

# TECHNICAL NOTE

## Groundwater Measurements

### Using Pressure Transducers with Packers

November 2001

#### Overview

Frequently, circumstances require monitoring pressure in one or more formations simultaneously. These applications require the use of an inflatable *packer*. The packer acts as a giant plug that allows a discrete zone or zones to be isolated and then pressure tested. The pressures in the zones are recorded and logged using a pressure transducer and a data logger.

In the past, it has been difficult to get the transducer into the packed-off zone. The transducer cables had to be fed through the packer during its assembly at the factory. This typically required that the cable, and usually the transducer, be dedicated to the packer. The In-Situ® Inc. PXD-261 pressure transducer with Quick-Connect cable eliminates the expense of providing a dedicated transducer and cable.

The Quick-Connect cable allows the transducer to be unscrewed from the cable when not in use. The transducer then may be attached to another Quick-Connect cable and used for other purposes.

#### Connecting the packer and transducer

Some packer manufacturers (Baski and TAM) provide a Swagelok® fitting on the top of the packer. The underside of the fitting is attached to a transfer tube. The end of the tube is filled with water. A porous membrane covers the bottom of the tube and prevents the water from draining out during deployment.

The water in the tube allows for more accurate readings of formation pressure because it eliminates the need to calculate an offset that is required with air-filled tubes.

The PXD-261 pressure transducer is readily installed in this arrangement. Remove the nose cone and lock washer to reveal the ½-in male NPT fitting. The transducer may now be screwed into the Swagelok fitting on the top of the packer. Then attach the Quick-Connect cable to the transducer.

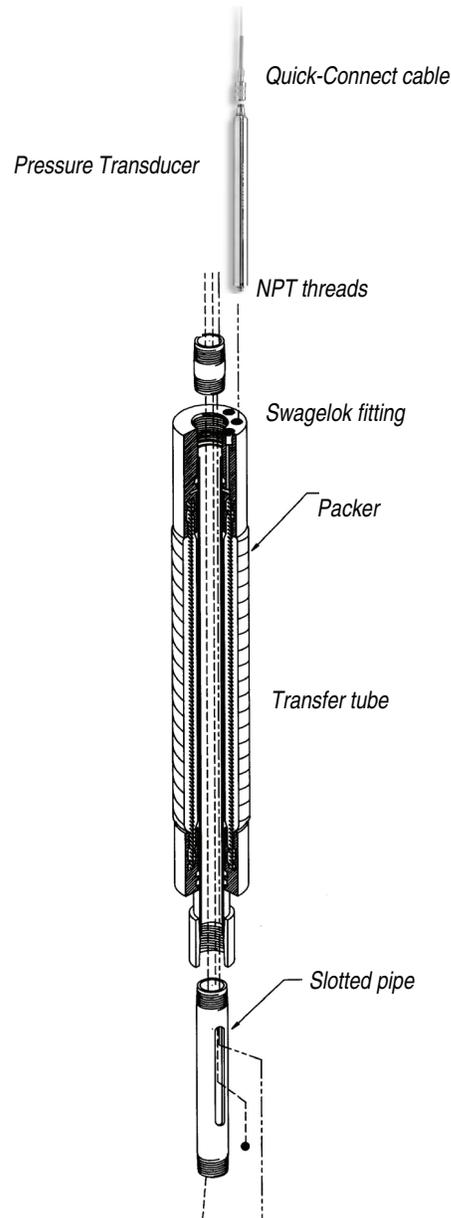


Figure 1. Packer cut-away view.

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## **Summary of Benefits**

This installation method has several advantages to traditional packer configurations:

- The system is no longer dedicated to the packer, thereby greatly decreasing project costs.
- Installation is quick and easy.
- The cost of the system is reduced because it is no longer necessary to assemble the packer at the factory.
- The cost of the Quick-Connect cable is reduced because the cable only needs to go to the top of the packer.

**For more information contact In-Situ Inc.**

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