

State of Oregon  
Department of Geology and Mineral Industries  
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**NATIONAL GEOLOGICAL AND GEOPHYSICAL DATA PRESERVATION PROGRAM  
FINAL TECHNICAL REPORT FY2008**

**Metadata Component of the National Catalog**

**and**

**Well Drill Core and Cuttings Preservation Plan**

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**Cooperative Agreement Number:** 08HQGR0109

**Project title:** Metadata Component of the National Catalog and Data Preservation Plan

**Lead project organization:** Oregon Department of Geology and Mineral Industries

**USGS Liaison:** Tamara L. Dickerson

## OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES TECHNICAL REPORT - FY2008

### PROJECT SUMMARY

#### OVERVIEW

The U.S. Geological Survey (USGS) is the cornerstone of a national commitment to carry out a “National Geological and Geophysical Data Preservation Program” (NGGDPP). The program’s objective is to provide technical and financial assistance to State geological surveys that maintain geological and geophysical data and samples to address their preservation and data rescue needs. In (FY) 2008, the USGS/NGGDPP awarded the Oregon Department of Geology and Mineral Industries (DOGAMI) funding (Cooperative Agreement No.: 08HQGR0109) to incorporate site specific metadata for our collection of well drill core and cuttings (The “Collection”) into the NGGDPP’s National Digital Catalog.

#### ACKNOWLEDGMENT AND PREVIOUS WORK

Over the past two years the USGS has awarded DOGAMI two grants for data preservation work. DOGAMI is indebted to the USGS for this and the previous year’s data preservation funding.

Last year (FY2007) DOGAMI (Award No. 07HQGR0151) examined the status of the agency’s geoscience data. It involved completing the online USGS data preservation survey, along with cataloging items found in the Collection. The latter resulted in the creation of an electronic catalog (Excel spreadsheet) of each item in the Collection. The following information was collected for this sample level inventory:

- Storage location
- Permit number (if one was assigned)
- Well number or name
- County (e.g. where the well was drilled)
- Operator/company
- Interval - footage.

This catalog can be viewed online at DOGAMI’s Web site: [www.oregeology.org](http://www.oregeology.org). There is also a link at the same site to a separate Excel spreadsheet of well record information. Both can be downloaded.

#### KEY TASKS

This final technical report covers the activities performed in FY2008, between July 1, 2008 (start of the project) and June 30, 2009. The project lead for work described in this report is Ian Madin; the project’s personnel includes Clark Niewendorp and Rudie Watzig. The key task of the work involved compiling metadata for the samples in the Collection and the transfer of individual sample level metadata to the National Digital Catalog. Other activities performed involved 1) developing a long-term data preservation plan for the Collection that is tied to a collection development policy, and 2) updating the on-line catalog because the process of compiling sample level metadata necessitated better accounting of samples in the Collection.

#### ACCOMPLISHMENTS

##### Metadata component of the National Digital Catalog

During the FY2008 funding year, DOGAMI gathered two classes of metadata on each individual item found in the Collection (Figure 1). In order to contribute sample level metadata to the National Digital Catalog, the USGS developed a XML profile, with the following basic content:

- (1) *Inherent Metadata*—that is, information that can be derived through the computer analysis of the contents of DOGAMI’s existing

**collectionId** - U.S. Geological Survey assigned number or code

**title** - Identification number or name for the well drill hole or boring. The titles were assigned by each operator or the designated agent of the operator for the purpose of exploration or production of oil, gas, and geothermal in Oregon.

**alternateTitle** - American Petroleum Institute (API) number.

**abstract** - The Collection itself is described by permit number (DOGAMI assigned), well type (oil and gas, geothermal, or drill hole), operator, county, and state.

**dataType** - Categories for the format in which the items are available, e.g. rock cores, rock cuttings, and paleontology samples

**supplementalInformation** - Pointer (URL) showing how to access information.

**coordinates** - Latitude and longitude values showing the spatial location of the item of the Collection.

**alternateGeometry** - not a mandatory field, left blank

**onlineResources** - not a mandatory field, left blank

**browseGraphic** - not a mandatory field, left blank

**date** - publication date of metadata

**datasetReferenceDate** - not a mandatory field, left blank

**verticalExtent** - Interval (footage) of each dataType

Figure 1. The metadata structure used to describe the items within the Collection, with description of data entered for the attribute.

electronic inventory for the Collection, such as:

- A collection Identification code
- Data types (rock cores, rock cuttings, or paleontology samples)
- Coordinates for geographic coverage of each item (map visualization based on latitude and longitude coordinates of items in the Collection)

(1) *Contextual Metadata*—that is, information supplied by DOGAMI that cannot otherwise be derived from the Collection’s content, such as:

- Well number or name
- Title and alternate title
- Date (creation)
- Interval - footage

DOGAMI used the flat file (spreadsheet) template to record the individual sample level contents of the Collection.

#### **Data preservation plan - collection development policy**

As of the writing of this report, DOGAMI has adopted a Data Preservation Plan - Collection Development Policy (DPPCDP) for the selection-retention-weeding of the Collection. This policy is guided by procedures followed by many public libraries for development of their collections. In many respects, DOGAMI’s repository for its Collection is similar to a book library.

The goal of the DPPCDP is to maintain a wide and balanced Collection. The responsibility for the on-going maintenance of the Collection rests with the “Science Advisory Panel” under the direction of the State Geologist.

In general, the Collection will be best maintained by retaining only material from select well(s) representative of an area or field. A guiding principle is to maintain good representation but aggressively cull material of less representa-

tive wells or those where DPPCDP's weeding rationale applies.

The DPPCDP also describes the policies related to on-site use of the Collection and outward loans. Concluding this document is an assessment of the Collection's immediate need/issues and solutions/strategy. The Collection is presently in poor physical condition and that cannot change without a funding source. Unfortunately, there are no current or foreseeable funds allocated specifically to support the Collection (regular or special).

### **On-line catalog update**

As a result of compiling individual sample level metadata in the Collection, there is now a better accounting of our holdings. Right now the Collection stands at 326 oil and gas wells, 107 geothermal wells, and 57 borings. There are approximately 2,300 sample boxes within the Collection. As yet we have not been able to inventory individual sample intervals in each box but from cursory examination of a sampling of containers, it is estimated that there are 25,000 to 100,000 individual samples. The on-line survey has been update to reflect this new data.

## **OTHER DATA PRESERVATION ACTIVITIES**

Some other notable DOGAMI accomplishments related to data preservation during the FY2008 funding year include:

- Initiating a program to digitally archive DOGAMI's collection of historic mine maps. About 200 maps have been electronically cataloged and a third of them have been scanned. DOGAMI has over 3,000 historic mine maps waiting to be digitally archived. In this regard, the agency is also looking at the option of utilizing the National Mine Map Repository for archiving these maps.
- The program of scanning geophysical logs available for oil, gas, and geothermal wells in Oregon continues. As these new digital logs become available they are added to DOGAMI's Web site: [www.oregongeology.org](http://www.oregongeology.org).