

Monthly Letter Progress Report #1– April 2016
Study of Brackish Aquifers in Texas – Gulf Coast Aquifer
TWDB Contract No. 1600011947

Submitted to:

Texas Water Development Board
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1.0 Budget and Expenses

This report summarizes the project costs for a billing period from 1/06/2016 to 3/31/2016. The total invoice is \$94,446. The total expenditures to date are \$94,446. A budget breakdown by tasks is provided in Table 1. A copy of the progress report has been sent to TWDB contracts department along with the monthly invoice.

Table 1. Planned and Incurred Expenses by Task Progress by Tasks

TASK	DESCRIPTION	Budget	Invoices			Remaining Budget
			Current	Previous	Total	
1	Project Management	\$22,740	\$5,764	\$0	\$5,764	\$16,976
2	Delineate Fresh, Brackish, and Saline Groundwater	\$196,650	\$73,487	\$0	\$73,487	\$123,163
3	Quantify Groundwater Volumes	\$52,430	\$12,084	\$0	\$12,084	\$40,346
4	Delineate Brackish Groundwater Zones	\$93,160	\$3,110	\$0	\$3,110	\$90,050
5	Stakeholder Communications	\$11,815	\$0	\$0	\$0	\$11,815
6	Determine Volume of GW Brackish Groundwater Over 30-year and 50-year Periods	\$92,690	\$1,981	\$0	\$1,981	\$90,709
7	Reporting and Deliverables	\$30,515	\$0	\$0	\$0	\$30,515
Total		\$500,000	\$94,446	\$0	\$94,446	\$405,554

Progress on task is reported through April 21st.

Task 1 Project Management

Conducted teleconference with subcontractors.

Set up contracts with Dr. Tom Ewing and the Bureau of Economic Geology. INTERA holds weekly meetings with Dr. Ewing and BEG.

INTERA-TWDB contract was fully executed on January 6, 2016.

Meet with the TWDB Board on April 14 at INTERA offices to discuss status of project.

Held discussion with Carlos Torris-Verdin to pursue a possible \$5k to investigate correction factors for dirty sands when calculating TDS concentrations from the geophysical log signatures. After several conversations, Dr. Torris-Verdin declined to participate with the project given its constraints and tight deadlines.

INTERA began discussions with IHS to obtain permission to submit of their logs to the TWDB as part of the project deliverable.

Began reanalysis of geophysical logs associated with the cross-sections

Task 2 Delineate Fresh, Brackish, and Saline Groundwater

Assembled several studies in the Gulf Coast that use geophysical logs to estimate total dissolved solids concentrations in groundwater.

Constructed a database of measured TDS concentrations in water wells. Identified which wells have screened information. Identified 550 locations where a geophysical log is within 1 mile of a water well with measured TDS concentrations an identified screened interval.

Obtained approximately 400 wells from Subsurface Library and had them scanned.

Approximately 400 geophysical logs have been digitized.

Performed QA/QC on the sand and clay picks made by Ernie Baker as part of a previous TWDB project in the Gulf Coast.

Began evaluation of logs associated with two previous TWDB Gulf Coast projects to identify transmissive zones using chronostratigraphic analysis.

Task 3 Quantify Groundwater Volumes

Began development of a GIS-based application to calculate fresh, brackish, and saline groundwater.

Began search for logs for calculating porosity profiles across the Texas Gulf Coast.

Task 4 Delineate Groundwater Brackish Zones

Contacted approximately 30 GCDs to obtain the database for their registered wells. Began construction a well database for all GCDs wells.

Constructed a well database of the Public water supply wells in the study area.

Constructed a well database for wells from the TWDB groundwater database and the TWDB submitted drillers report.

Began evaluation of logs associated with two previous TWDB Gulf Coast projects to identify hydrogeological barriers using chronostratigraphic analysis.

Task 5 Stakeholder Communications

No work was performed

Task 6 Determine Volume of GW Brackish over 30-year and 50-year Periods

Developed and tested an approach for modeling the production of brackish groundwater using MODFLOW-USG.

Modeling approach was explained to TWDB staff on April 14 at meeting held at INTERA Offices.

Task 7 Reporting and Deliverables

No work was performed

3.0 Planned Activities for the Next Month

Task 1 Project Management

Continue to work with IHS to investigate options for including some of their logs as part of the deliverable to the TWDB.

Task 2 Delineate Fresh, Brackish, and Saline Groundwater

Continue looking for pairings of water wells with measured TDS concentrations and screen information.

Task 3 Quantify Groundwater Volumes

Will begin assembling porosity logs.

Task 4 Delineate Groundwater Brackish Zones

Continue the delineation of hydrogeological barriers and transmissive brackish zones.

Task 5 Stakeholder Communications

No work was performed

Task 6 Reporting and Deliverables

No work was performed

4.0 Problems/Issues and Actions Required/Taken

INTERA did not begin work with subcontractors or vendors until after the TWDB contract was signed on March 22nd. We anticipated having an executed contract much earlier than March 22nd. A compressed schedule is causing problems with preparing a technical approach. We anticipate a stakeholder meeting around June 15th and a completion of a technical approach by late May.