Department of Environmental Conservation
Division of Environmental Remediation
Room 248

Trends of Groundwater Samples Monitored from Project # 633027

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May 15, 2001

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Introduction:

Primoshield, Inc was a metal electroplating facility that was located in Oneida County, New York and was abandoned in 1985. Due to the contamination of the groundwater at the site, groundwater remediation is in operation. The confirmed hazardous wastes that contaminated the site are:

- Cyanide salts
- Hydrofluoric Acid
- Corrosive liquids
- Solvents

To monitor the sites groundwater, monitoring wells were drilled. These wells are currently sampled quarterly by the department. The groundwater samples have been collected over a nineteen month duration. The samples are taken to various laboratories where they are tested for its contents. The laboratories then submit a report to the division.

Problem Statement:

Are the hazardous compounds of concern diminishing in the monitoring wells? Compile the laboratory reports results and create graphs of the compounds. Analyze the data and determine if the hazardous compounds of concern are diminishing, if they are rising or if there are other concerns that the site has to address.

Assumptions:

The hazardous compounds of concern are:

- 1,1-Dichloroethane
- 1,2-Dichloroethane
- Trichloroethane
- 1,1,2-Trichloroethane
- Benzene
- Toluene
- Chromium
- Copper
- Nickel

- Silver
- Zinc

Procedure:

The laboratory reports were ordered in ascending dates sampled. A spreadsheet for each monitoring well was created. The laboratory results were entered into the spreadsheet:

- Date of sample
- Sample number
- Well number
- Concentration of Volatile Organic Compounds
- Concentration of Inorganic Compounds

Next, the Department of Environmental Conservation (DEC) groundwater standards were investigated and tabulated for the same compounds that were analyzed by the laboratories. The spreadsheet was then analyzed to determine which compounds were over the allowable limit set by DEC. These compounds that were over the limit were then graphed.

Results:

The spreadsheets show that there are some hazardous compounds of concern that are present in the monitoring wells. There are also compounds that are in levels that exceed the DEC standards. All compounds that exceed the levels of DEC standards have been graphed and marked on the spreadsheets in red.

The graph legends that are shaded are hazardous compounds of concern.

Conclusions:

There has to be information gathered about the sites natural groundwater compounds, which then could be compared to the sites compounds. There could be naturally occurring compounds that are present in the groundwater that appear to be a contaminate in this investigation.

Assuming the compounds that are being monitoring are correct, the volatile organic compounds seem to show a descending trend. The inorganic compounds fluctuate much more in the results which also show no distinct trends. The graphs do show a common curve that peaks in February, 2000. This could be normal groundwater fluctuations in the groundwater minerals or brought on by the seasons and differing weather pattens. There needs to be at least another year of these trends graphed to determine if the compounds are actually diminishing.