Installation Test for 3DStress Version 1.2

October 31, 1996

I. Introduction

This document specifies the installation testing procedure and results for 3DStress version 1.2. The installation test is used to verify that the software is properly installed on a target system as required by CNWRA Technical Operating Procedure TOP-018, Revision 4, section 5.6. 3DStress is an application program for interactively computing and displaying the slip and dilation tendency of faults and fractures. Refer to the Software Requirements Description and the user's manual for 3DStress, version 1.2 for more information on using 3DStress.

II. Test Procedure

1. Install the 3DStress program in a subdirectory. The following files are required:

3dstress (executable file) .3dstress_help (showcase help file)

The permissions of the above files must be set so that users may access and execute these files. The help file requires the *showcase* software application from Silicon Graphics to be loaded. See your local site administrator for help installing 3DStress and *showcase*.

2. Execute 3DStress by changing the current directory to the directory that contains the 3DStress executable file or by adding the directory to your *path* environmental variable. For example, to modify the *path* variable enter the following command:

% set path = (\$path 3dstress_directory)

Where 3dstress_directory is the name of the directory that contains the 3DStress executable file.

9807240074 961112 PDR WASTE PDR WM-11 PDR 3. Check the version number of the 3DStress executable by entering the following command. Verify that the version number is 1.2.

```
% 3dstress -h
@(#)3dstress 09-30-96 Rev 1.2
Usage: 3dstress [-f font size]
      [-b button color]
      [-c window color]
      [-h help]
      -r filename
      -d sx sy sz rx ry rz fstrike fdip
      [Dilation tendency]
      -s sx sy sz rx ry rz fstrike fdip
      [Slip tendency]
```

4. Execute 3DStress by typing the following command:

% 3dstress

. .

The main control and Tendency Plot windows should appear as shown below.



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5. If you execute 3DStress from the directory where the help file is located, 3DStress will automatically find the help file. However, if you execute 3DStress from another directory an error message will be displayed as shown below.



If you encounter the error message above, exit 3DStress and enter the following command:

% setenv 3DSTRESS_HOME help_file_directory

Where *help_file_directory* is the name of the directory where the help file is currently located.

For example, if the help file is loaded in /usr/local/bin, then enter:

% setenv 3DSTRESS_HOME /usr/local/bin

Now execute 3DStress and verify that the above error message does not appear.

6. Press the help button on the main control window and verify that the *showcase* help file loads as shown in the figure below. If the help file does not load, verify that the help file is loaded and that the *showcase* application is loaded on the system. Refer to steps 1 and 5 for additional information.

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based on a user specified three dimensional stress state. For a description of 3DStress see the overview section. For instructions on how to use 3DStress see the table of contents.	
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7. Open the 3Dview, Sliders, and Map windows. Use the Load Vbl button in the 3D Fault Viewer window to load 3-D fault files also called Vbl files.

Vbl files are created using a text editor or written from the 3DMove software system from Midland Valley Exploration. The files tc1.vbl and tc3.vbl are both shown in the 3D Fault Viewer window below.

Use the Load button in the Map Viewer window to load a 2-D coverage file also called a Lin file. Lin files are created using a text editor or by exporting line coverages from the ARC/INFO software system from ESRI. The file angles45.lin is shown in the Map Viewer window below. Verify that the fault and line files load and display correctly. The display should look similar to the figure below.

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In 20 Final Womer I Constant Internet I	eel Map Viewer Load Coverages Rose Options Resct Print	+ D Help Close

 Use the sliders to modify the stress magnitudes and orientations to the following values: Sigma X Magnitude 90, Sigma Y Magnitude 70, Sigma Z Magnitude 10, Sigma X Direction 28, Sigma X Plunge 90, Sigma Y Direction 28, Sigma Z Direction 118.

Press the left mouse button in the Tendency Plot window and move the cursor to select a fault orientation of strike 198 and dip 72. Verify that the following values are displayed in the Tendency Plot window: Slip Tendency 1.3, Shear Stress 24.9, and Normal Stress 19.3.



9. If a problem is noted in any of the above tests then reinstall 3DStress and repeat these tests. If the problem still occurs then contact:

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III Summary

Installation testing of 3DStress, version 1.2, was conducted on October 17, 1996. The software was executed on a Silicon Graphics Onyx workstation named performer in the CNWRA GIS lab in San Antonio, Texas. The software passed all of the installation tests specified in this report.

Software Developer: Rut All Date: 10/30/71

Element Manager: A Lower Mi Lage Date: 10/30/96