STRAUGHAN ENVIRONMENTAL

Memo

To: 200/ Syretha Storey, *Director of Goddard Child Development Center*

CC: 250/ Lori Levine, *Drinking Water Program Manager, MEMD*
200/ Leona Dickens-Adams, *Assistant Director of Goddard Child Development Center*
606/ Dan Duffy, *Vice President*
750/ Steve Naus, *Facility Operations Manager*

From: 250/ Hayley Thomas, *Environmental Scientist, SGET*

Date: April 6, 2011

Attachments: 2011 First Quarter Drinking Water Study Sample Results

Re: First Quarter Drinking Water Results for GSFC – Building 090

The Straughan Goddard Environmental Team (SGET) conducted quarterly drinking water testing for Goddard Space Flight Center (GSFC). Samples were collected from the Goddard Child Development Center (GCDC), Building 90. The samples were taken from the kitchen utility sink located in Room 106. The samples were collected on March 1, 2011 and analyzed for the following parameters: alkalinity, bacterial analysis, Free Available Chlorine, chloride, hardness, Haloacetic Acids (HAA), metals, nitrate, orthophosphate, pH, sulfate, temperature, Total Dissolved Solids, Total Organic Carbon, and Total Trihalomethanes.

The HAA samples collected on 3/1/2011 failed to maintain thermal preservation in transport. Therefore, the HAA were re-sampled on 3/8/2011.

A report of all results is attached. The paragraph below details parameters that did not meet the target and were evaluated to assess the risks.

- The Langlier Index is an indication of the water's likeliness to corrode or cause scale build-up in pipes and fittings. Building 90 was found to be mildly corrosive.

Corrosion can lead to leaching of metals from pipes and fittings into the distributed water, especially after it has remained stagnant in piping for an extended period of time, such as overnight. The results for all metals analyzed in this sampling were below their respective standards or goals and do not pose a health risk. A best practice recommended by the EPA is to flush water lines for approximately one minute or until the water turns cold each day before initial use. I recommend GCDC follow this practice to ensure that the center is consuming the freshest water.

Results of Quarterly Child Development Center Sampling

Date	Time	Bldg	Location	Analyte	Results	Standard and Type		
3/1/2011	10:21	090	kitchen sink	Alkalinity	35,000 ug/l		NA	
				Bromodichloromethane	10 ug/l	80 ug/l	P	
				Bromoform	<5 ug/l	80 ug/l	P	
				Cadmium	<1 ug/l	5 ug/l	P	
				Chloride	43,000 ug/l	250,000 ug/l	S	
				Chloroform	37 ug/l	80 ug/l	P	
				Copper	5.8 ug/l	1,000 ug/l	S	
				Degrees C	10.7 degrees C		NA	
				Dibromochloromethane	2.1 ug/l	80 ug/l	P	
				E. Coli	<1 CFU		NA	
				Free Available Chlorine	120 ug/l	4,000 ug/l	P	
				Hardness	68,000 ug/l		NA	
				Heterotrophic Plate Count	<2 CFU	500 CFU	P	
				Iron	<100 ug/l	300 ug/l	S	
				Langlier Index	-0.89 units		NA	
				Lead	<1 ug/l	15 ug/l	AL	
				Nitrate	1,000 ug/l	10,000 ug/l	P	
				Orthophosphate	570 ug/l		NA	
				pH	7.63 pH	6.5-8.5 pH	S	
				Sulfate	5,000 ug/l	250,000 ug/l	S	
				Total Coliform	<1 CFU	0 CFU	S	
				Total Dissolved Solids	120,000 ug/l	500,000 ug/l	S	
				Total Organic Carbon	2,000 ug/l		NA	
				Total Trihalomethanes	49.1 ug/l	80 ug/l	P	
				Zinc	<20 ug/l	5,000 ug/l	S	
3/8/2011	11:13	090	kitchen sink	Dibromoacetic Acid	<1 ug/l		NA	Haloacetic Acids were re-sampled because the required thermal preservation was not maintained.
				Dichloroacetic Acid	10 ug/l	60 ug/l	P	
				Haloacetic Acids	21 ug/l	60 ug/l	P	
				Monobromoacetic Acid	<1 ug/l		NA	
				Monochloroacetic Acid	<2 ug/l	60 ug/l	P	
				Trichloroacetic Acid	11 ug/l	60 ug/l	P	

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P = Primary Standard S = Secondary Standard (Aesthetics) AL = Action Level NA = Not Applicable (No standard)