

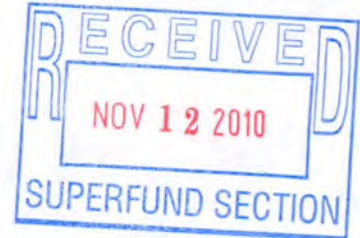


UNC
ENVIRONMENT,
HEALTH & SAFETY

The University of North Carolina at Chapel Hill
Department of Environment, Health & Safety
1120 Estes Drive Ext., CB# 1650
Chapel Hill, North Carolina 27599-1650

November 12, 2010

S. Wade Kirby PE PG
NC DENR Division of Waste Management
Inactive Hazardous Sites Branch
401 Oberlin Road Suite 150
Raleigh, NC 27699-1646



Subject: The University of North Carolina at Chapel Hill, Cogeneration Facility Warehouse
Site Cleanup Questionnaire

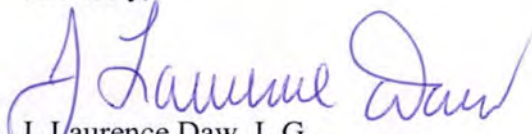
Dear Mr. Kirby:

In accordance with your letter dated September 9, 2010, please find attached a completed Site Cleanup Questionnaire for the University of North Carolina at Chapel Hill (UNC) Cogeneration Facility Warehouse.

Initial Abatement Actions include excavation of impacted soils conducted between October 26, 2010 and November 6, 2010. In addition, a groundwater monitoring well was installed and sampled to assess potential impacts to site groundwater. Piedmont Geologic, the UNC consultant for the project, will prepare a report detailing these site activities, and the report will be submitted in January 2011.

Please contact me at (919) 962-6666 if I can be of further assistance. Thank you.

Sincerely,


J. Laurence Daw, L.G.
Geophysicist/Licensed Geologist

Attachment

Cc: Dan Elliott - UNC
Pete Dressel - Piedmont Geologic

Site Cleanup Questionnaire

Remediating parties interested in volunteering should prepare this form with the assistance of an environmental consultant. All cooperative parties are eligible for Branch-approved remedial actions. Answer all questions, based on current information, and provide written descriptions where needed.

NCDENR Site Name, City and County UNC - Cogeneration Facility Warehouse Site, Chapel Hill, Orange County

1. Is the site located on or immediately adjacent to residential property, schools, day-care centers or other sensitive populations? Y N
If yes, please explain on a separate page.
2. What is the distance (from site property line) to the nearest residence, school or day-care center? Please attach a map showing the site and nearest residence, school or daycare center. 230 feet
3. Is the site completely surrounded by a locked fence? Y N
If no, please explain security measures at the site on a separate page.
4. Are site surface soils known to be contaminated? Y N
If yes, or unknown, describe briefly on a separate page.
5. Is site groundwater known to be contaminated? see attached Y N
If yes, or unknown, describe briefly on a separate page.
6. Is site sediment or surface water known to be contaminated? Y N
If yes, or unknown, describe briefly on a separate page.
7. Has groundwater contamination affected any drinking water wells? UNKNOWN Y N
If yes, or unknown, please explain on a separate page.
8. What is the distance to the nearest downgradient drinking water well? >1 mile
9. What is the distance to the nearest downstream surface water intake? >6 miles
10. Are hazardous vapors, air emissions or contaminated dust migrating into occupied residential, commercial or industrial areas? Y N
If yes, or unknown, please explain on a separate page.
11. Have hazardous substances known to have migrated off property at concentrations in excess of Branch unrestricted-use remediation goals? Y N
If yes, or unknown, please explain on a separate page.
12. Has the local community expressed concerns about contamination at the site? Y N
If yes, or unknown, please explain on a separate page.
13. Based on current information, are there any sensitive environments located on the property (sensitive environments are identified in the Remedial Investigation Work Plans section of the IHSB " Guidelines for Assessment and Cleanup" at <http://portal.ncdenr.org/web/wm/sf/sfavailabledocs>)? Y N
If yes, or unknown, please explain on a separate page.

14. Based on current information, has contamination from the site migrated into any sensitive environments? Y N

If yes, or unknown, please explain on a separate page.

15. Do site contaminants include radioactive or mixed radioactive and chemical wastes? Y N

If yes, or unknown, please explain on a separate page.

Remediating Party Certification Statement

After first being duly sworn or affirmed, I, Richard L. Mann, Vice Chancellor for Finance and Administration, hereby state that: I am over the age of eighteen, I am competent to make this certification based upon my own personal knowledge and belief, and, to the best of my knowledge and belief, after thorough investigation, the information contained herein is accurate and complete. I am aware that there are significant penalties for willfully submitting false, inaccurate or incomplete information.

Richard L. Mann

(Signature of Remediating Party Representative)

NOV 10 2010

(Date)

Richard L. Mann, Vice Chancellor for Finance and Administration

(Printed Name and Title of Remediating Party Representative)

The University of North Carolina at Chapel Hill

(Printed Name of Company)

STATE OF NORTH CAROLINA

COUNTY OF Orange

I, Teresa W. Laws, a Notary Public of said County and State, do hereby certify that Richard L. Mann, Vice Chancellor for Finance & Administration personally appeared before me this day, produced proper identification in the form of personally known to me, was duly sworn and/or affirmed, and declared that he or she is the owner of the property referenced above or is a duly authorized agent of said owner and that, to the best of his or her knowledge and belief, after thorough investigation, the information contained in the above certification is accurate and complete, and he or she then signed this Certification in my presence.

WITNESS my hand and official seal the 10th day of November, 2010.

Teresa W. Laws

Notary Public (signature)



(OFFICIAL SEAL)

My commission expires: August 20, 2011

Environmental Consultant Certification Statement

After first being duly sworn or affirmed, I, PETER J. DRESSEL, hereby state that: I am over the age of eighteen, I am competent to make this certification based upon my own personal knowledge and belief, and, to the best of my knowledge and belief, after thorough investigation, the information contained herein is accurate and complete. I am aware that there are significant penalties for willfully submitting false, inaccurate or incomplete information.

Peter J. Dressel

(Signature)

11-12-2010

(Date)

Peter J. Dressel

(Printed Name)

Piedmont Geologic, P.C.

(Printed Name of Environmental Consultant)

STATE OF NC

COUNTY OF WAKE

I, Danielle Sutton, a Notary Public of said County and State, do hereby certify that Peter Dressel personally appeared before me this day, produced proper identification in the form of NCDL, was duly sworn and/or affirmed, and declared that he or she is an environmental consultant for the property referenced above and that, to the best of his or her knowledge and belief, after thorough investigation, the information contained in the above certification is accurate and complete, and he or she then signed this Certification in my presence.

WITNESS my hand and official seal the 12 day of November 2000.

Danielle Sutton
Notary Public (signature)

(OFFICIAL SEAL)

My commission expires: 12/26/2012

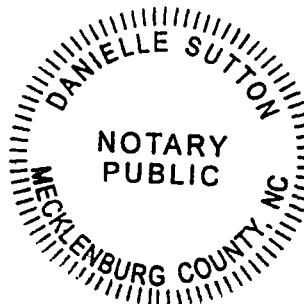
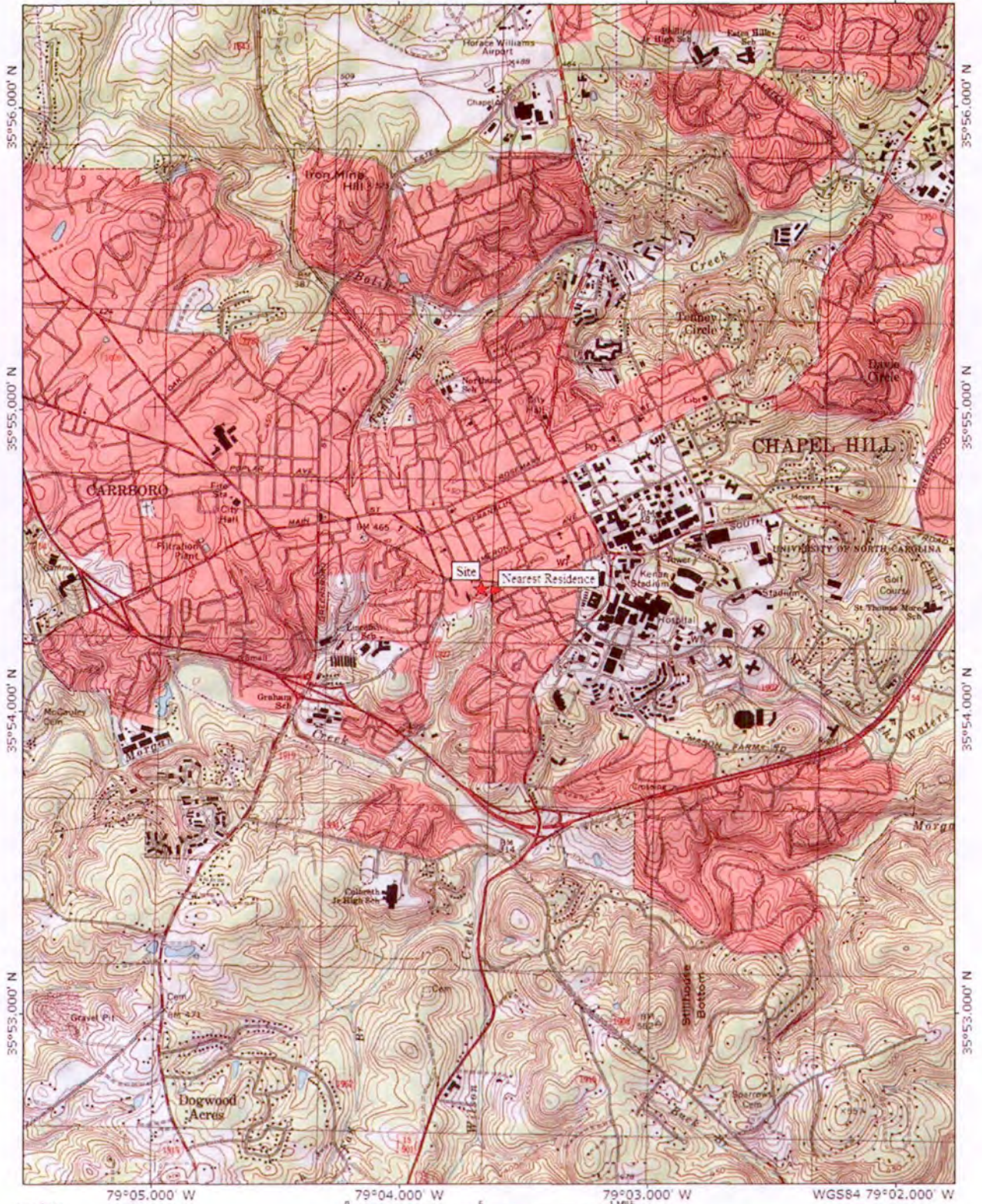


FIGURE 1: SITE LOCATION MAP - UNC Cogeneration Facility Warehouse Construction Site
 79°05.000' W 79°04.000' W 79°03.000' W WGS84 79°02.000' W



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**SUPPORTING INFORMATION FOR SITE CLEANUP QUESTIONNAIRE
UNC – COGENERATION FACILITY WAREHOUSE CONSTRUCTION SITE
575 WEST CAMERON AVENUE
CHAPEL HILL, ORANGE COUNTY, NORTH CAROLINA
NOVEMBER 10, 2010**

Following is supporting information for answers to questions in the Site Cleanup Questionnaire for the UNC – Cogeneration Facility Warehouse Construction Site.

Question 1: Residences are located east and northeast of the site on McCauley Street and Cameron Avenue. A map showing the residence closest to the site is attached.

Question 4: Results of laboratory analysis of soil samples collected from the site, as part of the Soil Assessment, are provided in Tables 1a/b and 2a/b. Polynuclear aromatic hydrocarbons (PAHs), metals, and dioxins/furans were detected in surficial soil samples. However, excavation of impacted soils was conducted in October-November 2010 to support the construction of a warehouse at the site. As part of the excavation, the majority of known impacted soils were removed and disposed offsite at a licensed facility. Following the excavation, a small area of impacted soils was visible near the surface in the eastern corner of the warehouse project site. Because site utilities currently occupy the area, UNC plans to remove soils from this area following completion of the warehouse construction project.

Question 5: Results of laboratory analysis of groundwater samples collected from a site monitoring well in September-October 2010 are provided in Table 3. PAHs were not detected in the site groundwater samples. Metals (chromium, iron, lead, and manganese) were detected in the first two groundwater samples, collected on September 24 and 30, 2010, at concentrations above North Carolina groundwater standards under 15A NCAC 2L .0202 (2L Standards). However, the detection of these metals is suspected to have been the result of suspended sediments in the samples, which were collected immediately following well purging. With the exception of manganese, no metals were detected in the third groundwater sample, which was collected on October 5, 2010 after suspended sediments had sufficient time to settle from the water column in the well following the September 30, 2010 well purging. Manganese is a common, natural, background constituent in soils and groundwater in the site area. Therefore, the presence of manganese in groundwater at concentrations above the 2L Standard is probably not indicative of a release at the site.

Dioxins/furans were detected in the September 2010 site groundwater samples at concentrations in the low parts-per-quadrillion range. Dioxins and furans (like PAHs) are hydrophobic and tend to bind with soils. The detected concentrations of dioxins/furans in the groundwater samples were J-flagged and the low concentrations could be consistent with cross-contamination from site surficial soils (i.e., from dust). Alternatively, according to various memorandums/publications by U.S. EPA and other entities, dioxins are a byproduct of the manufacturing of PVC, the material used in the monitoring-well construction at the site. Therefore, the low-level detection of dioxin in the groundwater samples could be the result of cross-contamination from the well material.

Based on all the above, it is concluded that groundwater at the site is not known to be contaminated.

Question 7: No drinking water wells have been identified within a one-mile distance in the apparent downgradient direction at the site (see supporting information for Question 8, below). Based on results of site groundwater sampling/analysis, it would appear unlikely that site contaminants have impacted any drinking water wells.

Question 8: No drinking water wells (or non-potable wells) were identified through a reconnaissance of the residential neighborhood adjacent to the site. Based on a records search completed by Environmental Data Resources (EDR), no drinking water wells are located within a one-mile distance from the site in the apparent downgradient direction. The EDR search indicates that five drinking water wells are located within ¼ mile and 1 mile of the site in the apparent upgradient direction.

Question 9: The nearest downstream surface water intake is located at Jordan Lake, more than 6 miles from the site.

TABLE 1a
SUMMARIZED RESULTS OF LABORATORY ANALYSIS: METALS AND PAHs
PHASE I SOIL SAMPLES COLLECTED JUNE 2010

UNC COGENERATION FACILITY WAREHOUSE SITE
575 West Cameron Avenue
Chapel Hill, North Carolina

Boring I.D.: Sample Date:	S-1 6/4/10	PSRG	
		Health Based	Protection of Groundwater
TAL Metals			
EPA Method 6000/7000 (mg/kg)			
Aluminum	15,600	15,000	NA
Antimony	<0.152	6.2	NA
Arsenic	50.8	4.4	5.4
Barium	852	3,100	580
Beryllium	4.65	32	NA
Cadmium	0.533	14	2.6
Calcium	2,930	NA	NA
Chromium	142	280	NA
Cobalt	10.6	4.7	NA
Copper	83.4	630	700
Iron	14,400	11,000	150
Lead	28.1	400	270
Magnesium	962	NA	NA
Manganese	89.3	370	65
Mercury	0.190	1.1	1.0
Nickel	25.0	310	130
Potassium	2,250	NA	NA
Selenium	1.83	78	5.2
Silver	<0.138	78	3.0
Sodium	535	NA	NA
Thallium	5.90	NA	NA
Vanadium	56.1	1.1	NA
Zinc	260	4,600	13,000
Polynuclear Aromatic Hydrocarbons			
EPA Method 8270D (mg/kg)(1)			
Benzo (a) anthracene	0.062	0.15	0.18
Benzo (a) pyrene	0.069	0.015	0.059
Benzo (b) fluoranthene	0.083	0.15	0.60
Benzo (g, h, i) perylene	0.048	NA	360
Benzo (k) fluoranthene	0.055	1.5	5.9
Chrysene	0.062	15	18
Fluoranthene	0.11	460	330
Indeno (1,2,3-cd) pyrene	0.039	0.15	2.0
Phenanthrene	0.065	NA	57
Pyrene	0.099	340	220

(1) Method compounds listed in one or more samples are listed.

PSRG = Inactive Hazardous Sites Branch - Preliminary Site Remediation Goal.

NA = Not applicable - PSRG does not exist.

Concentrations listed in bold type are above IHSB-Preliminary Site Remediation Goal.

TABLE 1b
SUMMARIZED RESULTS OF LABORATORY ANALYSIS: DIOXINS/FURANS
PHASE I SOIL SAMPLES COLLECTED JUNE 2010

UNC COGENERATION FACILITY WAREHOUSE SITE
575 West Cameron Avenue
Chapel Hill, North Carolina

Boring I.D.: Sample Date:	S-1 6/9/10	IHSB - Preliminary Site Remediation Goal	
		Health Based	Protection of Groundwater
Dioxins/Furans			
EPA Method 8290 (pg/g)			
2,3,7,8-TCDD	1.21 J	1,000	1.0
1,2,3,7,8-PeCDD	7.98	NA	NA
1,2,3,4,7,8-HxCDD	83.0	NA	NA
1,2,3,6,7,8-HxCDD	559	NA	NA
1,2,3,7,8,9-HxCDD	92.0	NA	NA
1,2,3,4,6,7,8-HpCDD	14,400 E	NA	NA
1,2,3,4,6,7,8,9-OCDD	130,000 E	NA	NA
2,3,7,8-TCDF	1.83 J	NA	NA
1,2,3,7,8-PeCDF	1.62 J	NA	NA
2,3,4,7,8-PeCDF	6.75 J	NA	NA
1,2,3,4,7,8-HxCDF	59.5	NA	NA
1,2,3,6,7,8-HxCDF	25.8	NA	NA
2,3,4,6,7,8-HxCDF	74.2	NA	NA
1,2,3,7,8,9-HxCDF	20.2	NA	NA
1,2,3,4,6,7,8-HpCDF	2,100	NA	NA
1,2,3,4,7,8,9-HpCDF	200	NA	NA
1,2,3,4,6,7,8,9-OCDF	5,380	NA	NA
Total Tetrachlorodibenzo-p-dioxin	161	NA	NA
Total Pentachlorodibenzo-p-dioxin	229	NA	NA
Total Hexachlorodibenzo-p-dioxin	3,120	94	NA
Total Heptachlorodibenzo-p-dioxin	25,600	NA	NA
Total Tetrachlorodibenzofuran	29.7	NA	NA
Total Pentachlorodibenzofuran	334 Q	NA	NA
Total Hexachlorodibenzofuran	5,540 Q	NA	NA
Total Heptachlorodibenzofuran	19,500	NA	NA
TEQ WHO2005 ND = 0	311	NA	NA
TEQ WHO2005 ND = 0.5	311	NA	NA

J = Estimated value.

E = Concentration exceeds instrument calibration range.

Q = Quantitative interference.

Concentrations listed in bold type are above IHSB-Preliminary Site Remediation Goal.

TABLE 2a
SUMMARIZED RESULTS OF LABORATORY ANALYSIS: METALS AND PAHs
SUSPECT-MATERIAL COMPOSTE SOIL SAMPLES COLLECTED JULY 2010

UNC COGENERATION FACILITY WAREHOUSE SITE
575 West Cameron Avenue
Chapel Hill, North Carolina

Boring I.D.: Sample Date:	Composite #1 7/29/10	Composite #2 7/29/10	PSRG	
			Health Based	GW Protection
TAL Metals				
EPA Method 6010/7471 (mg/kg)				
Antimony	1.5	<0.47	6.2	NA
Arsenic	24.5	10.5	4.4	5.4
Beryllium	1.9	0.46	32	NA
Cadmium	0.10	<0.095	14	2.6
Chromium	34.4	6.7	280	NA
Cobalt	4.5	5.9	4.7	NA
Copper	45.7	12.5	630	700
Lead	19.0	20.1	400	270
Manganese	113	148	370	65
Mercury	0.077	0.020	1.1	1.0
Nickel	7.6	3.6	310	130
Selenium	<0.85	<0.95	78	5.2
Silver	<0.42	<0.47	78	3.0
Thallium	<0.85	<0.95	NA	NA
Vanadium	31.4	27.7	1.1	NA
Zinc	55.6	27.6	4,600	13,000
Polynuclear Aromatic Hydrocarbons				
EPA Method 8270 (mg/kg)(1)				
Benzo (a) anthracene	0.250	<0.596	0.15	0.18
Benzo (a) pyrene	0.198	<0.596	0.015	0.059
Benzo (b) fluoranthene	0.209	<0.596	0.15	0.60
Benzo (k) fluoranthene	0.144	<0.596	1.5	5.9
Chrysene	0.370	<0.596	15	18
Fluoranthene	0.644	<0.596	460	330
Fluorene	0.126	<0.596	460	56
1-Methylnaphthalene	0.243	1.16	22	NA
2-Methylnaphthalene	0.259	1.45	63	1.6
Naphthalene	0.158	<0.596	3.6	0.21
Phenanthrene	0.622	0.83	NA	57
Pyrene	0.567	0.695	340	220

(1) Method compounds listed in one or more samples are listed.

PSRG = Inactive Hazardous Sites Branch - Preliminary Site Remediation Goal.

NA = Not applicable - PSRG not established.

Concentrations listed in bold type are above one or more PSRG.

TABLE 2b
SUMMARIZED RESULTS OF LABORATORY ANALYSIS: DIOXINS/FURANS
SUSPECT-MATERIAL COMPOSTE SOIL SAMPLES COLLECTED JULY 2010

UNC COGENERATION FACILITY WAREHOUSE SITE
575 West Cameron Avenue
Chapel Hill, North Carolina

Boring I.D.: Sample Date:	Composite #1 7/29/10	Composite #2 7/29/10	PSRG	
			Health Based	GW Protection
Dioxins/Furans				
EPA Method 8290 (pg/g)				
2,3,7,8-TCDD	<8.06	0.926 J	1,000	1.0
1,2,3,7,8-PeCDD	21.8 JK	0.539 J	NA	NA
1,2,3,4,7,8-HxCDD	114 J	1.88 J	NA	NA
1,2,3,6,7,8-HxCDD	818	13.7 J	NA	NA
1,2,3,7,8,9-HxCDD	130 J	3.28 J	NA	NA
1,2,3,4,6,7,8-HpCDD	22,800	398	NA	NA
1,2,3,4,6,7,8,9-OCDD	219,000	5,090	NA	NA
2,3,7,8-TCDF	<7.1	0.733 J	NA	NA
1,2,3,7,8-PeCDF	<6.95	<0.501	NA	NA
2,3,4,7,8-PeCDF	11.3 J	0.879 JK	NA	NA
1,2,3,4,7,8-HxCDF	99.5 J	3.42 J	NA	NA
1,2,3,6,7,8-HxCDF	38.1 J	1.18 J	NA	NA
2,3,4,6,7,8-HxCDF	105 J	3.28 J	NA	NA
1,2,3,7,8,9-HxCDF	47.9 J	<0.792	NA	NA
1,2,3,4,6,7,8-HpCDF	2,810	75.4	NA	NA
1,2,3,4,7,8,9-HpCDF	256 J	7.63 J	NA	NA
1,2,3,4,6,7,8,9-OCDF	8,220	213	NA	NA
Total Tetrachlorodibenzo-p-dioxin	393	3.89 J	NA	NA
Total Pentachlorodibenzo-p-dioxin	191 J	3.12 J	NA	NA
Total Hexachlorodibenzo-p-dioxin	3,440	74.9	94	NA
Total Heptachlorodibenzo-p-dioxin	40,300	937	NA	NA
Total Tetrachlorodibenzofuran	9.13 J	1.54 J	NA	NA
Total Pentachlorodibenzofuran	162 J	8.06 J	NA	NA
Total Hexachlorodibenzofuran	3,720	94.5	NA	NA
Total Heptachlorodibenzofuran	14,400	372	NA	NA
TEQ WHO2005 ND = 0 (2)	465	10.6	NA	NA
TEQ WHO2005 ND = 0.5 (2)	474	10.7	NA	NA

(1) Method compounds listed in one or more samples are listed.

(2) TEQ excludes EMPC values.

J = estimated value.

K = Estimated Maximum Possible Concentration (EMPC).

PSRG = Inactive Hazardous Sites Branch - Preliminary Site Remediation Goal.

NA = Not applicable - PSRG not established.

Concentrations listed in bold type are above IHSB-Preliminary Site Remediation Goal.

**TABLE 3
SUMMARIZED RESULTS OF LABORATORY ANALYSIS: METALS AND PAHs
GROUNDWATER SAMPLES COLLECTED FROM MONITORING WELL MW-1**

**UNC COGENERATION FACILITY WAREHOUSE SITE
575 West Cameron Avenue
Chapel Hill, North Carolina**

Well I.D.:	MW-1	MW-1	MW-1	NC 2L
Sample Date:	9/24/10	9/30/10	10/5/10	Standard (1)
TAL Metals				
EPA Method 6010/7471 (ug/L)				
Aluminum	13,000	31,700	<100	NS
Antimony	<5.0	<5.0	<5.0	NS
Arsenic	5.3	6.7	<5.0	10
Barium	71.0	97.9	17.9	700
Beryllium	<1.0	<1.0	<1.0	NS
Cadmium	<1.0	<1.0	<1.0	2
Calcium	95,700	92,100	94,700	NS
Chromium	12.3	14.8	<5.0	10
Cobalt	16.1	<5.0	<5.0	NS
Copper	14.4	20.6	<5.0	1,000
Iron	18,600	21,200	<50.0	300
Lead	33.8	39.3	<5.0	15
Magnesium	34,000	34,200	33,100	NS
Manganese	1,660	1,610	1,070	50
Mercury	0.21	0.30	<0.20	1
Nickel	14.5	17.2	8.6	100
Potassium	5,920	8,300	<5,000	NS
Selenium	<10.0	<10.0	<10.0	20
Silver	<5.0	<5.0	<5.0	20
Sodium	17,100	18,000	17,100	NS
Thallium	<10.0	<10.0	<10.0	NS
Vanadium	29.4	37.8	<5.0	NS
Zinc	97.6	129	12.8	1,000
Polynuclear Aromatic Hydrocarbons				
EPA Method 8270-SIM (ug/L)				
Polynuclear aromatic hydrocarbons	ND	ND	NA	Not applicable
Dioxins/Furans				
EPA Method 8290 (pg/L)(2)				
1,2,3,4,6,7,8-HpCDD	6.63 J	0.890 J	NA	NS
1,2,3,4,6,7,8,9-OCDD	100 J	55.4 J	NA	NS
1,2,3,4,6,7,8-HpCDF	1.89 JK	<0.402	NA	NS
1,2,3,4,6,7,8,9-OCDF	2.38 J	<0.904	NA	NS
Total Heptachlorodibenzo-p-dioxin	10.5 J	1.91 J	NA	NS
Total Hexachlorodibenzofuran	2.28 J	<0.337	NA	NS
Total Heptachlorodibenzofuran	4.66 J	<0.402	NA	NS
TEQ WHO2005 ND = 0 (3)	0.0971	0.0255	NA	NS
TEQ WHO2005 ND = 0.5 (3)	1.30	0.794	NA	NS

(1) North Carolina groundwater standards per 15A NCAC 2L .0202.

(2) Method analytes detected in one or more samples are listed.

(3) Excludes EMPC values.

NS = No NC groundwater standard exists.

ND = No method analytes detected.

NA = Not analyzed.

J = Estimated value.

K = Estimated maximum possible concentration (EMPC)

Concentrations listed in bold type are above groundwater standard.