

Overview of OSM Underground Mine Map Projects

Presented by:

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Background-

OSM's UGMM Initiative

Initiative developed as a result of:

- Martin County Coal Impoundment Failure
- Quecreek Mine Breakthrough
- National Research Council/National Academy's Recommendations To Congress
 - Included 28 recommendations for action by OSM & MSHA
 - Placed in 6 categories for MSHA and OSM to coordinate efforts.
 - Pertinent Category: Mine Surveying and Mapping Issues

Background (cont'.)

- In 2001, OSM Created The Underground Mine Map Initiative To Address The Mine Mapping Recommendations
- In FY'2006, OSM Was Successful In Obtaining A Dedicated Funding Stream For The Initiative Via The Technical Studies Program

The Underground Mine Map Initiative (UGMMI)

UGMMI Goals

- To make as many accurate underground mine maps available to as many customers as possible
- To include and continue building ongoing State and Federal partnerships/efforts
- To aid in the achievement of OSM's AML, Regulatory, and Health and Safety Goals.

UGMMI Activities

- Initiative Developmental Meetings 2001/2002
 - Participants included OSM, U.S. Army Corp, BLM, MSHA, Numerous Branches of KY DNR, VA DMME
- National Benchmarking Workshops
2003/2005/2012
- Regional Benchmarking Workshops
 - 2006-KY
 - 2006-WV
 - 2007-WV
- Annual Funding Of UGMM Projects

UGMM Projects Funding (OSM)

- Prior to FY'06 funding was sparse and conducted at the regional level through ad-hoc approval.
- For FY'06 through FY'09 full funding for OSM's Technical Studies Program was approved. This funding stream would be used to support OSM's Applied Science Projects and UGMM Projects.
- By FY'10 the funding was constricted, but UGMM projects were funded, Applied Science Projects were not.
- OSM's Technical Studies Program was defunded for FY'11, but OSM funded UGMM Projects out of operating funds.
- To date OSM does not have funding secured for FY'12 UGMM Projects. A request for additional needs has been submitted.

UGMM Projects Funding (State Partners)

- Like OSM's National Mine Map Repository, the States have been conducting mine mapping activities dating back prior to the development of OSM's UGMMI.
- Since OSM has been requesting proposals for specific UGMM projects, the States have shown their support for continuing the program through generous cost sharing.
- It is obvious that the funding of UGMM projects is a Federal activity that the States would like to see continue.
- I am not aware of another program that has as high of a cost sharing percentage as does the UGMM projects.

Funded UGMM Projects

Since FY'06:

- OSM has funded 70 UGMM projects
- OSM has committed \$2,135,215 for these projects
- The various, successful, state agencies have committed \$1,405,934 in cost sharing

By The Numbers

Year	Number of Proposals Submitted (w/ Severable Portions)	Number of Proposals Funded	Total OSM Funds Requested	Total OSM Funds Awarded	Total State Cost Share	State \$ to OSM\$ as a percentage
2006	32	13	\$1,425,799	\$344,746	\$0	0.00%
2007	20	7	\$1,076,788	\$329,575	\$231,777	70.33%
2008	18	9	\$536,005	\$265,256	\$424,410	160.00%
2009	15	9	\$403,753	\$259,484	\$260,319	100.32%
2010	18	10	\$590,021	\$272,560	\$117,904	43.26%
2011	22	22	\$663,594	\$663,594	\$371,524	55.99%
Cumulative	125	70	\$4,695,960	\$2,135,215	\$1,405,934	65.85%

The Work

- Acquisition
- Restoration/Preservation
- Scanning/Digitally Recording
- Georeferencing
- Serving To The Public

Acquisition (15 projects)

OSM has provided funds to:

- Borrow public/private collections, scan them, and return them to their owners.
- Purchase private collections
- Rescue maps from AML sites
- “Beat The Streets”

Typical Vault



Collection “Drop Off/Pick Up”



Restoration/Preservation (14 projects)

- Dry and wet cleaning
- Humidification/Flattened
- Map mending
- New backing
- Laminated

Jeanann-University of Pittsburgh

Restoration/Preservation (IN GS)

As Received



Opened After Humidification



Restoration/Preservation (IN GS)

Map Has Been Flattened



Restoration/Preservation (Pitt.)

As Received

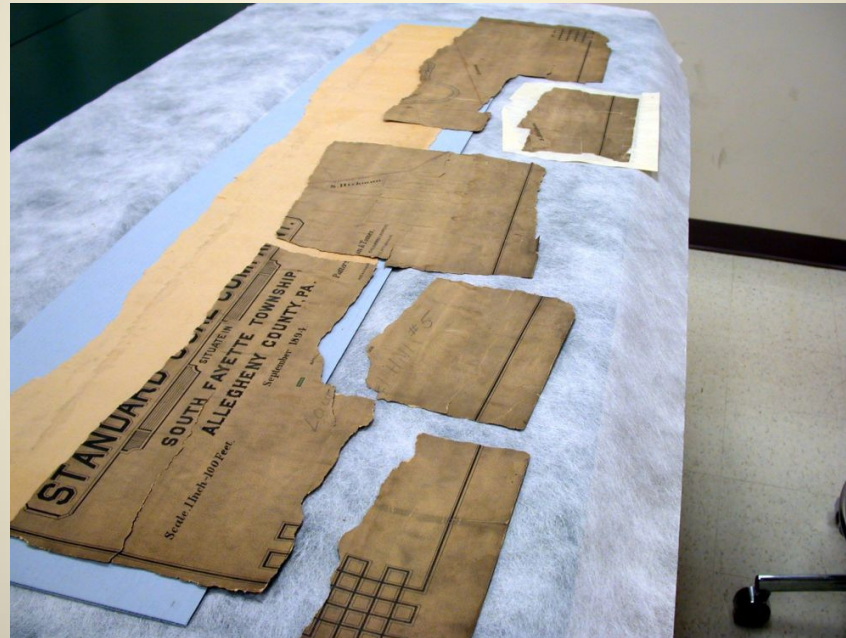


Humidification And Flattened



Restoration/Preservation (Pitt.)

Mending/Re-lining



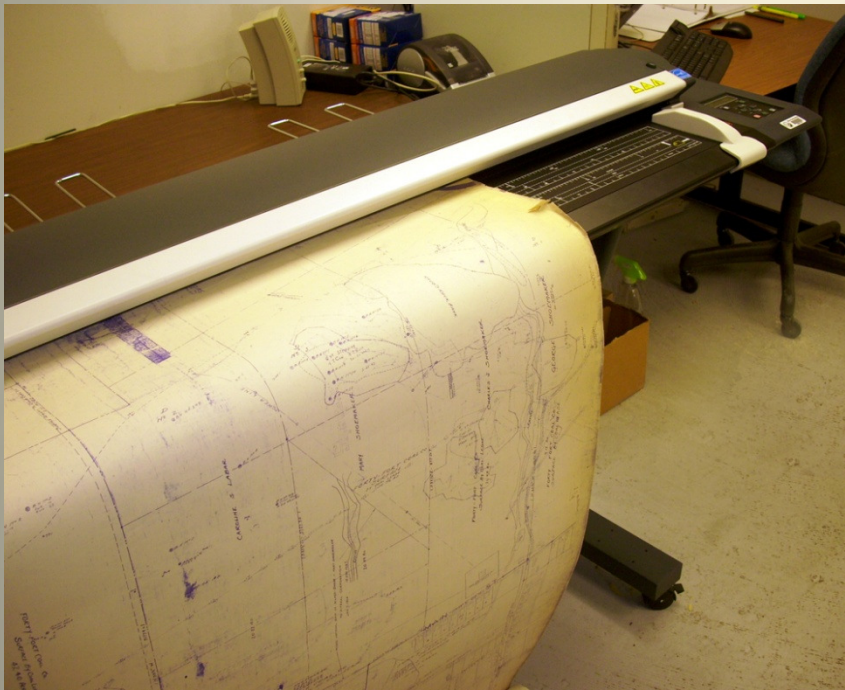
Scanning/Digitally Recording (42 projects)

- A majority of the proposals that OSM receives for funding involve these activities.
- OSM scanning requirements for project funding include:
 - scans with a resolution of 400dpi or a resolution that achieves visual equivalency
 - Scans are conducted in the grey scale or RBG only (B&W is not allowed)

Scanning/Digitally Recording (cont'.)

- OSM Digital Recording requirements for project funding include:
 - Map scans will be saved as an archival image using a lossless file type (i.e. uncompressed TIFF)
 - Map scans will be saved on a CD, DVD, or OSM supplied external hard drive and sent to OSM's Project Technical Representative (PTR) for the project.
 - OSM's PTR will in-turn send the copies to the NMMR
 - Adds to the NMMR library
 - Acts as a file back up for the various state's data systems

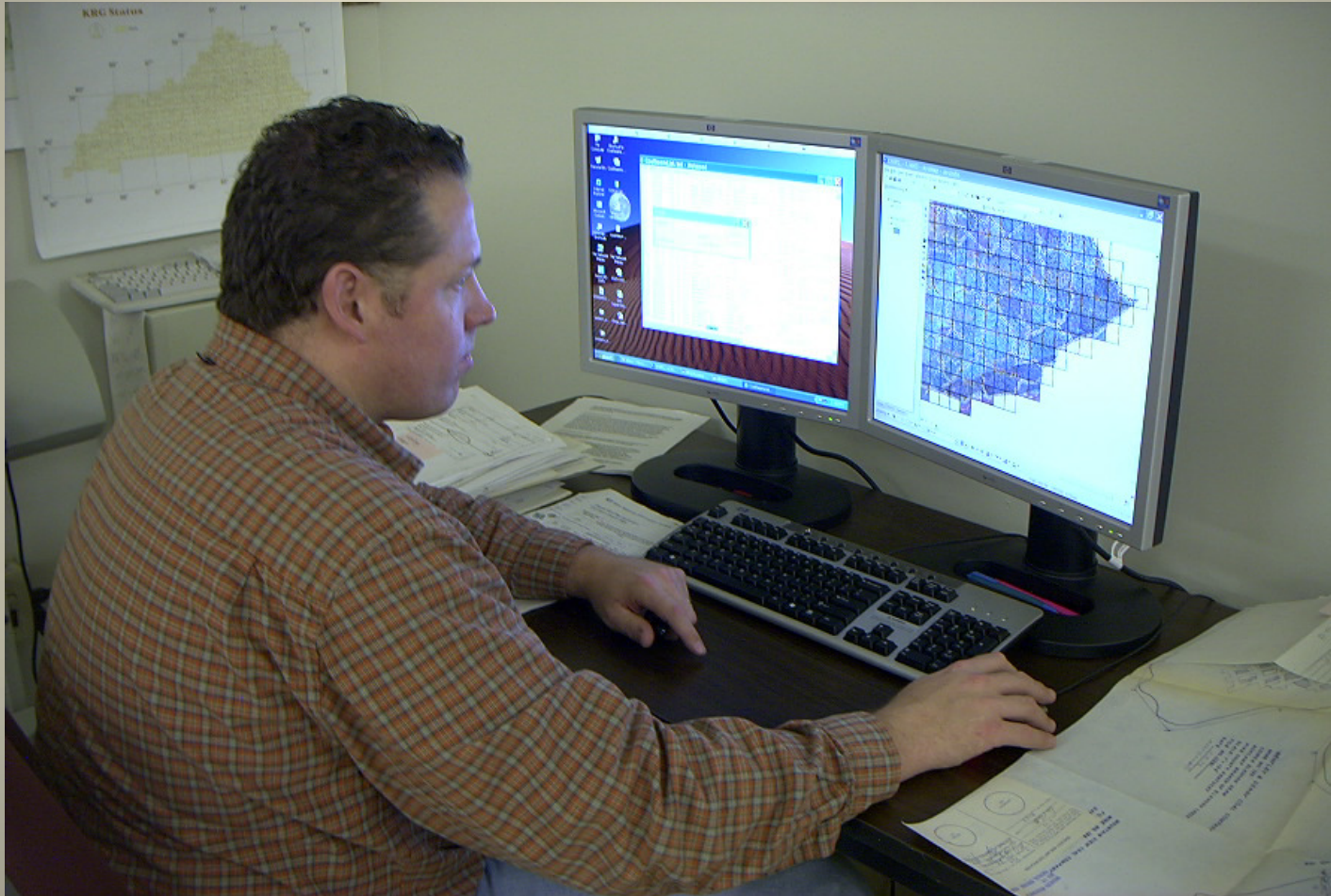
Scanning/Digitally Recording (NMMR)



Scanning/Digitally Recording (KY Mine Mapping Information System)



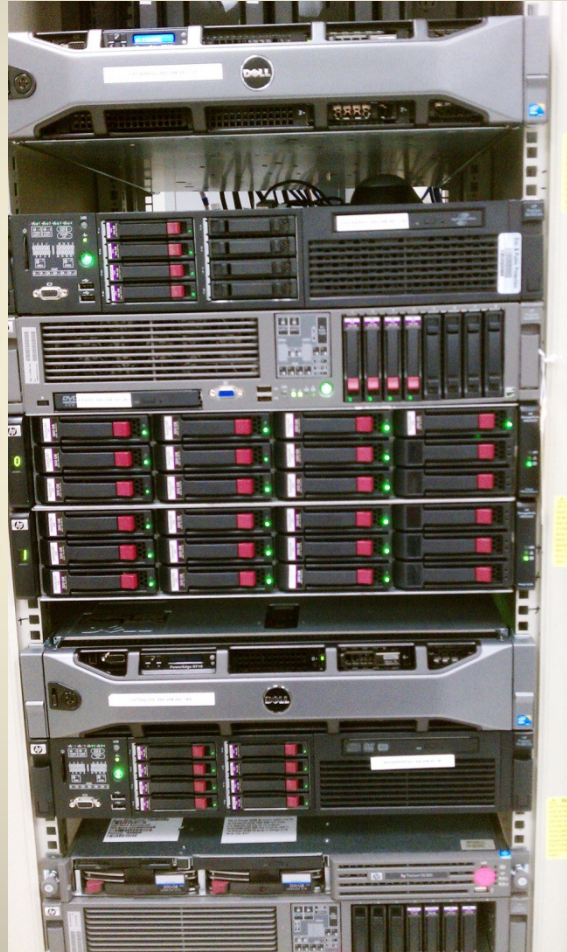
Georeferencing (38 projects)



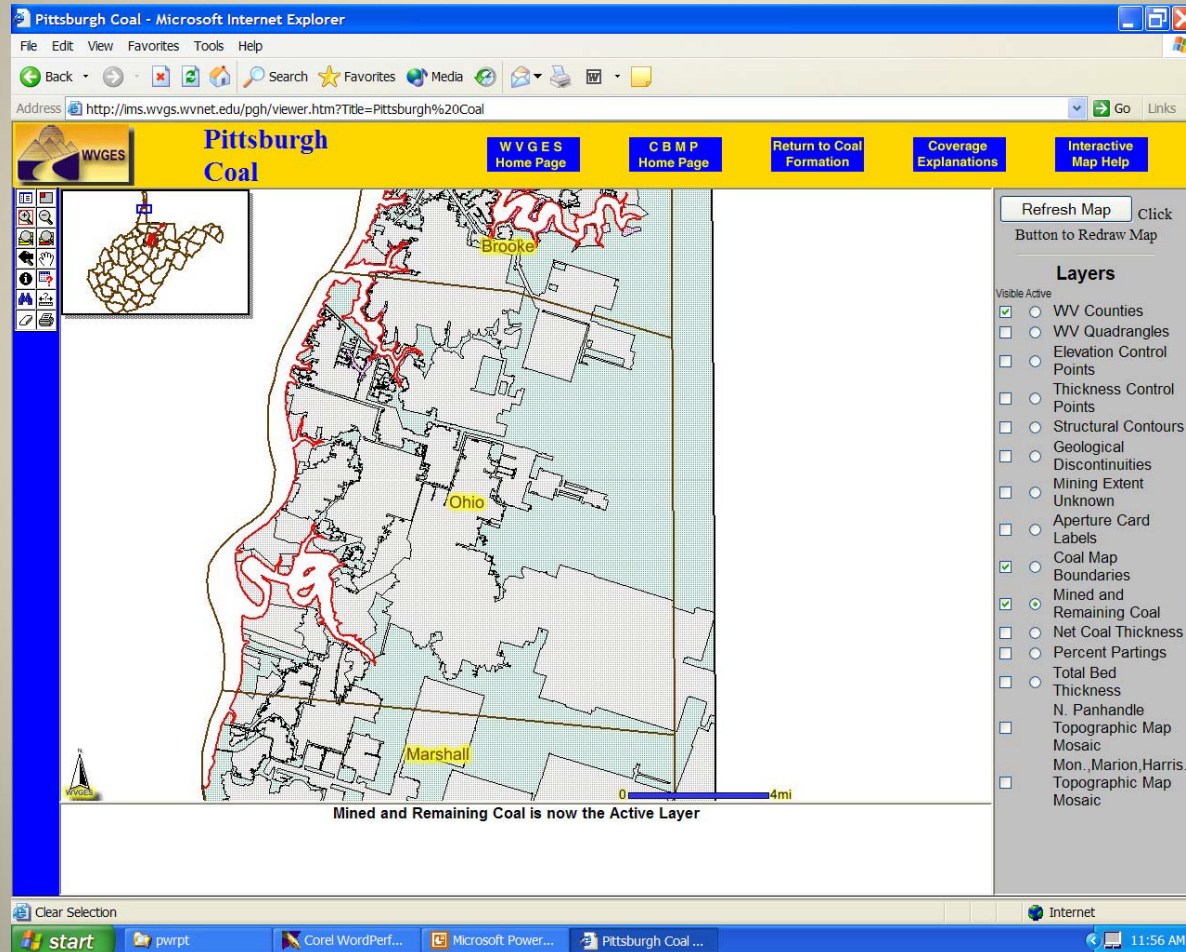
Georeferencing (cont.)



Serving To The Public (34 projects)



Serving To The Public (cont.)



Serving To The Public (cont.)

Address <http://minemaps.ky.gov/website/allseams/viewer.htm?ActiveLayer=quad&Query=QNAME='PINEVILLE'&QueryZoom=Yes> Go

Known Mined Out Extents by Coal Seam

Kentucky Mine Mapping Initiative

Bookmark Help Active Coal Mine Map Service

LAYERS

- All Layers
- Oil/Gas Wells
- Eastern Coal seams
- Western Coal seams
- Base Map
- Base Imagery

Refresh Map

Help:

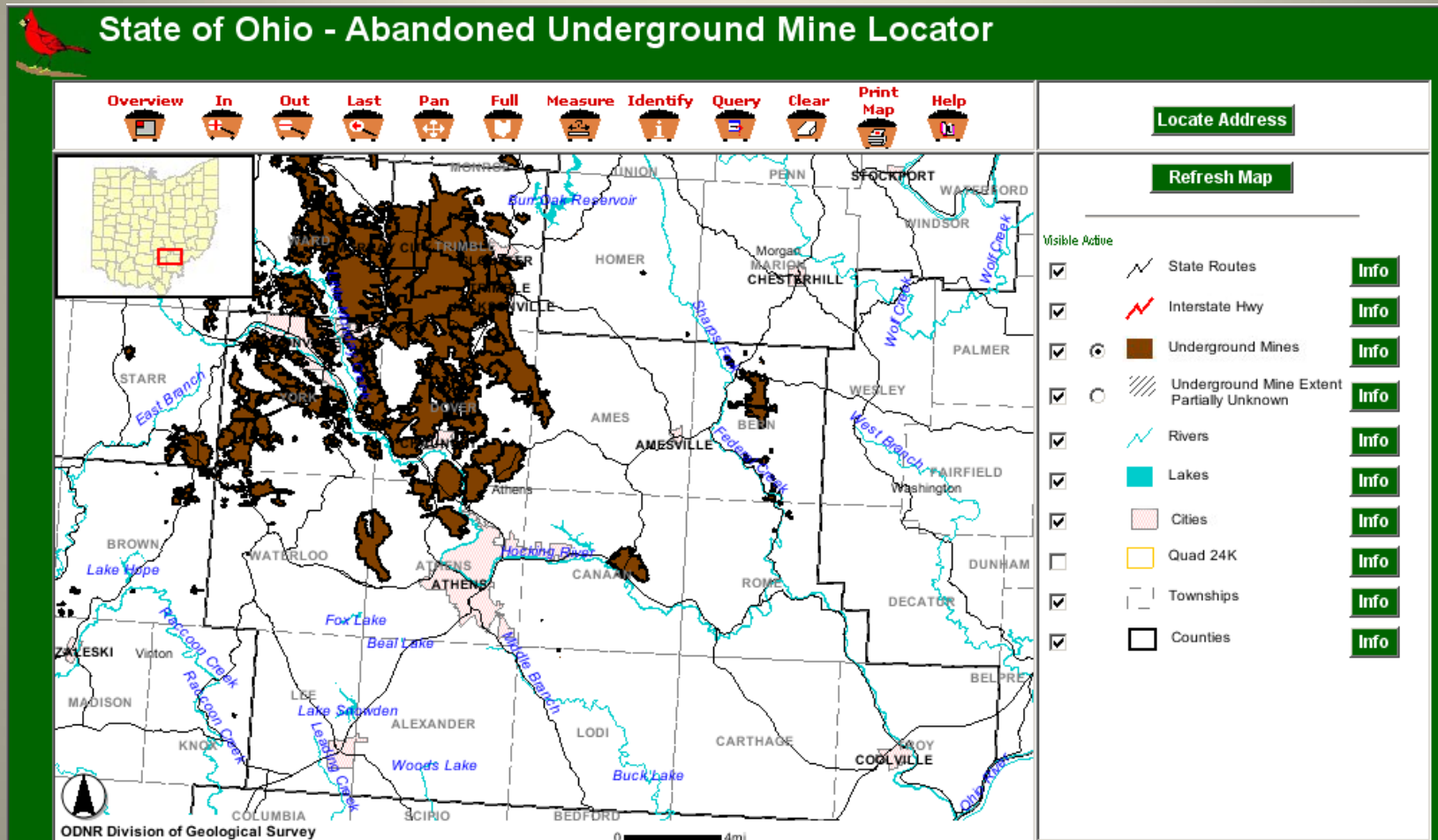
- A closed group, click to open.
- An open group, click to close.
- A map layer.
- A hidden group/layer, click to make visible.
- A visible group/layer, click to hide.
- A visible layer, but not at this scale.
- A partially visible group, click to make visible.
- An inactive layer, click to make active.
- The active layer.

Quad Boundaries
Selection cleared.

Zoom In

[Enter Coordinates](#) | [Coal Seam Index](#) | [Kentucky Mine Mapping Initiative](#)

Serving To The Public (cont.)



Summary And Conclusions

Work Activity	No. of Projects	% of Projects (70 Funded)
Acquisition	15	21.4%
Restoration/ Preservation	14	20.0%
Scanning/ Digitally Recording	42	60.0%
Georeferencing	38	54.2%
Serving To The Public	34	48.6%

- We Are Not Coming Down The Home Stretch, Over 60% Of The Work Is Scanning And Over 50% Of The Work Is Georeferencing
- Funding Is Being Cut
- Must Concentrate On Utilizing Known and “Cutting Edge” Efficiencies