WSF 2021 Final Annual Report # 5238

PROJECT: Detailed Airborne Electromagnetic Survey of the Platte/Elkhorn River Valley –WSF Application #5238 (awarded January 2020)

DATE: MAY 14, 2021 (FIRST ANNUAL REPORT DUE ON OR BEFORE APRIL 1, 2020)

See Application 5238 For Project Scope Summary and Timeline

PROJECT PROGRESS APRIL 2020 TO APRIL 2021:

The Papio-Missouri River Natural Resources District (PMRNRD) approved and executed the agreement with Aqua Geo Frameworks (AGF) to complete the detailed AEM survey. The total AGF contract amount is $1.1 million and is above the total amount estimated in the WSF grant application of $700,000. This additional amount is based on the PMRNRD collecting additional flight lines throughout the District and does not change the detailed AEM survey being collected as part of the WSF grant. AGF collected 1,533 line-miles between 17 August 2020 and 23 August 2020. This data was processed and QA/QC'd and preliminary inversions were delivered to the PMRNRD on 24 August 2020.

Next, AGF interpreted the new 2020 data along with previous PMRNRD AEM and AEM data from surrounding NRDs within a 3 to 5 mile buffer. The final report includes profiles for 3,543 miles of interpreted data. The final report was delivered on Feb. 5, 2021. Following review, revisions and corrections were provided on Feb. 22, 2021. The final report and data is available at http://www.enwra.org/aem2020.html#papio.

ANTICIPATED ACTIVITIES FROM NOW UNTIL NEXT ANNUAL REPORT DUE APRIL 1, 2022

There are no further activities, and the project is complete.

ANTICIPATED CASH FLOW FOR REMAINDER OF THE PROJECT:

Reimbursement Claim #2 for $294,000 was submitted on March 31, 2021 and is the final request for this project. Total costs expended were $700,000 as included in the WSF grant.

LIKELIHOOD THAT BENEFITS PROJECTED IN APPLICATION 5238 WILL BE REALIZED:

Data and results from the detailed AEM survey of the Platte/Elkhorn River Valley will provide the benefits documented in the 2019 WSF Application for Funding. Geologic data will be used to improve hydrogeologic and groundwater models across the valley and into the surrounding tributary areas. This modeling will help inform the management of both groundwater quality and quantity. First, actions to enhance groundwater quantity management will first be tested in models. If feasible and economical, these practices can be implemented to improve the reliability and resilience of water during drought conditions. Second, the Platte/Elkhorn River valley has highly vulnerable groundwater due to shallow groundwater levels and sandy soils. This highly vulnerable groundwater is a drinking water source for over half of Nebraska's population. AEM data will help better inform and protect groundwater quality.