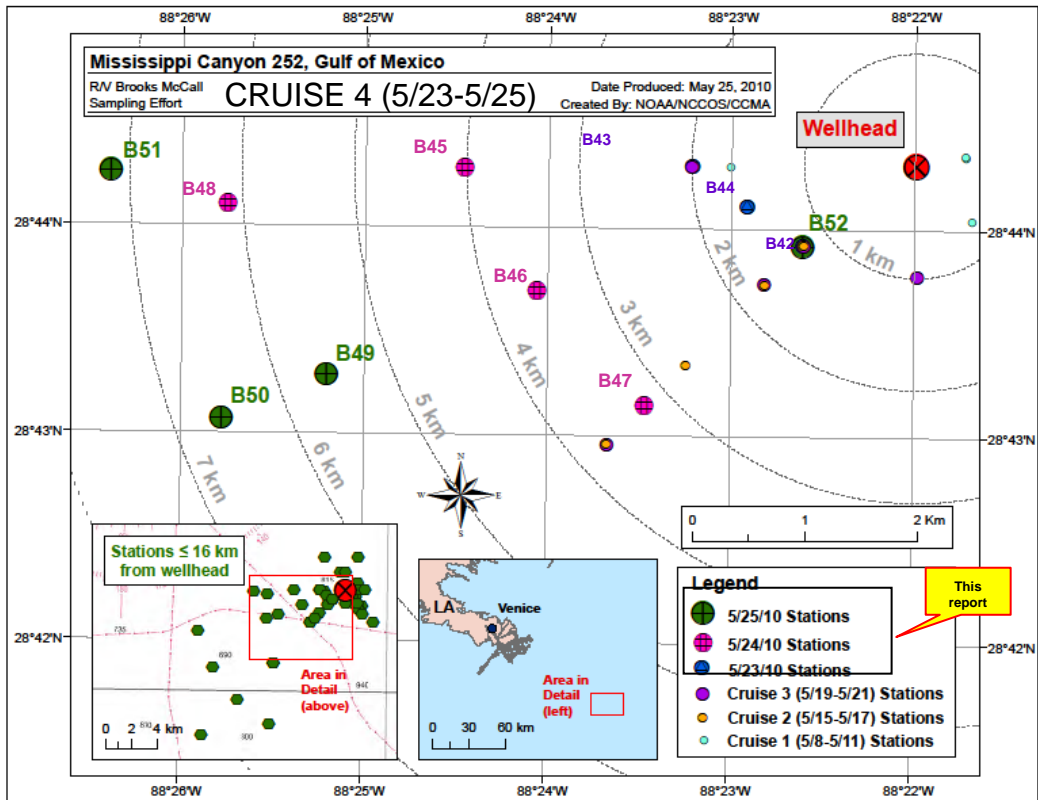


Research Vessel Brooks McCall

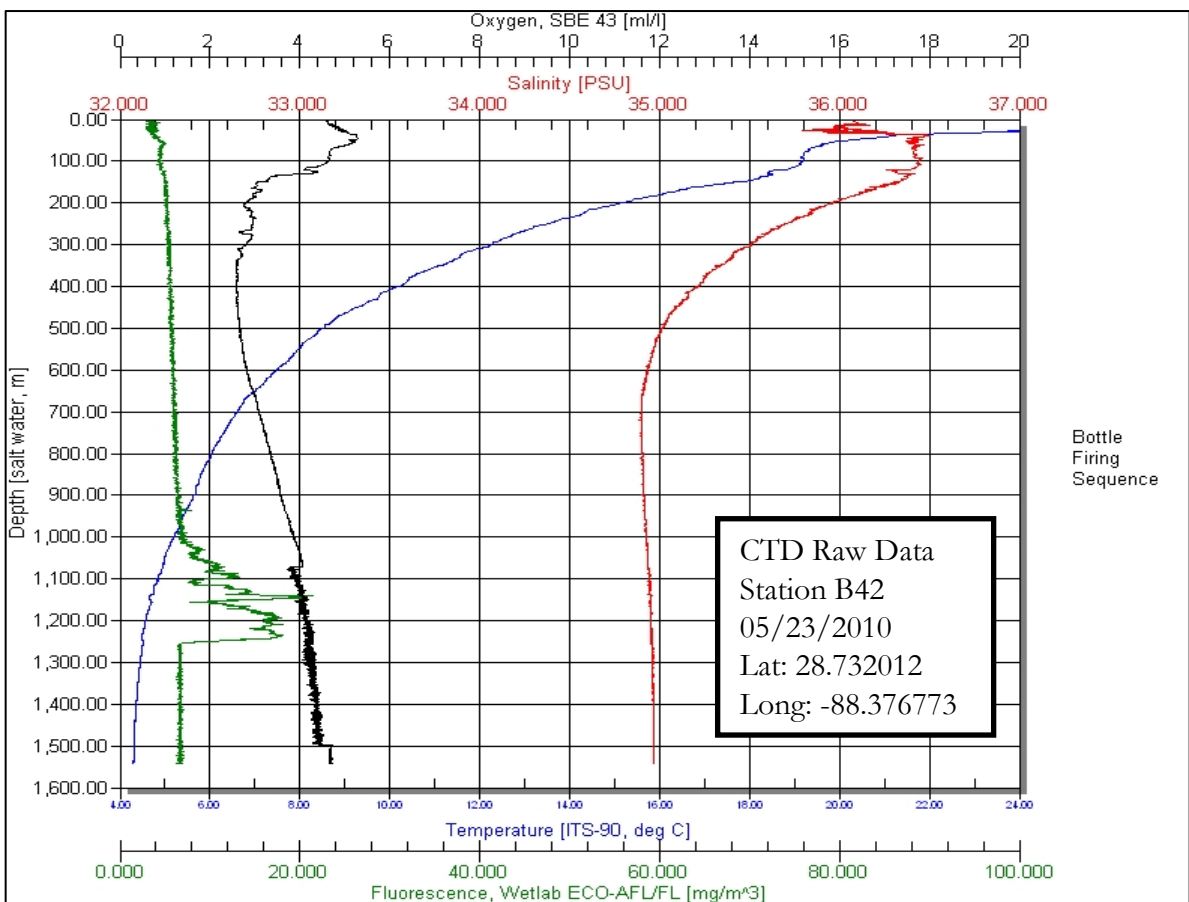
Monitoring Water Quality and Chemistry in the vicinity of the MC252 Oil Spill Location

Cruise #4 May 23rd – 25th 2010



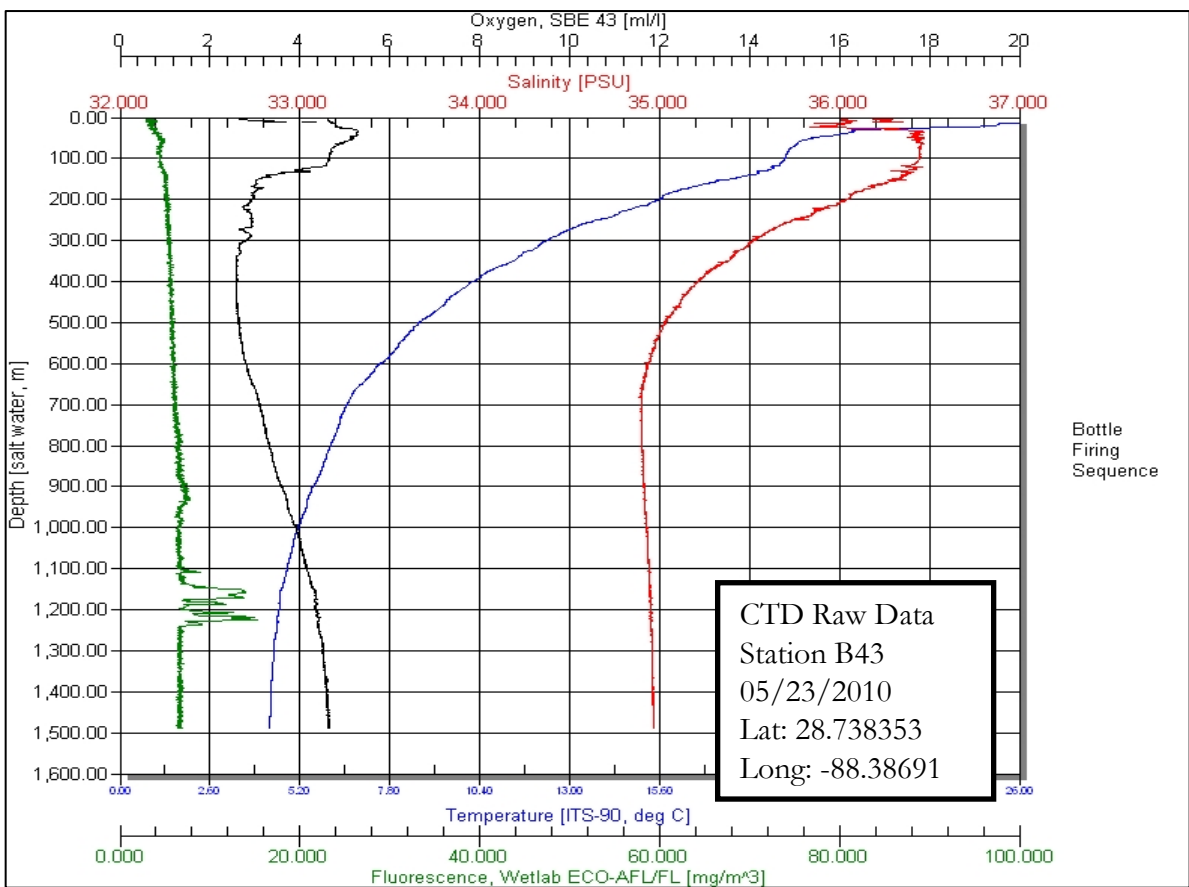
These data are being collected to analyze the water column near the MC252 oil spill for Hydrocarbon and Dissolved Oxygen content, and Toxicity

Summary Table Cruise 4	Number of Samples With :		
Total CTD Runs	Significant Hydrocarbon Content	Dissolved Oxygen below Specified Limit	Toxicity Indicated
11	0	0	10 samples with Impact less than Test Threshold



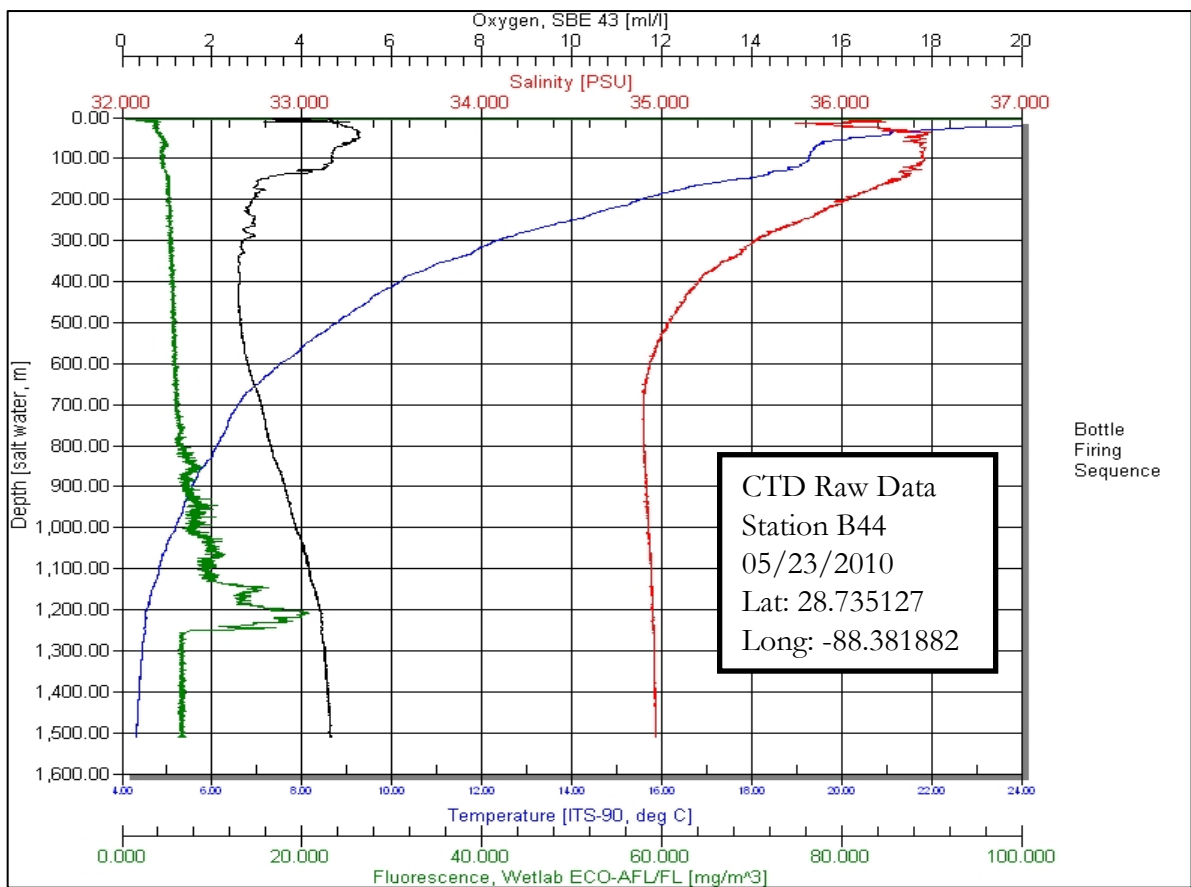
Conductivity, Temperature Depth (CTD) Sensor Information Cruise 4 Station B42				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	22 parts per billion	1,150 meters 3,772 feet	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 mg/l	2.6 ml/l	400 meters 1,312 feet	Acceptable
Toxicity Results (Note #4)	Impact less than EPA Test Threshold		0 m/0 ft	Non-Toxic
Toxicity Results (Note #4)	Impact less than EPA Test Threshold		600 m/1968 ft	Non-Toxic
Toxicity Results (Note #4)	Impact less than EPA Test Threshold		1050 m/3444 ft	Non-Toxic
Toxicity Results (Note #4)	Impact less than EPA Test Threshold		1200 m/3936 ft	Non-Toxic
Toxicity Results (Note #4)	Impact less than EPA Test Threshold		1250 m/4100 ft	Non-Toxic
Data Source	Brooks McCall Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References
Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Elimination System) 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 milligrams 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
Note #4 The data were evaluated using the generally accepted LC 50 (lethal concentration 50) method of acute toxicity test analysis.



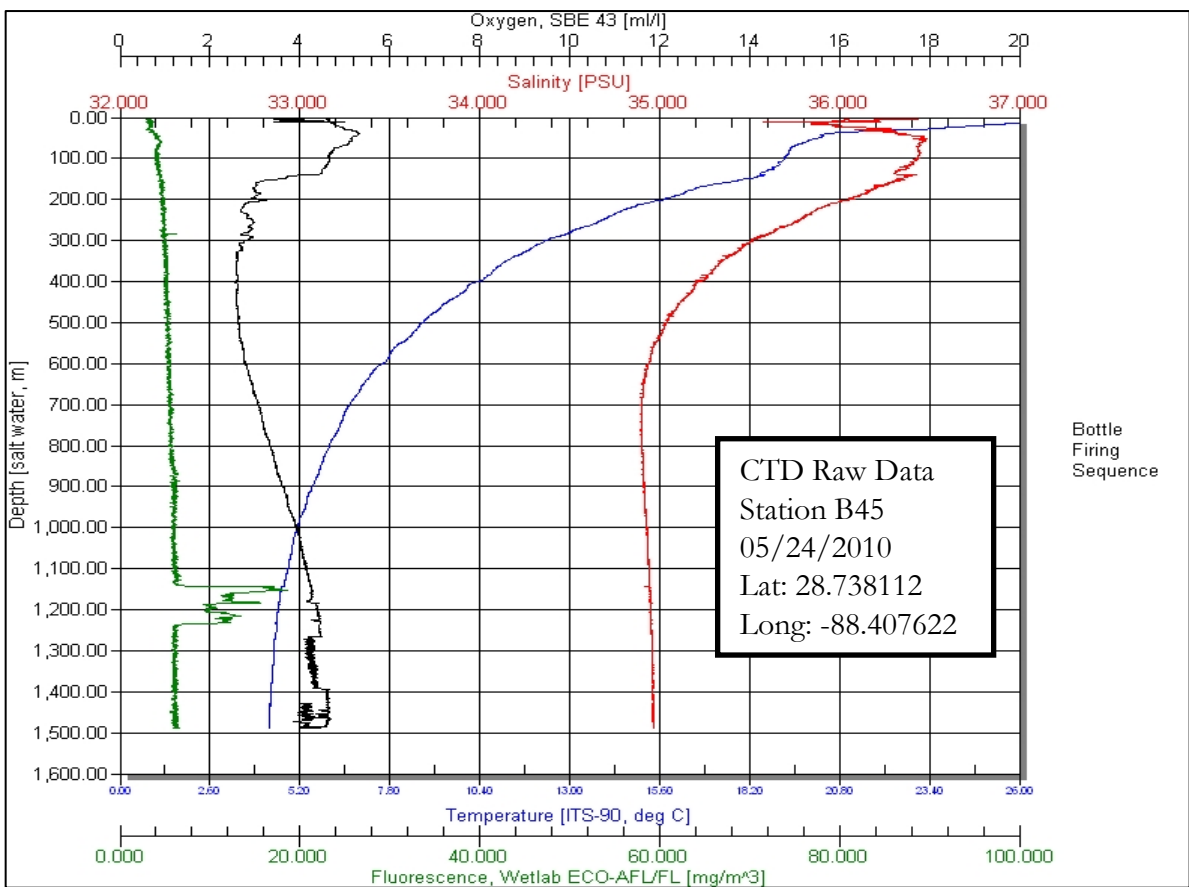
Conductivity, Temperature Depth (CTD) Sensor Information Cruise 4 Station B43				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	15 parts per <u>billion</u>	1,220 meters 4,101 feet	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 mg/l	2.6 ml/l	400 meters 1,312 feet	Acceptable
Toxicity Results	No Available Data			
Data Source	Brooks McCall Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References
Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Elimination System) 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 milligrams 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



Conductivity, Temperature Depth (CTD) Sensor Information Cruise 4 Station B44				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	21 parts per <u>billion</u>	1,210 meters 3,968 feet	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 mg/l	2.7 ml/l	400 meters 1,312 feet	Acceptable
Toxicity Results	No Available Data			
Data Source	Brooks McCall Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References
Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Elimination System) 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 milligrams 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



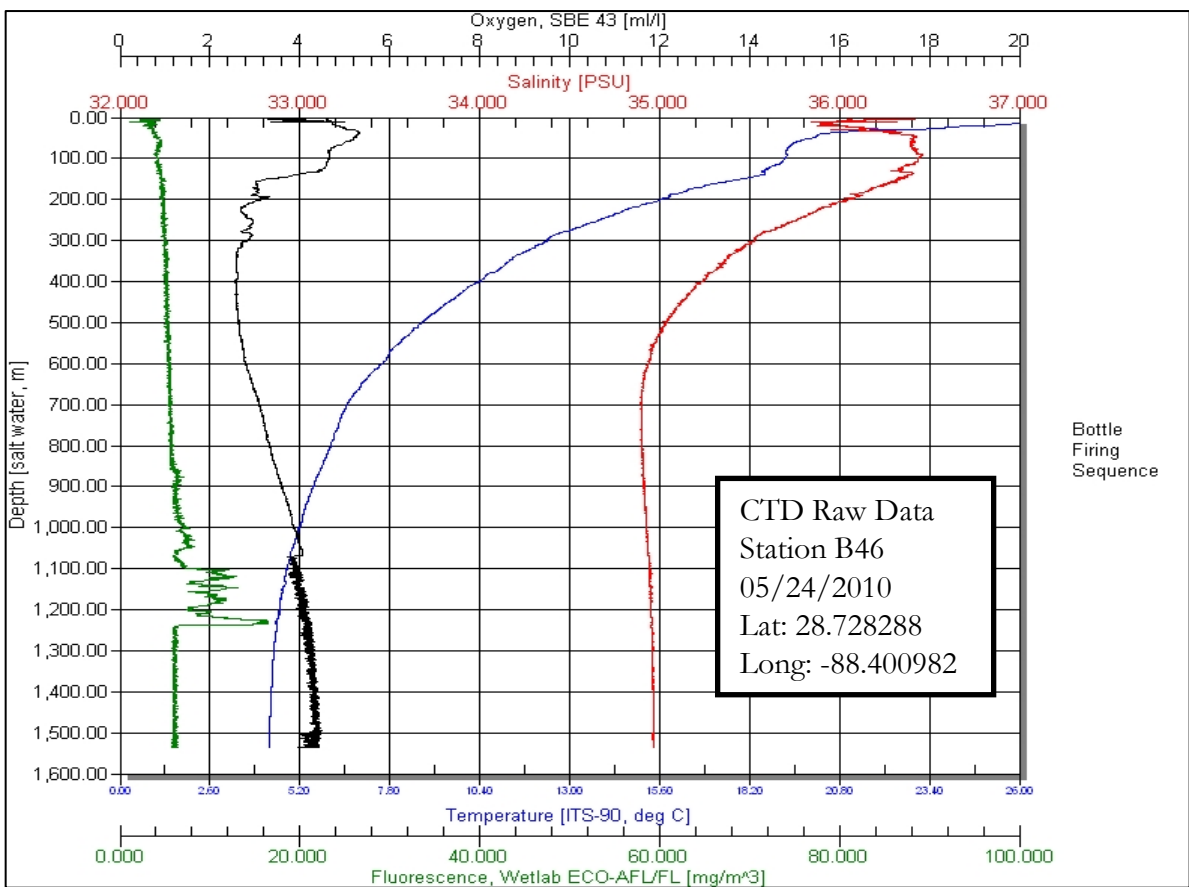
Conductivity, Temperature Depth (CTD) Sensor Information Cruise Station B45				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	18 parts per <u>billion</u>	1,150 meters 3,772 feet	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 mg/l	2.6 ml/l	405 meters 1,329 feet	Acceptable
Toxicity Results	No Available Data			
Data Source	Brooks McCall Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References

Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Elimination System) 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.

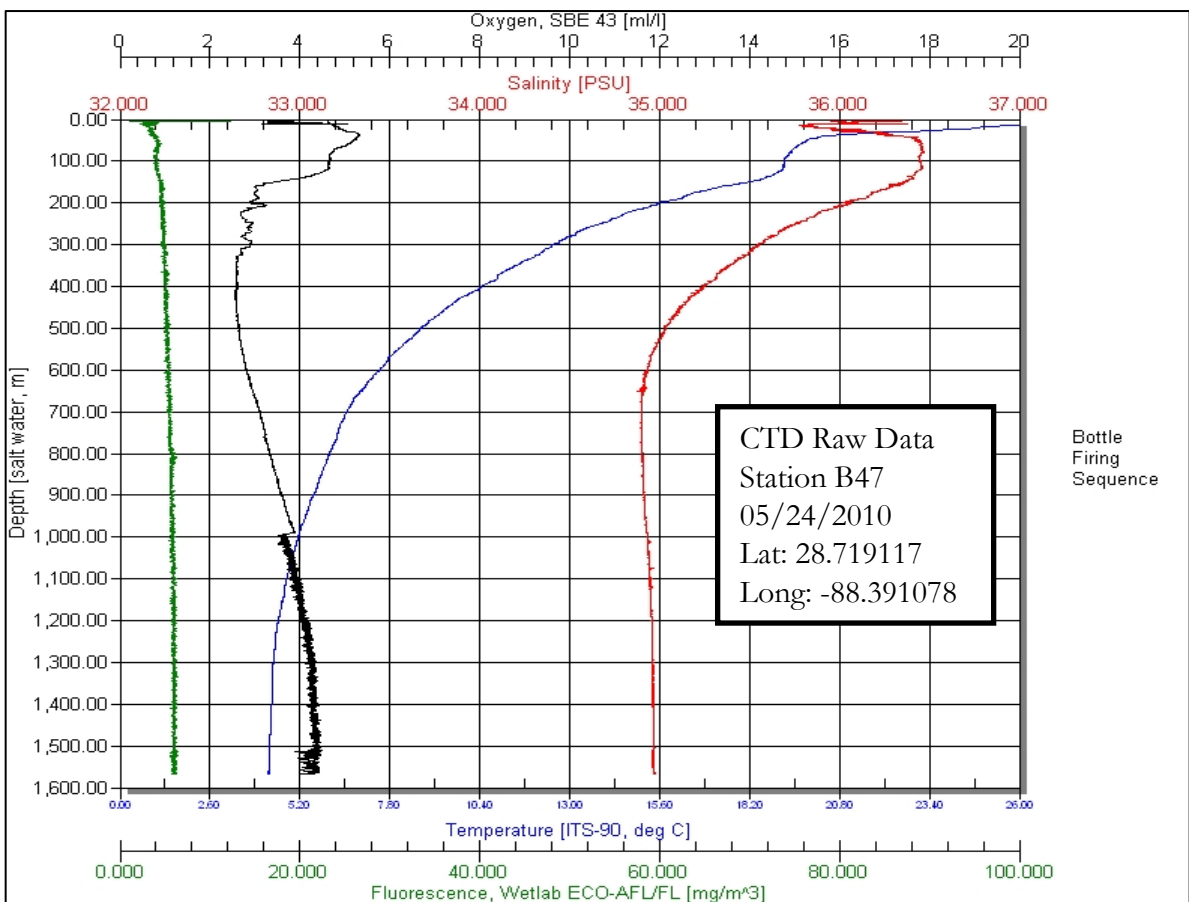
Note #2. 2 milligrams per Liter (2 parts per million) is the lower limit for Dissolved Oxygen specified by the applicable documents controlling the use of dispersant in subsea injection for the MC 252 oil spill.

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



Conductivity, Temperature Depth (CTD) Sensor Information Cruise 4 Station B46				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	15 parts per <u>billion</u>	1,230 meters 4,034 feet	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 mg/l	2.7 ml/l	390 meters 1,279 feet	Acceptable
Toxicity Results	Impact less than EPA Test Threshold		0 m/0 ft	Non- Toxic
Toxicity Results	Impact less than EPA Test Threshold		500 m/1640 ft	Non- Toxic
Toxicity Results	Impact less than EPA Test Threshold		1100 m/3608 ft	Non- Toxic
Toxicity Results	Impact less than EPA Test Threshold		1228 m/4028 ft	Non- Toxic
Toxicity Results	Impact less than EPA Test Threshold		1400 m/4592 ft	Non- Toxic
Data Source	Brooks McCall Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References
Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Elimination System) 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 milligrams 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
Note #4 The data were evaluated using the generally accepted LC 50 (lethal concentration 50) method of acute toxicity test analysis.



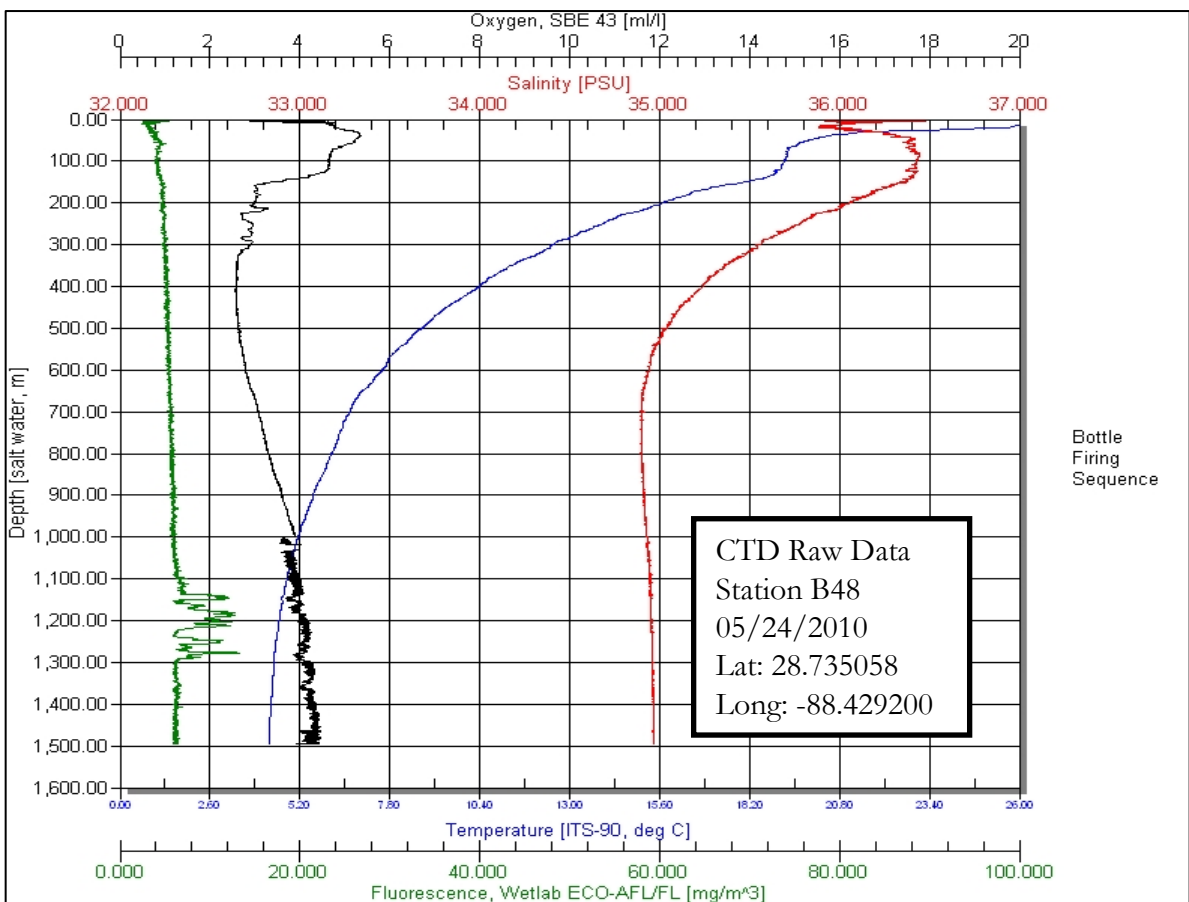
Conductivity, Temperature Depth (CTD) Sensor Information Cruise 4 Station B47				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	6 parts per <u>billion</u>	1,550 meters 5,084feet	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 mg/l	2.7 ml/l	400 meters 1,312 feet	Acceptable
Toxicity Results	No Available Data			
Data Source	Brooks McCall Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References

Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Elimination System) 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.

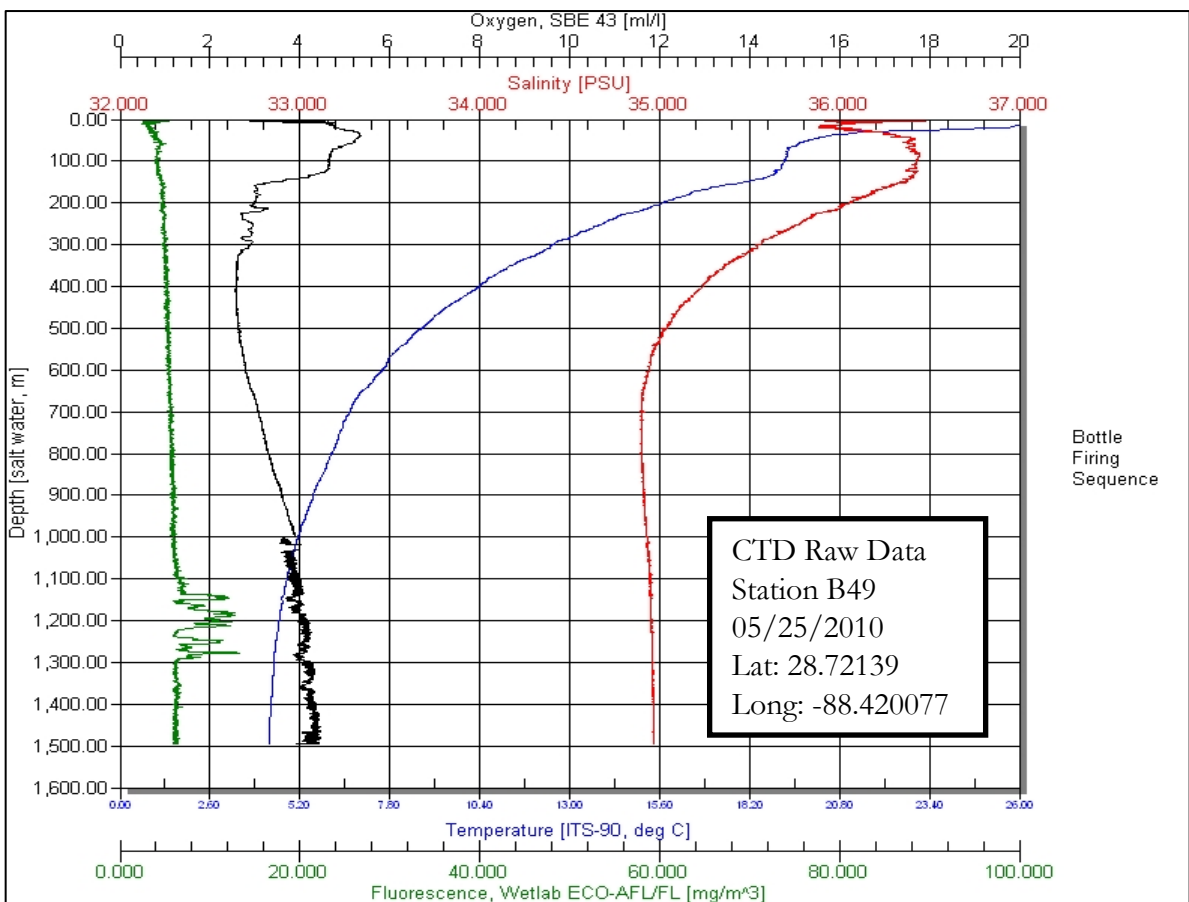
Note #2. 2 milligrams per Liter (2 parts per million) is the lower limit for Dissolved Oxygen specified by the applicable documents controlling the use of dispersant in subsea injection for the MC 252 oil spill.

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



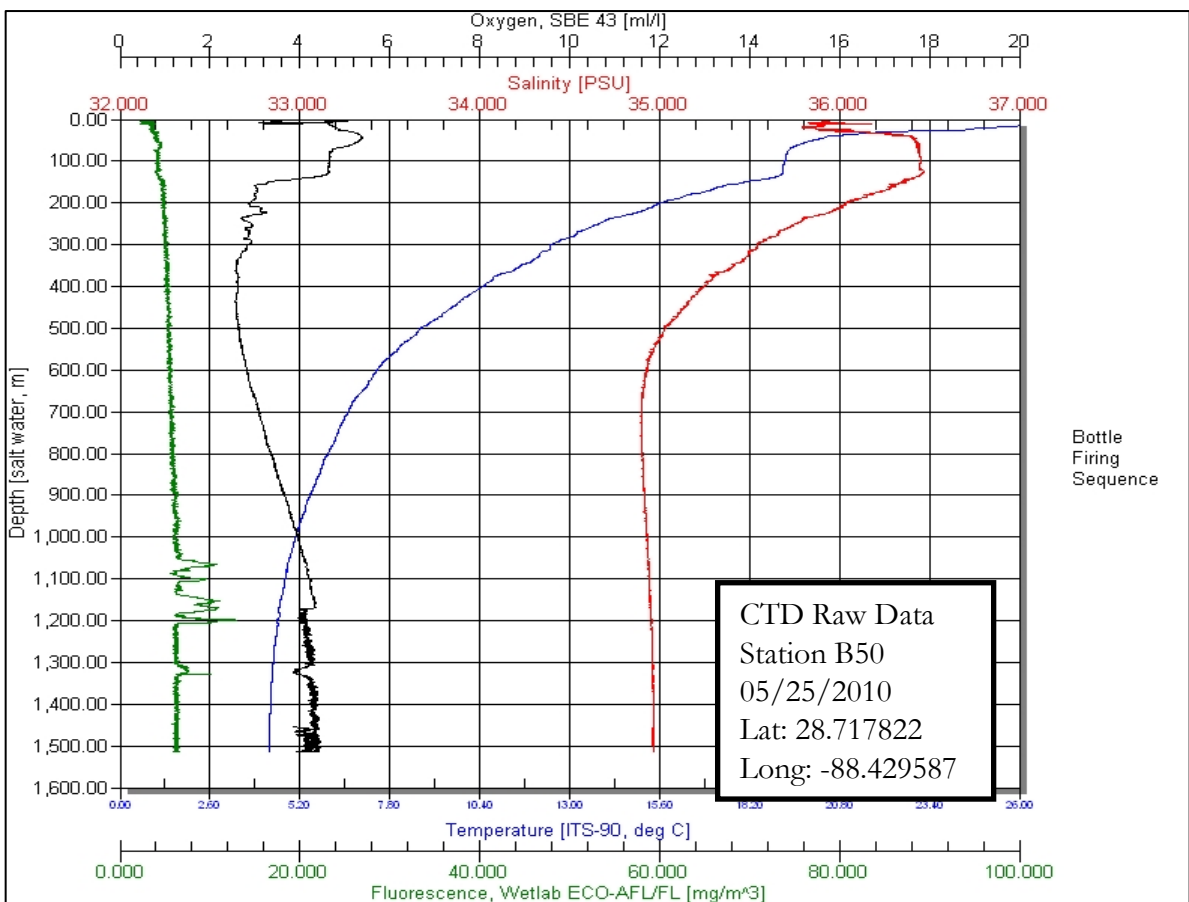
Conductivity, Temperature Depth (CTD) Sensor Information Cruise 4 Station B48				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	13 parts per <u>billion</u>	1,280 meters 4,198 feet	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 mg/l	2.6 ml/l	400 meters 1,312 feet	Acceptable
Toxicity Results	No Available Data			
Data Source	Brooks McCall Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References
Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Elimination System) 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 milligrams 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



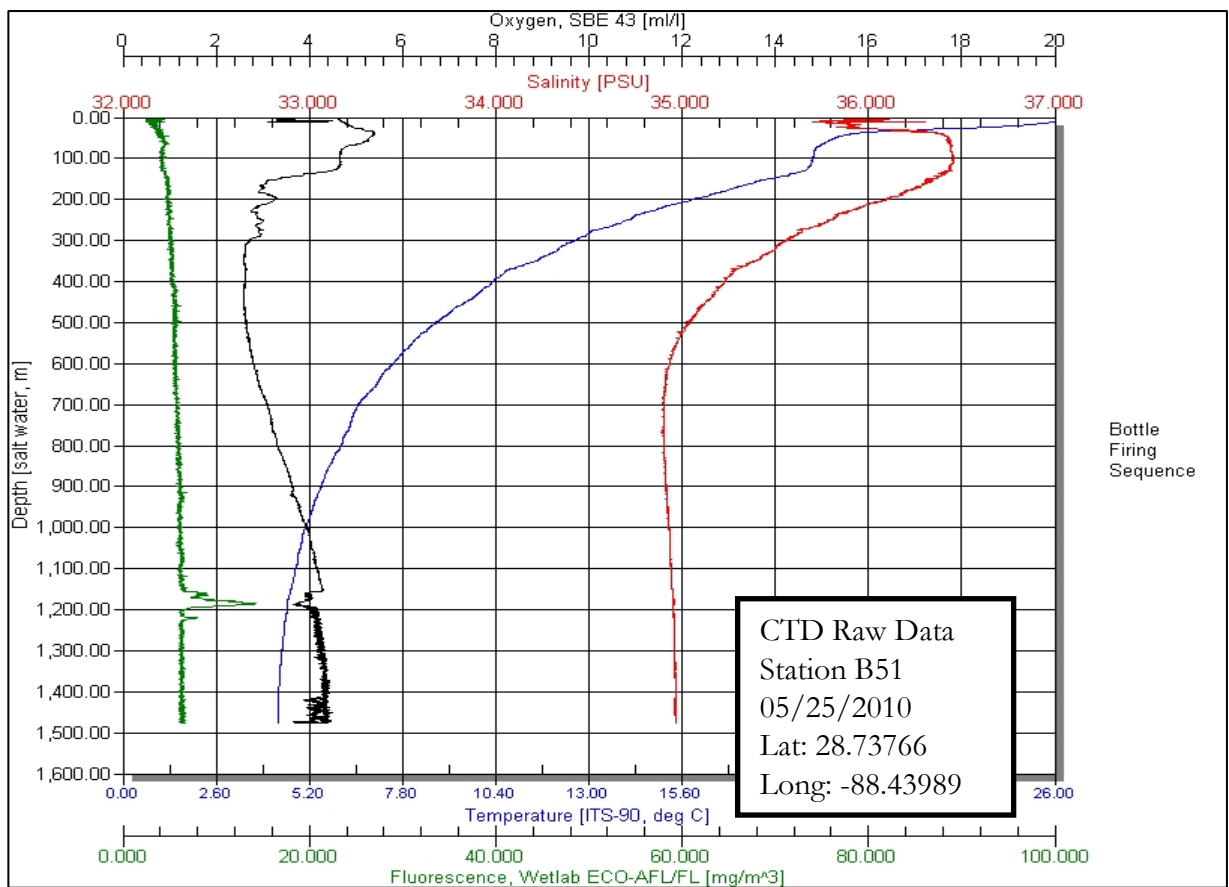
Conductivity, Temperature Depth (CTD) Sensor Information Cruise 4 Station B49				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	12 parts per <u>billion</u>	1,280 meters 4,198feet	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 mg/l	2.7 ml/l	400 meters 1,312 feet	Acceptable
Toxicity Results	No Available Data			
Data Source	Brooks McCall Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References
Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Elimination System) 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 milligrams 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



Conductivity, Temperature Depth (CTD) Sensor Information Cruise 4 Station B50				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	13 parts per <u>billion</u>	1,200 meters 3,936 feet	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 mg/l	2.7 ml/l	400 meters 1,312 feet	Acceptable
Toxicity Results	No Available Data			
Data Source	Brooks McCall Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References
Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Elimination System) 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 milligrams 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



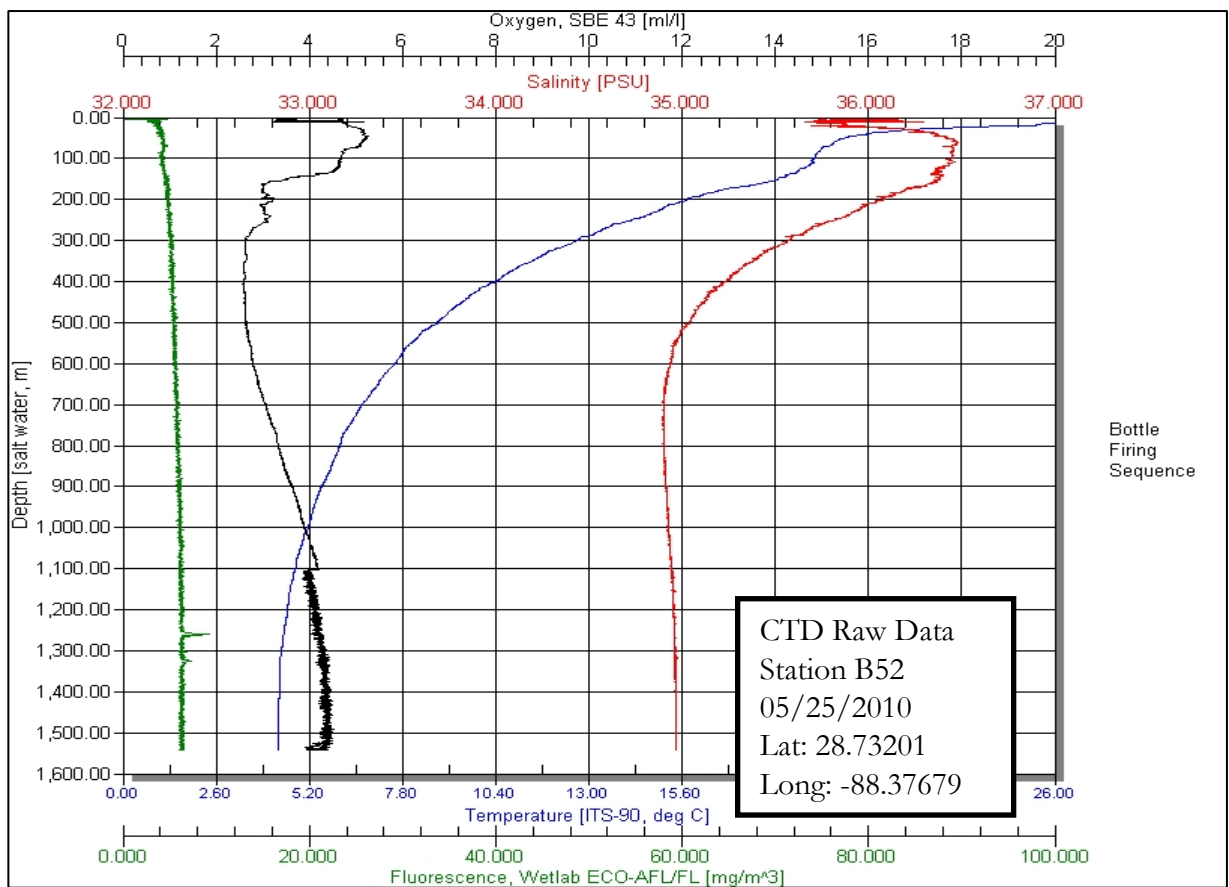
Conductivity, Temperature Depth (CTD) Sensor Information Cruise 4 Station B51				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	14 parts per <u>billion</u>	1,190 meters 3,903 feet	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 mg/l	2.7 ml/l	400 meters 1,312 feet	Acceptable
Toxicity Results	No Available Data			
Data Source	Brooks McCall Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References

Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Elimination System) 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 milligrams 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



Conductivity, Temperature Depth (CTD) Sensor Information Cruise 4 Station B52				
Measurement	Reference Point	Value from Station	Depth below sea level	Status
Hydrocarbon Concentration in Water Maximum Fluorometry Reading (Note #1)	29 parts per million	9 parts per <u>billion</u>	1,255 meters 4,116 feet	No Significant Hydrocarbon Exposure
Minimum Dissolved Oxygen ml/l (Note #2)	2 mg/l	2.7 ml/l	1,255 meters 4,116 feet	Acceptable
Toxicity Results	No Available Data			
Data Source	Brooks McCall Cruise Science team - NOAA, EPA, & BP representatives on board			

Sources and References
Note #1 As a reference point, The EPA NPDES (National Pollutant Discharge Elimination System) 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 milligrams 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