



WSF 2023 Annual Report

Grant Application No. 5315

Titled: MRNRD Map and Model for Water Balance

Grant Amount: \$1,222,899.17

Project Progress:

Year two for this project consisted of flying the first block of flight lines which included the easter portion of Hayes County, the West half of Frontier County, and the Northeast quarter of Redwillow County. This included a total of 2478.7km of AEM survey flown across the district in 2022. To date we have spent \$687,946.80 on the first survey. We are already finding the previous AEM surveys to be useful. These surveys are showing us geology we didn't know existed and explains irrigation practices in certain areas. It also shows us where we should consider changing the quantity of irrigation in certain areas of our aquifer.

Project Activities for coming year:

The activities for the coming year begin with determining our flight lines. AGF has received all power line locations and is currently plotting flight paths to minimize interference from them. After the flight path is determined, AGF will begin planning the logistics of getting the flight done as efficiently as possible. Weather is the determining factor of how quickly the flights can be done, but they have given us a rough estimate of 10 days to a month to complete. Helicopter flights are planned to begin in June. We are also getting started to start model development for this data.

Reassessment of the Project Benefits:

These surveys are showing us geology we didn't know existed and explains irrigation practices in certain areas. It also shows us where we should consider changing the quantity of irrigation in certain areas of our aquifer. The MRNRD is constantly learning more about these projects and is a major factor in deciding to fly our entire district with AEM. We suspect that once we have all the data and models developed, we will see a greater impact on our management of the natural resources in this district.

Summary:

The MRNRD is on track for completing this project on time and hasn't had any major changes in the process or timeline. We have gotten the ball rolling on the major components of this project, and we look forward to seeing what sort of information it can provide. Our hope is to continue to assess the needs of our producers and maintain the aquafer for future generations. We believe at the end of this project we will have a valuable tool to meet those needs.