842187

COMPILATION REPORT

GEOLOGY AND GEOCHEMISTRY

TARDIS CLAIMS

ATLIN MINING DIVISION

TRAPPER LAKE AREA, B.C.

Latitude: 58°38'N

Longitude: 132°33'W

OWNER: CHEVRON MINERALS LTD.

Author: Godfrey Walton

March 1985

a9/13/1

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LIST OF FIGURES

LOCATION AND ACCESS

The TARDIS claims are located at Latitude 58°38'N and Longitude 132°33'W, approximately twenty kilometers north of Trapper Lake, in northwestern British Columbia. These claims are located on the eastern central boundary of Tulsequah mapsheet (104K).

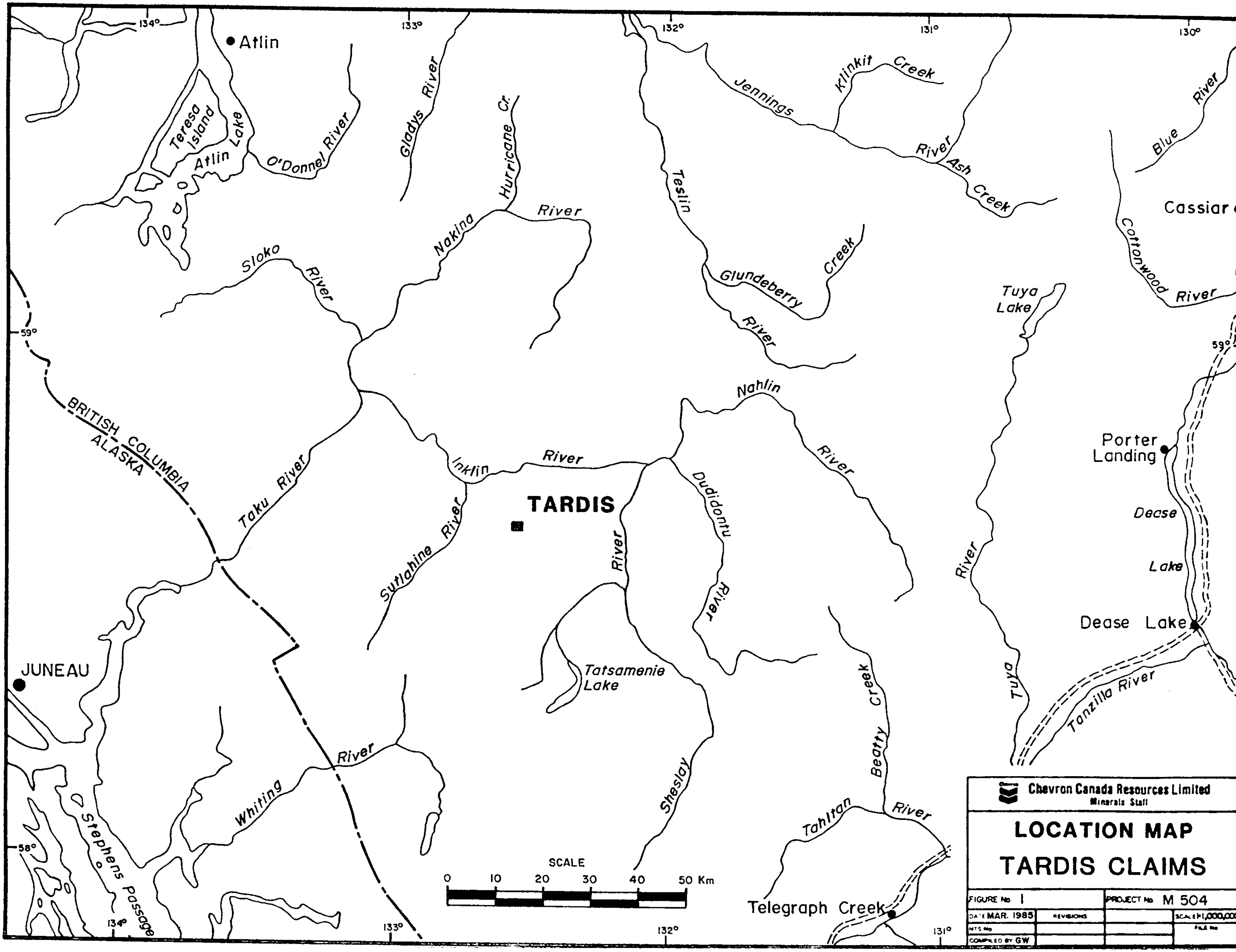
Access to the claims was by helicopter from a base camp at Trapper Lake, from 1981 to 1983. Provisions were flown into the base camp from Atlin 140 kilometers to the north. Float equipped aircraft are available through Atlin or Whitehorse. Supplies were purchased either in Atlin or Whitehorse.

CLAIM STATUS

The claims which comprise the TARDIS claim block are listed below with the pertinent information:

Claim Name	Record No.	Record Date	Expiry Date	No. of Units
TARDIS	1337	July 2, 1981	July 2, 1986	20
TARDIS #2	1248	July 20, 1981	July 20, 1985	2
TARDIS #3	1349	July 20, 1981	July 20, 1985	4
TARDIS #4	1347	July 20, 1981	July 20, 1985	10
PETRO	1336	July 2, 1981	July 20, 1986	6

The claims configuration is shown on Figure 2. The TARDIS claims cover an area of 2583 acres.



134°
133°
132°
131°
130°
59°
58°
Atlin
Teresa Island
Atlin Lake
O'Donnel River
Gladys River
Hurricane Cr.
Nakina River
Sloko River
Teslin
Jennings River
Klinkit Creek
Ash Creek
Blue River
Cassiar
Cottonwood River
Glundeberry Creek
River
Tuya Lake
Nahlin River
Porter Landing
BRITISH COLUMBIA
ALASKA
Taku River
Inklin River
TARDIS
Sutlahine River
River
Dudidontu River
Dease Lake
Dease Lake
River
JUNEAU
Tatsamenie Lake
Tuya
Tanzilla River
Beatty Creek
Whiting River
Stephens Passage
Sheslay
Tahltan River
SCALE
0 10 20 30 40 50 Km
Telegraph Creek
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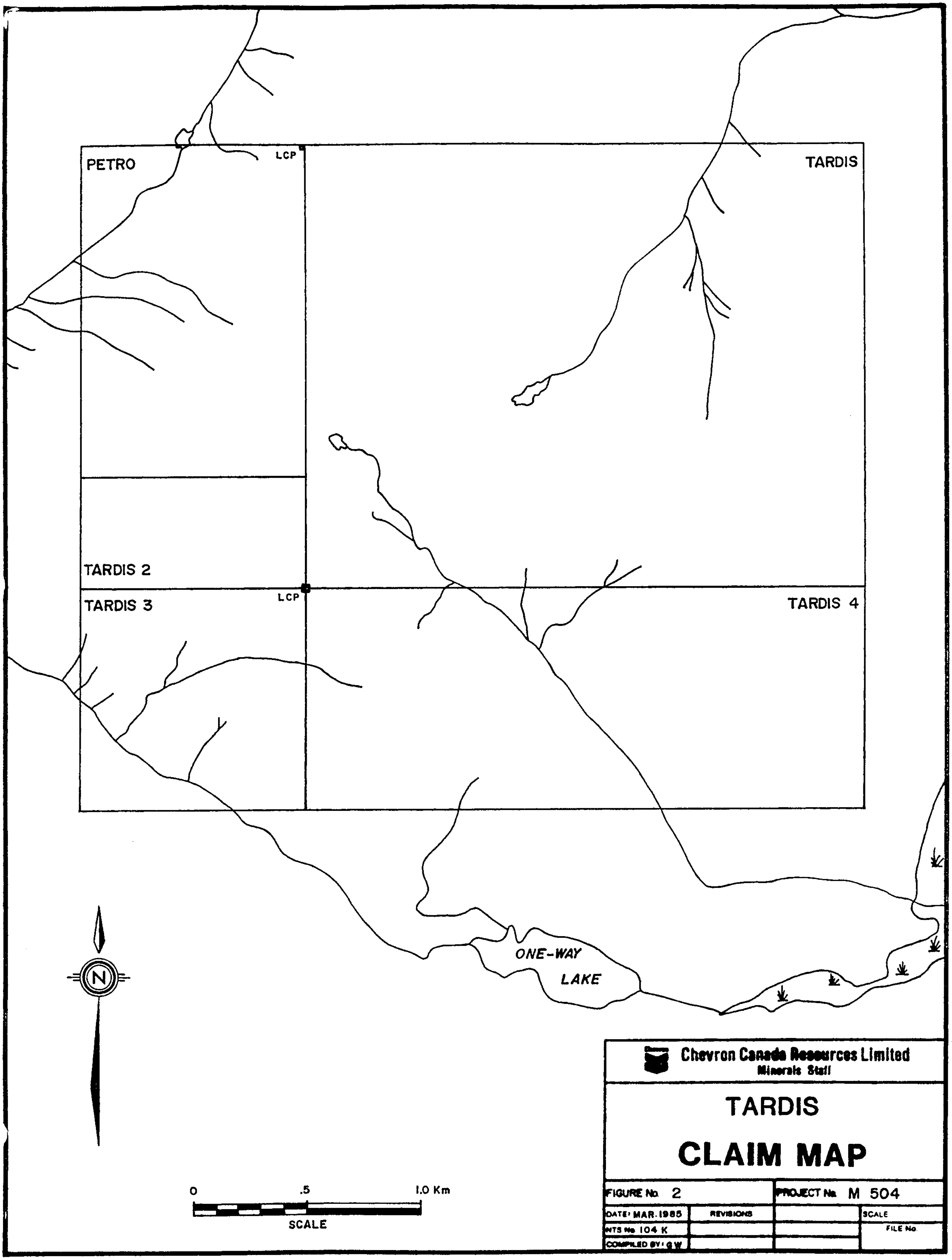
Minerals Staff
LOCATION MAP
TARDIS CLAIMS
FIGURE No 1
PROJECT No M 504
DATE MAR. 1985
REVISIONS
SCALE 1:1,000,000
NTS No
FILE No
COMPILED BY GW


PETRO
LCP
TARDIS
TARDIS 2
TARDIS 3
LCP
TARDIS 4
ONE-WAY
LAKE
N
0
.5
1.0 Km
SCALE
Chevron Canada Resources Limited
Minerals Staff
TARDIS
CLAIM MAP
FIGURE No. 2
PROJECT No. M 504
DATE: MAR. 1985
REVISIONS
SCALE
NTS No. 104 K
FILE No.
COMPILED BY: G.W.

GENERAL GEOLOGY

The area covered by the TARDIS claim block is part of Souther's (1971) geological map of the Tulsequah mapsheet. A reproduction of Souther's 1971 geology around the TARDIS claims is shown on Figure 3. The units displayed on this map which are closely associated with the TARDIS claims are:

Cretaceous-Tertiary - Sloko group
Middle Jurassic - Takwahoni Formation
Jurassic - Inklin Formation
Triassic - Sinwa Limestone

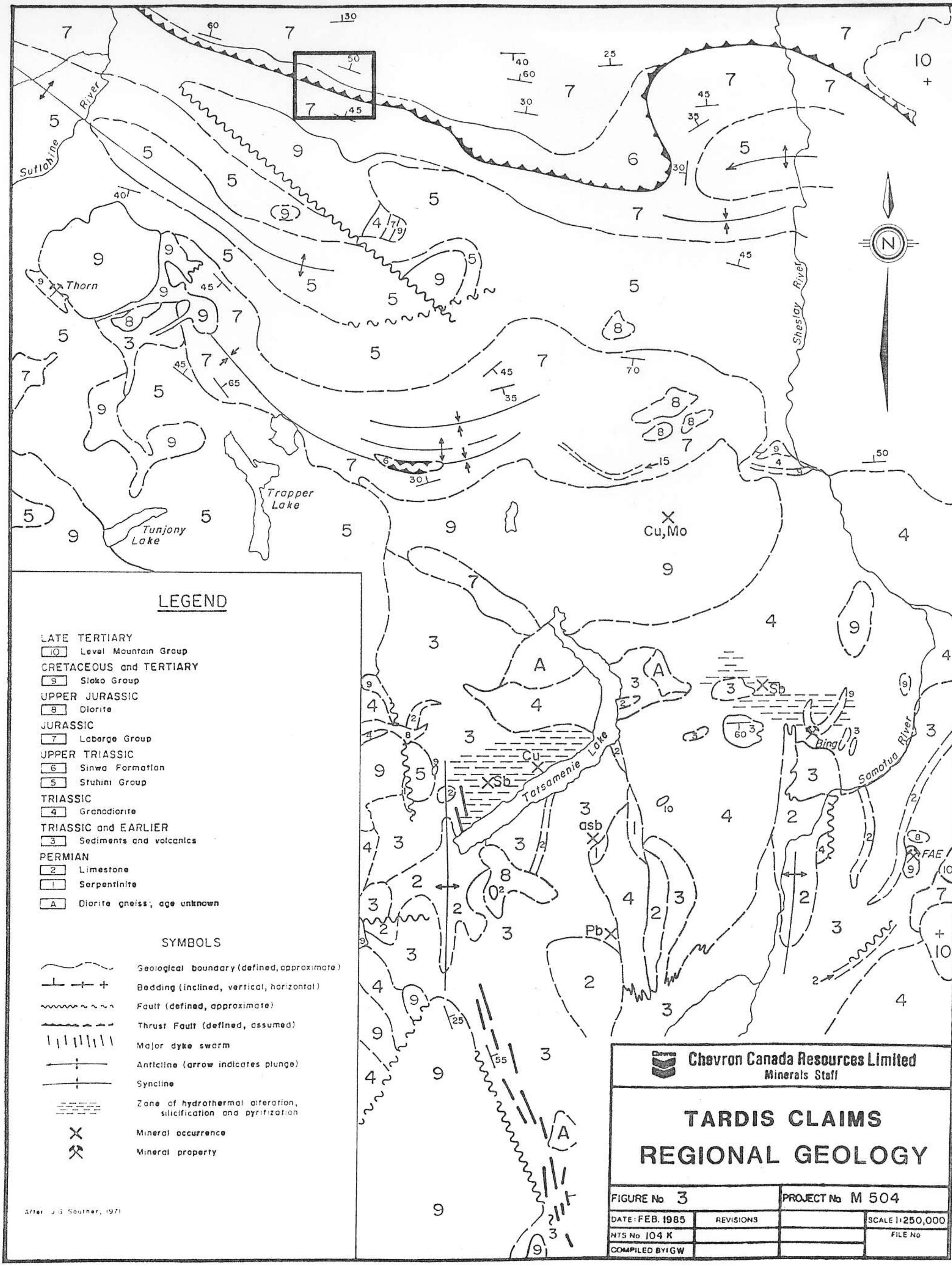
These units are briefly described below:

Sloko group rocks located directly south of the claims are represented by felsite, quartz-feldspar porphyry and some granodiorite. The Sloko group elsewhere on the mapsheet is primarily composed of volcanic and volcaniclastic rocks.

The Jurassic Takwahoni Formation is comprised of coarse to fine sedimentary rocks. The coarse boulder conglomerates appear to be restricted in aerial extent while the finer siltstones, sandstones and graywackes are more widespread. This formation is part of the Leberge group and occurs below the thrust plane, shown on Figure 3.

The Jurassic Inklin Formation is comprised of finely bedded siltstones, sandstones and graywacke which are locally calcareous. The beds have a prominent northwest strike.

Underlying the Inklin Formation is the Sinwa Formation which is Triassic in age. It is only found along the King Salmon thrust and tends to be at the base of the thrust sheet. It is comprised of two units, one a massive limestone and the other has been interpreted as an evaporite sequence by the author and as a wash unit filling karst


LEGEND
LATE TERTIARY
10 Level Mountain Group
CRETACEOUS and TERTIARY
9 Sloko Group
UPPER JURASSIC
8 Diorite
JURASSIC
7 Laberge Group
UPPER TRIASSIC
6 Sinwa Formation
5 Stuhini Group
TRIASSIC
4 Granodiorite
TRIASSIC and EARLIER
3 Sediments and volcanics
PERMIAN
2 Limestone
1 Serpentinite
A Diorite gneiss, age unknown
SYMBOLS
Geological boundary (defined, approximate)
Bedding (inclined, vertical, horizontal)
Fault (defined, approximate)
Thrust Fault (defined, assumed)
Major dyke swarm
Anticline (arrow indicates plunge)
Syncline
Zone of hydrothermal alteration, silicification and pyritization
Mineral occurrence
Mineral property
After J.G. Souther, 1971
Sutlahine River
Sheslay River
Thorn
Trapper Lake
Tunjony Lake
Tatsamenie Lake
Samotua River
Bing
FAE
Cu, Mo
Cu
Sb
asb
Pb
N
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TARDIS CLAIMS
REGIONAL GEOLOGY
FIGURE No 3
PROJECT No M 504
DATE: FEB. 1985
REVISIONS
SCALE 1:250,000
NTS No 104 K
FILE No
COMPILED BY: GW

holes by H. Wober. This sequence overlying the limestone has only been seen on the claim block, while the limestone is more extensive although it is not visible all along the King Salmon thrust.

The prominent structural element in the area is the King Salmon thrust fault which is a major fault striking northwest-southeast. The beds above the fault, the Inklin and the Sinwa Formation have been thrusted from the northeast.

On the Landsat image of the area there is a large lineament which appears diverge from the King Salmon near the TARDIS Property and continues south of the King Salmon thrust fault, through another Chevron property, the VEIN claims. This structure appears to have controlled intrusive activity since it has two obvious intrusions along it, one Jurassic and one Triassic. Each time a structural intersection is seen on the Landsat image along this large lineament a larger circular structure is visible and can be correlated with the two intrusions. This lineament could be an important target for regional exploration.

LOCAL GEOLOGY

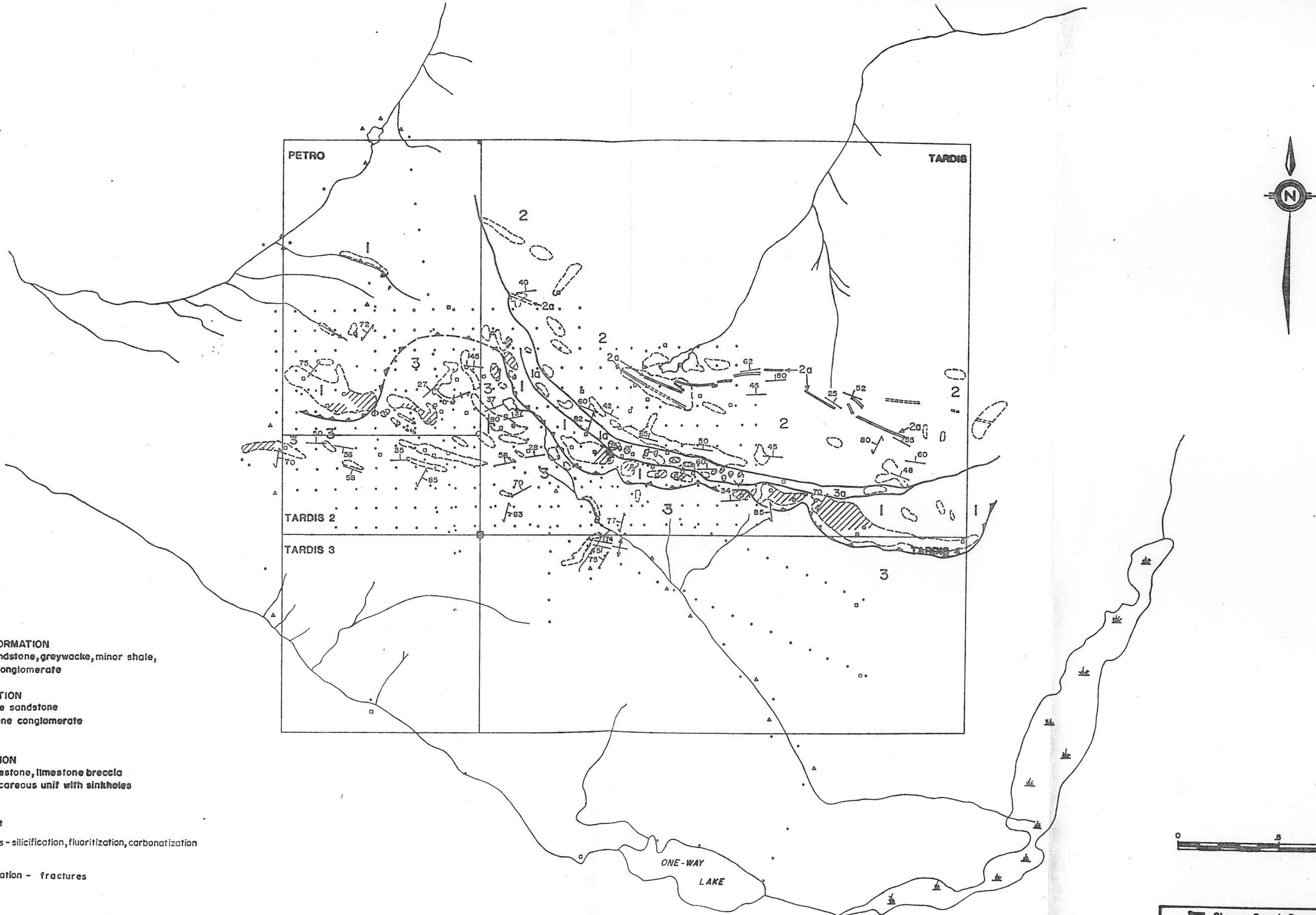
Geological mapping (Fig. 4) on the TARDIS claims was carried out on an enlargement of an aerial photograph at a scale of 1:10,000.

The TARDIS claims are centered over a portion of the King Salmon thrust fault, which has some silicified limestone. The three formations mapped on the property are:

Takwahoni Formation

Inklin Formation

Sinwa Formation



LEGEND

JURASSIC

3 TAKWAHONI FORMATION
- Siliceous sandstone, greywacke, minor shale,
- mudstone conglomerate

2 INKLIN FORMATION
- Siltstone sandstone

-UNIT 2a - Limestone conglomerate

TRIASSIC

1 SINWA FORMATION
- Massive limestone, limestone breccia

-UNIT 1a-Layered calcareous unit with sinkholes

Thrust fault

Altered zones - silicification, fluoritization, carbonatization

Sinkhole

Bedding, foliation - fractures

ANTIFORM

Rock

Soil

Silt

0 .5 1.0km

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TARDIS AND PETRO CLAIMS

GEOLOGY

FIGURE No		PROJECT No. M 504	
DATE · MAR. 1968	REVISIONS		SCALE 1:20,000
NTS No. 104 K			FILE No.

Takwahoni Formation

The unmetamorphosed Lower Jurassic Takwahoni Formation is comprised of graywacke, siltstone and mudstone and covers the southern half of the claims.

The bedding orientations vary in strike from 090° to 115° and in dip from 25° to 75° southwest or northeast. The Takwahoni Formation is characterized by abundant fossil material including ammonites, coalified plant fragments and bivalves. The graywackes commonly exhibit cross bedding and graded bedding from which tops can be determined. The beds are stratigraphically right side up.

Near the King Salmon thrust there is abundant clay alteration within the sediments. Quartz-carbonate veins up to 10 centimeters wide are associated with this alteration. Outcrops near the fault indicate that the sedimentary beds of the Takwahoni are truncated at a shallow angle by the thrust fault.

Sinwa Formation

The Sinwa Formation lies immediately above the King Salmon thrust fault. On the claims the formation outcrops along the length of the King Salmon thrust; however, on the Tulsequah mapsheet it is not always present along the King Salmon thrust fault.

On the claim block the Sinwa Formation outcrops in the central portion of the claims and can be divided into two mappable units. One is a massive limestone which occurs at the base of the formation. The other has been interpreted by the author as an evaporite unit which is the top of the formation.

The Sinwa Formation is typified by the massive limestone. On the claim block, it is variably silicified and brecciated with fluorite veinlets occurring where the alteration is most intense. The fluorite varies in colour from colourless to honey, to purple.

The author and H. Wober have differing opinions on the origin of the overlying unit. The author interprets the sequence to be an evaporite unit which has phosphate minerals throughout the exposures. The best exposures are in the sink holes where the rock is typically thinly layered, and highly contorted. Samples from the sink holes have been examined by Canmet, using the microprobe and scan electron microscope. Canmet does not have enough data to say if the samples definitely came from an evaporite deposit.

H. Wober's interpretation is that the material is a "wash" unit that has been preserved in the karst holes from a previously karsted topography. This karsted topography formed during exposure of the Sinwa prior to Inklin deposition (Souther, 1971). The karsts have been interpreted to have formed where northeast fracturing has assisted ground water to dissolve the limestone preferentially. The current sink holes are interpreted as a rekarsting of this old karsted topography. This interpretation would indicate there is not a distinct horizon above the limestone.

Inklin Formation

The Inklin Formation overlies the Sinwa Formation and consists of siltstones and mudstones interbedded with green immature sandstones which are locally calareous. A marker unit was identified that could be traced across a large portion of the claim block. This unit is a limestone conglomerate, 3.5 meters thick and is perhaps overlain by 0.5 meters of laminated limestone. The Inklin appears to be conformable to the Sinwa Formation and has no apparent alteration, but Souther (1971) indicates there is a disconformity between the Sinwa and the Inklin.

MINERALIZATION

No mineralization has been found on these claims, although there is significant geochemical response from the pathfinder elements used for gold exploration. The extent of these anomalies can be seen on Figures 5 to 9. The presence of these geochemical anomalies combined with the amount of alteration in the limestone suggests that some hydrothermal activity has occurred in the area.

WORK TO DATE

Work to date consisted of geological mapping and prospecting and geochemical surveys of soils, silts and rocks.

Geological survey.

The actual geological map is shown on Figure 4. The data was collected by making traverses throughout the property and recording location on an enlargement of an airphotograph. The airphotograph was enlarged to a scale of 1:10,000 from the provincial 1:30,000 scale photograph.

On a daily basis, geological traverse sheets are made to record the area covered and this is transferred to a compilation map in the evening. The daily traverse sheets along with the field notes are kept as a permanent record.

Geochemical survey

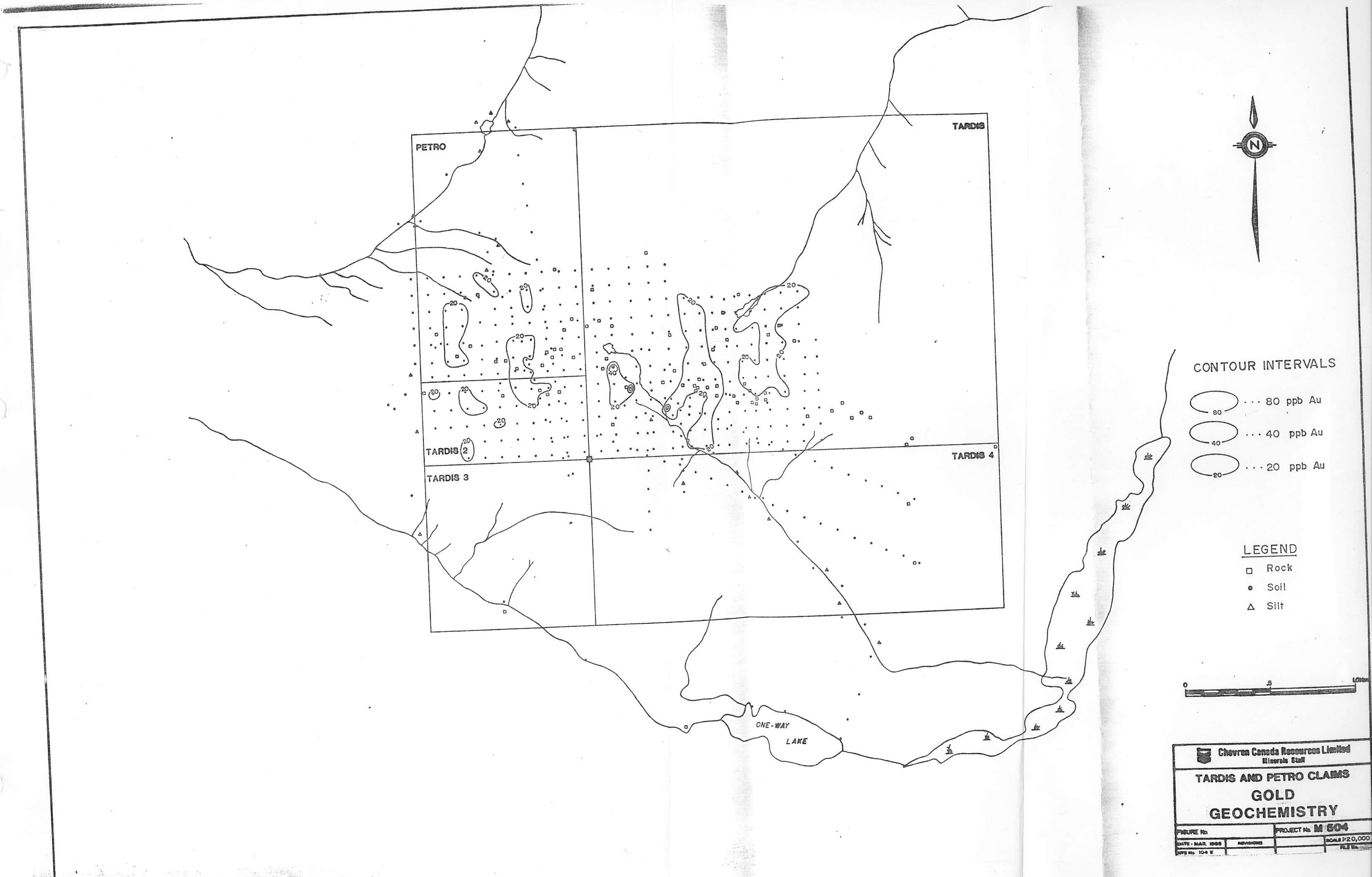
The geochemical surveys consist of rock and soil sampling. The B-horizon soil and talus fine samples were collected on grids established by compass and hip chain.

The rock samples are typically grab samples weighing 1-2 kg, which represent the rock types in the outcrop.

Soil sampling was carried out on a grid and as a standard regional sampling medium. The grid has a slope corrected baseline, with uncorrected cross lines. Cross lines were established every 100 meters and samples were collected at intervals of 100 meters. In all cases B-horizon soil samples were the target medium. Sample sites in all cases are marked by pickets with metal tags attached.

Some of the streams have been sampled but not on a continuous basis since our experience in the Tulsequah mapsheet sheet suggests it is not the best medium to sample.

All rock, soil and regular silt samples are analyzed for gold, silver, arsenic and antimony, fluorine and mercury by Chemex Laboratories in North Vancouver. The soil samples were air dried in camp and then prepared and analyzed by at Chemex. Geochemical analysis for gold and silver were done by fire assay fusion followed by atomic absorption spectrometry. Rock samples taken over measured width were assayed quantitatively by fire assaying.



PETRO
TARDIS
TARDIS 2
TARDIS 3
TARDIS 4
ONE-WAY LAKE
CONTOUR INTERVALS
80 ppb Au
40 ppb Au
20 ppb Au
LEGEND
Rock
Soil
Silt
N
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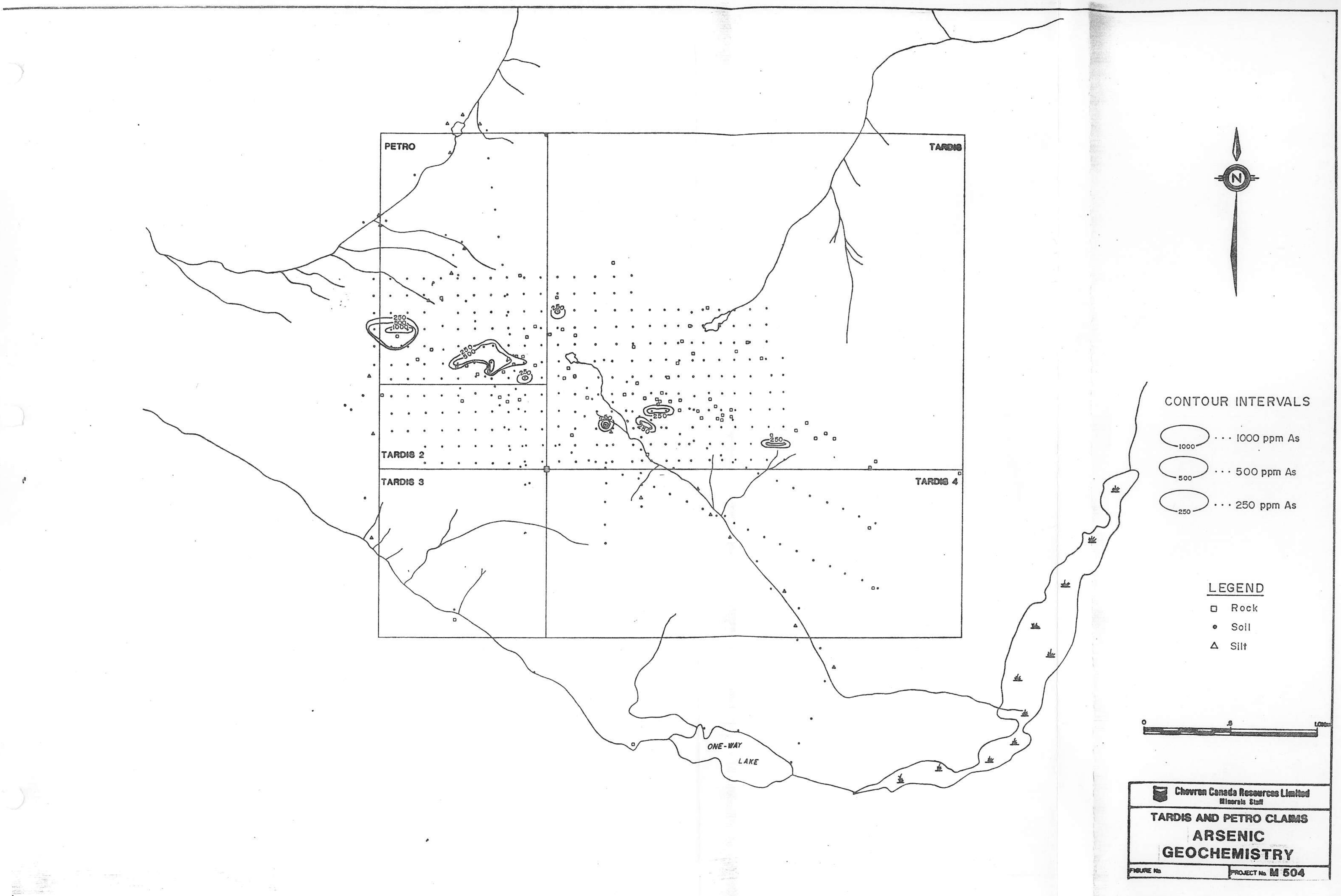
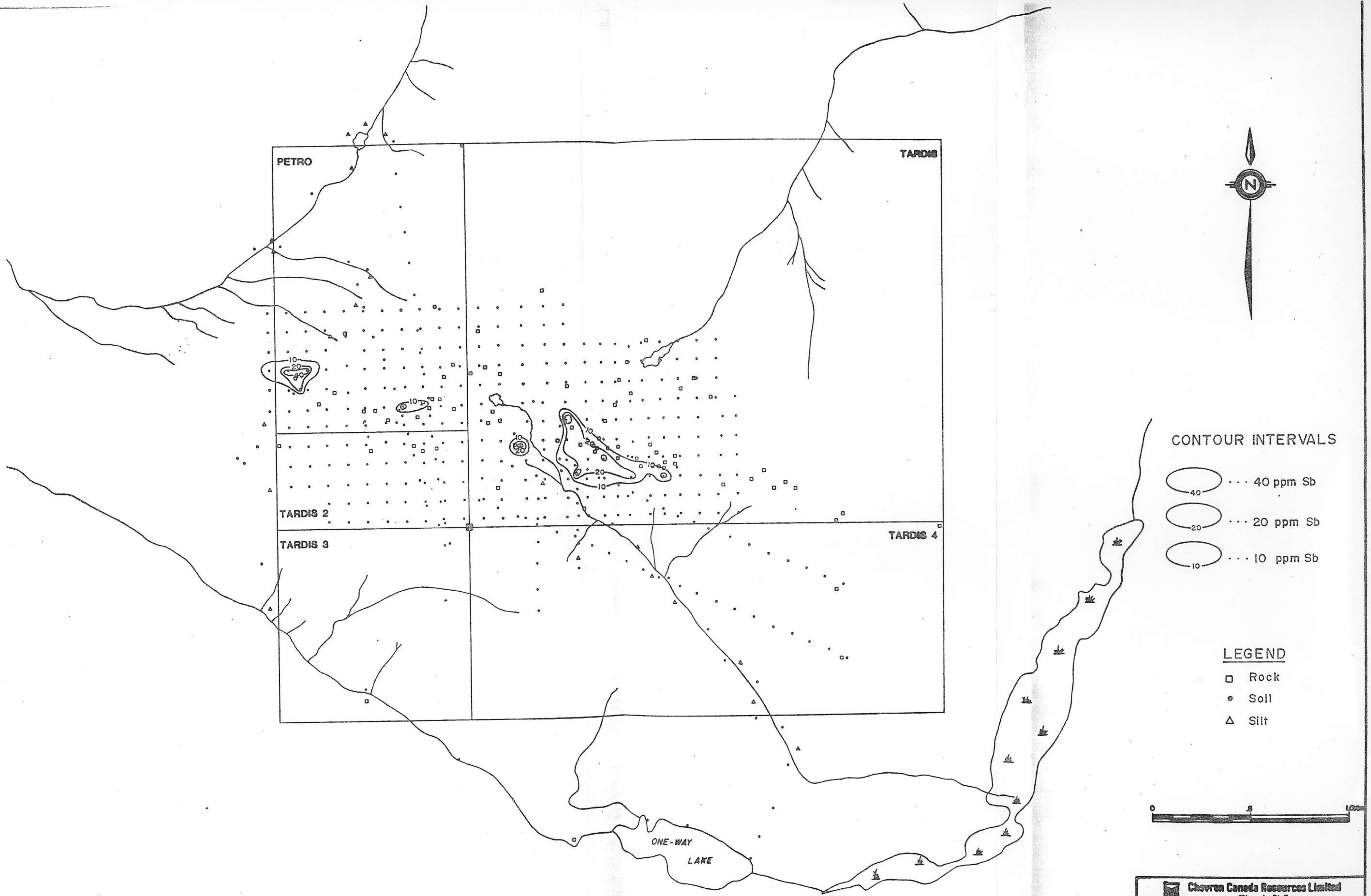
TARDIS AND PETRO CLAIMS
GOLD
GEOCHEMISTRY
FIGURE No.
PROJECT No. M 504
DATE: MAR. 1986
REVISIONS
NTS No. 104 K
SCALE 1:20,000
FILE No.


PETRO
TARDIS
TARDIS 2
TARDIS 3
TARDIS 4
250
500
1000
ONE-WAY
LAKE
N
CONTOUR INTERVALS
1000 ppm As
500 ppm As
250 ppm As
LEGEND
Rock
Soil
Silt
Chevron Canada Resources Limited
Minerals Staff
TARDIS AND PETRO CLAIMS
ARSENIC
GEOCHEMISTRY
FIGURE No
PROJECT No. M 504



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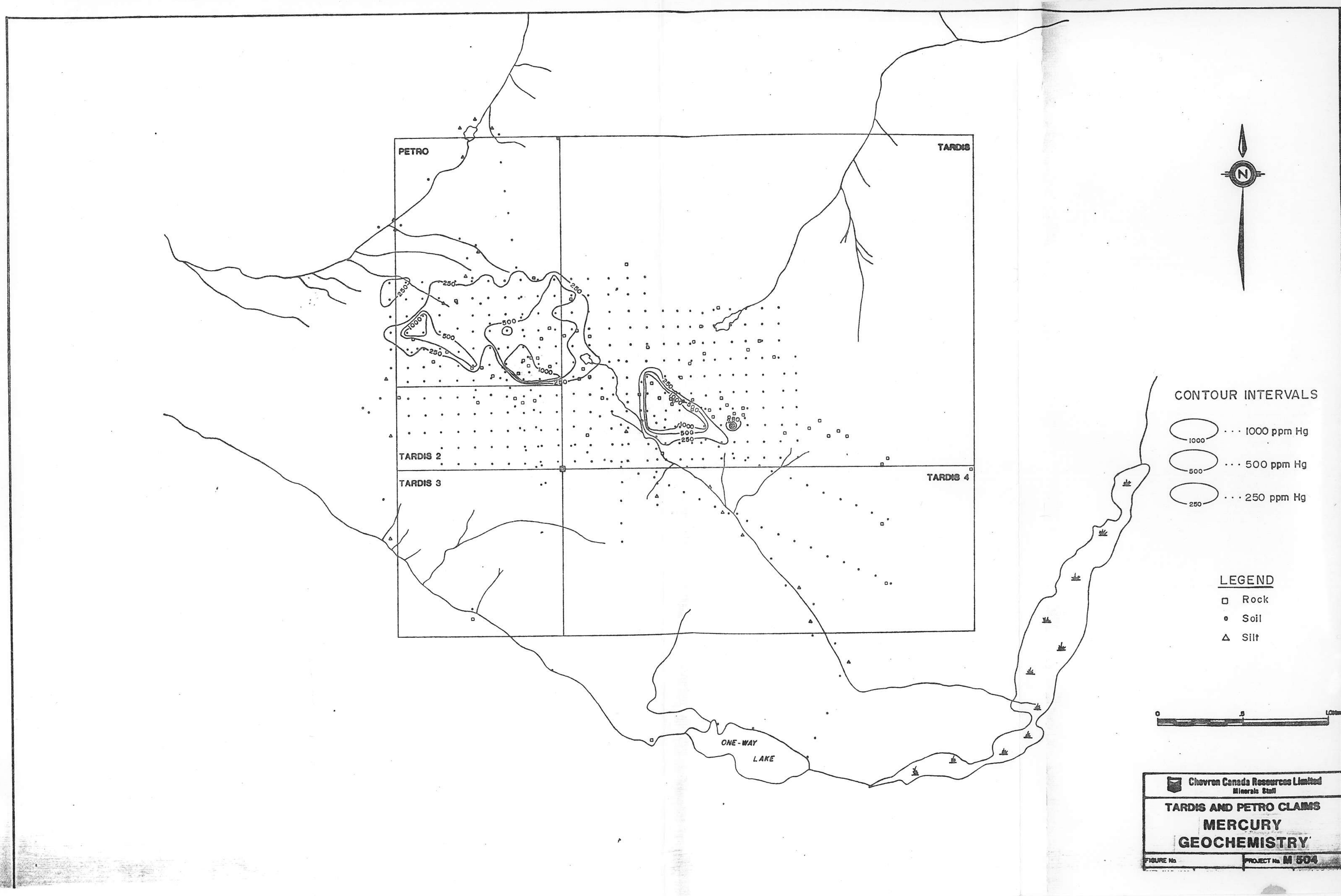
TARDIS AND PETRO CLAIMS
ANTIMONY
GEOCHEMISTRY

FIGURE No.
PROJECT No. M 504
DATE · MAR.
REVISIONS
SCALE 1:20,000



PETRO
TARDIS
TARDIS 2
TARDIS 3
TARDIS 4
250
500
1000
ONE-WAY
LAKE
N
CONTOUR INTERVALS
1000 · · · 1000 ppm Hg
500 · · · 500 ppm Hg
250 · · · 250 ppm Hg
LEGEND
Rock
Soil
Silt
0
.5
Chevron Canada Resources Limited
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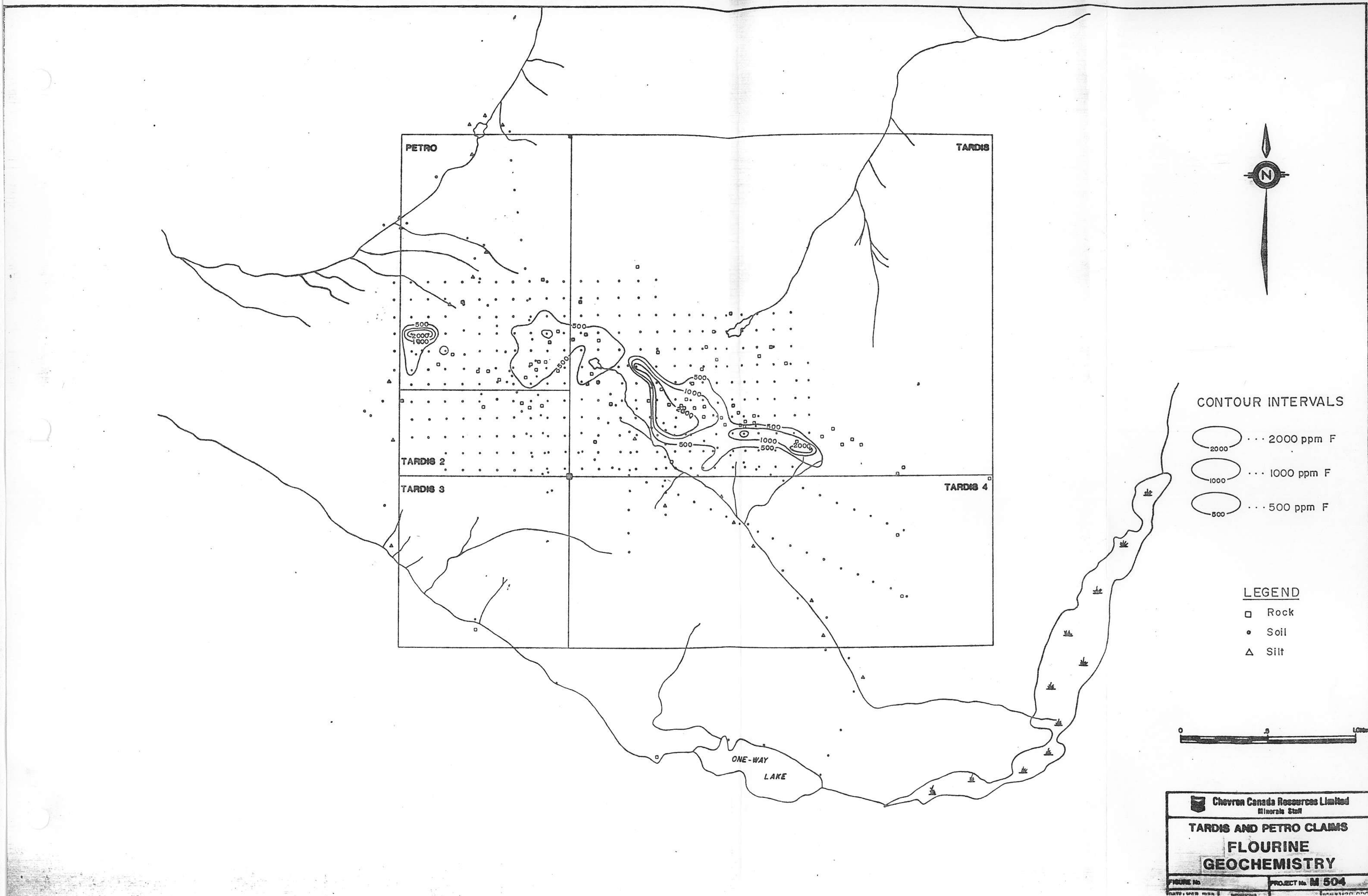
TARDIS AND PETRO CLAIMS
MERCURY
GEOCHEMISTRY
FIGURE No.
PROJECT No. M 504


PETRO
TARDIS
TARDIS 2
TARDIS 3
TARDIS 4
500
1000
2000
ONE-WAY
LAKE
N
CONTOUR INTERVALS
2000 · · · 2000 ppm F
1000 · · · 1000 ppm F
500 · · · 500 ppm F
LEGEND
Rock
Soil
Silt
0
.5
Chevron Canada Resources Limited
Minerals Staff
TARDIS AND PETRO CLAIMS
FLOURINE
GEOCHEMISTRY
FIGURE No.
PROJECT No. M 504

The background values for the soil geochemistry are listed below:

	Lowest Contour	Range of Average Background Values
Gold	20 ppb	5 to 15 ppb
Silver	no contoured values	0.1 to 0.3 ppm
Arsenic	250 ppm	1 to 50 ppm few 100 to 250 ppm
Antimony	10 ppm	1 to 3 ppm
Mercury	250 ppm	100 to 150 ppb
Fluorine	500 ppm	300 to 400 ppm
Selenium	no contoured values	1 ppm
Thallium	no contoured values	0.4 to 0.6 ppm
Tellurium	no contoured values	0.05 to 0.1 ppm

The majority of samples below the lowest contour have values in the range of the average background values. There are a few samples which have values just below the lowest contour values.

INTERPRETATION AND SUMMARY

A large multielement (mercury, fluorine, arsenic antimony, gold) soil geochemical anomaly has been outlined on the TARDIS claim block. This anomaly coincides with the presence of silica, fluorite and carbonate alteration along and near the King Salmon thrust fault. Geological mapping north of the TARDIS claims has located other thrust planes suggesting the King Salmon is composed of multiple thrust sheets.

The geochemical anomaly generally follows the outcrop of the thrust fault except where there is a presumed jog in the thrust. At this locality the anomaly in all cases continues at the same orientation, indicating there may be another control not initially obvious. This deviation away from the thrust fault could be explained by a late (?) normal fault which has a southeasterly strike subparallelling the front of the King Salmon thrust.

The soil samples in the vicinity of the gold anomaly were analyzed for selenium, tellurium and thallium but no anomalous values were obtained. These three elements were being used as pathfinder elements in case a deposit was located on the thrust plane at depth. The lack of anomalous values of selenium, tellurium and thallium could be interpreted that there was no gold at depth; however, the amount of alteration suggests some hydrothermal activity has occurred.

The only really definite way of testing the potential is to drill several holes in the vicinity of the coincident geochemical anemalies. The area obviously has been hydrothermally active and further testing is required.

LIST OF REFERENCES

Brown, D.; Shannon, K. (1982). Geological and Geochemical Survey, TARDIS Claims, Assessment Report, 10 p.

Coney, P.J.; Jones, D.L.; Monger, J.W.H., Cordilleran Suspect Terranes, Nature, Vol. 288, pp 329-333.

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

Souther, J.G. Volcanism and Tectonic Environments in the Canadian Cordillera- a second look, Geol. Ass. of Canada Special Paper No 16. 24p.