

May 08, 2012

MEMORANDUM

TO: Vince Antrilli
Inactive Hazardous Sites Branch
Superfund Section

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

RE: Health Risk Evaluation
Aberdeen Florist Site
500 S. Sandhills Rd.
Aberdeen, Moore County
NONCD 0002857

A water sample was collected from the subject well on April 16, 2012. Tetrachloroethene was detected at a concentration that exceeded its applicable standards. The standards used to determine if the water is suitable for drinking and cooking are the federal drinking water standards (USEPA MCL), or where there is no MCL, the North Carolina Groundwater Quality Standard (NC 2L). If there is no USEPA MCL or health based North Carolina 2L available a health –based concentration is calculated.

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. **Therefore, based on this evaluation the water from this well should not be used for drinking and cooking the water from this well can be used for all other purposes listed above.** The table below compares the detected contaminant concentrations with the applicable standards:

Well ID	Contaminant	Concentration (µg/L)	US EPA MCL (µg/L)	NC 2L (µg/L)	Calculated Health-based Concentration (µg/L)
ND18019-003	Carbon tetrachloride	0.99	5	**	**
	Tetrachloroethene	6.3	5	**	**

** Not Applicable

µg/L= Micrograms of contaminant per liter of water.

Volatile Organic Compounds by GC/MS

Client: **NCDENR - DWM - DSCA**

Laboratory ID: **ND18019-003**

Description: **AF-1**

Matrix: **Aqueous**

Date Sampled: **04/17/2012 1115**

Date Received: **04/18/2012**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	04/27/2012 1022	AAC		83538

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		10	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	ug/L	1
Carbon tetrachloride	56-23-5	8260B	0.99		0.50	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	ug/L	1
Tetrachloroethene	127-18-4	8260B	6.4		0.50	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the PQL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

* = Reportable result (only when report all runs)

Volatile Organic Compounds by GC/MS

Client: NCDENR - DWM - DSCA	Laboratory ID: ND18019-003
Description: AF-1	Matrix: Aqueous
Date Sampled: 04/17/2012 1115	
Date Received: 04/18/2012	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	04/27/2012 1022	AAC		83538

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		112	70-130
Toluene-d8		89	70-130

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 ND = Not detected at or above the PQL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" * = Reportable result (only when report all runs)