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May 19, 2022

Ms. Melissa Shirley
U.S. Army Corps of Engineers, Mobile District
ATTN: Melissa Shirley, EN-GE
109 Saint Joseph St.
Mobile, AL 36602-3630

Subject: *Risk Assessment Report, Revision 1*
Organizational Maintenance Shop #28
Contract No.: W91278-20-D-0020, Delivery Order No. W9127821F0288

Dear Ms. Shirley,

AECOM Technical Services, Inc. (AECOM) is pleased to submit the *Risk Assessment Report, Revision 1* for Organizational Maintenance Shop #28. This *Risk Assessment Report, Revision 1*, which was prepared under Contact No. W91278-20-D-0020, Delivery Order No. W9127821F0288 replaces the previous *Risk Assessment Report* dated March 15, 2019. This *Risk Assessment Report, Revision 1* is issued to address Alabama Department of Environmental Management (ADEM) comments provided in a letter dated February 25, 2021 and to update the United States Environmental Protection Agency regional screening levels to November 2021 values. The Army National Guard responded to the ADEM review comments on the original *Risk Assessment Report* in a letter dated November 10, 2021. ADEM accepted the Army National Guard responses in a letter dated January 20, 2022.

One CD with the documents in Adobe PDF plus the native file format (e.g., Microsoft Word, Excel, etc.) are enclosed. Reports will be sent to the recipients on the attached distribution list; the CD enclosed with the reports will contain the report in Adobe PDF only.

Should you have any questions or comments, please contact me (864) 561-3414.

Sincerely,

Timothy S. Renn, PE
AECOM Technical Services
Project Manager

Enclosures

DISTRIBUTION LIST

Risk Assessment Report, Revision 1 for OMS #28

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1. U.S. Army Corps of Engineers, Mobile District ATTN: Melissa Shirley, EN-GE 6440 Doubletree Court Mobile, AL 36695 251-422-0129	1 CD
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3. Army National Guard G-9 ATTN: Queenie Mungin-Davis, IES-D 111 South George Mason Drive Arlington, VA 22204 703-607-7955	1 HC / 1 CD
4. Alabama Army National Guard, JFHQ FMO ENV ATTN: Bradley N. Curvin 1720 Congressman W. L. Dickinson Dr. Montgomery, AL 36109 334-523-4027	1 CD
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Crosswalk that lists the changes made to the March 2019 Risk Assessment Report for this May 2022 Risk Assessment Report Revision 1

ADEM Comment Number	ADEM Comment	Army Response	May 2022 Risk Assessment Report Revision 1 Table Edits	May 2022 Risk Assessment Report Revision 1 Text Edits
General Comments				
1	It does not appear that the text or the tables address the calculation of exposure intakes. Additionally, Tables 10 through 16 appear to be based upon the Risk Assessment Guidance for Superfund (RAGS) Part D tables. However, the last column titled "Intake Equation/Model Name" is missing. Please include this column which references the equation and/or model name that was used to calculate the exposure intakes.	The Exposure Factor section of the text will be expanded to include a discussion of exposure intakes. Also, a column will be added to Tables 10 through 16 that references the equation used to calculate the exposure intake.	Intake equations were added to Tables 10 through 16. Factors shown in the equations and not originally shown in the tables have been added.	Original Section 3.4 (Exposure Factors) was expanded and renamed "Development of Chemical Intakes" and a discussion of exposure intakes was added.
2	Please include a signed certification page as required by Alabama Risk-Based Corrective Action (ARBCA) Guidance Section 3.6	The certification required in the ARBCA Guidance Manual, Section 3.6, entitled ARBCA-Evaluator Qualifications, applies to risk assessments prepared in accordance with the ARBCA Guidance Manual. These types of risk assessments are typically prepared for RCRA sites and installations that operate pursuant to an Alabama Hazardous Wastes Management and Minimization Act Corrective Action Permit, such as Fort Rucker, Redstone Arsenal, and Anniston Army Depot. As stated in the Risk Assessment Report, Section 1.3, page 1-3, the restoration activities at OMS 28 are conducted under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the risk assessment follows principles and procedures consistent with published USEPA guidance documents as stated in the Risk Assessment Report Section 3.0, page 3-1, and Section 4.1, page 4-1. Therefore, signed certification as described in the ARBCA Guidance Manual is not applicable and will not be provided.	No table edits required.	No text edits required.
Human Health Risk Assessment (HHRA) Comments				
1	The text states that the surface soil interval was chosen to be 0.5 – 1 ft. However, the ARBCA considers a surface soil interval to be 0-1 ft. Please provide the rationale for why the surface soil interval was modified.	The text incorrectly stated the starting surface soil interval. It has been confirmed that the surface soil interval was 0 to 1 ft, and this change will be made in the text and on any affected tables.	Table 2	Section 2.1
2	Section 3.5, page 3-8. Please revise the text to include the following statement at the end of the first paragraph: "The toxicity criteria provided in USEPA's RSL tables follow this hierarchy and are updated twice per year."	The statement will be added as requested.	No table edits required.	Section 3.5
3	Section 3.5, page 3-9. Please include a reference for the source of the subchronic toxicity factors.	Sources for the subchronic toxicity factors are shown on Table 17 and will be added to the text.	No table edits required.	Section 3.5

Crosswalk that lists the changes made to the March 2019 Risk Assessment Report for this May 2022 Risk Assessment Report Revision 1

ADEM Comment Number	ADEM Comment	Army Response	May 2022 Risk Assessment Report Revision 1 Table Edits	May 2022 Risk Assessment Report Revision 1 Text Edits
4	Section 3.6.1, pages 3-10, 3-11. Please provide a discussion of the future risks/hazards at Parcels A through F, including receptor, pathway, and magnitude of risk/hazard. This will facilitate discussion of the individual Site-Specific Screening Levels (SSSLs).	A discussion of the future risks and hazards at Parcels A through F will be added to Section 3.6.1.	No table edits required.	Instead of this information being added to Section 3.6.1, it has been added to Section 3.6.3, Summary of Risks and Hazards.
5	Section 3.6.2, pages 3-11, 3-12. See comment #4 regarding Section 3.6.1.	A discussion of future risks and hazards at Parcels A through F will be added to Section 3.6.2.	No table edits required.	Instead of this information being added to Section 3.6.2, it has been added to Section 3.6.3, Summary of Risks and Hazards.
6	Section 3.7, page 3-12. This section states that Hazard Quotients (HQs) of 0.1, 1, and 3 were used to develop SSSLs. Please clarify what a target HQ of 3 represents.	<p>The text was written to address the following statement included in the USEPA Region 4 Human Health Risk Assessment Supplemental Guidance (March 2018) concerning Site-Specific Remediation Goals (SSRGs):</p> <p>“The SSRGs section should contain a table of media-specific cleanup levels for each COC in each land use scenario evaluated in the BRA. The table should include potential cleanup levels for 1x10⁻⁶, 1x10⁻⁵ and 1x10⁻⁴ cancer risk levels for each carcinogenic COC. The table should also include potential cleanup levels for each non-carcinogenic COC at HQ levels of 0.1, 1 and 3.”</p> <p>Region 4 has adopted the HQ range of 0.1 to 3 to span the uncertainty, perhaps an order of magnitude or greater, inherent in the reference dose (RfD). RfD is explained further on Pages 7-5 and 7-6 in the Risk Assessment Guidance for Superfund Volume I Human Health Evaluation Manual (Part A), Interim Final, December 1989. The range of cleanup levels is provided to address specific chemicals for which the use of an HQ greater or less than 1 may be justified.”</p>	No table edits required.	No text edits required.
7	Section 3.8, page 3-14. The word “insignificant” is used in several locations to describe risk and hazard levels of different receptors. Please replace the word “insignificant” with “below target risk and hazard levels.”	The word “insignificant” will be replaced with the suggested text.	No table edits required.	Section 3.8
8	Section 3.8, page 3-15. Please revise this section to include lists of constituents of concern that are contributing to the excess cancer risk/hazard for each of the receptors.	The COCs identified will be included in the Human Health Summary Section.	No table edits required.	Section 3.8
9	Table 18. Please revise the table to include an additional column that includes the constituents of concern that are contributing to the cancer risk/hazard calculations.	A column will be added to Table 18 that includes the COCs that are contributing to the risk and hazard calculations.	Table 18	No text edits.

Crosswalk that lists the changes made to the March 2019 Risk Assessment Report for this May 2022 Risk Assessment Report Revision 1

ADEM Comment Number	ADEM Comment	Army Response	May 2022 Risk Assessment Report Revision 1 Table Edits	May 2022 Risk Assessment Report Revision 1 Text Edits
10	Appendix A, Tables A-1 through A-4. Please include the parcel designations on the appropriate tables for the vapor intrusion screening levels (VISLs) that are used.	The parcel designations will be added to the tables.	Appendix A Tables A-1 through A-4 contain information that is used for various parcels, not individual parcels. On Table 5, which contains the information provided in Appendix A Tables A-1 through A-4, a column was added beside the screening value which lists which of the Appendix A Tables the screening value came from.	No text edits required.
Screening Level Ecological Risk Assessment (SLERA) Comments				
1	Please define the acronym "RSV" in the acronym list.	The acronym "RSV" will be defined in the document acronym list.	No table edits required.	List of Acronyms
2	Section 4.2.2.3, page 4-5. The text states that five soil sampling locations within Parcel A exhibited tetrachloroethylene (PCE) concentrations in excess of the mammalian toxicity reference value (TRV), and four soil sampling locations did not exceed this TRV. Please revise the last paragraph in Section 4.2.2.3 to identify which soil sample locations did and did not exceed the mammalian TRV. Also Table 1a and Figure 3 only list eight soil sampling locations for Parcel A. Please clarify the discrepancy between the eight soil sampling locations listed in Table 1a and the nine locations noted in Section 4.2.2.3.	The text will be revised as requested to identify the sample locations where the mammalian TRV for PCE was exceeded and was not exceeded. The discrepancy regarding the number of soil sampling locations for Parcel A will be clarified. The risk assessment will also make clear that the risk due to PCE is not the responsibility of the government. Additional discussion regarding PCE will be presented in the forthcoming Feasibility Study being prepared for OMS 28.	No table edits required.	There are 8 locations in Parcel A (Table 1a and Figure 3 are correct). The 9 locations mentioned in the text are from both Parcel A and Parcel F. Five RSV exceedances are located at Parcel A, and the 4 other detections that are below the RSV are located at Parcels A and F. Section 4.3.2 of the text has been updated to clarify this. No text edits required. Based on ADEM's January 20, 2022 response to the Army's comment, an additional discussion regarding the responsibility for PCE clean up has not been included in this document in order to avoid any delay in its review. As stated, additional discussion regarding PCE will be presented in the forthcoming FS that is currently being prepared for OMS #28.
3	Section 4.2.3, page 4-5. The SLERA concludes that an ecological receptor would be unlikely to be adversely affected by the hot spot area of PCE since this 0.015 hectare (ha) area is less than the receptor's home range. Although this conclusion may possibly be correct, the SLERA should demonstrate that this is the case. Please model exposure to several small mammals (herbivore and insectivore) that have small home ranges such as the deer mouse (0.062 ha) and short-tailed shrew (0.39 ha) based on the mean upper confidence level (UCL) and average PCE concentrations present within Parcel A (as well as adjacent areas such as soil results from Parcel F if needed to comprise an area equal to each receptor's home range). The estimated exposure doses ingested by these receptors should be compared to a mammalian no-observed-adverse-effect level (NOAEL) and possibly a lowest-observed-adverse-effect level (LOAEL) TRV (if exposure exceeds the NOAEL TRV).	As requested, the ERA process will be continued beyond the SLERA into Step 3.1, Refinement of Preliminary COPECs, in order to further evaluate potential risk to small mammals from the PCE hotspot in soil. The risk assessment will also make clear that the risk due to PCE is not the responsibility of the government. Additional discussion regarding PCE will be presented in the forthcoming Feasibility Study being prepared for OMS 28.	Tables 22 through 26	Sections 4.2.3 has been updated, and Section 4.3 has been added to continue the ERA process. No text edits are required. Based on ADEM's January 20, 2022 response to the Army's comment, an additional discussion regarding the responsibility for PCE clean up has not been included in this document in order to avoid any delay in its review. As stated, additional discussion regarding PCE will be presented in the forthcoming FS that is currently being prepared for OMS #28.

**U.S. ARNG Reponses to ADEM Review and Evaluations: Responses to Comments on the Risk Assessment Report for Organizational Maintenance Shop 28 (OMS 28),
dated November 10, 2021 provided on 20 January 2022.**

ADEM Comment Number	Army Response to November 10, 2021 Comment	ADEM Response provided on January 20, 2022	Army Response
SLERA Comment 2	“The risk assessment will also make clear that the risk due to perchloroethylene (PCE) is not the responsibility of the government. Additional discussion regarding PCE will be presented in the forthcoming Feasibility Study being prepared for OMS 28.”	ADEM agrees that the discussion regarding the responsibility of the PCE contamination should be included in the forthcoming Feasibility Study. However, as stated by ADEM in the February 25, 2021 letter, ADEM has not concurred with this statement and will not be able to fully evaluate this statement until receipt of the Feasibility Study. Furthermore, including this statement as fact in the revised Risk Assessment Report may delay ADEM’s concurrence with the completeness and accuracy of the risk assessment. Please address.	No text edits are required. Based on ADEM's January 20, 2022 response to the Army's comment, an additional discussion regarding the responsibility for PCE clean up has not been included in this document in order to avoid any delay in its review. As stated, additional discussion regarding PCE will be presented in the forthcoming FS that is currently being prepared for OMS #28.
SLERA Comment 3	As requested, the ERA process will be continued beyond the SLERA into Step 3.1, Refinement of Preliminary COPECs, in order to further evaluate potential risk to small mammals from the PCE hotspot in soil. The risk assessment will also make clear that the risk due to PCE is not the responsibility of the government. Additional discussion regarding PCE will be presented in the forthcoming Feasibility Study being prepared for OMS 28.	Please see the above evaluation of ALARNG’s response to “SLERA Comment 2.”	No text edits are required. Based on ADEM's January 20, 2022 response to the Army's comment, an additional discussion regarding the responsibility for PCE clean up has not been included in this document in order to avoid any delay in its review. As stated, additional discussion regarding PCE will be presented in the forthcoming FS that is currently being prepared for OMS #28.

THE EDITS MADE IN THIS RISK ASSESSMENT REPORT, REVISION 1 (MAY 2022) REFLECTING CHANGES TO THE ORIGINAL RISK ASSESSMENT REPORT (MARCH 2019) ARE SHOWN BELOW FOR EACH TABLE, APPENDIX, AND ASSOCIATED TEXT.

Location of Revision	Revision Made
TABLES	
Table 2	Revised screening value (SV) for acetone at Parcels E and F. Revised beginning soil collection depth from 0.5 to 0 foot in footnote 1. Updated Source date for USEPA Regional Screening Level Table from 2018 to 2021.
Table 3	Revised SV for acetone at Parcel F. Updated Source date for USEPA Regional Screening Level Table from 2018 to 2021.
Table 4	Revised SV for acetone (Parcels E and F) and trans-1,2-Dichloroethene (Parcel F). Revised trans-1,2-Dichloroethene to a COPC at Parcel F. Revised Rationale Code for trans-1,2-Dichloroethene to ASL at Parcel F. Updated Source date for USEPA Regional Screening Level Table from 2018 to 2021.
Table 5	Added Appendix A table number source to the SV column. Revised SV for acetone (Parcels E and F), isopropylbenzene (Parcel F), and trans-1,2-Dichloroethene (Parcel F) for both Commercial/Industrial and Residential Scenarios. Revised Rationale Code for Acetone (Parcels E and F) to NSL and trans-1,2-Dichloroethene (Parcel F) to BSL for the Commercial/Industrial Scenario. Revised Rationale Code for Acetone (Parcels E and F) to NSL and trans-1,2-Dichloroethene (Parcel F) to ASL for the Residential Scenario. Revised trans-1,2-Dichloroethene to a COPC for the Residential Scenario (Parcel F). Revised footnote 4 to include 'Output is included in Appendix A on Tables A.1 - A.4. The appropriate table is shown for the respective screening value.'
Tables 8 and 9	Added trans-1,2-Dichloroethene and its associated statistics and exposure point concentration to Parcel F.
Table 10	Added Intake Equation/Model Name. Added chemical concentration in soil for each receptor. Deleted Fraction Ingested. Added Relative Bioavailability Factor to the Trespasser and Industrial Worker for the Oral Route. Revised footnote 1 to include '(50 weeks).'
Table 11	Revised footnote 3 to include 'Value for composite worker used.' Added Bioavailability source (USEPA, December 2012). Updated Source date for USEPA Regional Screening Levels User's Guide from 2018 to 2021.
Table 12	Added Intake Equation/Model Name. Added chemical concentration in soil and chemical concentration in air for each receptor. Revised Volatilization Factor value for each receptor. Revised footnote 3 to include '(50 weeks).'
Table 13	Updated Source date for USEPA Regional Screening Level Calculator from 2018a to 2021a. Updated Source date for USEPA Regional Screening Levels User's Guide from 2018b to 2021b.
	Added Intake Equation/Model Name. Added chemical concentration in soil for each receptor. Deleted Fraction Ingested. Added Relative Bioavailability Factor to the Construction Workers and Adult for the Oral Route. Added Bioavailability source (USEPA, December 2012). Updated Source date for USEPA Regional Screening Levels User's Guide from 2018 to 2021.
	Added Intake Equation/Model Name. Added chemical concentration in soil and chemical concentration in air for each receptor. Revised Volatilization Factor value for each receptor. Updated Source date for USEPA Regional Screening Level Calculator from 2018a to 2021a. Updated Source date for USEPA Regional Screening Levels User's Guide from 2018b to 2021b.

Location of Revision	Revision Made
Table 14	<p>Added Intake Equation/Model Name. Added chemical concentration in groundwater for each receptor. Revised Resident Body Area Available for Contact - adult and Body Area Available for Contact - child. Updated Source date for USEPA Regional Screening Levels User's Guide from 2018 to 2021. Updated Source date for VDEQ from 2015 to 2022.</p>
Table 15	<p>Added Intake Equation/Model Name. Added chemical concentration in groundwater and chemical concentration in air. Added footnote 2. Updated Source date for USEPA Regional Screening Levels User's Guide from 2018 to 2021.</p>
Table 16	<p>Added Intake Equation/Model Name. Added chemical concentration in groundwater and chemical concentration in air. Added footnotes 1 and 2. Added source for USEPA Exposure Factors Handbook (USEPA, September 2011). Updated Source date for USEPA Regional Screening Levels User's Guide from 2018 to 2021.</p>
Table 17	<p>Added trans-1,2-Dichloroethene and its toxicity factors to table. Revised SFO, IUR, RfCi (chronic and subchronic), and RfDo (subchronic) sources for cis-1,2-Dichloroethene. Revised RfDo (subchronic) and RfCi (subchronic) toxicity factors and sources for tetrachloroethene. Revised RfDo (subchronic) source and RfCi (subchronic) toxicity factor and source for trichloroethylene. Revised RfDo (subchronic) source and RfCi (chronic and subchronic) toxicity factor and source for vinyl chloride. Added revised sources to footnote 1.</p>
Table 18	<p>Added 'and COCs' to table title. Added column D 'Chemicals Contributing to Risk and Hazards (COCs)'. In Column A, Parcel E (Current Industrial Worker) revised Surface Soil and Groundwater to (No COPCs Identified). Cancer Risk, Parcel E (Future Resident Adult) revised Groundwater and Total values. Noncancer Hazard, Parcel A (Future Construction Worker) revised Groundwater and Total values. Noncancer Hazard, Parcel A (Future Industrial Worker) revised Surface Soil and Total values. Noncancer Hazard, Parcel A (Future Resident Adult and Child) revised Groundwater and Total values. Noncancer Hazard, Parcel E (Future Construction Worker) revised Groundwater and Total values. Noncancer Hazard, Parcel F (Future Construction Worker) revised Groundwater and Total values. Added Footnote 3. Added acronyms to footnotes to include: cis-1,2-DCE, COC, PCE, TCE, trans-1,2-DCE and VC.</p>
Table 19	<p>Due to toxicity values changing, numerous SSSLs were slightly revised. Several COCs were incorrectly identified in the original report submitted in March 2019. As per USEPA Region 4 Human Health Risk Assessment Supplemental Guidance, March 2018 Update, COCs are identified if a receptor's total risk or hazard (from all COPCs and media) exceeds a risk of 1E-4 or a hazard of 1. Based on this guidance, COCs are no longer identified for the following receptors and parcels:</p> <ul style="list-style-type: none"> Future Industrial Worker, Future Resident Adult, and Future Resident Child at Parcel B. Future Resident Adult at Parcel C. Future Industrial Worker at Parcel D. Current and Future Resident Adult and Child at Parcel H. <p>Revised Footnotes 3 and 5 for clarity. Updated Source date for USEPA Regional Screening Levels from 2018 to 2021.</p>
Tables 22 through 26	<p>New tables created based on ADEM, Comment 3 on the SLERA listed above.</p>

Location of Revision Revision Made

APPENDICES

Appendix A VISL Calculator Output

The VISL Calculator was rerun to identify screening levels based on the most recent toxicity criteria for all four scenarios:

Commercial (or Industrial) Worker using HQs of both 0.1 and 1.

Residential using HQs of both 0.1 and 1.

Acetone no longer has a screening level identified by the calculator.

trans-1,2-DCE now has a screening level identified by the calculator.

The screening level for cumene changed.

These screening level changes are reflected in Table 5.

Appendix B ProUCL Output

A 95% UCL was calculated using ProUCL for trans-1,2-dichloroethene in groundwater at Parcel F, and the ProUCL output information is included for both direct contact from groundwater and vapor intrusion from groundwater.

Appendix C Development of Dermal Absorption Exposure in Groundwater and Trench Model

Table C-1

Changed the source for the chemical concentration in water to "Table 8." The table number previously referred to was incorrect.

Tables C-2 through C-8

Added information for trans-1,2-dichloroethene, a new chemical of potential concern in groundwater at Parcel F, and updated the source date for Chemical-Specific Supporting Parameters in the footnotes.

Table C-9

Updated Source date for Chemical-Specific Parameters Supporting Table in the footnotes.

Added chemicals of potential concern for each parcel and calculated the concentration in air in a trench for each chemical.

Appendix D Chemicals of Specific Consideration

Table D-1

Updated Source date for RSL User's Guide in the footnotes.

Table D-2

Updated skin surface area available for contact for a child (0 to 6 years) and an adult (6 to 26 years)

Total risk was updated for TCE at each parcel, based on the surface area change.

Updated Source date for RSL User's Guide in the footnotes.

Tables D-3 through D-5

Updated Source date for RSL User's Guide in the footnotes.

Table D-6

Updated skin surface area available for contact for a child (0 to 6 years) and an adult (6 to 26 years)

Total risk was updated for TCE at each parcel, based on the surface area change.

Updated Source date for RSL User's Guide in the footnotes.

Appendix E Risk and Hazard Tables *

Table E-1

Updated surface soil volatilization factor, which changed inhalation risk and hazard.

Table E-2

Updated subchronic RfD and RfCi for PCE, which changed hazards.

Updated subchronic RfCi for TCE, which changed hazard.

Updated EPCs for PCE and TCE for the inhalation of vapors in a trench pathway, which changed risk and hazard.

Table E-3

Updated surface soil volatilization factor, which changed inhalation risk and hazard.

Location of Revision	Revision Made
Table E-4	Updated surface soil volatilization factor, which changed inhalation risk and hazard. Updated groundwater dermal intake for groundwater, which changed risk and hazard.
Table E-5	Updated surface soil volatilization factor, which changed inhalation hazard. Updated groundwater dermal intake for groundwater, which changed hazard. Updated EPC for TCE for the vapor intrusion pathway, which changed hazard.
Table E-6	Updated subchronic RfCi for TCE, which changed inhalation hazard.
Table E-8	Updated dermal intake for groundwater, which changed risk and hazard.
Table E-9	Updated dermal intake for groundwater, which changed hazard.
Table E-10	Updated subchronic RfCi for TCE, which changed inhalation hazard.
Table E-12	Updated dermal intake for groundwater, which changed risk and hazard.
Table E-13	Updated dermal intake for groundwater, which changed hazard.
Table E-14	Updated subchronic RfCi for TCE, which changed inhalation hazard.
Table E-16	Updated dermal intake for groundwater, which changed risk and hazard.
Table E-17	Updated dermal intake for groundwater, which changed hazard.
Table E-18	Updated subchronic RfCi for TCE, which changed inhalation hazard.
Table E-20	Added cis-1,2-DCE and vinyl chloride as chemicals of concern for the inhalation of vapors from a trench pathway. Updated dermal intake for groundwater, which changed risk and hazard. Updated chronic RfCi for vinyl chloride, which changed hazard.
Table E-21	Updated dermal intake for groundwater, which changed hazard.
Table E-22	Updated subchronic RfD and RfCi for PCE, which changed hazards. Updated subchronic RfCi for TCE, which changed hazard. Added trans-1,2-DCE as a chemical of concern for groundwater ingestion, dermal, and inhalation pathways.
Table E-23	Added trans-1,2-DCE as a chemical of concern for groundwater ingestion, dermal, and inhalation pathways.
Table E-24	Updated dermal intake for groundwater, which changed risk and hazard. Added trans-1,2-DCE as a chemical of concern for groundwater ingestion, dermal, and inhalation pathways. Updated chronic RfCi for vinyl chloride, which changed hazard.
Table E-25	Updated dermal intake for groundwater, which changed hazard. Added trans-1,2-DCE as a chemical of concern for groundwater ingestion, dermal, and inhalation pathways. Updated chronic RfCi for vinyl chloride, which changed hazard.
Table E-26	Updated dermal intake for groundwater, which changed risk and hazard.
Table E-27	Updated dermal intake for groundwater, which changed hazard.

Location of Revision	Revision Made
Appendix F J&E Appendix F-1	Created J&E Model Runs for trans-1,2,-DCE, a new vapor intrusion COC at Parcel F, for both industrial and residential scenarios. Renumbered original Tables F.1-1 through F.1-18, as needed, after incorporating the two new model runs as Tables F.1-8 and F.1-18 for the industrial and residential scenarios, respectively.
Appendix F-2	Removed J&E Model Runs (original Tables F.2-6 and F.2-11) for TCE at Parcels B and H, because TCE is no longer identified as a residential COC at these parcels. Renumbered original Tables F.2-1 through F.2-11 after removing these two tables.
Appendix F-3	Removed J&E Model Runs (original Tables F.3-6 and F.3-11) for TCE at Parcels B and H, because TCE is no longer identified as a residential COC at these parcels. Renumbered original Tables F.3-1 through F.3-11 after removing these two tables.
Appendix F-4	Removed J&E Model Runs (original Tables F.4-6 and F.4-11) for TCE at Parcels B and H, because TCE is no longer identified as a residential COC at these parcels. Renumbered original Tables F.4-1 through F.4-11 after removing these two tables.
Appendix G Development of Site-Specific Screening Levels	
Table G.1-1	Reran RSL Calculator for Construction Worker because of changes to subchronic RfD and RfCi for PCE.
Table G.1-4	Reran RSL Calculator for Resident because of change to chronic RfCi for vinyl chloride.
Table G.1-5b,c	Updated subchronic RfD and RfCi for PCE and subchronic RfCi for TCE, which changed SSSLs for these two COCs.
Table G.1-6	Updated subchronic RfCi for PCE and TCE, which changed the noncarcinogenic Acceptable Concentrations in Trench Air for these two COCs.
Table G.1-7b	Changed noncarcinogenic Acceptable Concentration in Trench Air and SSSL (Concentration in Groundwater) for PCE and TCE.
Table G.1-10	Updated the surface area for the child, which changed the SSSL.
Table G.2-1	Reran RSL Calculator for Construction Worker because of changes to subchronic RfD and RfCi for PCE.
Table G.2-4	Reran RSL Calculator for Resident because of change to chronic RfCi for vinyl chloride.
Table G.2-5b,c	Updated subchronic RfD and RfCi for PCE and subchronic RfCi for TCE, which changed SSSLs for these two COCs.
Table G.2-6	Updated subchronic RfCi for PCE and TCE, which changed the noncarcinogenic Acceptable Concentrations in Trench Air for these two COCs.
Table G.2-7b	Changed noncarcinogenic Acceptable Concentration in Trench Air and SSSL (Concentration in Groundwater) for PCE and TCE.
Table G.2-10	Updated the surface area for the child, which changed the SSSL.
Table G.3-1	Reran RSL Calculator for Construction Worker because of changes to subchronic RfD and RfCi for PCE.
Table G.3-4	Reran RSL Calculator for Resident because of change to chronic RfCi for vinyl chloride.
Table G.3-5b,c	Updated subchronic RfD and RfCi for PCE and subchronic RfCi for TCE, which changed SSSLs for these two COCs.
Table G.3-6	Updated subchronic RfCi for PCE and TCE, which changed the noncarcinogenic Acceptable Concentrations in Trench Air for these two COCs.
Table G.3-7b	Changed noncarcinogenic Acceptable Concentration in Trench Air and SSSL (Concentration in Groundwater) for PCE and TCE.
Table G.3-10	Updated the surface area for the child, which changed the SSSL.

Location of Revision	Revision Made
TEXT	
Global Edit	Source dates were updated throughout the document.
List of Tables and Acronyms	Updated Table 18 name, based on ADEM HHRA Comment 9 Added Tables 22 through 26 to list of Tables and acronyms based on continuing the ERA Process into Step 3.1 (ADEM SLERA Comment 3)
Section 1.1	Reworded text due to changes made later in the document.
Section 2.1	Changed surface soil depth from 0.5 to 0 feet, based on ADEM HHRA Comment 1.
Section 2.2	Changed Parcel A description to new owner.
Section 3.0	Renamed Section 3.4 to Development of Chemical Intakes, based on ADEM General Comment 1.
Section 3.1	Added trans-1,2-DCE as a COPC for Groundwater and for Vapor Intrusion from Groundwater based on updated screening levels.
Section 3.3	Revised text regarding surface soil interval, based on ADEM HHRA Comment 1.
Section 3.4	Renamed section heading and added text discussing chemical intakes and equations, based on ADEM General Comment 1.
Section 3.5	Added text, based on ADEM HHRA Comments 2 and 3.
Section 3.6.2	Inserted "Appendix E" to clarify where Tables E-1 through E-27 are found.
Section 3.6.3	Added discussion of risks and hazards for each parcel and receptor, based on ADEM HHRA Comments 4 and 5.
Section 3.7	Corrected text to read "final COCs" instead of "COPCs." Revised volatilization factors, based on current information.
Section 3.8	Changed "insignificant" to "below target risk and hazard levels," based on ADEM HHRA Comment 7. Added final COCs, based on ADEM HHRA Comment 8.
Section 4	Changed section heading to reflect additional work performed, based on ADEM SLERA Comment 3. Changes made based on continuing the ERA Process into Step 3.1 (ADEM SLERA Comment 3).
References	References having newer dates were updated and reorganized because of the date changes. References were added, based on the addition of new ERA text.
Footnotes:	* Changes to calculations, based on updated toxicity and/or exposure factors, are often so small that they are not distinguishable on the tables, because of the number of significant digits shown.