**CACIE Tool #NN** – **Source Node Moving Tool**

**srcloc\_modify.f**

**Version** **1.0**

**QA**: **QA**

# Description and Purpose

The Source Node Moving tool moves source nodes from the locations selected by the Source Cards Generation tool (***ca-src2stomp.pl***). During preliminary CA vadose zone model testing, it was noted that some source node locations selected by the Source Cards Generation tool (***ca-src2stomp.pl***) might not be optimal (e.g., source offsets along a linear source, gaps in source nodes, etc.) since those locations are selected based solely on areas. Visual inspection of source node locations may reveal minor source node location adjustments that can provide a better fit to waste site outlines. This tool allows for those location adjustments.

The Source Node Moving tool can move source nodes singly or as a block, which moves all nodes included in a defined source node group (i.e., i-start, i-end, j-start, j-end, k-start, k-end). The tool modifies the i,j-index locations for single source nodes or blocks of nodes, but does not modify source rates. The modeler should ensure that the discretization for nodes being moved remains unchanged. The tool does not check that the node size is the same for the initial location and final location for a node being moved.

Source nodes to move are supplied to the tool through an external control file. The format for this file is a single header line followed by up to 50 input lines that include waste site name, the initial i- and j-indices of the source node before the move, the final i- and j-indices of the source node after the move, and the type of source node move (identified by the keywords “single” or “block”). If the source move type is “single”, the i- and j-indices listed are the original and revised locations for that source node. Any other source nodes defined in the same source node group (i.e., i-start, i-end, j-start, j-end, k-start, k-end) will be output as individual nodes, since moving one node breaks up the group. As a result, “single” moves may significantly increase the size of the source file if the source node group that includes the “single” node is large. If the source move type is “block”, the i- and j-indices listed are the original and revised locations for the first source node in that source node group (see example below). Block moves will not significantly affect the file size of the output source file. Aqueous Volumetric and all Solute source node groups that are located at the target i- and j-indices will be moved.

Each waste site name must match a waste site name in the input source file (***e.g., rads1-src.card, rads2-src.card***), which is output from the Source Cards Generation tool (***ca-src2stomp.p***l). The code assumes that execution will occur in the ***sources*** subdirectory of the model directory, where the source file and the control file are located.

The following is an example control file:

Site istart jstart iend jend type

216-B-30 24 58 23 58 block

216-B-53B 45 60 52 61 single

Executing the Source Node Moving tool using this example control file would result in two source moves:

* For waste site 216-B-30, any source node groups starting with source node i,j-indices 24,58 (e.g., “Aqueous Volumetric, 24, 36, 58, 58, 210, 210, 3,” or “Solute, H-3, 24, 36, 58, 58, 210, 210, 3,”) will be moved to the new location with node i,j-indices 23,58. As a result, all source nodes in the block will be moved one node west, as a block. All Aqueous Volumetric and all Solute source nodes in any source node group starting with source node i,j-indices 24,58 will be moved.
* For waste site 216-B-53B, the single source node with i,j-indices 45,60 will be moved to the new location with i,j-indices 52,61. All other nodes in the source node group (e.g., “Aqueous Volumetric, 45, 51, 60, 60, 210, 210, 5,” or “Solute, H-3, 45, 51, 60, 60, 210, 210, 5,”) will remain in their original locations, but will all be defined individually.

Results from the Source Node Moving tool should always be verified to ensure that waste site aqueous and solute totals are unchanged, and that the locations have moved as expected.

# Functional Requirements

The following are the functional requirements (FR) of the Source Node Moving Tool:

FR-1: Read the name of the source file (e.g., rads1-src.card, rads2-src.card, created by the Source Cards Generation tool (***ca-src2stomp.pl***), the name of the tops file (created by the CAST tool), and the name of the control file as command line inputs.

FR-2: Read the uppermost active layer for each i,j-indexed column from the tops file.

FR-3: For each source node or block of source nodes to be moved, read the waste site name, initial i-index and j-index, revised i-index and j-index, and move type (“single” or “block”) from the control file.

FR-4: For each input line in the control file, read through the source file until the waste site being modified is found.

FR-5: For each input line in the control file, locate all source node groups that match the initial i‑index and j-index values:

* For “single” source moves, locate any source node groups that contain the target initial i‑index and j-index.
* For “block” source moves, locate any source node groups that begin with the target initial i‑index and j-index.

FR-6: For each input line in the control file, move all source node groups that match the initial i‑index and j-index values to the revised i-index and j-index:

* For “single” source moves, create a new source definition for the target node with the revised i‑index and j-index. If the uppermost active node at the new location is lower than the k-index values for the original location, revise the k-index values to the new lower value. Create new source definitions for any other source nodes that were in the source node group with the target node. These will be defined as single nodes at their original locations. Since the group is being broken up, the size of the resulting file can significantly increase.
* For “block” source moves, change the i‑index and j-index values for the source node group to start with the revised i-index and j-index. Check the uppermost active node at the new location of each node in the block moved. If any uppermost active node value for the new locations is lower than the k-index values for the original block location, revise the k-index values to the minimum uppermost active node for the new block.

FR-7: For each input line in the control file, write out a temporary file with the revised source locations.

FR-8: After all source node moves defined in the control file are complete, write a final output source file. Adjust the number of source domains to reflect any increase in the number of source definitions in the output file as a result of the source node moves.  The name of this file will be the root name of the input source file with “\_ mod\_last.card” appended (e.g., rads1-src\_mod\_last.card, rads2-src\_mod\_last.card).

# Software Requirements Specifications

FORTRAN, Linux Intel(R) Fortran Intel(R) 64 Compiler

Compiler Options: -o OutputFileName

Special Considerations: None

# Software Design Description

Flow:

The Source Node Moving Tool performs the following steps:

1. Declare variables – Character and array variables are declared.
2. Read command line arguments – Read the name of the source file (e.g., rads1-src.card, rads2-src.card, created by the Source Cards Generation tool (***ca-src2stomp.pl***), the name of the tops file (created by the CAST tool), and the name of the control file as command line inputs.
3. Read tops file – Read the uppermost active layer for each i,j-indexed column from the tops file.
4. Read control file – Read the control file for the waste sites to be moved, along with initial i-index and j-index, revised i-index and j-index, and move type (“single” or “block”) for each source node move. The code assumes that the first line is a header line (not used by the code). The number of input lines is limited to 50.
5. Loop through the following steps for each source node move line from the control file:
6. If this is the first iteration of the loop, open the source file (e.g., rads1-src.card, rads2-src.card, created by the Source Cards Generation tool (***ca-src2stomp.pl***) as input and a temporary output file; else open the temporary output file from the previous iteration of the loop as input and open another temporary file for output.
7. Read through the input file until the waste site being modified is found.
8. Read aqueous volumetric rates for each group of nodes defined for the target waste site and locate any source node groups that match the target initial i‑index and j-index. For “single” node moves, this would be any source node group that contains the target initial i‑index and j-index. For “block” node moves, this would be any source node group that starts with the target initial i‑index and j-index.
9. Move aqueous source node groups that match the initial i‑index and j-index values to the revised i-index and j-index. For “single” source moves, create a new source definition for the target node with the revised i‑index and j-index. Create new source definitions for any other source nodes that were in the source node group with the target node. Locations for these additional source nodes are unchanged. For “block” source moves, change the i‑index and j-index values for the source node group to start with the revised i-index and j-index. Adjust k-index values lower if the uppermost active layer for any moved source node is less than the original k‑values.
10. Read solute rates for each group of nodes defined for the target waste site and locate any source node groups that match the target initial i‑index and j-index. For “single” node moves, this would be any source node group that contains the target initial i‑index and j-index. For “block” node moves, this would be any source node group that starts with the target initial i‑index and j-index.
11. Move solute source node groups that match the initial i‑index and j-index values to the revised i-index and j-index. For “single” source moves, create a new source definition for the target node with the revised i‑index and j-index. Create new source definitions for any other source nodes that were in the source node group with the target node. Locations for these additional source nodes are unchanged. For “block” source moves, change the i‑index and j-index values for the source node group to start with the revised i-index and j-index. Adjust k-index values lower if the uppermost active layer for any moved source node is less than the original k-values
12. Write the revised source information to the temporary output file; all other waste sites/rates are unchanged.
13. Copy the final temporary output file to a file with name ending in “mod\_last.card” (e.g., rads1-src\_mod\_last.card, rads2-src\_mod\_last.card).

Arguments:

SourceFile – Name of the source file (e.g., rads1-src.card, rads2-src.card, created by the Source Cards Generation tool (***ca-src2stomp.pl***) that will be modified.

TopFile – Name of the tops file (created by the CAST tool).

ControlFile – Name of the control file that lists source nodes to be moved.

Input Files:

Source file – Source file (e.g., rads1-src.card, rads2-src.card, created by the Source Cards Generation tool (***ca-src2stomp.pl***) that will be modified.

Top File – File containing the uppermost active layer for each i,j-indexed column from the tops file (created by the CAST tool).

Control file – File that lists source nodes to be moved. The first line is assumed to be a comment line. The input order for the source move lines is 1) waste site, 2) initial i-index and j‑index, 3) revised i-index and j-index, and 4) move type (“single” or “block”). Format is space delimited. See Section 1 for example of the control file formatting.

Output Files:

Temporary output files – The code writes to and then reads from temporary output files that are created for each input line from the control file. These can be deleted when the source modifications are complete.

Final output file – Copy of the last temporary output file. File name ends with “mod\_last.card” (e.g., rads1-src\_mod\_last.card, rads2-src\_mod\_last.card).

Tool Runner:

The following is the shell script configuration that will be passed as an argument to the Tool Runner for qualified runs:

{directory path to repository}\tools\ca-srcmove\linux\srcloc\_modify\_linux-intel-64.exe SourceFile TopFile ControlFile

where:

SourceFile = name of source file to be modified  
TopFile = name of the tops file  
ControlFile = name of the control file with source nodes to be moved

Code Review:

Sara Lindberg performed a code walkthrough on 04/06/2020. No impacts to other repository tools or library dependencies were identified for the Source Node Moving tool.

# Requirements Traceability Matrix

The requirements traceability matrix for the Source Node Moving tool is presented in Table 1.

| Table 1  Requirements Traceability Matrix | | |
| --- | --- | --- |
| **Functional Requirement ID** | **Acceptance Test ID** | **Test Case** |
| QA Level | CACIE-srcloc\_modify-IT-1 | Installation Test |
| FR-1 to FR-8 | CACIE-srcloc\_modify-AT-1-5 | Set up one or more control files with the following scenarios:   1. Move a single source node at the beginning of a source node group (i.e., located at I-Start, J-Start from the source group definition). 2. Move a single source node in the middle of a source node group. 3. Move a block of source nodes for a liquid source waste site. 4. Move a block of source nodes for a solid source waste site. 5. Move a block of source nodes for a waste site with both liquid and solid sources.   Run the tool for these scenarios.  Plot the original source locations.  Plot the modified source locations.  Compare the plots to ensure that the source nodes were moved correctly and that all other source nodes remained in their original locations.  Sum the original source file rates by waste site.  Sum the modified source file rates by waste site.  Compare the rates for the original and modified source files by waste site. Rates should be unchanged. |

# Installation Test Plan and Acceptance Test Plan Cases

The installation test plan for Source Node Moving is presented in Table 2 and the acceptance test plan cases for Source Node Moving is presented in Table 3, Table 4, Table 5, Table 6, and Table 7.

| Table 2  **Source Node Moving Installation Test Plan** | | | |
| --- | --- | --- | --- |
| **Source Node Moving Installation Testing**  **CACIE-srcloc\_modify – IT-1** | | **Date:** | |
| **Tool Runner Log File Location for this test:**  **[PUT LINK TO THE DIRECTORY HERE]** | | **Test Performed By: [FIRST & LAST NAME]** | |
| **Testing Directory: [PROVIDE LINK TO TESTING DIRECTORY]** | | | |
| **Test Step** | **Test Instruction** | **Expected Result** | **Test Result  (Pass/Fail)** |
| Tools Code Repository Directory: | | | |
| Navigate to the testing directory | | | |
| 1 | Invoke Tool runner and test the installation of the tool as follows:  *./* *CACIE\_srcloc\_modify\_IT-1.sh* | | |
| 2 | Verify Tool Runner is invoked and executed. | Tool runner log file is generated (***srcloc\_modify\_linux-intel-4\_install\_test.log***) |  |
| 3 | Verify tool is invoked and executed. | ***rads2-src\_mod\_last.card*** file, ***rads2-src\_mod1.card*** file and ***rads2-src\_mod2.card*** file are generated |  |

| Table 3  **Source Node Moving Acceptance Test Plan Case 1** | | | |
| --- | --- | --- | --- |
| **Source Node Moving Acceptance Testing**  **CACIE-Source Node Moving – AT-1** | | **Date:** | |
| **Tool Runner Log File Location for this test:**  **\CAVE\v4-2Test\mpondSLM\sources-qa\_test-1** | | **Test Performed By:** | |
| **Testing Directory: \CAVE\v4-2Test\mpondSLM\sources-qa\_test-1** | | | |
| **Test Step** | **Test Instruction** | **Expected Result** | **Test Result  (Pass/Fail)** |
| Navigate to the Testing Directory | | | |
| 1 | Make sure the following files are present in the working directory: *rads1-src.card* and *rads2-src.card* and *input.top* in the *ModelName/build* directory.  This test case is designed to test the move of a single source node at the beginning of a source node group for a liquid source waste site listed in both files: *rads1-src.card* and *rads2-src.card* to a location where the uppermost active node is higher than the original location. | The files are present in the working directory. |  |
| 2 | Copy the shell script “run\_move\_source\_nodes.sh” located in **\CAVE\v4-2\shells\xprt-execution** into your testing directory and replace the XXXX in there with the model name according to the instructions given in the script. | The shell script “*run\_move\_source\_nodes.sh*” is copied into the working directory and the XXXX is replaced with “*mpondSLM*”. |  |
| 3 | Copy the template of control file “src\_node\_changes.dat” from **\CAVE\v4-2\templates\src\_node\_move** to the working directory and modify it using the instructions given in the README file located in the same directory, to move a single source node at the beginning of a source node group. | The control file is copied and the contents have been modified as follows:  Site: “2607-EQ”, istart:25, jstart: 16, iend:30, jend:14, type: single |  |
| 4 | In Linux terminal, from the working directory: execute the shell script by typing:  *./run\_move\_source\_nodes.sh*.  There are going to be 4 files produced as a result:  2 logfiles - *move\_source\_node\_mpondSLM\_screen.log and sources\_mpondSLM.log;*  2 modified rads1 and rads2 source card files-  *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.* | The four files are produced after the script execution: *move\_source\_node\_mpondSLM\_screen.log, sources\_mpondSLM.log,*  *rads1-src\_mod\_last.card,* and  *rads2-src\_mod\_last.card.* |  |
| 5 | In both modified source card files, *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card,* the single source node at the beginning of a source node group should be moved from its original location to the location specified in the control file. The locations of the rest of the source nodes in that source node group remain unchanged and are outputted as individual nodes.  The total number of sources in the modified files *rads1-src\_mod\_last.card* and *rads2- src\_mod\_last.card*, reported on line 8, should reflect the changes in the number of sources brought by the single source node moving. | The single node at the beginning of the source node group is moved from i=25, j=16, k=315 to i=30, j=14, k=315. The rest of the nodes in this source node group remain at their initial locations but are outputted as individual nodes in the modified source card files for both, Aqueous Volumetric and Solute sources in  *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.*  The individual nodes should be as follows (istart,iend,jstart,jend):  26,26,16,16,315,315,  27,27,16,16,315,315,  The number of sources specified on line 8 in *rads1-src\_mod\_last.card* file should be updated to 14 and in *rads2-src\_mod\_last.card* file should be updated to 15. |  |
| 6 | Make a plot of modified source location by following Testing Process Description in Appendix A. Make a plot ‘mpond-CA-source-nodes\_unmodified.png’ of the original unmodified source location by following Testing Process Description in Appendix A and using *rads1-src.card* and *rads2-src.card* files as arguments. Compare the source location in both plots to ensure that the source nodes were moved correctly. | The modified source location corresponds to the requirements of this testing. |  |
| 7 | Sum the source rates by waste site in the original source files: rads1-src.card and rads2-src.card. Sum the modified source rates by waste site in the modified source files: *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.*  Compare the sums of the original and modified source rates for each waste site- they should be identical. | The sums of the original and modified source rates for each waste site should be identical. |  |

| Table 4  **Source Node Moving Acceptance Test Plan Case 2** | | | |
| --- | --- | --- | --- |
| **Source Node Moving Acceptance Testing**  **CACIE-Source Node Moving – AT-2** | | **Date:** | |
| **Tool Runner Log File Location for this test:**  **\CAVE\v4-2Test\mpondSLM\sources-qa\_test-2** | | **Test Performed By:** | |
| **Testing Directory: \CAVE\v4-2Test\mpondSLM\sources-qa\_test-2** | | | |
| **Test Step** | **Test Instruction** | **Expected Result** | **Test Result  (Pass/Fail)** |
| Navigate to the Testing Directory | | | |
| 1 | Make sure the following files are present in the working directory: *rads1-src.card* and *rads2-src.card* and *input.top* in the *ModelName/build* directory.  This test case is designed to test the move of a single source node in the middle of a source node group for a liquid source waste site listed in both files: *rads1-src.card* and *rads2-src.card*  to a location where the uppermost active node is lower than the original location. | The files are present in the working directory. |  |
| 2 | Copy the shell script “run\_move\_source\_nodes.sh” located in **\CAVE\v4-2\shells\xprt-execution** into your testing directory and replace the XXXX in there with the model name according to the instructions given in the script. | The shell script “*run\_move\_source\_nodes.sh*” is copied into the working directory and the XXXX is replaced with “*mpondSLM*”. |  |
| 3 | Copy the template of control file “src\_node\_changes.dat” from **\CAVE\v4-2\templates\src\_node\_move** to the working directory and modify it using the instructions given in the README file located in the same directory, to move a single source node in the middle of a source node group. | The control file is copied and the contents have been modified as follows:  Site: “2607-EQ”, istart:26, jstart: 16, iend:30, jend:20, type: single |  |
| 4 | In Linux terminal, from the working directory: execute the shell script by typing:  *./run\_move\_source\_nodes.sh*.  There are going to be 4 files produced as a result:  2 logfiles - *move\_source\_node\_mpondSLM\_screen.log* and *sources\_mpondSLM.log;*  2 modified rads1 and rads2 source card files-  *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.* | The four files are produced after the script execution: *move\_source\_node\_mpondSLM\_screen.log, sources\_mpondSLM.log,*  *rads1-src\_mod\_last.card,* and  *rads2-src\_mod\_last.card.* |  |
| 5 | In both modified source card files, *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card,* the single source node in the middle of a source node group should be moved from its original location to the location specified in the control file. The locations of the rest of the source nodes in that source node group remain unchanged and are outputted as individual nodes.  The total number of sources in the modified files *rads1-src\_mod\_last.card* and *rads2- src\_mod\_last.card*, reported on line 8, should reflect the changes in the number of sources brought by the single source node moving. | The single node at the beginning of the source node group is moved from i=26, j=16, k=315 to i=30, j=20, k=314. The rest of the nodes in this source node group remain at their initial locations but are outputted as individual nodes in the modified source card files for both, Aqueous Volumetric and Solute sources in  *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.*  The individual nodes should be as follows (istart,iend,jstart,jend):  25,25,16,16,315,315,  27,27,16,16,315,315,  The number of sources specified on line 8 in *rads1-src\_mod\_last.card* file should be updated to 14 and in *rads2-src\_mod\_last.card* file should be updated to 15. |  |
| 6 | Make a plot of modified source location by following Testing Process Description in Appendix A. Make a plot ‘mpond-CA-source-nodes\_unmodified.png’ of the original unmodified source location by following Testing Process Description in Appendix A and using *rads1-src.card* and *rads2-src.card* files as arguments. Compare the source location in both plots to ensure that the source nodes were moved correctly. | The modified source location corresponds to the requirements of this testing. |  |
| 7 | Sum the source rates by waste site in the original source files: rads1-src.card and rads2-src.card. Sum the modified source rates by waste site in the modified source files: *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.*  Compare the sums of the original and modified source rates for each waste site- they should be identical. | The sums of the original and modified source rates for each waste site should be identical. |  |

| Table 5  **Source Node Moving Acceptance Test Plan Case 3** | | | |
| --- | --- | --- | --- |
| **Source Node Moving Acceptance Testing**  **CACIE-Source Node Moving – AT-3** | | **Date:** | |
| **Tool Runner Log File Location for this test:**  **\CAVE\v4-2Test\mpondSLM\sources-qa\_test-3** | | **Test Performed By:** | |
| **Testing Directory: \CAVE\v4-2Test\mpondSLM\sources-qa\_test-3** | | | |
| **Test Step** | **Test Instruction** | **Expected Result** | **Test Result  (Pass/Fail)** |
| Navigate to the Testing Directory | | | |
| 1 | Make sure the following files are present in the working directory: *rads1-src.card* and *rads2-src.card* and *input.top* in the *ModelName/build* directory.  This test case is designed to test the move of a block of source nodes for a liquid source waste site listed in both files: *rads1-src.card* and *rads2-src.card* to a location where the uppermost active nodes are lower than the original location and with varying elevation. The tool will choose the lowest uppermost active node in the new location and place the whole source block at this elevation. | The files are present in the working directory. |  |
| 2 | Copy the shell script “run\_move\_source\_nodes.sh” located in **\CAVE\v4-2\shells\xprt-execution** into your testing directory and replace the XXXX in there with the model name according to the instructions given in the script. | The shell script “*run\_move\_source\_nodes.sh*” is copied into the working directory and the XXXX is replaced with “*mpondSLM*”. |  |
| 3 | Copy the template of control file “src\_node\_changes.dat” from **\CAVE\v4-2\templates\src\_node\_move** to the working directory and modify it using the instructions given in the README file located in the same directory, to move the block of source nodes for a liquid source waste site. | The control file is copied and the contents have been modified as follows:  Site: “2607-EQ”, istart:25, jstart: 16, iend:30, jend:35, type: block |  |
| 4 | In Linux terminal, from the working directory: execute the shell script by typing:  *./run\_move\_source\_nodes.sh*.  There are going to be 4 files produced as a result:  2 logfiles - *move\_source\_node\_mpondSLM\_screen.log and sources\_mpondSLM.log;*  2 modified rads1 and rads2 source card files-  *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.* | The four files are produced after the script execution: *move\_source\_node\_mpondSLM\_screen.log,sources\_mpondSLM.log,rads1-src\_mod\_last.card,* and  *rads2-src\_mod\_last.card.* |  |
| 5 | In both modified source card files, *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card,* the whole liquid source waste site should be moved from its original location to the location specified in the control file, where *istart* and *jstart* indicate the original and *iend* and *jend* indicate the revised locations for the first source node in the source node group.  The total number of sources in the modified files *rads1-src\_mod\_last.card* and *rads2- src\_mod\_last.card*, reported on line 8, should remain unchanged from the number of sources specified in the original files: *rads1-src.card* and *rads2-src.card* correspondingly. | The whole block of liquid waste site for both, Aqueous Volumetric and Solute sources in  *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card* files is moved from  25,27,16,16,315,315,  To  30,32, 35, 35,313,313,  The number of sources specified on line 8 in the *rads1-src\_mod\_last.card* file should be 10 and in the *rads2-src\_mod\_last.card* file should be 11. |  |
| 6 | Make a plot of modified source location by following Testing Process Description in Appendix A. Make a plot ‘mpond-CA-source-nodes\_unmodified.png’ of the original unmodified source location by following Testing Process Description in Appendix A and using *rads1-src.card* and *rads2-src.card* files as arguments. Compare the source location in both plots to ensure that the source nodes were moved correctly. | The modified source location corresponds to the requirements of this testing. |  |
| 7 | Sum the source rates by waste site in the original source files: *rads1-src.card* and *rads2-src.card*. Sum the modified source rates by waste site in the modified source files: *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.*  Compare the sums of the original and modified source rates for each waste site- they should be identical. | The sums of the original and modified source rates for each waste site should be identical. |  |

| Table 6  **Source Node Moving Acceptance Test Plan Case 4** | | | |
| --- | --- | --- | --- |
| **Source Node Moving Acceptance Testing**  **CACIE-Source Node Moving – AT-4** | | **Date:** | |
| **Tool Runner Log File Location for this test:**  **\CAVE\v4-2Test\mpondSLM\sources-qa\_test-4** | | **Test Performed By:** | |
| **Testing Directory: \CAVE\v4-2Test\mpondSLM\sources-qa\_test-4** | | | |
| **Test Step** | **Test Instruction** | **Expected Result** | **Test Result  (Pass/Fail)** |
| Navigate to the Testing Directory | | | |
| 1 | Make sure the following files are present in the working directory: *rads1-src.card* and *rads2-src.card* and *input.top* in the *ModelName/build* directory.  This test case is designed to test the move of a block of source nodes for a solid source waste site listed in both files: *rads1-src.card* and *rads2-src.card* | The files are present in the working directory. |  |
| 2 | Copy the shell script “run\_move\_source\_nodes.sh” located in **\CAVE\v4-2\shells\xprt-execution** into your testing directory and replace the XXXX in there with the model name according to the instructions given in the script. | The shell script “*run\_move\_source\_nodes.sh*” is copied into the working directory and the XXXX is replaced with “*mpondSLM*”. |  |
| 3 | Copy the template of control file “src\_node\_changes.dat” from **\CAVE\v4-2\templates\src\_node\_move** to the working directory and modify it using the instructions given in the README file located in the same directory, to move the block of source nodes for a solid source waste site. | The control file is copied and the contents have been modified as follows:  Site: “SolidSite”, istart:20, jstart: 40, iend:30, jend:45, type: block |  |
| 4 | In Linux terminal, from the working directory: execute the shell script by typing:  *./run\_move\_source\_nodes.sh*.  There are going to be 4 files produced as a result:  2 logfiles - *move\_source\_node\_mpondSLM\_screen.log and sources\_mpondSLM.log;*  2 modified rads1 and rads2 source card files-  *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.* | The four files are produced after the script execution: *move\_source\_node\_mpondSLM\_screen.log, sources\_mpondSLM.log,*  *rads1-src\_mod\_last.card,* and  *rads2-src\_mod\_last.card.* |  |
| 5 | In both modified source card files, *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card,* the whole solid source waste site should be moved from its original location to the location specified in the control file, where *istart* and *jstart* indicate the original and *iend* and *jend* indicate the revised locations for the first source node in the source node group.  The total number of sources in the modified files *rads1-src\_mod\_last.card* and *rads2- src\_mod\_last.card*, reported on line 8, should remain unchanged from the number of sources specified in the original files: *rads1-src.card* and *rads2-src.card* correspondingly. | The whole block of solid waste site for Solute sources in  *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card* files is moved from  20,21,40,41,312,312,  To  30,31,45,46,312,312,  The number of sources specified on line 8 in the *rads1-src\_mod\_last.card* file should be 10 and in the *rads2-src\_mod\_last.card* file should be 11. |  |
| 6 | Make a plot of modified source location by following Testing Process Description in Appendix A. Make a plot ‘mpond-CA-source-nodes\_unmodified.png’ of the original unmodified source location by following Testing Process Description in Appendix A and using *rads1-src.card* and *rads2-src.card* files as arguments. Compare the source location in both plots to ensure that the source nodes were moved correctly. | The modified source location corresponds to the requirements of this testing. |  |
| 7 | Sum the source rates by waste site in the original source files: *rads1-src.card* and *rads2-src.card*. Sum the modified source rates by waste site in the modified source files: *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.*  Compare the sums of the original and modified source rates for each waste site- they should be identical. | The sums of the original and modified source rates for each waste site should be identical. |  |

| Table 7  **Source Node Moving Acceptance Test Plan Case 5** | | | |
| --- | --- | --- | --- |
| **Source Node Moving Acceptance Testing**  **CACIE-Source Node Moving – AT-5** | | **Date:** | |
| **Tool Runner Log File Location for this test:**  **\CAVE\v4-2Test\mpondSLM\sources-qa\_test-5** | | **Test Performed By:** | |
| **Testing Directory: \CAVE\v4-2Test\mpondSLM\sources-qa\_test-5** | | | |
| **Test Step** | **Test Instruction** | **Expected Result** | **Test Result  (Pass/Fail)** |
| Navigate to the Testing Directory | | | |
| 1 | Make sure the following files are present in the working directory: *rads1-src.card* and *rads2-src.card* and *input.top* in the *ModelName/build* directory.  This test case is designed to test the move of a block of source nodes for a waste site with both, liquid and solid sources, listed in both files: *rads1-src.card* and *rads2-src.card.* | The files are present in the working directory. |  |
| 2 | Copy the shell script “run\_move\_source\_nodes.sh” located in **\CAVE\v4-2\shells\xprt-execution** into your testing directory and replace the XXXX in there with the model name according to the instructions given in the script. | The shell script “*run\_move\_source\_nodes.sh*” is copied into the working directory and the XXXX is replaced with “*mpondSLM*”. |  |
| 3 | Copy the template of control file “src\_node\_changes.dat” from **\CAVE\v4-2\templates\src\_node\_move** to the working directory and modify it using the instructions given in the README file located in the same directory, to move a block of source nodes for a waste site with both, liquid and solid sources. | The control file is copied and the contents have been modified as follows:  Site: “2101-M POND”, istart:27, jstart: 26, iend:43, jend:43, type: block |  |
| 4 | In Linux terminal, from the working directory: execute the shell script by typing:  *./run\_move\_source\_nodes.sh*.  There are going to be 4 files produced as a result:  2 logfiles - *move\_source\_node\_mpondSLM\_screen.log and sources\_mpondSLM.log;*  2 modified rads1 and rads2 source card files-  *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.* | The four files are produced after the script execution: *move\_source\_node\_mpondSLM\_screen.log, sources\_mpondSLM.log,*  *rads1-src\_mod\_last.card,* and  *rads2-src\_mod\_last.card.* |  |
| 5 | In both modified source card files, *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card,* both,solid and liquid sources for a waste site should be moved from their original location to the location specified in the control file, where *istart* and *jstart* indicate the original and *iend* and *jend* indicate the revised locations for the first source node in the source node group.  The total number of sources in the modified files *rads1-src\_mod\_last.card* and *rads2- src\_mod\_last.card*, reported on line 8, should remain unchanged from the number of sources specified in the original files: *rads1-src.card* and *rads2-src.card* correspondingly. | The whole block for solid and liquid sources for the same waste site in  *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card* files are moved from  27,32,26,28,312,312,  To  43,48,43,45,312,312,  The number of sources specified on line 8 in the *rads1-src\_mod\_last.card* file should be 10 and in the *rads2-src\_mod\_last.card* file should be 11. |  |
| 6 | Make a plot of modified source location by following Testing Process Description in Appendix A. Make a plot ‘mpond-CA-source-nodes\_unmodified.png’ of the original unmodified source location by following Testing Process Description in Appendix A and using *rads1-src.card* and *rads2-src.card* files as arguments. Compare the source location in both plots to ensure that the source nodes were moved correctly. | The modified source location corresponds to the requirements of this testing. |  |
| 7 | Sum the source rates by waste site in the original source files: rads1-src.card and rads2-src.card. Sum the modified source rates by waste site in the modified source files: *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.*  Compare the sums of the original and modified source rates for each waste site- they should be identical. | The sums of the original and modified source rates for each waste site should be identical. |  |

# Acceptance Test Report

To complete the Acceptance Testing use Appendix A. The five test cases are described as follows:

* Acceptance Test 1 is in Table A-1. The M Pond area model is used to test the move of a single node at the beginning of a source node group for a liquid waste site while the rest of the source nodes remain unchanged. The changes are made to the *rads1-src.card* and *rads2-src.card* files and saved in the newly created files: *rads1-src\_mod\_last.card* and *rads2-src\_mod\_last.card*
* Acceptance Test 2 is in Table A-2. The M Pond area model is used to test the move of a single node in the middle of a source node group for a liquid waste site while the rest of the source nodes remain unchanged. The changes are made to the *rads1-src.card* and *rads2-src.card* files and saved in the newly created files: *rads1-src\_mod\_last.card* and *rads2-src\_mod\_last.card*
* Acceptance Test 3 is in Table A-3. The M Pond area model is used to test the move of a block of source nodes for a liquid waste site. The changes are made to the *rads1-src.card* and *rads2-src.card* files and saved in the newly created files: *rads1-src\_mod\_last.card* and *rads2-src\_mod\_last.card*
* Acceptance Test 4 is in Table A-4. The M Pond area model is used to test the move of a block of source nodes for a solid waste site. The changes are made to the *rads1-src.card* and *rads2-src.card* files and saved in the newly created files: *rads1-src\_mod\_last.card* and *rads2-src\_mod\_last.card*
* Acceptance Test 5 is in Table A-5. The M Pond area model is used to test the move of a block of source nodes for a waste site with both, liquid and solid sources. The changes are made to the *rads1-src.card* and *rads2-src.card* files and saved in the newly created files: *rads1-src\_mod\_last.card* and *rads2-src\_mod\_last.card*.

Details of these tests, when they were conducted, by whom, and if they Passed or Failed are in each table of Appendix A.

# User Guide

Refer to Section 4 of this software management plan for a full description of the required inputs for the Source Node Moving. The structure for the control file is provided in Section 1. It is recommended that a shell script is used to execute the tool. The recommended structure of this shell script is shown below:

TOOL=<path/to/ srcloc\_modify\_linux-intel-64.exe>

SOURCEFILE=<path/to/source/file>

TOPFILE=<path/to/input.top/file>

CONTROLFILE=<path/to/control//file>

$TOOL $SOURCEFILE $TOPFILE $CONTROLFILE

# Tool Versions

This section details changes incorporated into each version of the Source Node Moving tool.

* 1.0 – Tool was developed.

# Appendix A

**Completed Acceptance Test Cases**

**Testing Process Description**

To make plots of modified sources:

1. In Linux terminal, from your working directory, type:

*./create\_cie\_ca\_source\_location\_plot\_file.sh CA rads1-src\_mod\_last.card* *rads2-src\_mod\_last.card*

Execution of this shell script will create *CA\_srcloc\_by\_site.dat* file needed for the Tecplot layout file in the next step.

1. Open *CA\_mpond\_source\_locations.lay* in Tecplot and make plots of the modified source location.
2. The plot with the original (non-modified) source locations is located in each of the testing directories. In these plots, compare the original and modified source locations. The new location of the source should correspond to the requirement of each specific test case.

**Tool Runner Log**

###Executing move Source Location tool###

###Executing Fingerprint Tool###

INFO--04/03/2020 10:21:47 AM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 10:21:47 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 10:21:47 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 10:21:47 AM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 10:21:47 AM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 10:21:47 AM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-1/rads1-src.card --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 10:21:47 AM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 10:21:48.036280

/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-1/rads1-src.card 1ae6ef03f9aa341c63733ab8ee02a4871e418943617933b41ab67831ce6ba10f

###Finished Process###

###Executing Fingerprint Tool###

INFO--04/03/2020 10:21:48 AM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 10:21:48 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 10:21:48 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 10:21:48 AM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 10:21:48 AM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 10:21:48 AM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-1/rads2-src.card --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 10:21:48 AM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 10:21:48.352827

/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-1/rads2-src.card b0457121a1b158462645213169dbc14b1d8749c1c222e068a6da8dd92145d29f

###Finished Process###

###Executing Fingerprint Tool###

INFO--04/03/2020 10:21:48 AM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 10:21:48 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 10:21:48 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 10:21:48 AM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 10:21:48 AM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 10:21:48 AM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/build/input.top --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 10:21:48 AM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 10:21:48.673461

/home/mweber/CAVE/v4-2Test/mpondSLM/build/input.top e05cf2fad49da8c4a67fadb91d0d228b99085324111535028156e816a09bdde9

###Finished Process###

###Executing Fingerprint Tool###

INFO--04/03/2020 10:21:48 AM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 10:21:48 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 10:21:48 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 10:21:48 AM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 10:21:48 AM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 10:21:48 AM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-1/src\_node\_changes.dat --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 10:21:48 AM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 10:21:48.948810

/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-1/src\_node\_changes.dat 00fc3b50643c19552846ce75b73d4f47a3741e19bfce9fbb048b21192974d0d4

###Finished Process###

###Executing aq\_mod\_avg Tool for: /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-1/rads1-src.card ###

INFO--04/03/2020 10:21:49 AM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 10:21:49 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 10:21:49 AM--Code Version: 5f692523d582be0b7c1ece9b655899fa9d2399bf Local repo SHA-1 has does not correspond to a remote repo release version: ../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe<--c19b992f2fdcf8964a94d74e03585c91a2bd51e8

INFO--04/03/2020 10:21:49 AM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 10:21:49 AM--QA Status: TEST : ../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe

INFO--04/03/2020 10:21:49 AM--Invoking Command:"../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe" with Arguments:"/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-1/rads1-src.card /home/mweber/CAVE/v4-2Test/mpondSLM/build/input.top /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-1/src\_node\_changes.dat"

INFO--04/03/2020 10:21:49 AM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

###Finished Process###

###Executing Source Location Tool for: /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-1/rads1-src.card ###

INFO--04/03/2020 10:21:49 AM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 10:21:49 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 10:21:49 AM--Code Version: 5f692523d582be0b7c1ece9b655899fa9d2399bf Local repo SHA-1 has does not correspond to a remote repo release version: ../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe<--c19b992f2fdcf8964a94d74e03585c91a2bd51e8

INFO--04/03/2020 10:21:49 AM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 10:21:49 AM--QA Status: TEST : ../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe

INFO--04/03/2020 10:21:49 AM--Invoking Command:"../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe" with Arguments:"/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-1/rads2-src.card /home/mweber/CAVE/v4-2Test/mpondSLM/build/input.top /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-1/src\_node\_changes.dat"

INFO--04/03/2020 10:21:49 AM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

###Finished Process###

###Executing Fingerprint Tool###

INFO--04/03/2020 10:21:49 AM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 10:21:49 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 10:21:49 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 10:21:49 AM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 10:21:49 AM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 10:21:49 AM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-1/rads1-src\_mod\_last.card --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 10:21:49 AM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 10:21:49.687032

/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-1/rads1-src\_mod\_last.card 8f792b04b0addac73e7b329a1f1e81e5f14f1dc3ef5ac05fd8a2e6fd8b93ecee

###Finished Process###

| Table A-1  **Source Node Moving Acceptance Test Plan Case 1** | | | |
| --- | --- | --- | --- |
| **Source Node Moving Acceptance Testing**  **CACIE-Source Node Moving – AT-1** | | **Date: 04/03/2020 and 04/06/2020** | |
| **Tool Runner Log File Location for this test:**  **\CAVE\v4-2Test\mpondSLM\sources-qa\_test-1** | | **Test Performed By: Mary Weber** | |
| **Testing Directory: \CAVE\v4-2Test\mpondSLM\sources-qa\_test-1** | | | |
| **Test Step** | **Test Instruction** | **Expected Result** | **Test Result  (Pass/Fail)** |
| Navigate to the Testing Directory | | | |
| 1 | Make sure the following files are present in the working directory: *rads1-src.card* and *rads2-src.card* and *input.top* in the *ModelName/build* directory.  This test case is designed to test the move of a single source node at the beginning of a source node group for a liquid source waste site listed in both files: *rads1-src.card* and *rads2-src.card* to a location where the uppermost active node is higher than the original location. | The files are present in the working directory. | PASS |
| 2 | Copy the shell script “run\_move\_source\_nodes.sh” located in **\CAVE\v4-2Test\shells\dev** into your testing directory and replace the XXXX in there with the model name according to the instructions given in the script. | The shell script “*run\_move\_source\_nodes.sh*” is copied into the working directory and the XXXX is replaced with “*mpondSLM*”. | PASS |
| 3 | Copy the template of control file “src\_node\_changes.dat” from **\CAVE\v4-2\templates\src\_node\_move** to the working directory and modify it using the instructions given in the README file located in the same directory, to move a single source node at the beginning of a source node group. | The control file is copied and the contents have been modified as follows:  Site: “2607-EQ”, istart:25, jstart: 16, iend:30, jend:14, type: single | PASS |
| 4 | In Linux terminal, from the working directory: execute the shell script by typing:  *./run\_move\_source\_nodes.sh*.  There are going to be 4 files produced as a result:  2 logfiles - *move\_source\_node\_mpondSLM\_screen.log and sources\_mpondSLM.log;*  2 modified rads1 and rads2 source card files-  *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.* | The four files are produced after the script execution: *move\_source\_node\_mpondSLM\_screen.log, sources\_mpondSLM.log,*  *rads1-src\_mod\_last.card,* and  *rads2-src\_mod\_last.card.* | PASS |
| 5 | In both modified source card files, *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card,* the single source node at the beginning of a source node group should be moved from its original location to the location specified in the control file. The locations of the rest of the source nodes in that source node group remain unchanged and are outputted as individual nodes.  The total number of sources in the modified files *rads1-src\_mod\_last.card* and *rads2-src\_mod\_last.card*, reported on line 8, should reflect the changes in the number of sources brought by the single source node moving. | The single node at the beginning of the source node group is moved from i=25, j=16, k=315 to i=30, j=14, k=315. The rest of the nodes in this source node group remain at their initial locations but are outputted as individual nodes in the modified source card files for both, Aqueous Volumetric and Solute sources in  *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.*  The individual nodes should be as follows (istart,iend,jstart,jend):  26,26,16,16,315,315,  27,27,16,16,315,315,  The number of sources specified on line 8 in *rads1-src\_mod\_last.card* file should be updated to 14 and in *rads2-src\_mod\_last.card* file should be updated to 15. | PASS  Rads 1:  Original dataset:  Line 8: 10  Aqueous Volumetric, 25, 27, 16, 16, 315, 315, 79,  Solute, Sr-90, 25, 27, 16, 16, 315, 315, 2,  Modified dataset:  Line 8: 14  Aqueous Volumetric, 30, 30, 14, 14, 315, 315, 79,  Aqueous Volumetric, 26, 26, 16, 16, 315, 315, 79,  Aqueous Volumetric, 27, 27, 16, 16, 315, 315, 79,  Solute, Sr-90 , 30, 30, 14, 14, 315, 315, 2,  Solute, Sr-90 , 26, 26, 16, 16, 315, 315, 2,  Solute, Sr-90 , 27, 27, 16, 16, 315, 315, 2,  Rads 2:  Original dataset:  Line 8: 11  Aqueous Volumetric, 25, 27, 16, 16, 315, 315, 79,  Solute, Sr-90, 25, 27, 16, 16, 315, 315, 2,  Modified dataset:  Line 8: 15  Aqueous Volumetric, 30, 30, 14, 14, 315, 315, 79,  Aqueous Volumetric, 26, 26, 16, 16, 315, 315, 79,  Aqueous Volumetric, 27, 27, 16, 16, 315, 315, 79,  Solute, Sr-90 , 30, 30, 14, 14, 315, 315, 2,  Solute, Sr-90 , 26, 26, 16, 16, 315, 315, 2,  Solute, Sr-90 , 27, 27, 16, 16, 315, 315, 2, |
| 6 | Make a plot of modified source location by following Testing Process Description in Appendix A. Make a plot ‘mpond-CA-source-nodes\_unmodified.png’ of the original unmodified source location by following Testing Process Description in Appendix A and using *rads1-src.card* and *rads2-src.card* files as arguments. Compare the source location in both plots to ensure that the source nodes were moved correctly. | The modified source location corresponds to the requirements of this testing. | PASS  Output of the plot data is saved as “mpond-CA-source-nodes\_modified\_t1.png”  Screenshot of the probe information is saved as “probedata\_t1.PNG”  For the \*.dat files generated using the modified source cards, the names were modified to have “\_modified\_sc.dat” at the end. This was done to maintain a record of the data used to produce “mpond-CA-source-nodes\_modified\_t1.png” |
| 7 | Sum the source rates by waste site in the original source files: rads1-src.card and rads2-src.card. Sum the modified source rates by waste site in the modified source files: *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.*  Compare the sums of the original and modified source rates for each waste site- they should be identical. | The sums of the original and modified source rates for each waste site should be identical. | PASS  Calculations done for this are saved in the testing directory in “t1\_s7\_comparison.xlsx” |

**Tool Runner Log**

###Executing move Source Location tool###

###Executing Fingerprint Tool###

INFO--04/03/2020 11:50:48 AM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 11:50:48 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 11:50:48 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 11:50:48 AM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 11:50:48 AM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 11:50:48 AM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-2/rads1-src.card --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 11:50:48 AM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 11:50:48.387655

/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-2/rads1-src.card 1ae6ef03f9aa341c63733ab8ee02a4871e418943617933b41ab67831ce6ba10f

###Finished Process###

###Executing Fingerprint Tool###

INFO--04/03/2020 11:50:48 AM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 11:50:48 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 11:50:48 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 11:50:48 AM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 11:50:48 AM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 11:50:48 AM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-2/rads2-src.card --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 11:50:48 AM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 11:50:48.652507

/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-2/rads2-src.card b0457121a1b158462645213169dbc14b1d8749c1c222e068a6da8dd92145d29f

###Finished Process###

###Executing Fingerprint Tool###

INFO--04/03/2020 11:50:48 AM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 11:50:48 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 11:50:48 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 11:50:48 AM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 11:50:48 AM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 11:50:48 AM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/build/input.top --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 11:50:48 AM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 11:50:48.947989

/home/mweber/CAVE/v4-2Test/mpondSLM/build/input.top e05cf2fad49da8c4a67fadb91d0d228b99085324111535028156e816a09bdde9

###Finished Process###

###Executing Fingerprint Tool###

INFO--04/03/2020 11:50:49 AM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 11:50:49 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 11:50:49 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 11:50:49 AM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 11:50:49 AM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 11:50:49 AM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-2/src\_node\_changes.dat --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 11:50:49 AM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 11:50:49.262711

/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-2/src\_node\_changes.dat 1bec33bfcaf8d5ce3b5cc29711ac6463c351f96f9f836c166d709d0db38eda8c

###Finished Process###

###Executing aq\_mod\_avg Tool for: /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-2/rads1-src.card ###

INFO--04/03/2020 11:50:49 AM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 11:50:49 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 11:50:49 AM--Code Version: 5f692523d582be0b7c1ece9b655899fa9d2399bf Local repo SHA-1 has does not correspond to a remote repo release version: ../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe<--c19b992f2fdcf8964a94d74e03585c91a2bd51e8

INFO--04/03/2020 11:50:49 AM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 11:50:49 AM--QA Status: TEST : ../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe

INFO--04/03/2020 11:50:49 AM--Invoking Command:"../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe" with Arguments:"/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-2/rads1-src.card /home/mweber/CAVE/v4-2Test/mpondSLM/build/input.top /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-2/src\_node\_changes.dat"

INFO--04/03/2020 11:50:49 AM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

###Finished Process###

###Executing Source Location Tool for: /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-2/rads1-src.card ###

INFO--04/03/2020 11:50:49 AM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 11:50:49 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 11:50:49 AM--Code Version: 5f692523d582be0b7c1ece9b655899fa9d2399bf Local repo SHA-1 has does not correspond to a remote repo release version: ../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe<--c19b992f2fdcf8964a94d74e03585c91a2bd51e8

INFO--04/03/2020 11:50:49 AM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 11:50:49 AM--QA Status: TEST : ../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe

INFO--04/03/2020 11:50:49 AM--Invoking Command:"../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe" with Arguments:"/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-2/rads2-src.card /home/mweber/CAVE/v4-2Test/mpondSLM/build/input.top /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-2/src\_node\_changes.dat"

INFO--04/03/2020 11:50:49 AM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

###Finished Process###

###Executing Fingerprint Tool###

INFO--04/03/2020 11:50:49 AM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 11:50:49 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 11:50:49 AM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 11:50:49 AM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 11:50:49 AM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 11:50:49 AM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-2/rads1-src\_mod\_last.card --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 11:50:49 AM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 11:50:50.008795

/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-2/rads1-src\_mod\_last.card 4efef4d728313e2e368a5a9e0ed63df868e968d0a880d2d80f13ced08d62d103

###Finished Process###

| Table A-2  **Source Node Moving Acceptance Test Plan Case 2** | | | |
| --- | --- | --- | --- |
| **Source Node Moving Acceptance Testing**  **CACIE-Source Node Moving – AT-2** | | **Date: 04/03/2020 and 04/06/2020** | |
| **Tool Runner Log File Location for this test:**  **\CAVE\v4-2Test\mpondSLM\sources-qa\_test-2** | | **Test Performed By: Mary Weber** | |
| **Testing Directory: \CAVE\v4-2Test\mpondSLM\sources-qa\_test-2** | | | |
| **Test Step** | **Test Instruction** | **Expected Result** | **Test Result  (Pass/Fail)** |
| Navigate to the Testing Directory | | | |
| 1 | Make sure the following files are present in the working directory: *rads1-src.card* and *rads2-src.card* and *input.top* in the *ModelName/build* directory.  This test case is designed to test the move of a single source node in the middle of a source node group for a liquid source waste site listed in both files: *rads1-src.card* and *rads2-src.card*  to a location where the uppermost active node is lower than the original location. | The files are present in the working directory. | PASS |
| 2 | Copy the shell script “run\_move\_source\_nodes.sh” located in **\CAVE\v4-2Test\shells\dev** into your testing directory and replace the XXXX in there with the model name according to the instructions given in the script. | The shell script “*run\_move\_source\_nodes.sh*” is copied into the working directory and the XXXX is replaced with “*mpondSLM*”. | PASS |
| 3 | Copy the template of control file “src\_node\_changes.dat” from **\CAVE\v4-2\ \templates\src\_node\_move** to the working directory and modify it using the instructions given in the README file located in the same directory, to move a single source node in the middle of a source node group. | The control file is copied and the contents have been modified as follows:  Site: “2607-EQ”, istart:26, jstart: 16, iend:30, jend:20, type: single | PASS |
| 4 | In Linux terminal, from the working directory: execute the shell script by typing:  *./run\_move\_source\_nodes.sh*.  There are going to be 4 files produced as a result:  2 logfiles - *move\_source\_node\_mpondSLM\_screen.log* and *sources\_mpondSLM.log;*  2 modified rads1 and rads2 source card files-  *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.* | The four files are produced after the script execution: *move\_source\_node\_mpondSLM\_screen.log, sources\_mpondSLM.log,*  *rads1-src\_mod\_last.card,* and  *rads2-src\_mod\_last.card.* | PASS |
| 5 | In both modified source card files, *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card,* the single source node in the middle of a source node group should be moved from its original location to the location specified in the control file. The locations of the rest of the source nodes in that source node group remain unchanged and are outputted as individual nodes.  The total number of sources in the modified files *rads1-src\_mod\_last.card* and *rads2- src\_mod\_last.card*, reported on line 8, should reflect the changes in the number of sources brought by the single source node moving. | The single node at the beginning of the source node group is moved from i=26, j=16, k=315 to i=30, j=20, k=314. The rest of the nodes in this source node group remain at their initial locations but are outputted as individual nodes in the modified source card files for both, Aqueous Volumetric and Solute sources in  *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.*  The individual nodes should be as follows (istart,iend,jstart,jend):  25,25,16,16,315,315,  27,27,16,16,315,315,  The number of sources specified on line 8 in the *rads1-src\_mod\_last.card* file should be updated to 14 and in the *rads2-src\_mod\_last.card* file should be updated to 15. | PASS  Rads 1:  Original dataset:  Line 8: 10  25, 27, 16, 16, 315, 315, 79,  Solute, Sr-90, 25, 27, 16, 16, 315, 315, 2,  Modified dataset:  Line 8: 14  Aqueous Volumetric, 30, 30, 20, 20, 314, 314, 79,  Aqueous Volumetric, 25, 25, 16, 16, 315, 315, 79,  Aqueous Volumetric, 27, 27, 16, 16, 315, 315, 79,  Solute, Sr-90 , 30, 30, 20, 20, 314, 314, 2,  Solute, Sr-90 , 25, 25, 16, 16, 315, 315, 2,  Solute, Sr-90 , 27, 27, 16, 16, 315, 315, 2,  Rads 2:  Original dataset:  Line 8: 11  Aqueous Volumetric, 25, 27, 16, 16, 315, 315, 79,  Solute, Sr-90, 25, 27, 16, 16, 315, 315, 2,  Modified dataset:  Line 8: 15  Aqueous Volumetric, 30, 30, 20, 20, 314, 314, 79,  Aqueous Volumetric, 25, 25, 16, 16, 315, 315, 79,  Aqueous Volumetric, 27, 27, 16, 16, 315, 315, 79,  Solute, Sr-90 , 30, 30, 20, 20, 314, 314, 2,  Solute, Sr-90 , 25, 25, 16, 16, 315, 315, 2,  Solute, Sr-90 , 27, 27, 16, 16, 315, 315, 2, |
| 6 | Make a plot of modified source location by following Testing Process Description in Appendix A. Make a plot ‘mpond-CA-source-nodes\_unmodified.png’ of the original unmodified source location by following Testing Process Description in Appendix A and using *rads1-src.card* and *rads2-src.card* files as arguments. Compare the source location in both plots to ensure that the source nodes were moved correctly. | The modified source location corresponds to the requirements of this testing. | PASS  Output of the plot data is saved as “mpond-CA-source-nodes\_modified\_t2.png”  Screenshot of the probe information is saved as “probedata\_t2.PNG” (note: k-index data are not stored in this tecplot layout, as it is a 2-dimensional layout)  For the \*.dat files generated using the modified source cards, the names were modified to have “\_modified\_sc.dat” at the end. This was done to maintain a record of the data used to produce “mpond-CA-source-nodes\_modified\_t2.png” |
| 7 | Sum the source rates by waste site in the original source files: rads1-src.card and rads2-src.card. Sum the modified source rates by waste site in the modified source files: *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.*  Compare the sums of the original and modified source rates for each waste site- they should be identical. | The sums of the original and modified source rates for each waste site should be identical. | PASS  Calculations done for this are saved in the testing directory in “t2\_s7\_comparison.xlsx” |

**Tool Runner Log**

###Executing move Source Location tool###

###Executing Fingerprint Tool###

INFO--04/03/2020 12:58:30 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 12:58:30 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 12:58:30 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 12:58:30 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 12:58:31 PM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 12:58:31 PM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-3/rads1-src.card --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 12:58:31 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 12:58:31.103721

/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-3/rads1-src.card 1ae6ef03f9aa341c63733ab8ee02a4871e418943617933b41ab67831ce6ba10f

###Finished Process###

###Executing Fingerprint Tool###

INFO--04/03/2020 12:58:31 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 12:58:31 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 12:58:31 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 12:58:31 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 12:58:31 PM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 12:58:31 PM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-3/rads2-src.card --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 12:58:31 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 12:58:31.366494

/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-3/rads2-src.card b0457121a1b158462645213169dbc14b1d8749c1c222e068a6da8dd92145d29f

###Finished Process###

###Executing Fingerprint Tool###

INFO--04/03/2020 12:58:31 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 12:58:31 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 12:58:31 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 12:58:31 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 12:58:31 PM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 12:58:31 PM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/build/input.top --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 12:58:31 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 12:58:31.651945

/home/mweber/CAVE/v4-2Test/mpondSLM/build/input.top e05cf2fad49da8c4a67fadb91d0d228b99085324111535028156e816a09bdde9

###Finished Process###

###Executing Fingerprint Tool###

INFO--04/03/2020 12:58:31 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 12:58:31 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 12:58:31 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 12:58:31 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 12:58:31 PM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 12:58:31 PM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-3/src\_node\_changes.dat --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 12:58:31 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 12:58:31.954965

/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-3/src\_node\_changes.dat a2cea97b21f1a143f14593bb4f2ecb35489b27543052b0857683417afe52d8f8

###Finished Process###

###Executing aq\_mod\_avg Tool for: /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-3/rads1-src.card ###

INFO--04/03/2020 12:58:32 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 12:58:32 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 12:58:32 PM--Code Version: 5f692523d582be0b7c1ece9b655899fa9d2399bf Local repo SHA-1 has does not correspond to a remote repo release version: ../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe<--c19b992f2fdcf8964a94d74e03585c91a2bd51e8

INFO--04/03/2020 12:58:32 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 12:58:32 PM--QA Status: TEST : ../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe

INFO--04/03/2020 12:58:32 PM--Invoking Command:"../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe" with Arguments:"/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-3/rads1-src.card /home/mweber/CAVE/v4-2Test/mpondSLM/build/input.top /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-3/src\_node\_changes.dat"

INFO--04/03/2020 12:58:32 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

###Finished Process###

###Executing Source Location Tool for: /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-3/rads1-src.card ###

INFO--04/03/2020 12:58:32 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 12:58:32 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 12:58:32 PM--Code Version: 5f692523d582be0b7c1ece9b655899fa9d2399bf Local repo SHA-1 has does not correspond to a remote repo release version: ../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe<--c19b992f2fdcf8964a94d74e03585c91a2bd51e8

INFO--04/03/2020 12:58:32 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 12:58:32 PM--QA Status: TEST : ../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe

INFO--04/03/2020 12:58:32 PM--Invoking Command:"../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe" with Arguments:"/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-3/rads2-src.card /home/mweber/CAVE/v4-2Test/mpondSLM/build/input.top /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-3/src\_node\_changes.dat"

INFO--04/03/2020 12:58:32 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

###Finished Process###

###Executing Fingerprint Tool###

INFO--04/03/2020 12:58:32 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 12:58:32 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 12:58:32 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 12:58:32 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 12:58:32 PM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 12:58:32 PM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-3/rads1-src\_mod\_last.card --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 12:58:32 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 12:58:32.689221

/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-3/rads1-src\_mod\_last.card 930e8e5857d880c286d85955056ac6144d6289dd8a779e596d920573f6adfb1f

###Finished Process###

| Table A-3  **Source Node Moving Acceptance Test Plan Case 3** | | | |
| --- | --- | --- | --- |
| **Source Node Moving Acceptance Testing**  **CACIE-Source Node Moving – AT-3** | | **Date: 04/03/2020 and 04/06/2020** | |
| **Tool Runner Log File Location for this test:**  **\CAVE\v4-2Test\mpondSLM\sources-qa\_test-3** | | **Test Performed By: Mary Weber** | |
| **Testing Directory: \CAVE\v4-2Test\mpondSLM\sources-qa\_test-3** | | | |
| **Test Step** | **Test Instruction** | **Expected Result** | **Test Result  (Pass/Fail)** |
| Navigate to the Testing Directory | | | |
| 1 | Make sure the following files are present in the working directory: *rads1-src.card* and *rads2-src.card* and *input.top* in the *ModelName/build* directory.  This test case is designed to test the move of a block of source nodes for a liquid source waste site listed in both files: *rads1-src.card* and *rads2-src.card* to a location where the uppermost active nodes are lower than the original location and with varying elevation. The tool will choose the lowest uppermost active node in the new location and place the whole source block at this elevation. | The files are present in the working directory. | PASS |
| 2 | Copy the shell script “run\_move\_source\_nodes.sh” located in **\CAVE\v4-2Test\shells\dev** into your testing directory and replace the XXXX in there with the model name according to the instructions given in the script. | The shell script “*run\_move\_source\_nodes.sh*” is copied into the working directory and the XXXX is replaced with “*mpondSLM*”. | PASS |
| 3 | Copy the template of control file “src\_node\_changes.dat” from **\CAVE\v4-2\templates\src\_node\_move** to the working directory and modify it using the instructions given in the README file located in the same directory, to move the block of source nodes for a liquid source waste site. | The control file is copied and the contents have been modified as follows:  Site: “2607-EQ”, istart:25, jstart: 16, iend:30, jend:35, type: block | PASS |
| 4 | In Linux terminal, from the working directory: execute the shell script by typing:  *./run\_move\_source\_nodes.sh*.  There are going to be 4 files produced as a result:  2 logfiles - *move\_source\_node\_mpondSLM\_screen.log and sources\_mpondSLM.log;*  2 modified rads1 and rads2 source card files-  *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.* | The four files are produced after the script execution: *move\_source\_node\_mpondSLM\_screen.log*, *sources\_mpondSLM.log, rads1-src\_mod\_last.card,* and  *rads2-src\_mod\_last.card.* | PASS |
| 5 | In both modified source card files, *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card,* the whole liquid source waste site should be moved from its original location to the location specified in the control file, where *istart* and *jstart* indicate the original and *iend* and *jend* indicate the revised locations for the first source node in the source node group.  The total number of sources in the modified files *rads1-src\_mod\_last.card* and *rads2- src\_mod\_last.card*, reported on line 8, should remain unchanged from the number of sources specified in the original files: *rads1-src.card* and *rads2-src.card* correspondingly. | The whole block of liquid waste site for both, Aqueous Volumetric and Solute sources in  *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card* files is moved from  25,27,16,16,315,315,  To  30,32, 35, 35,313,313,  The number of sources specified on line 8 in the *rads1-src\_mod\_last.card* file should be 10 and in the *rads2-src\_mod\_last.card* file should be 11. | PASS  Rads 1:  Original dataset:  Line 8: 10  Aqueous Volumetric, 25, 27, 16, 16, 315, 315, 79,  Solute, Sr-90, 25, 27, 16, 16, 315, 315, 2,  Modified dataset:  Line 8: 10  Aqueous Volumetric, 30, 32, 35, 35, 313, 313, 79,  Solute, Sr-90 , 30, 32, 35, 35, 313, 313, 2,  Rads 2:  Original dataset:  Line 8: 11  Aqueous Volumetric, 25, 27, 16, 16, 315, 315, 79,  Solute, Sr-90, 25, 27, 16, 16, 315, 315, 2,  Modified dataset:  Line 8: 11  Aqueous Volumetric, 30, 32, 35, 35, 313, 313, 79,  Solute, Sr-90 , 30, 32, 35, 35, 313, 313, 2, |
| 6 | Make a plot of modified source location by following Testing Process Description in Appendix A. Make a plot ‘mpond-CA-source-nodes\_unmodified.png’ of the original unmodified source location by following Testing Process Description in Appendix A and using *rads1-src.card* and *rads2-src.card* files as arguments. Compare the source location in both plots to ensure that the source nodes were moved correctly. | The modified source location corresponds to the requirements of this testing. | PASS  Output of the plot data is saved as “mpond-CA-source-nodes\_modified\_t3.png”  Screenshot of the probe information is saved as “probedata\_t3.PNG”  (note: k-index data are not stored in this tecplot layout, as it is a 2-dimensional layout)  For the \*.dat files generated using the modified source cards, the names were modified to have “\_modified\_sc.dat” at the end. This was done to maintain a record of the data used to produce “mpond-CA-source-nodes\_modified\_t3.png” |
| 7 | Sum the source rates by waste site in the original source files: rads1-src.card and rads2-src.card. Sum the modified source rates by waste site in the modified source files: *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.*  Compare the sums of the original and modified source rates for each waste site- they should be identical. | The sums of the original and modified source rates for each waste site should be identical. | PASS  Calculations done for this are saved in the testing directory in “t3\_s7\_comparison.xlsx” |

**Tool Runner Log**

###Executing move Source Location tool###

###Executing Fingerprint Tool###

INFO--04/03/2020 01:52:13 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 01:52:13 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 01:52:13 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 01:52:13 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 01:52:13 PM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 01:52:13 PM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-4/rads1-src.card --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 01:52:13 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 13:52:13.530391

/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-4/rads1-src.card 1ae6ef03f9aa341c63733ab8ee02a4871e418943617933b41ab67831ce6ba10f

###Finished Process###

###Executing Fingerprint Tool###

INFO--04/03/2020 01:52:13 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 01:52:13 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 01:52:13 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 01:52:13 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 01:52:13 PM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 01:52:13 PM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-4/rads2-src.card --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 01:52:13 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 13:52:13.793824

/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-4/rads2-src.card b0457121a1b158462645213169dbc14b1d8749c1c222e068a6da8dd92145d29f

###Finished Process###

###Executing Fingerprint Tool###

INFO--04/03/2020 01:52:13 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 01:52:13 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 01:52:13 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 01:52:13 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 01:52:14 PM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 01:52:14 PM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/build/input.top --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 01:52:14 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 13:52:14.083328

/home/mweber/CAVE/v4-2Test/mpondSLM/build/input.top e05cf2fad49da8c4a67fadb91d0d228b99085324111535028156e816a09bdde9

###Finished Process###

###Executing Fingerprint Tool###

INFO--04/03/2020 01:52:14 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 01:52:14 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 01:52:14 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 01:52:14 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 01:52:14 PM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 01:52:14 PM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-4/src\_node\_changes.dat --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 01:52:14 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 13:52:14.379087

/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-4/src\_node\_changes.dat 3be1fe02a8376047af591b35335d719b55d3044d411ddca5d42247d1addef048

###Finished Process###

###Executing aq\_mod\_avg Tool for: /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-4/rads1-src.card ###

INFO--04/03/2020 01:52:14 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 01:52:14 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 01:52:14 PM--Code Version: 5f692523d582be0b7c1ece9b655899fa9d2399bf Local repo SHA-1 has does not correspond to a remote repo release version: ../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe<--c19b992f2fdcf8964a94d74e03585c91a2bd51e8

INFO--04/03/2020 01:52:14 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 01:52:14 PM--QA Status: TEST : ../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe

INFO--04/03/2020 01:52:14 PM--Invoking Command:"../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe" with Arguments:"/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-4/rads1-src.card /home/mweber/CAVE/v4-2Test/mpondSLM/build/input.top /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-4/src\_node\_changes.dat"

INFO--04/03/2020 01:52:14 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

###Finished Process###

###Executing Source Location Tool for: /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-4/rads1-src.card ###

INFO--04/03/2020 01:52:14 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 01:52:14 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 01:52:14 PM--Code Version: 5f692523d582be0b7c1ece9b655899fa9d2399bf Local repo SHA-1 has does not correspond to a remote repo release version: ../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe<--c19b992f2fdcf8964a94d74e03585c91a2bd51e8

INFO--04/03/2020 01:52:14 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 01:52:14 PM--QA Status: TEST : ../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe

INFO--04/03/2020 01:52:14 PM--Invoking Command:"../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe" with Arguments:"/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-4/rads2-src.card /home/mweber/CAVE/v4-2Test/mpondSLM/build/input.top /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-4/src\_node\_changes.dat"

INFO--04/03/2020 01:52:14 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

###Finished Process###

###Executing Fingerprint Tool###

INFO--04/03/2020 01:52:14 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 01:52:14 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 01:52:14 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 01:52:15 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 01:52:15 PM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 01:52:15 PM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-4/rads1-src\_mod\_last.card --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 01:52:15 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 13:52:15.137794

/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-4/rads1-src\_mod\_last.card bc082d58159e808382e4b8f0f0661ad921412d325e85e521d702f3d66fefdfe4

###Finished Process###

| Table A-4  **Source Node Moving Acceptance Test Plan Case 4** | | | |
| --- | --- | --- | --- |
| **Source Node Moving Acceptance Testing**  **CACIE-Source Node Moving – AT-4** | | **Date: 04/03/2020 and 04/06/2020** | |
| **Tool Runner Log File Location for this test:**  **\CAVE\v4-2Test\mpondSLM\sources-qa\_test-4** | | **Test Performed By: Mary Weber** | |
| **Testing Directory: \CAVE\v4-2Test\mpondSLM\sources-qa\_test-4** | | | |
| **Test Step** | **Test Instruction** | **Expected Result** | **Test Result  (Pass/Fail)** |
| Navigate to the Testing Directory | | | |
| 1 | Make sure the following files are present in the working directory: *rads1-src.card* and *rads2-src.card* and *input.top* in the *ModelName/build* directory.  This test case is designed to test the move of a block of source nodes for a solid source waste site listed in both files: *rads1-src.card* and *rads2-src.card* | The files are present in the working directory. | PASS |
| 2 | Copy the shell script “run\_move\_source\_nodes.sh” located in **\CAVE\v4-2Test\shells\dev** into your testing directory and replace the XXXX in there with the model name according to the instructions given in the script. | The shell script “*run\_move\_source\_nodes.sh*” is copied into the working directory and the XXXX is replaced with “*mpondSLM*”. | PASS |
| 3 | Copy the template of control file “src\_node\_changes.dat” from **\CAVE\v4-2\ \templates\src\_node\_move** to the working directory and modify it using the instructions given in the README file located in the same directory, to move the block of source nodes for a solid source waste site. | The control file is copied and the contents have been modified as follows:  Site: “SolidSite”, istart:20, jstart: 40, iend:30, jend:45, type: block | PASS |
| 4 | In Linux terminal, from the working directory: execute the shell script by typing:  *./run\_move\_source\_nodes.sh*.  There are going to be 4 files produced as a result:  2 logfiles - *move\_source\_node\_mpondSLM\_screen.log and sources\_mpondSLM.log;*  2 modified rads1 and rads2 source card files-  *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.* | The four files are produced after the script execution: *move\_source\_node\_mpondSLM\_screen.log, sources\_mpondSLM.log,*  *rads1-src\_mod\_last.card,* and  *rads2-src\_mod\_last.card.* | PASS |
| 5 | In both modified source card files, *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card,* the whole solid source waste site should be moved from its original location to the location specified in the control file, where *istart* and *jstart* indicate the original and *iend* and *jend* indicate the revised locations for the first source node in the source node group.  The total number of sources in the modified files *rads1-src\_mod\_last.card* and *rads2- src\_mod\_last.card*, reported on line 8, should remain unchanged from the number of sources specified in the original files: *rads1-src.card* and *rads2-src.card* correspondingly. | The whole block of solid waste site for Solute sources in  *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card* files is moved from  20,21,40,41,312,312,  To  30,31,45,46,312,312,  The number of sources specified on line 8 in the *rads1-src\_mod\_last.card* file should be 10 and in the *rads2-src\_mod\_last.card* file should be 11. | PASS  Rads 1:  Original dataset:  Line 8: 10  Solute, Sr-90, 20, 21, 40, 41, 312, 312, 19,  Modified dataset:  Line 8: 10  Solute, Sr-90 , 30, 31, 45, 46, 312, 312, 19,  Rads 2:  Original dataset:  Line 8: 11  Solute, U-238, 20, 21, 40, 41, 312, 312, 19,  Modified dataset:  Line 8: 11  Solute, U-238 , 30, 31, 45, 46, 312, 312, 19, |
| 6 | Make a plot of modified source location by following Testing Process Description in Appendix A. Make a plot ‘mpond-CA-source-nodes\_unmodified.png’ of the original unmodified source location by following Testing Process Description in Appendix A and using *rads1-src.card* and *rads2-src.card* files as arguments. Compare the source location in both plots to ensure that the source nodes were moved correctly. | The modified source location corresponds to the requirements of this testing. | PASS  Output of the plot data is saved as “mpond-CA-source-nodes\_modified\_t4.png”  Screenshot of the probe information is saved as “probedata\_t4.PNG”  (note: k-index data are not stored in this tecplot layout, as it is a 2-dimensional layout)  For the \*.dat files generated using the modified source cards, the names were modified to have “\_modified\_sc.dat” at the end. This was done to maintain a record of the data used to produce “mpond-CA-source-nodes\_modified\_t4.png” |
| 7 | Sum the source rates by waste site in the original source files: rads1-src.card and rads2-src.card. Sum the modified source rates by waste site in the modified source files: *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.*  Compare the sums of the original and modified source rates for each waste site- they should be identical. | The sums of the original and modified source rates for each waste site should be identical. | PASS  Calculations done for this are saved in the testing directory in “t4\_s7\_comparison.xlsx” |

**Tool Runner Log**

###Executing move Source Location tool###

###Executing Fingerprint Tool###

INFO--04/03/2020 03:01:15 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 03:01:15 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 03:01:15 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 03:01:15 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 03:01:15 PM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 03:01:15 PM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-5/rads1-src.card --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 03:01:15 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 15:01:15.712316

/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-5/rads1-src.card 1ae6ef03f9aa341c63733ab8ee02a4871e418943617933b41ab67831ce6ba10f

###Finished Process###

###Executing Fingerprint Tool###

INFO--04/03/2020 03:01:15 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 03:01:15 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 03:01:15 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 03:01:15 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 03:01:15 PM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 03:01:15 PM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-5/rads2-src.card --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 03:01:15 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 15:01:16.020096

/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-5/rads2-src.card b0457121a1b158462645213169dbc14b1d8749c1c222e068a6da8dd92145d29f

###Finished Process###

###Executing Fingerprint Tool###

INFO--04/03/2020 03:01:16 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 03:01:16 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 03:01:16 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 03:01:16 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 03:01:16 PM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 03:01:16 PM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/build/input.top --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 03:01:16 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 15:01:16.319809

/home/mweber/CAVE/v4-2Test/mpondSLM/build/input.top e05cf2fad49da8c4a67fadb91d0d228b99085324111535028156e816a09bdde9

###Finished Process###

###Executing Fingerprint Tool###

INFO--04/03/2020 03:01:16 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 03:01:16 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 03:01:16 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 03:01:16 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 03:01:16 PM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 03:01:16 PM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-5/src\_node\_changes.dat --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 03:01:16 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 15:01:16.613365

/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-5/src\_node\_changes.dat 1ce45774b2c8aa3e706044a30f150970c021816660f5179e050a8cc691a59327

###Finished Process###

###Executing aq\_mod\_avg Tool for: /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-5/rads1-src.card ###

INFO--04/03/2020 03:01:16 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 03:01:16 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 03:01:16 PM--Code Version: 5f692523d582be0b7c1ece9b655899fa9d2399bf Local repo SHA-1 has does not correspond to a remote repo release version: ../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe<--c19b992f2fdcf8964a94d74e03585c91a2bd51e8

INFO--04/03/2020 03:01:16 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 03:01:16 PM--QA Status: TEST : ../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe

INFO--04/03/2020 03:01:16 PM--Invoking Command:"../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe" with Arguments:"/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-5/rads1-src.card /home/mweber/CAVE/v4-2Test/mpondSLM/build/input.top /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-5/src\_node\_changes.dat"

INFO--04/03/2020 03:01:16 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

###Finished Process###

###Executing Source Location Tool for: /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-5/rads1-src.card ###

INFO--04/03/2020 03:01:16 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 03:01:16 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 03:01:16 PM--Code Version: 5f692523d582be0b7c1ece9b655899fa9d2399bf Local repo SHA-1 has does not correspond to a remote repo release version: ../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe<--c19b992f2fdcf8964a94d74e03585c91a2bd51e8

INFO--04/03/2020 03:01:17 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 03:01:17 PM--QA Status: TEST : ../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe

INFO--04/03/2020 03:01:17 PM--Invoking Command:"../../../CA-CIE-Tools-TestRepos/repo\_srcloc\_modify.f/tools/ca-srcmove/linux/srcloc\_modify\_linux-intel-64.exe" with Arguments:"/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-5/rads2-src.card /home/mweber/CAVE/v4-2Test/mpondSLM/build/input.top /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-5/src\_node\_changes.dat"

INFO--04/03/2020 03:01:17 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

###Finished Process###

###Executing Fingerprint Tool###

INFO--04/03/2020 03:01:17 PM--Starting CA-CIE Tool Runner. Logging to "./sources\_mpondSLM.log"

INFO--04/03/2020 03:01:17 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/runner/runner.py<--1bcfd6779e9cbdb82673405873a8e5e81514ae27

INFO--04/03/2020 03:01:17 PM--Code Version: a2009ff60044c6acbc3ae2b05aedd7bdc199b62b v2.3: /opt/tools/pylib/fingerprint/fingerprint.py<--13a885dc11cc15aea74c14b09c0d8584ec6cfd08

INFO--04/03/2020 03:01:17 PM--QA Status: QUALIFIED : /opt/tools/pylib/runner/runner.py

INFO--04/03/2020 03:01:17 PM--QA Status: QUALIFIED : /opt/tools/pylib/fingerprint/fingerprint.py

INFO--04/03/2020 03:01:17 PM--Invoking Command:"python3.6" with Arguments:"/opt/tools/pylib/fingerprint/fingerprint.py /home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-5/rads1-src\_mod\_last.card --output ./sources\_mpondSLM.log --outputmode a"

INFO--04/03/2020 03:01:17 PM--Username:mweber Computer:olive Platform:Linux 4.4.0-38-generic #57~14.04.1-Ubuntu SMP Tue Sep 6 17:20:43 UTC 2016

Fingerprint generated at 2020-04-03 15:01:17.298936

/home/mweber/CAVE/v4-2Test/mpondSLM/sources-qa\_test-5/rads1-src\_mod\_last.card b86c1bbcfc826ff3711963e79c00e708be438ac38ce9154f68d5653c7988d202

###Finished Process###

| Table A-5  **Source Node Moving Acceptance Test Plan Case 5** | | | |
| --- | --- | --- | --- |
| **Source Node Moving Acceptance Testing**  **CACIE-Source Node Moving – AT-5** | | **Date: 04/03/2020 and 04/06/2020** | |
| **Tool Runner Log File Location for this test:**  **\CAVE\v4-2Test\mpondSLM\sources-qa\_test-5** | | **Test Performed By: Mary Weber** | |
| **Testing Directory: \CAVE\v4-2Test\mpondSLM\sources-qa\_test-5** | | | |
| **Test Step** | **Test Instruction** | **Expected Result** | **Test Result  (Pass/Fail)** |
| Navigate to the Testing Directory | | | |
| 1 | Make sure the following files are present in the working directory: *rads1-src.card* and *rads2-src.card* and *input.top* in the *ModelName/build* directory.  This test case is designed to test the move of a block of source nodes for a waste site with both, liquid and solid sources, listed in both files: *rads1-src.card* and *rads2-src.card.* | The files are present in the working directory. | PASS |
| 2 | Copy the shell script “run\_move\_source\_nodes.sh” located in **\CAVE\v4-2Test\shells\dev** into your testing directory and replace the XXXX in there with the model name according to the instructions given in the script. | The shell script “*run\_move\_source\_nodes.sh*” is copied into the working directory and the XXXX is replaced with “*mpondSLM*”. | PASS |
| 3 | Copy the template of control file “src\_node\_changes.dat” from **\CAVE\v4-2\templates\src\_node\_move** to the working directory and modify it using the instructions given in the README file located in the same directory, to move a block of source nodes for a waste site with both, liquid and solid sources. | The control file is copied and the contents have been modified as follows:  Site: “2101-M POND”, istart:27, jstart: 26, iend:43, jend:43, type: block | PASS |
| 4 | In Linux terminal, from the working directory: execute the shell script by typing:  *./run\_move\_source\_nodes.sh*.  There are going to be 4 files produced as a result:  2 logfiles - *move\_source\_node\_mpondSLM\_screen.log and sources\_mpondSLM.log;*  2 modified rads1 and rads2 source card files-  *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.* | The four files are produced after the script execution: *move\_source\_node\_mpondSLM\_screen.log, sources\_mpondSLM.log,*  *rads1-src\_mod\_last.card,* and  *rads2-src\_mod\_last.card.* | PASS |
| 5 | In both modified source card files, *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card,* both,solid and liquid sources for a waste site should be moved from their original location to the location specified in the control file, where *istart* and *jstart* indicate the original and *iend* and *jend* indicate the revised locations for the first source node in the source node group.  The total number of sources in the modified files *rads1-src\_mod\_last.card* and *rads2- src\_mod\_last.card*, reported on line 8, should remain unchanged from the number of sources specified in the original files: *rads1-src.card* and *rads2-src.card* correspondingly. | The whole block for solid and liquid sources for the same waste site in  *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card* files are moved from  27,32,26,28,312,312,  To  43,48,43,45,312,312,  The number of sources specified on line 8 in the *rads1-src\_mod\_last.card* file should be 10 and in the *rads2-src\_mod\_last.card* file should be 11. | PASS  Rads 1:  Original dataset (liquid):  Line 8: 10  Aqueous Volumetric, 27, 32, 26, 28, 312, 312, 87,  Solute, C-14, 27, 32, 26, 28, 312, 312, 87,  Solute, I-129, 27, 32, 26, 28, 312, 312, 21,  Solute, Np-237, 27, 32, 26, 28, 312, 312, 87,  Solute, Sr-90, 27, 32, 26, 28, 312, 312, 87,  Solute, H-3, 27, 32, 26, 28, 312, 312, 67,  Original dataset (solid):  Solute, Sr-90, 27, 32, 26, 28, 312, 312, 19,  Modified dataset (liquid):  Line 8: 10  Aqueous Volumetric, 43, 48, 43, 45, 312, 312, 87,  Solute, C-14 , 43, 48, 43, 45, 312, 312, 87,  Solute, I-129 , 43, 48, 43, 45, 312, 312, 21,  Solute, Np-237, 43, 48, 43, 45, 312, 312, 87,  Solute, Sr-90 , 43, 48, 43, 45, 312, 312, 87,  Solute, H-3 , 43, 48, 43, 45, 312, 312, 67,  Modified dataset (solid):  Solute, Sr-90 , 43, 48, 43, 45, 312, 312, 19,  Rads2:  Original dataset (liquid):  Line 8: 11  Aqueous Volumetric, 27, 32, 26, 28, 312, 312, 87,  Solute, U-232, 27, 32, 26, 28, 312, 312, 87,  Solute, U-233, 27, 32, 26, 28, 312, 312, 87,  Solute, U-234, 27, 32, 26, 28, 312, 312, 87,  Solute, U-235, 27, 32, 26, 28, 312, 312, 87,  Solute, U-236, 27, 32, 26, 28, 312, 312, 87,  Solute, U-238, 27, 32, 26, 28, 312, 312, 87,  Original dataset (solid):  Solute, U-238, 27, 32, 26, 28, 312, 312, 19,  Modified dataset (liquid):  Line 8: 11  Aqueous Volumetric, 43, 48, 43, 45, 312, 312, 87,  Solute, U-232 , 43, 48, 43, 45, 312, 312, 87,  Solute, U-233 , 43, 48, 43, 45, 312, 312, 87,  Solute, U-234 , 43, 48, 43, 45, 312, 312, 87,  Solute, U-235 , 43, 48, 43, 45, 312, 312, 87,  Solute, U-236 , 43, 48, 43, 45, 312, 312, 87,  Solute, U-238 , 43, 48, 43, 45, 312, 312, 87,  Modified dataset (solid):  Solute, U-238 , 43, 48, 43, 45, 312, 312, 19, |
| 6 | Make a plot of modified source location by following Testing Process Description in Appendix A. Make a plot ‘mpond-CA-source-nodes\_unmodified.png’ of the original unmodified source location by following Testing Process Description in Appendix A and using *rads1-src.card* and *rads2-src.card* files as arguments. Compare the source location in both plots to ensure that the source nodes were moved correctly. | The modified source location corresponds to the requirements of this testing. | Output of the plot data is saved as “mpond-CA-source-nodes\_modified\_t5.png”  Screenshot of the probe information is saved as “probedata\_t5.PNG”  (note: k-index data are not stored in this tecplot layout, as it is a 2-dimensional layout)  For the \*.dat files generated using the modified source cards, the names were modified to have “\_modified\_sc.dat” at the end. This was done to maintain a record of the data used to produce “mpond-CA-source-nodes\_modified\_t5.png” |
| 7 | Sum the source rates by waste site in the original source files: rads1-src.card and rads2-src.card. Sum the modified source rates by waste site in the modified source files: *rads1-src\_mod\_last.card* and  *rads2-src\_mod\_last.card.*  Compare the sums of the original and modified source rates for each waste site- they should be identical. | The sums of the original and modified source rates for each waste site should be identical. | PASS  Calculations done for this are saved in the testing directory in “t5\_s7\_comparison.xlsx” |

# Appendix B

**Completed Installation Test**

| Table B-1  **Source Node Moving Installation Test Plan** | | | |
| --- | --- | --- | --- |
| **Source Node Moving Installation Testing**  **CACIE-srcloc\_modify – IT-1** | | **Date:** | |
| **Tool Runner Log File Location for this test:**  **[PUT LINK TO THE DIRECTORY HERE]** | | **Test Performed By: [FIRST & LAST NAME]** | |
| **Testing Directory: [PROVIDE LINK TO TESTING DIRECTORY]** | | | |
| **Test Step** | **Test Instruction** | **Expected Result** | **Test Result  (Pass/Fail)** |
| Tools Code Repository Directory: | | | |
| Navigate to the testing directory | | | |
| 1 | Invoke Tool runner and test the installation of the tool as follows:  *./* *CACIE\_srcloc\_modify\_IT-1.sh* | | |
| 2 | Verify Tool Runner is invoked and executed. | Tool runner log file is generated (***srcloc\_modify\_linux-intel-4\_install\_test.log***) |  |
| 3 | Verify tool is invoked and executed. | ***rads2-src\_mod\_last.card*** file, ***rads2-src\_mod1.card*** file and ***rads2-src\_mod2.card*** file are generated |  |