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DENR USE ONLY: ☐ Paper Report ☐ Electronic Data - Email CD (data loaded: Yes / No) Doc/Event #:

NC DENR
Division of Waste Management - Solid Waste

Environmental Monitoring Reporting Form

Notice: This form and any information attached to it are "Public Records" as defined in NC General Statute 132-1. As such, these documents are available for inspection and examination by any person upon request (NC General Statute 132-6).

Instructions:

- **Prepare one form for each individually monitored unit.**
- **Please type or print legibly.**
- Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.).
- Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
- Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i).
- In accordance with NC General Statutes Chapter 89C and 89E and NC Solid Waste Management Rules 15A NCAC 13B, be sure to affix a seal to the bottom of this page, when applicable.
- Send the original signed and sealed form, any tables, and Electronic Data Deliverable to: Compliance Unit, NCDENR-DWM, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.

Solid Waste Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

Mecklenburg County Land Use and Environmental Services

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Dennis F. Tyndall, P.G. Phone: (704) 336-5454

E-mail: Dennis.Tyndall@MecklenburgCountyNC.gov

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Harrisburg Road Landfill	7819 Harrisburg Road	60-01	.0500	January 03-17, 2007

Environmental Status: (Check all that apply)

☐ Initial/Background Monitoring ☒ Detection Monitoring ☐ Assessment Monitoring ☐ Corrective Action

Type of data submitted: (Check all that apply)

☒ Groundwater monitoring data from monitoring wells
☒ Groundwater monitoring data from private water supply wells
☐ Leachate monitoring data
☒ Surface water monitoring data
☐ Methane gas monitoring data
☐ Corrective action data (specify)
☐ Other(specify)

Notification attached?

☐ No. No groundwater or surface water standards were exceeded.
☒ Yes, a notification of values exceeding a groundwater or surface water standard is attached. It includes a list of groundwater and surface water monitoring points, dates, analytical values, NC 2L groundwater standard, NC 2B surface water standard or NC Solid Waste GWPS and preliminary analysis of the cause and significance of any concentration.
☐ Yes, a notification of values exceeding an explosive methane gas limit is attached. It includes the methane monitoring points, dates, sample values and explosive methane gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of a fine and imprisonment.

Dennis F. Tyndall, P.G. Hydrogeologist (704) 336-5454

Facility Representative Name (Print) Title (Area Code) Telephone Number

12 OCT 2007

Signature Date

Affix NC Licensed/ Professional Geologist/Engineer Seal here:

NORTH CAROLINA LICENSED SEAL 1845 GEOLOGIST DENNIS F. TYNDALL

Received OCT Solid Waste Section

Revised 01/2007

SEAL
1845

MECKLENBURG COUNTY

Land Use and Environmental Services Agency
Water and Land Resources

October 12, 2007

Ms. Jaclynne Drummond
North Carolina Department of Environment
and Natural Resources
Division of Waste Management
Groundwater Compliance Unit
Mail Service Center 1646
Raleigh, NC 27699-1646

Subject: Water Quality Monitoring Report
Harrisburg Road Landfill, Permit 60-01

Dear Ms. Drummond:
Mecklenburg County conducted semi-annual water quality monitoring at the closed Harrisburg Road Landfill in January 2007 in accordance with the approved revised sample and analysis plan dated May 11, 2004. Sampling was delayed until January 2007 in order to incorporate the monitoring data in a new environmental data management system. This report details the results of that monitoring event. Laboratory data, field data, tables of values exceeding 2L standards are contained on the electronic data deliverable submittal on the enclosed CD.

Samples were collected from seven monitoring wells (HBW12B, HBW14, HBW17B, HBW-20, HBW-21, HBW-22, HBW-28), two potable wells (HBW744 and CLUBHS) and, three surface-water sampling locations (HB-2006, HB-2008 and, HB-2010).

The Excel spreadsheets containing the monitoring data are labeled to reflect the units that are used for reporting. Detection levels and applicable standards have been included for all sampling locations. Surface water standards listed are the water quality standards established for freshwater classification for aquatic life as outlined in 15A NCAC 2B "Classification and Water Quality Standards Applicable to Surface Waters of North Carolina". Groundwater standards listed are the standards outlined in 15A NCAC 2L "Classification of Water Quality Standards applicable to the Groundwaters of North Carolina". If the sample is reported in parts per billion, then the standard is also reported in parts per billion. Results exceeding water quality standards along with a preliminary explanation of the cause and significance are included on a separate table.

Surface water samples:
Copper was detected between 2.1 and 3.2 ug/l in surface water samples below the 2B standard of 7 ug/l for surface waters. No other metals or VOCs were detected in any of the surface-water samples. All field-measured parameters were within the established regulatory limits and consistent with historical measurements. The table below summarizes field-measured parameters for surface-water samples.

Sample Location	Temp. (°C)	pH	Specific Conductivity (umho/cm)	Dissolved Oxygen (mg/l)
HB2006	12.5	7.12	174	11.2
HB2008	12.5	7.25	157	12.9
HB2010	12.0	7.60	220	12.8

Groundwater samples:
Chromium was detected at 88 ug/l in the sample collected from HBW-22 above the 2 L Standard of 50 ug/l. The Chromium detection is within the historical range for HBW-22.

Iron exceeds the standard in samples collected from HBW12B, HBW14. The concentrations of iron detected are within the historical range of detection and are likely naturally occurring, not resulting from influence by the landfill.

Manganese exceeds the standard in samples collected from HBW12B and HBW14. The manganese concentrations detected in these samples are within the historical range of detection and are not likely due to influence by the landfill.

No other metals were detected above the 2L standard in any of the samples collected.

Color exceeds the standard in the samples collected from HBW14. The color measurement is within the historical range for HBW14. Excess color in HBW14 is resulting from fine formation sediments entering the well.

The following eight volatile organic compounds ("VOCs") were detected in the sample collected from well HBW17B:

VOC	Sample Result ug/l	2L Standard ug/l
1,1-Dichloroethane	27	700
1,2-Dichloropropane	**9**	**0.56**
Benzene	**18**	**1**
cis-1,2 Dichloroethene	**110**	**70**
Tetrachloroethene	**81**	**0.7**
Trichloroethene	**60**	**2.8**
Vinyl Chloride	**14**	**0.015**
Xylenes (total)	18	530

Note: Bolded values exceed 2L Std. values

VOCs were not detected in any other groundwater samples.

Field-measured parameters for groundwater samples are summarized in the table below:

Sample Location	Temp. °C	pH	Specific Conductivity (umho/cm)
HBW12B	14.0	6.60	369
HBW14	14.0	6.88	196
HBW17B	15.2	**5.40**	58
HBW-20	15.2	6.53	93
HBW-21	16.0	**6.01**	604
HBW-22	16.5	**6.30**	74
HBW-28	16.0	**5.70**	23
HBW744	16.2	7.12	202
Clubhouse Well	17.1	6.73	82

NOTE: HBW-28 is a background well

Measurements of pH were more acidic than the 2L Standard range in samples collected from HBW17B, HBW-21, HBW-22 and HBW-28. The pH measurements are within the historical ranges of measurement for each location.

Please call me at (704) 336-5454, if you have any questions regarding this submittal.

Sincerely,

Dennis F. Tyndall, P.G.
Hydrogeologist
Groundwater and Wastewater Services

NORTH CAROLINA LICENSED SEAL 1845 GEOLOGIST DENNIS F. TYNDALL

Enclosures: Harrisburg Road Landfill Analytical Report

cc: Joe Hack, QEP, Mecklenburg County LUESA Solid Waste Management
Amber Lindon, P.G., Mecklenburg County LUESA Solid Waste Management

Harrisburg Rd. Landfill Permit 60-01 January 2007
Analytes in Excess of 2L Std.

Facility Permit	Well ID	SWS ID	CAS Number	Parameter	Result	2L Std.	Units	Cause/Significance
60-01	HBW17B	82	78-87-5		9	0.056	ug/L	Municipal landfill leachate/Landfll Gas Migration front transported VOC
60-01	HBW17B	16	71-43-2		18	1	ug/L	Municipal landfill leachate/Landfll Gas Migration front transported VOC
60-01	HBW17B	78	156-59-2		110	70	ug/L	Result of autochthonous microflora reductive dechlorination of PCE &TCE
60-01	HBW17B	192	127-18-4		81	0.7	ug/L	Municipal landfill leachate/Landfll Gas Migration front transported VOC
60-01	HBW17B	201	79-01-6		60	2.8	ug/L	Municipal landfill leachate/Landfll Gas Migration front transported VOC
60-01	HBW17B	211	75-01-4		14	0.015	ug/L	Result of autochthonous microflora reductive dechlorination of PCE,TCE & cDCE
60-01	HBW-22	51	7440-47-3	Chromium	88	50	ug/L	Desoprtion and mobilization of Chromium
60-01	HBW12B	340	7439-89-6	Iron	340	300	ug/L	Naturally Occurring
60-01	HBW14	340	7439-89-6	Iron	300	300	ug/L	Naturally Occurring
60-01	HBW12B	342	7439-96-5	Manganeese	150	50	ug/L	Naturally Occurring
60-01	HBW14	342	7439-96-5	Manganeese	240	50	ug/L	Naturally Occurring

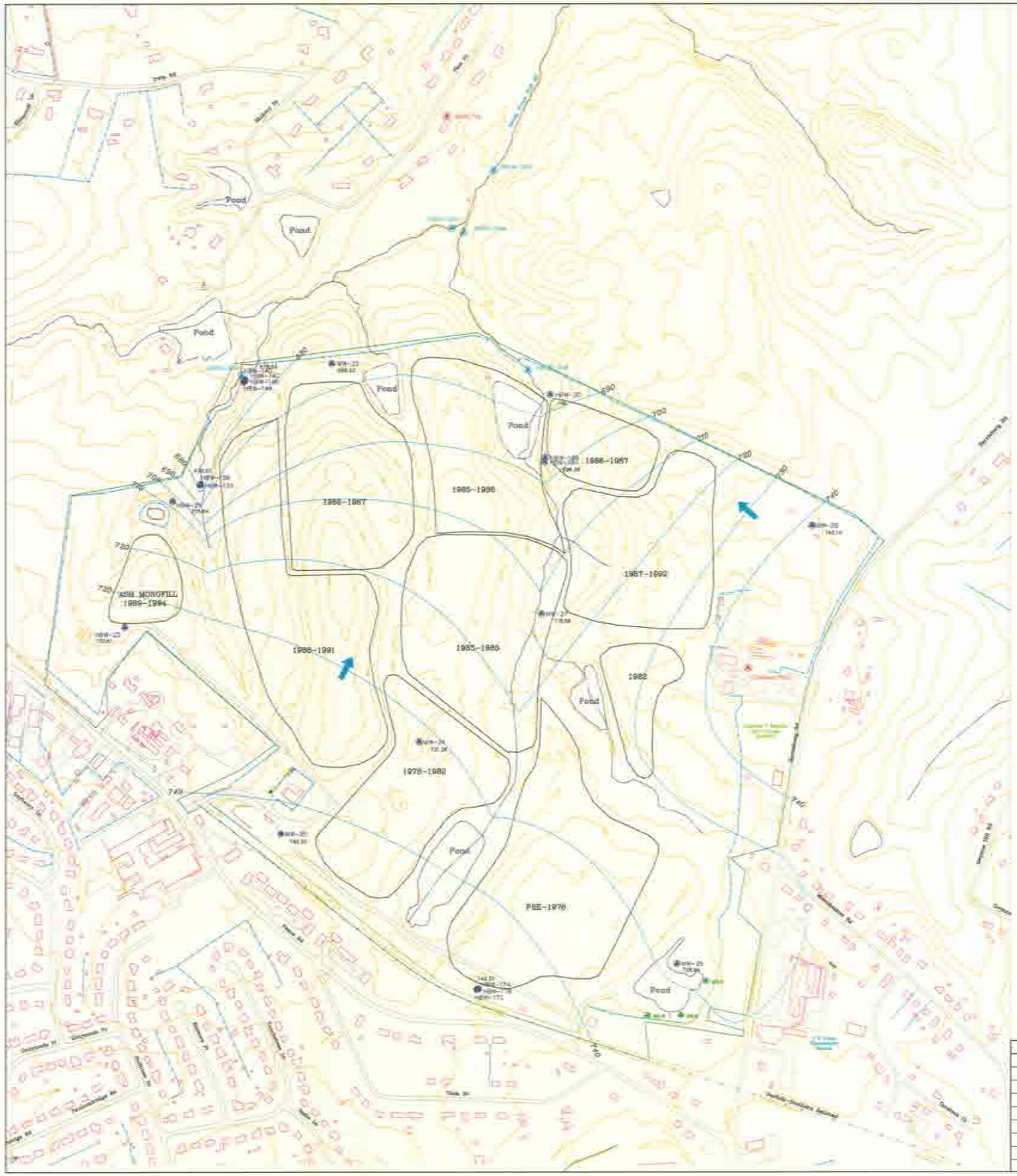
Landfill gas migration front associated VOC

= Result exceeds 2L Std.

Harrisburg Rd. Landfill Permit 60-01 January 2007
Field-Measured Parameters In Excess of 2L Std.

Facility Permit	Well ID	CAS Number	SWS ID	Parameter	Result	2L Std.	Units	Cause/Significance
60-01	HBW17B	320	320	pH (field)	5.40	6.5-8.5	S.U.	electron doner degradation & dechlorination of VOCs resulting in acidity
60-01	HBW-21	320	320	pH (field)	6.01	6.5-8.5	S.U.	Natural Occurance
60-01	HBW-22	320	320	pH (field)	6.30	6.5-8.5	S.U.	Natural Occurance
60-01	HBW-28	320	320	pH (field)	5.70	6.5-8.5	S.U.	Natural Occurance

NOTE: HBW28 is Background well



LEGEND

- MONITORING WELL
- POTABLE WELL
- SURFACE-WATER SAMPLING LOCATIONS
- WATER SUPPLY WELLS FOR IRRIGATION PURPOSES
- 731.46 GROUNDWATER SURFACE ELEVATION (FT) (6/2/00)
- APPROXIMATE WASTE BOUNDARY AND DATES OF PLACEMENT
- GROUNDWATER SURFACE (ESTIMATED WHERE DASHED)
- GENERALIZED GROUNDWATER FLOW DIRECTION
- PLANIMETRIC FENCELINE CAPTURED AT PHOTOSCALE 1" = 1000'
- SURFACE WATER CAPTURED AT PHOTOSCALE 1" = 1000'
- TAX PARCEL BOUNDARY

NOTES:
1. ALL ON SITE WELL LOCATIONS WERE SURVEYED BY JEL ASSOC.
2. GROUNDWATER DATA REFLECTS PUMPING CONDITIONS FROM WATER SUPPLY WELLS IN THE AREA OF MW-26.
3. SURFACE-WATER SAMPLING SITES LOCATED USING GPS - SEPTEMBER 5, 2002
4. GROUNDWATER SURFACE CONTOURS BASED ON S&ME MAP DATED JUNE 4, 2001
5. HBW-28 RENAMED FROM MW-28

GRAPHIC SCALE

(IN FEET)
1 inch = 300 ft.

SOURCE: MECKLENBURG COUNTY GIS AND GPS SURVEY FOR WELL LOCATIONS AND S&ME MAP DATED JUNE 4, 2001

NO.	DATE	DESCRIPTION	BY

SAMPLE LOCATION PLAN

HARRISBURG ROAD LANDFILL
CHARLOTTE, NORTH CAROLINA

SCALE: 1" = 300'	DRAWN BY: S.GREGORY	CHECKED BY:
JOB NO: MAP/GIS	DATE: 10/15/02	FIGURE: FIGURE1