GEOPHYSICAL REPORT - BUY AND HAB MINERAL CLAIMS

52° Miles South of Telegraph Creek
57° 131°, S.E.

by J. A. Haskin, E.M., P. Eng.

104G/3W

GEOPHYSICAL SURVEY OF CERTAIN BUY AND HAB MINERAL CLAIMS

- BRITISH COLUMBIA -

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The geophysical survey, covering all or parts of Buy Nos. 13, 14, 15, 16, 17 and 18 claims and Hab Nos. 3, 5, 19, 20, 21, 23 and 24 mineral claims, commenced on August 16, 1956 and was completed on September 14, 1956. The property is located 52 miles South of Telegraph Creek.

Base lines were laid out, with section lines perpendicular to the base lines at intervals of two hundred feet. Readings with the electromagnetic loop frame equipment were taken at intervals of one hundred feet along the section lines.

No electromagnetic conductors were located on the claims surveyed.

DESCRIPTION AND OPERATING PRINCIPLE

The equipment consists of two coils, an energizer, cables and a recording instrument. The coils are termed the transmitting and receiving coils and have diameters of 45 inches and 26 inches respectively. The energizer contains a vacuum tube oscillator fed by four 45-volt "B" batteries and a 1.5-volt "A" battery. The recording instrument includes two potentiometers and four stage amplifier powered by two 45-volt "B" batteries and 1.5-volt "A" battery.

The total weight of the equipment including batteries is approximately 80 pounds.

Power is supplied at 3600 cycles per second to the transmitting coil from the energizer. Alternating current flowing through this coil will set up an alternating magnetic field called the primary field. This field will induce currents in any conductors sufficiently close to the equipment. These currents will give rise to a secondary field having

the same frequency as the primary field but not have the same phase. The secondary field may therefore be resolved into two components, one of which is in phase with the primary field and another which has a phase angle 90° in advance of the primary field.

The receiving coil which is carried at a fixed distance from the transmitter is affected by both the primary and secondary fields. The current induced in it is conducted to the recording instrument where it is compared to a constant alternating voltage.

This constant voltage has its source in a small movable coil mounted on the transmitting coil. The voltage induced in this coil, termed the compensating coil, may be considered to represent the primary field, because, due to its very small size and proximity to the transmitter, it will be very slightly affected by the secondary field.

The two potentiometers in the recording instrument are termed the in-phase and out-of-phase potentiometers. The voltage appearing over the in-phase potentiometer is in phase with the e.m.f. induced in the compensating and receiving coils by the primary field and the e.m.f. induced in the receiving coil, by the in-phase component of the secondary field. The voltage over the second potentiometer is 90° out of phase and has the same phase as the e.m.f. in the receiving coil due to the out-of-phase component of the secondary field.

A four stage amplifier is connected to the circuit and its output side is fed to a pair of earphones. The potentiometer scales are calibrated to read in percent of normal field.

FIELD TECHNIQUE

Four men are required to operate the equipment in the field. They walk in single file down previously cut or marked lineds. The lead man carries the receiving coil and is followed by the note-keeper who carries the recording instrument on his back. The third man takes the readings and calls the information out to the notekeeper. Finally, the fourth man carries the energizer and transmitting coil.

The compensating and receiving coils are connected to the recording instrument by two conductor cables. These in addition to conducting currents, provide a means of keeping the coils a fixed distance apart

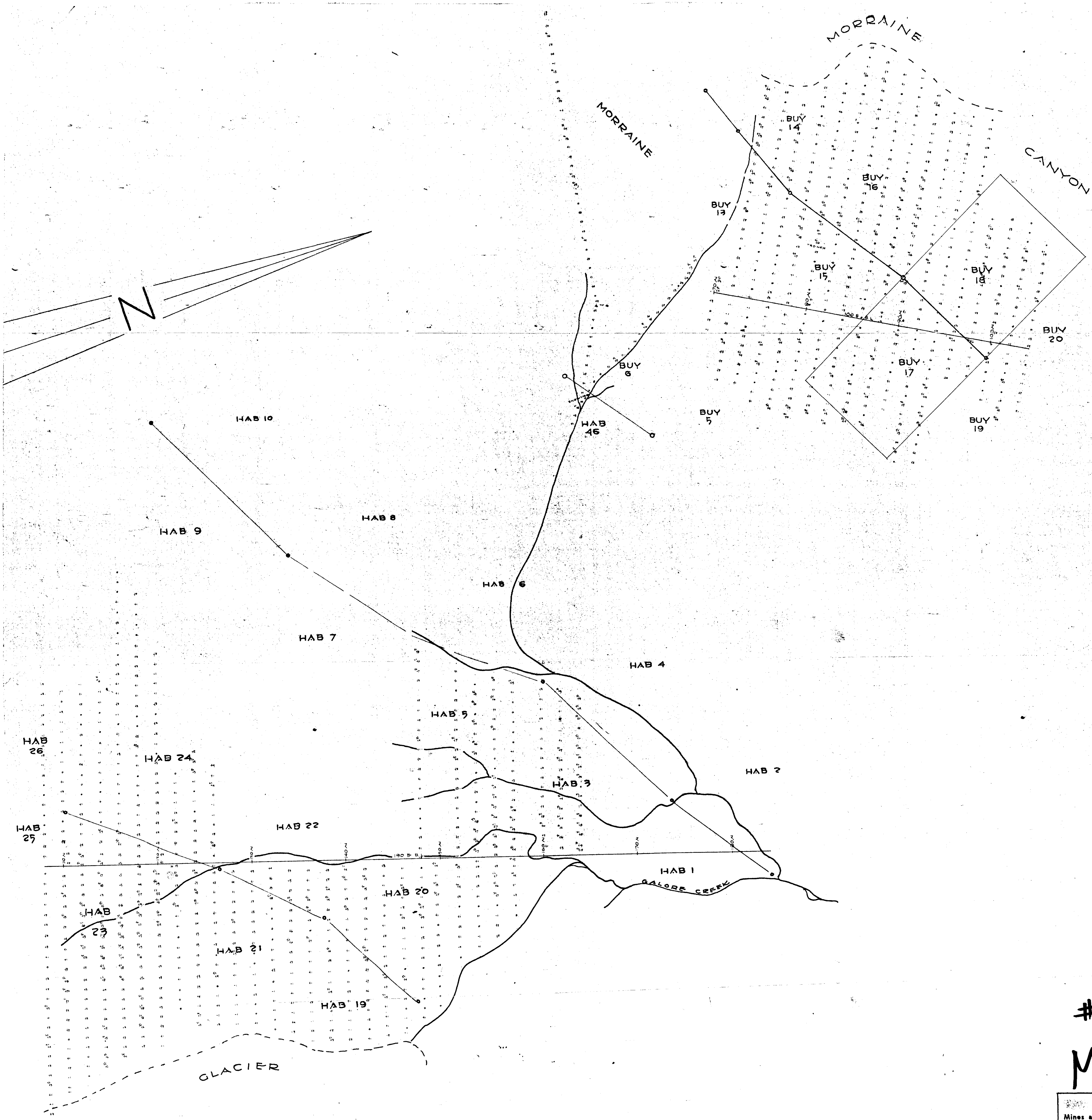
The work on the above claims was done by Mr. M. Prew, who has been in our employ for the past five years, operating geophysical equipment. Mr. Prew worked under the supervision of Mr. A. A. Koffman, Chief Geologist for the Hudson Bay Mining and Smelting Company Limited, Non-Resident Professional Engineer of British Columbia; and Mr. J.A. Haskin, Chief Engineer for the Hudson Bay Mining and Smelting Company, Limited, Non-Resident Professional Engineer of British Columbia.

J. A. Haskin

J. A. Haskin, E.M., P. Eng.

June 26, 1957

Rep.
#1 E.M. Survey - HAB and BUY claims



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MAP 1

J. A. Hoskin, E.M., P.Eng.

	DATE
DRAWN BY: M.P	10 · 4 · 56
CHECKED BY:	
APPROVED BY:	

HUDSON BAY MINING & SMELTING CO. LTD.
FLIN FLON OFFICE

E. M. SURVEY
HAB & BUY CLAIMS
SCUD RIVER AREA. B.C.