

**Monthly Letter Progress Report #02 – February 2011
Assessment of Groundwater Modeling Approaches to
Brackish Aquifers**

TWDB Contract No. 1100011196

Submitted to:

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March 28, 2011

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1.0 Progress on Tasks

This report summarizes activities on project tasks for the month of February, 2011 and represents the second progress report on this contract.

Task 1 Project Management

There was little work necessary under this task, other than the usual internal meetings and administrative tasks.

Task 2 Technical Tasks

Technical tasks in February continued the January work on the literature review, which is the first technical task in the project schedule. The literature review is focused on the completion of two information matrices, with the first matrix detailing codes that have variable density capability and the second matrix detailing hydrogeologic scenarios in Texas that might require consideration of variable density effects for modeling, and what type of code would be best at handling those conditions.

The code information matrix is mostly complete, although a few of the categories for a few of the codes still need updating. We currently have at least partial information for 22 codes, of which about 10 are anticipated to meet the quality and documentation requirements to be included in the final matrix. We have begun to move from this information matrix to a code-type matrix, where the codes are grouped by solution-type, MODFLOW compatibility, etc.

We considered a few different starting points for the code-application matrix, but have settled on an approach that uses the Texas GMAs as an organizational framework. We thought that this would allow stakeholders to quickly find relevant sections of the matrix. For each GMA (or groups of GMAs, if aquifers/conditions are similar) we are using the available literature (the cross sections in the LBG-Guyton (2003) report are helpful) to summarize the relevant hydrogeologic characteristics that can then be used to match with code types.

Task 3 Project Report

There was no work under this task in February.

2.0 Planned Activities for the Next Month

Task 1 Project Management

There are no major project management tasks to be completed in March. We should meet with TWDB staff in April to review work to date and discuss progress on the information matrices.

Task 2 Technical Tasks

Technical tasks in March will be focused on the code-type and code-application matrices, with the bulk of the work on the latter.

Task 3 Project Report

We do not anticipate doing work under this task in March.

3.0 Problems/Issues and Actions Required/Taken

None.