

MEMO

Date **November 27, 2019**
To **Nevada Environmental Response Trust**
From **John Pekala, Scott Warner, and Chris Ritchie**
Copy to **Nevada Division of Environmental Protection
United States Environmental Protection Agency**
Subject **In-Situ Bioelectrochemical Laboratory-Scale
Treatability Study Monthly Progress Report**

TASK PROGRESS UPDATE: OCTOBER 2019

At the direction of the Nevada Environmental Response Trust (NERT or Trust), Ramboll US Corporation (Ramboll) has prepared this memorandum that summarizes Ramboll's progress during October 2019 toward successfully implementing the In-Situ Bioelectrochemical Laboratory-Scale Treatability Study for the remediation of perchlorate in water. Treatability study laboratory testing is performed at Colorado State University (CSU) via subcontract with Ramboll on behalf of NERT.

TASK M24 – IN-SITU BIOELECTROCHEMICAL LABORATORY-SCALE TREATABILITY STUDY

- Task Leaders – Scott Warner / Chris Ritchie
- Current Status
 - Bench-scale testing comprising batch testing, column testing, and sand tank testing was completed in September 2019. Preparation of a report summarizing the results of the laboratory testing program was in progress in October 2019. The complete results of the bench-scale testing and associated data will be provided in a laboratory-scale testing results report as described in more detail under the heading "Schedule and Progress Updates".
- Schedule and Progress Updates
 - If the Trust believes that further evaluation of this technology is warranted, a modification to the treatability study work plan (Treatability/Pilot Study Modification No. 11) will be submitted in January 2020 to implement a small-scale bioelectrochemical field test. This modification will contain the laboratory-scale testing results report, which will present a summary of bench-scale testing completed to-date to support an incremental stage small-scale field test. The projected submission date of this deliverable has been protracted one month by the Trust to facilitate additional discussion on the matter.
 - Bench-scale testing was completed in September 2019. A report summarizing the results of the laboratory testing program (batch testing, column testing, and sand tank testing) is anticipated to be submitted to NDEP as an attachment to the treatability study modification described above. If the Trust elects not to proceed with the treatability

study modification, the final laboratory-scale testing results report will be submitted as a standalone document.

- Health and Safety
 - There were no safety incidents during October 2019.

In-Situ Bioelectrochemical Laboratory-Scale Treatability Study Progress Update

Nevada Environmental Response Trust Site (Former Tronox LLC Site) Henderson, Nevada

Nevada Environmental Response Trust (NERT) Representative Certification

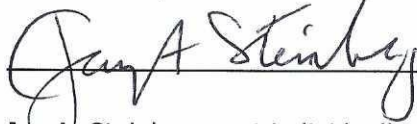
I certify that this document and all attachments submitted to the Division were prepared at the request of, or under the direction or supervision of NERT. Based on my own involvement and/or my inquiry of the person or persons who manage the system(s) or those directly responsible for gathering the information or preparing the document, or the immediate supervisor of such person(s), the information submitted and provided herein is, to the best of my knowledge and belief, true, accurate, and complete in all material respects.

Office of the Nevada Environmental Response Trust

Le Petomane XXVII, Inc., not individually, but solely in its representative capacity as the Nevada Environmental Response Trust Trustee

**Not Individually, but Solely
as President of the Trustee**

Signature:



Name:

Jay A. Steinberg, not individually, but solely in his representative capacity as President of the Nevada Environmental Response Trust Trustee

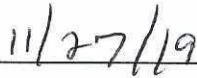
Title:

Solely as President and not individually

Company:

Le Petomane XXVII, Inc., not individually, but solely in its representative capacity as the Nevada Environmental Response Trust Trustee

Date:



In-Situ Bioelectrochemical Laboratory-Scale Treatability Study Progress Update

**Nevada Environmental Response Trust
Site (Former Tronox LLC Site)
Henderson, Nevada**

Responsible Certified Environmental Manager (CEM) for this project

I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and, to the best of my knowledge, comply with all applicable federal, state and local statutes, regulations and ordinances.



**John M. Pekala, PG
Principal**

November 27, 2019

Date

Certified Environmental Manager
Ramboll US Corporation
CEM Certificate Number: 2347
CEM Expiration Date: September 20, 2020