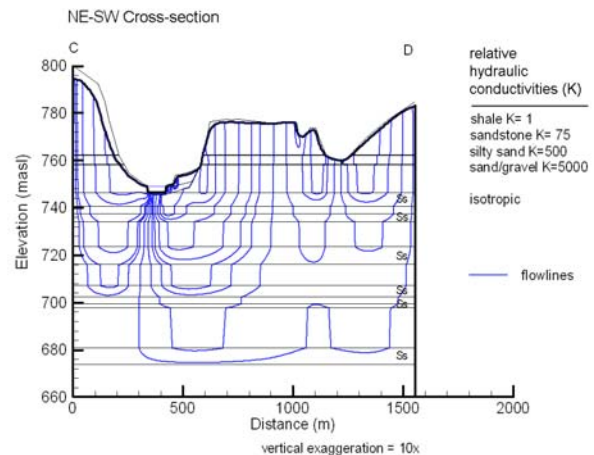


## Evaluation of 35 years of groundwater data from a major gas plant and streamlining of the groundwater monitoring network by means of 2D-vertical flow modelling.

<b>Project Location:</b>	Central Alberta
<b>Client(s):</b>	Confidential
<b>Date Completed:</b>	2006
<b>Project Budget:</b>	\$ 55,000



Groundwater flow within a geologic cross-section.

### Project Summary

The client had taken over the gas plant a short while previously and inherited confusing, incomplete and contradictory data depositories. Alberta Environment had imposed stringent conditions which had to be adhered to under time pressure, including the request for a simulation of groundwater flow at the plant site and towards a major River and one of its tributaries. All requests were answered within two months to the satisfaction of Alberta Environment.

### Services Provided

- \* Error checking and creation of a hydrogeological database including all accessible groundwater dynamic and chemical data for the last 35 years. Evaluation of all data by means of the proprietary program system HYDRODYNAMIK [HD] and formation of a geologic concept for the calculation of 2D-vertical groundwater flow models in geologic cross-sections.
- \* Streamline monitoring network by elimination of unnecessary piezometers and determine position and depth of new piezometers, based on the result of groundwater flow simulations in geological cross-sections (see figure above).
- \* Determine, by means of the proprietary program system HYDRODYNAMIK [HD], background values for chemical parameters from data from the Alberta Groundwater Database.

### Deliverables or Results

- \* Submission of a comprehensive database to the client.
- \* Report on the findings of the evaluation of the new hydrogeologic database and the results of the mathematical modelling of groundwater flow in geologic cross-sections.
- \* Multiple successful presentations of plant site data, regional background data and the results of numerical groundwater flow modelling to Alberta Environment.