Summary of the Surveillance Data
Post Re-opening Grids B01-06 (fish)

Background: This area was re-opened to fishing on September 21, 2010 after the results of sensory and chemical testing on numerous fish specimens showed that the seafood from this area was safe for consumption. To support consumer confidence and demonstrate that seafood from the area continues to be safe for consumption, the grids B01-B06 were re-sampled between March 13 and April 14, 2011 as part of a post re-opening sampling event. During this sampling effort, 46 specimens (comprised of 46 individual organisms) were taken representing the important reef fish and pelagic fish species that occur in the area. The samples from this sampling effort were processed and analyzed for chemistry only (no sensory testing). Because this is a surveillance program to confirm the results of the re-opening, the analytical chemical analyses provide sufficient information to confirm that the seafood from an area continues to be safe for human consumption.

A gas chromatography/mass spectrometry (GC/MS) method was used to measure polycyclic aromatic hydrocarbons (PAHs) in seafood samples analyzed for re-opening of the grids and a high performance liquid chromatography/fluorescence (HPLC-UVF) method developed by the FDA (http://www.fda.gov/downloads/ScienceResearch/UCM220209.pdf) was used to analyze samples from surveillance of the re-opened areas. The HPLC-UVF method provides reliable estimates of PAH levels in seafood. A minor difference between the two methods is that the HPLC method has higher limits of quantitation than the GC/MS method but this does not affect the ability to measure PAHs and determine if they are below the levels of concern. Because the HPLC method is faster, larger numbers of samples can be analyzed, thus increasing the capacity of the surveillance program.

The samples were also analyzed for dioctyl sodium sulfosuccinate (DOSS) a component of the dispersant used in response to the DWH spill. The HPLC MS/MS method that was jointly developed by FDA and NOAA (see New Method for DOSS Detection in Seafood at: http://www.fda.gov/Food/FoodSafety/Product-SpecificInformation/Seafood/ucm210970.htm#DOSS) was used.

Post Re-opening Surveillance Results: The chemistry results are in the accompanying table (hyperlink). All PAH and DOSS levels measured in the samples were well below the levels of concern (LOC). The chemistry data are reported in nanograms per gram (parts per billion: ppb) PAH or micrograms per gram (parts per million: ppm) DOSS in edible tissues of the finfish collected. Above each compound symbol is a numeric value for the LOC expressed in ppb for PAHs or ppm DOSS. Chemistry results below the LOC for that particular PAH compound or DOSS show that the fish sample is safe for human consumption. Results that include the "less than" (<) symbol indicate results that are less than the limit of quantitation for PAHs determined by HPLC-UVF or below the limit of quantitation for DOSS determined by HPLC MS/MS. These values are the levels at which the analytical instrumentation can measure the quantity of the compound in a sample. Two different HPLC-UVF systems were used to measure the PAHs in the seafood as part of this recent post re-opening surveillance sampling effort. A superscript 2 (^{2}) after the chemical test number in each table indicates the samples analyzed using an Agilent HPLC-UVF system versus a Waters HPLC-UVF system.

Comparison to Re-opening and Previous Post Re-opening Surveillance Results: To allow comparison of the current surveillance chemistry data to the chemistry data for the re-opening of this area and a previous post re-opening sampling event (Oct. 7-Nov. 12, 2010**)** the following table summarizes the LOCs, as well as the range of concentrations of PAHs measured in all of the

samples analyzed. Such a comparison cannot be made for DOSS because the method for DOSS was developed after this area was re-opened. The results for the current surveillance sampling are comparable to the results for re-opening and previous surveillance sampling efforts, confirming that finfish from this area continue to be safe for human consumption. The only minor difference among the sets of data is that the concentration of naphthalene is slightly higher in the surveillance samples than in the samples from re-opening. This is due to a technical difference between the two analytical methods. The HPLC method measures both parent (naphthalene) and alkylated PAHs (naphthalene with an alkyl group) whereas the GC/MS method measures only the parent PAH. The highest concentration of naphthalene (29 ng/g) measured in fish samples collected during the most recent post re-opening surveillance effort, however, is more than 1,100 times lower than the level of concern for this compound.

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PAHs	Level of Concern (ppb)	Data table symbol	Samples from Sept. 21, 2010 Re-opening Range of values (ppb) GC/MS analyses	Samples from Oct. 7-Nov. 12, 2010 Post Re-opening Surveillance Range of values (ppb) HPLC/fluorescence analyses^	Samples from Mar. 13-Apr. 14, 2011 Post Re-opening Surveillance Range of values (ppb) HPLC/fluorescence analyses^†
Naphthalene	32,700	**NPH**	0.40 - 2.5	<2.5 - 28	<10.55 - 29
Fluorene	65,300	**FLU**	<0.18 - 0.77	<1.0 - 1.6	<1.0 – 2.0
Anthracene/Phenanthrene	490,000*	**ANT/PHN**	<0.25 - 1.2	<1.4 - 3.6	<0.75 - <1.99†
Pyrene	49,000	**PYR**	<0.27	<0.72	<0.72 - <3.19†
Fluoranthene	65,300	**FLA**	<0.10 - 0.19	<4.1	<4.1 - <5.57†
Chrysene	35,000	**CHR**	<0.46	<1.1	<1.1 - <4.34†
Benzo(k)fluoranthene	3,500	**BKF**	<0.46	<0.58	<0.58 - <0.63†
Benzo(b)fluoranthene	350	**BBF**	<0.46	<0.67	<0.67 - <0.77†
Benz(a)anthracene	350	**BAA**	<0.40	<0.59	<0.59 - <3.36†
Indeno(1,2,3-cd)pyrene	350	**IDP**	<0.41	<2.5	<1.87 - <2.5†
Dibenz(a,h)anthracene	35	**DBA**	<0.35	<5.3	<1.20 - <5.3†
Benzo(a)pyrene	35	**BAP**	<0.41	<1.1	<0.81 - <1.1†
DOSS	**Level of Concern (ppm)**		**Range of values (ppm)**	**Range of values (ppm)**	**Range of values (ppm)**
Dioctylsulfosuccinate	100	**DOSS**	<0.058	<0.045	<0.045

* Level of Concern for Anthracene and Phenanthrene combined

^ HPLC/fluorescence (screening) analyses have higher limits of quantitation than the more sensitive and laborious GC/MS analyses.

† Analyses were conducted using two different high performance liquid chromatography/fluorescence systems that have different limits of quantitation for each analyte.