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Wigwam 1 Mineral Claim

2003 Geological Assessment Report

Wigwam 1 Mineral Claim
Fort Steele Mining Division
NTS: 82G/3E and 6E
Lat.: 115° 06'
Long: 49° 15'
Owner/Operator: Morris Geological Co. Ltd.
Author: R.J. Morris
January 10, 2004

Table of Contents

List of Figures

List of Tables

Appendix

Introduction

This report presents the findings of geological and geochemical sampling work done on the Wigwam 1 claim during the period 21 May 2003 to 30 September 2003. The author carried out all of the work, including, mapping, photo interpretation, sampling, and report preparation.

Property Description

The Wigwam 1 claim was staked between the 18th and 21st of Oct. 1999 by the author. The claim represents a twenty-unit block immediately to the northwest of the mouth of the Wigwam River, south of the town of Elko, B.C.

Table 1: Wigwam 1
Claim Status

Claim Name	Tenure Number	Number of Units	Expiry Date*
Wigwam 1	372755	20	21 October 2004

**Note: Statement of Work, filed 21 October 2003, Event No. 3201440*

Location

The claim is four kilometres south of the town of Elko, or one kilometre south of the Tembec saw mill, along the west bank of the Elk River, Figure 1.

Access

The claims can be accessed from Highway 93 by driving south 3.7km from the turnoff near Elko, and turning east onto the "Backroad" to the Tembec mill. One-half of a kilometre along the "Backroad" is the turnoff to a regional transfer station (disposal site). Approximately 100m east of this road, and 30m south of "Backroad" will take you close to the legal corner post of Wigwam 1, Figure 2.

History

There are several Minfile occurrences noted in the immediate area, although there is no sign, in the field, of any recent work having been done.

Höy and Carter (1988; Figure 3) show five occurrences, numbers 129 to 133, to be within or very close to the claim.

1. **#129 Silver King**, which is #28 in Minfile.
2. **#130 Ramshorn**, which is #10 in Minfile.
3. **#131 Leah**, which is #29 in Minfile.
4. **#132 Jennie**, which is #11 in Minfile.
5. **#133 Sweet May**, which is #12 in Minfile.

The revised mineral inventory map, 82G/SW (MI) shows five mineral occurrences within or near the claim, including:

1. **#10 Ramshorn**, is a copper occurrence. The location of this occurrence is know to be within 1,000 feet and 2 miles (BC 19?, the map shows no date). Chalcopyrite, azurite, pyrite occur within a 0.5m quartz vein. Along one margin of the vein a talcose (chlorite?) gouge seam about two centimeters thick contains

copper oxide minerals. Sills of Purcell diorite are reported in the vicinity and may have some relationship to the mineralization (Minfile, 1988).

2. **#11 Jennie**, is a copper occurrence. The location of this occurrence is known to be within 1,000 feet and 2 miles (BC 19?). The Sweet May and Jennie occurrences are within a few hundred metres of each other on Sheep Mountain, six kilometres south of Elko. Development took place at the turn of the century, but was not long lived. The showings occur in shear zones adjacent to both contacts of a ten metre thick K-feldspar porphyry sill. Bedding in Purcell-age Gateway Formation carbonates is vertical and trends north south. Both showings consist of scattered blebs of chalcopyrite in thin quartz veins. In general Sheep Mountain is host to many small quartz veins, some of which contain sulphide minerals (Grieve, 1979).
3. **#12 Sweet May**, is a copper occurrence. The location of this occurrence is know to be within 1,000 feet and 2 miles (BC 19?). The Sweet May and Jennie occurrences are within a few hundred metres of each other on Sheep Mountain, six kilometres south of Elko. Development took place at the turn of the century, but was not long lived. The showings occur in shear zones adjacent to both contacts of a ten metre thick K-feldspar porphyry sill. Bedding in Purcell-age Gateway Formation carbonates is vertical and trends north south. Both showings consist of scattered blebs of chalcopyrite in thin quartz veins. In general Sheep Mountain is host to many small quartz veins, some of which contain sulphide minerals (Grieve, 1979).
4. **#28 Silver King**, is a copper occurrence. The location of this occurrence is know to be within a radius of 1,000 feet (BC 19?). This property comprises two claims on the east bank of the Elk River, three miles south of Elko. The mineral occurrence consists of a few narrow scattered quartz stringers containing minor amounts of pyrrhotite and chalcopyrite in quartzite bands exposed below high-water level. The quartzite bands, which in places are well mineralized with fine disseminated pyrite, alternate with bands of highly sheared argillite. The formation is Precambrian in age. Insufficient ore mineralization is evident to warrant further work (Merrett, 1957).
5. **#29 Leah**, is a lead, silver occurrence. The location of this occurrence is known to be within a radius of 1,000 feet (BC 19?). Six mineral claims on the summit and south slope of Sheep Mountain on the west side of the Elk River, approximately three miles south of Elko. Surface stripping over a wide area has revealed the presence of a number of parallel quartz veins and has disclosed one narrow vein, up to 7cm wide, reportedly carrying good silver-lead values over an exposed length of 30m (Merrett, 1954). Several widely scattered open-cuts have disclosed narrow vertical quartz veins of east-west strike and undetermined length in quartzite, closely paralleling Purcell diorite sills. Rare patches of galena occur within the quartz veins (Merrett, 1957).

The most recent work is an assessment report by the author, dated 10 January, 2003.

Scope of Work in 2003

Fieldwork on the claim during this period included three days of mapping, prospecting and sampling. In total, eighteen soil samples were collected; all of the soil samples were tested using ICP geochemistry.

As well as the fieldwork, three and a half days were spent reviewing the data and writing the assessment report.

Scope of Work between 1999 and 2002

It was concluded, after the sampling work completed in 1999 and 2000 that follow-up work should include more rock and soil sampling and examination of the old showings. Special attention was to be given to the area around rock sample 99-20, and soil samples 00-15, 00-17, and 00-18.

Fieldwork on the claim during this period included seven days of mapping, prospecting and sampling. In total, nine rock samples and sixteen soil samples were collected and tested using ICP geochemistry.

As well as the fieldwork, two and three quarter days were spent reviewing and compiling data for the assessment report.

Geology

Regional Geology

Many authors have summarized the geology of the area but it appears that very little actual field study has taken place. The first geological maps of the area are by Leech (1958) and (1960).

The stratigraphic section of the Proterozoic, for the east side of the Rocky Mountain Trench, as proposed by Höy and Carter (1988) is as follows:

Roosville Formation, green siltstone and argillite, black laminate argillite; stromatolitic dolomite and dark brown oolitic dolomite, quartz arenite toward the top (Ƥr on Figure 3).
Phillips Formation, maroon micaceous siltstone, quartz wacke and argillite (Ƥp on Figure 3).
Gateway Formation, dolomite, quartz wacke, siltstone, argillite (Ƥg on Figure 3).
  Upper Gateway is green siltstone, argillite, dolomite.
  Lower Gateway is quartz wacke, dolomitic sandstone, stromatolitic dolomite, oolitic dolomite, green siltstone.
Sheppard Formation, sandstone and conglomerate locally at base; dolomitic quartzite, sandstone, oolitic dolomite, stromatolitic dolomite at top (Ƥs on Figure 3).
Nicol Creek Formation, massive to amygdaloidal basalt to andesitic lava flows, volcanic and feldspathic sandstone, siltite (Ƥnc on Figure 3).

Van Creek Formation, green, mauve laminated siltstone and quartz wacke; minor tuffaceous siltstone at top (P_{vc} on Figure 3).

Kitchener Formation, grey, black dolomite, limestone; green argillite, dolomitic siltstone (P_{k} on Figure 3).

- **Upper Kitchener**, grey, black dolomite, limestone, molar tooth texture; siltstone, thin quartz.
- **Lower Kitchener**, green, beige siltstone, argillite; dolomitic siltstone.

Creston Formation, green, grey and mauve siltstone, argillite; white, green quartz arenite (not shown on Figure 3).

- **Upper Creston**, siltstone, quartz arenite, argillite (not shown on Figure 3).
- **Middle Creston**, white, green and mauve quartz arenite and siltstone (not shown on Figure 3).
- **Lower Creston**, grey, black argillite-siltstone couplets, siltstone and siliceous argillite, green siltstone (not shown on Figure 3).

Aldridge Formation, quartzite, quartz wacke, siltstone, argillite, silty dolomite (not shown on Figure 3).

- **Upper Aldridge**, rusty weathering argillite and siltstone, thinly laminated (not shown on Figure 3).
- **Middle Aldridge**, grey quartzite, quartz wacke, siltstone; argillite, rusty weathering (not shown on Figure 3).
- **Lower Aldridge**, rusty weathering siltstone and quartzite with interbeds of silty argillite; quartz wacke (not shown on Figure 3).

Fort Steele Formation, white quartzite, grey argillaceous quartzite, argillite, grey, black dolomitic and calcareous argillite (not shown on Figure 3).

Note: Within the map area, strata below the Kitchener Formation are not exposed.

The following discussion applies to the regional maps produced by Leech.

- The north end of the Galton Range, south of the mouth of the Wigwam River, appears to be a normal succession of formations, from the Siyeh Formation (equivalent to the Kitchener/Van Creek/Nicol Creek Formations of Höy and Carter?) near the bottom of the mountains to the Rooseville Formation at the top. The formations are shown to be folded into a major north trending syncline that is truncated by the Wigwam River.
- North of the Wigwam River, onto the Wigwam flats east of the claim, the syncline is continued with the east side of the Elk River underlain by strata of the Rooseville Formation dipping gently to the east.
- Strata of the Gateway Formation underlie the west side of the Elk River. The beds are steeply dipping to vertical along the canyon area.
- There are no major faults mapped in the area to explain the changes in attitudes and general structure.

Work by Höy and Carter (1988) is more detailed in that they mapped the maroon colored Phillips Formation trending north/south through the canyon area, Figure 3. They also show a normal fault across the north face of the Galton Range, just to the south of the Wigwam River. This fault is shown to be a splay off of the "Rocky Mountain

Trench Fault" and is shown to dip to the southwest. It is my opinion that, considering the changes in elevation across the Wigwam, the fault should have a northeast dip.

Neither of the authors discuss the intense white "clay"(?) alteration along the Elk River canyon nor the changes in attitudes, from east to west, across the Elk River. As well, neither of the authors addresses the intrusive rocks on Sheep Mountain.

Mapping Results

Mapping was conducted with the aid of the following:

- An enlarged air photo, BC 81103 No. 170, approximate scale of 1:11 000.
- A 1952 air photo, BC 1479:7.
- A 1962 air photo, BC 4082:168.
- A 1969 air photo, BC5353-057.
- A hand held GPS.

Roads, trenches, and linear features were highlighted and digitized for the three older air photos, 1952, 1962, and 1969. The series of photos show the progress of the earlier exploration and have been used to locate old workings and roads. The photos were oriented and scaled by using at least three common points.

Rock Sample Correlation

An attempt has been made to correlate the rock samples collected during the past several field programs, including:

Table 2
Porphyry Suite

Sample No.	Sample Description
98-6	Pink feldspar porphyry, from the east side of the Elk River, directly above the dam. Float material, no outcrop.
99-26	Pink and white feldspar porphyry, from the south line of the Wigwam claim line, near post 5S2E. 25% feldspar crystals to 1cm, very low quartz content.
00-8	Coarse, pink feldspar porphyry
00-10	Feldspar porphyry

Table 3
Intrusive Suite

Sample No.	Sample Description
98-19	From the south side of Sheep Mtn., from trench #2. Dyke or sill material, pinkish, crystals up to 2mm, abundant quartz veins (to 15cm) cutting trench.
99-19	Dyke or sill, dark grey, pink feldspar crystals to 2mm, quartz veins up to 15cm, high mafic content (see geochem sample).
99-20	Quartz vein material (see geochem sample).
99-21	Dyke or sill, dark grey, rusty, quartz vein with chlorite.
99-26	Dyke or sill, light colored, 25% feldspar crystals to 1cm, very low quartz content
00-1	From the south side of Sheep Mtn., from trench #2. Rusty, dark grey, up to 1% pyrite (stained to black), rare quartz eye (3mm), some chlorite (light green), abundant feldspar, altered to white.
00-2	From the south side of Sheep Mtn., from trench #2. Similar rock to 00-1, but coarser, 1% pyrite (as blebs), very low quartz, white altered feldspar.
00-3	Quartz vein material, up to 6cm wide, vuggy texture (from pyrite?).
00-7	Granodiorite (?), fine crystalline (~1mm), rusty, red and yellowish.
00-9	Quartz vein.
00-11	From the central west portion of the claim. Fine, dark grey, dyke material (very similar to 99-19), quartz content to 10%(?), fine quartz veins.
00-13	From the central west portion of the claim. Similar to 00-11, coarser quartz veins, at least two stages.
01-22	From the south central part of the claim. Mudstone, green, with quartz vein. Similar to 00-13 but finer.
01-26	From the central portion of the claim. Intrusive material with quartz veins.
01-28	From the central portion of the claim. Rusty, white feldspar, quartz. Possible sandstone?
01-30	From the central portion of the claim. Very similar to 01-28, quartz diorite, abundant pyrite.
01-35	From the central part of the claim. Siltstone/mudstone, intrusive, brown, quartz and white feldspar, minor copper stain, some pyrite.
01-37	From the central portion of the claim. Feldspar porphyry, very angular, low quartz, low colour index, very coarse crystals, minor mafic content.
01-39	From the central part of the claim. Dark green, biotite porphyroblasts, similar to 00-13.

Table 4
Sediment Suite

Sample No.	Sample Description
98-8	From the east side of the Elk River, float. Oolitic, non-calcareous, with pyrite, bedded at ~15cm.
98-17	From north of the claim, represents unaltered argillite. Clay rich, with green sheen, possibly hematite blebs.
98-21	From the south side of the mountain. Siltstone? with a chlorite vein.
99-30	From the west side of the Elk River, near the pipeline crossing. Siltstone, yellow-brown, high silica content, with pyrite up to 0.5cm.
00-4	From the south side of the mountain. Grey siltstone/mudstone, non-calcareous, massive. A silicified limestone?
00-5	Massive quartzite, light grey, high quartz content, grains <1mm, well rounded, high pyrite content, minor quartz veins. Possibly an intrusive?
00-6	Green to yellow colored claystone (?), layered white to clear quartz as streaks and blebs.
00-16	From the central portion of the claim. Quartzite/quartz sandstone, fine grained, white colored, very pure, quartz veins with pyrite/chalcopyrite(?), weak green stain.
00-20	From near the top of the east peak. Light gray to gray, fine sandstone to siltstone/mudstone, with 1mm porphyroblasts, brown (iron carbonate?).
01-19	From the south central part of the claim. Quartzite, quartz vein, or quartz alteration, rusty, hematite? vein.
01-28	From the central part of the claim. Quartz vein, with sericite and calcite.
01-32	From the central part of the claim. Quartzite, silicified siltstone (limestone?), white to gray.

Geochemistry

Rock Geochemistry

In total twenty-eight rock samples have been collected on the property. An attempt has been made to determine which samples may be anomalous by the use of frequency histograms. All of the rock samples are listed in Appendix 5. The listing includes the sample name, UTM coordinates, as well as the ICP results.

Table 5 shows some basic statistics for a selection of elements for the twenty-eight rock samples. The last column in the table is an estimate of the threshold value, above which may be considered anomalous, for the element.

A description of the samples includes the following:

98-1; The sample was collected from the top of the west bank, between corners B and C of the Elk River. Siltite, argillite; platy, generally pink, some rust, soft, non-calcareous. The sample is slightly anomalous in La (41ppm) and K (0.22%).

98-2; The sample was collected from near the river level, at the bottom of the road down to the ANG pipeline on the west side. Argillite; highly altered, white alteration, breccia, possible silicification. The sample is relatively high in Mg (10.90%) and Ba (1101ppm).

98-3; The sample was collected from just east and up hill from sample 98-2. Argillite; black, rusty, breccia, possible silicification, within a tight fold. The sample is relatively high in Sr (186ppm).

98-4; The sample was collected from the top of the bank where the ANG road starts down the west bank. Argillite; rusty, silicified, grab sample over 2m. The sample is relatively high in Zn (58ppm).

98-7; The sample was collected along the road accessing the east side of the river, and represents a piece of float. Green argillite; intense quartz veins, breccia, some large pyrite clasts, no alteration of argillite. The sample is relatively high in W (10ppm).

98-8; The sample was collected along the road accessing the east side of the river, and represents a piece of float. Sandstone(?); well-rounded grains or ooliths(?), abundant pyrite, bed about 15cm thick. The sample is relatively high in Mo (22ppm), Cu (21ppm), and Pb (101ppm).

98-9; The sample was collected just to the northeast of the ANG crossing on the east side of the river, near river level. Argillite; intense white alteration, well bedded(?). The sample is relatively high in K (0.27%).

98-10; The sample was collected just to the northeast of the ANG crossing on the east side of the river, near the river level, from the east side and inside of a cave(?), adit(?). Argillite; chips and debris of white powder and rusty material, white alteration, rusty, white powdery coating (non-calcareous). The sample is relatively high in Zn (49ppm), Ni (33ppm), V (27ppm), and Cr (33ppm).

98-13; The sample was collected along the south-facing slope above the Elk River at the south end of the claim block, just west of an exposure of Phillips Formation. Argillite, siltite; rusty, with white powdery coating (sulphur?), pyrite casts up to 2cm, horizon about 3m thick, folded. The sample is relatively high in B (8ppm), and possibly depleted in Mg (0.42%) and Ca (0.39%).

98-16; The sample was collected west of sample 98-13, in a confined gully, along a rusty horizon. Argillite; gray, rusty, soft, about 25cm thick, abundant quartz veins. The sample is relatively high in Cu (15ppm), Pb (72ppm), Zn (33ppm), As (43ppm), B (8ppm), and K (0.37%). As well, it appears to be depleted in Mg (0.48%).

98-17; The sample was collected to the north of the claim area to represent unaltered argillite. Argillite; clay rich with a green sheen, possibly hematite blebs.

99-19; The sample was collected from near the top of Sheep Mountain, at the south end, in an old trench. Sill or dyke material. The sample is slightly anomalous in iron (8.37%).

99-20; The sample was collected from near the top of Sheep Mountain, at the south end, in an old trench. Quartz vein material from within a sill or dyke. The sample represents grabs over some 15m of trench. The sample is relatively high in Zn (2258ppm), Mn (1667ppm), Cd (12ppm) and Hg (3398ppb).

99-27; The sample was collected from the west side of the Elk River, at the top of the road down to the gas pipeline crossing, rusty knob above river. Argillite; rusty, silicified, as well as quartz veinlets. The sample is relatively high in Ba (905ppm).

99-28; The sample was collected slightly up (?) section from sample 99-28. Argillite; highly altered, soft. The sample is anomalous in B (8ppm).

99-29; The sample was collected from the east side of the knob over the river, just east of samples 99-27 and 99-28. Quartz veins up to 3mm, over an area 1m long and 10cm across, some pyrite(?). The sample is not high in any element tested.

99-30; The sample was collected along the road down to the gas pipeline crossing on the west side of the Elk River. White rock, highly altered argillite(?), pyrite up to 0.5cm in a horizon 0.5m wide. The sample is relatively high in S (0.43%).

99-31; The sample was collected from the east side of the Elk River, about one third of the way down the bank, on corner A. Argillite; rusty horizon up to 0.3m thick, highly silicified material. The sample is relatively high in Mn (4871ppm), V (16ppm), Te (0.5ppm), and S (0.23%).

99-32; The sample was collected about 10m west of sample 99-31, on the east side of the Elk River, corner A. Argillite; rusty horizon up to 0.3m wide, in green argillite. The sample is relatively high in Mn (6032ppm), and S (0.4%).

01-13; The sample was collected along the road to the east portion of the claim (Fig. 12); very close to outcrop as there is abundant debris in the area. Rusty, mafic, sericite, quartz chards, quartz crystals approximately 1mm. The sample is anomalous in Th (5.8ppm), Ba (150ppm) and K (0.32%).

01-19; The sample was collected from near the top of Sheep Mountain, at the south end of the claim, just above sample 01-17 (Fig. 13). Quartz vein material, rusty, vuggy, with abundant secondary iron veins. Possibly a quartzite with quartz grains approximately 1mm. The sample represents a piece of float material. The sample is slightly high in Ni (7.4ppm), V (7ppm) and W (3.1ppm).

01-22; The sample was collected from near the top of Sheep Mountain (Fig. 13), at the end of an old trench. Possible siltstone, very rusty, massive, green tint, clay rich, white porphyroblasts, abundant pyrite, quartz veins in at least two directions. The sample is anomalous in Mo (4ppm), Pb (119ppm), Zn (280ppm), Ag (273ppb), Co (10ppm), As (15ppm), Cd (0.8ppm), Bi (0.2ppm), Al (2.3%), S (0.22%), Hg (145ppb), and Ga (9ppm).

01-26; The sample was collected near the central portion of the claim, along the north access road (Fig. 10). Quartz debris, white (almost total kaolinite?), altered quartz diorite, 1cm iron blebs (siderite?). The sample is slightly high in Au (2ppb) and Sc (8ppm).

01-28; The sample was collected near the central portion of the claim, south of the north access road (Fig. 10). Altered diorite, some quartz veins with siderite and sericite (massive). The sample is slightly high in Ca (2.4%) and Sc (5ppm).

01-30; The sample was collected near the central portion of the claim, south of the north access road (Fig. 10). The sample represents debris from an old road cut. Quartz diorite, abundant pyrite. The sample is slightly high in P (0.1%) and Sc (5ppm).

01-35; The sample was collected near the central portion of the claim, south of the north access road, approximately 15m east of waypoint 51 (Fig. 11). Dominant host material, minor copper stain, brown/pink fine crystals, with quartz and pyrite. The sample is high in Cu (839ppm), Ba (147ppm), B (5ppm), and Sc (5ppm).

01-37; The sample was collected near the central portion of the claim, south of the north access road (Fig. 11). Feldspar porphyry, very angular, low quartz content, light in colour. The sample is slightly high in Bi (0.2ppm) and Ba (247ppm).

01-39; The sample was collected near the central portion of the claim, south of the north access road, in an old trench (Fig. 11). Altered intrusive, dark green with green porphyroblasts to 0.5cm (radiating, high Fe, chlorite/biotite). The sample is relatively high in Ni (11ppm), Co (6ppm), Al (2.8%) and Ga (16ppm).

Soil Geochemistry

In total forty-four soil samples have been collected on the property. An attempt has been made to determine which samples are anomalous by the use of frequency histograms.

All of the soil samples are listed in Appendix 6. The listing includes the sample name, UTM coordinates, as well as the ICP results.

Table 6 shows some basic statistics for a selection of elements for the forty-four soil samples. The final column in the table is an estimate of the threshold value, above which may be considered anomalous, for the element.

A description of the samples follows, including;
00-12; The sample was collected from the northwest side of Sheep Mountain, along an old road cut. Poor soil development on bedrock, brown, high organic. The sample is not anomalous in any of the elements tested.

00-14; The sample was collected from the northwest side of Sheep Mountain, along an old road cut. More alluvial material in the sample. The sample is not anomalous in any of the elements tested.

00-15; The sample was collected from the northeast side of Sheep Mountain, beside an old pit in bedrock. The pit measures 2m x 3m and is 2m deep, in solid bedrock. The sample is from above bedrock, no till material. The sample is anomalous in Cu (145ppm), Pb (199ppm), Zn (101ppm), Ag (817ppb), As (7ppm), Sb (15ppm), Ba (308ppm), and Hg (151ppb)

00-17; The sample was collected from the northeast side of Sheep Mountain, beside an old trench. The sample is from the east side of the trench, near the south end, and includes soil and bedrock fragments. The sample is high in Cu (66ppm), Ag (785ppb), As (7ppm), Au (19ppb), Sr (155ppm), Ca (6.6%), Mg (2.5%), and Hg (288ppb).

00-18; The sample was collected from the northeast side of Sheep Mountain, beside an old trench. The sample is from the east side of the trench, at the north end, and includes material that was pushed from the trench. The sample is high in Cu (92ppm), Pb (314ppb), Zn (195ppm), Ag (856ppb), As (7ppm), Sb (19ppm)), Ba (402ppm), and Hg (115ppb).

00-19; The sample was collected from the northeast side of Sheep Mountain, beside an old trench. The sample is from the north end of the trench, and includes abundant feldspar porphyry material. The sample may be high in Ba (417ppm).

00-21; The sample was collected from the northeast side of Sheep Mountain, on a small knoll that had been cleared off by a dozer. The sample includes soil and some bedrock. The sample is anomalous in Zn (162ppm), Mn (2548ppm), and Ba (329ppm).

00-22; The sample was collected from just north of the old lookout tower on Sheep Mountain, along the floor of an old trench. The sample is not anomalous in any of the elements tested.

00-23; The sample was collected from just east of the old lookout tower on Sheep Mountain, along the floor of an old trench. The sample is possibly weakly anomalous in As (6ppm).

00-24; The sample was collected from just south of the old lookout tower on Sheep Mountain, along the floor of an old trench. The sample material is rusty, with a white stain. The sample is weakly anomalous in Mo (2ppm), Mn (2371ppm), Ca (11.4%), and Hg (179ppb).

01-16; The sample was collected from the southeast side of Sheep Mountain, along an old road cut (Fig. 12). Near brown siltstone outcrop, minor copper stain, 10m up hill are abundant feldspar porphyry debris. The sample is anomalous in Cu (355ppm), Pb (302ppm), Ag (1604ppb), Au (5.9ppb), Sb (45ppm), Ba (702ppm) and Hg (465ppb).

01-17; The sample was collected from the south side of Sheep Mountain, along an old trench (Fig. 13). Rusty material, no alluvium, sample taken across +1m. The sample is slightly high in B (5ppm) and Sc (4ppm).

01-18; The sample was collected from the south side of Sheep Mountain, at the north end of an old trench (Fig. 13). The sample is not anomalous in any element tested.

01-20; The sample was collected from the south side of Sheep Mountain, at the east end of an old trench (Fig. 13). The sample is of debris at the end of the "push". The sample is anomalous in Mo (4ppm), Pb (744ppm), Zn (659ppm), Ag (607ppb), Mn (2420ppm), Fe (5.1%), Cd (4ppm), Ca (4.2%) and Hg (1517ppb).

01-21; The sample was collected from the south side of Sheep Mountain, at the east end of an old trench (Fig. 13). The sample is of pushed material at the end of the trench. The sample is anomalous in Mo (4.5ppm), Cu (141ppm), Pb (477ppb), Zn (411ppm), Ag (1327ppb), Co (11ppm), Fe (6%), As (22ppm), Au (5.9ppb)), Cd (2ppm), Sc (5ppm) and Hg (268ppb).

01-23; The sample was collected from the south side of Sheep Mountain, at the west end of an old trench (Fig. 13). The sample is soil with abundant mafic sill material and some quartz debris. The sample may be high in Sc (5ppm).

01-24; The sample was collected from the south side of Sheep Mountain, at the north end of an old trench, below the old lookout (Fig. 13. The sample may be high in Sc (5ppm).

01-25; The sample was collected from the central portion of the claim, south of the north access road (Fig. 10). Along the floor of an old trench. The sample is slightly high in Pb (137ppm) and Sc (5ppm).

01-27; The sample was collected from the central portion of the claim (Fig. 10), from the floor of an old pit, 3mx3mx2m deep. The sample is not anomalous in any of the elements tested.

01-29; The sample was collected from the central portion of the claim (Fig. 10), along the floor of an old cut, some 5m deep. The trench shows some quartz veining. The sample is weakly anomalous in Zn (179ppm) and Sc (6ppm).

01-31; The sample was collected from the central portion of the claim (Fig. 10), along the bed of an old road. The sample is not anomalous in any of the elements tested.

01-32; The sample was collected from the central portion of the claim, from the middle of an old trench (Fig. 11). There is abundant alluvial material, some quartz float, and old hole up to 2m deep. The sample may be high in Ca (3.6%).

01-33; The sample was collected from the central portion of the claim, from the deepest part of an old trench, about 1.5m deep (Fig. 11). The sample is not anomalous in any of the elements tested.

01-34; The sample was collected from the central portion of the claim, on the north side of an old trench (Fig. 11). The sample material has abundant quartz with some copper staining. The sample is slightly high in Mo (4ppm), Zn (106ppm), Ag (275ppb), As (6ppm), Sc (5ppm) and Hg (100ppb).

01-36; The sample was collected from the central portion of the claim, from the south cut bank of an old road (Fig. 11). There is no alluvial material in the area. The sample is possibly weakly anomalous in Ba (277ppm).

01-38; The sample was collected from the central portion of the claim on an old trench (Fig. 11). The sample material is dominantly feldspar porphyry. The sample is not anomalous in any of the elements tested.

The 2003 soil samples are centered on sample 00-18. Samples 03-01 to 03-04 are spaced approximately 100m apart along a line toward 155°, following the orientation of the old trench. Samples 03-06 to 03-10 are along a line toward 245°, samples 03-11 to 0314 are along a line toward 335°, samples 03-16 to 03-18 are along a line toward 65°.

03-01; The sample site is ~100m from sample 00-18 along a line toward 155°. Tan brown soil, some angular rock fragments. The sample does not appear to be anomalous in any of the elements tested.

03-02; The sample site is ~100m from sample 00-01. Tan brown soil, some rock debris. The sample does not appear to be anomalous in any of the elements tested.

03-03; The sample site is ~100m from sample 00-02. Near outcrop, SS/slst. The sample is not anomalous in any element tested, though the Mn content is relatively high.

03-04; The sample site is ~100m from 00-03, red brown soil. The sample is not anomalous in any of the elements tested.

03-05; The sample site is along an old road, from an old hole, which is still 4m x 4m x 2m deep. The sample is from the north wall, tan brown soil. The sample is not anomalous in any of the elements tested.

03-06; The sample site is ~50m from 00-18, along a line toward 245°, tan brown soil. The sample is not anomalous in any of the elements tested.

03-07; The sample site is ~50m from 03-06, tan brown soil. The sample is not anomalous in any of the elements tested.

03-08; The sample site is ~100m from 03-07, tan brown soil, angular debris. The sample is not anomalous in any of the elements tested.

03-09; The sample site is ~100m from 03-08, tan brown soil, angular debris. The sample is not anomalous in any of the elements tested, though the As content is relatively high.

03-10; The sample site is ~100m from 03-09, tan brown, fine, silty soil. The sample is not anomalous in any of the elements tested, though the Zn and As content is relatively high.

03-11; The sample site is ~100m from 00-18, along a line toward 335°. Tan soil, on porphyry debris. The sample is not anomalous in any of the elements tested.

03-12; The sample site is ~100m from 03-11, tan brown soil, on porphyry debris. The sample is not anomalous in any of the elements tested, though the Zn content is relatively high.

03-13; The sample site is ~100m from 03-12, tan, silty soil. The sample is not anomalous in any of the elements tested.

03-14; The sample site is ~100m from 03-13, tan soil. The sample is not anomalous in any of the elements tested.

03-15; The sample site is an old trench, tan soil. The sample is not anomalous in any of the elements tested.

03-16; The sample site is ~100m from 00-18 along a line toward 65°. The soil is tan coloured. The sample is not anomalous in any of the elements tested, though the Mn content is relatively high.

03-17; The sample site is ~100m from 03-16, tan soil, rock debris. The sample is not anomalous in any of the elements tested.

03-18; The sample site is ~100m from 03-17, tan soil, rock debris. The sample is not anomalous in any of the elements tested.

Table 5
Rock Geochemistry; Summary

Element	Population	Minimum	Maximum	Mean	Standard Dev.	CV[2]	Threshold
Cu (ppm)	28	<1	839	39	157	4.0	200
Zn (ppm)	28	4.5	2259	145	422	2.9	600
As (ppm)	28	0.05	43	5.3	8.3	1.6	15
Hg (ppb)	17[1]	0.1	145	18	35	1.9	50
Sb (ppm)	28	0.12	5.5	1	1	1.04	3
Ag (ppb)	28	0.1	273	52	82	1.6	150
Au (ppb)	28	0.4	2.5	1.1	0.4	0.36	2
Ba (ppm)	28	13	1101	194	258	1.32	500
Pb (ppm)	28	1	119	20	31	1.54	60

Notes: *1) One set of data does not include Hg results.*
2) CV is the coefficient of variation, the standard deviation/mean.

Table 6
Soil Geochemistry; Summary

Element	Population	Minimum	Maximum	Mean	Standard Dev.	CV[1]	Threshold
Cu (ppm)	44	5	355	34	59	1.73	100
Zn (ppm)	44	23	659	100	107	1.06	225
As (ppm)	44	1.2	22	4	3	0.75	10
Hg (ppb)	44	8	1517	97	237	2.43	350
Sb (ppm)	44	0.09	45	2.5	7.5	2.97	10
Ag (ppb)	44	14	1604	186	356	1.92	600
Au (ppb)	44	0.1	19	1.9	3.3	1.74	6
Pb (ppm)	44	5	744	68	141	2.08	225

Notes: 1 CV is the coefficient of variation, the standard deviation/mean).

Conclusions

To date no potentially economic mineralization has been located, but the project area is of interest because of the intersection of numerous major structural breaks, the major alteration zone along the Elk River, and the number and types of intrusives on Sheep Mountain. The limited fieldwork to date has shown:

- That the strata changes attitude across the Elk River from gentle east dips on the east side to near vertical dips along the west side, indicating a major fault system.
- That there is a major alteration zone, white clay(argillic/sericitic alteration), along some of the structural breaks. The altered zone is at least one kilometer long and 500m wide, following a portion of the Elk River canyon. This may indicate a hydrothermal source at depth.
- The outcrop is limited to the riverbanks along the Elk River and to scattered areas on Sheep Mountain.
- There are at least three varieties of intrusives on Sheep Mountain.

Follow-up work will include more rock and soil sampling on Sheep Mountain and examination of the old trenches. Special attention should be given to the area around samples:

Table 7
Follow-Up Samples

Rock Sample	Soil Sample
99-20	00-15
01-22	00-17
01-35	00-18
	01-16
	01-20
	01-21
	01-25

Statement of Costs

	Total
<u>Fieldwork</u>	
R.J. Morris, 3.0 days @$500/day	$1,500.00
<u>Geochemical testing</u>	
18 soil tests,	$ 385.20
Shipping samples	$ 50.00
<u>Office work</u>	
R.J. Morris, 3.5 days @$500/day	$1,750.00
<u>Supplies</u>	
Report production	$ 100.00
Access permit	$ 40.00
<u>Travel</u>	
Truck rental, 3 days x $50/day	$ 150.00
ATV rental, 3 days x $50/day	$ 150.00

Total = $4,125.20

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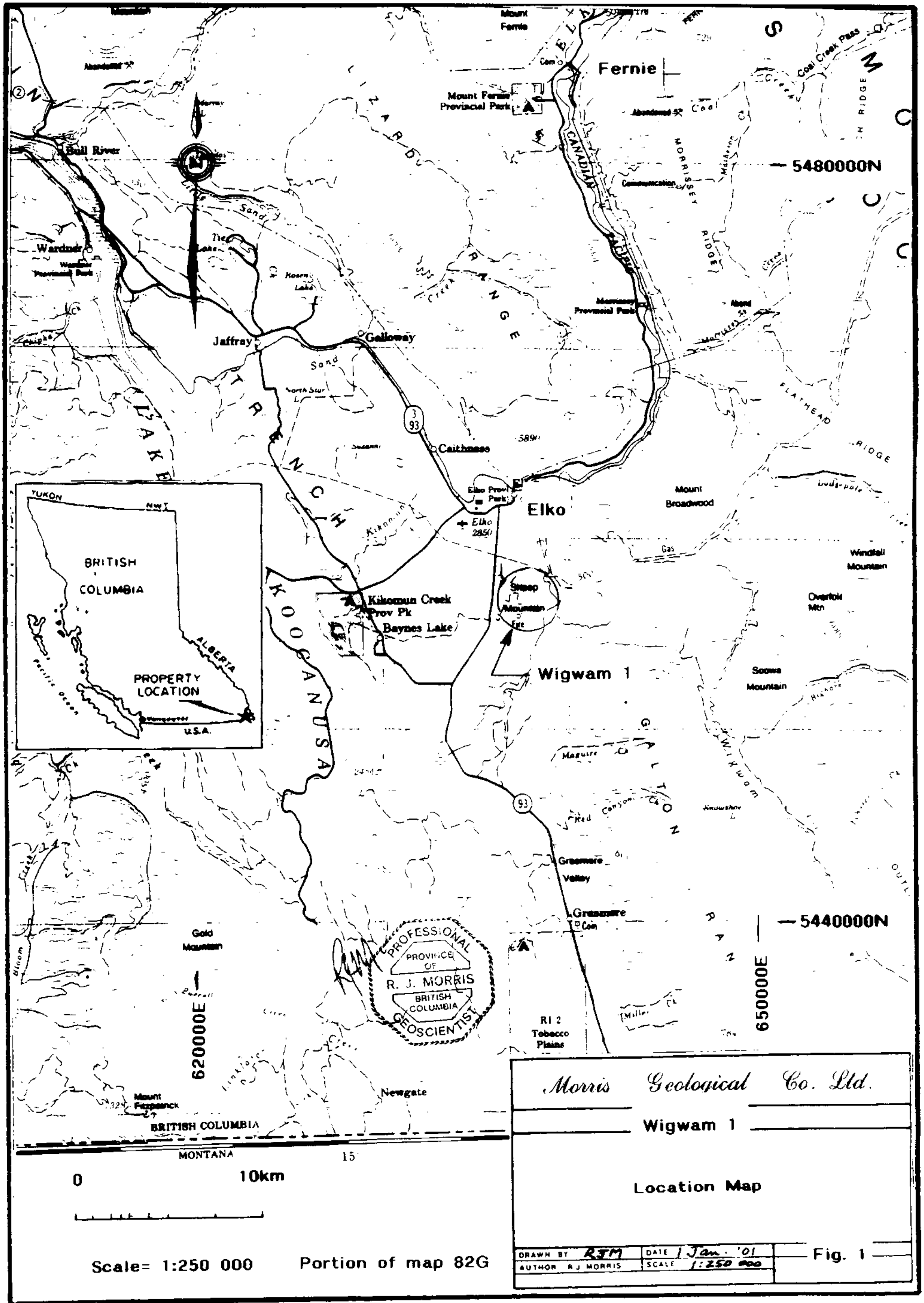
Statement of Qualifications

I Robert J. Morris, President, Morris Geological Co. Ltd. do declare:

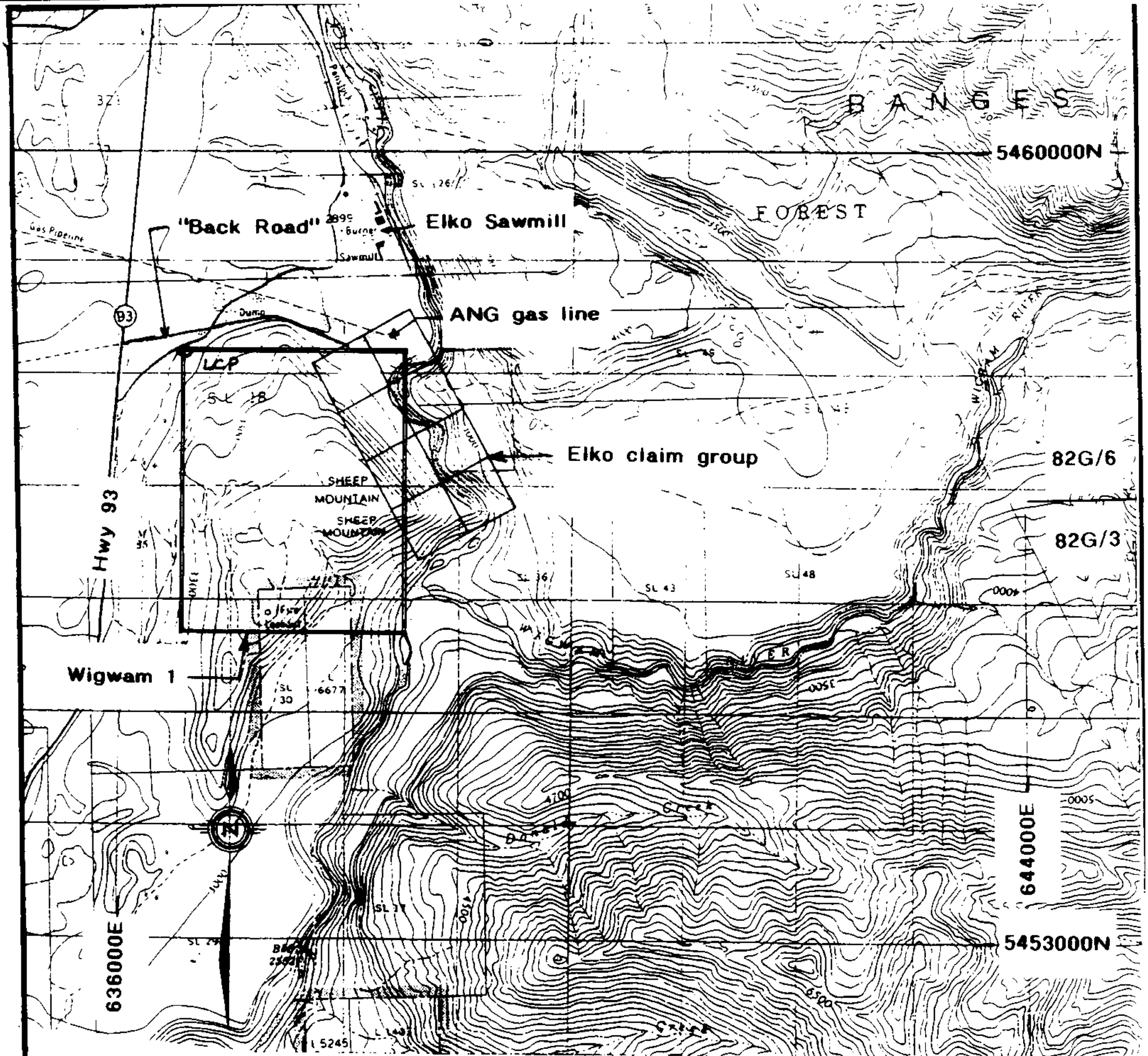
1. That I graduated as a geologist from the University of British Columbia, Vancouver, with a degree of Bachelor of Science in 1973.
2. That I graduated as a geologist from Queen's University, Kingston, Ontario, with a degree of Master of Science in 1978.
3. That I am a member in good standing of the Association of Professional Engineers and Geoscientists of the Province of British Columbia (registration #18,301).
4. That I have been involved in the mining and mineral industry with work on grassroots exploration projects through to mining projects since my graduation in 1978.
5. That I am familiar with the subject area from fieldwork since 1998 and that I personally wrote and supervised the preparation of this report.

Dated this 10th day of January 2004, in Fernie, British Columbia.

R.J. Morris, M.Sc., P.Geo.



Fernie
Mount Fernie
Mount Fernie Provincial Park
Coal Creek Pass
Bull River
Wardner
Wardner Provincial Park
Jaffray
Galloway
Caithness
Elko
Elko Prov Park
Mount Broadwood
Windfall Mountain
Overfold Mtn
Sheep Mountain
Wigwam 1
Kikomun Creek Prov Pk
Baynes Lake
Sowa Mountain
Grasmere Valley
Grasmere
Gold Mountain
Mount Fitzpatrick
Newgate
Tobacco Plains
BRITISH COLUMBIA
MONTANA
5480000N
5440000N
620000E
650000E
93
BRITISH COLUMBIA
ALBERTA
YUKON
NWT
PROPERTY LOCATION
Vancouver
U.S.A.
PROFESSIONAL GEOSCIENTIST
PROVINCE OF BRITISH COLUMBIA
R. J. MORRIS
0
10km
Scale= 1:250 000
Portion of map 82G
Morris Geological Co. Ltd.
Wigwam 1
Location Map
DRAWN BY RJM
AUTHOR RJ MORRIS
DATE 1 Jan. '01
SCALE 1:250 000
Fig. 1



Portions of maps 82G/3&6

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R. J. MORRIS

Morris Geological Co. Ltd.

Wigwam 1

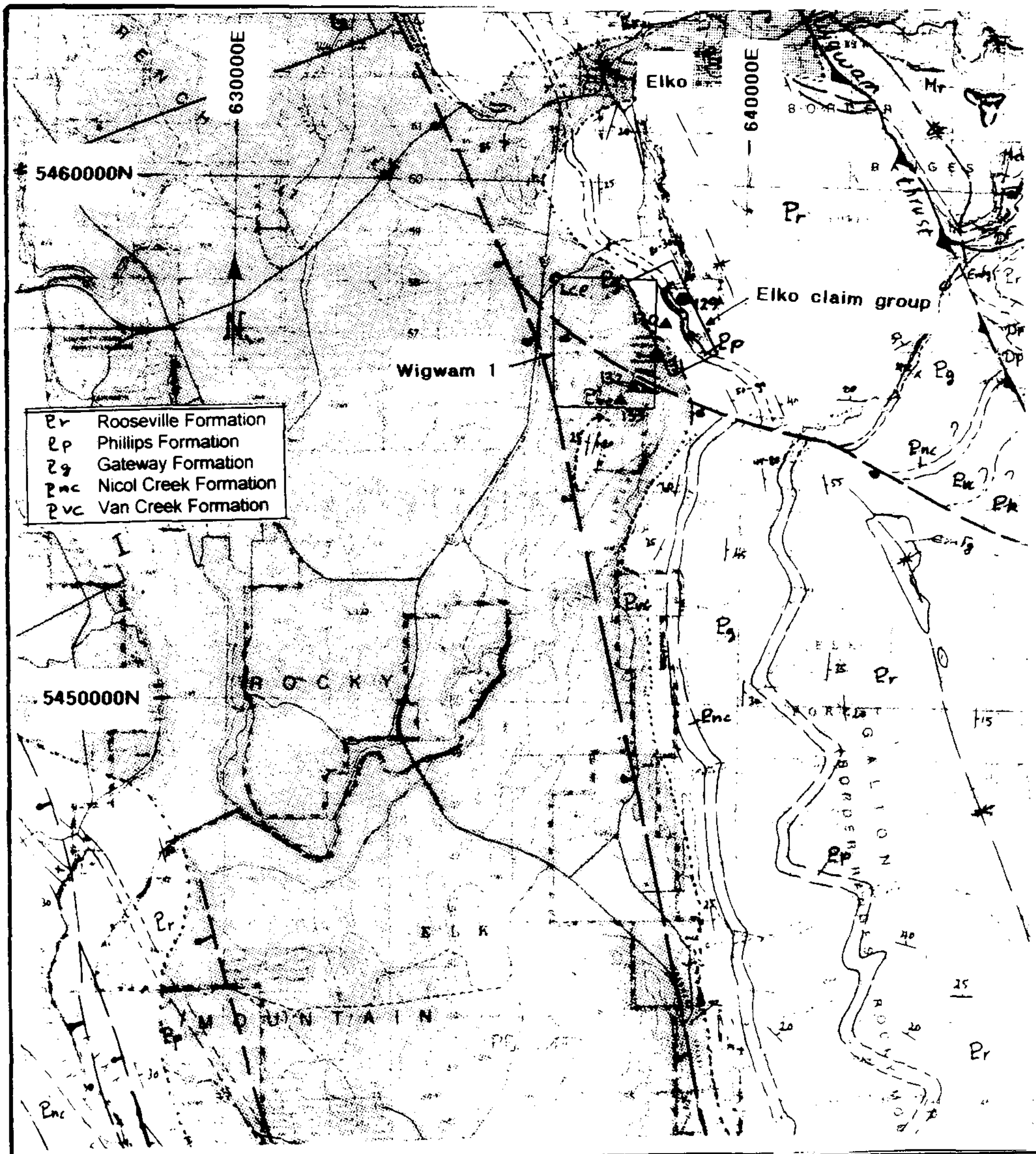
Access Map

DRAWN BY: RJM	DATE: 1 Jan. 01
AUTHOR: R.J. MORRIS	SCALE: 1:50 000

Fig. 2

0 2km

Scale= 1:50 000



Scale= 1:100 000

PROFESSIONAL GEOSCIENTIST — PROVINCE OF BRITISH COLUMBIA — R. J. MORRIS

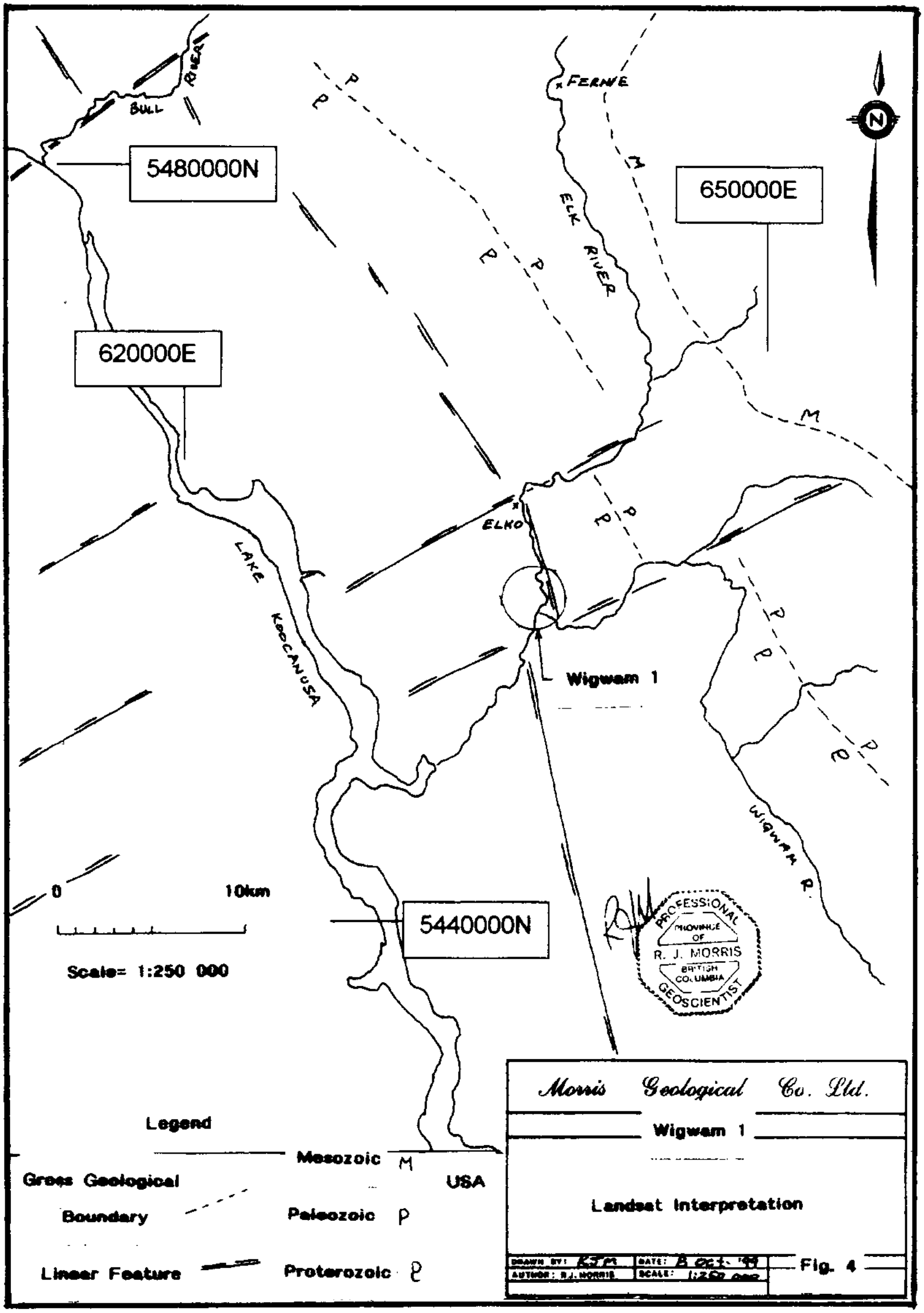
Morris Geological Co. Ltd.

Wigwam 1

Regional Geology

DRAWN BY RJM	DATE 1 Jan 01		Fig. 3
AUTHOR R J MORRIS	SCALE 1:100,000		

from: Hoy and Carter (1988)


BULL RIVER
FERNIE
ELK RIVER
5480000N
650000E
620000E
M
P
ELKO
LAKE KOOCANUSA
Wigwam 1
WIGWAM R.
0
10km
Scale= 1:250 000
5440000N
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Wigwam 1
Landsat Interpretation
Fig. 4
AUTHOR: R.J. MORRIS
Legend
Gross Geological Boundary
Linear Feature
Mesozoic M
Paleozoic P
Proterozoic
USA

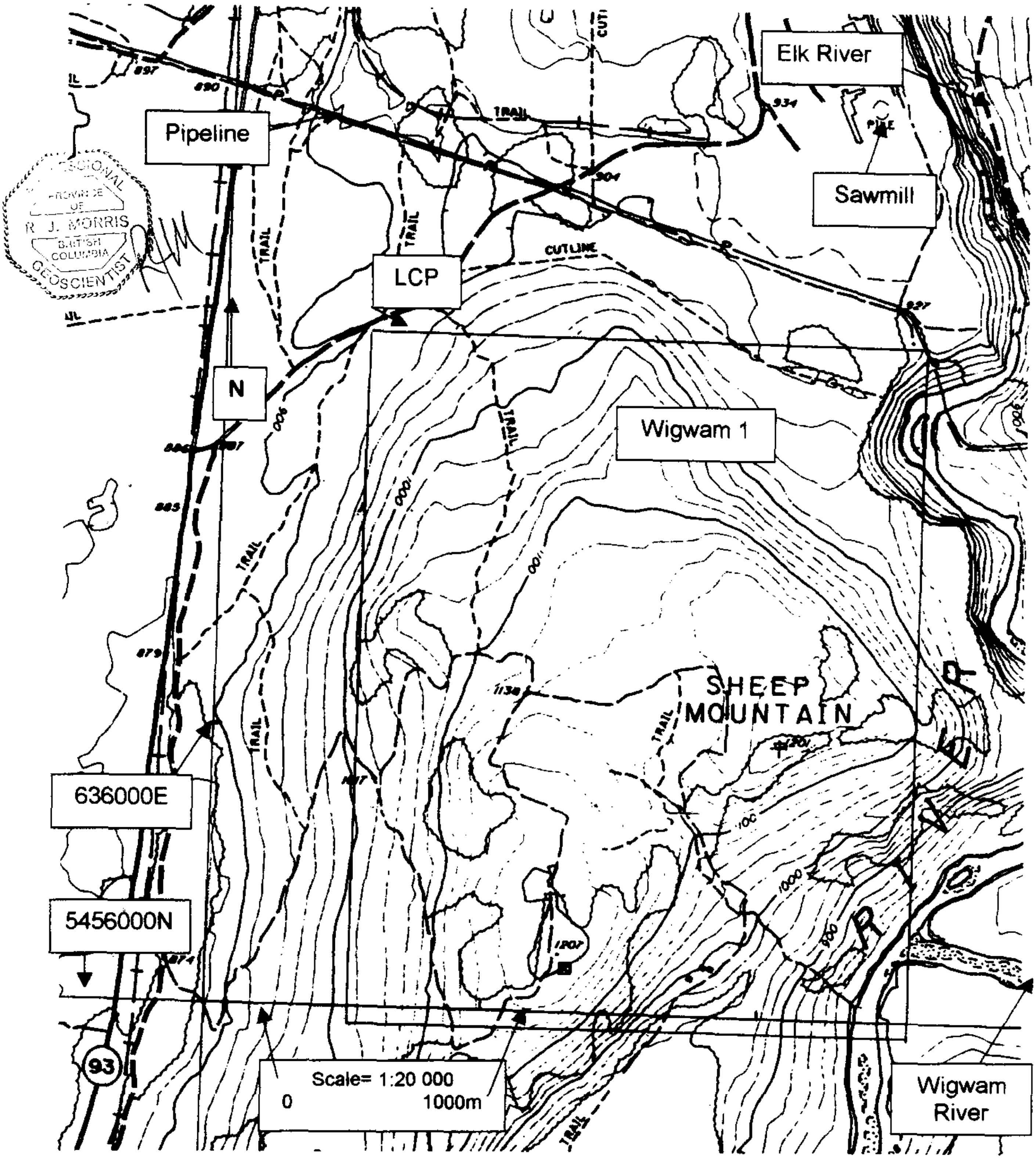

Figure 5 **Topographic Map** *(part of 82G.025)*

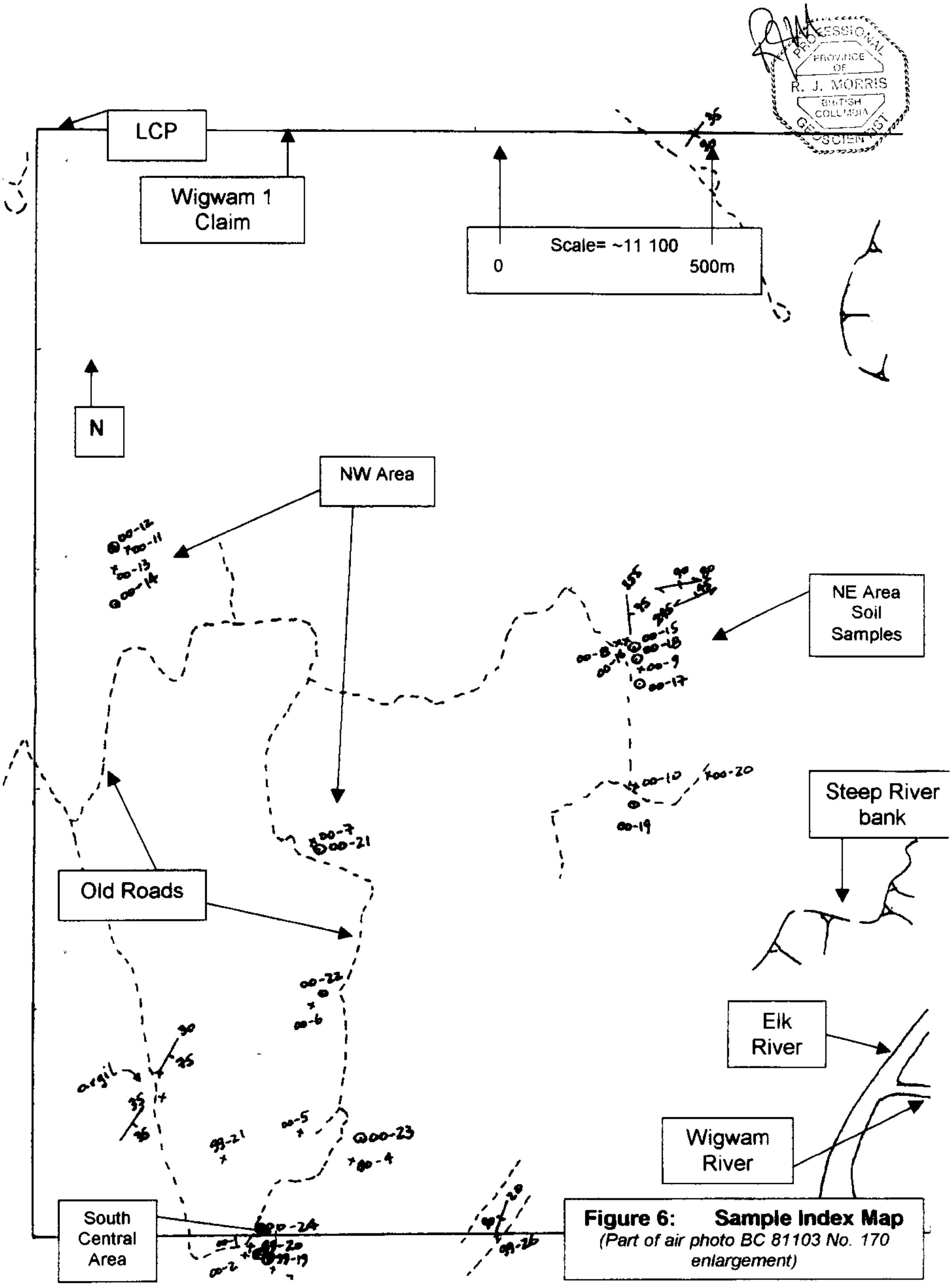

Figure 6: Sample Index Map
(Part of air photo BC 81103 No. 170 enlargement)

Appendix 1

Time Sheet, R.J. Morris
2003

Date	Time (days)	Job (Elko Project)
7 May	0.5	Review data, organize GPS data
20 May	1.0	Visit site, clear roads, GPS old sample sites
21 May	1.0	Visit site, GPS old sample sites
30 Sept	1.0	Visit site, soil sample
2 Oct	1.0	Rock geochem stats, ship samples, download GPS
26 Nov	0.5	Soil geochem stats
5 Dec	1.0	Geochem data
6 Dec	0.5	Geochem data, report
	6.5	**Total Days**

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Appendix 2

Wigwam Waypoints and Rock Sample Coordinates

Sample No.	Easting	Northing	Mo (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppb)	Ni (ppm)	Co (ppm)	Mn (ppm)	Fe (%)	As (ppm)	U (ppm)	Au (ppb)	Th (ppm)	Sr (ppm)	Cd (ppm)	Sb (ppm)	Bi (ppm)
01-13	637580	5457284	2.71	4.6	9.03	68.3	17	1.6	1.1	1251	5.51	2.3	0.2	1.1	5.8	11.6	0.17	0.47	0.02
01-19	637055	5455877	2.27	13.71	35.42	37.1	86	7.4	2	345	1.69	6	0.3	0.9	1.4	67.2	0.06	0.49	0.09
01-22	637117	5455866	4.24	7.61	118.59	280.3	273	1.2	10	130	5.02	15.2	0.1	0.8	4.3	56.6	0.81	0.35	0.23
01-26	636885	5457209	3.58	29.12	9.09	137.8	35	2.1	1.5	1918	5.86	0.9	0.1	1.9	1.8	34.7	0.18	0.29	0.03
01-28	636885	5457132	3.36	6.01	17.72	68	22	2.5	1.3	1849	5.36	0.6	0.1	1.1	2.1	45.8	0.21	0.17	0.02
01-30	636926	5457107	3.03	9.49	4.9	113.6	21	0.5	1.8	1591	6.91	1.3	0.1	1.4	4.4	18.1	0.13	0.36	< .02
01-35	637311	5456973	3.58	839.21	6.05	47.4	29	2.3	1.2	1866	4.96	1.1	0.3	1.2	2.9	13.2	0.13	0.38	< .02
01-37	637272	5457001	0.51	7.78	40.58	19.5	52	2.5	1.8	641	1.06	0.8	0.4	0.9	1.7	22.4	0.15	0.6	0.24
01-39	637345	5456692	2.81	3.41	2.01	79.2	36	11	6.2	615	5.54	4.4	0.2	0.4	1.7	4.7	0.05	0.12	0.06
98-1	638538	5457800	1	1	8	13	< .3	8	3	834	1.27	2	< 0	< 2	7	28	< .2	1	< 1
98-2	638585	5458320	2	2	< 3	6	< .3	4	1	1044	1.16	8	< 0	< 2	< 2	97	< .2	2	< 1
98-3	638665	5458400	1	5	5	20	< .3	12	11	1040	1.65	12	< 0	< 2	< 2	186	< .2	3	2
98-4	638715	5458470	2	1	< 3	58	< .3	8	2	589	1.23	2	< 0	< 2	< 2	81	< .2	1	< 1
98-7	638680	5459305	2	3	< 3	37	< .3	7	3	114	1.14	< 2	< 0	< 2	3	11	< .2	< 1	< 1
98-8	638725	5459215	22	21	101	9	< .3	11	13	3287	2.6	10	< 0	< 2	< 2	59	0.3	3	2
98-9	638650	5458220	1	1	< 3	7	< .3	5	3	305	0.62	4	< 0	< 2	2	40	< .2	1	< 1
98-10	638720	5458260	2	6	< 3	49	< .3	33	12	496	3.38	10	< 0	< 2	< 2	112	0.2	1	1
98-13	638735	5456790	3	6	< 3	8	< .3	13	10	61	2.43	3	< 0	< 2	3	19	< .2	< 1	< 1
98-16	638575	5456660	1	15	72	33	0.3	13	7	58	2.31	43	< 0	< 2	7	53	< .2	4	< 1
98-17	635110	5463540	1	< 1	6	19	< .3	11	9	417	1.87	< 2	< 0	< 2	10	16	0.2	1	< 1
99-19	637070	5455855	3.66	3.49	10.95	332.6	55	0.9	1.8	474	8.37	< .1	0.1	1	4.3	17.6	0.68	0.22	< .02
99-20	637045	5455880	5.35	21.5	49.29	2258.7	178	6.4	1.8	1667	4.57	2.3	0.1	2.5	0.5	37.7	11.99	1.65	< .02
99-27	638750	5458440	1.95	3.55	2.02	67.8	21	9.5	2.4	149	0.96	0.9	0.1	0.7	3.3	27.5	0.05	0.24	0.03
99-28	638740	5458450	0.78	9.59	11.34	16.2	270	3.6	6	163	0.31	4.2	0.2	0.7	4.4	29	0.03	2.09	0.83
99-29	638760	5458430	1.42	11.21	28.04	204.2	231	15	15.6	111	2.52	3.9	0.4	1.5	5.8	37.9	0.04	5.5	0.95
99-30	638660	5458405	2.77	12.65	1.6	4.5	15	10.5	10.3	29	1.52	1.7	0.2	< .2	2.8	4.7	< .01	0.12	0.16
99-31	638890	5458410	0.95	31.41	5.34	41.6	78	8	9.5	4871	3.32	4.8	0.4	1.9	5.5	112.7	0.02	2.71	0.65
99-32	638865	5458365	0.59	8.05	6.04	25.4	42	4	7.4	6032	2.92	2.8	0.5	1.3	1.7	114.6	0.05	1.98	0.91

	V (ppm)	Ca (%)	P (%)	La (ppm)	Cr (ppm)	Mg (%)	Ba (ppm)	Ti (%)	B (ppm)	Al (%)	Na (%)	K (%)	W (ppm)	Sc (ppm)	Tl (ppm)	S (%)	Hg (ppb)	Se (ppm)	Te (ppm)	Ga (ppm)
1	< 2	0.35	0.074	79	21	0.03	149.7	0.041	2	0.77	0.034	0.32	1	2.4	0.05	0.01	18	0.2	< .02	2.2
2	7	1.85	0.015	4.1	59.6	0.8	48	0.006	< 1	0.24	0.003	0.03	3.1	1	0.17	0.01	23	0.1	0.04	0.5
3	< 2	0.95	0.065	59.4	6.5	2.34	56.3	0.019	1	2.27	0.005	0.23	0.2	2.6	0.13	0.22	145	< .1	0.07	9.3
4	2	1.4	0.045	26.4	34	0.12	33.9	0.014	< 1	0.61	0.027	0.07	1.4	7.6	0.02	0.01	44	0.2	< .02	2
5	< 2	2.39	0.056	31.9	30.6	0.23	81.6	0.021	1	0.56	0.023	0.2	1.2	5	0.03	0.01	25	0.5	0.02	1.5
6	< 2	1.4	0.113	61.7	8.2	0.15	114.1	0.03	1	1.14	0.011	0.24	0.3	5.2	0.03	0.01	8	0.3	< .02	2.7
7	< 2	1.45	0.046	42.1	30.8	0.08	146.8	0.023	5	0.91	0.005	0.29	1.4	4.5	0.04	0.01	15	0.3	< .02	1.9
8	4	0.09	0.025	12.4	11.3	0.02	247.4	0.01	3	0.79	0.062	0.28	0.5	1.5	0.09	< .01	13	0.4	< .02	1.4
9	< 2	0.05	0.03	7.4	6.4	1.71	104.1	0.026	< 1	2.84	0.003	0.09	0.3	2.5	0.02	0.01	9	0.3	< .02	15.6
10	8	5.12	0.067	41	15	2.7	19	< .01	< 3	0.47	0.01	0.22	< 2							
11	4	18.26	0.023	15	4	10.9	1101	< .01	< 3	0.12	0.02	0.07	< 2							
12	26	18.03	0.024	15	10	9.92	116	< .01	< 3	0.26	0.01	0.01	< 2							
13	8	2.85	0.034	19	13	1.42	210	< .01	< 3	0.32	0.01	0.06	2							
14	5	0.06	0.016	9	25	1.12	561	< .01	4	0.95	0.01	0.09	10							
15	3	11.93	0.021	15	6	5.8	81	< .01	< 3	0.11	0.01	0.08	< 2							
16	4	6.29	0.047	22	7	3.79	13	< .01	< 3	0.36	0.01	0.27	2							
17	27	6.59	0.065	14	33	3.41	54	< .01	< 3	0.69	0.01	0.05	< 2							
18	3	0.39	0.009	19	12	0.42	116	< .01	8	0.34	0.02	0.17	3							
19	7	1.2	0.05	16	8	0.48	100	< .01	8	0.6	< .01	0.37	2							
20	5	1.25	0.058	49	9	0.35	290	< .01	6	0.43	0.01	0.27	2							
21	< 2	0.41	0.113	80	< .5	0.49	98	0.004	< 1	0.88	0.008	0.29	< .2	0.04	269	0.1	< .02	5.3	0.01	
22	< 2	2.85	0.019	9.3	10	0.25	119.6	0.001	< 1	0.1	0.005	0.07	1.6	0.03	3398	< .1	0.02	0.6	0.01	
23	6	0.69	0.051	13.1	12.4	1.52	905.4	< .001	3	0.34	0.002	0.01	0.7	< .02	< 5	< .1	< .02	1.2	0.04	
24	2	0.65	0.043	25.4	6.6	0.32	361.9	0.001	8	0.41	0.002	0.23	0.2	0.15	64	0.1	0.06	1.5	0.02	
25	5	0.88	0.045	24	12.8	3.56	53.4	0.001	4	0.51	0.006	0.24	0.2	0.22	35	0.2	0.04	1.9	0.06	
26	2	0.04	0.014	10.2	12.8	0.07	95.9	0.001	1	0.33	0.002	0.16	0.9	0.03	63	0.1	0.03	0.8	0.43	
27	16	10.73	0.034	18.7	14.8	4.91	37.2	0.001	< 1	0.71	0.006	0.04	0.2	0.05	109	0.3	0.5	2.3	0.23	
28	2	11.86	0.029	10.1	7.6	4.57	125.9	0.001	< 1	0.28	0.009	0.08	< .2	0.08	32	0.3	0.23	0.9	0.4	

Appendix 3

Wigwam Waypoints and Soil Sample Coordinates

	Sample No.	Easting	Northing	Mo (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppb)	Ni (ppm)	Co (ppm)	Mn (ppm)	Fe (%)	As (ppm)	U (ppm)	Au (ppb)
1	01-16	637811	5456550	0.5	355.15	302.24	40.2	1604	9.4	7.1	503	1.12	7.9	0.3	5.9
2	01-17	636994	5455915	1.62	20.38	38.38	163.5	84	12.8	7.6	1506	4.11	7.4	0.3	0.7
3	01-18	636935	5456003	0.82	23.93	13.96	50.1	117	14.5	7.3	588	2.13	8.1	0.3	2
4	01-20	637108	5455869	3.84	44.58	743.9	658.8	607	4.2	4.6	2420	5.05	6.4	0.3	3.2
5	01-21	637117	5455866	4.51	141.39	476.88	410.9	1327	5	11.4	1290	5.98	22.2	0.3	5.9
6	01-23	637050	5455826	1.48	30.28	36.56	131.1	85	10.2	6.6	1950	3.2	5.8	0.4	0.8
7	01-24	637119	5456187	1.42	14.77	20.94	94.5	26	10	5.6	2201	3.03	4.6	0.4	0.7
8	01-25	636885	5457209	1.77	61.1	137.18	106.3	171	9.1	4.5	1304	3.54	4.5	0.5	< .2
9	01-27	636885	5457132	0.97	13.89	43.41	66.9	27	9.3	4.1	397	1.96	2.9	0.4	< .2
10	01-29	636865	5457218	1.5	47.71	39.26	179.4	59	8.7	4.5	1049	3.91	3.1	0.5	0.8
11	01-31	636926	5457107	0.86	13.95	20.24	55.3	40	10.3	4.8	708	1.9	2.7	0.5	1.1
12	01-32	637185	5457162	1.17	22.11	16.4	80.7	123	12.8	9	588	2.01	7.6	0.4	3.1
13	01-33	637309	5457023	1.55	28.69	47.05	70.9	44	6.9	3.5	1068	3.98	3.2	0.5	< .2
14	01-34	637311	5456973	3.91	64.83	67.77	106	275	17.6	5.7	1575	5.86	6.2	0.6	3.5
15	01-36	637272	5457001	0.98	13.08	22.41	84	44	8.5	3.5	1268	2.49	2.5	0.4	3
16	01-38	637403	5456886	0.79	20.4	45.52	95	35	12	7.9	702	3.51	5.4	0.7	0.5
17	00-12	636612	5457407	0.89	18.53	11.67	45.4	62	11.3	5.6	452	2.51	3.3	0.6	0.7
18	00-14	636652	5457313	0.51	18.61	12.2	51.1	64	14.6	6.3	435	1.96	3.9	0.4	0.4
19	00-15	637820	5457245	0.59	144.72	199.24	100.9	817	9.8	7.7	852	2.01	6.8	0.4	9.4
20	00-17	637829	5457212	0.89	65.74	33.92	54.1	785	23.3	54.3	1440	2.83	6.7	0.8	19
21	00-18	637823	5457237	0.82	92.44	314.26	194.9	856	18.2	15.5	1105	3.48	6.5	0.6	4.8
22	00-19	637855	5456908	0.46	16.57	31.23	80.3	25	10.9	6.1	700	2.46	2.2	0.6	< .2
23	00-21	637159	5456796	1.05	29.35	63.67	161.7	40	9.8	5	2548	3.24	3	0.5	< .2
24	00-22	637199	5456460	1.68	10.43	10.19	45.7	58	9.1	4.5	329	2.54	3.6	0.3	< .2
25	00-23	637281	5456200	0.96	15.78	13.84	47.6	86	11.4	6.5	691	2.54	5.8	0.3	2.4
26	00-24	637057	5455876	2.17	6.21	8.88	75.2	73	0.2	2.5	2371	4.19	1.2	0.3	1.3
27	03-01	637846	5457128	0.53	6.15	7.14	34.1	16	6.6	2.7	285	1.39	1.8	0.3	0.4
28	03-02	637894	5457083	0.55	5.09	5.43	63.9	18	5.5	2.2	467	1.27	2.1	0.2	0.3
29	03-03	637919	5457019	0.54	9.59	11.14	94.2	32	9.6	4.5	1905	1.81	2.6	0.5	0.3
30	03-04	637954	5456935	0.62	10.8	10.41	43.8	29	11.3	5.4	843	2.14	2.7	0.7	0.2
31	03-05	637837	5457094	0.71	11.71	7.31	23	22	4.6	2.3	299	1.1	1.8	0.3	1.6
32	03-06	637774	5457216	0.69	7.87	14.78	75.3	29	7.5	3.1	828	1.62	2.5	0.3	0.7
33	03-07	637732	5457177	0.66	8.27	11.06	64.1	32	7.4	3.5	805	1.68	2.5	0.3	0.2
34	03-08	637653	5457177	0.51	7.18	7.9	46.7	29	7.7	2.9	275	1.62	1.9	0.3	0.4
35	03-09	637566	5457118	0.56	12.48	9.2	59.4	182	11.1	5.3	794	2.12	5.3	0.4	< .2
36	03-10	637481	5457090	0.19	9.36	9.18	119.6	62	12.7	3.7	408	1.04	6.2	0.5	< .2
37	03-11	637767	5457317	0.68	10.4	19.79	73	26	8.5	3.8	740	2.18	3.8	0.3	2
38	03-12	637724	5457399	0.67	11.92	29.8	102.2	33	11.1	6	1471	2.34	3.7	0.9	1.1
39	03-13	637676	5457487	0.63	9.72	9.51	48.3	14	10.1	4.8	932	1.77	2.7	0.4	0.6
40	03-14	637630	5457554	0.62	8.68	11.42	62.5	25	10.8	5.4	831	2.03	3	0.4	0.8
41	03-15	637721	5457505	0.64	12.12	14.28	46.1	21	11.3	6.3	509	1.98	4.7	0.6	0.9
42	03-16	637888	5457289	0.66	7.03	8.82	72	18	8.2	4.3	1658	1.46	2.1	0.3	< .2
43	03-17	637976	5457329	0.58	5.01	8.47	54	16	7.2	3.6	868	1.37	1.8	0.2	0.3
44	03-18	638060	5457380	0.55	6.31	12.18	79.4	24	18.6	6	620	1.85	2.7	0.4	1.7

	Th (ppm)	Sr (ppm)	Cd (ppm)	Sb (ppm)	Bi (ppm)	V (ppm)	Ca (%)	P (%)	La (ppm)	Cr (ppm)	Mg (%)	Ba (ppm)	Ti (%)	B (ppm)	Al (%)	Na (%)	K (%)
1	3.7	57.1	0.45	45.11	0.64	9	2.98	0.063	11.7	6.7	0.84	701.5	0.006	3	0.41	0.003	0.11
2	3.8	26	0.45	0.92	0.26	18	0.68	0.084	20	11.9	0.34	219.2	0.022	5	1.19	0.004	0.28
3	5	14.6	0.16	1.24	0.27	14	1.05	0.047	20	10.8	0.4	176.8	0.023	2	1.24	0.004	0.16
4	3.1	79.2	4.35	1.37	0.14	5	4.18	0.066	33	4.6	0.25	173.6	0.003	1	0.72	0.002	0.13
5	4	48.2	2.16	1.32	0.53	7	1.05	0.071	52.4	4	0.32	143.2	0.015	2	1.08	0.003	0.19
6	3.8	21.1	0.58	0.66	0.22	13	0.4	0.051	21.9	8.9	0.27	231.8	0.024	2	1.35	0.004	0.24
7	4	28.5	0.28	0.55	0.26	16	0.46	0.052	22.2	9.1	0.25	257.2	0.033	3	1.37	0.004	0.2
8	4.2	26.5	0.33	0.47	0.32	15	0.42	0.039	21.3	9.1	0.26	186.7	0.052	1	1.44	0.006	0.14
9	4.4	14.8	0.12	0.4	0.21	13	0.18	0.029	20.7	9.4	0.24	139.7	0.035	< 1	1.13	0.005	0.12
10	4	22.6	0.26	0.4	0.24	14	0.31	0.043	21.6	8.4	0.24	129.8	0.048	1	1.7	0.006	0.17
11	4.1	23.7	0.14	0.41	0.22	14	0.34	0.034	20.9	8.9	0.26	180.5	0.032	2	1.35	0.006	0.14
12	4.1	46.7	0.39	1.82	0.25	13	3.61	0.079	17.4	7.7	0.69	153	0.005	4	0.88	0.004	0.09
13	4.2	17.4	0.2	0.67	0.19	14	0.3	0.049	27.7	7.2	0.2	176.3	0.04	< 1	1.13	0.005	0.13
14	5.2	23.9	0.26	0.85	0.31	11	0.23	0.049	41.1	6.7	0.18	185.9	0.032	1	1.3	0.005	0.11
15	3.3	19.5	0.15	0.32	0.23	15	0.23	0.04	21.1	8.4	0.21	277.4	0.052	< 1	1.43	0.007	0.12
16	6	12	0.11	0.92	0.46	46	0.15	0.064	39.9	12.2	0.16	140.8	0.037	2	0.99	0.004	0.08
17	4.1	13	0.09	0.59	0.2	16	0.28	0.029	17.9	13.3	0.3	126.7	0.051	3	1.79	0.006	0.19
18	4.9	8.5	0.13	0.42	0.21	17	0.23	0.034	18.5	13	0.39	199	0.027	2	1.4	0.005	0.2
19	4.1	39.3	0.53	14.62	0.44	16	0.68	0.035	19.7	7.5	0.32	308.3	0.036	2	1.17	0.007	0.15
20	3.6	154.7	0.3	6.89	0.85	15	6.6	0.043	11.8	12	2.47	184.5	0.013	3	0.84	0.005	0.11
21	4.2	28.9	0.71	19.16	0.54	21	0.54	0.044	17.1	13.1	0.45	401.7	0.06	2	2.27	0.013	0.17
22	4.4	22.3	0.14	0.4	0.25	28	0.33	0.061	26	10.9	0.24	416.5	0.029	1	1.3	0.006	0.15
23	3.1	22.6	0.29	0.36	0.21	19	0.31	0.089	24	9.6	0.25	329.1	0.047	2	1.81	0.006	0.14
24	4.1	20.4	0.07	0.6	0.18	12	0.25	0.046	36.9	7.7	0.2	107.6	0.022	2	0.86	0.003	0.13
25	4.6	11.1	0.23	1.23	0.25	10	0.36	0.043	23.3	11.3	0.39	125.4	0.01	2	0.99	0.003	0.12
26	0.6	68.9	0.67	0.49	0.04	< 2	11.4	0.088	8.9	1	0.13	246.7	0.001	1	0.32	0.003	0.07
27	2.8	13.1	0.03	0.27	0.17	13	0.13	0.023	11.8	6.5	0.15	209.3	0.031	2	0.81	0.008	0.08
28	1.4	9.7	0.06	0.26	0.15	11	0.11	0.035	10.5	6.1	0.15	207.7	0.016	1	0.65	0.004	0.08
29	2.5	21.3	0.25	0.3	0.24	16	0.46	0.063	12.4	8.5	0.19	576.5	0.045	3	1.49	0.008	0.14
30	3.9	15.6	0.12	0.47	0.23	18	0.3	0.027	16.7	9.1	0.2	365	0.044	2	1.48	0.007	0.13
31	3	93.4	0.09	0.66	0.16	11	0.2	0.034	7.6	5.4	0.11	982.2	0.013	1	0.56	0.003	0.08
32	2.2	18.1	0.14	0.31	0.22	15	0.32	0.041	10.8	6.9	0.2	278.2	0.041	1	1.07	0.006	0.11
33	2.9	14.9	0.13	0.29	0.2	14	0.25	0.034	14.6	7	0.19	244.4	0.045	3	1.14	0.008	0.13
34	2.9	13.3	0.07	0.26	0.18	14	0.16	0.032	14.2	7.5	0.18	172.6	0.04	2	1.2	0.008	0.11
35	3.2	17	0.13	2.37	0.24	16	0.49	0.04	13.3	8.8	0.28	199.1	0.038	2	1.41	0.007	0.16
36	2.4	19.1	0.09	0.09	0.2	13	0.26	0.255	9	7.7	0.18	328.1	0.081	3	2.41	0.018	0.12
37	3.5	12.9	0.15	0.63	0.22	19	0.24	0.044	25.3	8.3	0.23	196.9	0.017	1	0.76	0.005	0.1
38	4.2	21.8	0.31	0.51	0.28	22	0.29	0.048	19.5	11	0.29	392.8	0.044	2	1.65	0.006	0.2
39	3.4	14.2	0.1	0.4	0.2	14	0.24	0.022	14.8	9.4	0.25	272.1	0.042	2	1.38	0.008	0.16
40	3.7	11.9	0.15	0.4	0.21	17	0.2	0.039	18.8	10.1	0.28	250.7	0.037	2	1.4	0.006	0.13
41	4.4	10.4	0.12	0.58	0.21	17	0.13	0.031	22.3	9.4	0.31	136.6	0.021	1	1.01	0.003	0.1
42	1.6	16	0.11	0.28	0.2	14	0.33	0.046	10.6	8.4	0.21	586.2	0.028	2	1.23	0.007	0.09
43	2.6	11.6	0.12	0.27	0.2	12	0.2	0.03	12	6.8	0.21	254.3	0.033	1	1.06	0.007	0.11
44	3.1	19.6	0.08	0.24	0.24	17	0.21	0.088	10.4	9.6	0.23	695.6	0.049	2	2.1	0.009	0.13

1	0.3	1.7	0.06	0.04	465	< .1	0.03	1	15
2	0.2	4.1	0.11	0.03	42	0.1	0.03	3.6	15
3	0.1	2.5	0.09	0.01	38	0.2	0.03	3.5	15
4	< .1	7	0.07	0.03	1517	0.5	0.03	1.9	15
5	< .1	5.5	0.31	0.02	268	0.6	0.04	3.8	15
6	< .1	4.8	0.11	0.03	34	0.2	0.02	3.9	15
7	0.1	4.7	0.09	0.02	39	< .1	0.02	4	15
8	< .1	5.1	0.08	0.01	72	0.3	0.03	4.5	15
9	< .1	2.3	0.07	< .01	24	0.3	0.03	3.3	15
10	< .1	5.7	0.08	0.01	39	0.2	0.02	5.4	15
11	< .1	2.3	0.08	< .01	24	0.3	0.02	4	15
12	< .1	2.5	0.16	< .01	72	0.1	0.05	2.2	15
13	< .1	3.6	0.07	< .01	32	0.3	0.02	3.7	15
14	< .1	4.8	0.06	0.01	100	0.5	0.02	3.7	15
15	0.1	2.6	0.08	< .01	30	0.1	0.02	4.3	15
16	< .1	3.4	0.07	< .01	25	0.4	0.02	3.6	15
17	< .2	3.4	0.1	< .01	40	0.3	< .02	4.2	15
18	< .2	2.6	0.08	0.01	36	0.2	< .02	3.3	15
19	< .2	2.8	0.06	0.01	151	0.2	0.16	2.7	15
20	< .2	3.6	0.11	0.03	288	0.4	0.05	1.9	15
21	< .2	3.7	0.08	0.02	115	0.1	0.17	5.2	15
22	< .2	3	0.08	0.01	17	0.2	< .02	4.3	15
23	< .2	3.8	0.1	0.03	59	0.1	0.02	5	15
24	< .2	2.5	0.05	< .01	25	0.2	0.02	2.4	15
25	< .2	3	0.06	0.03	42	0.2	0.03	2.3	15
26	< .2	2.9	0.04	0.05	179	0.3	< .02	1	15
27	< .1	1.7	0.06	< .01	8	0.2	< .02	2.3	15
28	< .1	1.1	0.05	0.01	11	0.2	< .02	2	15
29	< .1	3	0.08	0.01	23	0.4	< .02	3.8	15
30	< .1	4.4	0.07	0.01	25	0.4	< .02	3.7	15
31	< .1	3.6	0.06	0.02	184	0.3	0.03	1.5	15
32	< .1	1.5	0.07	0.01	22	0.3	< .02	2.9	15
33	< .1	2.1	0.07	< .01	21	0.3	< .02	3.1	15
34	< .1	1.8	0.07	< .01	12	0.2	< .02	3.2	15
35	< .1	3.2	0.14	< .01	28	0.4	< .02	3.7	15
36	0.1	2.4	0.09	< .01	19	0.4	< .02	6.3	15
37	< .1	2.8	0.07	< .01	20	0.4	0.02	2.6	15
38	< .1	3.3	0.1	< .01	22	0.4	< .02	4.7	15
39	< .1	2.7	0.09	< .01	18	0.4	< .02	3.6	15
40	< .1	2.7	0.08	0.01	20	0.3	< .02	3.9	15
41	< .1	2.8	0.07	< .01	19	0.3	0.02	2.9	15
42	< .1	1.9	0.07	< .01	18	0.4	< .02	3.5	15
43	< .1	1.6	0.06	< .01	14	0.3	< .02	3	15
44	< .1	2.3	0.09	< .01	18	0.3	< .02	6.1	15

Appendix 4

Geochemical Analysis Certificates

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Morris Geological Co. Ltd. PROJECT ELKO File # A304771

6243 Kubinec Road, Fernie BC V0B 1M1 Submitted by: Robert J. Morris

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Sc ppm	Tl ppm	S %	Hg ppb	Se ppm	Te ppm	Ga ppm	Sample gm
03-01	.53	6.15	7.14	34.1	16	6.6	2.7	285	1.39	1.8	.3	.4	2.8	13.1	.03	.27	.17	13	.13	.023	11.8	6.5	.15	209.3	.031	2	.81	.008	.08	< 1	1.7	.06	< 01	8	2	< 02	2.3	15
03-02	55	5.09	5.43	63.9	18	5.5	2.2	467	1.27	2.1	.2	.3	1.4	9.7	.06	.26	.15	11	.11	.035	10.5	6.1	15	207.7	.016	1	.65	.004	.08	<.1	1 1	.05	.01	11	.2	<.02	2.0	15
03-03	.54	9.59	11.14	94.2	32	9.6	4.5	1905	1.81	2.6	.5	.3	2.5	21.3	.25	30	.24	16	.46	.063	12.4	8.5	.19	576.5	.045	3	1.49	.008	.14	< 1	3.0	.08	.01	23	.4	<.02	3.8	15
03-04	.62	10.80	10.41	43.8	29	11.3	5.4	843	2.14	2.7	.7	.2	3.9	15.6	.12	.47	.23	18	.30	.027	16.7	9.1	.20	365.0	.044	2	1.48	.007	.13	<.1	4.4	.07	.01	25	4	< 02	3.7	15
03-05	.71	11.71	7.31	23.0	22	4.6	2.3	299	1.10	1.8	.3	1.6	3.0	93 4	.09	.66	.16	11	.20	.034	7.6	5.4	.11	982.2	.013	1	.56	.003	.08	<.1	3.6	.06	.02	184	.3	.03	1.5	15
03-06	.69	7.87	14.78	75.3	29	7.5	3.1	828	1.62	2.5	3	7	2.2	18.1	14	.31	.22	15	.32	.041	10.8	6.9	.20	278.2	.041	1	1.07	.006	.11	<.1	1.5	07	.01	22	.3	<.02	2.9	15
03-07	.66	8.27	11.06	64.1	32	7.4	3.5	805	1.68	2.5	.3	.2	2.9	14.9	.13	29	.20	14	.25	.034	14.6	7.0	.19	244.4	.045	3	1.14	.008	.13	<.1	2.1	.07	< 01	21	3	<.02	3.1	15
03-08	.51	7.18	7.90	46.7	29	7.7	2.9	275	1.62	1.9	.3	.4	2.9	13.3	.07	.26	.18	14	.16	.032	14.2	7.5	.18	172.6	.040	2	1.20	.008	.11	<.1	1.8	.07	<.01	12	.2	< 02	3.2	15
03-09	56	12.48	9.20	59.4	182	11.1	5.3	794	2.12	5.3	.4	<.2	3.2	17.0	.13	2.37	.24	16	.49	.040	13.3	8.8	28	199.1	.038	2	1.41	.007	.16	<.1	3.2	14	<.01	28	.4	<.02	3.7	15
03-10	19	9.36	9.18	119.6	62	12.7	3 7	408	1.04	6 2	.5	<.2	2 4	19.1	.09	.09	20	13	.26	.255	9.0	7 7	18	328 1	081	3	2.41	.018	12	.1	2 4	09	< 01	19	4	< 02	6 3	15
03-11	.68	10.40	19.79	73.0	26	8.5	3.8	740	2.18	3.8	3	2.0	3.5	12.9	.15	.63	.22	19	.24	.044	25.3	8.3	.23	196.9	.017	1	76	.005	10	<.1	2.8	.07	<.01	20	.4	.02	2.6	15
03-12	.67	11.92	29.80	102.2	33	11.1	6.0	1471	2.34	3 7	9	1 1	4.2	21.8	.31	51	.28	22	.29	.048	19.5	11.0	29	392.8	.044	2	1.65	.006	.20	<.1	3.3	10	<.01	22	.4	<.02	4.7	15
RE 03-12	.66	11.61	32 71	99.7	34	10.6	6.1	1434	2.27	3.6	.9	1.5	4.1	20.4	.32	.52	.28	21	.29	.046	19.5	9.7	.27	403.6	.043	1	1.54	.005	.20	<.1	3.4	10	<.01	24	.4	<.02	4.5	15
03-13	.63	9.72	9.51	48.3	14	10.1	4 8	932	1.77	2.7	.4	.6	3.4	14.2	.10	.40	.20	14	.24	.022	14.8	9 4	.25	272.1	.042	2	1.38	.008	.16	<.1	2 7	09	<.01	18	.4	<.02	3.6	15
03-14	.62	8.68	11.42	62.5	25	10.8	5 4	831	2.03	3.0	.4	.8	3.7	11.9	.15	.40	21	17	.20	.039	18.8	10.1	.28	250.7	.037	2	1 40	.006	13	< 1	2.7	.08	.01	20	.3	< 02	3 9	15
03-15	.64	12 12	14.28	46.1	21	11.3	6.3	509	1 98	4.7	6	.9	4.4	10.4	.12	.58	.21	17	.13	.031	22.3	9.4	.31	136 6	.021	1	1.01	.003	10	<.1	2.8	07	<.01	19	.3	.02	2 9	15
03-16	66	7.03	8.82	72.0	18	8.2	4.3	1658	1.46	2.1	.3	<.2	1.6	16.0	.11	.28	.20	14	.33	.046	10.6	8 4	.21	586.2	.028	2	1.23	.007	.09	<.1	1.9	07	< 01	18	.4	<.02	3.5	15
03-17	.58	5.01	8.47	54.0	16	7.2	3.6	868	1.37	1.8	.2	.3	2.6	11 6	.12	27	.20	12	.20	.030	12.0	6 8	.21	254.3	.033	1	1.06	.007	.11	<.1	1.6	.06	< 01	14	3	<.02	3 0	15
03-18	.55	6.31	12.18	79.4	24	18.6	6.0	620	1.85	2.7	.4	1.7	3.1	19.6	.08	.24	.24	17	.21	.088	10.4	9.6	23	695.6	.049	2	2.10	.009	.13	<.1	2.3	.09	< 01	18	.3	<.02	6 1	15
STANDARD DS5	12.01	137.56	23.93	137.1	282	24.3	11.9	759	3.00	18.7	5.8	42.0	2.5	46.7	5.30	3.73	6.00	58	.72	.100	11.2	188.8	65	135.6	.092	17	1.99	.034	.13	4.9	3.4	1.01	.02	171	4.9	.82	6.4	15

GROUP 1F15 - 15.00 GM SAMPLE LEACHED WITH 90 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 300 ML, ANALYSED BY ICP/ES & MS.
UPPER LIMITS - AG, AU, HG, W, SE, TE, TL, GA, SN = 100 PPM; MO, CO, CD, SB, BI, TH, U, B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
- SAMPLE TYPE: SOIL SS80 60C Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: OCT 3 2003 **DATE REPORT MAILED:** Oct22/2003 **SIGNED BY** ....D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Data FA

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Morris Geological Co. Ltd. PROJECT Elko File # A201113

6243 Kubinec Road, Fernie BC V0B 1M1 Submitted by: Robert J. Morris

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm
S1	23	21	21	1	6	2	< 1	<1	.01	2	< 1	5	<.1	1 3	< 01	< 02	< 02	<2
01-13	2 71	4 60	9 03	68 3	17	1 6	1 1	1251	5.51	2 3	2	1.1	5 8	11 6	17	47	02	<2
01-19	2 27	13 71	35 42	37.1	86	7.4	2 0	345	1.69	6 0	3	9	1 4	67 2	06	49	09	7
01-22	4 24	7.61	118 59	280.3	273	1 2	10 0	130	5.02	15 2	1	.8	4 3	56.6	81	35	23	<2
01-26	3 58	29 12	9 09	137 8	35	2.1	1 5	1918	5 86	9	1	1 9	1 8	34 7	18	29	03	2
01-28	3 36	6 01	17.72	68.0	22	2 5	1 3	1849	5 36	.6	1	1 1	2.1	45 8	21	17	02	<2
01-30	3.03	9.49	4 90	113.6	21	5	1 8	1591	6 91	1 3	1	1 4	4.4	18.1	13	36	< 02	<2
01-35	3.58	839.21	6 05	47 4	29	2.3	1 2	1866	4.96	1.1	3	1.2	2 9	13 2	.13	38	< 02	<2
01-37	51	7 78	40 58	19.5	52	2 5	1 8	641	1 06	8	4	9	1 7	22 4	15	60	24	4
01-39	2 81	3 41	2 01	79 2	36	11 0	6 2	615	5 54	4.4	2	4	1 7	4 7	05	12	06	<2
STANDARD DS3	9.39	120.19	33.30	156.7	294	35.8	12.4	794	3.04	29.8	5 8	19.8	4 2	25.7	5 47	5 23	5.36	73

SAMPLE#	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Sc ppm	Tl ppm	S %	Hg ppb	Se ppm	Te ppm	Ga ppm
S1	11	< 001	<.5	2 9	< 01	1 7	005	<1	< 01	287	< 01	1	1	< 02	< 01	<5	< 1	< 02	< 1
01-13	.35	074	79 0	21 0	03	149.7	041	2	77	034	32	1 0	2 4	05	01	18	2	< 02	2 2
01-19	1.85	015	4 1	59 6	.80	48.0	006	<1	24	003	03	3 1	1 0	17	01	23	1	04	5
01-22	95	065	59 4	6 5	2 34	56.3	.019	1	2 27	005	23	2	2 6	13	22	145	< 1	07	9.3
01-26	1.40	.045	26 4	34 0	12	33 9	014	<1	61	027	07	1 4	7.6	02	01	44	2	< 02	2 0
01-28	2 39	056	31 9	30 6	23	81 6	021	1	56	023	20	1 2	5 0	03	01	25	5	02	1 5
01-30	1 40	113	61 7	8 2	15	114 1	030	1	1 14	011	.24	3	5 2	03	01	8	3	< 02	2 7
01-35	1 45	.046	42 1	30 8	.08	146.8	023	5	91	005	29	1 4	4 5	04	01	15	3	<.02	1 9
01-37	09	025	12 4	11 3	02	247 4	010	3	79	062	28	5	1 5	09	< 01	13	4	< 02	1.4
01-39	05	030	7 4	6 4	1 71	104 1	026	<1	2 84	003	09	3	2 5	02	01	9	3	< 02	15 6
STANDARD DS3	.51	.084	16.5	175 6	56	146.8	087	2	1 67	.029	.14	4.1	2.7	1 03	.02	223	1 1	1 14	6 0

GROUP 1F15 - 15.00 GM SAMPLE LEACHED WITH 90 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 300 ML, ANALYSED BY ICP/ES & MS.
UPPER LIMITS - AG, AU, HG, W, SE, TE, TL, GA, SN = 100 PPM; MO, CO, CD, SB, BI, TH, U, B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
- SAMPLE TYPE: ROCK R150 60C

DATE RECEIVED: APR 29 2002 **DATE REPORT MAILED:** May 7/02 **SIGNED BY** .... D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Data ✓ FA ____

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Morris Geological Co. Ltd. PROJECT Elko File # A201114

6243 Kubinec Road, Fernie BC V0B 1M1 Submitted by: Robert J. Morris

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Sc ppm	Tl ppm	S %	Hg ppb	Se ppm	Te ppm	Ga ppm	Sample gm
G-1	1 30	2 40	2.26	35 7	11	3 9	3.5	498	1 68	4	1 6	3	4 9	63.7	01	03	11	37	52	.084	6 1	18 5	47	205 8	107	<1	1 08	055	41	1 3	1 5	23	< 01	<5	< 1	<.02	4.0	15
01-16	50	355 15	302.24	40.2	1604	9 4	7.1	503	1.12	7.9	3	5 9	3 7	57 1	45	45.11	64	9	2 98	.063	11 7	6 7	84	701 5	006	3	41	003	11	3	1 7	06	04	465	< 1	03	1.0	15
01-17	1 62	20.38	38 38	163.5	84	12 8	7 6	1506	4 11	7 4	3	7	3.8	26 0	45	92	.26	18	68	084	20.0	11 9	34	219 2	.022	5	1 19	004	28	2	4 1	11	03	42	1	03	3 6	15
01-18	.82	23.93	13.96	50 1	117	14.5	7.3	588	2 13	8.1	3	2 0	5.0	14.6	16	1.24	27	14	1 05	047	20 0	10 8	40	176 8	023	2	1.24	004	16	1	2 5	09	01	38	2	03	3 5	15
01-20	3 84	44 58	743.90	658 8	607	4 2	4 6	2420	5 05	6 4	3	3 2	3 1	79 2	4 35	1 37	14	5	4 18	066	33.0	4 6	25	173 6	003	1	72	002	13	< 1	7 0	07	03	1517	5	03	1 9	15
01-21	4 51	141.39	476 88	410.9	1327	5.0	11 4	1290	5 98	22.2	3	5 9	4 0	48 2	2 16	1 32	53	7	1 05	071	52 4	4 0	32	143 2	.015	2	1 08	003	19	< 1	5 5	31	02	268	.6	04	3 8	15
01-23	1 48	30 28	36 56	131.1	85	10 2	6 6	1950	3 20	5 8	4	.8	3.8	21 1	58	66	22	13	40	.051	21 9	8 9	27	231 8	024	2	1 35	004	24	< 1	4 8	11	03	34	2	02	3.9	15
01-24	1 42	14 77	20 94	94.5	26	10.0	5.6	2201	3 03	4.6	4	7	4 0	28.5	.28	.55	.26	16	46	052	22 2	9 1	25	257 2	033	3	1 37	004	20	1	4 7	09	02	39	< 1	02	4 0	15
01-25	1 77	61 10	137 18	106 3	171	9 1	4 5	1304	3 54	4 5	5	< 2	4 2	26 5	33	47	32	15	42	039	21 3	9 1	26	186 7	052	1	1 44	006	14	< 1	5 1	08	01	72	3	03	4 5	15
01-27	97	13 89	43 41	66 9	27	9 3	4.1	397	1 96	2 9	4	< 2	4 4	14 8	12	40	21	13	18	029	20 7	9 4	24	139 7	035	<1	1 13	005	12	< 1	2 3	07	< 01	24	3	03	3 3	15
01-29	1 50	47.71	39 26	179.4	59	8.7	4 5	1049	3 91	3 1	5	8	4 0	22 6	26	40	24	14	31	.043	21 6	8 4	24	129 8	.048	1	1 70	006	17	< 1	5 7	08	.01	39	2	02	5 4	15
RE 01-29	1 50	47 83	38 16	184 6	59	8.8	4 6	1051	3 95	3.4	5	8	4 2	22 2	25	40	22	15	32	043	21 8	8 3	24	129 6	059	3	1 80	007	18	< 1	5 7	.08	<.01	33	3	03	5 5	15
01-31	86	13.95	20 24	55 3	40	10 3	4.8	708	1 90	2.7	5	1 1	4 1	23 7	14	.41	22	14	34	034	20 9	8 9	26	180 5	032	2	1 35	006	14	< 1	2 3	08	< 01	24	3	02	4 0	15
01-32	1 17	22 11	16 40	80.7	123	12 8	9.0	588	2 01	7 6	.4	3 1	4 1	46 7	39	1.82	25	13	3 61	.079	17 4	7 7	69	153.0	005	4	88	004	09	< 1	2 5	16	< 01	72	1	05	2 2	15
01-33	1 55	28 69	47 05	70 9	44	6 9	3 5	1068	3 98	3 2	5	< 2	4 2	17 4	20	67	.19	14	30	.049	27 7	7 2	20	176 3	.040	<1	1 13	005	13	< 1	3 6	07	< 01	32	3	02	3 7	15
01-34	3 91	64 83	67 77	106.0	275	17 6	5 7	1575	5.86	6 2	6	3 5	5 2	23.9	26	85	31	11	23	049	41 1	6 7	18	185 9	.032	1	1 30	005	11	< 1	4 8	.06	01	100	5	02	3 7	15
01-36	.98	13 08	22 41	84 0	44	8.5	3 5	1268	2 49	2 5	4	3 0	3 3	19 5	.15	32	23	15	23	040	21 1	8 4	21	277 4	052	<1	1 43	007	12	1	2 6	08	< 01	30	1	02	4 3	15
01-38	79	20 40	45 52	95 0	35	12 0	7 9	702	3 51	5 4	7	5	6 0	12 0	.11	92	46	46	15	064	39 9	12.2	16	140 8	037	2	99	004	08	< 1	3 4	07	< 01	25	4	02	3 6	15
STANDARD	9 25	125.17	33.48	153.0	294	34 5	12.3	807	3.05	30 3	5.5	20 8	4 1	25.7	5.36	5.20	5.25	73	.51	.087	16.3	180 0	56	146.3	.084	2	1 66	027	14	3.7	2.6	1.04	.03	231	1 2	1 13	6.0	15

Standard is STANDARD DS3.

GROUP 1F15 - 15.00 GM SAMPLE LEACHED WITH 90 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 300 ML, ANALYSED BY ICP/ES & MS.
UPPER LIMITS - AG, AU, HG, W, SE, TE, TL, GA, SN = 100 PPM; MO, CO, CD, SB, BI, TH, U, B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
- SAMPLE TYPE: SOIL SS80 60C Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: APR 29 2002 **DATE REPORT MAILED:** May 7/02 **SIGNED BY** C. Leong D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Data FA

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Morris Geological Co. Ltd. PROJECT ELKO File # A003740

9053 Hwy #3 W., Fernie BC V0B 1M1 Submitted by: Robert J. Morris

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Sc ppm	Tl ppm	S %	Hg ppb	Se ppm	Te ppm	Ga ppm	Sample gm
00 12	89	18 53	11 67	45 4	62	11 3	5 6	452	2 51	3 3	6	7	4 1	13 0	09	59	20	16	28	029	17 9	13 3	30	126 7	051	3	1 79	006	19	< 2	3 4	10	< 01	40	3	< 02	4 2	15
00 14	51	18 61	12 20	51.1	64	14 6	6 3	435	1 96	3 9	3	4	4 9	8 5	13	42	21	17	23	034	18 5	13 0	39	199 0	027	2	1 40	005	20	< 2	2 6	08	01	36	2	< 02	3 3	15
00 15	59	144 72	199 24	100 9	817	9 8	7 7	852	2 01	6 8	4	9 4	4 1	39 3	53	14 67	44	16	68	035	19 7	7 5	32	308 3	036	2	1 17	007	15	< 2	2 8	06	01	151	2	16	2 7	15
00 17	89	65 74	33 92	54 1	785	23 3	54 3	1440	2 83	6 7	8	19 0	3 6	154 7	30	6 89	85	15	6 60	043	11 8	12 0	2 47	184 5	013	3	84	005	11	< 2	3 6	11	03	288	4	05	1 9	15
00 18	82	92 44	314 26	194 9	856	18 2	15 5	1105	3 48	6 5	6	4 8	4 2	28 9	71	19 16	54	21	.54	044	17 1	13 1	45	401 7	060	2	2 27	013	17	< 2	3 7	08	02	115	1	17	5 2	15
00-19	46	16 57	31 23	80 3	25	10 9	6 1	700	2 46	2 2	6	< 2	4 4	22 3	14	40	25	28	33	061	26 0	10 9	24	416 5	029	1	1 30	006	15	< 2	3 0	08	01	17	2	< 02	4 3	15
00 21	1 05	29 35	63 67	161 7	40	9 8	5 0	2548	3 24	3 0	4	< 2	3 1	22 6	29	36	21	19	31	089	24 0	9 6	25	329 1	047	2	1 81	006	14	< 2	3 8	10	03	59	1	02	5 0	15
00-22	1 68	10 43	10 19	45 7	58	9 1	4 5	329	2 54	3 6	3	< 2	4 1	20 4	07	60	18	12	25	046	36 9	7 7	20	107 6	022	2	86	003	13	< 2	2 5	05	< 01	25	2	02	2 4	15
00 23	96	15 78	13 84	47 6	86	11 4	6 5	691	2 54	5 8	3	2 4	4 6	11 1	23	1 23	25	10	36	043	23 3	11 3	39	125 4	010	2	99	003	12	< 2	3 0	06	03	42	2	03	2 3	15
00 24	2 17	6 21	8 88	75 2	73	2	2 5	2371	4 19	1 2	3	1 3	6	68 9	67	49	04	<2	11 40	088	8 9	1 0	13	246 7	001	1	32	003	07	< 2	2 9	04	05	179	3	< 02	1 0	15
RE 00-24	2 09	5 96	8 37	74 9	75	1	2 4	2316	4 11	1 2	3	1 2	6	65 0	63	48	03	<2	11 57	084	8 5	6	13	237 2	001	1	32	003	06	< 2	2 8	04	05	168	3	02	1 0	15
STANDARD DS2	14.07	132.07	33.66	154.8	274	35 9	12 9	855	3 15	61 5	19 7	191 7	3 6	27 7	10 53	9 70	11 26	73	.53	097	14 8	159 7	61	162 7	087	2	1 72	.032	15	7 8	3 1	1 86	03	236	2 3	1 96	5 9	15

GROUP 1F15 - 15.00 GM SAMPLE, 90 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 300 ML, ANALYSIS BY ICP/ES & MS.
UPPER LIMITS - AG, AU, HG, W, SE, TE, TL, GA, SN = 100 PPM; MO, CO, CD, SB, BI, TH, U, B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
- SAMPLE TYPE: SOIL SS80 60C Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: SEP 25 2000 DATE REPORT MAILED: Oct 6/00 SIGNED BY............D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Data / FA ____

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Morris Geological Co. Ltd. PROJECT ELKO File # A000875

9053 Hwy #3 W., Fernie BC V0B 1N1 Submitted by: R. MORRIS

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm
99-19	3.66	3.49	10.95	332.6	55	.9	1.8	474	8.37	<.1	.1	1.0	4.3	17.6	.68	.22	<.02
99-20	5.35	21.50	49.29	2258.7	178	6.4	1.8	1667	4.57	2.3	.1	2.5	.5	37.7	11.99	1.65	<.02
RE 99-20	4.95	20.80	45.28	2266.7	166	6.3	1.6	1711	4.72	2.5	.1	.4	.4	36.8	11.18	1.48	<.02
99-27	1.95	3.55	2.02	67.8	21	9.5	2.4	149	.96	.9	.1	.7	3.3	27.5	.05	.24	.03
99-28	.78	9.59	11.34	16.2	270	3.6	6.0	163	.31	4.2	.2	.7	4.4	29.0	.03	2.09	.83
99-29	1.42	11.21	28.04	204.2	231	15.0	15.6	111	2.52	3.9	.4	1.5	5.8	37.9	.04	5.50	.95
99-30	2.77	12.65	1.60	4.5	15	10.5	10.3	29	1.52	1.7	.2	<.2	2.8	4.7	<.01	.12	.16
99-31	.95	31.41	5.34	41.6	78	8.0	9.5	4871	3.32	4.8	.4	1.9	5.5	112.7	.02	2.71	.65
99-32	.59	8.05	6.04	25.4	42	4.0	7.4	6032	2.92	2.8	.5	1.3	1.7	114.6	.05	1.98	91
STANDARD DS2	14.12	129.80	34.79	152.4	232	34.4	12.0	808	3.01	58.7	20.3	208.0	3.6	27.9	10.22	9.75	11.19

SAMPLE#	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Tl ppm	Hg ppb	Se ppm	Te ppm	Ga ppm	S %
99-19	<2	.41	.113	80.0	<.5	.49	98.0	.004	<1	.88	.008	.29	<.2	.04	269	.1	<.02	5.3	.01
99-20	<2	2.85	.019	9.3	10.0	.25	119.6	.001	<1	.10	.005	.07	1.6	.03	3398	<.1	.02	.6	.01
RE 99-20	<2	2.90	.018	9.2	11.1	.26	128.9	.001	<1	.11	.005	.07	1.4	.03	3125	.1	<.02	.6	.01
99-27	6	.69	.051	13.1	12.4	1.52	905.4	<.001	3	.34	.002	.01	.7	<.02	<5	<.1	<.02	1.2	.04
99-28	2	.65	.043	25.4	6.6	.32	361.9	.001	8	.41	.002	.23	.2	.15	64	.1	.06	1.5	.02
99-29	5	.88	.045	24.0	12.8	3.56	53.4	.001	4	.51	.006	.24	.2	.22	35	.2	.04	1.9	.06
99-30	2	.04	.014	10.2	12.8	.07	95.9	.001	1	.33	.002	.16	.9	.03	63	.1	.03	.8	.43
99-31	16	10.73	.034	18.7	14.8	4.91	37.2	.001	<1	.71	.006	.04	.2	.05	109	.3	.50	2.3	.23
99-32	2	11.86	.029	10.1	7.6	4.57	125.9	.001	<1	.28	.009	.08	<.2	.08	32	.3	.23	.9	.40
STANDARD DS2	72	.53	.089	15.8	159.4	.57	152.2	.089	<1	1.63	.031	.15	7.0	1.88	253	2.2	1.81	6.0	.02

GROUP 1F15 - 15.00 GM SAMPLE, 90 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 300 ML, ANALYSIS BY ICP/ES & MS.
UPPER LIMITS - AG, AU, HG, W, SE, TE, TL, GA, SN = 100 PPM; MO, CO, CD, SB, BI, TH, U, B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
- SAMPLE TYPE: ROCK Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: MAR 20 2000 **DATE REPORT MAILED:** March 30/2000 **SIGNED BY** .... D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Data FA

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Morris Geological Co. Ltd. PROJECT ELKO File # 9903339

9053 Hwy #3 W., Fernie BC V0B 1M1 Submitted by: R.J. Morris

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
98-1	1	1	8	13	<.3	8	3	834	1.27	2	<.1	<2	7	28	<.2	1	<.5	8	5.12	.067	41	15	2.70	19	<.01	<3	.47	.01	.22	<2
98-2	2	2	<3	6	<.3	4	1	1044	1.16	8	<.1	<2	<2	97	<.2	2	<.5	4	18.26	.023	15	4	10.90	1101	<.01	<3	.12	.02	.07	<2
98-3	1	5	5	20	<.3	12	11	1040	1.65	12	<.1	<2	<2	186	<.2	3	2	26	18.03	.024	15	10	9.92	116	<.01	<3	.26	.01	.01	<2
98-4	2	1	<3	58	<.3	8	2	589	1.23	2	<.1	<2	<2	81	<.2	1	<.5	8	2.85	.034	19	13	1.42	210	<.01	<3	.32	.01	.06	2
98-7	2	3	<3	37	<.3	7	3	114	1.14	<2	<.1	<2	3	11	<.2	<.5	<.5	5	.06	.016	9	25	1.12	561	<.01	4	.95	.01	.09	10
98-8	22	21	101	9	<.3	11	13	3287	2.60	10	<.1	<2	<2	59	.3	3	2	3	11.93	.021	15	6	5.80	81	<.01	<3	.11	.01	.08	<2
98-9	1	1	<3	7	<.3	5	3	305	.62	4	<.1	<2	2	40	<.2	1	<.5	4	6.29	.047	22	7	3.79	13	<.01	<3	.36	.01	.27	2
98-10	2	6	<3	49	<.3	33	12	496	3.38	10	<.1	<2	<2	112	.2	1	1	27	6.59	.065	14	33	3.41	54	<.01	<3	.69	.01	.05	<2
RE 98-10	1	6	3	48	<.3	33	12	494	3.29	11	<.1	<2	<2	111	.2	1	<.5	26	6.57	.065	14	33	3.39	55	<.01	<3	.69	.01	.05	2
98-13	3	6	<3	8	<.3	13	10	61	2.43	3	<.1	<2	3	19	<.2	<.5	<.5	3	.39	.009	19	12	.42	116	<.01	8	.34	.02	.17	3
98-16	1	15	72	33	.3	13	7	58	2.31	43	<.1	<2	7	53	<.2	4	<.5	7	1.20	.050	16	8	.48	100	<.01	8	.60	<.01	.37	2
98-17	1	<1	6	19	<.3	11	9	417	1.87	<2	<.1	<2	10	16	.2	1	<.5	5	1.25	.058	49	9	.35	290	<.01	6	.43	.01	.27	2
STANDARD C3	29	63	37	172	5.4	34	12	765	3.32	52	18	3	19	30	21.6	13	25	78	.60	.101	21	182	.60	150	.09	20	1.84	.04	.16	17
STANDARD G-2	2	2	<3	43	<.3	8	4	549	2.03	<2	<.1	<2	3	75	<.2	<.5	<.5	41	.68	.107	12	83	.61	234	.13	<3	.97	.08	.49	6

GROUP 1D - 0.50 GM SAMPLE, 3 ML 2-2-2 AQUA REGIA, 1 HOUR AT 95 DEG. C, DILUTED TO 10 ML, ICP-ES ANALYSIS. LEACH IS PARTIAL FOR SOME MINERALS.
UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: ROCK Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

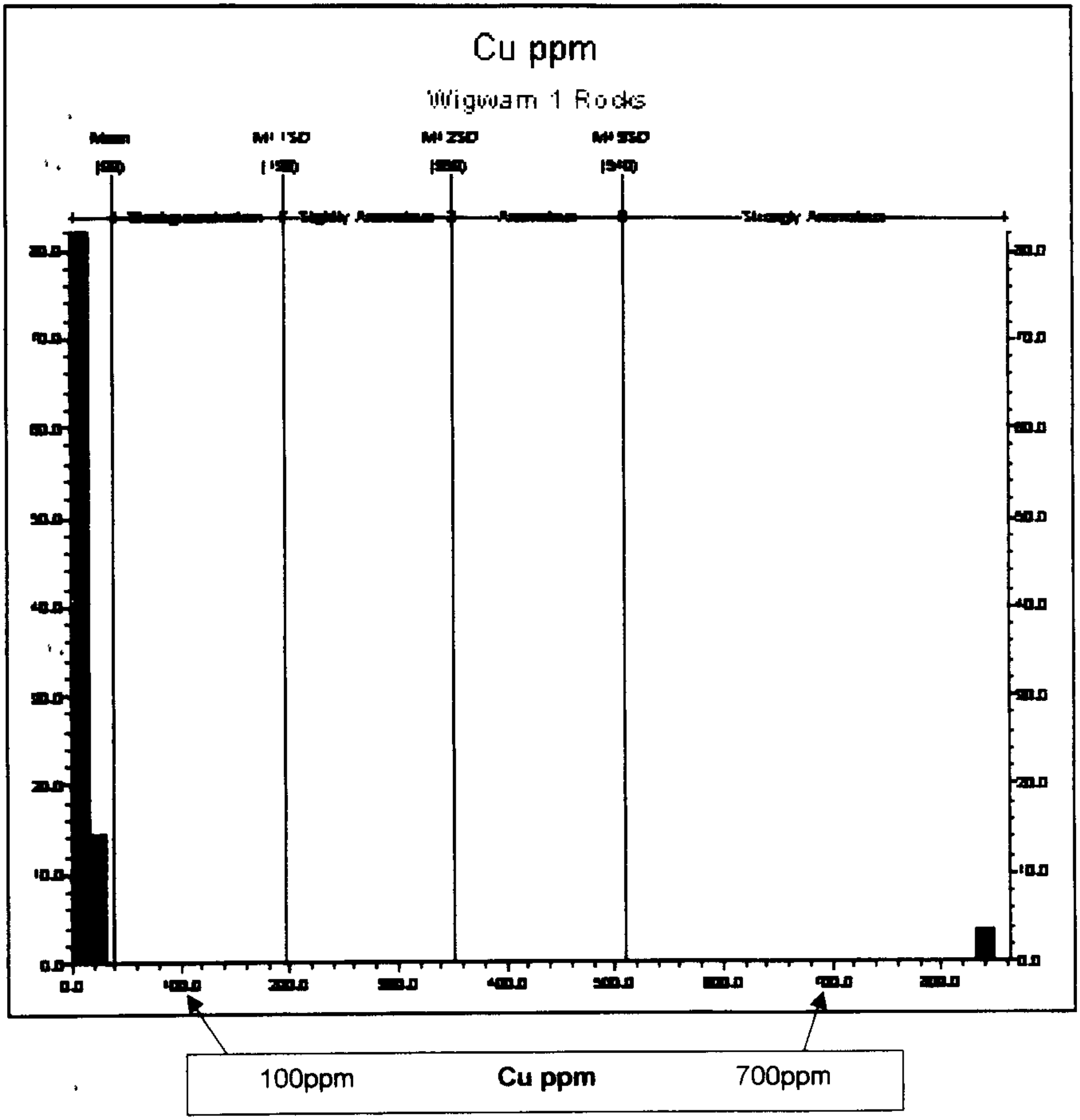
DATE RECEIVED: SEP 9 1999 **DATE REPORT MAILED:** Sept 16/99 **SIGNED BY**..........D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Data ___ FA ___

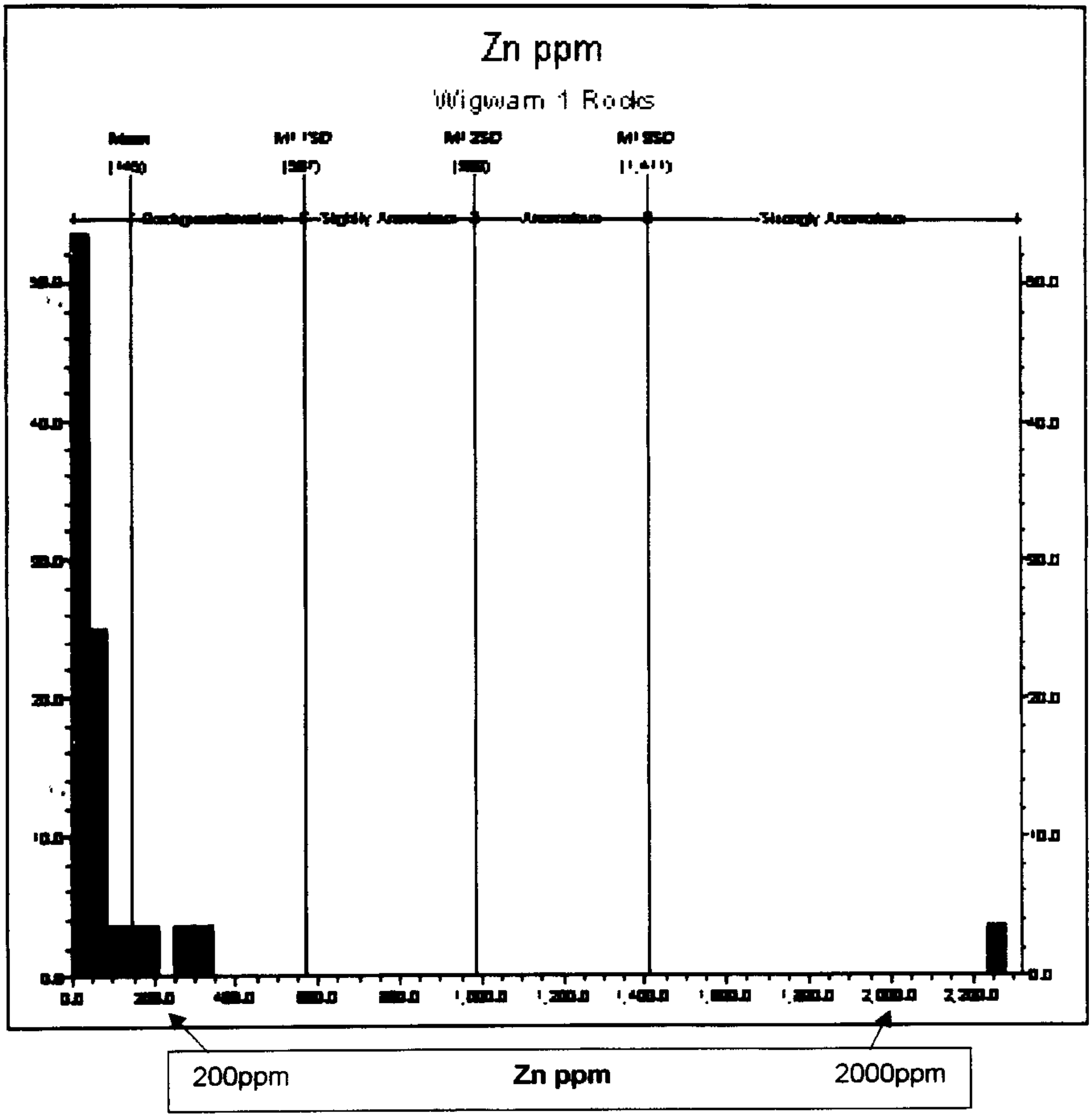
Appendix 5

Selected Frequency Histograms, Rock Samples

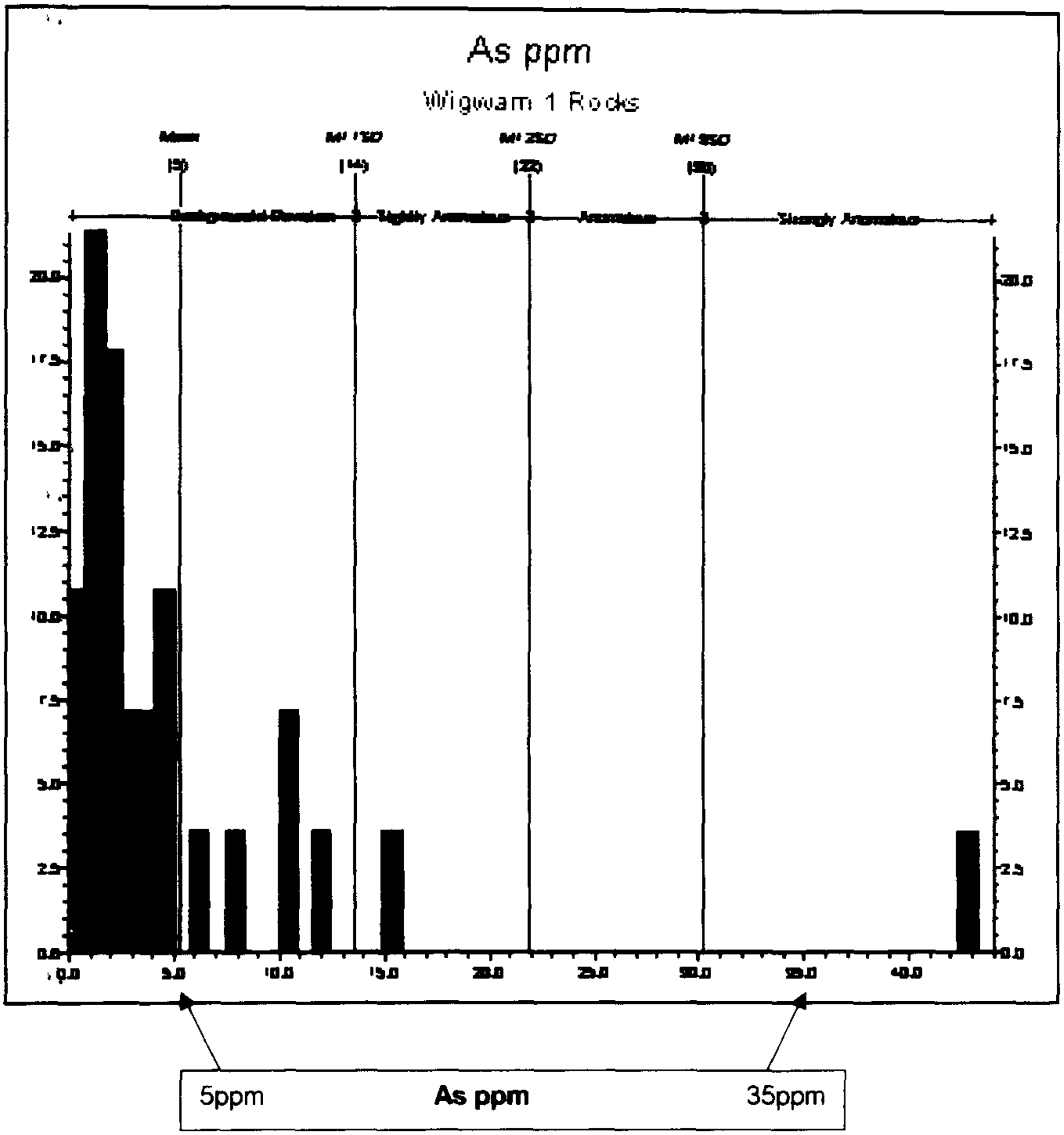
Copper in Rocks



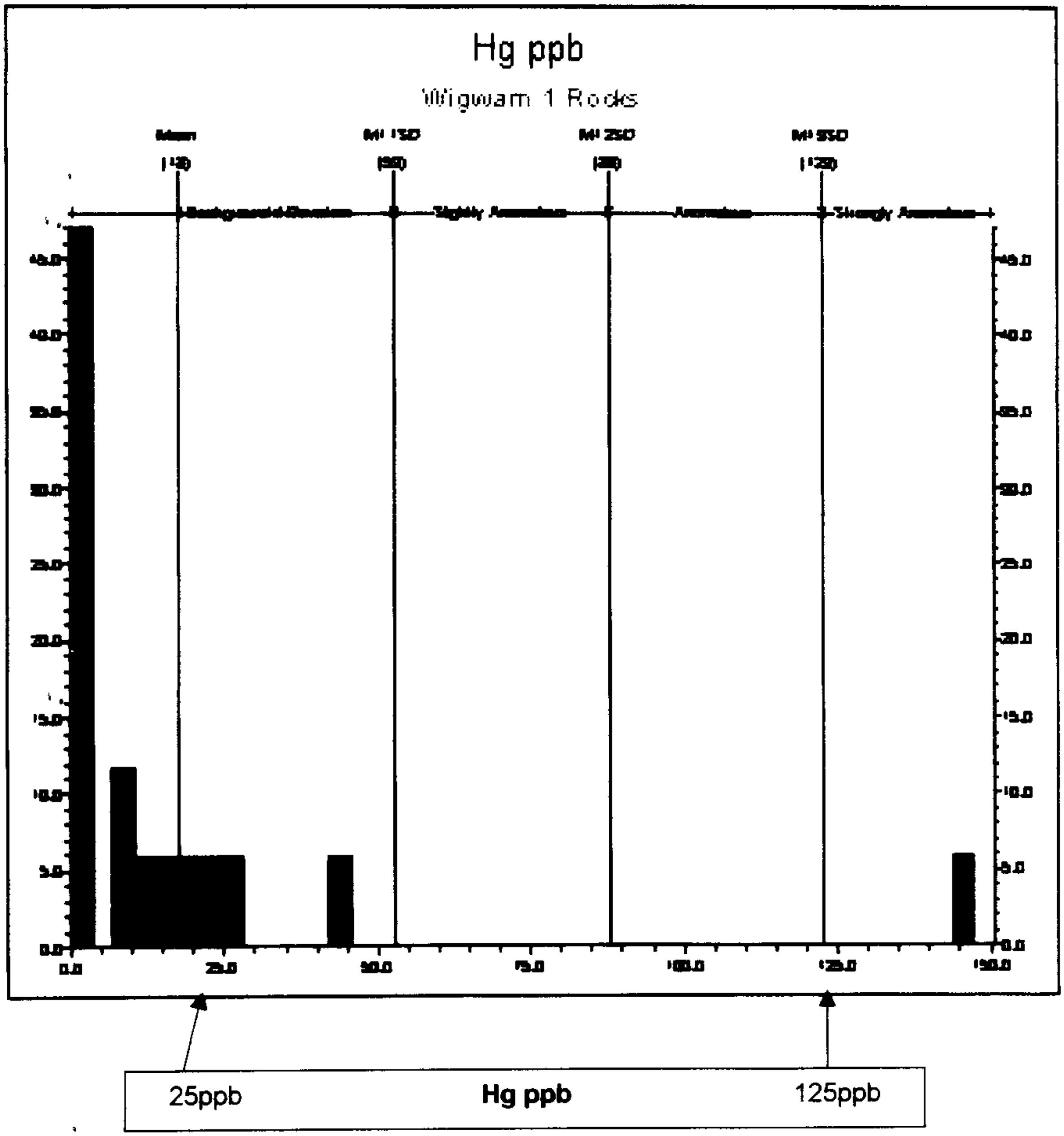
Zinc in Rocks



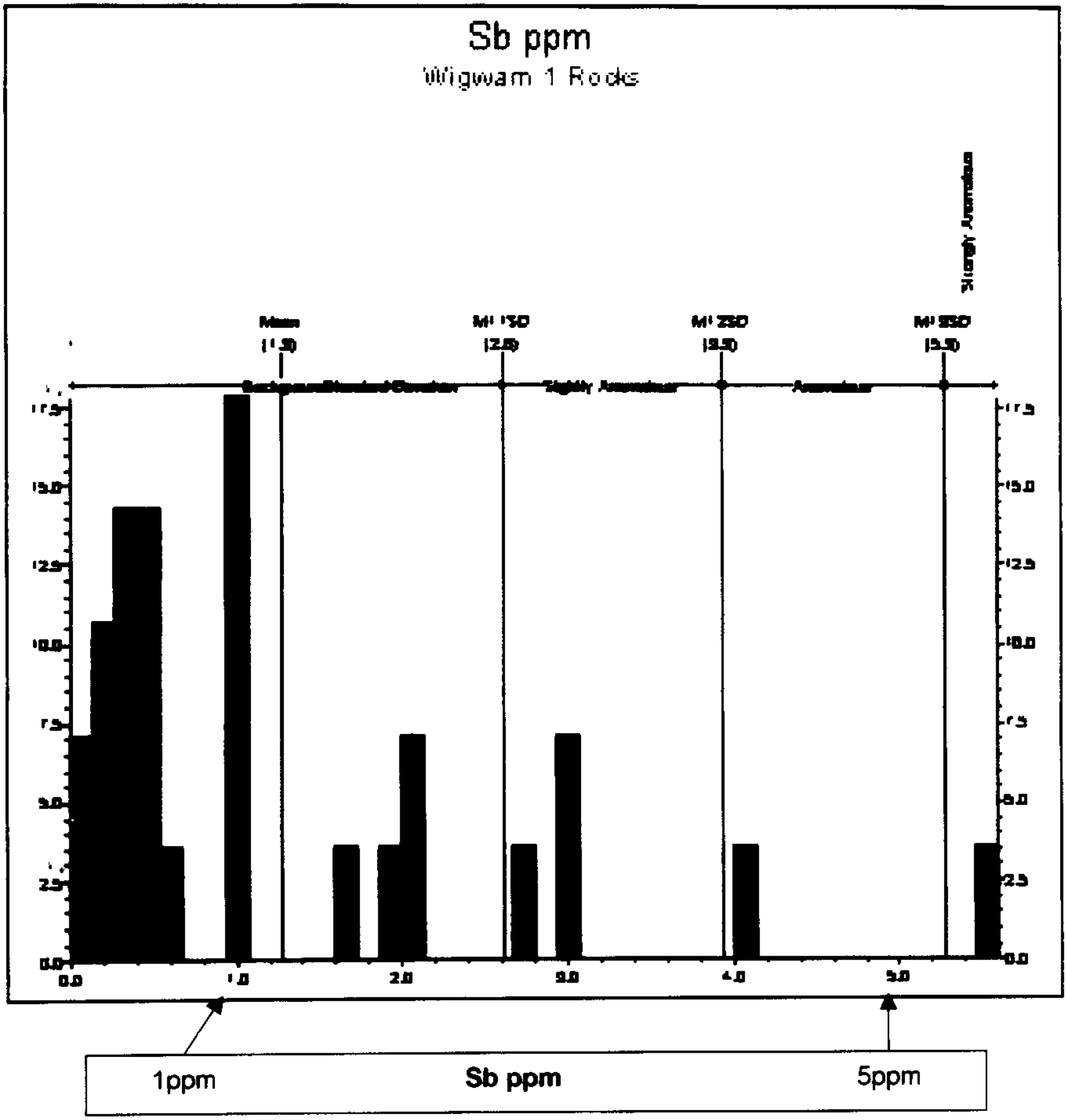
Arsenic in Rocks



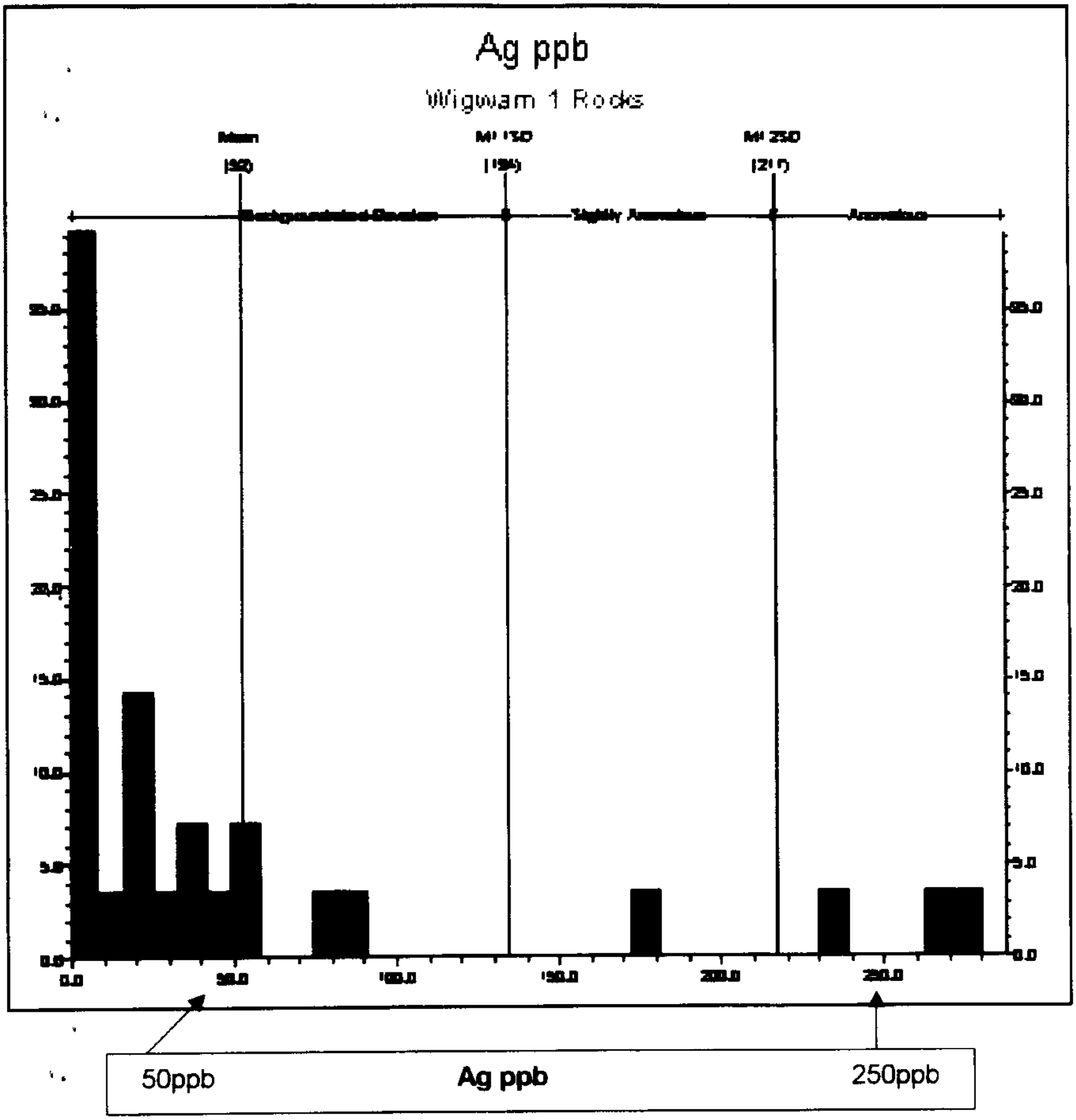
Mercury in Rocks



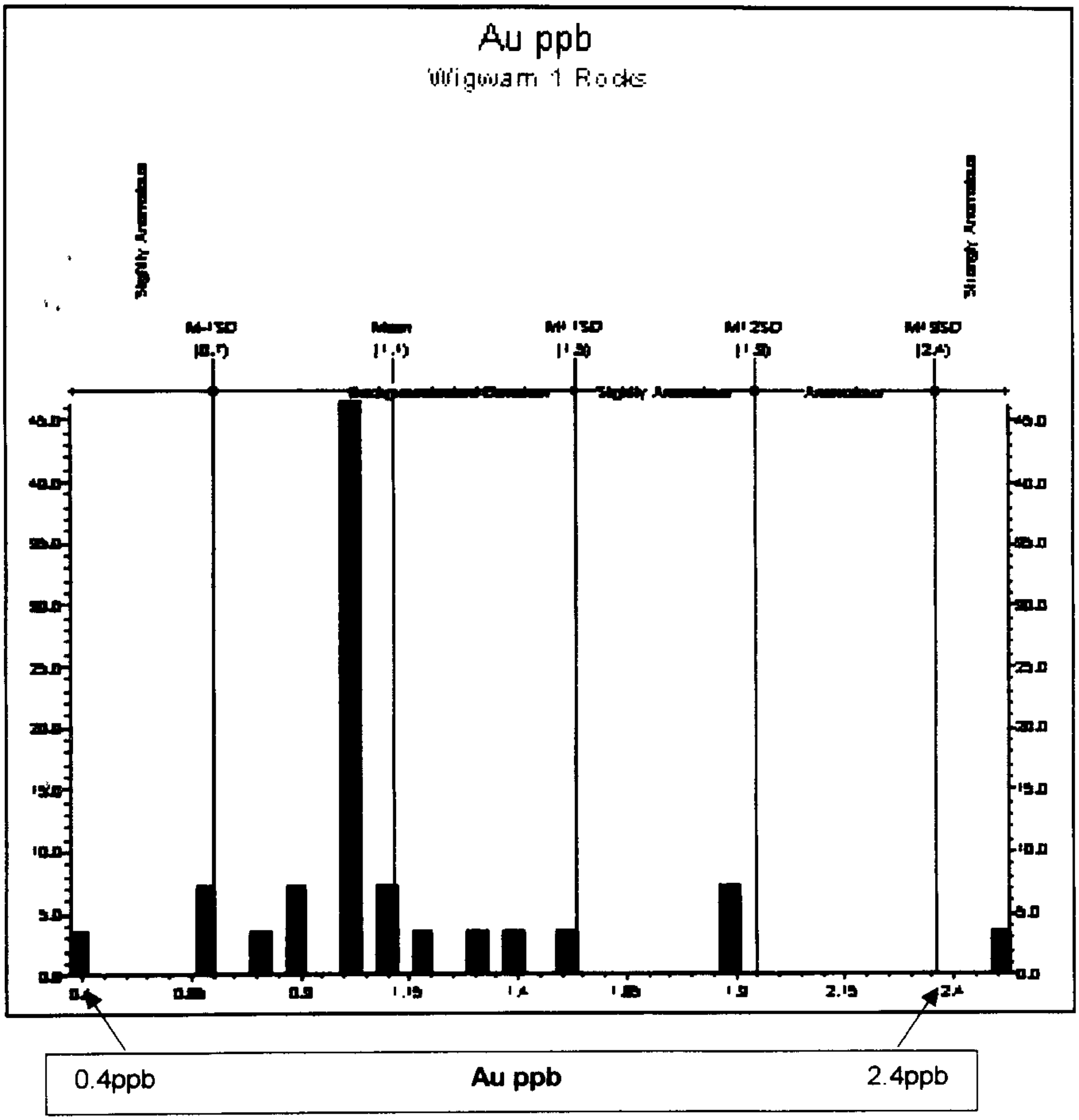
Antimony in Rocks



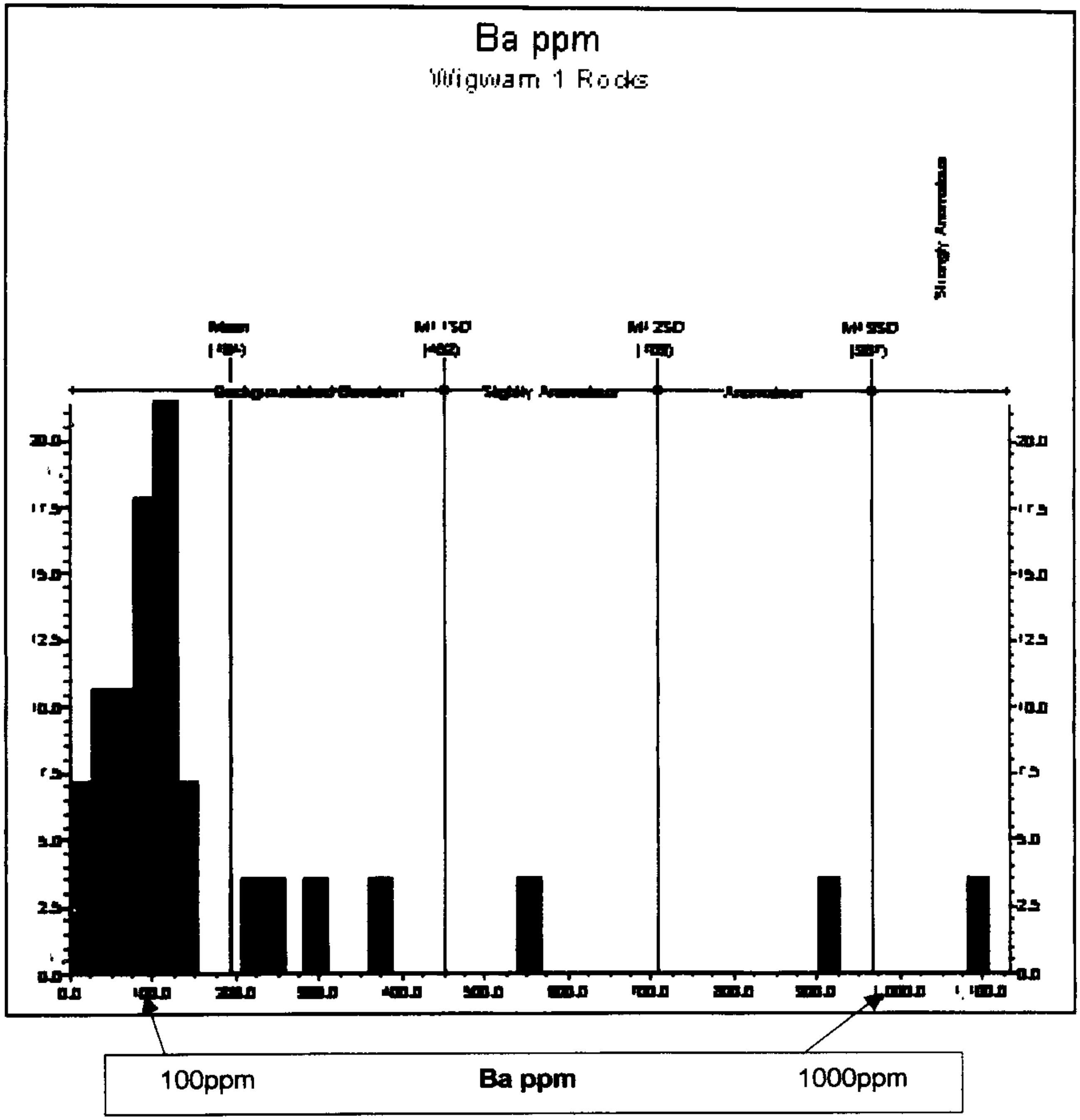
Silver in Rocks



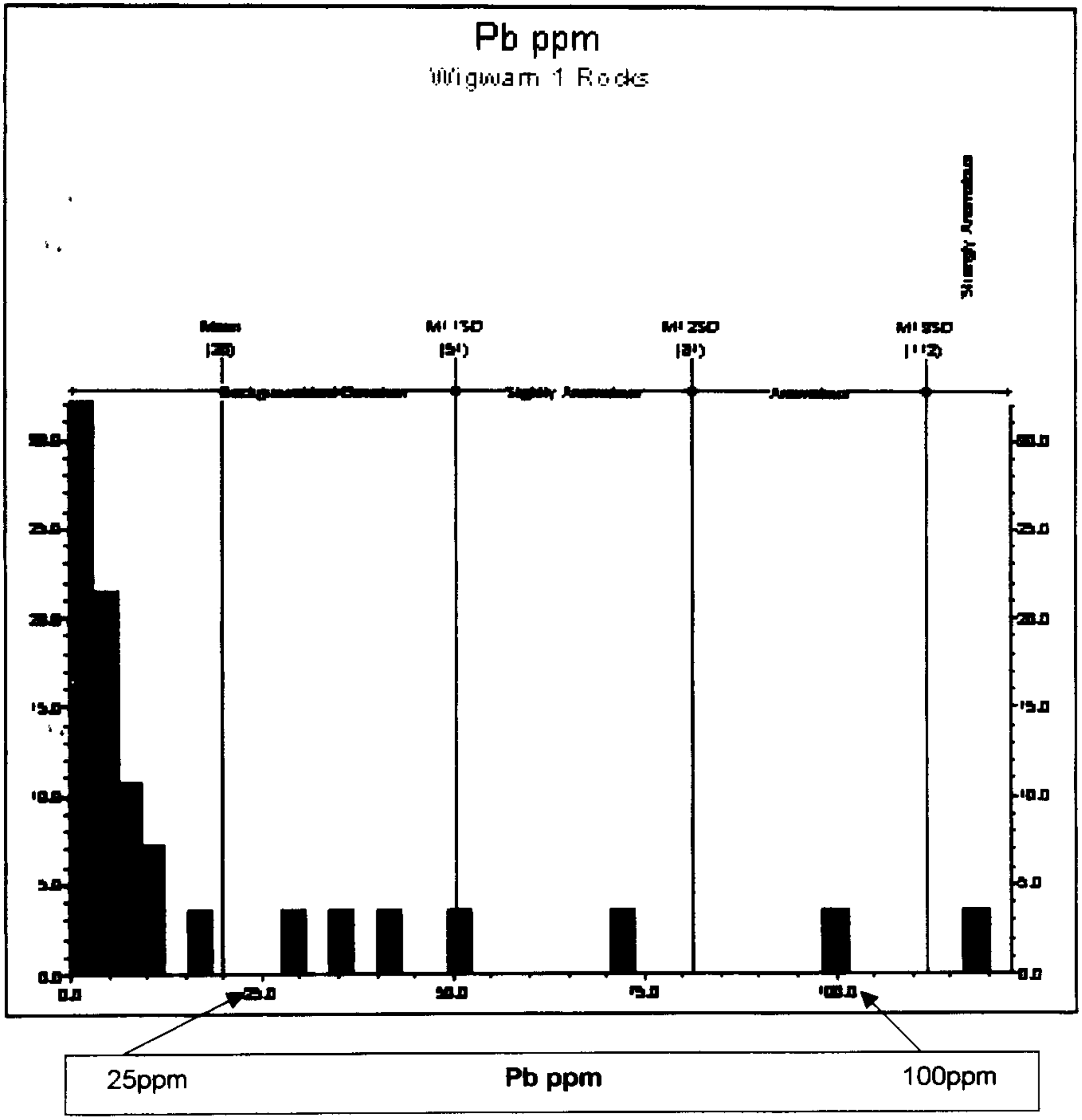
Gold in Rocks



Barium in Rocks



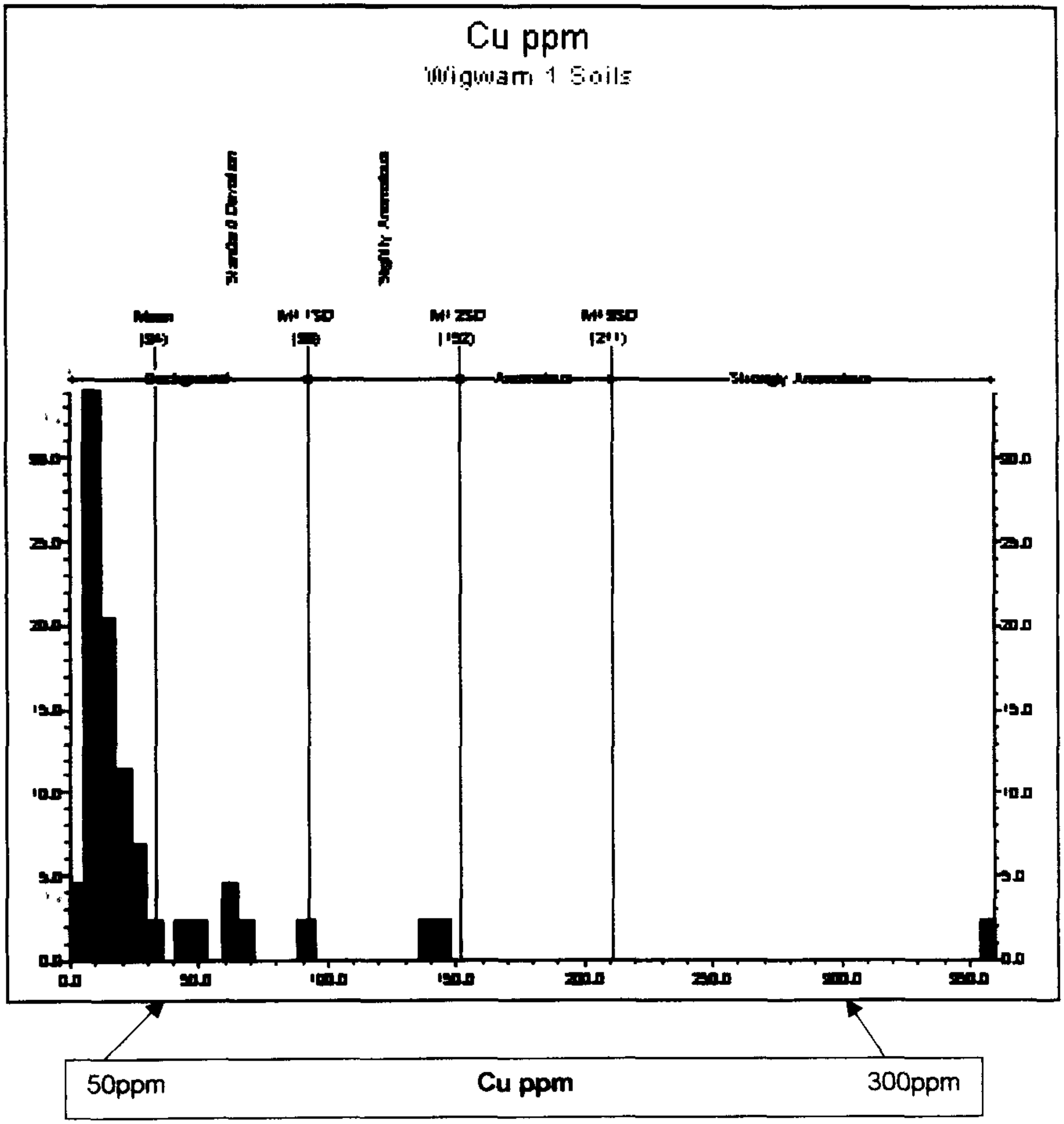
Lead in Rocks



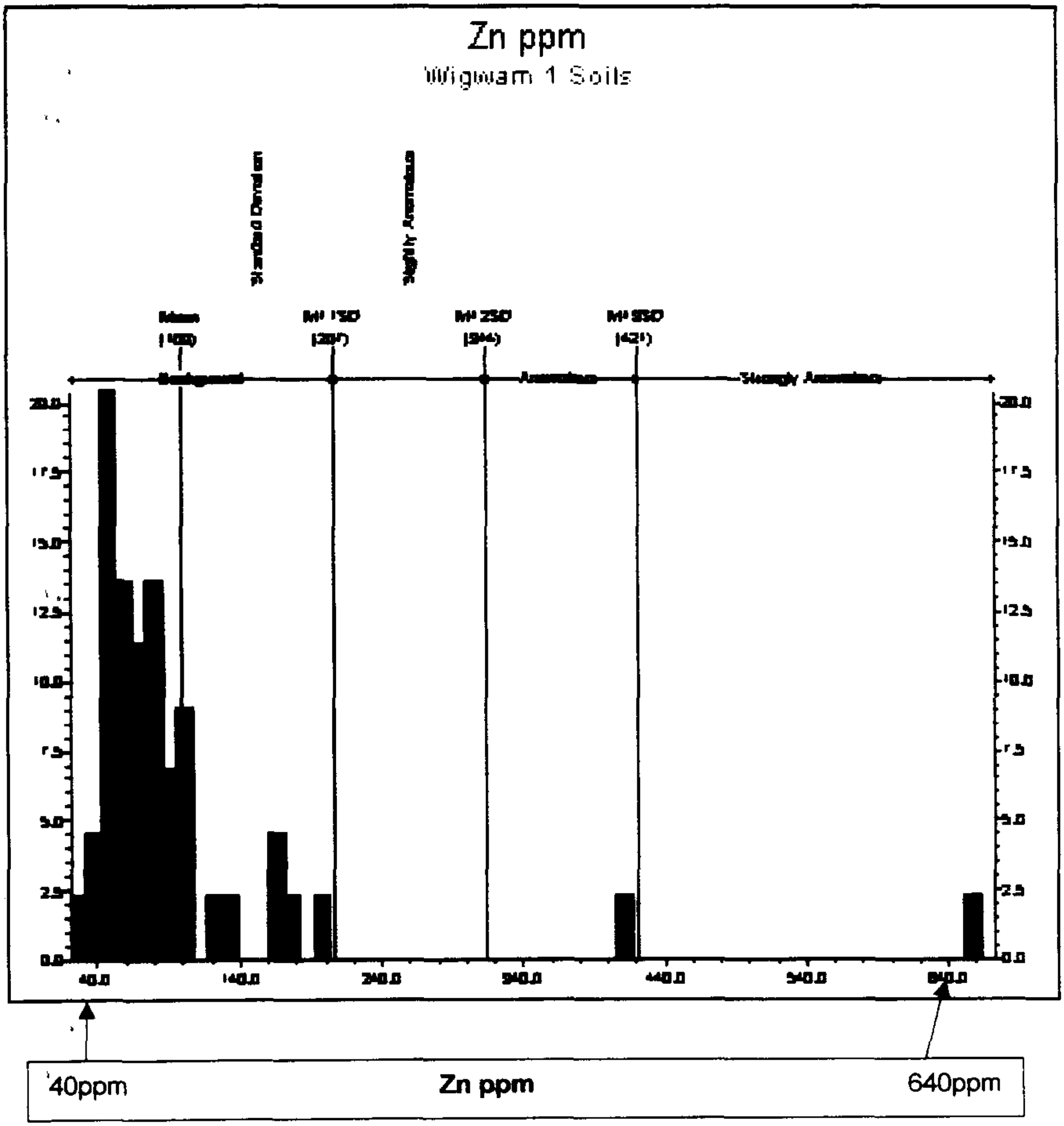
Appendix 6

Selected Frequency Histograms, Soil Samples

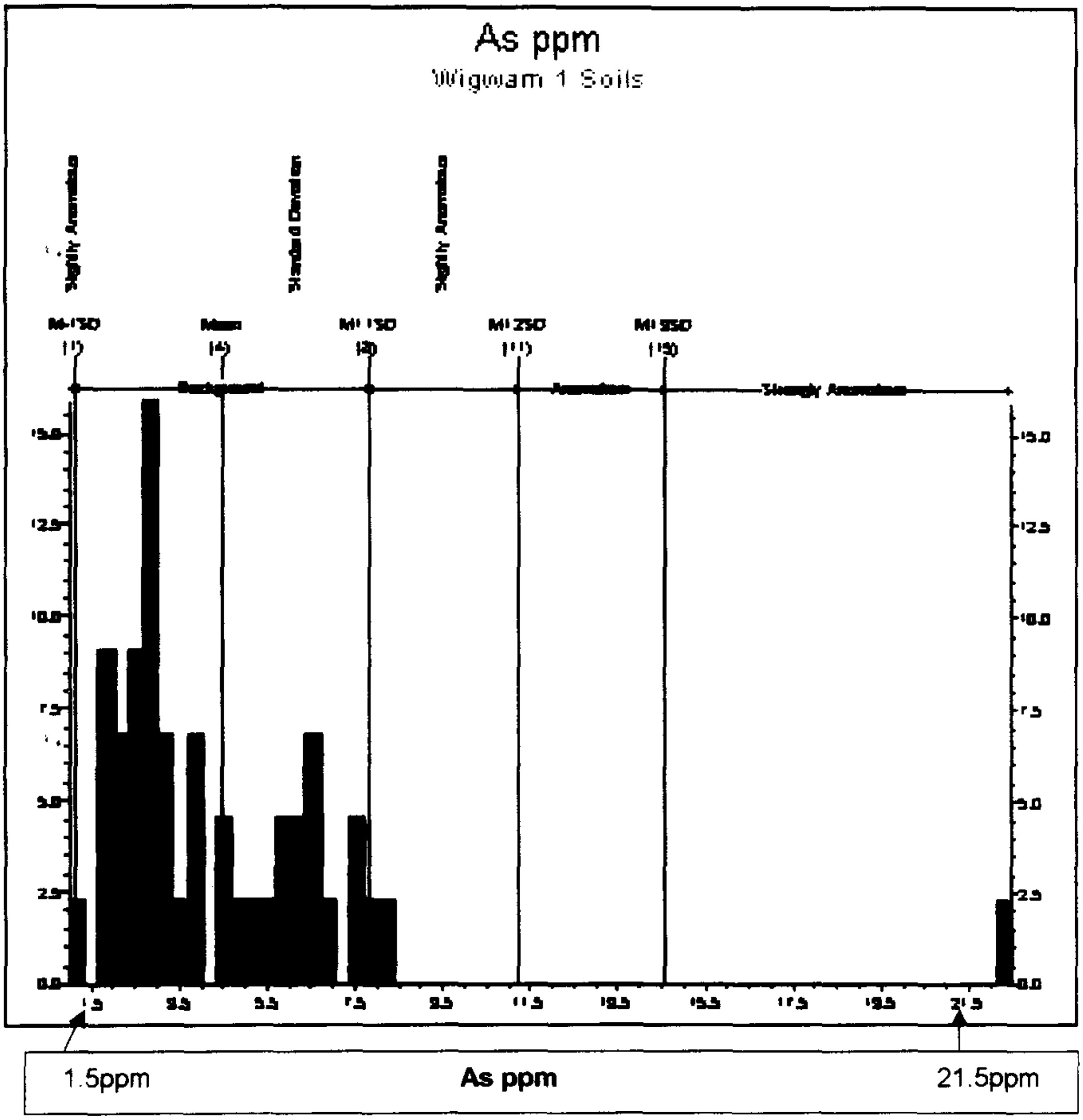
Copper in Soils



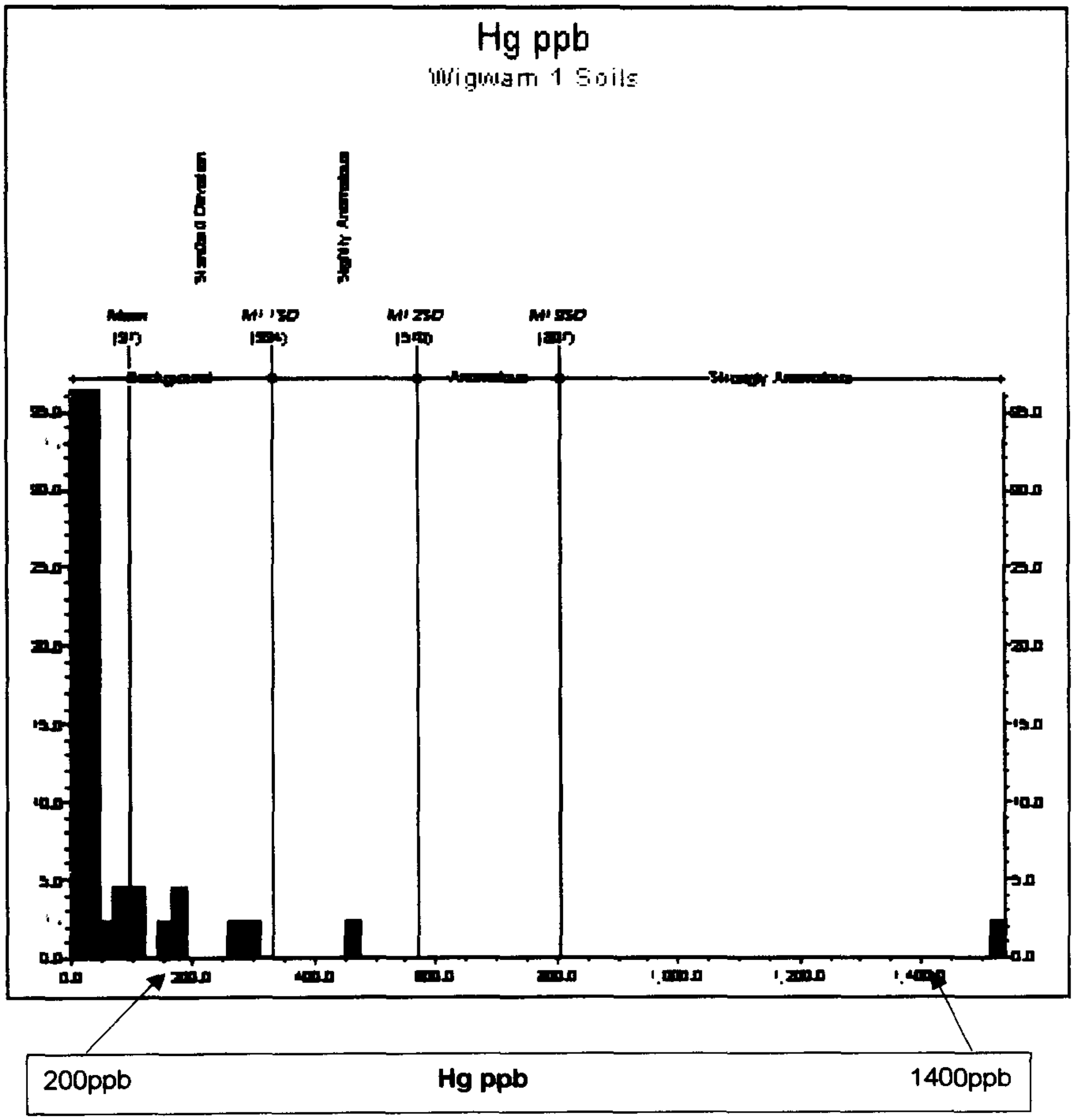
Zinc in Soils



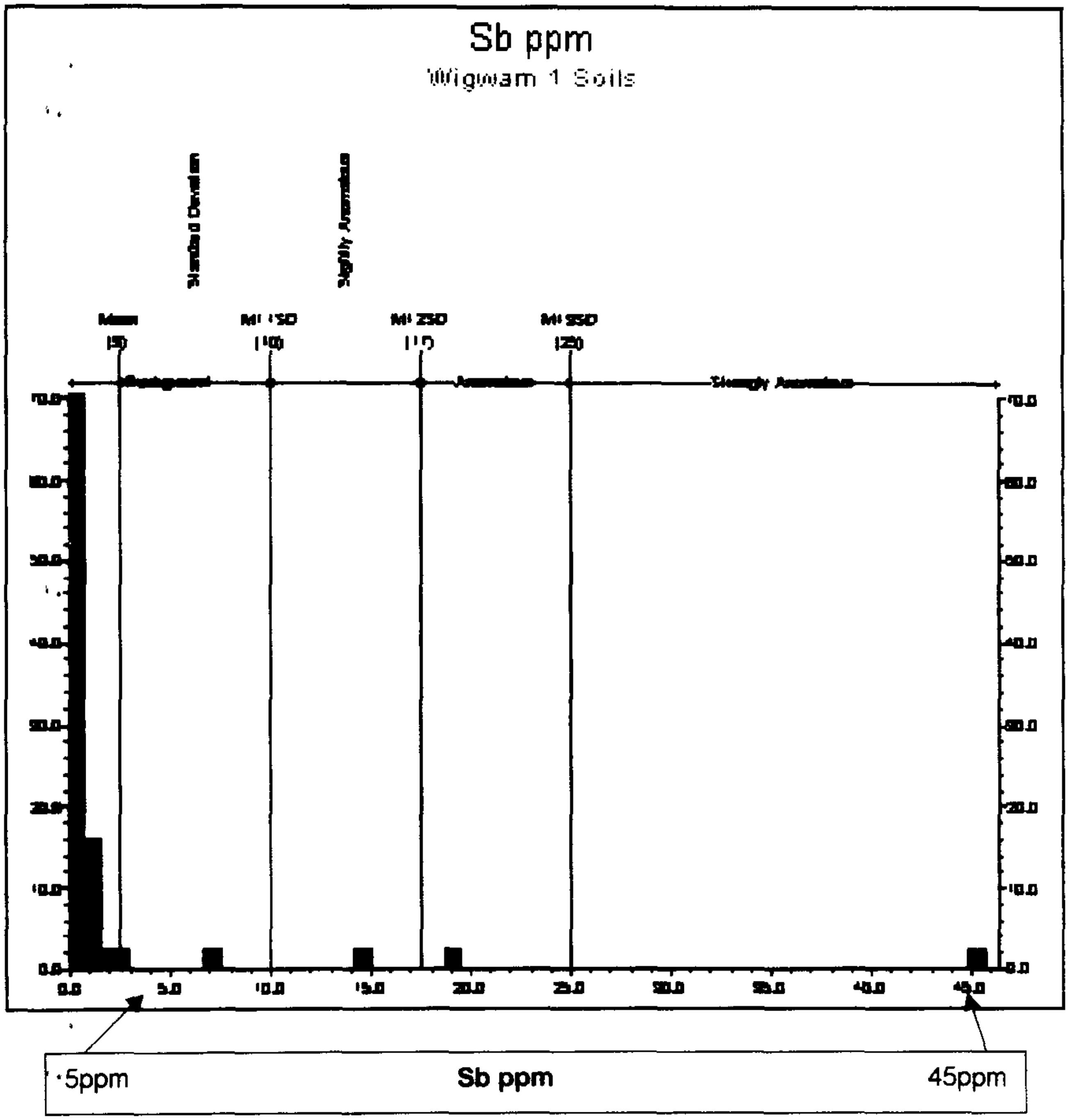
Arsenic in Soils



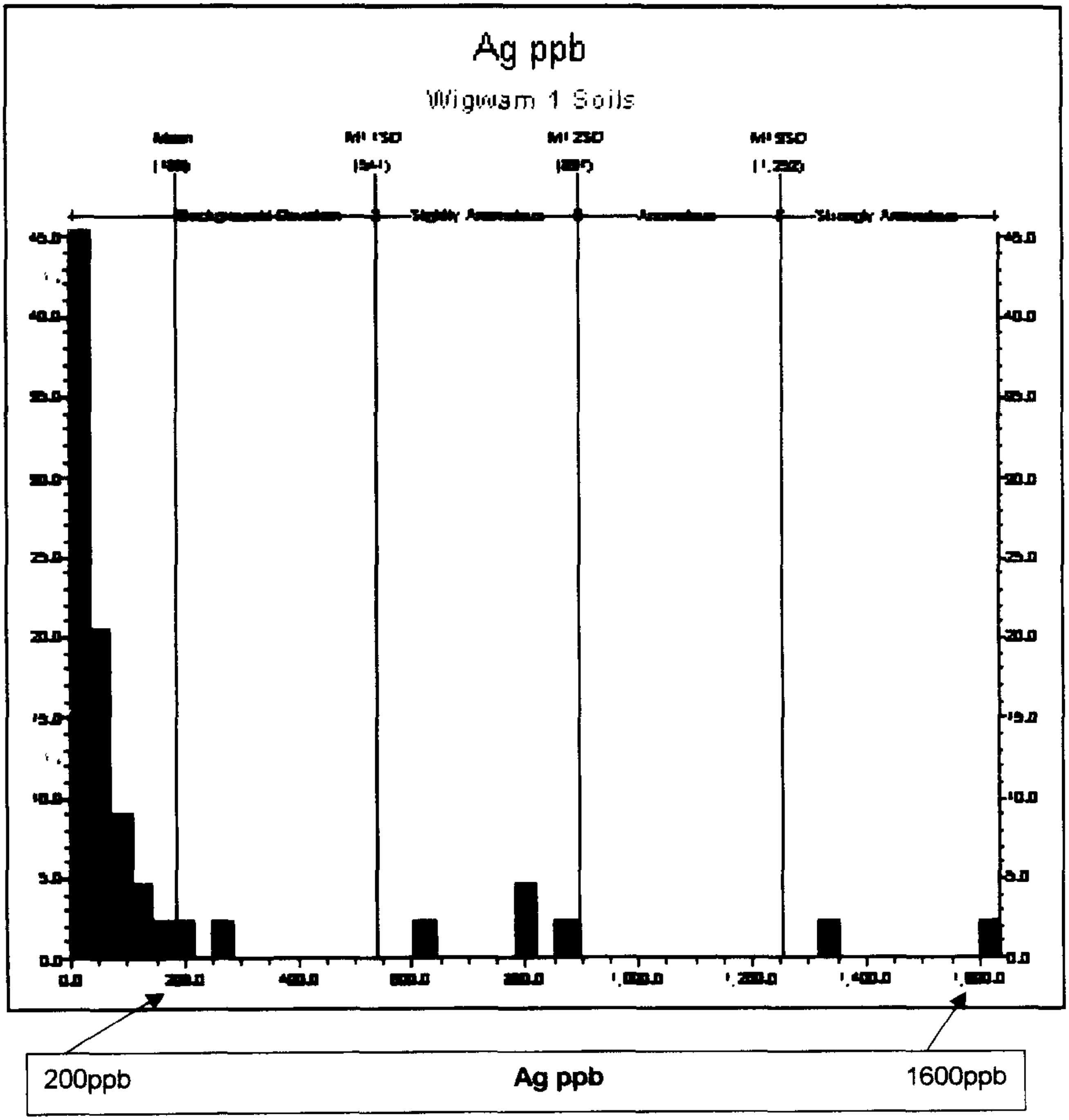
Mercury in Soils



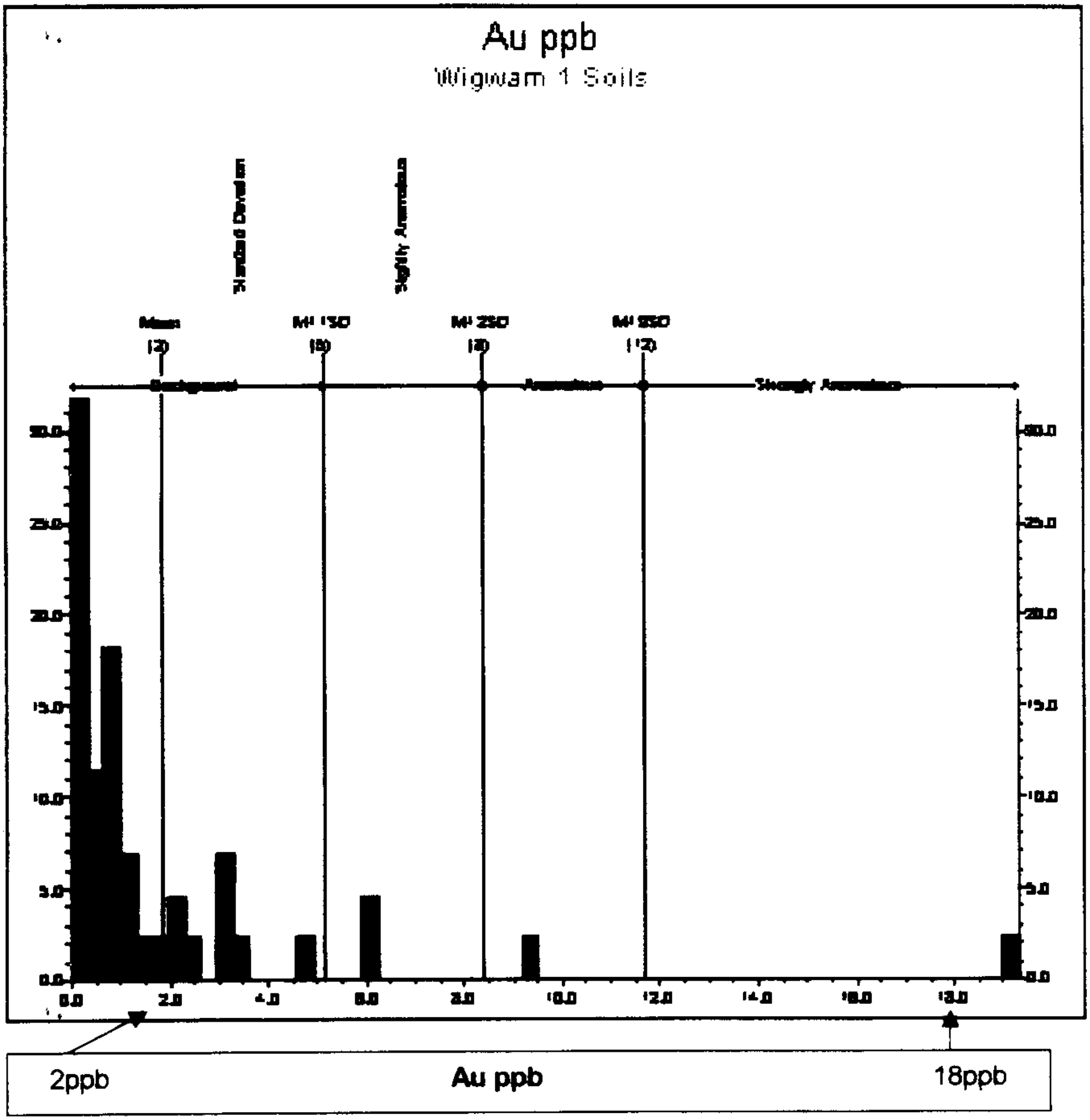
Antimony in Soils



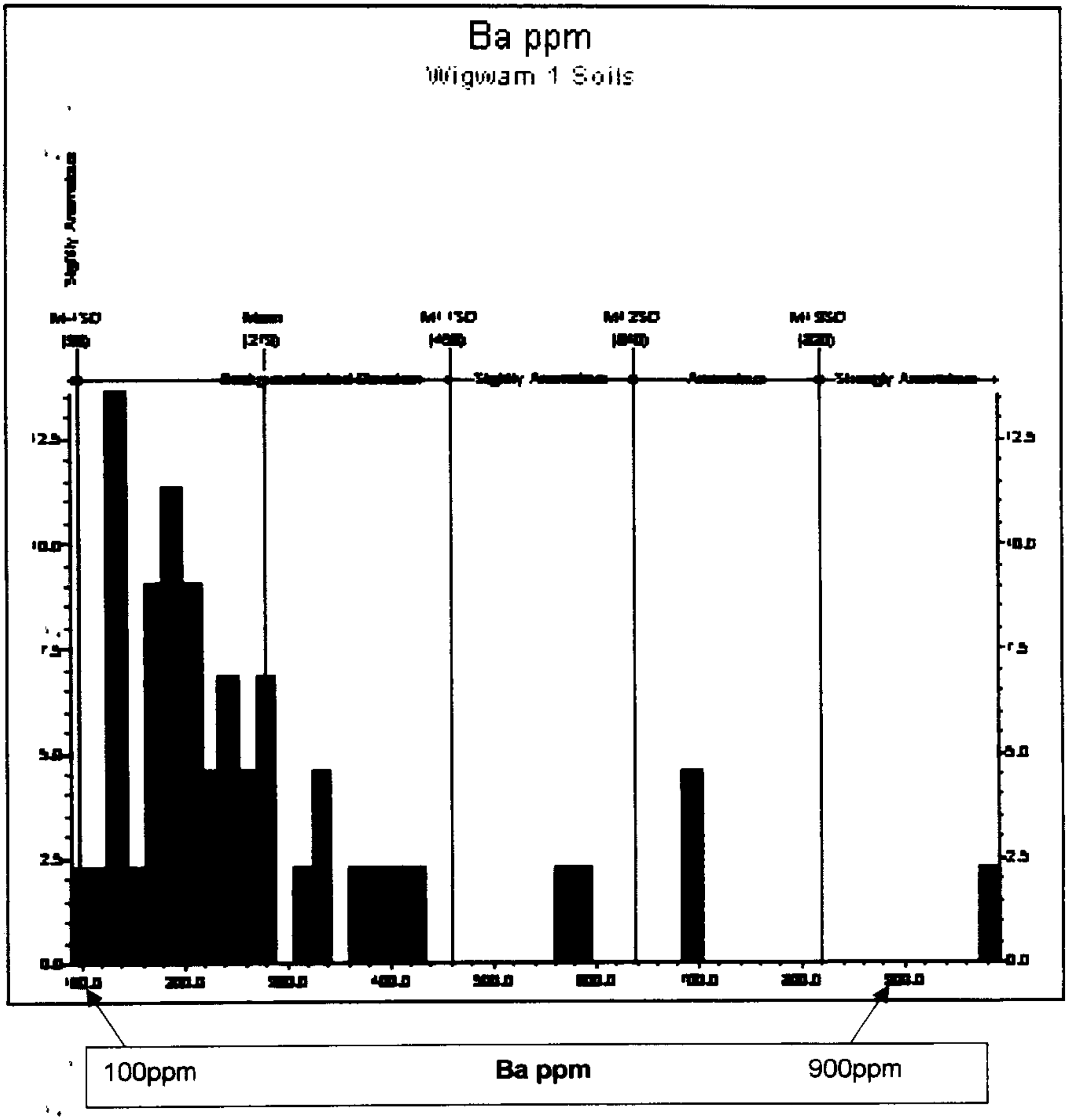
Silver in Soils



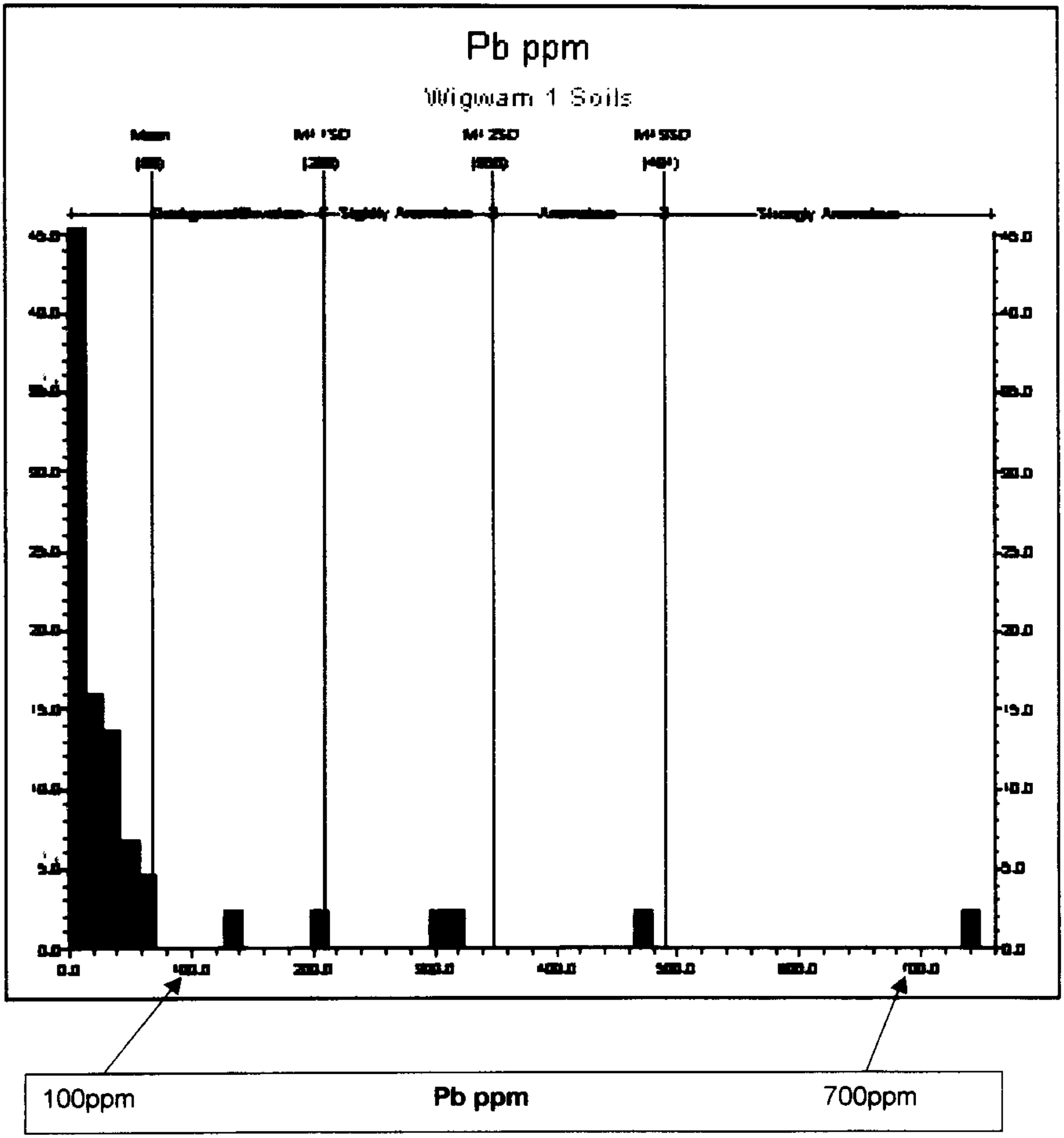
Gold in Soils



Barium in Soils



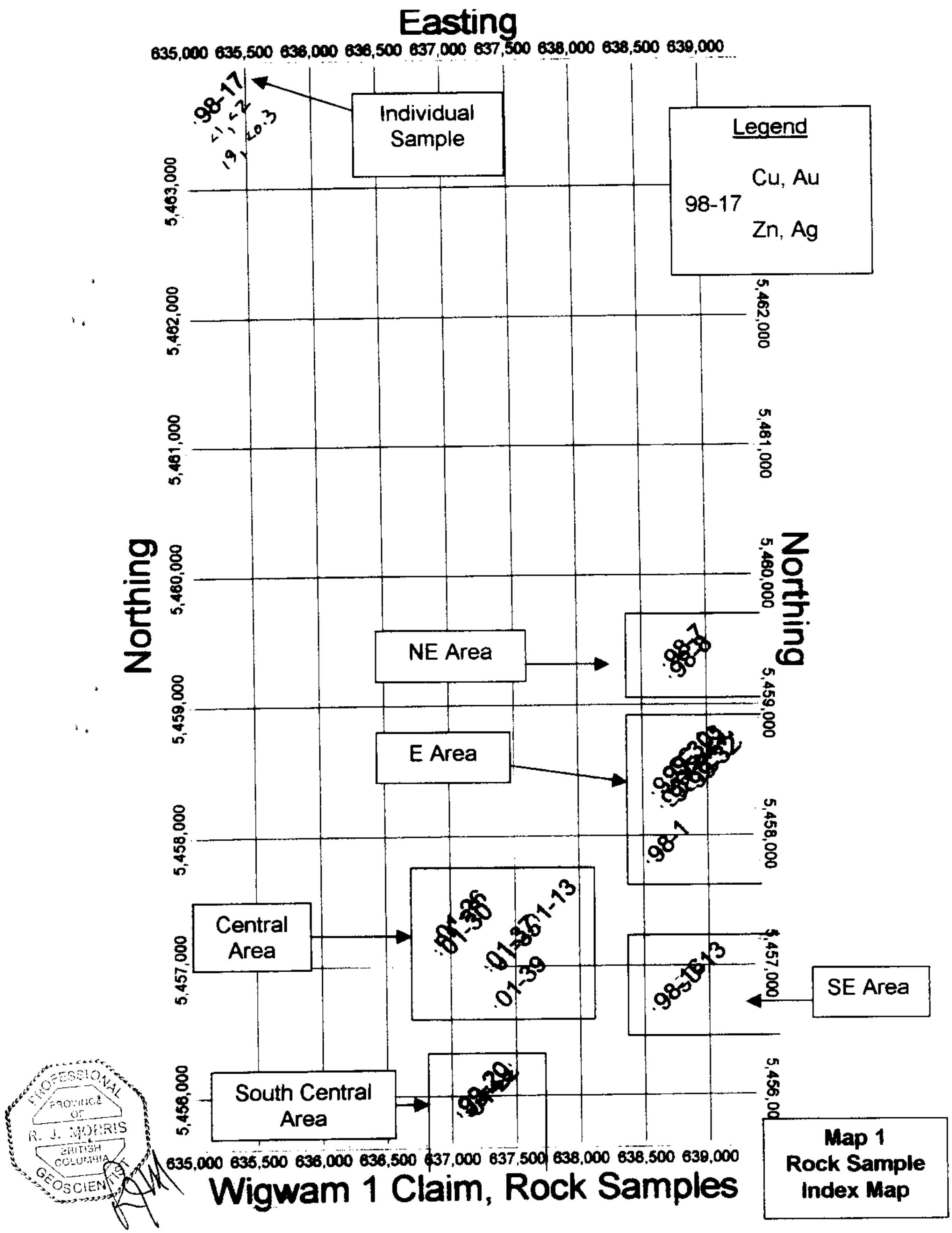
Lead in Soils

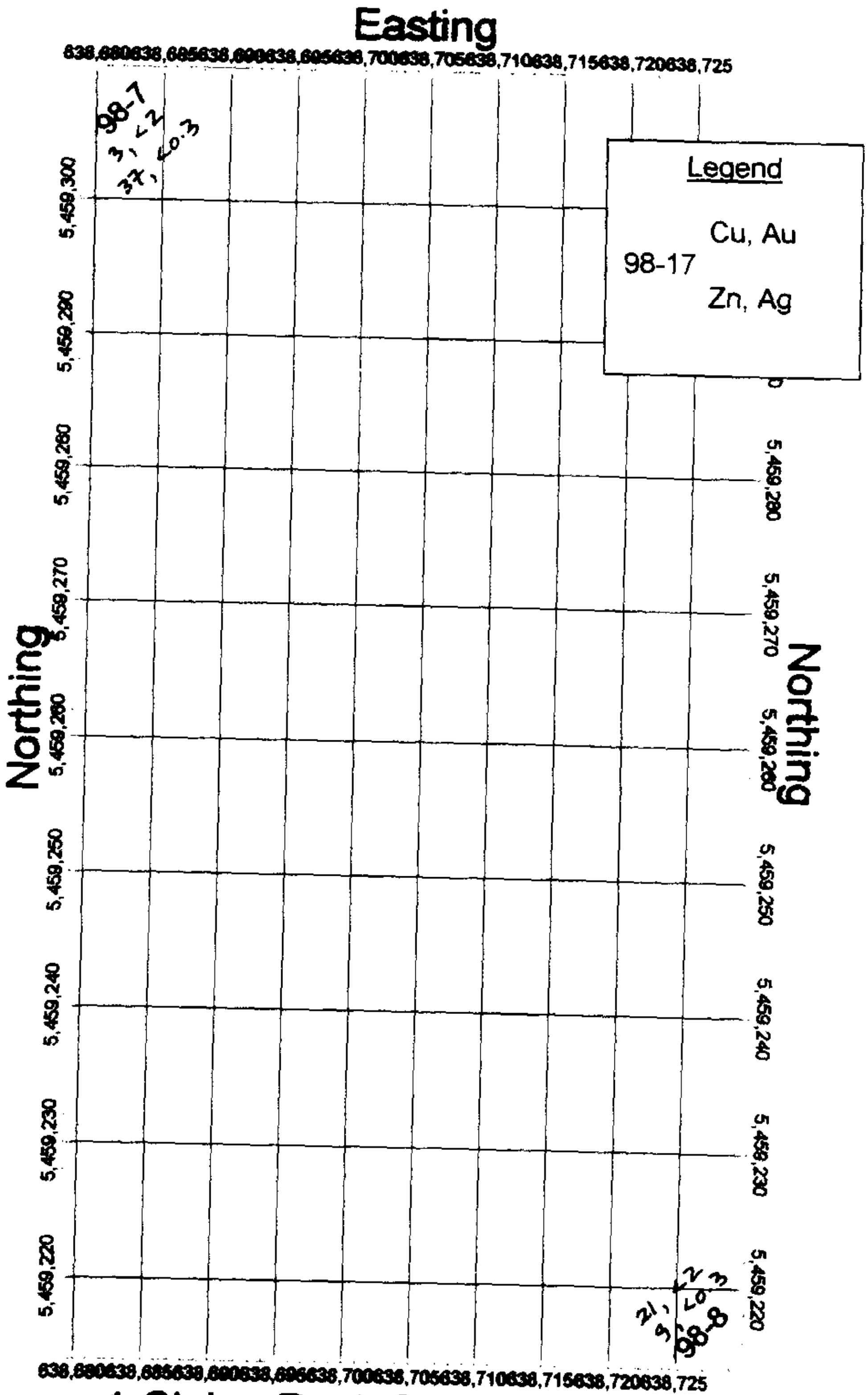


Appendix 7

Rock Sample Plots

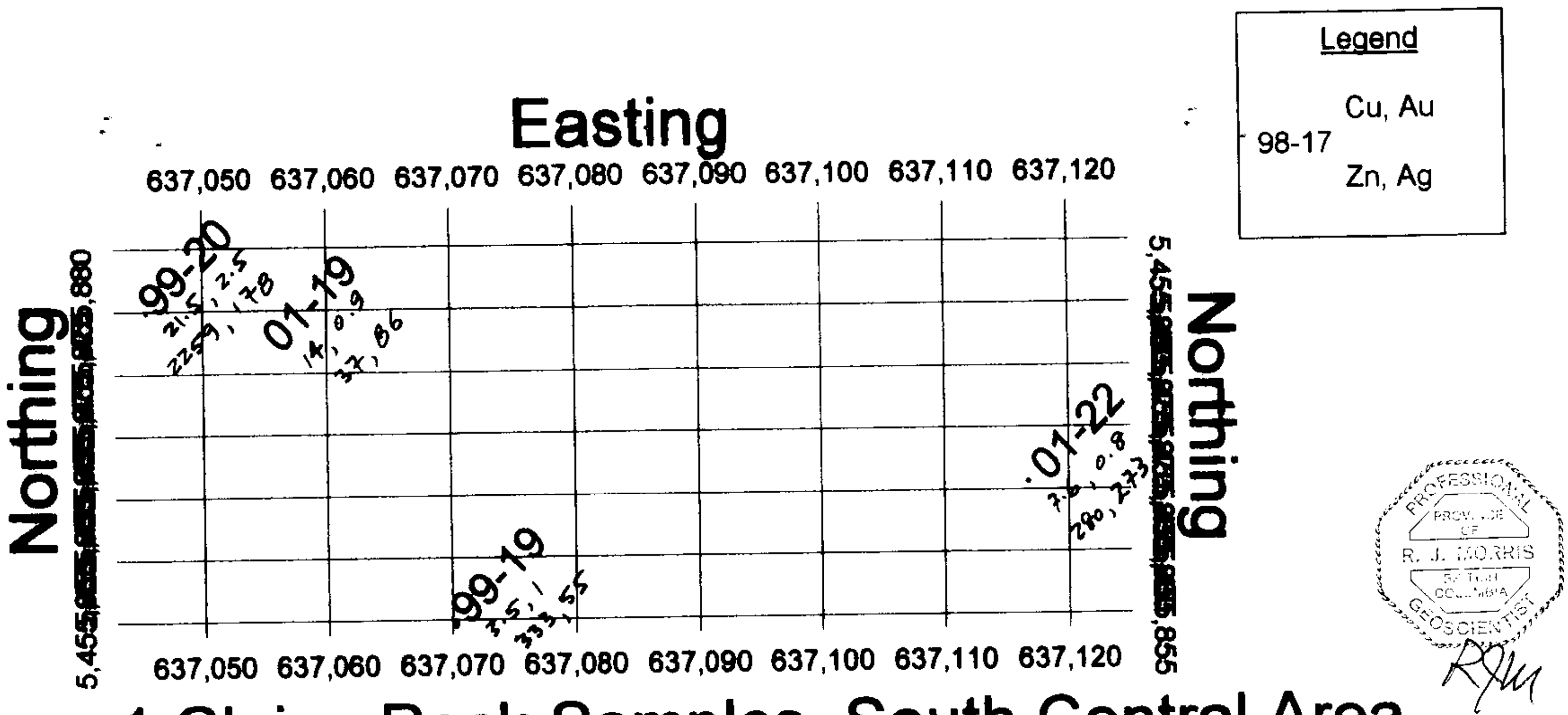
1 Index Plot
2 NE Area
3 South Central Area
4 SE Area
5 E Area
6 Central Area


Easting
635,000 635,500 636,000 636,500 637,000 637,500 638,000 638,500 639,000
Northing
5,463,000
5,462,000
5,461,000
5,460,000
5,459,000
5,458,000
5,457,000
5,456,000
Individual Sample
98-17
Legend
98-17
Cu, Au
Zn, Ag
NE Area
E Area
98-1
Central Area
01-39
SE Area
South Central Area
Wigwam 1 Claim, Rock Samples
Map 1
Rock Sample
Index Map
PROFESSIONAL
PROVINCE OF
R. J. MORRIS
BRITISH COLUMBIA
GEOSCIENTIST



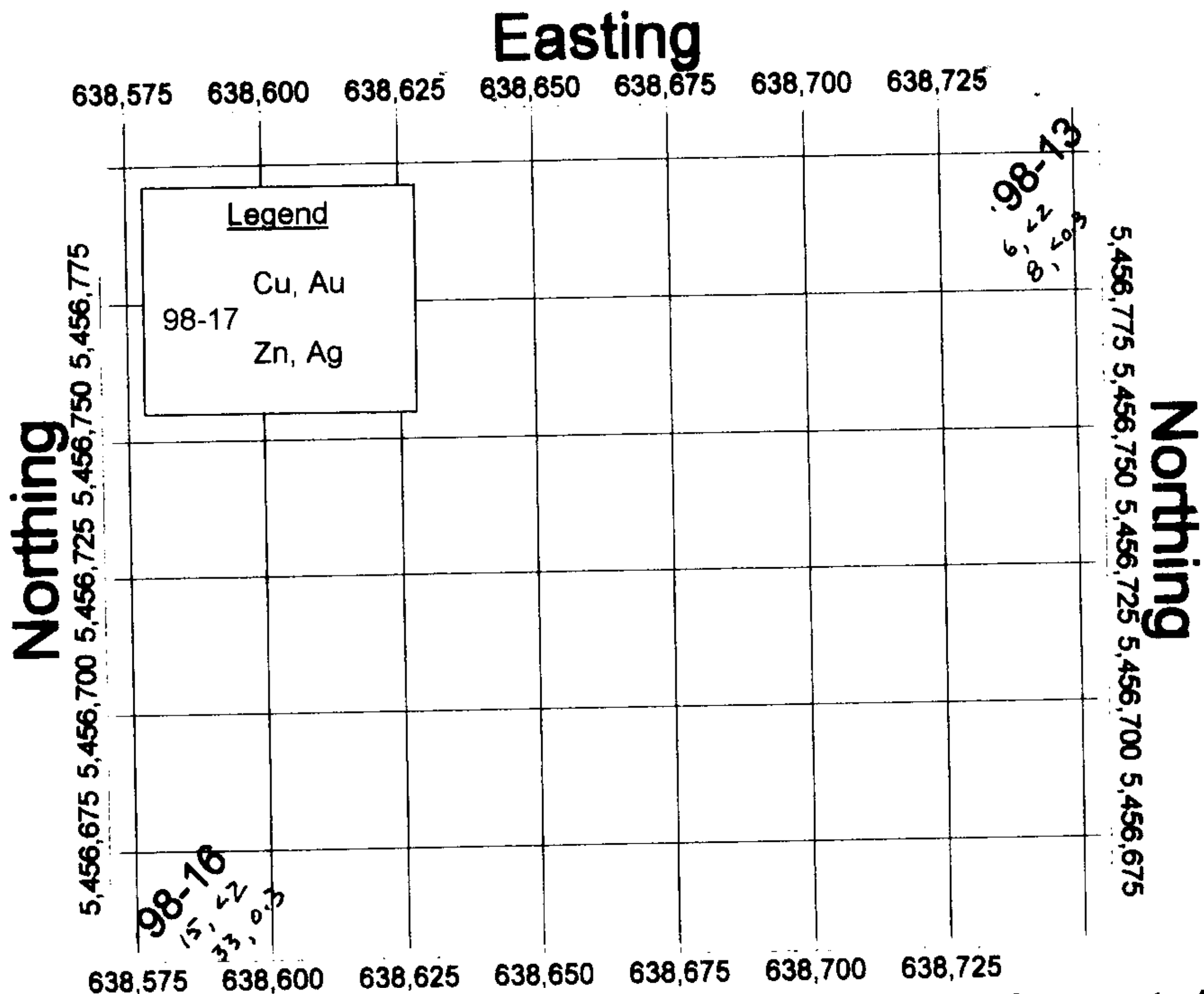
Wigwam 1 Claim, Rock Samples, Northeast Area

Map 2 **Rock Samples, NE Area**



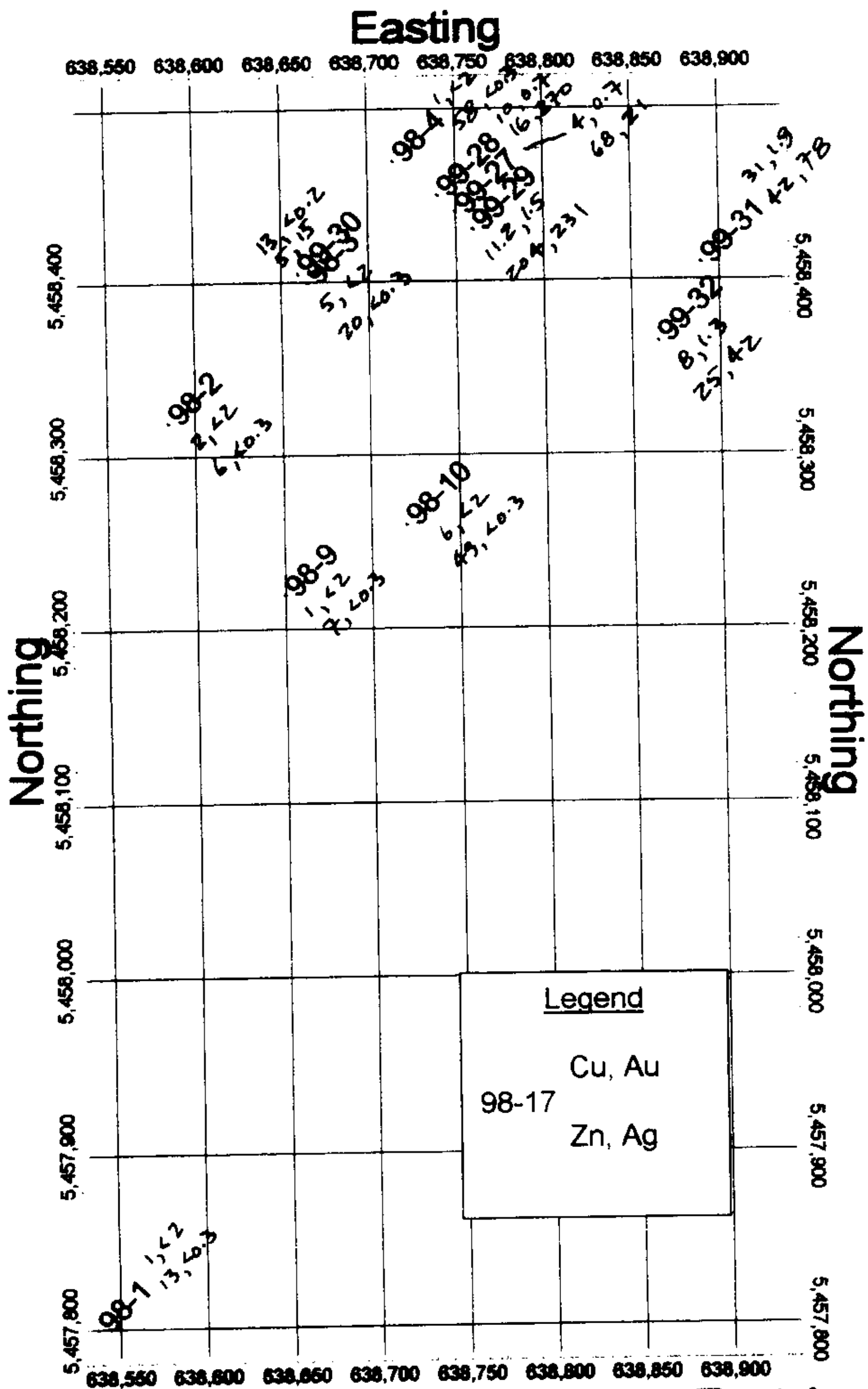
Wigwam 1 Claim, Rock Samples, South Central Area

Map 3 Rock Samples, South Central Area



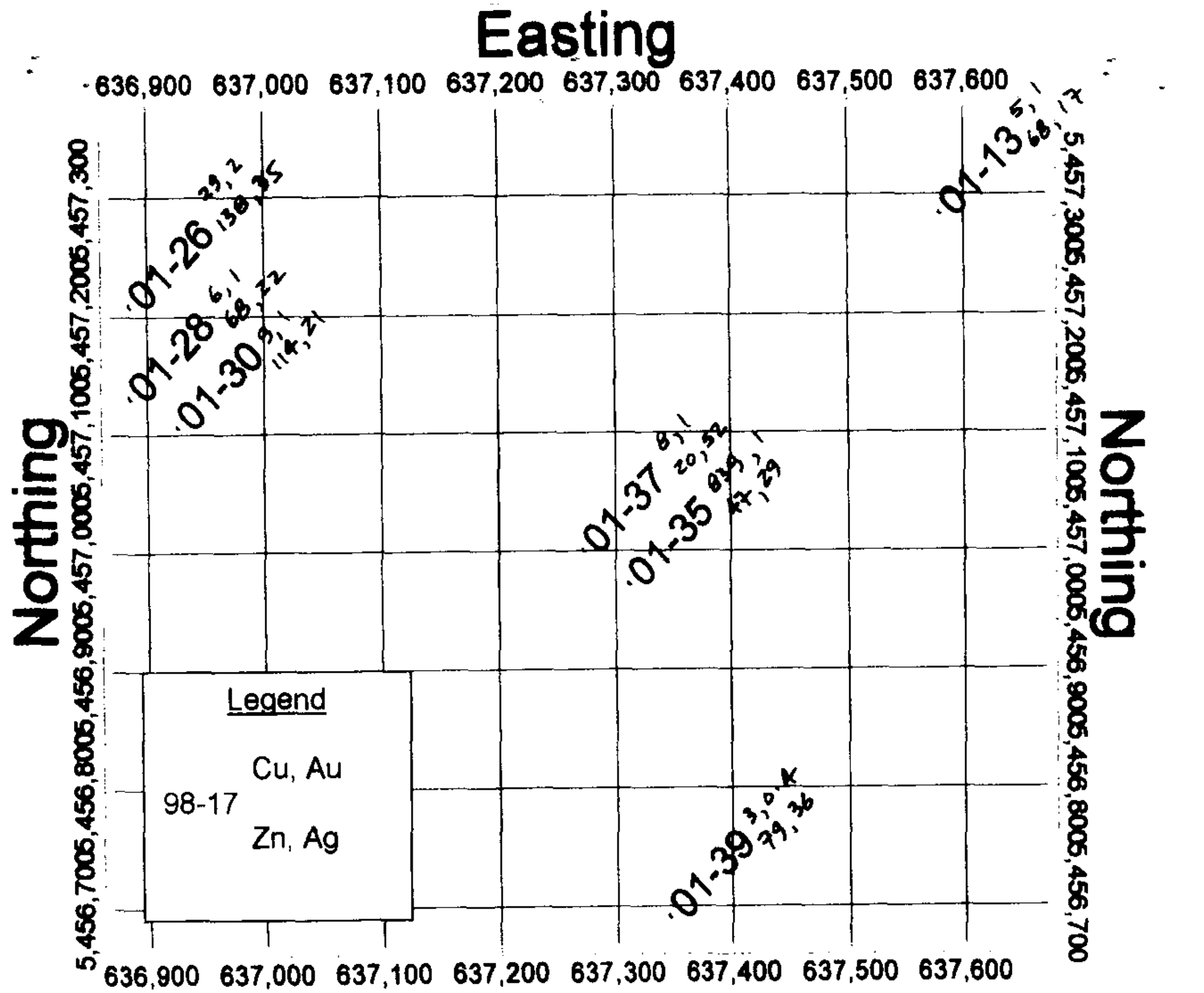
Wigwam 1 Claim, Rock Samples, Southeast Area

Map 4 Rock Samples, SE Area



Wigwam 1 Claim, Rock Samples, East Area

Map 5 **Rock Samples, E Area**



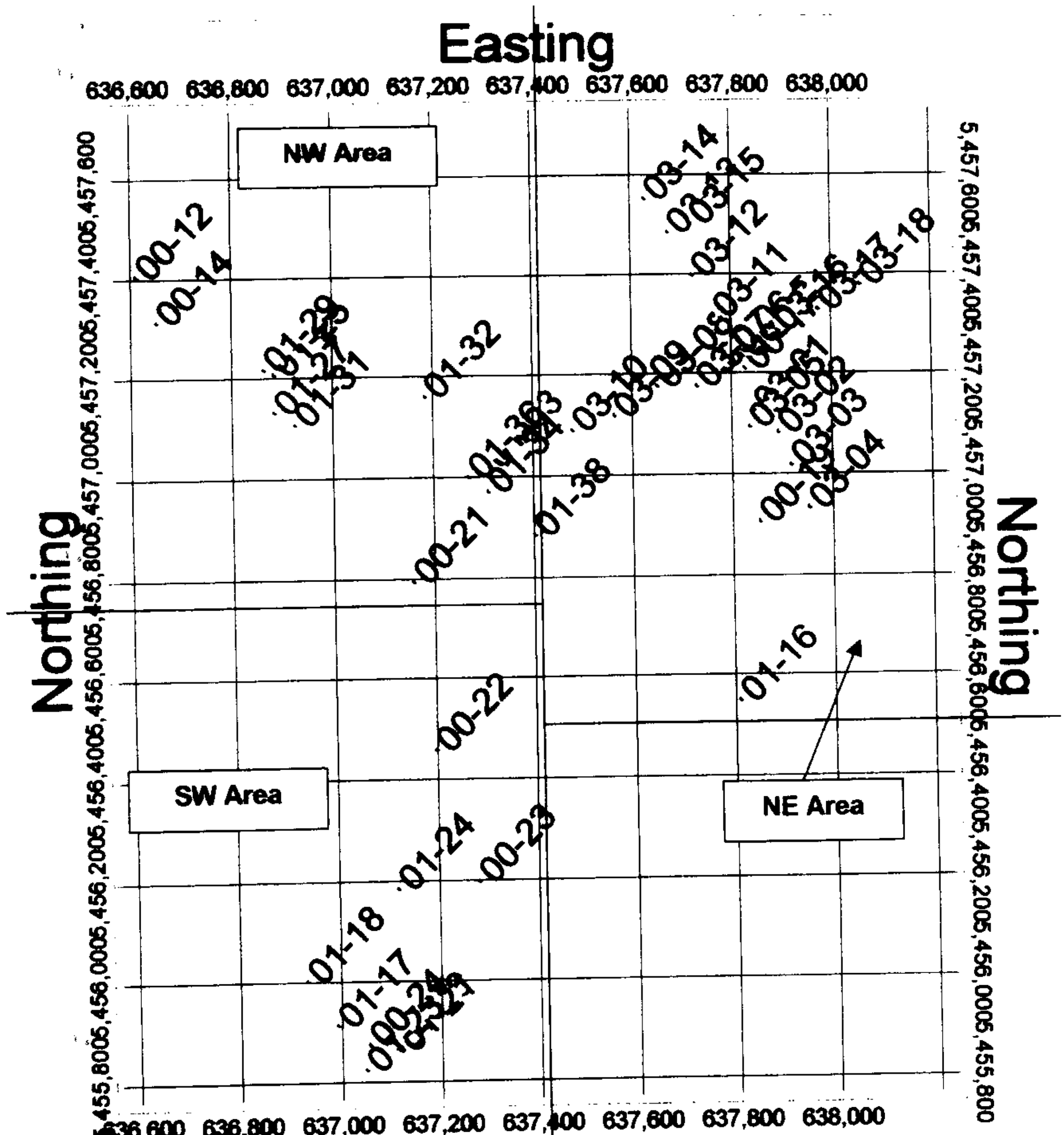
Wigwam 1 Claim, Rock Samples, Central Area

Map 6 **Rock Samples, Central Area**

Appendix 8

Soil Sample Plots

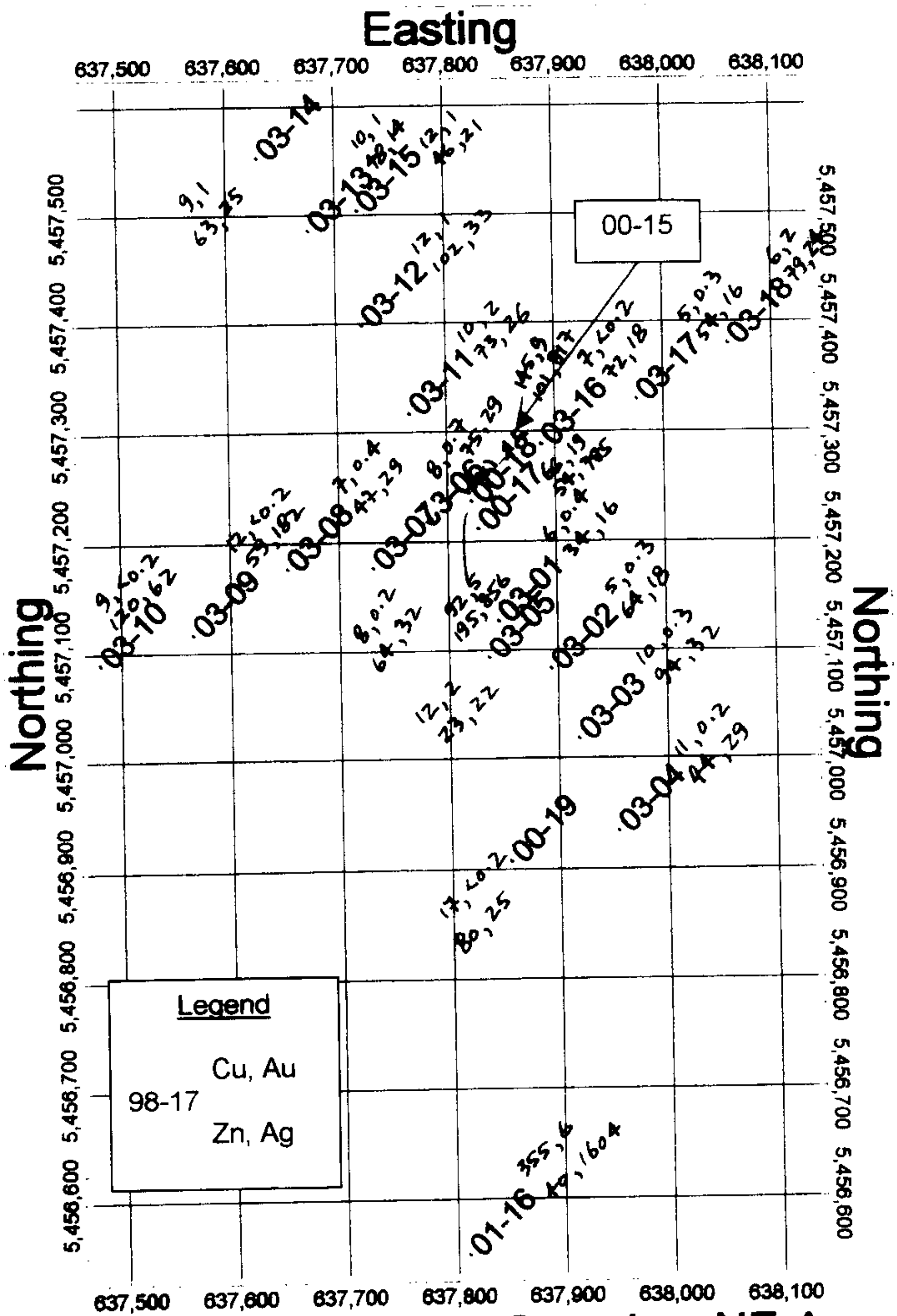
1. Index Plot
2. NE area
3. NW area
4. SW area



Wigwam 1 Claim, Soil Samples

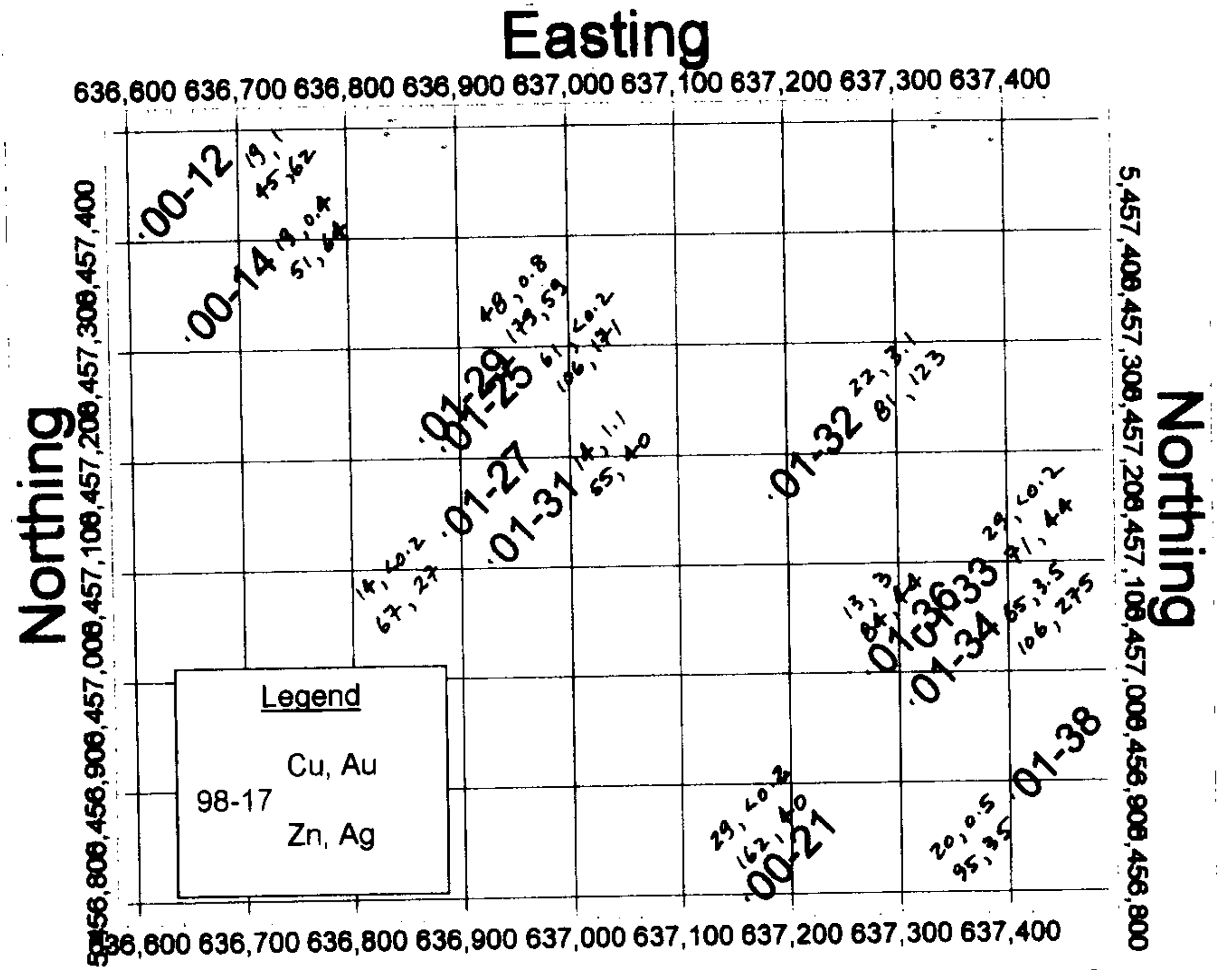
Map 1 Soil Sample Index Map

PROFESSIONAL PROVINCE OF R. J. MORRIS BRITISH COLUMBIA GEOSCIENTIST



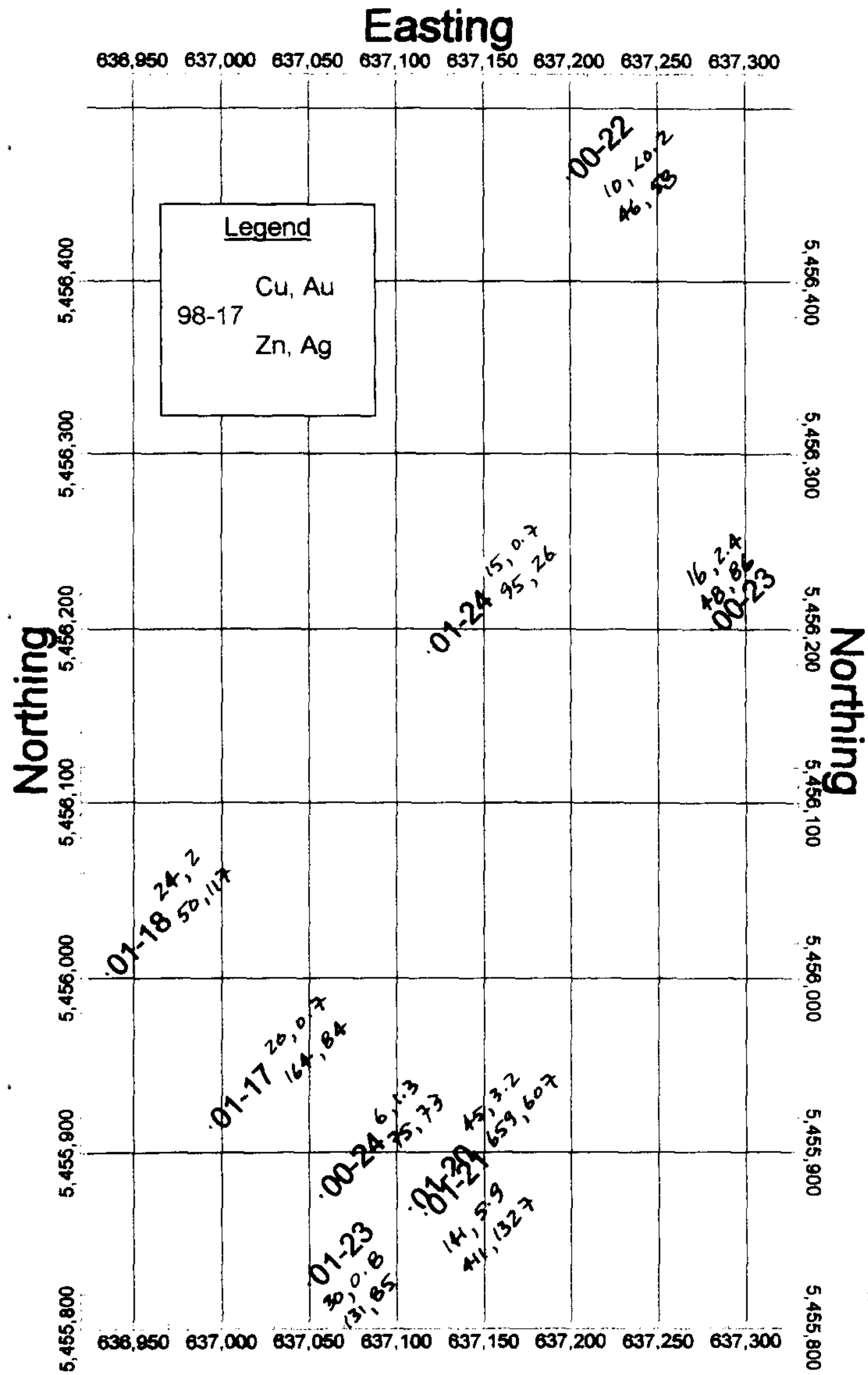
Wigwam 1 Claim, Soil Samples, NE Area

Map 2 **Soil Samples, NE Area**



Wigwam 1 Claim, Soil Samples, NW Area

Map 3 **Soil Samples, NW Area**



Wigwam 1 Claim, Soil Samples, SW Area

Map 4 Soil Samples, SW Area