GROUNDWATER CONTAMINATION INCIDENT MANAGEMENT PROGRAM

MONITORING OBJECTIVE:
The objectives of monitoring conducted under the Groundwater Contamination Incident Management Program are to determine water quality standards attainment, identify sources of contamination, and monitor compliance with requirements for remediation at sites where groundwater has been contaminated in violation of the groundwater standards in 15A NCAC 2L.

Depending on the nature and source of the contamination, the incident may be managed by the Division of Waste Management or the Aquifer Protection Section of the Division of Water Quality. The Division of Waste Management is responsible for managing most contaminated sites caused by industrial activities, spills, dumping, and hazardous or solid waste disposal. The Division of Water Quality is responsible for contamination due to agricultural activities, land application of wastewaters and residuals (including animal waste), and naturally-occurring contamination.

WATERBODY TYPES MONITORED:

- Groundwater (all classes)

CORE AND SUPPLEMENTAL WATER QUALITY INDICATORS:

Depending on the pollution source, some or all of the following indicators are used:	
• pH	• Specific Conductance
• Water Level	• Sulfate
• Alkalinity	• Silica
• Temperature	• NH_3
• Fecal Coliform	• TKN
• Total Coliform	• NO_2+NO_3,
• Total Organic Carbon	• Total Phosphorus,
• Turbidity	• Se
• Total Suspended Solids	• Pesticides
• Chloride	• Volatile Organic Compounds
• Cyanide	• Semi-Volatile Organic Compounds
• Total Dissolved Solids	• Chlorinated Solvents
• Fluoride	• Metals *(Ag, Al, As, Ba, Ca, Cd, Cr, Cu, Fe, K, Mg, Mn, Na, Ni, Pb, Zn)*
• Hardness	

MONITORING DESIGN:
At each site, a network of monitoring wells is installed at various depths (based on contaminant type) and in locations appropriate to monitor contaminant plume size and migration.

QUALITY ASSURANCE:
Depending on the nature of the site, the following QA/QC requirements may apply:

- Laboratory analyses must be conducted by a laboratory certified under 15A NCAC 2H 0800.
- DWQ's QAPP for Aquifer Protection Section Complaint Investigations (approved by EPA on August 14, 2007).
- Groundwater Section QA/QC and Standard Operating Procedures Manual for Sample Collection.
- Division of Waste Management's Guidelines for the Investigation and Remediation of Contamination from Non-UST Petroleum Releases.

DATA MANAGEMENT:
Data are submitted in reports to the regional incident managers, typically on a quarterly basis.

DATA ANALYSIS AND ASSESSMENT:
Data are used by DWQ project managers to verify remediation effectiveness, and by consultants and property owners/investors.

REPORTING:
Broad summaries of incident management data are reported in the 305(b) Integrated Report and as needed in other reports.

CONTACT INFORMATION:

For contamination due to agricultural activities, land application of wastewaters and residuals (including animal waste), and naturally-occurring contamination:
Debra Watts
NC DENR-DWQ
Aquifer Protection Section
1636 Mail Service Center
Raleigh, NC 27699-1636
Phone: 919-807-6338
http://portal.ncdenr.org/web/wq/aps

For contamination due to industrial activities, spills, dumping, and hazardous or solid waste disposal:
NC DENR – Division of Waste Management
1646 Mail Service Center
Raleigh, NC 27699-1646
Phone: 919-707-8200
http://portal.ncdenr.org/web/wm/