# Chapter 15 Reporting Interpretations

Chapter 13 showed how to print stored ISU interpretations converted from SSSD. This lesson in Chapter 15 introduces you to custom interpretation reports. NASIS allows you to report new interpretations based on current data and on calculations automatically performed by NASIS. This gives you the capability of applying new interpretive criteria to your soil data.

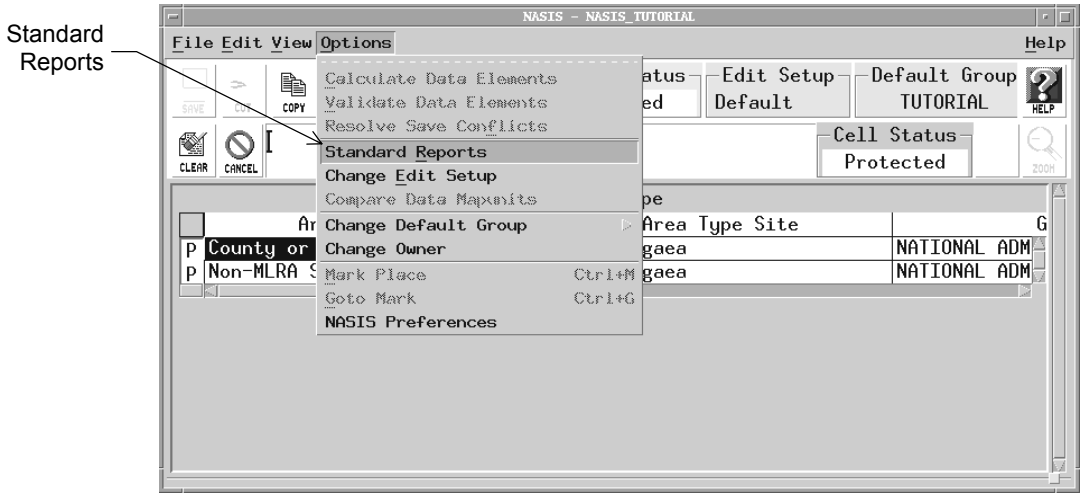
Interpretive criteria in NASIS are based on the concept of fuzzy logic (also known as approximate reasoning). This fundamental concept is explained and demonstrated in detail in Chapter 14, an important foundation for this lesson in Chapter 15. In the following pages, you will become familiar with the special report parameters for custom interpretations and learn how to run your data through a set of existing criteria.

## Understanding the Interpretation Reports

In this lesson, you can use the same selected set you built in Chapter 13. Again, it's important to know that data in the selected set are the basis of reports, not the permanent database.

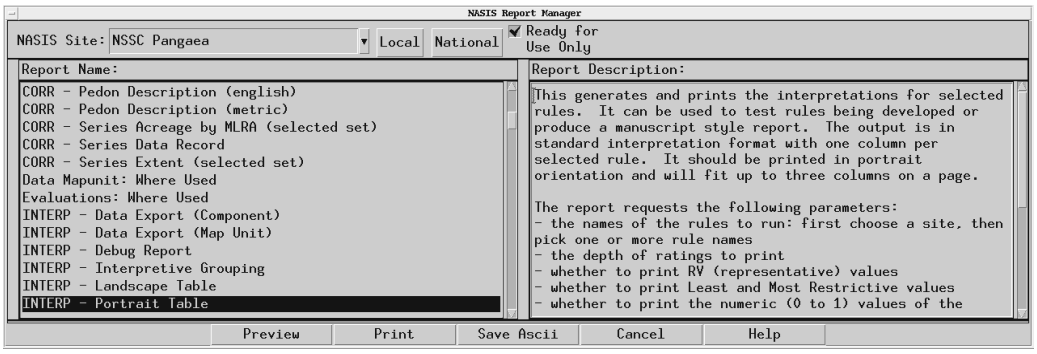
In Chapter 13 you ran a query to retrieve data for Canyon County, a published soil survey correlated in September 1985. This lesson uses the same data. Refer to pages 13.1-3 if you need to reload the data.

1. On the **Options** menu, select **Standard Reports**.

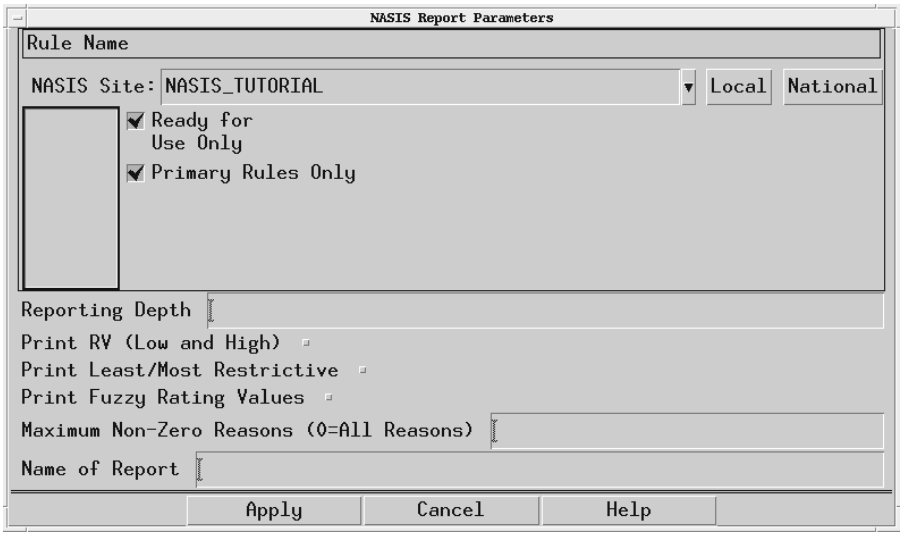



2. The NASIS Report Manager appears. This is the same report manager used for printing other NASIS reports. Review the screen.
3. On the Report Manager, click **National**.

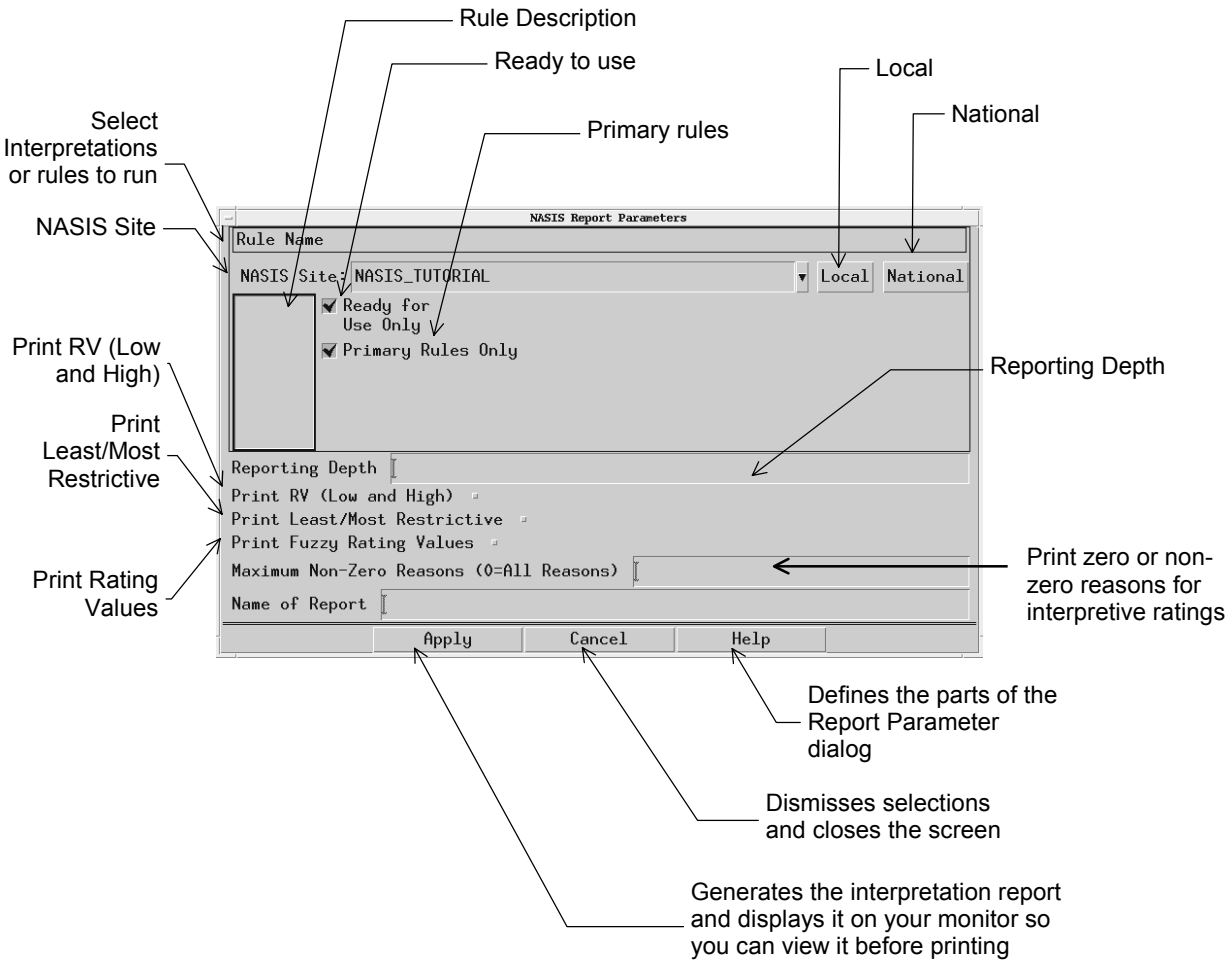
   **Note:** There are several interpretation report formats available. They are indicated on the Report manager screen by the INTERP prefix.




4. Highlight each interpretation report and read its description.
5. Highlight the portrait format report. Click **Preview**.




**Note**: The Report Parameters dialog displayed above contains several items unique to interpretations. Familiarize yourself with the screen by referring to the callouts on the next page and Table 15-1 on page 15.3.




**Note**: A darkened option box indicates a selected option. Options include Print Fuzzy Rating Values, Print RV (Low and High), and Print Least/Most Restrictive. For an explanation of each screen part, refer to Table 15-1 on the next page.

**Note**: The Report Viewer has a button labeled "Save." You can use the Save button to save a copy of a report to a file in plain text format. This is different from writing a report to a file via the Printer Setup dialog which writes a file formatted for a particular type of printer (PostScript or PCL format). The Save button is often a more useful way to save the report output.

| Screen Part | Action |
|---|---|
| NASIS Site | A selection box for choosing a NASIS site from which you want to load existing interpretations. The default entry is your local site. |
| Local | Selects your NASIS site and lists any interpretations it owns. |
| National | Selects the NSSC Pangaea site and lists its interpretations. |
| Select Interpretations to run box | A selection box for choosing an interpretation or a base rule to run. If this box is empty, the selected site owns no interpretations or rules. |
| Primary rules only | Selects only rules marked “yes” in the primary interpretation field of the rule table. Yes indicates that a rule corresponds to what we think of as a primary interpretation as opposed to a sub-part of an interpretation. |
| Print RV (Low and High) | Gets the low and high representative values when the property has multiple RVs, like depth to top of water table. This option is used to answer the question “What is the the typical range?” |
| Print Least/Most Restrictive | Looks at all values and returns the ratings on the lowest low and the highest high. This option is used to answer the question “How good/bad could the condition ever possibly get.” |
| Print Fuzzy Rating Values | Reports the fuzzy results, the values between 0 and 1 that indicate the relative truth of the interpretive evaluation. |
| Ready to use | Selects only interpretations marked “yes” in the ready to use column of the rule table. A “yes” indicates that the rule is complete and ready to use. |
| Reporting Depth | Specifies the level or depth at which interpretations and their criteria (base rules and evaluations) are reported. For example, the interpretation called Septic Tank Absorption Fields is level 1, an intermediate rule is level 2, and a base rule (with an evaluation attached) is level 3. |
| Maximum Non-Zero Reasons (0=All Reasons) | Limits the number of affecting features reported for each reporting depth. When an interpretation is generated, base rules are sorted based on highest to lowest fuzzy values, or most restrictive to least restrictive. By choosing three max reasons, you could report three affecting features. |
| Name of Report | Allows entry of an optional report name. |

**Table 15-1. Parts of the Report Parameters for Interpretations Screen**

**Note**: NASIS provides you with pre-defined interpretation criteria and reports Selecting "National" (NSSC Pangaea site) on the Report Manager displays the "national" interpretations reports. This set of "national" interpretations reflect the soil rating criteria documented in various national handbooks and manuals (National Soil Survey manual, National Forestry Manual, National Range and Pasture Handbook, etc.). Because the ultimate responsibility of interpretive certification lies with the States, these "national" interpretations should be regarded as "templates" which the states may decide to use as is or modify to reflect local criteria. When selecting "national" interpretations you should make certain the "Ready to use" box is marked. Some "national" interpretations stored in the system may be currently under development. These incomplete or un-tested interpretations should not be used to produce interpretations except for internal testing purposes.

A naming convention identifies interpretations, which appear at the beginning of the list in the NASIS Report Parameters dialog. As shown in Table 15.2 below, interpretations are named with a 3-letter code for the technical discipline, followed by the interpretation name. Table 15-2 shows a sample of the interpretations owned by the NSSC Pangaea site.

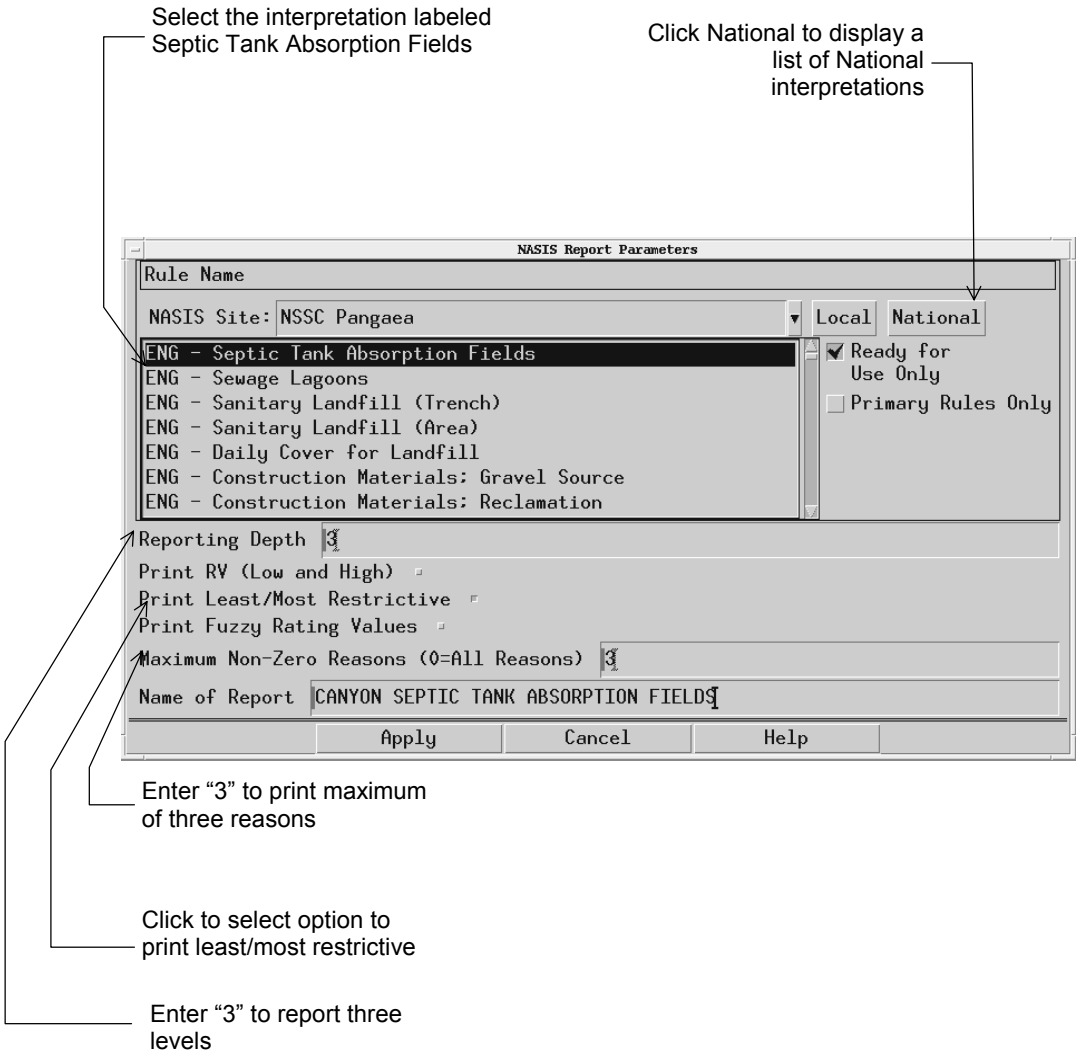
| 3-Letter Code | Interpretation |
|---|---|
| ENG | Septic Tank Absorption Fields |
| ENG | Sewage Lagoons |
| ENG | Sanitary Landfill (Trench) |
| AWM | Land Application of Ag Wastes |
| AWM | Land Application of Municipal Sewage Sludge |
| AWM | Irrigation Disposal of Wastewater |
| FOR | Potential Erosion Hazard (Road/Trail) |
| FOR | Potential Erosion Hazard (Off-Road/Off-Trail) |
| FOR | Soil Rutting Hazard |

**Table 15-2. Naming Convention for Interpretations**

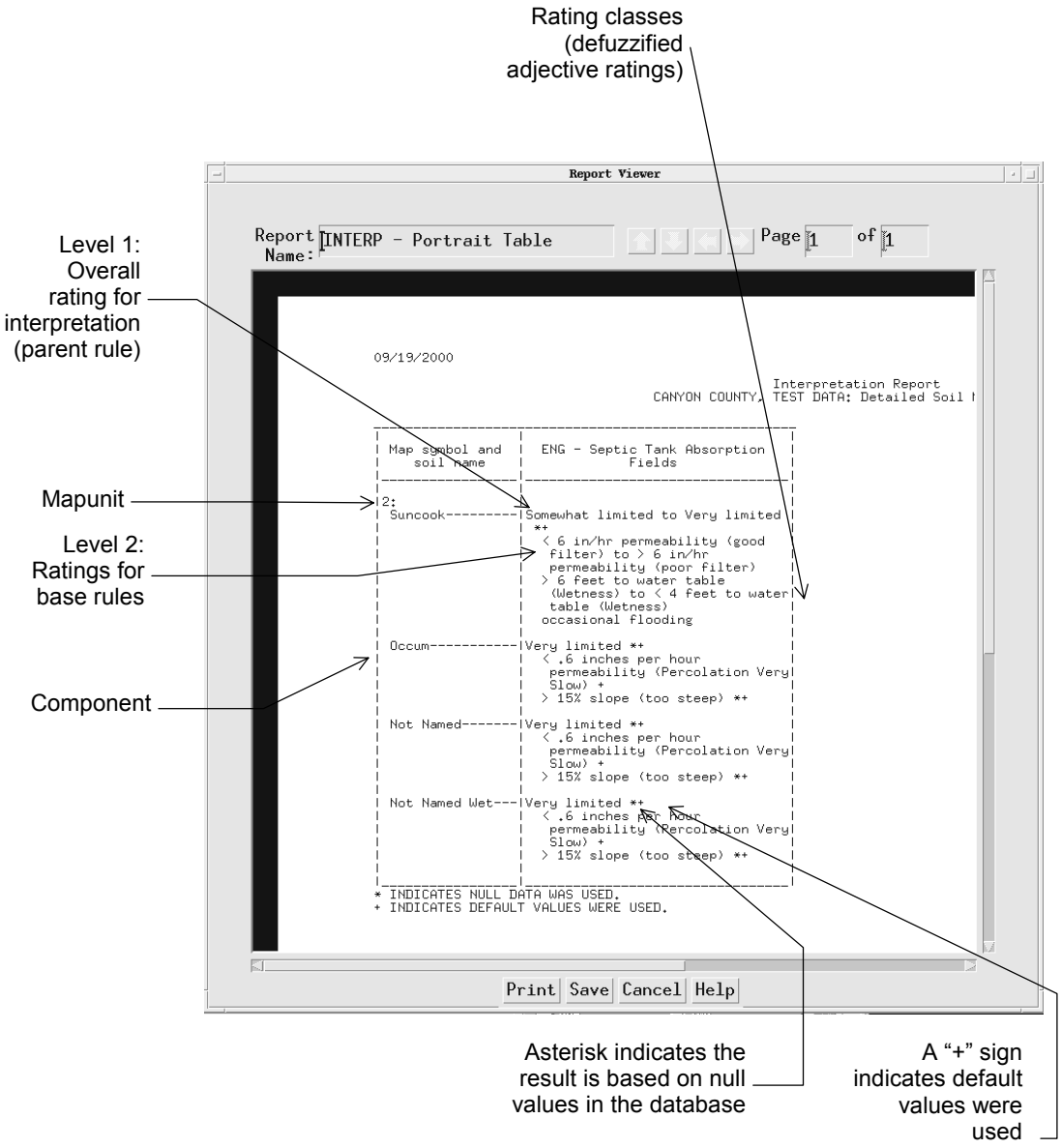
# Experimenting with Reporting Options

In this section, you will experiment with choosing different options on the Report Parameters dialog for previewing reports to see the impacts of your selections.

1. On the Report Manager dialog, select the **Interpretation (portrait)** report name.
2. Click **Preview.**
3. For the first demonstration, select the options shown in the following sample screen:




4. Generate the report by clicking the **Apply** button.




**Note**: NASIS begins generating the report. This may take a couple of minutes.

5. The Report Viewer appears, displaying the report.
6. Use the arrow buttons on the Report Viewer to scroll through the report.
7. Using the callouts, make note of some of the significant features of this report.
8. Refer to Table 15-3 below for an illustration of the various levels or depths. Concerning levels, the questions you will have to answer are "Which level do I want to report on," and "Which reported level do I want ratings on?"

| |
|---|
| Interpretation (Level 1)<br>Base rule (Level 2) |

**Table 15-3. Base Rules Indented on Reports**

**Note**: On the report, you selected reporting depth of 3, but notice that only two levels exist in the Septic Tank Absorption Fields interpretation. Selecting depths of 2 would have returned exactly the same report as shown above. Figure 15-1 points out the various levels in the septic tank absorption field interpretation.

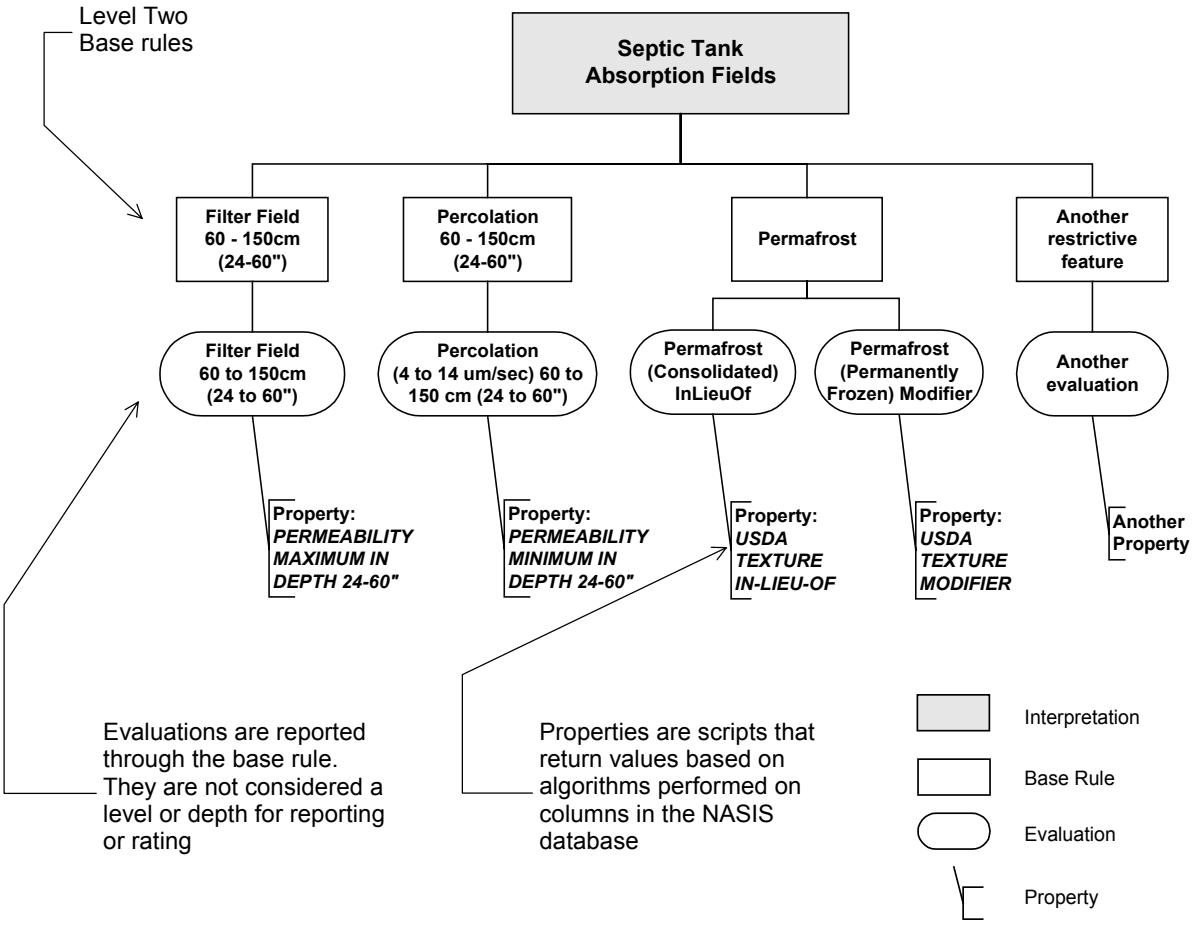


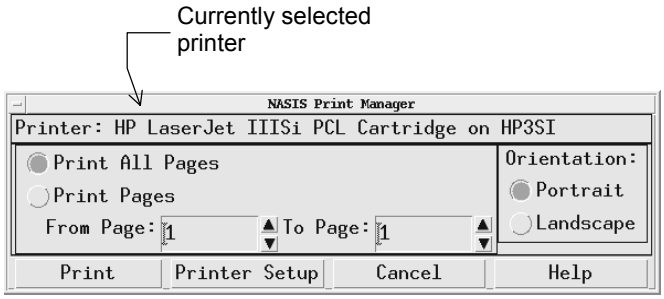

**Figure 15-1. Schema of Components of Septic Tank Absorption Field Interpretation**

**Note**: Because you can aggregate base rules into other rules as well as into an interpretation, NASIS gives you the capability of reporting up to ten levels.

**Note**: A *base rule* is a logical statement about one limiting feature. A base rule says nothing about the land use; therefore, the same base rule can be used in building different interpretations. Base rules are aggregated into an interpretation and are considered the basis, or building blocks, of an interpretation. Base rules have at least one evaluation linked to them. For additional discussion of interpretive criteria, see Chapter 14 and Chapter 1, pages 1.16 through 1-22.

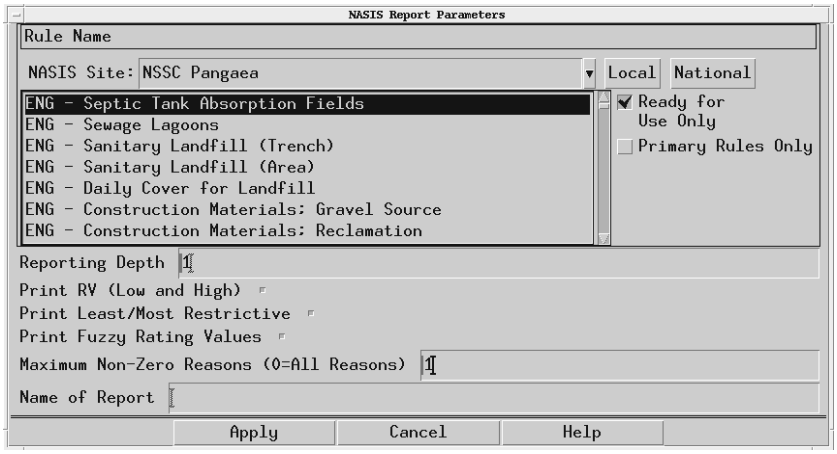
9. If your printer is properly configured, print the report by clicking **Print**.

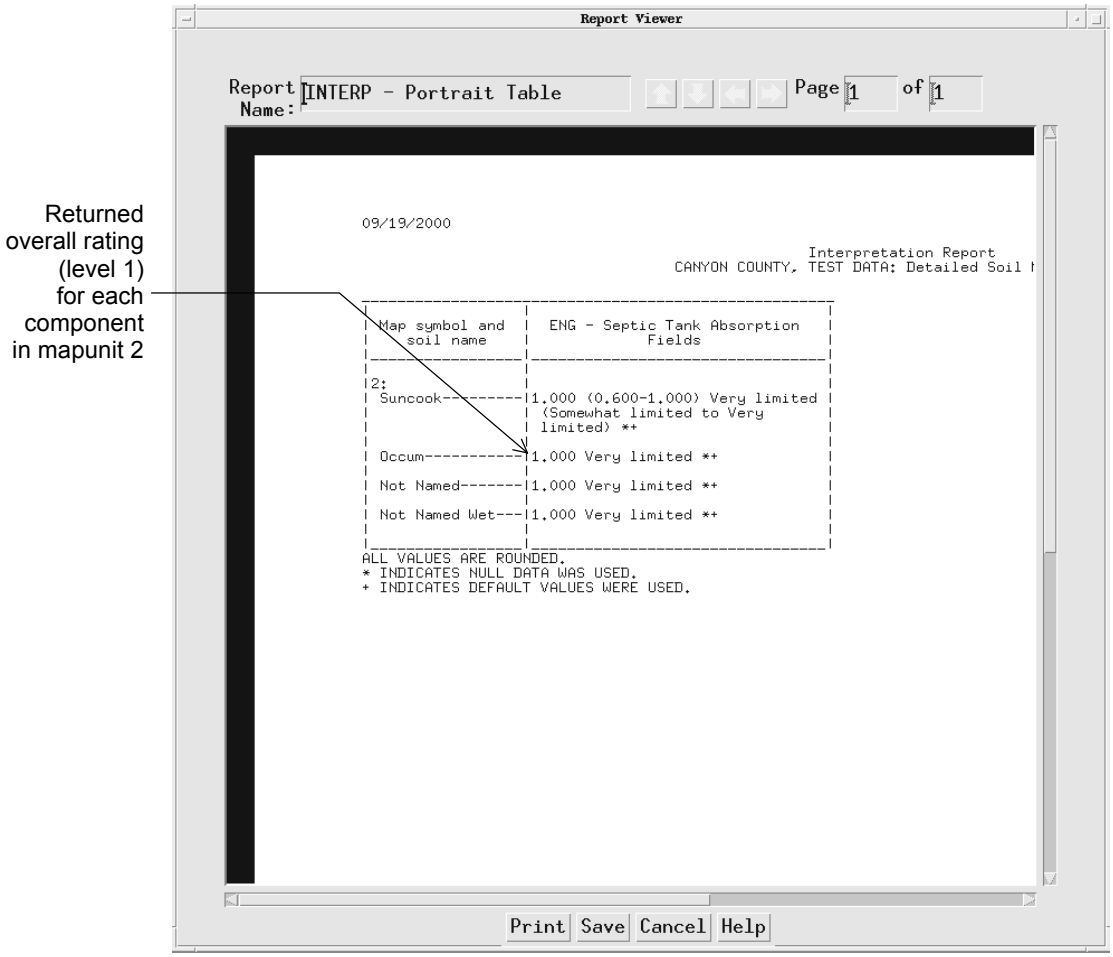
10. The NASIS Print Manager appears. Refer to the upper left corner of the dialog to determine the printer currently set up.




**Note**: This lesson assumes that *Xprinter* has been configured for remote printing from the central server to your local printer. The NASIS administrator needs to set up the printer(s) before you can print the first time. Until *HyperHelp Xprinter* (the NASIS third-party print program) is configured to recognize your printers, it will only print to a file, even if the Printer Setup dialog shows that you are printing to a printer. Refer to Appendix C.

11. If the printer is set up, click the **Print** button to send the report to the printer.
12. If the action was successful, a message indicates that the report was sent to the printer. Click **OK**.
13. When you are finished looking at the report and want to select a different set of options on the Report Parameters dialog, click **Cancel**.
14. Click **Preview** to redisplay the Report Parameters dialog.
15. In the Report Parameters, change **Reporting Depth** to **1**, select **Print RV (Low and High)**, select **Print Fuzzy Rating Values**, and change **Maximum Non-Zero Reasons** to **1**.
16. Click the **Apply** button and examine this report.

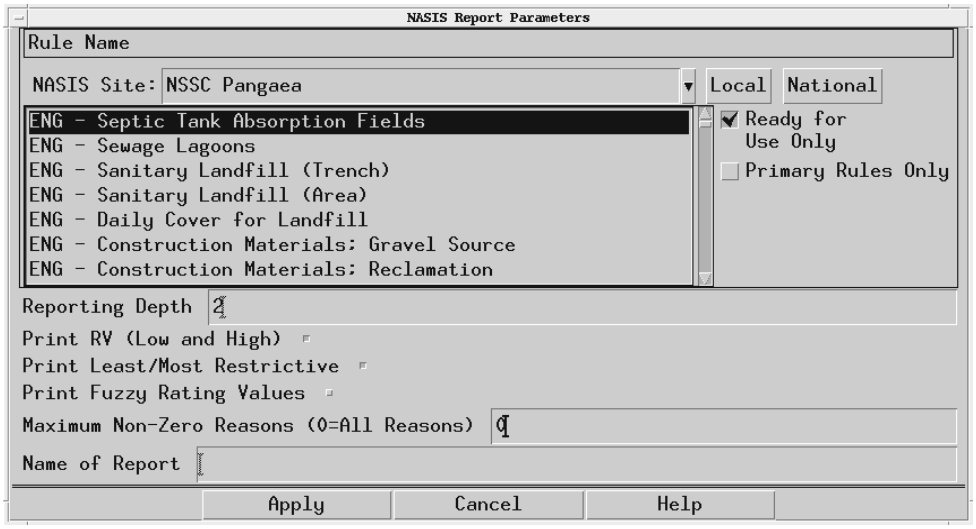




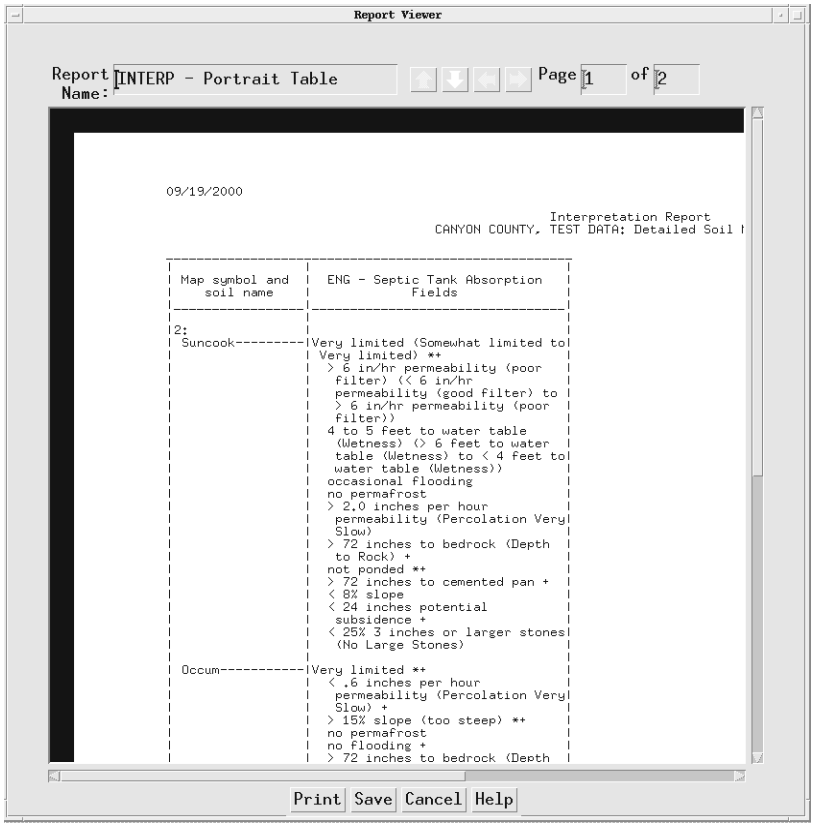

Returned overall rating (level 1) for each component in mapunit 2

**Note**: Level one reporting depth returns the interpretation only.

17. When finished looking at the report, click the **Cancel** button to return to the Report Manager.
18. Click **Preview** to display the Report Parameters dialog.
19. This time, select **Print RV**, **Print Least/Most Restrictive**, and change the **Reporting Depth** to **2** and the **Maximum Non-Zero Reasons** to **0.**




20. Click the **Apply** button to generate the report.




**Note**: When you select the least/most restrictive option, you are asking that the values be ranked, but on lowest low and highest high, and then only show the top three.

**Note**: When the maximum non-zero reasons are set to zero, all non-zero reasons are selected.

21. Click the **Cancel** button and return to the Report Manager.
22. Continue experimenting with the options on the Report Parameter dialog, and when you are ready to go on to a lesson on developing interpretation criteria, close the Report Manager by clicking **Cancel**.

    **Note**: You have completed this chapter.