

Detroit River International Crossing (DRIC) Study
Deep Drilling Program
Ten Frequently Asked Questions
12/26/06

1. What is the purpose of the drilling?

The DRIC study team is considering three alternative locations for the new river crossing. Solution mining is known to have created brine well caverns in the area of these proposed crossings. The deep drilling program will allow a better understanding of the effects of the solution mining on the bedrock stability and to determine how a crossing can be built on a site.

2. What is a brine well cavern?

Brine well caverns were created during the solution mining of salt. This is the process by which water is injected through a well drilled into an underground salt bed about 1,200 feet below ground. The salt is turned into brine by the water and is flushed out of the ground with the force of the water. The solution mining process ultimately results in the formation of caverns. Over time, it is possible for the overlying rock to sink into the cavern and cause a hole at the ground surface.

3. Where will the drilling take place?

Drilling will take place in two sets of seven holes each – one set near Zug Island and the other between Fort Wayne and the Mistersky Power Plant. Drilling of two holes in each set, for a total of four holes, will take up to 30 days to complete. At the other five holes, in each set, drilling will be complete in 15 or fewer days. All holes are drilled; there is no pounding to create the hole.

4. What causes the difference in the holes?

The rotary method of drilling involves the rotation of a drill bit while fluid (known as “drilling mud”) is circulated through the bit to lubricate and cool it and to bring rock chips to the surface, where they are collected and disposed. No core is saved. The core method of drilling involves extracting a continuous cylindrical soil/rock sample (known as the “core”) a few inches in diameter for the entire depth of drilling. The core is needed to analyze the rock’s structure.

5. What safeguards will be in place, particularly near populated areas?

All property owners within 300 feet of the drill hole have agreed to permit the drilling. Only two of the fourteen holes are near residences; the residents in these homes will be provided enough money to relocate while the drilling is going on nearby. While the residents are gone, there will be around-the-clock security of their homes.

The drills will be equipped with noise-mitigating devices and blow-out protectors to control the release of hydrogen sulfide. All drill sites will be fenced to prevent unauthorized access. Upon completion of drilling and testing, each borehole will be filled with concrete and then capped.

6. Is drilling to be done on the Canadian side of the border?

Yes, as brine wells also exist there. Drilling began on the Canadian side of the border in October of 2006.

7. What takes place after the drilling?

Once drilling is complete, the ground between boreholes will be characterized using cross-hole seismic tomography. That technique creates an MRI of the rock by sending signals in various directions. The results will create images of individual rock layers. Scientists will then be able to assess the risk, if any, of the rock to support the foundations of a new bridge.

8. How will the results be used?

When the results of the foundation investigations are known, the DRIC study team will be able to make informed judgments regarding where a new bridge should be located.

9. What happens if the results of these tests conclude that the ground in this area will not provide a stable foundation for the bridge supports?

Experts believe the results from these investigations will lead to a program that will allow for the construction of a crossing in this area. If that position doesn't bear out, the public will be notified of the next steps to be taken. In any case, the result of the drilling program will be made known publicly in the latter part of 2007.

10. How much will the drilling program cost?

The entire U.S. program reviewed in the above discussion--including drilling and all related scientific analysis-- is associated with a budget of \$11.3 million.