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SYMBOLS

- Glacial striae.
- Esker.
- Small bedrock outcrop.
- Area of bedrock outcrop.
- Bedding, horizontal.
- Bedding, top unknown; (inclined, vertical).
- Bedding, top (arrow) from grain gradation; (inclined, vertical, overturned).
- Bedding, top (arrow) from cross bedding; (inclined, vertical, overturned).
- Schistosity; (horizontal, inclined, vertical).
- Gneissosity; (horizontal, inclined, vertical).
- Foliation; (horizontal, inclined, vertical).
- Lineation with plunge.
- Geological boundary, observed.
- Geological boundary, position interpreted.
- Geological boundary, deduced from geophysics.
- Fault; (observed, assumed). Spot indicates down throw side, arrows indicate horizontal movement.
- Lineament.
- Drag folds with plunge.
- Anticline, syncline, with plunge.
- Vein.
- Shaft.
- MA Magnetic attraction.
- RA Radioactivity.
- Motor road.
- Other road.
- Trail, portage, winter road.
- Building.
- District boundary, approximate position only.
- Township boundary, base line or meridian, approximate position only.
- Township boundary, unsurveyed.
- Surveyed line, approximate position only.
- Location of mining property. See list of properties.

SOURCES OF INFORMATION

Geology of Ray and Donovan Townships by W. H. McIlwaine, 1969. Geology of the remaining townships by K. D. Carl, 1969. Geology is not tied to surveyed lines.

Maps and plans of mining companies.

Map 179A, Onaping, by W. H. Collins, Geological Survey of Canada, Mem. 36, 1917.

Map 36C, Shinarump Silver Area, Ontario Department of Mines, 1927.

Aeromagnetic maps 284G and 1514G, Geological Survey of Canada.

Preliminary maps:

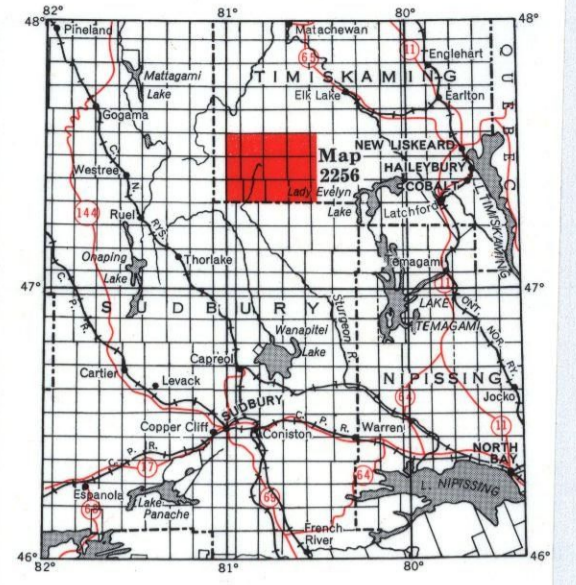
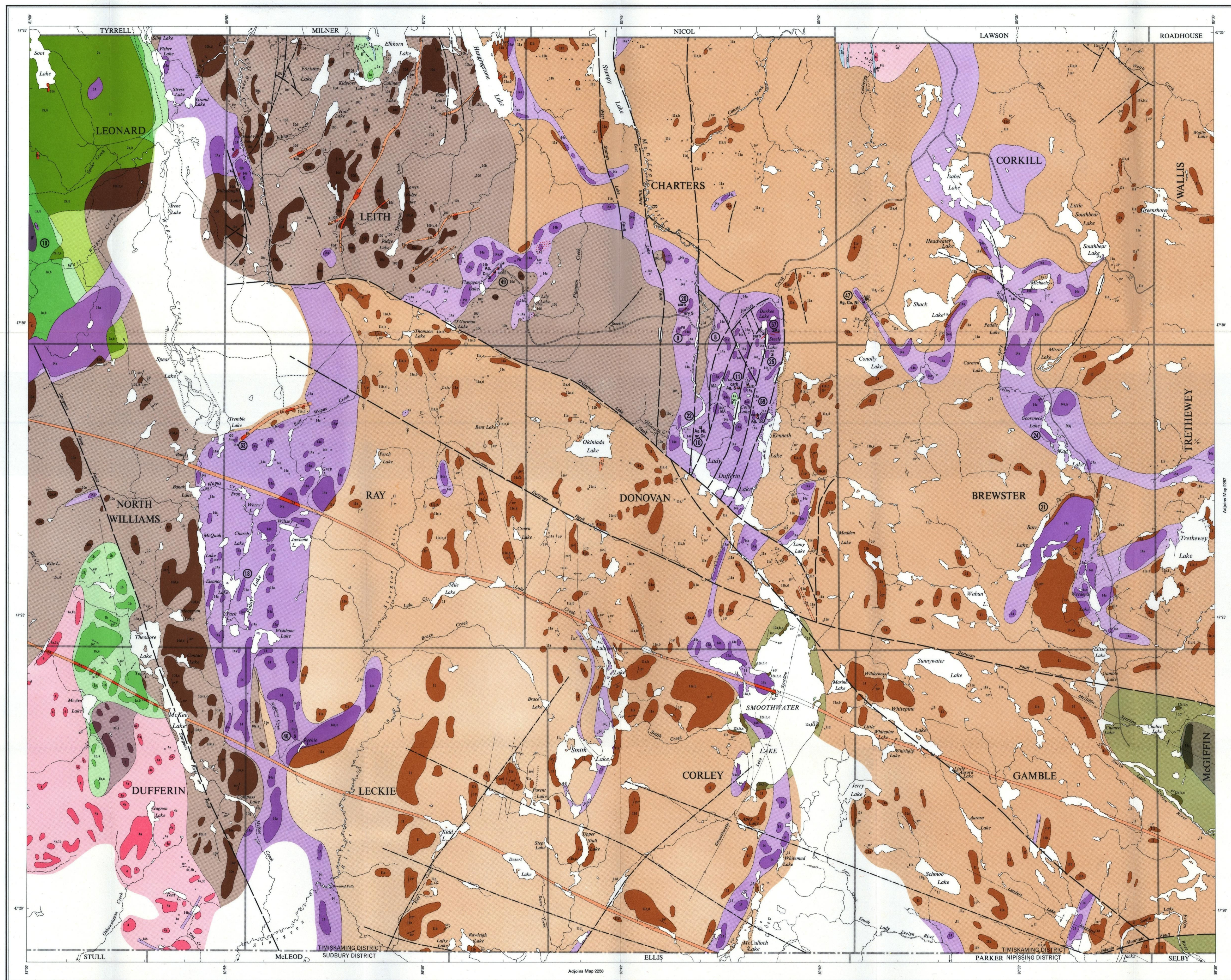
- P. 301, Maple Mountain Sheet, scale 1 inch to 2 miles, issued 1905.
- P. 502, Leith Township, P. 503, Charters Township, P. 504, Corkill Township, P. 505, Donovan Township, P. 559, Ray Township, scale 1 inch to 1/4 mile, issued 1968.
- P. 584, Smoothwater Lake Area, scale 1 inch to 1 mile, issued 1970.

Cartography by C. Karpas and assistants, Ministry of Natural Resources, 1972.

Base map derived from maps of the Forest Resources Inventory, Ministry of Natural Resources, with additional information by K. D. Carl.

Magnetic declination in the area was approximately 9°30' W, 1969.

- LIST OF PROPERTIES**
- Argentum Silver Mines Ltd.
1. Bergeron Lake deposit, van Nostrand Township.
 2. Derby Silver Mine, Whitson Township.
 3. Goldie Lake deposit, van Nostrand Township.
 4. Nicollite Lake deposit, van Nostrand Township.
 5. Skull Lake property, Speight Township.
 6. White Reserve Mine, Whitson Township.
 7. Armstrong, W. S., Estate, Speight Township.
 8. Beatty, W. A., Charters Township.
 9. Byberg, Andrew.
 10. Charters Township.
 11. Gowanda-Duggan Mine, Donovan Township.
 12. Thompson Mine, Donovan Township.
 13. Canadian Johns-Manville Co. Ltd.
 14. Dundee, Grigg, Marconi, Seagram, Stobie, and Turner Townships.
 15. (Harrison Minerals Ltd., T. Saville claims), Turner Township.
 16. Marconi Township (1968).
 17. Canifer Mines Ltd. (1967), Marconi Township.
 18. Cole deposit, Cole Township.
 19. Denison Mines Ltd., Clary, DeMores, Seagram, and Turner Townships.
 20. Eleanor Lake deposit, Ray Township.
 21. Fournier Lake prospect, Leonard Township.
 22. Garvey, William, Estate, Charters Township.
 23. Gershteyn, G. J., Brewster Township.
 24. Haines claim, Donovan Township.
 25. Harde, Arnold, Copper and Lake deposit, Cynthia Township.
 26. Hardiman Bay Mines Ltd. (1968), Brewster Township.
 27. Hillcoat, James, Donovan Township.
 28. Ironco Mining and Smelting Co. Ltd., Cotton Township.
 29. Jalore Mining Co. Ltd., Kokoko Lake, Cynthia and Chambers Townships.
 30. Keevil Mining Group Ltd., (1966), Cynthia and Aslan Townships.
 31. King, Henry.
 32. Boundary claims, Speight Township.
 33. Munro Lake deposit, Speight Township.
 34. Lady Evelyn Lake deposit, Leo Township.
 35. Last, Henry.
 36. Clary Township.
 37. DeMores Township.
 38. Turner Township.
 39. Lynch deposit, Speight Township.
 40. Mark, Howard.
 41. First Bay deposit, Barr Township.
 42. Inland deposit, Klock Township.
 43. Island deposit, Dane and Kitson Townships.
 44. Klock deposits, Barr Township.
 45. Second Bay deposit, Barr Township.
 46. McIntosh, R. E., Turner Township.
 47. Melton Explorations Ltd., Still Township.
 48. Moore, William, Speight Township.
 49. New Delhi Mines Ltd., Delhi Township.
 50. Noranda Exploration Co.
 51. Clary Township.
 52. Turner and DeMores Townships.
 53. Ourgold Mining Company Ltd., Corkill Township.
 54. Reekie Lake occurrence, Leckie Township.
 55. Rustie Mining Corp., Leith Township.
 56. Solace Lake lead-silver deposit, Selkirk Township.
 57. Sucker Gut Lake deposit, Leo Township.
 58. Taylor deposit, Speight Township.
 59. Tremble Lake deposit, Ray Township.
 60. Truss deposit, Auld Township.
 61. Walton, H. G., Bradley-Donaldson Mine, Auld Township.
 62. Welch, B. M.
 63. Charron Silver Mine, Auld Township.
 64. Charters Township.
 65. Triangle Silver Mine, Auld Township.
 66. Wilder, Frank, Donovan Township.
- Ownership of properties as of December 31, 1969. Date in square brackets (1969) indicates year of last major work on property. For further information, see report.
- † Appears on accompanying maps of Geological Report 106.



LEGEND

CENOZOIC*

QUATERNARY

RECENT

Stream, lake, and swamp deposits.

PLEISTOCENE

Glacial, glacialfluvial, and glaciolacustrine deposits.

UNCONFORMITY

PRECAMBRIAN*

PROTEOZOIC

MAFIC INTRUSIONS

LATE DIABASE INTRUSIONS

- 15 Diabase
- 15a Olivine diabase

INTRUSIVE CONTACT

NIPissing DIABASE INTRUSIONS*

- 14 Unsubdivided
- 14a Pyroxene gabbro
- 14b Hornblende gabbro, metagabbro
- 14c Epidote amphibolite
- 14d Granophyre

INTRUSIVE CONTACT

HURONIAN SUPERGROUP

COBALT GROUP

BAR RIVER FORMATION

- 13 Unsubdivided
- 13a Sandstone

GORDON LAKE FORMATION*

- 12 Unsubdivided
- 12a Sandstone
- 12b Argillite
- 12c Chert, chert breccia

LORRAIN FORMATION*

- 11 Unsubdivided
- 11a Green and grey micaceous pebbly sandstone
- 11b Feldspathic sandstone
- 11c White sandstone
- 11d Ferruginous sandstone
- 11e Argillaceous sandstone, greywacke, siltstone
- 11f Conglomerate

GOWANDA FORMATION*

- 10 Unsubdivided
- 10a Pebbly micaceous-polyimicite paraconglomerate, greywacke, siltstone, or laminated argillite matrix
- 10b Polyimicite orthoconglomerate, greywacke or siltstone matrix
- 10c Sandstone, felspathic sandstone, greywacke
- 10d Argillite, siltstone
- 10e Laminated argillite

QUIRKE LAKE GROUP

SERPENT FORMATION*

- 9a Sandstone
- 9b Argillite, siltstone

ESPANOLA FORMATION*

- 8 Limestone, siltstone

BRUCE FORMATION*

- 7a Polymictic conglomerate
- 7b Sandstone

HOUGH LAKE GROUP

MESSISSI FORMATION*

- 6 Unsubdivided
- 6a Sandstone
- 6b Argillite, siltstone, argillaceous schist
- 6c Polymictic conglomerate

UNCONFORMITY

ARCHEAN

MAFIC INTRUSIONS

EARLY MAFIC INTRUSIONS

- 5 Gabbro, metagabbro, diabase

INTRUSIVE CONTACT

FELSIC INTRUSIVE AND METAMORPHIC ROCKS

GRANITE ROCKS

- 4 Unsubdivided
- 4a Quartz monzonite, granodiorite
- 4b Felsic quartz monzonite, granodiorite, quartz diorite

GNEISS AND MIGMATITES*

- 3 Unsubdivided
- 3a Quartz-feldspar gneiss, migmatite
- 3b Mafic migmatite, gneiss

METAVOLCANIC AND METASEDIMENTS

FELSIC METAVOLCANIC AND METASEDIMENTS*

- 2 Unsubdivided
- 2a Rhyolite, trachyte, intermediate metavolcanics
- 2b Felsic tuff, breccia, agglomerate
- 2c Sandstone, argillite, conglomerate
- 2d Felsic schist

MAFIC METAVOLCANICS*

- 1 Unsubdivided
- 1a Basalt, andesite
- 1b Amphibolite, amphibolite schist
- 1c Diabase
- 1f Iron formation

● Breccia.

Ag Silver, Au Gold, Cu Copper, Fe Iron, Ni Nickel, Pb Lead, Pt Platinum, S Sulfur, U Uranium, Zn Zinc, Co Cobalt, Cr Carbide, Mn Manganese, Se Selenium, Te Tellurium, Bi Bismuth, Cd Cadmium, Cs Cesium, Dy Dysprosium, Er Erbium, Eu Europium, Ga Gallium, Gd Gadolinium, Ge Germanium, Hf Hafnium, In Indium, Ir Iridium, K Potassium, La Lanthanum, Li Lithium, Lu Lutetium, Mg Magnesium, Mo Molybdenum, Nb Niobium, Nd Neodymium, No Nobelium, Os Osmium, P Phosphorus, Pd Palladium, Pm Promethium, Pu Plutonium, Rb Rubidium, Rh Rhodium, Ru Ruthenium, Sc Scandium, Sn Tin, Sr Strontium, Ta Tantalum, Tl Thallium, Th Thorium, Ti Titanium, Tm Thulium, U Uranium, V Vanadium, W Tungsten, Yt Ytterbium, Zr Zirconium.

Map 2256
SMOOTHWATER LAKE
 TIMISKAMING DISTRICT
 Scale 1: 63,360 or 1 inch to 1 Mile

