

**Response to NDEP Comments Dated April 7, 2017<sup>1</sup>**  
**Data Validation Summary Report, Rev 2 – Groundwater Bioremediation Treatability Study**

NDEP Comment	Response to Comment
<b>DVSR Review Comments</b>	
<p>1. <u>Section 1.0 and EDD:</u>  <i>Original Comment:</i> 876 results for field blanks and equipment blanks do not have a valid value for the field "validation_stage". Per NDEP April 2009 guidance, "all data collected at the BMI Complex and Common Areas should be validated at least to Stage 2B." Please validate these samples at Stage 2B or Stage 4 (as necessary to achieve 10% Stage 4 validation) and populate the "validation_stage" field. Text in this section and Table 2 will require revision to update the number of total results and the number of results validated to each stage.</p> <p><u>Neptune and Company:</u> We request these sample results be validated for the following reasons:</p> <ul style="list-style-type: none"> <li>• This treatment of field and equipment blanks is not consistent with previous submissions for NERT. Field and equipment blanks have been validated for the Semi-Annual Remedial Performance Reports and for the combined DVSR for Performance Report, IX, 2016 Q1 Supplemental, 2016 Q2 Supplemental, Weir Dewatered Groundwater Characterization, and Seep Well Field Sampling.</li> <li>• NDEP Guidance notes: "all data collected at the BMI Complex and Common Areas should be validated at least to Stage 2A."</li> <li>• These blank samples should be validated to access their usability before they can be used to access site samples.</li> </ul>	<p><u>Original Response:</u> Consistent with NDEP guidance Tetra Tech has not validated the results of field blanks and equipment blanks. NDEP 130605_all companies-edd_guidance_update.pdf states: "Field quality control (QC) data other than replicates are required as part of the EDD but are not uploaded into the regional database. It is understood that field QC data (e.g., trip and equipment blanks, rinsates) may not necessarily have data for fields that are required for native samples, such as location, graphic classification, or sample depth information." Since field blanks and equipment blanks are not native environmental samples, Tetra Tech has not validated these samples.</p> <p><u>Revised Response:</u> Field blanks and equipment blanks have been validated to Stage 2B or Stage 4, based on the validation stage of the other samples in the sampling round. Associated tables and the EDD have been updated accordingly.</p>

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<p>7. <u>Section 3.0, hierarchy:</u>  <i>Original Comment: Per the National Functional Guidelines (NFG), bias is not applied to nondetected results. Please remove the UJ- from the hierarchy.</i></p> <p><i>Neptune and Company: The hierarchy previously noted: "UJ = U plus J or J-" and "The UJ qualifier is used when a non-detected (U) flag is added to a biased (J-) or unbiased flag (J)." As it contains more than one qualifier, please add the description of "UJ," without the reference to "J-," back to the hierarchy.</i></p>	<p><i>Original Response:</i> "UJ-" is not shown in the hierarchy. However, "UJ" has been removed from the hierarchy.</p> <p><i>Revised Response:</i> "UJ" has been added back to the hierarchy as UJ = U plus J. The description is "The UJ qualifier is used when a non-detected (U) flag is added to a (J) flag."</p>
<p>9. <u>Sections 3.1.2 and 3.2.2, MS/MSD Samples:</u>  <i>Original Comment: The inorganic NFG advises qualifying "all samples of the same matrix if the samples are considered sufficiently similar," for matrix spike recovery and RPD outliers. Qualifications for recovery and RPD appear to have been applied only to the parent samples. Please, either qualify all samples of the same matrix in the SDG or explain the professional judgement used to determine the additional qualifications were not required.</i></p> <p><i>Neptune and Company: This comment has been acceptably addressed. (For future submissions, please do not include rejected results in the count of samples qualified; as rejection is seen as a separate action from qualification. For example, in Section 3.2.2, 6 results were rejected and 67 results were qualified.</i></p>	<p><i>Original Response:</i> Qualifiers have been added to inorganic data of associated samples when field and lab data indicated similarity of samples. Section 3.2.2 has been revised to explain this. Additionally, Table 7 (formerly 13) and the EDD have been updated.</p> <p><i>Revised Response:</i> The text has been updated to distinguish the number of results rejected from results not rejected.</p>
<p>13. <u>Table 7:</u>  <i>Original Comment: The calibration outliers listed in Table 6 all have high recoveries, but qualifications applied in Table 7 are to nondetects. As nondetects are generally not qualified for high recoveries, please review these qualifications.</i></p>	<p><i>Original Response:</i> According to the NFG, for %D (+/-), non-detected results shall be qualified "UJ". The qualification indicates the approximation/uncertainty of the quantitation limit. Based on this reasoning, no changes were made to qualifiers or EDD. However, the text in Section 3.2.1 was updated to clarify the guidance. Changes include qualification of similar samples and rejection of non-detect results when MS.MSD recoveries are &lt;30%.</p>

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<p><i>Neptune and Company: The outliers listed in Table 10 are for recovery instead of percent difference. Table 4 of the 2014 inorganic NFG states "No Qualification" for nondetects with "ICV/CCV %R 111-125%." Nondetected iron should not be qualified. Calibration standard recoveries are not addressed in the organic NFG, leaving some room for interpretation for the acids; however, as the acid method is an inorganic method, it would not be unreasonable to apply the above inorganic NFG criterion.</i></p>	<p><i>Revised Response:</i> Volatile fatty acids (VFAs) were reviewed as inorganic analytes per the 2014 Inorganic NFG. Since qualifiers were no longer applicable, Table 11 "Calibration Qualifications" was removed. Section 3.2.1 has been updated accordingly. Since VFA data is considered inorganic, Section 3.2.2 has been updated to reflect changes in review of VFA MS/MSD data. MS/MSD review changes include qualification of similar samples and rejection of non-detected results when MS/MSD recoveries are &lt;30%.</p>
<p><b>21. Table 17 and EDD:</b>  <i>Original Comment: Total iron in BP-MW08-EM08 was qualified for a blank detect; however, it had no associated detect listed in Table 17. Please correct this inconsistency.</i></p> <p><i>Neptune and Company: This comment has been acceptably addressed. (Please note the "Reason Code Definition" for this result still reports "EB.")</i></p>	<p><i>Original Response:</i> Qualifier for total iron was applied in error. It has been removed from BP-MW08-EM08. EDD has also been updated.</p> <p><i>Revised Response:</i> The EB reason code definition associated with BP-MW08-EM08 for total iron was removed.</p>
<b>EDD Review</b>	
<p>1. <i>Original Comment: As noted in DVSR comment 1, the field blanks and equipment blanks should be validated. When these samples are validated, please update the validation_flag field as well as the validation_stage field for these records.</i></p> <p><i>Neptune and Company: See response for DVSR comment #1.</i></p>	<p><i>Original Response:</i> Consistent with NDEP guidance Tetra Tech has not validated the results of field blanks and equipment blanks. NDEP 130605_all companies-edd_guidance_update.pdf states: "Field quality control (QC) data other than replicates are required as part of the EDD but are not uploaded into the regional database. It is understood that field QC data (e.g., trip and equipment blanks, rinsates) may not necessarily have data for fields that are required for native samples, such as location, graphic classification, or sample depth information." Since field blanks and equipment blanks are not native environmental samples, Tetra Tech has not validated these samples.</p> <p><i>Revised Response:</i> Field blanks and equipment blanks have been validated to Stage 2B or Stage 4, based on the validation stage of the</p>

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	other samples in the sampling round. Associated tables and the EDD have been updated.
<p>5. <i>Original Comment:</i> Note that the field "asbestos_sensitivity_units" was misspelled. Please correct for future EDD files.</p> <p><i>Neptune and Company:</i> The "b" is still missing in the field "asbestos_sensitivity_units". Please correct your template for future submissions.</p>	<p><i>Original Response:</i> This correction has been applied to the subject EDD and template.</p> <p><i>Revised Response:</i> The "b" has been added to the subject EDD and template.</p>

Note:

1 – Only comments requiring additional responses were included in this response to comment matrix. All other comments that were deemed acceptably addressed have not be included.