

**National Geological and Geophysical Data Preservation Program**

**Award Number: G12AP20134**

**FINAL TECHNICAL REPORT FISCAL YEAR 2012**

**New Jersey Geological and Water Survey  
Geoscientific Data Preservation Project**

**By Helen Rancan, Section Chief**

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**Abstract:** Since 2007, the New Jersey Geological and Water Survey (NJGWS) has been awarded \$83,184 by the U.S. Geological Survey (USGS) under the National Geological and Geophysical Data Preservation Program (NGGDPP) for the purposes of identifying, cataloging, securing and preserving at-risk data. In the first year under this grant, the NJGWS identified eighteen (18) different types of collections to target for preservation. Using grant funding in fiscal year (FY) 2009 - 2010, the NJGWS updated its inventoried collections to 21, to include rock cuttings (well cuttings), hand samples and sediment cores. That same year, metadata was created for three physical collections, rock core (#P1294), geochemical samples (#P1295) and sediment core (#P1651) and were subsequently entered into the National Digital Catalog (NDC). In FY 2010-11, paper geophysical well logs from 285 wells (#P1307) and six published paper geologic maps (#P1099) were scanned and digitized. Metadata was created and uploaded into NDC for the scanned and digitized well logs from 515 wells and six scanned and digitized geologic maps together with the 133 digital geologic maps.

In fiscal year 2012, the NJGWS was awarded \$20,600 to create a digital infrastructure and metadata for antique well logs (#P1297), create metadata for previously digitized and catalogued field notes and permanent notes (#P1293), and to create a digital infrastructure and associated metadata for historic, penciled N.J. geologic mine logs (#P1293). All metadata for these projects was uploaded into the NDC.

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**FINAL TECHNICAL REPORT**

**FY 2012**

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**Background**

In total, since 2007, the New Jersey Geological and Water Survey (NJGWS) has been awarded \$83,184 by the U.S. Geological Survey (USGS) under the National Geological and Geophysical Data Preservation Program (NGGDPP) for the purposes of identifying, cataloging, securing and preserving at-risk data. That State of New Jersey has matched these funds 1:1.

In fiscal year (FY) 2007, under the Data Preservation Grant, the NJGWS conducted a survey of its geological and geophysical data collections and added 18 collections to the NDC. The collections are accessible and used by outside users, including government agencies and private-sector users, by appointment, and are mainly used for research, teaching, reference, land management, hazard mitigation and engineering studies. In FY 2009, metadata for rock core (#P1294), sediment core (#P1651) and geochemical samples (#P1295) was created and entered into the NDC. In addition, rock cuttings and hand sample collections, were inventoried. These collections, as well as sediment core collections were added to the online state survey of inventoried collections, thereby increasing our collections to twenty-one (21). Under the FY 2010 grant award, paper geophysical well logs from 285 wells (#P1307) and six published paper geologic maps (#P1099) were scanned and digitized. Metadata was created and uploaded into the NDC for both the scanned and digitized well logs from 515 wells and six scanned and digitized geologic maps together with the 133 digital geologic maps.

For FY 2012, the NJGWS applied for, and obtained, a one-year grant award of \$20,600 from the NGGDPP. The State of New Jersey matched this grant 1:1.

**Goals and Objectives of the Fiscal Year 2012 Grant**

The objectives of the FY 2012 grant were to (1) create metadata for already digitized and catalogued field notes and permanent notes (#P1293), antique well logs (#P1297) and penciled geologic log mine cards (#P1293) and (2) to create a digital infrastructure for an estimated 8,416 antique well logs (#P1297) and 500 mine logs (#P1293). All metadata was to be uploaded into the NDC.

## Fiscal Year 2012 Accomplishments

Antique Paper Well Logs (#P1297) Under the FY 2012 grant, the NJGWS scanned 7,581 antique paper well records. These well records were converted from paper to digital media by scanning and saving them as individual \*.pdf files. Additionally, data from each record was entered into HighView, a NJ proprietary database system, and the records categorized by county and township. Metadata for each of the 7,581 records was then created in Microsoft Excel®, saved as a comma delimited file, and uploaded into the NDC. On October 25, 2013, NJGWS received an email from Tamar Norkin, Core Science Analytics and Synthesis that there was a formatting issue with this uploaded information.

Note that due to the historic nature of these documents, 4,640 of the logs did not contain specific locational data beyond township and county. Given that locational information is required in the metadata file, the NJGWS entered into discussions with Raymond Obuch of USGS to formulate a plan for providing a better available estimate of locational data for these records. Based on this discussion, the NJGWS decided that the closest reasonable estimate of the locations for these wells was based on the centroid of the municipality in which the well was located. Centroid points for the New Jersey municipalities were created using ArcGis software and the resulting NJ State Plane coordinates downloaded into an Excel® spreadsheet. Using in-house conversion software, these points were converted into decimal degrees (NAD83). For these wells, language describing how the locational information was derived was included in the metadata file, in the “alternate geometry” column. Work on including centroid points has been completed and the amended comma delimited file will be **re-uploaded** into NDC by close of business on December 17, 2013.

(Note: Due to duplicate logs, “empty” records, and logs so badly damaged that they were illegible, there were 835 fewer logs digitized than the 8,416 originally estimated for this grant.)

Geologic Mine Logs (#P1293) The NJGWS scanned, digitized and created a digital infrastructure for 500 penciled, historic geologic mine logs from abandoned mines across New Jersey. By scanning each paper mine log and saving as individual \*.pdf files, these index cards were converted from paper into the more secure digital format. A database was created in Microsoft Access® in which the information contained on each geologic mine card was entered. Each card was assigned a unique identification number for ease of identification and access in order to efficiently respond to future research needs. Metadata was then created in Microsoft Excel®, saved as a comma delimited file and uploaded into the NDC.

Field Notes and Permanent Notes (#P1293) Handwritten historic observation notes made by geologists while working in the field and representing approximately 50 geographic locations were previously digitized and catalogued. Under the FY 2012 grant, the NJGWS created metadata for the 134 field notebooks, which covered the period 1884 to 1951, for those that were dated. The metadata was created in Microsoft Excel®, saved as a comma delimited file and uploaded into the NDC. (Note: the number of field notes in the grant application was underestimated at 128.)

In addition, metadata was created for the 5,257 previously digitized and catalogued permanent notes. These permanent notes were produced in the late 1800's through the late 1990's. Metadata was created in Microsoft Excel®, saved as a comma delimited file and uploaded into the NDC. (Note: the number of permanent notes on the grant application was estimated at 5,500).

### **Summary**

In satisfaction of our goals under Grant Objective 2, metadata was created for 7,581 antique well logs (#P1297), 134 previously digitized and catalogued field notebooks (#P1293), 5,257 previously digitized and catalogued permanent notes (#P1293) and 500 geologic mine logs (#P1293). Under Grant Objective 3, a digital infrastructure was created for the 7,581 antique well logs and the 500 penciled historic geologic mine logs. These both involved a conversion from paper source documents to a digital format.

This report and the uploading of metadata into the NDC fulfill the non-financial requirements of the FY 2012 NCGDPP Grant requirements.