

GEOLOGICAL MAPPING AND TRENCHING

NORTH REDSTONE CLAIM GROUP

LONGITUDE 126°51', LATITUDE 63°05'

MINERAL CLAIM SHEET 95M-2

**Work Performed During Parts of June, July and August, 1962
on behalf of Redstone Mines Limited.**

Lisle T. Jory

November, 1962.

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GEOLOGICAL MAPPING AND TRENCHING

NORTH REDSTONE CLAIM GROUP

REDSTONE MINES LIMITED

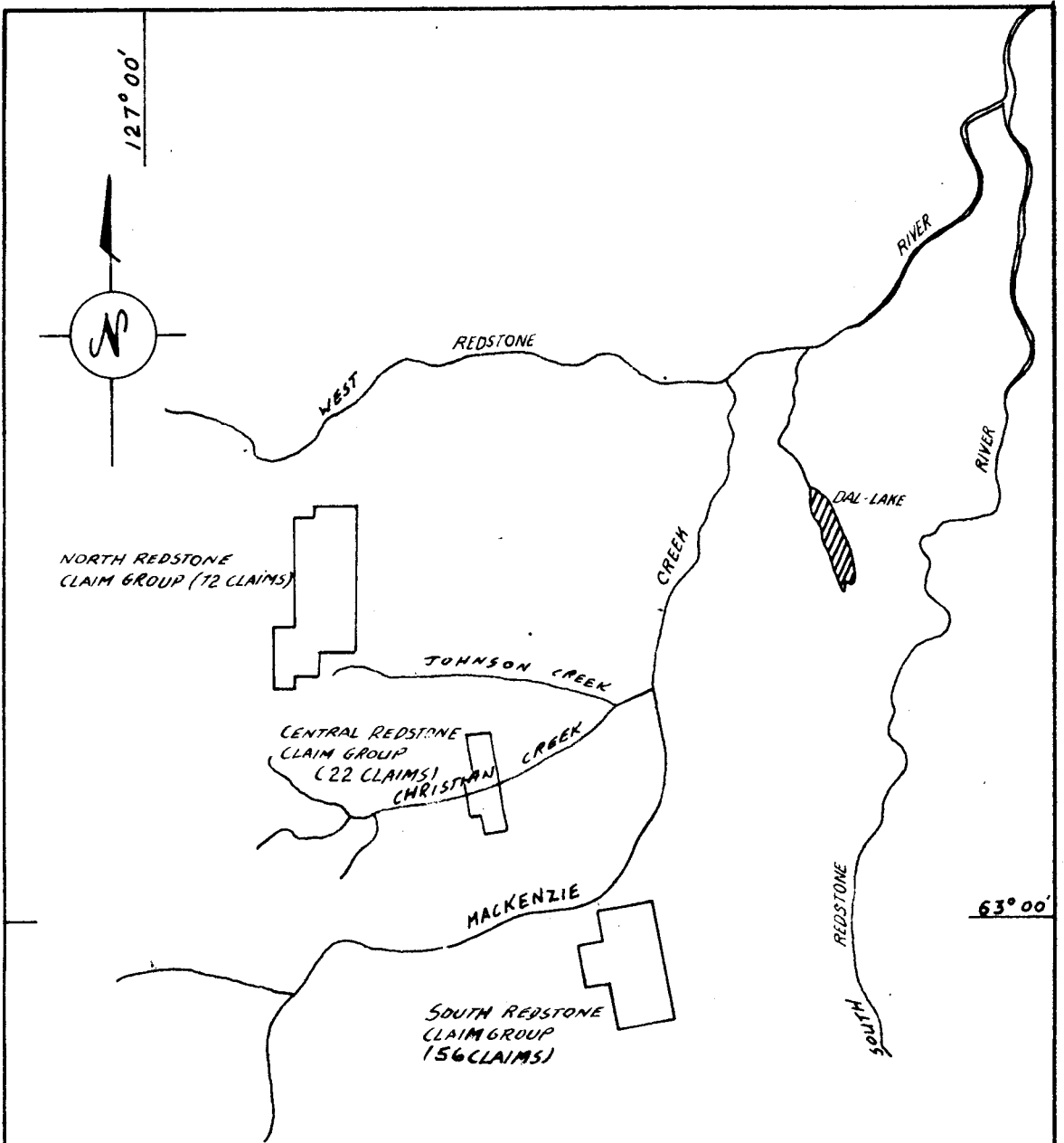
INTRODUCTION

The following seventy-two contiguous claims constitute the North Redstone Claim Group, owned by Redstone Mines Limited:

<u>Number</u>	<u>Claim</u>	<u>No. of Claims</u>
113949-66 inc.	WK 1 to 18 inc.	18
N24527-44 inc.	KT 1 to 18 inc.	18
N41550-59 inc.	ER 1 to 10 inc.	10
N41532-49 inc.	TK 1 to 18 inc.	18
N41602-09 inc.	KEW 1 to 8 inc.	8

Figure 1 shows the location of the group and Figure 2 the relative positions of the claims. They are situated in the Nahanni Mining District, N.W.T., 12 miles west of Dal Lake at approximately 126°51' W Longitude and 63°05' N Latitude.

Access to the claims is by float or ski-equipped aircraft to Dal Lake and to the site by helicopter. There are no roads and streams in the area are not navigable. The majority of the claims lie above 5000 feet elevation above sea level and are not timbered.



*Key Map of Claim Groups
Redstone River Area N.W.T.*

REDSTONE MINES LIMITED



J.M.

FIG. 1

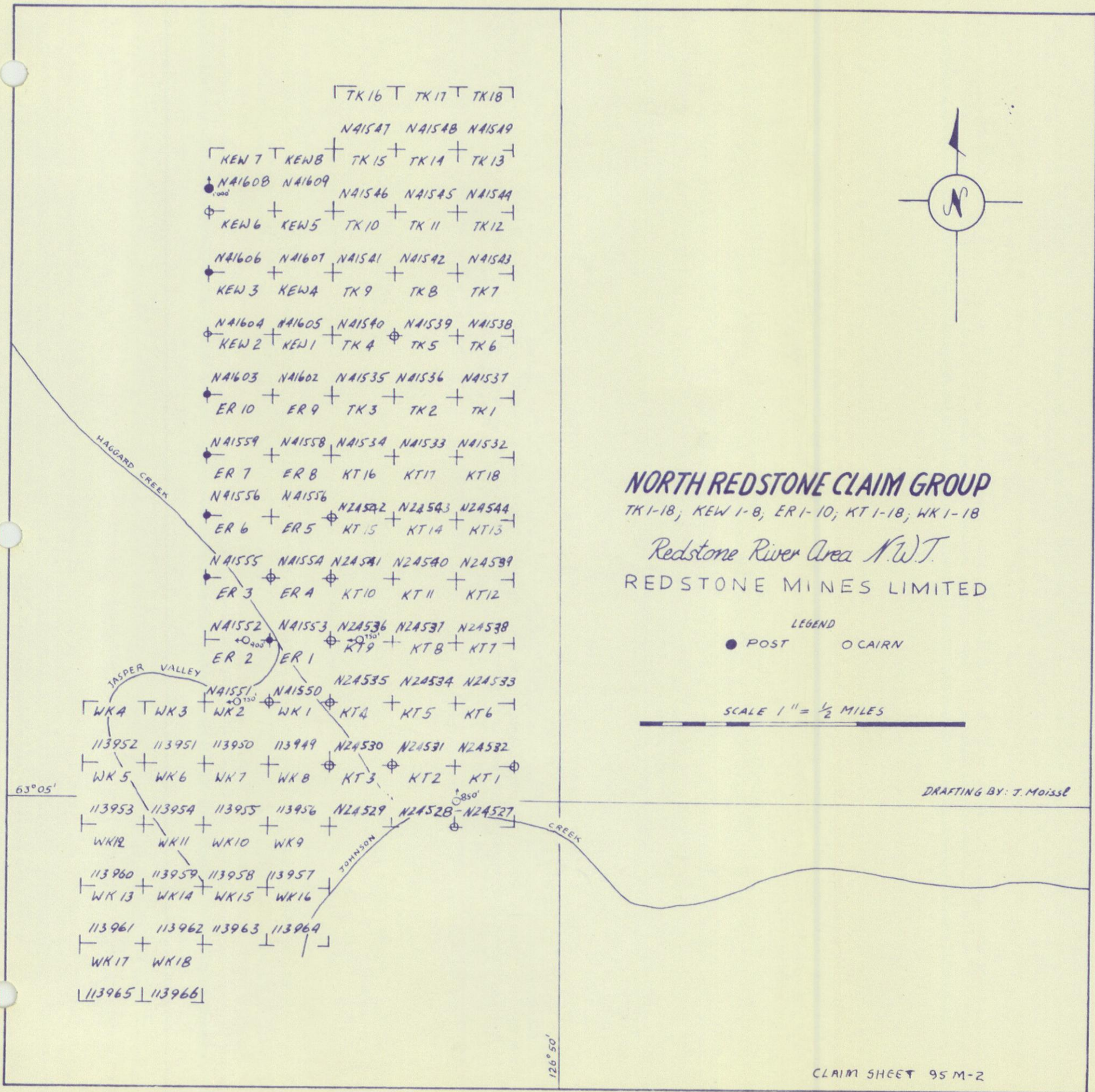


FIG. 2

Maximum relief is about 2500 feet. Stunted spruce grows in the nearby stream valleys at lower elevations. Drainage is in part to the north and west through Kvale and Haggard Creeks into the West Redstone River and in part to the east through Johnson Creek into MacKenzie Creek and thence into the same River.

Bedrock exposures are generally excellent except along the broader stream valleys and on the gentler slopes where talus obscures the underlying structures.

Base camp was at Dal Lake which was serviced weekly by Beaver aircraft from Watson Lake, 220 miles to the south. Field crews were supported with a Hiller 12E helicopter.

HISTORY

The claims were staked in September, 1961, on discoveries made shortly before by prospectors E.W. Johnson and K Haggard, employed by Redstone Mines Limited.

WORK DONE

During the 1962 field season, the following work was performed:

Geological Mappings: J. Antal and P. Kennedy spent 25 days mapping the claims during the period June 12th to July 21st while camped in the area and conducting mapping over a larger block of ground. Aerial photographs were used extensively during the mapping.

Prospecting: E. W. Johnson and D. Munro prospected the claims for 14 days, from June 12th to June 25th.

Trenching: G. Findlay and T. Evans carried out trenching operations from June 21st to July 3rd and from July 20th to August 16th for a total of 41 days.

Work was slowed during June and much of July by rain and one three-day snow storm. All work was performed on behalf of Redstone Mines Limited and was supervised by L. T. Jory, Exploration Manager, and W. J. MacKenzie, Director of Prospecting. J. A. Harquail, President, spent 3 days on the property in July and September.

EXPENDITURES

Complete costs are not yet available and will be forwarded at a later date.

GEOLOGY

The rocks outcropping in the area have been divided into three main formations as shown in the table below. The ages are those suggested by Dr. L. H. Green, Resident Geologist, Whitehorse, who also offered valuable advice on the stratigraphic sequence during a visit to the Redstone River area in August.

<u>Age</u>	<u>Formation</u>	<u>Map Unit</u>	<u>Description</u>
Pre-Ord.	Rapitan	3c	Sandstone, shale; conglomeratic; green.
		3b	Siltstone; shale; conglomeratic; purple.
		UNCONFORMITY	
Precamb?	Older Carbonates	2f	Limestone and dolomite breccia and conglomerate; buff
		2e	Argillaceous limestone; red
		2c-2	Dolomite, limestone; grey, pink
		2c-1	Dolomite; orangy-grey
		2a	Dolomite; medium grey
Precamb?	Quartzite	1	Quartzite, interbeds sandstone and shale; fine crystalline, pink

The numbering system used here, while not the same as that commonly applied during the field mapping, is arranged to be consistent with that used in other assessment reports being submitted at this time

for the same general area. Consequently, for map units missing on these claims, numbers are not shown in the table. It is hoped that the ease in correlating between the areas will outweigh any confusion which may arise.

The geology of the claim group is shown in Fig. 3.

Quartzite Formation

The quartzite outcropping on the southeast corner of the claim group is the upper member of a sequence possibly 2000 feet thick, outcropping widely in the Redstone River Area and containing some interbedded shales and sandstones. The base of the quartzite has not been seen except possibly in one area where argillaceous rocks may underlie it.

On the claims, it is medium pink, massive and fine crystalline. Immediately along the eastern boundary of KT 1 and KT 6 claims are recessive, grey weathering, interbedded sandstones and shales containing a thin dolomite horizon.

Older Carbonate Formation

This formation outcrops over most of the claims, the main exceptions being the northwest and southwest corners where the Ripitan formation outcrops. The total thickness varies from about 1500 to 2500 feet.

Unit 2a, about 200 feet thick, is a medium-grey weathering, dark grey, fine crystalline dolomite having argillaceous partings and lensy bands of red to orangy-grey, vuggy limestone. The overlying unit, 2c-1 is a bedded, orangy-grey weathering, dark grey, fine-crystalline, siliceous dolomite. It is about 300 feet thick and contains lenses of dark grey coarse crystalline limestone having very fine, wavy laminae apparently induced by necks and dykes of silica cutting through them.

Unit 2c-2, 475 feet thick where measured, is massive to thin bedded, grey to pink weathering, medium crystalline dolomite which possibly formed from the dolomitization of a dark grey, fine crystalline, silty limestone. It locally contains numerous thin interbeds and nodules of chert. It is brecciated towards the top and is locally oolitic. It includes beds mapped elsewhere as Unit 2d.

Unit 2e, while generally less than 100 feet thick is an excellent horizon marker within the claims area. It is a thin bedded, red and green, argillaceous limestone and was possibly a surface of oxidation. At least locally, the overlying beds appear to lie on it disconformably.

Unit 2f is a massive, buff weathering limestone breccia and conglomerate. Fragments of thin bedded, laminated limestone are enclosed in a siliceous, vuggy, coarse crystalline limestone. Its thickness varies from 200 feet in Jasper Valley to 1100 feet about one and one half miles to the southeast. This may be in part depositional but is probably also in part due to folding. The upper part is vuggy.

Rapitan Formation

The name "Rapitan" was applied by Dr. L. H. Green on the basis of correlations with mapping being conducted in the Snake River area. It unconformably overlies the above described units.

It is a heterogeneous formation, the lower part (3b) being predominantly purple weathering, conglomeratic siltstone containing locally, as in Jasper Valley, thin laminae of jasper and hematite. Limestone boulders and pebbles are particularly abundant near the base. Sandstones, quartzites and shales are also present. The upper part (3c) is conglomeratic green sandstone with interbedded green shale.

Structure

The claim group lies on the west flank of a major north-south trending, asymmetric anticline, the axis being about two miles east of the claims. Also east of the claims are major, north-trending, west-dipping reverse faults. The northeast-trending faults on the claim group are apparently related to the above.

In regard to minor structures, the following is excerpted from the field report of J. Antal:

A series of minor asymmetric folds have been found having axes that dipped with the bedding. On claim KT5 two such sets were found. One set of folds had axial planes dipping towards the north and had associated slaty cleavage which paralleled the axial plane. The second set was found in places to distort the former; these had axial planes dipping towards the south, they were at times associated with small normal faults, also dipping towards the south.

It appears that two orogenies, the second being very minor, producing east-west fracturing and folding preceded the major orogeny which established the present north-south grain of the country. It is possible that the first was related to the pre-Rapitan unconformity and the second to the post-Rapitan unconformity even though minor structures are not found in the Rapitan.

MINERALIZATION AND ASSAYS

Known mineralization occurs in the Older Carbonates or in the Rapitan near the base. Copper minerals predominate.

The most important zone is what is known as the Johnson Vein on KT 5 claim (Figs. 3 and 4). It outcrops on a rock shoulder at an elevation of about 5900 feet and has been further exposed here by trenching. The country rock is pink to brown weathering, dolomitized limestone striking N 30°E and dipping 25°NW. The zone, six feet wide,

contains a number of slip planes whose average strike is S 85°E and dip 85°S. Along the hanging wall (south) slip-plane is one to two feet of massive sulphides, primarily bornite and chalcopyrite. The predominant gangue is sugary crystalline dolomite with up to two feet of barite in the footwall. Sulphides are disseminated in this gangue and to a lesser extent in the wall rocks which are fractured dolomites healed by secondary dolomite. Mineralization was traceable for three feet in the footwall and 12 feet in the hanging wall. A 12.5 foot wide section, including the vein, returned an average assay of 3.37% copper.

A four-inch wide barren quartz vein cuts across the main vein from footwall to hanging wall at a low angle.

To the west, the zone was traced for 30 feet by trenching. Trenches still further west failed to reach bedrock. To the east, quartz and copper float are traceable for 1600 feet. Attempts to reach bedrock were foiled by depth of talus and permafrost. At 1600 feet, on a second rock rib, is a weak, east-west striking shear containing very minor copper stain. It is doubtful that this is the strike extension of the main zone as it is probable that the mineralization occurs in an echelon zones.

Other mineralization is as follows:

Claim WK15: Disseminated chalcopyrite occurs at the Older Carbonate-Rapitan unconformity in both formations. A grab sample assayed 12% copper and 0.2 oz per ton silver.

Claim WK4 (Jasper Valley): Disseminated chalcopyrite and bornite occur in the Rapitan near the base. A total of 14 chip samples, representing a stratigraphic thickness of 215 feet, were cut at 4 locations above the creek bed. The thickest section sampled was 80 ft.

The average of all the samples was 0.1% Cu and the best section ran 0.66 Cu over 10 feet.

Claim WK6: Buff, fine crystalline dolomite of unit 2f is strongly fractured at N 5°W/90° and N 85° E/90°. Irregular bodies of white quartz up to 20 feet wide were intruded along these fractures over a large area. Minor chalcopyrite and chalcocite occurs along later fractures in the quartz and also on or disseminated adjacent to fractures in the dolomite. Weakly mineralized float is traceable for about 400 feet north-south along contour.

Claims ER2, ER4 and KT11: Minor tetrahedrite occurs along fractures in dolomite of unit 2c-2. A grab sample from the latter claim, taken to obtain a copper-silver ratio, ran 0.38% copper and 0.24 oz/T silver.

Claim KT14: Minor galena and chalcopyrite with calcite in fractures striking N 70°W and dipping 80°S in dolomite of unit 2c-2.

Claim TK5 (Galena Ridge): Galena, mostly in float, disseminated and at the intersection of planar structures in dolomite of unit 2c-2 and traceable along contour for about 400 feet. A piece of more massive float from the creek below assayed:

Pb - 4.8%, Cu - 1.5%, Ag - 9.7 oz/T.

Claims KEW 1 and TK8: Disseminated chalcopyrite occurs in float of the Rapitan formation and, on the latter claim, limestone of unit 2c.

TRENCHING

In addition to one day of pick and shovel work on the mineralized zone of claim WK6, 162.6 cubic yards of material were excavated on claims KT5 and KT6 on the Johnson Vein by a 2 man crew working for 40 days.

The location and dimensions of the trenches are shown in Fig. 4. Only trenches 1, 2, 3, 16, 19 and 20 started on or reached bedrock. Other trenches passed into permafrost at depths ranging from two to three feet. The breakdown into types of material removed is:

	<u>KT 5 Claim</u>	<u>KT 6 Claim</u>	<u>Total</u>
Loose rock (cubic yards)	51.9	16.3	68.2
Frozen soil; rock (cubic yards)	<u>82.0</u>	<u>12.4</u>	<u>94.4</u>
Total	133.9	28.7	162.6


A Cobra rock drill was used for trenching operations.

"Mudding" of the steel in frozen ground slowed operations. Because of day-time thawing and consequent sloughing of trench walls, it was found unsafe to trench below about six feet in depth in frozen talus. Attempts to reach bedrock in areas of extensively mineralized talus east of the main showing failed.

RECOMMENDATIONS

The widely distributed mineralization on the claims makes warranted more detailed mapping of key areas for structural and stratigraphic control of mineralizing solutions. On the Johnson vein, further trenching would involve cribbing through talus of unknown depth in an attempt to locate a vein whose exact position is not known. Mineralized float can be taken as evidence for vein continuation so geophysical work is of dubious value. It is recommended that the zone be diamond drilled.

REDSTONE MINES LIMITED


L. T. Jory,
Exploration Manager.

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Whitehorse, Yukon Y1A 2C6

November 2, 1962.

126°50'

TABLE OF FORMATIONS

PRE-ORDOVICIAN
RAPITAN FM

- 3c SANDSTONE, SHALE, CONGLOMERATIC, GREEN
- 3b SILTSTONE, CONGLOMERATIC, PURPLE

PRECAMBRIAN ?

OLDER CARBONATE FM

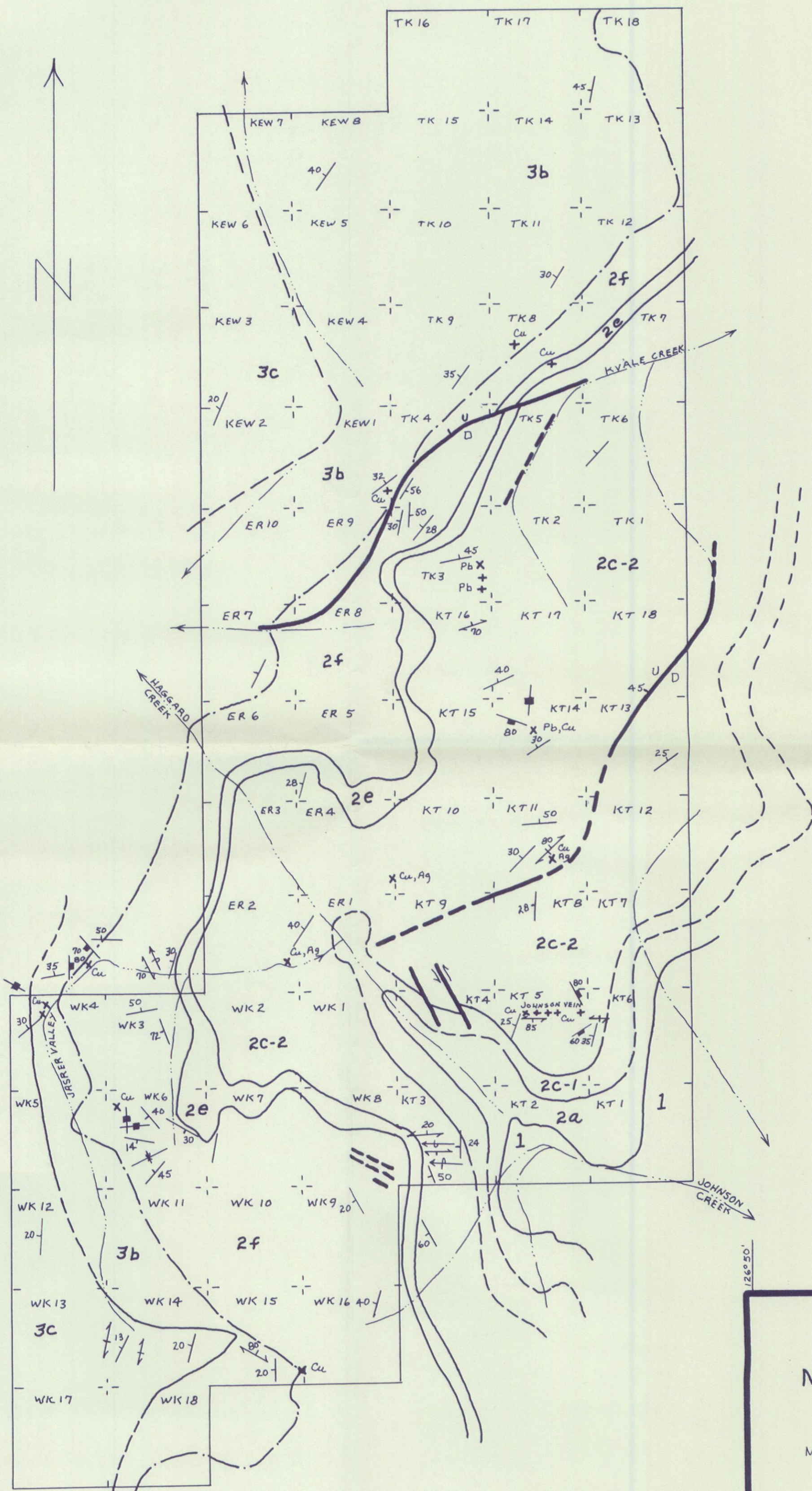
- 2f LIMESTONE-DOLOMITE, BRECCIA AND CONGLOMERATE
- 2e LIMESTONE, ARGILLACEOUS, RED
- 2c-2 DOLOMITE; LIMESTONE; GREY, PINK
- 2c-1 DOLOMITE, ORANGY-GREY
- 2a DOLOMITE, MEDIUM GREY

QUARTZITE FM

- 1 QUARTZITE; SOME SANDSTONE, SHALE; PINK

EXPLANATION

- FAULT; KNOWN, APPROXIMATE (U - UPTHROWN, D - DOWNTHROWN)
- GEOLOGIC CONTACT; KNOWN, APPROXIMATE
- UNCONFORMITY
- DRAG FOLD; OVERTURNED, PLUNGE
- BEDDING
- SHEAR JOINT SET
- CREEK
- MINERAL OCCURRENCE, FLOAT
- MINERAL OCCURRENCE, IN PLACE
- CLAIM NAME



63°05'

63°05'

126°50'

FIG.3

GEOLOGY
OF
NORTH REDSTONE CLAIM GROUP
REDSTONE MINES LIMITED

M.C. SHEET 95 M-2

DAL LAKE N.W.T.

SCALE 1" = 1320'

GEOLOGY BY J. ANTAL, P. KENNEDY

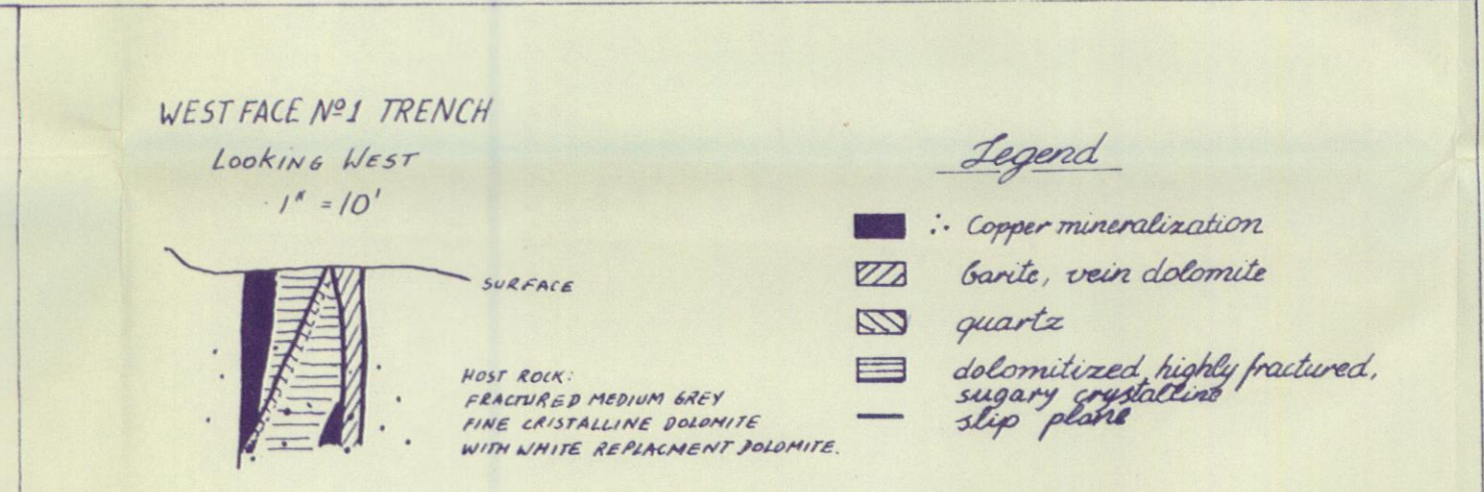
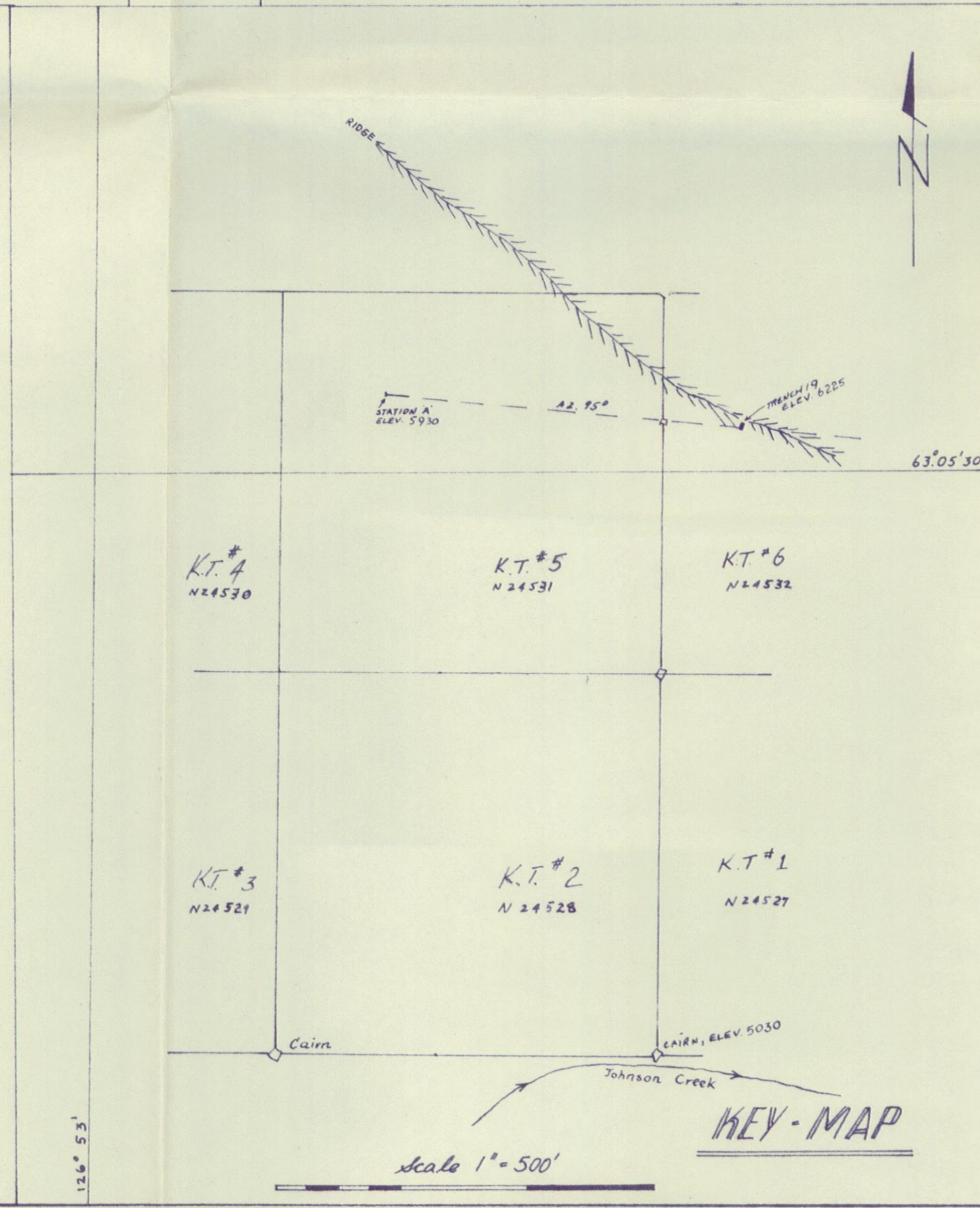
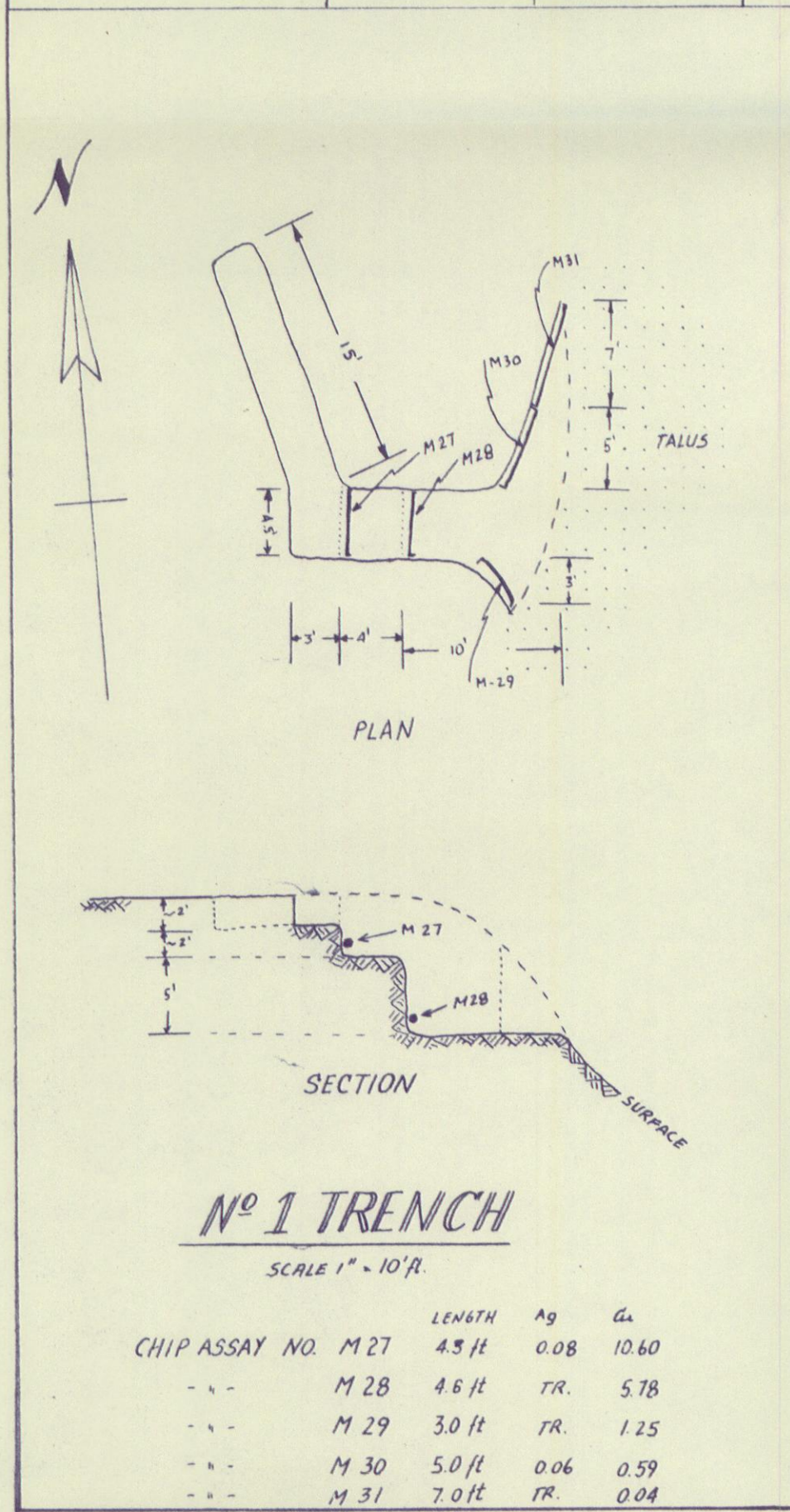
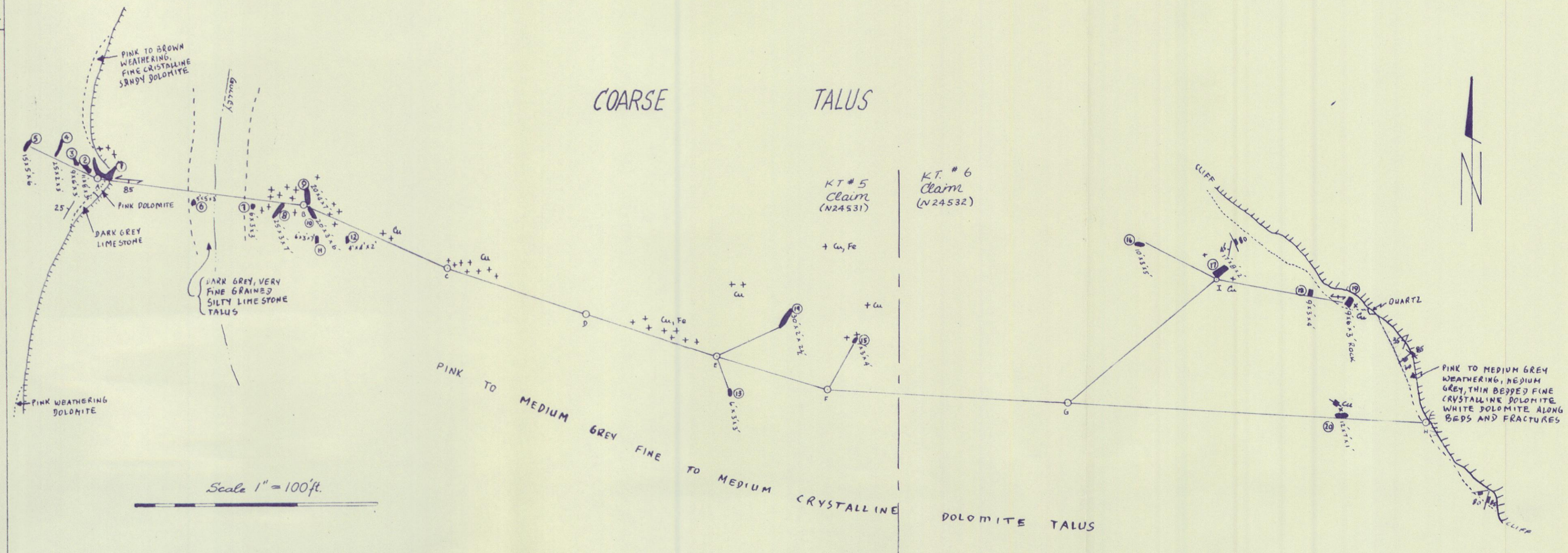
COMPILED BY L. T. JORY

1962

MAGNETIC DECLINATION ≈ 36° E.

TRENCHING

TYPE, LOCATION NO	LENGTH	WIDTH	DEPTH	Cubic yds.
TRENCH # 1	SEE PLAN			21.2
2	11'	8'	3'	9.8
3	9'	6'	3'	6.0
4	25'	2'	3'	5.5
5	15'	5'	6'	16.7
6	5'	5'	3'	2.8
7	6'	3'	3'	2.0
8	25'	3'	7'	19.4
9	20'	4'	7'	20.7
10	20'	3'	6'	13.3
11	6'	3'	7'	4.7
12	4'	4'	2'	1.2
13	6'	3'	3'	2.0
14	30'	2'	2 1/2'	5.5
15	7'	3'	4'	3.1
16	10'	3'	5'	5.5
17	17'	8'	2'	10.1
18	9'	3'	4'	4.0
19	9'	6'	3'	6.0
20	12'	7'	1'	3.1



GEOLOGY AND TRENCHING
Johnson Vein - KT5 & 6 Claims
 Johnson Creek
 Redstone River Area N.W.T.
 REDSTONE MINES LIMITED

Geology by I.T. Jory ~ Trenching supervision by W.I. Mackenzie

SEPTEMBER, 1962

NORTH REDSTONE CLAIM GROUP

FIG. 4