

Monthly Letter Progress Report #5– September 6, 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 7/01/2016 to 7/30/2016. The total invoice is \$148,383.38. The total expenditures to date are \$436,590.03. 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	\$22,740.00	\$13,174.16	\$5,764.23	\$18,938.39	\$3,800.61
2	Delineate Fresh, Brackish, and Saline Groundwater	\$196,650.00	\$722.57	\$182,408.90	\$183,131.47	\$13,518.53
3	Quantify Groundwater Volumes	\$52,430.00	\$8,902.31	\$34,367.07	\$43,269.38	\$9,160.62
4	Delineate Brackish Groundwater Zones	\$93,160.00	\$51,426.31	\$41,102.30	\$92,528.61	\$631.39
5	Stakeholder Communications	\$11,815.00	\$0.00	\$5,331.67	\$5,331.67	\$6,348.33
6	Determine GW Brackish Groundwater Over 30-year and 50-year Periods	\$92,690.00	\$41,883.73	\$19,232.48	\$61,116.21	\$31,573.79
7	Reporting and Deliverables	\$30,515.00	\$32,274.30	\$0.00	\$32,274.30	-\$1,759.30
Total		\$500,000.00	\$148,383.38	\$288,206.65	\$436,590.03	\$63,409.97

Progress on task is reported through August 31.

Task 1 Project Management

Met with the TWDB to discuss comments regarding the draft report and specifically about documenting evidence of interfingering and inversion in vertical cross-section plots of salinity zones. Coordinated with subcontractors

Task 2 Delineate Fresh, Brackish, and Saline Groundwater

Delineated three-dimensional zones for fresh, salinity saline, moderately saline, very saline, and brine.

Defined a regional-scale inversion of slightly saline groundwater above freshwater in the southern portion of the study area near Kenedy County.

Annotated the nine vertical cross-section of salinity zone designation in sands to identify and explain isolated pockets and interfingering of different salinity zones.

Entered geophysical log information into the BRACs database.

Task 3 Quantify Groundwater Volumes

Applied the volume calculator to determine groundwater values by GMA, county, and GCD for the case where specific yield is used to represent unconfined groundwater and where the porosity is used to represent confined groundwater.

Modified the volume calculator so it can be uploaded into ArcMap and used through the toolbox.

Task 4 Delineate Groundwater Brackish Zones

Finalized the configuration of six potential brackish production areas.

Increase the total number of well field to fifteen so that each potential brackish production zone has at least on well field.

Task 5 Stakeholder Communications

No work performed.

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

Simulated 50 years of production at rates 3,000 AFY, 10000 AFY and 15,000 AFY at 15 well field locations distributed among the six brackish production areas. Prepared figures to help document the modeling results.

Performed particle tracking results for the 10,000 AFY simulations to help illustrate the impacts of pumping on the migration of the base of the fresh water zone.

Performed a sensitivity analysis consisting of 16 model simulation for the pumping rate of 10,000 AFY over a 50-year period.

Task 7 Reporting and Deliverables

Prepared draft report and submitted the draft report to the TWDB on August 3, 2016.

Prepared and submitted final draft report to TWDB on August 31, 2016 with a draft final BRACs database submittal and GIS files submittal.

3.0 Planned Activities for the Next Month

Task 1 Project Management

Continued coordination with the TWDB.

Coordinate with BEG for submission of their invoice

Task 2 Delineate Fresh, Brackish, and Saline Groundwater

No work planned.

Task 3 Quantify Groundwater Volumes

No work planned.

Task 4 Delineate Potential Production Areas

No work planned..

Task 5 Stakeholder Communications

Present at stakeholder meeting on September 9, 2016 in Austin.

Task 6 Reporting and Deliverables

No work plan

4.0 Problems/Issues and Actions Required/Taken

We anticipate receipt of an invoice from the BEG in early September. We have several discussions with BEG regarding the problems with their invoicing practices in July and August. We anticipate all have invoices from subcontractors processed by mid September.