

Geologic data preservation projects and relocation of the Mt. Chase drill core

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Outline

What is the National Geologic and Geophysical Data Preservation Program?

MGS projects funded through the NGGDPP

- Core inventory
- Improving access to mineral resource data
- Digital accessibility initiative
- Mount Chase core relocation



National Geologic and Geophysical Data Preservation Program

Created as Part of the Energy Policy Act of 2005

Administered by the U.S. Geological Survey

Objectives:

- Archive geologic, geophysical, and engineering data, maps, well logs, and samples
- Provide a national catalog of such archival material
- Provide technical and financial assistance related to the archival material



National Geologic and Geophysical Data Preservation Program

The NGGDPP recognizes that significant geological collections were being lost to poor storage conditions and that the cost to re-acquire drill cores and samples would be many tens of millions of dollars.



Maine



Alaska

Maine Geological Survey NGGDPP projects

Project 1. Inventory stored core

Core in MGS repository donated by various interests over many decades. The cores represent some of the more significant mineral exploration efforts conducted in Maine during the 20th century.



Powder house building dating from 1828

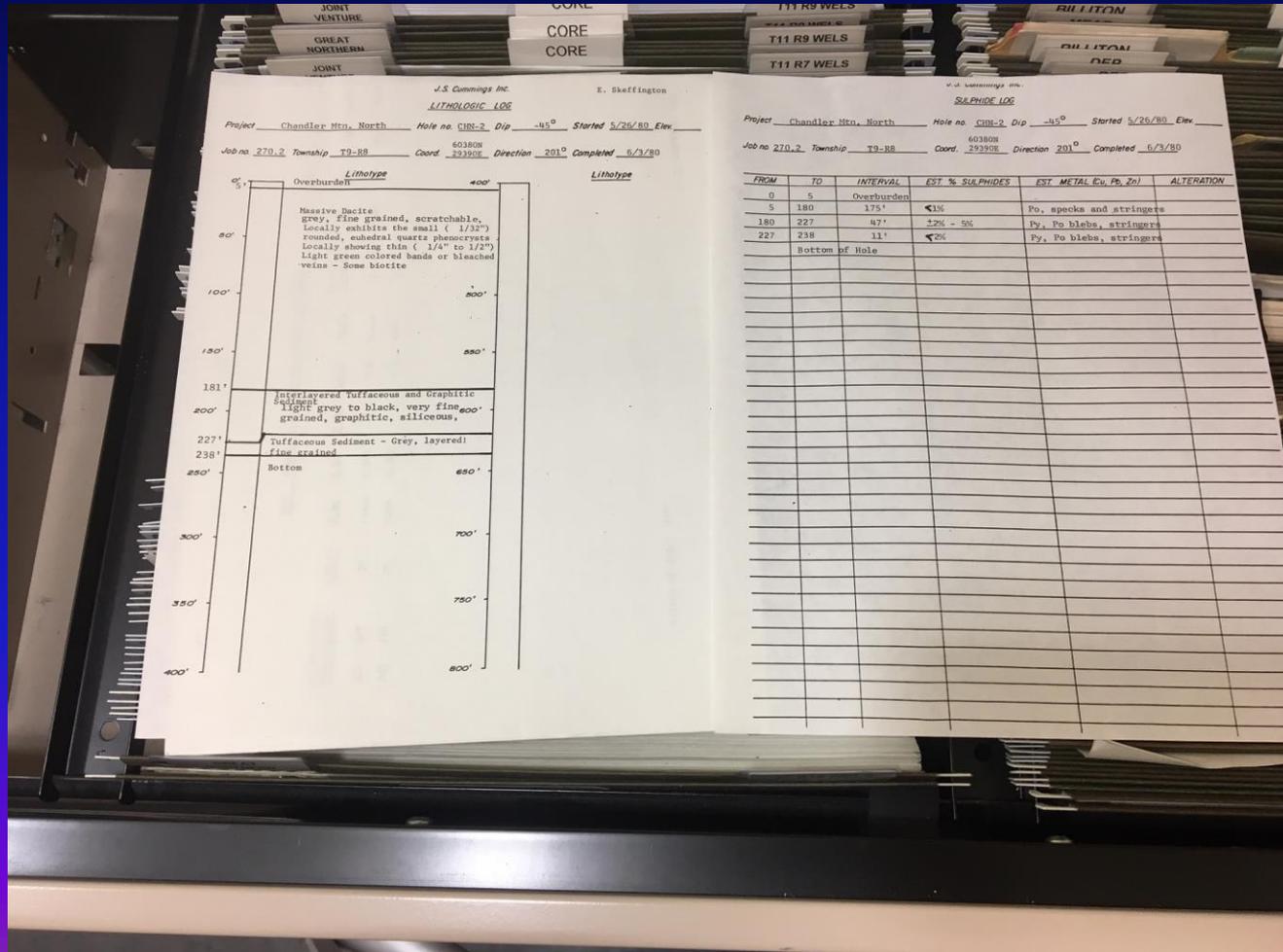
Maine Geological Survey NGGDPP projects

Inventory stored core

Project name	Purpose	General location	Total core length (feet)
Great Northern	Base metal exploration	Northern Maine	10230
Knox	Base metal exploration	Central coastal Maine	13710
Northern Joint Venture	Base/precious metal exploration	Northern Maine	18570
U.S. Bureau of Mines	Base metal, alkali metal exploration	Northern and western Maine	21200
Maine Low-level Radioactive Waste Authority	Site characterization	Various	130
Maine Yankee Nuclear Power Plant	Site characterization	Wiscasset, Maine	210

Maine Geological Survey NGGDPP projects

Many core logs include assays of important metals – Cu, Pb, Zn



Maine Geological Survey NGGDPP projects

Interactive map of c



J.S. Cummings Inc. E. Skeffington

LITHOLOGIC LOG

Project Chandler Mtn. North Hole no. CHN-2 Dip -45° Started 5/26/80 Elev. _____

Job no. 270.2 Township T9-R8 Coord. 60380N
29390E Direction 201° Completed 6/3/80

	<u>Lithotype</u>	
0' 5'	Overburden	400'
50'	Massive Dacite grey, fine grained, scratchable, Locally exhibits the small (1/32") rounded, euhedral quartz phenocrysts Locally showing thin (1/4" to 1/2") Light green colored bands or bleached veins - Some biotite	
100'		500'
150'		550'
181'	Interlayered Tuffaceous and Graphitic Sediment	
200'	light grey to black, very fine grained, graphitic, siliceous,	600'
227'	Tuffaceous Sediment - Grey, layered!	
238'	fine grained	
250'	Bottom	650'

Maine Geological Survey NGGDPP projects

Project 3. Digital Accessibility Initiative

- Georeference reconnaissance surficial geology maps.
- Georeference the 1985 Surficial Geologic Map of Maine.
- Automate 1:250,000-scale surficial geology maps.
- Complete the automation of surficial aquifer information.
- **Connect to the Maine State Library's collection, thereby vastly improving access to geological information.**
- Adding collection metadata records to the National Digital Catalog.



Digital Accessibility Initiative

- State of geologic publications – 2016
 - Over 2600 digital maps and reports as PDFs on a state web site that has moved twice in last decade
 - In-house database for managing publication metadata, with a spatial component
 - Web site and simple table based search tools used for public access to publications

Digital Accessibility Initiative

- MGS Digital Document Management Needs:
 - Perma-links for our PDF files
 - Low-cost storage/hosting for PDF files
 - Hosting of easily searchable document metadata
 - Integration with MGS web site
- Partnering with the Maine State Library addresses all these needs

StateDocs Collection at State Library

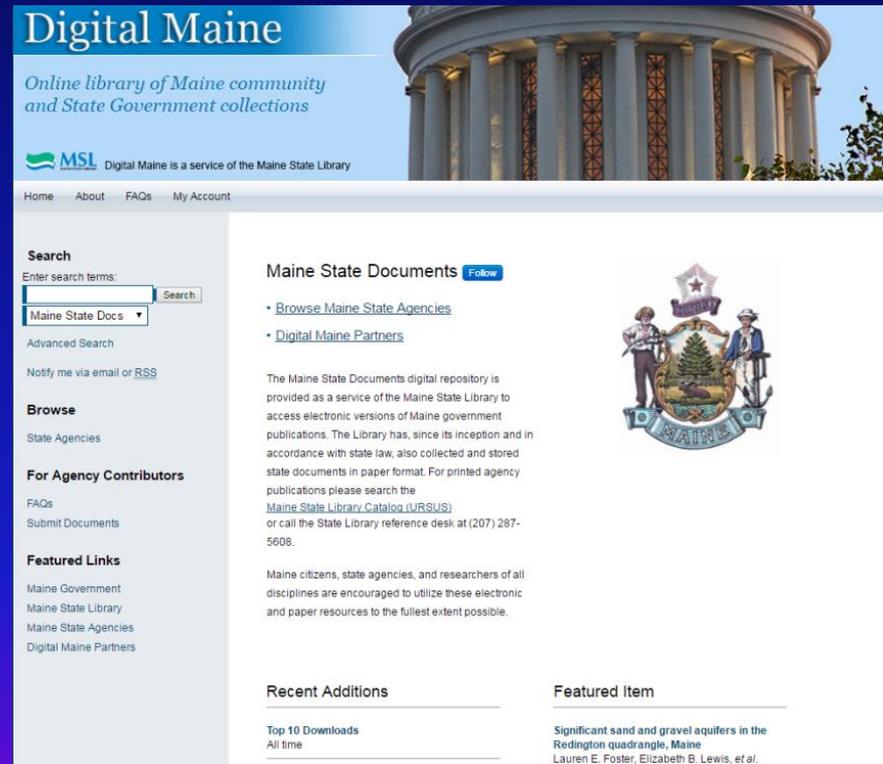
- Items produced by state agencies:
 - Publications
 - Research
 - Reports
 - Marketing materials
- Historical materials dating back to the formation of the state



StateDocs Digital Collection

- Permanent online storage for same items as physical collection.
- Launched in 2013 on Digital Commons from bepress.
- Includes over 62,000 digital files
 - Publications (books, reports)
 - Photos
 - Maps
 - Research
 - Marketing materials
 - Audio/video files

— www.DigitalMaine.com



The screenshot shows the Digital Maine website. The header features the title "Digital Maine" and the subtitle "Online library of Maine community and State Government collections". Below the header is a navigation menu with links for Home, About, FAQs, and My Account. The main content area is divided into several sections: a search bar with a dropdown menu set to "Maine State Docs", a "Browse" section for "State Agencies", a "For Agency Contributors" section with links for FAQs and Submit Documents, and a "Featured Links" section with links to Maine Government, Maine State Library, Maine State Agencies, and Digital Maine Partners. On the right side, there is a "Maine State Documents" section with a "Follow" button and links to "Browse Maine State Agencies" and "Digital Maine Partners". Below this is a description of the digital repository and its purpose. At the bottom, there are sections for "Recent Additions" (listing "Top 10 Downloads" and "All time") and "Featured Item" (listing "Significant sand and gravel aquifers in the Redington quadrangle, Maine" by Lauren E. Foster, Elizabeth B. Lewis, et al.).

DEPARTMENT OF Agriculture, Conservation and Forestry

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DACF Home -> Bureaus & Programs -> Maine Geological Survey -> Maps, Publications and Online Data -> 1:24000 Surficial Geology Maps and Reports

- About
- Explore Maine Geology
- Hazards
- Educational Materials
- Maps, Publications, Data
- Related Links

Maine Geological Survey

Online Surficial Geology Quadrangle Maps and Reports, Scale 1:24,000

Printed copies of publications are [available for sale](#). Older publications may not be available. This page identifies printed and online publications available from the Maine Geological Survey.

- [Description of detailed surficial geology map series](#)
- [Tips for reading detailed surficial geology maps](#)
- [Digital surficial geology data](#)

Search:

Quadrangle Name	Publication No.	Citation	Associated Report
Albion	15-14	Weddle, Thomas K., 2015, Surficial geology of the Albion quadrangle, Maine : Maine Geological Survey, Open-File Map 15-14, map, scale 1:24,000.	
Alfred	99-76	Neil, Craig D., 1999, Surficial geology of the Alfred quadrangle, Maine : Maine Geological Survey, Open-File Map 99-76, map, scale 1:24,000.	
Augusta	09-7	Thompson, Woodrow B., 2009, Surficial geology of the Augusta quadrangle, Maine : Maine Geological Survey, Open-File Map 09-7, map, scale 1:24,000.	
Baker Island	16-13	Braun, Duane D., 2016, Surficial geology of the northern portion of the Baker Island quadrangle, Maine : Maine Geological Survey, Open-File Map 16-13, map, scale 1:24,000.	
Bangor	11-6	Syversen, Kent M., and Thompson, Andrew H., 2011, Surficial geology of the Bangor quadrangle, Maine : Maine Geological Survey, Open-File Map 11-6, map, scale 1:24,000.	08-52
Bar Harbor	16-19	Braun, Duane D., 2016, Surficial geology of the southwestern portion of the Bar Harbor quadrangle, Maine : Maine Geological Survey, Open-File Map 16-19, map, scale 1:24,000.	
Bar Mills	99-77	Hunter, Lewis E., 1999, Surficial geology of the Bar Mills quadrangle, Maine : Maine Geological Survey, Open-File Map 99-77, map, scale 1:24,000.	99-108
Bartlett Island	16-16	Braun, Duane D., 2016, Surficial geology of the eastern portion of the Bartlett Island quadrangle, Maine : Maine Geological Survey, Open-File Map 16-16, map, scale 1:24,000.	

Showing 1 to 185 of 185 entries

All links on MGS web site point to entry in Digital Maine http://digitalmaine.com/mgs_maps/983/



Digital Maine

Online library of Maine community and State Government collections

 Digital Maine is a service of the Maine State Library

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Maine Geological Survey Maps



Surficial geology of the Alfred quadrangle, Maine

[Craig D. Neil](#)

[Download Map \(13.1 MB\)](#)

[Download](#)

[Buy this Map](#)

Description

Maine Geological Survey, Open-File Map 99-76

Publication Code

99-76

Publication Date

1-1-1999

Publisher

Maine Geological Survey

Keywords

surficial geology, geomorphology, glacial geology, maps, glaciation, glacial extent, sedimentation, glacial transport, glacial features, landform description, MGS, Alfred quadrangle, York County

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Analytics

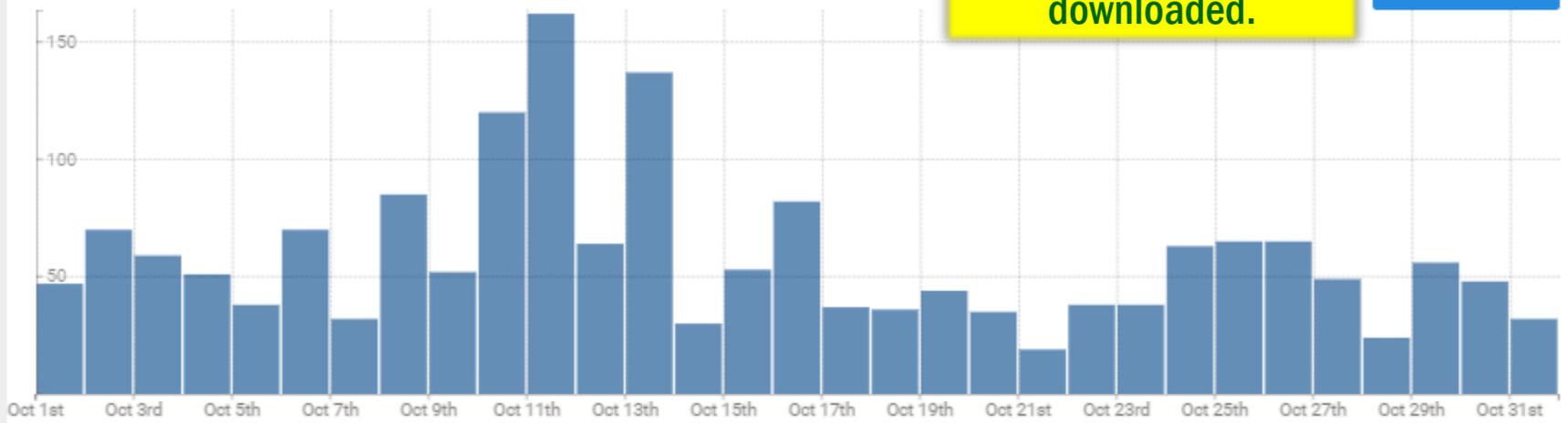
Showing:

Works:

Filtered content

Shows how many metadata pages were accessed - whether or not the PDF was downloaded.

1,801 Metadata Page Hits



Last Month: 10/01/2017 to 10/31/2017

0 Works Posted

Digital Accessibility Summary

- Partnership with Maine State Library has been excellent for MGS. They are the document management and preservation experts.
- Cloud-based tools are now available for document management that offer longevity, better search functionality, integration with other products for more exposure. Don't build custom tools.
- Realized real cost savings and efficiencies in file management, storage, backup, programming.
- Precise analytics provide a better understanding of product use which leads to program justification.

Project 4: Mount Chase core preservation project

Grant to MGS to:

- Inventory core stored at Huber plant in Easton.
 - 16,000 boxes
- Move to permanent storage – Presque Isle airport.
- Provide internet access to scanned logs.

Maine Geological Survey NGGDPP projects

Free storage at Presque Isle Airport



Move from Easton to Presque
Isle: 9 miles
Cores will be available for
investigations.



Lida reveals three landslide features

Data Preservation: Mount Chase core project

Maine Core Locations

Maine Geological Survey



7 of 10

GETTY MINING COMPANY

Hole No. 66-82-23
 Property 201 Grid
 Location T6, R6, Maine
 Project Code 0062
 Drilling Co. Kennebec

Depth 600' - 720'
 Elevation _____
 Azimuth, Dip 330°, 60°
 Drilling Date 7-6-82

Collared _____
 Logged By R.Peale
 Date 7-6-82
 Comments _____

SAMPLE LOCATIONS	RECOVERY	MAGNETIC SUSCEPT.	STRUCTURE	DEPTH	MINERALIZATION	GRAPHIC LOG	DESCRIPTION	ASSAYS			
								Cu	Pb	Zn	Au/Ag
13704				600	py 30% tr cp 5%		otherwise similar to previous unit	.004	.003	.024	1.007/0.0
13705					tr cp 5%			.475	.275	.535	.013/0.2
13706			42°		py 1-2%	+		.003	.019	.021	4.005/0.2
13707					py 35%	+		.012	.076	.225	.005/4.01
13708				610	tr cp 5%	+	601-630' Tuff; green to light green to grey, fine grained to aphanitic, laminated to thin bedded (1" thick) to thick bedded (1.5'), some aphanitic silicious layers, some noticeably fragmentary layers	.355	.125	1.250	0.017/0.0
13709					tr cp 5%	+		.750	.365	1.250	.014/0.5
13710	100%				py 1-2%	+		.550	.155	1.250	0.017/0.0
13711			42°		py 50%	+		.245	.260	.225	4.005/0.1
13712					tr cp 5%	+		.440	.280	2.200	0.014/0.24
13713				620	tr cp 5%	+	601-604' Laminated to thin bedded, green to light green, and grey quartzose layers, 35% massive fine grained pyrite layers up to 1/2" thick, trace chalcopyrite in some layers	.290	.180	.405	.007/0.14
13714					tr py	+		.012	.004	.045	4.005/0.0
13715				630	py 60% tr cp 5%	+	604-609.25' Green to light green, fine grained to aphanitic, pyrite present as massive layers up to 1" thick and as elongate blebs and masses	.024	.022	.022	4.005/0.01
13716					py 20% tr cp 5%	+		1.600	5.250	8.400	0.036/3.03
13717			51°		py 21%	+		1.300	1.200	3.000	0.047/0.13
13718				640	py 30% tr cp 1%	+	609.5-616' Green to light green, aphanitic to fine grained, close spaced massive pyrite layers up to 1" thick comprise 60% of section, trace chalcopyrite generally concentrated in stratiform accumulations within or on top of pyrite layers	.375	.800	1.950	.012/1.61
13719	59.5%				no recovery	+		.185	.560	2.250	4.005/0.19
13720				650	py 15% tr cp 5%	+		.020	.028	.180	4.005/0.01
13721			52°		py 25% tr cp 5%	+		3.850	4.250	8.500	0.028/3.00
13722					py 15% tr cp 5%	+		1.100	5.800	12.800	0.045/0.24
13723				660	py 30% tr cp 5%	+	616-617' Green to light green, aphanitic to fine grained, laminated, pyrite disseminated in blebs, masses	.022	1.000	1.950	1.000/0.15
13724					py 30% tr cp 5%	+		.435	.043	1.275	1.000/0.1
13725	100%			670	py 5.5% tr cp 0.5%	+	617-624.5' Green to light green to grey tuff, massive fine grained pyrite and pyrite-calcite layers comprise 80% of core, trace chalcopyrite disseminations	.180	.016	.043	4.005/0.01
13726			48°			+		.215	.004	.015	4.005/0.01
13727						+					4.005/0.01
13728				680	py 10% tr cp	+	624.6-630' Green to light green, laminated to thin bedded (2"), fine grained to aphanitic, trace disseminated pyrite	.038	.002	.008	4.005/0.01
						+					4.005/0.01
						+	630-745' Tuff: grey to greenish grey, mostly fine grained, silicious in places (silicified?), fragmental and massive layers	.006	.004	.011	4.005/0.01
						+	630-634.25' 95% massive sulfides, fine grained; galena and chalcopyrite rich layers up to 1/2" thick				

Expected completion in summer 2018 with assistance from Chunzeng Wang, Fred Beck, and UMPI interns



Fred



Chunzeng



Students



Data Preservation Summary

- Excellent opportunity to automate paper documents through multiple projects
- Core logs available through web mapping portal
- Digital Maine partnership with Maine State Library provides perma-links and improved accessibility for MGS maps and reports
- Preserving Mount Chase cores will allow scientific study of this important deposit

