6527

GEOCHEMICAL, GEOLOGICAL AND GEOPHYSICAL REPORT

- ON THE -

QUINTO CLAIMS

KAMLOOPS MINING DIVISION,

BRITISH COLUMBIA

- FOR -

THE QUINTO MINING CORPORATION,

#8 - 784 THURLOW STREET,

VANCOUVER, B. C.

LOCATION: LATITUDE: ~~59~~ 50° 47' N.

LONGITUDE: 121° 01' W.

WORK PERFORMED: AUGUST 22ND. TO OCTOBER 6TH., 1977.

PREPARED BY:

KERR, DAWSON & ASSOCIATES LTD.,

#1-219 VICTORIA STREET,

KAMLOOPS, B. C.

W. GRUENWALD,

OCTOBER, 1977.

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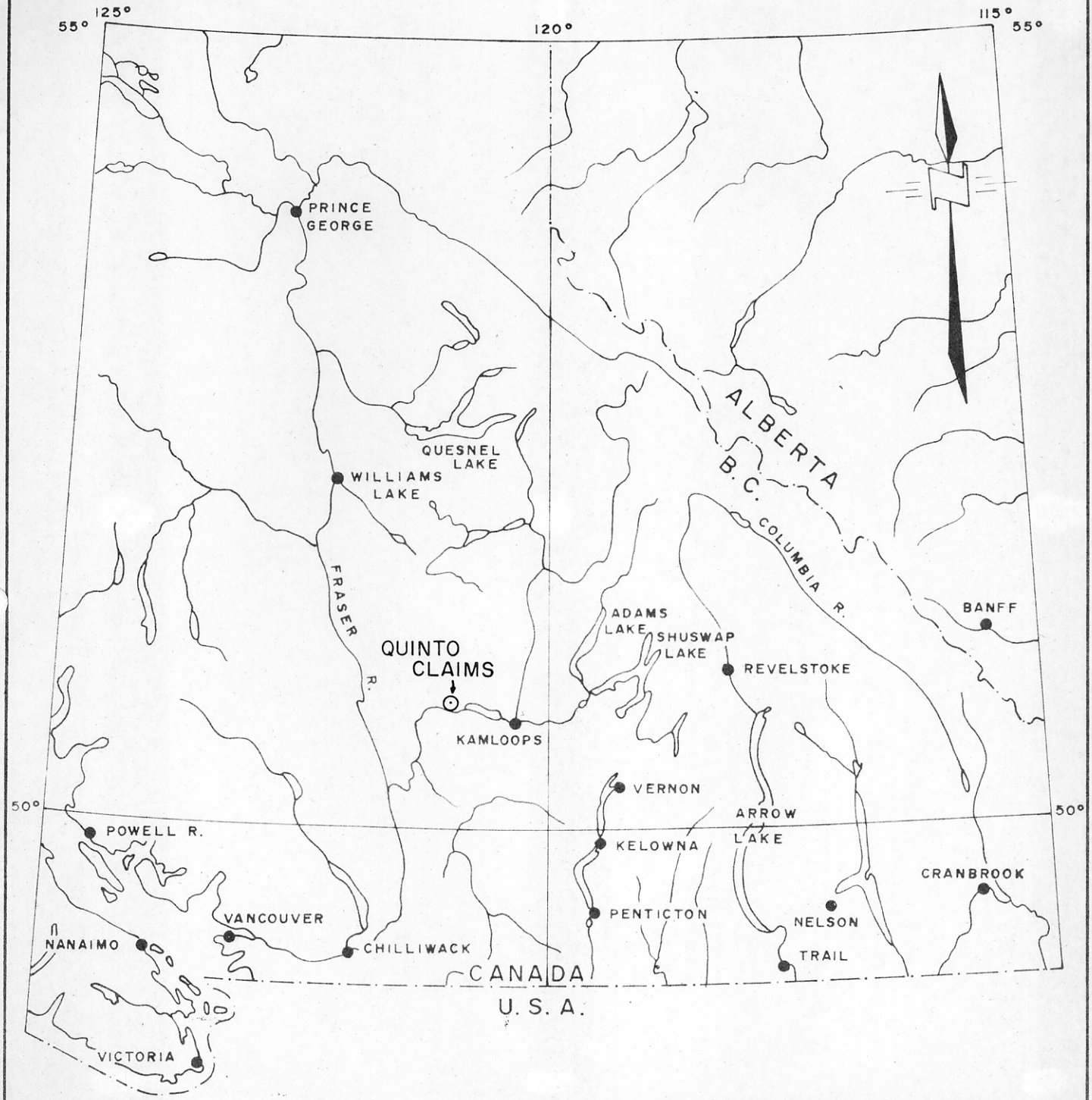
INTRODUCTION

During the period from August 22nd. to October 6th., 1977, the writer carried out a programme of geochemical sampling, geological mapping and a magnetic survey on the Quinto claims owned by the Quinto Mining Corporation.

The Quinto claims comprised of 80 metric units are situated at the northern extremity of the Guichon Creek Batholith and cover a number of copper, zinc, and magnetite showings in a geologic environment very similar to that of the Craigmont mine at Merritt, B. C.

This report and the enclosed maps describe the data obtained during the course of the above surveys.



THE QUINTO MINING CORPORATION

LOCATION MAP

QUINTO CLAIMS

WALHACHIN, B.C.

KAMLOOPS MINING DIVISION

Date: September, 1977	Scale: 1" = 64 Miles
Dwn by: W. G.	Dwg no. 158 - 1

LOCATION AND ACCESS

The Quinto claims are situated approximately 22 kilometers east of Cache Creek, B. C. The Trans Canada Highway and the ~~North~~ Thompson River transect the southwest corner of the claim block. Gravel roads head north into the claims approximately 1 km. west of the Walhachin turnoff; however, they have deteriorated to a nearly impassable condition north of L-15+00N (see figure #158-3). A rough road is found parallel to the major power line which transects the southwest corner of the claims, north of the Trans Canada Highway.

Access for the majority of the surveys has been via a road that leaves the Trans Canada about 5 km. east of the Walhachin turnoff. From this point, the property is approximately 4 kilometers.

PHYSIOGRAPHY AND VEGETATION

The Quinto claims are situated on a south facing slope between the 1,200' and 3,000' elevation from 1/2 to 2 1/2 miles north of the ~~North~~ Thompson River. Much of the claim area is of a gentle south slope; however, a number of steep and highly dissected slopes are found along the highway and in the northern portion of the survey area.

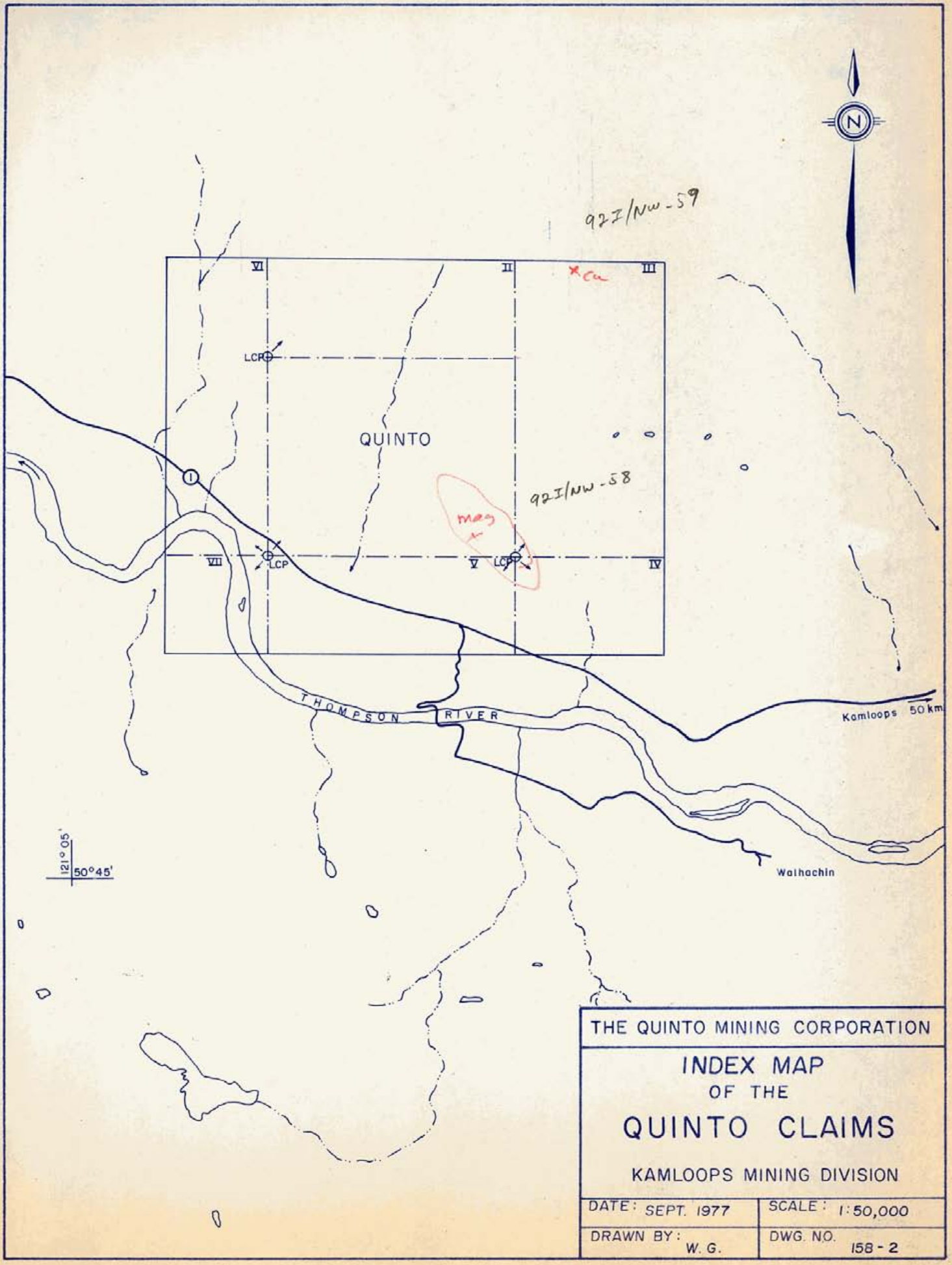
Creek valleys and gulleys are generally of a north-south trend and are nearly always dry except for the occasional spring.

Vegetation consists primarily of sage and sparce grasses on the gentle slopes to the south. The northern and steeper portion of the claims are sparcely treed by pines.

Overburden of both a glacial and residual nature covers much of the claims. The most extensive area of overburden is found on the southern third of the Quinto claim and most of Quinto V and VII, where

the fluvial and glacial debris is probably well in excess of 10 meters.

Overburden depths on the upper slopes varies from 1/4 to 1/2 meter on the steeper slopes to $\geq$ 2 meters on some of the gentler slopes such as in the central portion of Quinto III.



THE QUINTO MINING CORPORATION

INDEX MAP OF THE QUINTO CLAIMS

KAMLOOPS MINING DIVISION

DATE: SEPT. 1977	SCALE: 1:50,000
DRAWN BY: W. G.	DWG. NO. 158 - 2

PROPERTY

The Quinto claims comprised of 80 units were staked under the Modified Grid System and are located in the Kamloops Mining Division (N.T.S. No 92I/14E). The claims owned by the Quinto Mining Corporation are as follows:

Name	No. of Units	Record No.	Expiry Date
Quinto	20	660	December 16,1977
Quinto II	10	747	March 29,1978
Quinto III	18	748	March 29,1978
Quinto IV	6	749	March 29,1978
Quinto V	10	750	March 29,1978
Quinto VI	12	823	May 25,1978
Quinto VII	4	824	May 25,1978

HISTORY

The history of the Quinto claims area dates back to at least the 1940's with the following representing a brief summary of work done to date, (taken from a report by James S. Christie, 1977).

i) 1940's to 1967: - prospecting, grid soil sampling especially in the Main showing area.

ii) 1967: - trenching of the Main showing area yielded low to moderate values in copper, zinc, and silver.

iii) 1971-1972: - Cache Creek Copper Mines Ltd. (N.P.L.) carried out programme of trenching and diamond drilling (reportedly 2,000').
Some geological mapping by Rio Tinto.

iv) 1972:

- restaked and sold to Northland Mines Ltd. (N.P.L.) who completed two east-west I.P. lines which indicated "anomalous conditions" over the Main and East showings.
- grid established over western third of present Quinto claim and parts of Quinto VI and VII.
- recorded for assessment but allowed to lapse by 1975.

v) 1975 - 1976:

- restaked as the 20 unit Walla claim by W. McLaren of Vancouver.
- the Quinto claim is a relocation of the lapsed Walla claim.

PRESENT EXPLORATION

Following a preliminary reconnaissance of the Quinto claims in May, 1977, the writer was engaged by the Quinto Mining Corporation to carry out geological, geophysical and geochemical surveys on the Quinto, Quinto III, and Quinto V claims.

A 2.55 km. baseline was established along the boundary of the Quinto and Quinto III claim with the 0+00 point located 60 meters south of the Trans Canada Highway.

Then a series of east-west picket lines were established at 300 meter intervals (L-0+00 to L-24+00N) with stations every 50 meters. (See Figure #158 - 3).

Pace and compass lines were established between each picket line making the line spacing 150 meters. (See Figure #158 - 4A, 4B). Line separations were measured at the extremities of the grid to determine any deviations. The subsequent geological, geochemical, and geophysical surveys were carried out on these grid lines.

REGIONAL GEOLOGY

The Quinto claims are situated at the northern extremity of the Guichon Creek Batholith which is host to the prophyry copper deposits of the Highland Valley & the Craigmont mine, a contact metasomatic iron-copper deposit.

The Guichon Creek Batholith, a Jurassic quartz diorite-diorite, with hybrid contact phases intrudes the Upper Triassic Nicola Group. The Nicola Group consists of a thick sequence of volcanic flows, pyroclastics and sedimentary rocks.

Several small late Cretaceous quartz-feldspar porphyry plugs (possibly Copper Creek intrusions) intrude the Nicola volcanics in the northwest portion of the Quinto claims.

Overlying the Guichon Creek Batholith and the Nicola volcanics to the north is the southern extremity of the Kamloops Group, an extensive Tertiary sequence of volcanic flows, fragmentals and sedimentary rocks (conglomerates in the claim area).

PROPERTY GEOLOGY

The geology of the Quinto claims under investigation consists of the following rock units:

(1). KamloOps Group volcanics and sedimentary rocks - Tertiary

(2). Quartz-Feldspar porphyry Intrusive - Cretaceous?

(3). Quartz Diorite Intrusive - Lower Jurassic

(4). Nicola Group volcanics and sedimentary rocks - Upper Triassic

The Kamloops Group covers the northern portion of Quinto VI, III, all of Quinto II and the extreme northern edge of the Quinto claim. The sequence consists of nearly flat lying red, brown purplish and black flows, tuffs, coarse fragmentals and vesicular volcanics. The northern quarter of Quinto III is composed of a thick ($\sim$100 meters) sequence of conglomerate composed primarily of well rounded pebbles to boulders of volcanics with minor intrusive and limestone fragments. No mineralization of economic mineralization was observed in this unit. In the

northwestern part of the grid several yellow-brown to pale green quartz-feldspar porphyry plugs similar to the Cretaceous (?) Copper Creek intrusions cut the Nicola volcanics. An area of quartz feldspar porphyry is found in the Main showing area suggesting that there may be a small plug in the mineralized area. Other than pyrite, no other mineralization was observed in these plugs.

The Guichon Creek batholith underlies much of the eastern part of the grid. It averages approximately 1,500 meters wide and extends north to at least L-25+50N; 3+50E where it disappears under the Kamloops Group volcanics.

The batholith consists of a medium grained, gray to greenish, quartz-hornblende diorite to diorite. Alteration of mafic minerals to chlorite is common. Local concentrations of epidote, pink feldspar, $\pm$ calcite, $\pm$ magnetite were also observed in some areas. Near the eastern contact of the Guichon Creek batholith is a medium grained, pinkish granite phase (?) which

averages 250 meters in width and approximately 1,000 meters in length. This fresh looking phase (?) is more acidic and unaltered than usual for the batholith in this area.

The largest group of rocks is the Upper Triassic Nicola Group consisting of andesitic volcanic flows, tuffs, feldspar porphyries, coarse fragmentals and sedimentary rocks. The sedimentary sequence is composed of gray to white, fine grained, locally fossiliferrous limestones, and minor quartzites.

One area of limestone is a north-south trending unit in the western portion of the Quinto claim from line 13+50N to just north of L-21+00N. The width averages 75 meters but may vary considerably. The dip of the limestone would appear to be $\geq$ 30° to the west. The upper contact has been observed to be quite irregular and often with a coarse grained quartz-feldspar porphyry (dyke?) and fragmental volcanics. (See Figure #158-3). The volcanic rocks for at least 200 meters west of the limestone unit contain fragments of limestone which may suggest that the volcanic rocks may have incorporated blocks of limestone at the time of extrusion.

Another occurrence of limestone is the "roof pendant" area (See Figure #158-3), where small contact metasomatic deposits of magnetite, garnet ± chalcopyrite have been found in uplifted blocks of limestone and minor quartzite. The largest limestone unit is found east of the batholith. Here the limestone extends north-northwesterly from L-00+00, 15E to L-27+00N. The width varies from 50 to 80 meters with a second thinner unit being indicated to the east in some area. The dip of the unit appears to be steep and to the east possibly due to uplift by the batholith. In all areas observed the limestone is separated from the batholith by various Nicola volcanics. Though separated at the surface an underground batholith - limestone contact is quite possible. The limestone also shows highly fossiliferrous beds in several localities (ie. L-1+50N; 12+50E and L-27+00N; 5+00F).

The only mineralization observed was a very small showing of native copper, malachite and azurite in dark gray limestone that assayed 1.58% Cu and 0.2% zinc. Approximately 60 meters north of here the limestone plunges under a thick sequence of Kamloops Group volcanics.

The volcanic division of the Nicola Group here is andesitic though acidic and basic units are observed. Fine to coarse fragmentals and flows constitute the majority of the volcanic rocks. Some welded tuffs were observed in the western extremity of the grid.

A medium to coarse grained quartz ± feldspar porphyry is found scattered in an area from L-13+50N to L-25+50N; 12 to 18W. These rocks are found on both the east and west side of the western limestone unit. As previously stated some of the rocks in the showings to the north are similar to these porphyries. A small copper showing on L-18+00N; 15 W occurs in a similar pale green quartz-felspar porphyry. These prophyries may be dykes or a series of small hypabyssal plugs since they appear too felsic to be part of the Nicola group volcanics.

The main zone showing occurs in pale to dark green andesitic tuffs(?) flows, and amygdaloidal volcanics. The mineralization consists of pyrite, chalcopyrite, sphalerite and minor galena often in a quartz ± carbonate gangue. This area has been trenched and drilled (see History). Details of assays are given in a report by James S. Christie, 1977.

The east zone showing is a small pyritic showing in carbonatized, and silicified volcanics with chalcopyrite and sphalerite mineralization. Though not connected with the main zone showing on the surface, the two zones may be part of a common mineralized zone at depth. A similar copper-zinc showing exists on L-15+00N; 12 + 50W in Nicola volcanics in contact with a rusty brown quartz-feldspar porphyry.

At line 15N, 5+50W a showing of massive, fine grained magnetite with minor malachite was found in Nicola volcanics in contact with quartz diorite. Other magnetite showings were observed south of L-1050N, 9W in massive epidote-pink feldspar replacements in dark green Nicola volcanics. Numerous pieces of magnetite float were found north and northeast of this area suggesting other sources of magnetite mineralization exist between these showings near the volcanic-intrusive contact.

Though no limestone was observed in this area, a buried northwesterly continuation of the limestones such as at the "roof pendant" area is conceivable.

GEOCHEMISTRY

During the course of the survey the writer collected a total of 1,097 geochemical samples at 50 meter intervals on all grid lines.

Since the claim area is situated in a semi arid region, the "A" horizon of the soil was generally weakly developed or non existent. The majority of the soils collected would generally be categorized as B to C horizon. Sample depths ranged from 5 cm. on outcrop areas to 30 cm. on less rocky areas.

The finest grain size available was collected and placed in Kraft paper envelopes numbered by the co-ordinate system. All samples were shipped to Bondar-Clegg and Co. Ltd. in Vancouver for analysis of copper and zinc. From each sample the -80 mesh material was used and of this a portion was subjected to aqua regia extraction and analysed by the atomic absorption method. All results were stated in parts per million (p.p.m.)

The mean and standard deviation were calculated for both metals and were classified into the following categories. (See Figures #158 - 4A, 4B).

Negative	0	- Mean
Possibly Anomalous	Mean	- (Mean + 1 Std. Dev.)
Probably Anomalous	(Mean + 1 std.dev.)	- (Mean + 2 Std. Dev.)
Definitely Anomalous	>	- Mean + 2 Std. Dev.)

All values were plotted on base maps at a scale of 1:5,000 or 1 cm. = 50 meters. The above categories represent the contour intervals for copper and zinc. (See Figures #158 - 4A, 4B). The mean for both copper and zinc is 46.4 and 98.4 p.p.m. respectively with a number of definitely anomalous zones being indicated (See Figures #158 - 4A, 4B).

From inspection of the maps, it can be seen that a definite north-south trend exists in the anomalies and that the anomalous zones form a large area which arcs northwesterly from the southern part of Quinto III to the west central and northern portion of the Quinto claim. The large scale trend roughly parallels the Guichon-Nicola contact while the individual anomalies possibly outline the local trend of rock units and their

mineralized zones. This north-south trend may also be in part modified by a downslope movement in the soils.

The Guichon Creek batholith is essentially negative except for some anomalous copper-zinc values in the southeastern portion of the grid were some assimilated and mineralized Nicola volcanics may exist.

One definite anomaly exist parallel to and just west of the baseline from L-4+50N to L-7+50N. This copper-zinc anomaly corresponds to an area of numerous roof pendants of Nicola volcanics and limestone. Some of these limestones contain small contact concentrations of magnetite, grossularite garnet, pyrite and minor chalcopyrite. (See Figure #158 - 3, L-6+00N, 0+00.)

Several small high intensity zinc anomalies exist on the east side of L-25+50, L-27+00N at 5+00 to 6+00E. (See Figure #158-4B). These small anomalies correspond to the north northwesterly trending limestone ridge. Thus the small copper showing and the zinc anomalies here imply some definite increase in metal values in this part of the limestone unit.

In the north central portion of the Quinto claim L-22+50N to 25+50N, are several coincident north-south copper-zinc anomalies which correspond quite well to the Main and East showings. (See Figure #158 - 4A, 4B).

To the south approximately 750 meters from the above anomalies is a large zinc anomaly with a smaller coincident copper anomaly within it. Both anomalies lie immediately east of a north-south bed of Nicola limestone and are situated in an area of pale green, medium to coarse grained quartz-feldspar porphyry similar to that found north of here in the main zone showing. Though the rocks here are not pyritized to any great extent some chalcopyrite mineralization was noted in an outcrop at L-18+00N; 15+00W.

MAGNETOMETER SURVEY

During the course of the survey 56.05 km. of magnetic readings were taken on all grid lines as well as on some pace and compass extensions into irrigated land (i.e. L-10+50N, L-9+00N, and L-4+50N). Readings were normally taken at 50 meter intervals except in magnetically active or limestone areas where spacings were reduced to 10 - 25 meters.

The instrument used was a Phoenix Geophysics Fluxmaster MU-1 magnetometer which measures the vertical component after having been adjusted to cancel out the earths magnetic field at a known base station. The base station chosen was 0+00 with the cancelled value being 54,700 gammas.

Diurnal (daily) and day to day variations were noted by referring to several known stations at various times during the day with appropriate corrections then being made. Readings were always taken facing north to avoid any orientation errors. Values were stated in "gammas".

From Figure #158 - 5 it can be seen that the magnetic trend in the Quinto claims area is from north to north-northwesterly. The following observations can be made:

(1). Eastern limestone unit:

- magnetically low, with some elongate "highs" on the eastern contact with the Nicola volcanics (ie. L-1+50N, L-9+00N, L-12-13+50N).
- some coincident magnetics with strong zinc anomalies on L-22+50N, L-24+00N at approximately 5+00 to 0+00 E.

(2). Western limestone unit:

- magnetically inactive - low values.

(3). Roof pendant area (L-6+00N to L-7+50N; Baseline)

- magnetically erratic; no exceptional highs or lows except at magnetite showing.
- does have coincident copper-zinc anomalies.

(4). Main zone showing: (L-25+50N; 16+00 to 17+00W).

- little magnetic activity.
- strong zinc anomaly - weak copper anomaly.

(5). East zone showing:

- small strong positive magnetic anomaly.
- with coincident strong copper anomaly and moderate zinc anomaly.

(6). Nicola magnetite showings: L-9+00N to L-15+00N (approx. 5 to 10W).

- magnetically the area is very active (high positives and negatives).
- corresponds to area just west of Guichon Creek batholith contact.
- also has coincident weak to moderate copper and zinc anomalies.
- magnetically active area measures approximately 500 meters x 1,000 meters.

(7). Nicola volcanics at west edge of L-19+50N to L-22+50N:

- North-south high postive magnetic anomalies with coincident copper anomalies; coincides with large Nicola volcanic cliffs.

(8). Nicola rocks at east edge of L-15+00N to L-19+50N:

- high postive magnetic anomalies with weak coincident copper anomalies; negative zinc values.
- corresponds to large area of Nicola fragmentals.

(9). L-22+50N to L-27+00N @ 5 + 00 to 10 + 00W:

- this area of high "magnetics" corresponds to an area of Tertiary Kamloops volcanics that cover both the Nicola volcanics and the Guichon Creek batholith.
- negative copper and zinc values.

(10). Guichon Creek Batholith:

i) - large NNW-SSE highly magnetic area from L-4+50N to 16+50N, just east of the baseline.
   - contains two small highly magnetic areas one of which corresponds to a limestone roof pendant mineralized by magnetite.
   - other high positive anomaly may be buried magnetite mineralized - limestone roof pendant.
   - weak copper and zinc anomalies at south end of this magnetic high.

ii) L-1+50N to L-13+50N at 9+00 to 11+00E.
   - these magnetic highs correspond to the eastern border of the Guichon Creek batholith.
   - show a weak coincident copper-zinc anomaly.
   - this may be an area of assimilated Nicola volcanic rocks?

iii) The granite phase of the batholith is magnetically as well as geochemically inactive.

SUMMARY AND CONCLUSIONS

(1). The Quinto claims consisting of 80 metric units are situated on a south facing slope north of the ~~North~~ Thompson River approximately 4 kilometers north - northwest of Walhachin, B. C.

(2). The property is underlain by the northern extremity of the Guichon Creek batholith which intrudes the Triassic Nicola volcanics and sedimentary rocks. Later quartz-feldspar porphyry plugs intrude the Nicola volcanics at the north-west end of the grid. All of the above rock types are overlain to the north by a thick Tertiary volcanic and sedimentary sequence.

(3). The majority of the mineralization observed is contained within the Nicola rocks. The writer recognizes three types of mineralization, one of which is the pyrite, chalcopyrite, sphalerite $\pm$ galena zones in Nicola andesitic flows and porphyries of which the Main and East showings are a part of. The second type is the magnetite $\pm$ chalcopyrite replacements in the Nicola volcanics and limestones near their contact with the Guichon quartz diorite. (These are generally contained in the most magnetically active areas.) The third and least common type is the native copper, malachite and azurite noted in the Nicola limestone in the north-east corner of the grid. Zinc appears to be also

with this type.

(4). Geochemistry indicates a rough north-south trend to the anomalies and probably the rock types. Known showings were delineated to some extent and some possible extensions to these zones may be indicated. Limestones were geochemically inactive except for the native copper area and some of the limestone - volcanic contacts in the eastern part of the grid.

(5). The magnetic survey was useful in delineating certain rock types and locating a number of magnetite and probable magnetite showings as well as magnetically active areas near the Nicola-Guichon contact. (i.e. L-9+00N to L-15+00N; 5 to 10W.)

(6). Several areas were delineated as possible areas for possible Craigmont type mineralization, one of which is the area west of the Guichon - Nicola contact in L-9+00N to L-15+00N. Though the surface indications are scattered and relatively small, a good possibility exists for more extensive and economic mineralization at depth, such as is the case at Craigmont.

RECOMMENDATIONS

(1). Investigate the magnetite showings along the west contact of the Guichon batholith (L-7+50N to L-15+00N) by a series of induced polarization lines. A more detailed magnetometer survey could be carried out in this specific area.

(2). Detailed rock geochemistry of the limestone in the northeast corner of the grid to determine the extent of the copper and zinc values.
Carry out induced polarization surveys on:

L-24+00N	2E to 10E	)	
		)	
L-25+50N	2E to 10E	)	Total 2.3 km.
		)	
L-27+00N	3E to 10E	)	

if geochemical investigation warrants it.

(3). Carry out induced polarization surveys over:

L-15+00N;	8+00W to 22+00W	)
		)Total 2.8 km.
L-18+00N;	8+00W to 22+00W	)

to investigate coincident copper and zinc anomalies.

(4). To fully test the possibility of Craigmont type mineralization it is recommended that several deep drill holes (~1,000 feet) be drilled in areas #1 and #2 above with the objective of intersecting the contact of the limestone or favourable zone and the Guichon batholith.

Respectfully Submitted by:
KERR, DAWSON AND ASSOCIATES LTD.,

Werner Gruenwald

Werner Gruenwald, B. Sc.,
GEOLOGIST

October 7th., 1977,
KAMLOOPS, B. C.

APPENDIX A

PERSONNEL

PERSONNEL

Field:

W. Gruenwald	August 24 - August 27, 1977	4 days
	August 29 - September 3	6 days
	September 6 and 7	2 days
	September 10 - 13 inclusive	4 days
	September 17 - 19th. inclusive	3 days
	September 23rd.	1 day
	TOTAL IN THE FIELD	20 days

Office:

W. Gruenwald	August 22nd. and 23rd.	1 1/2 days
	September 8th. and 9th.	1 3/4 days
	September 14th. and 15th.	1 3/4 days
	September 21, 22, 24	3 days
	September 26, 27	2 days
	September 28	1 day
	September 29 - 30	2 days
	October 3, 4, 5, 6	4 days
	TOTAL IN THE OFFICE	16 1/2 days

APPENDIX B

STATEMENT OF EXPENDITURES

COST OF PROGRAMME ON THE QUINTO CLAIMS

(1).	Grid Establishment:		
	i) Transit Baseline 2.55 km.@ $280/km.	$ 714.00	
	ii) Picket Lines 28 km. @ $105/km.	2,940.00	$ 3,654.00
(2).	Geochemical Survey:		
	563 samples on picket lines @ $2.50/sample	1,407.50	
	534 samples on pace and compass lines @ $3.75/ sample	2,002.50	3,410.00
(3).	Geochemical Analyses:		
	1,097 samples @ $2.25/sample	2,468.25	
	1 rock sample geochem.	3.15	2,471.40
(4).	Magnetometer Survey:		
	56.05 km. @ $50/km.		2,802.50
(5).	Report and compilation		1,700.00
(6).	3 extra copies report @ $35.00/report		105.00
	TOTAL		$14,142.90

APPENDIX C

AFFIDAVIT IN SUPPORT OF STATEMENT OF EXPENDITURES

C A N A D A

PROVINCE OF BRITISH COLUMBIA

IN THE MATTER of the Statement of Expenditures for the Geochemical, Geological and Geophysical exploration of the Quinto claims in the Kamloops Mining Division.

I, WERNER GRUENWALD, Geologist of #1 - 219 Victoria Street in the City of Kamloops, in the Province of British Columbia, DO SOLEMNLY DECLARE:

(1). THAT the geochemical, geological and geophysical investigation of the Quinto claims was carried out by the writer under the supervision of J. R. Kerr, P. Eng. and J. M. Dawson, P. Eng.

(2). THAT the Statement of Expenditures set out in Appendix B of my report entitled "Geochemical, Geological and Geophysical Report" dated October 10th., 1977, truly represents the amount expended on geochemical, geological and geophysical surveys of the said claims.

AND I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath, and by virtue of the Canada Evidence Act.

Declared before me at the City of Kamloops in the Province of British Columbia this 10th. day of October, A. D., 1977.

Werner Gruenwald

Werner Gruenwald,
GEOLOGIST

A Commissioner for taking Affidavits for British Columbia

APPENDIX D

REFERENCES

REFERENCES

(1). DAFFEL, S. and McTAGGART, K. D. (1952): - G.S.C. Memoir #262, Ashcroft Map area, B. C.

(2). CHRISTIE, J. E. (1977): - Report on the Geology and Geophysics of the Quinto Mineral Claim.

APPENDIX E

WRITER'S CERTIFICATE

STATEMENT OF QUALIFICATIONS

I, WERNER GRUENWALD, OF KAMLOOPS, BRITISH COLUMBIA, DO HEREBY CERTIFY THAT:

(1). I am a geologist residing at #13 - 1435 Summit Drive, Kamloops, B. C. and employed by Kerr, Dawson and Associates Ltd. of Suite #1 - 219 Victoria Street, Kamloops, British Columbia.

(2). I am a graduate of the University of British Columbia, B. Sc. (Geology) (1972), and have practised my profession for 5 1/2 years.

(3). I am the author of this report which is based on an exploration programme that included geochemical soil sampling, geological mapping, and a magnetic survey.

KERR, DAWSON & ASSOCIATES LTD.,

Werner Gruenwald

Werner Gruenwald, B. Sc.,
GEOLOGIST

October 10th., 1977,

KAMLOOPS, B. C.

JAMES M. DAWSON, P.ENG.
GEOLOGIST

SUITE 1 - 219 VICTORIA STREET
KAMLOOPS, B.C.

PHONE (604) 374-6427

CERTIFICATE

I, JAMES M. DAWSON, OF KAMLOOPS, BRITISH COLUMBIA, DO HEREBY

CERTIFY THAT:

(1). I am a geologist employed by Kerr, Dawson and Associates Ltd. of Suite #1 - 219 Victoria Street, Kamloops, B. C.

(2). I am a graduate of the Memorial University of Newfoundland. B. Sc., (1960), M. Sc. (1963), a fellow of the Geological Association of Canada and a Member of the Association of Professional Engineers of B. C. I have practised my profession for 13 1/2 years.

(3). Werner Gruenwald, employed by Kerr, Dawson and Associates Ltd. and author of the report entitled "Geochemical, Geological and Geophysical Report on the Quinto Claims" was under my supervision during the work on the Quinto claims.

KERR, DAWSON & ASSOCIATES LTD.,

James M. Dawson

James M. Dawson, M. Sc., P. Eng.,
GEOLOGIST

October 10th., 1977,

KAMLOOPS, B. C.

APPENDIX F

MAPS

Outcrop ridge of columnar jointed fine grained, black basalts.

2500

3000

60°

Fs-biotite porp (hyolite) dyke

Conglomerate Cliffs

Area of trenching in massive gray basalts.

Main Zone
Trenching and drilling area

East Zone
py, sph, cpy in qtz-carb zone

Massive outcrops of Kamloops Group volcanics

mal

Qtz-fs porp

Coarse qtz-fs porp.

pyritic argillite

Volcanic contain le fragments

Pale green qtz-fs porp

Lithic tuff with argillite and ls fragments

mal in qtz-fs porp

Welded tuffs

Coarse qtz-fs porp

1500

Massive mag replacement in Nicola volcanics, minor mal

Coarse qtz-fs porp

Pale brown qtz-fs porp.

Argillite

Limestone with qtz-fs porp fragments

Pale green fg hornblende porp dyke

Rusty qtz-fs porp

Massive green fragmental volcanic

Bleached rusty volc

Bleached rusty zone

Ls. blocks in volcanic fragments

Bleached pale brown volc limonite common

mag, mal in pink K spar-ep zone

mag fl.

mag-grt zone in limestone roof pendant

Massive mag-grt zone with minor py in ls roof pendant

Irregular contact and roof pendant area

2000

1500

To Walhachin

TRANSIT BASELINE — 0+00

To Trans Canada Hwy

2500

L-27+00 N

L-24+00 N

L-21+00 N

L-18+00 N

L-15+00 N

L-12+00 N

L-9+00 N

L-6+00 N

L-3+00 N

L-0+00 N

N. THOMPSON RIVER

L.C.P. QUINTO, VI, VII

97

Kamloops 55 km.

LEGEND

- 2000 — Topographic Contour (a.s.l.)
- L.C.P. — Claim post + claim boundary (L.C.P. = Legal corner post)
- Gravel Road
- Creek and dry gully
- Bulldozer Trench
- 25W — Picket line with co-ordinates
- Power Line
- Outcrop area
- Geologic contact (defined, assumed)
- Fault
- 52° 50° — Bedding attitude ; dyke.
- x — Mineralization, float (fl)

Abbreviations

mag	- magnetite	nat Cu	- native copper
py	- pyrite	qtz	- quartz
grt	- garnet	fs	- feldspar
cpy	- chalcopyrite	ep	- epidote
mal	- malachite	porp	- porphyry
sph	- sphalerite	ls	- limestone

To accompany a report by W. Gruenwald, B.Sc.

ROCK TYPES

TERTIARY

KAMLOOPS GROUP

Red, brown, purplish and black flows, breccias and tuffs.

Conglomerate, primarily volcanic with minor limestone and intrusive pebbles ; some sandstone seams.

CRETACEOUS

COPPER CREEK INTRUSIONS

Quartz-feldspar porphyry

LOWER JURASSIC

GUICHON CREEK BATHOLITH

Medium grained, weak to moderately altered quartz diorite and diorite.

Pink, m.grained, fresh granitic phase

UPPER TRIASSIC

Green, brown and purplish andesitic flows, fine grained to coarse grained tuffs, feldspar porphyries, medium grained to coarse grained quartz ± feldspar porphyries, breccias (some with limestone fragments), welded tuffs and minor argillite.

Gray to white, fine grained, locally fossiliferrous limestone, minor quartzite.

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — J. M. DAWSON

THE QUINTO MINING CORPORATION

GEOLOGICAL PLAN
QUINTO CLAIMS

KAMLOOPS MINING DIVISION, B.C.

TECHNICAL WORK BY: KERR, DAWSON AND ASSOCIATES LTD.	SCALE: 1:5,000 (0 Meters 100 200 m)
DRAWN BY: W. GRUENWALD	DATE: SEPTEMBER, 1977.
APPROVED BY: J. R. KERR, P.ENG.	DRAWING NO. 158-3

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 6527

L-27+00 N

L-24+00 N

L-21+00 N

L-18+00 N

L-15+00 N

L-12+00 N

L-9+00 N

L-6+00 N

L-3+00 N

L-0+00 N

TRANSIT BASELINE — 0+00

To Trans Canada Hwy.

To Walhachin

Kamloops 55 km.

N. THOMPSON RIVER

L.C.P. QUINTO, VI, VII

97

LEGEND

- 2000 — Topographic Contour (a.s.l.)
- L.C.P. — Claim post + claim boundary (L.C.P. = Legal corner post)
- Gravel Road
- Creek and dry gully
- Bulldozer Trench
- 25 W — Picket line with co-ordinates
- Power Line
- 0 / 80 — Picket line with sample location and value in parts per million copper (p.p.m.)

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GEOCHEMISTRY (Cu)

0 - 46.3 p.p.m. (~45)	Background
46.3 - 80.6 p.p.m. (~80)	Possibly Anomalous
80.6 - 114.9 p.p.m. (~115)	Probably Anomalous
> 114.9 p.p.m. (~115)	Definitely Anomalous

To accompany a report by W. Gruenwald, B.Sc.

THE QUINTO MINING CORPORATION

GEOCHEMICAL PLAN (COPPER)

QUINTO CLAIMS

KAMLOOPS MINING DIVISION, B.C.

TECHNICAL WORK BY: KERR, DAWSON AND ASSOCIATES LTD.	SCALE: 1:5,000 (0 Meters 100 200 m.)
DRAWN BY: W. GRUENWALD	DATE: SEPTEMBER, 1977.
APPROVED BY: J.R. KERR, P.ENG.	DRAWING NO. 158 - 4A

L-27+00 N

L-24+00 N

L-21+00 N

L-18+00 N

L-15+00 N

L-12+00N

L-9+00 N

L-6+00N

L-3+00N

L-0+00N

TRANSIT BASELINE — 0+00

2500

3000

1500

2000

N. THOMPSON RIVER

L.C.P. QUINTO, VI, VII

To Trans Canada Hwy.

To Walhachin

Kamloops 55 km.

97

LEGEND

- 2000 — Topographic Contour (a.s.l.)
- L.C.P. — Claim post + claim boundary (L.C.P. = Legal corner post)
- Gravel Road
- Creek and dry gully
- Bulldozer Trench
- Picket line with co-ordinates
- Power Line
- Picket line with sample location and value in parts per million zinc (p.p.m.)

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To accompany a report by W. Gruenwald, B.Sc.

THE QUINTO MINING CORPORATION

GEOCHEMICAL PLAN (ZINC)

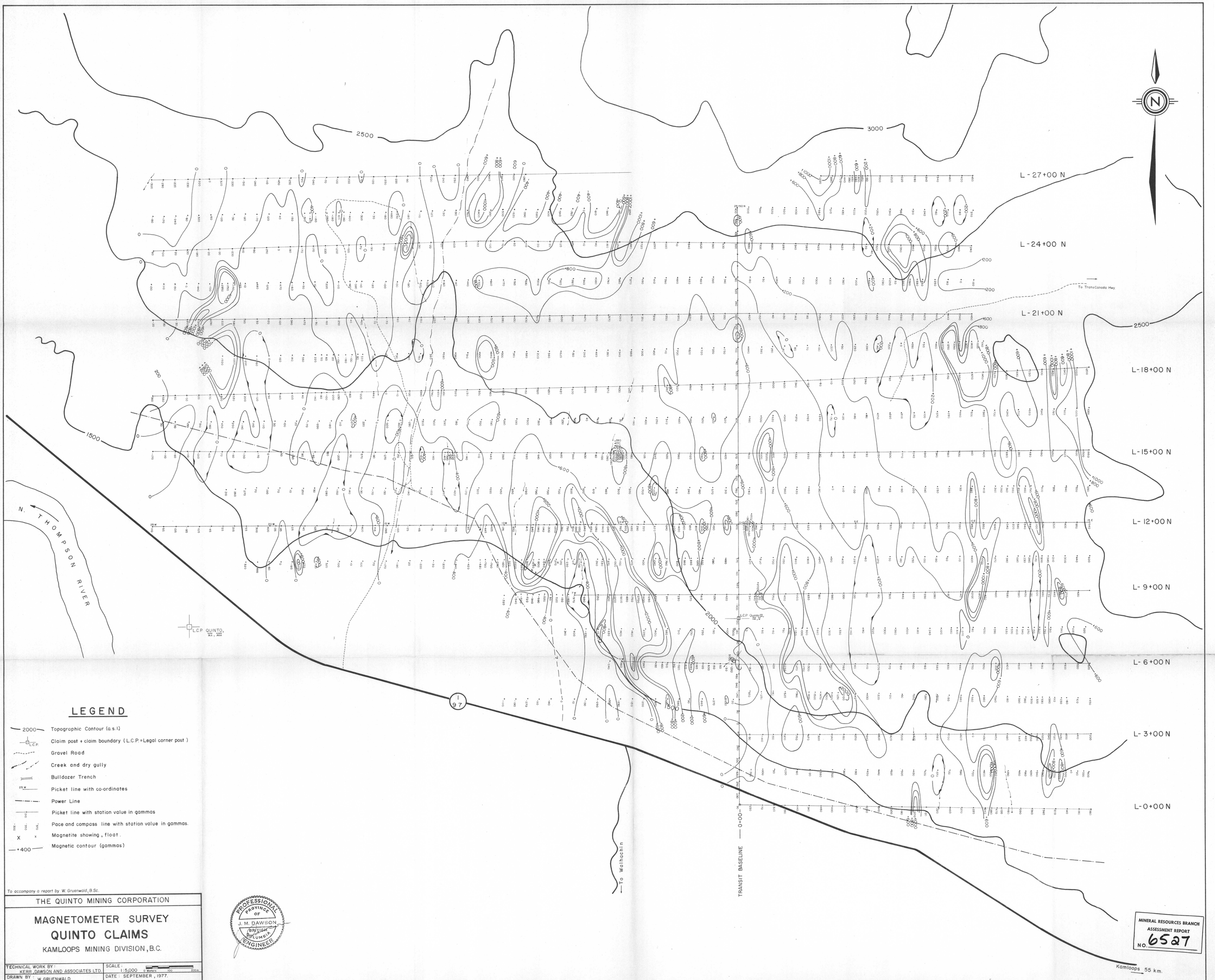
QUINTO CLAIMS

KAMLOOPS MINING DIVISION, B.C.

TECHNICAL WORK BY : KERR, DAWSON AND ASSOCIATES LTD.	SCALE : 1:5,000 (0 Meters 100 200m)
DRAWN BY : W. GRUENWALD	DATE : SEPTEMBER, 1977.
APPROVED BY : J.R. KERR, P.ENG.	DRAWING NO. 158-48

GEOCHEMISTRY (Zn)

0 -	98.4 p.p.m. (~100)	Background.
98.4 -	211.4 p.p.m. (~210)	Possibly anomalous.
211.4 -	324.4 p.p.m (~325)	Probably anomalous.
>	324.4 p.p.m. (~325)	Definitely anomalous.



LEGEND

- 2000 — Topographic Contour (a.s.l.)
- L.C.P. — Claim post + claim boundary (L.C.P.=Legal corner post)
- Gravel Road
- Creek and dry gully
- Bulldozer Trench
- 25 W — Picket line with co-ordinates
- Power Line
- Picket line with station value in gammas
- Pace and compass line with station value in gammas.
- X x — Magnetite showing, float.
- +400 — Magnetic contour (gammas)

To accompany a report by W. Gruenwald, B.Sc.

THE QUINTO MINING CORPORATION

MAGNETOMETER SURVEY
QUINTO CLAIMS

KAMLOOPS MINING DIVISION, B.C.

TECHNICAL WORK BY: KERR, DAWSON AND ASSOCIATES LTD.	SCALE: 1:5,000 (0 Meters 100 200 m)
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