U.S. Office of Surface Mining

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Contact: Alan Wilhelm
(303) 844-1400 ext 1457
awilhelm@osmre.gov

OSM, Partners Working to Standardize Geospatial Coal Mine Mapping

The U.S. Office of Surface Mining has established a task group to develop standards for exchanging geospatial data about coal mines.

Standardizing the way coal-mining geospatial data is exchanged will result in better enforcement of mining laws and faster response to mining-related emergencies. It will also improve protection of the environment and public from the potential impacts of coal mining.

Geospatial data are used to locate natural or man-made features on, below, or even above the earth's surface. In particular, the boundaries of surface and underground coal mines can be mapped precisely and managed as data. Standardizing the way such geospatial data are expressed will enable the data to be exchanged quickly and accurately among agencies using different computer software.

Standards developed by the task group could ultimately help different enforcement agencies cooperate to reduce environmental impacts outside of mine boundaries or guide the efforts of rescue workers trying to reach miners trapped in an underground mine.

The Coal-Mining Spatial Data Standards Task Group will develop voluntary standards for the exchange of coal-mining spatial data among State, tribal, and OSM offices, as well as the coal-mining industry and the public. Standards will be developed in line with procedures of the American Society of Testing Materials (ASTM) International, an organization which develops and provides voluntary consensus standards for a great many technical applications.

Members of the group are volunteer representatives of State coal-mining regulatory programs, OSM offices, and the Mine Safety and Health Administration. The coal-mining industry and special interest groups have been asked to join. The group is supported by OSM's Technical Innovation and Professional Services (TIPS) program, which provides advanced engineering and scientific software to States, tribes, and OSM

staff involved in regulating coal mines and the reclamation of land disturbed by coal mining.

“Establishing agreement among all our business partners concerning the coal-mining geospatial data we create, use, and exchange is fundamental to improving our understanding of the potential environmental impacts of surface coal mining operations,” according to Billie Clark, Jr., chief of OSM’s Technology Management Division. “It will help us better address and resolve a variety of problems associated with coal-mining and reclamation operations. To establish coal-mining geospatial data standards that are recognized by ASTM International will indeed be to have accomplished a first.”

The ASTM standards-development process is transparent and open to all who would like to participate in it. The task group is seeking to identify public-interest groups and industry representatives that want to contribute to standards development specific to coal-mining geospatial data.

Anyone with an interest in or questions regarding ASTM International and/or its standards as they pertain to coal mining in the United States can investigate the these matters further at www.astm.org.

Persons with an interest in additional information regarding TIPS, geospatial data in general, and/or the Coal-Mining Spatial Data Standards ASTM Task Group are directed to www.tips.osmre.gov.

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NOTE TO EDITORS: Two photos illustrating this story are available for download. Links to the photos and caption material is below:

http://www.tips.osmre.gov/images/GeoPermitBoundary_download.jpg

> Geospatial permit boundary overlaid on a satellite image, McKinley mine, western NM.—Once geospatial data standards are established, OSM will be able to meld together mining-boundary data from Federal, State, and tribal sources. With this data set, applications can be developed that will allow any interested party to create maps, by means of an interactive web interface, like the one shown here.

http://www.tips.osmre.gov/images/Pitt_Seam_Mining_download.jpg

> Underground mining extents of the Pittsburgh seam in Pittsburgh, PA.—Producing maps of “underground-mining extents” for specific areas of the country is impractical at this time, in part because no standard definition yet exists for this term. Establishing such a definition will make map production much more feasible, because it will both (1) enable the consolidation of underground-mining-extent information and (2) make that information accessible from a centralized application via the Internet.