

MEMORANDUM:

DATE August 8, 2008

TO: Ginney Henderson, Hydrogeologist
Inactive Hazardous Sites Program
Superfund Section

FROM: Hanna Assefa 
Industrial Hygiene Consultant
Inactive Hazardous Sites Program
Superfund Section

RE: Health Risk Evaluation
APAC-Castle Hayne
4901 N College Rd
New Hanover County
NONCD0002779

The drinking water well at the subject address was sampled on June 25, 2008. During this sampling event, seven contaminants were detected in the well water. Two of the contaminants, vinyl chloride and iron, were detected at a concentration that exceeded applicable standards. The standards used to determine if the water is suitable for drinking and cooking are the United States Environmental Protection Agency's Maximum Contaminant Levels (MCLs) or, if no MCLs exist, North Carolina Groundwater Standards (2L). A health-based concentration was calculated for iron and manganese.

If contaminant concentrations exceed the applicable standards for using the water for drinking and cooking, the contaminant concentrations are further analyzed to determine if the water is suitable for other household uses, such as showering, bathing, washing dishes, flushing toilets, and hand washing. **Based on this evaluation the water from this well should not be used for drinking or cooking. The water from this well can be used for other residential purposes.** The table below compares the detected contaminant concentrations with the applicable standards:

Sample ID	Contaminant	Concentration (ug/l)*	MCL (ug/l)	2L (ug/l)
AB31973	Vinyl Chloride	2.7	2	
	Chloroethane	0.86	NA	2800
	1,1-dichloroethene	0.46	7	
	1,1-dichloroethane	2.1	5	
	Copper	2.1	1300	
	Cis-1,2-dichloroethene	0.57	70	
	Iron	7100	NA	2500*
	Manganese	760	NA	2000*

Shaded boxes indicate a standard has been exceeded.

* Calculated health-based concentrations.