



# Alaska Geologic Materials Center 2011 Inventory Statistics

## Total Inventory

Table 1: GMC Materials Distribution

Materials	Count	Type	Vol. (ft <sup>3</sup> ) <sup>2</sup>
Oil and gas	58,006	boxes	42,836
Hard-rock	22,485	boxes	18,162
BLM	131,770	boxes/samples	5,702
Surface	5,510	boxes	4,558
DGGS	4,875	boxes	4,050
Processed	191,663	slides	682
Seismic	366	boxes	557
Non-geologic		misc.	513
<b>Total storage volume<sup>2</sup></b>			<b>77,060</b>

Total shelf capacity\*: 153,600 cubic feet  
 Total shelf volume<sup>1</sup>: 117,100 cubic feet  
 Total storage volume<sup>2</sup>: 77,060 cubic feet

Materials Distribution by Volume

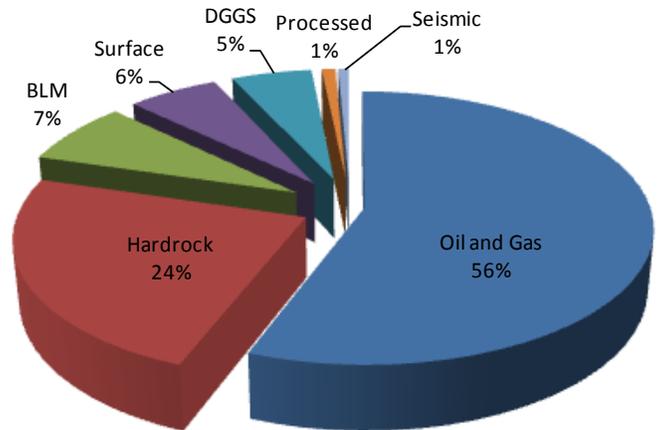


Figure 1: Pie chart showing percentages of material types archived at the GMC

## Oil and Gas Material

Oil and gas inventory storage volume<sup>2</sup>: 42,836 cubic feet  
 Core linear feet: 75,769 ft  
 Core box count: 13,538 boxes  
 Core storage volume<sup>2</sup>: 10,646 cubic feet (25% of total oil and gas volume)  
 Non-core box count: 44,468 boxes  
 Non-core oil and gas storage volume<sup>2</sup>: 32,190 cubic feet (75% of total oil and gas volume)

Table 2: Oil and gas material distribution

Material	Count <sup>†</sup>	Volume (ft <sup>3</sup> ) <sup>2</sup>	% Boxes	% Vol.
Core	13,538	10,646	23.3	24.9
Misc. core	5,529	3,582	9.5	8.4
Dry cuts	10,279	6,154	17.7	14.4
Wet cuts	24,297	19,808	41.9	46.2
Misc.	4,363	2,646	7.5	6.2
<b>Totals</b>	<b>58,006</b>	<b>42,836</b>	<b>100</b>	<b>100</b>

Oil and Gas Materials Distribution by Volume

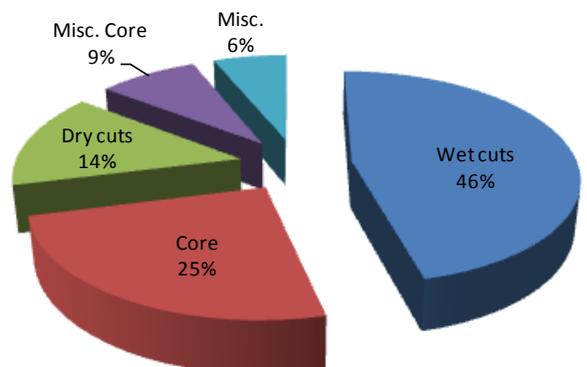


Figure 2: (Right) Pie chart showing percentages of oil and gas material types archived at the GMC

## Hard-rock Material

Hard-rock inventory storage volume<sup>2</sup>: 18,162 cubic feet

Core linear feet: 252,014 ft

Core box count: 22,485 boxes

Core storage volume<sup>2</sup>: 15,928 cubic feet (87.7% of total hard-rock volume)

Non-core hard-rock storage volume<sup>2</sup>: 2,234 cubic feet (12.3% of total hard-rock volume)

Table 3: Hard-rock core box-distribution

Box Size <sup>‡</sup>	Count	Linear Feet	Volume (ft <sup>3</sup> ) <sup>2</sup>	Box Size	% Boxes	% Footage	% Volume
NX	10,629	115,147.5	6,776.9	NX	47.3	45.7	42.6
BX	3,619	39,205.8	2,215.1	BX	16.1	15.6	13.9
MB	2,171	23,519.2	1,980.3	MB	9.7	9.3	12.4
HX	1,580	17,116.7	1,547.4	HX	7.0	6.8	9.7
AX	1,415	15,329.2	368.1	AX	6.3	6.1	2.3
All other	3,071	41,695.7	3,040.2		13.7	16.5	19.1
<b>Totals</b>	<b>22,485</b>	<b>252,014.0</b>	<b>15,928.0</b>		<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

GMC staff has counted 21 other unique hard-rock box sizes (all other), which represent the remaining 14% of the boxes and 19% by volume.

### Footnotes

\* includes occupied and empty shelf space, plus actual shelving components

<sup>1</sup> includes occupied shelf space, plus actual shelving components

<sup>2</sup> includes volume of boxes (materials) only

<sup>†</sup> count type is boxes

<sup>‡</sup> box dimensions (WHL, inches)

NX: 12.5 x 2.5 x 26

BX: 12 x 2.5 x 26

MB: Mixed box sizes, predominantly NX and BX

HX: 16 x 3 x 26

AX: 8.5 x 1.5 x 26

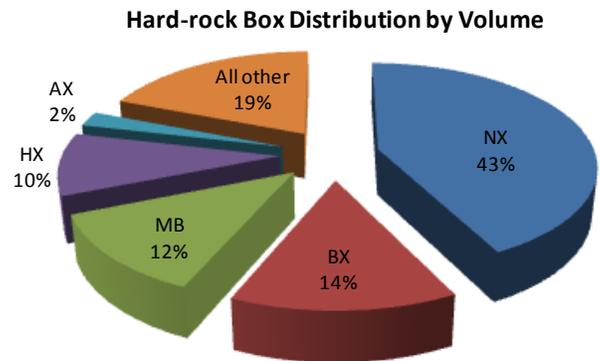


Figure 3: Pie chart showing percentages of hard-rock box types archived at the GMC

## GMC Inventory Growth

- Maximum growth rate was September to October 1997 (112,640 cubic feet/yr)
- Total average growth rate 1984 to 2012 (8,145 cubic feet/yr)
- The GMC has filled 3.2 forty-foot shipping containers per year since 1984

It is difficult to predict the GMC's inventory growth rate from year to year due to the volatility in exploration within both the oil and gas and mining industries. For example, during three months in 1997

the GMC received 14 tractor-trailer truck-loads of material from the Shell Corporation. In 2011, the GMC will receive planned donations from Ormat Inc. and Caribou Copper Resources totaling 11,000 feet of hard-rock mineral core, filling 1.5 shipping containers (5,120 cubic feet) in a matter of a few days. The Curator understands that there are ongoing discussions between the Alaska Division of Geological and Geophysical Surveys and ConocoPhillips regarding the future acquisition of the material at their Bayview Facility which, if successful, would more than double the size of the current GMC collection.

## Summary

The GMC inventory total shelf volume is currently 117,100 cubic feet (excluding aisle space), which would occupy approximately 8,364 square feet of shelf space (assuming 14-ft high shelves). The Curator would like to store the GMC's core on pallets, which has been adopted by the USGS Core Research Center in Denver, CO. Although this methodology of storing core is less efficient than stacking boxes of core on standard shelves, it will allow GMC staff to quickly retrieve and layout several hundred feet of core from multiple wells or boreholes—a reoccurring request from many of the GMC's most frequent users. As a result, any plans for designing and constructing a shelving system must take into account the additional space required to store the core in this manner.

GMC staff has calculated the total shelf capacity of the current facility to be 153,600 cubic feet, which includes shipping containers and other shelf areas used for storing materials and equipment that are not geological in nature. Calculations using shelving capable of storing geologic materials suggest the GMC is at approximately 84% capacity. The main warehouse has been completely full for many years and a majority of the remaining 16% of available storage space exists *only* in the shipping containers surrounding the main warehouse. Approximately 63% of the entire inventory is stored in shipping containers that are not climate-controlled. The GMC's total shelf capacity will be reached in less than three years if current growth rates continue.

Several wells of rock core are in the early and late stages of being destroyed (converted to moldy sand) from multiple freeze/thaw cycles as a result of being stored in shipping containers that are not climate-controlled. GMC staff is now required to utilize a large amount of resources to curate the core. As a result, the Curator has made logistical plans to bring all oil and gas core (currently stored in shipping containers) inside the over-capacity, main GMC warehouse. The GMC must now move "less popular," hard-rock and oil and gas material into the seven remaining empty shipping containers in order to make room for material of greater significance. Issues such as these will continue at the current facility. The State of Alaska must take responsibility for the future preservation of its invaluable natural resources archive.

GMC Curator, Geologist IV  
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