

**OFFICE OF THE NEVADA ENVIRONMENTAL RESPONSE TRUST TRUSTEE**

**Le Petomane XXVII, Inc., Not Individually, But Solely as the Nevada Environmental Response Trust Trustee**  
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October 15, 2018

Dr. Weiquan Dong, Ph.D.  
Bureau of Industrial Site Cleanup  
Nevada Division of Environmental Protection  
2030 E. Flamingo Rd, Suite 230  
Las Vegas NV 89119

RE: Revised Data Validation Summary Report and Electronic Data Deliverable  
Vacuum Enhanced Recovery Treatability Study  
Nevada Environmental Response Trust  
Henderson, Nevada

Dear Dr. Dong:

The Nevada Environmental Response Trust (NERT) is pleased to present the Revised Data Validation Summary Report and Electronic Data Deliverable, Vacuum Enhanced Recovery Treatability Study for Nevada Division of Environmental Protection (NDEP) review. This information is being submitted as requested in your letter dated September 4, 2018. As requested, NERT's annotated responses to the NDEP comments is provided with this letter as well as the revised DVSR and EDD.

If you have any questions or concerns regarding this matter, feel free to contact me at (702) 960-4309 or at [steve.clough@nert-trust.com](mailto:steve.clough@nert-trust.com).

Office of the Nevada Environmental Response Trust



Stephen R. Clough, P.G., CEM  
Remediation Director  
CEM Certification Number: 2399, exp. 3/24/19

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NDEP Comment	Response to Comment
<b>DVSR Review</b>	
<p>1. Section 2.1, last paragraph: Possible causes of poor precision would not normally include matrix interference, as matrix interference would be expected to have the same effect on duplicate and parent (or MS and MSD) samples. Sample heterogeneity can cause poor precision. Please revise this text accordingly.</p>	<p>Matrix effects can be expected to have the same effect on duplicate and parent or MS and MSD samples. However, matrix interference can affect instrument response, which may manifest itself as poor precision between samples of the same matrix. The paragraph will be updated to include sample heterogeneity as another possible cause of poor precision but will retain matrix interference.</p>
<p>2. Section 2.3, next to last paragraph: To clarify, consider revising this sentence to include the words in bold: Contaminants found in both the environmental sample and the blank sample are assumed to be laboratory artifacts if both values are less than the PQL or if a sample result and blank contaminant value are greater than the PQL and <b>the sample result is less than 10 times the blank contaminant value.</b>"</p>	<p>The sentence was updated to "Contaminants found in both the environmental sample and the blank sample are assumed to be laboratory artifacts if both values are less than the PQL or if a sample result and blank contaminant value are greater than the PQL and the sample result is less than 10 times the blank contaminant value."</p>
<p>3. Sections 3.1.4, 3.2.1, 3.2.2: Please include the number of results qualified in these sections.</p>	<p>Sections 3.1.4, 3.2.1, and 3.2.2 were updated to include the number of results qualified in those sections.</p>
<p>4. Sections 3.2.2 and 3.2.6: The text notes that in cases where dilutions cause low recoveries, no qualifications are applied. Please note the dilution factor at which compounds/surrogates are considered to be diluted out.</p>	<p>The effect of dilution on matrix spike recoveries and surrogate recoveries is determined on a case-by-case-basis using professional judgment, knowledge of the lab's procedures, and input from the lab, therefore we do not have a dilution threshold. For some analyses, the lab may dilute the sample prior to preparation for analyses and prior to addition of the spike compounds. The lab also approaches this on a case-by-case basis. Sections 3.2.2 and 3.2.6 were updated to clarify.</p>
<p>5. Section 3.3.1, holding time bias: Please add bias to the holding time qualification for chloroform in sample VER-01D-35.0-20171020.</p>	<p>Per the 2017 National Functional Guidelines "If aqueous samples are not properly preserved and are analyzed outside of the technical holding time of 7 days, qualify detects as estimated (J) and non-detects as unusable (R)". No change is required.</p>
<p>6. Section 3.5: In order to show that rejecting 69 results did not adversely affect the VOC completeness, please present the completeness by method.</p>	<p>Table 11 was added to the DVSR to present a completeness summary by method. The text was updated to discuss completeness by method.</p>

NDEP Comment	Response to Comment
<p>7. Section 1, Table 2, Validation Stage: Current NDEP guidance allows surface water and groundwater samples to be validated to Stage 2A. The decrease in validation effort was not extended to air samples; however, 13 sample analyzed by TO15 were validated to Stage 2A. Please revise the TO 15 validation for these samples to Stage 2B and validate sufficient additional samples to Stage 4 so the 10% criterion is met.</p>	<p>According to the quality assurance project plan (QAPP) in place at time of validation, <i>Quality Assurance Project Plan, Revision 2</i> from 2017, NERT treatability study samples are to be validated to Stage 2A. The QAPP references the NDEP email to the Trust dated January 11, 2017 which states that data for treatability studies should be validated to at least Stage 2A. The QAPP was approved by NDEP and the data were validated consistent with it. As such, additional validation was not performed.</p>
<p><b>EDD Review</b></p>	
<p>1. The results table had two records where the detect_flag_fod="D", but the result_reported was less than the sample_quantitation_limit (SQL). Sample VER-01D-C-08-AIR for styrene has a result of 0.47 ug/m3 compared to an SQL of 0.48 ug/m3. Sample VER-01D-C-12-AIR for carbon disulfide has a result of 0.83 ug/m3 compared to an SQL of 0.85 ug/m3. Both records have a final_validation_qualifier of "J" and a reason code of "sp", which is defined as "&gt;SQL and &lt;PQL". Please correct each record so the information is consistent within the record.</p>	<p>Results reported below the SQL are considered non-detect. The final_validation_qualifier was updated to "U" with reason_code "nd". The detect_flag_fod was updated to "U". Table 6 and the EDD were updated to reflect the changes.</p>
<p>2. The validation_flag field in the results table has entries of "Y" and should be updated to "T" (true) to be consistent with the current EDD Guidance document.</p>	<p>"Y" entries in the validation_flag field of the results table were updated to "T" in accordance with the current EDD Guidance document.</p>

## CERTIFICATION

**Data Validation Summary Report  
Vacuum Enhanced Recovery Treatability Study**

**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 in*  
**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:** 10/12/18

## 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 Data Validation Summary Report Vacuum Enhanced Recovery Treatability Study



October 11, 2018

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

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Date

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