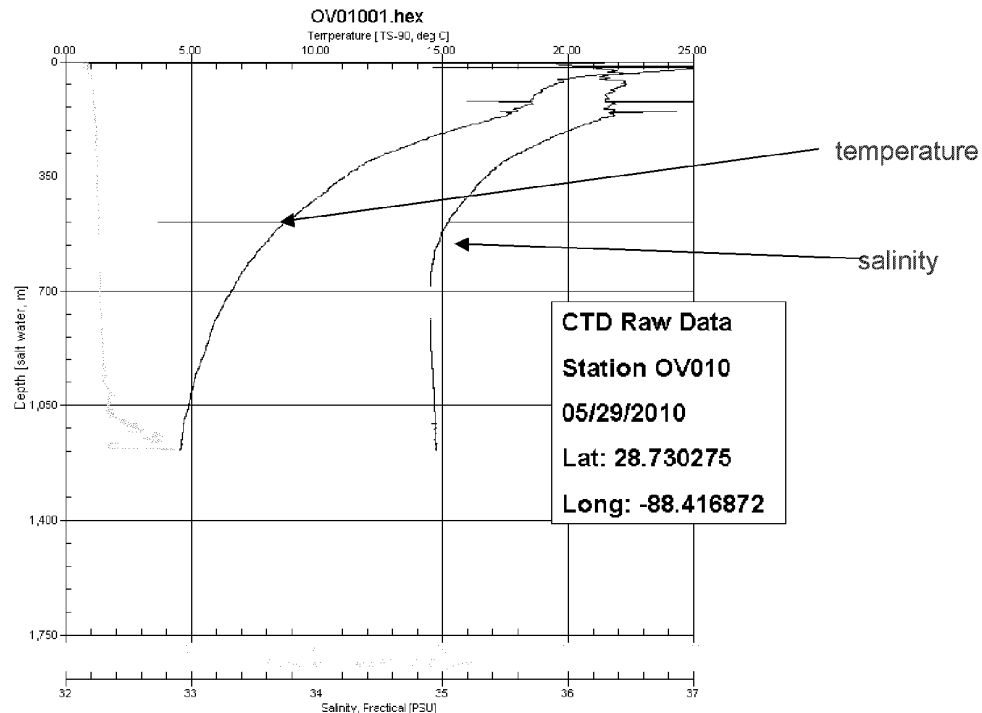


Conductivity, Temperature Depth (CTD) Sensor Information Station OV009				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	<u>No Anomaly</u> 6 parts per billion <u>background</u>	N/A	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 ml/l	No Available Data due to CTD malfunction		
Toxicity Results	No Available Data			
Data Source	Ocean Veritas Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References
Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Effluent Standard) permits for Offshore Gulf of Mexico installations contain a NOT TO EXCEED limit of 42 mg/L (42 parts per million) on a daily basis AND a NOT TO EXCEED limit of 29 mg/L per day (29 parts per million) on a monthly basis.
Note #2. 2 milliliters per Liter (2 parts per million) is the lower limit for Dissolved Oxygen specified by the applicable documents controlling the use of dispersant in subsea injection for the MC 252 oil spill.
Note #3. Green Curve is Fluorescence on a scale of 0 to 100 milligrams per cubic meter (0 to 100 parts per billion) Grey Curve is Dissolved Oxygen on a scale of 0 to 20 milliliters per Liter Blue curve is Temperature on a scale of 4 to 24 degrees Centigrade (39 to 75 degrees Fahrenheit) Red Curve is Salinity on a scale of 32 to 37 parts per thousand

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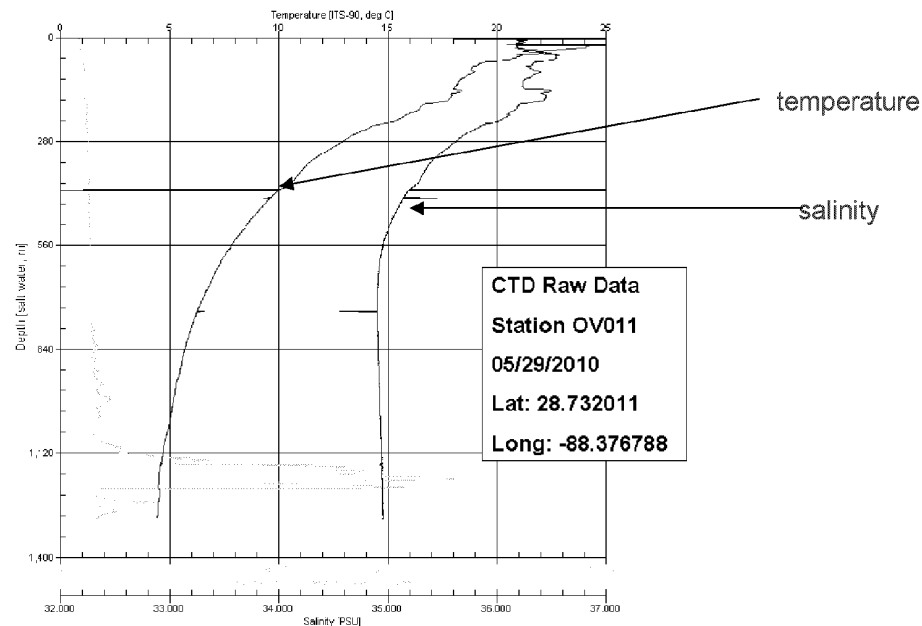


Conductivity, Temperature Depth (CTD) Sensor Information Station OV010				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	18 parts per billion	1190 meters 3904 feet	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 ml/l	No Available Data due to CTD malfunction		
Toxicity Results	No Available Data			
Data Source	Ocean Veritas Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References
<p>Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Effluent Standard) permits for Offshore Gulf of Mexico installations contain a NOT TO EXCEED limit of 42 mg/L (42 parts per million) on a daily basis AND a NOT TO EXCEED limit of 29 mg/L per day (29 parts per million) on a monthly basis.</p> <p>Note #2. 2 milliliters per Liter (2 parts per million) is the lower limit for Dissolved Oxygen specified by the applicable documents controlling the use of dispersant in subsea injection for the MC 252 oil spill.</p> <p>Note #3. Green Curve is Fluorescence on a scale of 0 to 100 milligrams per cubic meter (0 to 100 parts per billion) Grey Curve is Dissolved Oxygen on a scale of 0 to 20 milliliters per Liter Blue curve is Temperature on a scale of 4 to 24 degrees Centigrade (39 to 75 degrees Fahrenheit) Red Curve is Salinity on a scale of 32 to 37 parts per thousand</p>

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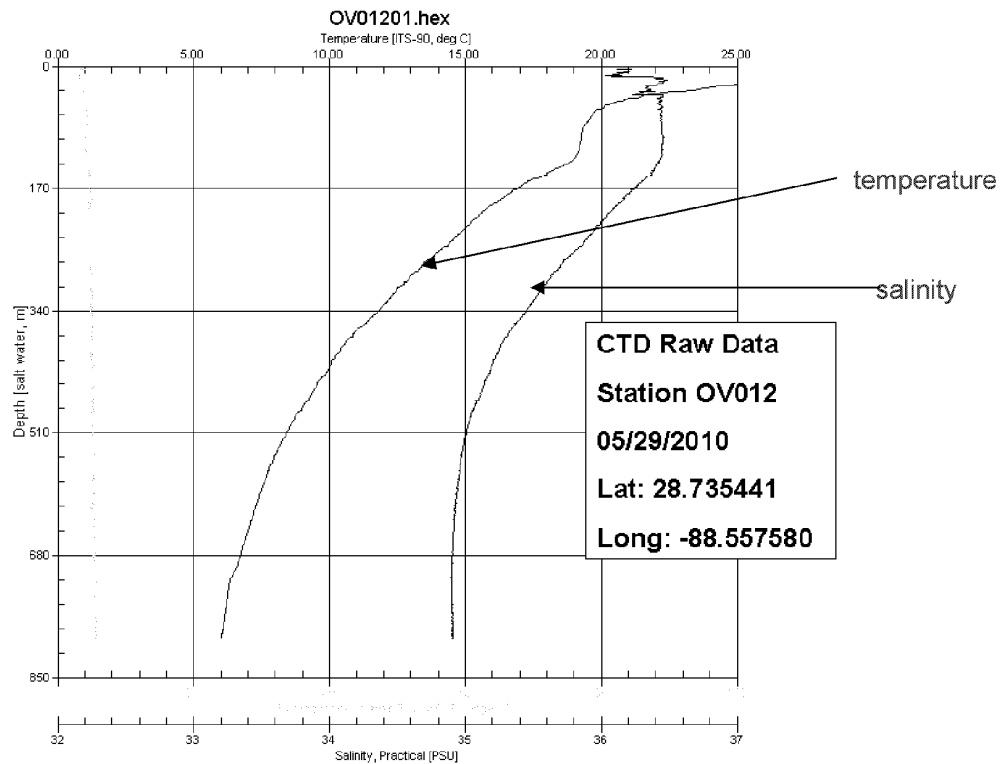


Conductivity, Temperature Depth (CTD) Sensor Information Station OV011				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	72 parts per <u>billion</u>	1195 meters 3920 feet	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 ml/l	No Available Data due to CTD malfunction		
Toxicity Results	No Available Data			
Data Source	Ocean Veritas Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References
Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Effluent Standard) permits for Offshore Gulf of Mexico installations contain a NOT TO EXCEED limit of 42 mg/L (42 parts per million) on a daily basis AND a NOT TO EXCEED limit of 29 mg/L per day (29 parts per million) on a monthly basis.
Note #2. 2 milliliters per liter (2 parts per million) is the lower limit for Dissolved Oxygen specified by the applicable documents controlling the use of dispersant in subsea injection for the MC 252 oil spill.
Note #3. Green Curve is Fluorescence on a scale of 0 to 100 milligrams per cubic meter (0 to 100 parts per billion) Grey Curve is Dissolved Oxygen on a scale of 0 to 20 milliliters per Liter Blue curve is Temperature on a scale of 4 to 24 degrees Centigrade (39 to 75 degrees Fahrenheit) Red Curve is Salinity on a scale of 32 to 37 parts per thousand

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Conductivity, Temperature Depth (CTD) Sensor Information Station OV012				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	<u>No Anomaly</u> <u>6 parts per billion</u> <u>background</u>	N/A	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 ml/l	No Available Data due to CTD malfunction		
Toxicity Results	No Available Data			
Data Source	Ocean Veritas Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References
Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Effluent Standard) permits for Offshore Gulf of Mexico installations contain a NOT TO EXCEED limit of 42 mg/L (42 parts per million) on a daily basis AND a NOT TO EXCEED limit of 29 mg/L per day (29 parts per million) on a monthly basis.
Note #2. 2 milliliters per Liter (2 parts per million) is the lower limit for Dissolved Oxygen specified by the applicable documents controlling the use of dispersant in subsea injection for the MC 252 oil spill.
Note #3. Green Curve is Fluorescence on a scale of 0 to 100 milligrams per cubic meter (0 to 100 parts per billion) Grey Curve is Dissolved Oxygen on a scale of 0 to 20 milliliters per Liter Blue curve is Temperature on a scale of 4 to 24 degrees Centigrade (39 to 75 degrees Fahrenheit) Red Curve is Salinity on a scale of 32 to 37 parts per thousand