



Remedial Investigation: Field Investigation

Introduction

Since the Spring of 2004, Brown Inc. (Brown) and the Northern Indiana Public Service Company (NIPSCO) have been working with the US Environmental Protection Agency (USEPA) to address groundwater issues in the Town of Pines. This has resulted in over 270 homes receiving municipal water. *Pines Updates* (such as this one) have been prepared to provide information to the community about the progress of the municipal water service extension and the investigation of the nature and occurrence of potential coal combustion by-products in the Area of Investigation. This update describes part of the process to fulfill our commitment to the community.

The Remedial Investigation / Feasibility Study Work Plan (the Work Plan) for the Pines Area of Investigation was approved by USEPA in August 2005. *Pines Update* No. 10 (August 2005) described the Remedial Investigation (RI) process. This *Pines Update* describes one task of the RI – the Field Investigation.

What is the Field Investigation?

The Field Investigation is the phase of the RI process when environmental samples (i.e., soil, groundwater, etc.) are collected and analyzed, and data on physical characteristics in the Area of Investigation are collected (e.g., the depth of groundwater beneath the ground surface). The Field Investigation will be conducted as described in the Work Plan.

What are the first tasks of the Field Investigation?

The first tasks of the Field Investigation will be to identify the actual locations within the Area of Investigation where samples will be collected and data obtained, and to gain access to these locations. The actual sampling locations will be based on the locations approved in the Work Plan. For a number of locations, property access agreements will need to be made with individual property owners. See the text box for important information on access agreements.

What activities will be occurring during the Field Investigation?

The Work Plan presents the approach and specific details for the Field Investigation. Activities include:

- Installation of data collection fixtures and equipment (e.g., groundwater monitoring wells and surface water monitoring points);
- Obtaining data at data collection points (e.g., measuring groundwater levels);

- Collecting samples for environmental analysis (e.g., physical characteristics and chemical constituents).

How will information be obtained?

Information will be obtained by collecting data, and sampling and analysis. Field Investigation activities will include:

Groundwater. Groundwater sampling and measuring groundwater levels at monitoring well locations will be conducted. This effort will mainly consist of five events conducted over the course of one year.

Surface Water and Sediment. Surface water and sediment sampling will be conducted in Brown Ditch and other area water bodies. Surface water will be sampled, and surface water levels measured on the same five-event schedule as groundwater.

Coal Combustion By-products. Samples of materials suspected to be coal combustion by-products are being collected under the Municipal Water Service Extension project (see *Pines Update* No. 9 (July 2005)) and the Yard 520 Sampling Program.

Access Agreements Needed!



The proposed data collection and sampling locations within the Pines Area of Investigation have been approved by the USEPA. Specific sampling locations will be identified in the field. Authorization from property owners is needed to enter their property to collect the sample(s). NIPSCO and Brown will be in touch with these property owners over the next several months. If you have any questions or concerns, please contact the Communications Coordinator (see back page for contact information).

Background Sampling. Native soil and sediment samples, and upgradient groundwater and surface water samples will be collected within and around the Area of Investigation. Data from these samples will provide information on constituents of potential concern present within the Area of Investigation due to background or sources other than coal combustion by-products.

Ecological Characterization. The habitats of potential ecological receptors in the Area of Investigation (i.e., plants and animals) will be identified and characterized to support the Ecological Risk Assessment. This characterization will identify:

- Aquatic (water) and terrestrial (land) habitats of interest;
- Whether any particularly sensitive receptors are present in the Area of Investigation; and
- Potential overlap of ecological habitats of interest with areas of coal combustion by-product placement.

Private Well Sampling. A number of private wells will be sampled as part of the investigation. The sampling will include an initial

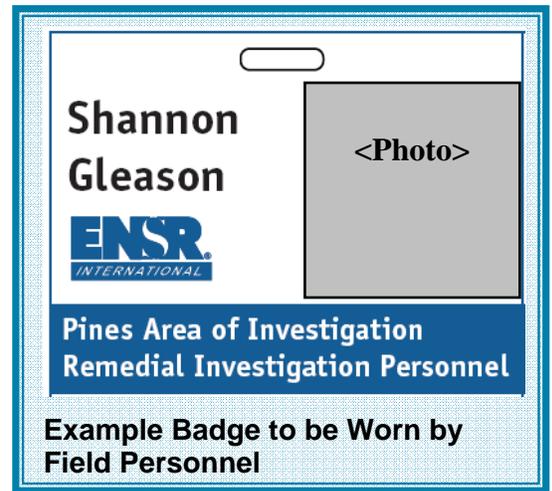
interview with the homeowner to gather as much information about the well as possible. Samples will be collected within the house as close as possible to the well, and prior to any treatment or distribution in the home. Prior to this sampling, access agreements will be obtained from the homeowners.

How are samples collected?

Several types of samples will be collected during the sampling program. This will include groundwater, surface water, sediment, soil, and coal-combustion by-product material. For each type of material there is a unique and specific method for collecting a sample in such a way that it does not disturb the natural state of that material and ensures appropriate quality control and quality assurance. The specific step-by-step methods for sampling of each material type are outlined in the Work Plan, and will be followed and documented by the field team members while collecting the samples.

How long will these activities take place?

The Field Investigation activities will take place in phases over 24 months – but this may change depending on what the initial data collected tells us. Certain types of data collection are dependant on other tasks. For example, groundwater monitoring wells need to be installed prior to being able to collect groundwater samples.

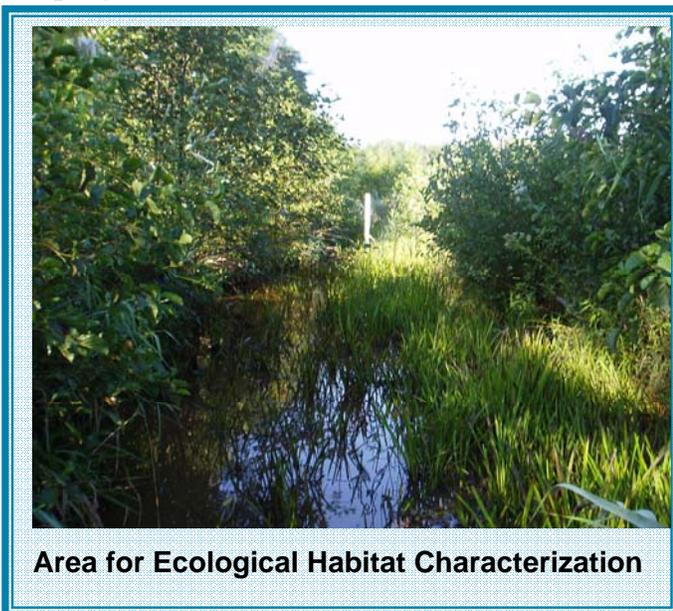


How will I know when the Field Investigation activities will be occurring?

Field work has begun with sampling at Yard 520. Once the necessary access agreements and permits are obtained for other sample locations, the remainder of the Field Investigation program will begin. USEPA will keep residents informed of the progress. In addition, future Pines Updates will discuss project progress. Further, prior to field activities being conducted on private property, the property owner will be contacted to coordinate the activities with the property owner.

Employees of ENSR International will be conducting the Field Investigation. ENSR employees who are the sampling staff, or “field team members,” will be identifiable by photo identification badges and hard hats. The hard hats will be green, and will have the labels “ENSR” and “Pines Area of Investigation, Remedial Investigation Personnel” affixed to the hard hats (see example, above).

ENSR staff will be overseeing various subcontractors for the investigation, for example well drillers. The subcontractors will provide their own health and safety equipment, including hard hats, but ENSR will provide them with temporary “Visitor” identification badges while they are on the job site.



Area for Ecological Habitat Characterization

Monitoring Well Installation and Groundwater Sampling

To collect a groundwater sample, a monitoring well is installed into the ground so that the groundwater can be accessed. A specialized drill rig is used to create an opening into the ground (see picture). The drill rig drills a deep, narrow hole in the ground (called a borehole). While drilling through the ground, a sampler can be driven into the ground to collect soil samples to observe conditions under the ground. This is an important process as it allows us to determine what type of soil is present (i.e., sand, clay, etc.) in specific areas and when the water table has been reached.



Photograph 1: Drill Rig Installing Monitoring Well

Once the desired depth is reached within the groundwater zone, the drilling stops, and a monitoring well is assembled and placed into the drilled borehole. The monitoring well itself is typically constructed of a 2-inch diameter pipe made of polyvinyl chloride (PVC) that is attached to a smaller section (either 5- or 10-foot long) piece of PVC pipe with many slots (holes) in it (this piece is called the “screen”). The slots allow the groundwater to enter the pipe. Sand is then packed around the well to allow groundwater to flow into the well, and clay is placed at the top to prevent rain and surface water from entering the well. Finally, a locked protective casing is then

placed on top of the pipe at the ground surface to protect the well from damage, and to allow future sampling of the well. The casing looks similar to that used to cap private water supply wells.



Photograph 2: Close-up View of Drill Rig

After a well has been installed, it is pumped out to clean the well. The well is then ready to sample. To collect a groundwater sample, a pump is used to draw groundwater to the ground surface. The groundwater is pumped at a slow rate to ensure that the groundwater is not disturbed during the pumping. Then a sample is collected by placing the groundwater into containers that will be shipped to a laboratory for analysis.



Photograph 3: Monitoring Well Sampling

What safety measures will be taken?

The field team members will be setting up safety “exclusion zones” around their work areas for safety reasons. Community members will not be allowed inside these exclusion zones. Additional information regarding construction safety is available in *Pines Update* No. 4 (November 2004).

Where/when will the data be presented?

As data are collected and upon completion of the field activities detailed in the Work Plan, data will be reviewed and evaluated to determine if they are of sufficient quality and quantity or if additional data are necessary to fill any data gaps.

After sufficient data and information are collected and analyzed, the RI Report is prepared. The RI report will present the collected data and information, and will describe the environmental conditions in the Area of Investigation.

Our Commitment....

NIPSCO and Brown are committed to keeping you informed on the progress of the municipal water service extension and the investigation of the Pines Area of Investigation. Look for future *Pines Updates* to update you to our progress. We have also created a website to provide continual updates on the project:

www.pinesupdate.com

Please contact the Communications Coordinator at the address listed below to be placed on the mailing list.

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