**CACIE Tool #06.1** – ***Patch CC Lower Silt (ca-patchbowl.pl)***

**Version** **1.0**

**QA**: **TEST** or **NA** or **QA**

1. **Description and Purpose**
2. One or two paragraphs describing the tool’s function and purpose.

The Patch CC Lower Silt tool closes off holes in the Cold Creek (CC) lower silt that allows for CC sand directly contact CC gravels. Inputs are a STOMP plot file, a zonation file, and the STOMP rock/soil numbers for CC sand (mat1), CC lower silt (mat2), and CC gravel (mat3). The script then generates an output zonation file.

1. **Functional Requirements**
2. The functional requirements of the tool will be documented in this section. Each requirement will have an ID, such as: FR-N, where N starts at 1 and increments for each Functional Requirement. Each of the Functional Requirement IDs will have a corresponding test ID listed in the RTM.

The functional requirements for the Patch CC Lower Silt tool are as follows:

FR-1: Open and read in STOMP plot file (plot.XXX)

FR-2: Extract “year” from STOMP plot file

FR-3: Extract “number of nodes” from STOMP plot file

FR-4: open and read in zonation file (.zone)

FR-5: extract “za” [?]

FR-6: count “ijk”

FR-7: check bottom, front, back, east, and west ends of node(?) –several conditional statements🡪assign mat2 to node face depending on results of conditional statements

FR-8: calculate the number of patched materials

FR-9: generate an output zonation file (.zone).

1. **Software Requirements Specifications**

The software requirements specification of the tool will be documented in this section.

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1. **Software Design Description**

The software design description of the tool will be documented in this section. The results of a Code Walkthrough with an independent third party will be summarized in this section.

Arguments:  
plot file [iplt]  
zone file [izone]  
material 1 [mat1]  
material 2 [mat2]  
material 3 [mat3]  
output zone file [ozone]

Shell file (runpb.sh):  
perl patchbowl.pl plot.185 input\_dv1\_bfarm.zone 6 7 8 patchbowl\_dv1.zone

1. **Requirements Traceability Matrix**

A requirements traceability matrix for the tool will be documented in this section. At a minimum, the matrix will include IDs of: Functional Requirements and the corresponding Acceptance Test, along with an indication of the test result (Pass/Fail).

Table 1 presents the requirements traceability matrix for the Patch CC Lower Silt tool.

| **Table 1. Patch CC Lower Silt Tool Requirements Traceability Matrix** | | |
| --- | --- | --- |
| **Functional Requirement** | **Acceptance Test** | **Test Result (Pass/Fail)** |
| FR-1 |  |  |
| FR-2 |  |  |
| FR-3 |  |  |
| FR-4 |  |  |
| FR-5 |  |  |
| FR-6 |  |  |
| FR-7 |  |  |
| FR-8 |  |  |
| FR-9 |  |  |

1. **Test Plan and Cases**

The test plan for the tool will be documented in this section. Each test will have a unique ID and criteria for determining if the test result is pass or fail. The TEST ID will be referenced in the RTM and ATR. An installation test, labeled **IT-1**, will be used by the Tool Runner to confirm the version of the tool being used is running correctly before launching it with the user’s parameters.

The Unit Testing done on the tool will be documented here, also.

The test plan for the Patch CC Lower Silt tool is as follows.

| **Table 2. Patch CC Lower Silt Tool Test Plan** | | |
| --- | --- | --- |
| **TEST ID** | **Test Case** | **Test Result (Pass/Fail)** |
| IT-1 | Installation Test |  |
| ATC-X |  |  |
| ATC-X |  |  |

1. **Acceptance Test Report**

The test report will state whether the tool is qualified for use, summarize test case results, and report all resolved incidents and resolution of unresolved incidents.

1. **User Guide**

A guide for using the tool will be documented in this section.