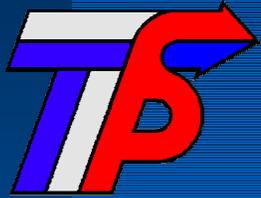


# *MINE MAP BENCHMARKING MEETING*

**October 15 – 16, 2003**  
**Louisville, Kentucky**



# Office of Surface Mining

Technical Innovation and  
Professional Services



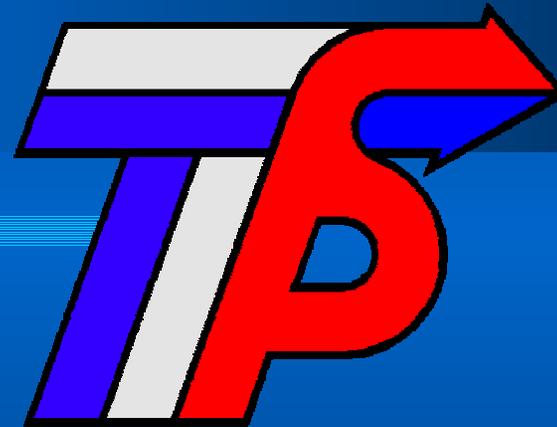
**Software  
Hardware**

**Innovation**

**Technical**

**Training**

**Applied  
Sciences**



**Professional**

**Technical  
Assistance**

**Services**



## *Customers*

- **State, Tribal and Federal programs that implement the Surface Mining Control and Reclamation Act (SMCRA)**
- **Other State Agencies when supporting the State SMCRA programs**
- **43 Customer Sites**
  - **States**
  - **Tribes**
  - **OSM Offices**



## ***TIPS Service Managers***

- **Primary liaison – regular meetings**
- **Identifies customer needs**
- **Formulates action plans**
- **Arranges TIPS services**
- **Coordinates activities with customers and OSM offices**



# ***TIPS Software and Training***

- **Imagery/ Remote Sensing**
- **Geographic Information System (GIS)**
- **Global Positioning Systems (GPS)**
- **Geologic Modeling**
- **Mapping / Site Design**
- **Statistical Analysis**
- **Surface and Ground Water Modeling**
- **Slope Stability Analysis**
- **Water Quality Analysis**



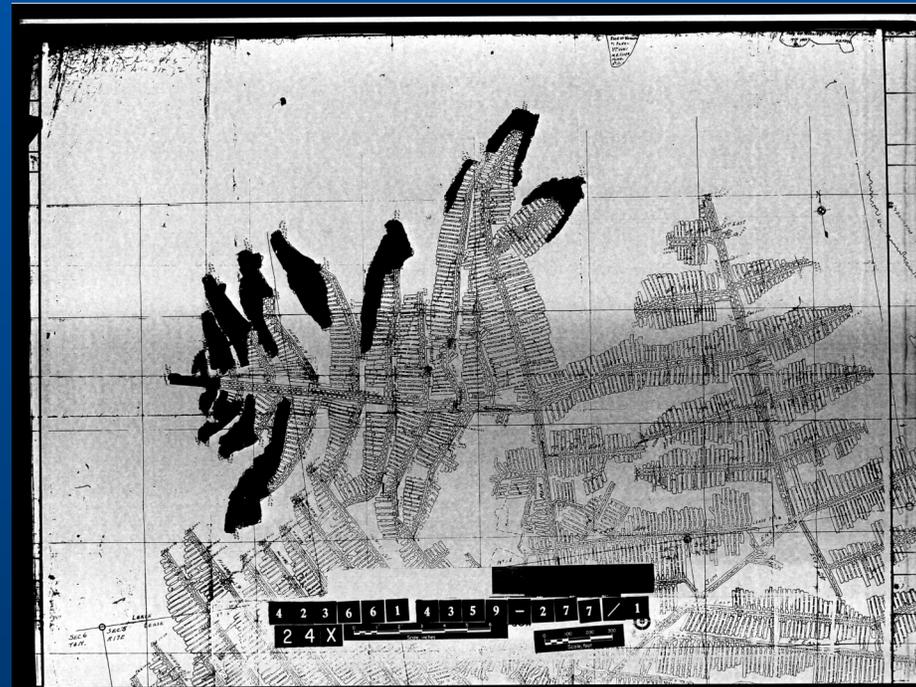
# *Mine Map Initiative*

## *Technology Needs*

- Cleanup and manipulate mine map images
- Georeferencing mine maps
- Moving maps to GIS
- Geologic modeling and subsidence prediction
- Hydrology and water quality
- Mine Map Verification
- Design of remedial measures

# *Map Cleanup and Image Manipulation*

- Erdas Imagine
- Autodesk Raster Design
- ArcGIS Image Analyst



# *Georeferencing Mine Maps*

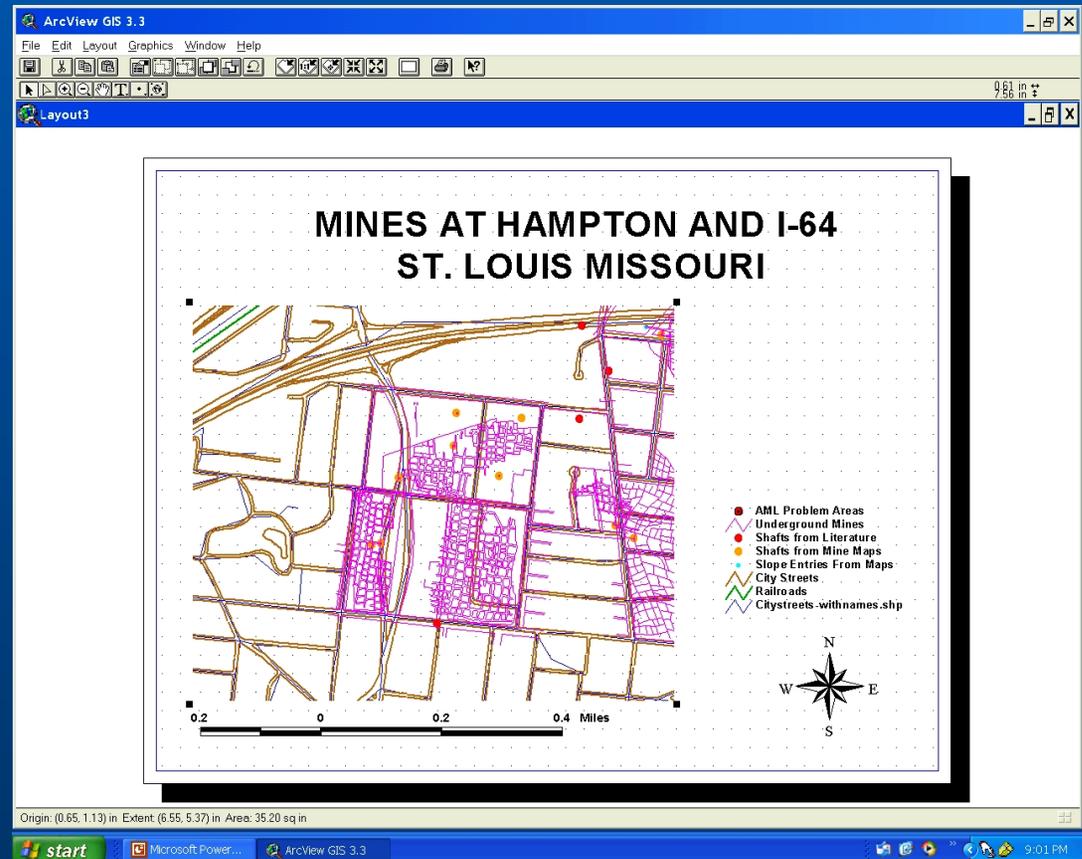
- ArcGIS
- Erdas Imagine
- AutoCAD  
Map/SurvCADD
- Autodesk Raster  
Design 2004





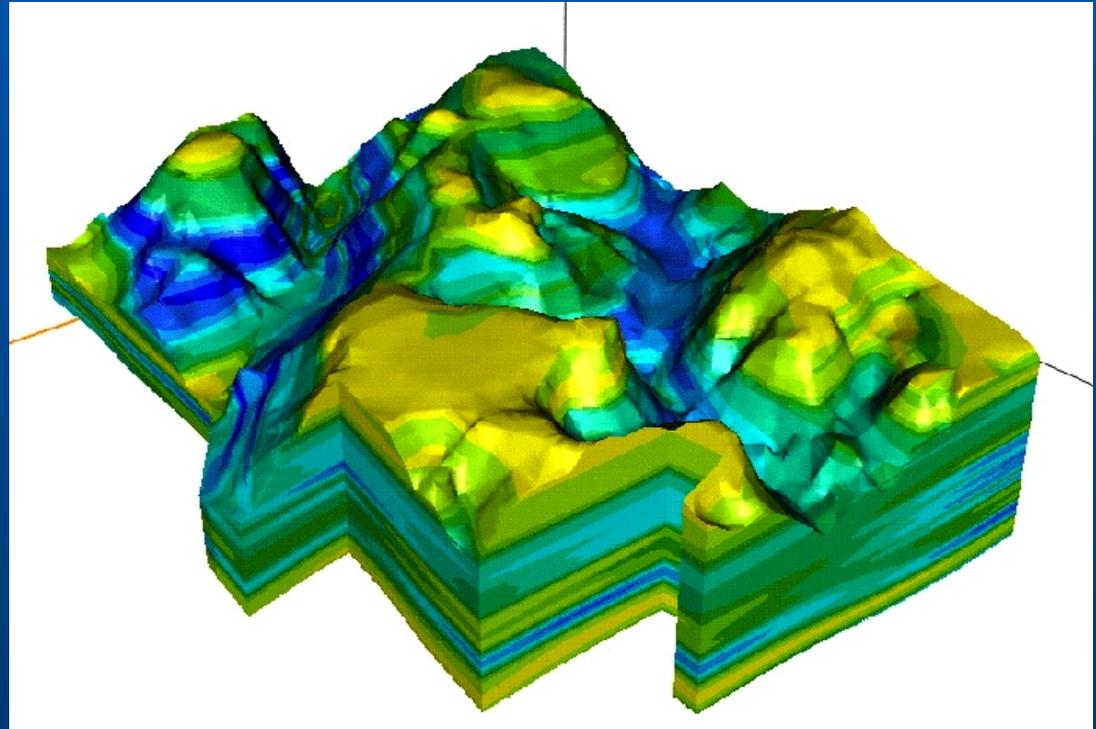
# *Moving Maps to GIS*

- Autodesk Raster Design 2004
- ArcGIS
- ArcView 3.3



# *Geologic Modeling and Subsidence Prediction*

- Earth Vision
- Stratifact
- Galena
- SDPS



# *Hydrology and Water Quality*

- AMD Treat
- AQTESOLV Professional
- AquaChem
- Geochemist Workbench

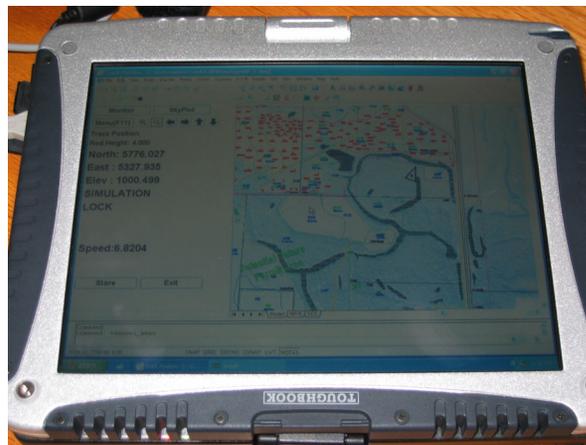


- GMS
- Ground Water Vistas



# Mine Map Verification

## Mobile Computing





# Mobile Computing

ESRI ArcPAD

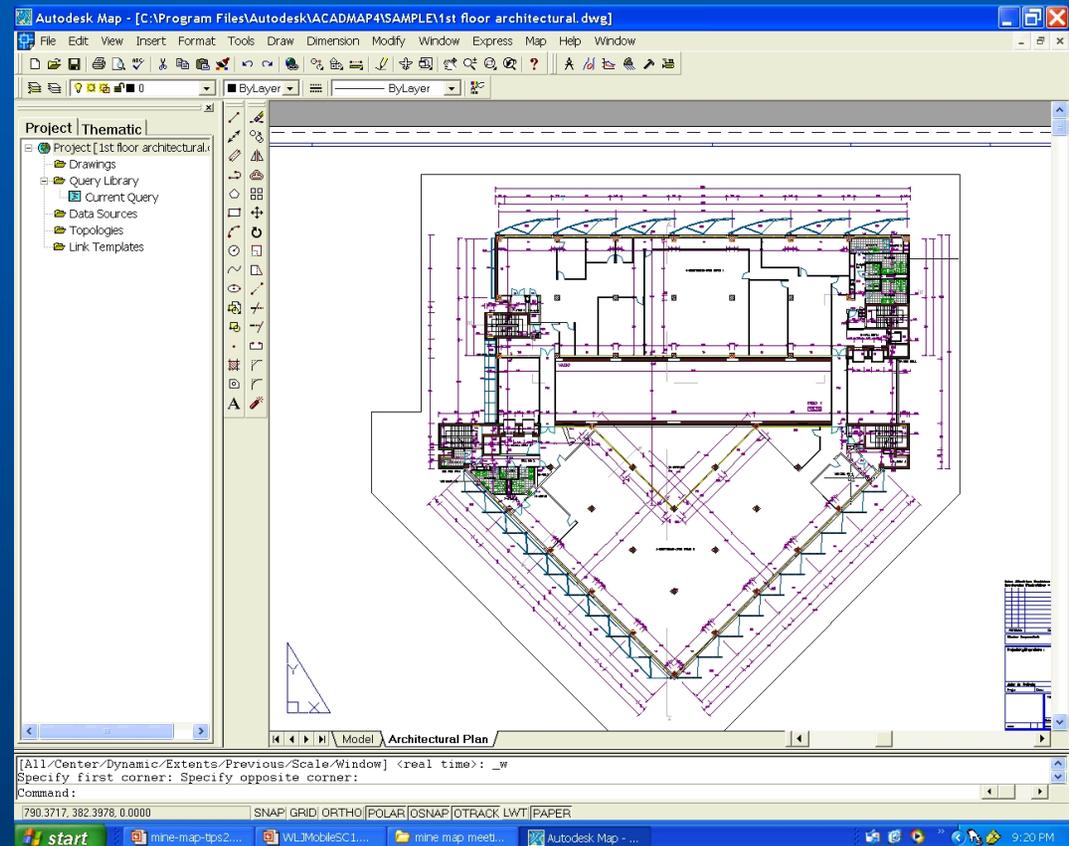
SurvCADD Tsunami

Trimble Terra Sync



# *Design of Remedial Measures*

- Autodesk Map 2004
- SurvCADD 2004





## *TIPS Brochure*

- **Your Roadmap to TIPS Services**
- **TIPS Contact Instructions**
- **Web and Phone Support**
- **Project Assistance**



## *TIPS Website*

- TIPS Training URL is <http://www.tips.osmre.gov/>
- TIPS Software/Hardware Support  
<http://www.tips.osmre.gov/SoftwareHardware.htm>
- TIPS Training Program  
<http://www.tips.osmre.gov/TrainingProgram.htm>
- Research and Development  
<http://www.tips.osmre.gov/R&D.htm>
- Technical Assistance  
<http://www.tips.osmre.gov/TechAssist.htm>