

# Program



NATIONAL CENTRE FOR  
**GROUNDWATER**  
RESEARCH AND TRAINING

Introduction to Pumping Test Analysis  
Adelaide  
Monday, Day 1 - 15<sup>th</sup> November

TIME		THEME/TOPIC	PRESENTER
8.15		<b>Registrations and Coffee</b>	
8.30	1	<b>Welcome</b> <b>Course Introduction</b> <b>Pumping Test Terminology</b> <ul style="list-style-type: none"> <li>Description and definition of the terminology related to pumping test analysis</li> </ul>	
9.15	2	<b>Pumping Test Types</b> <ul style="list-style-type: none"> <li>Pumping test types and application</li> </ul>	
9.45	3	<b>Pumping Test Fundamentals</b> <ul style="list-style-type: none"> <li>Conceptual models used for pumping test analysis</li> <li>steady state v transient</li> <li>time drawdown and distance drawdown</li> <li>effect of hydraulic parameters on drawdown</li> <li>diagnostic plots</li> </ul>	
10.30		<b>Morning Tea</b>	
10.45	4	<b>Pumping test Design</b> <ul style="list-style-type: none"> <li>Key factors for pumping test design,</li> <li>drawdown prediction tools</li> </ul>	
11.45	5	<b>Conducting the Pumping Test</b> <ul style="list-style-type: none"> <li>Equipment requirements</li> <li>final pumping rate selection</li> <li>common problems</li> </ul>	
12.45		<b>Lunch</b>	
13.30	6	<b>Pumping Test Analysis Tutorial</b> <ul style="list-style-type: none"> <li>Traditional 'match point' methods</li> <li>Cooper-Jacob solution</li> </ul>	
15.30		<b>Afternoon Tea</b>	
15.45	7	<b>Pumping Test Analysis Tutorial</b> <ul style="list-style-type: none"> <li>Intro to Aqtesolv</li> <li>Aqtesolv analysis for confined and semi-confined aquifers including derivation of aquitard vertical hydraulic conductivity (kv)</li> </ul>	
17.00		<b>End Day 1</b>	

# Introduction to Pumping Test Analysis Adelaide Tuesday, Day 2- 16<sup>th</sup> November



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TIME		THEME/TOPIC	PRESENTER
8.30	8	<b>Pumping Test Analysis Tutorial</b> <ul style="list-style-type: none"><li>• Aqtesolv analysis: unconfined aquifers, step drawdown analysis aquifer boundaries</li><li>• drawdown prediction using Aqtesolv</li></ul>	
10.30		<b>Morning Tea</b>	
10.45	9	<b>Case Studies</b> <ul style="list-style-type: none"><li>• analysis and discussion of real world examples</li></ul>	
12.45	10	<b>Close out</b> Summary of learnings	
13.00		<b>End of course</b>	

## Participants will need to bring:

- **Laptops** (with AQTESOLV demo or full version installed) Please visit:  
<http://www.aqtesolv.com/demo.asp> to download the Aqtesolv Demo prior to the course.
- **Pencil**
- **Rubber**
- **Calculator (standard)**

Groundwater Modelling School  
Brisbane  
Wednesday, Day 3



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TIME		THEME/TOPIC	PRESENTER
9.00	11	<b>Code Selection</b> <ul style="list-style-type: none"> <li>Differences between finite difference, finite volume and finite element codes</li> <li>MODFLOW packages</li> <li>Data input</li> <li>Pitfalls and limitations</li> </ul>	
11.00		<b>Morning Tea</b>	
11.15	12	<b>Model Calibration and Validation</b> <ul style="list-style-type: none"> <li>What is Calibration and how is it used</li> <li>Model Validation</li> </ul>	
12.30		<b>Lunch</b>	
13.30	13	<b>Introduction to Tutorial 3</b> <ul style="list-style-type: none"> <li>Tutorial 3 conceptual model</li> <li>Development of tutorial 3 numerical model</li> </ul>	
14.45		<b>Afternoon Tea</b>	
15.00	14	<b>Modelling Tutorial 3</b> <ul style="list-style-type: none"> <li>Data entry</li> <li>Model simulations</li> </ul>	
16.30		<ul style="list-style-type: none"> <li>Discussion of tutorial 3 model</li> </ul>	
17.00		<b>End Day 3</b>	

Groundwater Modelling School  
Brisbane  
Thursday, Day 4



NATIONAL CENTRE FOR  
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TIME		THEME/TOPIC	PRESENTER
9.00	15	<b>A Real Groundwater Flow Model</b> <ul style="list-style-type: none"> <li>• Developing a real model</li> <li>• Data needs</li> <li>• Documentation</li> <li>• Report review</li> </ul>	
10.00	16	<b>Modelling Guidelines</b> <ul style="list-style-type: none"> <li>• Presentation of Modelling Guidelines</li> <li>• Limitations</li> <li>• Management, regulatory considerations</li> </ul>	
11.00		<b>Morning Tea</b>	
11.15	17	<b>Advanced Topics</b> <ul style="list-style-type: none"> <li>• Modelling 3-D Flow</li> <li>• Contaminant Transport Modelling</li> <li>• Modelling Unsaturated Zone Flow</li> <li>• Groundwater-Surface Water Interactions</li> <li>• Fracture Flow Modelling</li> <li>• Heat Transport</li> </ul>	
12.30		<b>Lunch</b>	
13.30	18	<b>Estimating Transport from Flow Modelling</b> <ul style="list-style-type: none"> <li>• Introduction to Tutorial 4</li> </ul>	
14.45		<b>Afternoon Tea</b>	
15.00	19	<b>Modelling Tutorial 4</b> <ul style="list-style-type: none"> <li>• Data entry</li> <li>• Model simulations</li> </ul>	
16.30		<ul style="list-style-type: none"> <li>• Discussion of tutorial 4 model</li> </ul>	
17.00		<b>End of School</b>	