

# 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:** Dan Pastor and Dana Grady

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**Date:** January 28, 2019

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**Subject:** **Galleria Drive 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 which summarizes Tetra Tech's progress during December 2018 toward successfully implementing the Galleria Drive Bioremediation Treatability Study.

## Task Progress Update: December 2018

### Task M17 – Galleria Drive Bioremediation Treatability Study

- Task Leader – Dana Grady/Dan Pastor
- Current Status
  - Phase 1 pre-design field activities were performed from April to June 2018 to gather relevant data and information required to optimize the final treatability study design. Based on the results of the recent Phase 1 pre-design activities, it was determined that a Phase 1 Work Plan Modification was necessary as Phase 1 investigation results yielded information that perchlorate is deeper than expected, i.e., in the deeper Upper Muddy Creek formation (UMCf) (90 -110 feet below ground surface [bgs]). As a result, a Treatability/Pilot Study Modification No. 3 was submitted to NDEP on August 29, 2018 to recommend bench-scale and step-rate injection testing in the 90 – 110 feet bgs interval. This Modification No. 3 was approved by NDEP on August 30, 2018. Following implementation of this modification, the Phase 1 findings and resulting Phase 2 treatability study design will be presented to NDEP, EPA and the NERT Stakeholders, followed by a third-party cost evaluation and submittal of the Galleria Drive Treatability Study Work Plan Addendum.
  - Bench-scale testing performed at UNLV is now complete and the Phase 2 work plan addendum preparation is underway.
- Schedule and Progress Updates
  - The Galleria Drive Bioremediation Treatability Study Work Plan Addendum summarizing the Phase 1 findings and presenting the final Phase 2 design will be submitted in the first quarter of 2019.

- Health and Safety
  - There were no safety incidents related to Task M17 during December 2018.

## CERTIFICATION

### Galleria Drive 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 ind. v. duelly, but solely as Pres. Sent*

**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

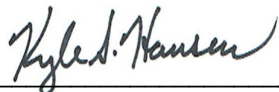
**Date:** 1/28/19

## 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 Galleria Drive Bioremediation Treatability Study Monthly Progress Report.



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**Kyle Hansen, CEM**  
Field Operations Manager/Geologist  
Tetra Tech, Inc.

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January 28, 2019

Date

Nevada CEM Certificate Number: 2167  
Nevada CEM Expiration Date: September 18, 2020