



Petroleum Hydrocarbons and Related Chemicals QA/QC Workshop

January 26 2014

Mobile Alabama



QA/QC Workshop January 26 2014

WHY?

- **Best Scientific Practice**: Assess, improve and confirm quality of data.
- Provide framework for integrating sets of data from different laboratories to provide:
 - status and trends of data and fates of various chemical constituents of petroleum and dispersants
 - degradation, metabolic and photochemical transformation products.



QA/QC Workshop January 26 2014

WHY? (continued)

- Composition and Concentrations calibration for biological effects research.
- Benchmark for future inputs to the Gulf of Mexico.
- Legal system use of data will be expecting appropriate QA/QC.



QA/QC Workshop January 26 2014

HISTORY

- Early 1970s International Decade of Ocean Exploration – Interlaboratory comparison for measuring concentrations of a N-alkanes, pristane in Cod Liver Oil, No.2 Fuel Oil and Crude Oil spiked into cod liver oil. Also tuna meal sample.
- USEPA Mussel Watch- Interlaboratory comparison of quantitative measurement of PAH in mussel tissue. By high resolution capillary GC-MS-Computer Systems.
- NBS (Now NIST) begins preparations of SRMS for polycyclic aromatic hydrocarbons in sediments and shellfish tissue.

Wise, S.A., S.N. Chester, F.R. Guenther, H.S. Hertz, L.R. Hilpert, S.E. May and R.M. Parris. 1980. Interlaboratory comparison of determinations of trace level hydrocarbons in mussels. *Anal. Chem.* **52**:1828-1833.



QA/QC Workshop January 26 2014

History (Continued)

- Intergovernmental Oceanographic Commission of UNESCO has an Interlaboratory Intercomparison exercise for measurement of hydrocarbons in tissue samples.
- NOAA begins QA/QC for PAHs in mussel and oyster tissue and in sediments, including interlaboratory comparisons.
- QA/QC is an essential component of Natural Resource Damage Assessment.