

**Software Release Notice
Acquired Software**

1. Software Name: SAPHIRE Software Version: 6.8

2. Software Function: SAPHIRE, a interactive graphics tool, performs those functions necessary to create and analyze a complete probabilistic analysis. The software functions allows the user to analysis event sequences using event tree analysis technique and system reliability analysis using fault tree analysis. The software allows the user to conduct uncertainty, sensitivity, and importance analysis. In addition, software defines database structure, display graphical result and generates reports.

3. Summary of Actions:
 New Software Update to Existing Software Software Retirement

4. Software Installation

4a. Computer Platform(s): PC 4b. Operating System(s): Windows 2000
 4c. Programming Language(s): NA

4d. Installation Testing:
 Passed Testing Performed On: DRACO
 Description of Testing Performed:
 Executed Demo model included with the software. Sample output attached.

4e. Archive Copy:
 Enclosed Not Available, Why:

Installation Performed by: Hollen Strait Date: 10/6/2004

Remarks:

5. Software Assessment

Validation Status:
 Full Validation Limited Validation Date of Validation:
 Not Validated, Explain: Validation in progress

Software User: B. Dasgupta, G. Adams, S. Hsiung, A. Ghosh Date: 3/4/05

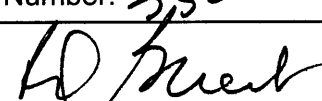
Remarks:

6. Approval

Manager:  Date: 3-7-05

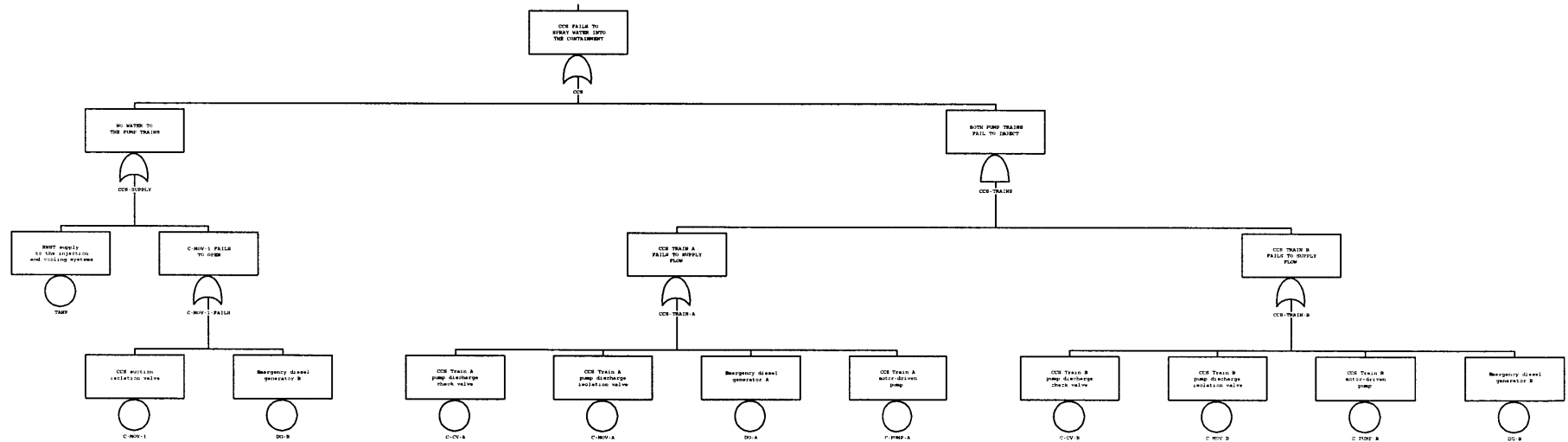
Remarks:

7. QA Verification

SRN Number: 3150
 Date: 3/12/05

Remarks:

Containment Cooling System fault tree



Sort/Slice Cut Set Report

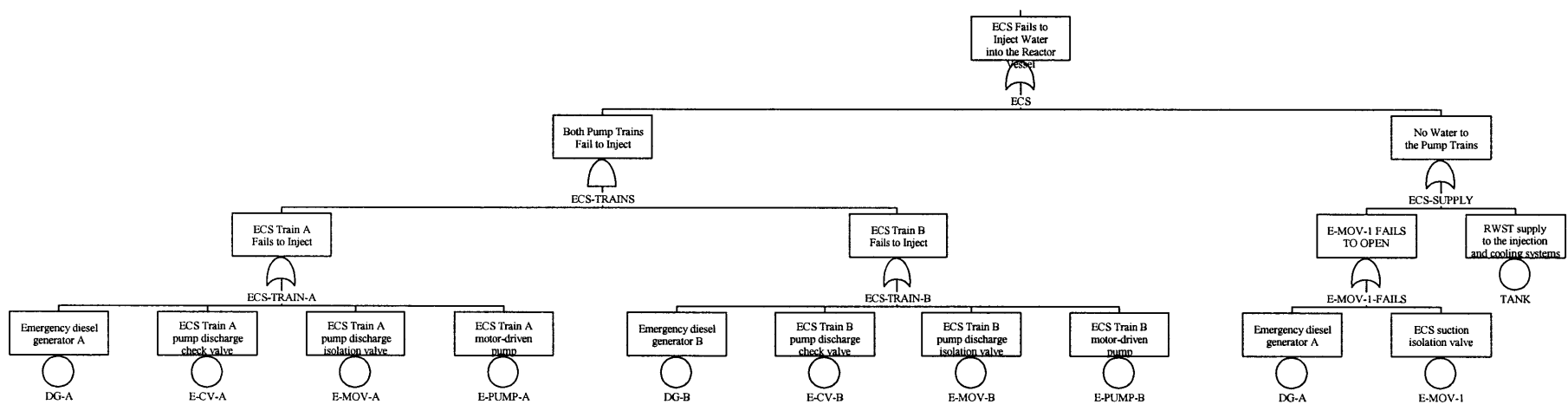
Project-> DEMO

Fault Tree-> CCS

Mincut Upper Bound -> 2.120E-002

This Partition -> 2.120E-002

Cut No.	% Total	% Cut Set	Frequency	Cut Sets
1	94.3	94.3	2.000E-002	DG-B
2	99.1	4.7	1.000E-003	C-MOV-1
3	99.5	0.5	1.000E-004	C-MOV-B, DG-A
4	99.8	0.3	6.000E-005	C-PUMP-B, DG-A
5	99.9	0.1	2.500E-005	C-MOV-A, C-MOV-B
6	100.0	0.1	1.500E-005	C-MOV-A, C-PUMP-B
7	100.0	0.1	1.500E-005	C-MOV-B, C-PUMP-A
8	100.0	0.1	9.000E-006	C-PUMP-A, C-PUMP-B
9	100.0	0.0	2.000E-006	C-CV-B, DG-A
10	100.0	0.0	5.000E-007	C-CV-A, C-MOV-B
11	100.0	0.0	5.000E-007	C-CV-B, C-MOV-A
12	100.0	0.0	3.000E-007	C-CV-A, C-PUMP-B
13	100.0	0.0	3.000E-007	C-CV-B, C-PUMP-A
14	100.0	0.0	1.000E-007	TANK
15	100.0	0.0	1.000E-008	C-CV-A, C-CV-B



Sort/Slice Cut Set Report

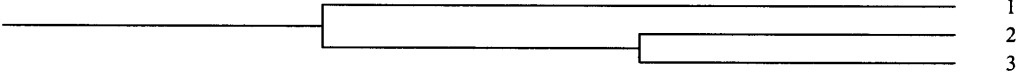
Project-> DEMO

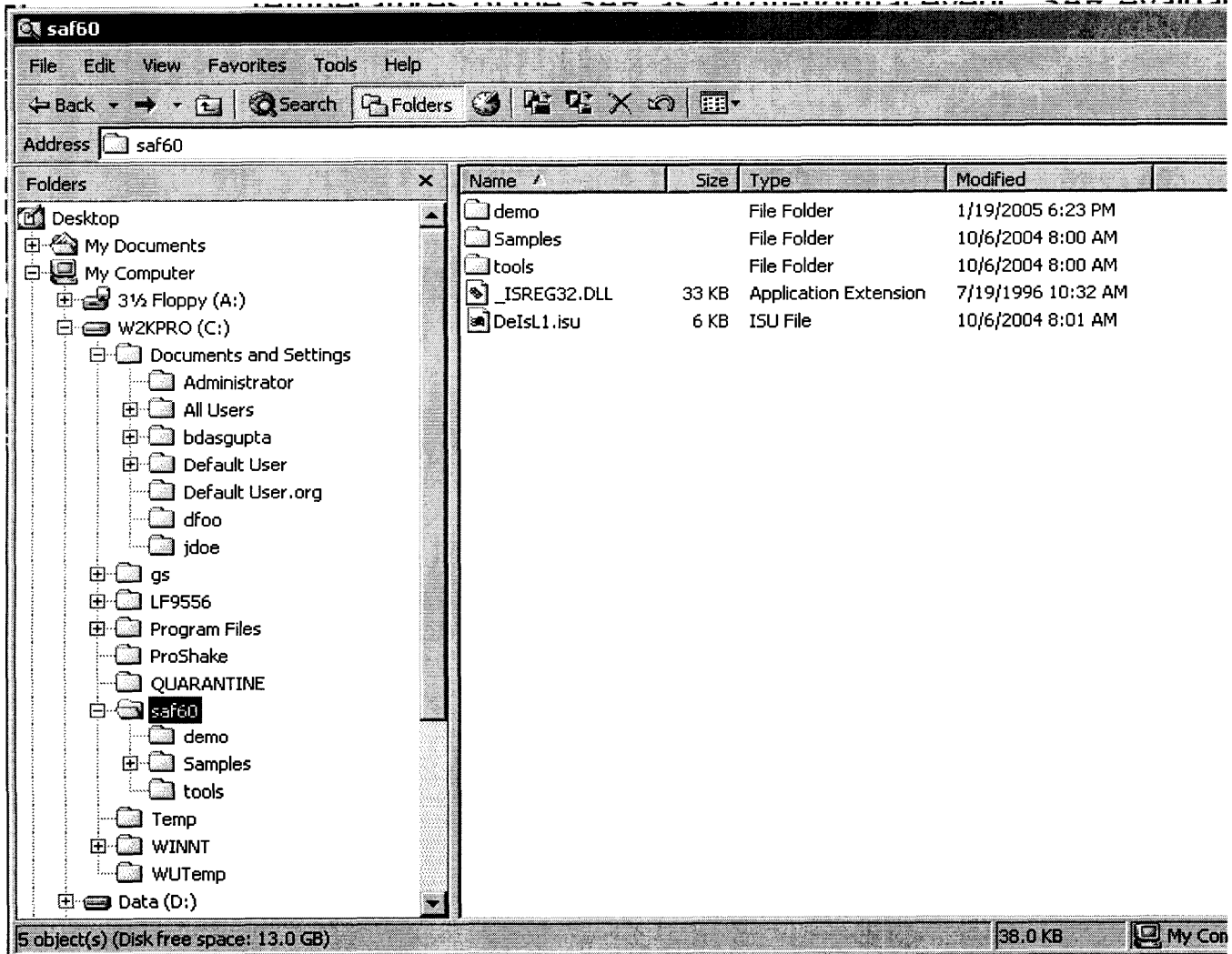
Fault Tree-> ECS

Mincut Upper Bound -> 2.120E-002

This Partition -> 2.120E-002

Cut No.	% Total	% Cut Set	Frequency	Cut Sets
1	94.3	94.3	2.000E-002	DG-A
2	99.1	4.7	1.000E-003	E-MOV-1
3	99.5	0.5	1.000E-004	DG-B, E-MOV-A
4	99.8	0.3	6.000E-005	DG-B, E-PUMP-A
5	99.9	0.1	2.500E-005	E-MOV-A, E-MOV-B
6	100.0	0.1	1.500E-005	E-MOV-B, E-PUMP-A
7	100.0	0.1	1.500E-005	E-MOV-A, E-PUMP-B
8	100.0	0.1	9.000E-006	E-PUMP-A, E-PUMP-B
9	100.0	0.0	2.000E-006	DG-B, E-CV-A
10	100.0	0.0	5.000E-007	E-CV-B, E-MOV-A
11	100.0	0.0	5.000E-007	E-CV-A, E-MOV-B
12	100.0	0.0	3.000E-007	E-CV-B, E-PUMP-A
13	100.0	0.0	3.000E-007	E-CV-A, E-PUMP-B
14	100.0	0.0	1.000E-007	TANK
15	100.0	0.0	1.000E-008	E-CV-A, E-CV-B

LOSP	ECS	CCS	#	STATE	FREQUENCY
 <p>The diagram shows a single event on the left that branches into three outcomes on the right, labeled 1, 2, and 3. Outcome 1 is 'OK', outcome 2 is 'SMALL-RELEASE', and outcome 3 is 'LARGE-RELEASE'.</p>				<p>OK SMALL-RELEASE LARGE-RELEASE</p>	<p>4.840E-002 1.759E-003</p>



tools

File Edit View Favorites Tools Help

Back Search Folders

Address tools

Folders	Name	Size	Type	Modified
Desktop	etedll.DLL	112 KB	Application Extension	3/9/2004 3:50 PM
My Documents	ETERes.DLL	94 KB	Application Extension	3/8/2004 11:12 AM
My Computer	fixes	78 KB	Microsoft Word Doc...	3/12/2004 2:28 PM
3 1/2 Floppy (A:)	ftedll.DLL	256 KB	Application Extension	3/9/2004 3:50 PM
W2KPRO (C:)	FTERes.DLL	152 KB	Application Extension	3/8/2004 11:12 AM
Documents and Settings	gem	1 KB	Icon	8/1/2003 4:59 AM
Administrator	GEMDATA.DFL	67 KB	DFL File	8/1/2003 4:59 AM
All Users	gemdata5.dfl	66 KB	DFL File	8/1/2003 4:59 AM
bdasgupta	GEMHelp.CNT	13 KB	CNT File	8/1/2003 4:59 AM
Default User	GEMHELP	830 KB	Help File	8/1/2003 4:59 AM
Default User.org	PIDDLL.DLL	91 KB	Application Extension	3/8/2004 11:13 AM
dfoo	PIDRes.DLL	27 KB	Application Extension	3/8/2004 11:12 AM
jdoe	plugccalpha.DLL	171 KB	Application Extension	3/8/2004 11:13 AM
gs	plugccfmgl.DLL	65 KB	Application Extension	3/8/2004 11:13 AM
LF9556	plugccfstag.DLL	171 KB	Application Extension	3/8/2004 11:13 AM
Program Files	plugtimeseries.DLL	56 KB	Application Extension	3/8/2004 11:13 AM
ProShake	plugutil.DLL	112 KB	Application Extension	3/8/2004 11:13 AM
QUARANTINE	README	1 KB	Microsoft Word Doc...	3/12/2004 2:29 PM
saf60	SAFHELP.CNT	47 KB	CNT File	8/1/2003 4:59 AM
demo	Safhelp	3,241 KB	Help File	8/1/2003 4:59 AM
Samples	SAGEDLL.DLL	2,147 KB	Application Extension	3/1/2004 11:01 AM
tools	SaphEdit.dll	253 KB	Application Extension	3/1/2004 11:05 AM
Temp	SAPHIRE.DFL	211 KB	DFL File	8/1/2003 4:59 AM
WINNT	saphire	3 KB	Icon	8/1/2003 4:59 AM
WUTemp	SaphRes.DLL	1,869 KB	Application Extension	3/8/2004 11:13 AM
Data (D:)	SaphTech.CNT	6 KB	CNT File	8/1/2003 4:59 AM
gdrive on 'moose' (G:)	SAPHTECH	774 KB	Help File	8/1/2003 4:59 AM
040121_1127 (R:)	saphwin	1,896 KB	Application	3/9/2004 2:55 PM
gscr0 on 'moose' (S:)	schemag5.DFL	10 KB	DFL File	8/1/2003 4:59 AM
Removable Disk (Z:)	schemax.dfl	40 KB	DFL File	8/1/2003 4:59 AM
Control Panel	sgkdll.DLL	167 KB	Application Extension	3/1/2004 11:04 AM
My Network Places	SGKSMALL	4 KB	FNT File	8/1/2003 4:59 AM
Recycle Bin	SGKTHICK	9 KB	FNT File	8/1/2003 4:59 AM
Internet Explorer	SMBLFILE.GEN	17 KB	GEN File	8/1/2003 4:59 AM
ARCEDIT	SMBLFILE.STB	22 KB	STB File	8/1/2003 4:59 AM
	USERINFO.BLK	3 KB	BLK File	1/19/2005 6:23 PM
	USERINFO	1 KB	DAT File	1/19/2005 6:23 PM

37 mbert(c) (Disk free space: 13.0 GB) 12.7 MB My Com

tools

File Edit View Favorites Tools Help

Back Forward Search Folders

Address tools

- Folders
- Desktop
 - My Documents
 - My Computer
 - 3½ Floppy (A:)
 - W2KPRO (C:)
 - Documents and Settings
 - Administrator
 - All Users
 - bdasgupta
 - Default User
 - Default User.org
 - dfoo
 - jdoe
 - gs
 - LF9556
 - Program Files
 - ProShake
 - QUARANTINE
 - saf60
 - demo
 - Samples
 - tools
 - Temp
 - WINNT
 - WUTemp
 - Data (D:)
 - gdrive on 'moose' (G:)
 - 040121_1127 (R:)
 - gscr0 on 'moose' (S:)
 - Removable Disk (Z:)
 - Control Panel
 - My Network Places
 - Recycle Bin
 - Internet Explorer
 - ARCEDIT

Name	Size	Type	Modified
etedll.DLL	112 KB	Application Extension	3/9/2004 3:50 PM
ETERes.DLL	94 KB	Application Extension	3/8/2004 11:12 AM
fixes	78 KB	Microsoft Word Doc...	3/12/2004 2:28 PM
ftedll.DLL	256 KB	Application Extension	3/9/2004 3:50 PM
FTERes.DLL	152 KB	Application Extension	3/8/2004 11:12 AM
gem	1 KB	Icon	8/1/2003 4:59 AM
GEMDATA.DFL	67 KB	DFL File	8/1/2003 4:59 AM
gemdata5.dfl	66 KB	DFL File	8/1/2003 4:59 AM
GEMHelp.CNT	13 KB	CNT File	8/1/2003 4:59 AM
GEMHELP	830 KB	Help File	8/1/2003 4:59 AM
PIDDL.DLL	91 KB	Application Extension	3/8/2004 11:13 AM
PIDRes.DLL	27 KB	Application Extension	3/8/2004 11:12 AM
plugccfalpha.DLL	171 KB	Application Extension	3/8/2004 11:13 AM
plugccfmgl.DLL	65 KB	Application Extension	3/8/2004 11:13 AM
plugccfstag.DLL	171 KB	Application Extension	3/8/2004 11:13 AM
plugtimeseries.DLL	56 KB	Application Extension	3/8/2004 11:13 AM
plugutil.DLL	112 KB	Application Extension	3/8/2004 11:13 AM
README	1 KB	Microsoft Word Doc...	3/12/2004 2:29 PM
SAFHELP.CNT	47 KB	CNT File	8/1/2003 4:59 AM
Safhelp	3,241 KB	Help File	8/1/2003 4:59 AM
SAGEDLL.DLL	2,147 KB	Application Extension	3/1/2004 11:01 AM
SaphEdit.dll	253 KB	Application Extension	3/1/2004 11:05 AM
SAPHIRE.DFL	211 KB	DFL File	8/1/2003 4:59 AM
saphire	3 KB	Icon	8/1/2003 4:59 AM
SaphRes.DLL	1,869 KB	Application Extension	3/8/2004 11:13 AM
SaphTech.CNT	6 KB	CNT File	8/1/2003 4:59 AM
SAPHTECH	774 KB	Help File	8/1/2003 4:59 AM
saphwin	1,896 KB	Application	3/9/2004 2:55 PM
schemag5.DFL	10 KB	DFL File	8/1/2003 4:59 AM
schemax.dfl	40 KB	DFL File	8/1/2003 4:59 AM
sgkdll.DLL	167 KB	Application Extension	3/1/2004 11:04 AM
SGKSMALL	4 KB	FNT File	8/1/2003 4:59 AM
SGKTHICK	9 KB	FNT File	8/1/2003 4:59 AM
SMBLFILE.GEN	17 KB	GEN File	8/1/2003 4:59 AM
SMBLFILE.STB	22 KB	STB File	8/1/2003 4:59 AM
USERINFO.BLK	3 KB	BLK File	1/19/2005 6:23 PM
USERINFO	1 KB	DAT File	1/19/2005 6:23 PM

demo

File Edit View Favorites Tools Help

Back Search Folders

Address demo

Folders	Name	Size	Type	Modified
Desktop	ANALYSIS.BLK	147 KB	BLK File	3/15/2004 1:19 PM
My Documents	ANALYSIS	3 KB	DAT File	3/15/2004 1:19 PM
My Computer	ANALYSIS	1 KB	QuickFinder Inform...	10/29/1999 2:18 PM
3 1/2 Floppy (A:)	CURRENT	3 KB	DAT File	11/13/2002 4:41 PM
W2KPRO (C:)	DEMO.SRA	0 KB	SRA File	3/15/2004 1:23 PM
Documents and Settings	demoback	107 KB	WinZip File	3/15/2004 1:23 PM
Administrator	ENDSTATE.BLK	1 KB	BLK File	10/29/1999 2:18 PM
All Users	ENDSTATE	1 KB	DAT File	10/29/1999 2:18 PM
bdasgupta	ENDSTATE	1 KB	QuickFinder Inform...	10/29/1999 2:18 PM
Default User	ERROR	0 KB	Text Document	1/19/2005 6:23 PM
Default User.org	ERROR.OLD	0 KB	OLD File	1/17/2005 11:33 AM
dfoo	EVATTR.BLK	1 KB	BLK File	1/1/1992 4:00 AM
jdoe	EVATTR	2 KB	DAT File	10/29/1999 2:18 PM
gs	EVATTR	1 KB	QuickFinder Inform...	10/29/1999 2:18 PM
LF9556	EVENT.BLK	1 KB	BLK File	10/29/1999 2:18 PM
Program Files	EVENT	10 KB	DAT File	3/15/2004 1:18 PM
ProShake	EVENT	11 KB	QuickFinder Inform...	3/15/2004 1:18 PM
QUARANTINE	EVENTCNG.BLK	1 KB	BLK File	10/29/1999 2:18 PM
saf60	EVENTCNG	1 KB	DAT File	8/9/2001 4:28 PM
demo	EVENTCNG	3 KB	QuickFinder Inform...	8/9/2001 4:28 PM
Samples	EVENTREE.BLK	2 KB	BLK File	10/29/1999 2:18 PM
tools	EVENTREE	1 KB	DAT File	10/29/1999 2:18 PM
Temp	EVENTREE	2 KB	QuickFinder Inform...	10/29/1999 2:18 PM
WINNT	FAM	1 KB	DAT File	8/9/2001 4:28 PM
WUTemp	FAMILY.BLK	3 KB	BLK File	3/15/2004 1:18 PM
Data (D:)	FAMILY	1 KB	DAT File	1/19/2005 6:23 PM
gdrive on 'moose' (G:)	FAMILY	1 KB	QuickFinder Inform...	10/29/1999 2:18 PM
040121_1127 (R:)	GATE	3 KB	DAT File	3/15/2004 1:18 PM
gscr0 on 'moose' (S:)	GATE	3 KB	QuickFinder Inform...	3/15/2004 1:18 PM
Removable Disk (Z:)	GRAPHICS.BLK	1 KB	BLK File	1/17/1996 4:19 PM
Control Panel	GRAPHICS	1 KB	DAT File	10/29/1999 2:18 PM
My Network Places	GRAPHICS	1 KB	QuickFinder Inform...	10/29/1999 2:18 PM
Recycle Bin	HISTGRAM	1 KB	DAT File	8/9/2001 4:28 PM
Internet Explorer	HISTGRAM	2 KB	QuickFinder Inform...	8/9/2001 4:28 PM
ARCEDIT	REPORTS.BLK	1 KB	BLK File	1/17/1996 4:19 PM
	REPORTS	1 KB	DAT File	12/12/1997 8:01 AM
	REPORTS	1 KB	QuickFinder Inform...	12/12/1997 8:01 AM
	RESULTS.BLK	11 KB	BLK File	3/15/2004 1:19 PM
	RESULTS	3 KB	DAT File	3/15/2004 1:19 PM
	RESULTS	1 KB	QuickFinder Inform...	3/15/2004 1:18 PM
	SCHEMA.DFL	40 KB	DFL File	8/1/2003 4:59 AM
	SEQUENCE.BLK	1 KB	BLK File	10/29/1999 2:18 PM
	SEQUENCE	1 KB	DAT File	3/15/2004 1:19 PM

demo

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Back Search Folders

Address demo

Folders

- Desktop
- My Documents
- My Computer
 - 3 1/2 Floppy (A:)
 - W2KPRO (C:)
 - Documents and Settings
 - Administrator
 - All Users
 - bdasgupta
 - Default User
 - Default User.org
 - dfoo
 - jdoe
 - gs
 - LF9556
 - Program Files
 - ProShake
 - QUARANTINE
 - saf60
 - demo
 - Samples
 - tools
 - Temp
 - WINNT
 - WUTemp
 - Data (D:)
 - gdrive on 'moose' (G:)
 - 040121_1127 (R:)
 - gscr0 on 'moose' (S:)
 - Removable Disk (Z:)
 - Control Panel
 - My Network Places

Name	Size	Type	Modified
EVENTREE.BLK	2 KB	BLK File	10/29/1999 2:18 PM
EVENTREE	1 KB	DAT File	10/29/1999 2:18 PM
EVENTREE	2 KB	QuickFinder Inform...	10/29/1999 2:18 PM
FAM	1 KB	DAT File	8/9/2001 4:28 PM
FAMILY.BLK	3 KB	BLK File	3/15/2004 1:18 PM
FAMILY	1 KB	DAT File	1/19/2005 6:23 PM
FAMILY	1 KB	QuickFinder Inform...	10/29/1999 2:18 PM
GATE	3 KB	DAT File	3/15/2004 1:18 PM
GATE	3 KB	QuickFinder Inform...	3/15/2004 1:18 PM
GRAPHICS.BLK	1 KB	BLK File	1/17/1996 4:19 PM
GRAPHICS	1 KB	DAT File	10/29/1999 2:18 PM
GRAPHICS	1 KB	QuickFinder Inform...	10/29/1999 2:18 PM
HISTGRAM	1 KB	DAT File	8/9/2001 4:28 PM
HISTGRAM	2 KB	QuickFinder Inform...	8/9/2001 4:28 PM
REPORTS.BLK	1 KB	BLK File	1/17/1996 4:19 PM
REPORTS	1 KB	DAT File	12/12/1997 8:01 AM
REPORTS	1 KB	QuickFinder Inform...	12/12/1997 8:01 AM
RESULTS.BLK	11 KB	BLK File	3/15/2004 1:19 PM
RESULTS	3 KB	DAT File	3/15/2004 1:19 PM
RESULTS	1 KB	QuickFinder Inform...	3/15/2004 1:18 PM
SCHEMA.DFL	40 KB	DFL File	8/1/2003 4:59 AM
SEQUENCE.BLK	1 KB	BLK File	10/29/1999 2:18 PM
SEQUENCE	1 KB	DAT File	3/15/2004 1:19 PM
SEQUENCE	3 KB	QuickFinder Inform...	10/29/1999 2:18 PM
SLICE.BLK	1 KB	BLK File	7/30/1997 9:42 AM
SLICE	1 KB	DAT File	10/29/1999 2:18 PM
SLICE	1 KB	QuickFinder Inform...	10/29/1999 2:18 PM
SYSTEM.BLK	12 KB	BLK File	3/15/2004 1:18 PM
SYSTEM	1 KB	DAT File	3/15/2004 1:18 PM
SYSTEM	2 KB	QuickFinder Inform...	3/15/2004 1:18 PM
USERINFO.BLK	3 KB	BLK File	1/15/2002 11:22 AM
USERINFO	1 KB	DAT File	1/15/2002 11:22 AM

52 object(s) (Disk free space: 13.0 GB)

372 KB

My Cor