Scanned by	Date	Doc ID #
DCH	1/16/08	RCO 3500

3448 3496

TOWN OF KERNERSVILLE
PUBLIC WORKS DEPARTMENT

Marvin W. Davis, Town Manager

Timothy G. Shields, Director

P.O. Box 728
Kernersville, N.C. 27285-0728

720 McKaughan Street
Telephone (336) 996-6916
Fax (336) 996-4059

June 15, 2007

Received
JUN 2007
Solid Waste Section

Mr. Bobby Lutfy
NC Department of Environment and Natural Resources
Division of Solid Waste Management
PO BOX 27687
Raleigh, NC 27611-7687

RE: Kernersville, NC-Landfill Permit #34-04

Dear Mr. Lutfy:

Enclosed are copies of the semi-annual groundwater monitoring data collected at the subject landfill on the following dates: May 17th, 2006, December 22nd, 2006, and May 10th, 2007. Mr. Glenn Price with Research and Analytical Laboratories, Inc (RAL) conducted the groundwater monitoring program in accordance with the North Carolina Water Quality Monitoring Guidance Document for Solid Waste Facilities.

If you should have any questions concerning these reports or require further information, please feel free to contact me at any time.

Regards,

Tim Shields
Public Works Director

Enclosures (3)

Research & Analytical Laboratories, Inc.

Analytical/Process Consultations

Table II - Inorganic Analysis (Appendix I - Subtitle D) for Selected Monitoring Wells at the Kernersville Landfill - 17 May 2006

II. Inorganics Parameter	EPA Method	Quantitation Limits (mg/L)	GW-2 (mg/L)	GW-3S (mg/L)	GW-3D (mg/L)	GW-4 (mg/L)	GW-4 Duplicate (mg/L)	GW-5 (mg/L)	GW-6 (mg/L)	SW-1 (mg/L)	SW-2 (mg/L)	Travel Blank (mg/L)	Field Blank (mg/L)
Antimony	7041	0.030	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Arsenic	7060	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Barium	200.7	0.500	**0.544**	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Beryllium	200.7	0.002	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Cadmium	7131	0.001	BQL	**0.033**	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chromium	200.7	0.010	BQL	**0.029**	BQL	**0.010**	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Lead	7421	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Nickel	200.7	0.050	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Cobalt	200.7	0.010	BQL	**0.012**	BQL	BQL	BQL	**0.016**	BQL	BQL	BQL	BQL	BQL
Selenium	7740	0.020	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Silver	200.7	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Thallium	7841	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Zinc	200.7	0.050	BQL	**0.099**	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Vanadium	200.4	0.010	BQL	**0.134**	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Sample Number			561109	561110	561111	561112	561117	561113	561114	561115	561116	561118	561119
Sample Date			05/17/06	05/17/06	05/17/06	05/17/06	05/17/06	05/17/06	05/17/06	05/17/06	05/17/06	05/17/06	05/17/06
Sample Time (hrs)			1158	1253	1231	1131	1131	1106	1312	1308	1339	0800	1200

mg/L = milligrams per Liter = parts per million (ppm)

----- = Not Applicable

GROUNDWATER MONITORING FIELD LOG

			Personnel Present:	COMMENTS:
Facility	Kernersville		Glenn Price	
	Landfill	May 17, 2006		
Weather	Clear 86° F	Date		

Monitoring Well No..	GW-1	GW-2	GW-3S	GW-3D	*GW-4	GW-5	GW-6	SW-1	SW-2		
Total Depth (FT.)	34.69	13.18	24.00	56.95	14.40	11.36	24.00				
Surface Depth (FT.)	34.49	2.99	14.09	12.15	6.79	3.77	19.41				
Water Depth (FT.)	0.20	10.19	9.91	44.80	7.61	7.59	4.59				
Diameter (IN.)	2"	2"	2"	2"	2"	2"	2"				
Conversion Factor	0.16	0.16	0.16	0.16	0.16	0.16	0.16				
Well Volume (GAL.)	0.03	1.63	1.59	7.17	1.22	1.21	0.73				
Volume (GAL.) X 3	*WELL DRY*	4.89	4.76	21.50	3.65	3.64	2.20				
# Bails (L)		20	20	88	15	15	9				
Purge Date	05/17/06	05/17/06	05/17/06	05/17/06	05/17/06	05/17/06	05/17/06				
Purge Time (hrs.)		1142	1235	12.09	1120	1100	1025				
Purge Method	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer				
Volume Removed (GAL.)		4.75- Dry	5.00	22.0	1.25 - Dry	3.75	0.75 - Dry				
Sampling Date	05/17/06	05/17/06	05/17/06	05/17/06	05/17/06	05/17/06	05/17/06	05/17/06	05/17/06		
Sampling Time (hrs.)		1158	1253	1231	1131	1106	1312	1305	1339		
Sampling Method	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Grab	Grab		
pH (Standard Units)		6.19	6.46	6.22	6.29	6.44	6.27	6.22	6.53		
Temperature (EC)		17	17	16	17	18	18	16	16		
Conductivity (µmhos/cm)		840	130	910	80.9	90.3	1,230	80.1	90.6		
Dissolved Oxygen (mg/L)											
Observations\Sampling		Light Foam			Duplicate						

* Duplicate

RESEARCH & ANALYTICAL LABORATORIES, INC.

Analytical / Process Consultations
Phone (336) 996-2841

CHAIN OF CUSTODY RECORD

COMPANY: Kernersville Landfill
STREET ADDRESS:
CITY, STATE, ZIP:
CONTACT: PHONE:
JOB NO.:
PROJECT:
SAMPLER NAME (PLEASE PRINT): Glenn Rice
SAMPLER SIGNATURE:

SAMPLE NUMBER (LAB USE ONLY)	DATE	TIME	COMP	GRAB	TEMP °C	RES Cl	CHLORINE REMOVED (Y or N)	SAMPLE MATRIX (S or W)	SAMPLE LOCATION / I.D.	NO. OF CONTAINERS	2L G (BNA, Herb. / Pest.)	2 40ml Vials (VOA) HCL	250ml G (TOX)	250ml P (TOC) H_2SO_4	1L P,G (BOD, TSS, Unpreserved, etc.)	1L G (Phenol, Oil & Grease) H_2SO_4	1L P,G (COD, N, P) H_2SO_4	1L P,G (Metals, Hardness) HNO_3	1L P,G (CYANIDE) NaOH	Sterile P,G (Coliform)	REQUESTED ANALYSIS
561109	5/17/06	1158		-				W	GW-2	5		4						1			* See Remarks
110		1253		-				W	GW-3S	5		4						1			
111		1231		-				W	GW-3D	5		4						1			
112		1131		-				W	GW-4	5		4						1			
113		1106		-				W	GW-5	5		4						1			
114		1312		-				W	GW-6	5		4						1			
115		1308		-				W	SW-1	5		4						1			
116		1339		-				W	SW-2	5		4						1			
117		1131		-				W	Duplicate (GW-4)	5		4						1			
118		0800		-				W	TB	5		4						1			
119		1200		-				W	FB	5		4						1			

WATER / WASTEWATER | MISC.

RELINQUISHED BY	DATE/TIME	RECEIVED BY
	5-18-06 1215	
RELINQUISHED BY	DATE/TIME	RECEIVED BY

REMARKS: * Sb, As, Ba, Be, Cd, Cr, Co, Pb, Ni, Se, Ag, Ti, V, Zn, VOA (8260)

SAMPLE TEMPERATURE AT RECEIPT 2.3 °C

RESEARCH & ANALYTICAL LABORATORIES, INC.
Analytical/Process Consultations

RESEARCH & ANALYTICAL LAB. MONEY L. CHAMPION NC #94 DIRECTOR CERTIFIED ANALYSIS

Table I - Volatile Organic Analysis for Selected Monitoring Wells at the Town of Kernersville Landfill - 17 May 2006

Volatile Organics EPA Method 8260 B Parameter	Quantitation Limit (mg/L)	GW-2 (mg/L)	GW-3S (mg/L)	GW-3D (mg/L)	GW-4 (mg/L)	GW-4 Duplicate (mg/L)	GW-5 (mg/L)	GW-6 (mg/L)	SW-1 (mg/L)	SW-2 (mg/L)	Travel Blank (mg/L)	Field Blank (mg/L)
Methylene Chloride	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Trichlorofluoromethane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,1-Dichloroethene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,1-Dichloroethane	0.005	**0.047**	**0.0052**	**0.0088**	**0.0064**	**0.0062**	BQL	BQL	BQL	BQL	BQL	BQL
Chloroform	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Carbon Tetrachloride	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,2-Dichloropropane	0.005	**0.007**	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Trichloroethene	0.005	**0.028**	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Dibromochloromethane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,1,2-Trichloroethane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Tetrachloroethene	0.005	**0.012**	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Trans-1,2-Dichloroethene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,2-Dichloroethane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,1,1-Trichloroethane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Bromodichloromethane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Cis-1,3-Dichloropropene	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	0.005	**0.015**	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Trans-1,3-Dichloropropene	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Bromoform	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,1,2,2-Tetrachloroethane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethyl Benzene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chloromethane	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Bromomethane	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Vinyl Chloride	0.010	BQL	BQL	BQL	**0.089**	**0.089**	BQL	BQL	BQL	BQL	BQL	BQL
Chloroethane	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acetone	0.100	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Carbon Disulfide	0.100	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Vinyl Acetate	0.050	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Butanone	0.100	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
4-Methyl-2-Pentanone	0.100	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Hexanone	0.050	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Styrene	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acrylonitrile	0.200	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,2-Dichlorobenzene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Trans-1,4-Dichloro-2-butene	0.100	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Cis-1,2-Dichloroethene	0.005	**0.076**	**0.021**	**0.072**	**0.033**	**0.032**	BQL	BQL	BQL	BQL	BQL	BQL
Methyl Iodide	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Bromochloromethane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Dibromomethane	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,1,1,2-Tetrachloroethane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,2,3-Trichloropropane	0.015	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,2-Dibromo-3-Chloropropane(DBCP)	0.025	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,2-Dibromoethane (EDB)	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Sample Number		561109	561110	561111	561112	561117	561113	561114	561115	561116	561118	561119
Sample Date		05/17/06	05/17/06	05/17/06	05/17/06	05/17/06	05/17/06	05/17/06	05/17/06	05/17/06	05/17/06	05/17/06
Sample Time (hrs)		1158	1253	1231	1131	1131	1106	1312	1308	1339	0800	1200

BQL = Below Quantitation Limits
mg/L = milligrams per Liter = parts per million (ppm)

N/A = Not Available