

## Siedlecki, Mary

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**From:** Siedlecki, Mary  
**Sent:** Wednesday, April 06, 2016 10:54 AM  
**To:** Mort, Sandra L  
**Cc:** Mccarty, Bud (bud.mccarty@ncdenr.gov); Siedlecki, Mary  
**Subject:** Question Regarding Human Health Risks Posed by Exposure to Vinyl Chloride in Surface Water (Scenario: Children/Trespasser)  
**Attachments:** NCD057451270 Daikin Surface Water Figures for Sandy Mort 04062016.pdf

Sandy:

Bud McCarty and I are revising an Environmental Indicator Determination Measure for Daikin Applied Americas Inc. You might remember Daikin Applied Americas as the facility with TCE concentrations measured in indoor air that exceeded the DWM Action Level.

Our question today relates to surface water. Specifically, we are evaluating the groundwater-to-surface water pathway. It is known that contaminated groundwater discharges to the unnamed tributary onsite (maps attached for your convenience). The first map illustrates the site in relation to the unnamed tributary (in blue); the second map illustrates the unnamed tributary in relation to a residential neighborhood; the third map provides a better view of that same residential neighborhood; and the fourth map provides surface water sampling locations along with analytical results for vinyl chloride. Although other VOC constituents are measured in the surface water, the only constituent to exceed the 15A NCAC 2B Surface Water Standard is vinyl chloride.

For your convenience the 2B standard for vinyl chloride is 2.4 ug/L (based on an older tabulation because the new web pages for DWR will not open). As shown on the fourth figure, vinyl chloride exceeds the surface water benchmark in three out of four sample locations. Although surface water samples are collected on a semi-annual basis, the results for September 2015 is discussed here.

Sample	Measured Concentrations	Constituent
CR-1	31.1 ug/L	Vinyl Chloride
CR-2	17.8 ug/L	Vinyl Chloride
CR-3	11.8 ug/L	Vinyl Chloride
CR-4	<1.0 ug/L	Vinyl Chloride

Some background:

- The area is industrial/commercial/residential.
- Residences are situated in very close proximity to the unnamed tributary.
- The surface water body is shallow and unlikely to be fished.
- The area surrounding the surface water body is heavily overgrown and not easily accessible.
- Although it does not *seem* to be an attractive play area, the potential for children and/or trespassers to come into contact with the surface water cannot be ruled out.

Given the above circumstances, would you feel that there is "*unacceptable human exposure to surface water contamination*" based on risk considerations? If I failed to provide some crucial piece of information, please feel free to reach out to me. I'll make myself available to you on your timeframe.

All thoughts are welcome.

**Mary Siedlecki**  
Project Manager  
Facility Management Branch  
Hazardous Waste Section  
Division of Waste Management  
Department of Environmental Quality

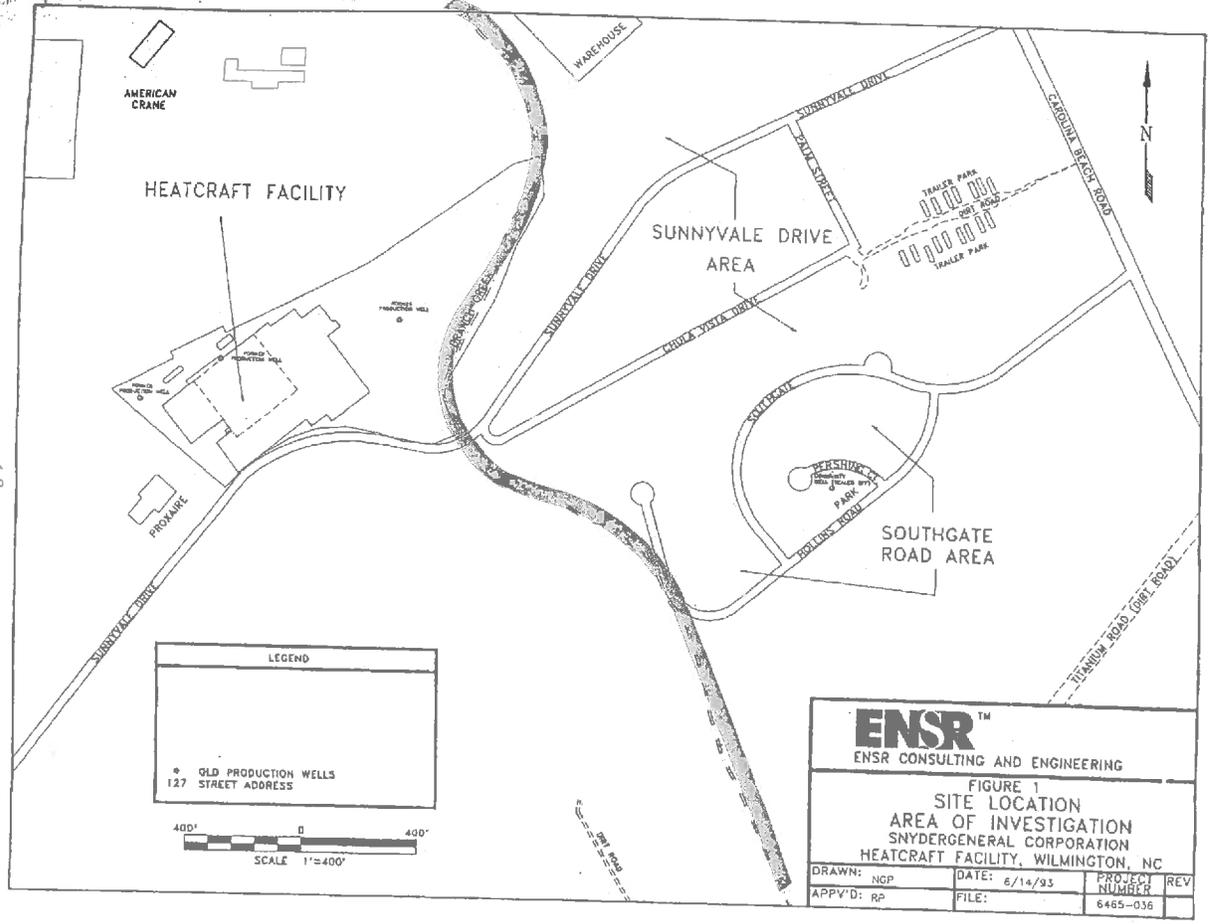
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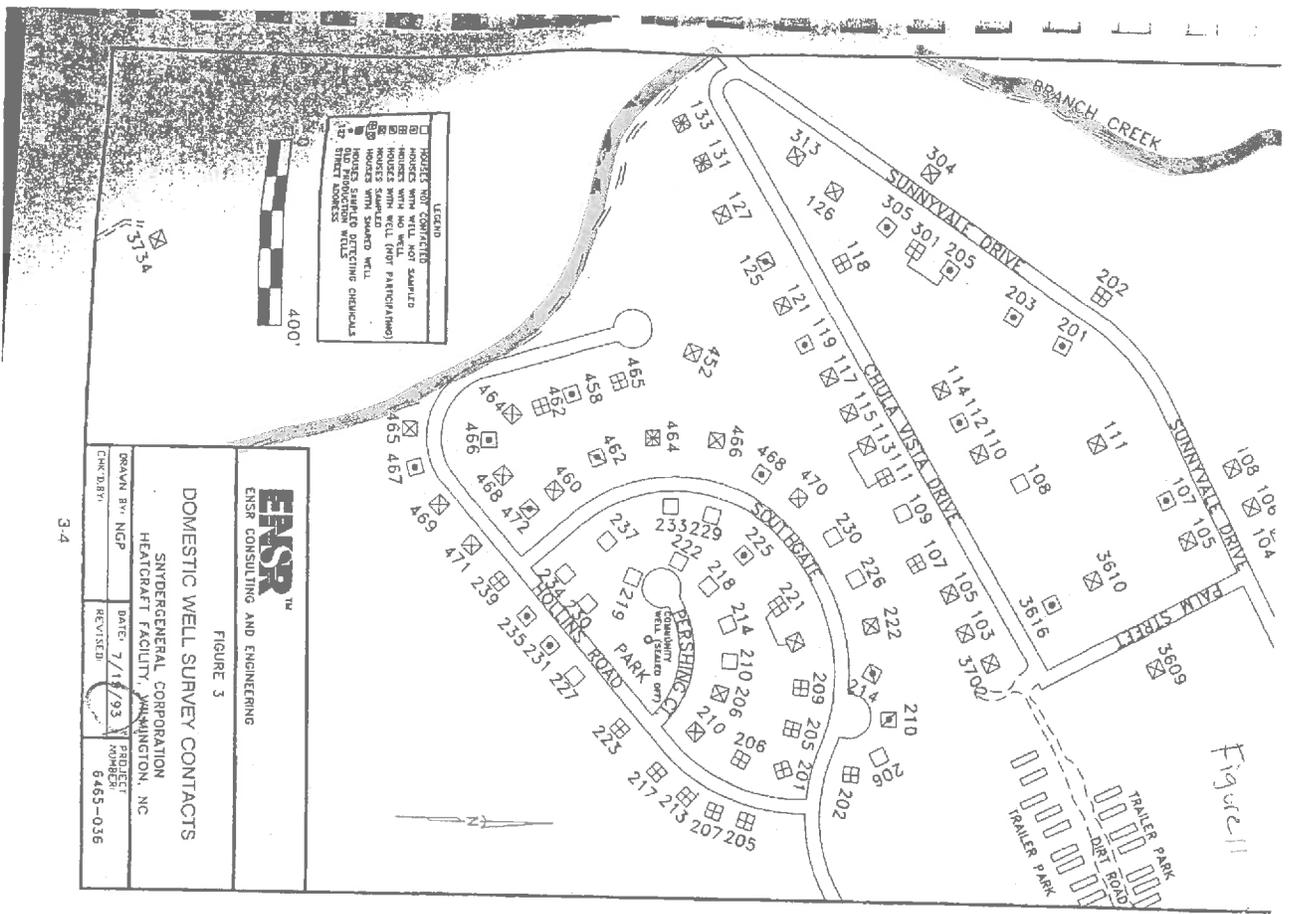


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Figure 9



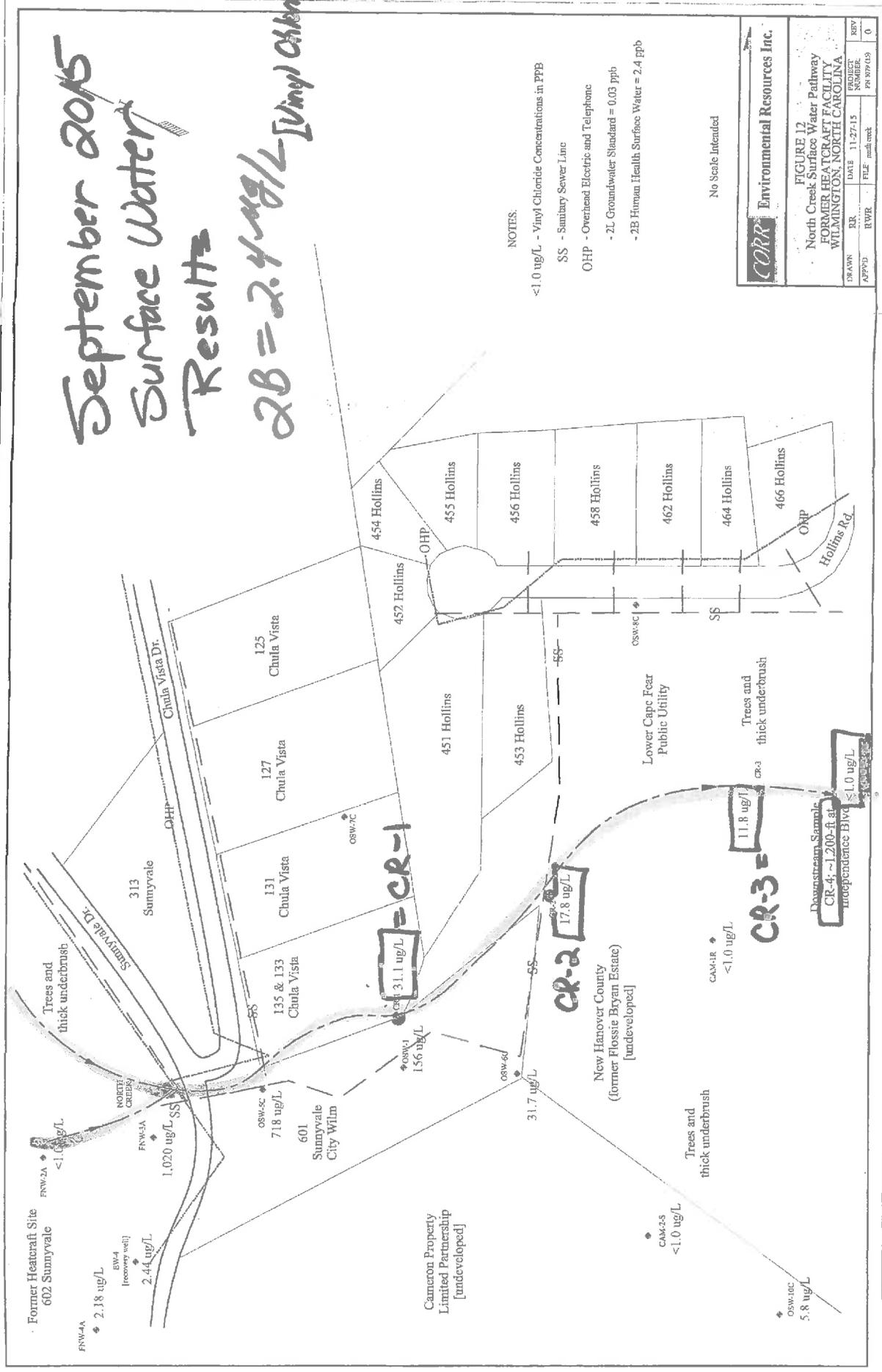
1.2





# September 2015 Surface Water Results

2B = 2.4 ug/L [Vinyl Chloride]



NOTES:  
 <1.0 ug/L - Vinyl Chloride Concentrations in PFB  
 SS - Sanitary Sewer Line  
 OHP - Overhead Electric and Telephone  
 - 2L Groundwater Standard = 0.03 ppb  
 - 2B Human Health Surface Water = 2.4 ppb

No Scale Intended

**CORR Environmental Resources Inc.**

FIGURE 12  
 North Creek Surface Water Pathway  
 FORMER HEATERCRAFT FACILITY  
 WILMINGTON, NORTH CAROLINA

DRAWN	DR.	DATE	FILE	REV
APPRD	RWR	11-27-15	msk.msk	0
		NUMBER	PN 899-059	