WESTERN MINERALS, INC.
Elsah, Illinois 62028

ROTORUA IGNIMBRITES and TONGARIRO (ANDESITIC) VOLCANICS, North Island, New Zealand

Introduction

This suite comprises 8 specimens representative of a wide variety of petrographic facies of ignimbrites in two caldera; and 11 specimens of andesites and related rocks from the Tongariro active volcanic region on the North Island of New Zealand.

Two sketch maps show the general location of the specimens. You are referred to the Taupo Geologic Map for the Tongariro area.

References

Thompson, B. N., Kermode, L. O., and Ewart, A., 1966, New Zealand Volcanology Central Volcanic Region, N. Z. Dept. Sci. & Ind. Research Inforation Series 50.
Taupo Geologic Map of New Zealand Sheet 8, 1:250,000.
Taranahi, Sheet 8, and Rotorua Sheet 5 (out of print).

Description and Location of Specimens

RT 1. Rhyolite, S. shore of Lake Rotoiti. Specimens 1 thru 5 are from the younger rhyolite of the Haroharo caldera complex.

2. Obsidian, lower facies of rhyolite specimen 1 (?) About ½ mi. E. of specimen 1.

3. Spherulitic obsidian. Analysis 17 p. 7 (Thompson, et. al.) Approx. one mi. E. of specimen 1, S. shore Lake Rotoiti. Kodachrome.

4. Dense, spherulitic rhyolite. Quarry SW of L. Rotoma. Older NE rhyolites.

5. Banded rhyolite, just above specimen 3.

6. Compacted rhyolite, N. shore L. Rotorua, Rotorua caldera.

7. Dense red rhyolite with gray rhyolite and black obsidian lenses. Large aggregate quarry at Ngongotahu, W. side of L. Rotorua.

8. Rhyolite with large, gray spherulites. Analysis 13 p. 17. (Thompson et. al.) Same quarry as specimen 7.

9. Taupo pumice, from E. shore L. Tanpo. Pumice blocks washed ashore. Pumice from glowing cloud avelanche. (fp on Taupo map)

10. Andesite, Mengamato stream rest area. (TO on Taupo map)

11. Dense andesite, fine phenocrysts. specimens 11-15 are large boulders from Waihoma river. (TO on Taupo map)

12. Black andesitic scoria. Same locality as specimen 11.

13. Red andesite, same locality as specimen 11.

14. Dark gray andesite, Same locality as specimen 11.

15. Dark gray vesicular andesite. Same locality as specimen 11.

16. Gray andesite, possibly hypersthene-augite-labradorite andesite, flow from Ruapehu volcano. (RU on Taupo map)

17. Horn blende-hypersthene-dacite (?) of Tauharu multiple volcano (TM1 on Taupo map) SE Lake Rotoaria.

18. Trachyandesite flow Mt. Kakaromea, (KK on Taupo map)

19. Dark porphyritic andesite, NW Mt. Kakaromea complex. Hypersthene andesit e (?).

Analyses

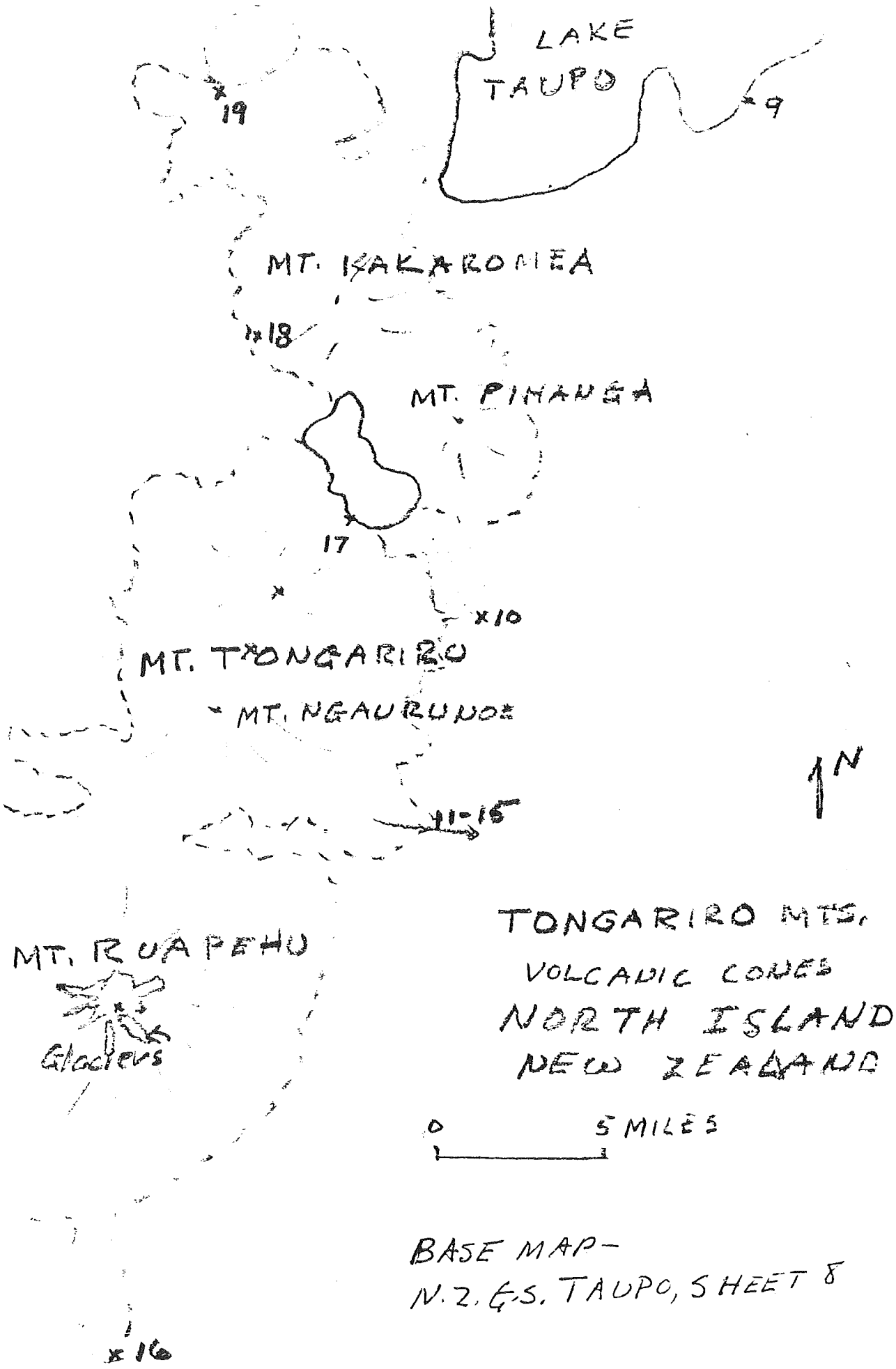
	Specimen 3.	Specimen 8.
SiO_2	75.76	75.4
Al_2O_3	12.87	13.0
Fe_2O_3	0.29	0.5
FeO	0.89	1.0
MgO	.16	.50
CaO	1.29	1.50
Na_2O	4.38	4.10
K_2O	3.11	2.80
TiO_2	.19	.26
P_2O_5	.03	.06
MnO	.07	.06
H_2O+	.46	1.92
H_2O-	.12	.20

Specimen 3. Analysis from Grange, 1937, p. 73 analysis 2., reproduced as analysis 3 p. 16, Thompson, et. al.

Specimen 8. nAnalyst J. A. Ritchie, analysis 12 p. 16, Thompson, et. al.

Kodac hrome Slides

A groupof Kodachrome slides showing field relations, general views of the region, is available from Western Minerals, Inc., Elsah, Ill. 62028/



BASE MAP-
N.Z.G.S. TAUPO, SHEET 8


LAKE ROTOITI
L.
ROTOMA
LAKE ROTORUA
HOT. SPRINGS
ROTORURA CALDERA
HARO HARO CALDERA
0
4 Miles
N
ROTORURA
POHUTU GEYSER
L. TARAWERA
SKETCH MAP
ROTORORA AREA
NORTH ISLAND
NEW ZEALAND