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## **Moose Mt. II.: [specimens] 46079-46088, 45994-45999. No. 376 1902**

Leith, C. K. (Charles Kenneth), 1875-1956  
[s.l.]: [s.n.], 1902

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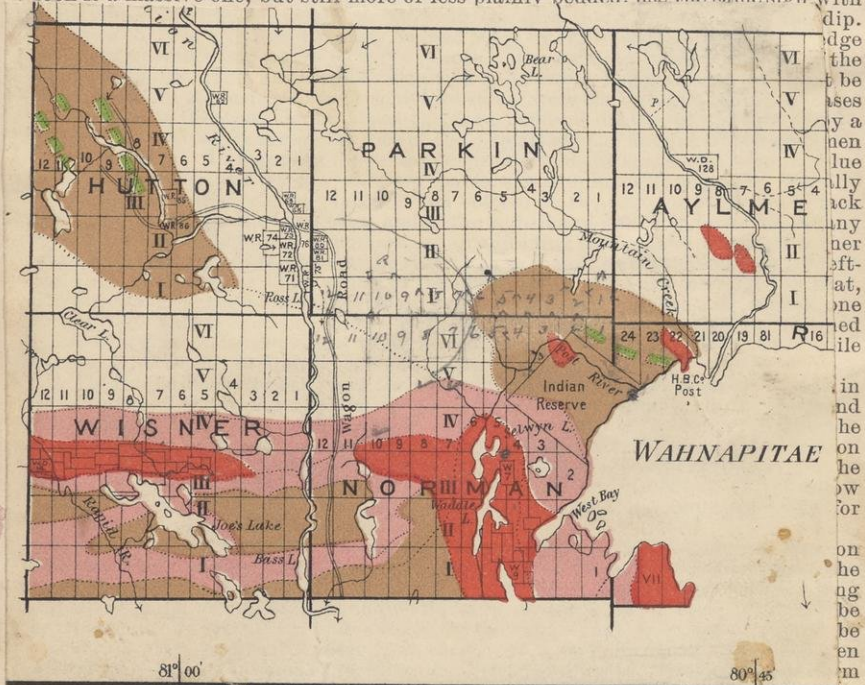
U. S. GEOLOGICAL SURVEY  
FIELD SECTION BOOK

9-891

# LAKE SUPERIOR DIVISION.

## INSTRUCTIONS.

1. Ordinarily at least two pages of this book will be devoted to one section. On the left-hand page, place a map of as much of the section as has *actually been seen*. Denote rivers, lakes, marshes, etc., by the usual topographical signs. Denote the ledges of rock, when no structure is made out, by cross-hatching, making the cross-hatching cover as nearly as possible the areas occupied by the exposures. If the rock is a massive one, but still more or less plainly bedded, use the same sign with



trimmed to a size of 3 x 4 x 1 inches, must be selected, in accordance with section 3, chapter IV, p. 44, Regulations of the U. S. Geological Survey. Specimens should not be placed together without protection in the collecting bag, as the fresh surfaces, important in determining the character of rocks, are thus destroyed. They should be damaged by no temporary mark, but the numbers should be at once marked in at least two places upon the inclosing paper or cloth bags. Specimens may be permanently marked in camp by painting the numbers upon them in white upon a black background, using Silver White and Ivory Black oil tubes for color, with turpentine as a diluent.

4. On the last twenty-five pages of the book give, as may seem desirable, a general account of the examination of the region mapped in the previous pages, correlation of observations, sketches, cross sections, etc.

5. Forward this note book as soon as filled as registered mail matter to C. R. Van Hise, U. S. Geologist, Madison, Wis.

Notebook No. 376.

46079-46088

45994-45999

46079-

Handwritten mathematical notes and calculations, including expressions like  $10+11x$  and  $h \frac{1}{2}$ .

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Handwritten mathematical notes and calculations, including expressions like  $h \frac{1}{2}$  and  $2x$ .

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Handwritten mathematical notes and calculations, including expressions like  $9x$  and  $2x$ .

A-10  
46079

Handwritten mathematical notes and calculations, including expressions like  $2x$  and  $4$ .

Handwritten text in a cursive script, likely a letter or a journal entry. The text is written on a page with a vertical red margin line on the left side. The handwriting is dense and somewhat difficult to decipher due to its cursive nature and the angle of the page. It appears to be a personal communication or a record of events.

Handwritten text in a cursive script, continuing from the top section. This section contains several lines of text, some of which appear to be lists or detailed notes. The handwriting is consistent with the top section, suggesting it is part of the same document. The text is written on a page with a vertical red margin line on the left side.

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 46081 3W  
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1.  $2x^2 + 3x - 5$   
 $(2x^2 + 3x - 5) \div (x - 1)$   
 $\underline{2x^2 - 2x + 5}$   
 $\quad 5x - 5$   
 $\quad \underline{5x - 5}$   
 $\quad \quad 0$   
 $\therefore 2x^2 + 3x - 5 = (x - 1)(2x + 5)$

2.  $x^2 - 5x + 6$   
 $(x^2 - 5x + 6) \div (x - 2)$   
 $\underline{x^2 - 2x + 4}$   
 $\quad \underline{-3x + 2}$   
 $\quad \quad \underline{4x - 8}$   
 $\quad \quad \quad \underline{-4x + 8}$   
 $\quad \quad \quad \quad 0$   
 $\therefore x^2 - 5x + 6 = (x - 2)(x - 3)$

3.  $3x^2 - 7x + 2$   
 $(3x^2 - 7x + 2) \div (x - 1)$   
 $\underline{3x^2 - 3x + 3}$   
 $\quad \underline{-4x - 1}$   
 $\quad \quad \underline{4x - 4}$   
 $\quad \quad \quad \underline{3}$   
 $\therefore 3x^2 - 7x + 2 = (x - 1)(3x - 4) + 3$

4.  $x^3 - 2x^2 - 5x + 6$   
 $(x^3 - 2x^2 - 5x + 6) \div (x + 3)$   
 $\underline{x^3 + 3x^2 + 9x + 27}$   
 $\quad \underline{-5x^2 - 14x - 21}$   
 $\quad \quad \underline{5x^2 + 15x + 45}$   
 $\quad \quad \quad \underline{-29x - 15}$   
 $\quad \quad \quad \quad \underline{29x + 87}$   
 $\quad \quad \quad \quad \quad \underline{-102}$   
 $\therefore x^3 - 2x^2 - 5x + 6 = (x + 3)(x^2 - 5x + 15) - 102$

5.  $2x^3 + 7x^2 - 12x + 8$   
 $(2x^3 + 7x^2 - 12x + 8) \div (x - 2)$   
 $\underline{2x^3 - 4x^2 + 8x - 16}$   
 $\quad \underline{11x^2 - 20x + 24}$   
 $\quad \quad \underline{11x^2 - 22x + 22}$   
 $\quad \quad \quad \underline{2x + 2}$   
 $\quad \quad \quad \quad \underline{2x - 4}$   
 $\quad \quad \quad \quad \quad \underline{6}$   
 $\therefore 2x^3 + 7x^2 - 12x + 8 = (x - 2)(2x^2 + 11x + 6) + 6$

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  - 46088  $\frac{1}{2} \times 39 + 40 + \dots$
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①  $\frac{1}{x} = x^{-1}$   
 $\frac{d}{dx} x^{-1} = -1 x^{-2} = -\frac{1}{x^2}$   
 Example:  $\frac{d}{dx} \frac{1}{x} = -\frac{1}{x^2}$

②  $\frac{d}{dx} x^n = n x^{n-1}$   
 Example:  $\frac{d}{dx} x^3 = 3x^2$   
 $\frac{d}{dx} x^{-2} = -2x^{-3} = -\frac{2}{x^3}$   
 $\frac{d}{dx} x^{\frac{1}{2}} = \frac{1}{2} x^{-\frac{1}{2}} = \frac{1}{2\sqrt{x}}$

③  $\frac{d}{dx} x^a = a x^{a-1}$   
 Example:  $\frac{d}{dx} x^{\frac{1}{3}} = \frac{1}{3} x^{-\frac{2}{3}} = \frac{1}{3\sqrt[3]{x^2}}$   
 $\frac{d}{dx} x^{-\frac{1}{2}} = -\frac{1}{2} x^{-\frac{3}{2}} = -\frac{1}{2x\sqrt{x}}$

④  $\frac{d}{dx} x^a = a x^{a-1}$   
 Example:  $\frac{d}{dx} x^{4.5} = 4.5 x^{3.5} = 4.5 x^3 \sqrt{x}$   
 $\frac{d}{dx} x^{0.65} = 0.65 x^{-0.35} = \frac{0.65}{x^{0.35}}$

⑤  $\frac{d}{dx} x^a = a x^{a-1}$   
 Example:  $\frac{d}{dx} x^{1.2} = 1.2 x^{0.2} = 1.2 \sqrt[5]{x}$   
 $\frac{d}{dx} x^{-0.5} = -0.5 x^{-1.5} = -\frac{0.5}{x\sqrt{x}}$

⑥  $\frac{d}{dx} x^a = a x^{a-1}$   
 Example:  $\frac{d}{dx} x^{6.9} = 6.9 x^{5.9}$   
 $\frac{d}{dx} x^{-1.5} = -1.5 x^{-2.5} = -\frac{1.5}{x^2 \sqrt{x}}$

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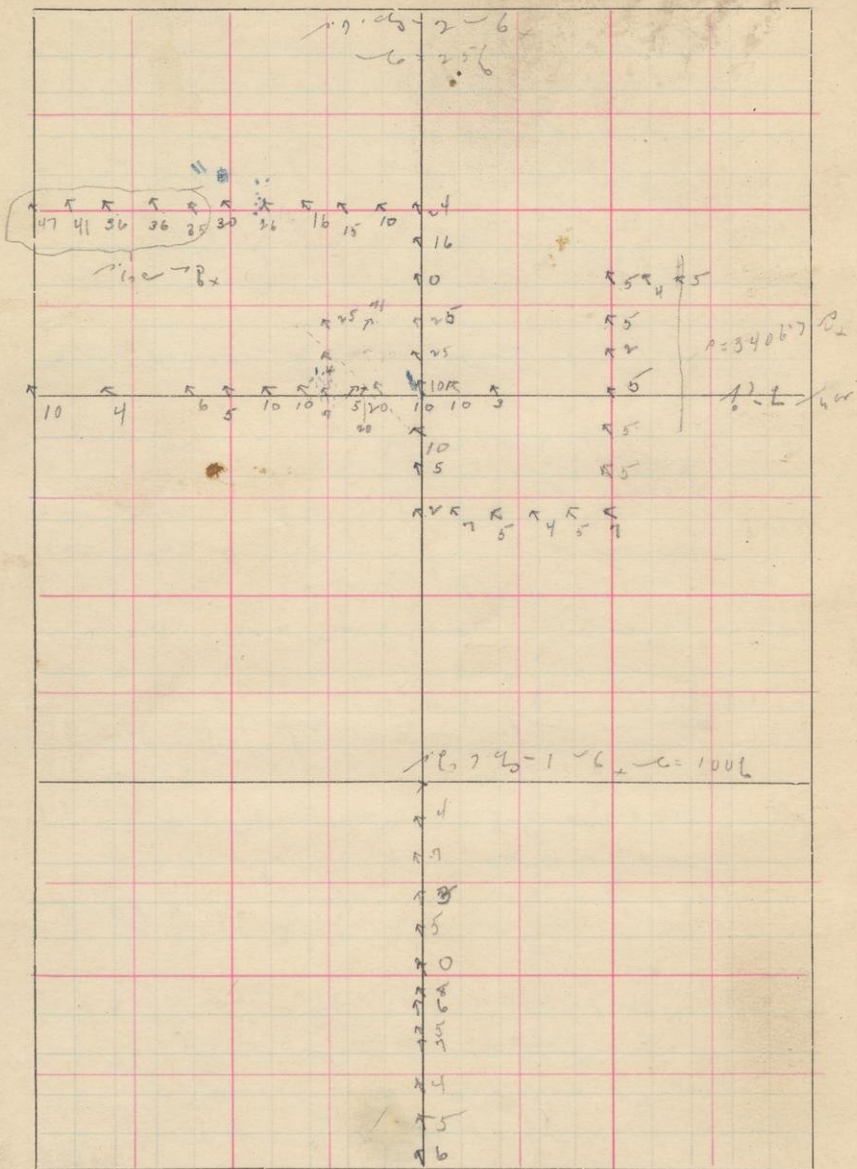
①  $\sqrt{1000000} = 1000$   
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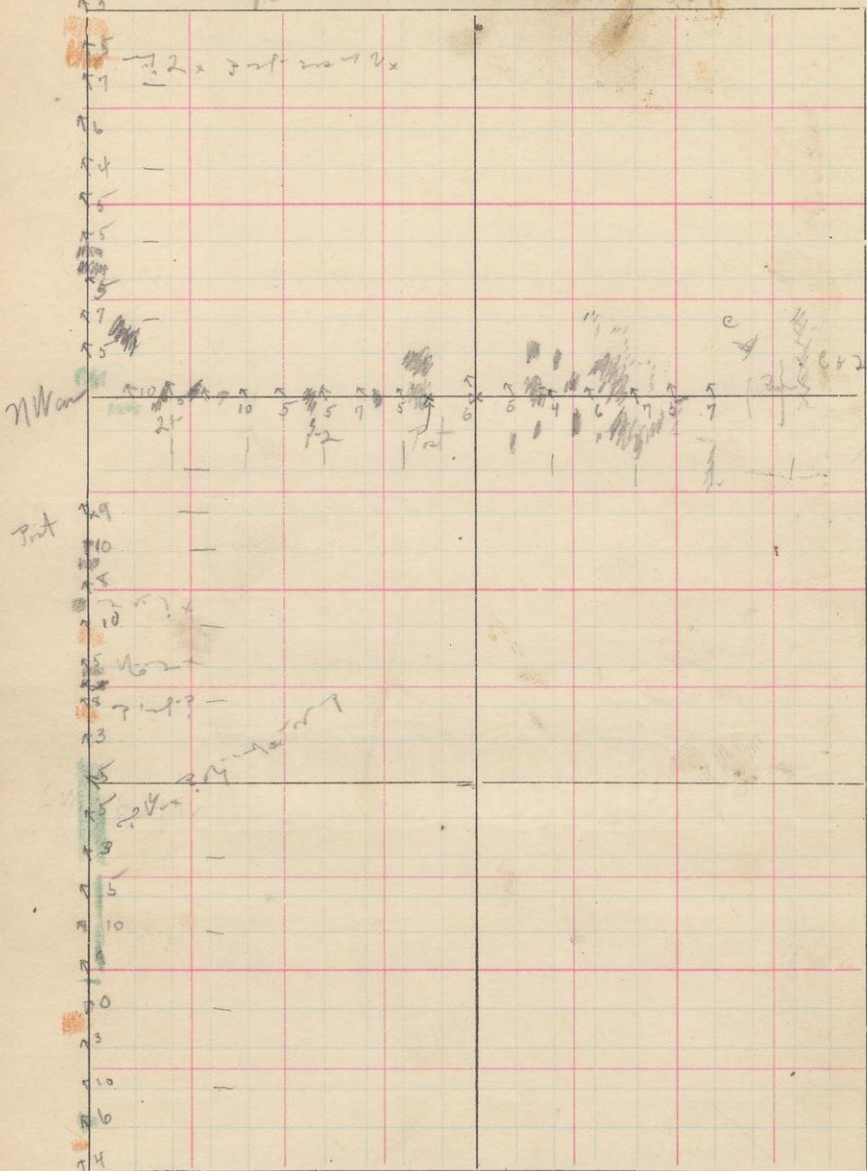
Lot 6, Con. IV, Section 2

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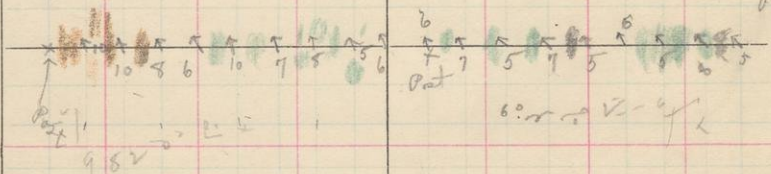
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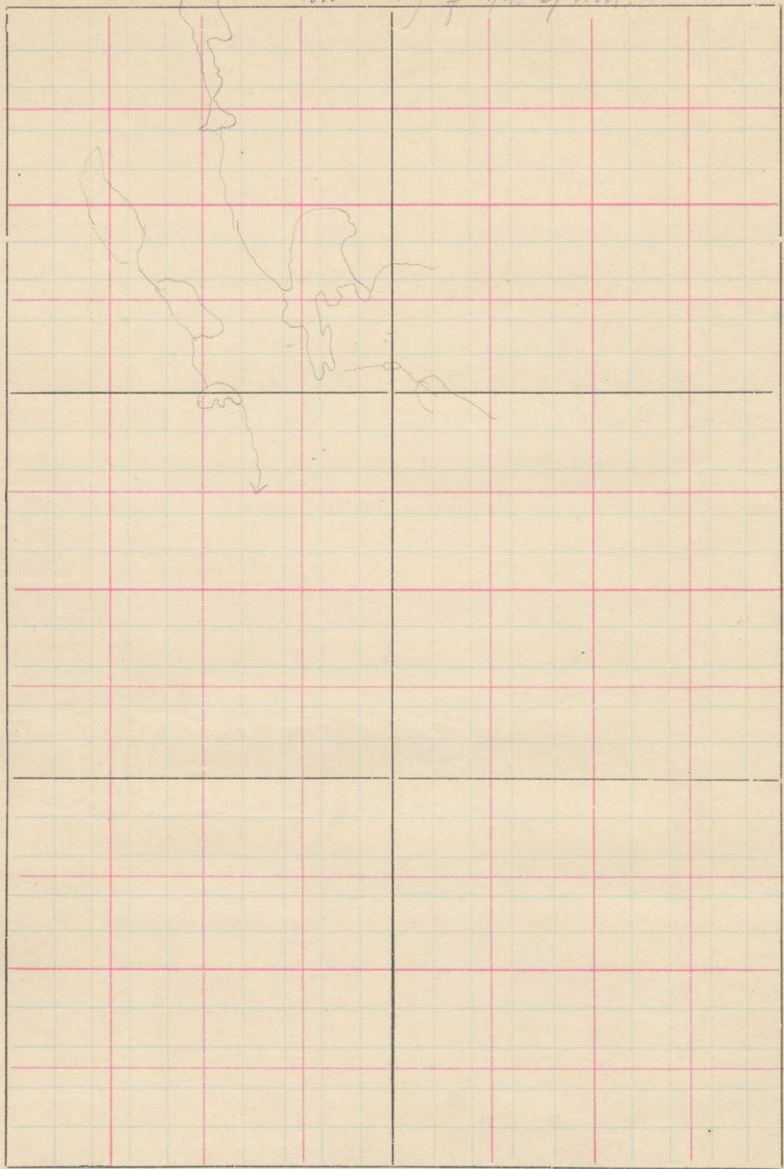


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Sketch of Lakes in "Town" west  
of Hutton.  
From tracing of Mr. Spock.



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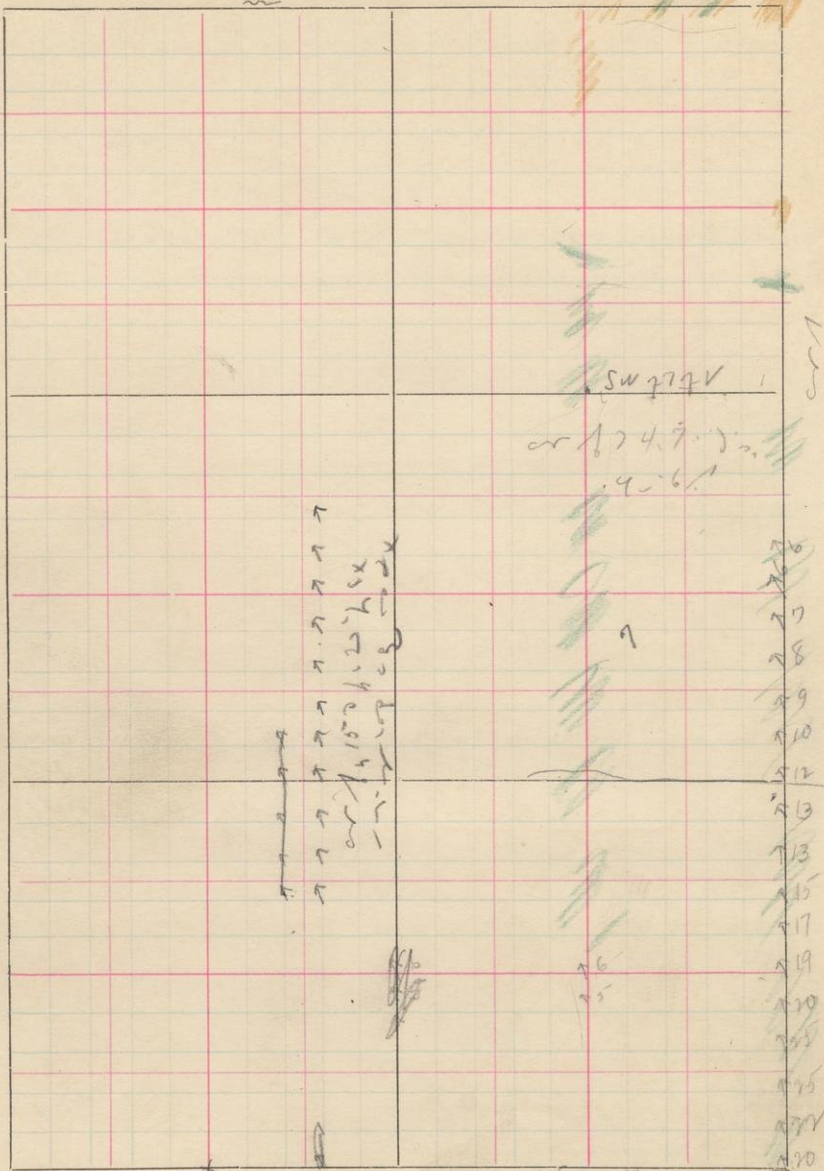
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SW

WAHNAPITAE.

45994. Pyritiferous quartzite. Looks fragmental both in hand specimen and under microscope, but has been much metamorphosed. Grains fairly well rounded.
45995. Same. With beautifully rounded grains. Abundance of pyrite. Much undulatory extinction.
45996. Fine grained sediment associated with quartzite. Pyritiferous and exceedingly altered to carbonate.
45997. Actinolite-magnetite rock with chert background and vein quartz.
45998. Graywacke associated with quartzite and magnetite schist.
45999. Slate associated with graywacke, quartzite and magnetite schist.
45999. Fine grained slate with abundance of chlorite, magnetite, and epidote, and a little iron pyrites. An occasional phenocryst of quartz.
46079. Actinolite-magnetite rock with abundant chert or vein quartz in back ground. Chert background may represent fragmental material, but no evidence.
46080. Basalt largely altered to chlorite.
46081. Fine grained greenstone or slate with minute aggregates of epidote.
46081. All vein quartz. May be recrystallized fragmental.
46082. Fine grained andesite. Porphyritic quartzes, hornblende, and secondary chlorite.
46087. Actinolite-magnetite rock. Background consists of fine grained mosaic of chert. Quartz with colorless amphibole needles and magnetite scattered through it.

46083. Granite with iron pyrites. Granite is a biotite granite with a considerable amount of quartz, some of which probably secondary, or at least recrystallized. The feldspars show cloudy alterations, and for the most part contain the iron pyrites. The quartz areas seem to be conspicuously free from iron pyrites.
46083. Granite with iron pyrites. Feldspar largely altered to epidote and chlorite. In contact with fine grained basalt.
46084. Specimen looks like graywacke. Microscope shows perfectly fitting mosaic of quartz with iron oxide in form of hematite acting as stain material between grains in places. Looks more like recrystallized chert than quartzite.
46085. Magnetite and hornblende.
46086. Rock made up almost entirely of hornblende with bands of magnetite in it. This aggregate in contact with a mosaic of quartz with minute greenish needles with inclined extinction which are probably actinolite or some other monoclinic amphibole. The quartz shows no evidence of fragmental origin.
46088. Schistose graywacke collected by Hillyer from northwest of Hutton. Contains stumpy crystals of biotite nearly rounded, lying in an exceedingly fine grained and schistose matrix originally consisting doubtless of quartz and feldspar, but now largely altered to sericite and chlorite. Numerous minute particles of black opaque mineral are scattered through the matrix and the porphyritic biotite rock. Most of these black grains are rounded, but some are oblong and lath-shaped, and none seem to be in octahedra. Material is probably limonite. It seems to be borne out by the fact that the rock has little if any effect on the needle.

