Mineral exploration during the past year has concentrated on the search for gold deposits in the Flin Flon Domain and in the southern Kisseynew Domain. Most of this exploration has been in the areas of known gold mineralization in proximity to Flin Flon and Amisk Lake. Preliminary investigations are taking place in the southern Kisseynew Domain, and targeted on hornblende-rich mafic gneisses considered to be volcanic in origin.

The focus for base metal exploration has shifted from exposed metavolcanic rocks of the Flin Flon and Glennie Lake Domains to their southerly extensions under Phanerozoic cover. As well, there has been a move from traditional exploration for volcanogenic massive sulphide deposits to the search for intrusive ultramafic-hosted nickel deposits of the Namew Lake type, discovered by Hudson Bay Exploration and Development Co. Ltd. (HBED) last year.

During the past year 945.2 km² (233,570 acres) were staked as claims and claim blocks in the area covered by this report (NTS 63 K, L, M). Much of this area (approximately 50 percent) was staked in the conversion of permits to claim blocks. This is a significant drop in staking activity from the previous year when 1741.7 km² (430,375 acres) were staked and 155.5 km² were taken out in permits. During the past year 2539.9 km² (626,397 acres) in claims, claim blocks, leases and permits lapsed.

Gold

Esmeralda Minerals conducted a 26 km VLF-EM survey to evaluate ground they hold on strike with the new Tartan Lake Deposit currently being brought into production by Granges Exploration Ltd.
HBED carried out two gold exploration programs in the Flin Flon area, one in the Kisseynew Domain northwest of Flin Flon and the other in the Flin Flon Domain south of Flin Flon. The program in the Kisseynew Domain consisted of the following surveys: 28 km of Maximin II EM, 9 km of VLF-EM, 37 km of magnetometer, geological mapping and a humus soil geochemical survey. In the Flin Flon domain HBED carried out a program of line-cutting and a 38 km VLF-EM survey to evaluate known gold showings.

Homestake Mineral Development Co. conducted several exploration programs for stratabound gold mineralization in the Kisseynew Domain. This program began with a 660 km airborne magnetometer and VLF-EM survey in the Wildnest Lake area and followed up with reconnaissance mapping and lithogeochemical programs at Wildnest Lake, Tyrel Lake and Kamuchawie Lake. In addition, humus geochemistry and VLF-EM surveys were conducted over specific target areas.

Kenton Natural Resources Corporation has acquired the former Monarch Mine, the original, 1913 discovery of gold mineralization in the Flin Flon - Amisk Lake area, located in the West Channel of Amisk Lake. During the past summer Kenton has undertaken a program that includes VLF-EM and magnetometer surveys, soil geochemistry, trenching and diamond-drilling. The drill program consisted of seven holes, five of which tested the mine horizon. The remaining holes tested a newly discovered litho and soil geochemical anomaly south of the mine horizon. Production from this deposit during 1937 and between 1940 and 1942 yielded 4882.36 ounces of gold and 837.06 ounces of silver from 5821.0 tons of ore (Byers and Dahlstrom, 1954).

The Saskatchewan Mining Development Corporation (SMDC) undertook several gold exploration programs in the Flin Flon Domain and one program in the Kisseynew Domain. In the latter geological mapping and lithogeochemical sampling were carried out at Melgurd Lake. This was designed to determine the cause of a gold in lake sediment geochemical anomaly identified in GSC Open File 1129.

On the Laurel Lake North zone, the corporation drilled 4,000 m in 34 holes to delimit previously discovered gold mineralization (Pearson, 1985). This program was supplemented by detailed VLF-EM and IP surveys and by biogeochemical sampling. Elsewhere in the West Channel of Amisk Lake, 10 holes (1000 m) were drilled on geophysical and geochemical anomalies. In the east Amisk Lake area, a further 5 holes (500 m) were put down to evaluate the Amisk Syndicate occurrence and a biogeochemical survey, was carried out. At Denare Beach, also on Amisk Lake, there was a preliminary gold exploration program of reconnaissance geological mapping and lithogeochemical sampling, and on ground surrounding the Graham Mine north of Amisk Lake, reconnaissance mapping and lithogeochemical sampling. In immediate proximity to the mine detailed geological mapping, lithogeochemical, biogeochemical and soil geochemical surveys were conducted over a 10 km grid and existing trenches were channel sampled.

Over the past two years SMDC has acquired a significant land position covering several gold occurrences as well as two small "mines" in the Phantom Lake - Boot Lake area south of Flin Flon. During the past year, there were 115 km of line-cutting on this property, 102 km of magnetometer and VLF-EM surveys, geological mapping and a lithogeochemical survey. In the Nesootao Lake area, on ground that is considered to be an extension of the Granges' Tartan Lake deposit, exploration programs included geological mapping, lithogeochemical sampling and 105 km of VLF-EM and magnetometer.

Vista Mines Inc. has acquired the former Flin Flon Mines Rio mine, mill and surrounding properties, which include the former Henning-Maloney and the Newcor Mines. Vista plans a major diamond-drill program to evaluate each of these deposits, concentrating initially on the Rio deposit. Underground exploration of the Rio deposit is also planned.

**Base Metals**

Cominco Ltd. completed 980 m of drilling in three diamond-drill holes and about 30 km of ground EM and magnetometer surveys on MPP 1144 and 1151 as a follow-up to earlier airborne and ground geophysical work. The company also conducted about 55 km of ground EM and magnetometer surveys over claims in the Cumberland Lake area. Additional geophysical work and possibly diamond-drilling are expected in both regions in 1987.

Granges Exploration Ltd. was active in three drilling projects in the Flin Flon Domain for volcanogenic base metal deposits. In the Balsam Lake area the company drilled 968 m in seven holes to test previously discovered electromagnetic conductors. On the MacDermott Lake zone discovered last year, 23 holes (3265.9 m) were drilled to outline the size and grade of the deposit and in the Bigstone - Limestone Lake area 15 holes (1461 m) were put down to test electromagnetic anomalies.

HBED carried out a program of line-cutting, 180 km of Maximin II EM and magnetometer surveys to investigate the area to the west of the Namew Lake nickel-copper deposit. One anomaly was drilled. To the north 697 m of diamond-drillling were completed to test electromagnetic conductors under an HBED-operated joint venture with SMDC. In the area west of Flin Flon, 2104 m of diamond-drilling were completed to further investigate a known zinc deposit.
In the Hanson Lake area, SMDC conducted a winter exploration program which included diamond-drilling and geophysics. Twelve holes (2164 m) were drilled to test eight targets and four of these holes were evaluated with down-hole pulse EM. Additional exploration included 92 km of Maxmin II EM and magnetometer surveys on four grids. In the Namew Lake area SMDC, in joint venture with Essa Minerals Canada, did 220 km of Maxmin II and magnetometer surveys on 11 grids, in the search for "Namew Lake type" nickel-copper and massive sulphide deposits.

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References
