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Mr. Weiquan Dong, PE
Bureau of Industrial Site Clean-up
Nevada Division of Environmental Protection
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NERT RESPONSE TO NDEP MAY 19, 2016 COMMENTS ON THE DATA VALIDATION SUMMARY REPORT AND ELECTRONIC DATA DELIVERABLE FOR THE SEMI-ANNUAL REMEDIAL PERFORMANCE REPORT FOR CHROMIUM AND PERCHLORATE, JULY THROUGH DECEMBER 2015, DATED APRIL 29, 2016

June 16, 2016

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Dear Mr. Dong:

On behalf of the Nevada Environmental Response Trust (Trust), Ramboll Environ US Corporation (Ramboll Environ) has prepared an annotated response to the Nevada Division of Environmental Protection (NDEP) comments on the Data Validation Summary Report (DVSR) and Electronic Data Deliverable (EDD) included as part of the Semi-Annual Remedial Performance Report for Chromium and Perchlorate, July through December 2015. The comments were included as Attachment A in NDEP's letter to the Trust dated April 29, 2015. Our responses to NDEP comments are provided in Attachment A to this letter. The revised DVSR and EDD are included in this transmittal as electronic files.

Please contact John Pekala at (602) 734-7710 if you have any comments or questions concerning this submittal.

Yours sincerely,

John M. Pekala, PG
Senior Manager
CEM #2347 (expires 9/20/2016)

Allan J. Delorme, PE
Principal

Attachments

cc: BMI Compliance Coordinator, NDEP, BCA, Las Vegas
NDEP c/o Broadbent and Associates, Las Vegas

ec: James D. Dotchin, NDEP
Carlton Parker, NDEP
Greg Lovato, NDEP
Alison Fong, USEPA
Nevada Environmental Response Trust
Tanya O'Neill, Foley & Lardner LLP
Kirk Stowers, Broadbent & Associates
Kurt Fehling, The Fehling Group
Rebecca Shircliff, Neptune and Company
Jeff Gibson, Endeavour, LLC
Mark Paris, BMI
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Lee Farris, Landwell
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Paul Sundberg, Montrose
Curt Richards, Olin
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Chuck Elmendorf, Stauffer
Nick Pogoncheff, Stauffer
George Crouse, Syngenta
Ed Modiano, de maximis
Richard Pfarrer, TIMET
Enoe Marcum, WAPA

Attachment A

Nevada Environmental Response Trust (Trust) Response to Nevada Division of Environmental Protection (NDEP) May 19, 2016 Comments on the Data Validation Summary Report (DVSR) and Electronic Data Deliverable (EDD) for the Semi-Annual Remedial Performance Report for Chromium and Perchlorate July through December 2015, dated April 29, 2016

The NDEP comments (numbered and italicized) and our response to comments on behalf of the Trust are presented below:

DVSR Comments

1. *Section 1.0: The references listed in this section include the 2004 version of the National Functional Guidelines (NFG). Please update all references to the NFG (and validation criteria, if necessary) to the 2014 version of this document.*

   Response: The references have been updated to the USEPA National Functional Guidelines for Inorganic Superfund Data Review, August 2014. One reference to the NFG on page 6 of the DVSR was revised to reference the 2009 Basic Remediation Company Standard Operating Procedure 40 Data Review/Validation Revision 4 (BRC SOP-40). Validation criteria presented in the DVSR adhere to the 2014 version of the guidance.

2. *Section 1.0, data qualifier definitions: In the last sentence of the definition of the "R" qualifier, redundant data are noted to be rejected. How is this different from the "DNR" qualifier?*

   Response: The last sentence for the definition of the "R" qualifier has been removed. The "DNR" qualifier is used to identify redundant data.

3. *Section 1.0, data qualifier definitions: Text describing the "J" qualifier notes results are qualified as estimated when a blank exceedance is insufficient to cause result rejection. Current guidance on blank qualification suggests only the estimation of data based on blank results and not rejection. Please correct this inconsistency or add additional information to the blank corrective actions in Section 2.2.2., to support rejection of sample results due to blank detects.*

   Response: The definition of the "J" qualifier has been revised. The qualifier is now defined as:

   > *<u>Estimated</u> The associated numerical value is an estimated quantity. It is not possible to assess the direction of the potential bias. The analyte was detected but the reported value may not be accurate or precise. The "J" qualification indicates the data fell outside the QC limits but the exceedance was not sufficient to cause rejection of the data.*

   Data associated with blank contaminants is not rejected per the current data validation process as described in Section 2.2.2 of the DVSR.

4. *Section 1.0, data qualifier hierarchy: Per the National Function Guidelines, bias is not applied to nondetected results. Please remove the J- from the UJ definition.*

   Response: The reference to J- has been removed from the definition of UJ.

5. *Section 1.0, precision: The Text indicates RPD is calculated using percent recoveries but the equation variable definitions are specific to calculating an RPD for laboratory/field duplicates, as they specify analyte concentrations. Please clarify it.*

   Response: The text has been revised to state that RPD is calculated using concentrations.

6. *Section 1.0, third paragraph on page 4: This paragraph seems to discuss laboratory duplicates, but does not introduce them as such. Please clarify it.*

   Response: The paragraph has been revised to clarify how laboratory duplicates are prepared and assessed for precision. The paragraph now states:

   > *DUPs measure laboratory precision. The analytical results for DUPs are reported as the RPD between the sample and laboratory results. DUPs are replicate samples and are prepared by taking two aliquots from one sample container.*

7. *Section 2.1.2, MS/MSD Samples: For matrix spike outliers, the NFG (inorganic) requires the qualification of all samples of the same matrix in an SDG, if the samples are considered sufficiently similar. As there are other samples in the SDG containing M-80-20150806, should any of these samples be qualified?*

   Response: Generally samples associated with MS/MSD results that are outside the control limits are qualified if they were prepared in the same batch. The NFG allows for professional judgment in determining sample similarity when making use of all available data. In this specific case, there were two sets of MS/MSD samples in one batch (M-80MS/MSD and M-68MS/MSD). Using professional judgment, only the parent sample of M-80MS/MSD was qualified since the percent recoveries for chromium were within the QC limits for M-68MS/MSD.

8. *Section 2.1.6, Target Identification: Validation of metals analyzed by ICP (Method 200.7) does not usually encompass target compound identification as there are no retention times or mass spectra to assess. Please provide more detail regarding what was assessed in this validation step.*

   Response: This section and paragraph have been revised to replace “target identification” with “sample result verification”. During data validation, the sample result is verified that the concentration is greater than the SQL and correctly recalculated.

9. *Section 3.0, sample counts: The text lists 389 samples as analyzed for pH by Standard Method 4500H+B. The EDD reports a single sample as analyzed by this method. The EDD also contains 402 results for field pH by method WPH. Please correct this inconsistency in the sample count/method identification in the text and Table or in the EDD "parameter" and*

"analytical_method" fields. If the WPH method is correct, it should be included in the list of wet chemistry methods in Section 1.0.

Response: 389 samples were analyzed and validated for pH by Standard Method 4500H+B. These results were analyzed by a laboratory, not in the field. The EDD has been revised to include this method reference. The parameter and parameter_id fields have been revised to "pH" from values that represent field pH analyses.

In addition, pH was measured in the field for 14 samples and the results were reported in the EDD. The pH field measurements were not validated. The results table in the revised EDD has the following modifications for the field reading results: the validation_flag value has been changed to "F"; the validation stage is now "Null", instead of "Stage 2B"; and the result_comment field now has the value "Field reading".

10. *Section 3.0, result count The next to last sentence in this section notes there are 1,531 wet chemistry records; however, the EDD has 1,545 records (not including surrogate results or duplicated analyte results). Please correct this inconsistency. (Also see comment #13.)*

    Response: The difference in the result count is due to 14 field pH readings included in the EDD that were not validated. The DVSR text has not been updated. The results table in the revised EDD has the following modifications for the field reading results: the validation_flag value has been changed to "F"; the validation stage is now "Null", instead of "Stage 2B"; and the result_comment field now has the value "Field reading".

11. *Section 3.1.7, duplicate data: Duplicate results for nitrate and nitrite were rejected in sample M-10-20150816. Text in this section indicated the results were "not reportable," instead of "rejected.'' Should these results have been qualified DNR, as per the qualifier definition on page 3?*

    Response: The qualifier for these records has been changed to "DNR" instead of "R".

12. *Section 5.1, second paragraph: The text in this section indicates there were outliers reported in Section 3.1.6 (wet chemistry field duplicates); however, no outliers were noted in this section or in the correlated Wet Chemistry Data Validation Report section (Attachment B, Section X). Please correct this inconsistency.*

    Response: The reference to Section 3.1.6 has been removed from the text in Section 5.1.

13. *Section 5.4, completeness table: The table in this section reports 1,531 wet chemistry analytes; however, the EDD has 1,545 (not including surrogate results or duplicated analyte results). Please correct his inconsistency.*

    Response: The difference in the result count is due to include 14 field pH readings included in the EDD that were not validated. 1,531 wet chemistry analytes is the number of records validated as part of this data set.

14a. DVSR to EDD Check:

The TOX result for sample M-6A-20150810 was qualified "F1" by the laboratory, indicating a matrix spike outlier; however, the result was not qualified. The sample was not reported as having a high recovery in the correlated data validation report (Attachment B, Section VII) nor does the data validation report indicate qualification was not required because the sample result was more than four times the spike concentration. Please assess the data to see if the TOX result for M-6A-20150810 should have been qualified.

Response:

The "F1" laboratory qualifier for sample M-6A-20150810 is an error in the laboratory report and EDD. An MS/MSD was not reported in the laboratory report. The percent recoveries and relative percent difference (RPD) for the laboratory control sample and laboratory control sample duplicate (LCS/LCSD) analyzed with sample M-6A-20150810 were within the laboratory control limits. This indicates precision and accuracy goals were met for the analysis. No changes have been made to the DVSR. A revised laboratory report is included as an electronic attachment. The EDD has been updated to change the lab_qualifier field from "F1" to a Null value.

14b. DVSR to EDD Check:

The TDS result for sample PC-144-20150810 was qualified "H" by the laboratory, indicating an exceeded holding time, but the result was not qualified. Per the sample ID, the sample was collected on 8/10 and per the EDD "analysis_date," the sample was analyzed on 8/24. Please assess the data to see if this sample should be qualified or if there is an error in the EDD.

Response:

Sample PC-144-20150810 was analyzed for TDS outside of the method holding time. The DVSR and EDD have been revised to qualify the result J-.

EDD Review

1. *The EDD is acceptable; however, a revised EDD will need to be submitted if changes are required based on the DVSR comments.*

   Response: A revised EDD is provided with the following changes:

   - In response to Comment 9 regarding 389 samples that were analyzed and validated for pH by Standard Method 4500H+B, the EDD has been revised to include this method reference. These results were analyzed by a laboratory, not in the field. The parameter and parameter_id fields have been revised to "pH" from values that represent field pH analyses.
   - In response to Comment 9 regarding 14 samples that have field measured pH results reported in the EDD, the pH field measurements were not validated. The results table in the revised EDD has the following modifications for the field reading results: the validation_flag value has been changed to "F"; the validation stage is now "Null", instead of "Stage 2B"; and the result_comment field now has the value "Field reading".

- In response to Comment 11, the final_validation_qualifier of the duplicate nitrate and nitrite results for sample M-10-20150806 has been changed to “DNR” from “R”.
- In response to Comment 14a, the final lab_qualifier of the TOX result for sample M-6A-20150810 has been changed to a Null value from “F1”.
- In response to Comment 14b, the final_validation_qualifier of the TDS result for sample PC-144-20150810 has been changed to “J-” from a Null value.