

Attachment A**Nevada Environmental Response Trust (Trust) Response to Nevada Division of Environmental Protection (NDEP) June 5, 2017 Comments on the Data Validation Summary Report (DVSR) and Electronic Data Deliverable (EDD) for July through December 2016 Semi-Annual Remedial Performance Sampling, dated April 28, 2017**

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

DVSR COMMENTS

1. *Section 1., Introduction: The text states there were 982 samples. This number is confirmed by Table I; however, the EDD samples table has 738 records and the EDD results table has 729 samples. Please correct the text/Table I or EDD as necessary to correct this discrepancy.*

Response: The text/Table I and the EDD summarized subcontracted samples differently, resulting in different numbers for the total number of samples. The EDD has been updated to be consistent with Table I. The revised text, Table I, and EDD all have 982 samples.

2. *Section 1 method list:*
 - a. *The text lists "nitrate/nitrite as nitrogen by calculation" but the EDD lists the analytical_method as EPA 300.0 instead of calculation. Perhaps the parameter name can be appended with "calc" as is done for total inorganic nitrogen? Otherwise, once entered into the database, it will appear this was part of the 300.0 analysis.*
 - b. *Total organic carbon (TOC) is listed for method SM531OC, but the parameter reported for that method is "carbon." Please correct the EDD to indicate the parameter is "Total Organic Carbon" and the parameter_id is "TOC".*
 - c. *In the list in the text, nitrate and nitrite are listed as having been reported "as nitrogen". This is inconsistent with the EDD, which reports the analytes as nitrate and nitrite. Please verify the reporting basis for these two analytes and correct the text or EDD as necessary. If the text needs to be corrected, please correct all other occurrences of "nitrate as nitrogen" and "nitrite as nitrogen."*
 - d. *Please include an explanation of why a field method (field pH) is being validated with laboratory data.*

Response: The following updates have been made to the text/EDD:

- a. In the EDD, the parameter name has been updated to "Nitrate/Nitrite [as N]-Calc" and the parameter id has been updated to "NO3/NO2-N-Calc".
- b. In the EDD, the parameter name has been updated to "Total Organic Carbon" and the parameter_id has been updated to "TOC".
- c. The basis for reporting nitrate and nitrite is nitrogen, as is mentioned in the text. In the EDD, the nitrate parameter has been updated to "Nitrate as Nitrogen" with

the parameter_id "14797-55-8(N)". The nitrite parameter has been updated to "Nitrite as Nitrogen" with the parameter_id "14797-65-0(N)".

- d. Field pH readings are recorded on the Chain-of-Custody at the time of sampling and reported with the analytical data. Field pH readings are not validated. The text, tables, and EDD now reflect this.

3. *Section 2., qualifier definitions: Listing "None" in the table of qualifier definitions gives the impression that unqualified data will have the final_validation_qualifier field populated with "None". Please consider removing this description from the table and including it in the text below the table.*

Response: The listing of "None" in the list of qualifier definitions has been removed. The statement: "A result that does not have a qualifier listed was not significantly impacted by a finding; therefore, qualification was not required" has been added to the text below the list of qualifiers.

4. *Section 2., precision and accuracy: The text cites sample matrix as a reason for imprecise results. As matrix should equally affect each aliquot of a duplicate, this reason is not usually cited. Sample heterogeneity is more commonly cited as the source of imprecision.*

Response: The sentence has been updated to refer to sample heterogeneity. It now reads, "Possible causes of poor precision include sample heterogeneity, improper sample collection or handling, inconsistent sample preparation, or poor instrument stability."

5. *Section 2., trip blanks: Should this sentence have the underlined word deleted? "A trip blank is a sample bottle filled in the laboratory with reagent-grade water and preserved to a pH less than 2 with hydrochloric acid or solid matrix."*

Response: The sentence defining trip blanks has been updated to remove "or solid matrix". It is now, "A trip blank is a sample bottle filled in the laboratory with reagent-grade water and preserved to a pH less than 2 with hydrochloric acid."

6. *Section 3.1.1, VOC calibration qualifications: The text states some results were qualified as estimated nondetects (UJ) for continuing calibration verification %D outliers; however, four of the results were qualified as estimated detects (J+). Please note these qualifications.*

Response: The text has been corrected to note that results associated with continuing calibration verification %D outliers were qualified non-detected estimated (UJ) or detected estimated (J+). It now states, "Nineteen results were qualified as non-detected estimated (UJ) or detected estimated (J+) because the associated continuing calibration verification (CCV) standard %Ds were outside the acceptance criteria of 20%."

7. *Section 5., metals sample counts:*

- a. *The text notes the number of chromium samples as 543; however, the EDD and*

Table I have 542. Please correct the text or EDD as necessary.

- b. The total analyte count for metals in the text (913) does not match the EDD (596). Please correct the text or EDD as necessary. If the text is incorrect, Section 8.4 will also need to be corrected.*
- c. Please include the number of samples analyzed for sodium*

Response: The following updates have been made to the text:

- a. There are 542 chromium samples. The text has been updated with the correct number.
- b. The total count for metals in the text had included hexavalent chromium. Section 5 and Section 8.4 have been updated to show 596 metals results, which is consistent with the EDD.
- c. The text has been updated to state that four samples were analyzed for sodium.

- 8. Section 5.17, Stage 4 samples: Please include text explaining why no sodium samples were validated at Stage 4 and how this may affect data quality*

Response: Sample M-5A-20160810 was incorrectly marked in the EDD as having been validated to Stage 2B. It was validated to Stage 4. The text, Table I, and the EDD all correctly show the sample as validated to Stage 4.

- 9. Section 5.22, blank results above the PQL: Should the underlined words be added to the explanation of how blank results above the PQL are handled? "If a sample and blank contaminant value were greater than the PQL and the sample result was less than 10 times the blank contaminant value, the sample result was qualified as detected estimated (J+) at the concentration reported in the samples results."*

Response: The sentence in Section 5.22 has been revised as suggested to read: "If a sample and blank contaminant value were greater than the PQL and the sample result was less than 10 times the blank contaminant value, the sample result was qualified as detected estimated (J+) at the concentration reported in the sample results."

- 10. Section 6 sample counts:*

- a. Please list the number of chlorate samples collected and analyzed.*
- b. The total analyte count in the text (2,322) does not match the EDD (2,869, not counting surrogates or results qualified DNR). Please correct the text or EDD as necessary. If the text is incorrect, Section 8.4 will also require correction.*

Response: The following updates have been made to the text/EDD:

- a. The text has been updated to state that 261 samples were analyzed for chlorate.
- b. The EDD contains 2,608 wet chemistry results, not including surrogates or results qualified DNR. The count of 2,322 results mentioned in the text incorrectly

included results qualified DNR and did not include hexavalent chromium results. In the text, both Section 6 and Section 8.4 have been updated to show 2,608 wet chemistry results. This is the correct number that excludes results qualified DNR and surrogates, and includes hexavalent chromium results.

The count of 2,869 EDD results mentioned in NDEP's comment appears to include 261 dichloroacetic acid surrogate results in addition to the 2,608 wet chemistry results. These dichloroacetic acid results are surrogates and are not included in the 2,608 results in the updated text.

11. *Section 6.1.3, MS/MSD qualifications: The text states two perchlorate results were qualified for MS/MSD outliers; however, the EDD has three perchlorate results qualified. Please correct the text or EDD as necessary.*

Response: The text has been updated to state three perchlorate results were qualified for MS/MSD outliers.

12. *Section 6.1.7, Stage 4 validation:*

- a. *The text states one sample calculated for nitrate/nitrite [as N] and one sample calculated for total inorganic nitrogen were validated at Stage 4; however, the EDD has two samples validated at Stage 4 for each of these parameters.*
- b. *The text states that one phenolic and one specific conductance sample were validated at Stage 4; however, none are designated as such in the EDD (Table I is consistent with the EDD). Please correct the text or EDD as necessary. If none were validated at Stage 4, please include an explanation of how this may affect data quality.*
- c. *Include the number of pH samples validated at Stage 4 in the text.*

Response:

- a. The text has been updated to state that there were two nitrate/nitrite as nitrogen samples validated at Stage 4.
- b. In Section 6.1.7, the one phenolic and one specific conductance sample validated to Stage 4 both come from sample M-5A-20160810, which was incorrectly marked in the EDD and in Table I as having been validated to Stage 2B. It was validated to Stage 4. The text, Table I, and the EDD have been corrected to show the sample as validated to Stage 4.
- c. Section 6.1.7 has been updated to state, "The 476 pH results were field measurements and therefore were not validated."

13. *Section 6.1.7, samples qualified DNR: Please include a short explanation [of] the technical criteria used to qualify samples DNR (or refer Section 6.2.1)*

Response: An explanation for qualifying data DNR has been added to Section 6.1.7. Results for Nitrate as Nitrogen and Nitrite and Nitrogen were qualified DNR in one sample due to duplicate results reported by the laboratory. Results associated with samples that were resampled due to holding time exceedances were also qualified

DNR. The text in Section 6.1.7 has been updated to refer to Section 6.2.1 to further explain those qualifications.

14. *Section 6.2.1, holding times: Please discuss the hexavalent chromium holding time and its acceptability. Four hexavalent chromium samples were qualified by the laboratory as having been analyzed beyond the holding time. Should these results have been qualified?*

Response: Four samples, M-37-20160810, M-38-20160810, DUP-11-20160810, and DUP-12-20160810 were analyzed thirteen days after sample collection, which exceeds the holding time of 24 hours. The sample results should have been qualified detected estimated (J-). The qualified data have been added to Table IV and Section 6.2.1 has been updated to include a discussion of these results. These results have been updated in the EDD with the J- qualifier.

15. *Section 8.4, table: The table in this section reports 2,257 total VOC results (Methods 8260 and 8260SIM); however, the EDD has 2,331 results for these two methods. Please correct the text or EDD as necessary.*

Response: The table in this section reports 2,257 total VOC results from Method 8260, and 74 results for 1,2,3-Trichloropropane and 1,4-Dioxane, which are measured by Method 8260-SIM. The sum of these two rows is 2,331 results, which is consistent with the EDD.

EDD Review

1. *There are seven location_ids (ART-8A-121516, ART-8A-20161215, DUP6, DUP7, DUP-7, DUP8, DUP9) in the locations table that do not have northing or easting coordinates. All location_ids that are not some type of blank should have northing and easting populated.*

Response: The seven location_ids in the locations table that did not have coordinates have been removed. In the samples table, location_ids for samples associated with these locations have been updated to the correct location_id.

2. *The five location_ids DUP6, DUP7, DUP-7, DUP8, DUP9 in the locations table are not associated with any sample_id_field in the samples table. If they are not associated with any samples, then location_ids in the samples table should be verified or these location_ids should be removed from the data set.*

Response: The five location_ids that were not associated with any samples were removed from the locations table.