

WSF 2022 Status Report # 5313

PROJECT: Lower Loup NRD Nance County Aquifer Mapping – WSF Application #5313 (awarded December 15, 2021)

DATE: MARCH 28, 2022
(FIRST ANNUAL REPORT DUE ON OR BEFORE APRIL 1, 2022)

See Application 5313 Section A #7 For Project Tasks and Timeline

PROJECT PROGRESS DECEMBER 2021 TO APRIL 2022:

The Lower Loup Natural Resources District (LLNRD) secured Aqua Geo Frameworks, LLC (AGF) for the airborne electromagnetic (AEM) survey mapping project in the Nance County area. AGF and the LLNRD met on February 25 for a planning session to determine the priorities of data collection, and to denote the specific well interference area and aquifer focus in Nance County.

Following the planning meeting, LLNRD compiled geospatial data on powerlines, households, and animal feeding operations and shared with AGF in order to map no-fly zones within the study area. Along with flight pattern development using GIS software, AGF is currently compiling available well and test hole lithologic data with the goal of developing a bedrock map of the planned flight area, which will be used for pre-flight AEM equipment programming as well as post-flight AEM data ground-truthing.

At the February 24, 2022, LLNRD Board of Directors meeting, the required 30% of the total project cost (\$125,100) due to AGF upon signing the professional services agreement, was approved unanimously.

ANTICIPATED ACTIVITIES FROM NOW UNTIL NEXT ANNUAL REPORT DUE APRIL 1, 2023:

An additional project meeting to provide an update on the status of lithologic mapping, equipment programming, and AEM equipment deployment to Nance County is expected to take place sometime in May 2022. AGF will secure a vendor for the AEM flights, tentatively scheduled in July or August, dates dependent on weather conditions and partnering AEM survey deployments. All project planning, AEM data acquisition, QA/QC, and preliminary inversion work is expected to be completed by approximately October 1 of this year. AGF will begin development of the hydrogeologic framework approximately February 1, 2023, and the final report will be delivered to the LLNRD by AGF with corresponding data on or about April 1, 2023.

ANTICIPATED CASH FLOW FOR REMAINDER OF THE PROJECT:

\$250,000 - The LLNRD and Water Sustainability Fund (WSF) have funding obligations towards this project (\$417,000 total project costs) under grant award #5313.

Upon completion of the AEM data acquisition expected by October 1 of this year, 50% of the total project cost (\$208,500) will be due from LLNRD to AGF. The remaining 20% (\$83,400) will be due to AGF approximately April 1, 2023, upon delivery of the completed report to the LLNRD.

LIKELIHOOD THAT BENEFITS PROJECTED IN APPLICATION 5313 WILL BE REALIZED:

Based on the previous project results and experience with working through the WSF, provided by both the LLNRD and AGF, the project is on target for achieving all benefits described in the original application.