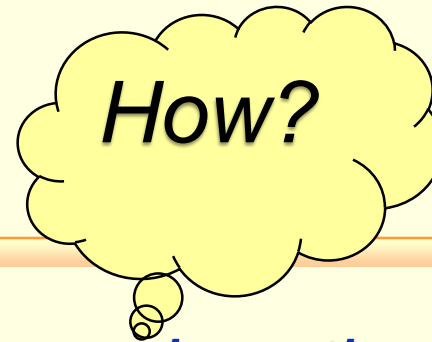


# *The Abstract*



*An informative abstract **summarizes the entire reported works** (project, paper, article) including key themes, purpose, major facts bearing on the conclusion, and a summary of key findings.*

*The abstract is an **important first impression**. This is what the reader will see, and will help him or her decide whether to read the rest of a poster, paper, or article.*

# *Five Major Pieces of the Abstract*

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**Introduction.** *Why should anyone care* about the work you did? You have to tell them why. Did you explain something that should cause people to change the way they go about their daily business? *If you made an invention or developed a new procedure how is it better, faster, or cheaper than what is already out there?*

**Problem Statement.** Identify the problem you solved or the hypothesis you investigated.

**Procedures.** What was *your approach* for investigating the problem? Don't go into detail about materials unless they were critical to your success. Do describe the most important variables.

**Results.** *What answer did you obtain?* Be specific and use numbers to describe your results. Do not use vague terms like "most" or "some."

**Conclusions.** *State what your project or invention contributes to the area you worked in.* Did you meet your objectives? For an engineering project state whether you met your design criteria.

# *Do and Do not*

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Do not include tables, figures, or references in an abstract.

Do Reread/rewrite. Edit your abstract for content, flow, and readability.

# Things to *Avoid*

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Avoid **jargon** or any technical terms that most readers won't understand.

Avoid **abbreviations or acronyms** that are not commonly understood unless you describe what they mean.

Abstracts do not have a **bibliography or citations**.

Abstracts do not contain **tables or graphs**.

Your abstract should only include procedures done by you, and you should not put **acknowledgements** to anyone in your abstract.

# *A more expanded Abstract...adds more than the “five item” Abstract*

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- *Background Statement*
- *Narrowing Statement*
- *Elaboration*
- *Aims*
- *Elaboration of Aims*
- *Specific focus of Aims*
- *Methods*
- *Results*
- *Key Result*
- *Evaluation of Results*
- *Limitations*
- *Future Applications*

# PERMEABLE TREATMENT WALLS

## Abstract

**Background statement** A review of groundwater remediation in use today shows that new techniques are required that solve the problems of pump and treat, containment and in-situ treatment. **Narrowing statement** One such technique is the method that involves the use of permeable treatment walls. **Elaboration** These methods use a reactive medium such as iron to remediate contaminated groundwater. **Aim\*** Several methods of implementing this remediation strategy have been described. **Elaboration of aim** These methods include injection and trenching. **Specific focus of aim** The use of a funnel and gate system via a trench has been examined in detail **Methods** using a groundwater modelling option of the FLAC program. **Methods** The modelling involved an analysis of the effect of changing the lengths of the walls and gate, varying the permeability, and varying the number of gates. **Results** The results showed that increasing the wall length, gate length and permeability increases the size of the plume captured. **Key result** An important factor in designing the walls is the residence time of the water in the gate or the contact time of the contaminant with the reactive media. **Evaluation of results** A sensitivity analysis has been conducted that shows that increasing the size of the capture zone decreases the residence time **Limitations** which will limit the design. **Future applications and research** The results of the modelling and sensitivity analysis are presented such that they can be used as an aid to the design of permeable treatment walls.

(Dasey G. 1996 p.i)

# *Summary about Abstract Content*

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*As appropriate to your topic, include any or all of the following:*

*Why is this topic important -- what problem does it address.*

*What proposed design (hypothesis) is being examined.*

*What methods or approach are used to address the topic.*

*What are the **key findings**.*

*What **conclusions** or discussions stem from the findings.*