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ONTARIO
DEPARTMENT OF MINES

NOTES ON MINERAL OCCURRENCES
HORNEPAYNE SHEET MAP P.476
GEOLOGICAL COMPILATION SERIES

By
P. E. GIBLIN

MISCELLANEOUS PAPER 20

1968

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NOTES ON MINERAL OCCURRENCES,
HORNEPAYNE SHEET, MAP P.476
DISTRICTS OF ALGOMA AND COCHRANE
GEOLOGICAL COMPILATION SERIES

By

P. E. Gibling¹

Introduction

This report presents brief summary descriptions of the mineral occurrences shown on the Hornepayne Sheet, Map P.476.

It is hoped that these notes will assist map-users in assessing the merits of the mineral occurrences shown on the map.

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1496 Wellington St. East, Sault Ste. Marie, Ontario.
Manuscript received by the Chief Geologist, 11 April 1968.

Acton Township

Talc Occurrence

Location: Northwest part of township, near southeast end of Fitzpatrick Lake.

Minerals Present: Talc.

Development: None.

Geology: Talc occurs in a serpentinite sill associated with biotite granite and gneisses. The sill is 20 feet wide, and has been traced along strike for 200 feet. The talc was found only at the north end of the sill, over a strike length of 20 feet.

Reference: O.D.M., Sault Ste. Marie Resident Geologist's files:
SSM-761(1), Algoma Central Railway.

Cooper Township

Sulphide Occurrence

Location: South-central part of township.

Minerals Present: Unknown.

Development: None.

Geology: The occurrence is in an area underlain by biotite granite. No other details are known.

Reference: Fenwick, K. G. 1967. Geology of the Dayohessarah Lake Area; O.D.M., Geol. Rept. 49, p. 14. Map 2129.

(1) Numbers prefixed SSM, and followed by the name of a company or individual, are file numbers.

Derry Township

Copper-Lead Occurrence

Location: Northwest part of township, $\frac{3}{4}$ mile northwest of outlet of Kabinakagami Lake.

Minerals Present: Chalcopyrite, galena.

Development: None.

Geology: A 12-inch (wide?) quartz vein containing chalcopyrite and galena occurs in mafic metavolcanics.

Reference: Maynard, J. E. 1929. Oba Area, District of Algoma; O.D.M., v. 38, pt. 6, p. 124.

Molybdenum Occurrence

Location: Southwest part of township, on southeast point of the main northern peninsula, Kabinakagami Lake.

Minerals Present: Molybdenite.

Development: None.

Geology: Molybdenite occurs in a 3-inch (wide?) pegmatite dikelet.

Reference: Maynard, J. E. 1929. Oba Area, District of Algoma; O.D.M., v. 38, pt. 6, p. 125.

Doucett Township

Copper Float Occurrence

Location: Northeast part of township, on northeast shore of Anaharea Lake.

Minerals Present: Pyrite, pyrrhotite, and chalcopyrite.

Development: None.

Geology: Pieces of mineralized metavolcanic-metasedimentary rock were found south of the belt of metavolcanics and metasediments which trends northeasterly across the north end of Anaharea Lake.

No assays are available.

Bartley (1958, p. 10) states that "although the chalcopyrite is not abundant, there is enough present to warrant further prospecting for its source".

Remarks: The direction of glacial transport in this area appears to have been from S 10° W to S 25° W.

Reference: Bartley, M. W. 1958. A report on prospecting in the Kabinakagami Lake Area. Department of Industrial Development, Canadian Pacific Railway Company, p. 9-10.

Ermine Township

Copper-Lead Occurrence

Location: Northwest corner of township, on north side of large island in Kabinakagami Lake.

Minerals Present: Chalcopyrite, galena.

Development: None.

Geology: A 4-inch (wide?) quartz vein containing chalcopyrite and galena occurs in basic metavolcanics.

Reference: Maynard, J. E. 1929. Oba Area, District of Algoma; O.D.M., v. 38, pt. 6, p. 124.

Hambleton Township

Sulphide Occurrences

Location: Southwest part of township, northeast of Dayohessarah Lake.

Minerals Present: Pyrite.

Development: None.

Geology: Pyrite was found in shear zones in mafic metavolcanics. Panning of the rocks did not yield any gold values. (Bartley, 1958, p. 13)

In the same vicinity, Page and Bartley (1958, p. 8) noted that two peridotite dikes occur at the northeast end of Dayohessarah Lake. Some specimens apparently yielded a positive reaction to the dimethylglyoxime test for nickel. The authors state that no significance is attached to the reaction. No assays were reported.

Fenwick (1967, p. 10) classified the mafic intrusive rocks at the north end of Dayohessarah Lake as gabbro and metagabbro.

References: Fenwick, K. G. 1967. Geology of the Dayohessarah Lake Area; O.D.M., Geol. Rept. 49, p. 10.

Page, T. W., and Bartley, M. W. 1958. Geology of the Dayohessarah Lake Area; Department of Industrial Development, Canadian Pacific Railway Company, p. 8.

Bartley, 1958. Exploration report; Department of Industrial Development, Canadian Pacific Railway Company, p. 13.

Hawkins Township

Shenango Gold Mines, Limited
(Gold Occurrence)

Location: Central part of township, $\frac{3}{4}$ mile east of Langdon.

Metals Present: Gold, silver.

Development: Trenching; 4,000 feet of diamond-drilling in an unknown number of holes, 1937-38.

Small open-pit on claim S.S.M. 4332, 1936-37. In 1937, a 90-foot adit was driven from the bottom of the open-pit; 40 feet of cross-cutting from the adit. A 52-foot vertical shaft was sunk.

In 1938-39, a new vertical 2-compartment shaft was sunk to a depth of 125 feet. A level was established at this depth, and 20 feet of drifting and 6 feet of cross-cutting carried out. Location of the shaft is uncertain: it is probably about $\frac{1}{2}$ mile west of the earlier workings.

Geology: Gold-bearing quartz veins occur in mafic meta-volcanics.

Production: A 50-ton per day amalgamation mill operated intermittently in 1936, 1937, and 1945. Production data are tabulated below.

Year	Tons Milled	Au (oz.)	Value, Au, \$	Ag (oz.)	Value Ag, \$	Value \$
1936	1,572	9.755	341	30	13	354
1937	828	20.547	719	2	1	720
1945	Clean-up	<u>35.877</u>	<u>1,381</u>	<u>5</u>	<u>2</u>	<u>1,383</u>
		66.179	2,441	37	16	2,457

References: Gledhill, T. L. 1927. Gold in Hawkins and Walls townships, east of Langdon Station; O.D.M., v. 36, pt. 2, appendix, p. 85-86.

O.D.M., 1936, v. 45, pt. 1, p. 157.
O.D.M., 1937, v. 46, pt. 1, p. 14, 200-201.
O.D.M., 1938, v. 47, pt. 1, facing p. 10; 205.
O.D.M., 1939, v. 48, pt. 1, p. 197.
O.D.M., 1940, v. 49, pt. 1, p. 198.
O.D.M., 1946, v. 55, pt. 1, facing p. 10.

Molybdenum Occurrences

Location: Two occurrences are known in the south-central part of the township, west of the Algoma Central Railway: one on a hill between the Oba River and mileage 236 $\frac{1}{2}$; the other on the west bank of the Oba River opposite mileage 236.

Minerals Present: Molybdenite.

Development: None.

Geology: No details recorded.

Reference: Maynard, J. E. 1929. Oba Area, District of Algoma; O.D.M., v. 38, pt. 6, p. 125.

Taylor Location (Gold Occurrence)

Location: East-central part of township, 2 miles east of Langdon; claim S.S.M. 4310.

Minerals Present: Gold, pyrite, chalcoppyrite, and galena.

Development: Stripping and trenching.

Geology: Country rocks are biotite schists and aplite dikes. Auriferous quartz veins strike N 80° E, dip 80° N, and cut both rock types.

Three principal veins are known.

No. 1 vein is 2 feet wide, is exposed for a length of 50 feet.

No. 2 vein, separated from No. 1 vein by 101 feet of country rock, is 2 feet wide. There is no record of its length.

No. 3 vein, separated from No. 2 vein by 128 feet of country rock, varies in width from 8 to 12 inches. The length is not recorded.

Sulphide minerals occur in each of the veins. Gold can be panned from each vein, and visible gold is reported from No. 2 vein.

No assays are recorded.

- References: Gledhill, T. L. 1927. Gold in Hawkins and Walls townships, east of Langdon Station; O.D.M., v. 36, pt. 2, appendix, p. 85-86.
- Maynard, J. E. 1929. Oba Area, District of Algoma; O.D.M., v. 38, pt. 6, p. 123-124.

Irving Township

Asbestos Occurrence

Location: North-central part of township, on west bank of Oba River.

Minerals Present: Tremolite.

Development: None.

Geology: A few veinlets of cross-fibre tremolite occur in an altered peridotite dike.

References: Maynard, J. E. 1929. Oba Area, District of Algoma; O.D.M., v. 38, pt. 6, p. 125.

O.D.M., Sault Ste. Marie Resident Geologist's files:
SSM-1205, Algoma Central Railway.

Lizar Township

Charpentier Property

(Gold-Silver and Lead-Zinc Occurrences)

Location: Southwest part of township; the gold-silver occurrence is located 1.0 miles north, 2.2 miles east of the southwest corner of the township, on former claim S.S.M. 14683. The lead-zinc occurrence is 1.4 miles north, 2.1 miles east of this corner; on former claim S.S.M. 13964.

The two deposits are described separately below.

A. Gold-Silver Occurrence

Minerals Present: Gold, pyrite, minor galena and pyrrhotite.

Development: Stripping and trenching.

Geology: Visible gold occurs in a banded granular quartz vein. The vein strikes N 55° E to N 60° E. It has an average width of less than 1 foot, and has been exposed on strike for a length of 100 feet.

Wallrocks are hornblende-chlorite schists, locally striking N 70° W and dipping vertically. Quartz porphyry dikes and sills cut the schists.

The auriferous vein occupies a fracture in the schists. For about a foot on each side of the vein the schists carry abundant seams of pyrite, which strike parallel to the strike of the vein. Assay results show that the pyrite-rich wallrocks of the vein carry little or no gold.

As might be expected from the occurrence of visible gold, assays of the vein material are very erratic.

B. Lead-Zinc Occurrence

Minerals Present: Pyrite, galena, and sphalerite.

Development: Stripping and trenching.

Geology: Sulphide-rich quartz veins and lenses occur in a shear zone which follows the contact of a felsic dike with granitic gneisses and mafic schists. The shear zone strikes N 80° W, and dips vertically. The mineralized areas are distributed erratically along the shear zone, and the greatest width is about 6 feet. The zone has been exposed over a strike length of 150 feet.

No assays are recorded.

References: O.D.M., Sault Ste. Marie Resident Geologist's files:
SSM-131, Charpentier Property.
SSM-132, Charpentier Property; Sylvanite Gold Mines, Limited.

Copper-Lead Occurrence

Location: Central part of township, near west shore of Kabinakagami Lake.

Minerals Present: Chalcopyrite, galena, pyrite, and pyrrhotite.

Development: None.

Geology: Quartz and sulphides occur in mafic metavolcanics.

Reference: Maynard, J. E. 1929. Oba Area, District of Algoma; O.D.M., v. 38, pt. 6, p. 124-125.

Hiawatha Gold Mines, Limited

(Louittit Property)
(Gold Occurrence)

Location: Central part of township, west shore of Kabinakagami Lake, 4.1 miles north and 5.4 miles east of southwest corner of township.

Minerals Present: Gold, pyrite, chalcopyrite, galena, molybdenite.

Development: Vertical 3-compartment shaft to a depth of 299 feet, levels at 150 feet and 275 feet. On 150-foot level, 847 feet of drifting, 967 feet of cross-cutting. On 275-foot level, 2,547 feet of drifting, 1,750 feet of cross-cutting, 250 feet of raising.

13,034 feet of surface, and 534 feet of underground diamond-drilling.

Work performed 1937-39.

Geology: An auriferous quartz vein occurs along the north edge of a narrow quartz porphyry dike, which has intruded mafic metavolcanics. The vein and dike strike N 60° E to N 70° E, and dip vertically.

The vein ranges in width from 2 to 14 inches. In the vicinity of the shaft, it has been traced over a strike length of 1,500 feet.

1,300 feet west of the shaft, a fault striking N 35° E apparently displaced the western part of the vein 800 feet to the southwest. The displaced western part of the vein has been traced on strike for 1,400 feet.

No ore reserve data are available.

Production: A 25-ton per day amalgamation mill operated intermittently in 1937, 1939, and 1940. Total tons milled were 1,931, and gold having a total value of \$6,826 was produced.

References: O.D.M., 1938, v. 47, pt. 1, facing p. 10; 132.
O.D.M., 1939, v. 48, pt. 1, p. 18, 121.
O.D.M., 1940, v. 49, pt. 1, p. 125-126.
O.D.M., 1941, v. 50, pt. 1A, facing p. 8.
O.D.M., 1950, v. 59, pt. 1, Table V.

O.D.M., Sault Ste. Marie Resident Geologist's files:

SSM-133, Hiawatha Gold Mines, Limited;
Erie Canadian Mines, Limited.

SSM-134, Hiawatha, Johnston, Lafontaine
and Vasey Properties; Erie Canadian
Mines, Limited.

Kalibak Gold Mines, Limited

(Gold Occurrences)

Introduction: Two showings are known, and are described separately.

A. North Showing. (former Johnston-Stenabough claims)

Location: Central part of township; 4.0 miles north and 3.8 miles east of southwest corner of township; claim S.S.M. 9560.

Minerals Present: Pyrrhotite, pyrite, chalcopyrite, sphalerite, and galena.

Development: Stripping, trenching; some diamond-drilling of which no accurate record is available. Apparently at least 3 holes drilled under Pit No. 1, located in northwest part of claim.

Geology: Mineralized quartz occurs intermittently along a porphyry-amphibolite contact zone, which strikes, in general, N 70° E.

At No. 1 Pit the contact is folded, and core of the fold is occupied by a mass of blue, cherty, sulphide-rich quartz, which is exposed for a width of 10 feet. The quartz cannot be traced along strike of the contact beyond the pit.

The occurrence was sampled in 1937 (File SSM-135): of 12 chip samples, 7 assayed trace Au, the remainder assayed \$0.40, \$0.80, \$2.40, \$3.20, and \$5.20 per ton.

Three drill holes under the pit were reputed to have yielded low gold values over widths up to 12 feet. The best intersection reported occurred in hole No. 2, where a length of 1 foot, 3 inches (between 44 feet and 45 feet, 3 inches) assayed \$9.80 per ton (File SSM-136).

Other pits have been dug to the northeast of No. 1 Pit, exposing the porphyry-amphibolite contact. Close to the contact the porphyry is banded and silicified over widths of a few feet. Narrow seams of sulphides, reputed to carry gold, are found in this silicified zone. No assay data are available.

B. South Showing

Location: Southwest part of township; 2.7 miles north and 3.1 miles east of southwest corner of township; claim S.S.M. 9540.

Minerals Present: Pyrite, sphalerite.

Development: Stripping, trenching; some shallow diamond-drilling, details not recorded.

Geology: The principal showing consists of an auriferous lenticular quartz vein which occurs in a shear zone in mafic metavolcanics. The shear zone strikes N 60° E.

The vein has been exposed continuously for a length of 150 feet on claim S.S.M. 9540. Pits and trenches along the projected strike suggest that the vein may have a strike length of up to $\frac{1}{2}$ mile.

Where it has been exposed on claim S.S.M. 9540, the vein pinches and swells along strike, and ranges in width from 0 feet to 2 feet.

About 200 feet north of the principal showing on claim S.S.M. 9540, gold occurs in a narrow quartz-filled shear zone in quartz porphyry. This shear zone strikes N 60° E, dips 85° S, and is exposed for a length of 30 feet. The width ranges from 3 inches to 6 inches. At the west end of the exposure a north-striking lamprophyre dike cuts off the vein.

References: O.D.M., Sault Ste. Marie Resident Geologist's files:
SSM-135, Johnston - W. H. Stenabough Claims, Erie Canadian Mines, Limited.
SSM-136, Kalibak Gold Mines, Limited.

Sand River Gold Mining Company, Limited

(Iron Occurrence)

Location: North-central part of township, near west shore of Kabinakagami Lake; on claims S.S.M. 54530 - 54531.

Minerals Present: Magnetite, minor pyrite.

Development: Diamond-drilling, 1957, 6 holes, total length 2,998.0 feet.

Geology: Published aeromagnetic data (O.D.M., 1963) show a small anomaly, having a magnetic relief of about 200 gammas, at the site of the occurrence.

Bands of disseminated to massive magnetite occur in granite gneiss and a mafic rock logged as lamprophyre.

No assay data are available.

References: O.D.M. - G.S.C. 1963. Geophysics Paper 2209, Kabinakagami Lake. Sheet 42 C/16.
O.D.M. - Sault Ste. Marie Resident Geologist's files:
SSM-138, Sand River Gold Mining Company, Limited.

Vasey - J. E. Stenabough Claims

(Gold Occurrence)

Location: Southwest part of township; 2.0 miles north, 1.5 miles east of southwest part of township; claim S.S.M. 8957.

Minerals Present: Gold, pyrite, chalcopyrite, galena, and sphalerite.

Development: Stripping and trenching.

Geology: Auriferous quartz veins occur in a shear zone within a quartz porphyry dike. The dike is intrusive into metavolcanics and metasediments.

The shear zone strikes N 55° E, and has been traced over a strike length of 300 feet. Within the shear zone numerous quartz veins occur, and range in width from 1 inch to 4 inches, and in length from 50 feet to 150 feet.

Northwest-striking diabase dikes interrupt the vein.

The property was sampled in 1937 by Erie Canadian Mines, Limited, when 18 chip and 10 grab samples were collected. The results are briefly summarized herewith: 7 samples assayed trace Au; the results from the other samples were \$0.40 (5 cases); \$0.80 (3 cases); \$1.20; \$2.00 (5 cases); \$2.80; \$3.20; \$4.00; \$5.20; \$9.60; \$14.00; \$15.60 per ton. (File SSM-139)

- References: O.D.M., Sault Ste. Marie Resident Geologist's files:
SSM-134, Hiawatha, Johnston, Lafontaine and Vasey Properties; Erie Canadian Mines, Limited.
SSM-135, Johnston - W. H. Stenabough Claims; Erie Canadian Mines, Limited.
SSM-139, J. E. Stenabough; Erie Canadian Mines, Limited.

Matthews Township

Sulphide Occurrence

Location: North-central part of township.

Minerals Present: Pyrite, minor chalcopyrite.

Development: Trenching, 1967.

Geology: Seams of pyrite with minor chalcopyrite occur along schistosity surfaces of mafic metavolcanics. The showing is exposed only at the base of a cliff, where it has an exposed length of 10 feet. The width is unknown.

Sulphides appear to comprise about 15% of the exposed rock. A grab sample taken by Giguere (personal communication) assayed trace Cu and 0.15 oz. Ag per ton.

- Reference: Giguere, J. F. 1967. Granitehill Lake Area in Summary of Field Work, 1967, O.D.M., Misc. Paper 11, p. 35-37.

Mosambik Township

Lithium Occurrence

Location: West-central part of township.

Minerals Present: Spodumene and lepidolite.

Development: Stripping.

Geology: A calcite-quartz-feldspar vein, having an average width of 20 inches and an exposed length of 375 feet, occurs in an area underlain by metavolcanics and metasediments.

Bartley (1958, p. 8), in referring to the vein, states: "Calcite is the main constituent. Considerable lepidolite or lithium mica was noted, plus a very weathered spodumene crystal. However, on analysis, only a trace of lithium was detected. Minor fluorite is also present. No gold or silver was noted".

Reference: Bartley, M. W. 1958. A report on prospecting in the Kabinakagami Lake Area; Department of Industrial Development, Canadian Pacific Railway Company, p. 7-8.

Nameigos Township

Cominco, Limited

(Gold - Silver Occurrence)

Location: Northeast part of township.

Minerals Present: Pyrite.

Development: Stripping and trenching, 1935-36.

Geology: A silicified zone, carrying seams of pyrite, cuts obliquely across the strike of mafic metavolcanics. The zone strikes N 50° W and dips 70° to 75° NE. Dimensions of the zone are not recorded.

Eleven samples taken along a cross-trench, each representing a length of 3.0 feet, assayed trace Au in 4 cases; 0.10 oz. Au in 3 cases; while the others assayed 0.02, 0.04, 0.22, and 0.22 oz. Au per ton. One 2-foot sample assayed 0.24 oz. Au per ton. (File SSM-1051)

Bartley (1958, p. 9) reports an assay of trace Au and 0.12 oz. Ag from a sample representing a width of 80 inches.

References: Bartley, M. W. 1958. A report on prospecting in the Kabinakagami Lake Area; Department of Industrial Development, Canadian Pacific Railway Company, p. 9.
O.D.M., Sault Ste. Marie Resident Geologist's files:
SSM-1051, Cominco, Limited.

Molybdenum Occurrence

Location: West-central part of township; on a low cliff face on north side of a creek at its junction with the Nameigos River.

Minerals Present: Pyrite and molybdenite.

Development: Trenching.

Geology: Pyrite and molybdenite occur in a band of felsic metavolcanics which is 2 to 3 feet wide. No assays or dimensions of the showing are available.

Reference: Bartley, M. W. 1958. A report on prospecting in the Kabinakagami Lake Area; Department of Industrial Development, Canadian Pacific Railway Company, p. 6, 9.

Strickland Township

Beryl Occurrence

Location: East-central part of township.

Minerals Present: Beryl.

Development: None.

Geology: Minor beryl was found in specimens collected from a pegmatite dike. No other data are recorded.

Reference: Bartley, M. W. 1958. A report on prospecting in the Kabinakagami Lake Area; Department of Industrial Development, Canadian Pacific Railway Company, p. 7.

Molybdenum Occurrence

Location: North-central part of township.

Minerals Present: Molybdenite.

Development: None.

Geology: Fenwick (1967, p. 13) states: "A minor showing of molybdenite was noted in an outcrop of basic intrusive rock". No other data are available.

Reference: Fenwick, K. G. 1967. Geology of the Dayohessarah Lake Area; O.D.M., Geol. Rept. 49, p. 13. Map 2129.

Wicksteed Township

T. M. Church Property

(Sulphide Occurrence)

Location: North-central part of township, claim S.S.M. 57809.

Minerals Present: Pyrite, pyrrhotite, minor chalcopyrite.

Development: 2 diamond-drill holes, 544 feet, 1959.

Geology: Rocks encountered in drill holes are garnetiferous metasediments, granite gneiss, and pegmatite.

Sulphides and quartz occur in metasediments, and comprise approximately 25% of the core over a width of 65 feet. A few bands of massive pyrrhotite, each about 2 feet thick, were encountered. The core was not assayed.

Reference: O.D.M., Sault Ste. Marie Resident Geologist's files:
SSM-201, T. M. Church Property.

