

GEOCHEMICAL REPORT  
 ON A  
 RECONNAISSANCE  
 SOIL GEOCHEMISTRY SURVEY  
 ON THE  
 GOLD STANDARD CLAIMS  
 TILlicum AREA  
 SLOCAN MINING DIVISION  
 BRITISH COLUMBIA

GOLD STANDARD CLAIMS : 15 km S20E of Nakusp, B.C.  
 : 50° 117° SW  
 : N.T.S. 82K/4

WRITTEN FOR : Megaline Resources Ltd. and North  
 American Power Petroleum Inc.  
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WRITTEN BY : David G. Mark, Geophysicist  
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DATED : November 15, 1982



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 Engineering & Mining Geophysicists  
 VANCOUVER, CANADA



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ASSESSMENT REPORT**

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**11,863**

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## SUMMARY

A reconnaissance soil geochemistry survey was carried out over the Gold Standard Claims in the Tillicum Gold area within the Slocan Mining Division, British Columbia from September 22nd to October 2nd, 1982. The property is located 15 km S20E of the town of Nakusp and access is gained by 4-wheel drive vehicle from the town. The terrain is moderate to rough with a relief of approximately 1,000 m.

The property is located in a gold camp where Esperanza and La Teko are carrying out exploration on a gold deposit with silver, lead and zinc mineralization within quartz veins or quartz flooded meta sediments and/or meta volcanics.

The soil sample survey was done along some survey lines but mostly along roads at an interval of 50 m. The samples were analyzed using the hot acid extraction method for silver, lead and zinc, and fire assaying for gold. The results were then statistically analyzed, assayed and plotted.

## CONCLUSIONS

1. The Gold Standard Claims are underlain by favourable rock-types similar to that within which La Teko - Esperanza is finding gold mineralization.
2. The reconnaissance soil geochemistry survey revealed 3 anomalous areas that are quite indicative of gold-

silver mineralization occurring in the area. Anomaly A, which occurs within the central part of the Gold Standard 3 Claim is especially interesting. It is highly anomalous in all four metals that were tested. Anomaly B is primarily anomalous in silver but contains the highest gold value (85 ppb). Anomaly C is primarily anomalous in zinc.

### RECOMMENDATIONS

The results are very encouraging and certainly warrant further work, the following of which is recommended.

1. The three anomalous zones should be sampled on a tight grid so as to locate more accurately the causative source of the anomalies.
2. The remaining area of the Gold Standard Claims as well as the two Gold Bird Claims should also be sampled on a reconnaissance basis.
3. The property should be thoroughly prospected and/or geologically mapped.
4. Various geophysical methods should be tested across the anomalous areas. Geophysics may be very useful in delineating the causative source in addition to the soil geochemistry.

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INTRODUCTION AND GENERAL REMARKS

This report discusses the survey procedure, testing procedure, compilation of data and interpretation of results of a reconnaissance soil sample survey carried out over the Gold Standard Claims in the Slocan Mining Division, British Columbia in the early fall of 1982 under the supervision of David G. Mark, Geophysicist. The work was done on the recommendation of consulting geologist, L. Sookochoff, P.Eng. who also directed the field work.

298 samples were taken and tested for gold, silver, lead, and zinc.

The survey was reconnaissance and its purpose was therefore to quickly determine whether mineralization similar to the neighbouring La Teko-Esperanza gold deposit could exist on the Gold Standard property. Metals contained within the

mineralization or associated with the deposit are gold, silver, lead and zinc.

Limited funds were available for the work and therefore not nearly as much ground was covered as would be preferable. However, considering that winter was not very far away, it was considered better to do some work now rather than wait until late spring.

#### PROPERTY AND OWNERSHIP

The Gold Standard Claims consist of 4 claims of 59 units as shown on Figure 1 and described as follows:

<u>Claim Name</u>	<u>No. of Units</u>	<u>Record No.</u>	<u>Tag No.</u>	<u>Expiry Date</u>
Gold Standard 1	9	3015	85416	Aug. 25, 1983
Gold Standard 2	18	3016	85415	Aug. 25, 1983
Gold Standard 3	20	3017	85417	Aug. 25, 1983
Gold Standard 4	12	3018	85418	Aug. 25, 1983

The property is owned 50% each by Megaline Resources Ltd. and North American Power Petroleum Inc. of Vancouver, British Columbia.

#### LOCATION AND ACCESS

The legal claim post which is common to all 4 claims is located 15 km S20E (160° E) of the town of Nakusp and 7 km due east of Upper Arrow Lake. The property straddles Slewiskin (MacDonald) Creek.

The geographical coordinates are 50° 07' N latitude and

117° 44' W longitude.

Access is easily gained by travelling 12 km south of Nakusp on Highway 6. One then turns onto the southeast-trending Slewiskin Creek road. The legal claim post is about 5.5 km along this road. A 4-wheel drive vehicle is recommended.

#### PHYSIOGRAPHY

The Gold Standard Claims lies within the western portion of the Selkirk Mountains, a physiographic division of the Columbia Mountain System. These claims straddles the northwest-flowing Slewiskin Creek within the Ruby Mountain Range. Elevation varies from 600 m within the bottom of Slewiskin Creek to 1,600 m at the southwest corner of the claim group to give a relief of 1,000 m. The terrain can be considered moderate to steep.

Vegetation consists of a moderate stand of conifers.

The main water source is Slewiskin Creek. Flowing into it are several northerly- and southwesterly-flowing mountain streams.

#### HISTORY OF PREVIOUS WORK

The following is quoted from L. Sookochoff's geological engineering report on the property.

"The general geology of the area is of the Triassic Slokan group of meta volcanics and sediments including limestones, argillites and quartzites. Intrusives of Jurassic and/or Cretaceous stocks envelope the Slokan group in this area in addition to the outcropping of small stocks and



plugs within the enveloped group. An intrusive sediment contact occurs on the northeast portion of the Gold Bird claims with an intrusive within two km south of the property. The intrusive to the south is of monzonite and phases thereof with the northern Allhouse Peak Stock of mainly monzonite with minor syenite and granite.

"Major northerly trending fault structures are indicated south of the property. Two of the fault structures are projected through and along the eastern and western boundaries of the Gold Standard Claims.

"Mineralization in the area consists of gold-silver-lead-zinc values within quartz veins or quartz flooded meta sediments and/or meta volcanics. Gold-silver values are also reported in a green aphanitic rock."

"On the Tillicum property gold values reportedly occur within the Milford series parallel and adjacent to an eastern contact. Bulk sampling in 1981 of the Money Pit of the Tillicum yielded 64 tons averaging 2.3 oz Au/ton.

"More recent assays from the property returned significant gold values within a zone extending for 100 meters along strike in addition to gold values over a large area. One of the zone gold values is reported as 26.27 oz Au across 2.33 meters.

"The Gold Standard property is heavily overburdened according to open file geological map 432 and is indicated to be completely underlain by grey to black phyllites, argillites, quartzites and minor tuffaceous sediments

of the Slocan group with a general westerly strike and a moderate dip to the south.

"The 12 meter drift on the Gold Standard claims is presently inaccessible, however is reported to explore a quartz flooded zone within a pelitic schist. Values from the workings are reported as up to 400 oz Ag/ton and 0.5 oz Au/ton. The writer could not locate the exact location of the portal, however a sample of material typical of the zone and location described returned .6 ppm Ag and 5 ppb Au across one meter."

#### SURVEY PROCEDURE

A north-south baseline was put in and one east-west line was sampled. However, this proved to take too long considering the rough terrain and therefore the procedure was changed to sampling the roads. All samples were taken at a 50-meter interval except for one road near the adit which was sampled at a 20-meter interval.

The samples were picked up with a D-handled shovel at about a 15- to 20-cm depth. The horizon sampled was B. Samples were placed in brown, wet-strength, paper bags (gussett bags) with the sample marked thereon. The roads were also surveyed so that a map could be drawn up of the survey plan.

#### TESTING PROCEDURE

All samples were tested by Chemex Labs Ltd. of North Vancouver, B.C. The sample is first thoroughly dried and then pulverized in a ring pulverizer. It was then rolled on a rolling sheet to homogenize it.

For the gold analysis, 10 grams of the sample was then fire-assayed with standard techniques. 2 mg of silver was then added to collect the gold. The lead button from the fire assay was then cupelled and the silver-gold prill was dissolved in aqua regia. It was next analyzed by the atomic absorption technique to a detection limit of 5 parts per billion (ppb).

For the silver, lead and zinc a measured amount of the sifted material was put into a test tube with subsequent measured additions of perchloric acid and nitric acid. The mixture was next heated for a certain length of time. The parts per million (ppm) metal was then measured by atomic absorption.

#### TREATMENT OF DATA

The values in ppm silver, lead and zinc were grouped into equal logarithmic intervals. The cumulative frequency for each interval was then calculated and then plotted against the correlating interval to obtain a logarithmic cumulative frequency graph.

The mean background value for each metal is taken at the 50% level. The sub-anomalous threshold value, (a term used by the writer to denote the minimum value that is not considered anomalous but still important as an indicator of mineralization) is taken at one standard deviation from the mean background value which is at the 16% level. The anomalous threshold value is two standard deviations away at the 2½% level.

The gold geochemistry data was not analyzed with a cumulative frequency graph due to the way the data was distributed. Rather, the statistical parameters for this metal were "eye-balled".

As a result of the above, the statistical parameters for each metal are shown in the following table with the sheet number that the geochemistry values for each of the metals were plotted on.

	Au	Ag	Pb	Zn
Sheet number	1	2	3	4
Mean background value	<5	0.3	8	160
Sub-anomalous threshold value	10	0.5	12	230
Anomalous threshold values	15	1.0	17	330

All values are in ppm, except for gold which is in ppb.

#### DISCUSSION OF RESULTS

The soil geochemistry results have clearly revealed 3 anomalous zones that have been labelled by the writer, A, B, and C. There are other areas containing anomalous values, but these three are of primary interest.

Anomaly A occurs on the upper part of the road within the center of the Gold Standard No. 3 Claim. It contains very anomalous values in each of the four metals that were tested, which, therefore, makes this anomalous zone very promising for the location of gold and silver mineralization.

Within this zone occurs one high anomalous gold value of 30 ppb that is closely associated with high values in lead and zinc, both metals of which are important indicators of gold mineralization. Further up the road occur other highly anomalous values in lead and zinc.

Also within this zone occur three anomalous values in silver.

These seem to be somewhat related to lead and zinc anomalous values but not to the gold values.

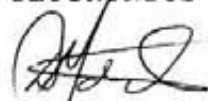
Anomaly B occurs within the central part of the Gold Standard No. 2 Claim in the area of the adit. The adit was apparently primarily driven for silver and that is what is primarily anomalous in this area. Anomalous silver values occur to the southeast of the adit and to the east on the baseline. If these anomalous values are connected, then an east-west strike is suggested with a minimum strike length of 500 m. In fact, the zone can be extended along strike to anomalous zone A which would add 2,000 m to the length.

This zone is also anomalous in the other three metals, especially zinc.

At the south end of the zone occurs a highly anomalous value of 85 ppb in gold. There are no other anomalous values nearby of any of the metals, but the one high gold value in itself is certainly worthy of further interest.

Anomaly C occurs in the northwest corner of the Gold Standard No. 4 Claim and consists almost exclusively of zinc values that are highly anomalous. The zone is 150 m long. The only other significant value is a sub-anomalous value in gold. Zinc ions are much more mobile than those of other metals and therefore this strong zinc anomaly suggests that gold or silver mineralization may occur nearby.

Respectfully submitted,  
GEOTRONICS SURVEYS LTD.



David G. Mark,  
Geophysicist

November 15, 1982

SELECTED BIBLIOGRAPHY

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Sookochoff, L., Geological Evaluation Report on the Gold  
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Petroleum Inc. and Megaline Resources Ltd., August  
31, 1982.



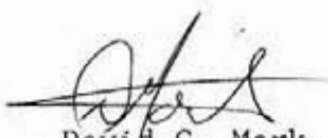
GEOPHYSICIST'S CERTIFICATE

I, DAVID G. MARK, of the City of Vancouver, in the Province of British Columbia do hereby certify:

That I am a Consulting Geophysicist of Geotronics Surveys Ltd., with offices at #403-750 West Pender Street, Vancouver, British Columbia.

I further certify:

1. I am a graduate of the University of British Columbia (1968) and hold a B.Sc. degree in Geophysics.
2. That I have been practising my profession for the past 14 years and have been active in the mining industry for the past 17 years.
3. That I am an active member of the Society of Exploration Geophysicists and a member of the European Association of Exploration Geophysicists.
4. This report is compiled from data obtained from a soil geochemistry survey carried out by a crew of Geotronics Surveys Ltd. during the period of September 22nd to October 2nd, 1982.
5. I have no interest nor do I expect to receive any interest in any of the properties or securities of Megaline Resources Ltd. or North American Power Petroleums Inc. as a result of writing this report.

  
David G. Mark,  
Geophysicist

November 15, 1982

AFFIDAVIT OF EXPENSES

This is to certify that I have caused to be done a soil geochemistry survey from September 22nd to October 2nd, 1982 on the Gold Standard 1 to 4 Claims in the Tillicum Gold area of the Slocan Mining Division, British Columbia, to the value of the following:

FIELD:

2-man crew, 118 hours at \$35/hour	\$4,130	
Room and board	1,000	
Truck rental, freight and related costs	740	
Survey supplies	130	
Engineering supervision (2 visits in field)	<u>400</u>	\$ 6,400

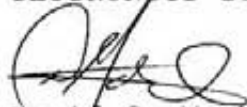
LAB:

298 samples at \$13/sample	<u>\$3,874</u>	3,874
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OFFICE:

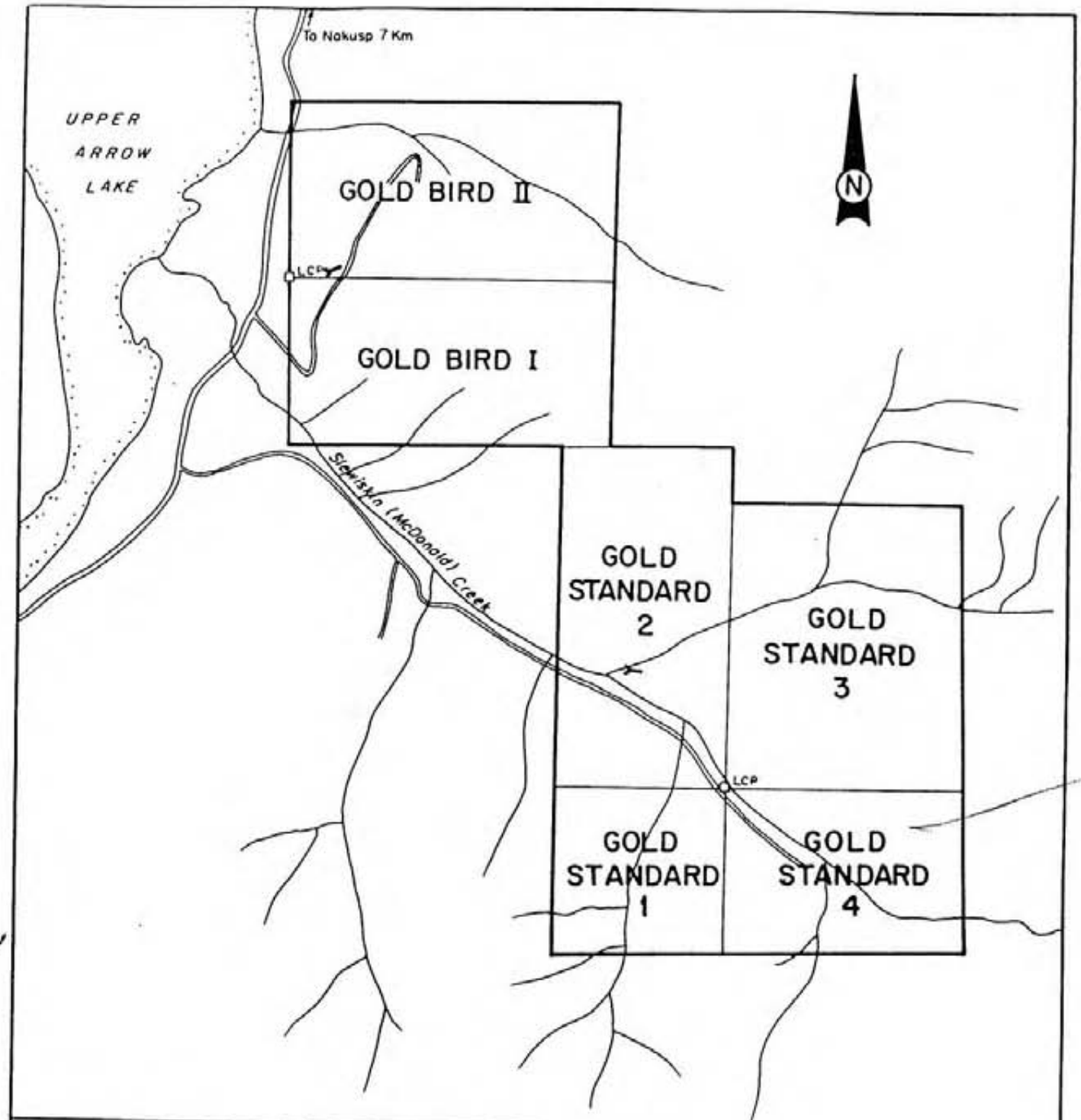
Geophysicist, 15 hours at \$40/hour	\$ 600	
Geophysical technician, 10 hours at \$20/hour	200	
Drafting and printing	600	
Typing, photocopying and compilation	<u>150</u>	1,550
		<u>\$11,824</u>

Respectfully submitted,  
GEOTRONICS SURVEYS LTD.



David G. Mark, Manager  
Geophysicist

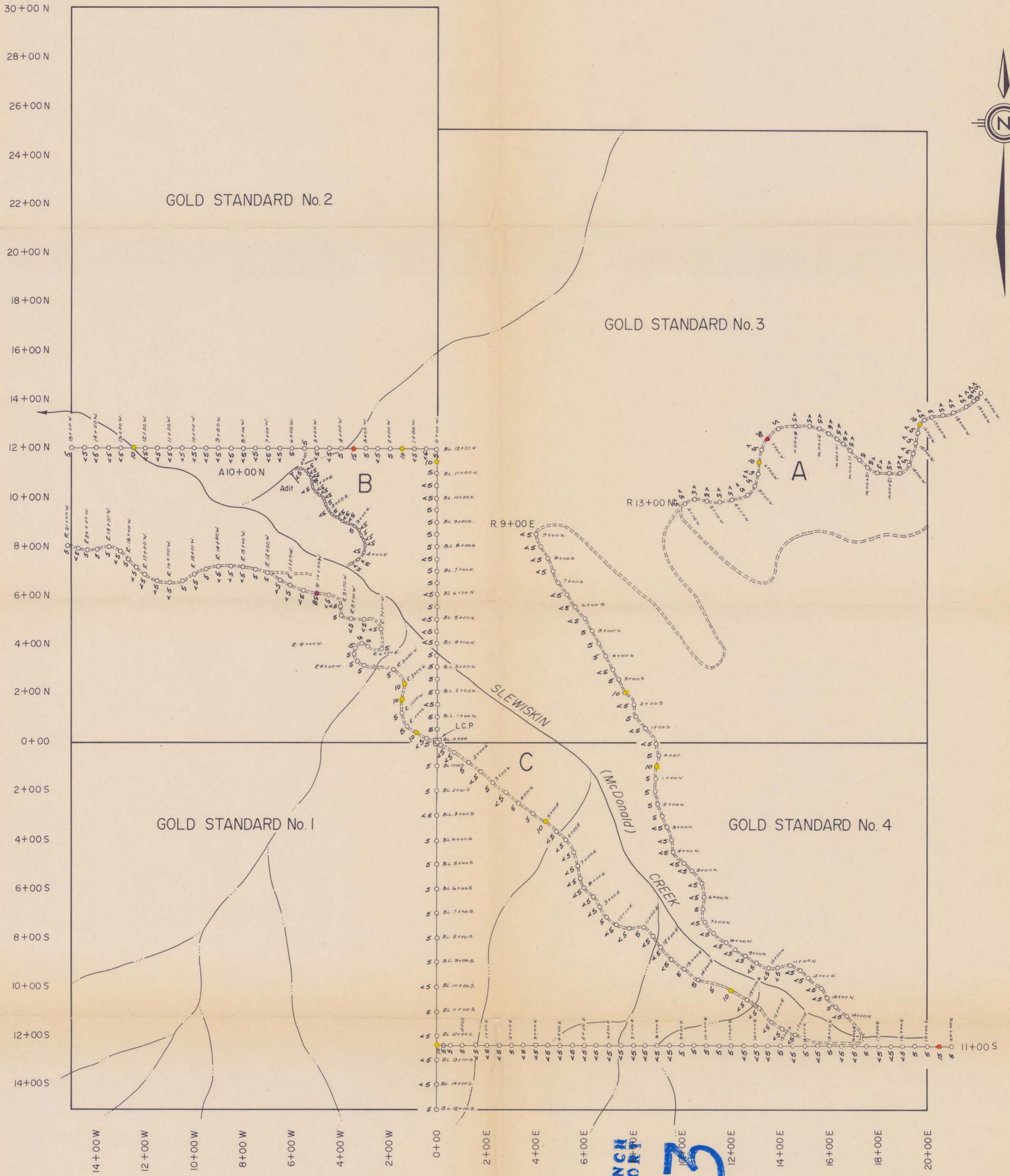




**FIGURE 1**  
 PAN AMERICAN CONSULTANTS LTD.  
 NORTH AMERICAN POWER PETROLEUM INC.  
 MEGALINE RESOURCES LTD.  
 GOLD BIRD, GOLD STANDARD CLAIMS  
 SLOCAN M.D., B.C. - N.T.S. 82K-4W  
**LOCATION & CLAIM MAP**

0 1 2 3 KM.  
 SCALE 1:50,000  
 AUG. 1982





GOLD STANDARD No. 2

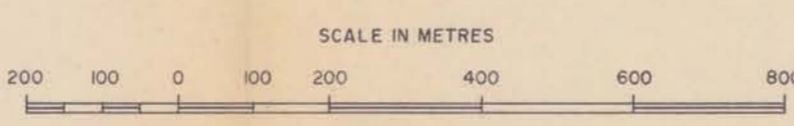
GOLD STANDARD No. 3

GOLD STANDARD No. 1

GOLD STANDARD No. 4

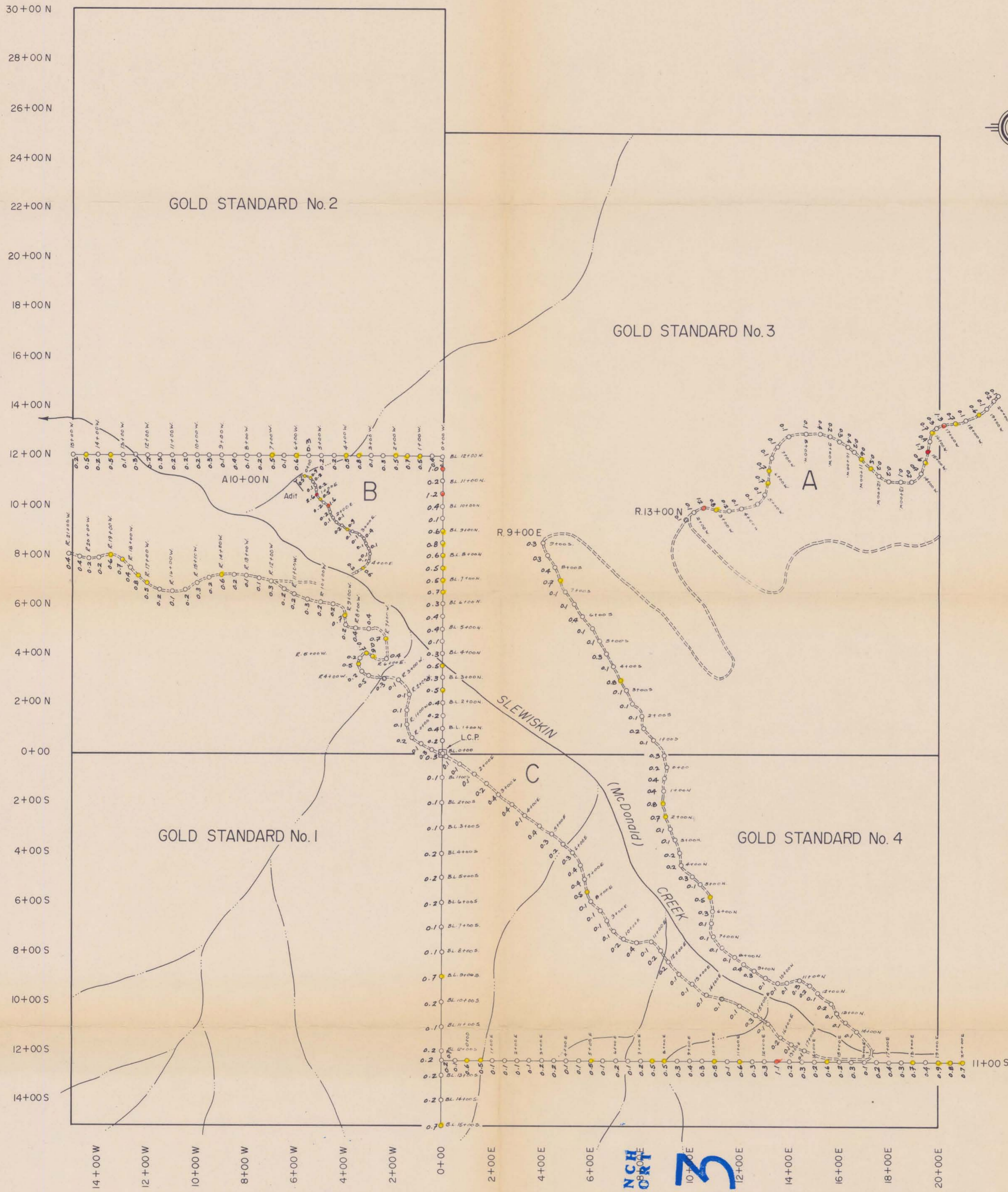
STATISTICAL PARAMETERS  
 MEAN BACKGROUND VALUE ..... < 5 ppb  
 SUB-ANOMALOUS THRESHOLD VALUE ..... 10 ppb  
 ANOMALOUS THRESHOLD VALUE ..... 15 ppb

**GEOLOGICAL BRANCH  
 ASSESSMENT REPORT**  
**11,863**



GEOTRONICS SURVEYS LTD.					
MEGALINE RESOURCES LTD. NORTH AMERICAN POWER PETROLEUMS INC.					
GOLD STANDARD CLAIMS TILLICUM GOLD AREA SLOCAN MINING DIVISION, B.C.					
RECONNAISSANCE SOIL GEOCHEMISTRY SURVEY GOLD IN PPB					
Drawn by:	Date:	Project No.:	N.T.S.:	Scale:	Sheet No.:
K. G.	Oct. 1982	82-20	82 K/4	1:10,000	1





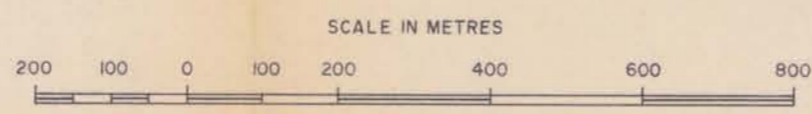
STATISTICAL PARAMETERS

MEAN BACKGROUND VALUE ..... 0.3 ppm

SUB-ANOMALOUS THRESHOLD VALUE ..... 0.5 ppm

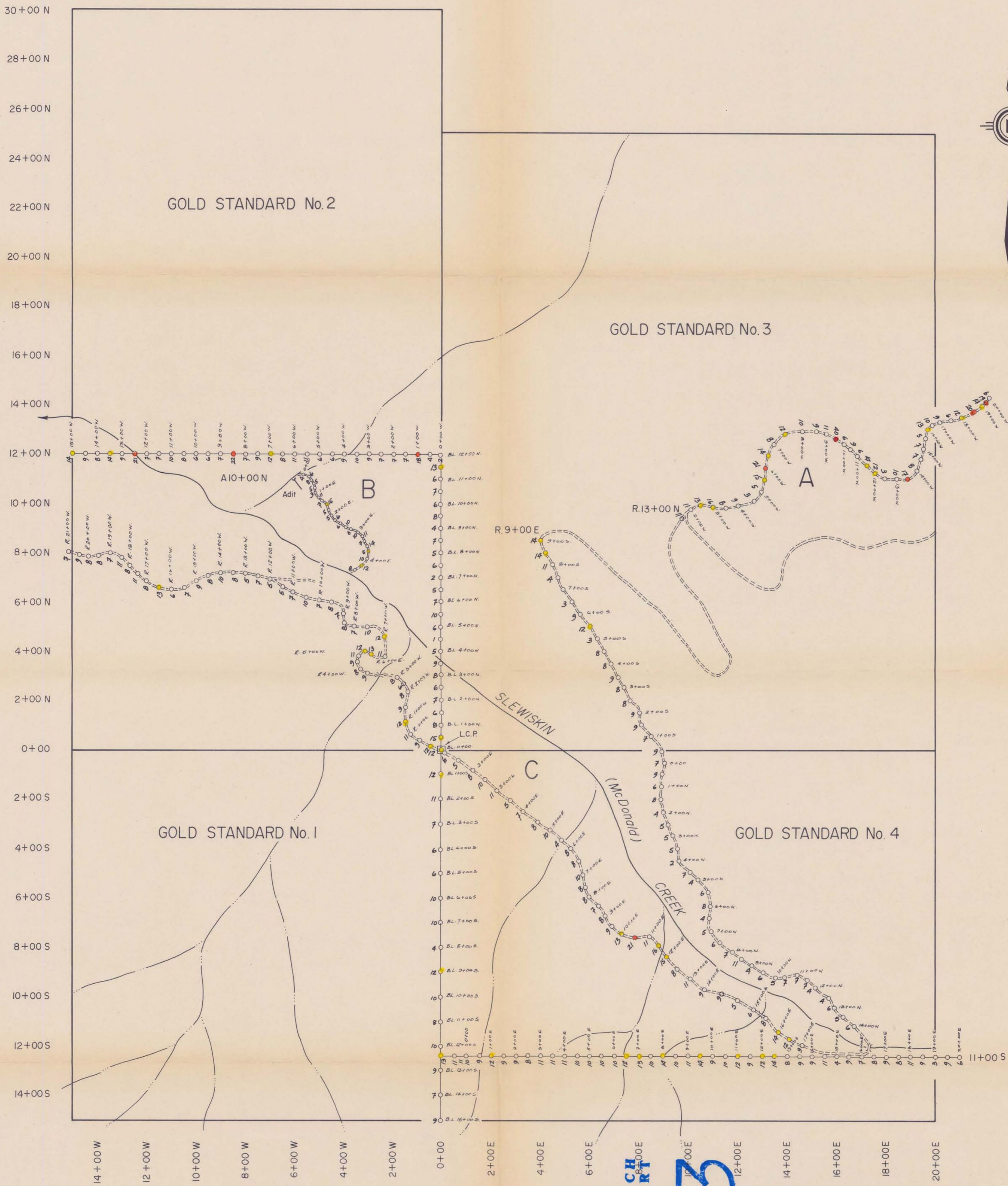
ANOMALOUS THRESHOLD VALUE ..... 1.0 ppm

**GEOLOGICAL BRANCH**  
**ASSESSMENT REPORT**  
**11,865**



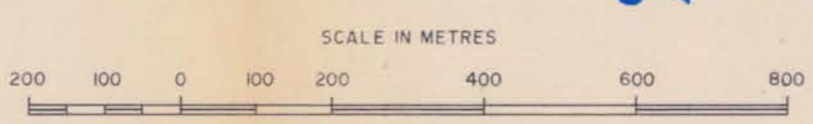
GOTRONICS SURVEYS LTD.					
MEGALINE RESOURCES LTD. NORTH AMERICAN POWER PETROLEUMS INC.					
GOLD STANDARD CLAIMS TILlicum GOLD AREA SLOCAN MINING DIVISION, B.C.					
RECONNAISSANCE SOIL GEOCHEMISTRY SURVEY SILVER IN PPM					
Drawn by:	Date:	Project No.:	N.T.S.:	Scale:	Sheet No.:
K. G.	Oct. 1982	82 - 20	82 K / 4	1: 10,000	2





STATISTICAL PARAMETERS

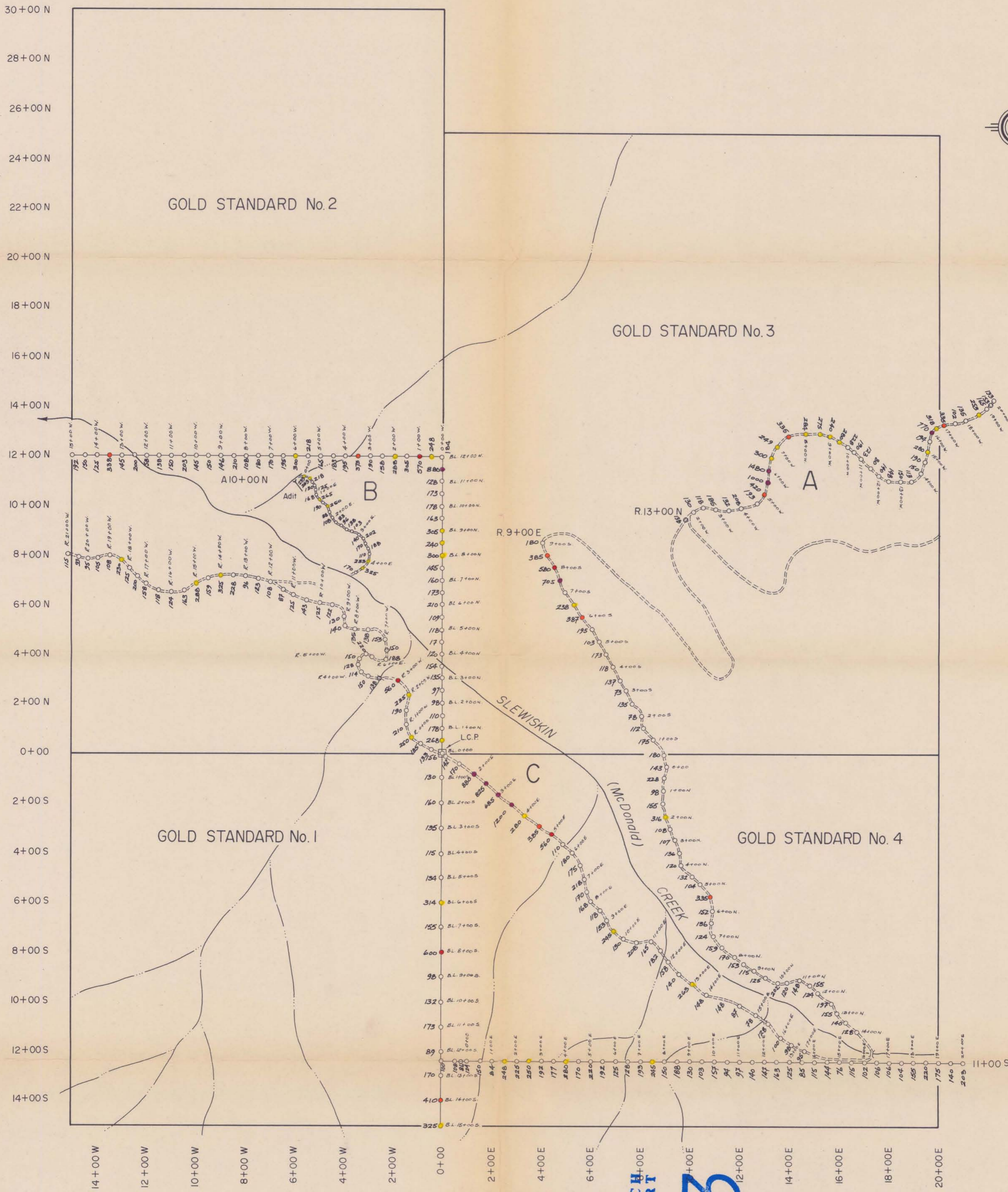
MEAN BACKGROUND VALUE .....	8 ppm
SUB-ANOMALOUS THRESHOLD VALUE .....	12 ppm
ANOMALOUS THRESHOLD VALUE .....	17 ppm



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GOLD STANDARD CLAIMS					
TILLICUM GOLD AREA					
SLOCAN MINING DIVISION, B.C.					
RECONNAISSANCE					
SOIL GEOCHEMISTRY SURVEY					
LEAD IN PPM					
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K.G.	Oct. 1982	82-20	82 K / 4	1:10,000	3



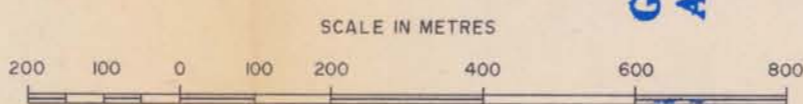


STATISTICAL PARAMETERS

MEAN BACKGROUND VALUE ..... 160 ppm  
 SUB-ANOMALOUS THRESHOLD VALUE ..... 230 ppm  
 ANOMALOUS THRESHOLD VALUE ..... 330 ppm

**GEOLOGICAL BRANCH  
 ASSESSMENT REPORT**

**11,863**



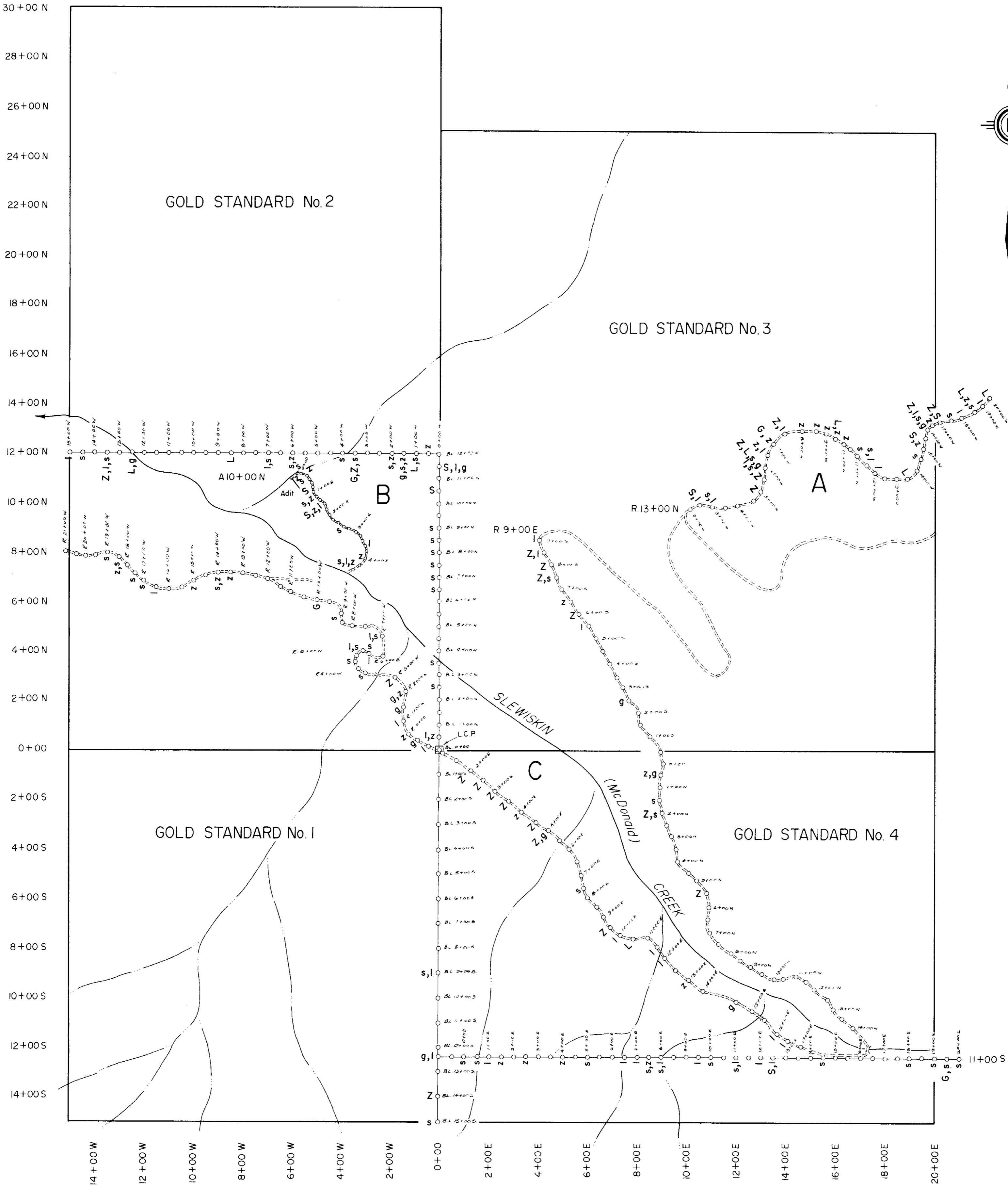
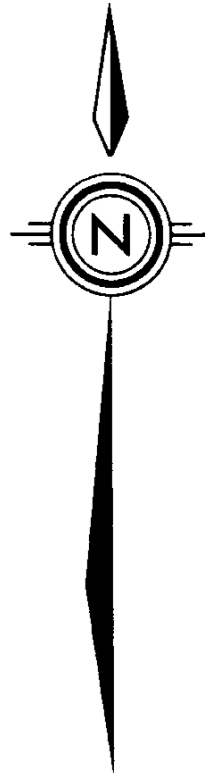
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 NORTH AMERICAN POWER PETROLEUMS INC.

GOLD STANDARD CLAIMS  
 TILlicum GOLD AREA  
 SLOCAN MINING DIVISION, B.C.

RECONNAISSANCE  
 SOIL GEOCHEMISTRY SURVEY  
 ZINC IN PPM

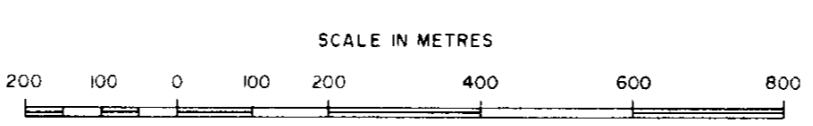
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	SUB-ANOMALOUS	ANOMALOUS
GOLD	g	G
SILVER	s	S
LEAD	l	L
ZINC	z	Z

11,863



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MEGALINE RESOURCES LTD. NORTH AMERICAN POWER PETROLEUMS INC.				
GOLD STANDARD CLAIMS TILlicum GOLD AREA SLOCAN MINING DIVISION, B.C.				
RECONNAISSANCE SOIL GEOCHEMISTRY SURVEY COMPILATION MAP				
Drawn by:	Date:	Project No.:	N.T.S.:	Scale:
K. G.	Oct. 1982	82-20	82 K / 4	1:10,000
Sheet No.:				5