

Interpreting the Sensory and Chemistry Data

The data table shows the results of sensory and chemical analysis on fish samples caught from the area to be re-opened between June 23 and July 5, 2010. Detailed information on the steps taken to analyze the samples can be found in the NOAA-FDA Opening Protocol. In short, the samples went through a battery of sensory analyses to ensure there was no detectable odor or taint from petroleum or the dispersant formulations used on the spill. If samples passed sensory analysis, they were analyzed for polycyclic aromatic hydrocarbon (PAH) chemical contaminants using an analytical chemical technique.

Fish Species: 52 fish of 12 different “sentinel” species were caught, which represent the commercially important species from the reef fish communities along the eastern edge of the area and highly migratory species (HMS) that occur throughout. The samples of individual animals taken in the field were all analyzed by sensory and either analyzed individually or combined with samples of the same species at the same site to make a composite sample for chemical analysis. Composite samples are made up of two to 12 individual animals from similar families (grouper, tuna, etc.). Thus, all 52 samples underwent chemical analysis.

Latitude/Longitude: Coordinates of the precise locations where the fish were caught are given in decimal degrees in the second and third columns of the table. Most fish caught in the northeastern section are representative of the reef fish communities that support very active commercial and recreational fisheries. The highly migratory species are representative of HMS species that occur throughout the area. Note that by definition, highly migratory species move over great distances. For this reason, HMS samples from immediately outside the area to be re-opened are also included.

Date: Samples were collected between June 23 and July 5, 2010.

Sample Label: The sample label is a unique identifier that follows the sample from the time it is caught until the all processing has been completed.

Fish Group: The 12 different species sampled have been grouped into four categories to broadly represent the important commercial and recreational fishery resources in the area.

Sensory Results: Every sample tested passed the battery of sensory analyses, including raw sample odor, cooked odor and cooked taste. The analyses are performed by teams of highly trained sensory technicians. The analyses detect petroleum odor or taint at levels far below what the average person can detect. The sensory technicians were also trained to sense the dispersant formulations used on the Deepwater Horizon oil spill.

Chemical Results: The chemistry data are reported in nanograms per gram (parts per billion: ppb) PAH in edible tissue of finfish collected. Above each compound symbol is a numeric value for the level of concern (LOC) expressed in ppb. Chemistry results below the LOC for that particular compound are indication that the fish sample is safe for human consumption. Results that include the “less than” (<) symbol indicate results that

are less than the level at which advanced analytical instrumentation can measure the quantity present. The following table summarizes the LOC's and the highest level measured in any of the samples analyzed from the area to be re-opened. Note that many of the results are 3 to 4 orders of magnitude below the LOC. The result for benzo(a)pyrene is at least 97 times less than the respective LOC. This is the result that comes closest to the LOC of all the samples.

compound	Level of Concern (ppb)	data table symbol	highest value in fish sampled (ppb)
Naphthalene	32,700.0	NPH	1.70
Fluorene	65,300.0	FLU	0.40
Anthracene/Phenanthrene	490,000.0*	ANT/PHN	<0.90
Pyrene	49,000.0	PYR	<0.24
Fluoranthene	65,300.0	FLA	<0.24
Chrysene	35,000.0	CHR	<0.40
Benzo(k)fluoranthene	3,500.0	BKF	<0.40
Benzo(b)fluoranthene	350.0	BBF	<0.40
Benz(a)anthracene	350.0	BAA	<0.35
Indeno(1,2,3-cd)pyrene	350.0	IDP	<0.35
Dibenz(a,h)anthracene	35.0	DBA	<0.30
Benzo(a)pyrene	35.0	BAP	<0.36

*LOC for Anthracene and Phenanthrene combined.