

MINERAL RESOURCES BRANCH

ASSESSMENT REPORT

10532
No. _____

ASSESSMENT REPORT

GEOLOGICAL AND GEOCHEMICAL SURVEY

OUTLAW CLAIMS 1 - 4

ATLIN MINING DIVISION

TRAPPER LAKE AREA, B. C.

N.T.S. 104K

58°33'N

132°44'W

OWNER: CHEVRON CANADA LIMITED

OPERATOR: CHEVRON STANDARD LIMITED

AUTHORS: DEREK BROWN

KEN SHANNON

August, 1982

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Fig 2	Geology
Fig 3	Ag - ppm
Fig 4	As - ppm
Fig 5	Sb - ppm
Fig 6	Au - ppb.
Fig 7	Sample locations

BACK POCKET

LOCATION AND ACCESS

The OUTLAW claims are located at 58°33'N and 132°44'W, approximately 7 km northwest of Trapper Lake (Fig. 1). Helicopter provides the only access to the OUTLAW claims.

CLAIM GROUP

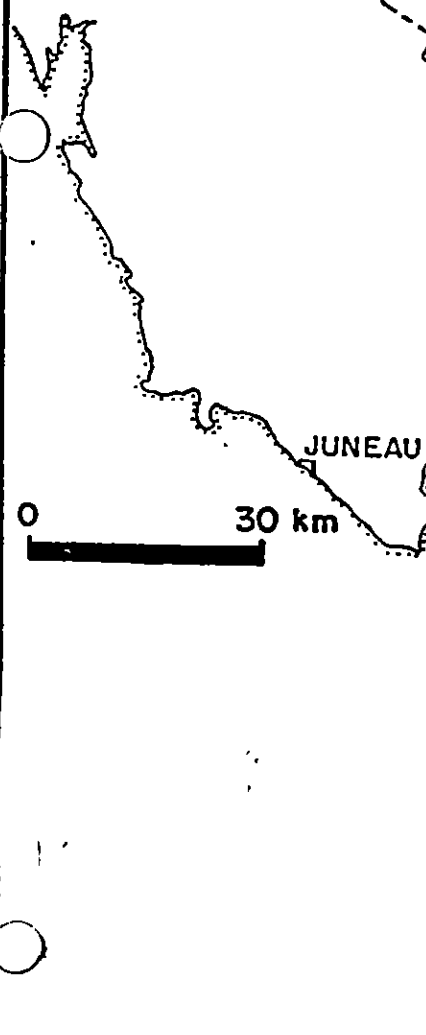
The OUTLAW claims were staked in July, 1981 as follows:

<u>Claim</u>	<u>Record Number</u>	<u>Record Date</u>	<u>Number Units</u>
OUTLAW 1	1339	July 9, 1981	20
OUTLAW 2	1340	July 9, 1981	20
OUTLAW 3	1341	July 9, 1981	20
OUTLAW 4	1342	July 9, 1981	20

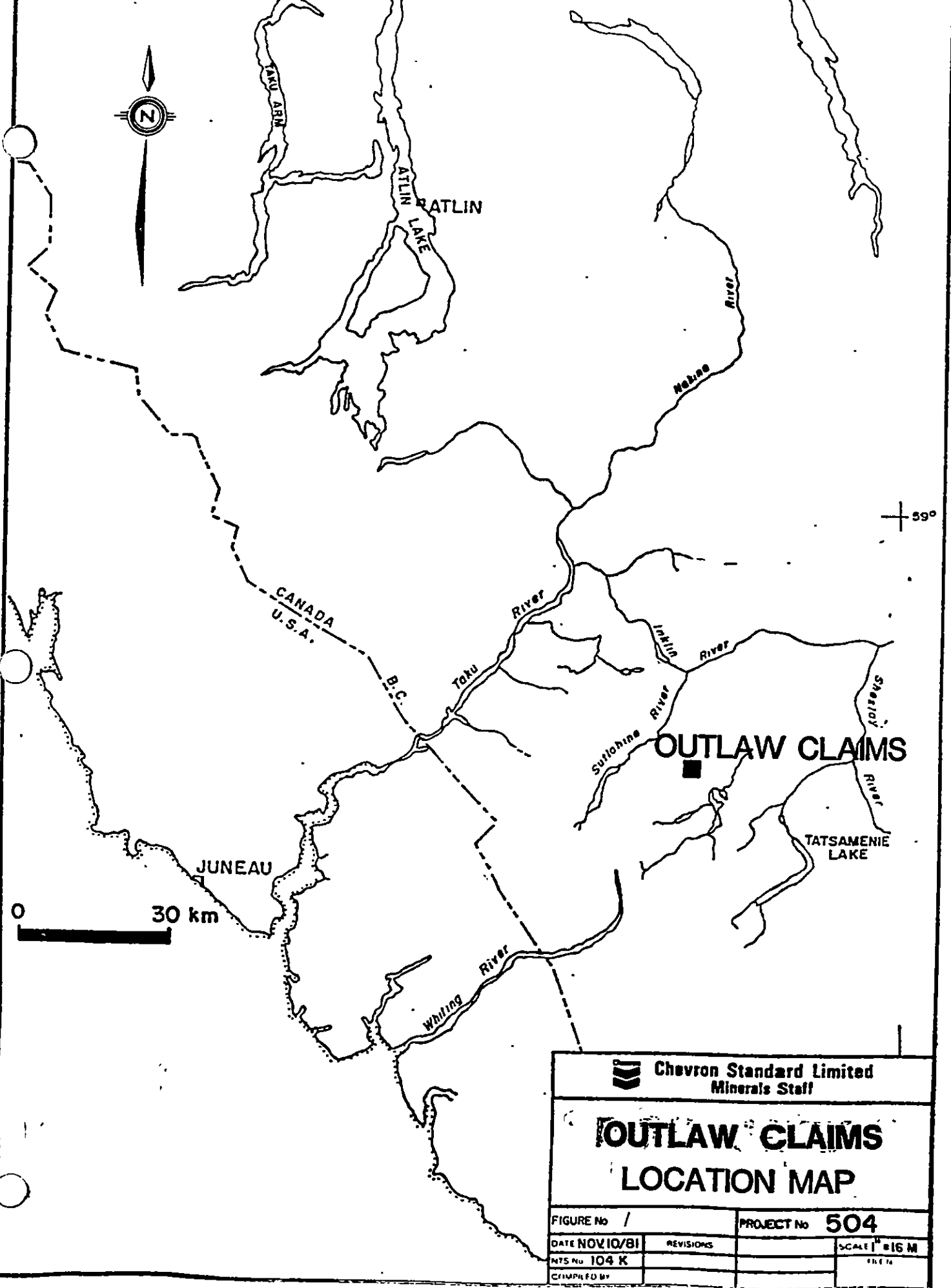
These claims adjoin ground previously staked as the THORN and KAY Groups


REGIONAL GEOLOGY

The OUTLAW claims are centered on a Jurassic-Cretaceous diorite stock which intrudes chloritic tuffs of pre-Upper-Triassic age (Souther, 1971). Stuhini Group basalts and mafic volcanoclastic rocks of Triassic age outcrop along the southern boundary of the claims. On the eastern border of the claims a wedge of Jurassic Takwahoni Formation siltstones and sandstones is found. Sloko Group rhyolite dykes and associated felsic volcanoclastic rocks occur mainly along the northern edge of the claims.



59°



 **Chevron Standard Limited**
Minerals Staff

OUTLAW CLAIMS
LOCATION MAP

FIGURE No /	PROJECT No	504
DATE NOV 10/81	REVISIONS	SCALE 1" = 16 M
NTS No 104 K		FILE 74
COMPILED BY		

SCIL 8735A4-CC

GEOLOGICAL SURVEY OF CLAIMS

Pre-Upper-Triassic Unit

Well layered grey-green rocks with abundant chlorite-epidote alteration are found in the central part of the claim group (Fig. 2). These rocks are extensively silicified and often exhibit a "cherty" texture (conchoidal fracture). Included in the section with the above well layered rocks are minor massive and laminated limestones in thicknesses up to 5 m. A marker bed of 2 - 4 m of chert conglomerate-sandstone is also present. This marker bed has subrounded to subangular clasts of grey, black and white chert in a matrix of fine-grained sericite. The clast size ranges from sand to 3 cm in diameter. Some clasts have a flaggy nature and appear to be broken shale fragments. Local tight folds were observed in the marker bed a few hundred metres southwest of the legal corner post.

Stuhini Group

The Upper Triassic Stuhini Group on the claims consists of volcanic flows, flow breccia and subordinate volcanoclastic rocks. Dark green and maroon feldspar porphyry and augite-feldspar porphyry dominate the exposures. The volcanic breccia is polymictic and contains rounded limestone clasts.

Chlorite-epidote alteration which may include calcite veins and pods is common.

Takwahoni Formation

Lower and Mid-Jurassic Takwahoni Formation shale, mudstone and siltstone are exposed on the eastern edge of the claims. Alteration and deformation

appear minimal, most of the rocks appear to be fresh sediments usually black to dark brown in color. Cross-cutting basalt and rhyolite dykes were observed in a few locations.

Biotite-Hornblende Diorite

This diorite stock of probable Jurassic-Cretaceous age intrudes the pre-Upper-Triassic Unit in the central part of the claims. The central area of the stock is light grey, medium-grained and has prominent cooling joints. The matrix minerals become progressively chloritized and saussuritized as the margins of the stock are approached. The biotite to hornblende ratio increases sharply at the contact with the pre-Upper-Triassic Unit.

A zone of silicified hornfels 1 - 5 metres wide surrounds the stock.

Sloko Group

A grey medium grained hornblende-feldspar porphyry dyke intrudes the Takwahoni sedimentary rocks in the northeast corner of the claims. Souther (1971) mapped this as a Late Cretaceous to Early Tertiary intrusion related to the Sloko Group. Feldspar porphyry and rhyolite-dacite flows cover most of the northern part of the claims.

Alteration and Mineralization

The most intense alteration is restricted to the pre-Upper-Triassic Unit metasedimentary rocks and is comprised of silicification, chloritization and epidotization. Adjacent rocks of the Stuhini Group do not exhibit any silicification and are possibly emplaced against the pre-Upper-Triassic rocks along a fault contact.

The hornfels zone adjacent to the diorite stock contains abundant biotite and is usually mineralized with pyrite, pyrrhotite and minor sphalerite. These sulphides are also found away from the hornfels zone as irregular disseminations and pods in the pre-Upper-Triassic Unit. The best sulphide mineralization is found on the north side of the claims where a massive grey limestone pod in the pre-Upper-Triassic section is cut by the hornfels zone. At this locality massive pyrrhotite-pyrite-sphalerite veins with minor galena were observed up to 1.5 m thick. In parts of the claims skarn assemblage calc-silicates were noted in limestones near the hornfels zone.

GEOCHEMICAL SURVEY OF THE CLAIMS

Soil samples on the claims were collected on a grid established from an east-west baseline 3600 m long which was flagged and picketed every 100 m. The soil lines were 200 m apart and sample spacing was 100 m on each line. Some reconnaissance soil samples taken in addition to the grid produced a final total of 330 soil samples on the claims. Soil samples were mostly B-horizon however some C-horizon and talus fines were used if necessary. Samples were collected with a soil mattock and sample depths ranged from 5 - 25 cm. In addition to soil samples, 69 rock samples were also collected on the 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 then ground to -80 mesh also. For Au 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 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 3 to 7.

The area of high As, Sb, Au, and Ag values on the grid corresponds to the region at and below the mineralized hornfelsed zone. The hornfels is probably the source of most of the geochem anomalies on the claims.

CONCLUSIONS

Most of the rock samples from the hornfels zone adjacent to the diorite gave low values in Au and Ag. Further detailed sampling of exposures in the hornfels zone should be carried out to check for higher grade zones.

REFERENCES

Souther, J.G. (1971), Geology and Mineral Deposits of Tulsequah
Map-Area, British Columbia, Geological Survey of Canada,
Memoir 362, 84 p. :

1981, 1982 EXPLORATION PROGRAM
 OUTLAW CLAIMS
 TRAPPER LAKE AREA, B.C.

PERIOD: July 27, 1981; June 28, 29, 30, July 1, 2, 4, 5, 6, 7, 1982

COSTS:

1. LABOUR:

<u>Name</u>	<u>Position</u>	<u>Field Days</u>	<u>Office Days</u>
K. Shannon	Geologist	1.0	2
D. Brown	"	6.5	3
M. Thicke	"	0.5	
L. Dick	"	0.5	
D. Madsen	Sampler	1.0	
M. Gray	"	5.0	
S. Goertz	"	3.0	
F. Wohlgemuth	"	3.0	
R. Lazenby	"	1.5	
L. Rowan	"	4.0	
J. Hawthorne	"	1.5	
Total man days		<u>27.5</u>	<u>5</u>

Average cost per field man-day = \$100.00 x 27.5 \$ 2,750.00
 Average cost per office man-day = \$175.00 x 5.0 875.00

2. ANALYSES:

Rock (Au, As, Sb, Ag) 69 samples @\$17.40	1,200.60
Soil (Au, As, Sb, Ag) 330 samples @\$15.50	5,115.00

3. CAMP COSTS:

27.5 man-days @\$79.50/man-day 2,186.25

4. HELICOPTER:

11.58 hours @\$510.00 per hour incl. fuel 5,905.80

5. DRAFTING:

5.0 man-days @\$100.00 per man-day 500.00

6. SAMPLE SHIPPING:

399 samples @\$0.60 ea. 239.40

Assessment work total \$18,772.05

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 OUTLAW Claim Group was done under my supervision.

A handwritten signature in cursive script that reads "Ken Shannon". The signature is written in black ink and is positioned centrally on the page, below the typed text.

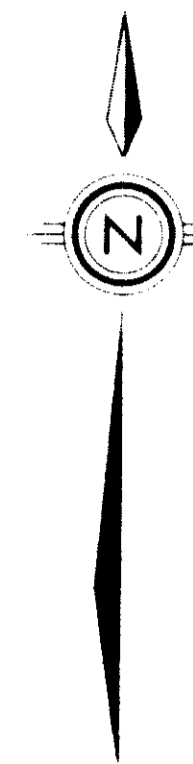
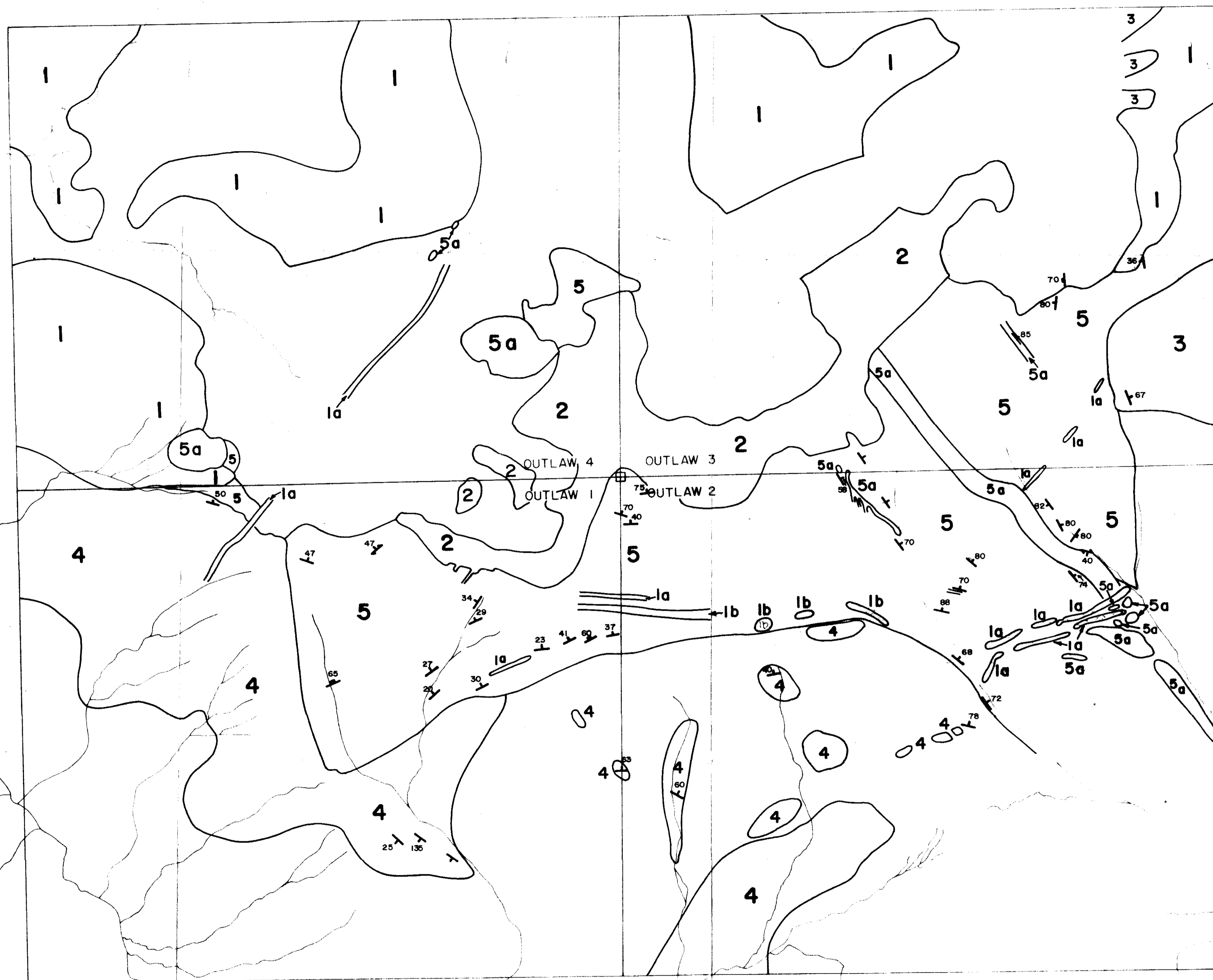
KEN SHANNON

STATEMENT OF QUALIFICATIONS

I, Derek Brown, graduated in May, 1981 with a B.Sc. (Hons. Geology) from Carleton University, Ontario. I have worked as a geologist since graduation and am presently employed on a temporary basis by Chevron Standard Limited of Vancouver, B. C.

Derek Brown

Derek Brown



LEGEND

TERTIARY

- 1** SLOKO GROUP
 - flows, pyroclastic, felsic intrusive rocks
 - UNIT 1a - rhyolite dykes
 - UNIT 1b - quartz veins

JUR-CRETACEOUS

- 2** BIOTITE-HORNBLENDE DIORITE

JURASSIC

- 3** TAKWAHONI GROUP
 - mudstone, siltstone

UPPER TRIASSIC

- 4** STUHINI GROUP
 - feldspar ppy, augite-feldspar ppy, minor tuff & breccia

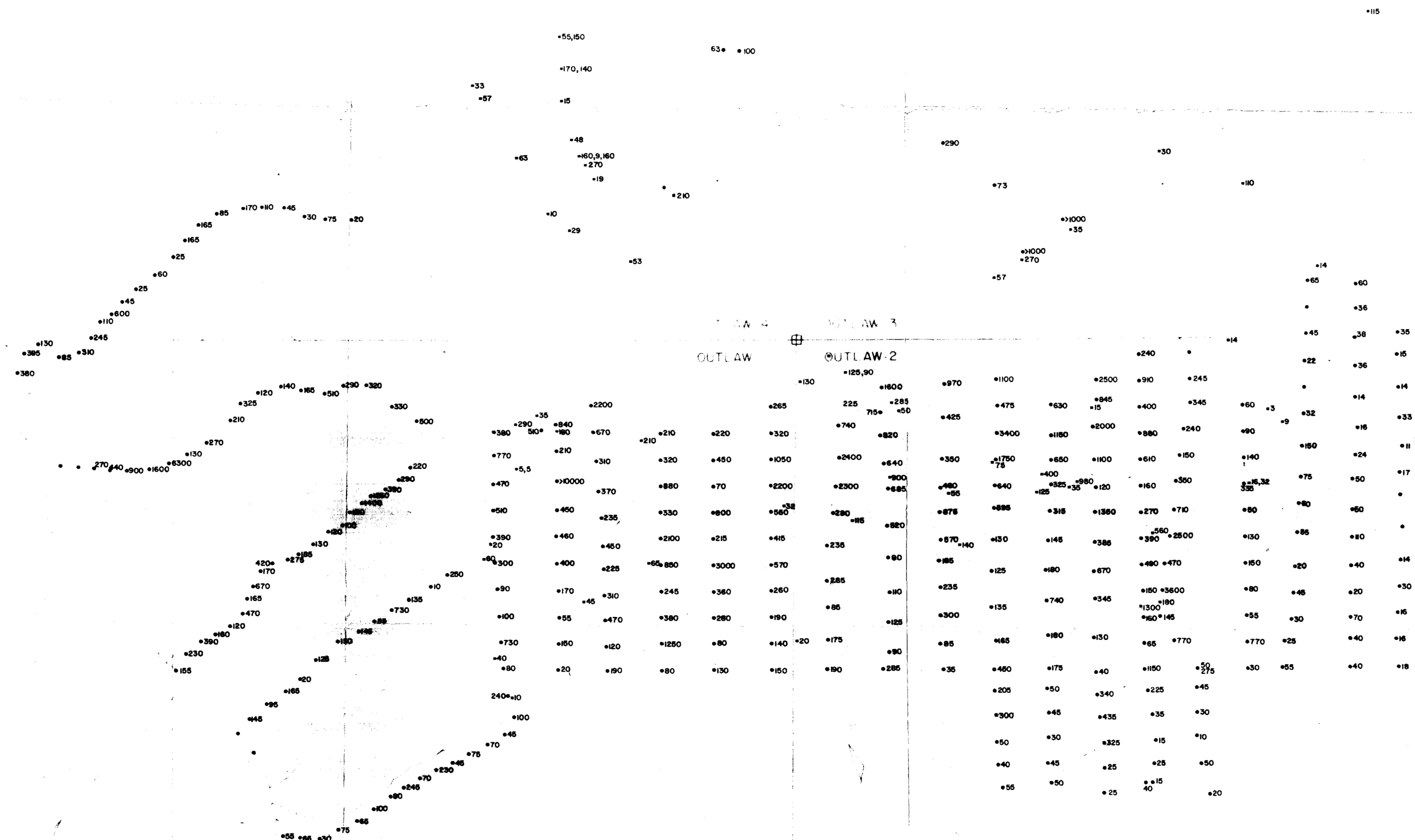
PRE-UPPER TRIASSIC

- 5** PRE-UPPER TRIASSIC UNIT
 - silicified chlorite-epidote tuff ?
 - UNIT 5a - limestone layers & pods



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ASSESSMENT
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Chevron Standard Limited Minerals Staff	
OUTLAW CLAIMS GEOLOGY	
FIGURE NO. 2	PROJECT NO. M504
1981/82	
	M19



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
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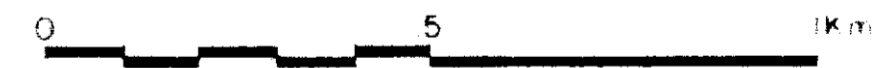
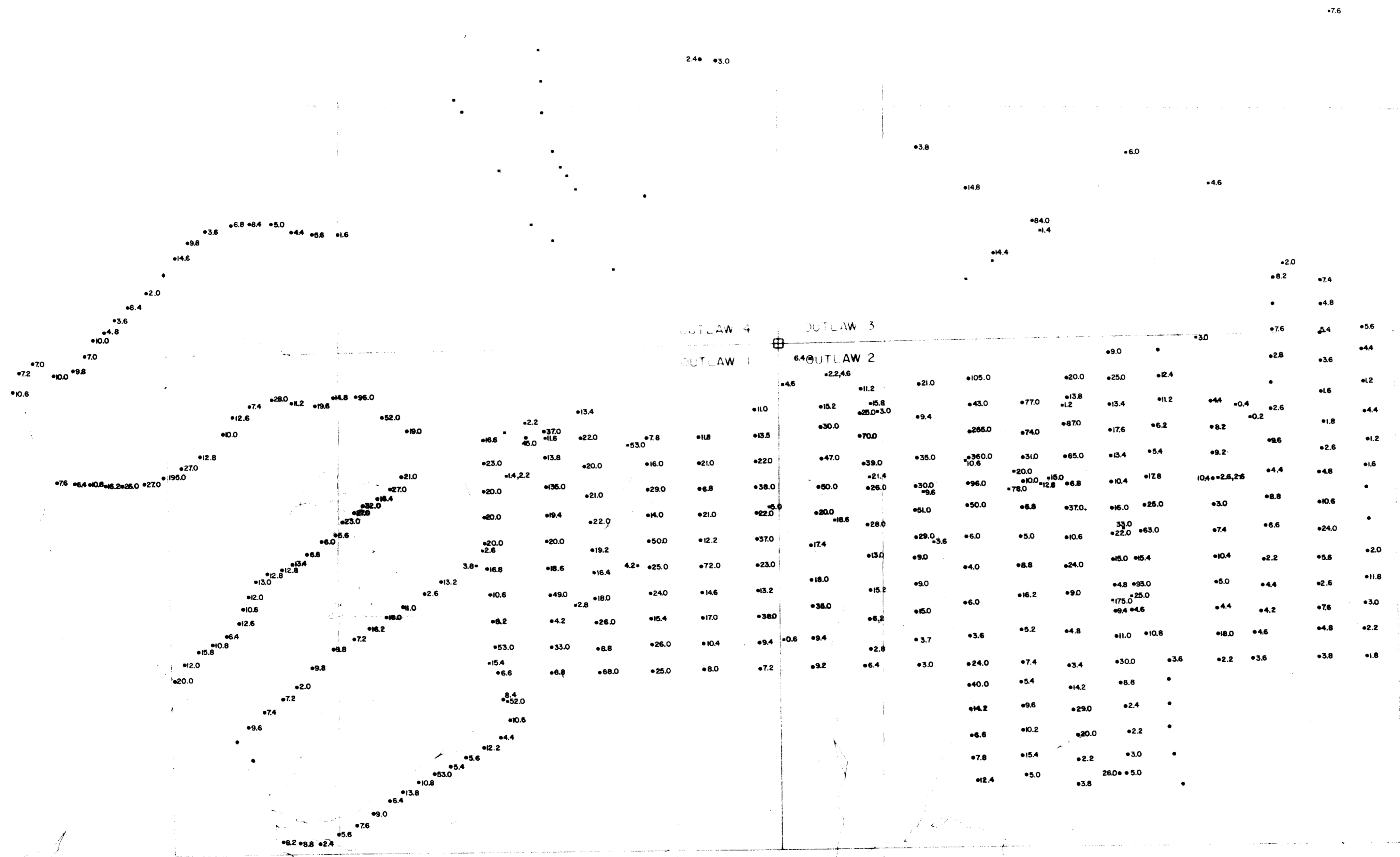
LEGEND

- Rock
- Soil

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**OUTLAW CLAIMS
GEOCHEMISTRY
As-ppm**

4
1981/82



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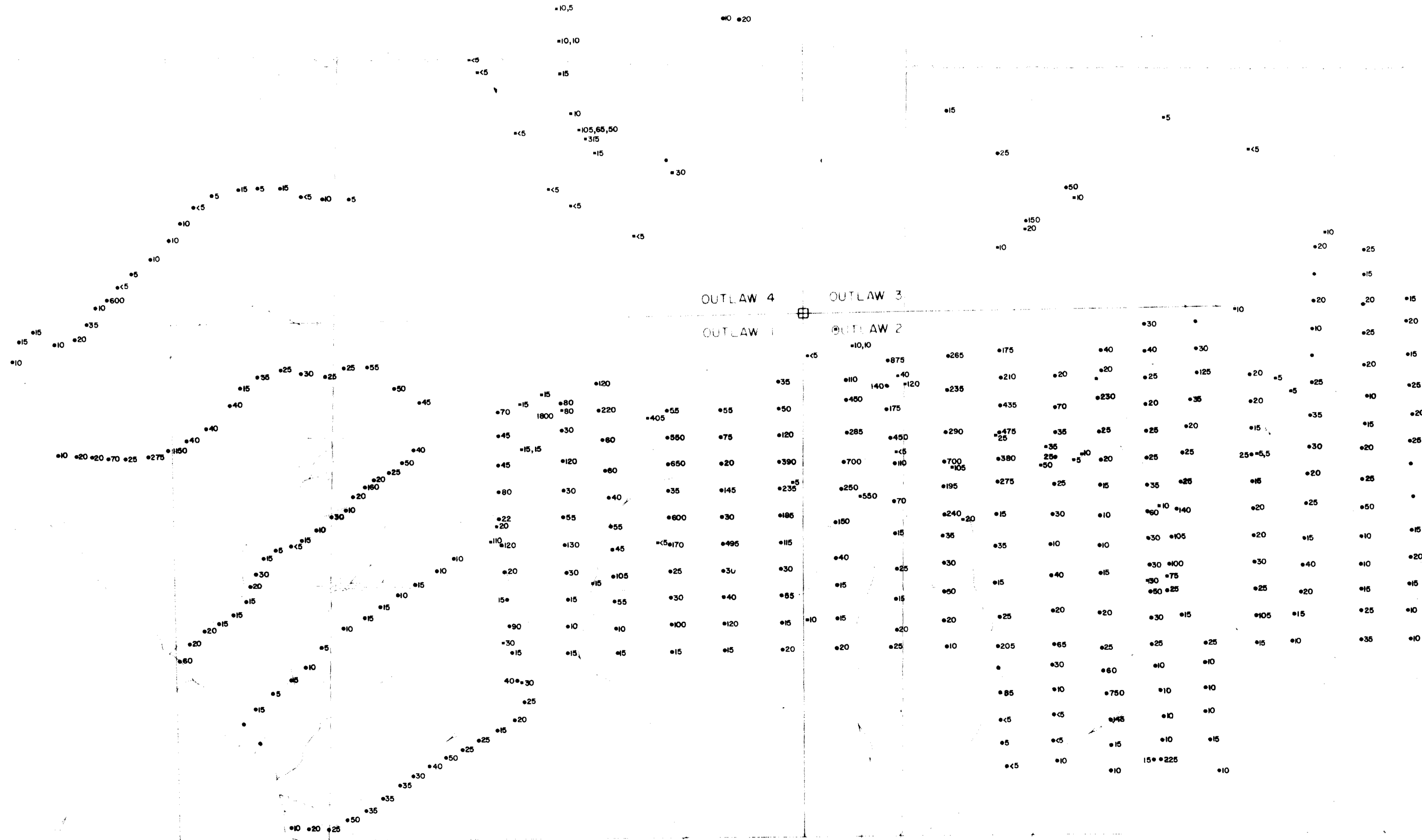
LEGEND
□ Rock
○ Soil

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OUTLAW CLAIMS
GEOCHEMISTRY
Sb-ppm

5
1981 / 82

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LEGEND

- Rock
- Soil

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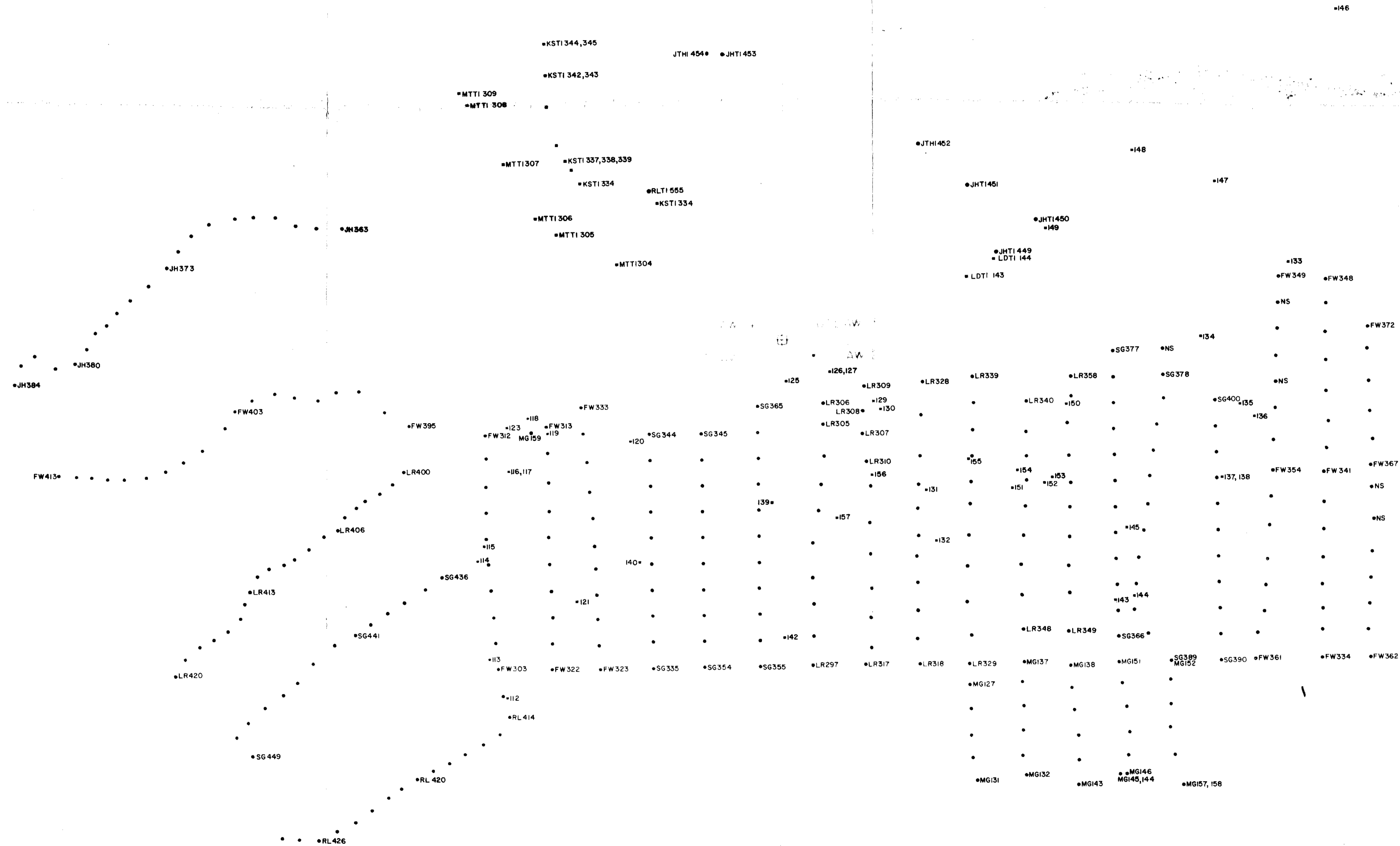
OUTLAW CLAIMS

GEOCHEMISTRY

Au-ppb

6
1981/82

M 19



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ASSESSMENT REPORT
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LEGEND

- Rock
- Soil

Geological Survey of Canada
Mineral Resources Branch
**OUTLAW CLAIMS
SAMPLE LOCATION MAP**

1981/82