OFFICE OF THE NEVADA ENVIRONMENTAL RESPONSE TRUST TRUSTEE

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August 29, 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
In-Situ Chromium 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, In-Situ Chromium Treatability Study for Nevada Division of Environmental Protection (NDEP) review. This information is being submitted as requested in your letter dated July 5, 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.

Office of the Nevada Environmental Response Trust

Stephen R. Clough

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Remediation Director
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NDEP Comment	Response to Comment
DVSR Review	
1. Table 1, analyte lists: In the EDD, twelve results for total calcium, magnesium, potassium and sodium (filtered flag = N) were reported as analyzed by 6010B-soluble (samples CTMW-02D-40.0-20170323, CTMW-05D-20.0-20170605, CTMW-05D-45.0-20170605). Please confirm the method reported in the EDD is correct for these results.	The EDD is correct. Soil samples CTMW-02D-40.0-20170323, CTMW-05D-20.0-20170605, and CTMW-05D-45.0-20170605 were analyzed by 6010B-soluble. The results were reported in mg/L.
2. Appendix H.2, validation checklists: Appendix H.2 contains only checklists for Stage 2A validation. Please provide the checklists or validator notes for Stage 2B and Stage 4 validation.	Stage 2B and Stage 4 validation checklists were excluded in error. They have been added to Appendix H2.
3. Section 2.2, %recovery calculation: The %recovery calculation presented appears to be incorrect. Variable "B" should be the native concentration of the analyte instead of the spike amount. Please correct the equation	The calculations used by the lab and validators were correct. The wording was changed in the DVSR to clarify the meaning. "B = measured concentration of the spike compound in the unspiked sample" was changed to "B = measured native concentration in the unspiked sample."
4. Section 3.0, National Functional Guidelines: Please use and cite the newest National Functional Guidelines for data validation.	The sampling and validation were performed from August 2016 through October 2017. The samples were validated based on the quality assurance project plan (QAPP) in place at time of validation, Quality Assurance Project Plan, Revision 1 from 2014, which references the 2014 Functional Guidelines. The 2017 QAPP, which cites the latest NFGs, was not finalized until after the completion of sampling. As such, the DVSR has not been changed.
5. Section 3.1.1, instrument calibration: %RSD are used to evaluate organic initial calibration data but are generally not used for metals or wet chemistry. It would be helpful to note what analyses %RSDs are used in and where to find the discussion of inorganic initial calibration.	Section 3.1.1 was updated to include the methods that used %RSDs for evaluation. Inorganic calibration is discussed briefly in Section 3.2.1 "Calibration and Continuing Calibration".

NDEP Comment	Response to Comment
6. Section 3.1.2, MS/MSD RPD outliers: It is assumed that the 10 results noted in the second paragraph were qualified for MS/MSD RPD outliers. The statement indicating these results were qualified for "lab imprecision" is not necessarily correct as MS/MSD is also an assessment of the sample collection process in the field. Please clarify this statement.	Section 3.1.2 was updated to state that the samples were qualified for MS/MSD RPD outliers.
7. Section 3.1.2, RPD qualification basis: Please consider using the inorganic National Functional Guideline criteria for duplicate outliers instead of the organic National Functional Guidelines criteria.	The inorganic NFG criteria were used for laboratory duplicate analyses, where appropriate. The inorganic NFG does not contain RPD criteria for MS/MSD RPDs. Since the organic NFG does have MS/MSD RPD criteria, those criteria were used. The text was updated to further clarify the reason for the use of organic National Functional Guidelines.
8. Section 3.1.4, qualified results: Please identify how many results were qualified.	The number of qualified results, thirty-eight, was added to Section 3.1.4.
9. Section 3.2.1, instrument calibration: As this section discusses more than initial instrument calibration, please consider changing the section title to Calibration and Continuing Calibration, or something more inclusive of the substance of the text.	The title of Section 3.2.1 was changed to “Calibration and Continuing Calibration.”
10. Section 3.2.2, recovery outliers and dilutions: As currently worded, nominal dilutions could be used to dismiss a recovery outlier. Please identify at what level of dilution the spike was considered to be diluted out. Also, as qualifications for MS/MSD recovery outliers were applied to results from dilutions of 20 to 50,000x, additional text describing when dilutions do not affect spike recovery would be useful.	The effect of dilution on matrix spike 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 matrix spike compounds. The lab also approaches this on a case-by-case basis. The text was updated to clarify. After additional review, several validation qualifiers applied by the automated data review software were changed. As such, Table 6, Table 9, and completeness counts within the DVSR, and the EDD were updated.
11. Section 3.2.6, surrogates: The text states that surrogates were used in the chlorate/ chlorite analysis. Were they also used in the VOC analyses?	Surrogates were also used in VOC analyses. Section 3.2.6 was updated to include the VOC method SW-8260B.

NDEP Comment	Response to Comment
12. Section 3.2.8, negative interference: The text should reference the PQL instead of the reporting limit. Also, please discuss how this negative interference may affect the PQL.	Section 3.2.8 was updated to reference the PQL instead of the reporting limit. The text was updated to state that the PQL may be inaccurate, too low to differentiate vanadium from the interference.
13. Section 3.3.1, holding time: 261 results were rejected for holding time but this is not discussed in this section. Please revise this section to discuss why these results were rejected and to identify the number of rejected results.	The paragraph was updated to specify that volatile compounds in four samples were analyzed outside of the 7-day analytical holding for unpreserved samples.
14. Section 3.3.1, preservation: Method 9060 states that if analysis cannot be performed within two hours of sample collection, samples are to be acidified to a pH ≤ 2. Were the samples analyzed within 4 hours of collection? If they were not, it could be considered a gross holding time exceedance and should be notes as such.	Section 3.3.1 was updated to specify that the samples were collected in jars containing HCl, but when checked, the pH was > 2. The lab adjusted the pH of the samples to pH < 2 prior to analysis. Since the samples were not analyzed within the 4-hour holding time for unpreserved samples, the holding time was grossly exceeded. As such Tables 6 and 10 of the DVSR and the EDD were updated.
15. Section 3.4.2, sulfides: Please add a little more explanation about how an analysis that was not performed has results reported in the EDD.	Section 3.4.2 was updated to include more information. The following sentences were added. The laboratory reported eight dissolved sulfide results based on the results of total sulfide analysis. The total sulfide analyses were non-detect. Based on the case narrative, the lab assumed that the dissolved results would also be non-detect. They did not analyze the samples again but reported dissolved values in the data package and the EDD.
16. Section 3.5, completeness: Please present a table showing the completeness by method. Showing only the completeness for an entire field sampling effort can obscure completeness for individual methods.	Table 14 was added to the DVSR to present completeness by method.
17. Silver in CTMW-02D-40.0-20170323: This result_reported is 0.0 but the detect_flag_fod, detect_flag_ra and validation qualifier all indicate the result is a detect. The result has a reason code of "bl," indicating it may have been censored for a method blank detect. Please investigate.	We agree. The result was censored in error. Table 6 of the DVSR and the EDD were updated with the correct concentration. The result was updated to 0.29 mg/kg.

NDEP Comment	Response to Comment
18. Hexavalent chromium in E1-2-20161104: The laboratory has qualified this result as having been analyzed beyond the holding time; however, the result was not qualified in validation. Should this result be qualified?	The result should not be qualified because the holding time was not exceeded. The lab analyzed the sample exactly 24 hours after sampling and qualified the sample in error.
EDD Review	
1. In the samples table, sample IDs UFIW-05S-20160819-FB and UFMW-06S-20160809-EB both have the sample_type="NORM". Because these sample IDs contain "FB" and "EB", it appears that they should be identified as blanks in the sample type field. Please confirm that these samples are blanks.	We agree. Table 2 of the DVSR and the EDD were updated to reflect the correct blank sample type for UFIW-05S-20160819-FB and UFMW-06S-20160819-EB.