UXOPro

15 Park Avenue
Gaithersburg. MD 20877

Memorandum

From: Steve Willis
To: Wayne Miller
Date: January 10, 2019
Subject: January 9, 2019 Site visit to observe EBR implementation activities at Former Williams Air Force Base.

Mr. Miller:

I conducted a site visit to the Former Williams Air Force Base on January 9, 2019 to observe and document activities associate with the implementation of Enhanced Bioremediation (EBR).

I arrived at the site at approximately 10 am to observe Wood Group, PLC personnel conduct sulfate mixing operations. Four 2,000-lb. containers of sulfate were emptied into the 10,000-gallon capacity pre-mix tank. The tank appeared to be filled to its maximum holding capacity and Wood field personnel stated there were 10,000 gallons of water in the tank. The water in the tank was obtained from extraction well discharge that had passed through the onsite water treatment system. The sulfate was transported by forklift from the onsite storage area and raised over the pre-mix tank, where it was lowered onto a metal pyramid causing the storage container to perforate and spill the contents of the container into the tank. The sulfate-water solution was mixed by circulating the mixture within the tank.

After approximately 20 minutes, Wood field personnel collected water samples in plastic containers from the pre-mix tank. The samples were brought into the office trailer to analyze the sulfate concentration in a portable photometer. After several unsuccessful attempts to analyze the sample, Wood personnel determined that there was a problem with the calibration solution. As a result, field analyses could not be completed. Wood personnel indicated the water samples would be prepared for shipping to an offsite analytical laboratory for sulfate analysis.

Wood personnel planned to begin injecting sulfate solution into well UWBZ33 from the onsite holding tank later in the day. I left the site at 2:15 pm.

Attachment 1 includes site photos taken during the visit.

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Please contact me at (480) 316-3373 or e-mail at steve@uxopro.com if you have comments or questions regarding this memorandum.

Thank you,

UXOPro, Inc.

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ATTACHMENT 1
SITE PHOTOS

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Photo 1. Sulfate container being transported to the pre-mix tank.

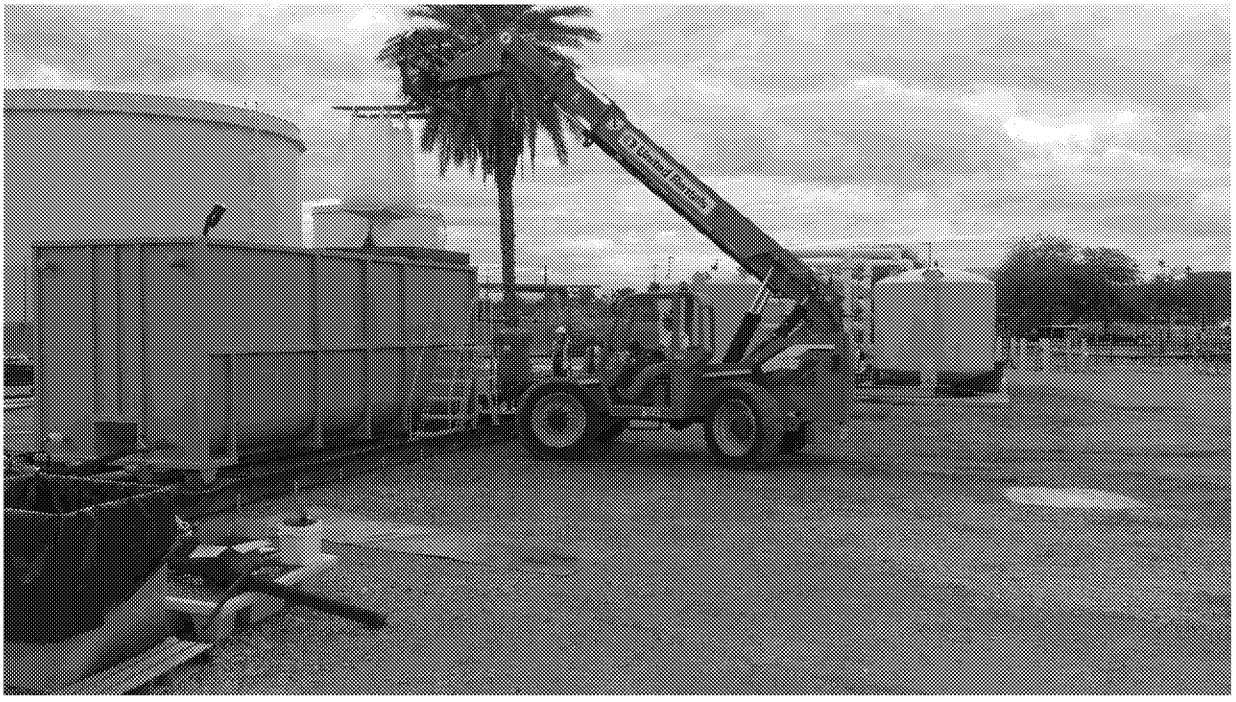

Photo 2. Sulfate being added to the pre-mix tank.

Photo 3. Close-up view of sulfate being added to the pre-mix tank.

Photo 4. Wood Group personnel removing clumps and depositing the remaining sulfate into the pre-mix tank.

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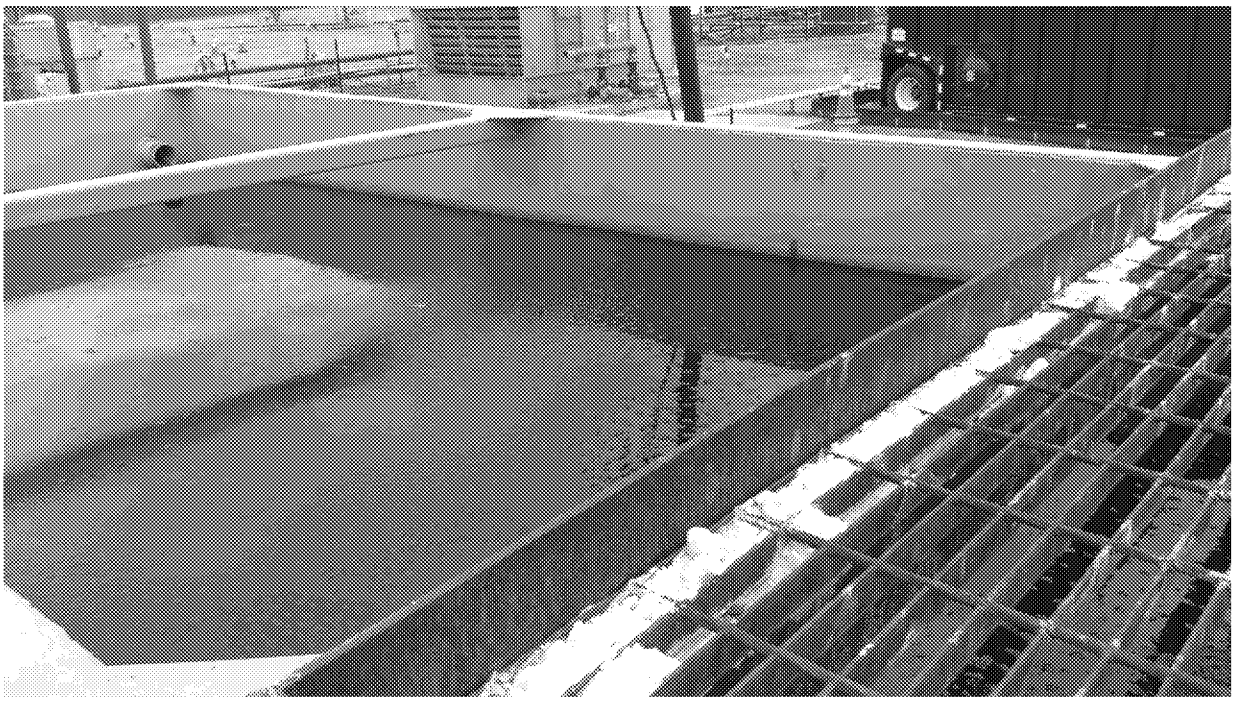

Photo 5. View of the open-top pre-mix tank. Photo taken by Wood Group personnel.