NGGDPP Final Technical Report – 2009/2010
Award GO9AP00128

Name of State Geological Survey: Kentucky Geological Survey

Project Title: National Catalog metadata submissions for Kentucky sites

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The proposed work plan for this project year included the submission of site-level metadata for 5 physical and derived collections of geologic materials and associated data. The strategy for implementing this project was 1) review validate existing databases pertaining to the collections or create new databases, 2) update the databases with any missing information, 3) develop computer programs to extract pertinent data from the databases and generate NGGDPP XML-based metadata files, and 4) submit the records to the NGGDPP database.

These collections include:

Physical Samples
- Oil and gas well cuttings
- Limestone samples

Indirect or Derived Data
- Mineral occurrence sites
- Geotechnical sample sites
- Sediment sample sites

Oil and gas well cuttings.

Initial inventory work determined that there are significant differences between physical sample storage and the database of holdings. Consequently, a complete inventory of the physical materials was conducted for over 15,000 samples stored on 270 shelves. This inventory was compared to a notecard collection of metadata for the collection to verify operator and well names. Finally, each sample set is being checked in the database to match it with the State database of well locations to build the link between samples and the well information. That last effort is ongoing. Approximately 9,000 sets have assigned locations and 5,800 of those have been cross checked with the shelf inventory. The XML extract exposes all sets with a location.

Limestone samples.

An extensive collection of limestone samples taken from quarries, cores, and outcrops was inventoried, and locations were verified. Quarry locations were checked against the Kentucky Transportation Cabinet's records of the same sites to cross reference KGS sample data

with KYTC sample data. All sites were inspected using a variety of aerial imagery to verify the location. In the course of re-organizing a storage area at the KGS Well Sample and Core facility, another limestone sample set was discovered that contains over 5,000 samples and associated chemical analyses. These data were collected by other organizations prior to the KGS limestone program. All data are now merged, and work has begun to enter the 5,000 chemical analyses into the KGS analytical database.

Mineral Occurrence Sites.

The primary source of mineral occurrences in Kentucky is the USGS/KGS 1:24,000 geologic map series. These sites were digitized from the source maps, compiled in GIS and attributed using other published reference material.

Geotechnical Sample Sites.

The source of most geotechnical sample data is the Kentucky Transportation Cabinet Geotechnical Branch. KGS works with the Branch to catalog project information including sample sites (cores, auger holes, and soundings). This is an actively growing database that can be accessed to periodically update the national catalog.

Sediment Sample Sites.

The source of these data is primarily related to sampling conducted in the late 1970's and early 1980's for the Federal NURE program. They consist of chemical analyses for samples taken across the state. A more recent sampling program was conducted in 2006-07 and work is ongoing to merge these data with the earlier results.

Metadata.

The computer programs that generate the XML files for these collections were developed in the ASP computer language and are implemented as dynamic Web page functions. The Web page can be accessed at the following address:

http://kgs.uky.edu/kgsweb/XMLGen/XMLGen.asp

This year's collections have not yet been submitted to the National catalog, because we are awaiting a new data entry interface to update collection header information. That interface is currently under development, and KGS has volunteered to test it once it is released.

Additional collections have been submitted to the catalog in previous years:

Physical Samples

Core Holdings	(P867)

Indirect or Derived Data

Oil and Gas Wells	(P865)
Water Wells	(P866)
Springs	(P874)