TEXAS A&M UNIVERSITY
CORPUS CHRISTI

HARTE RESEARCH INSTITUTE FOR GULF OF MEXICO STUDIES
6300 OCEAN DRIVE, UNIT 5869
CORPUS CHRISTI, TEXAS 78412-5869
O 361.825.2000 • F 361.825.2050

September 29, 2023

Steven J. Raabe, P.E.
Trustee, Matagorda Bay Mitigation Trust
PO Box 1269
Poth, TX 78147-1269

RE: Quarterly Progress Report for the period 7/1/2023 – 9/30/2023.

Dear Mr. Raabe,

Please find enclosed the following deliverable: Quarterly Progress Report for the project "Sediment Quality Assessment Survey of San Antonio Bay" Contract No. 035.

Sincerely,

Paul A. Montagna, Ph.D.
Endowed Chair, Hydroecology, Harte Research Institute
Professor, Physical and Environmental Science Department
Regents Professor, Texas A&M University System
Texas A&M University-Corpus Christi
6300 Ocean Drive, Unit 5869
Corpus Christi, TX 78412
Phone: 361-825-2040
Email: Paul.Montagna@tamucc.edu

I. TITLE, CONTRACT INFORMATION, AND CONTACTS:

Sediment Quality Assessment Survey of San Antonio Bays

Contract 035

Performing Party Representative:

Dr. Paul A. Montagna
Harte Research Institute for Gulf of Mexico Studies
Texas A&M University-Corpus Christi
6300 Ocean Drive, Unit 5869
Corpus Christi, TX 78412-5869
Telephone: 361-825-2040
Email: Paul.Montagna@tamucc.edu

Contract Period: 01 January 2023 – 31 December 2024

Reporting Period: 01 July 2023 to 30 September 2023
Date of submission: 29 September 2023

SUBMITTED TO:

Steven J. Raabe, P.E.
Trustee, Matagorda Bay Mitigation Trust
PO Box 1269
Poth, TX 78147-1269
Via Email to: Trustee@mbmTrust.com

II. DESCRIPTION OF TASKS:

There are two tasks for this project:

Task 1): Sediment Quality Triad (SQT) analysis. 18 stations will be sampled and analyzed for sediment chemistry, toxicity, and biodiversity.

Task 2): Data Management, Reporting, and Outreach Engagement. Quarterly Progress Reports: within 10 days of the end of each annual quarter: Q1 = April 10, Q2 = July 10, Q3 = October 10, and Q4 = January 10. The Final Report = December 31, 2024. Public engagement.

III. STATUS OF TASKS:

Task 1): In progress.

The two primary tasks this quarter was to complete the analysis of the sediment chemistry samples and the toxicology analyses.

A total of 54 samples (=3 replicates at 18 stations) were analyzed for sediment chemistry.

Three estuarine species were assessed: the grass shrimp *Paleomon pugio,* the amphipod *Leptochirus plumolusus,* and the polychaete *Neanthes arenaceodentata*. These animals were used because they are known to live in the Gulf of Mexico and are extremely sensitive to chemical contaminants. For shrimp, a 96 hr., elutriate test, was conducted with ten individuals in three replicates for every site. For the polychaete and amphipod, a whole sediment toxicity test was conducted for 10 days with five replicates for each site. For the polychaete, there were five polychaetes in each replicate. For the amphipod, there twenty amphipods in each replicate. A Mictrox solid phase assessment and ammonia test was conducted simultaneously to detect factors of toxicity for each site if they were not seen in the other tests. Ammonia tests were performed on the amphipod and polychaete samples on Day 0, 2, and 8.

Task 2): In progress.

Third quarterly report submitted.

IV. PLAN FOR NEXT QUARTER:

Task 1): Work on macrofauna sample analyses.

Task 2): Submit a quarterly reporting.

V. PROBLEMS ENCOUNTERED/CORRECTIVE ACTIONS:

None.

VI. ADHERENCE TO PROJECT TIMELINE:

A. Explanation of delays (if any): No delays.

B. Anticipated delays: None expected.