INTERA Incorporated
9600 Great Hills Plaza, Suite 300W
Austin, Texas 78759 USA
512.425.2000

PROGRESS REPORT

To: James Golab, Work Order Project Manager, Texas Water Development Board

From: Van Kelley, Work Order Project Manager, INTERA

Date: February 11, 2021

Re: TWDB Contract Number 2000012442 – Brackish Groundwater Commingling Work Order

Budget and Expenes

This report summarizes project activities and costs for the billing period of January 1 through January 31st, 2021. The total billed expenses through January are $19,083.75. A budget breakdown by task is provided in Table 1 below. A copy of the progress report will be included in our monthly invoice being sent to the TWDB contracts department. The Work Order Notice of Proceed was signed on November 5th, 2020.

TASK	DESCRIPTION	Budget	Invoices			Remaining Budget
			Current	Previous	Total	
1	Project Management	$ 9,880.00	$ 1,498.75	$ 3,750.00	$ 5,248.75	$ 4,631.25
2	Stakeholder Communication	$ 11,465.00	$ 1,250.00	$ 450.00	$ 1,700.00	$ 9,765.00
3	Review Statute Terminology Relevant to Comingling of Groundwater	$ 9,675.00	$ 3,125.00	$ 2,500.00	$ 5,625.00	$ 4,050.00
4	Statewide Survey of Commingling Issues	$ 29,420.00	$ 1,750.00	$ -	$ 1,750.00	$ 27,670.00
5	Assessment of Commingling in Select Aquifers/Regions	$ 36,950.00	$4,760.00	$ -	$4,760.00	$ 32,190.00
6	Review of Findings	$ 4,500.00	$ -	$ -	$ -	$ 4,500.00
7	Recommendations and Need for Further Study	$ 10,700.00	$ -	$ -	$ -	$ 10,700.00
8	Reporting	$ 25,110.00	$ -	$ -	$ -	$ 25,110.00
Total		**$ 137,700.00**	**$ 12,383.75**	**$ 6,700.00**	**$ 19,083.75**	**$ 118,616.25**

Table 1. Project Budget Versus Expenses

Work Completed

This report summarizes activities on project tasks for January of 2021 and is the second contract progress report. Tasks 1 through 5 were active in the reporting period and had time billed to them. Progress on those tasks will be summarized below.

Task 1 Project Management

INTERA Project Management in January was focused on making sure the adequate resources were being allocated to project tasks. A second area of focus was in getting the first invoice and Project Management Report submitted on January 11th. Given the fast pace of this project, the INTERA PM and the TWDB PM have a 30-minute meeting scheduled every two weeks to discuss progress. The second such meeting was held January 14th and a second held February 2nd. In the January 14th meeting we discussed the advantages of performing Task 5 before Task 4. Then, based upon what we learn on Task 5 we would turn attention to Task 4. On January 15th, the TWDB PM authorized this approach via email.

Task 2 Stakeholder Communication

The first stakeholder meeting was held on Friday February 5th. Work on the presentation was started in late January to provide the TWDB adequate review time. INTERA coordinated with the TWDB to set up a GoToWebinar. The INTERA Project Manager developed updated media statements advertising the webinar and sent them out to TAGD and TWCA.

Task 3 Review Statute Terminology Relevant to Comingling of Groundwater

Work on Task 3 progressed in January with all the relevant statutes and administrative code compiled and reviewed. To support the review, a set of key words related to the definition of commingling, and including the term commingling, were used to search all statutes and codes. An approach to the terminology review was drafted and writing began. It is anticipated that stakeholders participating in our February 5th meeting may have some input on additional statutes or guidance to review. After the stakeholder meeting attention will be turned to completing the terminology review. The desire is to have a working draft of this subsection by the end of February.

Task 4 Statewide Survey of Commingling Issues

There was limited activity of Task 4 in January. As discussed above, the focus in January was Task 4. However, we did put some thought into how this task will support the study overall and developed a table of contents to support the integration of Task 4 and Task 5 activities

Task 5 Assessment of Commingling in Select Aquifers/Regions

In January we started compiling well location and well screen data for the three focus areas and associated aquifers. We pulled well data from two databases; the TWDB Groundwater Database and the Submitted Drillers Reports. These data sets were converted to a common format and QA'ed. For the Gulf Coast Aquifer Region, we have compiled a database of 102,699 wells. For the Eagle Ford Region we have compiled a database of 35,580 wells. For the Trans Pecos Region we have compiled a database of 5,815 wells.

The aquifer structure and last GAM predictive period simulated heads for all available GAMs in the three focus areas have been extracted from the database delivered as part of the ASR Suitability study. The last dataset we will integrate into this analysis is the available salinity class surfaces developed as part of the Brackish Aquifer Characterization System (BRACs) studies. This data will be requested from the TWDB to ensure we are using the final surfaces in all aquifers.

The primary conditions for considering the potential for comingling are location of well screens relative to (1) aquifer boundaries, (2) salinity class boundaries and (3) vertical head gradients. The regional data compiled for each focus area will be used to intersect well screens by aquifer, water quality class and heads to investigate the potential conditions that could lead to commingling of brackish groundwater. We plan to have at least one area analyzed by mid-February and will investigate informative ways to summarize findings both through statistics, tables and graphics.

A second aspect of Task 5 is developing site specific data on wells which have direct, or in some cases indirect (geophysical logs) evidence of potential commingling of brackish groundwater. INTERA has been working with BESST Technologies, who have performed zonal chemistry logging on several water supply wells in the Gulf Coast Aquifer, to get permission to publish results. We have also been looking for locations where we have nested head data to determine and document vertical head gradients. We have also stated talking to the Evergreen Underground Water Conservation District to coordinate with them on developing a case study or two in the Eagle Ford Region.

Problems Encountered to Date

To date no problems or issues have been encountered affecting execution of the scope of work.