OFFICE OF THE NEVADA ENVIRONMENTAL RESPONSE TRUST TRUSTEE

Le Petomane XXVII, Inc., Not Individually, But Solely as the Nevada Environmental Response Trust Trustee
35 East Wacker Drive - Suite 690
Chicago, Illinois 60601
Tel: (702) 960-4309

November 17, 2023

Dr. Weiquan Dong, P.E.
Bureau of Industrial Site Cleanup
Nevada Division of Environmental Protection
375 E. Warm Springs Road, Suite 200
Las Vegas, Nevada 89119

RE: Parcel E Health Risk Assessment Report
Nevada Environmental Response Trust
Henderson, Nevada

Dear Dr. Dong:

The Nevada Environmental Response Trust (NERT) is pleased to present the Parcel E Health Risk Assessment Report, Revision 1 for Nevada Division of Environmental Protection (NDEP) review. This report has been revised in accordance with NDEP's comments dated February 8, 2023 and the April 6, 2023 conference call between NDEP, NDEP's consultants, and NERT. In response to the April 6, 2023 Parcel E HRA call, NDEP advised NERT via an email dated May 18, 2023 that "NDEP has approved NERT to continue with its HHRA (Human Health Risk Assessment) and SLERA (Screening-Level Ecological Risk Assessment) processes, as they have been conducted for other NERT parcel HRAs" and further that "although the reporting order employed by NERT may differ from that of other HRAs conducted by different BMI companies, it has been determined that these variations do not affect the risk factors involved". Additionally, the report was further updated to reflect NDEP's June 2023 updates to the Basic Comparison Levels and other modifications as required due to the passage of time. As requested, NERT has also prepared an annotated response to comments summarizing the revisions addressing NDEP's comments.

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

Office of the Nevada Environmental Response Trust

Stephen R. Clough

Stephen R. Clough, P.G., CEM
Remediation Director
CEM Certification Number: 2399, exp. 3/24/25

Cc (via NERT Sharefile Distribution):

Frederick Perdomo, NDEP, Deputy Administrator
James Dotchin, NDEP, Chief, Bureau of Industrial Site Cleanup
Alan Pineda, NDEP, Bureau of Industrial Site Cleanup
Danielle D. Ward, NDEP, Bureau of Industrial Site Cleanup
William Frier, U.S. Environmental Protection Agency, Region 9

Mark Duffy, U.S. Environmental Protection Agency, Region 9
Jay Steinberg, as President of the Nevada Environmental Response Trust Trustee and not individually
Andrew Steinberg, as Vice President of the Nevada Environmental Response Trust Trustee and not individually
Brian Loffman, Le Petomane, Inc.
Tanya C. O'Neill, Foley and Lardner, LLP
Dan Peterson, Ramboll
Chris Stubbs, Ramboll
Kim Kuwabara, Ramboll
David Bohmann, Tetra Tech
Dana Grady, Tetra Tech
Rick Kenter, Arcadis
Kim Haymond, Arcadis

Cc (via NERT Stakeholder Sharefile Distribution):

Betty Kuo, Metropolitan Water District of Southern California
Carol Nagai, Metropolitan Water District of Southern California
Christene Klimek, City of Henderson
Christine Nobles, Central Arizona Project
Daniel Chan, LV Valley Water District
Dave Johnson, LV Valley Water District
Deena Hannoun, Southern Nevada Water Authority
Eric Fordham, Geopentech
Jill Teraoka, Metropolitan Water District of Southern California
Katherine Callaway, Central Arizona Project
Marcia Scully, Metropolitan Water District of Southern California
Maria Lopez, Metropolitan Water District of Southern California
Mauricio Santos, Metropolitan Water District of Southern California
Mickey Chaudhuri, Metropolitan Water District of Southern California
Orestes Morfin, Central Arizona Project
Steven Anderson, LV Valley Water District
Todd Tietjen, Southern Nevada Water Authority
Warren Turkett, Colorado River Commission

Cc (via NERT NDEP Consultants Sharefile Distribution):

Anna Springsteen, Neptune Inc.
Kirk Stowers, Broadbent Inc.
Kristen Lockhart, Neptune Inc.
Kurt Fehling, The Fehling Group
Karen Gastineau, Broadbent Inc.
Patti Meeks, Neptune Inc.
Paul Black, Neptune Inc.
Roy Thun, GHD

Cc (via NERT BMI Companies Sharefile Distribution):

Ashley Green, Montrose Chemical
Chuck Elmendorf, Stauffer
Dane Grimshaw, Olin Corporation
Darren Croteau, Terraphase
Dave Share, Olin Corporation
Ed Modiano, de maximus
Gary Carter, Endeavour LLC
Jeff Gibson, Endeavour LLC
John-Paul Rossi, Stauffer

Kelly Richardson, Latham & Watkins
Lee C. Farris, Landwell
Melanie Hanks, Olin Corporation
Nat Glynn, Latham & Watkins
Nick Pogoncheff, NV5
Peter R. Jacobson, Syngenta
Ranajit Sahu, BRC
Richard Pfarrer, TIMET
Spencer Lapiers, de maximus
Zeitel Senitz, de maximus
William Golden, EMD
Sonnia Lewandowski, EMD
Ebrahim Juma, Clark County Water Quality
Joe Leedy, Clark County Water Quality
John Solvie, Clark County Water Quality

NDEP Comments (February 8, 2023)	NERT's Response (November 17, 2023)
The Parcel E HRA was reviewed, and one issue was identified that must be addressed. It might not affect conclusions, but the general structure of the report has not followed the structure of all past risk assessment reports at the BMI Complex, which affects presentation and interim conclusions in the report. The structural issues concern placing the risk screening assessment before the background comparisons, although the background comparisons are included in an appendix. Other concerns are that the metals data do not match any previous metals data in background or other risk assessment reports from the BMI Complex. This is a data comparability issue, which might be because of analytical issues or differences but needs to be explored. This issue is problematic for the radionuclide data as well. Also, the role of institutional controls or agreements regarding development should be more explicitly stated. These are not overly apparent in the main body of the text; however, it should impact at least the future exposure scenarios considered.	The Health Risk Assessment for Parcel E, Revision 1 (the "Revised Report") has been updated to address NDEP's comments dated February 8, 2023 and the April 6, 2023 conference call between NDEP, NDEP's consultants, and NERT. In response to the April 6, 2023 Parcel E HRA call, NDEP advised NERT via an email dated May 18, 2023 that "NDEP has approved NERT to continue with its HHRA (Human Health Risk Assessment) and SLERA (Screening-Level Ecological Risk Assessment) processes, as they have been conducted for other NERT parcel HRAs" and further that "although the reporting order employed by NERT may differ from that of other HRAs conducted by different BMI companies, it has been determined that these variations do not affect the risk factors involved" (the "NDEP Email"). Please see discussion in General Comment #1 addressing the first part of this comment on the report structure with regard to conducting risk screening before background comparison for soil. To address the second part of NDEP's comment on metals data for Parcel E, a comparison of the Parcel E soil metal concentrations to the BRC/TIMET Regional background concentrations is presented in Appendix E. While most metals were either identified as consistent with background or a valid comparison was not applicable due to low frequency of detections, there were four metals (i.e., boron, iron, mercury, and vanadium) identified as not consistent with the background data. However, the maximum detected concentrations for these four metals were well below 10% of their respective BCLs. Therefore, these four metals were not identified as chemicals of potential concern (COPCs) in soil for the Parcel E HRA (see Table 5-1 and Section 5.1.1 of the Revised Report). Sections 4.1.2.2 and Section 5.1.1.1 have been modified to clarify this background analysis and further explain that neither the COPC list for soil or risk characterization results would be affected by these four metals that are not consistent with background. In addition, Parcel E is located in the northwest corner of the Site and is not contiguous with the Operations Area.

NDEP Comments (February 8, 2023)	NERT's Response (November 17, 2023)
	Former activities within Parcel E are not expected to have resulted in significant chemical impacts to the soils in this parcel. Therefore, the soil metal concentrations in Parcel E are anticipated to be different from other former sales parcels or other areas in the Operations Area of the NERT Site. Section 4.4.1 has been modified to clarify this concept. To address the third part of NDEP's comment on Parcel E with regard to the role of institutional controls or agreements regarding development, the text in the Executive Summary and Summary and Conclusions (Section 9) of the Revised Report has been revised to clarify that the terms of the easement and the presence and configuration of OSSM's GWETS prevent development of this parcel in the foreseeable future, and any NFA issued for the parcel will require the recording of an environmental covenant restricting the use of the property to non-residential.
GENERAL COMMENTS	
#1 Order of Steps Taken to Reach Conclusions. All previous risk assessments performed at the BMI Complex have included steps to perform background comparisons followed by risk screening in that order. This risk assessment presents these two steps in the reverse order. The reason NDEP has preferred doing the background comparisons first is to understand what the data show in general, whether there appears to be contamination of metals and radionuclides. This step is taken to gain insight and understanding of the data, but is now missing because risk screening screens out nearly all metals and radionuclides before the background comparisons are brought in. Note that this is also associated with the intent of NDEP's Data Usability (DU) guidance, which was aimed at gaining insights and understanding the data, not just to support risk-based decisions, but also to demonstrate	The order of steps taken to identify COPCs in the soil in the Parcel E Human Risk Assessment (HRA) is consistent with the methodology used in the OU-1 Soil COPC Report, the OU-1 Soil Baseline HRA Report, and the HRA reports for Parcels C, D, and G; Parcel F; and Parcel H, which were all approved by the Nevada Division of Environmental Protection (NDEP). Consistent with the NDEP Email (dated July 15, 2013), no changes have been made to the report to address the first part of this comment with regard to the orders of steps taken to identify the soil COPCs. The Revised Report has been updated to provide further clarification and address the second part of this comment with regard to not conducting background evaluation for all analyzed metals and radionuclides in the Data Usability (DU) evaluation of the HRA. Specifically, brief summaries were added for the soil background evaluations which were conducted for all metals and radionuclides analyzed in soils in Parcel E (see Section 4.1.2.2 and

NDEP Comments (February 8, 2023)	NERT's Response (November 17, 2023)
to NDEP's audiences that NDEP understood the site. The final DU step is aimed at exploring the data rather than repeating the rote data validation steps that precede the final DU step in NDEP's guidance.	Appendix E) in the Data Usability Evaluation and Data Analysis section (Section 4). The DU evaluation and data analysis performed for this HRA were in accordance with NDEP's DU guidance and contained the necessary evaluations and analysis to understand the Parcel E data and support the HRA.
#2 Need for Explicit Development Assumptions The context of the Health Risk Assessment (HRA) and applicability of the results is not well enough defined. Section 5.2.1.2 (Potentially Exposed Human Populations and Exposure Pathways) states, "Future land use is anticipated to be restricted to industrial and/or commercial purposes through a land-use covenant" and also, "Exposure via domestic use of groundwater was not evaluated because on-Site groundwater is not and will not be used as a domestic water supply." It seems that the HRA is predicated on restrictive land-use covenants or warranty deeds prohibiting residential development and groundwater wells. This condition of the HRA should be explicit in the Executive Summary and Conclusions. The porosity and moisture content used in the HRA vapor-phase modeling (0.358 cm^3/cm^3 and 0.148 cm^3/cm^3) results in a saturation (~41%; i.e., 0.148 / 0.358 = 41%) approximately 2-fold greater than that based on USEPA default values (~19%; i.e., 0.076 / 0.390 = 19%). As such, indoor, outdoor, and trench air EPCs may be significantly underestimated. It is recommended that the porosity and moisture values be revisited and a more appropriate ones be used. We further recommend that the moisture content used in the HRA vapor-phase modeling be based on a 95% UCL air saturation.	In summary, yes, the HRA is predicated on restrictive land-use covenants or warranty deeds prohibiting residential development and groundwater wells. Specifically, the statement "Future land use is anticipated to be restricted to industrial and/or commercial purposes through a land-use covenant." has been added to the Executive Summary section (page ES-5) and the Conclusions section (page 9-4). The statement "Consistent with the risk assessments completed for Parcels C, D, F, G, and H, exposure via domestic use of groundwater was not evaluated because on-Site groundwater is not and will not be used as a domestic water supply given the high concentrations of total dissolved solids (TDS) in the area." has been added to the Executive Summary section (Page ES-4) and the Conclusions section (Page 9-3). Regarding the porosity and moisture content data used in the HRA vapor-phase modeling, the same porosity and moisture content values were used in the OU-1 BHRA for Soil Gas and Groundwater evaluation, and the HRA reports for Parcels C, D, and G; Parcel F; and Parcel H. All of these reports have been approved by NDEP. For these reports NERT excluded soil sample results collected near the GW-11 Pond. The exclusion of soil property data from locations near the GW-11 Pond has been previously reviewed and determined not to have a substantial impact on the soil moisture content (0.143 when samples near the GW-11 Pond are removed versus 0.148 when they are included – the latter is currently used in the Johnson and Ettinger modeling in the Parcel E HRA Report). As discussed in the April 6, 2023 conference call between NDEP, NDEP's consultants, and NERT, a sensitivity analysis of the vapor

NDEP Comments (February 8, 2023)	NERT's Response (November 17, 2023)
	intrusion modeling was performed using the moisture content (or water-filled porosity) calculated based on a 95% UCL of air saturation (or air-filled porosity) and confirmed that the impact on the transfer factors and risk results are small and would not change the conclusions. Therefore, no changes have been made to the vapor intrusion modeling or the Revised Report. The method and results of this sensitivity analysis are summarized below: The 95% upper confidence limit (UCL) on the mean air-filled porosity was calculated using the USEPA's ProUCL program. Air-filled porosity is estimated by subtracting the water-filled porosity measurement from the total porosity measurements at each location (see the soil property measurement data presented in Table 5-8). The ProUCL recommended 95% UCL for the air-filled porosity is 0.226 which is approximately 7% higher than the mean (0.210). As shown in the following table, the resulting calculated water-filled porosity based on the 95% UCL of air-filled porosity is 0.132 (total porosity [0.358] – 0.226 = 0.132) which would yield higher (more conservative) transfer factors and health risk estimates as discussed in further detail below.

Property	Value (unitless)
Mean Water-filled Porosity	0.148
Mean Soil Total Porosity	0.358
Mean Air-filled Porosity	0.210
95% UCL Air-filled Porosity	0.226
Calculated Water-filled Porosity based on 95% UCL of Air-filled Porosity	0.132

<table>
<tr><th>NDEP Comments
(February 8, 2023)</th><th>NERT's Response
(November 17, 2023)</th></tr>
<tr><td></td><td>
A sensitivity analysis of the vapor intrusion modeling was conducted for chloroform for the indoor worker scenario using the lower (more conservative) calculated water-filled porosity of 0.132 based on the 95% UCL air-filled porosity. As shown in the table below, the transfer factors for chloroform in soil gas (at 5 feet bgs and 15 feet bgs) or groundwater migrating to indoor air of an industrial/commercial building (the most conservative scenario evaluated in the Parcel E HRA) based on the calculated water-filled porosity of 0.132 are 26%, 27%, and 18% higher than the ones modeled based on the mean measured water-filled porosity of 0.148.
<table>
<tr><th rowspan="2">Water-filled Porosity</th><th colspan="3">Transfer Factor - Indoor Worker Scenario</th></tr>
<tr><th>Soil Gas (5 feet bgs)</th><th>Soil Gas (15 feet bgs)</th><th>GW</th></tr>
<tr><td>0.148</td><td>1.9E-04</td><td>6.1E-05</td><td>2.3E-03</td></tr>
<tr><td>0.132</td><td>2.4E-04</td><td>7.7E-05</td><td>2.7E-03</td></tr>
<tr><td>% increase</td><td>26%</td><td>27%</td><td>18%</td></tr>
</table>
Since the risk estimates for the vapor intrusion pathway are linearly related to the transfer factors, the risk estimates will increase by the same percentages as the transfer factors. The risk results for the vapor intrusion pathway for the on-Site workers in Parcel E based on the mean measured soil properties range from 2×10^{-12} to 4×10^{-7}, all well below the lower end of NDEP and USEPA's risk management range of 1×10^{-6} to 1×10^{-4} for cancer or the target hazard index of 1 (see Table ES-1) and chloroform is the dominant cancer risk driver. The health risk estimates based on transfer factors modeled with the calculated water-filled porosity of 0.132 would be still be below the lower end of NDEP and USEPA's risk management range of 1×10^{-6} to 1
</td></tr>
</table>

NDEP Comments (February 8, 2023)	NERT's Response (November 17, 2023)
	x 10^{-4} for cancer risk or the target hazard index of 1 and would not change the conclusions of the risk assessment. Therefore, as discussed in the April 6, 2023 conference call between NDEP, NDEP's consultants, and NERT, no changes have been made to the vapor intrusion modeling for the Revised Report.
SPECIFIC COMMENTS – Essential Corrections	
#1 Section 5.2.2.2, penultimate paragraph on p. 5-12. The HRA vapor-phase modeling is based on soil physical parameters from samples collected in 2010, several of which appear to be adjacent to ponds (Appendix L, Figure L-1) and therefore may be biased high with respect to moisture content, from a depth of 10 feet, and none of which are on Parcel E.	These same soil properties data were used in the OU-1 BHRA for Soil Gas and Groundwater evaluation, and the HRA reports for Parcels C, D, and G; Parcel F; and Parcel H, which have been approved by NDEP. As discussed and agreed upon with NDEP, no significant differences are observed in soil properties between 0 to 10 feet (ft) below ground surface (bgs) at OU-1 (see response to General Comment #2). Therefore, the soil property data used in this analysis are considered representative of the soil conditions in Parcel E and no changes were made to the vapor intrusion modeling or the Revised Report.
#2 Section 4.1.1. Data Usability Evaluation for Soil. Data usability for radionuclides is discussed only in relation to the comparability of background and site soil data, where results from the historical background data set and the 2019 site soil data are said to be non-comparable due to differences in sample preparation and analytical methods. Please provide information to support the usability of the 2019 radionuclide soil data for risk-based decisions, specifically pertaining to sample preparation (digestion) and selection of analytical method for each analyte.	A brief discussion of issues related to differences in sample preparation and analytical methods was presented in the final paragraph of the 'Comparability' subsection of Section 4.1.1.7. The Revised Report has been updated to address NDEP's comments dated February 8, 2023. Specifically, clarifying text has been added to Section 4.1.1.7 to indicate that sample preparation and analytical methods for radionuclides used for the historical background data set are expected to result in underestimated concentrations. Therefore, it is more conservative to compare the 2019 soil data in Parcel E to the underestimated background data for radionuclides. Additional discussion of risk associated with exposure to radionuclides from background data and soil Parcel E data are presented in the background evaluation in the soil COPC selection section (see

NDEP Comments (February 8, 2023)	NERT's Response (November 17, 2023)
	page 5-5 in Section 5.1.1.2) and the uncertainty section (see page 6-6 in Section 6.1.4). The methodology presented in this report for the background evaluation of the radionuclides is consistent with the methodology used in the OU-1 Soil COPC Report, the OU-1 Soil BHRA Report, and the HRA reports for Parcels C, D, and G; Parcel F; and Parcel H which have been approved by NDEP.
#3 Section 4.1.1.5. Evaluation of Data Quality Criteria for Soil. USEPA Method 540-R-97-028 is cited as the standard analytical method for asbestos. The asbestos analytical method should reference the Modified Elutriator Method for the Determination of Asbestos in Soils and Bulk Material (Berman and Kolk, 2000). Please correct.	The Revised Report has been updated to address NDEP's comments dated February 8, 2023. Specifically, the Berman and Kolk (2000) document has been referenced in Section 4.1.1.5 and added to the reference list.
#4 Section 4. Criterion IV – Analytical Methods and Detection Limits. There are several organic analyte SQLs that do not meet the 10% level of BCL or RBTC. Section 6.1.2 provides rationale for accepting the SQL level. For some analytes, the SQL calculated cancer risk range is near the lower end of 10-6 and 10-4. For all analytes, the HQ calculated from SQL yields a value below 1. The report summarizes that the projected cancer risk based upon the SQL falling within the range will not impact the overall risk evaluation. However, this is not clear from an additive risk perspective. Please clarify.	The Revised Report has been updated to address NDEP's comments dated February 8, 2023. Specifically, a discussion of the additive risk for the chemicals with SQLs over 10% of the BCLs or risk-based target concentration (RBTCs) has been added as the last paragraph in Section 6.1.2.
#5 Table 5-4. Table 5-4 shows site and background cancer risk estimates for all eight radionuclide analytes, although Table 5-3 indicates that only thorium-230 is identified as being present in site soils at a concentration greater than background. Per NDEP guidance, because secular	The methodology presented in this report for the background evaluation of the radionuclides is consistent with the methodology used in the OU-1 Soil COPC Report, the OU-1 Soil BHRA Report,

NDEP Comments (February 8, 2023)	NERT's Response (November 17, 2023)
equilibrium is not exhibited in the uranium decay series, only thorium-230 should be carried forward in the risk assessment. Comparison of site and background radionuclide concentrations should be revised to include only thorium-230, otherwise the comparison becomes a function of the number and nature of radionuclides included in the analytical suites rather than a function of site-related COPCs. Radionuclide risk tables and associated text should be revised following this change. The radionuclide data should also be presented while considering the difference in analytical methods per Specific Comment #2 and the conceptual site model/history. Are radionuclides expected as contaminants? Is the difference for Th-230 probably a matter of difference in analytical methods? This should be discussed.	and the HRA reports for Parcels C, D, and G; Parcel F; and Parcel H which have been approved by NDEP. Thorium-230 is the only carcinogenic chemical above 10% of the BCL in Parcel E soils and is identified as potentially having a concentration greater than its background concentration. Using 10% of the BCL in the concentration/toxicity screen is to account for the cumulative effects when there are multiple chemicals exceeding 10% of the BCL, which could result in the total risks/hazard indices (HIs) across all chemicals to add up to higher risks that could cause concern. The 95% UCL concentration of thorium-230 (1.8 pCi/g) is less than its BCL (8.4 pCi/g) and would result in a risk of 2.2×10^{-7} (see Table 5-4) which is below the lower end of the NDEP and USEPA cancer risk management range of 1×10^{-6} to 1×10^{-4}. Therefore, the health risk associated with thorium-230 alone is not expected to be significant. Thus, both the total risk comparison and thorium-230's individual risk indicate radionuclides should not be identified as COPCs and should not be carried through the risk assessment. Therefore, modification of text and risk tables is not required. With respect to the second part of the comment regarding the conceptual site model and history, the statement "Radionuclides are not known to be associated with any of the former operations identified in Parcel E (or in the Operations Area)." is present in Section 4.4.1. The statement "Additionally, radionuclides are not known to be associated with any of the former operations within Parcel E." is present in Section 5.1.1.2. Therefore, no changes have been made to the report. See Specific Comment #2 regarding analytical methods.
#6 Table 5-4. The comparison of site and background cancer risks utilizes the 95% UCL to characterize soil concentrations	The Revised Report has been updated to address NDEP's comments dated February 8, 2023. Specifically, risk estimates

NDEP Comments (February 8, 2023)	NERT's Response (November 17, 2023)
for both site and background soils. The 95% UCL statistic is sensitive to sample size, so a comparison that utilizes this statistic should include a discussion of the relative sizes of the data sets and the influence this has on the resulting comparison. More generally, the rationale for using the 95% UCL to characterize soil concentrations at a contaminated site is to provide confidence that the average concentration is not underestimated. There is no comparable reason for using the 95% UCL to characterize background soil concentrations. Table 5-4 should be revised to also include the simple average of thorium-230 soil background. The background data set is considerably larger than the site data set. Consequently, if, for example, the site data represented background, the 95% UCL for the site data will exceed that for background data. This is not helpful for good decision making. This is why EPA's RAGS document indicates essentially that background risk should not be subtracted from site risk when the risk assessment is deterministic.	using the means of the radionuclide concentrations for the Parcel E data, RZ-A background data, and BRC/TIMET regional background data were added to Table 5-4 and discussed in Section 5.1.1.2. As presented in revised Table 5-4, the risk results based on the mean are consistent with the background risk for the radionuclides and the total risk based on the mean and background are the same (both 2×10^{-4}). Consistent with EPA's RAGS guidance no background risks have been subtracted from the site risk.
#7 Section 5.1.1. Identification of Soil COPCs. Section 5.1.1, Identification of Soil COPCs. Per Essential Correction comment #5, thorium-230 should be identified as a COPC and evaluated in the risk assessment.	Modification of text and risk tables is not required . Please see response to specific comment #5 above for justification why thorium-230 did not need to be carried through the risk assessment.
#8 Section 5.1.1.2. Section 5.1.1.2 explains that differences in sample preparation and analytical methods for radionuclides from the historical background data set and the 2019 site soil data set are likely the reason for the conclusion that statistical tests were not a reliable basis for radionuclide COPC selection. Logically, if these	The Revised Report has been updated to address NDEP's comments dated February 8, 2023. Specifically, the text in Section 5.1.1.2 has been revised to clarify that although the interpretation of the statistical testing is complicated by several issues, the background data is still usable for drawing conclusions. Furthermore, and consistent with Specific Comment #6, risk

NDEP Comments (February 8, 2023)	NERT's Response (November 17, 2023)
differences preclude comparison of site and background radionuclide concentrations, they should equally preclude comparison of site and background risk assessment results since the results are directly proportional to soil concentrations. Please provide an explanation of why the background soil radionuclide data are usable for drawing conclusions related to the radionuclide incremental risk above background levels.	evaluation for the radionuclides based on the mean has been added (see Table 5.4) which demonstrates the risk for the radionuclides data in Parcel E is consistent with the background risk.
#9 Section 5.4.1. Soil Risk Characterization. Following revisions related to Specific Comments # 5 through 7, and pending resolution of Specific Comment #8, the risk characterization for soils should be revised to discuss potential incremental cancer risk from thorium-230, based on evaluation of site and background levels of thorium-230.	Modification of text and risk tables is not required. Please see response to specific comment #5 above for justification why thorium-230 did not need to be carried through the risk assessment.
#10 Section 6.1.4. Uncertainty Evaluation. The text states that, "radionuclides were excluded as soil COPCs based on the calculation of total cancer risks, not the statistical testing results of the background evaluation." This statement is inconsistent with the discussion in Section 5.1.1.2 (Background Evaluation) where the exclusion of radionuclides as COPCs is based on a comparison of site and background cancer risk results rather than total cancer risk. Per Specific Comment #7, this text should be revised to reflect identification of thorium-230 as a COPC and inclusion of this radionuclide in the risk assessment.	The Revised Report has been updated to address NDEP's comments dated February 8, 2023. Specifically, the cited text in Section 6.1.4 was revised to include thorium-230 individual risk in the discussion of the exclusion of radionuclides from the evaluation.
#11 Table B-3. Asbestos Soil Data Summary. Please confirm the sample depth for asbestos data. The column "Start Depth ft bgs" indicates that samples were collected at one foot, however samples for	The Revised Report has been updated to address NDEP's comments dated February 8, 2023. The samples collected for the asbestos analysis in Parcel E (originally collected by Tronox in

NDEP Comments (February 8, 2023)	NERT's Response (November 17, 2023)
Asbestos are supposed to be collected within 1-2 inches bgs. If the samples were collected without scraping the first foot, then this would be an error in data collection.	2019) were collected from one foot below the surface. NERT has supplemented the existing Parcel E data with surface soil asbestos data from adjacent former Parcels C and D to evaluate risk associated with asbestos in soil, as agreed upon by NDEP during the conference call on April 6, 2023, between NDEP, NDEP's consultants, and NERT. To address the absence of asbestos in surface soil samples, the data from former Parcels C and D, which border Parcel E to the south, east, and north, were evaluated. Risk results from potential inhalation exposure to chrysotile long fibers for all industrial receptors was less than 1×10^{-6} for former Parcels C and D. For amphibole long fibers, the upper-bound estimates for indoor and outdoor commercial/industrial workers were less than 1×10^{-6} for both parcels and were 2×10^{-6} (former Parcel C) and 4×10^{-6} (former Parcel D) for construction workers. All risk results for asbestos exposure in former Parcels C and D were below or within the NDEP and USEPA cancer risk management range of 1×10^{-6} to 1×10^{-4}. This discussion has been added to the Risk Characterization (see Section 5.4.1), Summary and Conclusions (see Section 9), and the Executive Summary.
#12 Tables B-1 and B-2. In addition to the asbestos data in Specific Comment #11, further clarification is needed for the start depth for soil and soil gas data sets Tables B-1 and B-2. Where the stated start depth is 1ft, clarification is needed for why these samples do not begin at 0 ft bgs. In ES-2 of the Executive Summary, it is stated that "Analytical results of soil samples collected at 0-10 feet (ft) below ground surface (bgs) in Parcel E were assessed through the data processing and data usability evaluation (DUE) steps (see Section 4.1.1) and data representative of current conditions were selected for purposes of the HRA," however, in 4.1.1.1 the report states "the [soil] data set includes soil	The evaluation of soils presented in the Parcel E HRA report is based on the surface soil samples taken from 1 to 1.5 feet bgs (i.e., at or around 1 foot bgs) and the sub-surface soil samples taken from 10 to 10.5 ft bgs (i.e., at or around 10 feet bgs). These sampling intervals are consistent with the proposed sampling depths in the NDEP-approved Phase 2 RI Modification No. 12 for the collection of soil, soil gas, and groundwater samples on Parcel E to support this HRA. The text in the Executive Summary, Sections 3.1, 4.1, 5.1, 6.1, and 9 have been revised to state the following for consistency: "…at depths beginning at the 1 and 10 ft…"

NDEP Comments (February 8, 2023)	NERT's Response (November 17, 2023)
samples collected at depths of 1 and 10 ft bgs, " while the B-1 and B-2 data sets have sample depths of 1-1.5 ft bgs and 10-10.5 ft bgs. Note also that the risk assessments as presented are based on soil data from the surface. Please clarify the use of apparently applying the data from 1 ft bgs to risk assessments that assume surface soil data are used.	With regard to soil gas sampling depths, all end depths have been updated to 5.5 feet bgs or 15.5 feet bgs consistently in Table G-1 to address NDEP's comments. Please see responses to specific comment #14.
#13 Table G-1. Please be specific in the use of chemical names: 1. tert-Amyl methyl ether and 1,1,2-Trichloro-1,2,2-trifluoroethane are missing from soil Gas dataset in Table G-1 Soil Gas_Field Data_Parcel E.xlsx, but are listed as analytes in Tables 4-7a and 4-7b. Please correct as necessary. 2. "Ethylbenzene" is spelled as Ethyl benzene in this dataset yet is spelled as "Ethylbenzene" in Tables 4-7a and 4-7b. Please make the text consistent across these tables. 3. "tert-Butyl alcohol" is spelled as tert Butyl alcohol yet is spelled as "Tert-Butyl alcohol" in Tables 4-7a and 4-7b. Please make the text consistent across these tables.	The Revised Report has been updated to address NDEP's comments dated February 8, 2023. Specifically, chemical names in the text, tables, and appendices have been corrected. Chemical names are now consistent within the report.
#14 Table G-1. Table G-1 has inconsistent end and start depths. End depths that are different than their corresponding start depths are samples collected during Phase 3 RI soil gas investigation. Please explain why the end depths are represented differently, assuming there is some amount of depth that should be represented between the start and end depths for all soil gas samples.	The Revised Report has been updated to address NDEP's comments dated February 8, 2023. The Phase 3 RI soil gas investigation samples were collected using the same method as previous sampling events. However, the sampling depth intervals were reported slightly differently than those for the previous sampling events. For consistency, all end depths are reported at 5.5 feet bgs or 15.5 feet bgs.

NDEP Comments (February 8, 2023)	NERT's Response (November 17, 2023)
○ *Combinations of Start and end depths:* start_depth / end_depth 5 / 5 5 / 5.5 15 / 15 15 / 15.5	
#15 Appendix K. The pooled analytical sensitivity and risk calculations in the Appendix K asbestos Excel workbook were checked. Please provide documentation for the following inputs in the footnotes of the PEF worksheets used to calculate construction and commercial-industrial asbestos risks: • In situ wet soil bulk density • Gravimetric Soil Moisture Content • Soil Silt Content • Road Surface Silt Content'.	Appendix K in the Revised Report has been updated to address NDEP's comments dated February 8, 2023. Specifically, the requested information has been added to footnotes of the applicable particulate emission factor (PEF) sheets in Appendix K. The in situ wet soil bulk density and gravimetric soil moisture content are based upon the average value of top 10-foot samples reported in Northgate (2010). The soil silt content varied from 5% to 10% among soil boring logs from multiple investigations at the Site. The value of 10% was selected to be conservative. Road surface silt content was assumed equivalent to silt content.
#16 Table ES-1, 8-1 and Section 8. Section 8 states the HI for outdoor commercial/industrial worker is 0.0000002 while these two tables state 0.0000001. Please address this discrepancy.	The Revised Report has been updated to address NDEP's comments dated February 8, 2023. Specifically, the HI estimate for the construction worker in the Section 8 text was changed to 0.0000001 to be consistent with Tables ES-1 and 8-1.
#17 4.1.1.1 Soil Data Set and Data Processing. Please correct the following errors in data entry: "Standardize reporting units (e.g., milligram per kilogram (mg/kg) for metals and picogram per gram (pg/g) for dioxins/furans)"	The Revised Report has been updated to address NDEP's comments dated February 8, 2023. The original dioxin/furan congeners data were reported in pg/g (see the DVSRs and lab reports in Appendix A); the unit for the 2,3,7,8-TCDD (TEQ) results presented in Table B-1 were calculated using the analytical data for the dioxins/furan congeners (see Table B-2). The units for the calculated 2,3,7,8-TCDD (TEQ) results presented in Table

NDEP Comments (February 8, 2023)	NERT's Response (November 17, 2023)
Dioxins/ Furans are neither recorded nor reported in picogram per gram (pg/g) format in any of the datasets or tables.	B-1 have been converted to mg/kg to be consistent with other analytes and the BCLs for easier comparison. The text cited in this comment in Section 4.1.1.1 has been revised to "Standardize reporting units (e.g., sample results dioxins/furans, reported in picogram per gram (pg/g), were converted to milligram per kilogram (mg/kg); these units are consistent with those reported for the other chemical groups)".
#18 4.1.1.1 Soil Data Set and Data Processing Please correct the following errors in data entry: In Appendix B, Table B-1 Soil HRA Dataset for Parcel E, the Final Chemical Name for 2,3,7,8-TCDD TEQ is listed as "2,3,7,8-TCDD TTEQ."	The Revised Report has been updated to address NDEP's comments dated February 8, 2023. Specifically, the spelling of chemical names was standardized to be consistent between the tables and text in the main report and Table B-1 in Appendix B.