

ASSESSMENT REPORT
GEOLOGICAL AND GEOCHEMICAL SURVEY

BANDIT 1 and 2 CLAIMS

Atlin Mining Division
Tatsamenie Lake Area, B. C.

N.T.S. 104K/Tulsequah Sheet

58°04'N
132°16'W

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

10,755

OWNER: CHEVRON CANADA LIMITED

OPERATOR: CHEVRON STANDARD LIMITED

Authors: Mike Thicke
Ken Shannon

November, 1982

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LOCATION AND ACCESS

The BANDIT claims are situated at 132°16'W and 58°04'N, in the southeast corner of Tulsequah map sheet, approximately 185 km southeast of Atlin, B. C. (Figure 1). Access to the claim was by helicopter from Trapper Lake, B. C., approximately 50 km northwest.

CLAIMS

The BANDIT claims were staked during August, 1981.

<u>Claim</u>	<u>Record No.</u>	<u>Record Date</u>	<u>No. of Units</u>
BANDIT 1	1486	August 21, 1981	20
BANDIT 2	1487	August 21, 1981	20

These claims cover previously unstaked ground. The claims are owned by Chevron Canada Limited with Chevron Standard Limited as operator.

REGIONAL GEOLOGY

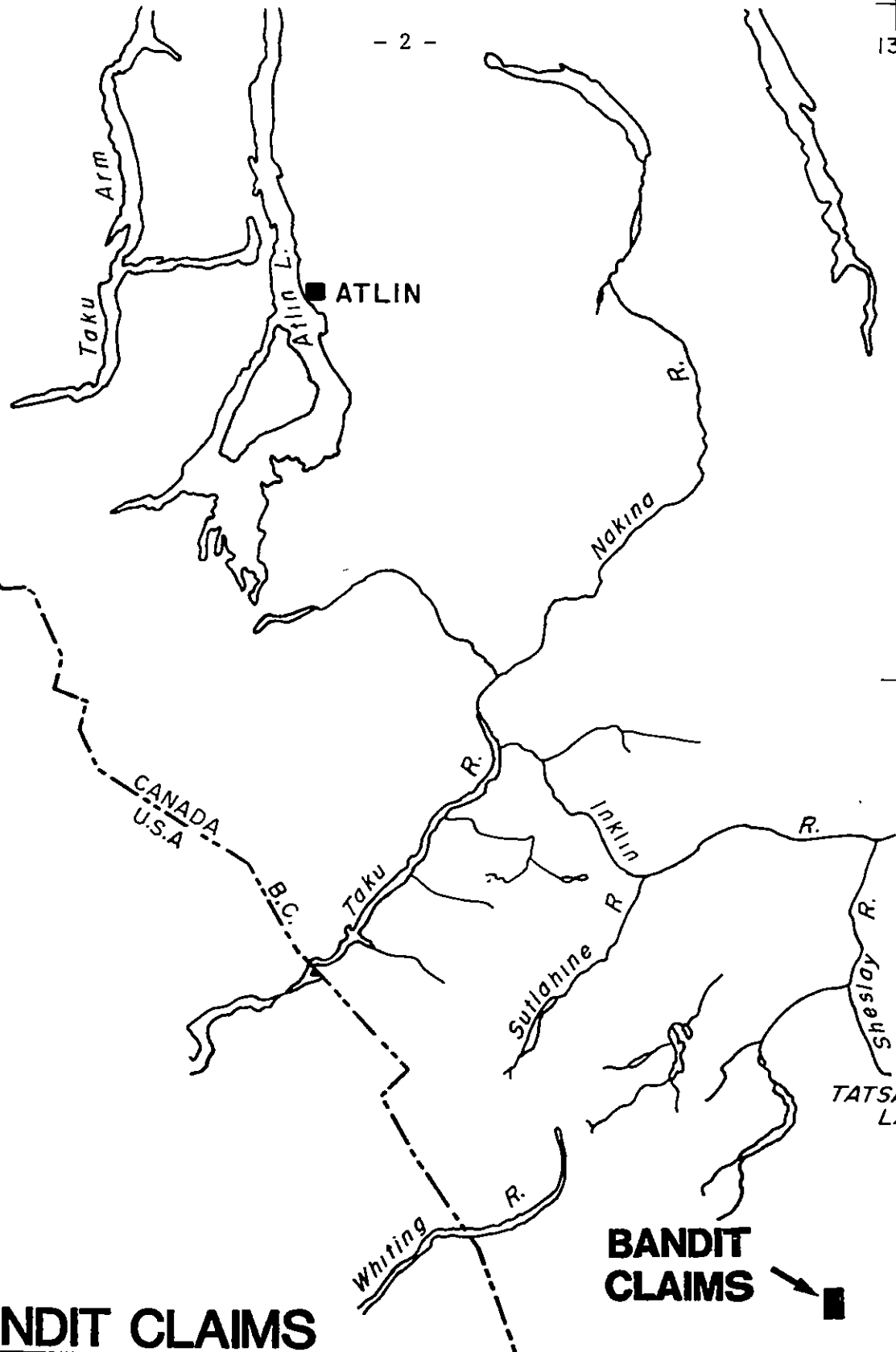
The BANDIT claims are situated within Pre-Upper Triassic clastic sediments and intercalated volcanic rocks. The claims lie to the west of a fault contact between the Pre-Upper Triassic rocks and Lower or Middle Triassic(?) foliated intermediate intrusive rocks (Souther, 1971). Southwest of the claims are Cretaceous to Tertiary Sloko Group rhyolites. To the northwest various intermediate intrusive rocks ranging in age from Jurassic to Tertiary occur. Also to the northwest is a dyke swarm that is probably related to Sloko Group rhyolites (Souther, 1971).

60°
132°

- 2 -



59°



BANDIT CLAIMS

LOCATION MAP

M504



FIGURE 1

GEOLOGICAL SURVEY OF CLAIMS

The BANDIT claims are situated above tree-line where outcrop exposure is excellent though topography is rugged. Pre-Upper Triassic phyllite occurs in the southern part of the claims while volcanic tuffs of the same age occupy central and northern areas of the claims. Much of the central and northern area of the claim is highly quartz-Fe-carbonate altered; this will be discussed in a later section. Figure 2 illustrates the geology of the BANDIT claims.

(1) Phyllite (Unit 1)

Pre-Upper Triassic phyllitic rocks occur as large, mostly unaltered, well exposed outcrops in the south part of the claim. The phyllite is medium to dark green, weakly to strongly foliated. When weakly foliated the grain size of the phyllitic rocks appears to be larger. Possibly these weakly foliated rocks are a greenstone of volcanic origin, however differentiation in the field was difficult. The phyllitic rocks contain irregular quartz veins conformable to foliation.

(2) Limestone (Unit 2)

Minor limestone occurs as irregular beds (<10 m thick) conformable to the phyllite. The limestone is weakly foliated, coarsely crystalline and white to buff in colour.

(3) Volcanic Tuff (Unit 3)

The Pre-Upper Triassic volcanic tuff is medium grained, medium to dark green in colour. Three different types of volcanic tuff were encountered

though these were not mapped separately in the field. The least abundant tuff is a porphyritic type containing feldspar, hornblende and biotite phenocrysts. More abundant are clastic tuffs which contain angular volcanic fragments up to 0.5 cm long within an aphanitic matrix. Fine-grained tuffs also occur, often appearing similar to greenstone. The volcanic tuff contains minor quartz and carbonate veins. Pyrite is finely disseminated to 1% within the volcanic tuff.

(4) Cold Spring Deposit (Unit 5)

The cold spring deposit is formed mostly at slope breaks within the phyllite unit. The matrix is mostly fine-grained calcite tufa. Phyllitic and volcanic tuff clasts are abundant within the cold spring deposits. The clasts vary from boulder to sand size and are well rounded to angular. These tufa deposits are recent in age.

MINERALIZATION AND ALTERATION

The main alteration type on the claims is quartz-Fe-carbonate which is bright orange-red weathering. In the central and northern part of the claims this alteration is pervasive and affects rocks over areas of hundreds of square meters. In the southern part of the claims the quartz-carbonate alteration is associated with narrow (0.5 m) quartz-carbonate-pyrite veins and only extends a few metres at most into the wallrock. Minor bright green chromian mica is found throughout the claims. Minor chalcopyrite blebs covered with malachite and azurite are present mostly in quartz-carbonate altered rocks but also to a lesser extent in unaltered phyllite.

A second type of alteration on the claims is silicification and quartz veining. Small zones of silicified phyllite and tuff and related quartz veining occur through-out the central area of the claim (Unit 4). These silicified zones and quartz veins are often brecciated and usually contain disseminations of pyrite up to 1% with minor, irregular occurrences of copper mineralization. Podiform bodies of pyrite up to several tens of centimetres across often occur within the quartz veins and silicified zones. The silica zones are up to 5 m wide but are more commonly <2 m wide. Lengths of the silicified zones vary from about 10 m to 30 m though one quartz breccia vein was followed along strike for over 1 km (Figures 3 to 7). Silicification appears to be controlled by two sets of faults, one at 020° and the other at 070°. Alteration minerals within the silicified zones and veins consists of white clay, yellow jarosite and black manganese oxide. Fe-carbonate and hematitic alteration is also found around silicified zones and veins. Relatively fresh fragments of phyllite can be contained within silica altered breccia zones. Silicified zones often exhibit little or no wall rock alteration.

GEOCHEMICAL SURVEY OF CLAIMS

Almost 400 soil samples were collected on the BANDIT claims, mostly from a grid covering the north and south area of the claim. An east-west baseline, 2.2 km long, was established between BANDIT 1 and BANDIT 2. Soil lines were spaced 100 m apart. Samples were taken south of the baseline at 100 m intervals for up to 1500 m. From lines 12+00E to 22+00E soil lines were sampled to the north of the baseline at 100 m intervals up to 700 m length. Soil from the B-horizon was collected when possible though mostly C-horizon soil and talus fines were sampled. About 100 rock samples were collected from the BANDIT claims.

Soil 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. Rock samples were crushed and then pulverized in a ring grinder to -100 mesh. For gold determination, 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 silver, a mixture of HClO₄ and HNO₃ is used to digest the sample, which is followed by atomic absorption spectrophotometry. The arsenic analyses are done by standard colorometric techniques following an HClO₄ plus HNO₃ digestion. Antimony analyses are done by digesting the sample in HCl, then adding potassium iodide, extracting with TOPO - MIBK and then analyzing by atomic absorption spectrophotometry.

GEOCHEMICAL RESULTS

Soil samples contain very few anomalous values of antimony or arsenic (>10.0 ppm and >300 ppm respectively). A large area centrally located within the claims contains anomalous gold and silver (>100 ppb and >1.0 ppm respectively). The large gold-silver anomaly appears related to quartz veins and silicified zones in the host rocks. Many of these narrow silica zones strike across the hill on the central part of the claims and gold-bearing talus has been mechanically dispersed downslope. This movement of talus has resulted in an anomalous area many times bigger than the actual mineralization. Gold values in the silica zones are usually low with occasional samples running over 5000 ppb Au. Geochemical results and sample locations are illustrated in Figures 3 to 17.

CONCLUSIONS

Thirty-seven man days were spent geologically mapping and geochemically sampling the BANDIT claims. Geology mostly consists of Pre-Upper Triassic phyllite and volcanic tuffs. Quartz-Fe-carbonate alteration is extensive throughout central and northern areas of the claims. Soil sampling delineated a large area of gold-silver enrichment. Rock geochemistry suggests that gold is associated with quartz veins and silicified zones of phyllite and tuff.

RECOMMENDATIONS

Initial work has substantiated the presence of gold and silver on the claims. However, grades are extremely erratic and discontinuous and mineralized structures are usually small (1-2 m width). Despite these problems further work is needed to properly evaluate these claims. All mineralized silica zones and veins should be chip sampled in detail with geological mapping carried out at the same time. Areas of outcrop which contain higher gold values should be trenched to obtain fresh samples over measured widths.

REFERENCE

Souther, J. C. (1971). Geology and mineral deposits of Tulsequah map-area, British Columbia. Geological Survey of Canada, Memoir 362, 84 p.

1982 EXPLORATION PROGRAM

BANDIT CLAIMS - M504

COST STATEMENT

PERIOD: June 27 to August 14, 1982

1. LABOUR:

<u>Name</u>	<u>Position</u>	<u>Field Days</u>	<u>Office Days</u>
M. Thicke	Geologist	9.5	2
K. Shannon	Geologist	2.5	0.5
K. Niggemann	Geologist	1	-
H. Wober	Geologist	0.5	0.5
D. Madsen	Sampler	6.5	-
J. Hawthorne	"	7	-
J. Armstrong	"	6.5	-
M. Gray	"	2.5	-
D. Shaw	Geologist	1	-
Total man days		37	3

Average cost per field man day = \$100. x 37 = \$ 3,700.00

Average cost per office man day = 175. x 3 = 525.00

2. ANALYSES:

Rock: 105 @\$17.40 = \$ 1,827.
Soil: 386 @\$15.50 = 5,983. 7,810.00

3. CAMP COSTS:

Total man days 37 @\$79.50 = 2,941.50

4. HELICOPTER:

18 hrs. @\$510. per hour including fuel = 9,180.00

5. DRAFTING:

3 man days at \$100./day = 300.00

6. SAMPLE SHIPMENT:

491 samples @\$0.60 per sample = 294.60

Total \$24,751.10

STATEMENT OF QUALIFICATIONS

I, Mike Thicke, graduated from the University of British Columbia in May, 1980 with a B.Sc. degree. Five seasons have been spent working in exploration geology in B.C., including three since graduation. I am presently employed as a geologist by Chevron Standard Limited of Vancouver, B. C.

A handwritten signature in cursive script that reads "Mike Thicke". The signature is written in black ink and is positioned above the printed name.

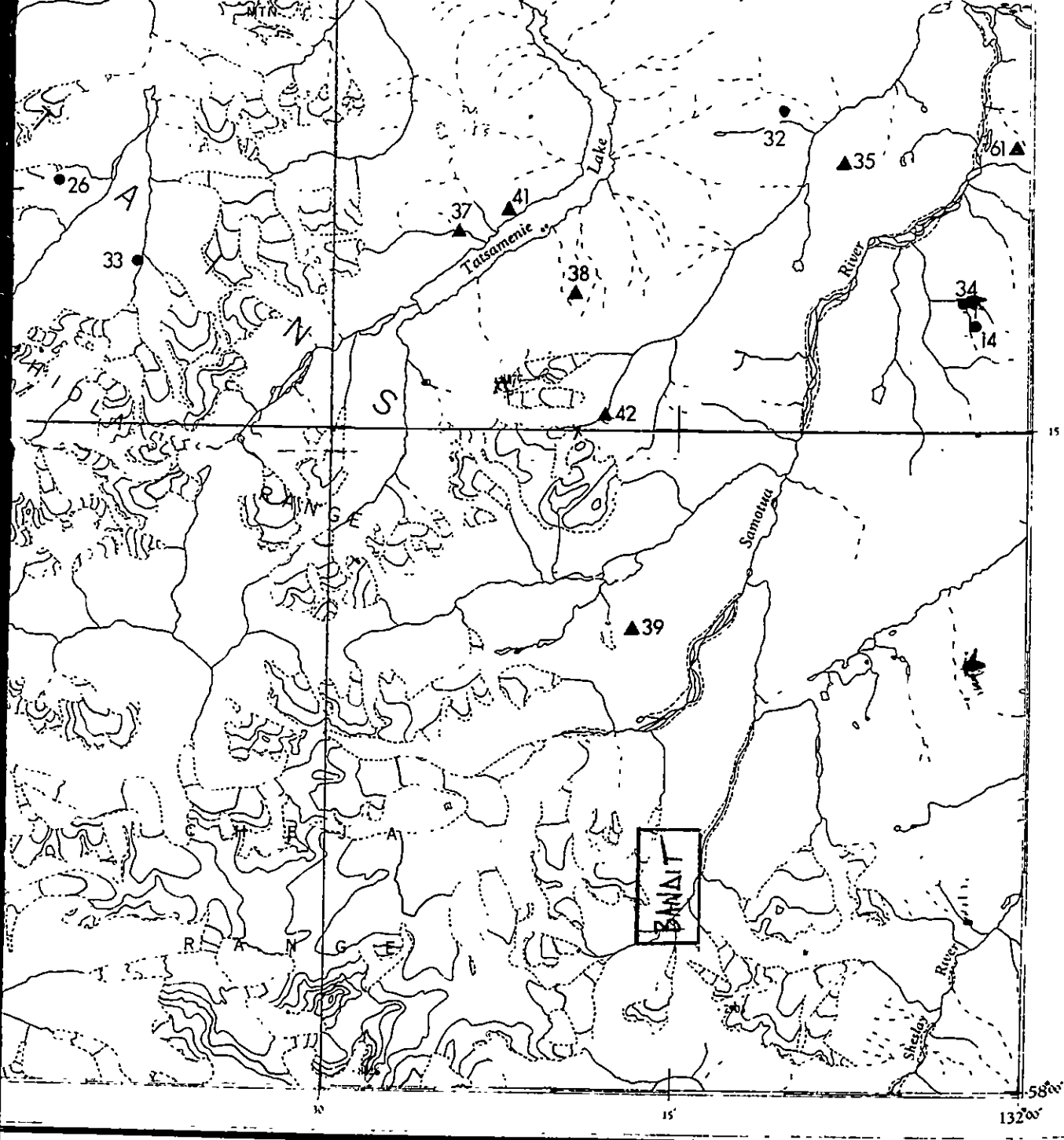
MIKE THICKE

STATEMENT OF QUALIFICATIONS

I, Ken Shannon, have worked as a geologist in B. C. on a seasonal basis since graduation from the University of British Columbia with a B.Sc. (Hons. Geology) in 1975. A M.Sc. degree was awarded from the Department of Geology at U.B.C. in May, 1982. I am employed as a geologist by Chevron Standard Limited of Vancouver, B. C. Work on the BANDIT Claims was done under my supervision.

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 name.

KEN SHANNON

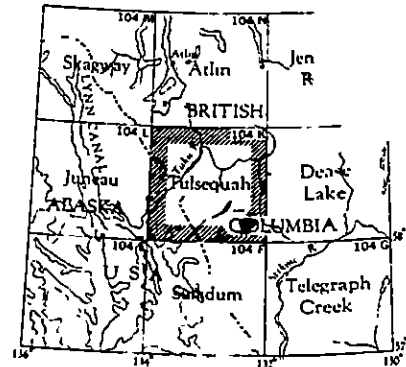
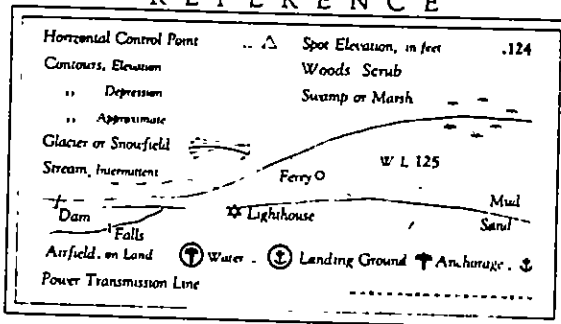


Contour Interval 500 Feet in Canada Contour Interval in U.S.A.
200 feet south of 54° 30', Remainder 250 Feet

All Elevations in Feet above Mean Sea Level

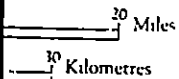
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Preliminary 1952

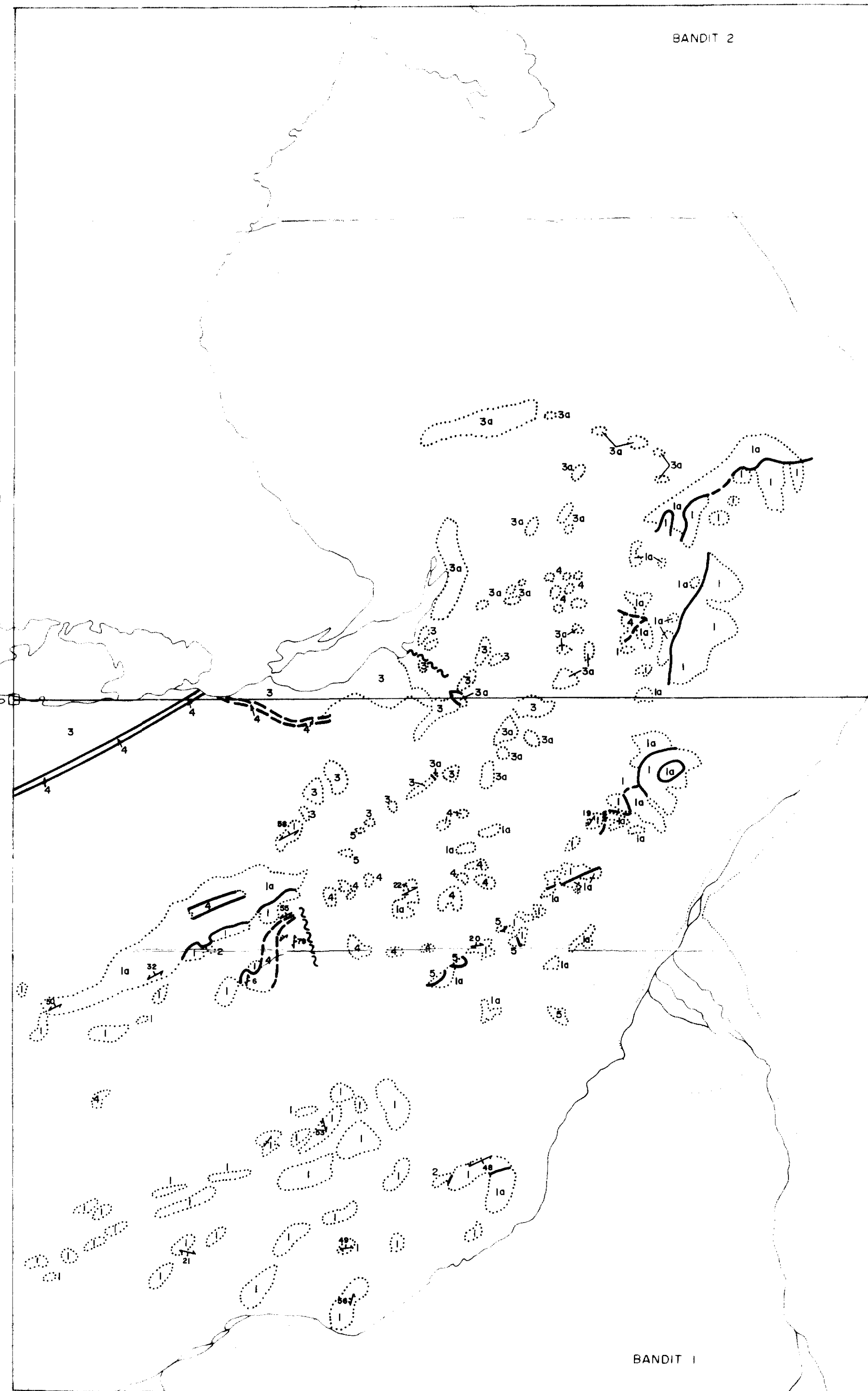
REFERENCE



Sheet 104 K (MI)

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LEGEND

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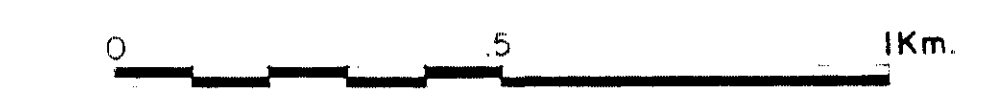
- 5 COLD SPRING DEPOSIT
- 4 SILICIFIED - PYRITIZED ZONES

PRE - UPPER TRIASSIC

- 3a Fe-CARBONATE ALTERED TUFF
- 3 VOLCANIC TUFF
- 2 LIMESTONE
- 1a Fe-CARBONATE ALTERED PHYLLITE
- 1 PHYLLITE

SYMBOLS

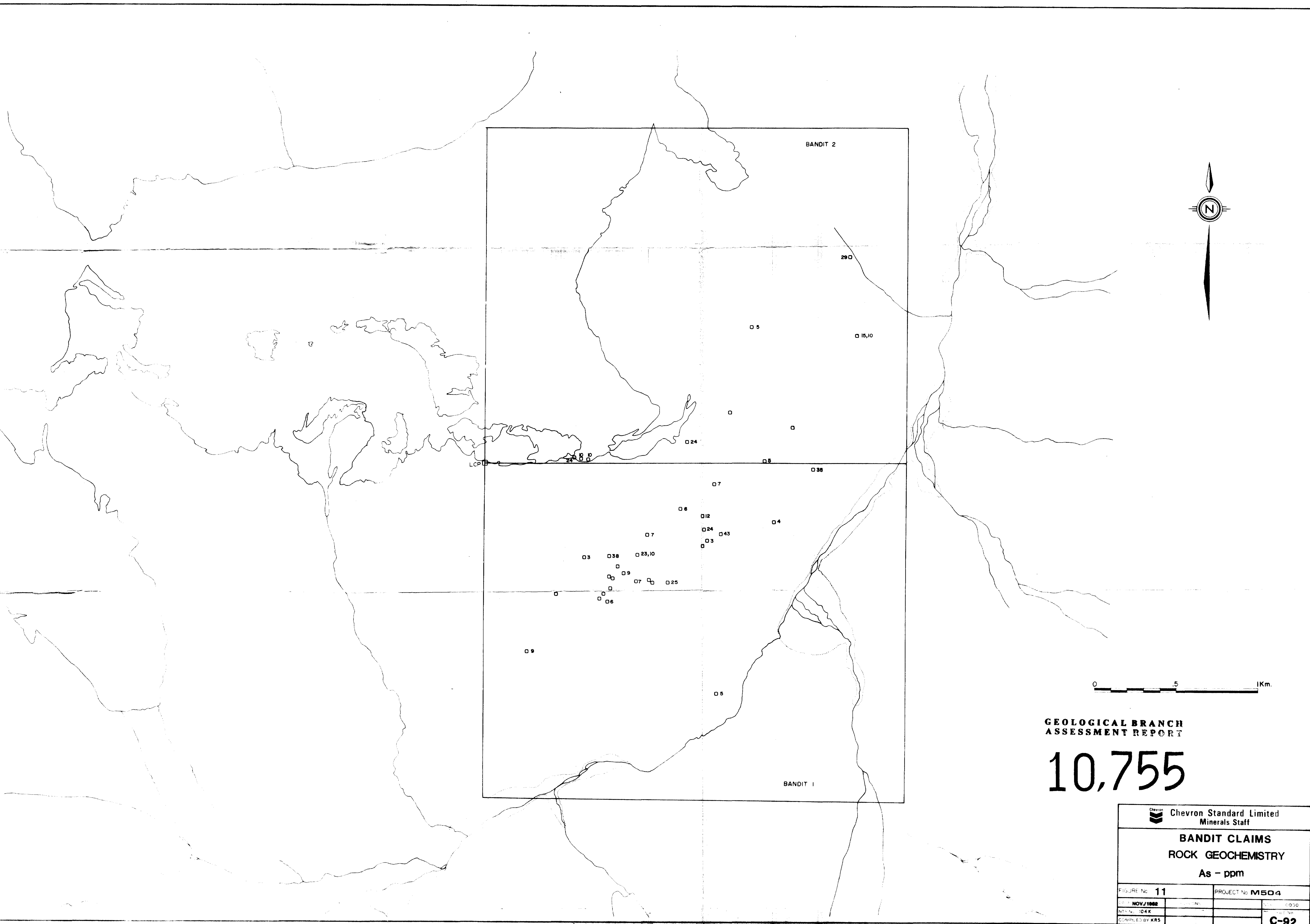
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- OUTCROP
- FOLIATION WITH DIP



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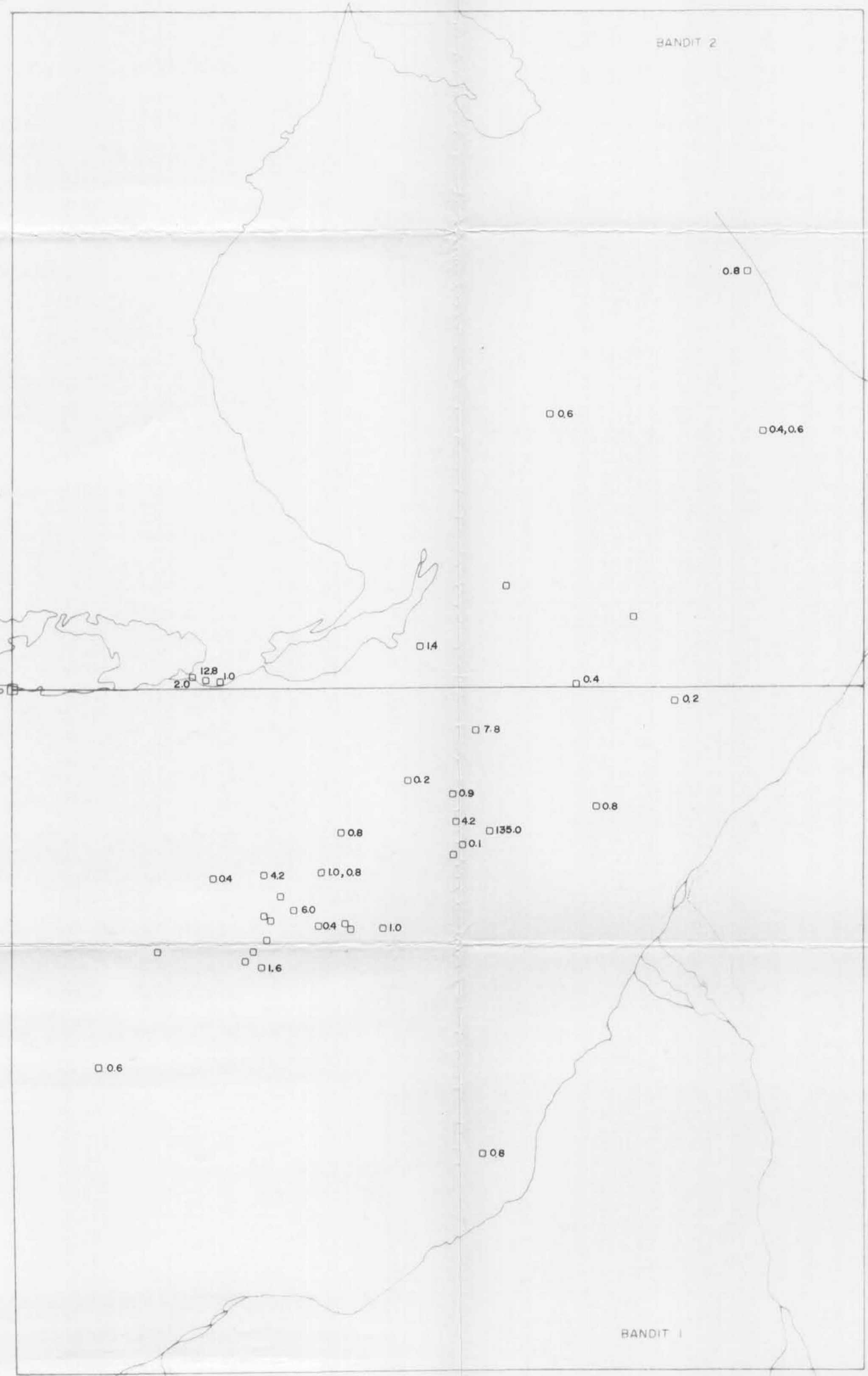
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BANDIT CLAIMS	
GEOLOGY	
Sheet No. 2	PROJECT: M504
OCT. 1982	
C4K	
BY KRS	G-10



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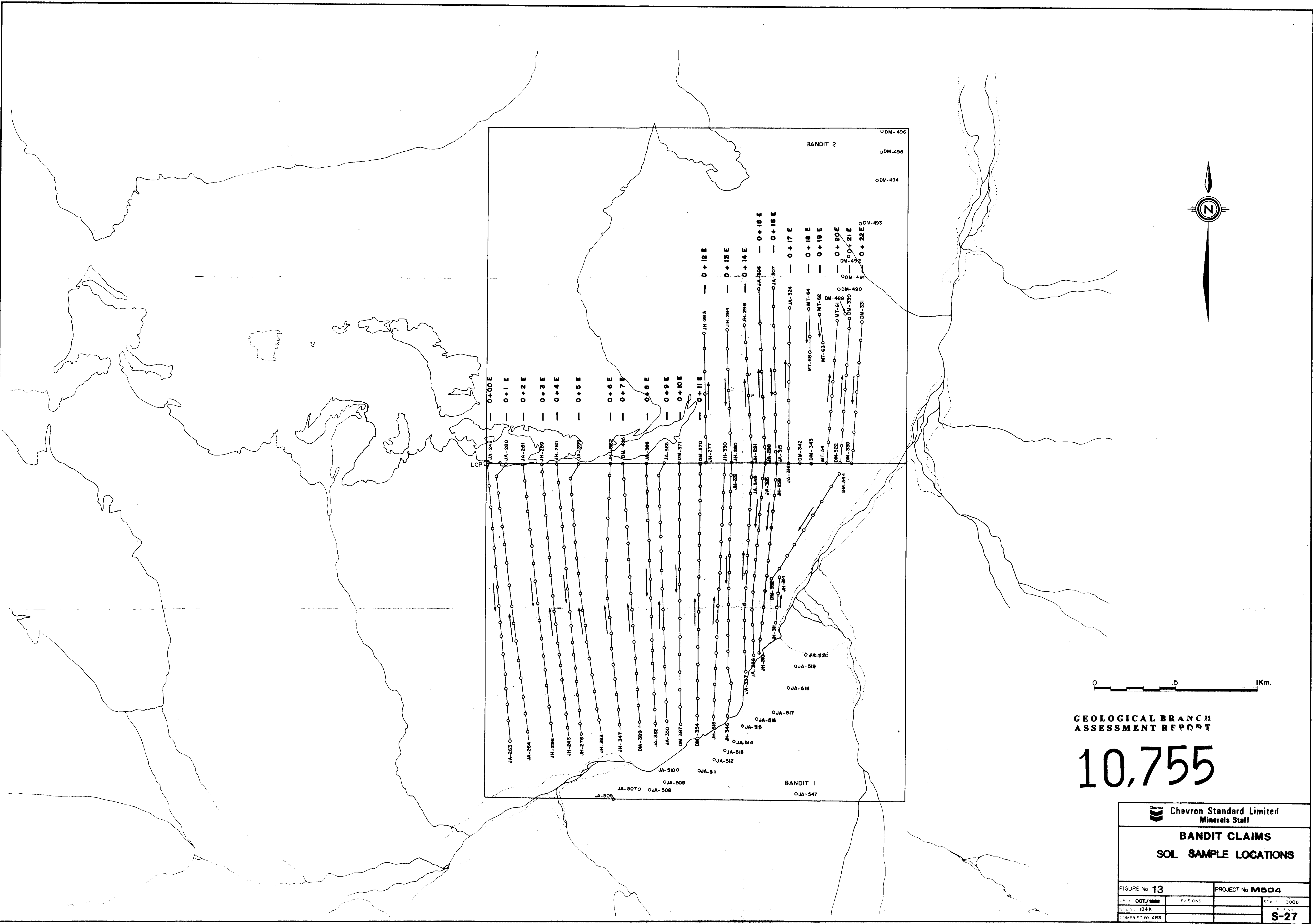
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BANDIT CLAIMS ROCK GEOCHEMISTRY As - ppm	
FIGURE No. 11	PROJECT No. M504
DATE: NOV/1988	SCALE: 1:50,000
MAP No. 104 K	DATE: 1988
COMPILED BY KRS	C-92



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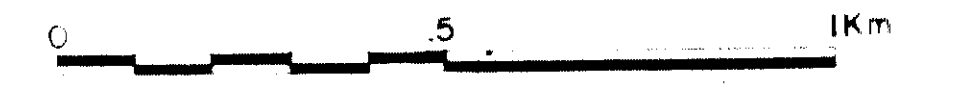
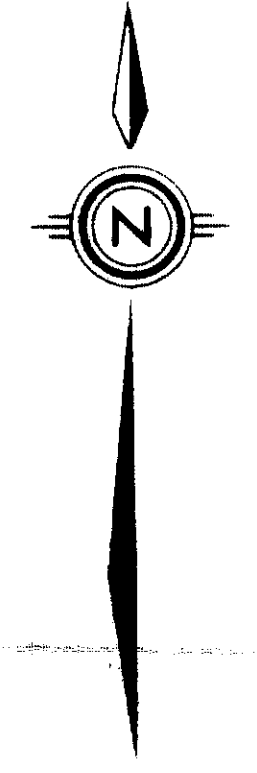
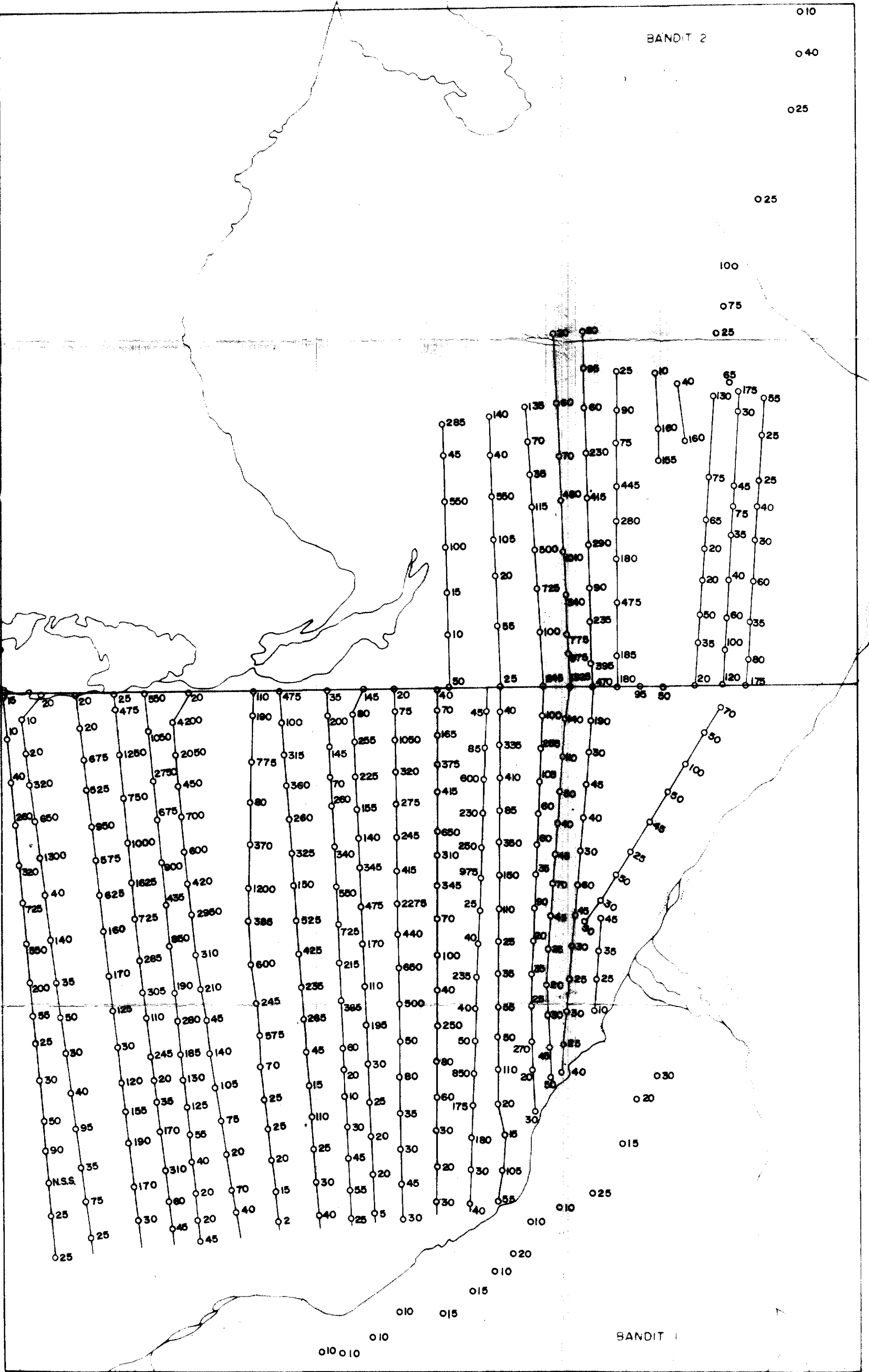
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BANDIT CLAIMS ROCK GEOCHEMISTRY Sb - ppm	
FIGURE: 12	PROJECT No: M504
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BY: C.A.K.	FILE NO:
APPROVED: KRS	C-93



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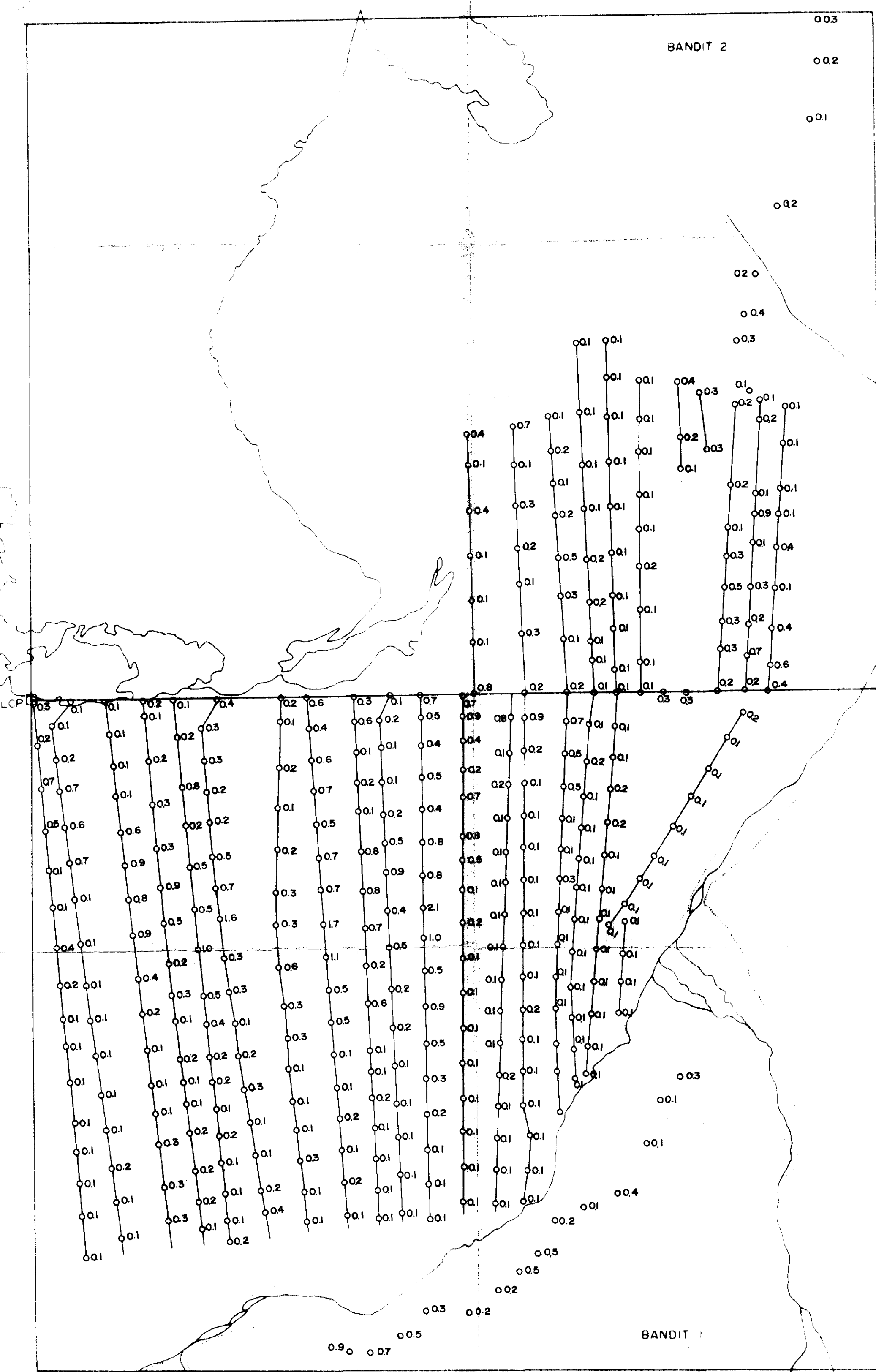
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BANDIT CLAIMS SOIL SAMPLE LOCATIONS	
FIGURE No 13	PROJECT No M504
DATE OCT/1988	REVISIONS
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COMPILED BY KRS	S-27



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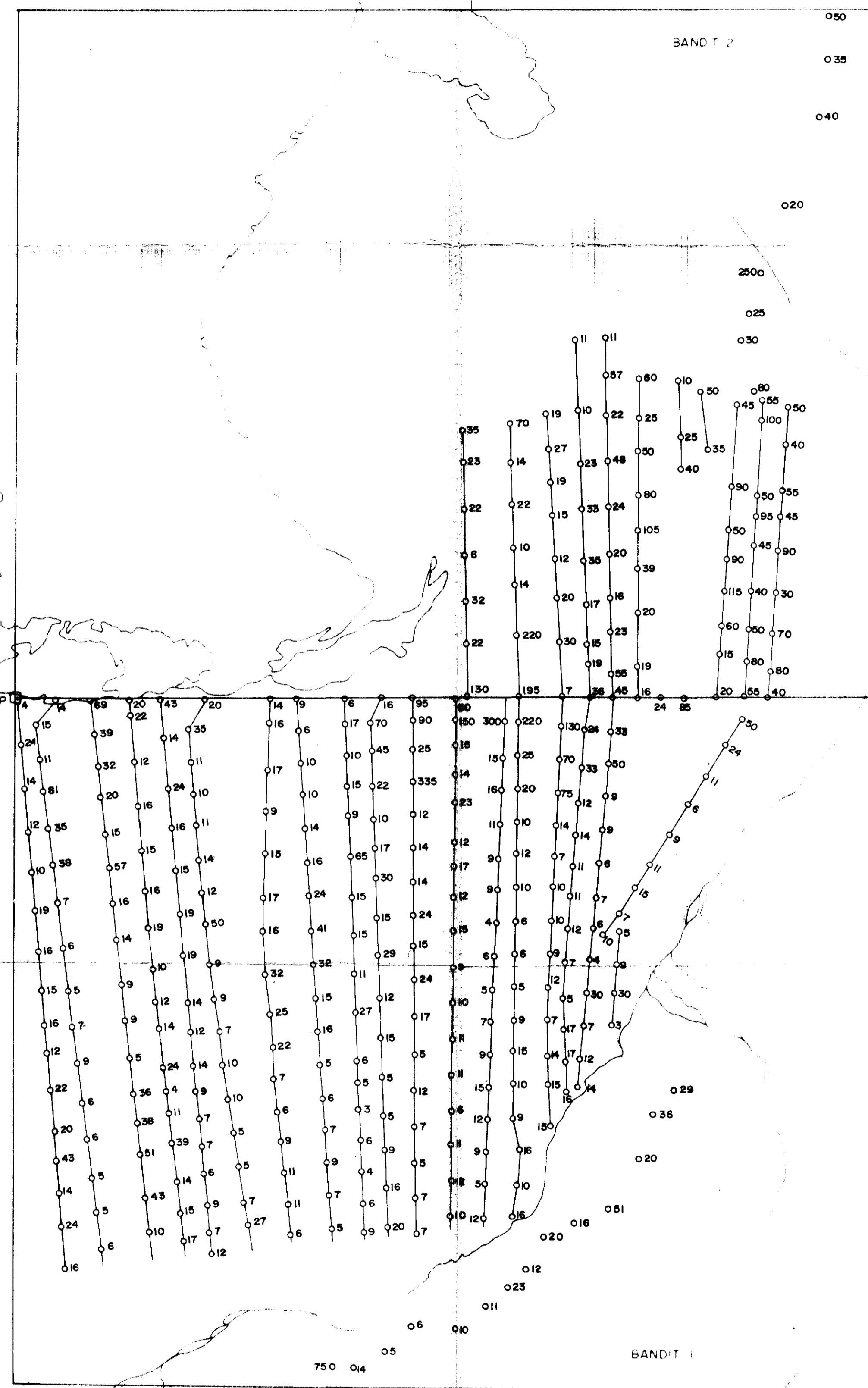
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14	PROJECT No: M504
OCT 1982	
	C-94



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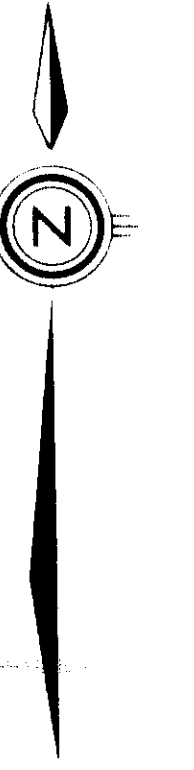
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BANDIT CLAIMS SOIL GEOCHEMISTRY	
Ag - ppm	
File No. 15	Project No. M504
Date OCT. 1982	
Drawn by C.A.K.	
	C-95



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Chevron Standard Limited Minerals Staff	
BANDIT CLAIMS SOIL GEOCHEMISTRY	
As - ppm	
16	PROJECT No M504
OCT. 1982	
	C-96



0 200 m

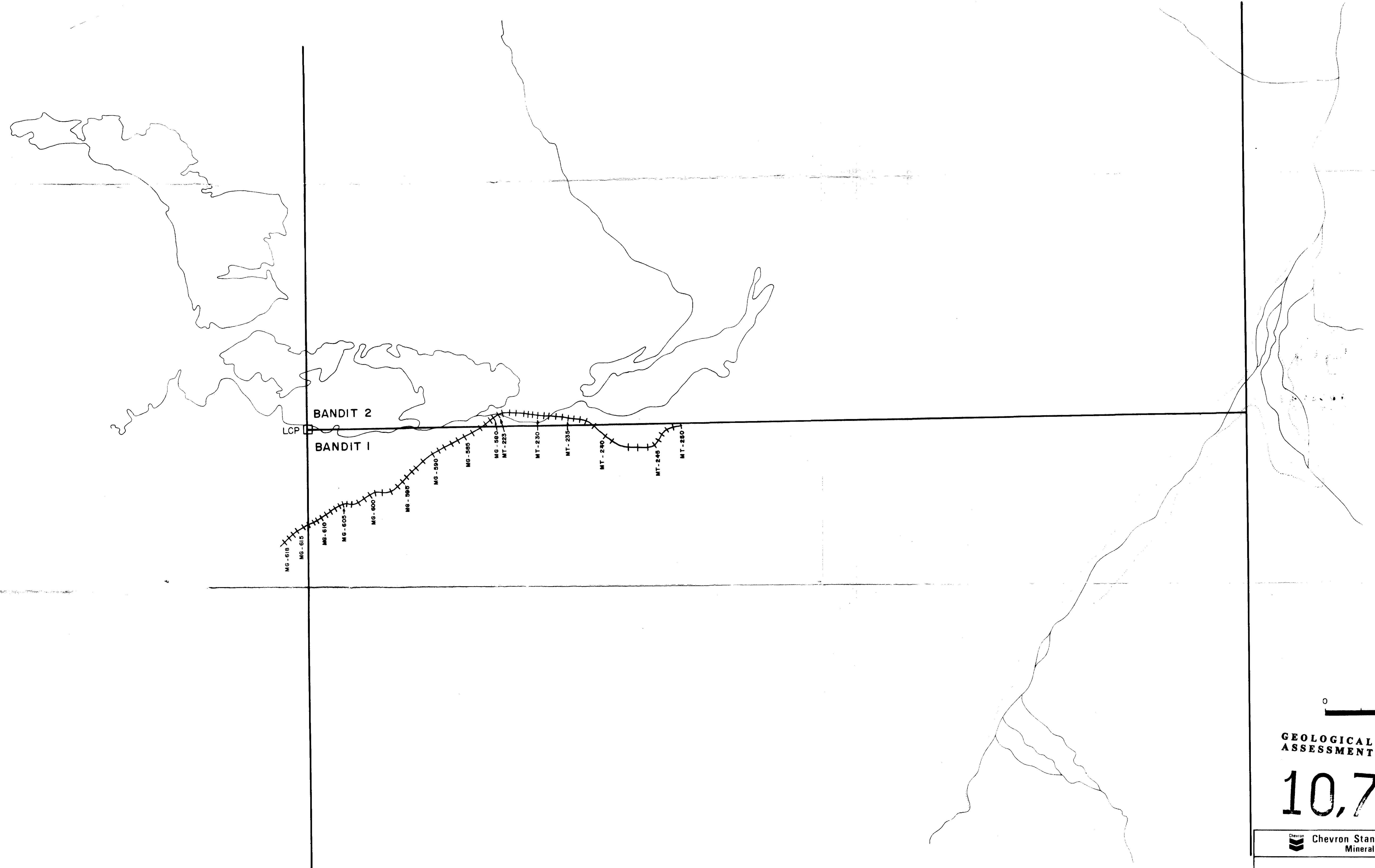
GEOLOGICAL BRANCH
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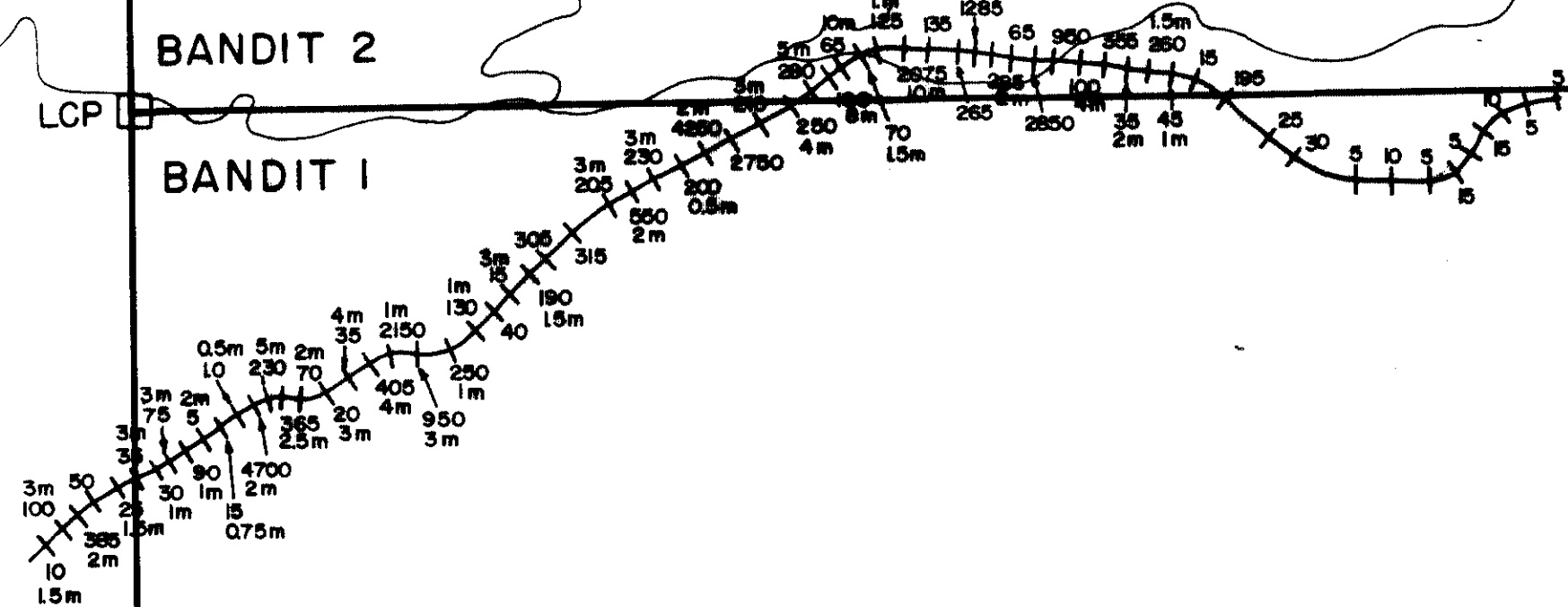
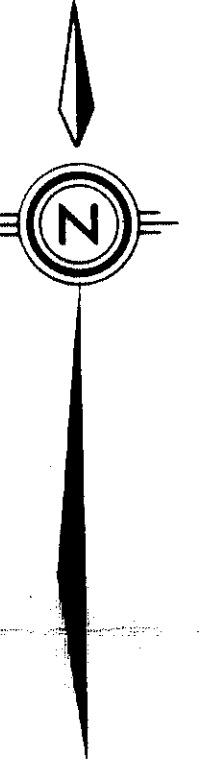
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Minerals Staff

**BANDIT CLAIMS
DETAILED ROCK
SAMPLE LOCATIONS**

FIGURE No	3	PROJECT No	M504
DATE	NOV 1982	SCALE	1:5000
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APPROVED BY			





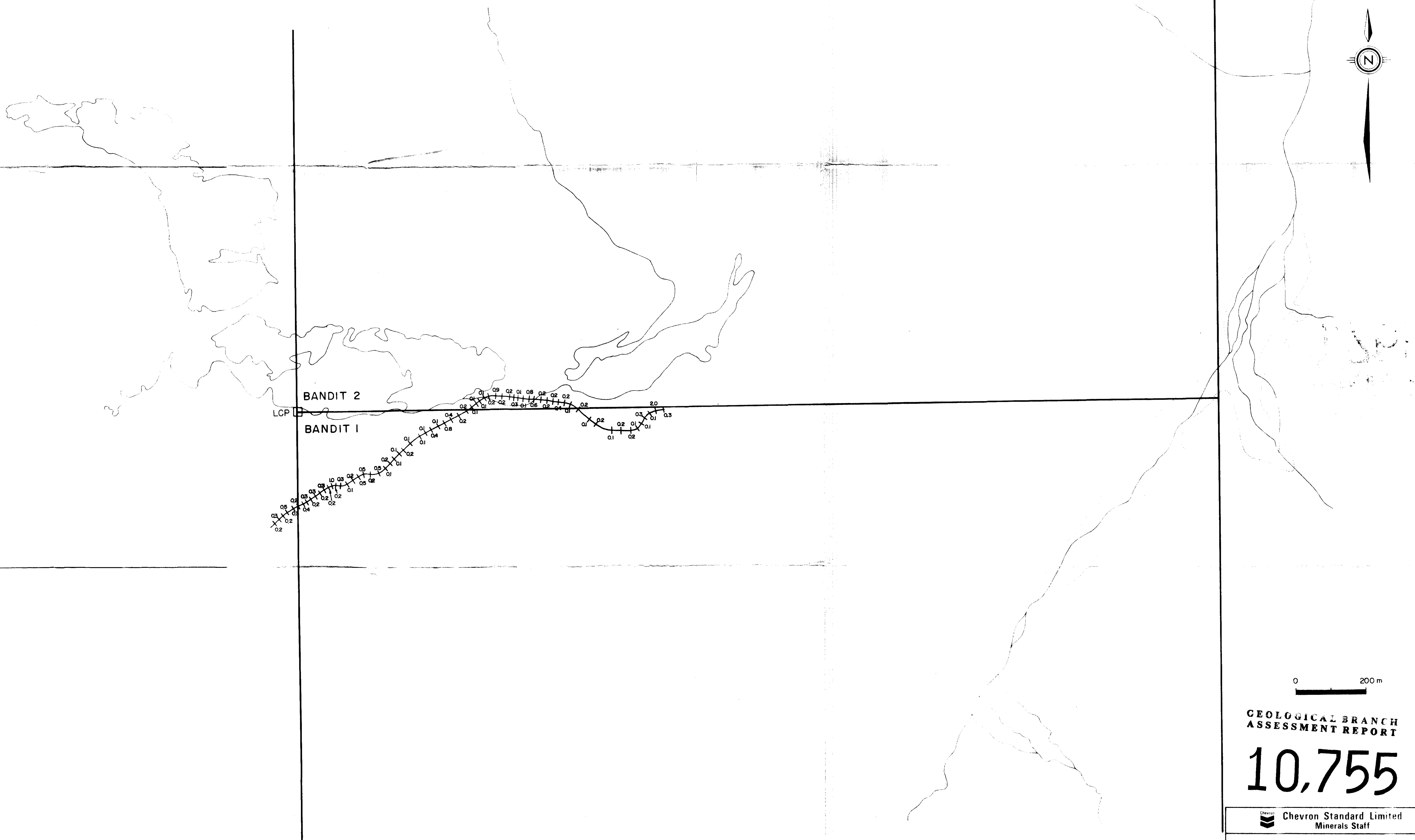
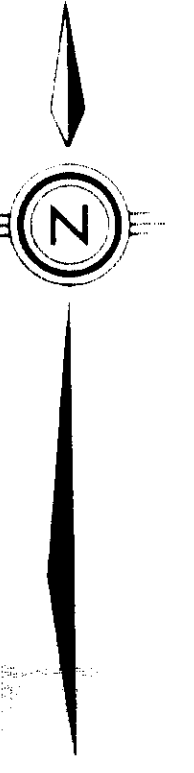
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**BANDIT CLAIMS
DETAILED ROCK GEOCHEMISTRY
Au - ppb**

FIGURE No 4	PROJECT No M504	
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0 200 m

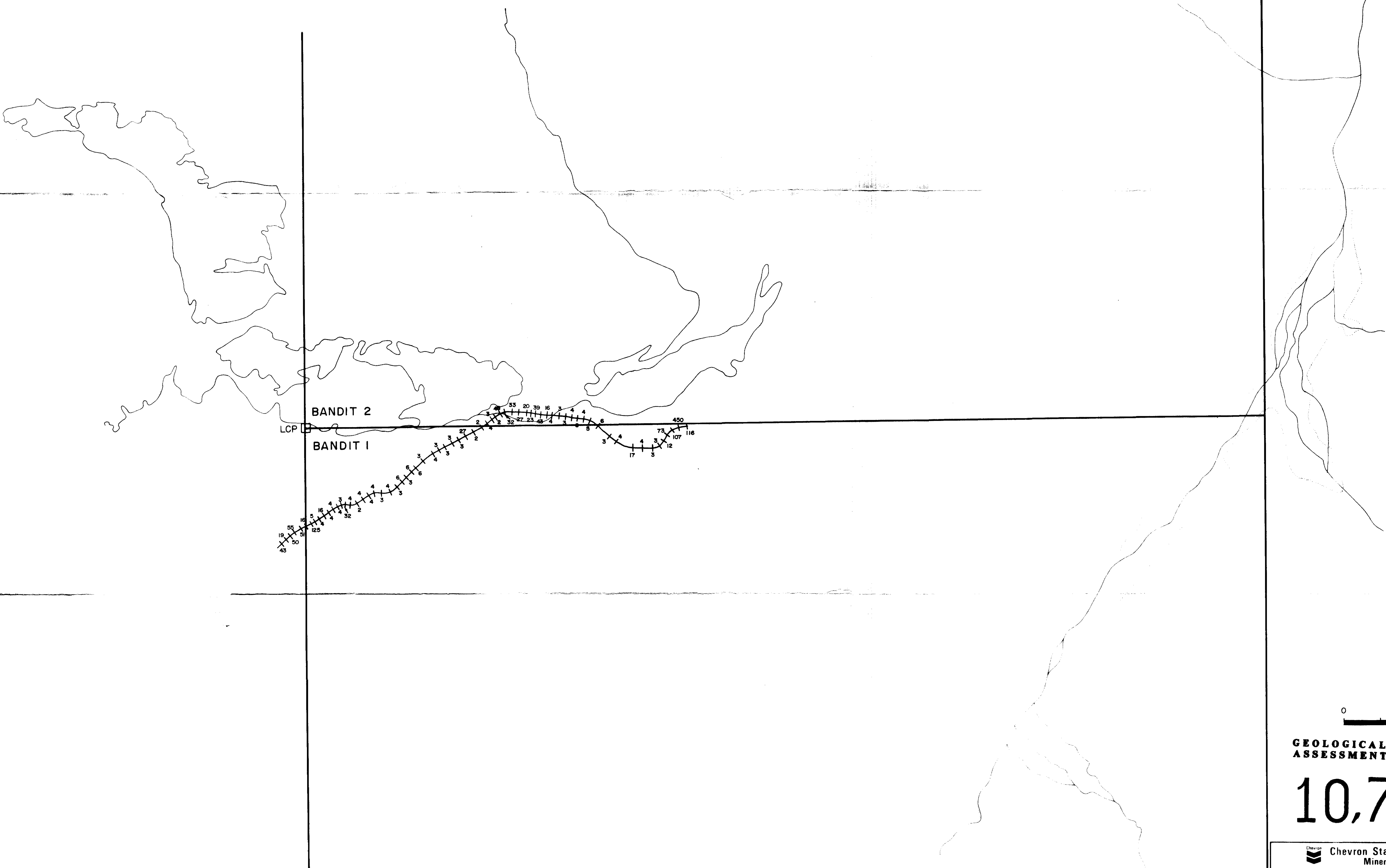
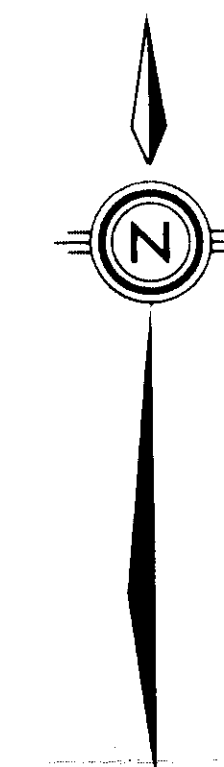
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**BANDIT CLAIMS
DETAILED ROCK GEOCHEMISTRY
Ag - ppm**

FIGURE No. 5	PROJECT No. M504
DATE NOV 1982	SCALE 1:5000



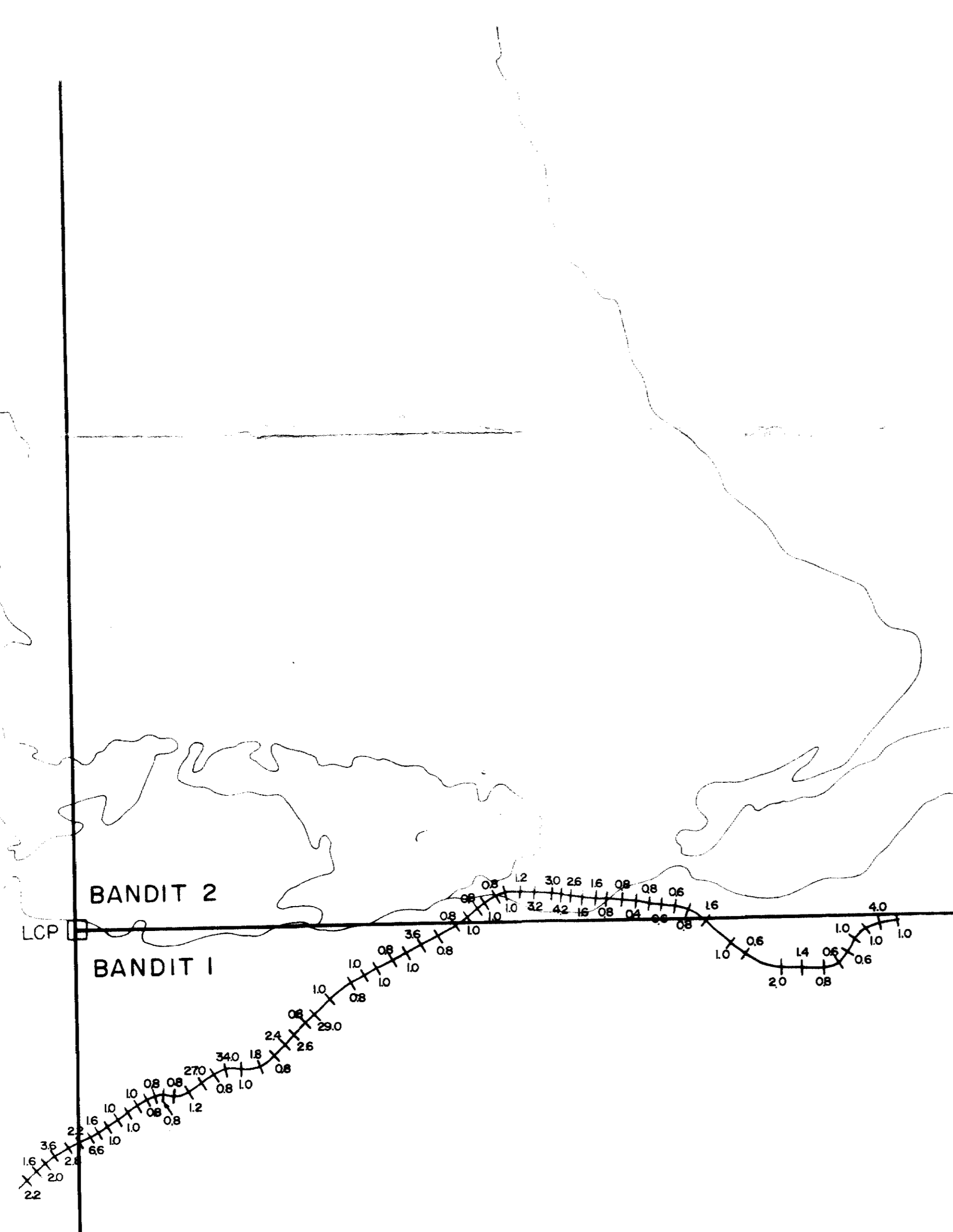
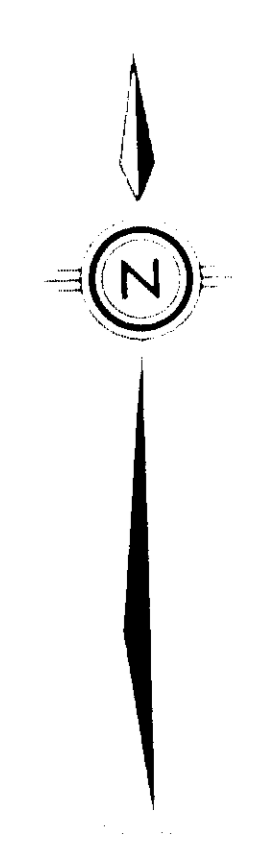
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**BANDIT CLAIMS
DETAILED ROCK GEOCHEMISTRY
As - ppm**

FIGURE No	6	PROJECT No	M504
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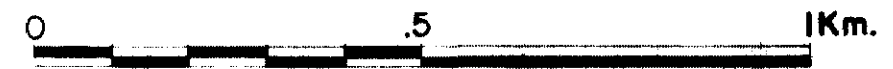
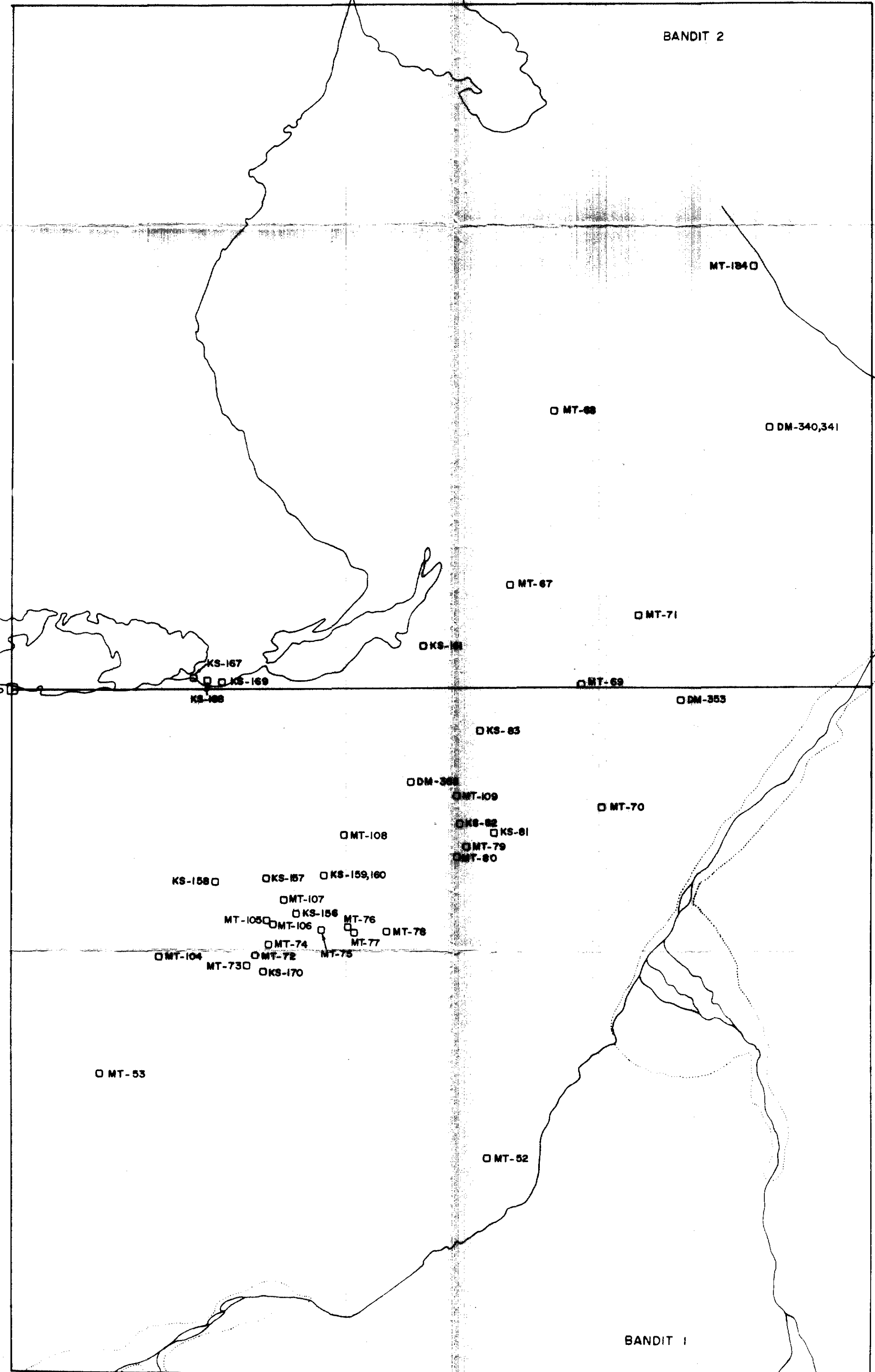
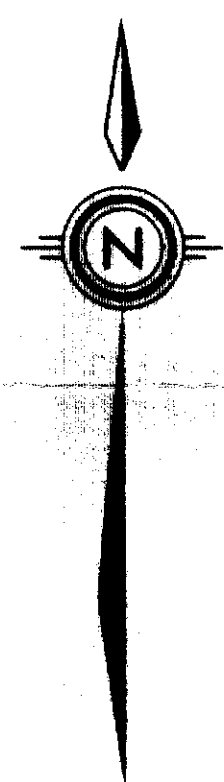
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**BANDIT CLAIMS
DETAILED ROCK GEOCHEMISTRY**
Sb - ppm

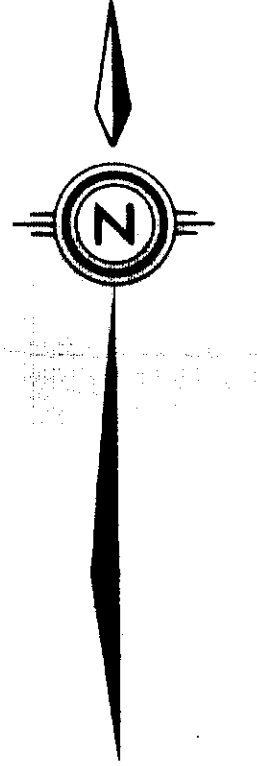
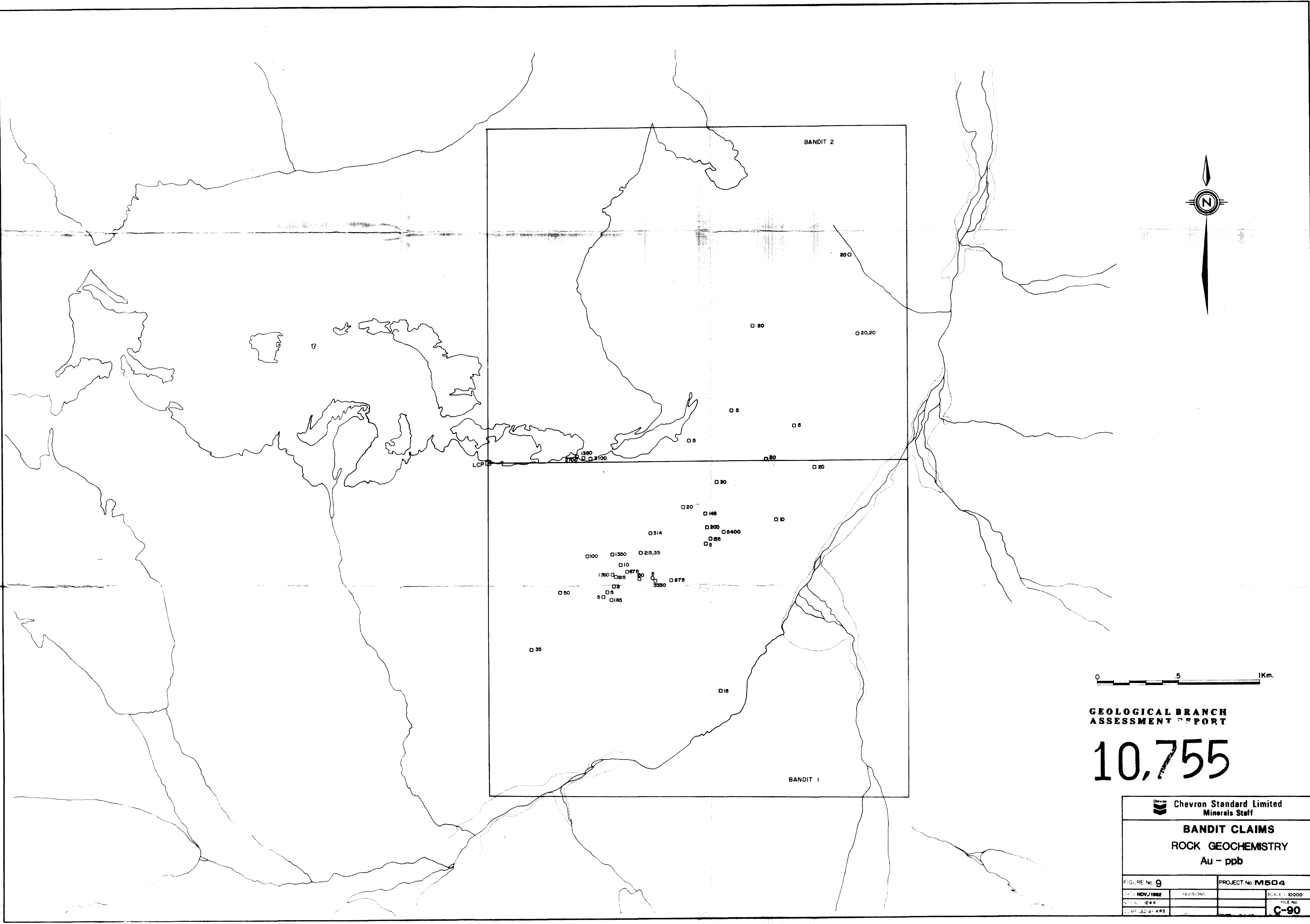
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NOV 1982	



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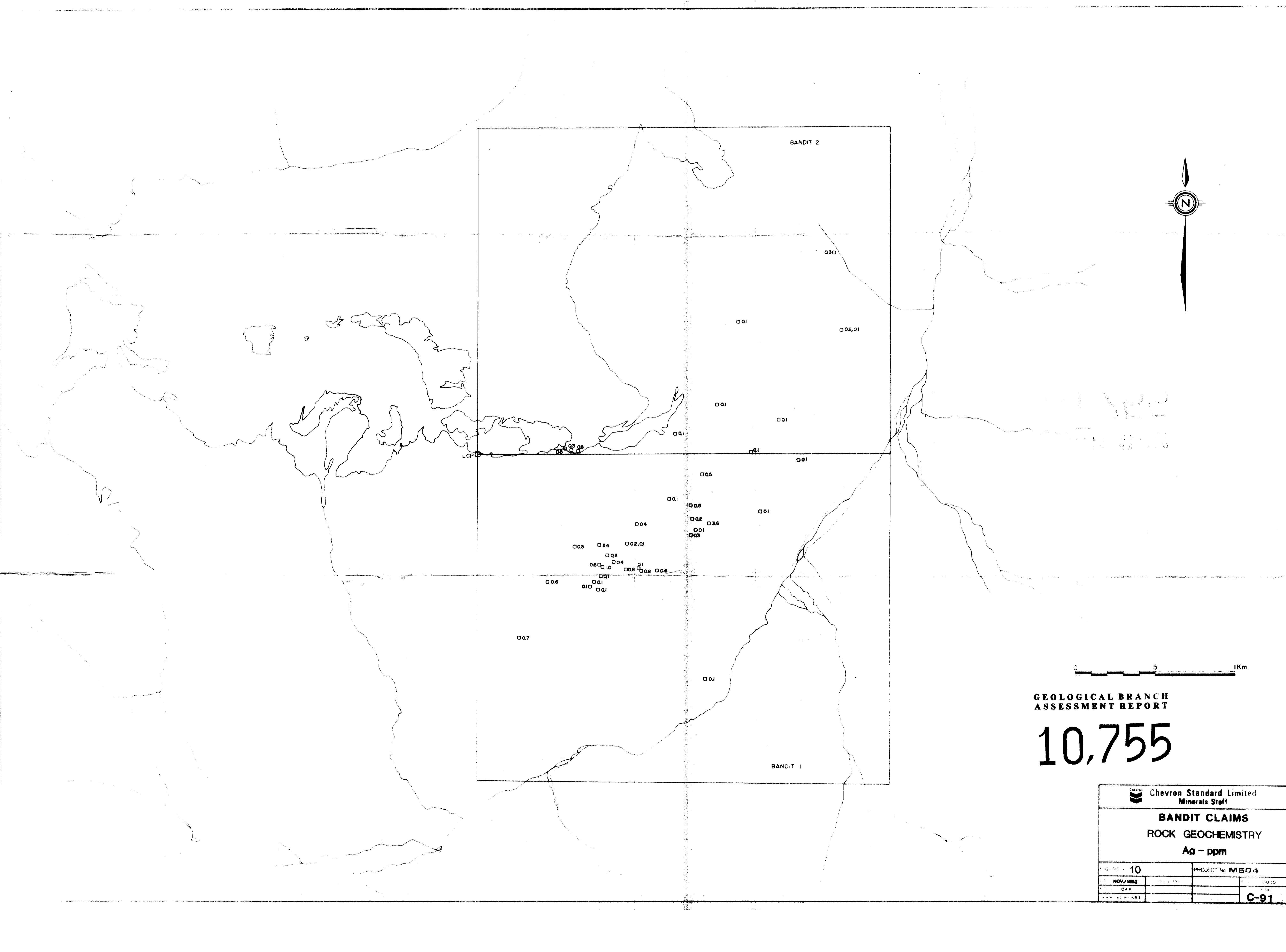
 Chevron Standard Limited Minerals Staff	
BANDIT CLAIMS ROCK SAMPLE LOCATIONS	
FIGURE No 8	PROJECT No M504
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CHECKED BY KRS	S-26



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BANDIT CLAIMS ROCK GEOCHEMISTRY Au - ppb			
FIGURE No 9		PROJECT No M504	
DATE NOV/1982	REVISIONS	SCALE 1:10000	FILE No
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SAMPLED BY KRS			



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BANDIT CLAIMS ROCK GEOCHEMISTRY Ag - ppm			
FIGURE 10	PROJECT No M504		
NOV/1982	DATE	SCALE	0076
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1:10000	ARS		C-91