

SOFTWARE RELEASE NOTICE

1. SRN Number: N/A 318		
2. Project Title: StereoStat, version 1.3		Project No. N/A
3. SRN Title: StereoStat, version 1.3		
4. Originator/Requestor: Kevin Smart		Date: July 1, 2004
5. Summary of Actions		
<input checked="" type="checkbox"/> Release of new software <input type="checkbox"/> Change of access software <input checked="" type="checkbox"/> Release of modified software: <input type="checkbox"/> Software Retirement X Enhancements made (minor) Release of new version replacing X Corrections made (minor) version 1.2.		
6. Validation Status		
<input checked="" type="checkbox"/> Validated <i>VALIDATED per SCH 515</i> <input type="checkbox"/> Limited Validation <input checked="" type="checkbox"/> Not Validated Explain: <i>Validation scheduled for Week of August 7, 2004</i> <i>PLS</i> <i>7/23/04</i>		
7. Persons Authorized Access		
Name	Read Only/Read-Write	Addition/Change/Delete
<i>ALL</i>	<i>N/A</i>	
8. Element Manager Approval: <i>A. Lawrence McKee</i>		Date: <i>7/8/04</i>
9. Remarks:		

SOFTWARE SUMMARY FORM

01. Summary Date: July 1, 2004	02. Summary prepared by (Name and phone) Kevin Smart (x5859)	03. Summary Action: Modification - (new version 1.3 that replaces version 1.2)	
04. Software Date: 2003-2004	05. Short Title: StereoStat		
06. Software Title: StereoStat 1.3		07. Internal Software ID: N/A	
08. Software Type: <input type="checkbox"/> Automated Data System <input checked="" type="checkbox"/> Computer Program <input type="checkbox"/> Subroutine/Module	09. Processing Mode: <input checked="" type="checkbox"/> Interactive <input type="checkbox"/> Batch <input type="checkbox"/> Combination	10. Application Area a. General: <input checked="" type="checkbox"/> Scientific/Engineering <input type="checkbox"/> Auxiliary Analyses <input type="checkbox"/> Total System PA <input type="checkbox"/> Subsystem PA <input type="checkbox"/> Other b. Specific: Structural geology stereonet plotting software	
11. Submitting Organization and Address: CNWRA/SwRI 6220 Culebra Road San Antonio, TX 78228		12. Technical Contact(s) and Phone: RockWare 1-800-775-6745 stereostat@rockware.com 303-278-3534	
13. Software Application: Visualize, analyze, and interpret geological data sets that consist of planar and/or linear data (e.g., bedding planes, faults, fractures, mineral lineations). Also used to construct rose diagrams and contour plots of spherical data.			
14. Computer Platform IBM PC	15. Computer Operating System: Windows 98/NT/2000/XP	16. Programming Language(s): N/A	17. Number of Source Program Statements: N/A
18. Computer Memory Requirements: ≥ 16 MB	19. Tape Drives: N/A	20. Disk Units: ≥ 10 MB Hard Drive	21. Graphics: N/A
22. Other Operational Requirements N/A			
23. Software Availability: <input type="checkbox"/> Available <input checked="" type="checkbox"/> Limited <input type="checkbox"/> In-House ONLY		24. Documentation Availability: <input checked="" type="checkbox"/> Available <input type="checkbox"/> Preliminary <input type="checkbox"/> In-House ONLY	
25. Software Developer:  Date: 7/2/04			

**CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES
QA VERIFICATION REPORT**

**FOR
→ DEVELOPED OR ACQUIRED TO BE MODIFIED SOFTWARE ←**

Software Title/Name: stereoStat
Version: 1.3
Demonstration workstation: IBM PC
Operating System: Windows 98/NT/2000/x6
Developer: Rockware

Software Requirements Description (SRD) [TOP-018, Section 5.3]

SRD Version: N/A
SRD Approval Date: _____

SRD and any changes thereto reviewed in accordance with QAP-002 requirements?

This is a new version from the Commercial Developer. Yes: No: N/A:

Is a Software Change Report(s) (SCR) used for minor modifications (i.e., acquired code), problems or changes to a configured version of software?

Yes: No: N/A:

Comments: _____

Software Development Plan (SDP) [TOP-018, Section 5.4]

SDP Version: N/A
SDP (EM) Approval Date: _____

The SDP addresses applicable sections of TOP-018, Appendix B, SDP Template?

Yes: No: N/A:

Is the waiver (if used) in accordance with specified guidelines?

Yes: No: N/A:

Comments: _____

Design and Development [TOP-018, Section 5.5.1 - 5.5.4]

Is code development in accordance with the conventions (i.e., coding conventions) described in the SDP/SCR?

Yes: No: N/A:

Module(s) Reviewed: _____

Comments: _____

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES
QA VERIFICATION REPORT
FOR
→ DEVELOPED OR ACQUIRED TO BE MODIFIED SOFTWARE ←

Is code internally documented to allow a user to understand the function(s) being performed and to follow the flow of execution of individual routines?

Yes: No: N/A:

Module(s) Reviewed:

Comments:

Is development of the code and informal module/subroutine-level testing documented in scientific notebook and/or SCR?

Yes: No: N/A:

SCR's and/or Scientific Notebook(s) Reviewed:

Comments:

Software designed so that individual runs are uniquely identified by date, time, name of software and version?

Yes: No: N/A:

Date and Time Displayed: _____

Name/Version Displayed: _____

Comments:

Medium and Header Documentation [TOP-018, Section 5.5.6]

A program title block of main program contains: Program Title, Customer Name, Customer Office/Division, Customer Contact(s), Customer Phone Number, Associated Documentation, Software Developer and Phone Number, Date, and Disclaimer Notice?

Yes: No: N/A:

Comments:

Source code module headers contain: Program Name, Client Name, Contract reference, Revision Number, Revision History, and Reference to SRD/SCR requirement(s)?

Yes: No: N/A:

Module(s) Reviewed:

Comments:

The physical labeling of software medium (tapes, disks, etc.) contains: Program Name, Module/Name/Title, Module Revision, File type (ASCII, OBJ, EXE), Recording Date, and Operating System(s)?

Yes: No: N/A:

Comments:

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES
QA VERIFICATION REPORT
FOR
→ DEVELOPED OR ACQUIRED TO BE MODIFIED SOFTWARE ←

Code Reviews [TOP-018, Section 5.5.6]

Are code reviews (if implemented) documented in a scientific notebook or in another format that allows others to understand the code review process and results? Yes: No: N/A:

Documented in Scientific Notebook No.: _____

Comments:

Acceptance and Installation Testing [TOP-018, Section 5.6]

Does *acceptance testing* demonstrate whether or not requirements in the SRD and/or SCR(s) have been fulfilled?

Test results were compared to the validated version 1.2. Identical results. Yes: No: N/A:

Has *acceptance testing* been conducted for each intended computer platform and operating system?

Yes: No: N/A:

Computer Platforms: PC Operating Systems: WIN

Location of Acceptance Test Results: attached

Comments:

Has *installation testing* been conducted for each intended computer platform and operating system?

Yes: No: N/A:

Computer Platforms: PC only Operating Systems: _____

Location of Acceptance Test Results: _____

Comments:

User Documentation [TOP-018, Section 5.5.7]

Is there a Users' Manual for the software and is it up-to-date?

Yes: No: N/A:

User's Manual Version and Date: Included with Software version 1.3

Comments: Electronic

**CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES
 QA VERIFICATION REPORT
 FOR
 → DEVELOPED OR ACQUIRED TO BE MODIFIED SOFTWARE ←**

Are there basic instructions for the *installation* and *use* of the software?

Yes: No: N/A:

Location of Instructions: in program

Comments: Double click on program - no special instructions were issued

Configuration Control [TOP-018, Section 5.7, 5.9.3]

Is the Software Summary Form (Form TOP-4-1) completed and signed?

Yes: No: N/A:

Date of Approval: 7/2/04

Is the list of files attached to the Software Summary Form complete and accurate?

Yes: No: N/A:

Comments: one file (for the exe install)

Is the source code available or, is the executable code available in the case of (acquired/commercial codes)?

Yes: No: N/A:

Location of Source Code: NA

Comments:

Have all the script/make files and executable files been submitted to the Software Custodian?

Yes: No: N/A:

Location of script/make files: _____

Comments:

Software Release [TOP-018, Section 5.9]

Upon acceptance of the software as verified above, has a Software Release Notice (SRN), Form TOP-6 been issued and does the version number of the software match the documentation?

Yes: No: N/A:

SRN Number: 318

Comments:

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES
QA VERIFICATION REPORT
FOR
→ DEVELOPED OR ACQUIRED TO BE MODIFIED SOFTWARE ←

Software Validation [TOP-018, Section 5.10]

Has a Software Validation Test Plan (SVTP) been prepared for the range of application of the software?

Yes: No: N/A:

Version and Date of SVTP: Revision 1.2, October 21, 2003

Date Reviewed and Approved via QAP-002: 10/21/2003

Comments:

Has a Software Validation Test Report (SVTR) been prepared that documents the results of the validation cases, interpretation of the results, and determination if the software has been validated?

Yes: No: N/A:

Version and Date of SVTR: NA - SCR# 64092515

Date Reviewed and Approved via QAP-002: NA - SCR# 0804

Comments:

Scheduled for week of August 2, 2004 ~~10/21/03~~ 11/23/04

Additional Comments:

[Signature] 7/22/04
 Software Developer/Date

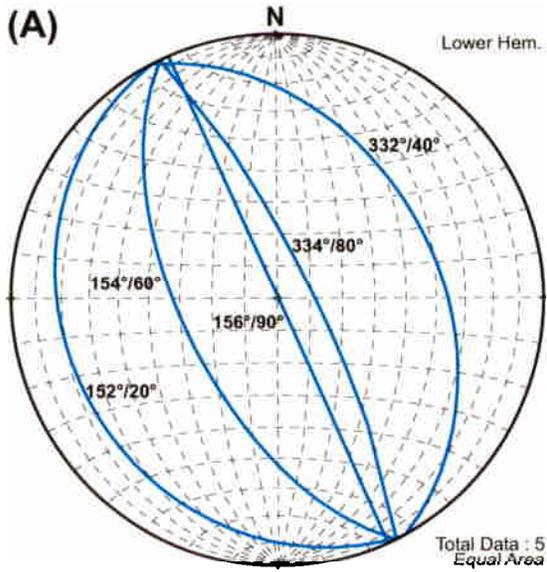
[Signature] 7/23/04
 Software Custodian/Date

SOFTWARE CHANGE REPORT (SCR)

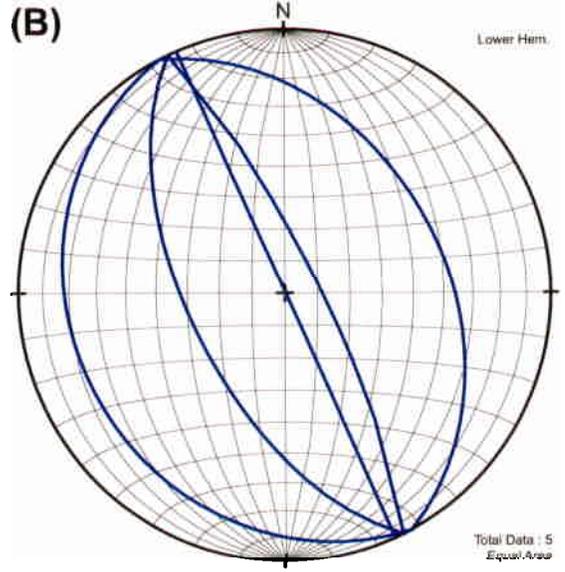
1. SCR No. (Software Developer Assigns): N/A 6268-SCR-5.5 ^{11/23/04}	2. Software Title and Version: StereoStat, version 1.3	3. Project No: N/A
4. Affected Software Module(s), Description of Problem(s): StereoStat, version 1.3		
5. Change Requested by: Date:	6. Change Authorized by (Software Developer): Date:	
7. Description of Change(s) or Problem Resolution (If changes not implemented, please justify): Received new version (1.3) of software from RockWare.		
8. Implemented by: RockWare	Date: June 2004	
9. Description of Acceptance Tests: Test used to validate version 1.2 were re-run with version 1.3. Identical results were obtained. SEE ATTACHED SHEETS This SCR serves as the SUTR as permitted by 706-018, 5.10.6 ^{Print}		
10. Tested by: K.J. Smart	Date: July 1, 2004	

SCR # Assigned 7/23/2004
 R. Smith

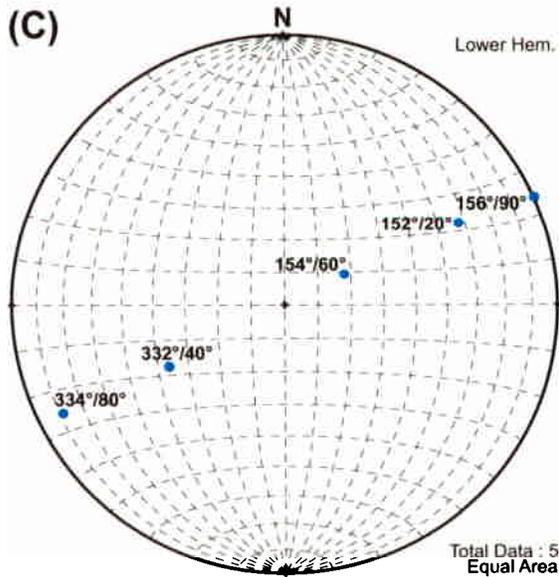
StereoStat 1.2 -- Planes



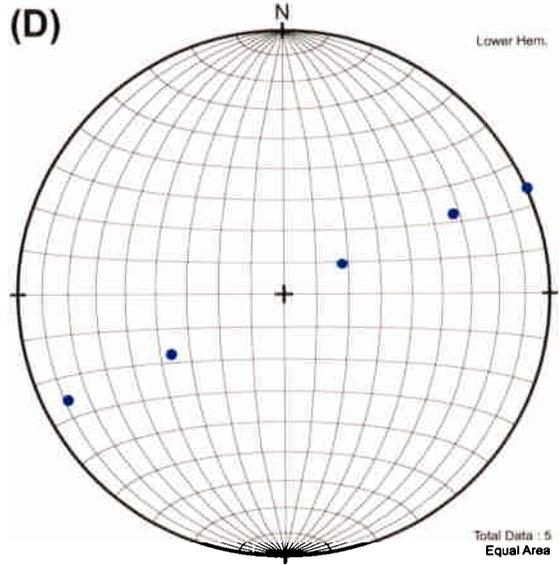
StereoStat 1.3 -- Planes



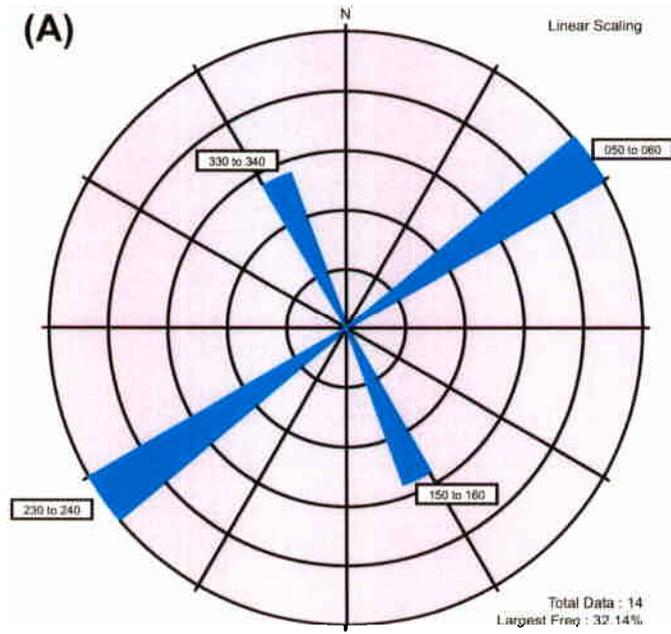
StereoStat 1.2 -- Poles



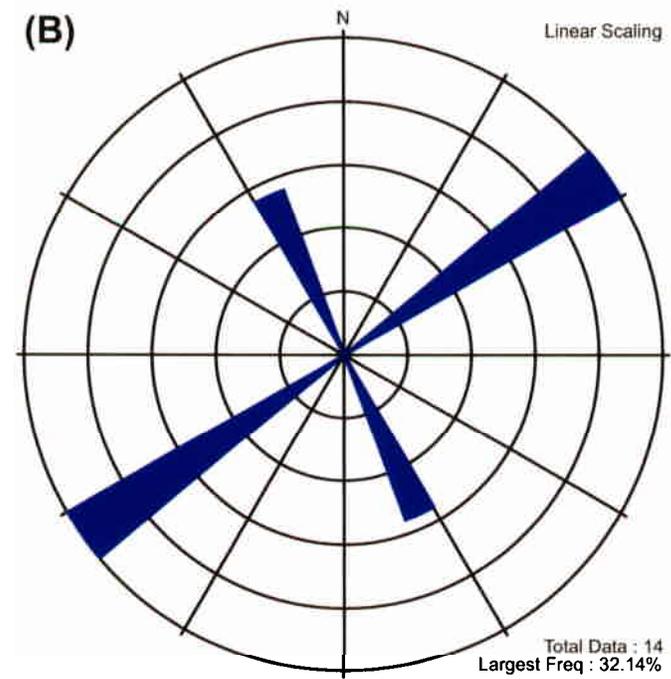
StereoStat 1.3 -- Poles



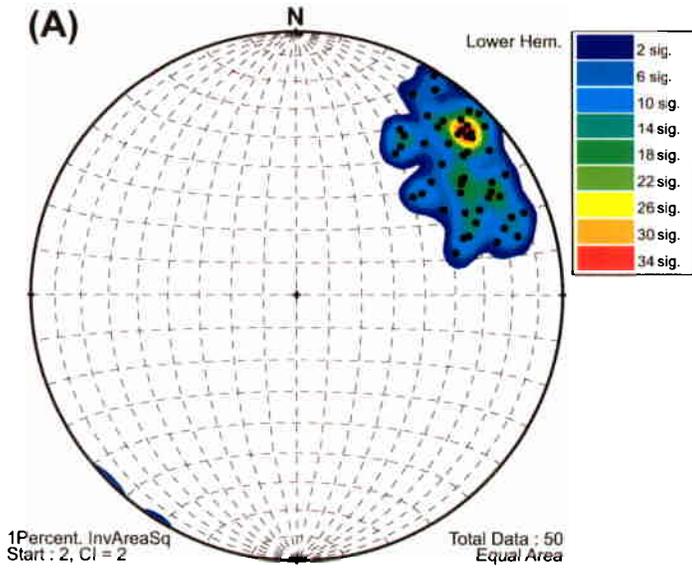
StereoStat 1.2 -- Rose diagram



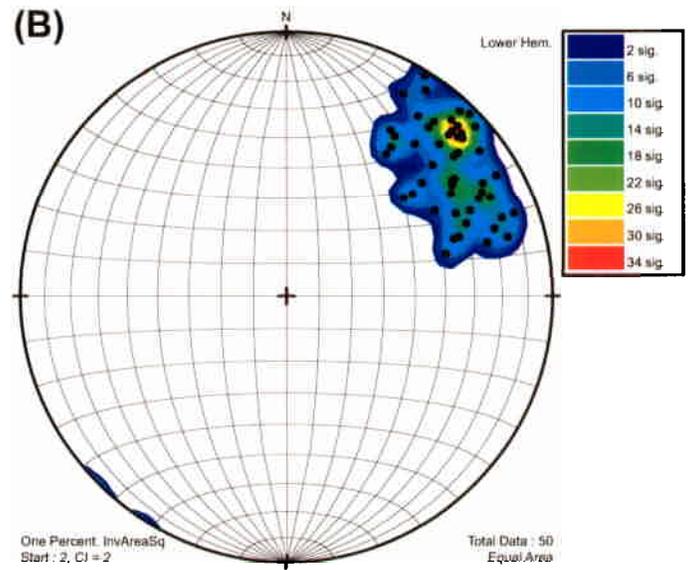
StereoStat 1.3 -- Rose diagram



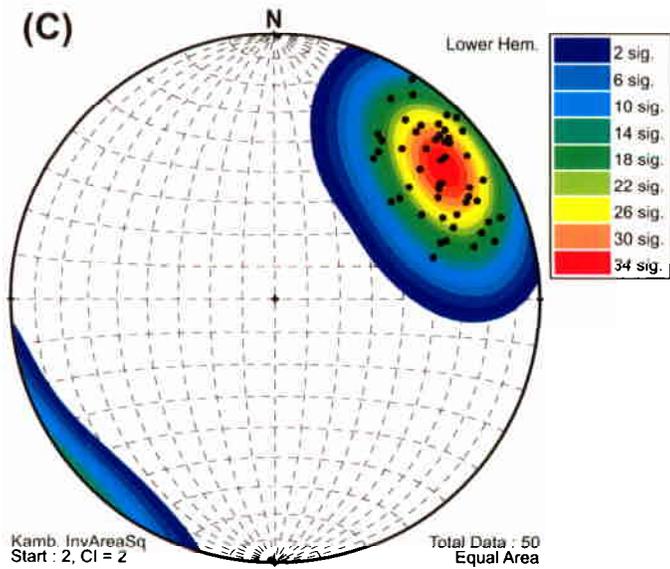
StereoStat 1.2 -- 1% contour



StereoStat 1.3 -- 1% contour



StereoStat 1.2 -- Kamb contour



StereoStat 1.3 -- Kamb contour

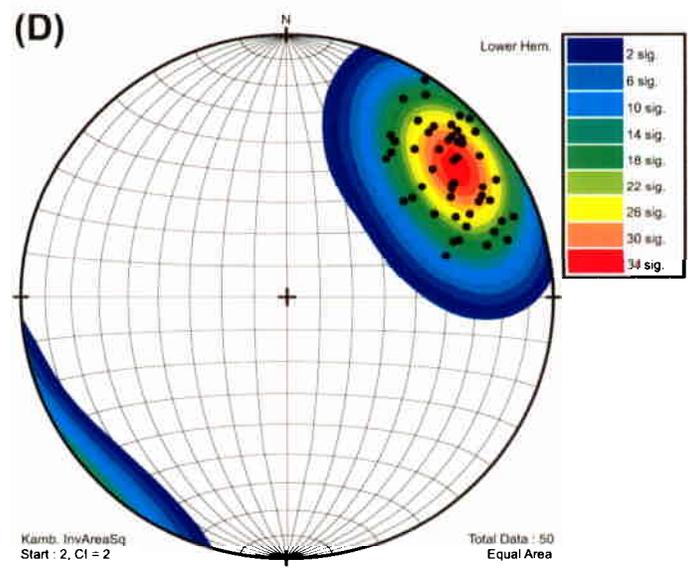


Table 1: Comparison of results for test case 4 using *StereoStat*[®] version 1.2 and *StereoStat*[®] version 1.3.

		<i>StereoStat</i>[®] 1.2	<i>StereoStat</i>[®] 1.3
<i>Fisher Analysis:</i>			
Mean Pole to Foliation		052°/21°	052°/21°
95% Confidence Cone		3.97°	3.97°
Concentration Factor (k)		26.638	26.638
<i>Bingham Analysis:</i>			
Eigenvalues	Maximum	0.93	0.93
	Intermediate	0.05	0.05
	Minimum	0.03	0.03
Eigenvectors	Maximum	052°/21°	052°/21°
	Intermediate	153°/27°	153°/27°
	Minimum	289°/55°	289°/55°