



**EARTHRES
GROUP**

Environmental
Engineering and
Science

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"SHARPER INSIGHT"

A Newsletter from ERG

Specializing in Consulting Services to the Solid Waste, Mining, Water Resources, and Industrial Market Sectors

EarthRes Group and the Community



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CONTACT US:

EarthRes Group, Inc.
7137 Old Easton Road
Pipersville, PA 18947
Phone: 1-800-264-4553
Fax: 215-766-1245

www.earthres.com

EarthRes Group, Inc. has historically provided support to local, non-profit youth sports associations. Two recent examples are the Deep Run Valley Sports Association (DRVSA) located in Hilltown Township, Bucks County and the Green and White Youth Association (GWYA) located in Pen Argyl Borough, Northampton County.

For DRVSA, at no cost, we provided technical and computer aided drafting (CAD) support for ongoing stormwater, land development and land acquisition projects.

For GWYA, we have been the primary environmental engineering consultant in obtaining the permits necessary to

construct new football and baseball fields. While donating a portion of our time, we have worked closely with GWYA and Grand Central Sanitary Landfill, Inc. to develop an area impacted by mining slate.

The project has involved designing the fields, parking area, access road and stormwater management system, and obtaining permits from the United States Army Corps of Engineers, Pennsylvania Department of Environmental Protection, Pennsylvania Department of Transportation, Pen Argyl Borough and the Northampton County Conservation District. As this newsletter is going to the print, the final approvals are being obtained.

Mining

Earlier this year, Matthew S. Weikel, P.G. gave a presentation at the Pennsylvania Council of Professional Geologist's annual symposium, which was held on May 7, 2008 at the Hershey Lodge & Conference Center.

The symposium highlighted the latest methods, tools, and technologies used in environmental and earth resource projects. The presentation titled, "Assessment of Quarry Pumping using Flow Duration Curves and Discharge Ratios" was authored by Mr. Weikel, Louis F. Vittorio, P.G., and Christina Helms.

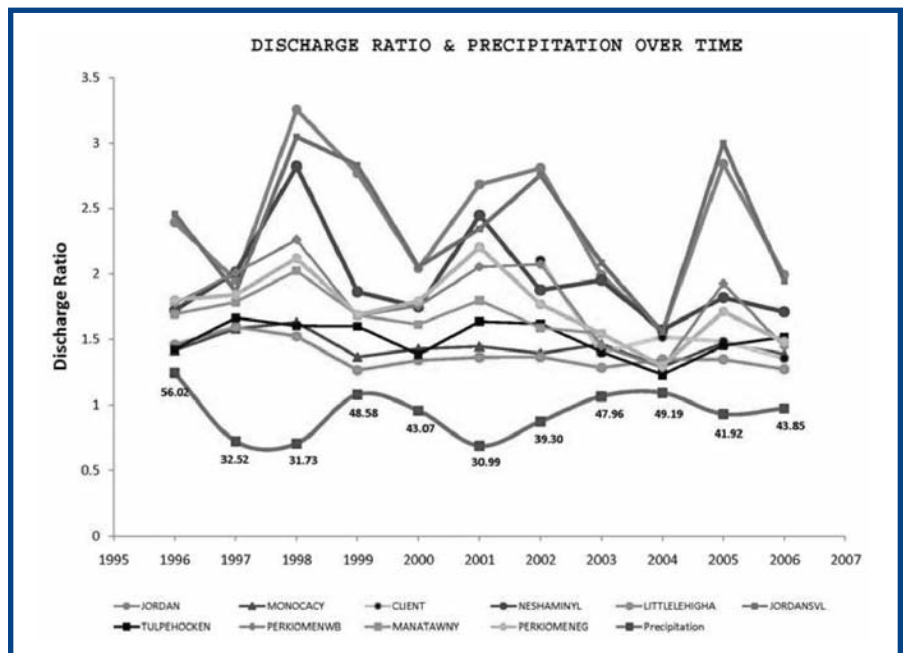
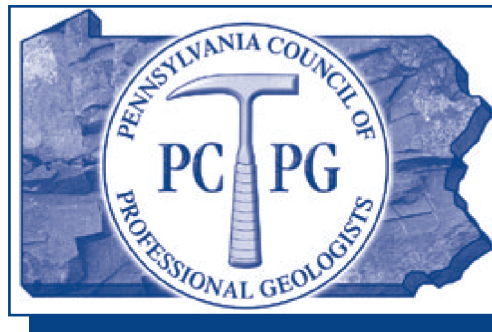
A watershed's capacity to store and transmit groundwater is reflected in the discharge ratio; the higher the discharge ratio, the more volatile and "flashy" the flow, indicating a lower baseflow component and a less stable water resource. ERG's study aimed to identify some of the environmental factors affecting the discharge ratio including such factors as basin size, precipitation, drought, land use, and geology. Results of the study were used to assess quarry pumping effects and water availability at a small watershed in Bucks County.

ERG assembled a background dataset of eleven watersheds from surrounding counties including Bucks, Berks, Montgomery, Lehigh, and Northampton Counties. ERG employed a host of the latest tools available from the USGS including web-based data and software programs. Using daily mean stream flow data available from the USGS, ERG calculated flow duration curves and discharge ratios for each watershed for a period from 1996 to 2006 and compared them to the various environmental factors listed above.

The analysis indicates a strong correlation between geology and discharge ratio. Specifically, as the percentage of carbonate geology increases, the discharge ratio decreases. This correlation demonstrates that carbonate watersheds provide more baseflow than non-carbonate watersheds. In addition, there is a modest correlation between precipitation and discharge ratio. For all types of geology, increased precipitation is correlated to a decrease in the discharge ratio. However, correlation with precipitation is stronger for non-carbonate watersheds indicating that non-carbonate watersheds are more dependent on precipitation for their baseflow. These findings demonstrate that carbonate aquifers provide a more stable water resource in terms of

quantity of flow. Data from the quarry plotted consistently with the background dataset indicating no departure from typical geological conditions.

This result suggests that quarry dewatering has not diminished the baseflow or water availability of this small watershed.



Sharper Insight: *Avoiding Costly Construction Delays for Air Quality Permitting*

by Nicole Wilson, P.E.

As most know, construction or installation of new equipment cannot be started until plan approval is in hand.

Recently the Pennsylvania Department of Environmental Protection (PADEP) Bureau of Air Quality published an Expedited Review Timeframes (ERT) Program as an alternative to the existing Money-Back Guarantee (MBG) Program for submittal of plan approval applications under the Air Quality Program. Following the ERT timeframes provides an applicant with an expedited timeframe for review and issuance of a plan approval, assuming that certain criteria are met. One criterion of the ERT Program is that the applicant must participate in a pre-application meeting with the appropriate regional office to discuss the application, including specific information needed to make the application administratively and technically complete. Meetings can mean additional time and money on the front end of a project. Yet applicants should reconsider this opinion. It is our experience that these meetings are crucial to the plan approval process. In fact, it is sometimes a good idea to have a pre-application meeting even if you are located in a state or have a project where one is not explicitly required. Read on for the reasons why:

1. Pre-application meetings provide an opportunity to meet the Department personnel who will be working on your application. Good working relationships with the Department make the permitting (not to mention enforcement and inspection) process much smoother. As a facility, it is beneficial to demonstrate that you are willing to be upfront about your

process or activities and to work with the Department to meet any program requirements to which you may be subject.

2. Pre-application meetings are also a great time to discuss specific information the Department would like to see or even requires as part of your application. For instance, perhaps you have a facility in another location with stack test data for a similar source. The Department might agree that this data is representative of your proposed project, saving you the time and cost of having to do another stack test.
3. Discussing the proposed project upfront is useful before your business makes any substantial capital investments or facility improvements. It is recommended to get

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Departmental feedback on whether they would be receptive to the project before entering into a purchase agreement with a new vendor or otherwise moving forward. If the Department would not support this project, inquire why.

4. One of the first questions clients ask us is often “how long until I get my permit?” Establishing a reasonable timeframe for prepa-

ration and submittal of the application by the applicant or applicant’s consultant, as well as review of and issuance of draft and final permits by the Department, is a main agenda point of any good pre-application meeting. This allows for realistic expectations for both parties and also creates a timetable for the specific project. For facilities participating in the ERT Program, specific ERT timeframes, including the 21-day timeframe for responding to technical deficiencies, should be reviewed.

As expected, not every pre-application meeting runs smoothly. To facilitate the best outcome for your project, consider the following for your next pre-app meeting.

1. Who needs to attend? If a consultant or third-party is preparing your application, it is critical that they attend the pre-application meeting. It is also important to have your environmental or compliance manager there to offer perspective from the facility’s point of view. For more extensive projects, vendor involvement may also be useful. Also, pertinent Department attendees may vary depending on the project.
2. Prepare and distribute a useful agenda. This may be your only chance to get everyone at the same table and talking. Be sure to include all main topics you want to address.
3. Do your homework. While you are not ready to submit your

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Project Management Staff

Jan C. Hutwelker, P.E.
President

Louis F. Vittorio, Jr., P.G.
Vice President, Water Resources

John R. Ross, P.E.
Mining

Thomas G. Pullar, P.E.
Solid Waste / Wastewater

William Y. Potter, P.G.
Mining

Scott R. Campbell, P.G.
Solid Waste / Industrial

David R. Horvath, P.G.
Solid Waste / Wastewater

Laura M. Balogh, QEP
Environmental / Industrial

Jason L. Laub, E.I.T.
Solid Waste

Samuel A. Dean
Landfill Gas

application just yet, it is advisable to prepare a basic emission estimate, confirm your source's status, and review any program areas or regulations you may be triggering. A PSD or NSR project will be much more involved than a state-only application, for example. And if the Department mentions your source will be subject to certain standard or requirement, such as one of the many Federal NSPS or NESHAP rules, you will be able to agree or disagree appropriately.

4. Be ready to defend your position. Rough draft calculations you may put together to provide "an idea" may be seriously questioned by technical staff. They are likely to write down any numbers you are putting out there, especially relating to emissions. Ensure any handouts you compile are ready to be viewed by the Department.

If you are unsure whether your estimates will change, label your handouts as "draft" and collect them at the end of the meeting.

5. Document the meeting's key points during the meeting, and send out a quick email or memo afterward to review timeframes, information requirements, and program areas agreed upon.

Does this mean you will now be spending even more of your time in meetings? Not necessarily. Not every project requires a pre-application meeting. Smaller projects, such as Requests for Determination (RFDs) and minor permit modifications, generally do not warrant pre-application meetings. When in doubt as to whether a pre-application meeting would benefit your proposed project, pick up the phone and give your regional DEP office – or ERG – a call.