A REPORT ON
THE MEHITABEL CLAIM GROUP
HESS RIVER AREA, YUKON, N.W.T.

December 1970 Ian Turnbull

105.P-5

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THE MEHITABEL CLAIM GROUP
HESS RIVER AREA, YUKON, N.W.T.

PANOCHE MINING CORPORATION

Ian Turnbull

December 1970

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Accompanying Maps

Location of Property	1" : 4 miles
Claims Plan	1" : 1/2 mile
Geology	1" : 1/2 mile
Silt Sample Location Plan	1" : 1/2 mile
Drainage Geochem. Copper	1" : 1/2 mile
" - Molybdenum	1" : 1/2 mile
" - Lead	1" : 1/2 mile
" - Zinc	1" : 1/2 mile
" - Manganese	1" : 1/2 mile

INTRODUCTION:

A reconnaissance field program was initiated in mid 1970 to explore the southwest part of the Sekwi Mountain Map Sheet. This generally covers a part of the continental divide which also locally serves as the Yukon-NWT boundary. In mid July, mineralized skains were located in a creek draining the most northern pluton in the exploration target area. Subsequent prospecting indicated the existence of an intrusive/extrusive altered rock type on the margins of the pluton. This altered rock carries chalcopyrite and pyrrhotite.

Twenty claims were staked in early August to cover the area south of the pluton. Plans for a further examination of this area in early September were aborted due to heavy snowfall. Instead a fly camp was established on the northern flank of the pluton where further mineralization was found, generally as float. An additional eighteen claims were located on this northern flank.

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LOCATION AND ACCESS:

The Hess property is located in the northern part of the Selwyn Mountains, east of Keele Peak. Sekwi Mountain Map Sheet 105P and claim sheet 105P-5.

The claims straddle the Yukon-N.W.T. boundary, some 10 miles north of mile 225 on the Canol Road, Lat. $63^{o}26'$, Long. $129^{o}55'$.

Access to the property area has generally been by helicopter from the MacMillan Pass airstrip, some 20 miles to the southwest. The Canol Road is maintained only as far as MacMillan Pass, a road distance of approximately 150 miles from Ross River.

During the summer months, the Canol Road can be traversed by 4 wheel drive vehicles as far as an abandoned camp at mile 222.

TOPOGRAPHY:

The Hess property claims all lie above tree line and cover an area with very rugged and severe relief.

Valley walls have in most cases broken down into extensive talus slopes and the valleys themselves are narrow with immature swamps developed in their floors.

CLAIM STATUS:- MEHITABEL CLAIM GROUP

Claim Number	Record Number	Staker	Date Staked	Date Recorded	Mining District
1-2	Y33451-2	I. Turnbull	5.8.70	24.8.70	Mayo, Y.T.
3-18	T37373-88	I. Turnbull	5.8.70	21.8.70	Mackenzie NWT
19	T37369	I. Turnbull	5.8.70	21.8.70	Mackenzie NWT
20	T37390	I. Turnbull	5.8.70	21.8.70	Mackenzie NWT
21-28	Y33563-70	J. Grant	12.9.70	9.10.70	Mayo, Y.T.
29-34	Y33571-76	T. Altenburg	12.9.70	9.10.70	Mayo, Y.T.
35-38	Y33577-80	J. Altenburg	13.9.70	9.10.70	Mayo, Y.T.

A number of witness posts were required to complete the claim staking, due to the steep nature of the terrain. Their locations are indicated on the accompanying claims plan.

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GEOCHEMISTRY; STREAM SILT SAMPLING:

Ninety-two stream silt samples were collected from the target area. Analyses for totals Cu, Mo, Pb, Zn and Mn were run, and these results are presented on accompanying plans.

Results:

Anomalous copper values were obtained in all the creeks draining the margin areas around the pluton. Copper mineralization in the altered basic rocks on the north and south flanks of the pluton would seem to be responsible for these high metal values. Silt samples taken from sites underlain by the intrusive rocks were in all cases below threshold values and tend to confirm the field prospecting which failed to locate any sulphides within the pluton.

Erratic anomalous molybdenum values occur in those creeks draining to the east. Minor molybdenum mineralization was noted in a skarn host, and this and possibly other hidden skarns may be the cause of these "highs".

In the most southeasterly creek, anomalous molybdenum values were obtained and appear to be closely associated with the intrusive-sediments contact.

GEOCHEMISTRY: STREAM SILT SAMPLING CONT'D:

An area of anomalous lead values is indicated in the creek draining the northern fall of the pluton. This coincides with high copper values.

High zinc values also coincide with anomalous copper values but occur in those creeks draining the area south of the pluton.

Generally coincident with all the above anomalous metal values are fairly high manganese results. However there is one creek flowing north-easterly from the only lake in the area which shows anomalous manganese values. These do not coincide with any other anomalous stream silts and appears to indicate an absence of mineralization in the pluton to the south.

GEOLOGY:

A complex assemblage of Devonian and Mississippian sediments have locally been intruded by a granitic stock, which has in turn uplifted and possibly overturned a part of the invaded rocks. These latter have been mapped and classified as follows:-

1. Dark grey and black siltstone. This is generally a hard and widely fractured rock, commonly rust stained, occasionally contains pyrite.
2. Black fissile shale, which rapidly collapses where exposed to form talus slopes. Also in part rust stained.
3. Competant purple and grey brown chert, also in parts extremely fractured and consequently unstable. Pyrite is commonly disseminated throughout the unit, and the rocks have a yellow brown stain.
4. Finely banded light grey and dark grey or black chert. Sulphides generally absent. Interbanded is fine crystalline limestone and limy argillite rocks.
5. Dark grey and medium or coarse crystal limestone occurs together with "swiss cheese" limestone. This latter appears to originally have comprised of interbanded chert and limestone. Subsequent intense local folding and differential weathering have produced a corrogated surface of silicious bands with a corroded pale grey friable calcic matrix.

The approximately elliptic pluton which intrudes the area is typical of the Cretaceous intrusive bodies which occupy a belt extending from Keele Peak south to the Itsi Range.

The plutonic rocks are a fresh, grey-green, coarse grained hornblende biotite granite to granodiorite. They contain large crystals of potassium feldspar, though this porphyritic habit does not appear to be widespread. Mafic minerals present for approximately 30%, mainly hornblende which also occurs as phenocrysts, and minor biotite.

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GEOLOGY CONT'D:

At the margins of the pluton the rocks are occasionally gneissic. Contacts with the invaded sediments are normally sharp and cross-cutting.

Directly related to the pluton are the numerous 5 feet to 30 feet wide dykes which cut the sediments. These dykes strike mainly N 10° W and are steeply dipping or vertical. They comprise fine to medium grained intermediate rocks, with approximately 25% mafic minerals. They may carry minor disseminated pyrite.

Mineralization:

The unit which appears to host the copper mineralization is a dark green fine grained basic rock of uncertain origin. The rock is extensively altered, highly calcic and epidotized. Originally it may have been a basic igneous rock such as a gabbro. Sulphides have appeared late and are interstitial. Certain factors, viz: field orientation and the large percentage of epidote present indicate that the unit may have been derived from an impure limestone on the southern margin of the pluton. The noted mineralization comprises chalcopyrite and pyrrhotite disseminated in the basic host rock. Mineralization was collected from localities in the valley wall over a length of approximately 2000 feet. However, mineralization is not continuous; and may be confined if related to the intruding dykes. Two gossans within the altered basic rocks were noted to be carrying pyrite, pyrrhotite and minor chalcopyrite.

On the north side of the pluton pyrrhotite and minor chalcopyrite were found, mainly as float, occurring within a similar host. Access to the source of the float at the top of a slide was not feasible. A sample of mineralized float was assayed and reported 0.09% Cu, 0.01% Ni.

In places where the intermediate dykes had intruded carbonate rocks, skarn zone have formed. Three of these were noted to be carrying chalcopyrite, one of these also carried minor molybdenite. This last was exposed over an area of 120 feet by 30 feet.

CONCLUSIONS AND RECOMMENDATIONS:

Prospecting, reconnaissance mapping, and stream silt sampling have defined an area favourable to mineralization. A relatively large and well exposed altered basic rock type has bean found to carry copper mineralization, though the grade, continuity and size are complete unknowns at this point. However, this unit is traceable on both the northern and southern flanks of a small pluton, and the southern showing remains unexplored to its southwest.

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CONCLUSIONS AND RECOMMENDATIONS CONT'D:

Drainage sampling has confirmed the extent of the mineralized unit and also indicated a molybdenum stream anomaly.

Further work is recommended for this property. Initially additional claims should be added to the existing blocks to cover any extension of the southern mineralized host rocks to the southwest, to cover the margins of the pluton and to join and consolidate the existing two blocks.

Respectfully submitted,

Ian Turnbull

15 December, 1970

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The Mehitabel-Hess River area viewed from the south. The western contact of the pluton is marked. Elevation of this pluton is 7364'.

Looking west up the Main Creek on the south side of the pluton. The mineralized altered basic rocks extend from the pass up the hill to the left. The pass also marks the Yukon-N.W.T. border.

Looking south from the pluton into the same valley. A mineralized skarn zone outcrops beyond the creek, as marked.

Looking northeast from the pass towards the pluton. Light and dark grey banded cherts, overlain by argillite, outcrop in the foreground.

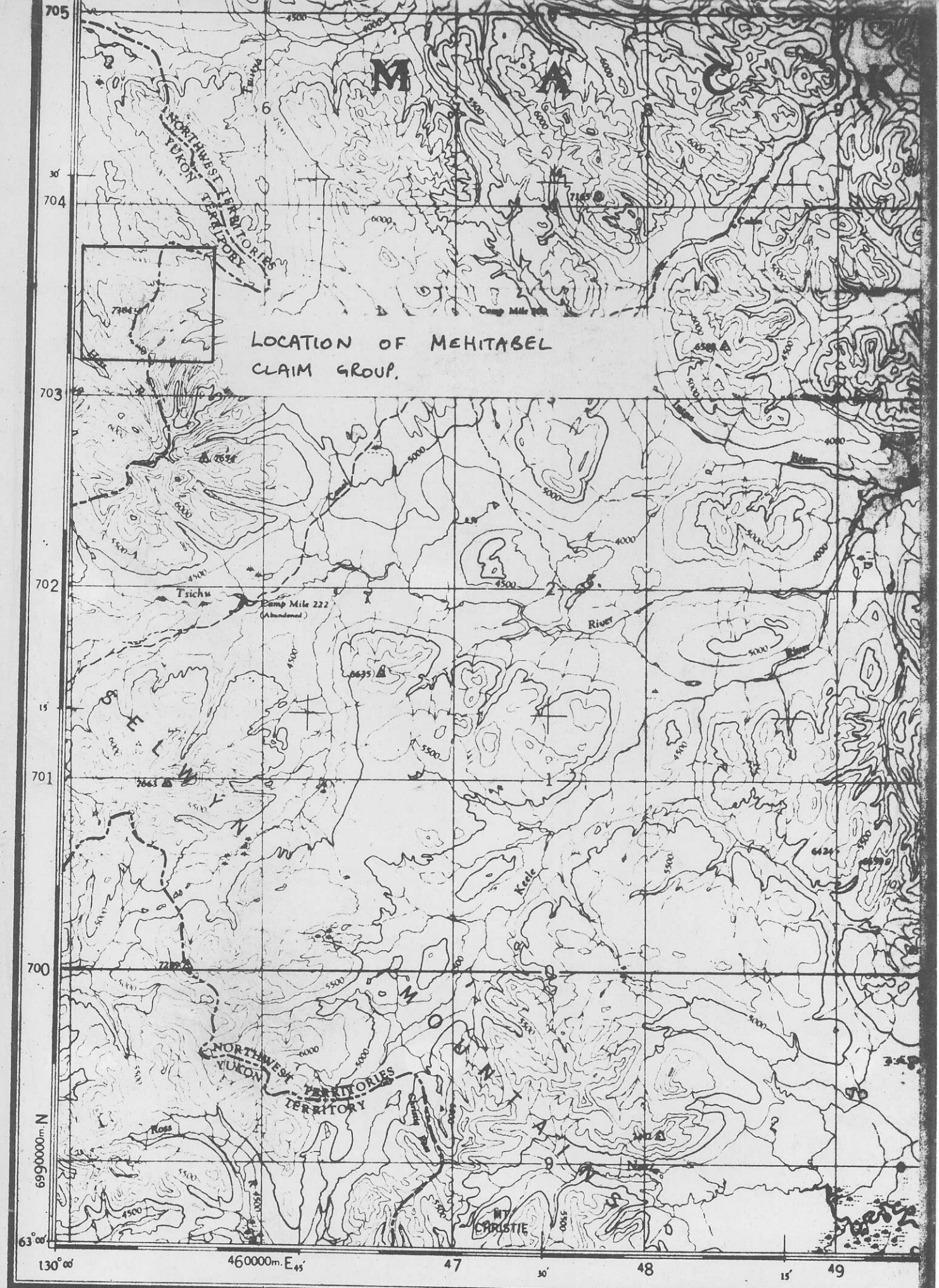
Looking south from the pass onto the main mineralized area. At least four vertically dipping dykes intrude the unit. The snowfields will remain all summer.

A view east from the pass. The flat lying incompetent cherts and argillite have broken down to form extensive talus slides along the valley walls.

Mineralized float was located in the slide material coming down from the north face of the pluton. Banded cherts and limestone outcrop on either side of the slide.

The north side of the pluton, but seen at a higher elevation. No route up to this part was found, and future access will require helicopter support.

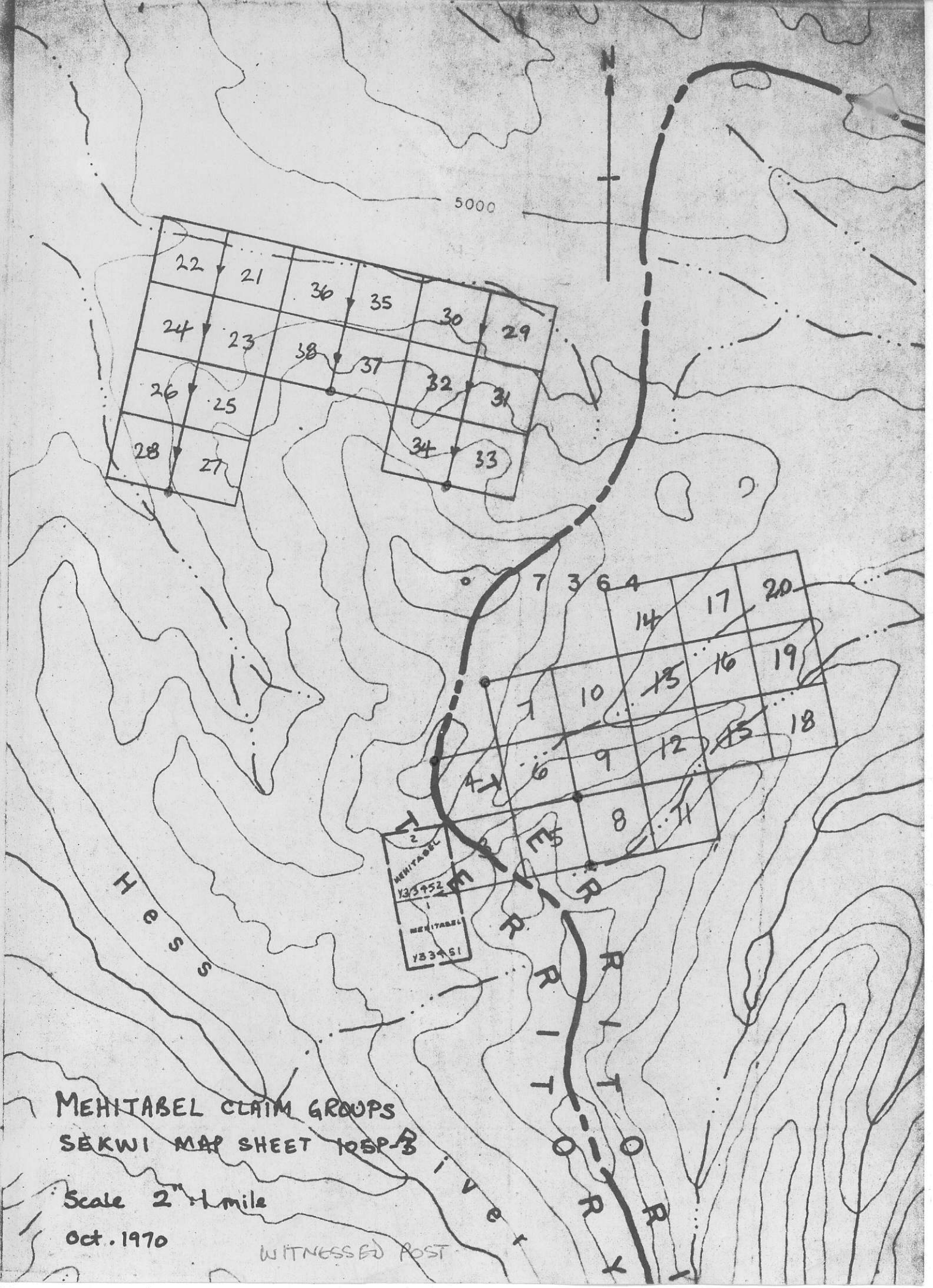
The Mehitabel-Hess River area on September 10th. Creeks at this elevation were already frozen over.



DECLINATION OF THE COMPASS NEEDLE 1954

Surveyed, compiled, drawn and printed by the

SCALE 1" : 4 MILE



MEHITABEL CLAIM GROUPS
SEKWI ~~MAP~~ SHEET 104P-3

Scale 2" = 1 mile

Oct. 1970

WITNESSED POST

Territory

Territories

Yukon

Northwest

N

?

?

RS × 21

RS × 26

RS × 22

7364

Hess River

Legend

CRETACEOUS

- Coarse-grained and feldspar porphyry hornblende granodiorite and granite.
- Fine to medium grained intermediate dykes. Vertical dipping.

DEVONIAN AND MISSISSIPPIAN

- Dark grey and black siltstone. Commonly rusty, occ. pyrite. In part calcic.
- Black fissile shale.
- Grey brown and purple chert. Minor dis. pyrite.
- Fine banded pale and dark grey chert. Minor interbanded limestone and calc-silicate rocks.
- Dark grey limestone and "swiss cheese" limestone.
- Dark green fine grained altered basic rock. In part mineralized.
- Skarn
- Gossan

R.S. Rock geochemical sample. Cu. p.p.m.

Geological boundary. Defined, assumed.

Snowfield

inches 0 1

centimetres 0 1 2

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CYPRUS EXPLORATION CORPORATION LTD.

BOUNDARY RECONNAISSANCE
HESS RIVER AREA

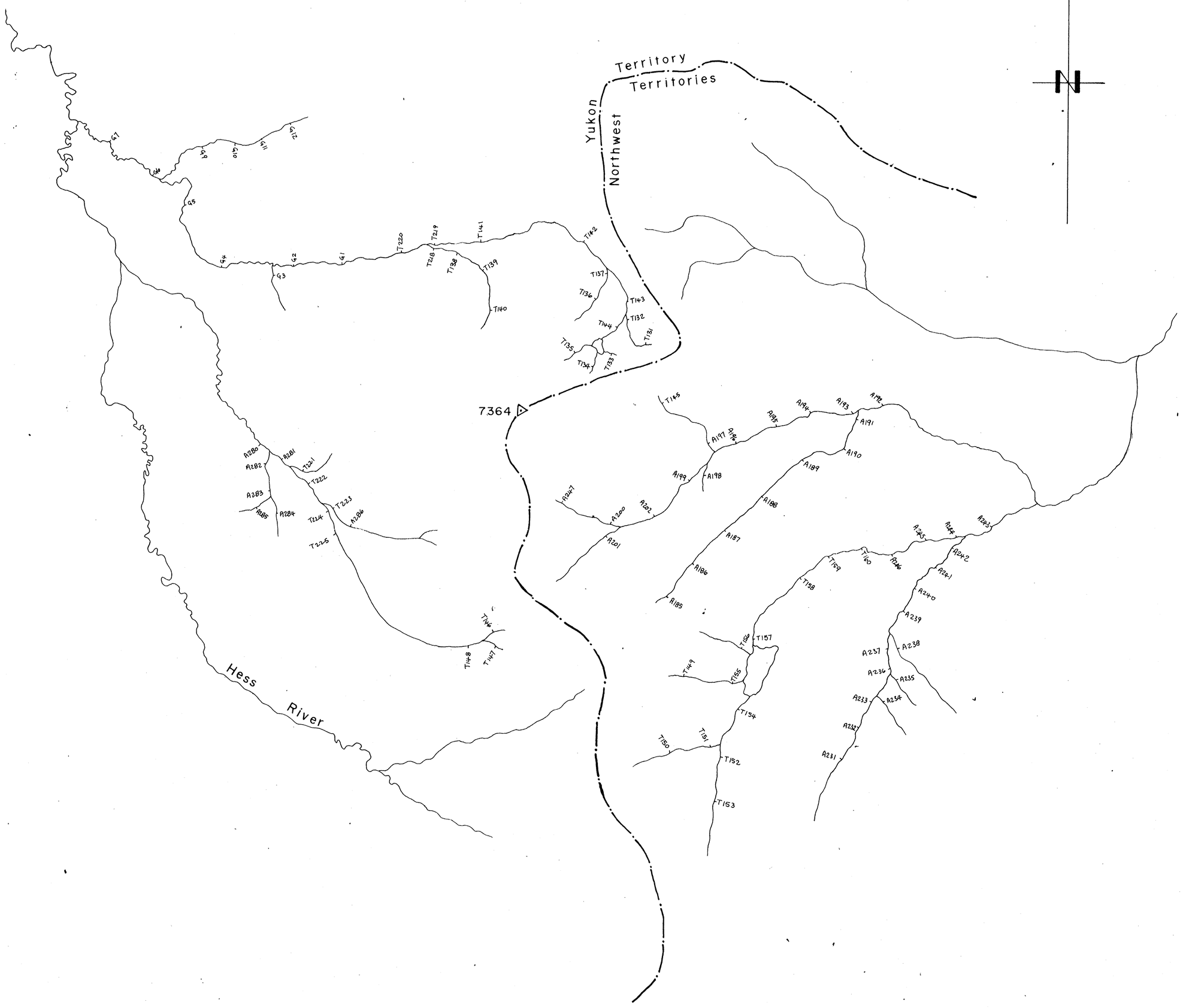
GEOLOGY

DESIGNED	SCALE HOR. 2" = 1 Mile
DRAWN	VERT.
CHECKED	DWG. No.
DATE NOVEMBER, 1970	

Territory
Territories
Yukon
Northwest

7364

Hess River



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YUKON GEOLOGICAL SURVEY

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BOUNDARY RECONNAISSANCE
HESS RIVER AREA

SILT SAMPLE LOCATION PLAN

DESIGNED
DRAWN
CHECKED
DATE NOVEMBER, 1970

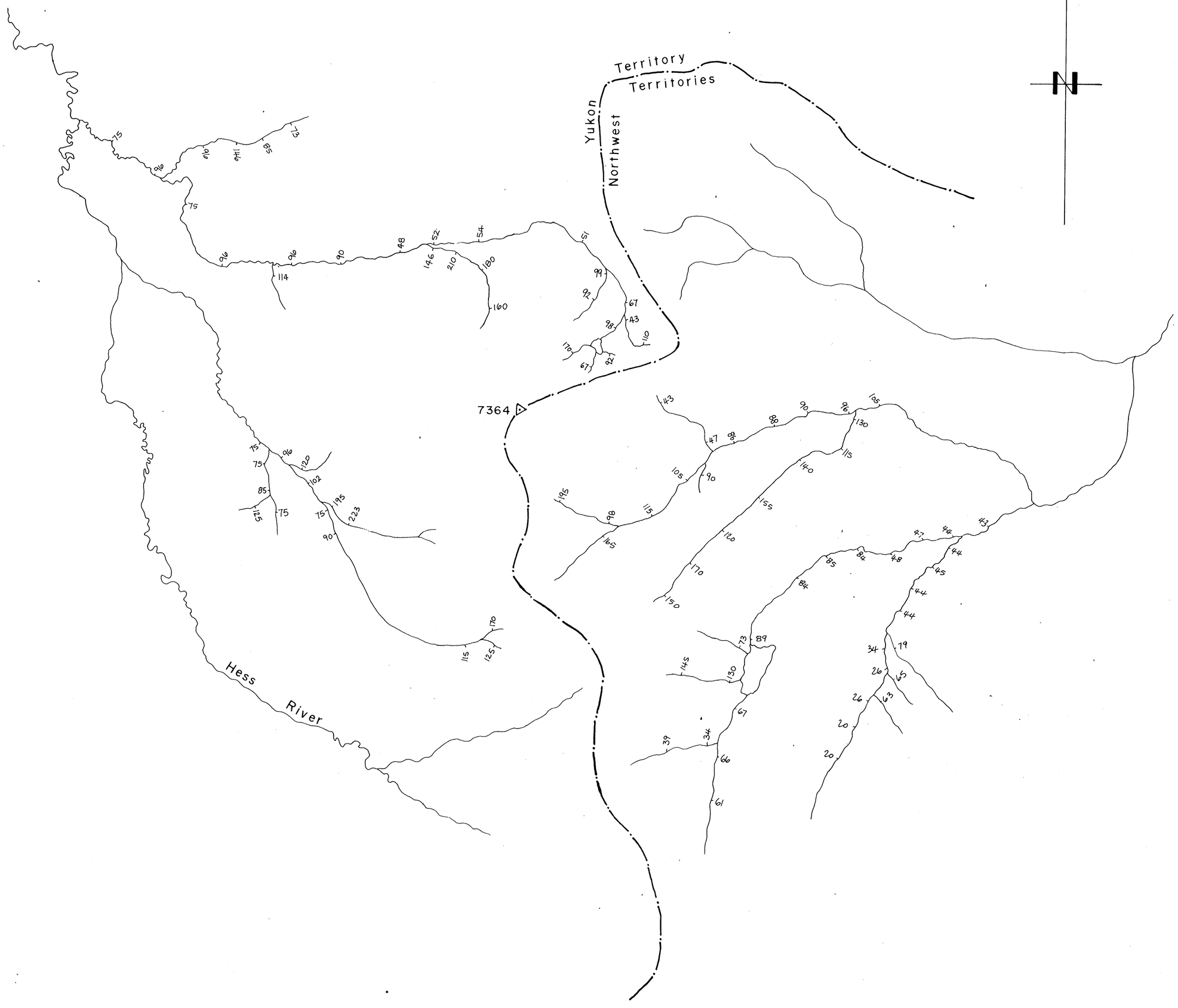
SCALE HOR. 2" = 1 Mile
VERT.

DWG. No.

Yukon Territory
Northwest Territories

7364

Hess River



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YUKON GEOLOGICAL SURVEY

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BOUNDARY RECONNAISSANCE
HESS RIVER AREA

DRAINAGE GEOCHEM. COPPER

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DATE NOVEMBER, 1970

SCALE HOR. 2" = 1 Mile
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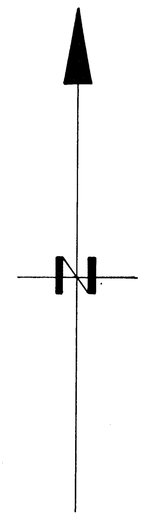
Yukon Territory

Northwest Territories

7364

Hess River



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YUKON GEOLOGICAL SURVEY

CYPRUS EXPLORATION CORPORATION LTD.

BOUNDARY RECONNAISSANCE
HESS RIVER AREA

DRAINAGE GEOCHEM. LEAD

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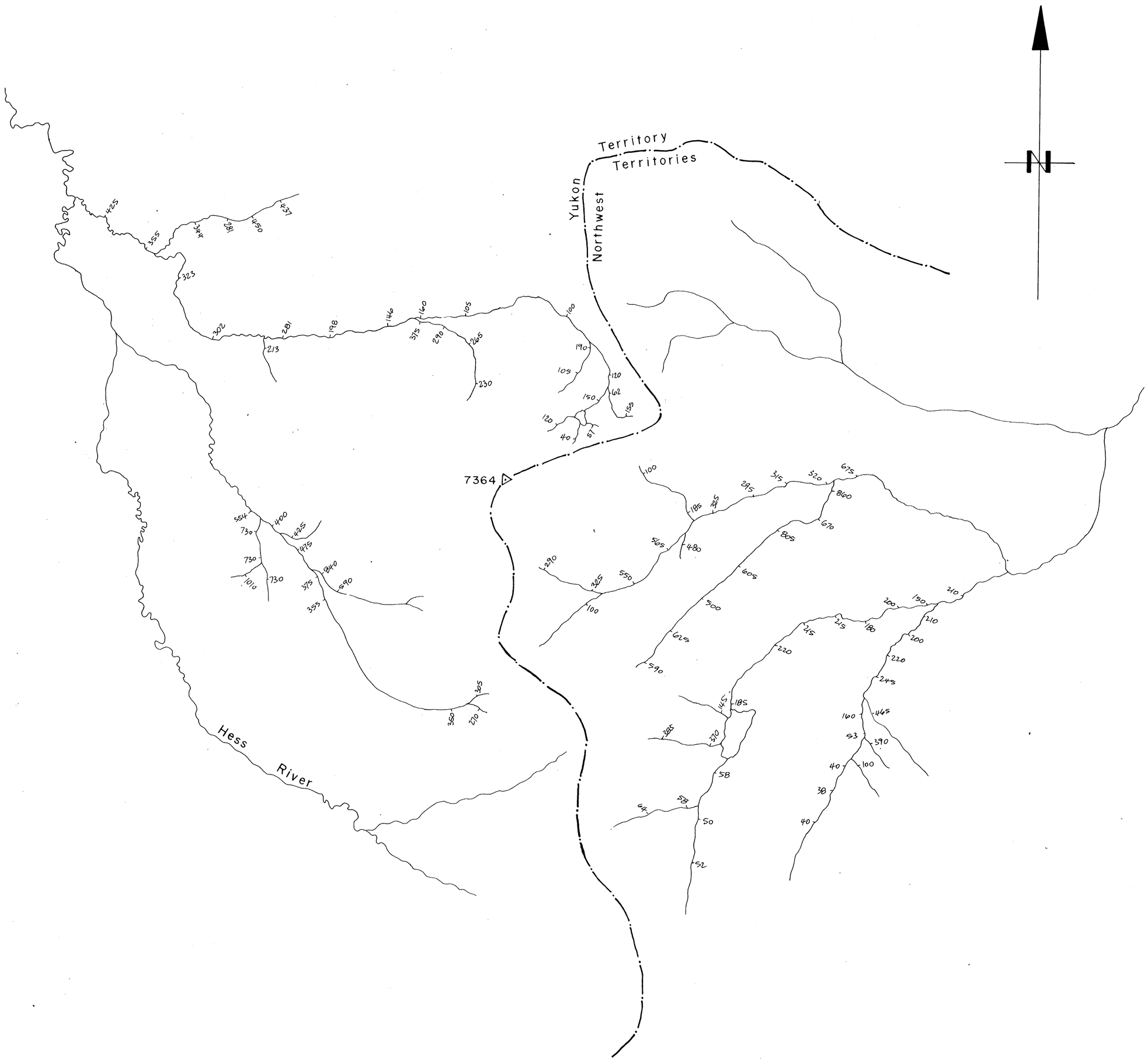

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YUKON GEOLOGICAL SURVEY

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BOUNDARY RECONNAISSANCE
HESS RIVER AREA

DRAINAGE GEOCHEM. ZINC

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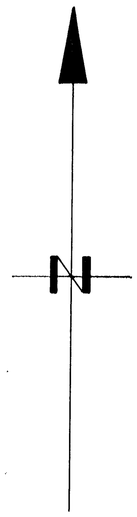
Yukon Territory

Northwest Territories

7364

Hess River



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YUKON GEOLOGICAL SURVEY

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BOUNDARY RECONNAISSANCE
HESS RIVER AREA

DRAINAGE GEOCHEM. MOLYBDENUM

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Territory
Territories
Yukon
Northwest

7364

Hess River

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B. ppm. Tot. W

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YUKON GEOLOGICAL SURVEY

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BOUNDARY RECONNAISSANCE
HESS RIVER AREA

DRAINAGE GEOCHEM. TUNGSTEN

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DATE NOVEMBER, 1970

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Yukon Territory

Northwest Territories

Hess River

7364

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267 232 335 560 250 190 232 386 650 38 725 38 519 519 633

348 320 334 446 306 595 595 460 500 709 8 362 390 280 446 432 324 340 866 292 1094 180 16 20 1094 16 306 264 278 278 320 278 320 264 980 8 240 8 230 32 12 376 1132 278 250 376 12 362 348 36 36 362 60 348 60

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YUKON GEOLOGICAL SURVEY

TOT. W.

TOT. W

TOTAL W.

All samples <4 p.p.m except where marked

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BOUNDARY RECONNAISSANCE
HESS RIVER AREA

DRAINAGE GEOCHEM. MANGANESE

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