

# TECHNICAL MEMORANDUM

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**To:** Nevada Environmental Response Trust

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**Cc:** Nevada Division of Environmental Protection  
United States Environmental Protection Agency

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**From:** Chris Hayes, Dana Grady

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**Date:** December 2, 2021

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**Subject:** Unit 4 Source Area In-Situ Bioremediation Treatability Study Monthly Progress Report

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At the direction of the Nevada Environmental Response Trust (NERT or Trust), Tetra Tech, Inc. (Tetra Tech) has prepared this memorandum to summarize Tetra Tech's progress made during October 2021 toward successfully implementing the Unit 4 Source Area In-Situ Bioremediation (ISB) Treatability Study.

## Task Progress Update: October 2021

### Task M21 – Unit 4 Source Area ISB Treatability Study

- Current Status
  - Phase 2 of the Unit 4 Source Area ISB Treatability Study is ongoing. The following activities were completed in October 2021 as part of the design and implementation:
    - A survey of the pilot well and magnetic extensometer locations was completed by a Nevada-licensed land surveyor on October 6, 2021.
    - A Groundbreaking Permit was obtained from Borman Specialty Materials (commonly referred to as EMD) for the installation of pilot wells and magnetic extensometers on October 7, 2021.
    - A request for waiver to install ten temporary monitoring wells was approved by the Nevada Division of Water Resources on October 14, 2021.
    - A Contingency Plan to address protection measures and response procedures for the Groundwater Extraction and Treatment System components located within 50 feet of field activities was submitted to the Nevada Division of Environmental Protection on October 11, 2021 and subsequently approved on October 15, 2021.
    - A geophysical survey of the pilot well and magnetic extensometer locations was completed on October 19, 2021.
    - Six magnetic extensometers were installed on October 29, 2021 to monitor for settlement in the study area.
- Schedule and Progress Updates
  - Installation, well development, and groundwater sampling of the four pilot wells is scheduled to be completed in November.

- Aquifer testing of the four newly installed pilot wells to determine baseline hydraulic conditions is scheduled to begin in November. Aquifer testing will consist of slug tests, step-drawdown pumping tests, and step-rate injection tests.
- Health and Safety
  - There were no health and safety incidents related to Task M21 during October 2021.

## CERTIFICATION

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### Unit 4 Source Area In-Situ Bioremediation Treatability Study Monthly Progress Report

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

**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:** 12/2/21

## CERTIFICATION

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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 prepared 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. I hereby certify that all laboratory analytical data was generated by a laboratory certified by the NDEP for each constituent and media presented herein.

**Description of Services Provided:** Prepared Unit 4 Source Area In-Situ Bioremediation Treatability Study Monthly Progress Report.



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**David S. Wilson, CEM**  
Principal Engineer  
Tetra Tech, Inc.

December 2, 2021

Date

Nevada CEM Certificate Number: 2385  
Nevada CEM Expiration Date: September 19, 2022