

81-# 752-9541

ASSESSMENT REPORT
GEOLOGICAL AND GEOCHEMICAL SURVEY
BARB CLAIMS 1, 3, 4
ATLIN MINING DIVISION
KING SALMON LAKE AREA, B. C.

N.T.S. 104K/10

132°53'W

58°45'N

Owner: Ron Dale

Operator: Chevron Standard Limited

Author :

Ken Shannon

September 1980

9541

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INTRODUCTION

LOCATION AND ACCESS

The Barb claims are situated at 132°53'W and 58°45'N, approximately 2 kilometres north of King Salmon Lake (Fig. 1). Access to the property is by float-plane from Atlin, B.C.; about 100 kilometres to the north.

Transportation for this program was provided by helicopter from a base camp at Trapper Lake, 30 kilometres to the southeast.

HISTORY

The original showing was called the "BWM" and was first discovered in the early 1930's by prospector George Bacon, who staked the property in 1947 for Cominco. After limited work by Cominco the property was optioned to Hudson Bay Mining and Smelting in 1949. Further trenching and 943 feet of EX-size drilling were done during 1950 (described in B.C. Minister of Mines, Annual Report, 1950, A75-76). After termination of the Hudson Bay option in 1950 the ground was restaked several times. A small airborne and ground magnetometer survey was done by Newmont Mining Co. Ltd., in 1964.

PRESENT PROPERTY

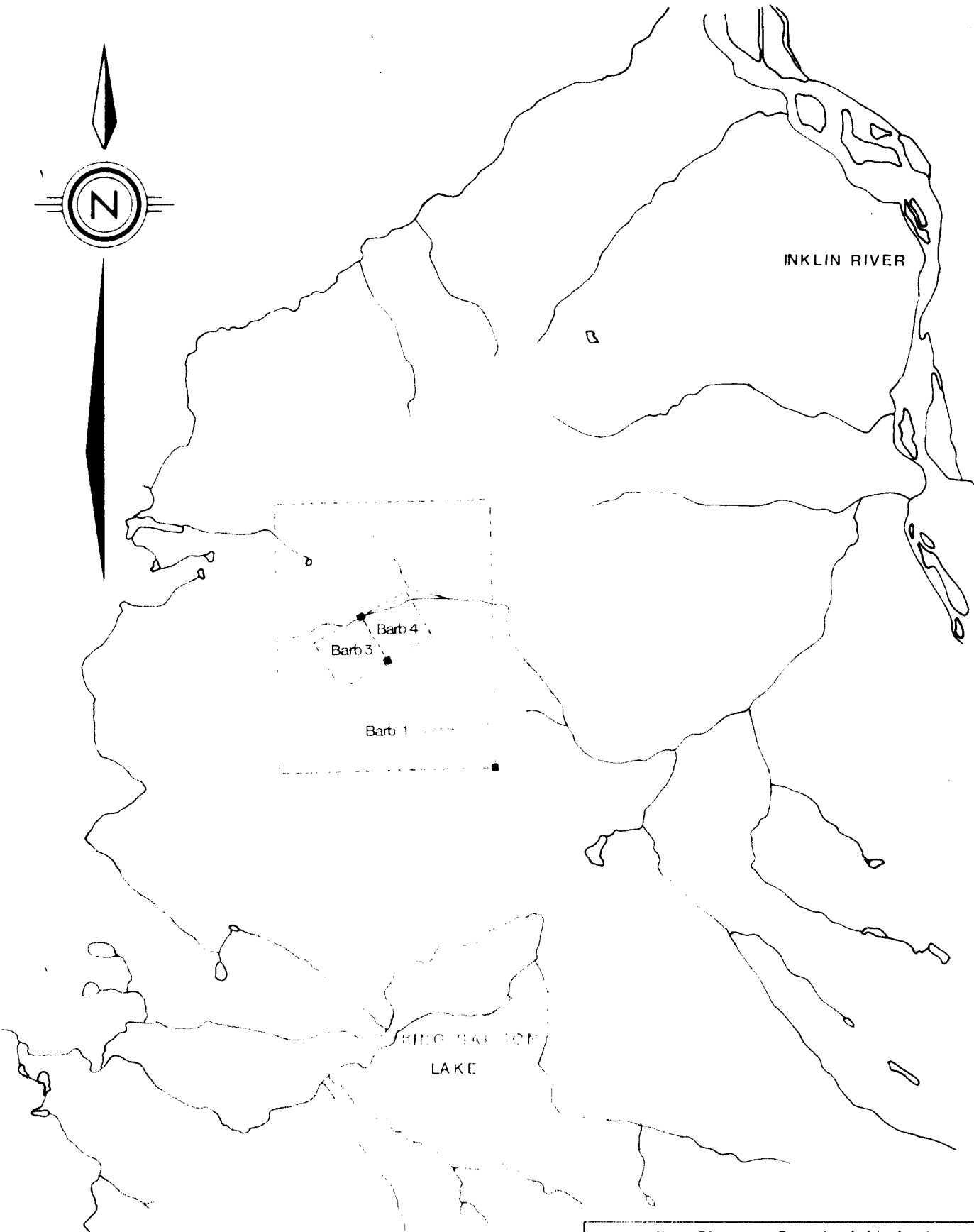
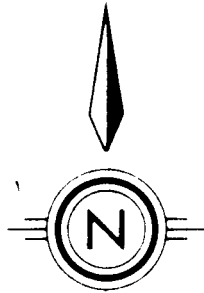
In 1979, Ron Dale staked the new 20-unit Barb 1 claims in the same area as the previous 8-unit Barb 1-8 claims (Fig. 2). Of the eight units in Barb 1-8 all have lapsed except Barb 3 and 4. The property is presently owned by Ron Dale and is under option to Chevron Standard Limited.

REGIONAL GEOLOGY

The Barb claims are situated on the east margin of the Coast Plutonic Complex as mapped by Souther, 1971. Most of the claims are underlain by the Upper



FIG. 1
U.S.G.S. 1:1,000,000-SITKA



INKLIN RIVER

Barb 4
Barb 3
Barb 1

KING SALMON
LAKE



Chevron Standard Limited
Minerals Staff

FIG.2 APPROXIMATE LOCATION OF
BARB 1,3,4 CLAIMS

PROJECT No.		PROJECT No.	

Triassic King Salmon Formation which is a mixed assemblage of sediments, andesitic volcanic and volcanoclastic rocks and limestone. On the northeast part of the claims is the Upper Triassic Sinwa limestone which is found along a major northeast dipping thrust fault called the King Salmon Thrust Fault. These rocks are intruded by intermediate composition Jurassic plutons and numerous Cretaceous to Tertiary felsic dykes.

Structure in the area is dominated by the NW-trending, NE-dipping King Salmon Thrust Fault and associated smaller faults. Perpendicular to these faults is another set which trends northeasterly. Structural control of alteration and mineralization appears to have been important on the Barb claims.

GEOLOGICAL SURVEY OF CLAIMS

Outcrop is abundant on the property above treeline especially along ridges and streams valleys. Sinwa Formation limestones are confined to the northeast part of the claims while King Salmon Formation volcanic and volcanoclastic rocks predominate in the southwest (Fig. 3).

(1) King Salmon Formation

On the claim group the King Salmon Formation is mostly dark green andesite or tuffaceous rocks, usually containing traces of disseminated pyrite. Other lithologies include grey-green siltstone and light brown-green argillite which also contains disseminated pyrite. Differentiating between the andesite, tuff and siltstone is difficult because of the uniform fine grained texture and similar colour. All the King Salmon rocks are highly fractured and commonly form rubbly outcrops. Alteration of these rocks was minimal, consisting of minor silicification, pyritization and occasional epidote stringers.

(2) Sinwa Formation

Mostly white to light grey limestone which is often resistant weathering and forms prominent ridges in the area. Recrystallization of this unit is extensive and most original textures have been obliterated. Alteration of the Sinwa is common and is usually manifested as pervasive silicification. Along narrow fractures the alteration develops as quartz veins. Locally the silicification is accompanied by pods of magnetite; minor brecciation of the magnetite indicates some faulting has been post-alteration.

Rock samples of the silicified limestone with magnetite carry up to 700 ppb Au as well as associated arsenic and antimony. Further geological mapping has outlined a large area of silicified limestone with magnetite, near the initial discovery and also found a smaller zone to the southeast (Fig. 3). The discovery of the potential of the Sinwa Formation as host to gold mineralization is a new development in the history of the property.

(3) Intrusive Units

Intrusive rocks on the Barb claims can be grouped into two main types. Oldest is a medium-grained quartz diorite to granodiorite which forms small stocks and dykes scattered throughout the claims. According to Souther, 1971 these rocks cut Jurassic sediments in the area and are pre-Jurassic in age.

The second intrusive unit is a quartz-feldspar porphyry with large (2-3 mm) phenocrysts of feldspar and smaller round quartz "eyes". This unit is locally brecciated and pyritized. Mapping by Souther 1971 dates this unit as Late Cretaceous to Early Tertiary.

MINERALIZATION

The main mineralization on the property is a breccia pipe which is described by Nitsch, 1973. According to Nitsch, the breccia is mainly feldspar porphyry fragments (60%) in a matrix of quartz, carbonate, pyrite, chalcopyrite and pyrrhotite. Examination of the breccia pipe showed the presence of large euhedral pyrite and chalcopyrite crystals in a vuggy quartz matrix. These crystals may have formed in an epithermal quartz vein, which has been locally brecciated to include some of the feldspar porphyry host. Earlier work postulated the chalcopyrite and pyrite to represent fragments of a disrupted massive sulphide body (Cathro, 1971).

GEOCHEMICAL SURVEY OF CLAIMS

Geochemical sampling included grid soil surveys on the south part of Barb 1 and reconnaissance rock, silt and soil sampling throughout the rest of the claims. A total of 212 soil and silt samples and 42 rock samples were collected. Approximately 166 soil samples were taken on the detailed grid on lines 50 m apart with a sample spacing of 50 m; this represents about 7.1 km of flagged line. Most of the samples were taken from the B-Horizon if possible, otherwise the C-Horizon was used. Samples were taken with a rock pick and sample depths ranged from 5 - 25 cm.

Samples were placed in kraft wet strength soil bags, air dried and shipped to Chemex Labs, North Vancouver, B. C. The samples were further dried and then sieved, with the -80 mesh portion being retained for analysis. For Au a fire assay - atomic absorption technique is used with the fire assay bead being dissolved in HCl and HNO₃ then analyzed by conventional atomic absorption techniques. For Ag a mixture of HClO₄ and HNO₃ is used to digest the sample, which

is followed by atomic absorption spectrophotometry. The As analyses are done by standard colorometric techniques following an HClO_4 plus HNO_3 digestion. Antimony analyses were done by digesting the sample in HCl , then adding potassium iodide, extracting with TOPO - MIBK and then analyzing by atomic absorption spectrophotometry.

Location of samples and corresponding geochemical results can be seen on Figures 4 to 11.

- As - Many of the highest arsenic values (>500 ppm As) are found near the King Salmon Fault, especially in altered Sinwa Formation limestones. On the detailed grid As occurs as scattered highs except for vicinity of 2+50 W, 1+00S to 3+50 S which has high arsenic values over a few hundred metres.
- Au, Ag - High gold values (>100 ppb) are also concentrated along the King Salmon Fault, especially in altered Sinwa Formation limestones. The pattern for high silver values (>1 ppm) is similar to gold but much weaker and erratic high values are more common. Scattered high Au and Ag values on the detailed grid do not form any discernible pattern.
- Sb - Results from antimony geochemistry are incomplete as only some samples were run for this element. However the present limited data do suggest higher values along the King Salmon Fault.

The correlation between As, Au, Ag and Sb was poor with high values of one element not proportional in many cases to values of the other three elements.

CONCLUSIONS

The apparent lack of significant gold and silver mineralization associated with the breccia pipe, as well as the low copper values reported by Cathro, 1971 indicate that further work on the breccia pipe is unwarranted at this time. Evidence was found this summer which suggests the breccia pipe may be a brecciated epithermal quartz vein and consequently the existence of a buried massive sulphide deposit as suggested by Cathro, 1971 would be unlikely.

The discovery of anomalous gold values in rock and soil samples taken from the silicified magnetite-bearing limestone along the King Salmon Thrust Fault has provided another area of exploration interest. The target in this area would be altered Sinwa limestones along the King Salmon Thrust Fault. The presence of magnetite associated with the alteration means that a magnetometer survey of the claims and adjacent area would be useful.

RECOMMENDATIONS

Follow-up work which should be carried out mainly consists of a magnetometer and geochemical survey along the Sinwa limestone. Prospecting the limestones for presence of silicified zones and magnetite could be done at the same time. The scattered high Au values on the detailed grid should be subjected to further sampling to delineate their extent; limited trenching could be done in conjunction with this.

1981 PROGRAM
KING SALMON - M514
BARB CLAIMS
KING SALMON LAKE AREA, B.C.

PERIOD: JUNE 2,8,9,10,17,22,30,JULY11,26
 (24 Man-days ÷ 675 total camp man-days = 3.6% prorated costs)
 COSTS: 1. LABOUR

<u>NAME</u>	<u>POSITION</u>	<u>FIELD DAYS</u>	<u>OFFICE DAYS</u>
L. Dick	Project Geologist	3	
K. Shannon	Geologist	1	3
M. Thicke	Geologist	9	3
D. Abercrombie	Sampler	1	
S. Goertz	Sampler	3	
J. Hawthorne	Sampler	4	
R. Lazenby	Sampler	2	
D. Madsen	Sampler	<u>1</u>	<u>6</u>
		24	

Total = 30 days

Average cost per man-day = \$100

Total labour cost = \$100/day X 30 days = \$3000.00

2. ANALYSES-

Rocks (Au,As,Ag)	42 samples @ 12.50	525.00
Soils & Silts(Au,As,Ag,Sb)	212 samples @11.10	2353.20
3. AIRFARE - prorated,3.6% X \$369.50 X 8		106.41
4. FOOD - 24 man-days X \$20/man-day		480.00
5. CAMP COSTS- prorated,\$21,000 X 3.6%		756.00
6. HELICOPTER - 5 hours @ \$360/hour		1800.00
7. FUEL - 168 gallons @ 3.80 gallon		<u>638.40</u>

TOTAL PROGRAM COST \$9659.01

STATEMENT OF QUALIFICATIONS

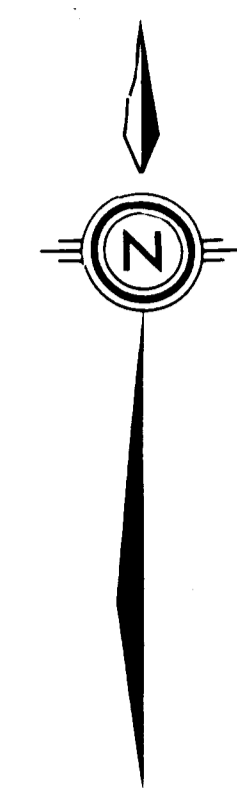
I, Ken Shannon, have worked as a geologist in B.C. on a seasonal basis since graduation from University of British Columbia with a B.Sc. (Hons) in 1975. Currently finishing work on a M.Sc. thesis at University of British Columbia, I am employed as a project geologist by Chevron Standard Limited of Vancouver, B. C.

A handwritten signature in cursive script that reads "Ken Shannon". The signature is written in dark ink and is positioned to the right of the typed text.

KEN SHANNON

REFERENCES

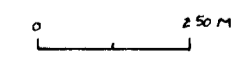
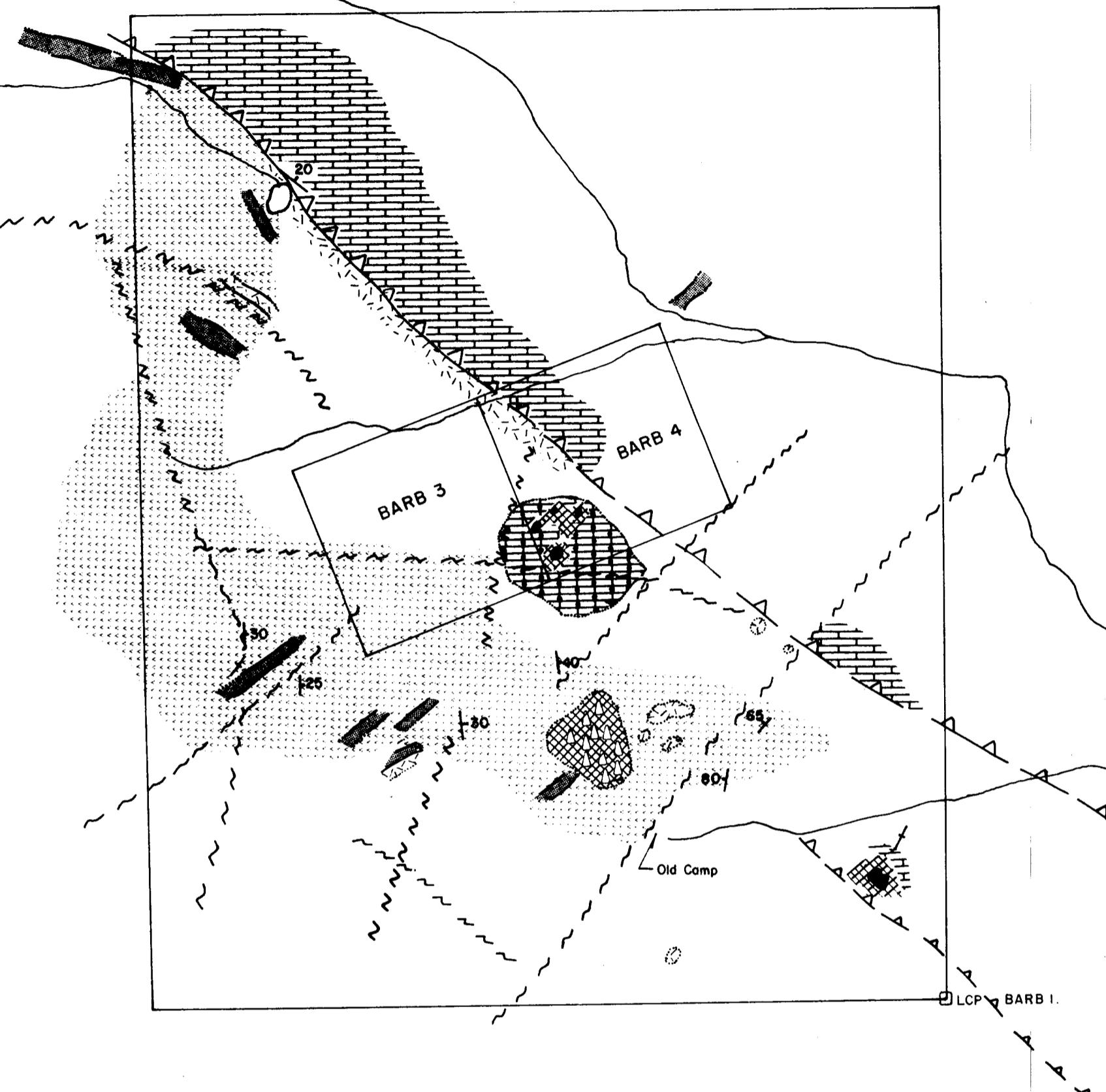
- Arcott, D. (1975). King Salmon Prospect, Property Examination Report. Chevron Office Report.
- Cathro, R. J. (1971). Geology, geochemistry and mineralogy, Barb 1-8 claims. Dept. of Mines and Petroleum Resources Assessment Report No. 3208.
- Nitsch, J. (1973). The geology and mineralogy of the King Salmon breccia pipe, Tulsequah map-area, northwestern British Columbia, Unpublished Thesis, U.B.C., 33 p.
- Souther, J. C. (1971). Geology and mineral deposits of Tulsequah map-area, British Columbia. Geological Survey of Canada, Memoir 362, 84 p.



LEGEND

- MAGNETITE PODS
- GOSSAN
- GOSSAN; ZONE OF BRECCIATION
- QUARTZ-FELDSPAR PORPHYRY
- GRANODIORITE TO QUARTZ DIORITE
- SILICIFIED LIMESTONE
- SINWA FORMATION
- STUHINI GROUP: ANDESITE AND OR TUFF, MINOR SILTSTONE, ARGILLITE

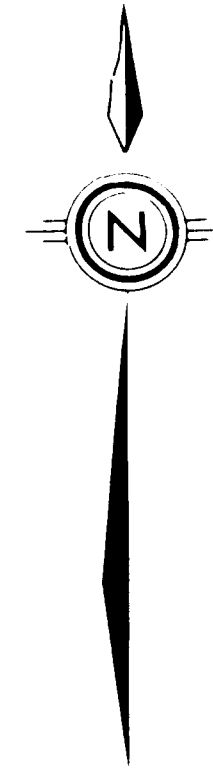
- CONTACT observed
- CONTACT apparent
- PHOTO LINEAR
- KING SALMON THRUST observed
- KING SALMON THRUST apparent



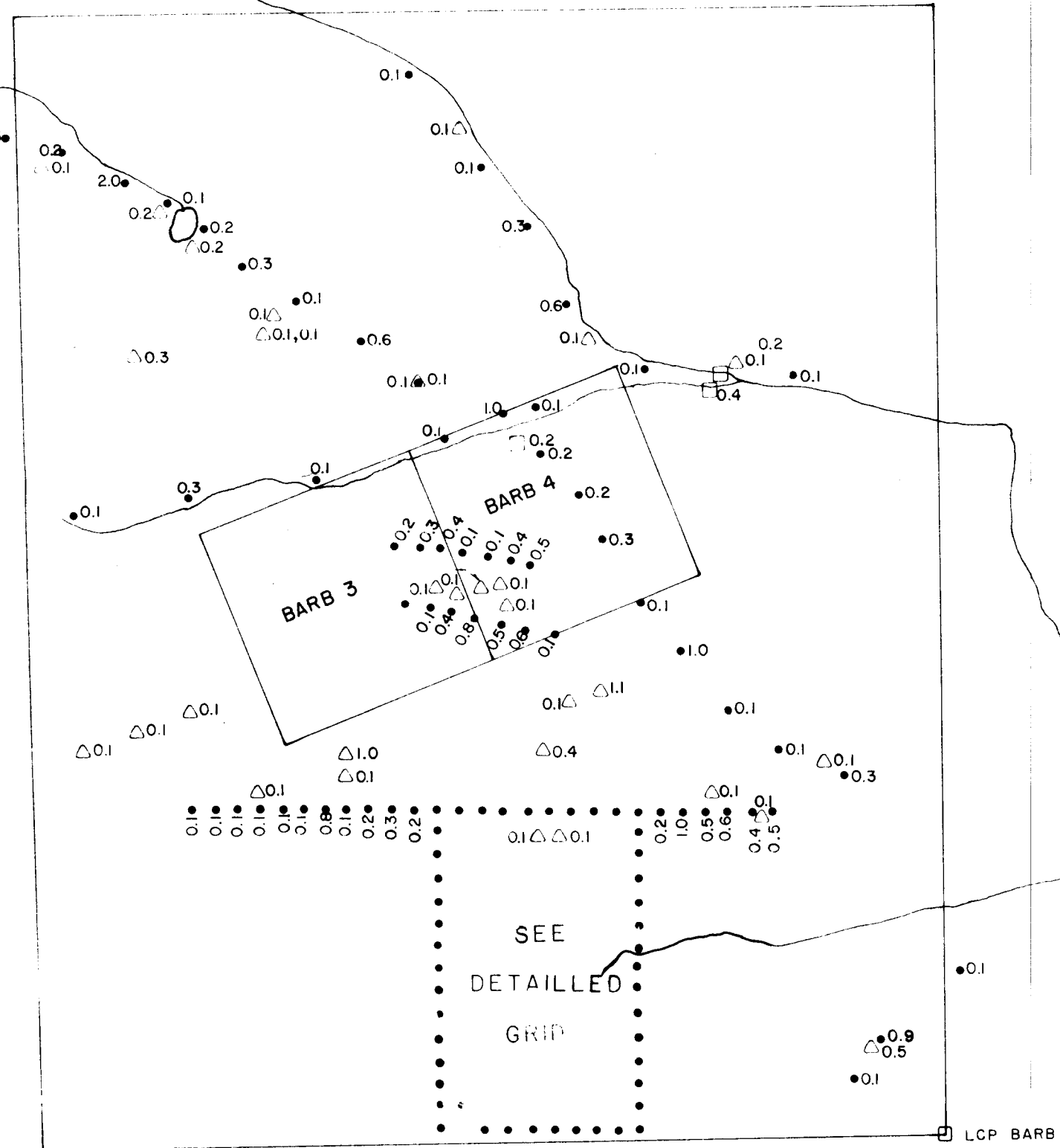
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Chevron Standard Limited Minerals Staff	
BARB CLAIMS Geology	
FIGURE No. 3	PROJECT No. M514
DATE: SEPT, 1981	SCALE: 1:12500
BY: IOAK	
PROJECT: MT	

KING SALMON LAKE



MTI	193	0.1
	194	0.1
	195	0.1
	196	0.1
	197	0.1
	198	0.1
	199	0.1
	200	0.1
	201	0.1
	202	0.1
	203	0.1
	204	0.1

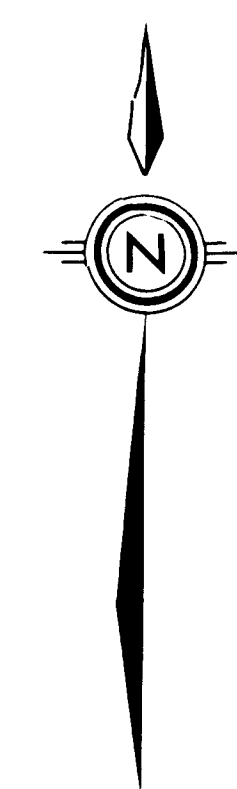


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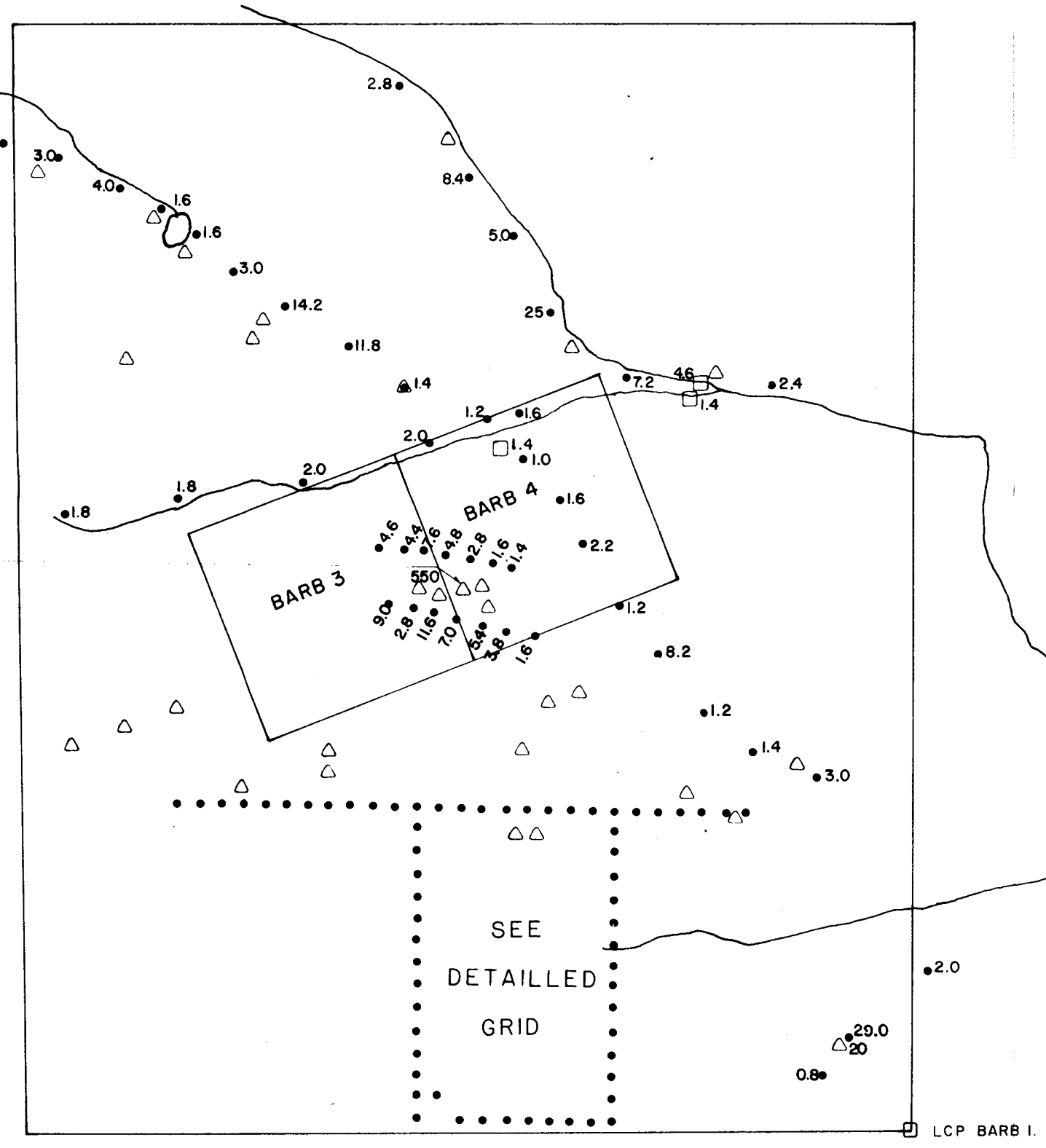
0 250m

Chevron Standard Limited Minerals Staff	
BARB CLAIMS - Sample Locations	
• soil	Ag ppm.
△ rock	
□ silt	
4	M 514
SEPT 1981	F 12500
104 K	
KS	

KING SALMON LAKE



MITTI	
193	0.2
194	0.4
195	2.6
196	8.2
197	2.8
198	7.2
199	1.4
200	5.2
201	3.6
202	39.0
203	1.6
204	21.0

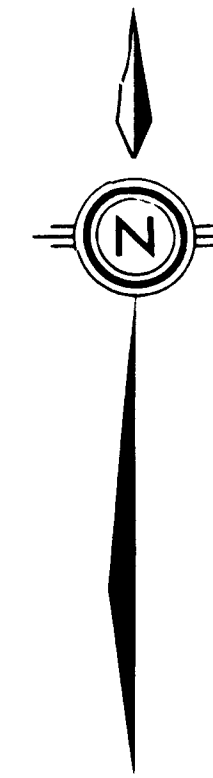


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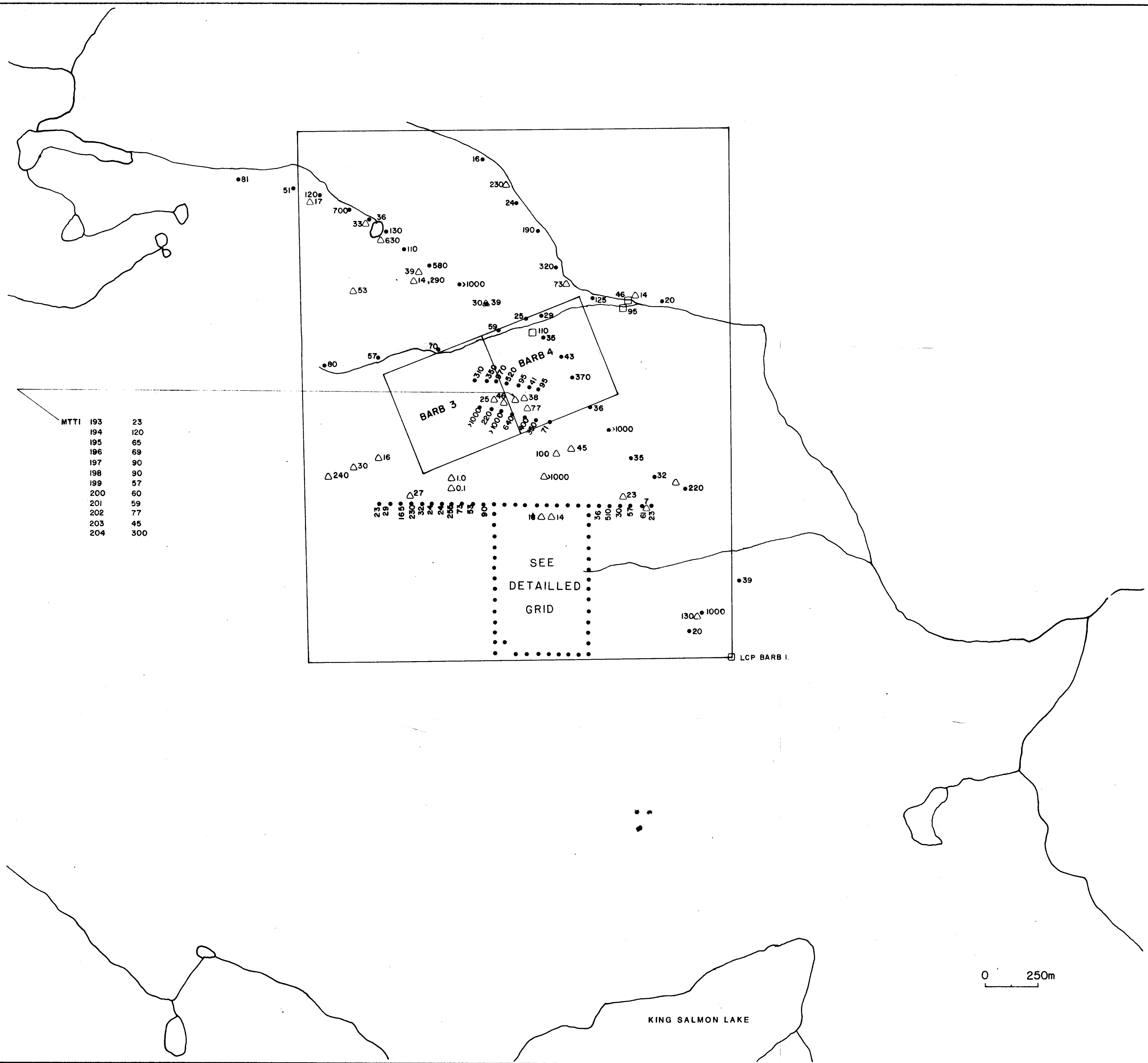
0 250m

Chevron Standard Limited Minerals Staff			
BARB CLAIMS - Sample Locations • soil △ rock Sb ppm. □ silt			
FIGURE No	5	PROJECT No	M 514
DATE	SEPT 1981		FIGURE NO
	104 K		
	KS		

KING SALMON LAKE



MINERAL RESERVE
 9541



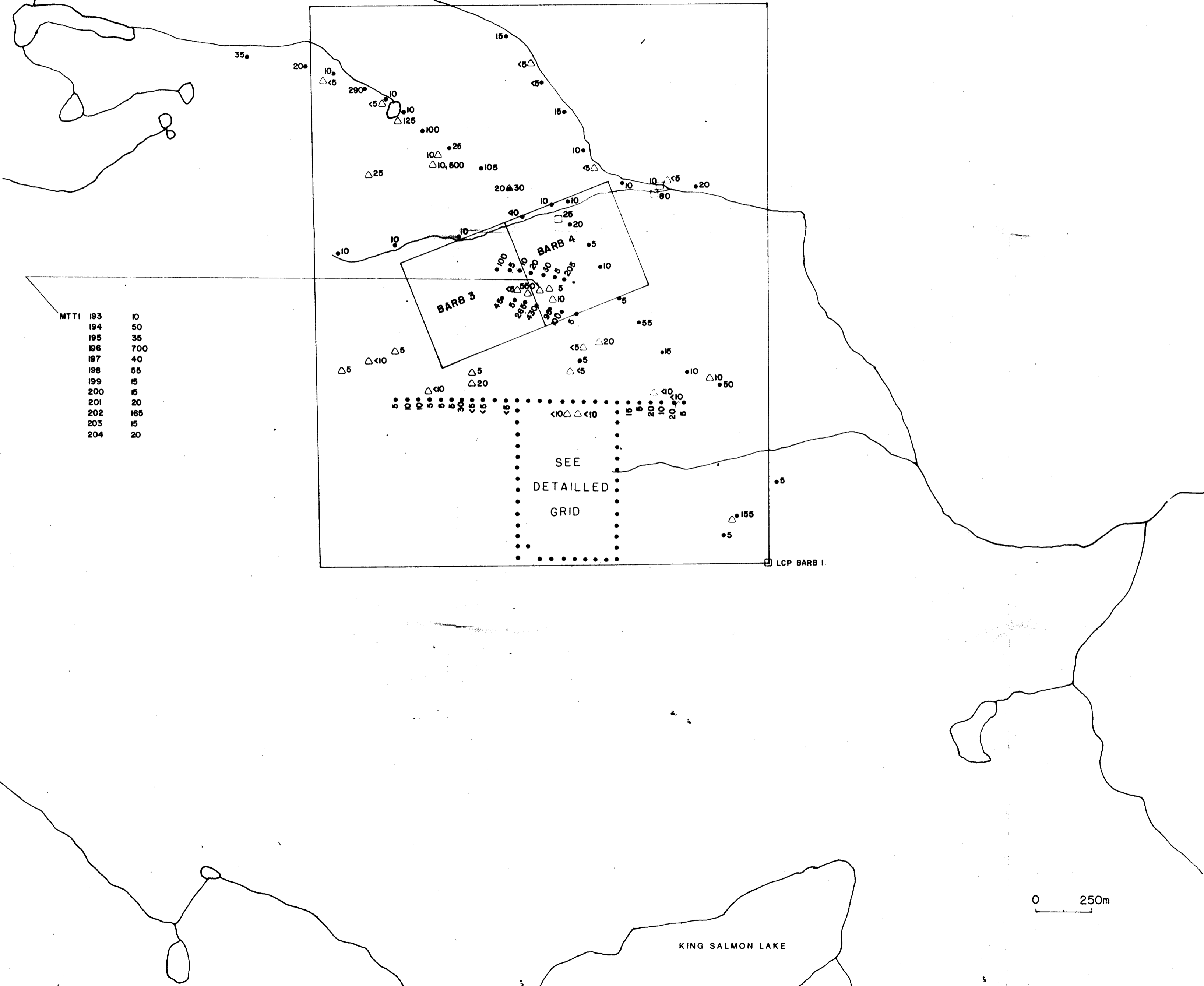
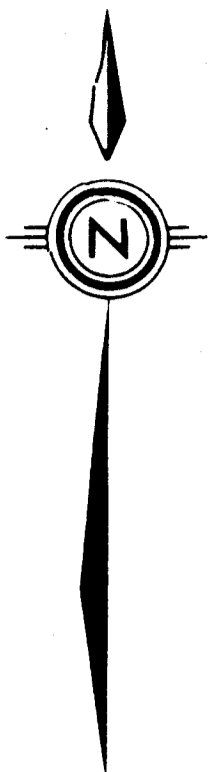
MTTI	193	23
	194	120
	195	65
	196	69
	197	90
	198	90
	199	57
	200	60
	201	59
	202	77
	203	45
	204	300

0 250m

Chevron Standard Limited Minerals Staff	
BARB CLAIMS - Sample Locations • soil △ rock As ppm. □ silt	
FIGURE No 6	PROJECT No M514
DATE SEPT 1981	SCALE 1:2500
BY 104 K	CHECKED
APPROVED BY K S	

KING SALMON LAKE

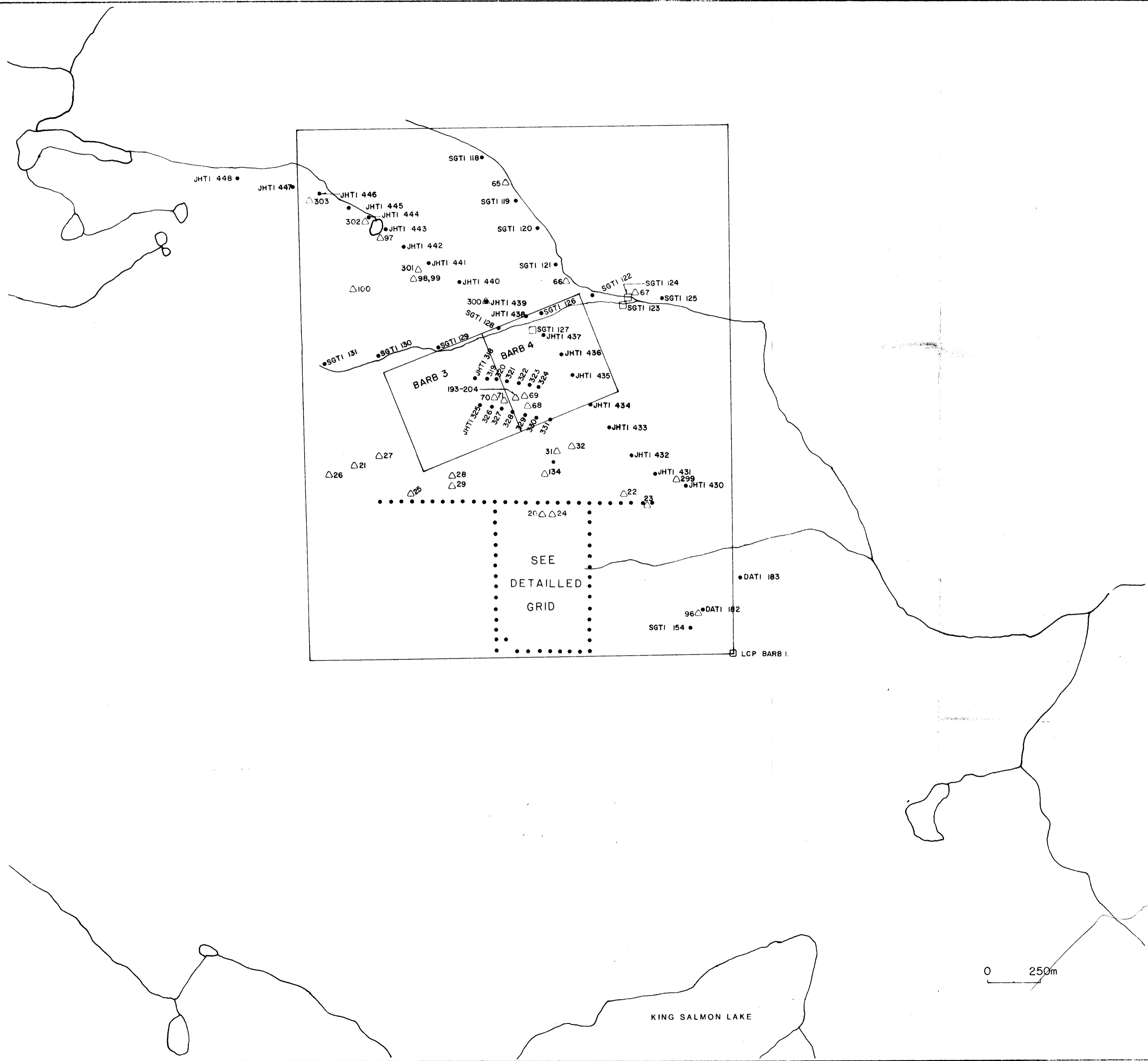
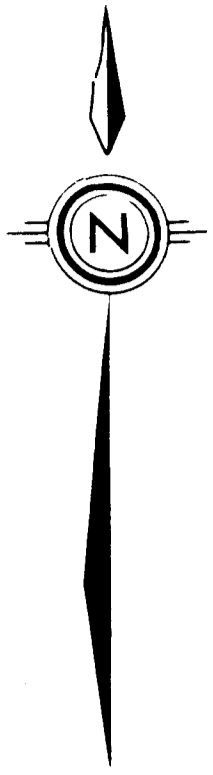
LCP BARB I



MTTI	Value
193	10
194	50
195	35
196	700
197	40
198	55
199	15
200	15
201	20
202	165
203	15
204	20

9541
 NO.

Chevron Standard Limited Minerals Staff	
BARB CLAIMS - Sample Locations • soil Δ rock □ silt Au ppb.	
FIGURE No 7	PROJECT No M514
SEPT 1981	P 12800
104 K	
K8	



SEE
DETAILED
GRID

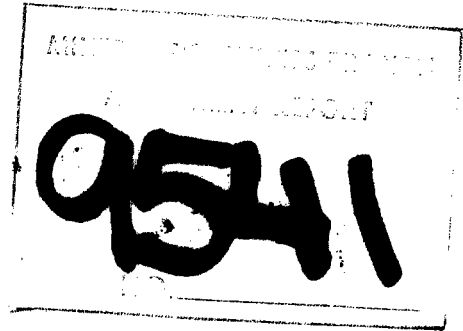
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
9541
NO.

Chevron Standard Limited Minerals Staff	
BARB CLAIMS - Sample Locations	
• soil	
△ rock, all samples are MTTI	
□ silt	
II	M514
SEPT 1981	I-12500
104 K	
KS	




	2+00W			1+00W		0+00	1+00E		2+00E
0+00	0.6	0.7	0.6	2.8	0.3	0.2	0.1	0.1	0.5
	0.1	0.2	0.3	0.1	0.5	1.0	2.4	1.6	0.8
	0.4	1.0	2.4	0.1	1.7	1.0	2.1	0.6	0.8
	0.8	0.2	0.6	0.5	0.1	2.1	0.6	0.2	0.2
	0.5	0.3	0.3	0.3	0.1	0.3	0.2	0.5	1.1
	3.5	0.5	1.4	0.1	0.6	0.2	0.1	0.1	12.4
	0.9	0.2	0.3	0.3	0.7	0.7	4.5	0.1	0.9
	8.5	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1
	0.2	0.1	0.2	0.1	0.1	0.1	0.4	0.1	0.1
	0.5	0.1	0.1	0.1	0.1	0.5	0.1	0.2	0.1
	0.7	0.2	0.3	0.1	0.1	1.1	0.1	0.1	0.3
	0.2	0.3	0.1	0.1	0.3	0.1	0.1	0.1	0.4
	0.1	0.3	0.9	0.1	0.1	0.1	0.1	0.1	0.1
	0.8	0.1	0.1	0.1	0.1	0.5	0.1	0.1	0.2
7+00S	0.2		0.7	0.1	0.1	0.1	0.7	0.1	0.1

→ 680 m TO LCP BARB I.



0 100m

 Chevron Standard Limited Minerals Staff			
BARB CLAIMS DETAIL GRID AG ppm.			
FIGURE No 8		PROJECT No M 514	
DATE SEPT 81	REVISIONS		Scale 1cm = 50m
NO. 104 K			
KS			




	2+00W	1+00W	0+00	1+00E	2+00E
0+00	525	190	110	63	19
	83	175	110	90	30
	330	180	250	63	32
>1000	410	175	24	245	420
	275	69	145	77	61
	32	120	250	110	150
>1000	90	270	470	50	540
>1000	38	71	95	140	41
	48	>1000	43	470	95
	130	88	85	77	69
	260	380	280	55	100
	53	135	450	100	55
	45	53	625	30	135
	220	36	115	115	39
7+00S	41		23	45	35

680 m TO LCP BARB I.

9541

0 100m

 Chevron Standard Limited Minerals Staff	
BARB CLAIMS DETAIL GRID AS ppm.	
FIGURE No 9	PROJECT No M514
SEPT 81	1cm=50m
104K	
KS	




0+00	2+00		1+00W		0+00	1+00E		2+00	
20	25	5700	15	<5	<5	10	5	<5	15
.
100	10	5	10	115	10	<5	10	5	650
.
45	20	235	15	10	5	<5	5	20	20
.
10	35	15	<5	5	50	<5	<5	<5	5
.
25	10	40	10	25	70	750	5	5	5
.
20	45	15	<5	20	20	10	150	30	<5
.
15	5	5	5	5	15	5	5	10	5
.
380	5	5	5	10	5	10	<5	5	5
.
10	30	10	5	10	10	<5	<5	<5	10
.
10	10	10	5	5	5	30	<5	10	5
.
5	<5	<5	10	10	5	10	5	<5	10
.
5	10	<5	5	<5	<5	10	<5	15	<5
.
<5	<5	<5	<5	<5	<5	90	5	10	10
.
5	5	15	<5	<5	<5	10	5	5	5
.
7+00S
5	.	<5	5	<5	5	5	5	<5	5

→ 680 m TO LCP BARB I.

9541

0 100m

 Chevron Standard Limited Minerals Staff	
BARB CLAIMS DETAIL GRID AU ppb.	
FIGURE No. 10	PROJECT No. M 514
DATE: SEPT 81	SCALE: 1cm=50m
NO. 104 K	
KS	