April 14, 2011

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EPA Region 6

Cooling Water Intake Structure Entrainment Monitoring Study
Activity Report – First Quarter 2011

During discussions about the plans for industry-wide Entrainment Monitoring Study to be carried out to meet the requirements of NPDES Permit GMG290000 for new facilities with cooling water intake structures, industry agreed to provide EPA Region 6 with quarterly reports on the level of sampling activity. This document is the first quarterly activity report for the Entrainment Monitoring Study.

After EPA approved the overall plan for the industry-wide entrainment monitoring study in late 2009, the study began in 2010 with the development of a sampling and analysis plan, a quality assurance project plan, and a field safety and environment plan. After delays caused by the impact of the Gulf of Mexico oil spill on the availability of sampling vessels and critical equipment items, field operations for this program began at the end of January 2011. A total of five sampling cruises were scheduled to begin during the first quarter of 2011. Table 1 summarizes the activity that occurred during that time. The study plan calls for each sampling cruise to visit 4 deepwater Gulf of Mexico sites (Figure 1) during a cruise covering a round-trip distance of approximately 1100 miles.

Plans for sampling during each site visit call for three net tows, representing morning, mid-day, and dusk sampling, to be conducted at each facility during each visit. Each net tow results in three depth-resolved ichthyoplankton samples. Table 1 presents the number of successful tows conducted during the first quarter of 2011.

Sampling operations are not possible when seas exceed 4-6 feet in height. These conditions are not unusual during the winter months in the Gulf of Mexico. Adverse conditions during the first quarter 2011 caused two of five scheduled sampling events to be cancelled. As previously discussed with EPA, missed samples are being made up as soon as possible on subsequent visits. As of the end of the first quarter 2011, we have made up all the missed samples for MC290, and all the missed samples for at least one time of day for the other three facilities. Other times of day have deficits of 2-3 samples per time period which will be made up on upcoming visits.

Please contact me by e-mail at joe.p.smith@exxonmobil.com or by phone at 713-431-4532 if you have any questions about this report.

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Table 1. Entrainment Monitoring Study Sampling Activities – First Quarter 2011

		Sampling Site - Block Number / Facility Name											
		GB668 Gunnison			AC25 Diana-Hoover			MC290 Independence Hub			VK989 Pompano		
Cruise	Date	Dawn	Mid-Day	Dusk	Dawn	Mid-Day	Dusk	Dawn	Mid-Day	Dusk	Dawn	Mid-Day	Dusk
1	23-30 Jan 2011	1	1	1	1	1	1	1	1	1	1	1	1
2	Canceled - weather	--	--	--	--	--	--	--	--	--	--	--	--
3	19-26 Feb 2011	2	2	2	--*	--*	--*	2	2	2	2	2	2
4	Canceled - weather	--	--	--	--	--	--	--	--	--	--	--	--
5	16-26 Mar 2011	2	1	-- *	3	3	1	2	2	2	--*	--*	2
	Total Tows	5	4	3	4	4	2	5	5	5	3	3	5

*Weather conditions deteriorated during the indicated cruise and prevented sampling at these sites and times.

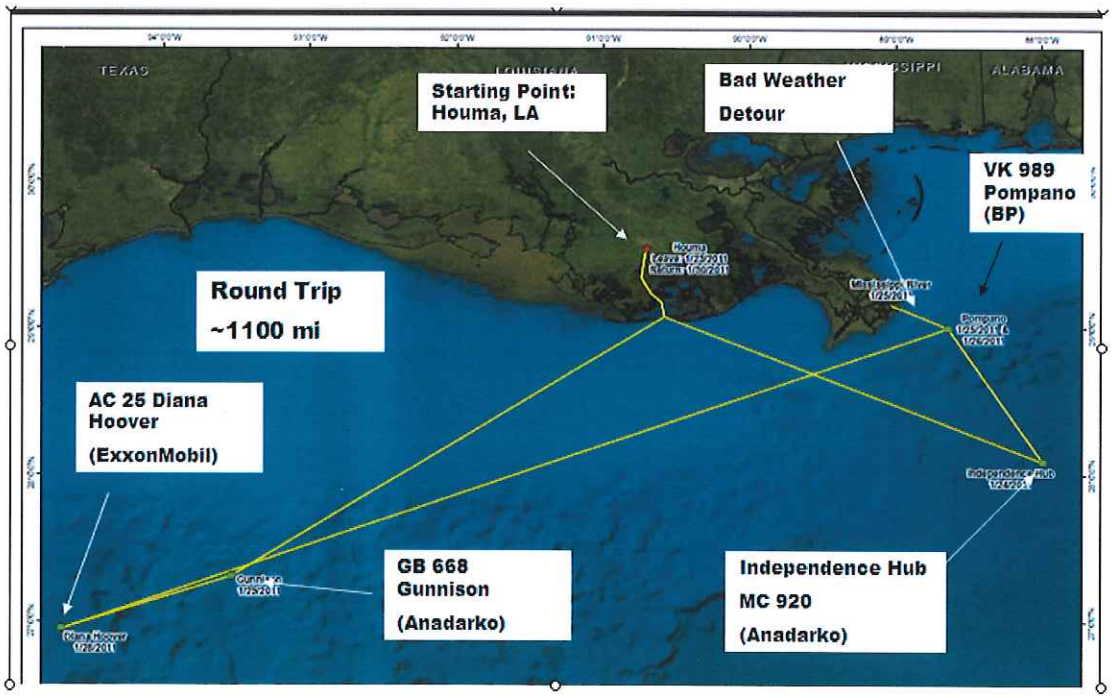

Figure 1. Map of the Gulf of Mexico showing the track of the first sampling cruise for the entrainment monitoring study. This cruise involved a detour allowing the vessel to stay in sheltered waters during a short period of bad weather.