Advanced Environmental Technologies LLC

January 8, 2022

Debbie Tuttle, CEcD
Economic Development Mgr. & NURA Exec. Director
City of Northglenn
11701 Community Center Drive
Northglenn, CO 80233-8061

Subject: Mod-1: assistance in well sludge cleaning, sampling, and continued O&M of the E-Redox® system at the Garland Drive site (Northglenn, CO)

Dear Debbie,

Pursuant to our communications and site status since the last quarter of 2021, it was determined that the path forward would start from obtaining representative groundwater samples from the VCUP-3 well due to an observed build-up of sludge, potentially having impacted the most recent sampling data. Upon a few onsite rehab attempts by Ninyo & Moore and AET staff as well as a bench test conducted by AET that successfully dissolved the sludge with kitchen vinegar, the tasks proposed for the Mod-1 are listed below:

(1) AET staff will travel onsite approximately twice a month, or as needed, to ensure the normal operation of all E-Redox® units' functions of degrading contaminants of concern in the groundwater. Figure 1 shows the distribution of the treatment area.
(2) AET staff will travel onsite as needed to operate polarity switches of the E-Redox® units to change pH values in VCUP-3 to help dissolve the sludge and return pH to normal range in groundwater;.
(3) Based on groundwater measurements (presumably by Ninyo & Moore – "Consultant"), AET will determine the dosage of and acquire the vinegar needed to dissolve the sludge in VCUP-3, as well as assist in the clearing implementation (performed by the Consultant onsite). Prior to pouring the vinegar, AET will assist the Consultant in communicating with and notifying CDPHE.
(4) After the well is cleared and samples are collected by the Consultant, AET will assist in data interpretation. If the monitoring results reach the range of the target standard (~17 ppb), AET will assist the Consultant in starting the conditional closure procedure with CDPHE.
(5) If the monitoring results did not reach the range of the target standard (~17 ppb) after the well is cleaned, and it is determined that further operation of E-Redox® units is needed, AET will continue to maintain system operation and make necessary adjustments until the goal is reached.

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The lump sum budget is estimated at **$5,300.00** for the above scope. The cost estimate is for budgetary cap purposes for the first quarter of 2022. It includes all necessary parts needed to ensure normal operation of the E-Redox® units.

Figure 1. Approximate E-Redox well locations (white squares) at the Garland Drive site

We look forward to working with you and your team to move this project towards the path of conditional closure. Should there be any questions, please contact me by e-mail at songjin@aetecs.com or by phone at 970-889-8410.

Sincerely,

Song Jin, PhD, CHMM
Principal Scientist