

## **Guidelines for Submitting Data for Model to be Completed by ODNR, Division of Mineral Resource Management**

This guideline is intended to assist in the submission of data to ODNR, Division of Mineral Resource Management to allow the Division to complete a ground-water flow model. This guideline presents data formats and requirements for the information required by the Ohio Administrative Code 1501: 14-5-01 (A) and (B).

*(A) Submit a hydrologic map consisting with the most recent USGS 7.5 minute topographic base map at a scale of 1:24,000 or other approved format.*

- When submitting the hydrologic map, include the existing permitted area and the proposed permit area. Show the proposed and existing areas in different colors and/or patterns and clearly label each.
  
- Include a depiction of the current quarry dimensions and the ultimate sump elevation. Describe the history of mining at the quarry including start date and significant deepening and expansions and previous sump elevations.
  
- Include a unique identification number for each well depicted on the map. This number will be used in the water well Excel spreadsheet described later in this document.
  
- Location of any Water Withdrawal Facility (ORC Section 1521.16) within the hydrologic study area should be clearly identified on the hydrologic map using a different symbol or

color than the domestic wells. The labels should correspond to the ODNR water withdrawal registration number. Also, these wells should be included in the water well Excel spreadsheet. In an additional Excel spreadsheet include the volume of water withdrawn, location (X, Y coordinates), primary use type as defined by the ODNR, Division of Soil and Water, registration number, year, source (surface water or ground water), total withdrawal for year, and a column for each monthly total for each facility. Information regarding the locations and withdrawal amounts can be obtained from ODNR Division of Soil and Water Resources, Water Withdrawal Facility Registration Program (<http://www.dnr.state.oh.us/Water/wwfr/default/tabid/4265/Default.aspx>).

(B) *Include a hydrogeologic description in sufficient detail to determine the hydrologic cone of depression for the proposed operation.*

- Values of transmissivity, storativity, or hydraulic conductivity, must be provided on a table that contains references to the source of information and location of the test data. Include the units of the reported values.
- Provide an Excel spreadsheet that contains data from the water well logs depicted on the map mentioned in section (A). If any of the information is not available then leave that cell in the spreadsheet blank. Each row should contain data for a single well displayed on the map. Columns should include: the unique identification number shown on the map, well log number, township, date drilled (include month/day/year), x/y coordinates (specify coordinate system, zone, and NAD year), surface elevation of well, total depth of

well (in feet below land surface), depth to bedrock (feet), description of unconsolidated material (dominant lithology by thickness (e.g. clay, sand & gravel, silt, etc.)), static water level (feet), casing length (feet), lithology of screened or open borehole, length of screen (feet), test rate (gallons per minute), duration of test (in hours), and drawdown (feet).

- Cross sections must be at a horizontal scale of 1:24,000 and the vertical exaggeration must be identified. Cross sections must also show the lateral and vertical variations in surficial and bedrock lithology, the locations of boreholes and wells used in their construction, static water levels, a depiction of the existing quarry and the proposed expanded quarry, and surficial and bedrock topography (possible sources: USGS topographic maps, ODNR, Division of Geological Survey bedrock topography maps, water well logs, theses, etc.).

### **Possible Sources of Information**

This guideline is meant to serve as a starting point for finding some of the information required by the Ohio Administrative Code 1501: 14-5-01 (A) and (B) and is not intended to be a comprehensive listing of possible data sources.

The ODNR, Division of Soil and Water Resources, has sources of information that are available to the public. Please consult with staff geologists about obtaining data. See library at ODNR Division of Soil and Water Resources for select reports and theses on Ohio hydrology. ODNR

also has test borings that may be useful in providing hydrologic information. County-wide ground water resources maps and pollution potential maps are available for most counties from the Division of Soil and Water Resources. The main contact number for the Division is (614) 265- 6717.

ODNR, Division of Geologic Survey has maps depicting the bedrock geology, drift thickness, and structure contours of geologic formation. These maps are available printed on base maps at a scale of 1:24,000. The Division of Geologic Survey also has measured stratigraphic sections from many areas of the state. Also, the Division has many geologic reports. Please consult with staff geologist for possible sources of information. The main contact number for the Division of Geological Survey is (614) 265-6576.

The US Geological Survey has publications from numerous studies conducted across Ohio that contain the required data.