

Scientific Visualization for the Desktop

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INTERGRAPH
SOFTWARE SOLUTIONS

Presentation Highlights



Voxel Analyst Review

Workflow

Data Input

Modeling

Visualization

Analysis

Output

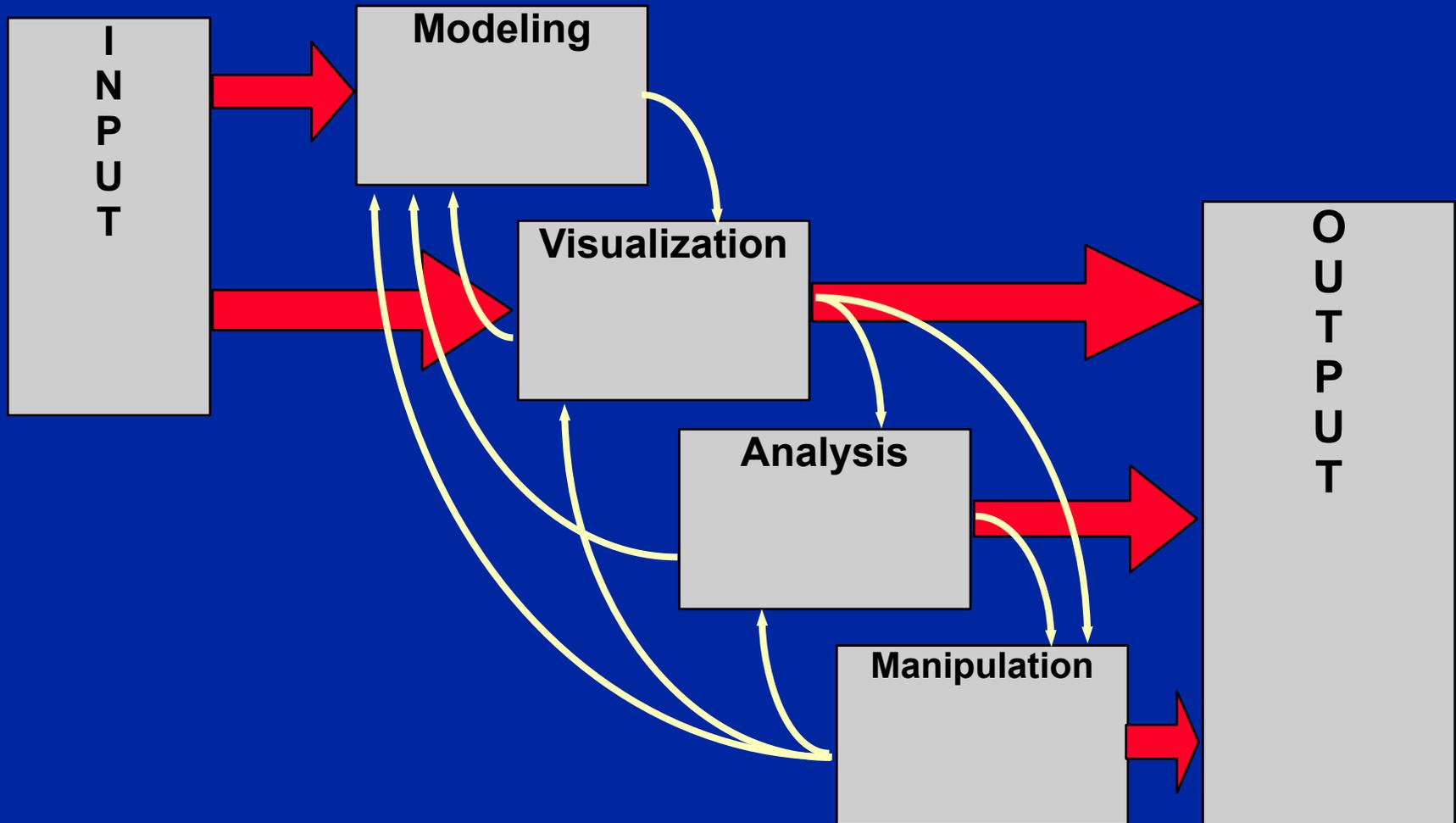


Windows NT Benefits

Demonstration

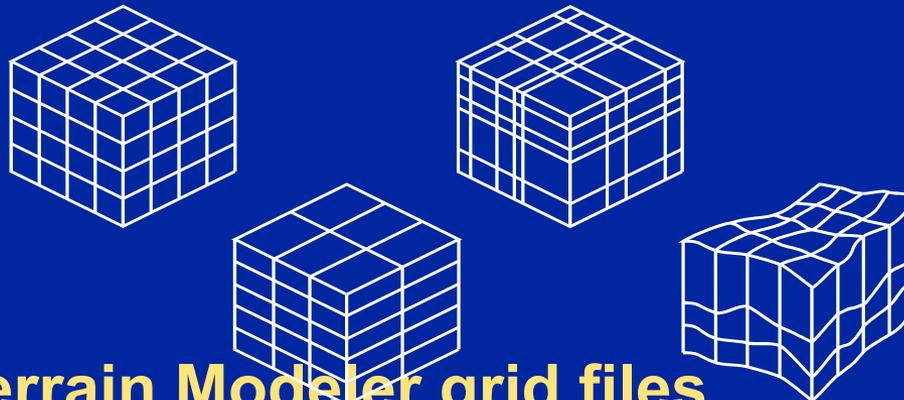
Preview Windows NT

Workflow



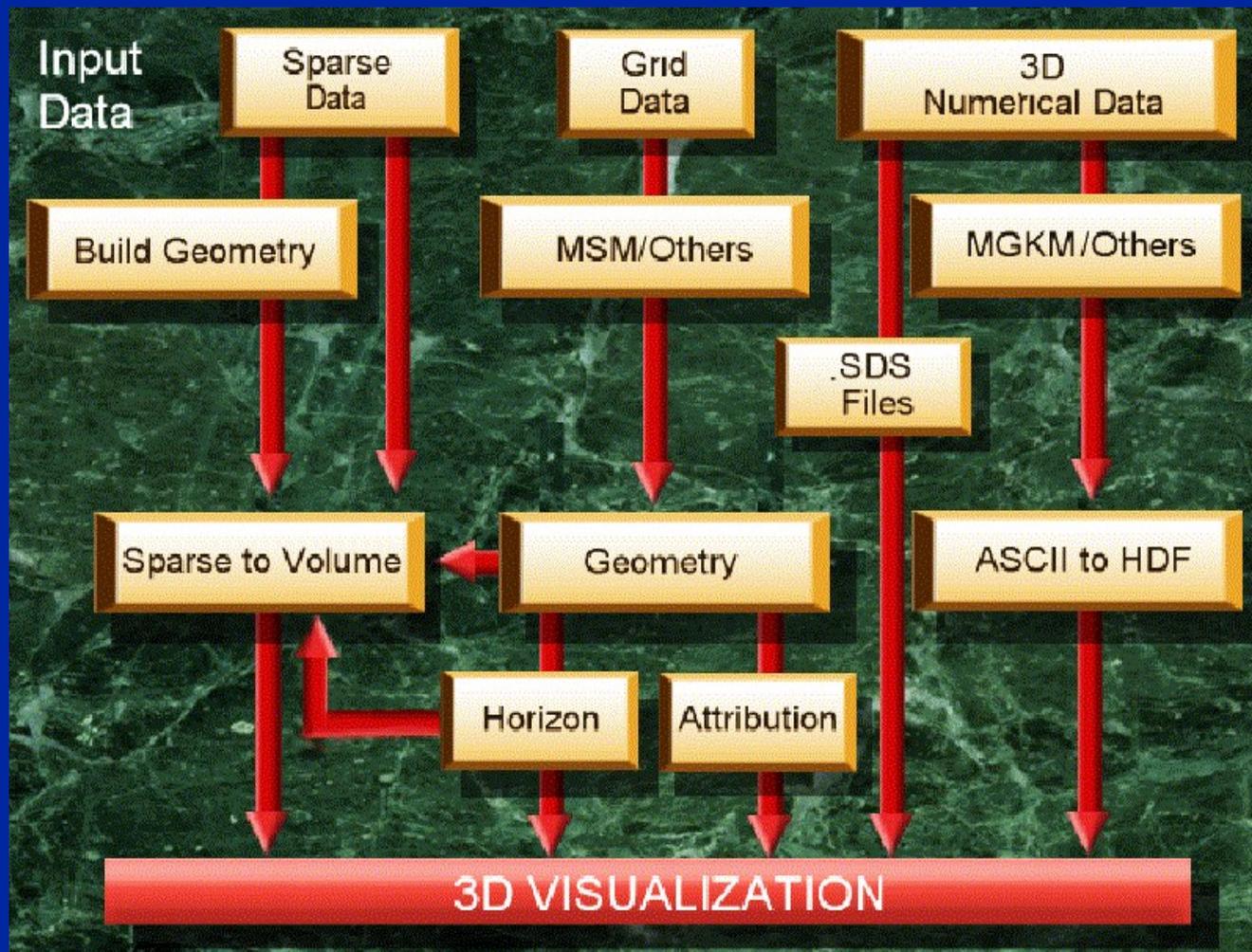
Data Input Options (ASCII)

- | Sparsely sampled ASCII data
- | ASCII formatted 3D grid arrays
(Uniform, Regular, Irregular, and Structured)



- | MGE Terrain Modeler grid files
loaded as horizons or attributes
- | 2D ASCII grids

Data Input (ASCII)



Data Input (Graphic)

AutoCad

MicroStation

None required

Modeling

5 Algorithms

Global

Local

Restricted Area

Symbolic

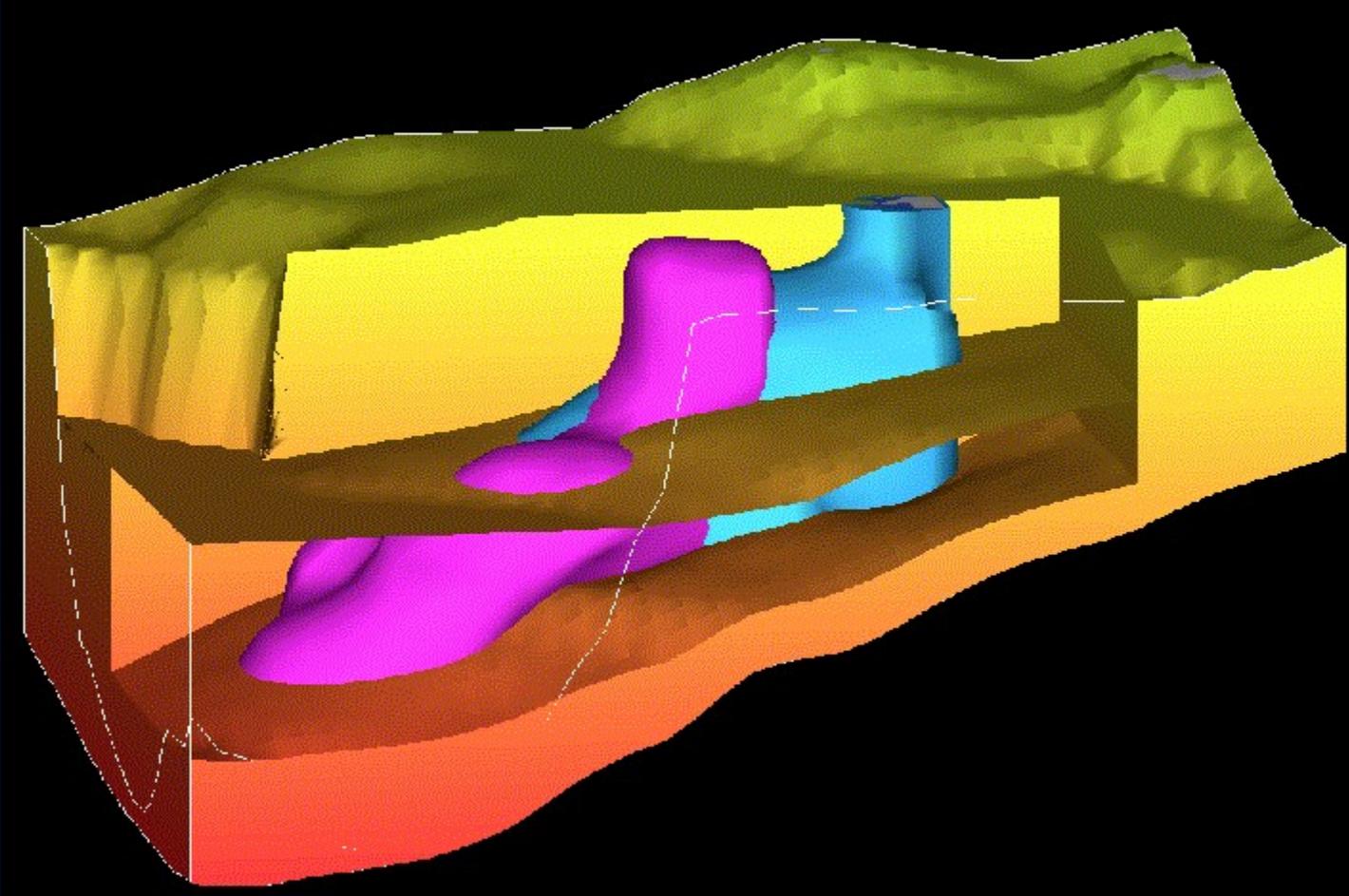
Visualization

Iso-Solid, IsoSurface

Chair

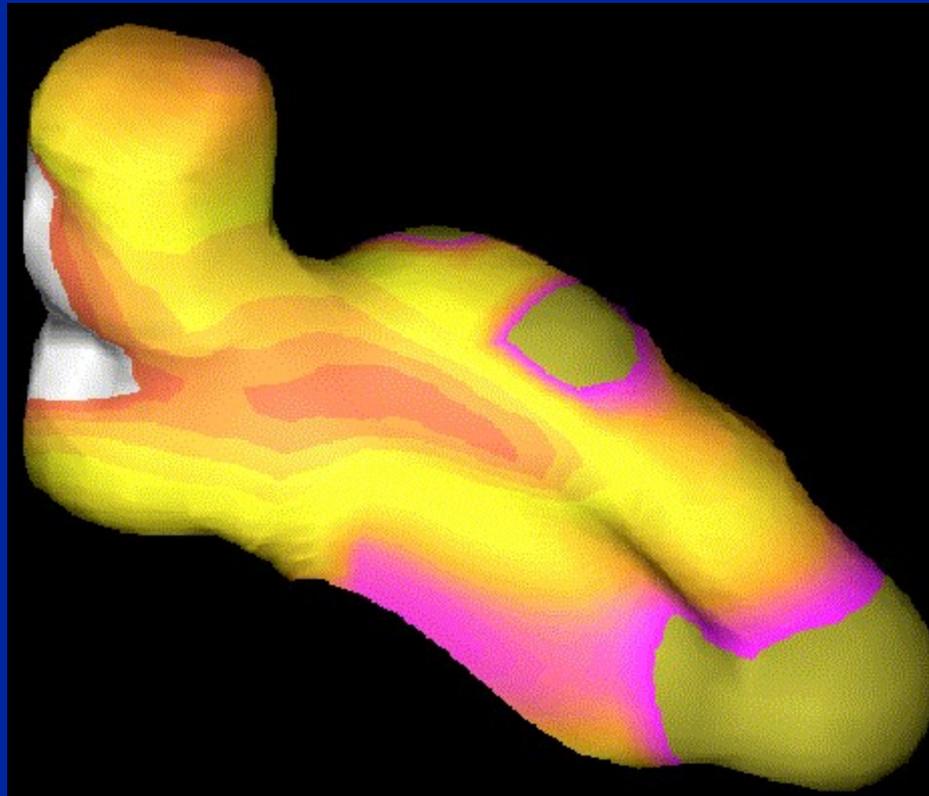
Cross-section or Cutting Plane

Visualization (cont.)



Visual Analysis

Volume Draping- a display showing the distribution of 1 attribute within a voxel model draped on the isosurface of another attribute in the same model.



Volume Analysis Tools

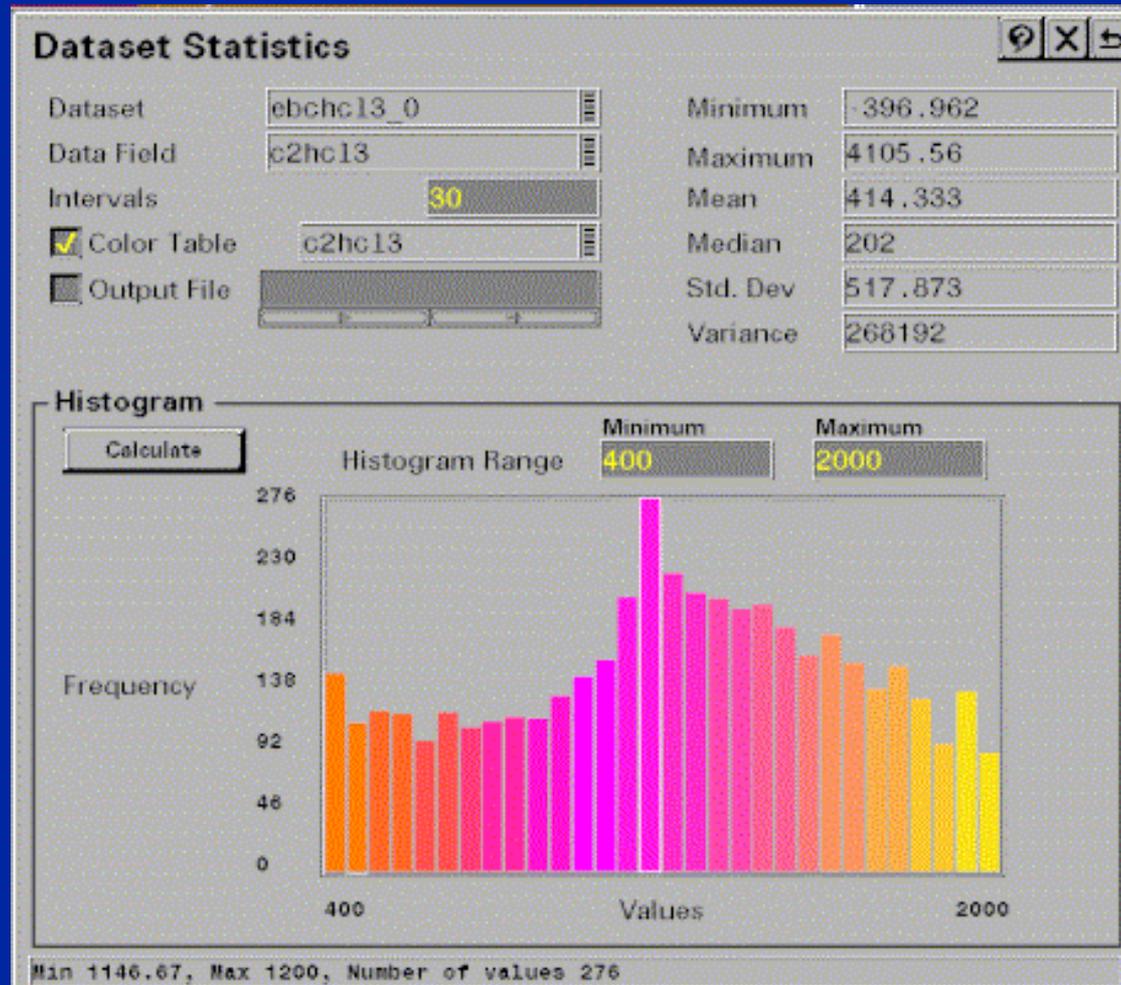
Statistics

Crossplots

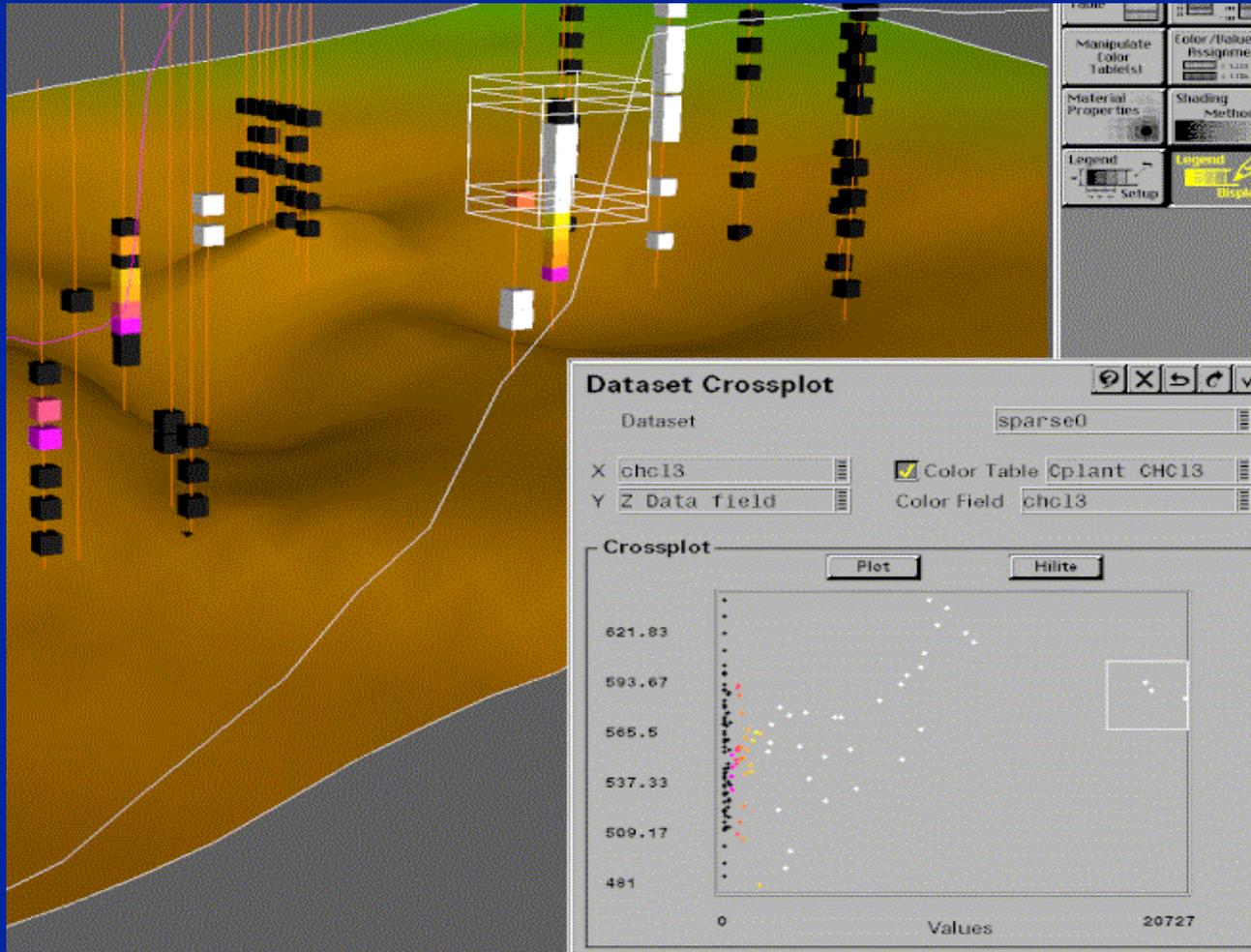
Volume and surface area calculations

Graphical Boolean Operations

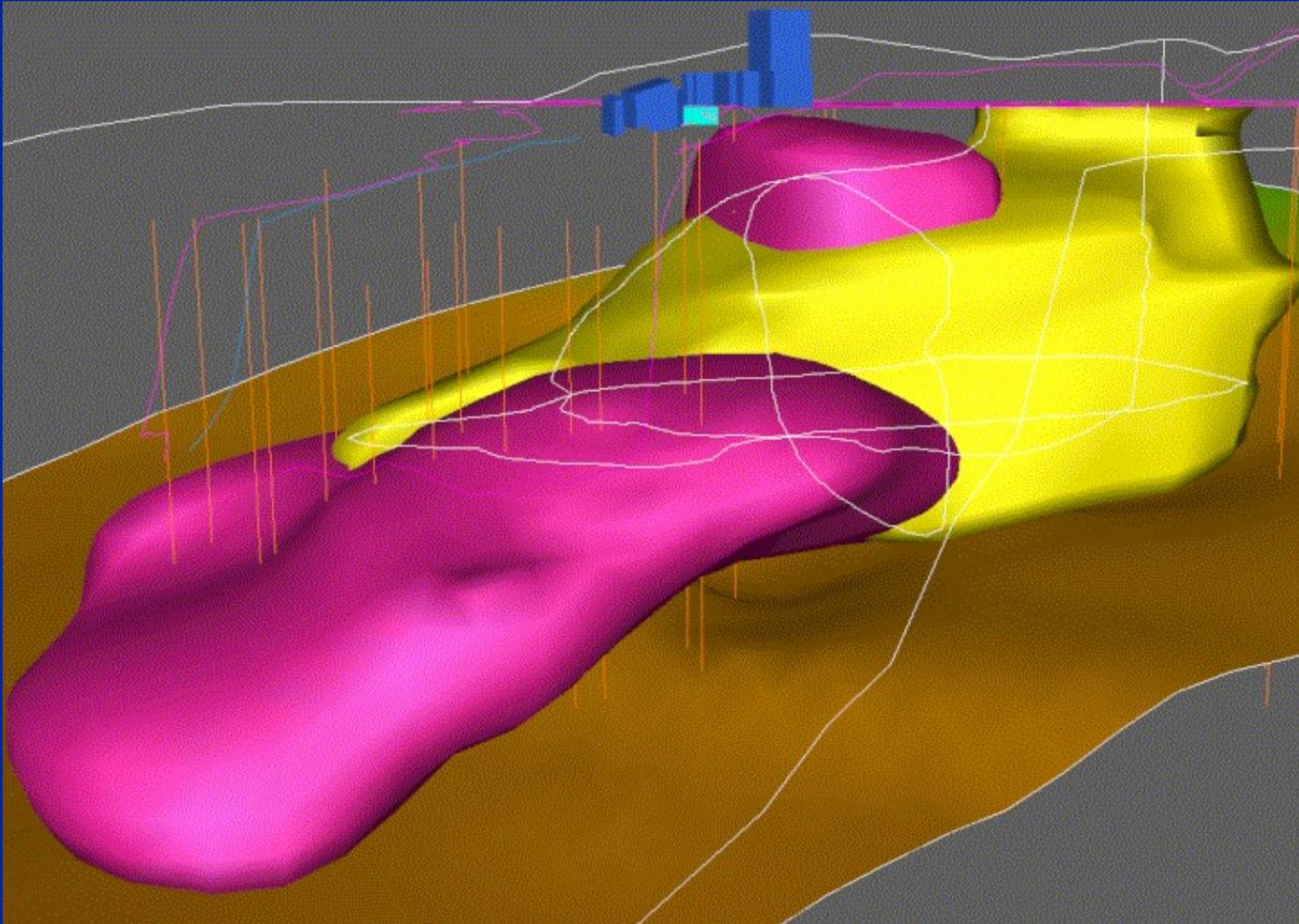
Statistics



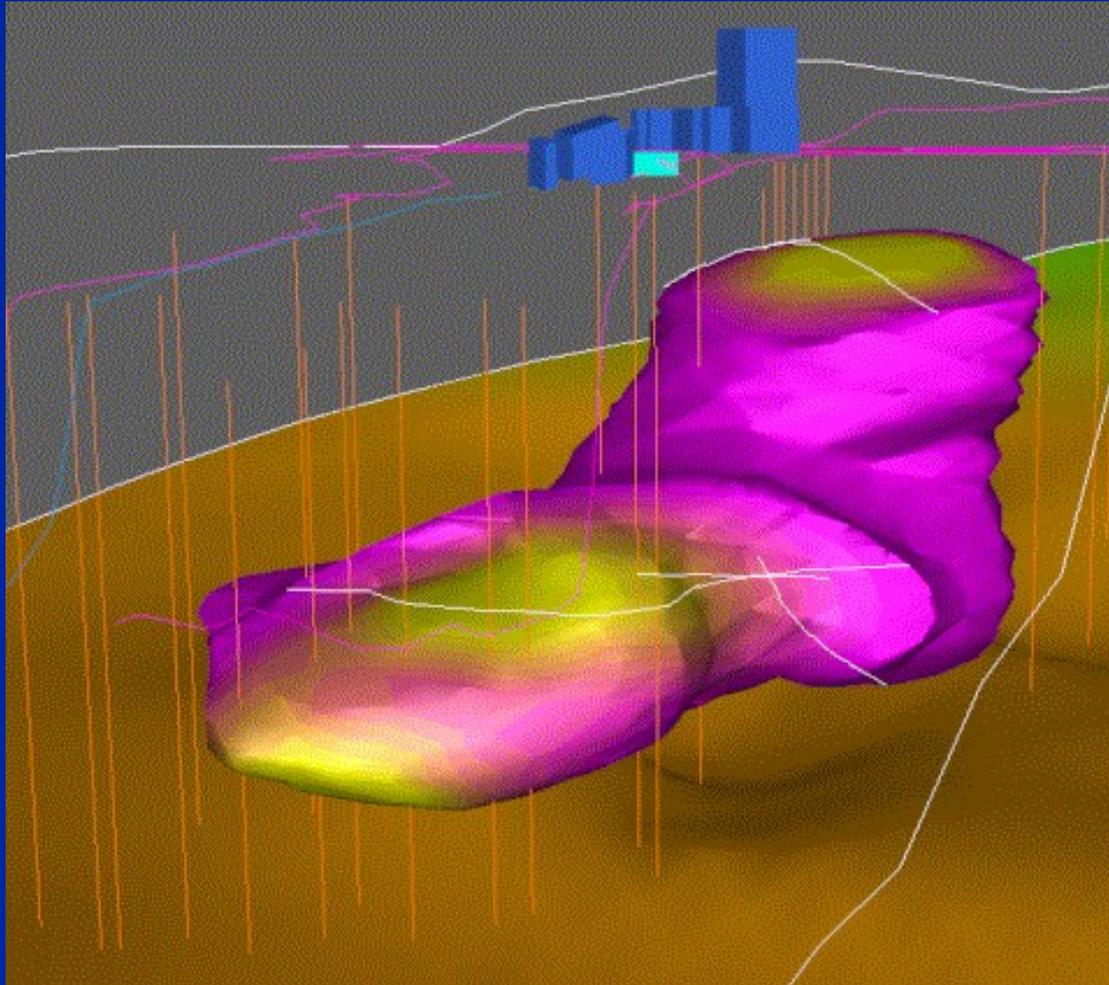
Crossplots



Boolean Operation



Boolean Operation (cont.)



Data Manipulation

The screenshot displays a software interface for data manipulation, featuring three MGVA views and an 'Edit Data Field(s)' dialog box.

MGVA View Control

Active View: 1

Standard Views: [Icons]

Viewing Position:

- Azimuth: 225
- Declination: 95
- Distance (Unit Range): 1.0 to 10.0
- Field of View (Degree): 18 to 179

Dynamics:

- [Slider 1]: 0.0 to 8.0
- [Slider 2]: 0.0 to 8.0
- [Slider 3]: 1.0 to 2.0

Element Display: 1.0

Edit Data Field(s)

Active Dataset: ebchc13_0

Node Selection:

- Center Node
- I: 0 to 22
- J: 0 to 39
- K: 0 to 29

Plane: I J K

X: 1455571.680 ft

Y: 698461.200 ft

Z: 575.759 ft

Influence Range:

- I: 0 to 22
- J: 0 to 39
- K: 0 to 29

Interpolation Method: Fast

Thinplate Spline

Metric Power: 0.1 to 10.0 (Value: 2.0)

Data Field Values:

Field(s)	Value(s)
chc13	2014.49
c2hc13	1358.91

Execute | Undo

Data Manipulation (cont.)

The screenshot displays a 3D visualization software interface with three views of a terrain model and a data manipulation panel.

MGVA View Control

Standard Views: Home Top Bottom Left Right Isometric

Viewing Position: Azimuth 225, Declination 95, Distance (Unit Range) 1.0 to 10.0, Field of View (Degrees) 1 to 179

Dynamics: Dynamics Annotation Element Display

Edit Data Field(s)

Active Dataset: ebchc13_0

Node Selection: Center Node

I: 0 to 22 (Value: 14)

J: 0 to 99 (Value: 21)

K: 0 to 29 (Value: 16)

Plane: I J K

X: 1455571.680 ft

Y: 698461.200 ft

Z: 575.759 ft

Influence Range: I: 0 to 22 (Value: 2), J: 0 to 99 (Value: 5), K: 0 to 29 (Value: 2)

Interpolation Method: Fast

Thinplate Spline

Metric Power: 0.1 to 10.0 (Value: 2.0)

Data Field Values:

Field(s)	Value(s)
chc13	2650
c2hc13	1358.91

Execute Undo

Successful completion

Data Output

Raster pictures

(i.e. .tiff, .bmp, .rgb, .targa)

Vector data

AutoCad)

(i.e. MicroStation,

ASCII files

files)

(i.e. 2-D and 3-D Grid

Windows NT Prerequisites

Hardware (Minimum)

486 with 16 MB

256 Color

1024 x 768

Hardware (Recommended)

TD-4 (dual Pentium)

As much memory as you can get approved!

GLZ graphics (true color)

Software

Windows NT 3.51

Windows NT Benefits

Ease of use (Windows NT)

Multi-threaded application

Standard graphics (Open GL)

Desktop Integration

Generic Volume Analysis Tool

No Software prerequisites

New Technology.....Same Data Files

Future Voxel Releases

Windows NT 3.51 **Available September 1995**

Windows 95 (As soon as OpenGL is not beta)

OLE/COM tools for Volume Analysis

Questions & Answers

Voxel Analyst Panel

Helen Triplett - Product Manager/Development

Tom Xiao - Technical Lead/Development

Chuck Woodbury - Software Certification/Support

Eric Bayer - Product Planning/Marketing

Terry Alldredge - Technical Marketing