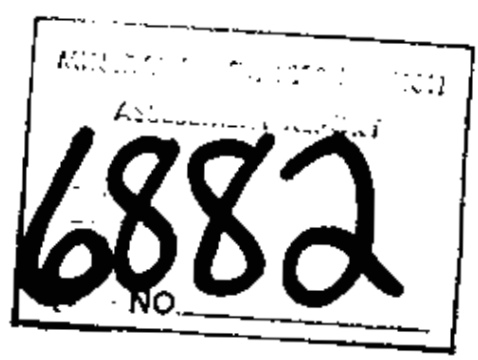
GEOLOGICAL AND GEOCHEMICAL REPORT
ON THE NET PROPERTY, BENNETT LAKE, B.C.
NET 1, 2, 3 AND 5 MINERAL CLAIMS
ATLIN MINING DIVISION

LATITUDE 59° 55' N LONGITUDE 134° 57' W

N.T.S. MAP-SHEET 104-M-15W

For

E&B Explorations Ltd.



By

R.J. Beaty, B.Sc., M.Sc., D.I.C.

And

R.R. Culbert, PhD., P.Eng.

D.G. Leighton & Associates Ltd.

15 August 1978

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ILLUSTRATIONS

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D. G. LEIGHTON & ASSOCIATES LTD.
GEOLOGICAL CONSULTANTS

3155 WEST 12TH AVENUE
VANCOUVER, B.C.
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GEOLOGICAL AND GEOCHEMICAL REPORT ON THE NET PROPERTY

INTRODUCTION

This report describes the results of geological mapping and geochemical sampling for uranium on the NET property during the 1978 field season. These surveys are follow-up to geochemical anomalies in uranium derived from the analysis of sample pulps acquired from Kennco Explorations Ltd. Other work done on the property involved prospecting using hand held scintillometers, the results of which are summarized here.

Work on the NET property was done between the 1st and 21st of July as part of a larger program involving other properties in the Bennett Lake region.

The conclusions and recommendations set forth here are based on the work cited above.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

1. The NET property is located on Bennett Lake, eight kilometers north of Bennett, and is transected by the Yukon and White Pass Railway.

2. The property occurs along a metasedimentary/plutonic rock contact. Plutonic rocks consist of seven intrusive phases of quartz monzonite, the main phase being a porphyritic biotite quartz monzonite.

3. Within the porphyritic phase, and near a small stock of ~~spinel~~ garnet-muscovite-biotite quartz monzonite, numerous radioactive localities associated with aplite and pegmatite dikes are found containing up to 34o ppm uranium.

4. Extremely high uranium values (to 3,763 ppm) exist in organic-rich stream sediment samples on the west side of Bennett Lake. Most high uranium in sediment values are associated with high background intrusive rocks. Active scavenging by organic matter has resulted in several false anomalies.

5. On the basis of the excellent location, radioactive rocks, many similarities to rocks in French intragranite uranium deposits, high uranium geochemical results and good outcrop situation, a follow-up program is recommended consisting of:

   a) A systematic rock chip geochemical survey of the zone of radioactive aplites and pegmatites near the railway south of Pavey,

b) Follow-up mapping and rock sampling around the areas of very high geochemistry on the west side of the lake,

c) Magnetometer survey to define the intrusive/ sediment contact,

d) Further prospecting and mapping in the vicinity to detect other zones of anomalous radioactivity.

6. As the zone of radioactive aplite and pegmatite dikes is presently not covered by our claims, it is recommended that 18 more units be staked to cover this ground.

Respectfully submitted,

R.J. Beaty, B.Sc., M.Sc., D.I.C.

R.R. Culbert, PhD., P.Eng.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
R. R. CULBERT

15 August 1978

GENERAL DESCRIPTIONS

Location, Access and Topography

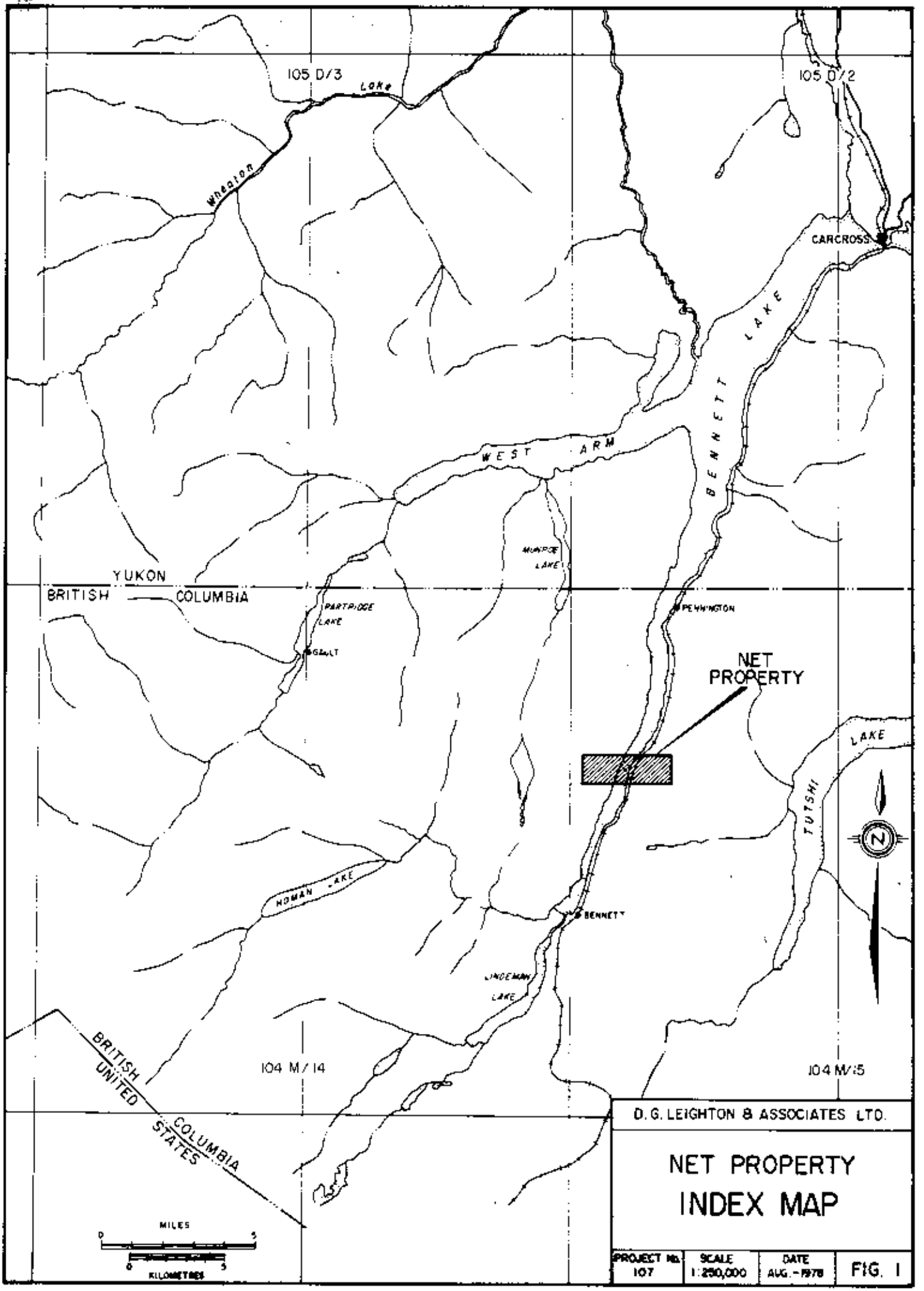
Latitude 59° 55 ' N; longitude 134° 57' W. Located on Bennett Lake 25 Kilometers south of Carcross, Yukon Territory and eight kilometers north of Bennett, British Columbia. The NET-1 claim is on the east side and the NET-2, 3 and 5 on the west side of the lake.

Access is by means of float plane from Whitehorse, or boat from Carcross. The Yukon & Whitepass Railway passes through the property along the lake's east shore. Bennett Lake lies in a long, narrow U-shaped glacial valley. Hillsides are precipitous and rock exposure is excellent. Towards the lake, wide alluvial fans and glacial drift obscure much geology. Above the valley, wide, gently sloping felsenmeer-covered plateau areas occur, dissected by cirques. Towards the lake, wide alluvial fans and glacial till obscure some areas, though rocks are well exposed in many places. Spruce, fir and slide alder cover the valley bottom up to the 3,000 foot elevation.

Claims

The NET property consists of the following claims held in the name of Welcome North Mines Ltd. (N.P.L.):

Claim	Units	Record No.	Record Date	Expiry Date
NET-1	15	232	26 July 1977	26 July 1978
NET-2	12	233	26 July 1977	26 July 1978
NET-3	18	234	26 July 1977	26 July 1978
NET-5	4	236	26 July 1977	26 July 1978



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NET PROPERTY
INDEX MAP

PROJECT No.	SCALE	DATE	
107	1:250,000	AUG.-1978	FIG. 1

GEOLOGY

The NET property lies approximately at the boundary between dominantly sedimentary, metasedimentary and metavolcanic rocks to the northeast, and granitic rocks of the "Coast Range Plutonic Complex" to the southwest. The contact trends northwesterly and is easily defined on the basis of the colour contrast between the rusty-weathering pyrrhotitiferous metasedimentary rocks and the grey granitic rocks.

Metasedimentary rocks consist of marble, argillite, chlorite-feldspar gneiss, hornfels and metagreywacke. Christie (1957, Bennett map-sheet, G.S.C. Map 19 - 1957) considers these rocks to be of pre-Permian age; hence they are probably correlative to the Precambrian Yukon Group described by Wheeler (1961, Whitehorse Map Area, G.S.C. Memoir 312).

Relatively unaltered siltstone, greywacke and feldspar porphyry andesite crop out along the granitic/metasedimentary rock contact on the east side of Bennett Lake from the lake to high on the slopes of Peak 7235. These rocks weather distincly rusty due to 1 - 2 percent disseminated pyrrhotite. They have been hornfelsed due to contact metamorphism but the absence of more extreme metamorphism and deformation suggests they are members of the Taku Group, considered by Wheeler (1961) to be Permian in age.

Two old workings exist along the granitic/metasedimentary rock contact. The first is an adit on the west side of Bennett Lake near lake level, driven along a shear zone in hornfelsed meta-sedimentary rocks. It contains several percent galena, and traces of sphalerite, pyrrhotite and pyrite. The second is an

adit at the 4,000 foot contour on Peak 7235 on the east side of Bennett Lake, occurring in granitic rocks very near the contact. A long aerial tramway was constructed from the adit to the railway, but no mineralization was observed in the dump at the portal of the adit. Traces of chalcopyrite and pyrite were observed, however, in dike rock spilled from the tramway. The plutonic complex, considered by Christie (1957) to be Cretaceous in age, comprises at least seven phases of intrusive rock, all of quartz monzonite composition (from hand specimen determination). The dominant phase, occurring over most of the claim area, is a grey, medium to coarse-grained porphyritic hornblende-biotite quartz monzonite characterized by large, prominent, white K-feldspar phenocrysts making from 2 to 20 percent of the rock. The porphyritic phase grades to the south into equigranular quartz monzonite and then to weakly porphyritic quartz monzonite which extends at least six kilometers along the west ridge above Bennett Lake to Bennett Station. Minor intrusive phases include: fine-grained quartz monzonite stocks over the metasediment contact; medium-grained garnet-biotite quartz monzonite, medium-grained quartz monzonite; and garnet-muscovite-biotite quartz monzonite. Where the latter phase crops out along the railway tracks, traces of pyrite and chalcopyrite are visible associated with minor shear zones. Most minor intrusive phases occur near the granitic/metasediment contact. Narrow and sporadic aplite and pegmatite dikes cut most intrusive phases, expecially the porphyritic quartz monzonite. Dike density appears to be highest in the area close to the railway immediately south of Pavey.

The geology of the NET property is shown on an accompanying map entitled "NET PROPERTY - GEOLOGY" (see pocket).

GEOCHEMISTRY

Streams on the NET property are mostly dry, running only during spring break-up. Sediments are poorly developed. Lower hillsides are marked by wide alluvial/talus debris fans and vegatation in stream channels is thick.

The most obvious geochemical pattern from uranium analyses of stream sediments is the one between the low values from streams draining metasedimentary rocks and the much higher values from streams draining granitic rocks. This pattern represents major variations in background uranium contact of the rocks, the high uranium granitic rocks being part of a belt of high background uraniferous plutonic rocks stretching from west of Atlin to at least the Primrose Lake region.

Values above the high background level are isolated and are mostly explained as being due to active scavenging of uranium by organic matter. On the west side of Bennett Lake, extremely high uranium values were detected (1,055 ppm and 3,763 ppm). Although both values were taken from samples very rich in organic matter, less organic samples were also strongly anomalous in this area. Follow-up geochemistry and mapping are recommended.

Only three rocks from radioactive aplite dikes were analyzed, yielding values of 73,105 and 340 ppm. The high nature of these results is the basis for a recommendation that the zone of hot aplite and pegmatite dikes near the railway be sampled on a systematic basis.

All samples were analyzed using the procedure outlined in Appendix "A". Results are shown on the accompanying compilation map (see pocket).

RADIOMETRIC SURVEY

The claim area was intensively prospected with hand-held SPP-2 scintillometers to detect radioactive localities and to determine the radioactive variations in different rock types present.

Radioactivity of the metasedimentary, metavolcanic and sedimentary rocks is uniformly low, averaging 80 - 90 cps. Radioactivity of intrusive rocks is consistently higher than that of metasedimentary rocks, averaging 140 cps. The most radioactive intrusive phases are the muscovite-biotite quartz monzonite, averaging 220 cps, and the porphyritic hornblende-biotite quartz monzonite, averaging 200 cps. Shear zones, joint planes, fracture zones, propylitized zones and mineralized zones show no anomalous radioactivity.

Aplite and pegmatite dikes are invariably anomalously radioactive. The greatest density of these dikes and the highest radioactivity occurs in the area near the railway on the east side of the lake to the south of Pavey. Here, many scattered zones of 2 to 3 times background radioactivity occur. Outcrop is generally good, and enclosure effects are minimal. Traces of molybdenite are found associated with some of the more radioactive aplite dikes. Dikes appear to be unoriented and vary from 2 to 20 centimeters wide. Dike frequency is low.

BREAKDOWN OF COSTS

For assessment purposes (approximate only).

Wages and Salaries	$3,900.00	
Benefits at 12%	468.00	$4,368.00
Meal and Accommodation		450.00
Transport - mainly helicopter		1,575.00
Assay Costs		500.00
Miscellaneous; includes report preparation geophysical equipment rental, etc.		1,500.00
TOTAL		$8,393.00

The following were involved with field work on the NET claims:

John Ricker	Geologist
Ross Beaty	Geologist
Ron Bilquist	Prospector
Less Allen	Prospector

CERTIFICATION

I, R.R. Culbert, do hereby certify that:

1. I am a practicing Professional Geological Engineer with offices at 3155 West 12th Avenue, Vancouver, B.C.

2. I am a graduate of the University of British Columbia, BaSc. (1964), PhD. (1971).

3. I have practiced mining exploration for fifteen years, most of which were based in British Columbia.

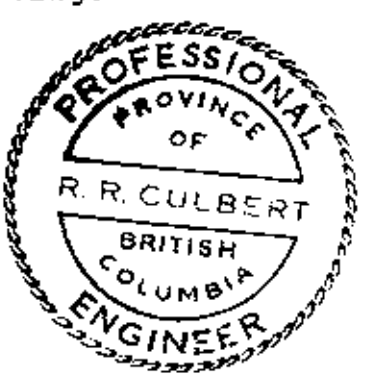
4. I am a member in good standing of the Association of Professional Engineers of the Province of British Columbia.

5. I am familiar with the area being explored, and having reviewed the data on the NET property, agree with the conclusions set forth here.

Respectfully submitted,

Dick Culbert

R.R. Culbert, PhD., P.Eng.



15 August 1978

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APPENDIX "A"

ANALYTICAL PROCEDURE
LOW ENERGY GAMMA SPECTROSCOPY (LEGS)

Analysis of low energy gamma radiation provides a rapid and accurate method of assaying geological materials (silt, soil, rock, etc.) for uranium, thorium and the uranium daughter products radium and lead-214.

Disequilibrium in nature between uranium and its daughters may be considered as the result of differential mobility between parent and daughter elements at two points in the U^{238} decay sequence. The first originates with the long half lives of Ionium (Th^{230}) and its daughter Radium-226, and the second with the short-lived but very mobile radon 222. The comparatively rapid decay sequence of U^{235} may be considered to remain in equilibrium for practical purposes.

Analysis of the portion of the gamma ray spectrum between 50 and 500 KEV allows the low energy radioactivity from the initial part of the decay sequence (and representing the actual uranium present) to be differentiated from representatives of the above mentioned later segments of this chain, namely Ra-226 and Pb-214. Thorium (whose decay sequence is sufficiently rapid to involve minimal disequilibrium in nature) is also differentiated in this spectrum range.

In LEGS analysis, a weighed 8.7 cc sample of the material to be analyzed is placed in a plastic vial and inserted into a center-well scintillating crystal (BICRON 3MW3) protected from cosmic radiation by a six inch lead shielding. The crystal is monitored by an INOTEC 5200 pulse height analyzer which breaks the resulting gamma ray spectrum (50 to 500 KEV range) into 1,024 gradations or channels, and accumulates pulse counts in each channel for a pre-set counting period. The analyzer then integrates across four segments of the gamma spectrum and the resulting numbers are entered into a HP 97 programable desk calculator to obtain uranium and thorium content in ppm and Ra-226 and Pb-214 content in percent equilibrium or ppm uranium equivalents. Background radiation corrections are involved for sample of low radioactivity and self-adsorption corrections for those rich in uranium or thorium.

The technique is calibrated using Geological Survey of Canada Radioactive Rock Standards, and chemical standards from Min-En Laboratories and the B.C. Department of Mines. Figure A-1 shows the standardization results for uranium. These samples were counted for at least 4,000 seconds each, however, and in the usual 400 - 1,000 second geochemical analysis runs it is the counting statistic uncertainty which almost entirely controls the accuracy. Standard errors for uranium and Pb-214 under various conditions and counting times are given in Figure A-2.

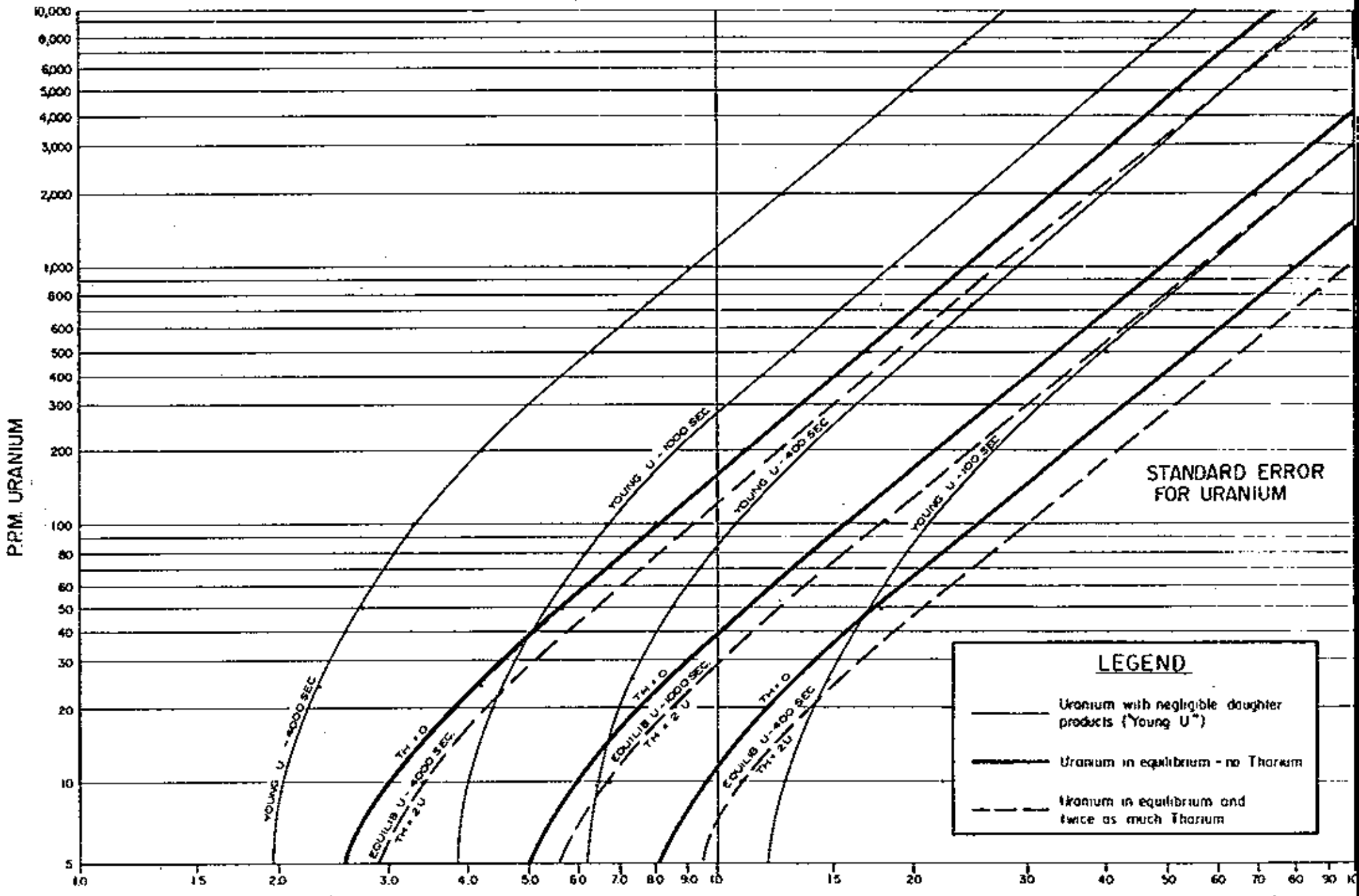
P.P.M. URANIUM
10,000
8,000
6,000
5,000
4,000
3,000
2,000
1,000
800
600
500
400
300
200
100
80
60
50
40
30
20
10
5
1.0
1.5
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10
15
20
30
40
50
60
70
80
90
100
YOUNG U - 4000 SEC.
TH = 0
EQUILIB U - 4000 SEC.
TH = 2 U
YOUNG U - 1000 SEC.
TH = 0
EQUILIB U - 1000 SEC.
TH = 2 U
YOUNG U - 400 SEC.
TH = 0
EQUILIB U - 400 SEC.
TH = 2U
YOUNG U - 100 SEC.
STANDARD ERROR FOR URANIUM
LEGEND
Uranium with negligible daughter products ("Young U")
Uranium in equilibrium - no Thorium
Uranium in equilibrium and twice as much Thorium
STANDARD ERROR - P.P.M. URANIUM

FIGURE A-1

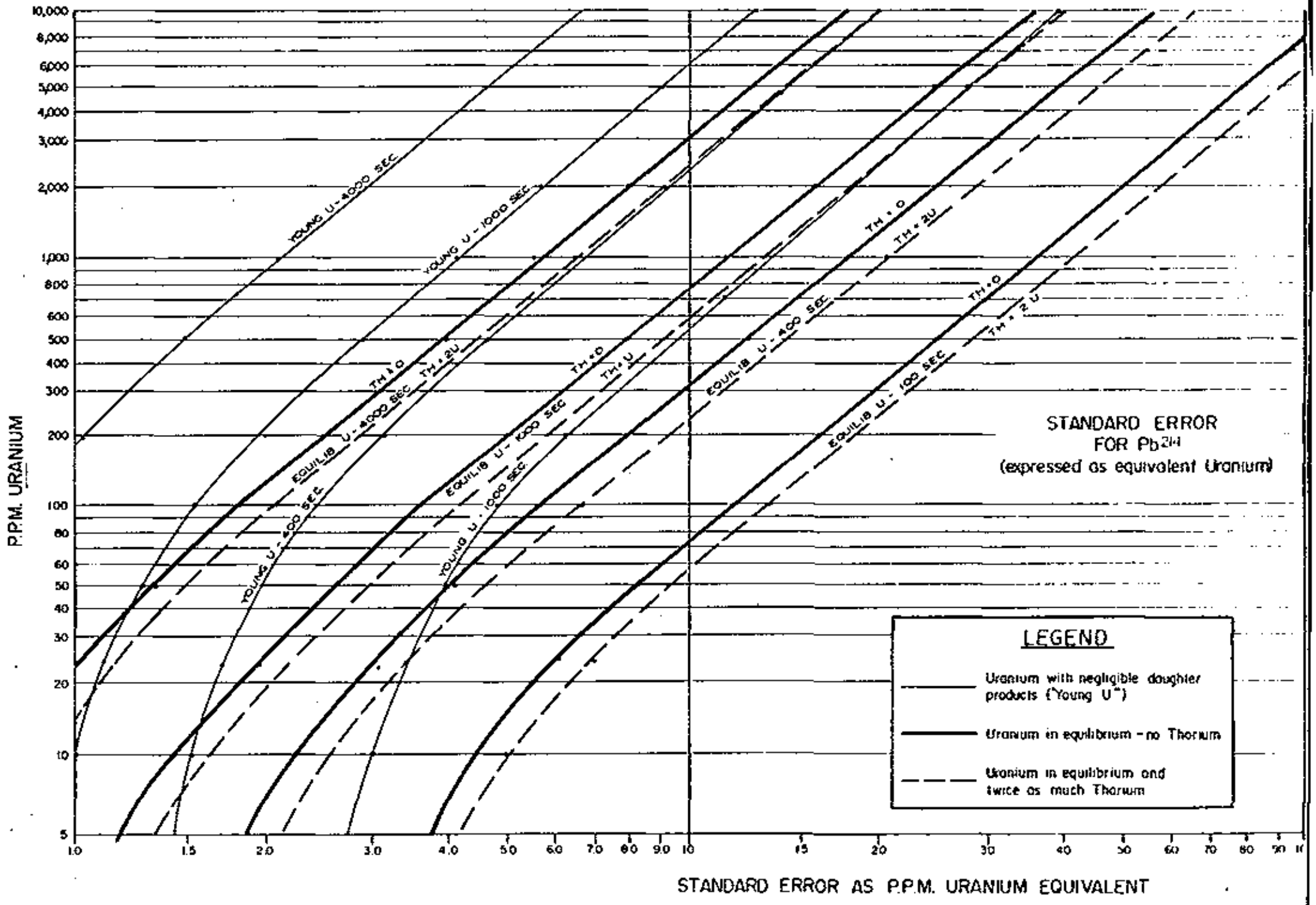
P.P.M. URANIUM
STANDARD ERROR AS P.P.M. URANIUM EQUIVALENT
STANDARD ERROR
FOR Pb^{214}
(expressed as equivalent Uranium)
YOUNG U - 4000 SEC.
YOUNG U - 1000 SEC.
YOUNG U - 400 SEC.
YOUNG U - 100 SEC.
EQUILIB U - 4000 SEC.
EQUILIB U - 1000 SEC.
EQUILIB U - 400 SEC.
EQUILIB U - 100 SEC.
TH = 0
TH = 2U
LEGEND
Uranium with negligible daughter products ("Young U")
Uranium in equilibrium - no Thorium
Uranium in equilibrium and twice as much Thorium

FIGURE A-2

LEGEND

RECENT — Alluvium, colluvium, glacial drift { A : Alluvium; AF : Alluvial fan; ATF : Alluvium and talus; T : Talus; M : Moraine }

PENNSYLVANIAN
- Greywacke, siltstone
- Feldspar porphyry andesite hornfels

PLUTONIC COMPLEX CRETACEOUS
- Fine grained quartz, monzonite, smoky quartz
- Garnet muscovite biotite quartz monzonite
- Feldspar porphyry biotite quartz monzonite
- Medium grained quartz monzonite
- Equigranular quartz monzonite
- Weakly porphyritic quartz monzonite
- Medium grained garnet biotite quartz monzonite

PRE-CAMBRIAN — Yukon Group metamorphic rocks, chlorite - feldspar gneiss; schist; marble

- Jointing with attitude
- Bedding attitude with dip angle
- Schistosity
- Shear with dip indicated
- Pegmatite / aplite dike orientation
- Outcrop area
- Geological boundary
- Adit, old working
- Radioactive occurrence
- Peg, Apl — Pegmatite, Aplite dikes

NET 5 · NET 1 · NET 2 · NET 3 · LCP · BENNETT · LAKE · Fetzenmeier

rusty zone · warm zone (220 cps.) · warm zone (200 cps.) · aplite · paragneiss · pyrite disseminated · chlorite quartz · pyrite · metasediment · frac py, cpy · sousss cpy, galena py, quartz · chl, quartz calcite · qtz · peg musc./garnet · dissemin ated pyrite · breccia · marble · Abandoned Tramway · dy, cpy dump

TF · ATF · AF · AT · T · M

6500 · 6000 · 5500 · 5000 · 4500 · 4000 · 3500 · 3000 · 2500 · 2000 · 1500 · 1000

7255'

N

METERS 0 100 200 400 600 800

6882

FIG. 2

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NET PROPERTY

GEOLOGY

PROJECT	PROJECT No	SCALE	DATE
BENNETT	107	1:10,000	SEPT.-1978

N

△ IRON PIN

NET 5

NET 1

NET 3

NET 2

LCP

LAKE

BENNETT

LEGEND

107.32 / A7 — Silt sample location, sample number, Uranium ppm, Thorium ppm

340.68 / X / A778 78-1 — Rock sample location, sample number, Uranium ppm, Thorium ppm

⊗ Radioactive occurrence

Adit, old working

METERS 0 200 400 600 800

MINISTRY OF ENERGY, MINES & PETROLEUM RESOURCES
ASSESSMENT REPORT
NO. 6882

FIG. 3

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NET PROPERTY
GEOCHEMISTRY

PROJECT:	PROJECT No.	SCALE	DATE
BENNETT	107	1:10,000	SEPT-1978