ASSESSMENT REPORT

ON

GEOLOGICAL AND GEOCHEMICAL SURVEY

AND

DIAMOND DRILLING

Part 1 of 2

Group	Claims	Record No.	Total	NTS	Mining District
1	P22	71775	2	94K/4W	Liard
	P24	71777		"	"
2	P20	71773	6	"	"
	P37	71790		"	"
	P39	71792		"	"
	P41	71794		"	"
	Goof 1	71862		"	"
	Goof 4	71865		"	"
3	D2	71809	3	"	"
	D19	71826		"	"
	D21	71828		"	"
4	P19	71772	5	"	"
	P21	71774		"	"
	P23	71776		"	"
	Goof 2	71863		"	"
	D39	71846		"	"
5	D20	71827	3	"	"
	D22	71829		"	"
	D24	71831		"	"
6	D41	71848	1	"	"

Location - 58°04'N Latitude; 125°55'E Longitude

Claims owned by Placer Development Ltd.
Survey operated by Welcome North Mines Ltd. (NPL)
for Gataga Joint Venture (optionee)

Survey performed from June 1 to August 12, 1978 by Archer, Cathro & Associates Ltd.
Report by R.C. Carne, B.Sc. and R.J. Cathro, B.A.Sc., P. Eng.
August 12, 1978

TABLE OF CONTENTS

LIST OF FIGURES

Introduction

In 1970, Geophoto Surveys conducted a reconnaissance stream sediment survey in the Driftpile Creek area on behalf of a syndicate. In 1973, three members of the syndicate, Pembina Pipeline Ltd., Sun Oil (Delaware) Ltd. and General Crude Oil Co. Northern Ltd., entered a joint venture with Canex Placer Ltd. (now Placer Development Ltd.) to investigate some of the anomalies. Initial prospecting resulted in the discovery of mineralized float on Driftpile Creek in July, 1974. This was staked as 168 "two-post" mineral claims and explored with geochemical and geophysical surveys, mapping and hand trenching in 1974 and 1975. Sixty-seven claims now remain in good standing.

Gataga Joint Venture (GJV) was formed in April, 1977 by Aquitaine Co. of Canada Ltd., Chevron Canada Limited, Getty Mining Pacific Ltd., Welcome North Mines Ltd. and Castlemaine Exploration Ltd. to investigate the significance of geochemical anomalies in the Driftpile Creek area. During this program, additional mineral claims were staked adjacent to the Canex-Placer Driftpile Creek property.

In Feburary, 1978 GJV signed an agreement to option the Driftpile Creek property from the Placer syndicate. Geological fieldwork was contracted to Archer, Cathro & Associates Ltd. The present report covers only preliminary investigations leading to an extensive drilling program which will be reported on later as it had started only a few weeks prior to this report and no results were available.

Location and Access

The property, located at 58°04'N and 125°55'E, straddles Driftpile Creek, about 22 km from its confluence with the Kechika River (see Figure 1 and the Index Map on Figures

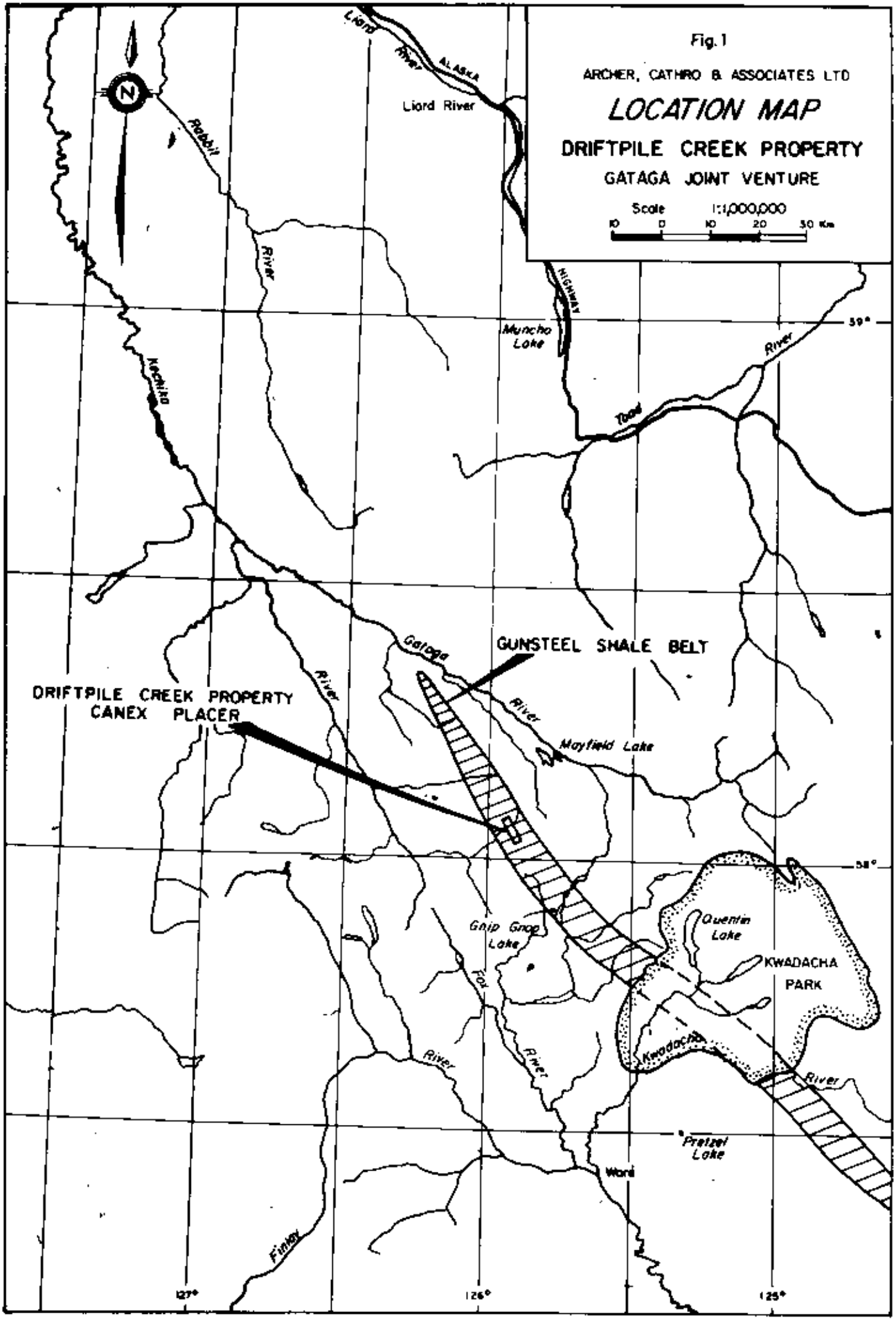
Fig. 1
ARCHER, CATHRO & ASSOCIATES LTD
LOCATION MAP
DRIFTPILE CREEK PROPERTY
GATAGA JOINT VENTURE
Scale 1:1,000,000
10 0 10 20 30 Km
N
Liard River
ALASKA
Liard River
Prebbil
River
Muncho Lake
HIGHWAY
59°
Toad
River
Kechika
Gataga
River
GUNSTEEL SHALE BELT
DRIFTPILE CREEK PROPERTY
CANEX PLACER
River
Mayfield Lake
58°
Grip Grog Lake
Quentin Lake
KWADACHA PARK
Fox
River
Kwadacha
River
River
Pretzel Lake
Ware
Finlay
127°
126°
125°

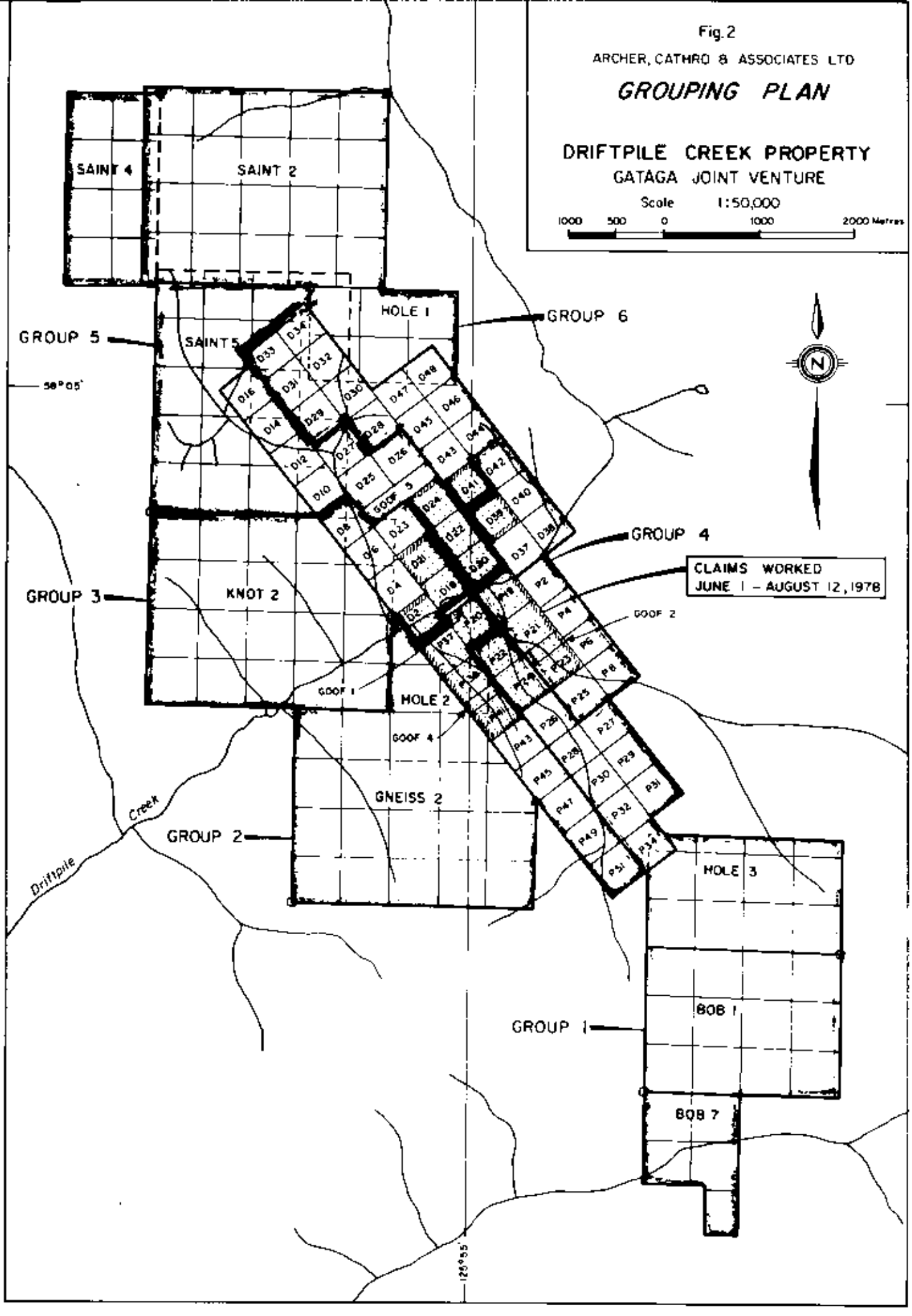
Fig. 2
ARCHER, CATHRO & ASSOCIATES LTD
GROUPING PLAN
DRIFTPILE CREEK PROPERTY
GATAGA JOINT VENTURE
Scale 1:50,000
1000 500 0 1000 2000 Metres
SAINT 4
SAINT 2
SAINT 5
HOLE 1
GROUP 5
GROUP 6
GROUP 4
GROUP 3
GROUP 2
GROUP 1
KNOT 2
GNEISS 2
HOLE 2
HOLE 3
BOB 1
BOB 7
GOOF 1
GOOF 2
GOOF 3
GOOF 4
CLAIMS WORKED
JUNE 1 – AUGUST 12, 1978
Driftpile Creek
58°05'
125°55'
N

4-7). Elevations locally range from 1100 m to over 2000 m above sea level. Access is by float-equipped, fixed wing aircraft from Watson Lake, Yukon Territory, about 290 km to the northwest. Mayfield Lake, which lies 20 km east of the property, is used as a supply staging area. Equipment and personnel are ferried to a permanent camp on the property by helicopter. The nearest helicopter is situated at Pretzel Lake, about 72 km southeast of the Driftpile Creek area. Much of the fuel and camp supplies needed for the 1978 program were trucked to Muncho Lake (Km 747 on the Alaska Highway) and ferried by fixed wing aircraft to Mayfield Lake. The nearest large town is Fort Nelson, 210 km ENE, which does not have a float base.

Claim Status

The property consists of 67 contiguous, full or fractional, mineral claims staked under the "two-post" system and recorded in the Liard Mining District as follows:

Claim Name	Record Number	Total	Expiry Date
D2	71809	1	August 12, 1978
D4	71811	1	"
D6	71813	1	"
D8	71815	1	"
D10	71817	1	"
D12	71819	1	"
D14	71821	1	"
D16	71823	1	"
D19 to D34	71826 to 71841	16	"
D37 to D48	71844 to 71855	12	"
P2	71755	1	"
P4	71757	1	"
P6	71759	1	"
P8	71761	1	"
P19 to P32	71772 to 71785	14	"
P34	71787	1	"
P37	71790	1	"

Claim Name	Record Number	Total	Expiry Date
P39	71792	1	August 12, 1978
P41	71794	1	"
P43	71796	1	"
P45	71798	1	"
P47	71800	1	"
P49	71802	1	"
P51	71804	1	"
Goof 1 (Fraction)	71862	1	September 6, 1978
Goof 2 (Fraction)	71863	1	"
Goof 4 (Fraction)	71865	1	"
Goof 5 (Fraction)	71992	1	"

All claims are held in the name of Placer Development Ltd. and have been optioned to GJV. Work on the Placer claims will be grouped with adjacent and continuous MGS claims owned by GJV.

Summary of Work Performed

1. Geological Survey

Most of the Driftpile Creek property was geologically mapped at 1:4800 scale by Canex Placer geologists in 1974 and 1975 (see previous assessment reports). The surrounding region has been mapped at 1:50,000 scale by Galaga Joint Venture in 1977 (also filed for assessment).

Several small outcrops and numerous float occurrences of pyritic shale containing varying amounts of barite, sphalerite and galena constitute the target of the investigation Bedrock exposure on the property is limited to less than 2%. The preliminary 1978 program was designed to evaluate the geological and geomorphological history of the claims in more detail than had been done previously, in conjunction with the regional mapping carried out in 1977.

An area approximately 300 m wide and one kilometre in length, which includes much of

the mineralized exposure and float, was selected for priority detailed mapping at 1:1000 scale. Preliminary mapping has outlined two pyritic horizons within upper Devonian black shales. The lowermost horizon consists of alternating beds of pyritic shale, black chert and blebby barite. Assays of this zone, which reaches an exposed thickness of over 30 m, reveal no significant base metal values. The upper horizon consists of interbedded pyritic shale and barite in the north part of the detailed map area (Figure 4) while it appears to grade to interbedded black shale and massive pyrite towards the south. Tenor and mode of mineralization is discussed in greater detail in a following section. Highly oxidized sections of the upper mineralized horizon were exposed by hand trenching. Although ten trenches were started only four of these were completed at the time of writing for a total of 83.1 cubic metres of material removed. Maps and locations are given in Appendix I of this report. This mapping was only 25% completed when this report was written.

2. Geochemical Survey

An area of approximately 1 km in length and 800 metres in width was soil sampled at 50 foot (15 m) intervals on east-west lines spaced approximately 100 feet (30 m) apart. A total of 447 soil samples were taken and analysed for lead, zinc and copper content (Figure 4-6). Results of the preliminary sampling program are discussed in more detail in a following section of this report. The sampling program was only about 10% completed when this report was written.

Geological Survey

1. Physiography and Geomorphology

The Driftpile Creek property lies within the Muskwa Range in the northern Rocky

Mountains. It is flanked on the southwest by the Kechika River in the Rocky Mountain Trench and on the northeast by the broad Gataga River valley. Within the property area, physiography is typified by long,low ridges and valleys which trend NW-SE, parallelling structural strike of underlying sedimentary rocks. These ridges and valleys are cut by the southwest-flowing valley of Driftpile Creek, which exhibits a U-shaped glaciated profile in its upper part and a rejuvenated V-shaped fluvial-cut profile in its lower 150-250 m.

Tributaries of Driftpile Creek flow in northwest or southeast trending valleys, which results in a trellised drainage pattern. These streams are immature with waterfalls and deeply incised, narrow, steep-walled canyons common through their length. In contrast, major southwest-flowing creeks meander through valleys bottomed by recent fluvial deposits.

Although elevations regionally range from 1100 m to over 2000 m, relief is locally subdued in areas underlain by shales and clastic sedimentary rocks. Resistant older carbonate rocks which flank the project area to the southwest and northeast form prominent cliffs.

Treeline is at approximately the 1500 m elevation on south facing slopes. Vegetation in valleys is predominately composed of arctic black birch and willows with minor black spruce in swampy areas and juniper, poplar and pine on dry slopes.

The region has been subjected to valley and/or ice sheet glaciation but the lack of abundant glacial till or erratics suggests that it was older than Late Pleistocene. The most recent Pleistocene glaciation has consisted mainly of alpine and cirque glaciers to the east and west. The main geomorphological effect of the last glaciation was the modification and scouring of the main valleys, local disruption of the drainage pattern and formation of several ice-dammed lakes, downcutting of tributary streams to form several rock canyons, and a general lowering of the water table. This exposed unleached

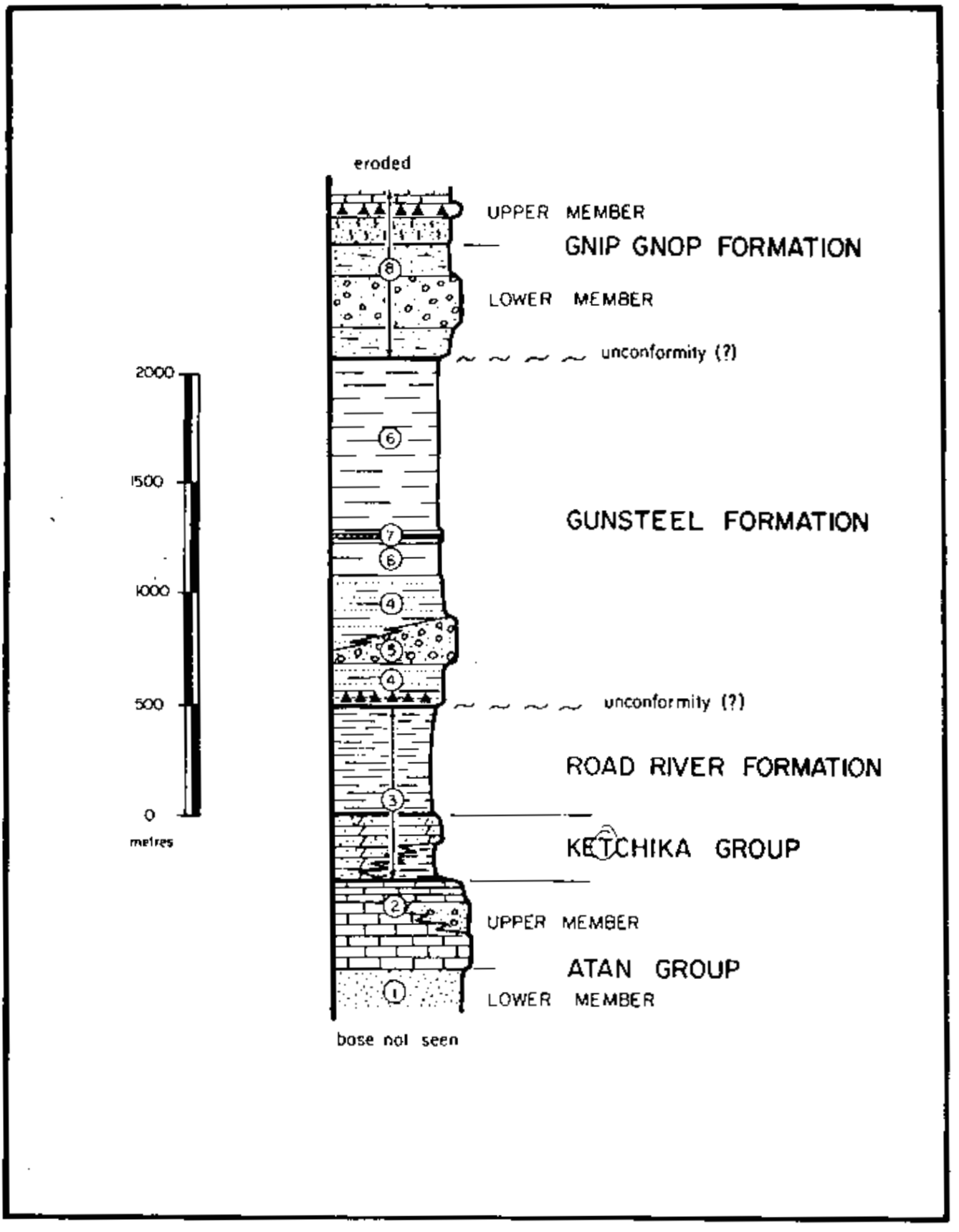

Figure 3 Generalized Stratigraphic Column (looking south) of Lower Cambrian to Mississippian lithologies; Driftpile Creek area, northeast British Columbia, numbers refer to regional map units (see GJV 1977 assessment report).

rock to surface or at least resulted in rejuvenation of the leaching cycle at a greater depth. This process resulted in very acidic groundwaters as pyrite was leached from shales. Consequently, exposures of very pyritic rock are deeply oxidized, including all exposures of the mineralized zone outside of relatively fresh outcrops in creek beds.

2. Stratigraphy

The Driftpile Creek property lies within the Kechika Trough, a southwesterly continuation of the much larger Selwyn Basin. Sedimentary rocks exposed in the area range in age from Cambrian to Lower Mississippian. Stratigraphy and facies relationships are summarized in Figure 3. Only the Middle to Upper Devonian (?) Gunsteel Formation is exposed on the property.

Until the deposition of the Gunsteel Formation, sedimentation was characterized by stable continental shelf deposition with low sedimentation rates. Rapid deposition of a westerly-derived flysch sequence during the Upper Devonian and Lower Mississippian terminated the lower Paleozoic "starved-basin" regime. Upper Devonian and Lower Mississippian lithologies within the report area bear a striking resemblance to rocks which host the Macmillan Pass (Tom and Jason) barite-lead-zinc-silver deposits in Yukon Territory. Regional stratigraphy is discussed in more detail in the report submitted for assessment by GJV in 1977.

Gunsteel Formation within the property consists of generally fine-grained, siliceous and pyritic black shales. Although lithologies appear remarkably monotonous at first glance, closer inspection reveals the presence of subtle, but rapid, vertical changes in the shales. While exact structural relationships between various exposures on the property have yet to be resolved, the generalized stratigraphic section shown below appears to be fairly representative of the Gunsteel formation in the Driftpile Creek area.

Table I

Generalized stratigraphy of the Upper Devonian Gunsteel Formation at Driftpile Creek, northeast British Columbia

Description	Approximate Thickness
Uniformly fine-grained, moderately siliceous pyritic black shale	300 m (top not seen)
Very siliceous, very pyritic, black cherty argillite	30 m
* Very soft to moderately siliceous, extremely carbonaceous, and often graphitic, pyritic black shale with large (6 cm x 30 cm) black carbonate nodules	15 m
Bedded barite, pyrite, black cherty argillite and pyritic black shale, contains small (1 cm diameter) black carbonate nodules	?
Very soft, fissile, very carbonaceous black shale	10 m
Moderately siliceous, weakly pyritic, moderately carbonaceous black shale	40 m
Finely interbedded blebby baritic shale, very cherty black pyritic argillite and laminated pyrite	30 m
"Pinstripe" silty, non-siliceous, moderately carbonaceous, well-bedded shale. Overall grain size gradually increases down section	200 m (base not exposed)

* This section is described in detail in Appendix I.

3. Structural Geology

Rocks of the Gunsteel Formation within the Gataga Lakes region form a narrow linear belt that strikes northwest. Although they are essentially unmetamorphosed, these rocks are structurally very complex. On a gross regional scale, they occupy a broad synclinorium compressed against an anticlinorium of more resistant older carbonate rocks to the east.

In many areas on the property, bedding is difficult to distinguish from axial plane cleavage due to the uniformly featureless nature of most lithologies, especially on weathered surfaces. Where bedding is distinguishable, the absence of geopetal features in the shales makes the distinction between overturned and upright bedding almost impossible. Problems with structural interpretation are further complicated by the generally very recessive nature of the rocks coupled with abrupt and perhaps diachronous facies changes.

Tectonic shortening in carbonate rocks is regionally reflected in normal faults and large-scale, broad open folds while more incompetent shales are often isoclinally folded, accompanied by thrust faulting.

In the very limited exposures on the Driftpile Property, broad, open and upright folds appear to be cut by normal faults along their axial planes. Cleavage surfaces, which vary from 120° to 145° in strike direction, are often coated with graphite. Cleavage-bedding relationships indicate that megascopic structures inevitably plunge at low angles (10° to 20°) although the direction of plunge (northwest or southeast) does not appear to be uniform from fold to fold. Megascopic fold limbs appear to be modified by the presence of minor, similarly oriented fold structures.

4. Mineralization

Stratigraphy and metallogeny of the Kechika Trough are markedly similar to those of the eastern Selwyn Basin near the Yukon-Northwest Territories border. Syngeretic stratifrom mineralization of two ages occurs in the Gataga Lakes area of the Kechika Trough. Ordovician and Silurian calcareous shales of the Road River Formation (Unit 3) host zinc mineralization of an age and type broadly correlative with the Howard Pass, Yukon deposit of Canex Placer. Younger shales and turbidites host barite-lead-zinc mineralization in the Canol Formation at Macmillan Pass, Yukon. Gunsteel shales of Upper Devonian to Lower

Mississippian age host numerous stratiform barite occurrences and several stratiform barite-lead-zinc showings within the district. All barren, massive barite occurrences and disseminated, barren barite occurrences in the region occur within a single, continuous stratigraphic horizon which always contains highly anomalous amounts of iron sulphide, silica and barium. This association is rare in normal sedimentary environments and, as such, is indicative of a widespread chemical sedimentation event that may have been related to submarine exhalation of hydrothermal fluids on a regional scale.

According to Canex Placer reports, galena and sphalerite with associated barite on the Driftpile Creek property are contained within two discrete EM conductors with associated soil geochemical anomalies that were interpreted as massive pyrite beds in pyritic black shales. These conductors wereestimated to be 1 to 10 m thick and 60 to 150 m apart. Mapping by GJV personnel has tentatively confirmed this conclusion. However, the lower discrete EM conductor, at least in the area mapped to date (Figure 4), is very similar in appearance to the regional pyrite-barite-silica horizon. Assays of these rocks and intensive prospecting have so far failed to turn up significant base metal values in this horizon. Best exposure of this unit occurs in a creek bed at grid coordinates 1930S and 80E.

Overlying barite-lead-zinc mineralization is exposed as float and in trenches through thin soil cover in an area of low to moderate relief near the north end of the detailed map area immediately south of Driftpile Creek to about Line 12S. Galena, spahlerite and pyrite occur as fine-grained, thin laminations in thin bedded, black to grey barite. This finely laminated nature makes visual estimation of grade virtually impossible. Interbedded and adjacent pyritic black shales may also host significant stratiform mineralization although complete oxidation of pyrite has reduced the rock to a limonitic, grey clay. For this reason, trenches were not sampled for assay determinations. Pyrite content

of the relatively unaltered barite-hosted mineralization appears to increase gradually towards the south. South of Line 15S and as far as Line 27S, mineralized float consists of massive pyrite. No barite-hosted base metal mineralization has yet been detected in this area. This distribution of mineralization types in float and trenches probably reflects primary zoning between massive, pyritic lead-zinc mineralization and lower grade, barite-hosted mineralization similar to that described for the Meggen Mine, West Germany.

Geochemical Survey

In order to better define diamond drill targets, grid soil sample spacing was increased to 100 feet by 50 feet (approximately 30 m by 15 m) from 400 feet by 100 feet (approximately 120 m by 30 m) over the detailed survey area (Figures 5-7). This effort totalled 457 samples (about 10% of the full survey) at the date of this report. The sample locations were established by hipchain and compass and marked by 1.2 m lath pickets.

Samples were collected in kraft paper bags and shipped by airfreight for analysis to Chemex Labs Ltd., North Vancouver, B.C. The soil samples were dried, screened to minus 80 mesh fraction and analyzed for copper, lead and zinc using a nitric-perchloric acid extraction and atomic absorption spectrometry (AAS). Samples which had a high barium content required redigestion due to barium interference with lead analysis. A portion of the minus 80 mesh fraction from each sample was stored permanently at the lab.

Time constraints have not permitted a detailed statistical treatment of the 1978 soil geochemical data. Comparison with the 1975 determination indicates that results of the two sampling programs are compatable. The 1975 program showed a zinc background level of 100 to 300 ppm and an anomalous threshold of about 500 ppm. Background levels for lead range up to about 50 ppm while anomalous values are greater than about 100 ppm

and several larger areas contain strong anomalies exceeding 1000 ppm. Copper values indicate a background of 10 to 60 ppm while anomalous threshold values exceed 100 ppm. Lead, zinc and copper correlations are weak, probably due to the high mobility of zinc and copper and low mobility of lead in acidic soils and groundwater. Diamond drill core assays are expected to permit a better interpretation of the soil geochemistry while mapping of interfering factors such as beach alluvium and ferricrete caps will probably explain many gaps in the anomalous pattern.

Diamond Drilling

Mobilization of the drill from Watson Lake and Muncho Lake via Mayfield Lake began on July 15, 1978. To August 5, six holes had been completed, as follows:

Table II

List of Diamond Drill Holes

Hole	Location	Dip	Azimuth	Size	Length (ft)
1	2000S/170W	-55	055	NQ	450
2	1600S/90W	-55	055	NQ	198
3	1600S/90W	-90	-	NQ	321
4	470S/00	-45	055	BQ	225
5	470S/00	-85	235	BQ	256
6	400S/300E	-45	055	BQ	456
					1906 (580.9 m)

No assays or logs were available at the time of writing this report and no cost information has been calculated.

also 7 361
8 500
9 558
3334 (1016.2 m)
EVP

Summary and Conclusions

As this report has had to be prepared in the early stages of a program within an area of very poor rock exposure, any conclusions are premature and will have to await the completion of the survey.

The Driftpile Property hosts a major resource of baritic shale-hosted zinc with lesser lead. The mineralization is stratigraphically controlled within the Upper Devonian or Mississippian Gunsteel Formation. The property escaped Late Pleistocene glaciation but has been subjected to recent ice damming that resulted in the formation of beach alluvium before the dams melted. Subsequent downcutting of the streams has lowered the water table and caused oxidation of sulfides and formation of extensive ferricrete zones, residual limonite gossans and vegetation kill zones.

Respectfully submitted,

ARCHER CATHRO & ASSOCIATES LTD.,

R.J. Carne, B.Sc.

R.J. Cathro, B.A.Sc., P. Eng.

Itemized Cost Statement
(No demubilization expenses are applied to this program)

A. Wages

R. Carne (Geologist)	Prefield prep.	May 4-31	28	$2700/month	$ 2,440.50
	Prefield & field	June 1-30	30		2,700.00
C. Chalmers (Field Assistant)	Prefield & field	June 5-30	26	$1,312.50/month	1,137.00
J. Ogilvy (Field Assistant)	Field	June 26-30	5	$1,050/month	175.50
					$ 6,453.00

B. Food and Accomodation

Whitehorse (Archer, Cathro staff house)	R. Carne	June 2-6	5	$30/day	150.00
	C. Chalmers	June 5,6	2		60.00
Muncho Lake (J & H Wilderness)	R. Carne	June 7			
	C. Chalmers	June 7,8			
	Otter pilot	June 7			96.76

Field (June 8-25, 18 days for 2 men)
(June 26-30, 5 days for 3 men)

Groceries	991.56
Lumber	820.80
Field office supplies, base maps, photo mosaics, stationery	1,188.94
Hardware, equipment, all camp supplies either consumed or rented	4,002.80
	$ 7,004.10

C. Transportation (Camp supplied by fixed wing aircraft from Muncho Lake and Watson Lake; then by helicopter to Driftpile Creek. The helicopter is mobilized from Pretzel Lake, 45 miles away.)

1. CP Air	R. Carne to Whse.	June 2	130.00
2. Cessna (B.C.-Yukon Air Service)			
	356 miles (Watson Lake)	June 13	391.60

3. Otter (B.C.-Yukon Air Service)

740 miles (Watson and Muncho)	June 7	$ 1,210.50
612 miles (Muncho and Watson)	June 8	1,020.60
356 miles (Watson Lake)	June 20	640.80
356 miles (Watson Lake)	June 22	640.80
356 miles (Watson Lake)	June 26	640.80
356 miles (Watson Lake)	June 27	640.80
		$ 4,794.30

4. 206B Helicopter (Okanagan Helicopters)

3.1 hours	June 7	901.79
6.9 hours	June 8	2,214.22
1.3 hours	June 13	378.17
1.3 hours	June 20	378.17
2.5 hours	June 22	727.25
1.3 hours	June 26	378.17
1.6 hours	June 27	465.44
		$ 5,443.21

5. Aviation Fuel (includes transportation to Muncho Lake) 2,309.75

6. Rented Trucks

Tilden 5 ton	June 5-23 including gas	2,309.75

D. Instrument Rental

SBX 11 single side radio transceiver at $250/month	June 1-30	250.00

E. Analysis

1. Soil samples

199 samples analysed for Cu, Pb, Zn (plus preparation) at $2.44	485.56
258 samples analysed for Cu, Pb, Zn (plus preparation and HCl redigestion) at $3.04	785.32

2. Rock samples

12 samples assayed for Cu, Pb, Zn, Ba, Ag at $23.60	293.20
	$ 1,554.08

F. Office Costs

Management and accounting, office expenses, expediting etc. are not applied to this program but are applied to the subsequent drill program (report to follow)

Total Costs	$29,743.42

ARCHER, CATHRO
AND ASSOCIATES LTD.
CONSULTING GEOLOGICAL ENGINEERS

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Post Office Box 4127
Whitehorse, Yukon
Y1A 3S9

CERTIFICATE

I, Robert J. Cathro, with business addresses in Whitehorse, Yukon Territory, and Vancouver, British Columbia, and residential address in West Vancouver, British Columbia, do hereby declare that:

1. I am a 1959 graduate of the University of British Columbia in geological engineering.
2. I am registered as a professional engineer in both British Columbia and Yukon Territory.
3. I have been engaged in mineral exploration and evaluation since 1959 and have been a partner in Archer, Cathro & Associates Ltd. since 1966.
4. I have had full access to previous data on the Driftpile Property.
5. I have supervised the field program conducted by R.C. Carne.

Respectfully submitted,

R.J. Cathro, B.A.Sc., P. Eng.

APPENDIX ONE

Trench Location

All trenches have been dug by hand. At the time of writing only four trenches have been mapped. None of the trenches have been sampled.

Trenches	Position	Man/days	Volume (m^3)
78-1	200S/106E	3.5	20.6
78-2	520S/250E	1.0	16.1 (unmapped)
78-3	2200S/90E	1.75	22.9
78-4	2160S/90W	1.5	30.9
78-5	810S/260E	1.0	9.1
78-6	400S/360E	1.75	incomplete
78-7	1200S/60E	1.0	incomplete
78-8	1185S/100E	1.0	incomplete
78-9	800S/520E	1.75	incomplete
78-10	1200S/285E	.5	incomplete

Trench mapping is attached on the following pages.

Project GJV	NTS 94k/4	Scale 1:100	Page 1 of 4	Traverse RC-10
Sampler CARNE	Location, Target (words) DRIFTPILE CREEK PROPERTY		Sample Nos	
Date June 30/78	photo no. MAPPING TRENCH 78-1		Cert. Nos 12563	

GEOLOGY PLOTTED ON ACCOMPANYING SHEET

DISTINCTIVE SEPARATION BETWEEN REDUCED & OXIDIZED ZONE @ ABOUT 2-3 m BELOW SFC.

RC 10-a : soft, carbonaceous, very fissile black shale

RC 10-b : 6 cm thick bed, very siliceous pyritic cherty argillite

RC 10-c : Nodules of black CO_3^- ~ 7cm x 10 cm

- in moderately siliceous, very rusty shale

RC 10-d : 20 cm thick bed of massive, bedded barite dark grey.
138
40
- no even lamination, no visible sulphide minerals
- overlying 10 cm is interbedded cherty, pyritic argillite and grey barite

RC 10-e : 6 cm thick bed of black, pyritic, cherty argillite

RC 10-f : CO_3^- nodules ~ 30cm x 6cm, elongated in bdg ||

RC 10-g : very large, 50 cm x 10 cm CO_3^- nodules

RC 10-h : interbedded black, pyritic cherty argillite and grey bedded barite with intervals of rusty, porous shale
- barite contains pyrite, trace sl, sampled for assay
- pyrite beds to 0.4 cm thick

Assay # 12563

ASSAY: Cu, Pb, Zn, Ag, Au

GEOCHEM: Cu Mo Pb Zn U W

ATTITUDES (+ 000 RO N)

LIMESTONE DOLOMITE SILTSTONE CONGLOMERATE VOLCANIC CHERT SHALE INTRUSIVE GOSSAN, MINERALS

SILT x SOIL • ROCK • PAN △ WATER ○

SPECIMEN SITE 8.B.; DO NOT WRITE ON OTHER SIDE OR USE COLOURS

DON'T FORGET CONTOURS, DRAINAGE, NORTH ARROW, LAT/LONG, SAMPLE SITES, WORKINGS, TRAILS, GOSSANS, OBSERVED GEOLOGY: DEFINED —— INFERRED - - - ASSUMED.....

Project GJU	NTS 94 k/4	Scale 1:100	Page 2 of 4	Traverse RC-10
Sampler CARNE	Location, Target (words) DRIFTPILE CREEK PROPERTY		Sample Nos	
Date June 30/78	~~photo no.~~ TRENCH 78-1		Cert. Nos	

RC 10-i : very fissile, soft, black shale

RC 10-j : massive, Fe-oxide banded, appearance of massive sulphide

RC 10-k : very siliceous black shale bed, about 15 cm thick

129

20 130

RC 10-L : moderately siliceous, pyritic, rusty wx black shale

ATTITUDES (∠ DIAMOND H)

SPECIMEN SITE A, B, ... DO NOT WRITE ON OTHER SIDE OR USE COLOURS

OBSERVED GEOLOGY: DEFINED — INFERRED --- ASSUMED ....

VOLCANIC CONGLOMERATE SANDSTONE SILTSTONE

INTRUSIVE LIMESTONE DOLOMITE SHALE CHERT

SILT K SOIL ● ROCK ■ PAN △ WATER ○

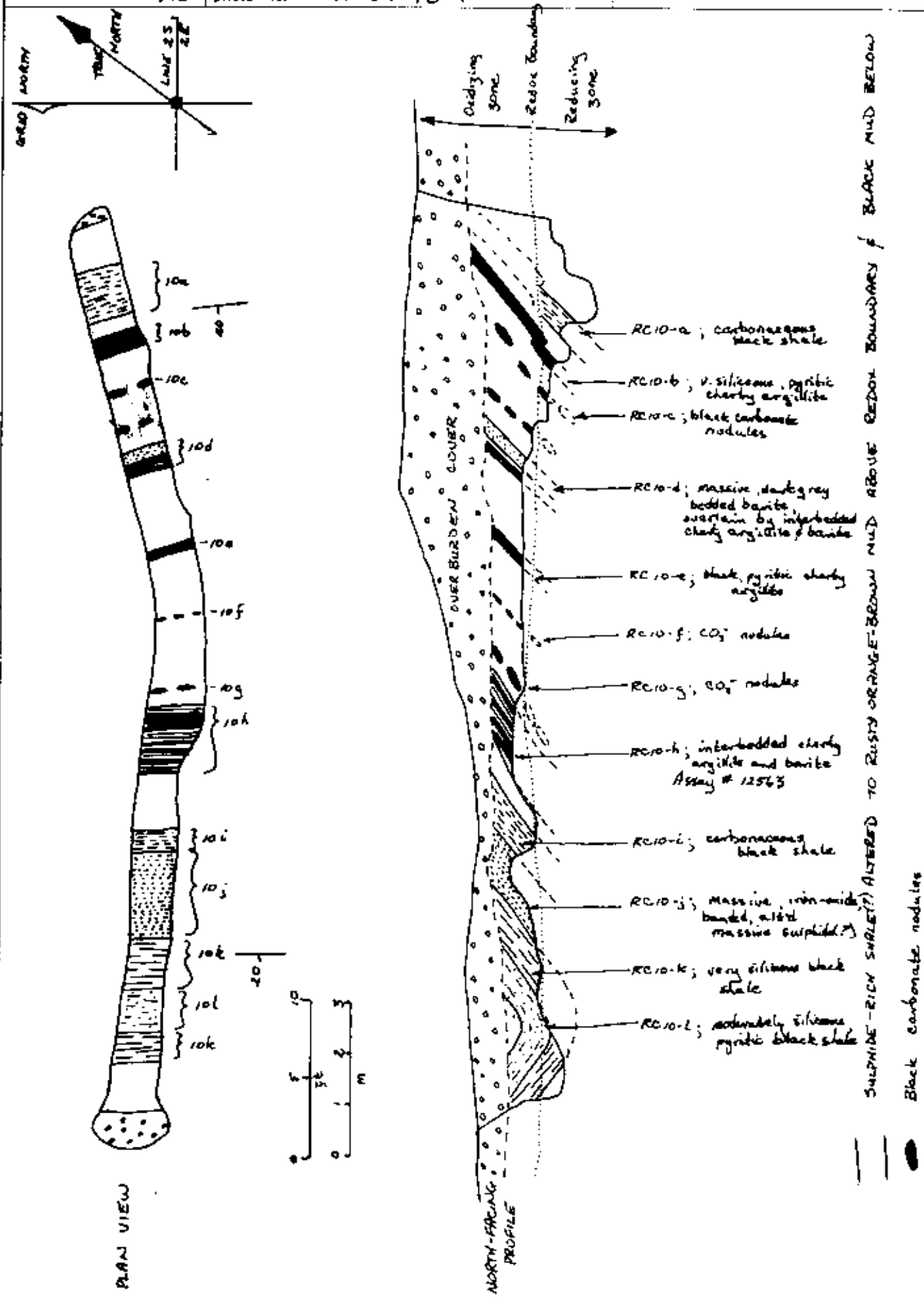
GOSSAN, MINERALS

DON'T FORGET CONTOURS, DRAINAGE, NORTH ARROW, LAT/LONG, SAMPLE SITES, WORKINGS, TRAILS, GOSSANS,

ASSAY

GEOCHEM: Cu Mo Pb Zn U W

Project GSJ	NTS 94L-4	Scale 1:100	Page 3 of 4	Traverse RC-10
Sampler CARNE	Location, Target (words) DRIFTPILE CREEK PROPERTY		Sample Nos	
Date June 30/78	photo nos. TRENCH 78-1		Cert. Nos	



ATTITUDES (∠ DOWN ↑)

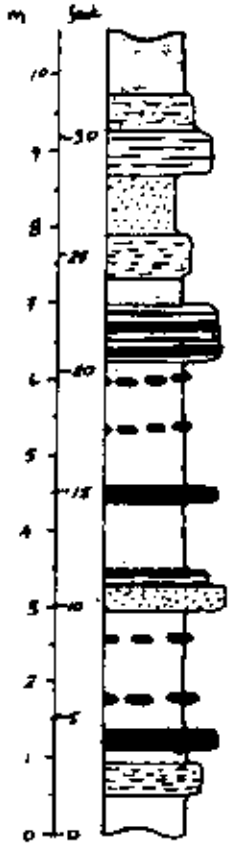
INTRUSIVE ▭ LIMESTONE DOLOMITE ▭ SHALE ▨ CHERT ▭ SILT × SOIL • ROCK • PAN △ WATER ○ VOLCANIC ▭ CONGLOMERATE ▭ SANDSTONE SILTSTONE ▭

SPECIMEN SITE A.B....: DO NOT WRITE ON OTHER SIDE OR USE COLOURS

DON'T FORGET CONTOURS, DRAINAGE, NORTH ARROW, LAT/LONG, SAMPLE SITES, WORKINGS, TRAILS, GOSSANS, OBSERVED GEOLOGY: DEFINED —— INFERRED - - - ASSUMED .....

GOSSAN, MINERALS ■

Project GJV	NTS 94k 4	Scale 1:100	Page 4 of 4	Traverse RC-10
Sampler CARNE	Location, Target (words) DRIFTPILE CREEK PROPERTY		Sample Nos	
Date June 30/78	photo no: TRENCH 78-1		Cert. Nos	



moderately siliceous, pyritic black shale
very siliceous black shale
massive, banded iron-oxides (after massive pyrite?)
soft, carbonaceous black shale
interbedded barite & cherty argillite, pyrite laminae
pyritic, cherty argillite
interbedded barite & cherty argillite, py laminae
massive grey, barren barite
pyritic, cherty argillite
soft, carbonaceous, black shale

— sulphide-rich shale (?); highly altered
● black carbonate nodules.

TRUE STRATIGRAPHIC SECTION
TRENCH 78-1
2S, 2E
SCALE 1:100

ASSAY:

GEOCHEM: Cu Mo Pb Zn U W

ASSESMENT CREDIT:

TRENCHING - CHALMERS, MAN DAYS
MAPPING - CARNE, ½ MAN DAY

VOLUME - 34.4 m³, CHAEX TRENCH 75-7 contributed 40%

GJV CREDIT 20.6 m³

DON'T FORGET CONTOURS, DRAINAGE, NORTH ARROW, LAT/LONG, SAMPLE SITES, WORKINGS, TRAILS, GOSSANS, OBSERVED GEOLOGY: DEFINED —— INFERRED - - - ASSUMED .....
SPECIMEN SITE A.B....: DO NOT WRITE ON OTHER SIDE OR USE COLOURS
ATTITUDES (LOOKING N)
SANDSTONE SILTSTONE
CONGLOMERATE
VOLCANIC
CHERT
SHALE
LIMESTONE DOLOMITE
INTRUSIVE
GOSSAN, MINERALS
SILTY X SOIL ≡ ROCK ≡ PAN △ WATER ○

KC-12

Project QEN	NTS 94k 4	Scale 1:100	Page 1 of 1 Traverse TR18
Sampler CARNE	Location, Target (words) DRIFTPILE CREEK PROPERTY		Sample Nos
Date July 6/76	photo nos TRENCH 78-3		Cert. Nos

DON'T FORGET CONTOURS, DRAINAGE, NORTH ARROW, LAT/LONG, SAMPLE SITES, WORKINGS, TRAILS, GOSSANS, OBSERVED GEOLOGY: DEFINED —— INFERRED - - - ASSUMED .....

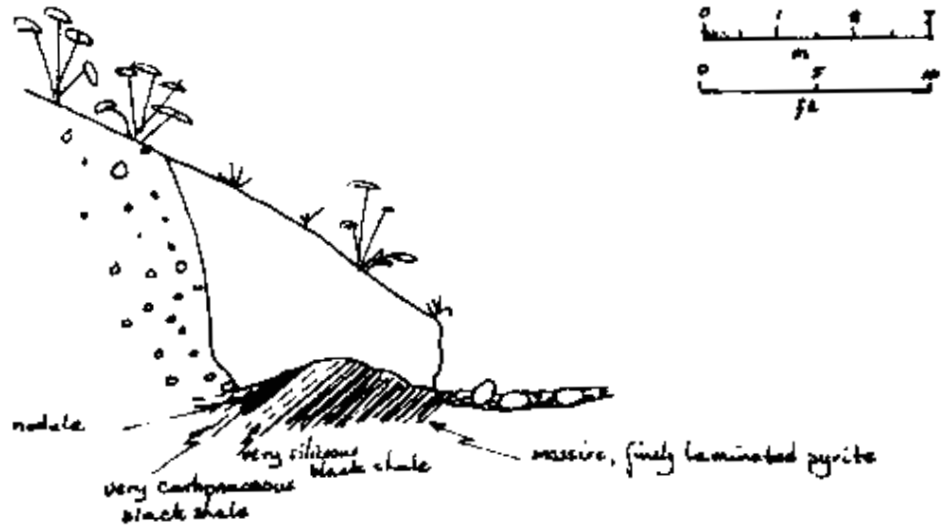
SPECIMEN SITE A.B.---; DO NOT WRITE ON OTHER SIDE OR USE COLOURS

ATTITUDES (LOOKING N)

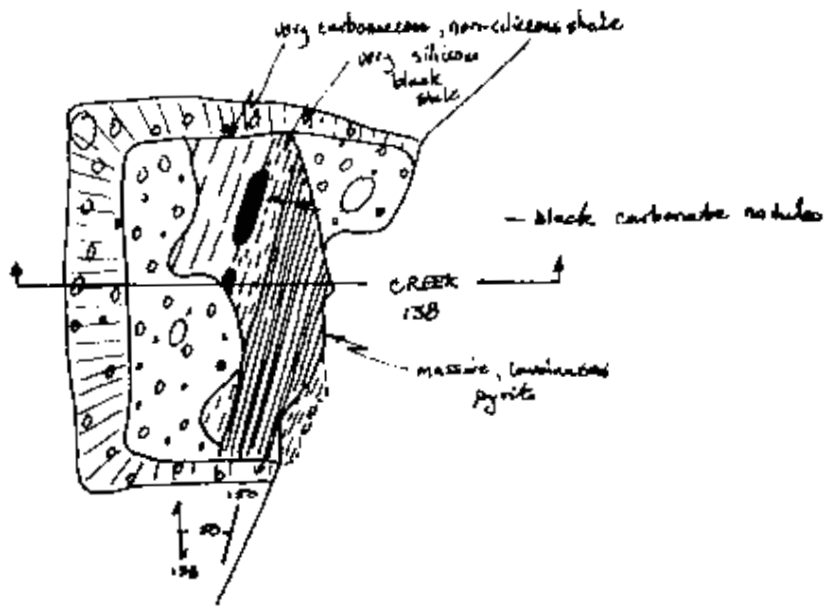
SILT ⁙ SOIL ⊕ ROCK ⊞ PAN △ WATER ○

GOSSAN, MINERALS | INTRUSIVE | LIMESTONE DOLOMITE | SHALE | CHERT | VOLCANIC | CONGLOMERATE | SANDSTONE SILTSTONE

CROSS-SECTION TRENCH 78-3



PLAN VIEW TRENCH 78-3



Line 225, A SW

ASSAY: GEOCHEM: Cu Mo Pb Zn U W

ASSESSMENT CREDITS

LABOUR - OGILVIE 1½ man days
CARNE ½ man days

VOLUME REMOVED - 22.5 m³

Project	GJV	NTS 104 A	Scale 1:1000	Page 2 of 2	Traverse TR 76-3
Sampler	CARNE	Location, Target (words) DRIFTPILE CREEK PROSPECTS		Sample Nos	
Date	July 6/76	~~photo no.~~ TRENCH 76 3		Cert. Nos	

- massive, very finely laminated pyrite containing small, black carbonate nodules

- true stratigraphic width exposed, ~ 1 m. massive sulphides

- overlain by very fissile, very carbonaceous, pyritic, moderately siliceous (talc) containing pyrite nodules (up to 5 cm long ribbons)
  - also contains very large black carbonate nodules (greater than 0.5 m long)
  - carbonate and pyrite nodules are recrystallized along cleavage planes

- cleavage very strongly developed in both pyrite and overlying shale

- bedding is indistinct

DON'T FORGET CONTOURS, DRAINAGE, NORTH ARROW, LAT/LONG, SAMPLE SITES, WORKINGS, TRAILS, GOSSANS, OBSERVED GEOLOGY: DEFINED —— INFERRED - - - ASSUMED.....

SPECIFY IN SITE A.B....: DO NOT WRITE ON OTHER SIDE OR USE COLOURS

ATTITUDES (COMPASS N)

SANDSTONE SILTSTONE

CONGLOMERATE

VOLCANIC

CHERT

SHALE

LIMESTONE DOLOMITE

INTRUSIVE

GOSSAN, MINERALS

SALT K SOIL ● ROCK ■ PAN △ WATER ○

GEOCHEM: Cu Mo Pb Zn U W ASSAY

Project GJV	NTS 94k-4	Scale 1:100'	Page 1 of 5	Traverse RC 11
Sampler CARNE	Location, Target (words) DRIFTPILE CREEK PROPERTY			Sample Nos
Date July 5 & 6/78	photo nos. TRENCH 78-4 & MS-78-1			Cert. Nos

GEOLOGY ON ACCOMPANYING SHEETS

0-1' :- (0-.3 m) covered, rusty soil & permafrost

1'-10' :- (.3m - 3m) very soft very carbonaceous black shale, rusty in spots
- large CO_3^- nodules scattered throughout
- nodules rext'd & recemented along clvg pl
- some have radiating xtal structure

N 129

10'-21' :- (3m - 6.4 m) slightly more siliceous, very carbonaceous black shale
- some very large CO_3^- nodules (1m x 25 cm) show relict bedding or very fine lamination
- very large (1.5m x .5m) CO_3^- nodule, brecciated at 20'
- small nodules scattered throughout interval.

35 / 152

21'-31' :- (6.4m - 9.5m) shale abruptly more siliceous, now mod. to very siliceous
- still very carbonaceous
- some non-siliceous, soft, very fissile, very carbonaceous shale intervals (usually) about 6-8 cm thick
- some very cherty, pyrite beds ~ 4 cm thick

Slope 0-31' : 48°

SECTION TRANSPOSED 30' (9.1 m) North along strike (332°)

31'-38' :- (9.5m - 11.6m) shale now evenly very cherty, thick bedded (3-8 cm) very siliceous cherty beds separated by variable thicknesses (¼ cm - 2 cm) of papery, moderately siliceous, carbonaceous shale

Slope 31'-40' : 65°
Slope 40'-55' : 58°

cleavage now secondary to bedding
- cliff face exposure displays a variety of iron-oxide stains and iron sulphate encrustations.

38'-42' :- (11.6m - 12.8m) Large CO_3^- nodules in barite (?) laminated shale
- barite (?) laminae 1 mm - 3mm thick, med. grey, pyritic continuous, average 0.5 cm - 1 cm apart, rusty ox
- both bedding & cleavage wrap around CO_3^- nodules
- some nodules partially rex'td along ends to white, semi-translucent calcite w graphite inclusions

~~SECTION TRANSPOSED 90' (27.4 m) North along strike at base~~

ATTITUDES (CODING N)
SANDSTONE SILTSTONE
CONGLOMERATE
VOLCANIC
CHERT
SHALE
LIMESTONE DOLOMITE
INTRUSIVE
GOSSAN, MINERALS
SILT x SOIL ● ROCK ■ PAN △ WATER ○
SPECIMEN SITE A.B...: DO NOT WRITE ON OTHER SIDE OR USE COLOURS
DON'T FORGET CONTOURS, DRAINAGE, NORTH ARROW, LAT/LONG, SAMPLE SITES, WORKINGS, TRAILS, GOSSANS, OBSERVED GEOLOGY: DEFINED —— INFERRED - - - ASSUMED.....
GEOCHEM: Cu Mo Pb Zn U W ASSAY:

Project GJV	NTS 94k-4	Scale	Page 2 of 5	Traverse RC-1
Sampler CARNE	Location, Target (words) DRIFTPILE CREEK PROPERTY		Sample Nos	
Date July 5 & 6/78	photo no. TRENCH 78-4 & M.S. 78-1		Cert. Nos	

42'-55' :- (12.8m - 16.8m) — evenly very siliceous, moderately carbonaceous, disseminated * pyritic, black shale
- no non-siliceous interbeds
- no cherty beds
- clay moderately well developed

154 / 34

SECTION TRANSPOSED) 40' N along strike (334°). (12.2 m)

55'-68' :- (16.8m - 20.7m) — cherty, pyritic, rusty brown w/ blk shale
- sub // clay, indistinct
- no parting or v. poor parting on bdg ⊥R

10 / 55 / 140

68'-75' :- (20.7m - 22.9 m) — covered with black mud

75'-90' :- (22.9m - 27.4m) — very siliceous shale interbedded w/ cherty argillite
- shale has small, irregular pyrite nodules as well as disseminated pyrite
- cherty argillite contains disseminated pyrite

slope 55'-68' : 46°
slope 68'-90' : 35°

ATTITUDES (LOOKING N)

SANDSTONE SILTSTONE — CONGLOMERATE — VOLCANIC — SPECIMEN SITE A.B. :- DO NOT WRITE ON OTHER SIDE OR USE COLOURS

CHERT — SHALE — LIMESTONE DOLOMITE — INTRUSIVE — GOSSAN, MINERALS

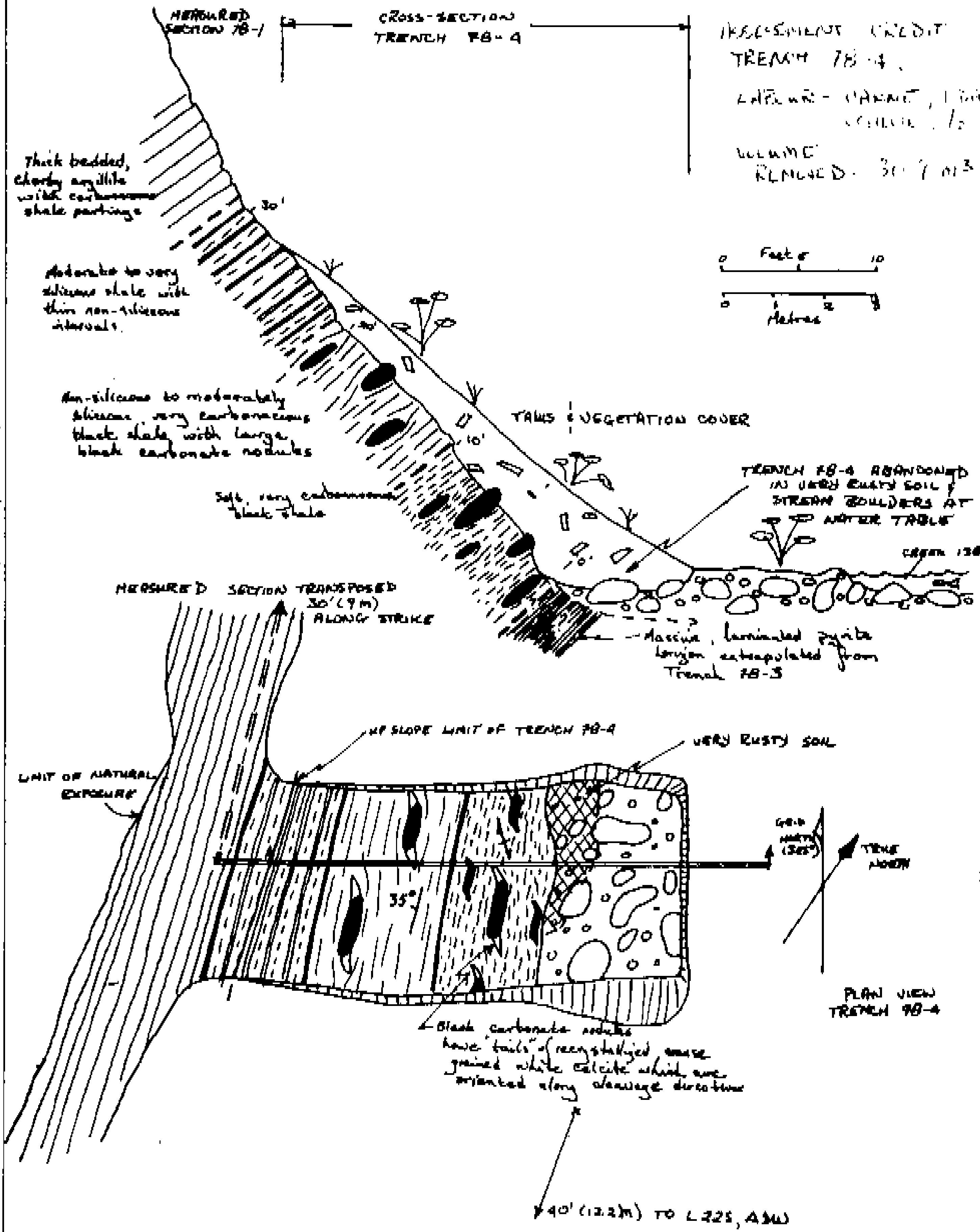
SILT X SOIL ≡ ROCK ≡ PAN △ WATER ○

DON'T FORGET CONTOURS, DRAINAGE, NORTH ARROW, LAT/LONG, SAMPLE SITES, WORKINGS, TRAILS, GOSSANS, OBSERVED GEOLOGY: DEFINED —— INFERRED---- ASSUMED.....

GEOCHEM: Cu Mo Pb Zn U W ASSAY

Project GJU	NTS 94K-4	Scale	Page 3 of 5	Traverse RC-11
Sampler CARNE	Location, Target (words) DRIFTPILE CREEK PROPERTY		Sample Nos	
Date July 5 & 6 / 78	photo-no. TRENCH 78-4 & MEASURED SECT 78-1		Cert. Nos	

ASSESSMENT CREDIT
TRENCH 78-4.
LABOUR - CARNE, 1 day
COOLIDGE, 1/2 day
VOLUME
REMOVED - 30.7 m³



ATTITUDES (↙ ICONS)

GOSSAN, MINERALS · INTRUSIVE · VOLCANIC · CONGLOMERATE · SANDSTONE SILTSTONE · LIMESTONE DOLOMITE · SHALE · CHERT

SILT x SOIL • ROCK ■ PAN ◇ WATER O

SPECIMEN SITE A.B.... ; DO NOT WRITE ON OTHER SIDE OR USE COLOURS

DON'T FORGET CONTOURS, DRAINAGE, NORTH ARROW, LAT/LONG, SAMPLE SITES, WORKINGS, TRAILS, GOSSANS, OBSERVED GEOLOGY: DEFINED —— INFERRED- - - ASSUMED.....

ASSAY:

GEOCHEM: Cu Mo Pb Zn U W

Project (?)SU	NTS 94-K/4	Scale 1:100	Page 4 of 5
Sampler CARNE	Location, Target (words) DRIFTPILE CREEK (PROPERTY)		Traverse RC 11
Date July 5/6/78	~~photo no.~~ MEASURED SECTION MS 76'		Sample Nos —
			Cert. Nos —

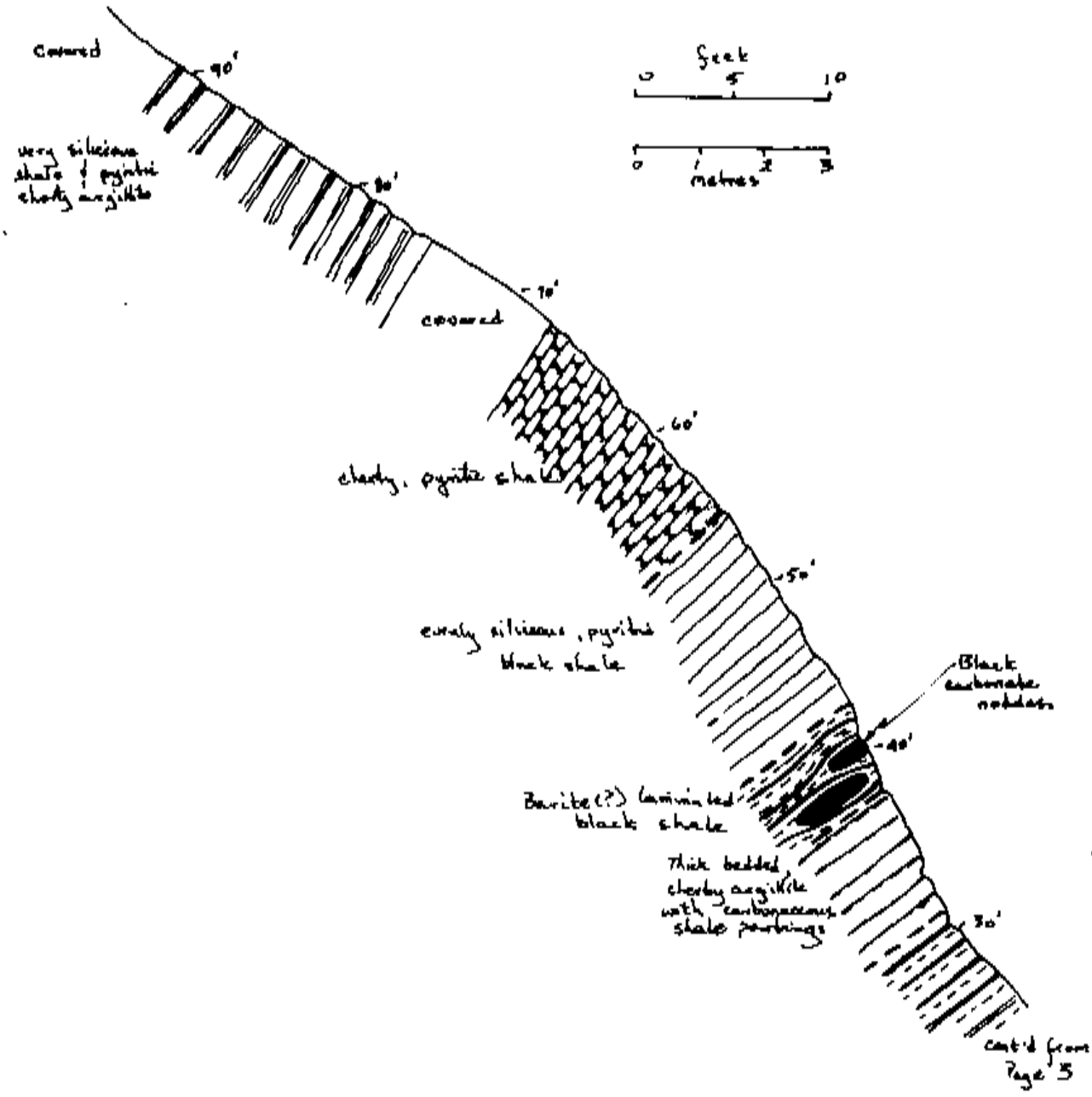
ATTITUDES (LOOKING N)

DON'T FORGET CONTOURS, DRAINAGE, NORTH ARROW, LAT/LONG, SAMPLE SITES, WORKINGS, TRAILS, GOSSANS, OBSERVED GEOLOGY: DEFINED —— INFERRED - - - ASSUMED .....

SPECIMEN SITE N.B....; DO NOT WRITE ON OTHER SIDE OR USE COLOURS

SILT ⁘ SOIL ● ROCK ■ PAN ⌂ WATER ○

GOSSAN, MINERALS | INTRUSIVE | LIMESTONE DOLOMITE | SHALE | CHERT | VOLCANIC | CONGLOMERATE | SANDSTONE SILTSTONE



GEOCHEM: Cu Mo Pb Zn U W ASSAY:

Project GJN	NTS 94K-4	Scale 1:100	Page 5 of 5	Traverse RC-11
Sampler CARNE	Location, Target (words) DRIFTPILE CREEK PROPERTY		Sample Nos —	
Date July 5 & 6/78	photo no. MEASURED SECT. MS 78-1		Cert. Nos —	

ATTITUDES (LOOKING N)

SANDSTONE SILTSTONE

CONGLOMERATE

VOLCANIC

SPECIMEN SITE A.B. ; DO NOT WRITE ON OTHER SIDE OR USE COLOURS

CHERT

SHALE

WATER

ROCK

SOIL

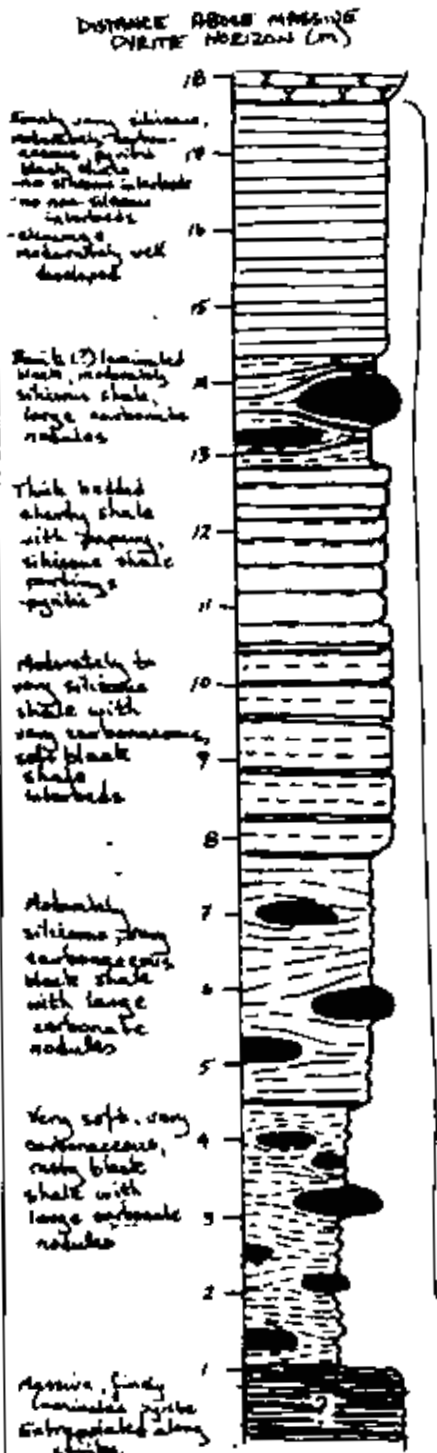
SILT

LIMESTONE DOLOMITE

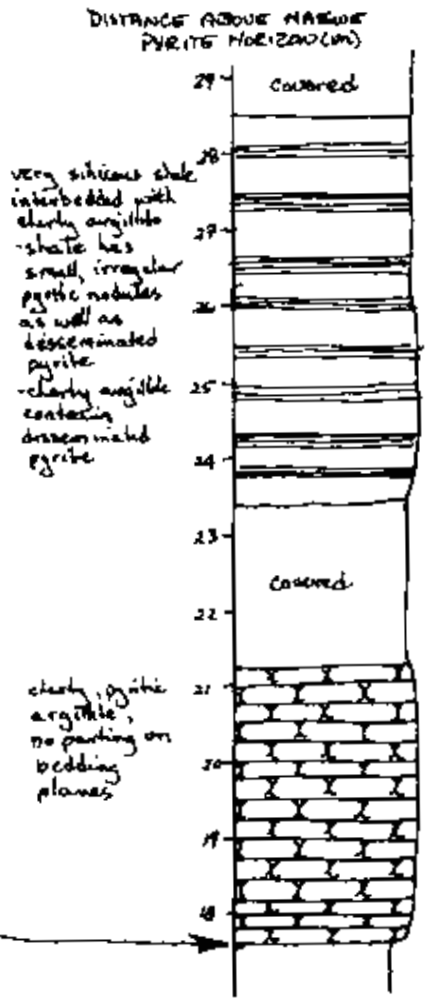
INTRUSIVE

GOSSAN, MINERALS

DON'T FORGET CONTOURS, DRAINAGE, NORTH ARROW, LAT/LONG, SAMPLE SITES, WORKINGS, TRAILS, GOSSANS, OBSERVED GEOLOGY: DEFINED —— INFERRED - - - ASSUMED .....



TRUE STRATIGRAPHIC SECTION
MEASURED SECTION 78-1
LINE 21S, 41W



GEOCHEM: Cu Mo Pb Zn U W ASSAY.

Project CJV	NTS 94 K/4	Scale 1:100	Page 1 of 1	Traverse TRENCH	
Sampler CARNE	Location Target (words) DRIFTAIE CREEK PROPERTY		Sample Nos	78-5	
Date JULY 8/78	~~photo no.~~ TRENCH 78 5		Cert. Nos		

ATTITUDES (LOOKING N)

SANDSTONE SILTSTONE

CONGLOMERATE

VOLCANIC

SPECIMEN SITE A,B,...; DO NOT WRITE ON OTHER SIDE OR USE COLOURS

INTRUSIVE

LIMESTONE DOLOMITE

SHALE

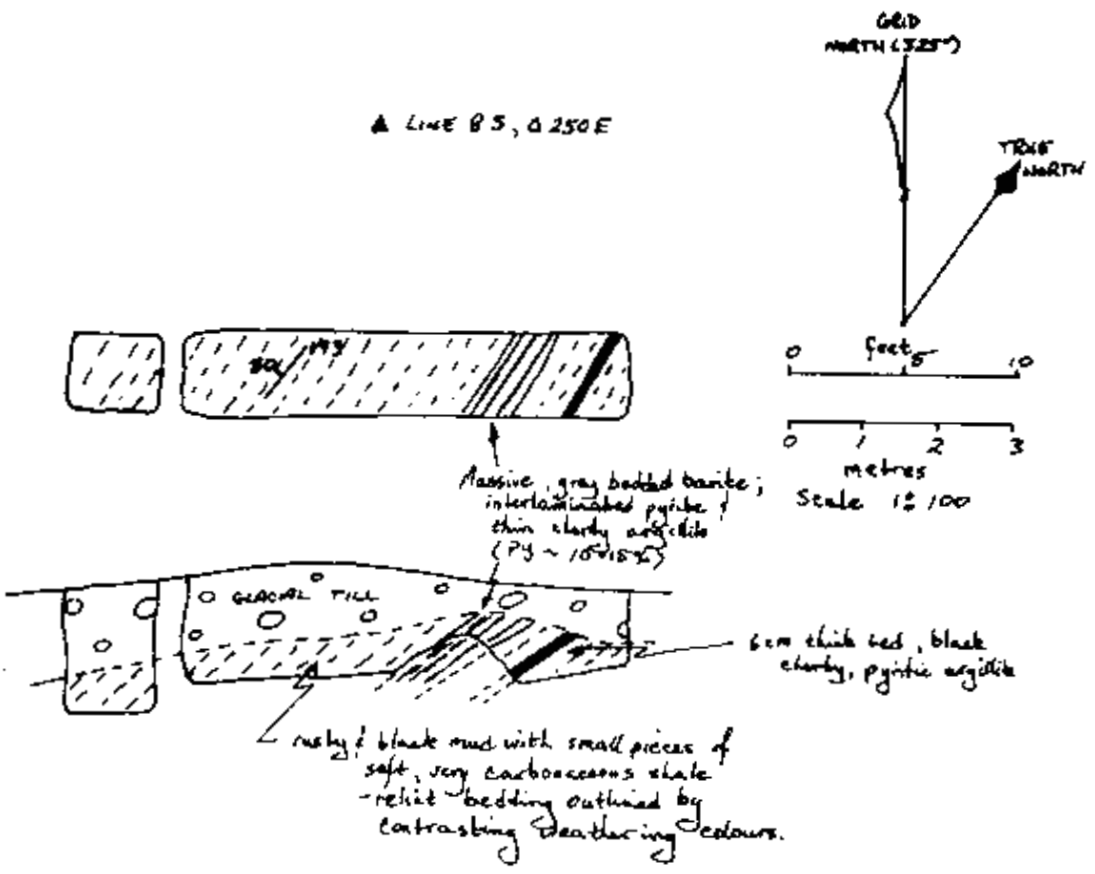
CHERT

SILT ⁜ SOIL ● ROCK ● PAN △ WATER ○

DON'T FORGET CONTOURS, DRAINAGE, NORTH ARROW, LAT/LONG, SAMPLE SITES, WORKINGS, TRAILS, GOSSANS, OBSERVED GEOLOGY; DEFINED —— INFERRED - - - ASSUMED .....

GOSSAN, MINERALS

▲ LINE B 5, Δ 250 E



ASSESSMENT CREDIT: CARNE - 1 MAN DAY LABOUR

VOLUME: 7.1 m³

GEOCHEM: Cu Mo Pb Zn U W ASSAY

B.CON

19W 18W 17W 16W 15W 14W 13W 12W 11W 10W 9W 8W 7W 6W 5W 4W 3W 2W 1W

1975 CAMP
200 METRES NORTH

TRUE POSITION 1975 CANDY PLACER CROSSLINE

GOOF 1 FR

DRIFTPILE CREEK

P20

P19

TR 75-6

TR 75-7
TR 78-1

TR 74-6

78-5 78-4

78-6

TR 78-2

TR 78-9

TR 78-5

TR 78-8
TR 78-7

TR 78-10

Black Mud

P22

78-3 78-2

P21

ZONE

CAMP ZONE

CREEK

CREEK

78-1

Black Mud

TR 78-4
TR 78-3

CRUDE

Black Mud and cemented talus

Black Mud

GOOF 2 FR

CREEK

Black Mud and cemented talus

P24

P23

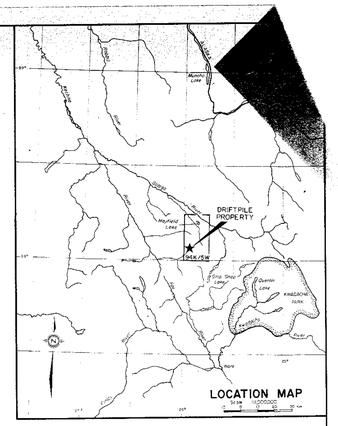
sediment volcanic

Black Mud

TRUE POSITION
1975 DINEX PLACER BASELINE

GEOPHOTO

APPROXIMATE OUTLINE OF AREA MAPPED IN DETAIL TO AUGUST 1, 1978



LEGEND

- TR 78-3 — Hand trench
- Boundary of outcrop
- Rusty orange vegetation with jarosite (or black iron-sulphate rich mud) — arrow indicates direction of physical transport
- Ferricrete deposits
- Mineralized float locality
- Attitude of bedding
- Attitude of cleavage
- Plunge and azimuth of lineation
- Anticline
- Syncline

Part 1 of 2

MINERAL RESOURCES BRANCH
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6896

FIG. 4

ARCHER, CATHRO & ASSOCIATES LTD.

PRELIMINARY GEOLOGY

DRIFTPILE PROPERTY

GATAGA JOINT VENTURE

Scale 1:1000

20 10 0 10 20 30 40 60 80 100 Metres

100 50 0 50 100 200 300 400 Feet

B. OON

BL 20 W

19W 18W 17W 16W 15W 14W 13W 12W 11W 10W 9W 8W 7W 6W 5W 4W 3W 2W 1W

GOOF 1 FR

DRIFTPILE CREEK

TRUE POSITION 1975 CANEX PLACER CROSSLINE

BTF CAMP
200 METRES NORTH

P20

P19

P22

P21

P24

P23

78-1 78-2 78-3 78-4 78-5 78-6

CAMP ZONE

ZONE

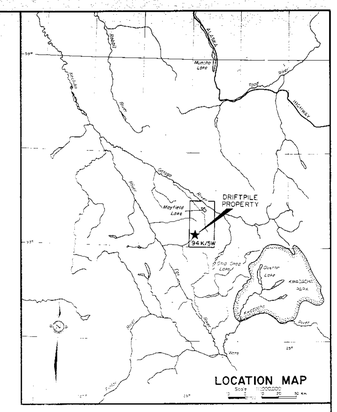
CRUDE CREEK

GEOPHOTO CREEK

GOOF 2 FR

TRUE POSITION
1981 SILVER PLACER BASELINE

Note: true location of 325 is 50 feet to the South (off map)



Part 1 of 2

ON 6896

ASSESSMENT REPORT
MINERAL RESOURCES BRANCH

FIG. 5

LINDER, DATHING & ASSOCIATES LTD.

LEAD GEOCHEMISTRY

DRIFTPILE PROPERTY

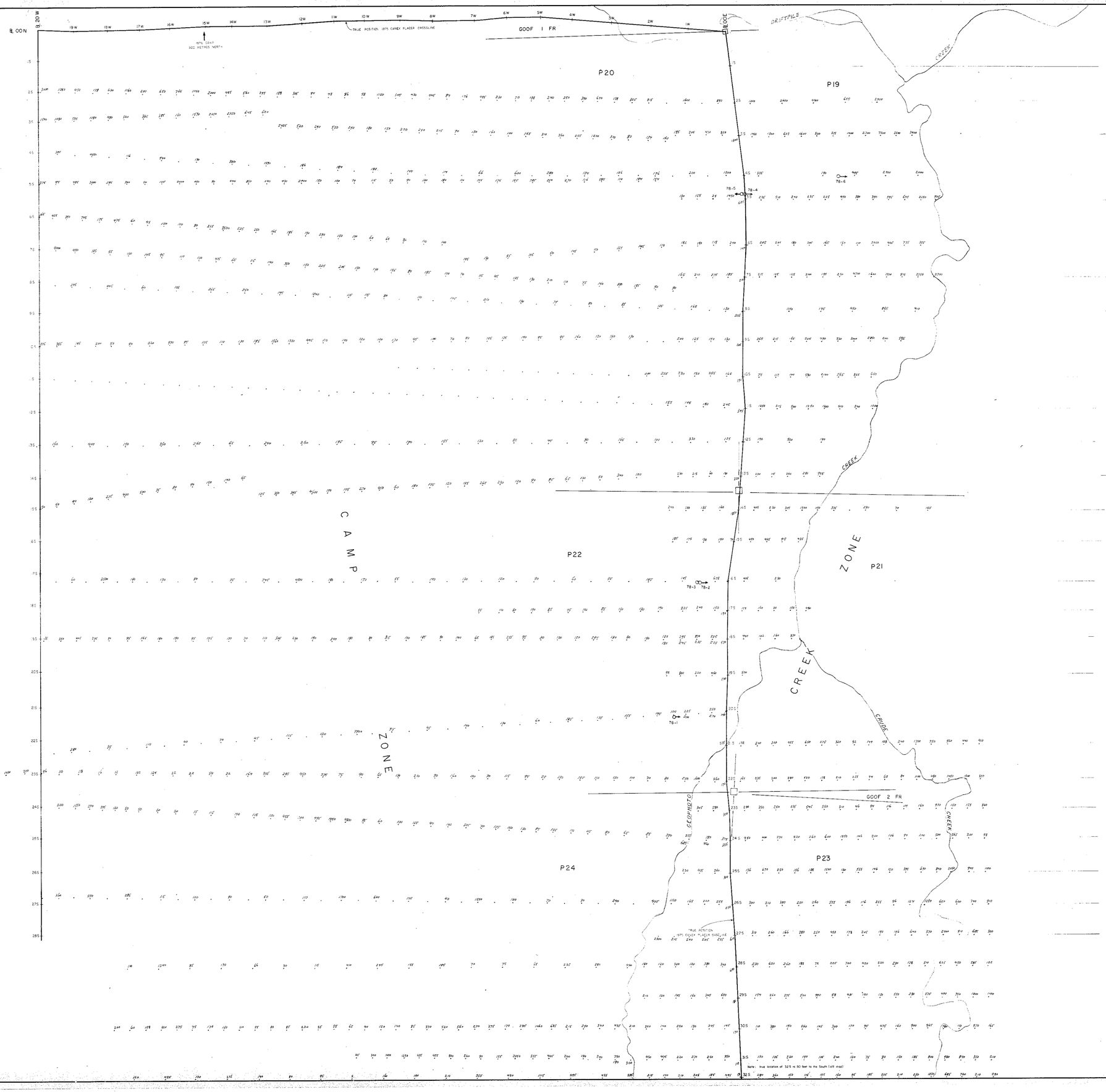
GATAGA JOINT VENTURE

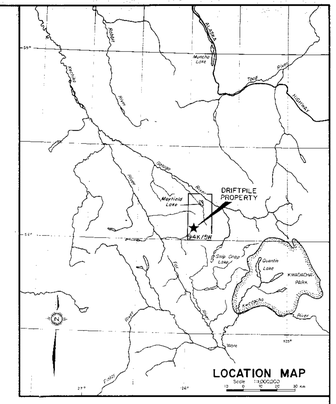
REGISTERED PROFESSIONAL ENGINEER
R. J. DATHING
PROVINCE OF BRITISH COLUMBIA

Scale 1:1000

20 15 0 10 20 30 40 60 80 100 Metres

100 50 0 50 100 200 300 400 Feet





Part 1 of 2

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
6896
NO.

FIG. 6

ARCHER, CATHRO & ASSOCIATES LTD.

ZINC GEOCHEMISTRY

DRIFTPILE PROPERTY

GATAGA JOINT VENTURE

Scale 1:1000

100 50 0 50 100 200 300 400 Feet

B 00 N

B 20 W

19W 18W 17W 16W 15W 14W 13W 12W 11W 10W 9W 8W 7W 6W 5W 4W 3W 2W 1W

1978 CAMP
200 METRES NORTH

TRUE POSITION 1975 CANEX PLACER CROSSLINE

GOOF 1 FR

DRIFTPILE CREEK

P20

P19

P22

P21

P24

P23

CRUDE CREEK

GEORGETTO CREEK

GOOF 2 FR

TRUE POSITION
1975 CANEX PLACER BASELINE

Note: true location of 32 S is 50 feet to the South (off map)

DRIFTPILE PROPERTY

LOCATION MAP

Part 1 of 2

MINERAL RESOURCES DIVISION
ASSESSMENT REPORT
6896
MAP

FIG. 7

ARCHER, CATHRO & ASSOCIATES LTD.

COPPER GEOCHEMISTRY

DRIFTPILE PROPERTY

GATAGA JOINT VENTURE

Scale 1:1000

20 10 0 10 20 30 40 60 80 100 Metres

100 50 0 50 100 200 300 400 Feet