

# Searching for the Source of the Titanic Headstones

T+122 Update: Textural Comparisons of  
Hand Specimens and Thin Sections, including  
New Samples from New Brunswick

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## **Introduction**

This report is different from the previous ones. It mainly presents high-resolution images (you can enlarge them significantly without pixelation) covering the searches for material similar to the Titanic headstones in three places: in Fairview Lawn Cemetery (FLC) in Halifax, in coastal Maine, and in SW New Brunswick. If you want to print these pages on standard paper, the scale should be close to 1:1.

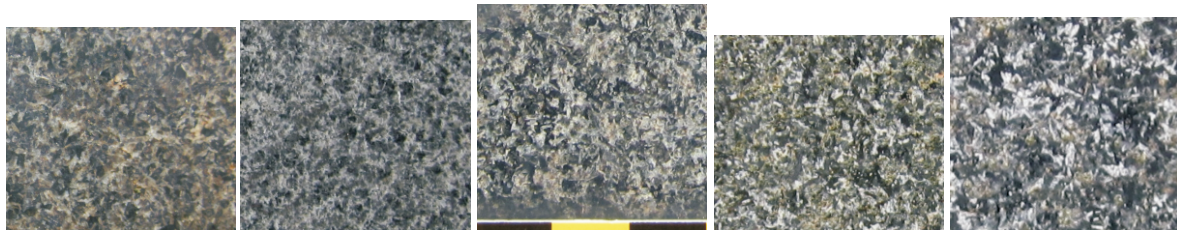
The question for each group of images is always the same: do you see anything that looks texturally like the Titanic headstones? That Titanic texture is dominated by randomly oriented, spiky, plagioclase laths with interstitial ferromagnesian minerals. More poetically, Annie M. Holt (<http://www.rootsweb.ancestry.com/~nbstpatr/annieholt/AH15.htm>) described rocks like this in the following way: “The hillside rock in front of my house takes a beautiful black polish with little white flakes like snowflakes, much prettier than Red Granite”. More from Annie later.

On every page of hand-specimen images is the same standard five-image set of Titanic headstones for easy comparison. On the one page of thin section images, the two Titanic thin sections occupy a central position. Use the powerful pattern-recognition software of the human brain to make your assessments. The half page before the images introduces the problem. The half page after the images tells you what I see. Do you agree?

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### **Fairview Lawn Cemetery in Halifax (repeat)**

It was suggested that there were more Titanic-like headstones in the Fairview Lawn Cemetery. If true, it might have some bearing on the origin of the Titanic headstones themselves, i.e., the source might be more local than we thought. I spent a couple of hours systematically searching in the cemetery looking at “black granites” and show just 10 of them to compare with 5 standard Titanic headstones. Do you see anything that matches Titanic?



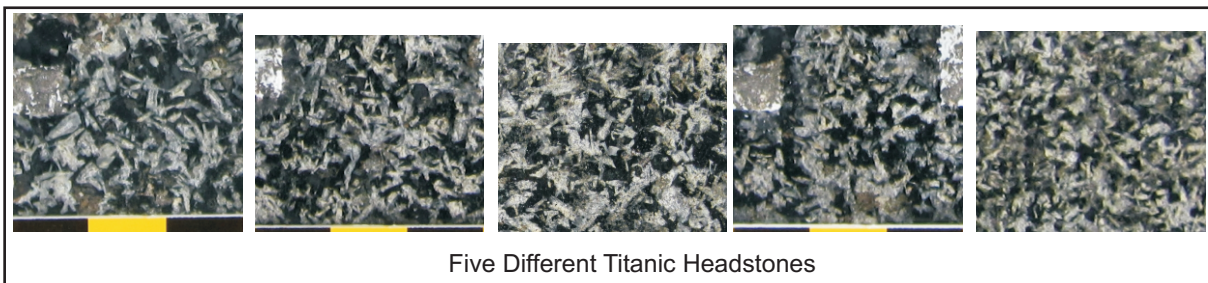
Berringer 1916

Crane-Coleman 1918

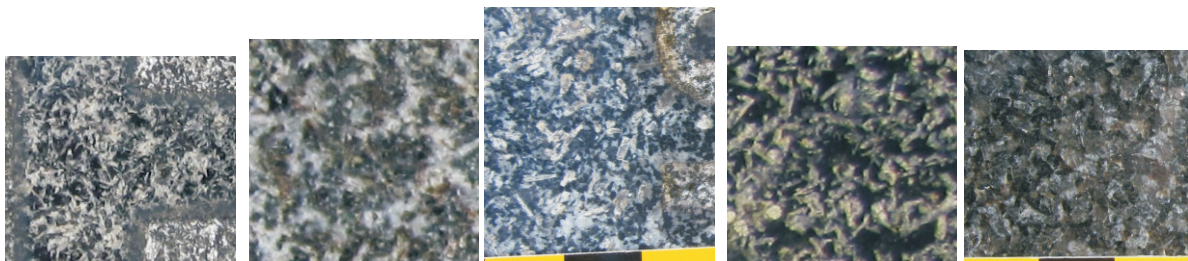
Geddes 1921

Gibb 1963

Grimm 1956



Five Different Titanic Headstones



Horne 1917

Upham 1917

Ford 1916

Ritcey 1916

McDowell 1917



Standard 3 cm Width for All Photos

If I had to choose just one “black granite” from the 10 selected candidates in FLC, it would be the Ritcey\* 1916 stone. It looks as if 150 stones had been prepared for the 150 Titanic victims, but only 149 were used (one victim’s family used a Celtic cross of grey granite instead), so there may have been one stone left over. The Ritcey headstone is petrologically and morphologically just like the chisel-shaped Titanic headstones.

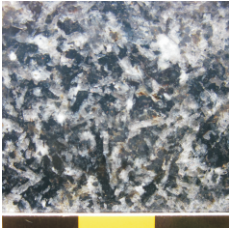


\*As a curious personal footnote to this search, the family tree for Susan Ritcey shows that she and I have a common ancestor, one Johann Martin Götz (1726-1776).

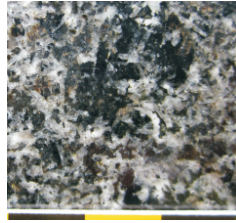
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## **Black Granite Headstones in Coastal Maine**

On the next page is a selection of 15 “black granite” candidate headstones from Maine to compare with the Titanic headstones - not very many, considering the large number “black granite” headstones and “black granite” quarries in Maine. Anything there look interesting?



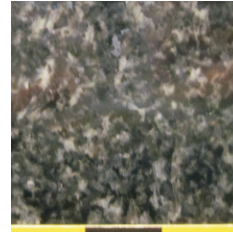
Calais 036



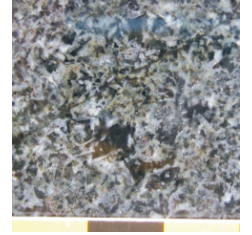
Calais 047



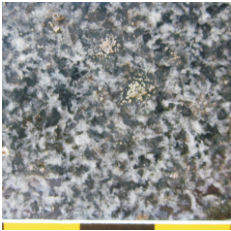
Calais 049



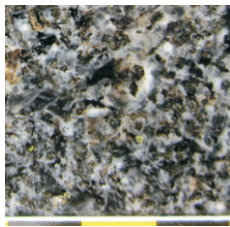
Machias 092



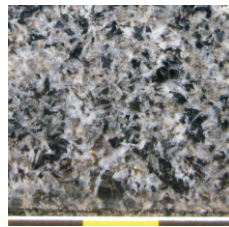
Addison 098



Addison 100



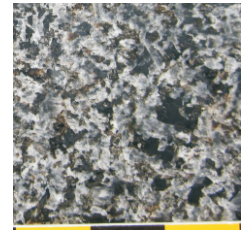
Addison 102



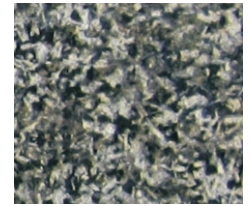
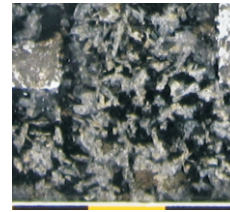
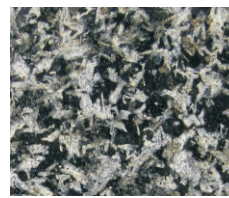
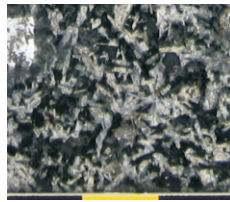
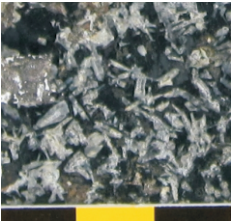
Addison 126



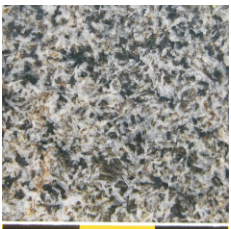
Addison 131



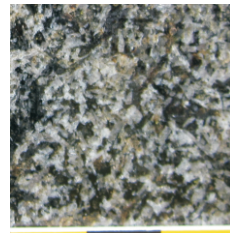
Addison 158



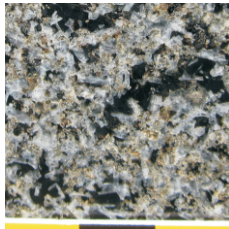
Five Different Titanic Headstones



Addison 162



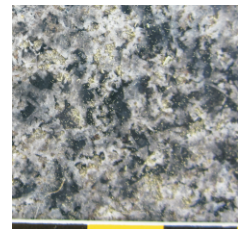
Addison 164



Addison 166



Addison 178



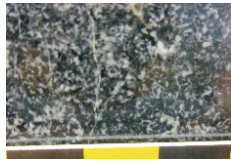
Portland 294

If I had to choose, I'd pick the three headstones from Calais, which is a border town just across the St. Croix River from St. Stephen, New Brunswick, where there was a small monument works in 1912. I don't think the match is quite as good as with the Ritcey stone in FLC, but there appears to be some textural kinship.

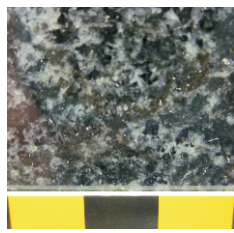
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### **“Black Granite” Quarries in Maine**

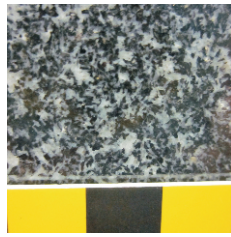
On the next page are samples from many of the 18 or so “black granite” quarries in Maine, with some overlap, described by T. Nelson Dale in his extensive USGS Bulletins of the early 20th Century. Do you see anything that matches the Titanic headstones?



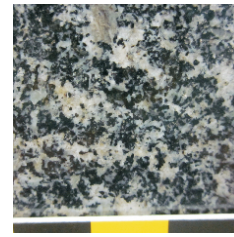
Northfield



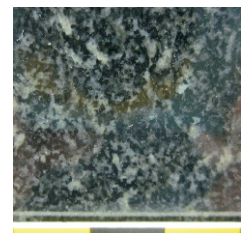
Addison Tumble Down (Dalotville)106



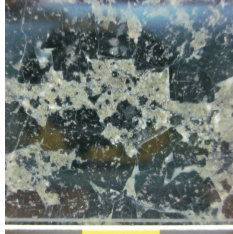
Calais Gardner



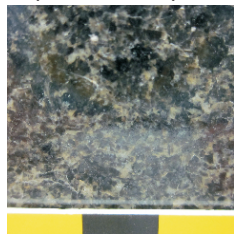
Calais Mingo Bailey 118



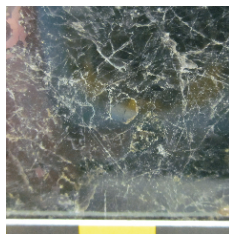
Lang Addison 107



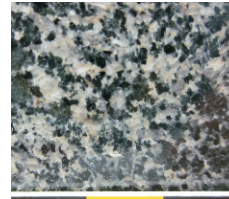
Herman Hill 106c



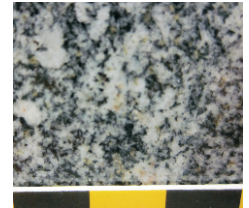
South Berwick Spence Coombs 2



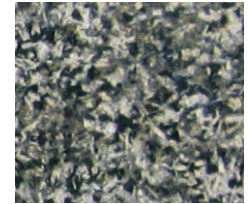
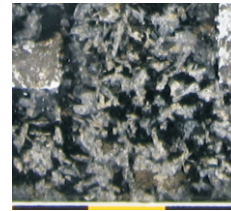
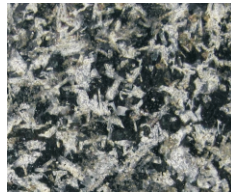
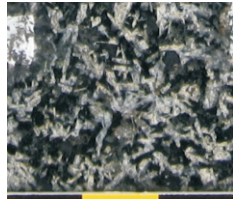
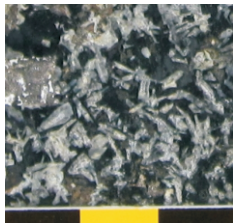
South Berwick Miniutti 3



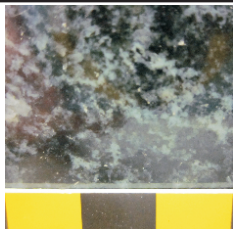
Clifton 39a/40a



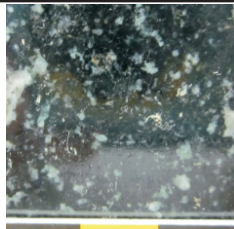
Whitefield 22



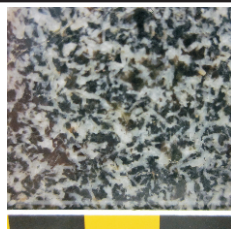
Five Different Titanic Headstones



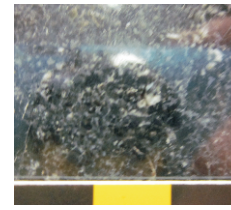
Franklin 90



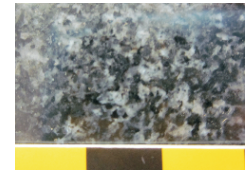
Franklin West 92



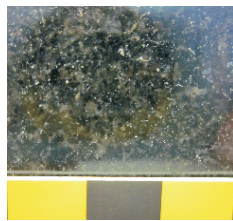
Thompson Is. 72a



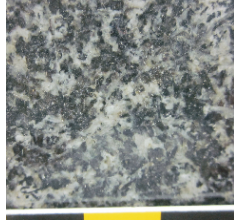
Heal Belfast 32



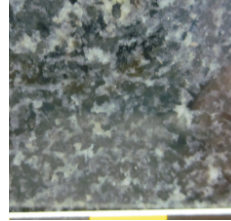
Addison Pleasant River



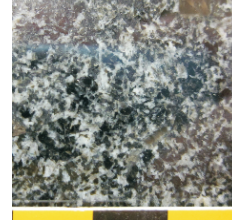
McConchie St. George



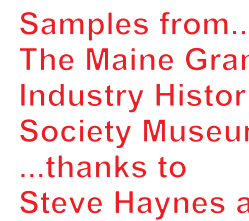
Harrison Hobbs Hill



Addison

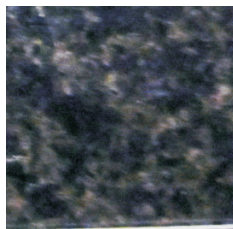


Whitton



Addison Pleasant River

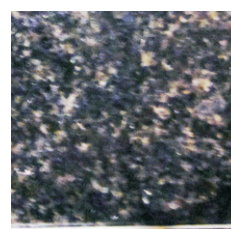
Samples from...  
The Maine Granite Industry Historical Society Museum  
...thanks to Steve Haynes and Juanita Sprague



South Berwick Spence Coombs



Alfred

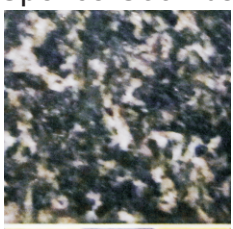


McConchie St. George

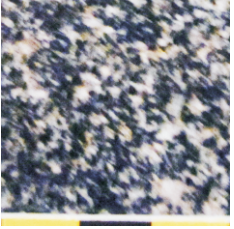


Black Diamond Addison

Samples from...  
State Museum Augusta, Maine  
...thanks to Paula Work



Baileyville Hall Quarry



Calais Gardner

Frankly, I don't see a Maine "black granite" quarry that is much of a match for the Titanic headstones. If so, these quarries are not the source. At least one quarry, the Bodwell Quarry at Vinalhaven, has not yet been seen, and this one is important because the gabbro is reportedly olivine-bearing.

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### **"Black Granite" Headstones in SW New Brunswick**

On the next page are 25 "black granite" headstones in cemeteries in the the St. Stephen - St. George area of SW New Brunswick. Anything look good here?

#### Key to Abbreviations

BPC - Bocabec Presbyterian Cemetery

NBM - New Brunswick Museum, St. John

SAC - St. Andrews Cemetery

SGCC - St. George Catholic Cemetery

SGCCC - St. George Catholic Church Cemetery

SGRC - St. George Rural Cemetery

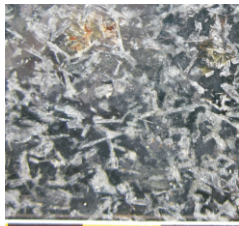
SRC - Scotch Ridge Cemetery

SSCC - St. Stephen Catholic Cemetery

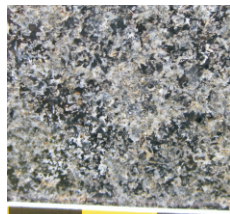
SSRC - St. Stephen Rural Cemetery



Standard 3 cm Width for All Photos



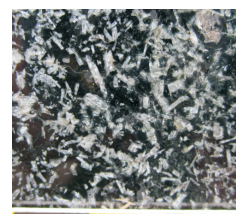
Stuart SGRC



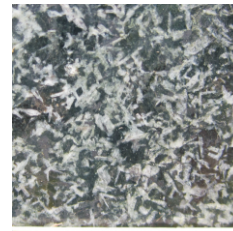
Stevens SGRC



Patterson SGRC



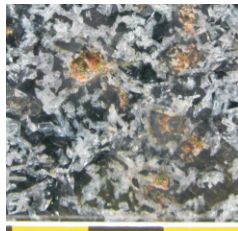
Kernichan SGRC



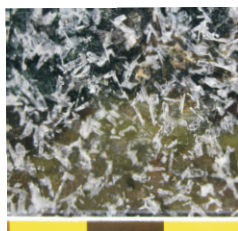
Mahar SGRC



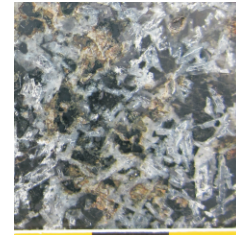
Mahar SGRC



Hall SGRC



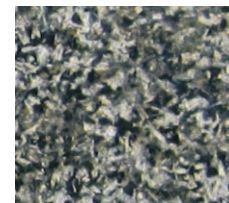
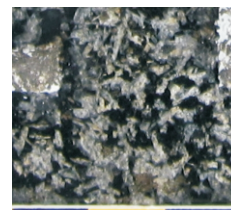
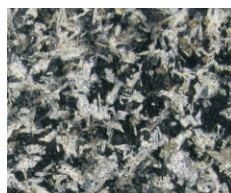
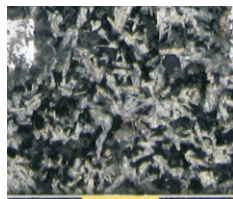
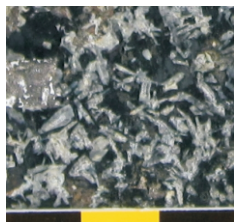
Hall SGRC



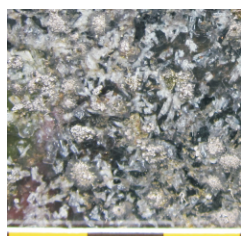
Dewar SGRC



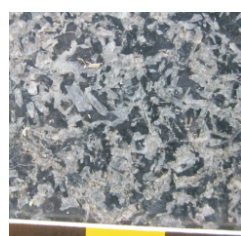
Sullivan SGCC



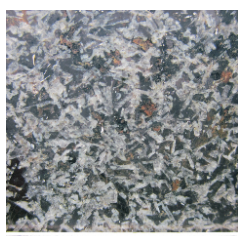
Five Different Titanic Headstones



Coffey SGCCC



Wallace SGCCC



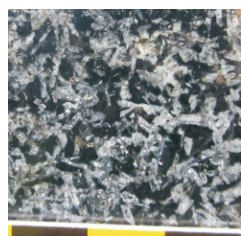
McCulloch BPC



Erskine BPC



Mitchell BPC



McCulloch BPC



Herbison BPC



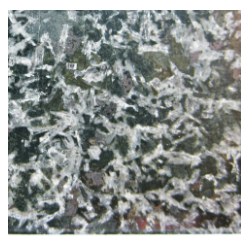
Matheson SRC



Cranley SAC



Loughran SAC



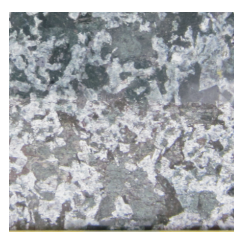
O'Neill SAC



Reardon SAC



McGrattan NBM



SSRC



SSRC

As Annie Holt might have said, “Summer snowflakes in New Brunswick!” Perhaps nothing here is as good a match as Ritcey 1916 in the FLC, but to my eye, more than half of these headstones belong in the same textural family as the Titanic headstones. If the principle that quarried material was primarily used locally in 1912 holds true, the source quarry(ies) for these headstones should be in the St. George - St. Stephen catchment area.

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### **“Outcrops” of “Black Granite” in SW New Brunswick**

According to the geological maps of this region, the two main gabbroic plutons are the St. Stephen and Bocabec intrusions. I have sampled the St. Stephen pluton and see nothing that resembles the Titanic texture, but I have seen several occurrences of Titanic-like texture (it’s hard to compare a roughly broken surface with a polished one) on two granite bridges in the area, built in the late 1940s to showcase/revive the local granite industry, and at some outcrop locations in the Bocabec intrusion (next page).



New River Bridge

Moores Mills Bridge



400

New River Bridge



378

416

Chickahominy Quarry



411

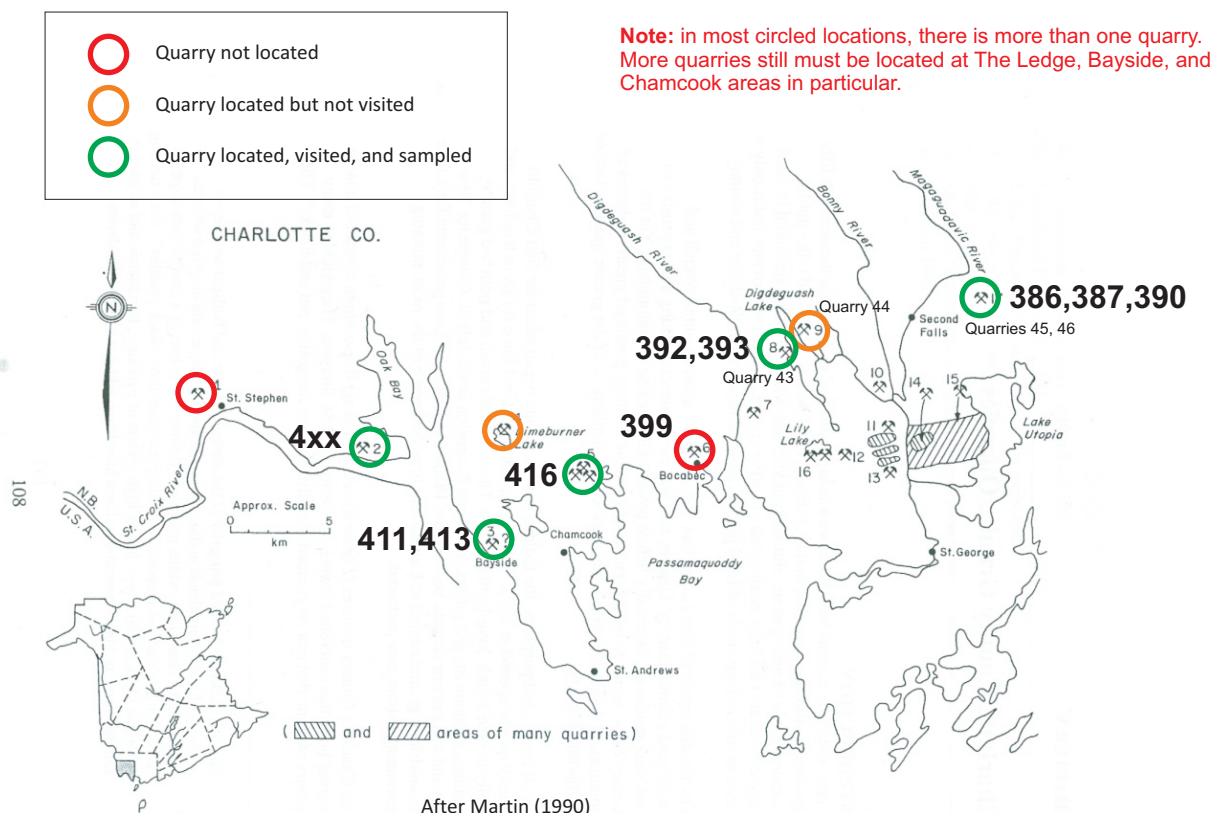
Bayside Outcrop



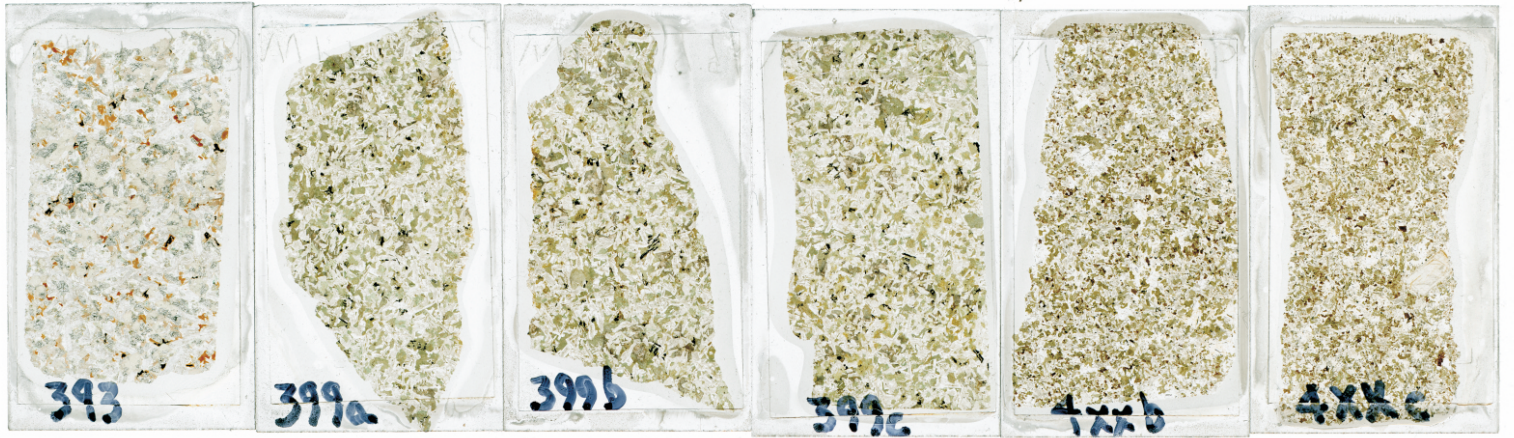
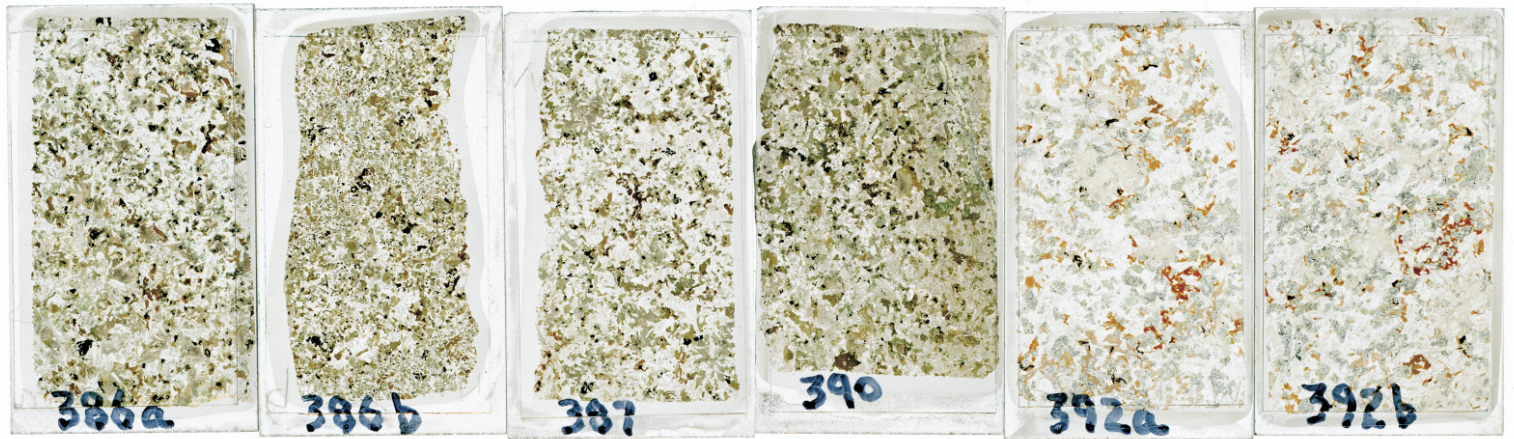
## Sampling and Thin Sections

On this trip to SWNB, we managed to collect samples from three roadside outcrops and six old quarries. Details are in the table and figure below.

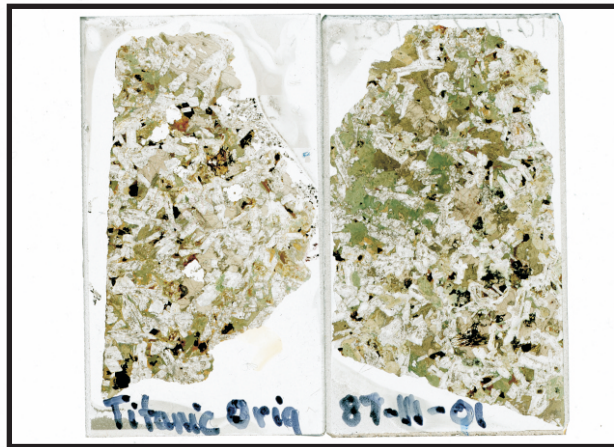
Waypoint	Location
386	Second Falls roadside outcrop
387	Second Falls near Quarry 45
390	Second Falls near Quarry 46
392	Digdeguash Lake Spinney Quarry 43
393	Digdeguash Lake Spinney Quarry 43
399	Bocabec Pluton roadside outcrop
402	The Ledge (Sampson Quarry)
<b>411</b>	Bayside roadside outcrop
<b>413</b>	Bayside Quarry (Irish Black)
<b>416</b>	Chickahominy Mountain Quarry
4xx	Unlabelled - almost certainly WPT402



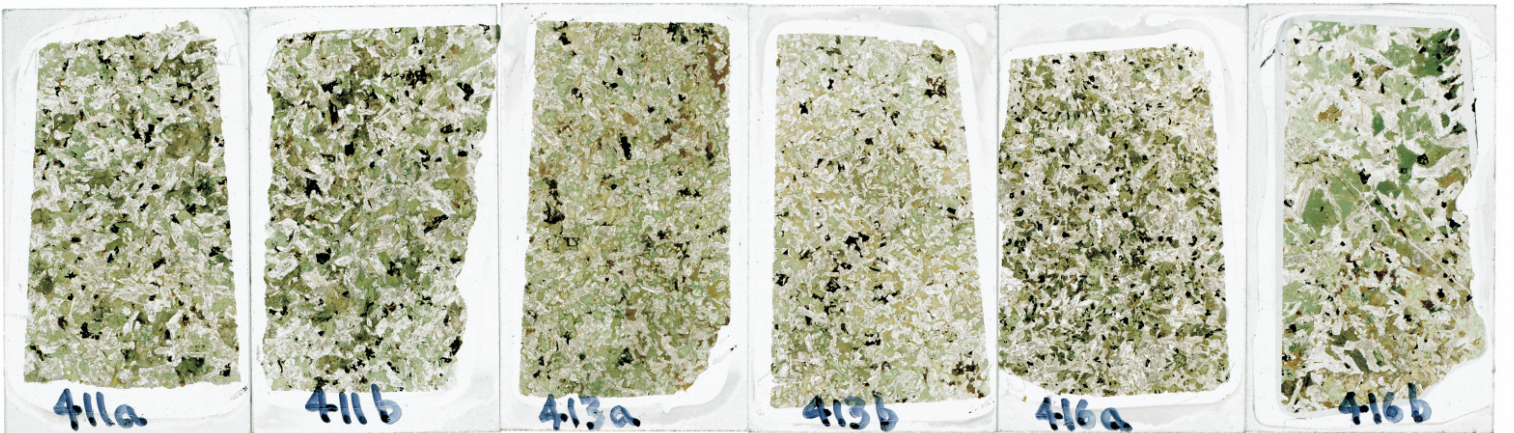
On the next page is a scan of all the thin sections. The two Titanic thin sections are alone in the third row. The resolution is sufficient to permit a 400% enlargement and low-power, scattered-light, computer-screen petrography. Do you see any matches for the Titanic thin sections?



Titanic



Headstones



The operative word in these comparisons is “too”, as in: too much olivine, too little olivine, too fresh, too altered, too fine-grained, too much apatite, etc., to be a match for the Titanic headstones. Sample 416b from the Chickahominy Quarry has the right grain size, has a similar distribution of opaque minerals, but contains little or no olivine and appears to be too altered. Although, as is clear from the two Titanic headstone samples, the alteration is not homogeneously distributed in the rock. More sampling of this quarry is needed.

Samples 392 and 393 from Quarry 43 (Spinney) have too much olivine and are too fresh, but the presence of olivine is important, and it makes imperative the collection of samples from Quarry 44 on the northeast side of Digdeguash Lake.

## Additional Thoughts

1. **Archives:** We searched the St. George town council minutes, St. Andrews Beacon newspaper, and St. Croix Courier newspaper for any mention of preparation or shipment of Titanic headstones. (The St. George Granite Town Greetings was not searched.) Nothing found, at least at the headline level. Obits indicate death rate of about one per day in this area, so it is hard to understand why a single large order of 150 identical stones was not reported.
2. **St Croix Courier** article (July 3, 2012) about our search posed two questions: where were all the black granite quarries in this area (some helpful responses already), and do the readers have any information passed down from ancestors (no responses).
3. **Connections:**
  - (i) Is there any connection between the Titanic-like Sheriff Robert A. Stuart headstone in the St. George Rural Cemetery and the Sheriff Stuart Quarries in the Chamcook-Stein Lake-Bocabec area?
  - (ii) Is there any connection between the Bayside Quarry material marketed as “Irish Black” and the Titanic built in Ireland?
  - (iii) Is there any connection between the Titanic headstones and the polished McGrattan & Sons sample donated to the New Brunswick Museum in 1912-13? Why would Mr. McGrattan donate any random stone at that time? Any connection with this stone and Quarry 44?
  - (iv) Is there any connection between Welsford black granite shipped to Aberdeen in 1897 and the Titanic headstones?



## Future Directions

- (I) permission granted from Maritime Museum of the Atlantic to remove a thin slice of their offcut specimen of the Baxter Titanic headstone for additional microprobe chemical work;
- (ii) formal request made to Ritcey family for permission to restore and sample the headstone of A. Susan Ritcey;
- (iii) informal request made to New Brunswick Museum for a thin slice of the “H. McGrattan & Sons” specimen in their collection;
- (iv) compilation of all black granite quarries and their status begun in preparation for visiting and sampling those quarries;
- (v) consideration of engaging a student to map mineral composition isopleths in the Bocabec intrusion to help locate the source quarry;
- (vi) a good mineralogical/textural/mineral compositional match will trigger destructive and expensive bulk chemical composition analysis;
- (vii) late-1912 CPR shipping records from St. George to Halifax to be checked.



## Acknowledgements

In particular, I want to thank Randy Miller, of the New Brunswick Museum in St. John, who visited many cemeteries in St. George with me, and also helped me locate and sample three black granite quarries north of St. George. Otherwise, this search is a team effort and, as usual, there are many, many people to thank for their contributions to this report, including:

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When we failed to solve this problem by the 100<sup>th</sup> anniversary of the sinking of the Titanic, we tried instead to solve it by the 100<sup>th</sup> anniversary of the erecting of the headstones (that would be early November 2012). Prior commitments in Europe for September and October of 2012 probably means we'll miss that anniversary also. But we will solve it!



Every report ends the same way. The distinctive texture of the Titanic headstones – randomly oriented spiky white feldspars, interstitial black pyroxene and hornblende, and rusty red olivine . Print this page in colour on heavy stock and plastic laminate it for easy transport in the field. If you ever see a rock like this on a century-old building or in a century-old cemetery, please send a photo to [clarke@dal.ca](mailto:clarke@dal.ca).