WHITEHORSE M.D.

MAP No.	ASSESSMENT REPORT N. M. E. A. P. CONFIDENTIAL OPEN FILE	TYPE OF WORK:	GEOCHEMICAL, GEOLOGICAL GEOPHYSICAL
115 I 3	☐ ☐ ☐ ☐		

REPORT FILED UNDER	G.F. Dickson	DOCUMENT NO.	091658
DATE PERFORMED	June 17-30, Aug. 5-25/85	DATE FILED:	October 22, 1985
LOCATION – LAT.	62°05'N	AREA:	
LONG.	137°11'W		
CLAIM NO.	WEDGE 5-10 YA82171-176		
	15 YA82181		
VALUE $			
WORK DONE BY	M. Anderson		
WORK DONE FOR	G.F. Dickson		

REMARKS

091658

The Wedge claims are located about 10 km past Mt. Nansen by road. They cover a contact zone between diorite-granodiorite and later rhyolitic quartz-feldspar porphyrys.

Yox 85 p. 223

The 1985 work program consisted of a geophysical VLF-EM survey followed by trenching and geochemical sampling of anomalous zones. Several sub-parallel, moderate conductors were found which, when trenched and sampled, were found to be gold bearing. Soil samples and rock chips were analyzed for Au,Ag, As, Sb, Cu, Zn and Pb. Values range from 3 ppb to 1562 ppb Au with 0.5 ppm to 14 ppm Ag.

GEOLOGICAL, GEOPHYSICAL, AND GEOCHEMICAL EXPLORATION WORK CARRIED OUT ON WEDGE #5, WEDGE #6, WEDGE #7, WEDGE #8, WEDGE #9 WEDGE #10, AND WEDGE #15, CLAIM SHEET 115 I-3, 62° 05'N, 137° 11'W, JUNE 17TH-30TH, AND AUGUST 5-25, 1985

WRITTEN BY

MICHAEL ANDERSON, B. Sc.

October 7, 1985

091658

This report has been examined by the Geological Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as representation work in the amount of $ 1200.00 .

D.D Emond

for Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

GEOLOGY REPORT ON WEDGES AT DISCOVERY CREEK, CARMACKS

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GEOLOGY REPORT ON WEDGES AT DISCOVERY CREEK, CARMACKS

INTRODUCTION

This report is intended to provide details of exploration work carried out on claims designated or Wedge #5, Wedge #6, Wedge #7, Wedge #8, Wedge #9, Wedge #10 and Wedge #15 on claim sheet 115-I3, for Prochem Ltd., 8032 Torbram Road, Brampton, Ontario. The claims are currently held by Mr. G. Dickson of Whitehorse, Yukon. These claims constitute approximately one-third of the area under investigation by Prochem Ltd., and were investigated as an extension of the exploration of adjacent and overlapping claims designated as Myrtle, Ricco, Courtland, Ida May, Mack, Sunset and Hazel Anne. Therefore, data pertaining to the Wedge claims, particularly in the case of the geology, has been in part extrapolated from information obtained on adjacent claims. All costs which have been submitted with regard to the Wedge claims were incurred solely on those claims. Field work was carried out during the periods of June 17-30 and August 5-25, 1985.

LOCATION AND ACCESS

The Wedge claims are located in the valley of Discovery Creek, a tributary of Nansen Creek at 62° 05'N, 137° 11'W, (Figure 1). Access is gained approximately 70 km along the Mt. Nansen Road from Carmacks, 10 km past the Mt. Nansen Mine site.

GEOLOGY

Regional Geology

The Discovery Creek area is situated within the eastern half of the Coast Crystalline Belt which trends northwesterly across Southwest Yukon. This belt consists of acidic to intermediate intrusive bodies of post-Triassic age, and bodies of metamorphosed pre-intrusive sedimentary and volcanic rocks of Paleozoic age.

Discovery Creek Valley

Within the valley of Discovery Creek, outcrop is limited to small areas of the creek bed and the tops of hills. These constitute only 1 - 2% of the area under investigation. The remainder of the area is covered by a regolith overburden of frozen soil, and frozen disintegrated rock, which is the product of weathering of the underlying bedrock. The depth of the regolith varies from 0 to a few feet on the crests of hills, and in portions of the creek bed, to tens of feet on the slopes. Topographic relief is in the order of 1000 ft. with slopes grading 20-30%. Numerous boulder piles occur on the mid to lower slopes indicating downslope movement of the regolith. The disintegrated rock layer and bedrock are permanently frozen to a depth of 150 ft. (Saager & Bianconi, 1971). The upper 1-2ft. of humus and soil are thawed during the summer months. The overburden has been much disturbed in proximity to those portions of Discovery Creek which are subject to ongoing placer gold mining.

Geological interpretation of the area is limited by the rarity of outcrops. The accompanying map (Figure 2) is therefore based upon extrapolation from a few outcrops and excavations, and examination of rock fragments obtained from the regolith. Air photographs were used as an aid in identifying areas of outcrop occurrance, and in estimating the probable extent of the rock types. The following rock types have been identified.

1. grey to brown weathering, blue-grey, fine grained biotite-quartz diorite, occasionally porphyritic, contains disseminated arsenopyrite;

2. brown weathering, fine to medium grained equigranular unfoliated biotite - hornblende granodiorite, minor porghyritic granite, occasional diorite xenoliths;

3. buff to orange weathering rhyolite quartz-feldspar porphry, small plugs.

The contact between the diorite and granodiorite has been observed at one location on the Mack claim. An apparent dip of 80° E was measured.

Saager and Bianconi (1971) characterize the diorite and granodiorite as "Mesozoic intrusives of mid-Cretaceous age". They suggest that the quartz-feldspar porphyry may be a late phase of the granitic Mesozoic intrusives, but follow Bostock (1936) in assigning it a Tertiary age. An unpublished report on the Mt. Nansen Mine (Dolmage, Campbell, 1982) considers the diorite to be a hypabyssal intrusive related to the late Jurassic Mt. Nansen Group and-site-basalt flows and clastics, and treats the granitic and rhyolitic intrusives as separate units. Templeman-Kluit (1969) includes the granodiorite and rhyolite porphyry in the Mt. Nansen Group, but fails to mention the diorite.

Excavations at sites of geophysical and geochemical anomalies have revealed zones of mineralized quartz and carbonate which trend approximately north-south and intrude the diorite and granodiorite. Their relationship to the rhyolite porphyry has not been determined. As observed thus far, these zones consist of oxidized, disintegrated bedrock containing fragments of mineralized quartz and carbonate. There is evidence of shearing and hydrothermal alteration in adjacent granodiorite. Pyrite, arsenopyrite, galena and sphalerite have been identified microscopically, however much of the mineralization consists of masses of very finely crystalline material which have not been identified. Samples obtained from these zones have been submitted for chemical analysis.

Summary of Geology of Wedge Claims:

Wedge #5	-	underlain by granodiorite
	-	probable rhyolite porphyry intrusions along the crests of hills to the east of Discovery Creek
	-	trench uncovered a silicified rhyolite zone with disseminated arsenopyrite
Wedge #6	-	granodiorite with rhyolite porphyry intrusions
Wedge #7	-	granodiorite
Wedge #8	-	granodiorite, probable rhyolite porphyry intrusion at north western tip
	-	granodiorite contains mineralized carbonate zone
Wedge #9	-	no geological data
Wedge #10	-	by extrapolation from nearest outcrops, probably underlain by diorite
Wedge #15	-	diorite under southern three-quarters
	-	granodiorite under northern one-quarter
	-	mineralized quartz-carbonate zone intrudes diorite

Conclusions and Recommendations:

The bedrock consists of a series of igneous intrusive rocks; diorite, granodiorite and rhyolite porphyry. Mineralized quartz-carbonate zones have been identified, which may contain significant gold and silver values.

Geological investigation has been limited to the southern and eastern portions of the property, and should be extended to cover the northern and western areas, which have not been sufficiently examined. Any further excavations or drilling which may be carried out should include a detailed examination of rock samples so obtained in order to establish the nature of the mineralized zones and their structural relationship to the country rock.

References

Bostock (1936), Carmacks District, Yukon, Geol. Surv. Canada, Mem. 169.

Dolmage, Campbell & Associates (1982), Feasibility Report - Mt. Nansen Mine, Yukon Territory. (unpublished report)

Saager & Beanconi (1971), The Mt. Nansen Gold-Silver Deposit, Yukon Territory, Canada. Mineraliam Deposits, 6, 209-224.

Templeman-Kluit (1969), Legend to Geology Map 115I. Dept. of Energy Mines & Resources.

GEOPHYSICS

A geophysical survey was carried out using a Geonics VLF-EM16. Dip angle measurements were recorded with reference to NLK, Seattle, Washington (24.8 KHz), and NAA, Cutler, Maine (17.8 KHz). These measurements are a reflection of the relative conductivity of the ground over which they were taken. To facilitate plotting of the data, flagged lines were placed trending N60°E at 100 and 200 ft. intervals. Due to the lack of trees, no line cutting was required. Topographic features were used in conjunction with survey maps and airphotographs for control points. Readings were taken at 45 ft. intervals along the lines. Orientation and distance were determined by compass and pacing.

The dip angles were plotted as profiles, and the data was transformed using the Fraser transformer formula (Fraser, 1971), in order to produce data which could be contoured. (Figure 3). Areas of Wedge #5, Wedge #6, Wedge #7, Wedge #8 and Wedge #15 were included in the survey.

Results of the survey are most easily interpretted with reference to the contoured data. The Seattle data showed a branching network of sub-parallel conductive zones which trend south-east to north-west in the southern portion of the survey and north-south in the northern portions, and cut across the inferred diorite-granodiorite contact. The zones vary in width from 135 to 360 ft. The zone occurring in Wedge #8 has a length of approximately 2000 ft.

Summary of Conductive Zone on Wedge Claims

Wedge #5	-	Three weak zones (0-11°)
Wedge #6	-	Two weak to low-moderate zones (0-24°)
Wedge #7	-	Two weak zones (0-11°)
Wedge #8	-	One moderate zone (0-39°)
Wedge #15	-	Three moderate zones (0-24°)

Conclusion

The geophysical anomalies were followed up by soil geochemical sampling in order to determine their significance. Areas in Wedge #5, Wedge #6 and Wedge #8 were also investigated by excavating trenches. The geochemical survey and trenching indicate that sulphide mineralization containing gold and silver values is associated with the conductive zones. The Cutler data was also plotted as profiles, but no significant east-west conductive zones were discovered on the Wedge claims.

The VLF-EM16 has demonstrated its usefulness in outlining sulphide mineralization and the survey should be extended to cover those areas which have not yet been investigated.

References

Fraser (1971), VLF-EM Data Processing, CIM transactions;
Vol.LXXIV, pp. 11-13

GEOCHEMISTRY

The geochemical survey was carried out in three phases.

Phase I was intended to test the occurrence and extent of Ag-As anomalies previously reported by Mt. Nansen Mines. Two survey lines 200 ft. apart were emplaced across Wedge #8. Soil samples were collected at 45 ft. intervals, from just below the vegetation and humus layers. Samples were obtained by chopping through the vegetation and partially frozen humus with a hand pick and collecting the soil by hand. Samples were analysed for Ag, As and Cu. Samples which returned anomalous Ag and/or As were subsequently analysed for Au.

Phase II was an expansion of Phase I to test the extent of the anomalous areas. Samples were analysed for Au and Ag. Conductive zones outlined in the geophysical survey were used to direct the sampling to favourable areas.

Phase III involved sampling of rock and soil from excavated trenches. Soil was collected from the surface and base of the trenches to establish vertical profiles, and were analysed for Au, Ag, and As. Selected rock and regolith samples were submitted for assay (Au, Ag, As, Sb, Cu, Zn, Pb).

The chemical analyses were performed by X-Ray Laboritories Ltd., 1885 Leslie Street, Don Mills, Ontario, M38 3I4. A variety of analytic methods were employed depending on the element being determined.

i.e. Au (ppb) :	Plasma Emission Spectrometry
Au (oz/ton):	Fire Assay
Ag (ppm) :	Plasma Emission Spectrometry
Ag (oz/ton) :	Fire Assay
As (ppm) :	Flameless Atomic Absorption
As (%) :	X-Ray Fluorescence
Sb (ppm) :	Flameless Atomic Absorption
Cu (ppm) :	Plasma Emission Spectrometry
Zn (ppm) :	Plasma Emission Spectrometry
Zn (%) :	X-Ray Fluorescence
Pb (ppm) :	Plasma Emission Spectrometry
Pb (%) :	X-Ray Fluorescence

Interpretation & Recommendations

The Au and Ag analyses were considered to be of greatest value in determining areas of economic potential. These were plotted and contoured. Values > 2ppm, Ag and > 50 ppb Au were considered anomalous.

Ag values ranged from < .5 ppm to 14 ppm. Au values ranged from < 3 ppb to 1400 ppb. The Au-Ag anomalies occur in two zones which trend across Wedge #8 and are nearly coincident with the geophysical conductive zones. The areal divergence of the geophysical and geochemical anomalies can be accounted for by downslope movement of the soil. Au values show a general increase from the surface to the base of the trench on Wedge #8. Values from the trench bottom range from trace to 1562 ppb. The highest values at the base are not directly below the highest values at surface which also indicates downslope movement.

The geochemical survey has been useful in confirming the presence of Au and Ag values within the conductive zones - outlined by the geophysical survey. Topography must be considered in interpreting the geochemical contours since downslope movement is indicated. Au and Ag geochemical surveys should be considered as a complementary technique to future geophysical surveys which may be contemplated in areas not yet investigated.

Table of Assay Results

Wedge #5)
)
Wedge #5 (Road)) PLEASE SEE PAGE 7
)
Wedge #8)

Personnel

Geochemical sampling was carried out by Ken Fair and Robert Schneider, employees of Prochem Limited, under the supervision of Michael Anderson, geological consultant. The geological and geophysical surveys were carried out by Michael Anderson.

Michael Anderson is a graduate of Brock University, St. Catharines, Ontario (B. Sc.(Hons. 1st Class)) in Geological Science. He has been employed in mining exploration since 1978. His previous employers include Diapros Canada Ltd. (DeBeers), Nfld. Dept. of Mines & Energy, Northgate Exploration Ltd., and Derry, Michener & Booth.

TABLE OF ASSAY RESULTS

LOCATION	SAMPLE TYPE	NAME/NUMBER	Au oz/ton (ppb)	Ag oz/ton (ppm)	As	Sb	Cu	Zn	Pb
					ppm				
WEDGE #5	Bottom Geochem	520	.009 (281)	tr	9.3				
		521	tr	tr	8.0				
		522	.004 (125)	tr	15.0				
		523	.002 (63)	nil	5.2				
		524	.004 (125)	nil	7.8				
* (actually Wedge 5 samples)	Composite Sand	W6-S-COMP *	.002 (63)	tr	11.0	1.7	58	21	24
	Rock	W6-HR *	.003 (94)	tr	40.0	0.5	18	17	22
	Surface Geochem.	525	(4)	0.5	14				
		526	(5)	< 0.5	14				
		527	(4)	< 0.5	6.8				
		528	(4)	< 0.5	14				
		529	(14)	< 0.5	13				
ROAD	Bottom Geochem.	530	.005 (156)	nil	7.1				
		531	.006 (188)	nil	8.0				
		532	.001 (31)	nil	8.0				
		533	trace	nil	9.4				
		534	.007 (219)	nil	10				
		535	.004 (125)	nil	8.0				
ROAD	Rock	RD-HR	.002 (63)	tr	190	1.2	45	64	72
WEDGE #8	Composite Sand	W8-R-006 + 8M	.004 (125) .002	nil trace	740	12.0	73	>4000 2.76%	740
	Blue Carbonate Mud	W8-R-003	.006 (188)	tr	670	40.0	340	830	190
	Rock-Carbonate	W8-HR-002	tr	nil	33	1.3	4	37	78
	Bottom Geochem.	W8-007	.002 (62)	trace	32				
		W8-008	.001 (31)	nil	56				
		W8-009	.007 (219)	0.13 (4)	25				
		W8-010	trace	trace	80				
		W8-011	.050 (1562)	0.49 (15)	810				
		W8-012	.020 (625)	0.26 (8)	>1000				
	Surface Geochem.	W8-001	(15)	< 0.5	40				
		W8-002	(98)	1.0	92				
		W8-003	(50)	0.5	44				
		W8-004	(43)	< 0.5	170				
		W8-005	(10)	< 0.5	44				
		W8-006	(22)	< 0.5	56				
	Mineralized Sand	W8-R-001							

REPORT ON EXCAVATED TRENCHES ON WEDGE CLAIMS

DISCOVERY CREEK, CARMACKS AREA, YUKON TERRITORY

A combination of surface prospecting, geophysical and geochemical surveys was used to identify areas within the claims suitable for excavation of trenches. One trench was excavated on each of Wedge #5, Wedge #6, and Wedge #8. The material removed from the trenches consisted of a thin layer (1-2 ft.) of unfrozen vegetation humus and soil underlain by frozen soil and weathered, disintegrated bedrock, containing fragments of solid rock material.

Wedge #5:

The trench is located in the north-west corner of Wedge #5, 50' south-east of Post #1, Wedge #5, Post #1, Wedge #6, Post #2, Wedge #3, Post #2, Wedge #4. It is oriented from north-east to south-west and measures 150' long, 20' wide, and 1-6' in depth. 250 cu.yd. of material was removed. Rock fragments in the removed material consisted of quartz and quartz-feldspar porphyry with traces of arsenopyrite.

Assays		Au (ppb)	Ag(ppm)	As(ppm)
Geochem (base of trench):	520	281	trace	9.3
	521	trace	trace	8.0
	522	125	trace	15.0
	523	63	nil	5.2
	524	125	nil	7.8
Sand	W6-S-comp.	63	trace	11.0
Rock	W6-HR	94	trace	40.0
Geochem (top of trench):	525	(4)	0.5	14
	526	(5)	< 0.5	14
	527	(4)	< 0.5	6.8
	528	(4)	< 0.5	14
	529	(14)	< 0.5	13

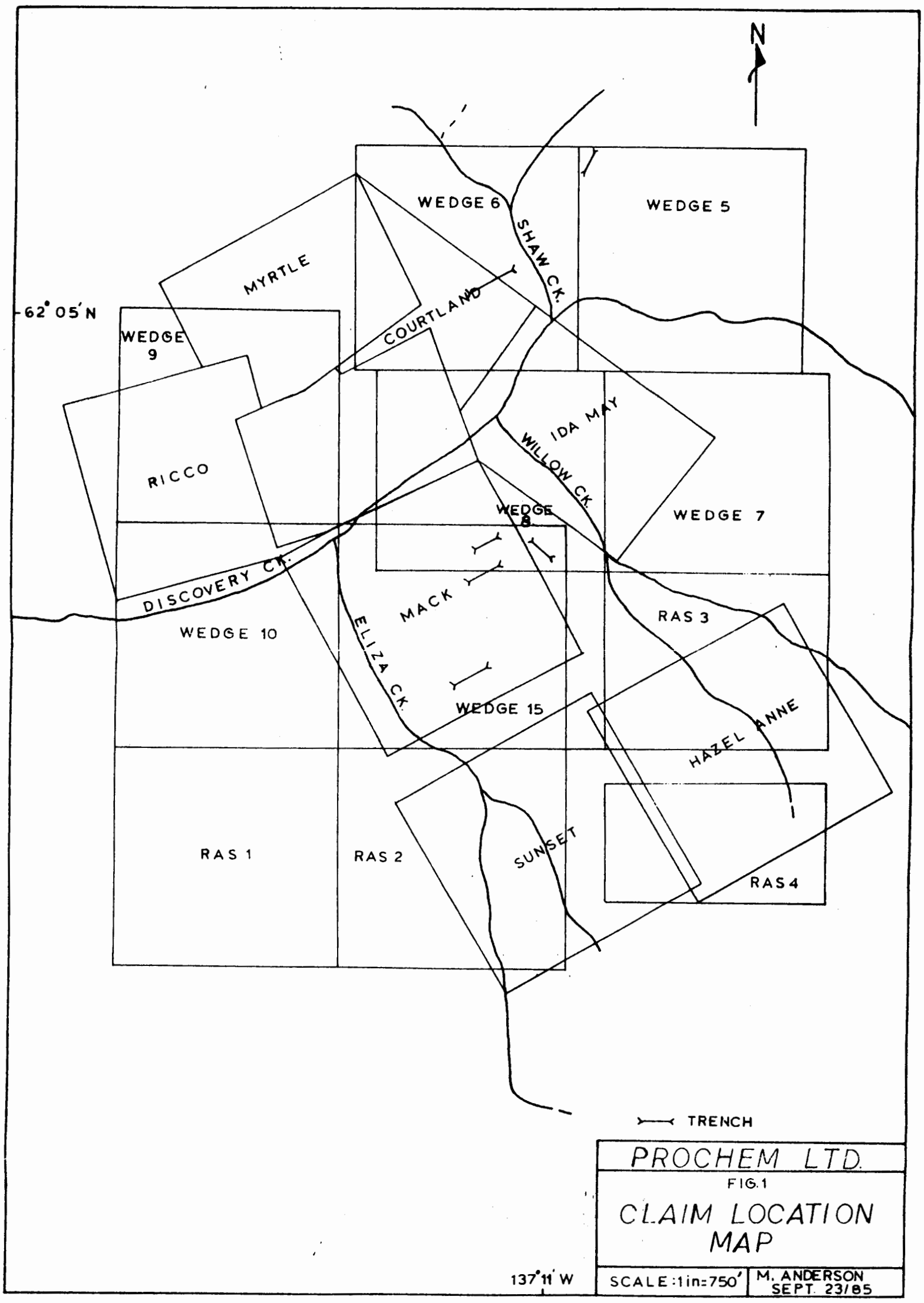
Wedge #6:

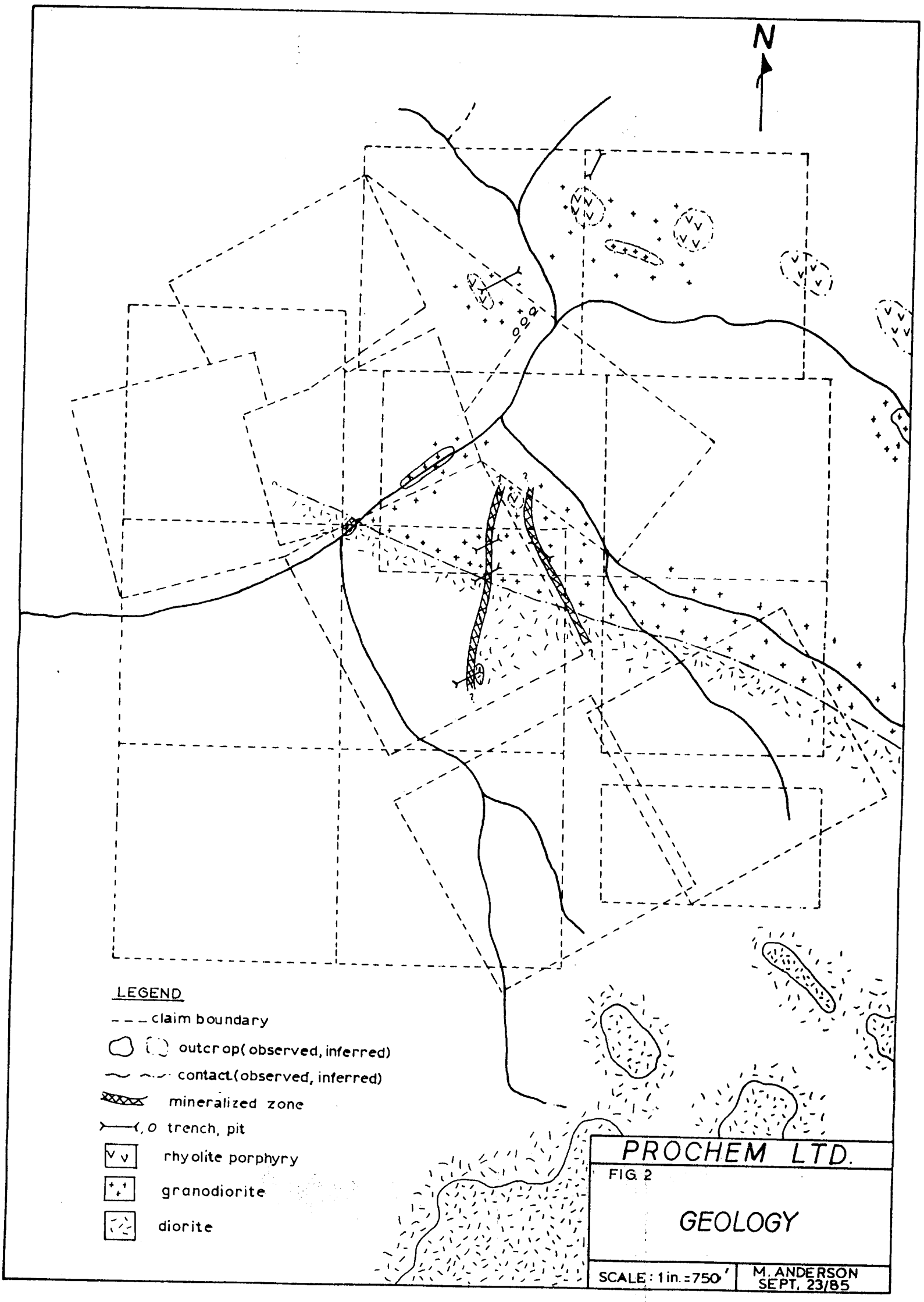
The trench is located on the eastward extension into Wedge #6 of a trench on the Courtland claim. It is oriented north-east to south-west and is located 900' south west of Post #1, Wedge #6, Post #1, Wedge #5, Post #2, Wedge #3, Post #2, Wedge #4. It is 100' long, 20' wide and 1-6 ft. in depth. 175 cu. yd. of material was removed from this trench. No sampling was carried out on the Wedge #6 portion of this trench. Rock fragments from this trench consisted of granodiorite and quartz-feldspar porphyry.

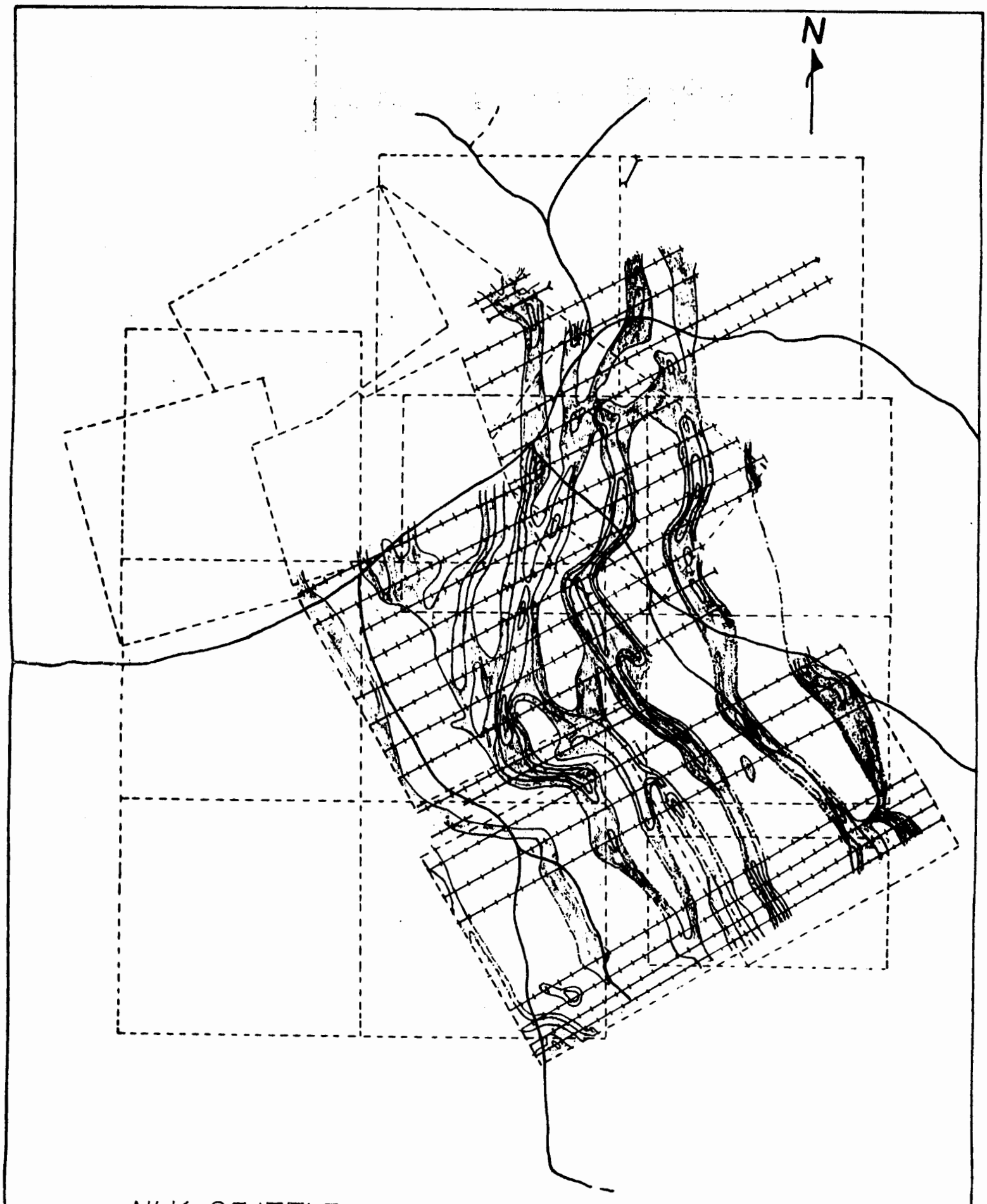
Wedge #8:

This trench is oriented approximately east-west and is located 600' south-west of Post #1, Wedge #8, Post #1, Wedge #7. It is 150' long, 25' wide and 1 - 15' deep. 750 cu. yds. of material was removed. Rock fragments from this trench consisted of granodiorite and carbonate with sulphide mineralization.

Assays			Au (ppb)	Ag (ppm)	As (ppm)	Sb (ppm)	Cu (ppm)	Zn (ppm)	Pb (ppm)
Sand	W8-R-006		125	nil	740	12.0	73	4000	740
Carbonate Mud	W8-R-003		188	trace	670	40.0	340	830	190
Carbonate Rock	W8-HR-002		trace	nil	33	1.3	4	37	38
Geochem (bot. of trench):		007	(62)		32				
		008	(31)		56				
		009	(219)	(4)	25				
		010			80				
		011	(1562)	(15)	810				
		012	(625)	(8)	>1000				
Geochem (top of trench):		001	(15)	< 0.5	40				
		002	(98)	1.0	92				
		003	(50)	0.5	44				
		004	(43)	< 0.5	170				
		005	(10)	< 0.5	44				
		006	(22)	< 0.5	56				
Rock	- M-8-Cal						200	.92%	1.07%
	M-8-A						680	1.01%	2.94%
	M-8-B						250	3800 .4%	0.59%
	M-8-C						9	800	30
	M-8-D						78	1800	2500
Sand	- W8-R-001								


N
WEDGE 6
WEDGE 5
SHAW CK.
MYRTLE
62° 05' N
WEDGE 9
COURTLAND
RICCO
IDA MAY
WILLOW CK.
WEDGE 8
WEDGE 7
DISCOVERY CK.
MACK
WEDGE 10
ELIZA CK.
RAS 3
WEDGE 15
HAZEL ANNE
RAS 1
RAS 2
SUNSET
RAS 4
TRENCH
PROCHEM LTD.
FIG. 1
CLAIM LOCATION MAP
SCALE: 1 in = 750'
M. ANDERSON SEPT. 23/85
137° 11' W


N
LEGEND
claim boundary
outcrop(observed, inferred)
contact(observed, inferred)
mineralized zone
trench, pit
rhyolite porphyry
granodiorite
diorite
PROCHEM LTD.
FIG. 2
GEOLOGY
SCALE: 1 in. = 750'
M. ANDERSON
SEPT. 23/85



NLK- SEATTLE
24.8 KHZ.
CONTOUR INTERVAL 10°

PROCHEM LTD.

FIG.3 GEOPHYSICS
VLF-EM16 CONTOUR
MAP

SCALE: 1 in. = 750'

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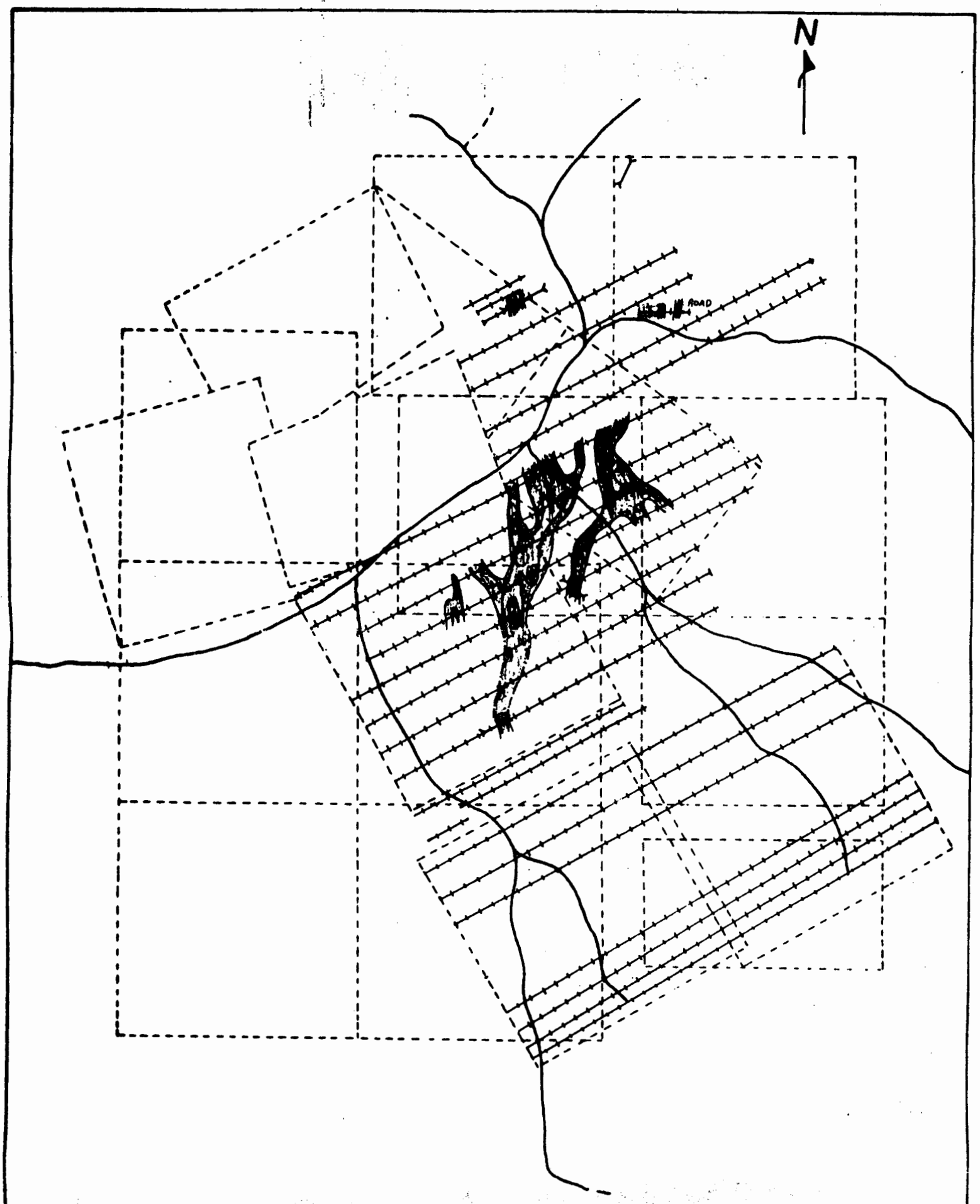

PROCHEM LTD.

FIG. 4

AU
CONTOURS

SCALE : 1 in. = 750'

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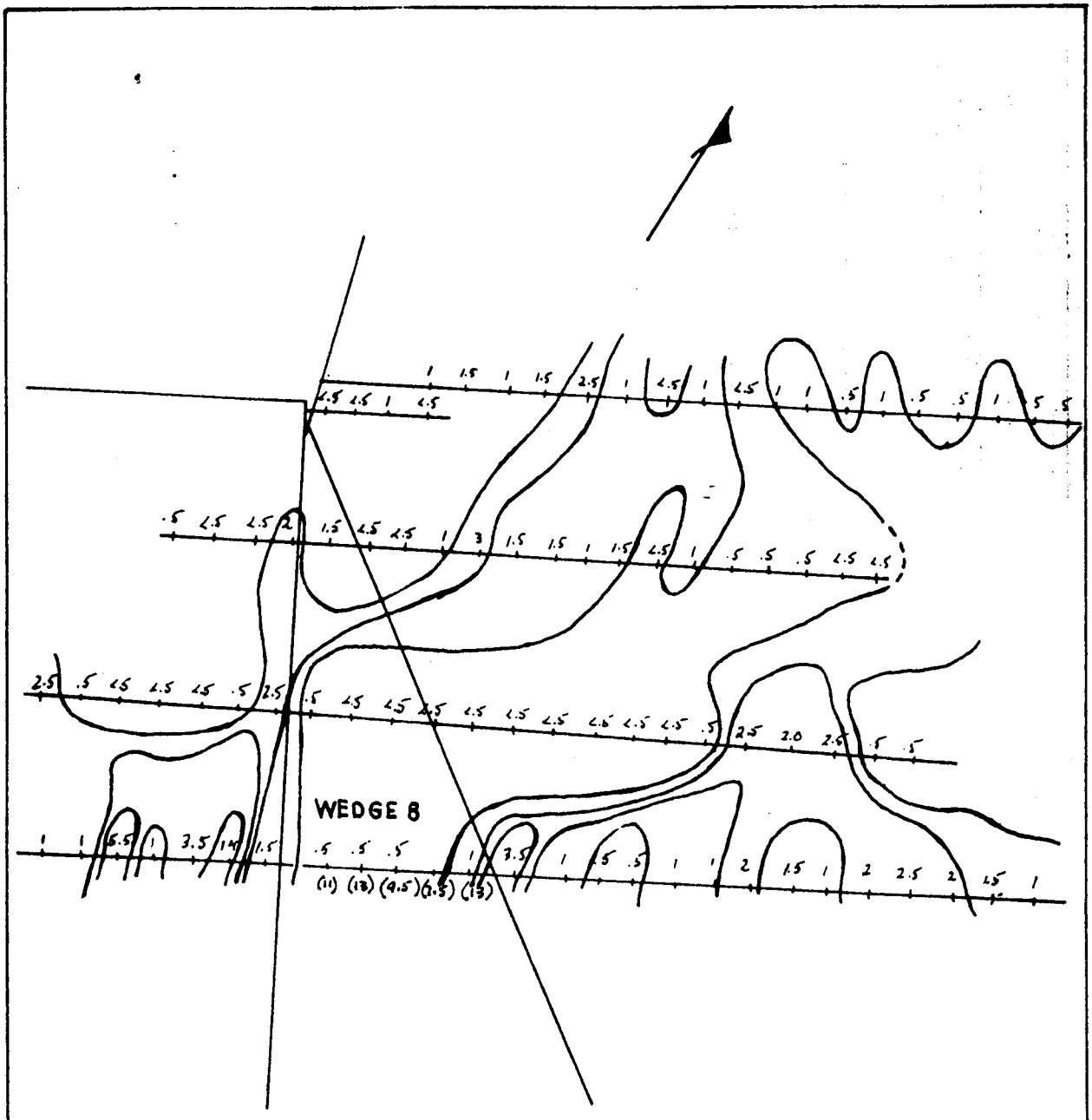

PROCHEM LTD.	
FIG. 5 AG (CU) GEOCHEMISTRY (ppm)	
1 in. = 200 ft.	M. ANDERSON SEPT. 26/85

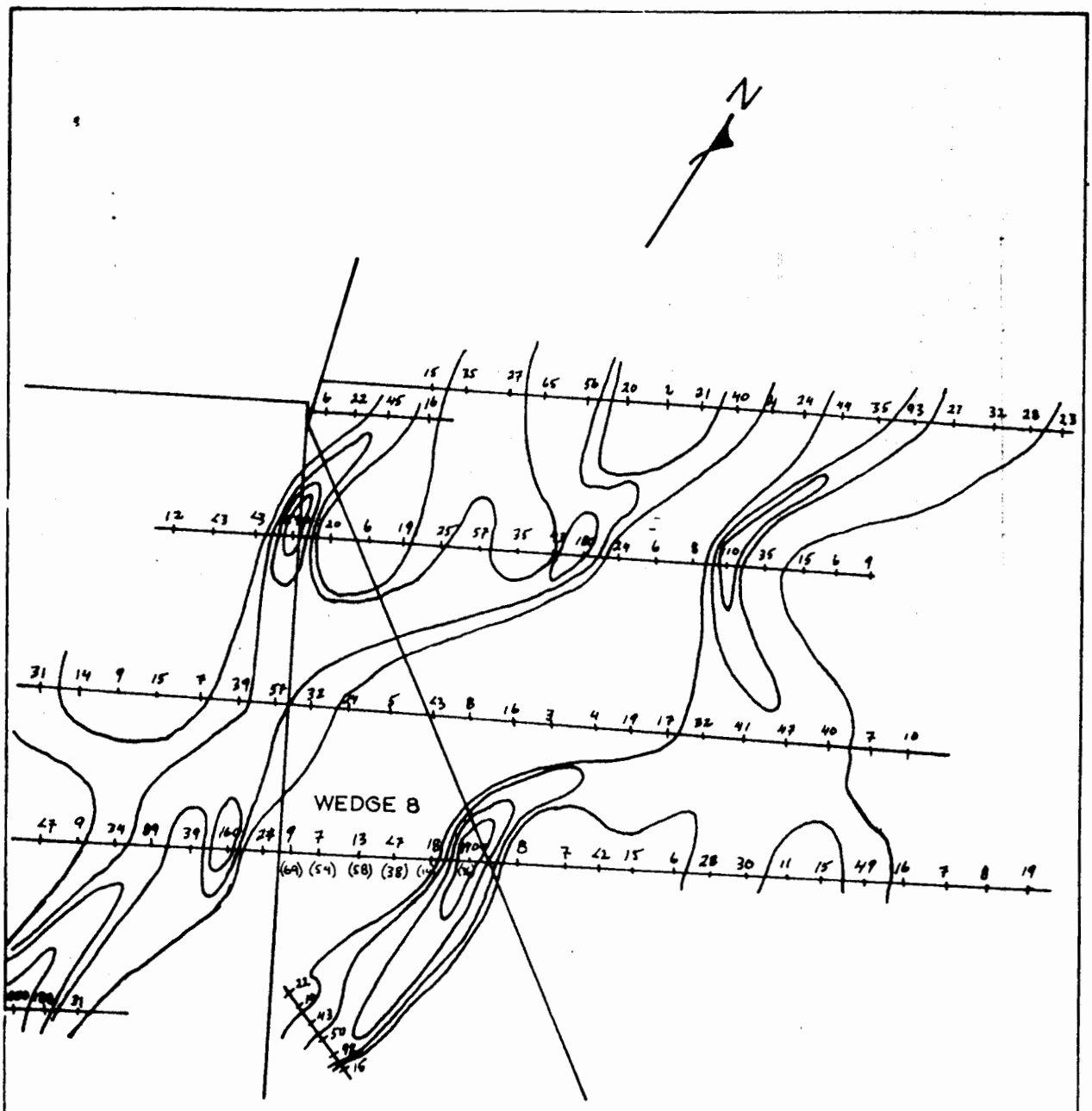

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FIG. 6

AU (As, ppm)

GEOCHEMISTRY

(ppb)

1 in 200 ft.

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