



## **BERNER CONSTRUCTION, INCORPORATED PROJECT SUMMARY**

- Project Title:** Philadelphia Airport Terminal D and E Expansion, Gas Line Removal
- Location:** Philadelphia International Airport, Philadelphia, PA
- Scope:** Provide labor, materials, equipment, and supervision to sample, cut, cap, and remove a portion of an abandoned gas line

Berner Construction, Inc. was contracted by Ernest Bock & Sons, Inc. to remove of a portion of an existing 16-inch abandoned-in-place natural gas line that traversed the construction area for a new elevator shaft that was to be part of the PHL Terminal D and E Expansion project. The pipeline was in an area that had been excavated to over 20 feet deep and approximately 40 feet square.

Berner initially performed an evaluation of the contents of the abandoned-in-place 16-inch transmission pipeline to determine the contents of the abandoned pipe. The existing plug was removed from the top of the pipe and a thin metal rod was inserted into the hole to determine the nature of the pipe contents. The air within the pipe was monitored for combustible gases, oxygen, methane, and hydrogen sulfide. Based on the evaluation, it was evident that the pipe was full of water and direct reading air monitoring equipment detected elevated levels of hydrogen sulfide and volatile organic compounds. The water appeared to be stagnant and contained a petroleum sheen.



**Collecting Water Samples**

Using Level B personal protective equipment (PPE) due to the presence of hydrogen sulfide, and a retrieval system due to the confined space of the pipe location, Berner personnel collected a water sample from the pipeline. Analysis of the sample indicated that the water contains low levels of polychlorinated biphenyls (PCBs) which then prevented its discharge to the Philadelphia Water Department. To minimize impacts to travelers from the construction equipment and the potential odors from the hydrogen sulfide, Berner performed all activities at night.



**Installing Pipe Caps**

Berner mobilized a collection system for managing the water, and prepared the area for the next step in the pipe removal. Site activities began with cutting a hole into the top of the pipeline so that a small electric submersible pump and two 16-inch pneumatic plugs could be inserted. Water that was encountered was conveyed directly to the collection tank. The plugs were inserted into the pipe far enough that the pipe could be cold cut without interfering with the plug. The plugs were then inflated and the remaining water in the pipeline was removed. Berner then cut the pipe and installed the steel weld caps securing the open ends.

All work was conducted at night, in Level B PPE breathing air cascade system, using fall protection devices (safety retrieval harness and lanyard). Additionally all work within the excavation was continuously monitored by a dedicated safety monitor using direct reading air monitoring equipment.

The site activities were conducted in the August and September 2008.