

PAK PROPERTY

**1997 ASSESSMENT REPORT DESCRIBING GEOLOGICAL AND
GEOCHEMICAL SURVEYS ON THE PAK 1 TO 70 CLAIMS,
FINLAYSON LAKE AREA, YUKON TERRITORY**

DATES WORKED: 19/07/97 – 17/09/97

**NTS 105G/7
61°30'N/130°15'W
Watson Lake Mining Division**

093780

Prepared for

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FEBRUARY, 1998

RPT/98-07

Regional Manager, Exploration and
Geological Services for Commissioner
of Yukon Territory.

M. B. ...

This report has been examined by
the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
Mining Act and is allowed as
representation work in the amount
of \$ 12,800.00.

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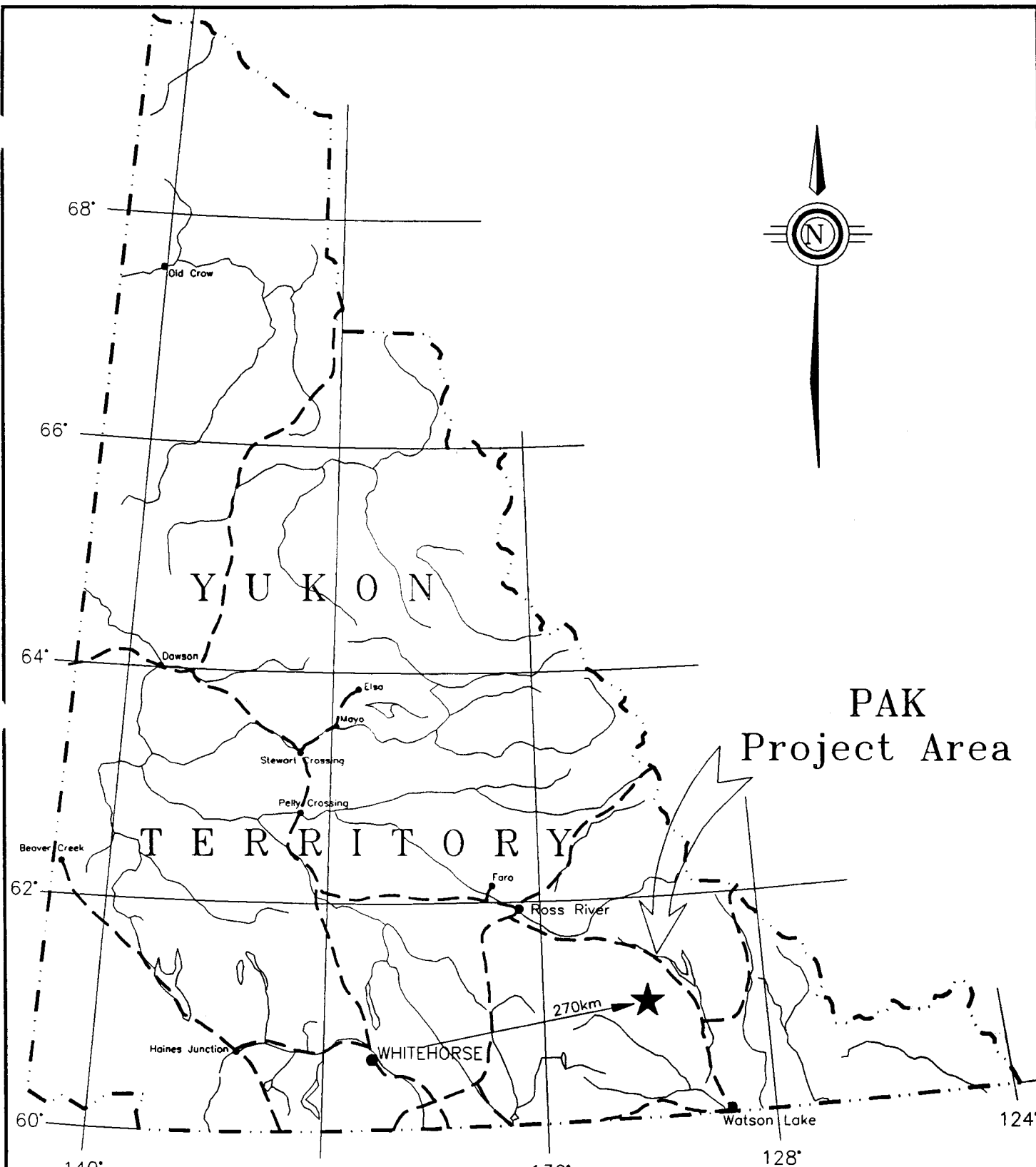
1.0 INTRODUCTION


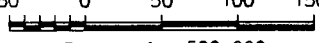
The 1997 exploration program on the PAK property took place between July 19, 1997 and September 17, 1997. The primary focus of the work was to elucidate the potential for further lenses of massive sulphide mineralization beyond what has already been observed to occur in the wall of the north cirque during previous exploration efforts. The fieldwork comprised a series of geologic mapping and rock sampling traverses. The selection of these was intended to provide: 1) optimum coverage of the structural/stratigraphic section; and 2) enable alteration/geochemical anomalies along the strike of prospective units to be identified. Chemex Labs of North Vancouver, B.C. analyzed all rock, soil and silt samples. Exploration work was supervised by David A. Terry and was carried out by Westmin Resources Limited field personnel.

2.0 LOCATION, ACCESS, AND PHYSIOGRAPHY

The PAK claim group is located within the Pelly Mountains, approximately 120 kilometres southeast of Ross River, in southeastern Yukon (Fig. 2.1). It lies within the Watson Lake Mining District, centred at 61°21' north latitude and 130°36' west longitude. Access to the PAK claims during the 1997 field program was provided by helicopter based at Wolverine Lake. Cominco has constructed a road from the Robert Campbell Highway, near Finlayson Lake, to the Kudz Ze Kayah deposit. This has brought road access to within 12 km from the PAK property.

The PAK claims lie on the east side of the North River valley, opposite its source at the North Lakes. Elevations in the project area range from 1250 metres in the valleys to 2000 meters above sea level on the highest peaks. Glaciation in the area between 26.5 ka and 10 ka resulted in the formation of broad anastomosing valleys, isolated mountains and small mountain ranges.



	WESTMIN RESOURCES LIMITED PACIFIC BAY MINERALS LTD.	
	PAK PROJECT	
Work By Westmin	Property Location Sketch	
Date Drafted Nov. 24, 1996		
Drafted By A. Turner		
N.T.S. Number	50 0 50 100 150km	Figure
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Tributaries to drainages occupying the valleys commonly originate in cirque valleys. Wide valleys are commonly infilled with glacialfluvial sediments. Vegetation throughout the claim area ranges from thick buckbrush and small cedar groves in the valleys to sparsely vegetated areas with abundant outcrop at higher elevations.

3.0 LIST OF CLAIMS AND OWNERSHIP

Claim names, record numbers, record dates, and expiry dates for the claims covered in this report are given in Table 3.1. The claims are held by Westmin Resources Limited of Vancouver, B.C. and are subject to a 60/40 joint venture between Westmin Resources Limited and Atna Resources Ltd., respectively, both of Vancouver, B.C.. The distribution of claims on the PAK property is shown on Figure 3.1.

Table 3.1 List of Claims

Claim Number	Claim Name	Rec Date	Due Date
YB45974 – YB45993	PAK 1-20	July 20, 1993	Dec. 31, 2002
YB51516 – YB51531	PAK 21-36	Aug 9, 1994	Dec. 31, 1999
YB58617 – YB58650	PAK 37-70	Feb. 23, 1995	Dec. 31, 1999

4.0 PREVIOUS WORK

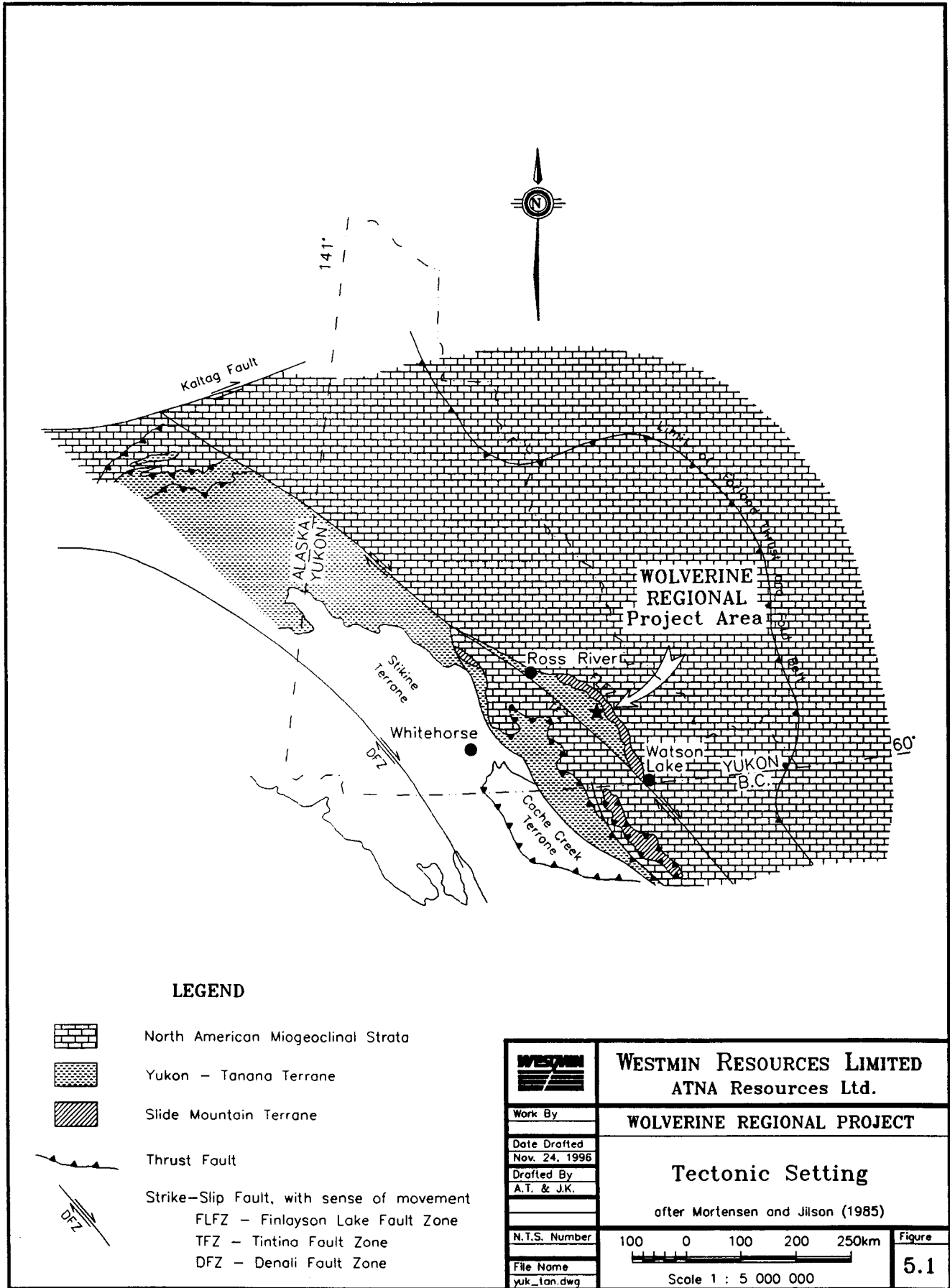
Conwest Exploration Company Limited first discovered the PAK occurrence in the summer of 1961. Conwest completed a prospecting program defining the extent of the original PAK occurrence and a second showing approximately 800 metres to the east. Conwest drilled two holes on the occurrence that Fall, totaling 161.2 metres, but failed to intersect mineralization (Ashton, 1961). The claims were staked as the Repack claims in 1977 by Cominco, but no work was filed. Chevron Canada Limited staked the claims as

the Outlaw claims in 1979 and performed geologic mapping (Schmidt, 1981). In 1993, the Pak 1-20 claims were staked and a limited exploration program including geological mapping, and sampling, soil and silt sampling was completed by Equity Engineering Limited on behalf of Atna Resources Limited (Atna; Baknes, 1994). In August of 1994, 16 claims were added and in September, a 2 week program consisting of mapping, rock and soil sampling and MAG/VLF geophysics was completed. In February of 1995, another 36 claims were added to the property, bringing the total to 70 claims. During June of 1995, a small program of rock sampling, soil sampling and geologic mapping was completed.

5.0 REGIONAL GEOLOGY

The property is located within a portion of southeastern Yukon known as the Finlayson Lake belt, an elongate composite body bounded on the southwest by the Tintina Fault Zone and on the northeast by the Finlayson Lake Fault Zone (Figure 5.1). The Tintina Fault Zone is a major transcurrent structure along which approximately 450 km of dextral offset occurred in Late Cretaceous and/or early Tertiary time (Tempelman-Kluit et al., 1976). The Finlayson Lake Fault Zone is described by Mortensen (1996, personal communication) as a complex structure which may, in part, represent a transpressive dextral paleosuture.

Much of the Finlayson Lake belt is underlain by rocks grouped with the Yukon Tanana terrane (YTT) by Mortensen and Jilson (1985). The YTT underlies a large area of western to southeastern Yukon and east-central Alaska. The YTT rocks in the Finlayson Lake Belt are believed to be offset along the Tintina Fault from the main body of the YTT in the western Yukon. Mortensen (1992) has divided the YTT in the Yukon into 3 main structural assemblages: 1) the Nisling assemblage, a lower quartzite and marble package of possible Proterozoic and/or Cambrian age; 2) the middle Nasina assemblage, a package



LEGEND



North American Miogeoclinal Strata



Yukon - Tanana Terrane



Slide Mountain Terrane



Thrust Fault



Strike-Slip Fault, with sense of movement
 FLFZ - Finlayson Lake Fault Zone
 TFZ - Tintina Fault Zone
 DFZ - Denali Fault Zone



WESTMIN RESOURCES LIMITED
 ATNA Resources Ltd.

Work By

WOLVERINE REGIONAL PROJECT

Date Drafted

Nov. 24, 1996

Drafted By

A.T. & J.K.

Tectonic Setting

after Mortensen and Jilson (1985)

N.T.S. Number

100 0 100 200 250km

Figure

File Name

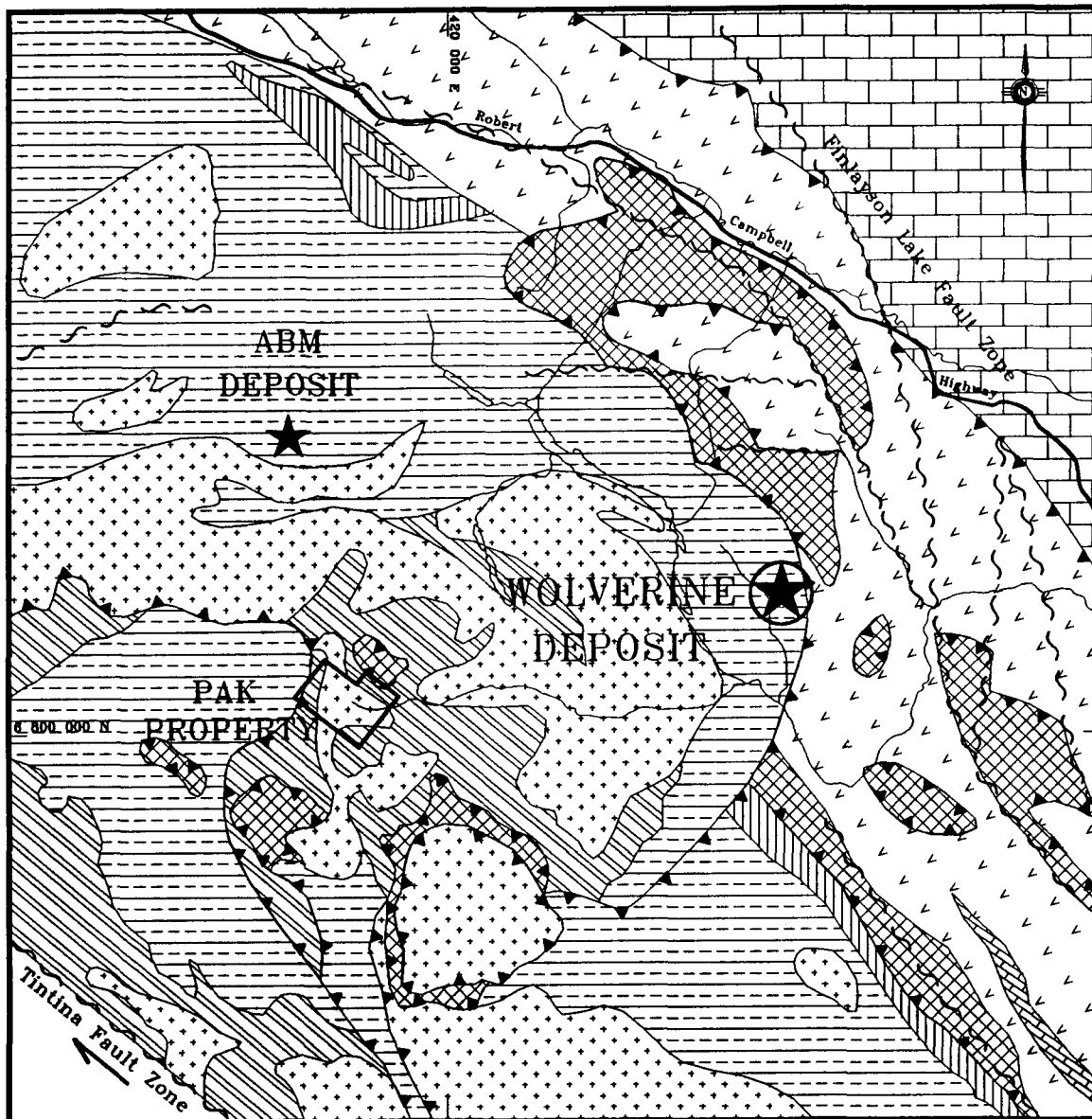
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5.1




of Late Devonian to mid Mississippian carbonaceous metasedimentary and mafic to felsic metavolcanic rocks; and 3) an upper package of mid-Permian felsic metavolcanic (Klondike Schist) and metaplutonic rocks. Recent interpretations conclude that the YTT represents a mid-Paleozoic volcanic-plutonic arc assemblage built on continental crust (Nokleberg and Aleinikoff, 1985; Mortensen and Jilson, 1985; Foster et al., 1987; and Mortensen, 1992). Although the andesitic volcanics one would expect to be voluminous in a continental margin arc setting are seemingly not present in the Finlayson Lake Belt, Mortensen (1996, personal communication) suggests that large K-feldspar megacrystic granitoids which form part of the core of the belt are intermediate in composition and therefore, together with the volcanics, represent a differentiated igneous suite.

Regional metamorphism throughout the YTT ranges from very low grade to amphibolite facies. Radiometric dating suggests that metamorphic events may have occurred at different times in different subterranean. Mortensen and Jilson (1985) have subdivided the YTT in the Finlayson Lake Belt into six major lithologic packages: 1) a sequence of layered metasedimentary and metamorphic rocks; 2) Paleozoic metaplutonic rocks; 3) middle to late Paleozoic mafic and ultramafic igneous rocks and chert; 4) early Mesozoic clastic rocks; 5) Mesozoic plutonic rocks; and 6) Late Cretaceous and/or early Tertiary volcanic rocks (Figure 5.2). The layered metamorphic package (LMP) is approximately 3 km thick and is divisible into: 1) a lower Devonian and older quartz+mica+/-garnet schist and quartzite package with an upper marble/calcareous schist unit; 2) a middle dark siliceous to carbonaceous phyllite unit interlayered with mafic and felsic volcanics. U-Pb zircon ages of the felsic metavolcanic rocks range from Late Devonian to mid-Mississippian; and 3) an upper white carbonate/quartzite package of Early Pennsylvanian to Permian age (Mortensen and Jilson, 1985). Paleozoic metaplutonic rocks are divided by Mortensen and Jilson (1985) into: 1) the Simpson range plutonic suite of quartz-monzonite to quartz-diorite (349-359 Ma, U-Pb zircon); 2) augen orthogneiss (342 Ma, Rb-Sr); and 3) monzonitic







GEOLOGICAL LEGEND






Slide Mountain Terrane

-  Carbonate Rocks
-  Metavolcanic Rocks and Cherts
-  Ultramafic Rocks

Nisutlin Subterrane and Pelly Gneissic Terrane

-  Intrusive Rocks : poro- and orthogneisses
-  Upper Unit : carbonate and quartzite
-  Middle Unit : mafic and felsic volcanics and carbonaceous sediments
-  Lower Unit : quartzite and marble

Autochthonous North American Rocks

-  Cambrian Limestones and Shales
-  Displaced Cambrian Limestones and Shales lying in and west of the Tintina Fault Zone
-  Minor Faults
-  Thrust Faults
-  Westmin/Pacific Bay: TY property outline



WESTMIN RESOURCES LIMITED

Work By
WESTMIN
Date Drafted
Nov. 24, 1996
Drafted By
A. Turner
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Revised By

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PAK PROJECT

Regional Geology Map

Modified after Mortensen and Jilson (1985)

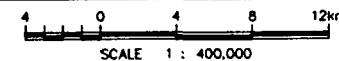


Figure
5.2

orthogneiss (340-345 Ma, U-Pb zircon). The first two are considered to have an intrusive relationship with the lower LMP due to pyritization of wallrocks in the case of the Simpson suite and a hornfelsed aureole bordering the augen orthogneiss.

Large bodies of massive to pillowed greenstone, chert, and variably serpentinized ultramafic to mafic plutonic rocks are common in the northeastern portion of the Finlayson Lake belt and have been interpreted (Tempelman-Kluit, 1979 and Mortensen and Jilson, 1985) as fragments of a dismembered ophiolite. Tempelman-Kluit (1979) mapped these rocks as part of the Anvil allochthon whereas Mortensen and Jilson (1985) refer to them as the Campbell Range Belt. They are thought to correlate with the Slide Mountain terrane in British Columbia and, based upon U-Pb zircon dates and fossil ages, they range from latest Devonian to Early Permian in age. The southern portion of the Finlayson Lake Fault Zone adjacent to the Wolverine Lake area is overlapped by thrust sheets of the Campbell Range Belt in a flower-fault structural relationship (Mortensen, 1996 personal communication). The ophiolitic package is interpreted to have been thrust from northeast to southwest overtop of the middle package of the LMP in the Wolverine Lake area.

The middle division of the LMP comprises dark fine-grained strongly carbonaceous metasedimentary rocks interlayered with massive to schistose felsic volcanic to tuffaceous rocks and chloritic to amphibolitic schists after mafic tuffaceous rocks. The most significant massive sulphide occurrences in the Finlayson Lake area (Wolverine, ABM/Kudz Ze Kayah, and Fire Lake) are hosted by this volcano-sedimentary package and are associated with carbonaceous metasedimentary and/or felsic metavolcanic rocks.

6.0 PROPERTY GEOLOGY

The regional setting of the PAK claims is well shown on D. Murphy and J. Timmerman's map of the Grass Lakes Area (see 1:50,000 scale compilation). The PAK claims occur about 12 km south of Cominco's Kudz Ze Kayah (KZK) deposit. KZK occurs at the contact between felsic volcanic rocks that cap a large body of augen gneiss located to the south. The mapping by Murphy and Timmerman (1997) indicates that the volcanic remnants in the KZK area can be traced 10-12 kilometres south, across the augen gneiss body, and into the PAK area. The volcanic rocks in the PAK area are rimmed by remnant outliers of reworked (epiclastic fan) quartz-eye grit overlying a prominent limestone member, most plausibly a late Pennsylvanian limestone marker.

The PAK prospect occurs on a structural dome, adjacent to a large Cretaceous intrusive body to the east that overprints the southern margin of the North Lakes Augen Gneiss (Fig. 6.1). The dome exposes a N-S axis of mixed volcanic-sedimentary strata at garnet-amphibolite metamorphic grade. These strata are geochemically similar to "Wolverine-type" stratigraphy (Baknes, 1995) and are bordered by a thick mafic volcanic package. Isolated remnants of serpentinite occur at the contact of the mafic volcanic package. The occurrence of ultramafic rocks suggests that the mafic volcanic package could have a Campbell Range affinity. All rocks on the PAK property are metamorphosed but in the following discussion, the prefix meta- has been omitted for simplicity.

As mentioned above, the PAK area comprises a package of volcanic and sedimentary rocks. Do to the high level of metamorphism and deformation, primary features within the rocks are not observed and so stratigraphic facing direction is unknown. The structurally lowest rocks are located in the northeast corner of the PAK claim block, comprise black quartzites with interlayered quartz-biotite schists, and are interpreted as sedimentary rocks (Fig. 6.1). Above these rocks there are chlorite-biotite schists and interlayered quartz-biotite-garnet

schists, interpreted as mafic volcanic rocks with interbedded sedimentary horizons, respectively. Overlying these rocks there is a sedimentary package comprising black quartzite, a barite-muscovite-quartzose exhalite and minor marble interlayered with chlorite schist. These rocks are best exposed on a ridge extending in an eastward direction away from the East Cirque Zone (Fig. 6.1). At the contact between these sedimentary rocks and the underlying mafic volcanics, there are serpentized ultramafic bodies. These rocks are observed on the northern PAK property and suggest that the underlying mafic volcanic rocks could have Campbell Range affinity (Fig. 6.1).

Overlying the sedimentary rocks there is an upper mafic volcanic unit that comprises chlorite and biotite schists. Felsite gneissic dykes, 0.1 to 30 metres thick, extensively intrude this unit. In some localities dykes comprise up to 30-40% of the rock. In the Eastern Cirque Zone, there is a sugary textured, quartzose +/- sericite schist that is 10-30 metres thick and sandwiched within the chlorite schist. The protolith of this rock is interpreted to be a felsic tuffaceous or a siliceous exhalite unit. It occurs in association with massive, banded magnetite iron formation (BIF, Fig. 6.1) that has a strike length of 10-20 metres. There is also a thin unit of manganiferous carbonate adjacent to the BIF. Baknes (1995) describes massive sulphide mineralization associated with the siliceous rock on the east-facing cliff face. Evidence for this mineralization was not observed during the 1997 program. Structurally above the upper mafic volcanic unit in the PAK Cirque Zone, the same type of quartz-sericite schist occurs in a zone of complex folding. Massive sulphide mineralization occurs in fold noses within the felsic tuffaceous (?) rock, 10-15 metres structurally above (southeast of) the chlorite schist contact. In the highly deformed northern region of the property, more of the sugary textured, medium grained, rusty siliceous rocks are observed and are interpreted as siliceous exhalites (Fig. 6.1).

Structurally above the felsic rocks, there is a package of quartz-muscovite-biotite schists that are interpreted as sedimentary rocks. These rocks underlie

the two drill holes located in the saddle southeast of the PAK Cirque Zone and are strongly dyked by felsite gneisses. On the southwestern side of the property there are brown quartz-biotite-feldspar schists and biotite-garnet schists with black quartzites and marbles. These rocks define structural highs that cap the felsite gneiss and are also interpreted to be sedimentary rocks (Fig. 6.1). The felsite gneiss dykes extensively intrude these schists.

Three intrusive bodies are observed on the PAK property. The Grass Lakes augen orthogneiss underlies the northern PAK property and comprises cm-scale potassium feldspar phenocrysts in a strongly foliated felsic matrix (Murphy and Timmerman, 1997). Felsite gneiss is observed throughout the property and is composed of fine grained leucocratic felsic material with 10-20% biotite, forming fine, micaceous partings. It forms a massive intrusive body on the western PAK and occurs predominantly as dykes, intruding all lithologies. To the east, a biotite-muscovite granite intrudes the PAK stratigraphy (Fig. 6.1). This rock is medium grained and is relatively undeformed compared to the dykes of felsite gneiss. That this granite is of the moderately peraluminous "Cordilleran-type" strongly suggests the PAK Dome has many genetic similarities to metamorphic core complexes of the western U.S. Cordillera (i.e. these are commonly cored by two mica and granite bearing S-type granitoids).

6.1 Structure

As shown on the 1:10 000 scale map of the immediate PAK claims, the deformation within the PAK dome is complex (Fig. 6.1). At least three episodes of deformation are present on the PAK property. It is very difficult to distinguish between the S_1 and S_2 foliation due to the intensity of the D_2 deformation. Throughout the PAK property there is a shallow, typically northeast dipping schistosity/gneissosity that is a composite S_1/S_2 foliation. The S_1 foliation is observed in the fold noses of the F_2 folds and is defined by either a schistosity or biotite laminations in the felsite dykes. The S_2 event produced the prevalent

schistosity/gneissosity and the shear folds that are observed in all lithologies. All folds on the PAK property are tight to isoclinal, are 0.5–40 m in diameter, have fold axes plunging 10° towards 060° , and axial planes that strike eastwards and dip shallowly, 5° to 10° , to the south or north. The third episode of deformation is rarely observed and consists of a weakly developed axial planar cleavage and folds that deform the S_1/S_2 foliation. Of particular significance is the evident overprinting of felsite dykes by S_2 flat shear folding, making the S_2 event post-felsite dyking. However, the fact that the dykes both infiltrates S_2 and are moderately to strongly isoclinally folded by S_2 , conclusively demonstrates that S_2 both syn and postdated these felsite injections

The upper mafic volcanic unit defines a macroscopic recumbent, north-verging isoclinal fold that could be a remnant of an F_1 fold closure (cross-section, Fig. 6.1). On the north trending ridge that separates the PAK Cirque and East Cirque zones the mafic unit forms a continuous, shallowly north-dipping sheet. On the north-facing PAK Cirque Zone, the unit is complexly folded and cascades down the cliff in a series of north-verging, recumbent, isoclinal folds (Fig 6.1). Faultenspiegle on these fold noses suggest a 60° N, sheet-dip on the mineralized felsic-mafic contact. Cross-section A-A'a and A-A'b present two alternative models for the subsurface geometry of the macroscopic folds in the PAK Cirque (Fig. 6.1). The geometry of the folds above the topographic surface is reasonably well constrained by projecting the contacts of the upper mafic volcanic unit (Eastern Cirque Zone) westward onto the plane of the cross section. These cross sections demonstrate that the mineralized mafic-felsic contact in the PAK Cirque is actually overturned, relative to the mafic unit from the East Cirque Zone (Fig. 6.1). As mentioned above, indicators of original facing directions are not observed anywhere on the property.

The exact geometry of the mafic-felsic contact in the subsurface is unknown due to a lack of exposure in low-lying areas. The cross sections demonstrate the two end member models for the fold geometry. The first shows

the mafic unit continuing below the PAK cirque with the same 60°N sheet-dip (A-A'a) and the second shows the mafic unit recovering below the saddle south of the PAK cirque (A-A'b).

6.2 Alteration and Mineralization

Alteration on the property is not extensive and is typically observed within the felsic tuffaceous rocks. In the PAK Cirque Zone, there is a weak to moderate sericite alteration developed within these siliceous rocks. In the areas of massive sulphide mineralization, these rocks are moderately to strongly gossaned with limonite alteration present on weathered and fractured surfaces. A well-developed gossan extends sporadically for 150 metres on the northwest-facing wall of the PAK Cirque Zone. Weakly to moderately developed limonite alteration is present on the northern PAK property within the muscovite-quartz exhalite (Fig. 6.1).

In the East Cirque Zone the exhalative-tuffaceous unit hosts numerous gossans along the east facing cliff-face. This unit occurs within the mafic volcanic rock. Gossan development is also observed within the magnetite iron formation.

Significant mineralization on the property is located in the PAK and East Cirque Zones (Fig. 6.1). The PAK Cirque Zone comprises massive pyrrhotite with bands rich in chalcopyrite and sphalerite. Chalcopyrite and sphalerite form bands 0.5-1.0 cm wide, as well as fine-grained disseminations, and comprise up to 20% of the rock. In areas of massive pyrrhotite and pyrite mineralization, remobilized chalcopyrite occurs in 0.5 cm wide veins, comprising 5% of the rock (sample # 271208, Fig. 6.1). The mineralization at the PAK Zone occurs in a series of fold noses on the southern wall of the PAK cirque, 10-15 metres above (south) of the mafic-felsic contact. Exposures vary up to approximately 1 metre in thickness.

The East Cirque Zone comprises a 20° N dipping limb of rusty, sugary textured siliceous rocks and lean magnetite iron formation, sandwiched between mafic volcanics. The siliceous rock hosts disseminated trace to 2% pyrite, trace sphalerite and trace chalcopyrite mineralization. Mineralization within the iron formation comprises 2-4% veins of chalcopyrite and trace pyrite. Baknes (1995) observed that mineralization in the East Cirque Zone in terms of mineralogy, texture, and stratigraphic relationships, is very similar to the PAK Cirque Zone. Massive sulphides were not observed during the 1997 field program. Rusty silica-rich sedimentary rocks on the northern PAK property contain up to 3% pyrite and are interpreted to be siliceous exhalative rocks.

The occurrence of banded magnetite affiliated with manganiferous carbonate on the lower contact of the exhalite and chalcopyrite-pyrrhotite at the lower mafic volcanic contact suggests an upright hydrothermal system. The occurrence of trace pyrite-sphalerite through the rusty exhalite unit on the northern PAK property suggests a distal-style of sulphide mineralization.

6.3 Rock Geochemistry

Table 6.1 summarizes the geochemistry of rock samples collected on the PAK property during the 1997 exploration program. Figure 6.1 shows the location of all rock samples and Figures 6.2 to 6.7 show the results for gold, silver, copper, lead, zinc and barium (respectively) from 43 rock samples. The rocks were submitted to Chemex Labs in North Vancouver, B.C. to be analysed for 24 elements by ICP-AES, gold by fire assay-atomic absorption and whole rock analysis. Complete results can be found in Appendix D.

Seven rock samples were collected from the semi-massive to massive sulphides located in the PAK Cirque Zone. Values ranged from 0.015% to 2.27% Cu, 0.06% to 0.45% Pb, and 0.044% to 10% Zn (Table 6.1). Precious metal

values ranged up to 230 ppb Au and 27 ppm Ag. Samples of the quartz sericite schist interpreted to be an exhalative or a felsic tuffaceous unit were not significantly mineralized and returned maximum values of 0.21% Cu and 0.08% Zn. Sample DG-PAK-06 contains greater than the upper detection limit (10 000 ppm) for Ba (Table 6.1).

A quartz biotite gneiss (sample GBPK97-05, Fig. 6.1) from 10 metres above the mafic-felsic contact in the PAK Cirque Zone returned 0.75% Cu, 0.45% Pb and 2.1% Zn. Directly below this sample within a mafic volcanic rock, values returned 11.6 g/t Ag, 0.92% Cu, 0.11% Pb and 0.19% Zn (Table 6.1). Samples 271217 and -218 are siliceous exhalative/tuffaceous rock from the East Cirque Zone. They returned slightly anomalous Cu and Zn values (Table 6.1).

Table 6.1 Rock Geochemistry

Sample #	Description	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ba (ppm)
DG-PAK-01	Qtz-ser schist	< 5	0.6	2130	12	124	720
DG-PAK-03	Qtz-ser schist	< 5	< 0.2	32	20	22	7930
DG-PAK-06	Qtz-ser schist	< 5	< 0.2	104	10	154	> 10000
DTPK97-05	Qtz-ser schist	< 5	< 0.2	59	14	1570	320
DTPK97-06	Qtz-ser schist	< 5	1.2	67	70	4820	220
GBPK97-02	Semi-mass. sx	40	21.2	22700	2200	41500	60
GBPK97-04	Chl. schist	< 5	< 0.2	136	8	582	1620
GBPK97-05	Qtz-biotite gneiss	< 5	13.6	7540	4500	20600	50
GBPK97-06	Biotite-chl schist	35	11.6	9060	1120	1855	60
271208	Mass. sx.	55	21	7870	2880	34700	100
271209	Semi-mass. sx	230	27	150	1610	440	200
271212	Mass. sx.	20	13	4500	2400	33600	50
271213	Mass. sx.	20	11	7260	620	3280	100
271214	Mass. sx.	35	21	14100	4350	99999	50
271215	Semi-mass. sx.	35	16	11730	2110	37000	100
271217	Qtz-ser schist	< 5	2.2	650	26	64	340
271218	Sil. rock	< 5	< 0.2	773	100	792	280

Baknes (1995) summarized the geochemistry of soil samples collected from the PAK property. Anomalies in all precious and base metals occur along the upper contact of the upper mafic unit in the PAK and East Cirque Zones, as well as along the west-facing slope in the centre of the property (see location of

sample GB-PK-97-10, Fig.6.1). Baknes (1995) concluded that there is potential for VMS mineralization over a total strike length of 1.6 kilometres, based on the western-most soil anomaly and the mineralization present in the East Cirque Zone.

6.4 Whole Rock Geochemistry

28 whole rock samples were collected for geochemical analysis using ICP-MS. The data is included in Appendix D and various data plots are included in Appendix F. The three main types of data plots are: 1) widely utilized volcanic rock classification plots; 2) basalt discriminant diagrams; and 3) rare earth element plots of the four main categories of rock observed. Whole rock samples from the PAK are grouped into: 1) chlorite (biotite) schists protolithed by basalt; 2) siliceous exhalites; 3) quartz-muscovite-biotite schists after felsic rocks; and 4) gneissic rocks of variable composition. Inclusion in one of these four categories is based on observation, not on any geochemical parameters.

When plotted on the silica versus alkali discriminant diagram the rocks identified as basalts form a relatively tight cluster in the basalt field. Most of the rocks identified as felsic in origin plot in the dacite-rhyolite field, however some are depleted in the alkali elements. Samples identified as siliceous exhalite plot generally in the felsic field, but do not cluster together suggesting variable composition. Rocks identified as gneiss show a heterogeneous composition and plot in the basalt, felsic, and alkaline fields. Similar observations can be made on the SiO_2 vs Zr/TiO_2 and $\text{Zr/TiO}_2 \cdot 0.0001$ vs Nb/Y plots. Mafic rocks mostly plot in the subalkaline basalt field with one plotting in the alkaline basalt field. Felsic rocks again show a spread between dacitic and rhyolitic compositions.

Basaltic samples plot in the Calc-alkaline field on the $\text{FeO}t\text{-Na}_2\text{O}+\text{K}_2\text{O-MgO}$ ternary diagram and straddle the alkaline/subalkaline divide on the SiO_2 vs $\text{Na}_2\text{O}+\text{K}_2\text{O}$ diagram. The remainder of the plots suggest that the mafic rocks

from PAK are ocean floor basalts with some component of volcanic arc basalts, typical of rocks found in back-arc environments.

The basalt REE plot demonstrates a tight and flat to moderately LREE enriched pattern when normalized to chondrite. The felsic schists have a steeper LREE enriched pattern and contain both positive and negative Eu anomalies, resulting from the presence or absence of plagioclase in the original rock. One sample is geochemically distinct from the others and plots considerably below the main group with a somewhat irregular pattern and a strong positive Eu anomaly. Three distinct trend groups are observed on the REE plot for rocks identified as siliceous exhalites. The uppermost one comprising two samples plots well above the felsic schist samples, is LREE enriched and has a negative Eu anomaly. The middle one (two samples) overlaps with the average felsic schist and so likely represents samples of similar material. The lower group (4 samples) overlaps with the lower part of the felsic schists and has a steeper negative slope (i.e. more LREE enriched, lower Σ REE). The REE plot for the gneissic rocks displays a cluster overlapping with the felsic schists, suggesting that they are in fact more recrystallized felsics, and a single sample with much lower Σ REE.

Some of the whole rock samples from the PAK were collected along the interface between mafic schist and felsic schist, near which the massive sulphide occurs. The objective in doing this was to see if a significant change in mobile elements occurred along strike from the sulphides as a result of proximity to a hydrothermal system. The data is somewhat limited by the fact that the farthest any sample was collected from the main massive sulphide occurrence in the PAK Cirque was 500 metres east-southeast. This is due in part to the difficulty encountered in tracing particular complexly deformed units in the steep terrane of the PAK property.

Figure 6.8 shows that as one moves away from the outcropping massive sulphide at the 1000 m east location on the graph in the mafic rocks underlying the sulphide, Na_2O decreases slightly within 100 m and then increase again further away. K_2O increases slightly to the northeast, showing the greatest quantitative variability, and MgO and Fe_2O_3 are relatively constant. The Ishikawa index ($\text{MgO}+\text{K}_2\text{O}/\text{MgO}+\text{K}_2\text{O}+\text{CaO}+\text{Na}_2\text{O}$) plot (Figure 6.11) for the mafic rocks footwall to the massive sulphides show a lower value for the sample collected in the vicinity of the sulphides, straddled by higher values, in turn bounded by indexes of lower magnitude. Therefore, no zoned pattern typical of the footwall alteration zones below massive sulphide deposits is shown by the samples collected from the mafic rocks at the PAK and it can not be used to target further mineralization.

The multielement plot for felsic rocks overlying and hosting the sulphide-bearing horizon shows Na_2O depletion for the rocks around the sulphide occurrence (at approximately 1000 m east) and to the east. K_2O is depleted at 1010 m east and increases in both directions away from the sulphide, As well MgO increases away from 1010 m east as does Fe_2O_3 , which is strongest at 1175 m east. This pattern suggests that the stratigraphy may be overturned and that the sulphides are detached or discordant with respect to their footwall alteration zones. It may also suggest that there is potential for locating more sulphide mineralization in a east-northeasterly direction. The Ishikawa plot for felsic rocks above the massive sulphide horizon shows a strong depletion in the index for rocks in the 1010 m east area rimmed by higher index values trailing off with distance away from the location of the main sulphide. This pattern is due to a very high concentration of CaO in the sample taken at 1010 m east.

Figure 6.8

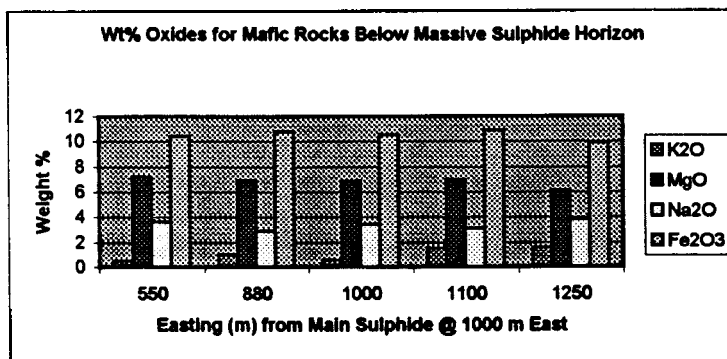


Figure 6.9

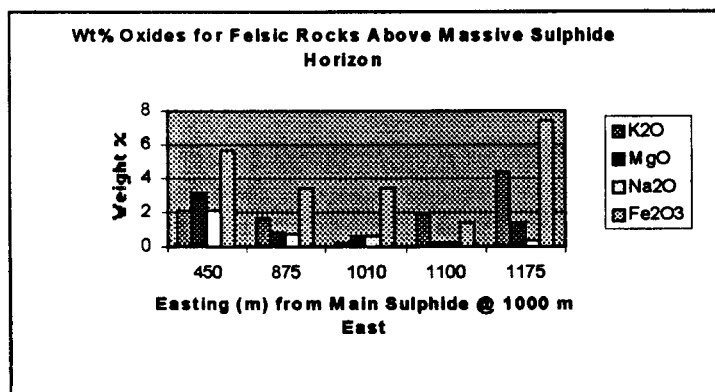


Figure 6.10

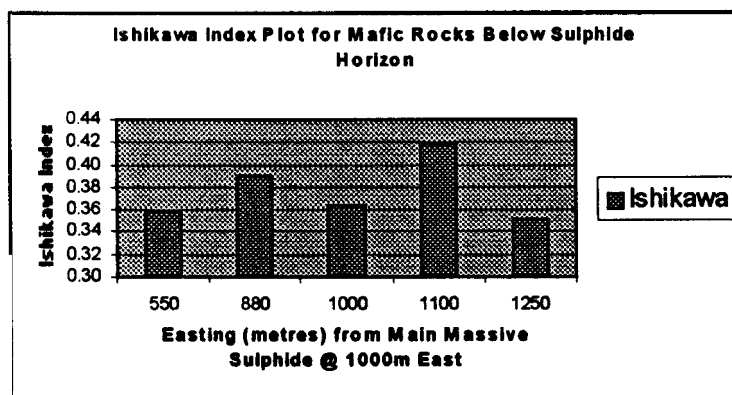
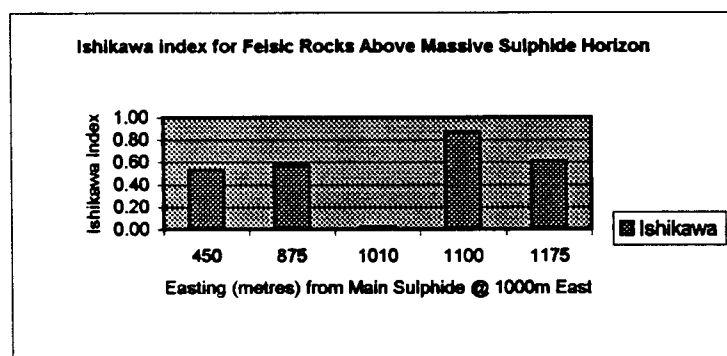


Figure 6.11

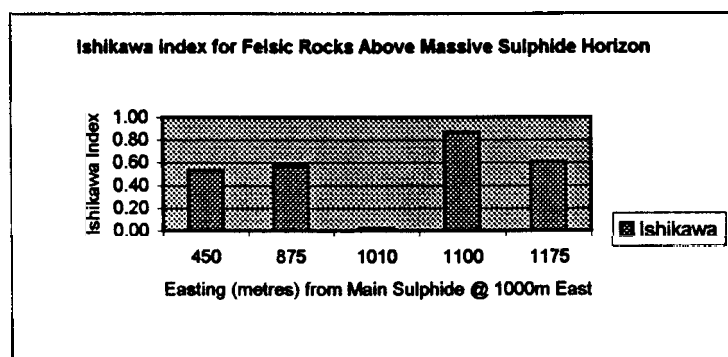


Collectively the whole rock and trace element data for lithologies at PAK are consistent with formation in a bimodal back-arc volcano-sedimentary basin setting, similar to the Wolverine area and Delta district successions, also in the YTT.

7.0 CONCLUSIONS AND RECOMMENDATIONS

There is potential for further discovery of VMS-style mineralization on the PAK property based on favourable geology, soil, and rock geochemistry. Conwest Exploration Company Limited originally discovered the massive sulphide in the PAK Cirque Zone in 1961. It is situated within metamorphosed volcanic and sedimentary rocks that broadly correlate with a similar package that hosts Cominco's Kudz Ze Kayah deposit (Murphy and Timmerman, 1997). On the PAK property, a 150 metre long gossanous zone is host to sporadically developed massive sulphide mineralization (i.e. PAK Cirque Zone) up to 1 metre thick. The mineralization comprises massive pyrrhotite and pyrite, with banded chalcopyrite and sphalerite. The sulphides occur at the contact between mafic and felsic volcanic rocks, within fold noses that cascade down the northwest-facing cliff. Outboard of this mineralized zone, the occurrence of widespread rusty exhalative units, a baritic muscovite unit, and a magnetite-manganese carbonate unit suggest a strong exhalite system.

Figure 6.11



Collectively the whole rock and trace element data for lithologies at PAK are consistent with formation in a bimodal back-arc volcano-sedimentary basin setting, similar to the Wolverine area and Delta district successions, also in the YTT.

7.0 CONCLUSIONS AND RECOMMENDATIONS

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Rock samples from the PAK Cirque Zone collected during the 1997 exploration program returned highly anomalous base metal values, ranging up to 40 ppb Au, 27 ppm Ag, 2.3% Cu and 10% Zn. Anomalous samples collected during previous exploration programs range up to 340 ppb Au, 62 ppm Ag, 5% Cu, 1.1% Pb and 2.7% Zn (Baknes, 1995). Soil geochemistry completed during the 1993-1995 exploration programs identified anomalous regions along the upper mafic contact. These anomalies define a prospective area with a 1.6 km strike length, extending from the Eastern Cirque Zone to the west-facing slope on the western PAK property.

The structural complexity of the PAK geology is severe. Cross sections A-A'a and A-A'b are drawn through the PAK Cirque Zone (Fig. 6.1) and show two interpretations for the fold geometry of the mafic volcanic unit. The potential for further sulphide mineralization in this area could be tested with two to four diamond drill holes positioned to test for: 1) a continued repetition of mineralization in the fold noses within a 60° N sheet dip (cross-section A-A'a: <200 m depth); and 2) recovery of the mafic/felsic contact at depth (cross section A-A'b: >200 m depth). For the first target, the drill should be situated at the head of the PAK cirque. If the mafic volcanic rocks continue to the north then they should be intersected at a shallow depth. For the second target, a drill hole should be positioned close to the drill collars in the saddle above the PAK Cirque Zone. This hole would require a greater depth to test for the mafic volcanic unit. The holes drilled in 1961 did not penetrate deep enough to test such a target. Regardless of fold geometry further holes could be placed on the ridge tops, close to samples DG-PAK-97-14 and GB-PK-97-09. These holes would test the continuity of the mineralized horizon and, in the case of the eastern area, test the second mineralized zone that occurs sandwiched within the mafic volcanic unit of the East Cirque Zone. Continued geological mapping should be carried out in conjunction with the drilling at suitably large scale to provide outcrop scale accuracy.

Reconnaissance IP surveys could also be run along the strike extent of the interface between the mafic and felsic rocks in both the west and most importantly east cirques, where terrain permits. Identifying whether a geophysical anomaly is associated with the Ba-mica bearing schist (DTPK97-03) outcrop noted in the East Cirque is especially important. As well, more detailed soil mini-grids should be placed over areas where anomalies were generated during earlier contour sampling on the eastern part of the property. Soil sampling should also be carried out along the trace of the green mica schist. Soil sample anomalies can also be tested for conductors with IP.

The cost of a program such as is described above will depend entirely on whether or not it can be done in conjunction with other work in the area. If so it should cost approximately \$150,000.

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- Tempelman-Kluit, D.J., Gordey, S.P., and Read, B.C. 1976. Stratigraphic and structural studies in the Pelly Mountains, Yukon Territory. *Geological Survey of Canada Paper 76-1A*, p. 97-106.

APPENDIX A
STATEMENT OF EXPENDITURES

STATEMENT OF EXPENDITURES

I, David A. Terry as agent for Westmin Resources Limited, #904-1055 Dunsmuir Street, Vancouver, B.C. do believe that a field program consisting of soil sampling, rock sampling, and geologic mapping was carried out on PAK 1-70 between July 19 to Sept. 17, 1997.

The following expenses were incurred during the course of this work.

Labour	\$4,554.19
Camp costs	\$1,500.00
Helicopter	\$3,697.50
Geochemistry	\$2,295.00
Report Preparation	\$1,000.00
Total expenditures:	\$13,045.21

Notes:

1. Wages are based on actual man days spent on the property.
2. Helicopter charges are based on actual hours flown.
3. Assay charges are based on actual numbers of samples from the property.

And I make this solemn declaration conscientiously believing it to be true and knowing it is the same force and effect as if made under oath and by virtue of the Canadian Evidence Act.

Dated at Vancouver in the Province of British Columbia this 17 day of ~~February~~ 1998.

David A. Terry

David A. Terry, Project Geologist.

APPENDIX B
LIST OF PERSONNEL

LIST OF PERSONNEL

David F. Gale (Geologist)
#904-1055 Dunsmuir St.
Vancouver, B. C.
V7X 1C4

Geoff Bradshaw (Geologist)
#904-1055 Dunsmuir St.
Vancouver, B.C.
V7X 1C4

Norman A. Duke (Geologist)
Department of Geological Sciences
University of Western Ontario

Mark Padberg (Geologist)
#904-1055 Dunsmuir St.
Vancouver, B.C.
V7X 1C4

David A. Terry (Project Geologist)
904-1055 Dunsmuir St.
Vancouver, B.C.
V7X 1C4

APPENDIX C
GEOLOGISTS CERTIFICATES

GEOLOGIST CERTIFICATE

I, David A. Terry of 1568 Maplehurst Circle, Burnaby, in the Province of British Columbia, DO HEREBY CERTIFY:

1. THAT I am a Project Geologist with Westmin Resources Limited with offices at #904-1055 Dunsmuir Street, Vancouver, British Columbia.
2. THAT I have practiced my profession with various mining companies in Ontario, Quebec, British Columbia, Yukon, the United States, and Argentina for nine years.
3. THAT I am a graduate of the University of Western Ontario and hold a Bachelor of Science in Geology (1988) and a Doctor of Philosophy in Geology (1997).
4. THAT I am a member of the Prospectors and Developers Association of Canada, the Geological Society of America, and the Society of Economic Geologists.
5. THAT this report is based on property work I personally supervised between July 15 and Sept. 9, 1997, 1997.
6. THAT I have no direct interest in the property described herein, nor do I expect to receive any interest.

DATED at Vancouver, British Columbia this 17 day of March, 1998.



David A. Terry, Ph.D.
Project Geologist

GEOLOGIST CERTIFICATE

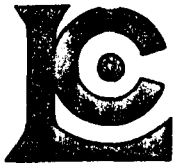
I, Geoffrey D. Bradshaw of 8046 Redrooffs Road, Sechelt, in the Province of British Columbia, DO HEREBY CERTIFY:

1. THAT I am a Geologist with Westmin Resources Limited with offices at #904-1055 Dunsmuir Street, Vancouver, British Columbia.
2. THAT I am a graduate of the University of British Columbia (1996) and hold an Honours Bachelor of Science in Geology.
3. THAT I am a member of the Association of British Columbia Professional Engineers and Geoscientists registered as a Professional Geoscientist in Training.
4. THAT this report is based on property work I personally completed and/or supervised between July 15 and Sept. 9, 1997
5. THAT I have no direct interest in the property described herein, nor do I expect to receive any interest.

DATED at Vancouver, British Columbia this ____ day of _____, 1997.

Geoffrey D. Bradshaw, Geologist

APPENDIX D
ASSAY CERTIFICATES



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
 212 Brooksbank Ave., North Vancouver
 British Columbia, Canada V7J 2C1
 PHONE: 604-984-0221 FAX: 604-984-0218

To: WESTMIN RESOURCES LTD.
 PROJECT: WOLVERINE
 P.O. BOX 49066, THE BENTALL CENTRE
 VANCOUVER, BC
 V7X 1C4

A9743543

Comments: ATTN:DAVID TERRY-VANCOUVER OFFICE

CERTIFICATE

A9743543

(GP W) - WESTMIN RESOURCES LTD.

Project: 6414
 P.O. #:

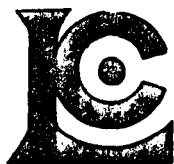
Samples submitted to our lab in Vancouver, BC.
 This report was printed on 2-OCT-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	10	Geochem ring to approx 150 mesh
226	10	0-3 Kg crush and split
3202	10	Rock - save entire reject
285	10	ICP - HF digestion charge
287	10	Special dig'n with organic ext'n

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
983	10	Au ppb: Fuse 30 g sample	FA-AAS	5	10000
13	10	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
22	10	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
20	10	Hg ppb: HNO3-HCl digestion	AAS-FLAMELESS	10	100000
578	10	Ag ppm: 24 element, rock & core	AAS	0.2	100.0
573	10	Al %: 24 element, rock & core	ICP-AES	0.01	25.0
565	10	Ba ppm: 24 element, rock & core	ICP-AES	10	10000
575	10	Be ppm: 24 element, rock & core	ICP-AES	0.5	1000
561	10	Bi ppm: 24 element, rock & core	ICP-AES	2	10000
576	10	Ca %: 24 element, rock & core	ICP-AES	0.01	25.0
562	10	Cd ppm: 24 element, rock & core	ICP-AES	0.5	500
563	10	Co ppm: 24 element, rock & core	ICP-AES	1	10000
569	10	Cr ppm: 24 element, rock & core	ICP-AES	1	10000
577	10	Cu ppm: 24 element, rock & core	ICP-AES	1	10000
566	10	Fe %: 24 element, rock & core	ICP-AES	0.01	25.0
584	10	K %: 24 element, rock & core	ICP-AES	0.01	10.00
570	10	Mg %: 24 element, rock & core	ICP-AES	0.01	15.00
568	10	Mn ppm: 24 element, rock & core	ICP-AES	5	10000
554	10	Mo ppm: 24 element, rock & core	ICP-AES	1	10000
583	10	Na %: 24 element, rock & core	ICP-AES	0.01	10.00
564	10	Ni ppm: 24 element, rock & core	ICP-AES	1	10000
559	10	P ppm: 24 element, rock & core	ICP-AES	10	10000
560	10	Pb ppm: 24 element, rock & core	AAS	2	10000
582	10	Sr ppm: 24 element, rock & core	ICP-AES	1	10000
579	10	Ti %: 24 element, rock & core	ICP-AES	0.01	10.00
572	10	V ppm: 24 element, rock & core	ICP-AES	1	10000
556	10	W ppm: 24 element, rock & core	ICP-AES	10	10000
558	10	Zn ppm: 24 element, rock & core	ICP-AES	2	10000



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Client: WESTMIN RESOURCES LTD.
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 P.O. BOX 49066, THE BENTALL CENTRE
 VANCOUVER, BC
 V7X 1C4

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 Invoice No. : 19743543
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 Account : GP W

Project : 6414
 Comments: ATTN:DAVID TERRY-VANCOUVER OFFICE

CERTIFICATE OF ANALYSIS A9743543

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DG-PAK-08	205 226	< 5	24	0.2	10	< 0.2	5.85	2710	2.0	8	2.00	0.5	17	332	69
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DG-PAK-10	205 226	< 5	1	0.2	< 10	< 0.2	7.68	2080	4.0	< 2	0.74	< 0.5	1	158	1

CERTIFICATION: _____



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221 FAX: 604-984-0218

To: WESTMIN RESOURCES LTD.
PROJECT: WOLVERINE
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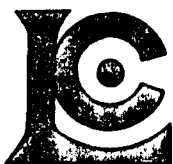
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CERTIFICATE OF ANALYSIS A9743543

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DG-PAK-03	205 226	0.94	1.54	0.15	110	< 1	0.17	7	50	20	156	0.06	78	< 10	22
DG-PAK-04	205 226	6.72	1.02	3.83	1280	< 1	2.30	80	500	4	317	0.80	310	< 10	468
DG-PAK-05	205 226	4.89	3.43	0.76	2890	1	0.23	19	1210	6	417	0.26	118	< 10	94
DG-PAK-06	205 226	1.91	0.86	0.23	320	< 1	0.17	41	110	10	298	0.08	90	< 10	154
DG-PAK-07	205 226	6.52	0.55	3.68	1160	< 1	2.29	68	590	< 2	262	0.84	309	< 10	80
DG-PAK-08	205 226	3.39	2.00	1.86	1045	< 1	0.37	68	1170	18	211	0.61	141	< 10	292
DG-PAK-09	205 226	5.52	0.96	3.01	1235	< 1	2.40	58	530	4	411	0.74	257	< 10	166
DG-PAK-10	205 226	1.51	3.28	1.06	185	< 1	0.70	4	330	22	112	0.16	32	< 10	48

CERTIFICATION: _____



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221 FAX: 604-984-0218

To: WESTMIN RESOURCES LTD.
PROJECT: WOLVERINE
P.O. BOX 49066, THE BENTALL CENTRE
VANCOUVER, BC
V7X 1C4

A9743545

Comments: ATTN:DAVID TERRY-VANCOUVER OFFICE

CERTIFICATE

A9743545

(GP W) - WESTMIN RESOURCES LTD.

Project: 6414
P.O. #:

Samples submitted to our lab in Vancouver, BC.
This report was printed on 11-OCT-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
299	10	Pulp; prepped on other workorder Meta-borate fusion charge
297	10	

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
2855	10	Ba ppm: ICP-MS	ICP-MS	0.5	10000
2501	10	Ce ppm: ICP-MS	ICP-MS	0.5	10000
2858	10	Cs ppm: ICP-MS	ICP-MS	0.1	10000
2859	10	Co ppm: ICP-MS	ICP-MS	0.5	10000
2860	10	Cu ppm: ICP-MS	ICP-MS	5	10000
2502	10	Dy ppm: ICP-MS	ICP-MS	0.1	1000
2503	10	Er ppm: ICP-MS	ICP-MS	0.1	1000
2504	10	Eu ppm: ICP-MS	ICP-MS	0.1	1000
2505	10	Gd ppm: ICP-MS	ICP-MS	0.1	1000
2861	10	Ga ppm: ICP-MS	ICP-MS	1	1000
2842	10	Hf ppm: ICP-MS	ICP-MS	1	10000
2506	10	Ho ppm: ICP-MS	ICP-MS	0.1	1000
2507	10	La ppm: ICP-MS	ICP-MS	0.5	10000
2862	10	Pb ppm: ICP-MS	ICP-MS	5	10000
2508	10	Lu ppm: ICP-MS	ICP-MS	0.1	1000
2509	10	Nd ppm: ICP-MS	ICP-MS	0.5	1000
2863	10	Ni ppm: ICP-MS	ICP-MS	5	10000
2844	10	Nb ppm: ICP-MS	ICP-MS	1	10000
2510	10	Pr ppm: ICP-MS	ICP-MS	0.1	1000
2864	10	Rb ppm: ICP-MS	ICP-MS	0.2	10000
2511	10	Sm ppm: ICP-MS	ICP-MS	0.1	1000
2865	10	Ag ppm: ICP-MS	ICP-MS	1	1000
2867	10	Sr ppm: ICP-MS	ICP-MS	0.1	10000
2868	10	Ta ppm: ICP-MS	ICP-MS	0.5	10000
2512	10	Tb ppm: ICP-MS	ICP-MS	0.1	1000
2869	10	Tl ppm: ICP-MS	ICP-MS	0.5	1000
2550	10	Th ppm: ICP-MS	ICP-MS	1	1000
2513	10	Tm ppm: ICP-MS	ICP-MS	0.1	1000
2870	10	Sn ppm: ICP-MS	ICP-MS	1	10000
2871	10	W ppm: ICP-MS	ICP-MS	1	10000
2549	10	U ppm: ICP-MS	ICP-MS	0.5	1000
2872	10	V ppm: ICP-MS	ICP-MS	5	10000
2514	10	Yb ppm: ICP-MS	ICP-MS	0.1	1000
2873	10	Y ppm: ICP-MS	ICP-MS	0.5	10000
2874	10	Zn ppm: ICP-MS	ICP-MS	5	10000
2875	10	Zr ppm: ICP-MS	ICP-MS	0.5	10000



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Analytical Chemists * Geochemists * Registered Assayers

212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221 FAX: 604-984-0218

To: WESTMIN RESOURCES LTD.
PROJECT: WOLVERINE
P.O. BOX 49066, THE BENTALL CENTRE
VANCOUVER, BC
V7X 1C4

Project : 6414
Comments: ATTN:DAVID TERRY-VANCOUVER OFFICE

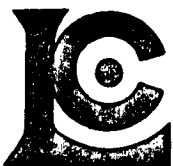
Page Number : 1-A
Total Pages : 1
Certificate Date: 11-OCT-97
Invoice No. : 19743545
P.O. Number :
Account : GP W

CERTIFICATE OF ANALYSIS A9743545

SAMPLE	PREP CODE		Ba	Ce	Cs	Co	Cu	Dy	Er	Eu	Gd	Ga	Hf	Ho	La	Pb	Lu	Nd	Ni	Nb	Pr
			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DG-PAK-01	299	297	3980	18.5	5.4	< 0.5	2100	1.7	1.1	0.6	1.7	17	2	0.4	11.0	10	0.1	9.0	25	10	2.5
DG-PAK-02	299	297	390	17.5	1.0	33.5	90	6.6	4.0	1.6	5.0	17	2	1.4	7.0	5	0.6	12.5	75	4	3.0
DG-PAK-03	299	297	>10000	8.5	3.4	< 0.5	30	1.0	0.9	1.4	0.8	13	1	0.3	6.5	20	0.1	4.5	15	7	1.2
DG-PAK-04	299	297	1510	15.0	3.6	34.0	120	5.5	3.5	1.7	5.3	17	2	1.2	6.5	< 5	0.5	10.0	85	3	2.5
DG-PAK-05	299	297	5900	74.0	16.3	5.5	120	6.4	3.8	2.5	8.0	15	3	1.4	36.5	< 5	0.5	35.0	25	13	9.8
DG-PAK-06	299	297	>10000	29.0	1.0	< 0.5	100	2.1	1.4	3.3	2.7	8	1	0.5	20.5	5	0.2	11.5	50	5	3.5
DG-PAK-07	299	297	783	15.0	1.1	36.0	75	6.2	3.8	1.6	4.7	18	3	1.4	5.5	< 5	0.6	11.0	85	3	2.5
DG-PAK-08	299	297	2670	57.0	8.9	15.0	70	4.0	2.7	1.8	4.7	15	3	0.9	30.0	20	0.4	23.0	70	40	7.2
DG-PAK-09	299	297	817	19.5	4.1	31.0	10	5.2	3.5	1.8	4.5	15	1	1.1	8.5	< 5	0.5	12.0	75	13	2.9
DG-PAK-10	299	297	2030	98.0	4.6	4.5	< 5	6.5	3.3	1.0	7.9	22	6	1.3	47.0	20	0.5	37.5	10	22	11.7

CERTIFICATION:

[Handwritten signature]



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 Brooksbank Ave., North Vancouver
 British Columbia, Canada V7J 2C1
 PHONE: 604-984-0221 FAX: 604-984-0218

To: WESTMIN RESOURCES LTD.
 PROJECT: WOLVERINE
 P.O. BOX 49066, THE BENTALL CENTRE
 VANCOUVER, BC
 V7X 1C4

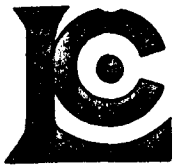
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 Comments: ATTN:DAVID TERRY-VANCOUVER OFFICE

Page Number :1-B
 Total Pages :1
 Certificate Date: 11-OCT-97
 Invoice No. :19743545
 P.O. Number :
 Account :GP W

CERTIFICATE OF ANALYSIS A9743545

SAMPLE	PREP CODE	Rb ppm	Sm ppm	Ag ppm	Sr ppm	Ta ppm	Tb ppm	Tl ppm	Th ppm	Tm ppm	Sn ppm	W ppm	U ppm	V ppm	Yb ppm	Y ppm	Zn ppm	Zr ppm
DG-PAK-01	299 297	62.2	1.8	< 1	121.5	2.5	0.3	3.0	1	0.2	2	1	2.0	90	1.4	9.0	120	76.5
DG-PAK-02	299 297	12.8	3.9	< 1	289	0.5	1.1	< 0.5	< 1	0.7	1	< 1	0.5	320	4.1	32.0	120	90.0
DG-PAK-03	299 297	59.4	1.1	< 1	150.0	1.5	0.2	< 0.5	1	0.1	1	1	1.5	80	1.3	7.0	20	55.5
DG-PAK-04	299 297	30.8	3.5	< 1	273	1.0	1.1	< 0.5	< 1	0.5	3	1	< 0.5	280	2.9	28.5	470	79.0
DG-PAK-05	299 297	157.0	8.8	< 1	399	3.5	1.4	0.5	5	0.7	2	1	3.0	120	3.9	32.5	95	112.0
DG-PAK-06	299 297	22.2	2.7	< 1	281	2.0	0.4	0.5	2	0.2	1	2	2.0	90	1.6	12.5	155	58.0
DG-PAK-07	299 297	13.4	4.0	< 1	239	1.0	1.1	< 0.5	< 1	0.7	1	< 1	< 0.5	325	3.9	31.5	80	100.5
DG-PAK-08	299 297	111.0	5.7	1	200	9.0	0.8	0.5	4	0.4	1	1	2.0	140	2.3	21.5	290	143.5
DG-PAK-09	299 297	36.2	3.6	< 1	411	3.0	0.9	< 0.5	< 1	0.5	< 1	< 1	< 0.5	285	3.3	26.0	165	83.5
DG-PAK-10	299 297	111.5	8.4	< 1	104.5	5.0	1.4	0.5	14	0.5	7	4	4.5	30	3.0	28.5	50	206

CERTIFICATION: _____



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221 FAX: 604-984-0218

To: WESTMIN RESOURCES LTD.
PROJECT: WOLVERINE
P.O. BOX 49066, THE BENTALL CENTRE
VANCOUVER, BC
V7X 1C4

A9743544

Comments: ATTN:DAVID TERRY-VANCOUVER OFFICE

CERTIFICATE

A9743544

(GP W) - WESTMIN RESOURCES LTD.

Project: 6414
P.O. #:

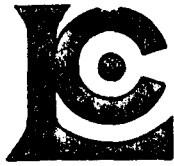
Samples submitted to our lab in Vancouver, BC.
This report was printed on 13-OCT-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
299	10	Pulp, prepped on other workorder
200	10	Whole rock fusion

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
594	10	Al2O3 %: Whole rock	ICP-AES	0.01	100.00
588	10	CaO %: Whole rock	ICP-AES	0.01	100.00
590	10	Cr2O3 %: Whole Rock	ICP-AES	0.01	100.00
586	10	Fe2O3(total) %: Whole rock	ICP-AES	0.01	100.00
821	10	K2O %: Whole rock	ICP-AES	0.01	100.00
593	10	MgO %: Whole rock	ICP-AES	0.01	100.00
596	10	MnO %: Whole rock	ICP-AES	0.01	100.00
599	10	Na2O %: Whole rock	ICP-AES	0.01	100.00
597	10	P2O5 %: Whole rock	ICP-AES	0.01	100.00
592	10	SiO2 %: Whole rock	ICP-AES	0.01	100.00
595	10	TiO2 %: Whole rock	ICP-AES	0.01	100.00
475	10	L.O.I. %: @ 1000 deg.C	FURNACE	0.01	99.99
540	10	Total %	CALCULATION	0.01	105.00



Chemex Labs Ltd.

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 212 Brooksbank Ave., North Vancouver
 British Columbia, Canada V7J 2C1
 PHONE: 604-984-0221 FAX: 604-984-0218

To: WESTMIN RESOURCES LTD.
 PROJECT: WOLVERINE
 P.O. BOX 49066, THE BENTALL CENTRE
 VANCOUVER, BC
 V7X 1C4

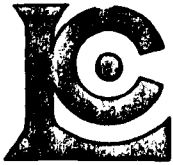
Page 1 of 1
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 Certificate Date: 13-OCT-97
 Invoice No. : 19743544
 P.O. Number :
 Account : GP W

Project : 6414
 Comments: ATTN:DAVID TERRY-VANCOUVER OFFICE

CERTIFICATE OF ANALYSIS A9743544

SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Na2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %
DG-PAK-01	299 200	9.01	0.16	0.03	3.36	1.78	0.50	0.03	1.80	0.10	81.00	0.17	2.43	100.35
DG-PAK-02	299 200	14.92	9.52	0.03	10.51	0.58	6.85	0.17	3.43	0.15	49.85	1.30	0.95	98.26
DG-PAK-03	299 200	6.79	0.02	0.04	1.41	1.84	0.27	0.01	0.29	0.04	86.00	0.15	1.73	98.59
DG-PAK-04	299 200	15.17	8.70	0.03	10.86	1.51	6.98	0.17	3.12	0.16	50.24	1.32	0.97	99.23
DG-PAK-05	299 200	10.45	3.38	0.02	7.39	4.33	1.43	0.40	0.36	0.33	66.36	0.44	3.57	98.46
DG-PAK-06	299 200	5.14	0.07	0.05	2.73	1.11	0.44	0.04	0.34	0.07	82.37	0.19	1.01	93.56
DG-PAK-07	299 200	14.87	8.86	0.03	10.69	0.68	6.93	0.17	3.36	0.18	49.40	1.38	1.40	97.95
DG-PAK-08	299 200	10.38	2.63	0.05	5.21	3.98	3.37	0.14	0.60	0.30	67.03	1.00	3.24	97.93
DG-PAK-09	299 200	15.99	10.39	0.01	9.93	1.60	6.11	0.19	3.82	0.18	46.00	1.43	5.57	101.20
DG-PAK-10	299 200	12.82	1.05	0.03	2.38	4.75	1.96	0.03	0.91	0.10	74.24	0.28	1.79	100.35

CERTIFICATION: Hart Bechler



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
 212 Brooksbank Ave., North Vancouver
 British Columbia, Canada V7J 2C1
 PHONE: 604-984-0221 FAX: 604-984-0218

To: WESTMIN RESOURCES LTD.
 PROJECT: WOLVERINE
 P.O. BOX 49066, THE BENTALL CENTRE
 VANCOUVER, BC
 V7X 1C4

A9743554

Comments: ATTN:DAVID TERRY-VANCOUVER OFFICE

CERTIFICATE

A9743554

(GP W) - WESTMIN RESOURCES LTD.

Project: 6414
 P.O. #:

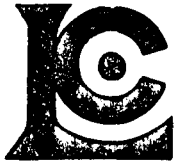
Samples submitted to our lab in Vancouver, BC.
 This report was printed on 6-OCT-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	14	Geochem ring to approx 150 mesh
226	14	0-3 Kg crush and split
3202	14	Rock - save entire reject
285	14	ICP - HF digestion charge
287	14	Special dig'n with organic ext'n

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
983	14	Au ppb: Fuse 30 g sample	FA-AAS	5	10000
13	14	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
22	14	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
20	14	Hg ppb: HNO3-HCl digestion	AAS-FLAMELESS	10	100000
578	14	Ag ppm: 24 element, rock & core	AAS	0.2	100.0
573	14	Al %: 24 element, rock & core	ICP-AES	0.01	25.0
565	14	Ba ppm: 24 element, rock & core	ICP-AES	10	10000
575	14	Be ppm: 24 element, rock & core	ICP-AES	0.5	1000
561	14	Bi ppm: 24 element, rock & core	ICP-AES	2	10000
576	14	Ca %: 24 element, rock & core	ICP-AES	0.01	25.0
562	14	Cd ppm: 24 element, rock & core	ICP-AES	0.5	500
563	14	Co ppm: 24 element, rock & core	ICP-AES	1	10000
569	14	Cr ppm: 24 element, rock & core	ICP-AES	1	10000
577	14	Cu ppm: 24 element, rock & core	ICP-AES	1	10000
566	14	Fe %: 24 element, rock & core	ICP-AES	0.01	25.0
584	14	K %: 24 element, rock & core	ICP-AES	0.01	10.00
570	14	Mg %: 24 element, rock & core	ICP-AES	0.01	15.00
568	14	Mn ppm: 24 element, rock & core	ICP-AES	5	10000
554	14	Mo ppm: 24 element, rock & core	ICP-AES	1	10000
583	14	Na %: 24 element, rock & core	ICP-AES	0.01	10.00
564	14	Ni ppm: 24 element, rock & core	ICP-AES	1	10000
559	14	P ppm: 24 element, rock & core	ICP-AES	10	10000
560	14	Pb ppm: 24 element, rock & core	AAS	2	10000
582	14	Sr ppm: 24 element, rock & core	ICP-AES	1	10000
579	14	Ti %: 24 element, rock & core	ICP-AES	0.01	10.00
572	14	V ppm: 24 element, rock & core	ICP-AES	1	10000
556	14	W ppm: 24 element, rock & core	ICP-AES	10	10000
558	14	Zn ppm: 24 element, rock & core	ICP-AES	2	10000



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
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 British Columbia, Canada V7J 2C1
 PHONE: 604-984-0221 FAX: 604-984-0218

To: WESTMIN RESOURCES LTD.
 PROJECT: WOLVERINE
 P.O. BOX 49066, THE BENTALL CENTRE
 VANCOUVER, BC
 V7X 1C4

Page No. per : 1-A
 Total Pages : 1
 Certificate Date: 03-OCT-97
 Invoice No. : 19743554
 P.O. Number :
 Account : GPW

Project : 6414
 Comments: ATTN:DAVID TERRY-VANCOUVER OFFICE

* PLEASE NOTE

CERTIFICATE OF ANALYSIS A9743554

SAMPLE	PREP CODE	Au ppb FA+AA	As ppm	Sb ppm	Hg ppb	Ag ppm AAS	Al % (ICP)	Ba ppm (ICP)	Be ppm (ICP)	Bi ppm (ICP)	Ca % (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Cr ppm (ICP)	Cu ppm (ICP)
DTPK97-01	205 226	< 5	4	0.4	< 10	< 0.2	8.64	650	1.5	2	6.64	0.5	33	170	31
DTPK97-02	205 226	< 5	2	0.2	< 10	< 0.2	9.35	300	6.0	< 2	2.21	< 0.5	2	90	344
DTPK97-03	205 226	< 5	6	0.4	10	1.0	6.96	2230	2.5	< 2	0.02	< 0.5	< 1	334	6
DTPK97-04	205 226	< 5	4	0.4	10	< 0.2	12.35	4960	4.0	2	0.04	0.5	< 1	90	4
DTPK97-05	205 226	< 5	4	0.2	< 10	< 0.2	7.46	320	4.0	< 2	1.55	12.0	33	155	59
DTPK97-06	205 226	< 5	2	0.2	20	1.2	10.20	220	2.5	16	3.47	60.5	38	75	67
DTPK97-07	205 226	< 5	20	1.2	10	< 0.2	9.05	330	2.5	< 2	0.30	< 0.5	32	123	8
GBPK97-01	205 226	< 5	6	0.2	< 10	< 0.2	1.26	3130	< 0.5	< 2	24.6	1.5	< 1	14	33
GBPK97-02	205 226	40	1	0.8	1740	21.2	2.67	60	1.5	Intf*	0.80	147.5	50	158	>10000
GBPK97-03	205 226	< 5	2	0.2	< 10	< 0.2	4.29	660	1.5	< 2	0.77	0.5	7	240	116
GBPK97-04	205 226	< 5	1	< 0.2	< 10	< 0.2	8.87	1620	0.5	< 2	5.59	1.5	35	122	136
GBPK97-05	205 226	< 5	1	0.8	660	13.6	2.98	50	2.0	40	0.48	61.0	14	177	7540
GBPK97-06	205 226	35	1	0.6	480	11.6	4.03	60	3.0	30	0.15	7.0	10	293	9060
GBPK97-07	205 226	< 5	2	< 0.2	< 10	< 0.2	8.37	1110	1.5	6	6.22	1.5	34	184	108

CERTIFICATION:

Hart Buchler

* INTERFERENCE: Cu on Bi and P



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
 212 Brooksbank Ave., North Vancouver
 British Columbia, Canada V7J 2C1
 PHONE: 604-984-0221 FAX: 604-984-0218

To: WESTMIN RESOURCES LTD.
 PROJECT: WOLVERINE
 P.O. BOX 49066, THE BENTALL CENTRE
 VANCOUVER, BC
 V7X 1C4

Page Number : 1-B
 Total Pages : 1
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 Account : GP W

Project : 6414
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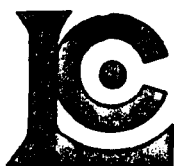
* PLEASE NOTE

CERTIFICATE OF ANALYSIS A9743554

SAMPLE	PREP CODE	Fe % (ICP)	K % (ICP)	Mg % (ICP)	Mn ppm (ICP)	Mo ppm (ICP)	Na % (ICP)	Ni ppm (ICP)	P ppm (ICP)	Pb ppm AAS	Sr ppm (ICP)	Ti % (ICP)	V ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)
DTPK97-01	205 226	5.91	0.85	3.60	1210	< 1	2.21	73	440	< 2	495	0.71	273	< 10	94
DTPK97-02	205 226	3.59	2.72	0.46	550	3	1.61	7	180	30	429	0.25	13	< 10	104
DTPK97-03	205 226	1.31	3.05	0.07	65	4	0.20	9	400	90	75	0.27	287	< 10	22
DTPK97-04	205 226	0.67	4.93	0.22	225	< 1	0.34	5	190	18	115	0.72	331	< 10	30
DTPK97-05	205 226	3.34	3.15	0.68	745	4	0.45	97	300	14	218	0.24	27	< 10	1570
DTPK97-06	205 226	5.35	4.13	0.93	1555	< 1	1.21	111	2310	70	251	1.53	269	< 10	4820
DTPK97-07	205 226	2.66	6.79	0.11	15	< 1	0.64	31	2610	24	193	0.22	200	< 10	12
GBPK97-01	205 226	2.30	0.23	0.38	>10000	2	0.42	11	800	52	3590	0.03	9	< 10	266
GBPK97-02	205 226	17.70	0.87	0.17	2720	36	0.15	49	Intf*	2200	165	0.05	104	< 10	>10000
GBPK97-03	205 226	2.25	1.55	0.47	915	< 1	0.52	46	430	8	75	0.16	145	< 10	184
GBPK97-04	205 226	6.43	0.62	3.48	1325	< 1	2.60	70	560	8	334	0.86	315	< 10	582
GBPK97-05	205 226	15.90	1.37	0.40	1180	44	0.17	109	530	4500	133	0.10	165	< 10	>10000
GBPK97-06	205 226	12.90	1.98	0.46	265	79	0.11	65	610	1120	104	0.10	166	< 10	1855
GBPK97-07	205 226	6.28	0.97	3.75	1290	< 1	2.08	85	520	20	539	0.80	294	< 10	366

CERTIFICATION: David Terry

* INTERFERENCE: Cu on Bi and P



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221 FAX: 604-984-0218

To: WESTMIN RESOURCES LTD.
PROJECT: WOLVERINE
P.O. BOX 49066, THE BENTALL CENTRE
VANCOUVER, BC
V7X 1C4

A9743563

Comments: ATTN:DAVID TERRY-VANCOUVER OFFICE

CERTIFICATE

A9743563

(GP W) - WESTMIN RESOURCES LTD.

Project: 6414
P.O. #:

Samples submitted to our lab in Vancouver, BC.
This report was printed on 11-OCT-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
299	10	Pulp; prepped on other workorder Meta-borate fusion charge
297	10	

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
2855	10	Ba ppm: ICP-MS	ICP-MS	0.5	10000
2501	10	Ce ppm: ICP-MS	ICP-MS	0.5	10000
2858	10	Cs ppm: ICP-MS	ICP-MS	0.1	10000
2859	10	Co ppm: ICP-MS	ICP-MS	0.5	10000
2860	10	Cu ppm: ICP-MS	ICP-MS	5	10000
2502	10	Dy ppm: ICP-MS	ICP-MS	0.1	1000
2503	10	Er ppm: ICP-MS	ICP-MS	0.1	1000
2504	10	Eu ppm: ICP-MS	ICP-MS	0.1	1000
2505	10	Gd ppm: ICP-MS	ICP-MS	0.1	1000
2861	10	Ga ppm: ICP-MS	ICP-MS	1	1000
2842	10	Hf ppm: ICP-MS	ICP-MS	1	10000
2506	10	Ho ppm: ICP-MS	ICP-MS	0.1	1000
2507	10	La ppm: ICP-MS	ICP-MS	0.5	10000
2862	10	Pb ppm: ICP-MS	ICP-MS	5	10000
2508	10	Lu ppm: ICP-MS	ICP-MS	0.1	1000
2509	10	Nd ppm: ICP-MS	ICP-MS	0.5	1000
2863	10	Ni ppm: ICP-MS	ICP-MS	5	10000
2844	10	Nb ppm: ICP-MS	ICP-MS	1	10000
2510	10	Pr ppm: ICP-MS	ICP-MS	0.1	1000
2864	10	Rb ppm: ICP-MS	ICP-MS	0.2	10000
2511	10	Sm ppm: ICP-MS	ICP-MS	0.1	1000
2865	10	Ag ppm: ICP-MS	ICP-MS	1	1000
2867	10	Sr ppm: ICP-MS	ICP-MS	0.1	10000
2868	10	Ta ppm: ICP-MS	ICP-MS	0.5	10000
2512	10	Tb ppm: ICP-MS	ICP-MS	0.1	1000
2869	10	Tl ppm: ICP-MS	ICP-MS	0.5	1000
2550	10	Th ppm: ICP-MS	ICP-MS	1	1000
2513	10	Tm ppm: ICP-MS	ICP-MS	0.1	1000
2870	10	Sn ppm: ICP-MS	ICP-MS	1	10000
2871	10	W ppm: ICP-MS	ICP-MS	1	10000
2549	10	U ppm: ICP-MS	ICP-MS	0.5	1000
2872	10	V ppm: ICP-MS	ICP-MS	5	10000
2514	10	Yb ppm: ICP-MS	ICP-MS	0.1	1000
2873	10	Y ppm: ICP-MS	ICP-MS	0.5	10000
2874	10	Zn ppm: ICP-MS	ICP-MS	5	10000
2875	10	Zr ppm: ICP-MS	ICP-MS	0.5	10000



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To: WESTMIN RESOURCES LTD.
 PROJECT: WOLVERINE
 P.O. BOX 49066, THE BENTALL CENTRE
 VANCOUVER, BC
 V7X 1C4

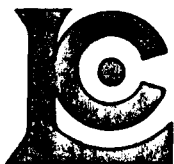
Page Number : 1-A
 Total Pages : 1
 Certificate Date: 11-OCT-97
 Invoice No. : 19743563
 P.O. Number :
 Account : GP W

Project : 6414
 Comments: ATTN:DAVID TERRY-VANCOUVER OFFICE

CERTIFICATE OF ANALYSIS A9743563

SAMPLE	PREP CODE	Ba ppm	Ce ppm	Cs ppm	Co ppm	Cu ppm	Dy ppm	Er ppm	Eu ppm	Gd ppm	Ga ppm	Hf ppm	Ho ppm	La ppm	Pb ppm	Lu ppm	Nd ppm	Ni ppm	Nb ppm	Pr ppm
DTPK97-01	299 297	742	11.0	3.6	34.0	39	5.3	3.6	1.5	3.8	18	2	1.2	4.0	< 5	0.6	9.5	75	3	2.0
DTPK97-02	299 297	2210	195.5	12.4	2.5	340	18.1	12.8	2.6	16.5	34	23	4.2	94.0	20	2.2	77.0	5	81	23.8
DTPK97-03	299 297	2350	23.0	1.8	< 0.5	< 5	2.5	1.4	0.9	2.6	14	3	0.5	11.5	95	0.1	9.0	5	12	2.9
DTPK97-04	299 297	5170	14.0	3.5	< 0.5	< 5	0.9	1.3	1.1	1.0	28	9	0.3	9.5	20	0.3	5.0	5	126	1.7
DTPK97-05	299 297	3260	140.0	11.7	32.0	70	15.9	9.6	3.8	15.7	24	17	3.4	67.5	20	1.5	62.5	95	54	18.0
GBPK97-01	299 297	3350	29.5	0.8	< 0.5	30	6.8	4.5	1.6	5.3	6	1	1.5	17.5	60	0.9	14.5	15	3	3.8
GBPK97-03	299 297	6640	45.0	5.0	4.5	120	4.1	2.4	1.4	4.1	12	3	0.9	25.0	< 5	0.4	20.0	40	14	6.2
GBPK97-04	299 297	1790	23.5	1.6	35.0	140	7.4	4.6	1.9	5.8	18	3	1.6	12.5	< 5	0.7	17.5	70	3	4.5
GBPK97-05	299 297	3410	38.0	3.2	12.0	7500	5.0	2.8	1.3	4.4	15	3	1.0	22.5	4600	0.4	17.5	100	14	5.4
GBPK97-07	299 297	1275	14.5	2.6	38.5	110	6.4	4.2	1.6	4.8	22	3	1.4	6.5	25	0.6	11.0	90	5	2.4

CERTIFICATION: _____



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212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221 FAX: 604-984-0218

To: WESTMIN RESOURCES LTD.
PROJECT: WOLVERINE
P.O. BOX 49066, THE BENTALL CENTRE
VANCOUVER, BC
V7X 1C4

Project : 6414
Comments: ATTN:DAVID TERRY-VANCOUVER OFFICE

Page Number : 1-B
Total Pages : 1
Certificate Date: 11-OCT-97
Invoice No. : 19743563
P.O. Number :
Account : GP W

CERTIFICATE OF ANALYSIS A9743563

SAMPLE	PREP CODE	Rb ppm	Sm ppm	Ag ppm	Sr ppm	Ta ppm	Tb ppm	Tl ppm	Th ppm	Tm ppm	Sn ppm	W ppm	U ppm	V ppm	Yb ppm	Y ppm	Zn ppm	Zr ppm
DTPK97-01	299 297	32.6	3.4	< 1	474	0.5	1.0	< 0.5	< 1	0.7	1	< 1	< 0.5	285	3.5	27.5	90	75.0
DTPK97-02	299 297	100.5	17.8	1	450	19.5	3.4	0.5	23	2.3	20	1	10.0	10	13.3	95.5	100	798
DTPK97-03	299 297	59.6	3.0	1	75.2	2.5	0.5	0.5	1	0.2	< 1	1	1.5	305	1.1	11.5	20	93.0
DTPK97-04	299 297	117.0	1.1	3	117.5	28.0	0.2	1.5	1	0.2	3	4	3.0	420	1.8	7.0	30	350
DTPK97-05	299 297	83.6	15.4	1	230	12.5	3.1	0.5	16	1.7	7	2	6.5	25	9.2	80.5	1600	581
GBPK97-01	299 297	8.6	4.1	< 1	3200	0.5	1.1	< 0.5	1	0.9	< 1	< 1	1.0	10	5.0	45.0	270	42.0
GBPK97-03	299 297	60.2	4.4	< 1	76.5	3.0	0.8	0.5	4	0.4	2	1	2.0	135	2.7	21.5	180	116.5
GBPK97-04	299 297	18.2	5.5	< 1	311	0.5	1.4	< 0.5	< 1	0.8	< 1	1	< 0.5	320	4.5	36.0	580	89.5
GBPK97-05	299 297	52.0	4.5	10	155.5	3.0	0.9	4.5	6	0.5	5	1	8.5	160	2.5	24.0	>10000	103.0
GBPK97-07	299 297	27.0	4.1	< 1	524	0.5	1.0	< 0.5	< 1	0.7	1	< 1	< 0.5	315	3.6	31.5	375	86.0

CERTIFICATION: _____



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221 FAX: 604-984-0218

to: WESTMIN RESOURCES LTD.
PROJECT: WOLVERINE
P.O. BOX 49066, THE BENTALL CENTRE
VANCOUVER, BC
V7X 1C4

A9743560

Comments: ATTN:DAVID TERRY-VANCOUVER OFFICE

CERTIFICATE

A9743560

(GP W) - WESTMIN RESOURCES LTD.

Project: 6414
P.O. #:

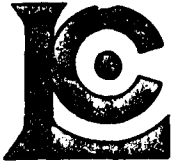
Samples submitted to our lab in Vancouver, BC.
This report was printed on 8-OCT-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
299	10	Pulp; prepped on other workorder
200	10	Whole rock fusion

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
594	10	Al2O3 %: Whole rock	ICP-AES	0.01	100.00
588	10	CaO %: Whole rock	ICP-AES	0.01	100.00
590	10	Cr2O3 %: Whole Rock	ICP-AES	0.01	100.00
586	10	Fe2O3(total) %: Whole rock	ICP-AES	0.01	100.00
821	10	K2O %: Whole rock	ICP-AES	0.01	100.00
593	10	MgO %: Whole rock	ICP-AES	0.01	100.00
596	10	MnO %: Whole rock	ICP-AES	0.01	100.00
599	10	Na2O %: Whole rock	ICP-AES	0.01	100.00
597	10	P2O5 %: Whole rock	ICP-AES	0.01	100.00
592	10	SiO2 %: Whole rock	ICP-AES	0.01	100.00
595	10	TiO2 %: Whole rock	ICP-AES	0.01	100.00
475	10	L.O.I. %: @ 1000 deg.C	FURNACE	0.01	99.99
540	10	Total %	CALCULATION	0.01	105.00



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
 212 Brooksbank Ave., North Vancouver
 British Columbia, Canada V7J 2C1
 PHONE: 604-984-0221 FAX: 604-984-0218

to: WESTMIN RESOURCES LTD.
 PROJECT: WOLVERINE
 P.O. BOX 49066, THE BENTALL CENTRE
 VANCOUVER, BC
 V7X 1C4

A9743564

Comments: ATTN:DAVID TERRY-VANCOUVER OFFICE

CERTIFICATE

A9743564

(GP W) - WESTMIN RESOURCES LTD.

Project: 6414
 P.O. #:

Samples submitted to our lab in Vancouver, BC.
 This report was printed on 2-OCT-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	8	Geochem ring to approx 150 mesh
226	8	0-3 Kg crush and split
3202	8	Rock - save entire reject
285	8	ICP - HF digestion charge
287	8	Special dig'n with organic ext'n

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
983	8	Au ppb: Fuse 30 g sample	FA-AAS	5	10000
13	8	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
22	8	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
20	8	Hg ppb: HNO3-HCl digestion	AAS-FLAMELESS	10	100000
578	8	Ag ppm: 24 element, rock & core	AAS	0.2	100.0
573	8	Al %: 24 element, rock & core	ICP-AES	0.01	25.0
565	8	Ba ppm: 24 element, rock & core	ICP-AES	10	10000
575	8	Be ppm: 24 element, rock & core	ICP-AES	0.5	1000
561	8	Bi ppm: 24 element, rock & core	ICP-AES	2	10000
576	8	Ca %: 24 element, rock & core	ICP-AES	0.01	25.0
562	8	Cd ppm: 24 element, rock & core	ICP-AES	0.5	500
563	8	Co ppm: 24 element, rock & core	ICP-AES	1	10000
569	8	Cr ppm: 24 element, rock & core	ICP-AES	1	10000
577	8	Cu ppm: 24 element, rock & core	ICP-AES	1	10000
566	8	Fe %: 24 element, rock & core	ICP-AES	0.01	25.0
584	8	K %: 24 element, rock & core	ICP-AES	0.01	10.00
570	8	Mg %: 24 element, rock & core	ICP-AES	0.01	15.00
568	8	Mn ppm: 24 element, rock & core	ICP-AES	5	10000
554	8	Mo ppm: 24 element, rock & core	ICP-AES	1	10000
583	8	Na %: 24 element, rock & core	ICP-AES	0.01	10.00
564	8	Ni ppm: 24 element, rock & core	ICP-AES	1	10000
559	8	P ppm: 24 element, rock & core	ICP-AES	10	10000
560	8	Pb ppm: 24 element, rock & core	AAS	2	10000
582	8	Sr ppm: 24 element, rock & core	ICP-AES	1	10000
579	8	Ti %: 24 element, rock & core	ICP-AES	0.01	10.00
572	8	V ppm: 24 element, rock & core	ICP-AES	1	10000
556	8	W ppm: 24 element, rock & core	ICP-AES	10	10000
558	8	Zn ppm: 24 element, rock & core	ICP-AES	2	10000



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
 212 Brooksbank Ave., North Vancouver
 British Columbia, Canada V7J 2C1
 PHONE: 604-984-0221 FAX: 604-984-0218

To: WESTMIN RESOURCES LTD.
 PROJECT: WOLVERINE
 P.O. BOX 49066, THE BENTALL CENTRE
 VANCOUVER, BC
 V7X 1C4

Page number : 1-A
 Total Pages : 1
 Certificate Date: 02-OCT-97
 Invoice No. : 19743564
 P.O. Number :
 Account : GP W

Project : 6414
 Comments: ATTN:DAVID TERRY-VANCOUVER OFFICE

CERTIFICATE OF ANALYSIS A9743564

SAMPLE	PREP CODE	Au ppb FA+AA	As ppm	Sb ppm	Hg ppb	Ag ppm AAS	Al % (ICP)	Ba ppm (ICP)	Be ppm (ICP)	Bi ppm (ICP)	Ca % (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Cr ppm (ICP)	Cu ppm (ICP)
GB-PK-97-08	205 226	< 5	1	0.2	< 10	< 0.2	5.60	2500	1.0	< 2	1.69	0.5	12	140	75
GB-PK-97-09	205 226	< 5	2	0.4	< 10	< 0.2	7.89	1020	0.5	2	5.67	0.5	36	328	69
GB-PK-97-10	205 226	< 5	1	0.4	< 10	< 0.2	9.07	420	1.0	< 2	2.42	< 0.5	< 1	123	21
DG-PAK-97-11	205 226	< 5	4	0.6	50	1.6	4.60	990	2.5	< 2	0.60	3.0	5	234	134
DG-PAK-97-12	205 226	< 5	2	0.6	10	0.6	6.40	500	1.0	< 2	0.33	2.0	< 1	87	18
DG-PAK-97-13	205 226	< 5	1	0.4	< 10	0.4	7.48	920	1.5	4	4.79	< 0.5	29	103	44
DG-PAK-97-14	205 226	< 5	276	0.2	< 10	< 0.2	4.71	650	2.0	2	4.66	0.5	39	1290	< 1
DG-PAK-97-15	205 226	< 5	2	0.4	< 10	< 0.2	4.11	2080	1.5	< 2	2.97	< 0.5	7	146	23

CERTIFICATION: _____



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CERTIFICATE OF ANALYSIS A9743564

SAMPLE	PREP CODE	Fe % (ICP)	K % (ICP)	Mg % (ICP)	Mn ppm (ICP)	Mo ppm (ICP)	Na % (ICP)	Ni ppm (ICP)	P ppm (ICP)	Pb ppm AAS	Sr ppm (ICP)	Ti % (ICP)	V ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)
GB-PK-97-08	205 226	3.49	1.71	1.71	900	< 1	1.44	38	890	4	209	0.51	152	< 10	70
GB-PK-97-09	205 226	6.51	1.12	4.79	1320	< 1	2.04	117	590	< 2	245	0.73	255	< 10	100
GB-PK-97-10	205 226	0.46	0.48	0.16	105	< 1	4.54	8	150	14	572	0.06	11	< 10	8
DG-PAK-97-11	205 226	2.70	2.60	0.59	1255	4	0.17	29	380	200	97	0.19	158	< 10	768
DG-PAK-97-12	205 226	0.62	2.08	0.24	150	< 1	2.20	3	270	100	76	0.12	10	< 10	372
DG-PAK-97-13	205 226	6.95	3.12	3.38	1255	< 1	2.02	34	1150	12	252	1.11	268	< 10	184
DG-PAK-97-14	205 226	5.31	3.01	8.55	1215	< 1	0.18	380	460	< 2	78	0.48	156	< 10	268
DG-PAK-97-15	205 226	2.15	2.42	0.79	995	< 1	0.49	35	640	< 2	461	0.25	90	< 10	84

CERTIFICATION: _____



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

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V7X 1C4

A9743565

Comments: ATTN:DAVID TERRY-VANCOUVER OFFICE

CERTIFICATE

A9743565

(GP W) - WESTMIN RESOURCES LTD.

Project: 6414
P.O. #:

Samples submitted to our lab in Vancouver, BC.
This report was printed on 13-OCT-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
299	8	Pulp; prepped on other workorder
200	8	Whole rock fusion

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
594	8	Al2O3 %: Whole rock	ICP-AES	0.01	100.00
588	8	CaO %: Whole rock	ICP-AES	0.01	100.00
590	8	Cr2O3 %: Whole Rock	ICP-AES	0.01	100.00
586	8	Fe2O3(total) %: Whole rock	ICP-AES	0.01	100.00
821	8	K2O %: Whole rock	ICP-AES	0.01	100.00
593	8	MgO %: Whole rock	ICP-AES	0.01	100.00
596	8	MnO %: Whole rock	ICP-AES	0.01	100.00
599	8	Na2O %: Whole rock	ICP-AES	0.01	100.00
597	8	P2O5 %: Whole rock	ICP-AES	0.01	100.00
592	8	SiO2 %: Whole rock	ICP-AES	0.01	100.00
595	8	TiO2 %: Whole rock	ICP-AES	0.01	100.00
475	8	L.O.I. %: @ 1000 deg.C	FURNACE	0.01	99.99
540	8	Total %	CALCULATION	0.01	105.00



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Page Number: 1
Total Pages: 1
Certificate Date: 13-OCT-97
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Account: GP W

CERTIFICATE OF ANALYSIS A9743565

SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Na2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %
GB-PK-97-08	299 200	10.37	2.53	0.02	5.65	2.17	3.13	0.13	2.11	0.21	70.00	0.93	1.80	99.05
GB-PK-97-09	299 200	14.95	8.95	0.06	11.22	1.52	9.12	0.20	2.84	0.12	48.20	1.34	1.93	100.45
GB-PK-97-10	299 200	17.29	3.65	0.02	0.89	0.54	0.40	0.01	6.49	0.05	68.48	0.13	1.45	99.40
DG-PAK-97-11	299 200	8.12	0.88	0.04	4.16	3.26	1.11	0.17	0.25	0.07	78.00	0.35	2.65	99.06
DG-PAK-97-12	299 200	10.96	0.46	0.01	0.93	2.61	0.43	0.01	3.21	0.06	79.00	0.23	1.10	99.01
DG-PAK-97-13	299 200	14.15	7.73	0.02	12.30	4.85	6.92	0.20	2.90	0.29	42.00	2.08	6.59	100.05
DG-PAK-97-14	299 200	8.40	7.30	0.23	9.20	4.19	16.47	0.19	0.20	0.12	49.00	0.88	3.68	99.86
DG-PAK-97-15	299 200	6.87	4.17	0.02	3.33	2.93	1.24	0.13	0.73	0.15	76.00	0.43	4.25	100.25

CERTIFICATION: Hart Buchler



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221 FAX: 604-984-0218

To: WESTMIN RESOURCES LTD.
PROJECT: WOLVERINE
P.O. BOX 49066, THE BENTALL CENTRE
VANCOUVER, BC
V7X 1C4

A9745424

Comments: ATTN:DAVID TERRY-VANCOUVER OFFICE

CERTIFICATE

A9745424

(GP W) - WESTMIN RESOURCES LTD.

Project: 6414
P.O. #:

Samples submitted to our lab in Vancouver, BC.
This report was printed on 7-OCT-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
244	2	Pulp; prev. prepared at Chemex

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
301	1	Cu %: Conc. Nitric-HCL dig'n	AAS	0.01	100.0
316	2	Zn %: Conc. Nitric-HCL dig'n	AAS	0.01	100.0



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Certificate Date: 07-OCT-97
Invoice No. : 19745424
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Account : GP W

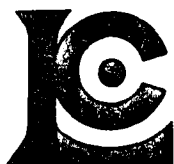
Project : 6414
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CERTIFICATE OF ANALYSIS

A9745424

SAMPLE	PREP CODE	Cu %	Zn %								
GBPK97-02	244 --	2.27	4.15								
GBPK97-05	244 --	-----	2.06								

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To: WESTMIN RESOURCES LTD.
PROJECT: WOLVERINE
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V7X 1C4

A9743566

Comments: ATTN:DAVID TERRY-VANCOUVER OFFICE

CERTIFICATE

A9743566

(GP W) - WESTMIN RESOURCES LTD.

Project: 6414
P.O. #:

Samples submitted to our lab in Vancouver, BC.
This report was printed on 14-OCT-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
299	8	Pulp, prepped on other workorder Meta-borate fusion charge
297	8	

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
2855	8	Ba ppm: ICP-MS	ICP-MS	0.5	10000
2501	8	Ce ppm: ICP-MS	ICP-MS	0.5	10000
2858	8	Cs ppm: ICP-MS	ICP-MS	0.1	10000
2859	8	Co ppm: ICP-MS	ICP-MS	0.5	10000
2860	8	Cu ppm: ICP-MS	ICP-MS	5	10000
2502	8	Dy ppm: ICP-MS	ICP-MS	0.1	1000
2503	8	Er ppm: ICP-MS	ICP-MS	0.1	1000
2504	8	Eu ppm: ICP-MS	ICP-MS	0.1	1000
2505	8	Gd ppm: ICP-MS	ICP-MS	0.1	1000
2861	8	Ga ppm: ICP-MS	ICP-MS	1	1000
2842	8	Hf ppm: ICP-MS	ICP-MS	1	10000
2506	8	Ho ppm: ICP-MS	ICP-MS	0.1	1000
2507	8	La ppm: ICP-MS	ICP-MS	0.5	10000
2862	8	Pb ppm: ICP-MS	ICP-MS	5	10000
2508	8	Lu ppm: ICP-MS	ICP-MS	0.1	1000
2509	8	Nd ppm: ICP-MS	ICP-MS	0.5	1000
2863	8	Ni ppm: ICP-MS	ICP-MS	5	10000
2844	8	Nb ppm: ICP-MS	ICP-MS	1	10000
2510	8	Pr ppm: ICP-MS	ICP-MS	0.1	1000
2864	8	Rb ppm: ICP-MS	ICP-MS	0.2	10000
2511	8	Sm ppm: ICP-MS	ICP-MS	0.1	1000
2865	8	Ag ppm: ICP-MS	ICP-MS	1	1000
2867	8	Sr ppm: ICP-MS	ICP-MS	0.1	10000
2868	8	Ta ppm: ICP-MS	ICP-MS	0.5	10000
2512	8	Tb ppm: ICP-MS	ICP-MS	0.1	1000
2869	8	Tl ppm: ICP-MS	ICP-MS	0.5	1000
2550	8	Th ppm: ICP-MS	ICP-MS	1	1000
2513	8	Tm ppm: ICP-MS	ICP-MS	0.1	1000
2870	8	Sn ppm: ICP-MS	ICP-MS	1	10000
2871	8	W ppm: ICP-MS	ICP-MS	1	10000
2549	8	U ppm: ICP-MS	ICP-MS	0.5	1000
2872	8	V ppm: ICP-MS	ICP-MS	5	10000
2514	8	Yb ppm: ICP-MS	ICP-MS	0.1	1000
2873	8	Y ppm: ICP-MS	ICP-MS	0.5	10000
2874	8	Zn ppm: ICP-MS	ICP-MS	5	10000
2875	8	Zr ppm: ICP-MS	ICP-MS	0.5	10000



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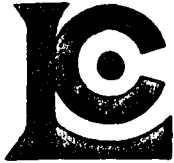
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Certificate Date: 11-OCT-97
Invoice No. : 19743566
P.O. Number :
Account : GP W

Project : 6414
Comments: ATTN:DAVID TERRY-VANCOUVER OFFICE

CERTIFICATE OF ANALYSIS A9743566

SAMPLE	PREP CODE		Ba	Ce	Cs	Co	Cu	Dy	Er	Eu	Gd	Ga	Hf	Ho	La	Pb	Lu	Nd	Ni	Nb	Pr
			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
GB-PK-97-08	299	297	2660	50.5	8.3	12.0	75	3.8	2.7	1.5	5.6	13	4	0.9	26.5	< 5	0.4	21.5	45	26	6.8
GB-PK-97-09	299	297	1160	17.0	10.2	36.0	65	5.7	3.6	1.7	5.3	15	1	1.1	8.0	< 5	0.6	11.0	130	8	2.9
GB-PK-97-10	299	297	477	6.0	1.4	< 0.5	20	0.8	0.5	0.3	0.7	15	5	0.1	3.0	10	< 0.1	2.5	5	7	0.8
DG-PAK-97-11	299	297	1080	72.0	4.4	5.0	130	5.7	3.5	1.1	6.4	14	4	1.3	37.0	190	0.5	29.5	25	17	9.4
DG-PAK-97-12	299	297	544	60.5	1.2	< 0.5	15	7.6	5.0	0.7	6.4	15	6	1.7	22.0	95	0.6	24.0	5	26	7.1
DG-PAK-97-13	299	297	1120	45.0	20.6	31.0	40	6.5	3.7	2.1	6.3	21	5	1.4	20.5	10	0.7	22.5	35	22	6.3
DG-PAK-97-14	299	297	764	39.0	7.0	43.0	< 5	3.7	2.2	0.9	3.8	15	4	0.8	20.0	< 5	0.3	16.5	405	27	5.2
DG-PAK-97-15	299	297	2200	47.5	2.8	9.5	20	3.4	2.0	1.2	4.1	14	4	0.7	24.5	< 5	0.4	20.5	35	11	6.1

CERTIFICATION: Hart Buehler



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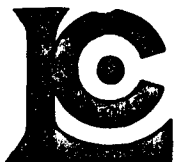
Project : 6414
 Comments : ATTN:DAVID TERRY-VANCOUVER OFFICE

CERTIFICATE OF ANALYSIS A9743566

SAMPLE	PREP CODE	Rb ppm	Sm ppm	Ag ppm	Sr ppm	Ta ppm	Tb ppm	Tl ppm	Th ppm	Tm ppm	Sn ppm	W ppm	U ppm	V ppm	Yb ppm	Y ppm	Zn ppm	Zr ppm
GB-PK-97-08	299 297	60.6	5.2	< 1	216	6.5	0.9	< 0.5	3	0.5	1	2	2.0	155	2.8	22.0	65	134.5
GB-PK-97-09	299 297	41.8	4.0	< 1	250	0.5	1.0	< 0.5	< 1	0.7	2	1	< 0.5	255	3.4	29.5	110	53.5
GB-PK-97-10	299 297	14.6	0.7	< 1	593	0.5	0.1	< 0.5	1	< 0.1	< 1	< 1	2.0	15	0.5	4.5	5	135.0
DG-PAK-97-11	299 297	99.0	6.8	1	94.9	3.0	1.3	0.5	5	0.6	3	3	4.0	150	3.4	29.5	760	141.5
DG-PAK-97-12	299 297	61.6	6.0	< 1	80.1	5.0	1.3	0.5	9	0.8	6	1	4.0	10	4.5	42.0	370	197.0
DG-PAK-97-13	299 297	174.0	5.7	< 1	263	3.0	1.3	1.5	2	0.7	2	< 1	1.0	305	3.5	31.0	180	161.5
DG-PAK-97-14	299 297	140.5	3.8	< 1	77.0	4.5	0.8	0.5	3	0.4	3	< 1	1.5	150	2.4	19.5	260	141.0
DG-PAK-97-15	299 297	80.4	4.5	< 1	439	0.5	0.7	< 0.5	3	0.4	1	< 1	2.0	95	3.0	18.0	80	170.5

CERTIFICATION:

David Terry



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To: WESTMIN RESOURCES LTD.
PROJECT: WOLVERINE
P.O. BOX 49066, THE BENTALL CENTRE
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A9745447

Comments: ATTN: DAVID TERRY

CERTIFICATE

A9745447

(GP W) - WESTMIN RESOURCES LTD.

Project: 6414
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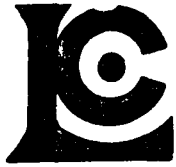
Samples submitted to our lab in Vancouver, BC.
This report was printed on 16-OCT-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
208	6	Assay ring to approx 150 mesh
226	6	0-3 Kg crush and split
3202	6	Rock - save entire reject
290	6	Assay HF ICP digestion charge

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
983	6	Au ppb: Fuse 30 g sample	FA-AAS	5	10000
1263	6	Ag ppm: high grade 24 element	AAS	1	200
4031	6	Al %: A22 ICP package	ICP-AES	0.05	30.0
4032	6	Ba ppm: A22 ICP package	ICP-AES	100	50000
4033	6	Be ppm: A22 ICP package	ICP-AES	10	10000
4034	6	Bi ppm: A22 ICP package	ICP-AES	20	50000
4035	6	Ca %: A22 ICP package	ICP-AES	0.05	30000
4036	6	Cd ppm: A22 ICP package	ICP-AES	10	10000
4037	6	Co ppm: A22 ICP package	ICP-AES	10	100000
4038	6	Cr ppm: A22 ICP package	ICP-AES	10	100000
4039	6	Cu ppm: A22 ICP package	ICP-AES	10	100000
4040	6	Fe %: A22 ICP package	ICP-AES	0.05	30.0
4041	6	K %: A22 ICP package	ICP-AES	0.1	20.0
4042	6	Mg %: A22 ICP package	ICP-AES	0.05	30.0
4043	6	Mn ppm: A22 ICP package	ICP-AES	10	100000
4044	6	Mo ppm: A22 ICP package	ICP-AES	10	100000
4045	6	Na %: A22 ICP package	ICP-AES	0.05	20.0
4046	6	Ni ppm: A22 ICP package	ICP-AES	10	100000
4075	6	Pb %: high grade 24 element	AAS	0.001	10.00
4047	6	Sr ppm: A22 ICP package	ICP-AES	10	100000
4048	6	Ti %: A22 ICP package	ICP-AES	0.05	20.0
4049	6	V ppm: A22 ICP package	ICP-AES	10	50000
4050	6	Zn ppm: A22 ICP package	ICP-AES	20	100000



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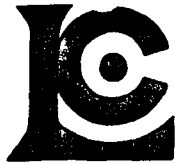
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CERTIFICATE OF ANALYSIS A9745447

SAMPLE	PREP CODE	Au ppb FA+AA	Ag ppm AAS	Al % (ICP)	Ba ppm (ICP)	Be ppm (ICP)	Bi ppm (ICP)	Ca % (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Cr ppm (ICP)	Cu ppm (ICP)	Fe % (ICP)	K % (ICP)	Mg % (ICP)
271208	208 226	55	21	0.60	100	< 10	80	0.05	150	50	110	7870	30.0	0.2	0.05
271209	208 226	230	27	0.20	200	< 10	< 20	< 0.05	< 10	110	280	150	19.65	0.1	< 0.05
271212	208 226	20	13	0.05	< 100	< 10	40	< 0.05	160	20	90	4500	>30.0	< 0.1	< 0.05
271213	208 226	20	11	1.05	100	< 10	80	0.40	10	130	110	7260	>30.0	0.3	0.15
271214	208 226	35	21	0.05	< 100	< 10	40	0.50	380	110	160	14100	29.8	< 0.1	< 0.05
271215	208 226	35	16	0.85	100	< 10	60	0.30	160	100	140	11730	>30.0	0.2	0.05

CERTIFICATION: _____



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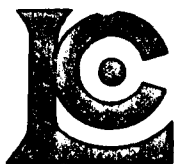
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CERTIFICATE OF ANALYSIS A9745447

SAMPLE	PREP CODE	Mn ppm (ICP)	Mo ppm (ICP)	Na % (ICP)	Ni ppm (ICP)	Pb % AAS	Sr ppm (ICP)	Ti % (ICP)	V ppm (ICP)	Zn ppm (ICP)					
271208	208 226	1980	10	0.05	150	0.288	30	< 0.05	20	34700					
271209	208 226	40	80	0.05	20	0.161	10	< 0.05	10	440					
271212	208 226	2170	10	< 0.05	150	0.240	< 10	< 0.05	< 10	33600					
271213	208 226	1630	70	0.05	60	0.062	30	< 0.05	70	3280					
271214	208 226	3350	20	< 0.05	50	0.435	30	< 0.05	10	>100000					
271215	208 226	1620	40	0.20	40	0.211	30	< 0.05	20	37000					

CERTIFICATION: _____



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A9745449

Comments: ATTN: DAVID TERRY

CERTIFICATE

A9745449

(GP W) - WESTMIN RESOURCES LTD.

Project: 6414
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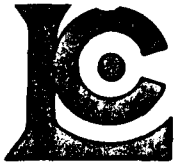
Samples submitted to our lab in Vancouver, BC.
This report was printed on 21-OCT-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	5	Geochem ring to approx 150 mesh
226	5	0-3 Kg crush and split
3202	5	Rock - save entire reject
285	5	ICP - HF digestion charge
287	5	Special dig'n with organic ext'n

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
983	5	Au ppb: Fuse 30 g sample	FA-AAS	5	10000
13	5	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
22	5	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
20	5	Hg ppb: HNO3-HCl digestion	AAS-FLAMELESS	10	100000
578	5	Ag ppm: 24 element, rock & core	AAS	0.2	100.0
573	5	Al %: 24 element, rock & core	ICP-AES	0.01	25.0
565	5	Ba ppm: 24 element, rock & core	ICP-AES	10	10000
575	5	Be ppm: 24 element, rock & core	ICP-AES	0.5	1000
561	5	Bi ppm: 24 element, rock & core	ICP-AES	2	10000
576	5	Ca %: 24 element, rock & core	ICP-AES	0.01	25.0
562	5	Cd ppm: 24 element, rock & core	ICP-AES	0.5	500
563	5	Co ppm: 24 element, rock & core	ICP-AES	1	10000
569	5	Cr ppm: 24 element, rock & core	ICP-AES	1	10000
577	5	Cu ppm: 24 element, rock & core	ICP-AES	1	10000
566	5	Fe %: 24 element, rock & core	ICP-AES	0.01	25.0
584	5	K %: 24 element, rock & core	ICP-AES	0.01	10.00
570	5	Mg %: 24 element, rock & core	ICP-AES	0.01	15.00
568	5	Mn ppm: 24 element, rock & core	ICP-AES	5	10000
554	5	Mo ppm: 24 element, rock & core	ICP-AES	1	10000
583	5	Na %: 24 element, rock & core	ICP-AES	0.01	10.00
564	5	Ni ppm: 24 element, rock & core	ICP-AES	1	10000
559	5	P ppm: 24 element, rock & core	ICP-AES	10	10000
560	5	Pb ppm: 24 element, rock & core	AAS	2	10000
582	5	Sr ppm: 24 element, rock & core	ICP-AES	1	10000
579	5	Ti %: 24 element, rock & core	ICP-AES	0.01	10.00
572	5	V ppm: 24 element, rock & core	ICP-AES	1	10000
556	5	W ppm: 24 element, rock & core	ICP-AES	10	10000
558	5	Zn ppm: 24 element, rock & core	ICP-AES	2	10000



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CERTIFICATE OF ANALYSIS A9745449

SAMPLE	PREP CODE	Au ppb FA+AA	As ppm	Sb ppm	Hg ppb	Ag ppm AAS	Al % (ICP)	Ba ppm (ICP)	Be ppm (ICP)	Bi ppm (ICP)	Ca % (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Cr ppm (ICP)	Cu ppm (ICP)
271210	205 226	< 5	1	1.0	50	< 0.2	0.40	230	< 0.5	18	0.66	< 0.5	6	99	8
271211	205 226	< 5	2	0.2	10	1.0	6.74	520	2.5	< 2	1.51	12.5	1	131	33
271216	205 226	< 5	1	< 0.2	< 10	< 0.2	1.75	360	1.5	4	0.26	< 0.5	< 1	229	33
271217	205 226	< 5	354	5.0	130	2.2	1.04	340	< 0.5	10	0.10	< 0.5	4	177	650
271218	205 226	< 5	2	0.4	50	< 0.2	5.36	280	4.0	2	0.78	2.5	5	170	773

CERTIFICATION: David Terry



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PROJECT: WOLVERINE
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VANCOUVER, BC
V7X 1C4

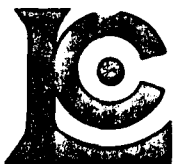
Page Number : 1-B
Total Pages : 1
Certificate Date: 21-OCT-97
Invoice No. : 19745449
P.O. Number :
Account : GP W

Project : 6414
Comments: ATTN: DAVID TERRY

CERTIFICATE OF ANALYSIS A9745449

SAMPLE	PREP CODE	Fe % (ICP)	K % (ICP)	Mg % (ICP)	Mn ppm (ICP)	Mo ppm (ICP)	Na % (ICP)	Ni ppm (ICP)	P ppm (ICP)	Pb ppm AAS	Sr ppm (ICP)	Ti % (ICP)	V ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)
271210	205 226	>25.0	0.07	0.21	2920	< 1	0.05	28	2650	< 2	136	0.03	60	< 10	122
271211	205 226	3.35	1.36	0.18	245	4	2.90	9	380	30	448	0.25	31	< 10	894
271216	205 226	7.89	0.76	0.13	1720	6	0.13	15	890	< 2	209	0.08	85	< 10	62
271217	205 226	20.7	0.57	0.05	1960	6	0.11	3	960	26	279	0.11	192	< 10	64
271218	205 226	2.23	2.47	0.82	625	8	0.87	22	490	100	260	0.12	138	< 10	792

CERTIFICATION: _____



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A9745450

Comments: ATTN: DAVID TERRY

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A9745450

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Project: 6414
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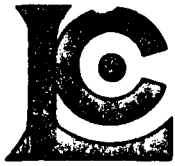
Samples submitted to our lab in Vancouver, BC.
This report was printed on 9-OCT-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	1	Geochem ring to approx 150 mesh
226	1	0-3 Kg crush and split
3202	1	Rock - save entire reject
200	1	Whole rock fusion

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
594	1	Al2O3 %: Whole rock	ICP-AES	0.01	100.00
588	1	CaO %: Whole rock	ICP-AES	0.01	100.00
590	1	Cr2O3 %: Whole Rock	ICP-AES	0.01	100.00
586	1	Fe2O3(total) %: Whole rock	ICP-AES	0.01	100.00
821	1	K2O %: Whole rock	ICP-AES	0.01	100.00
593	1	MgO %: Whole rock	ICP-AES	0.01	100.00
596	1	MnO %: Whole rock	ICP-AES	0.01	100.00
599	1	Na2O %: Whole rock	ICP-AES	0.01	100.00
597	1	P2O5 %: Whole rock	ICP-AES	0.01	100.00
592	1	SiO2 %: Whole rock	ICP-AES	0.01	100.00
595	1	TiO2 %: Whole rock	ICP-AES	0.01	100.00
475	1	L.O.I. %: @ 1000 deg.C	FURNACE	0.01	99.99
540	1	Total %	CALCULATION	0.01	105.00



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Project : 6414
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Page Number : 1
Total Pages : 1
Certificate Date: 09-OCT-97
Invoice No. : 19745450
P.O. Number :
Account : GP W

CERTIFICATE OF ANALYSIS A9745450

SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Na2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %	
271223	205 226	16.00	10.20	0.02	10.40	0.50	7.20	0.16	3.60	0.14	50.00	1.30	1.01	100.55	

CERTIFICATION: David Buchler



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A9745452

Comments: ATTN: DAVID TERRY

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A9745452

(GP W) - WESTMIN RESOURCES LTD.

Project: 6414
P.O. #:

Samples submitted to our lab in Vancouver, BC.
This report was printed on 13-OCT-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
299	1	Pulp; prepped on other workorder Meta-borate fusion charge
297	1	

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
2855	1	Ba ppm: ICP-MS	ICP-MS	0.5	10000
2501	1	Ce ppm: ICP-MS	ICP-MS	0.5	10000
2858	1	Cs ppm: ICP-MS	ICP-MS	0.1	10000
2859	1	Co ppm: ICP-MS	ICP-MS	0.5	10000
2860	1	Cu ppm: ICP-MS	ICP-MS	5	10000
2502	1	Dy ppm: ICP-MS	ICP-MS	0.1	1000
2503	1	Er ppm: ICP-MS	ICP-MS	0.1	1000
2504	1	Eu ppm: ICP-MS	ICP-MS	0.1	1000
2505	1	Gd ppm: ICP-MS	ICP-MS	0.1	1000
2861	1	Ga ppm: ICP-MS	ICP-MS	1	1000
2842	1	Hf ppm: ICP-MS	ICP-MS	1	10000
2506	1	Ho ppm: IPC-MS	ICP-MS	0.1	1000
2507	1	La ppm: ICP-MS	ICP-MS	0.5	10000
2862	1	Pb ppm: ICP-MS	ICP-MS	5	10000
2508	1	Lu ppm: ICP-MS	ICP-MS	0.1	1000
2509	1	Nd ppm: ICP-MS	ICP-MS	0.5	1000
2863	1	Ni ppm: ICP-MS	ICP-MS	5	10000
2844	1	Nb ppm: ICP-MS	ICP-MS	1	10000
2510	1	Pr ppm: ICP-MS	ICP-MS	0.1	1000
2864	1	Rb ppm: ICP-MS	ICP-MS	0.2	10000
2511	1	Sm ppm: ICP-MS	ICP-MS	0.1	1000
2865	1	Ag ppm: ICP-MS	ICP-MS	1	1000
2867	1	Sr ppm: ICP-MS	ICP-MS	0.1	10000
2868	1	Ta ppm: ICP-MS	ICP-MS	0.5	10000
2512	1	Tb ppm: ICP-MS	ICP-MS	0.1	1000
2869	1	Tl ppm: ICP-MS	ICP-MS	0.5	1000
2550	1	Th ppm: ICP-MS	ICP-MS	1	1000
2513	1	Tm ppm: ICP-MS	ICP-MS	0.1	1000
2870	1	Sn ppm: ICP-MS	ICP-MS	1	10000
2871	1	W ppm: ICP-MS	ICP-MS	1	10000
2549	1	U ppm: ICP-MS	ICP-MS	0.5	1000
2872	1	V ppm: ICP-MS	ICP-MS	5	10000
2514	1	Yb ppm: ICP-MS	ICP-MS	0.1	1000
2873	1	Y ppm: ICP-MS	ICP-MS	0.5	10000
2874	1	Zn ppm: ICP-MS	ICP-MS	5	10000
2875	1	Zr ppm: ICP-MS	ICP-MS	0.5	10000



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Project: 6414
Comments: ATTN: DAVID TERRY

Page Number :1-A
Total Pages :1
Certificate Date: 13-OCT-97
Invoice No. :19745452
P.O. Number :
Account :GP W

CERTIFICATE OF ANALYSIS A9745452

SAMPLE	PREP CODE		Ba	Ce	Cs	Co	Cu	Dy	Er	Eu	Gd	Ga	Hf	Ho	La	Pb	Lu	Nd	Ni	Nb	Pr
			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
271223	299	297	142.0	11.5	0.6	30.0	55	6.5	4.0	1.4	4.9	16	1	1.5	4.0	< 5	0.6	9.0	80	3	2.3

CERTIFICATION: _____



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CERTIFICATE OF ANALYSIS

A9745452

SAMPLE	PREP CODE	Rb ppm	Sm ppm	Ag ppm	Sr ppm	Ta ppm	Tb ppm	Tl ppm	Th ppm	Tm ppm	Sn ppm	W ppm	U ppm	V ppm	Yb ppm	Y ppm	Zn ppm	Zr ppm
271223	299 297	3.4	4.3	< 1	288	1.0	1.0	< 0.5	< 1	0.7	< 1	< 1	< 0.5	325	3.8	30.0	75	58.5

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A9746566

Comments: ATTN:DAVID TERRY-VANCOUVER OFFICE

CERTIFICATE

A9746566

(GP W) - WESTMIN RESOURCES LTD.

Project: 6414
P.O. #:

Samples submitted to our lab in Vancouver, BC.
This report was printed on 14-OCT-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
244	1	Pulp; prev. prepared at Chemex

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
316	1	Zn %: Conc. Nitric-HCL dig'n	AAS	0.01	100.0



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Certificate Date: 14-OCT-97
Invoice No. : I9746566
P.O. Number :
Account : GP W

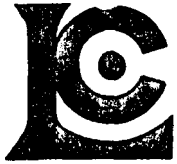
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CERTIFICATE OF ANALYSIS

A9746566

SAMPLE	PREP CODE	Zn %											
GBPK97-05	244 --	2.09											

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A9747416

Comments: ATTN: DAVID TERRY

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A9747416

(GP W) - WESTMIN RESOURCES LTD.

Project: 6414
P.O. #:

Samples submitted to our lab in Vancouver, BC.
This report was printed on 28-OCT-97.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
244	1	Pulp; prev. prepared at Chemex

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
316	1	Zn %: Conc. Nitric-HCL dig'n	AAS	0.01	100.0



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Project: 6414
Comments: ATTN: DAVID TERRY

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Total Pages : 1
Certificate Date: 28-OCT-97
Invoice No. : 19747416
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Account : GP W

CERTIFICATE OF ANALYSIS

A9747416

SAMPLE	PREP CODE		Zn %									
271214	244	--	10.40									

CERTIFICATION:

APPENDIX E
ROCK SAMPLE DESCRIPTIONS

Rock Sample Descriptions

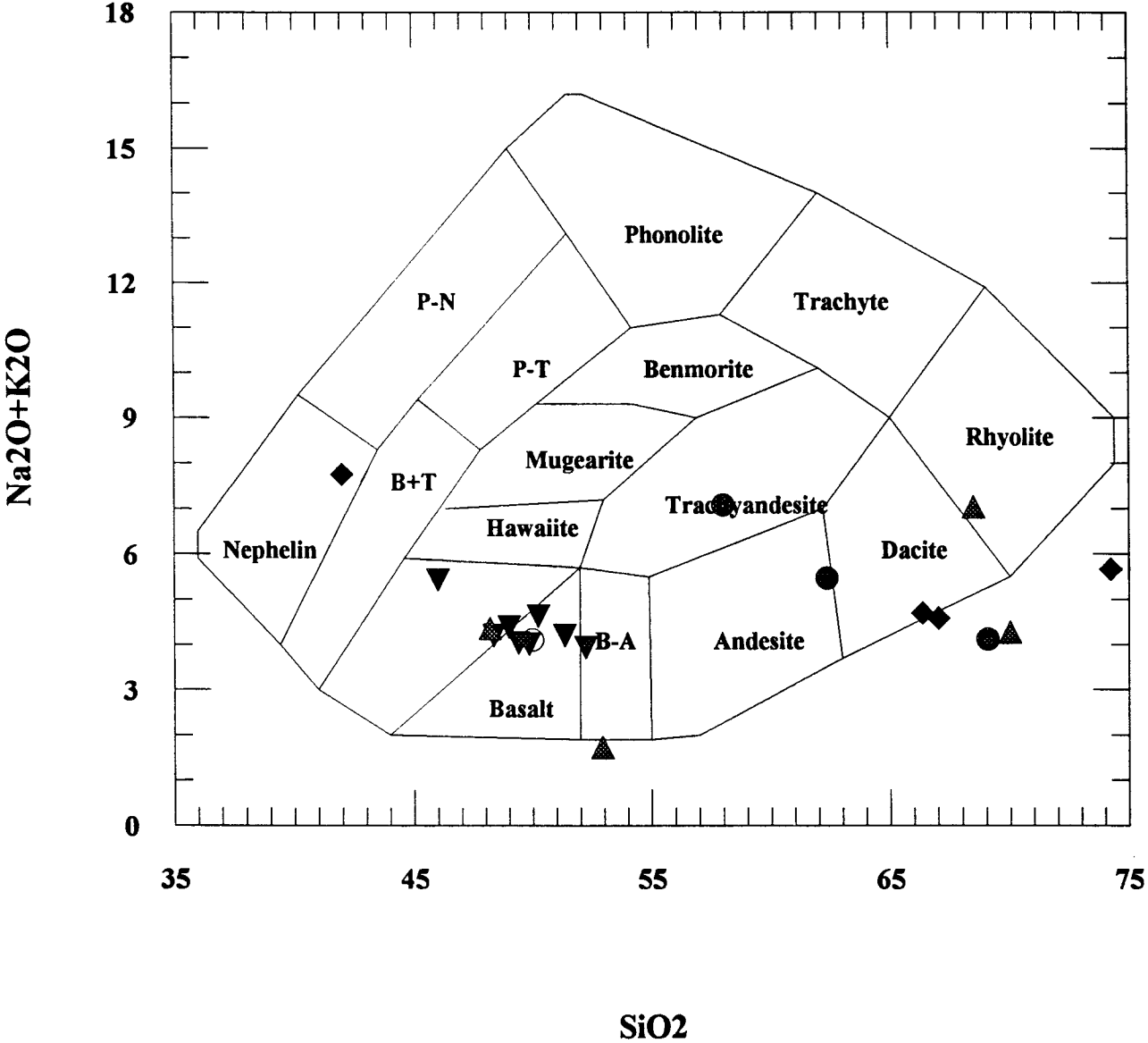
Sample #	Grab	Description
DG-PAK-01	Grab	Qtz-ser schist; sugary texture with moderate limonite alteration, trace pyrite. (exhalite?)
DG-PAK-02	Grab	Chlorite schist; sampled at contact of meta-sedimentary and meta-volcanic rocks.
DG-PAK-03	Grab	Quartz-sericite schist; sugary texture with moderate limonite alteration, 1% disseminated pyrite. (exhalite?)
DG-PAK-04	Grab	Chlorite schist; massive chlorite with 10% biotite
DG-PAK-05	Grab	Quartz-biotite schist; 60% quartz, 38% biotite, 2% anhedral to subhedral pyrite. (wacke?)
DG-PAK-06	Grab	Quartz-sericite schist; all quartz with mica defining foliation, mod. limonite alteration, 1-2% pyrite, Manganese Oxide staining
DG-PAK-07	Grab	Chlorite schist; 10% biotite on foliation planes
DG-PAK-08	Grab	Quartz-biotite schist; 60% quartz, 38% biotite, 2% anhedral to subhedral pyrite. (wacke?)
DG-PAK-09	Grab	Chlorite-biotite schist; 60%-40% chlorite-biotite.
DG-PAK-10	Grab	Quartz-biotite schist; 80% quartz, 20% coarse grained biotite, strongly foliated
DTPK97-01	Grab	Chlorite-biotite schist; minor quartz laminae, trace to 2% pyrite, anhedral disseminated pyrrhotite.
DTPK97-02	Grab	Quartz-sericite schist; 2-5% biotite flakes, 2-4% fine grained-medium grained disseminated pyrite, trace-2% disseminated chalcopyrite
DTPK97-03	Grab	Quartz-muscovite schist; 2-4% fine grained disseminated pyrite.
DTPK97-04	Grab	Muscovite-quartz schist; trace fine grained pyrite. (rhyolite?)
DTPK97-05	Grab	Quartz-sericite-exhalite; 5-7% fine grained-medium grained pyrrhotite, trace-2% disseminated chalcopyrite
DTPK97-06	Float	Quartz-sericite-exhalite; 7-10% fine grained disseminated pyrite/pyrrhotite, trace-2% chalcopyrite,
DTPK97-07	Grab	Quartzite; recrystallized, rusty, 4% fine grained disseminated pyrite/pyrrhotite, trace chalcopyrite
GBPK97-01	Grab	Quartz-biotite schist; intercalated purplish brown (exhalite?)
GBPK97-02	Grab	Mass. To semi-massive sulphide; 50%pyrrhotite, 5-10% chalcopyrite; minor sphalerite in quartz-chlorite gangue
GBPK97-03	Grab	Quartz-biotite gneiss; dark brown to grey, aphanitic., very siliceous, finely laminated, 2-3%v.f.g. pyrrhotite stringers
GBPK97-04	Grab	Chlorite schist; fine grained, 3-5% biotite.
GBPK97-05	Grab	Quartz-biotite gneiss; 3-5% chalcopyrite along fractures (10m above sediment-volcanic contact)
GBPK97-06	Grab	Biotite-chlorite schist; coarse grained sulphide, 5% pyrrhotite, 2% sphalerite, 2% chalcopyrite
GBPK97-07	Grab	Chlorite-biotite schist; green, strongly fol., at contact with

		overlying sediment.
GB-PK-97-08	Grab	Quartz-biotite gneiss; very siliceous with fn. laminations, 10-20% biotite.
GB-PK-97-09	Grab	Chlorite-biotite schist; green, strongly fol., at contact with overlying sediment.
GB-PK-97-10	Grab	Felsic gneiss; white felsic dyke 50 cm wide, aphanitic, 5-7% biotite.
DG-PAK-97-11	Grab	Quartz-biotite gneiss; very siliceous with fn. laminations, 10-20% biotite. (black. quartzite?)
DG-PAK-97-12	Grab	Felsite gneiss; 10% biotite interlayered with fine grained leucocratic siliceous material
DG-PAK-97-13	Grab	Biotite-quartz-feldspar schist; 60-70% biotite (mafic volcanic?)
DG-PAK-97-14	Grab	Chlorite-biotite schist; strongly foliated; 3-5% calcite veins, 2-4% carbonate in matrix
DG-PAK-97-15	Grab	Quartz-biotite schist; 80% qtz, 20% coarse grained biotite, mass. Biotite layers within 0.5 cm siliceous layers
271208	Grab	Massive sulphide; 55% pyrrhotite, 5%mass. stringer chalcopyrite, gangue is quartz pods and felsic(?) siliceous host
271209	Grab	Semi-massive sulphide; 45-55% pyrite., pyrrhotite rich, fine friable gouge, strong limonite alteration
271210	Grab	Semi-massive magnetite; 40-50% magnetite, siliceous gangue, 2-4% veins of pyrite.
271211	Grab	Quartz-biotite-carbonate schist; manganese. alt on surface, 3-5% disseminated, pyrite., mod. limonite alteration
271212	Grab	Massive sulphide; 50% pyrrhotite, 1-2% disseminated chalcopyrite., 30-40% silica gangue, mod. limonite alteration
271213	Grab	Massive sulphide.; 50% pyrrhotite, 0.5-1% disseminated chalcopyrite., 30-40% silica gangue, trace limonite alteration
271214	Grab	Massive sulphide.; 10-15% pyrrhotite, 0.5-1 cm. thick chalcopyrite, bands within sphalerite., siliceous matrix, trace limonite alteration
271215	Grab	Semi-massive sulphide; 10-15% pyrrhotite, 10 chalcopyrite. in 50-60% siliceous matrix, no banding, 5-10 % disseminated pyrite
271216	Grab	Quartz-sericite schist; siliceous, sugary texture, trace disseminated pyrite and sphalerite, trace limonite alteration (felsic tuff? exhalite?)
271217	Local float	Quartz-sericite schist; siliceous, sugary texture, very trace limonite alteration (felsic tuff? Exhalite?)
271218	Grab	Siliceous rock; blue-black., fine grained siliceous rock within exhalite (?), disseminated pyrite., trace chalcopyrite

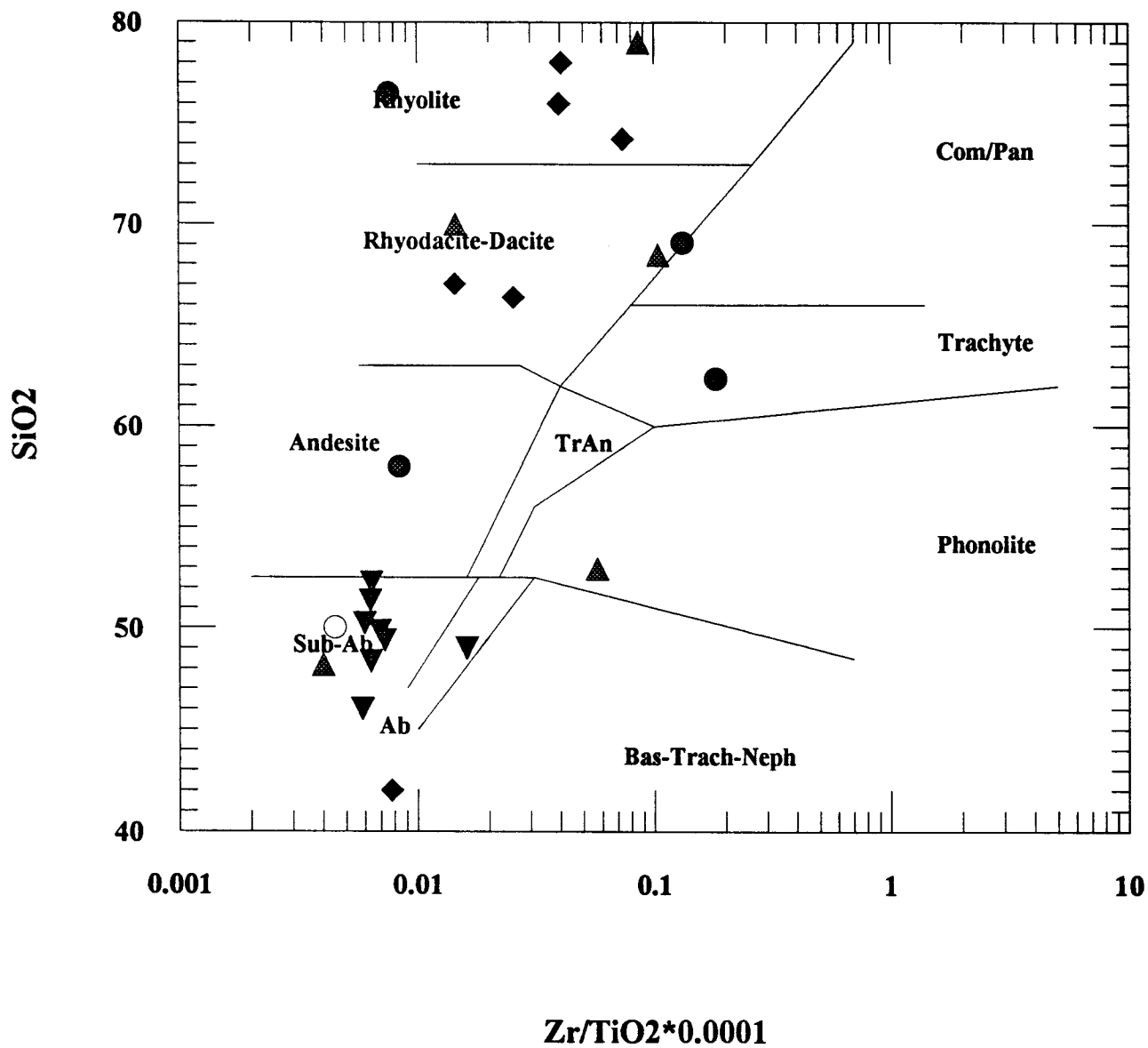
APPENDIX F

WHOLE ROCK GEOCHEMISTRY PLOTS

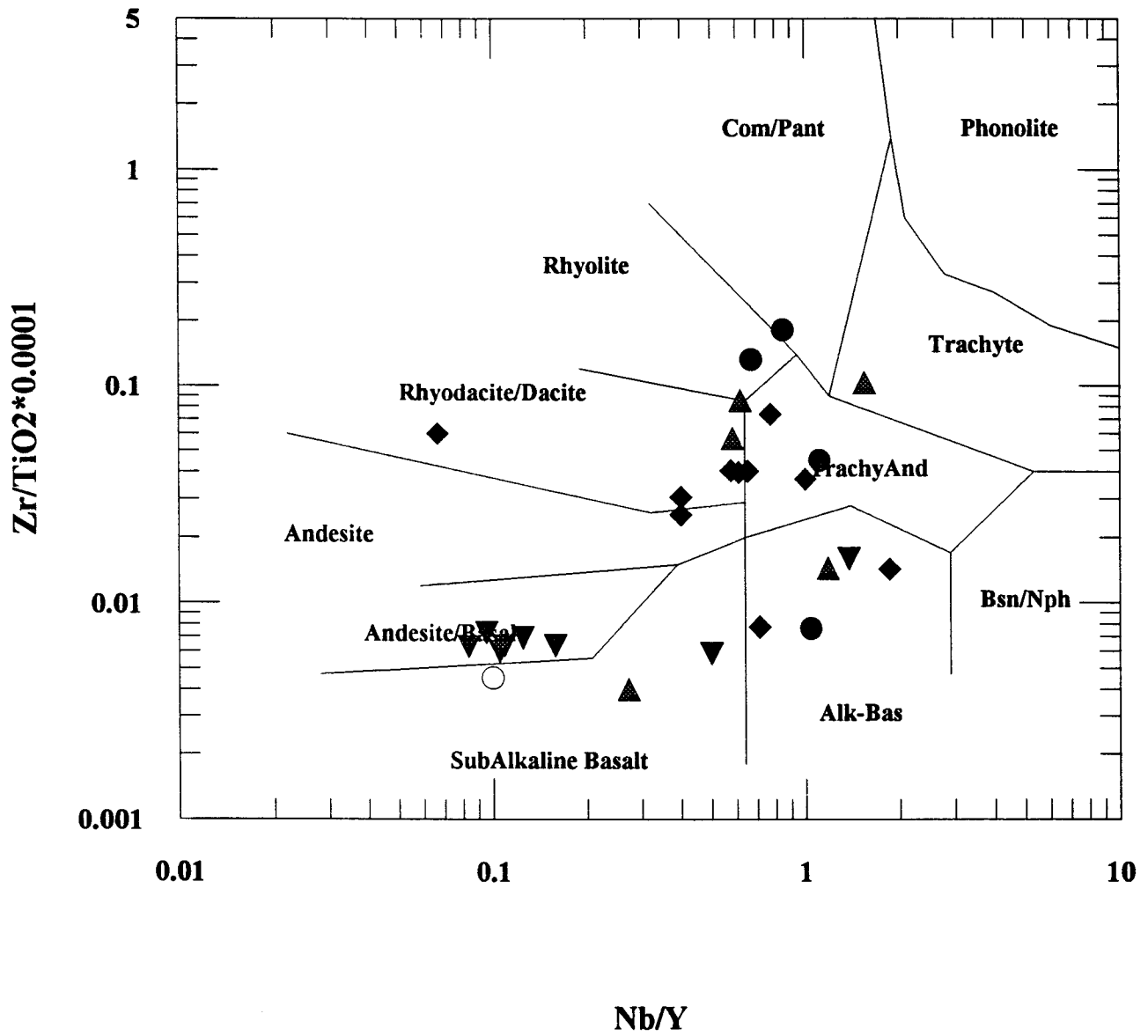
ROCK CLASSIFICATION



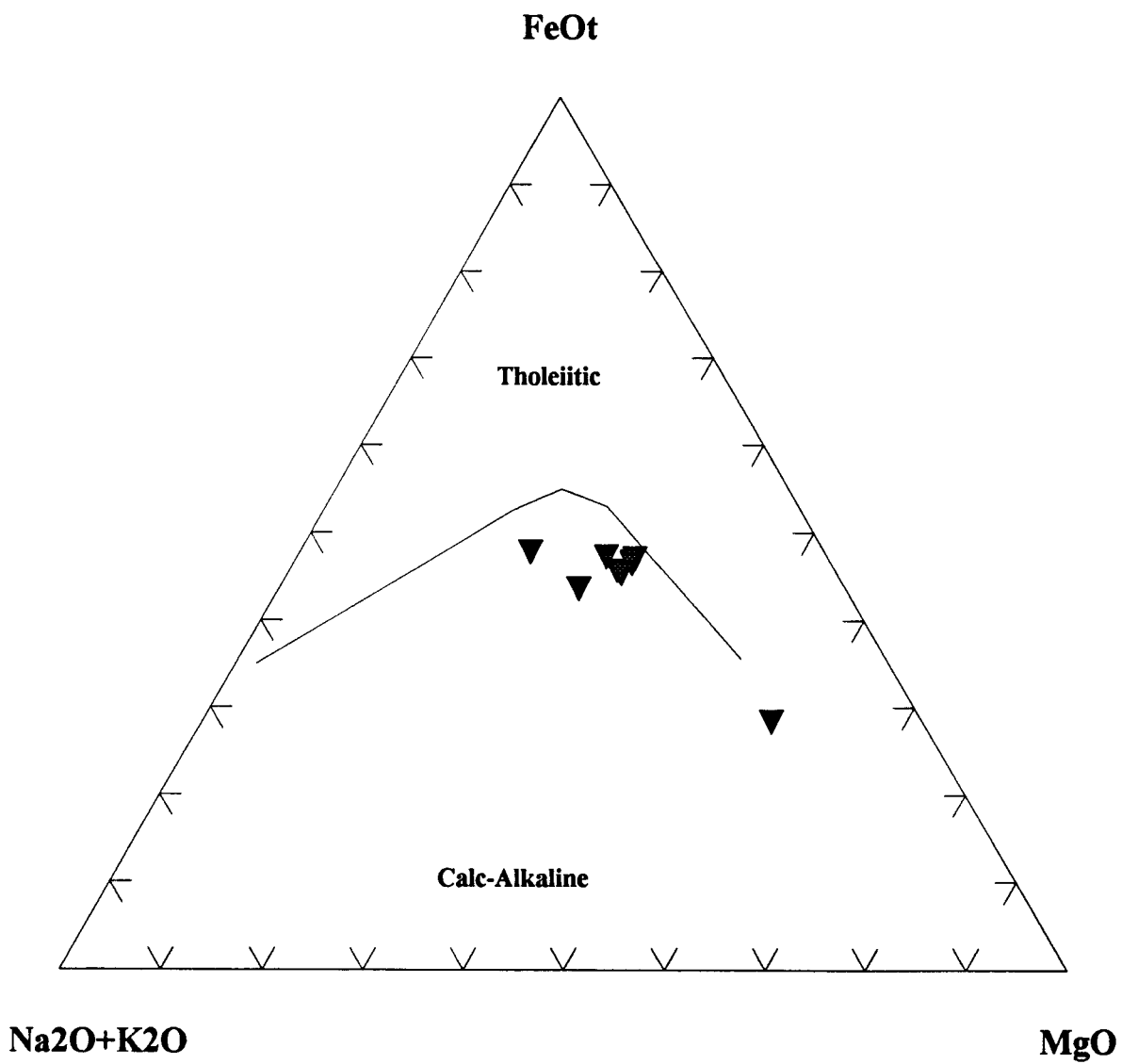
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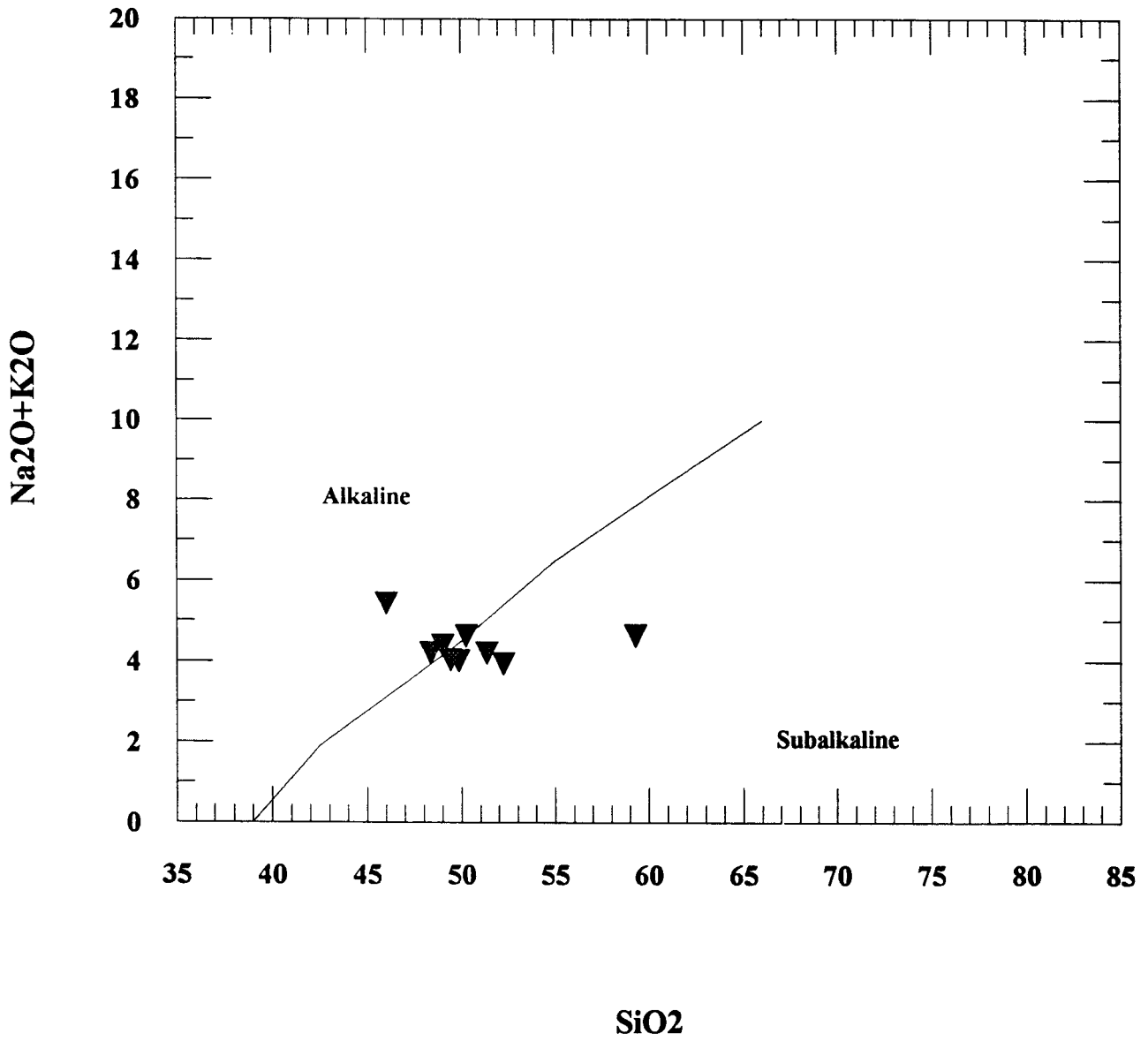
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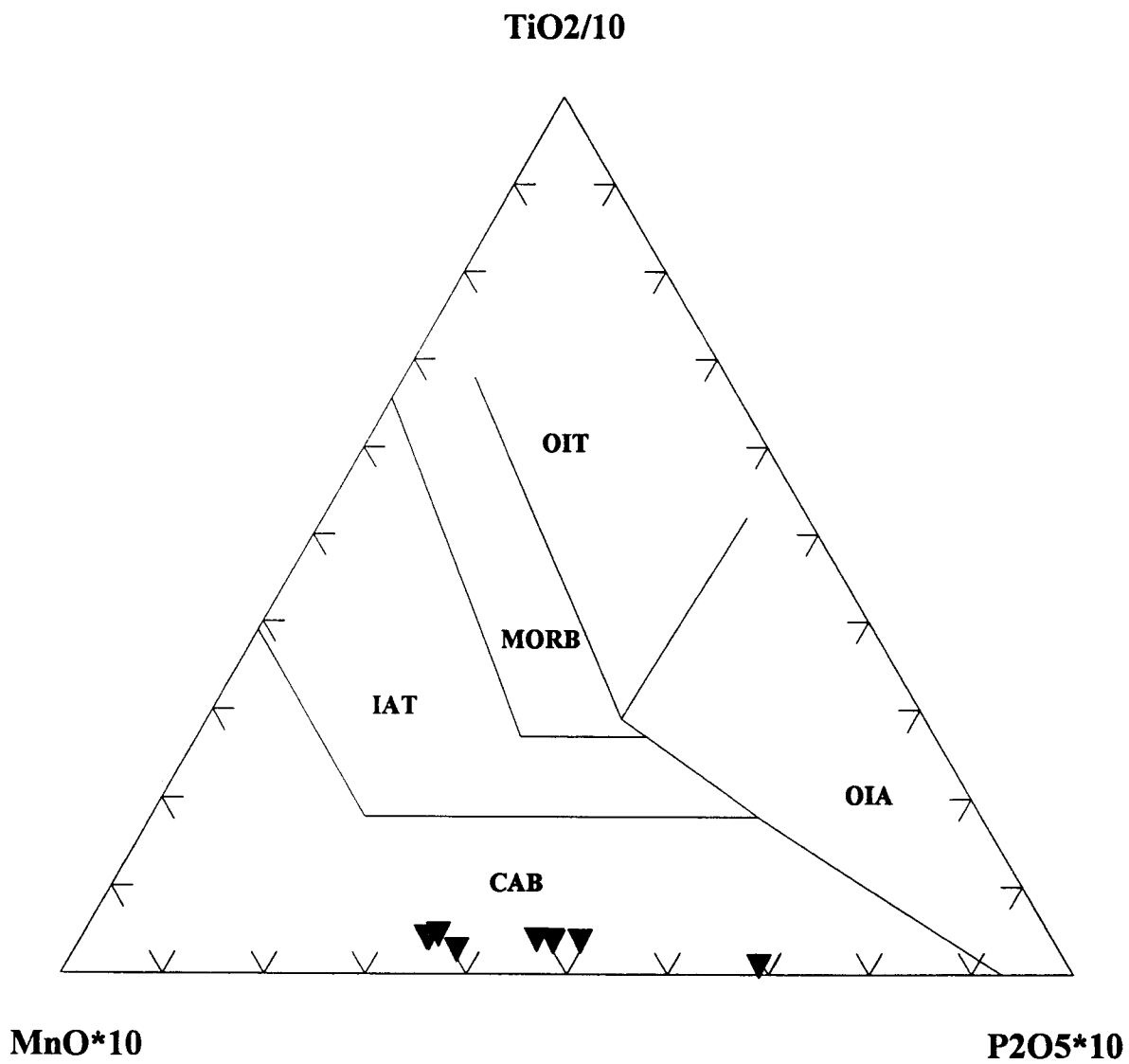
BASALT DISCRIMINANT



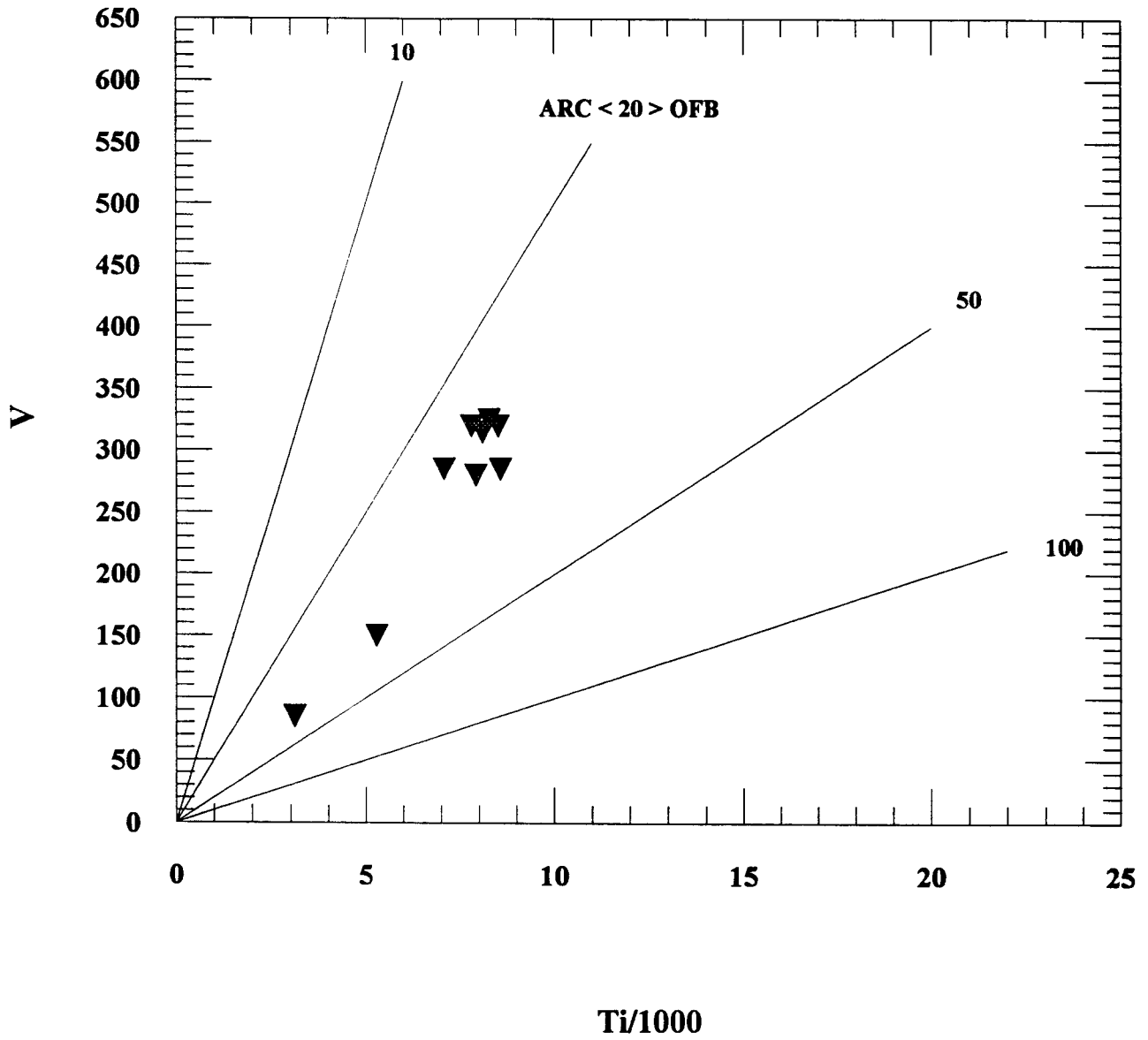
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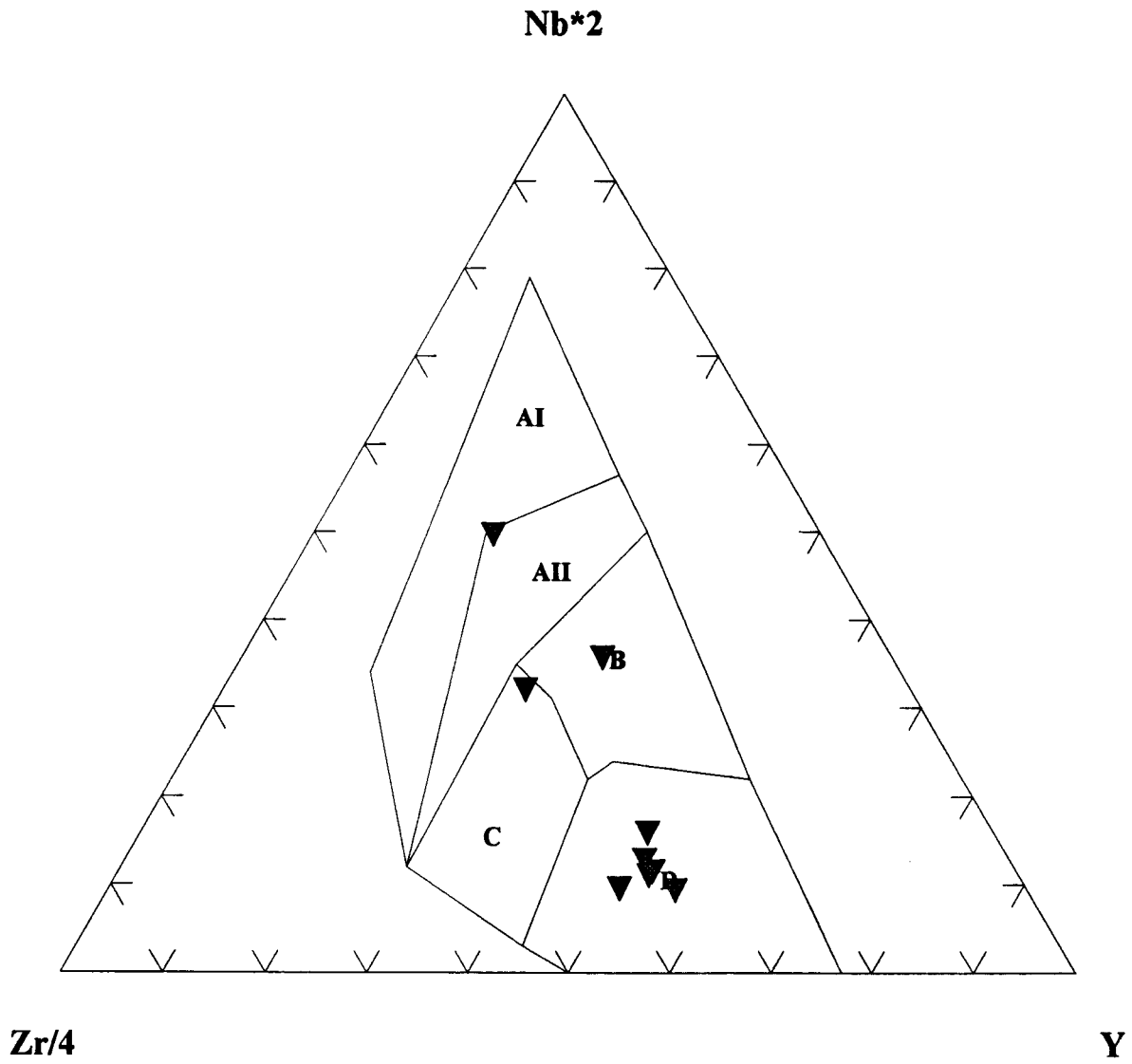
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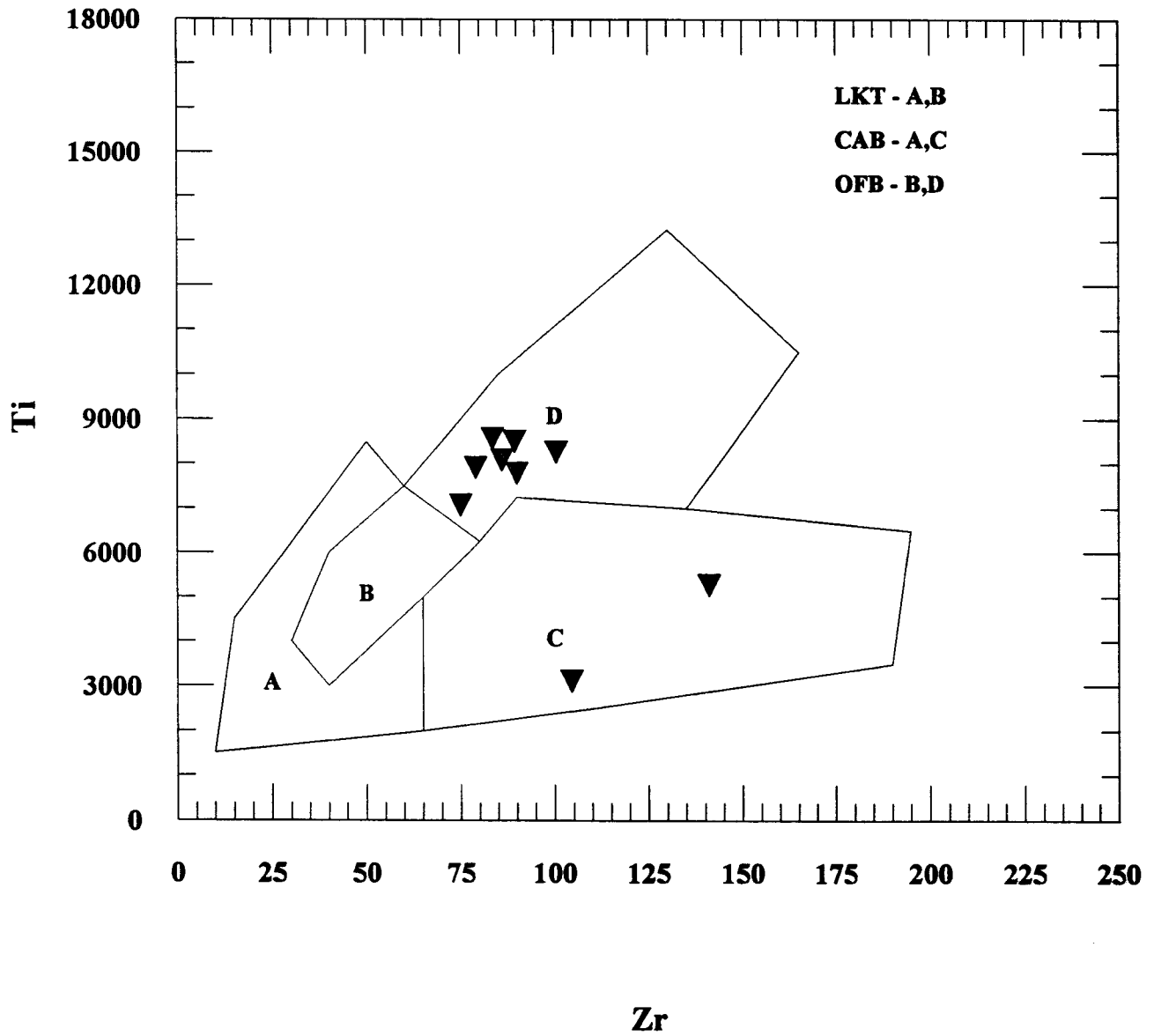
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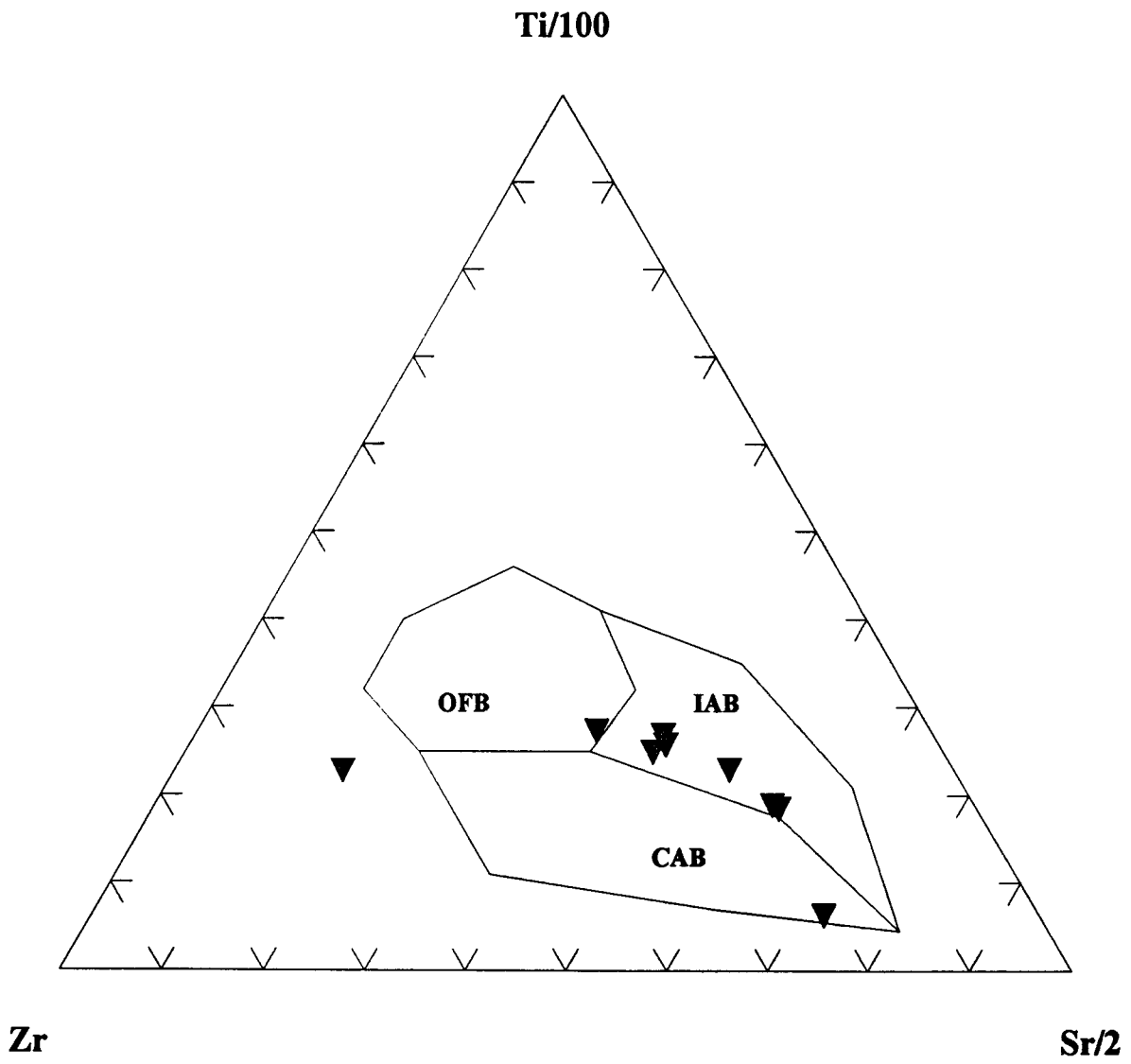
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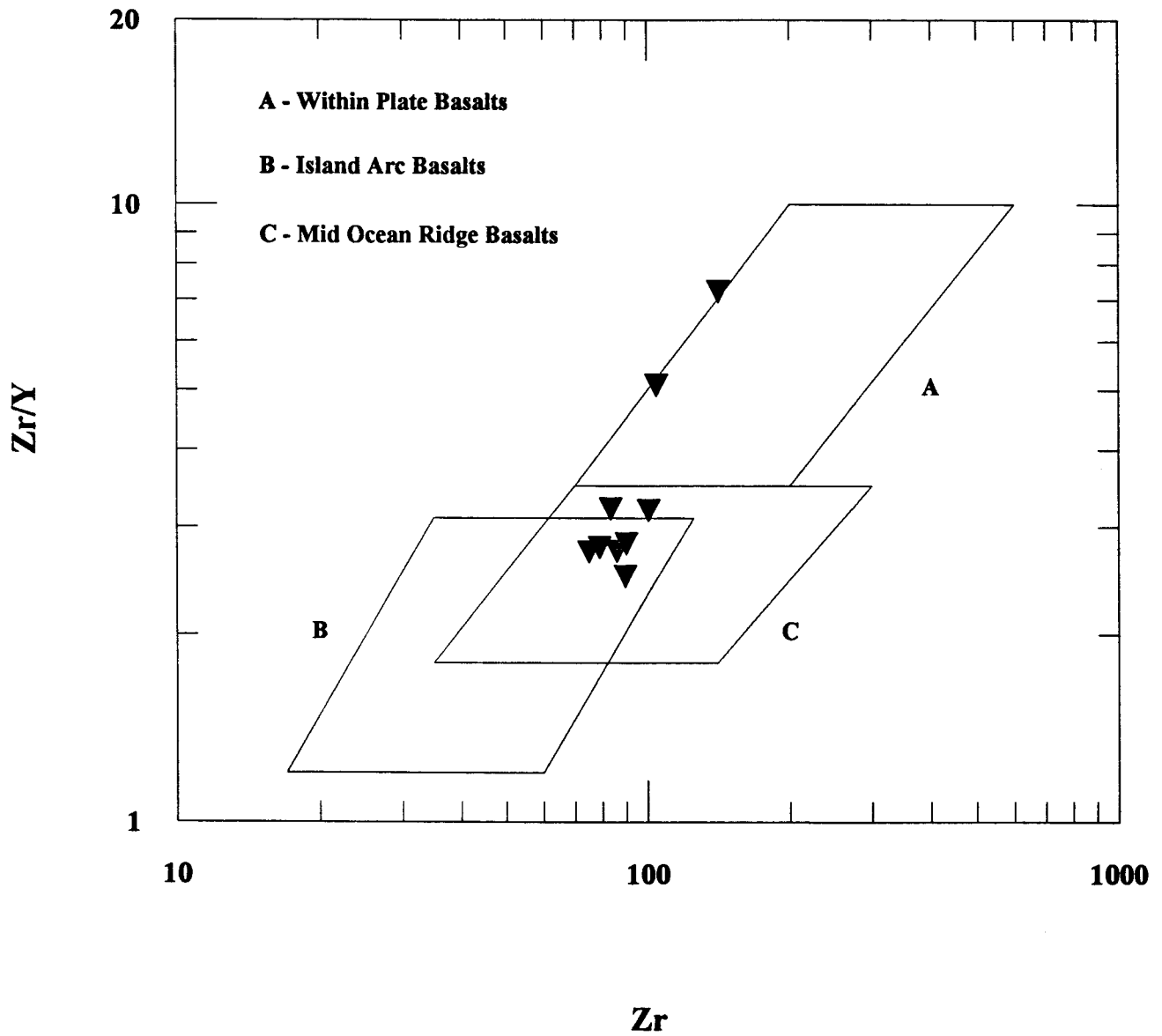
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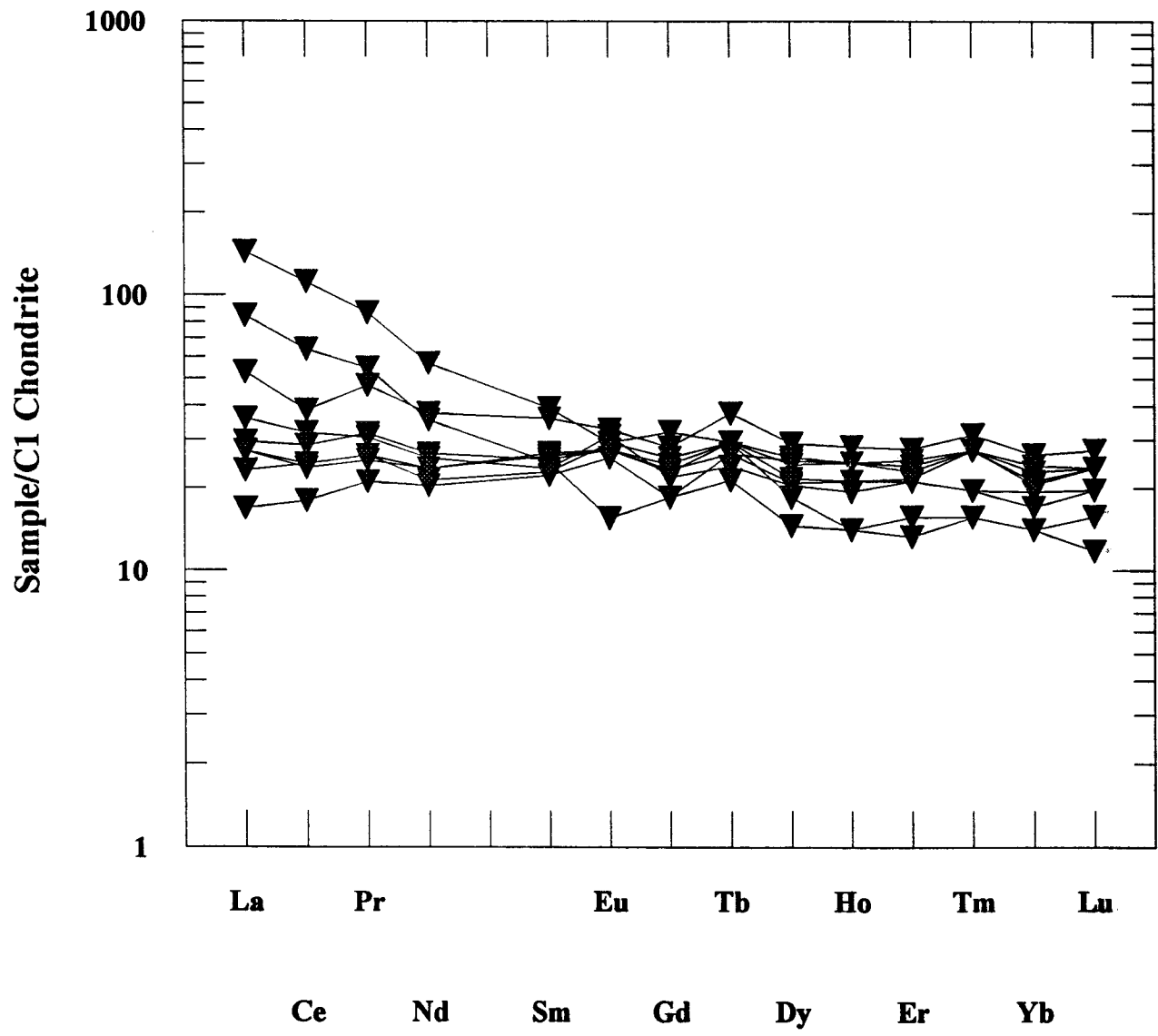
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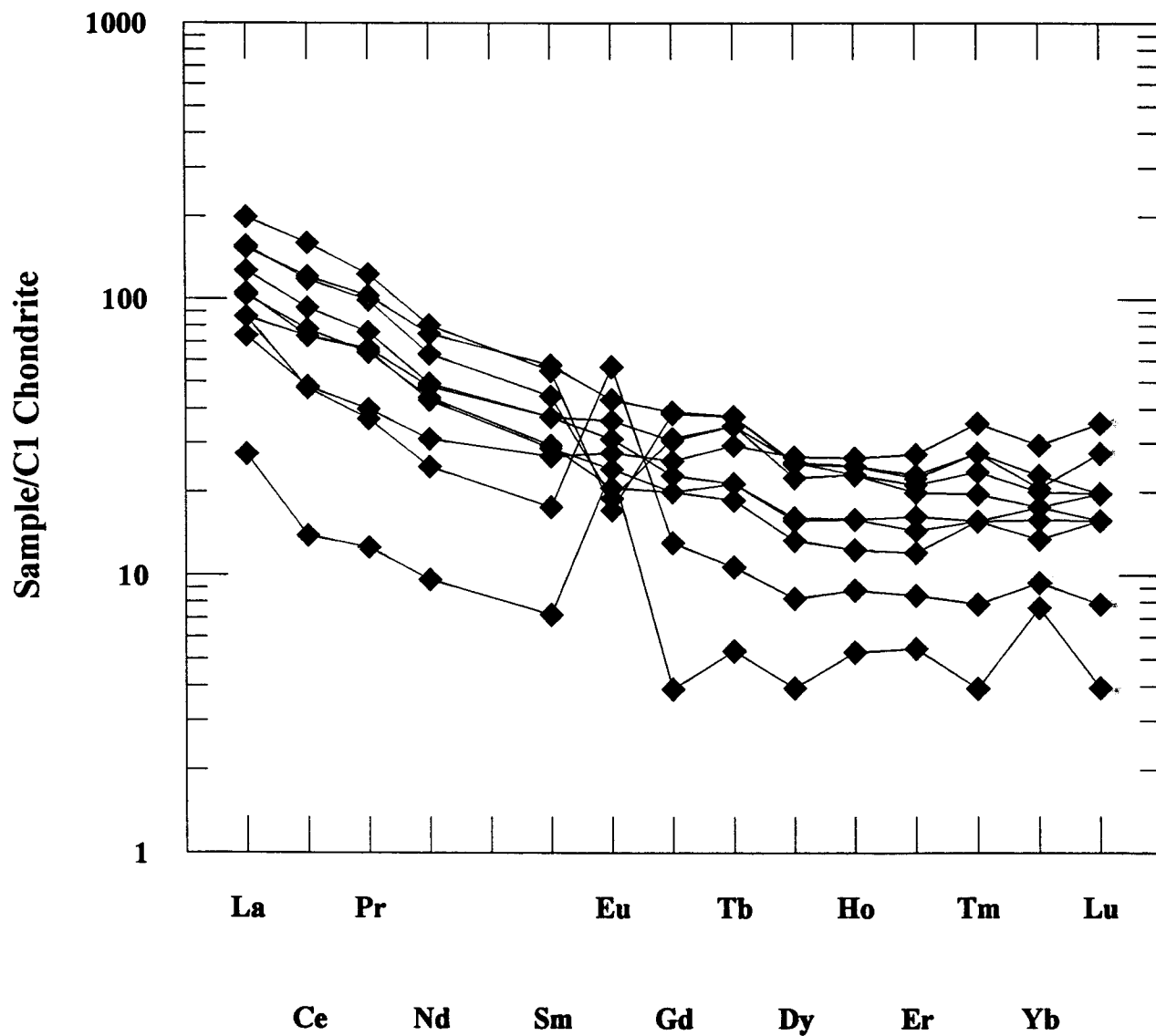
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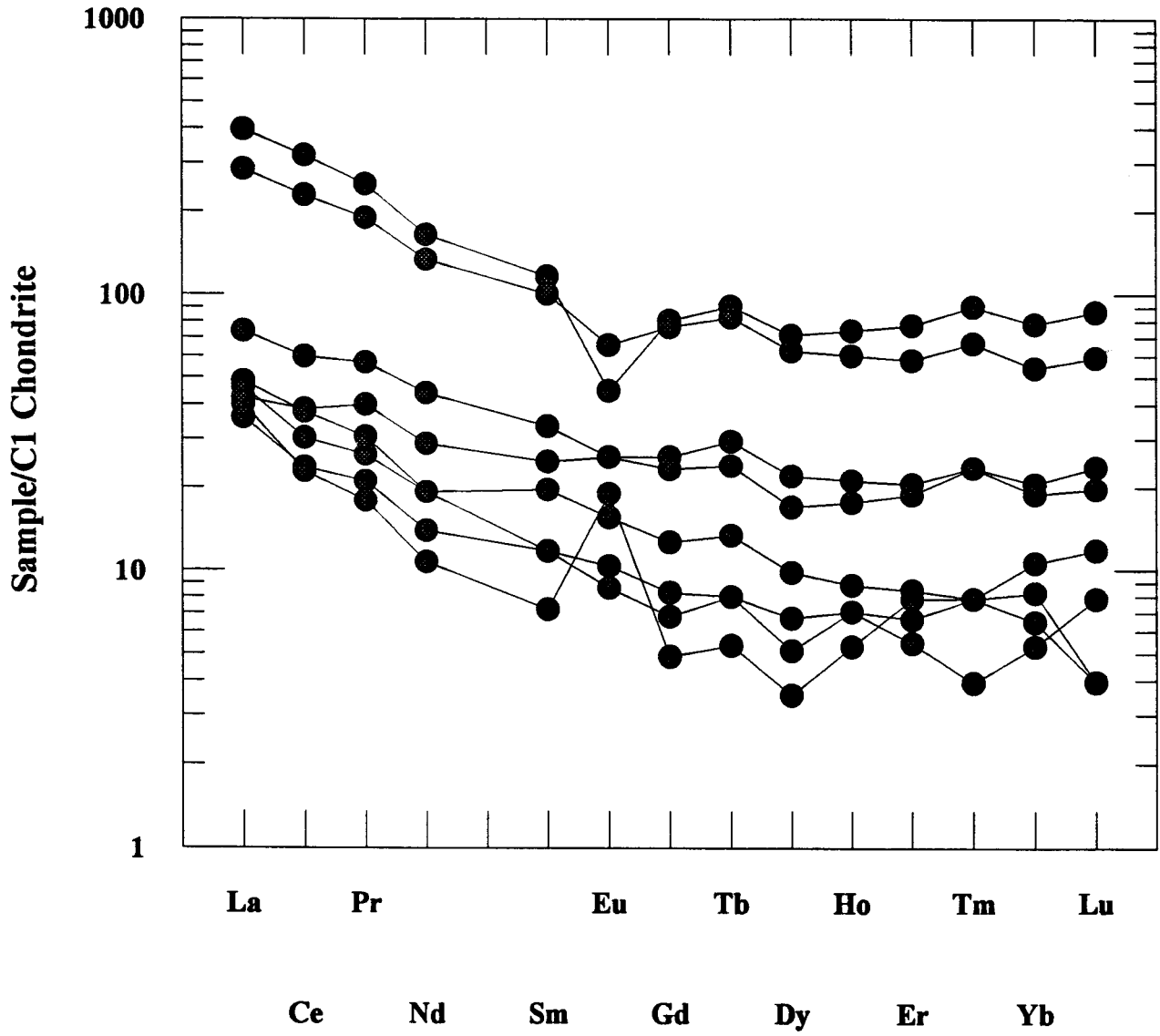
BASALT REE



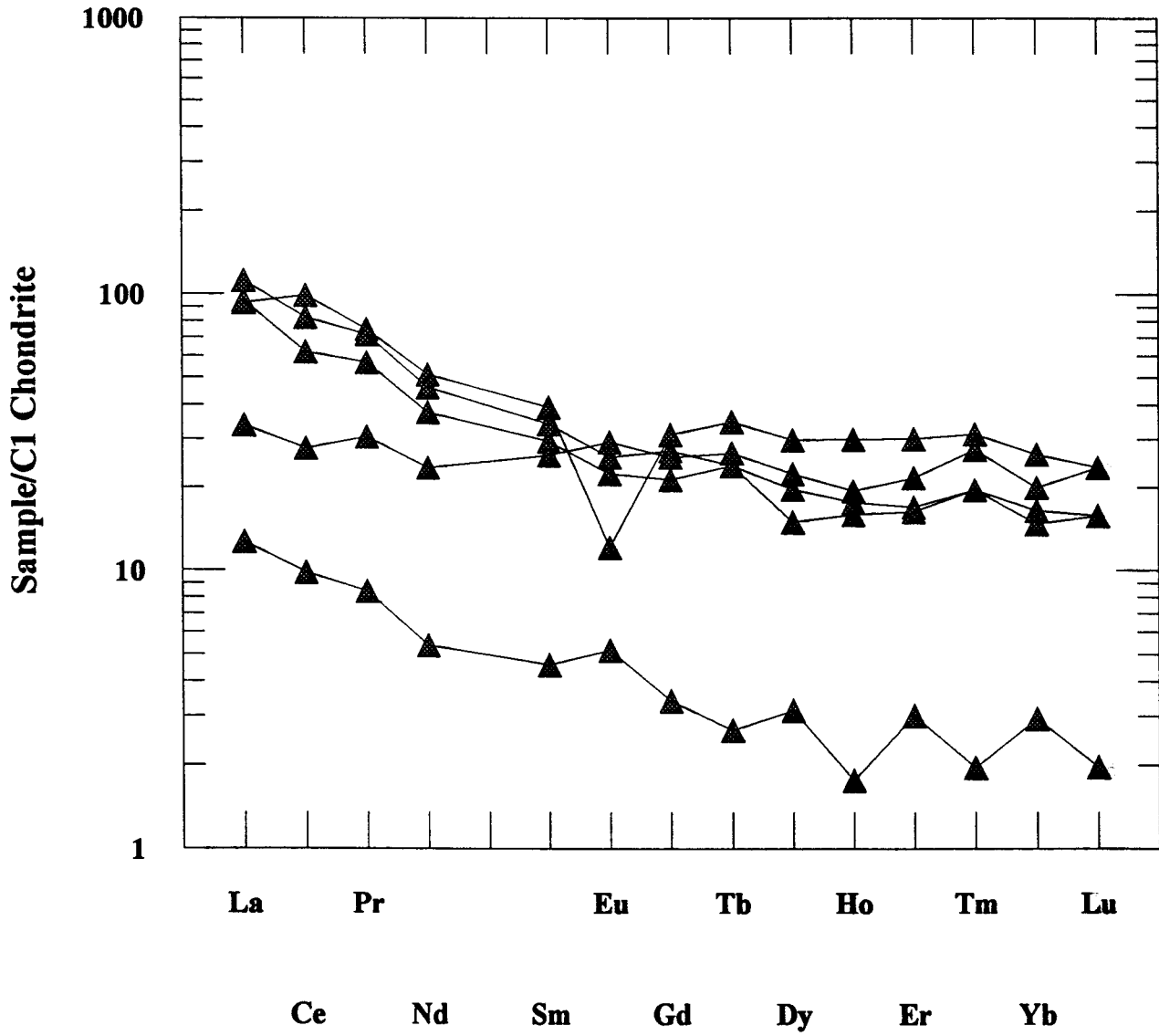
FELSIC SCHIST REE



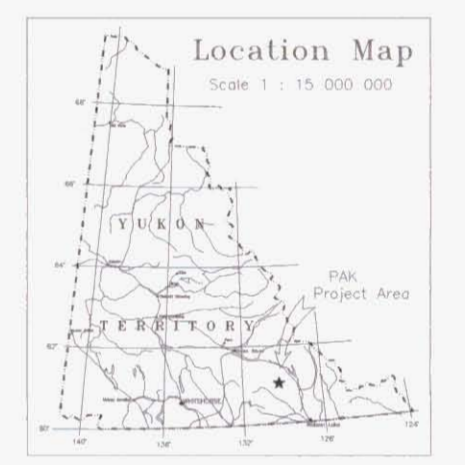
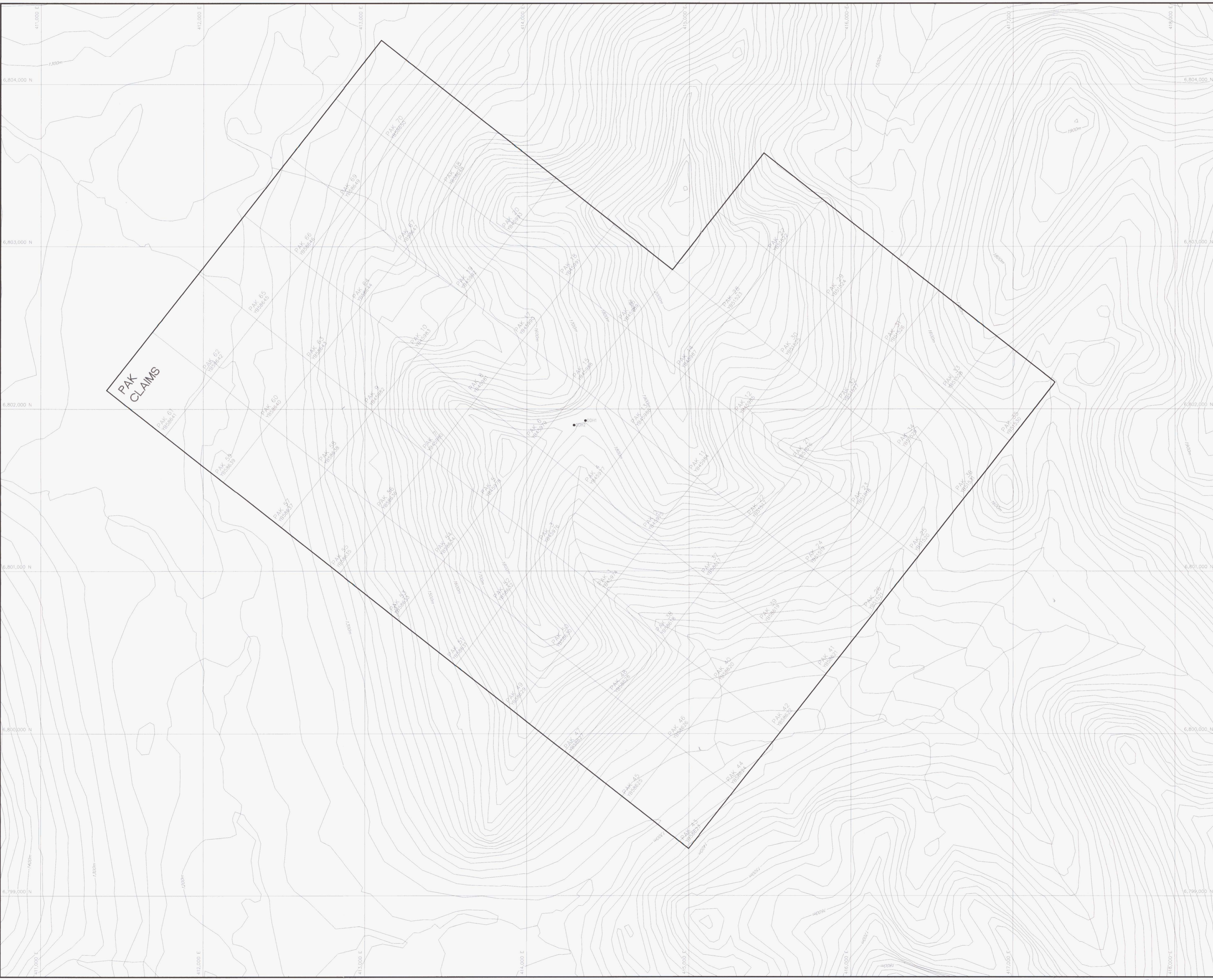
SILICEOUS EXHALITE REE



GNEISS REE



APPENDIX G
OVERSIZE FIGURES



UTM
GRID
NORTH



LEGEND

- Symbols
- Lake
 - Creek
 - Topographic Contours (100m intervals)

093780

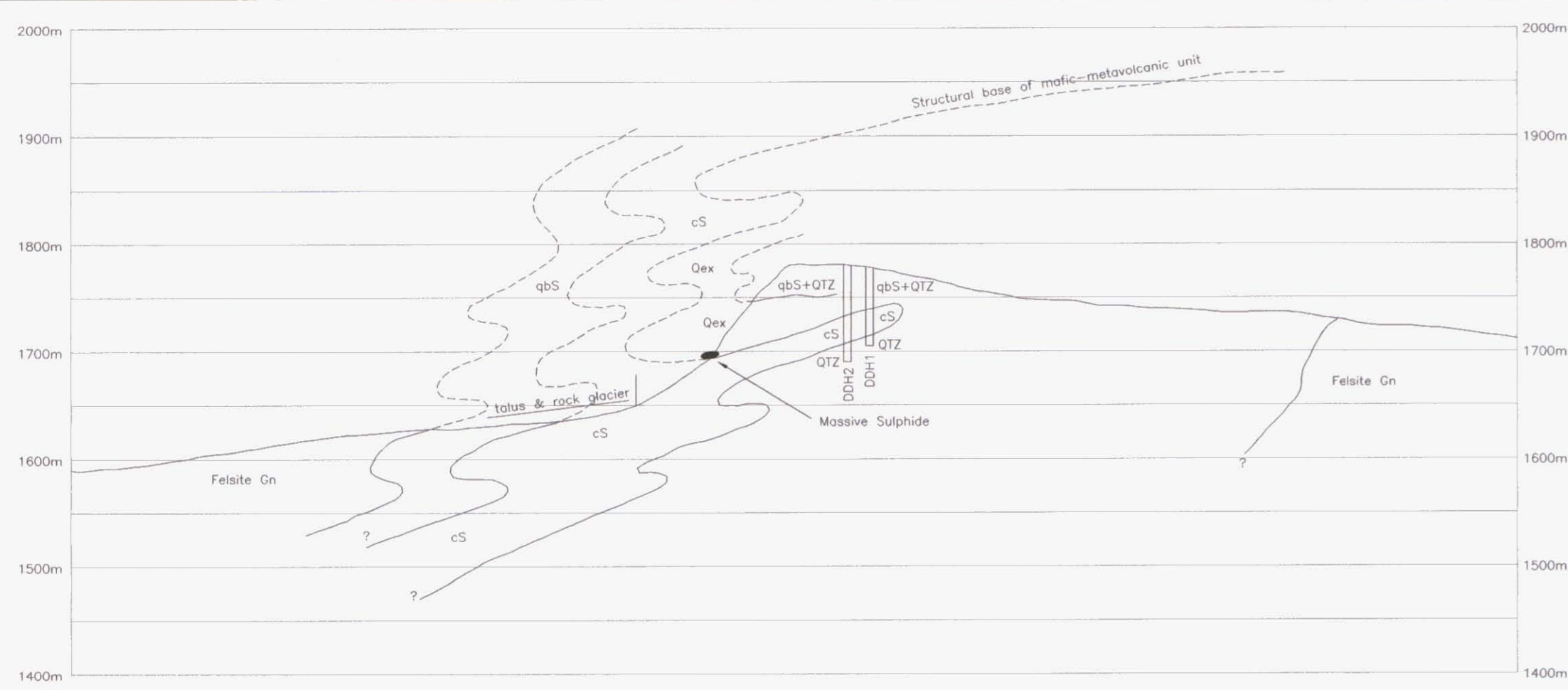
Dwg 1

Westmin Resources Limited

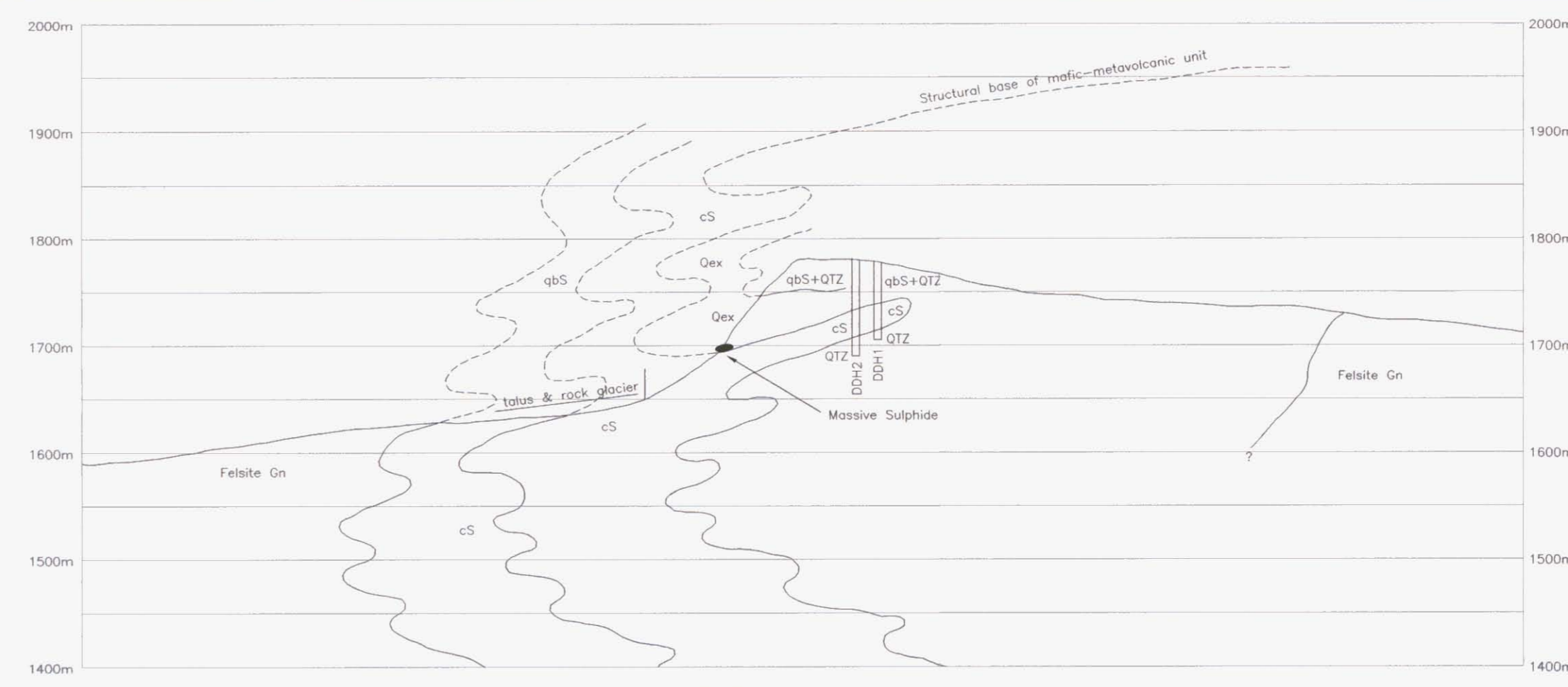
Work By
J.M. Kien
Date Issued
04/02/96
Drafted By
J.M. Kien
Date Revised
Dec. 9, 1997
Revised By
J.M. Kien
R.T.S. Number
105 677
File Name
PAK CLAIM.dwg

WOLVERINE PROJECT
PAK 1-70 CLAIMS
Claim Map

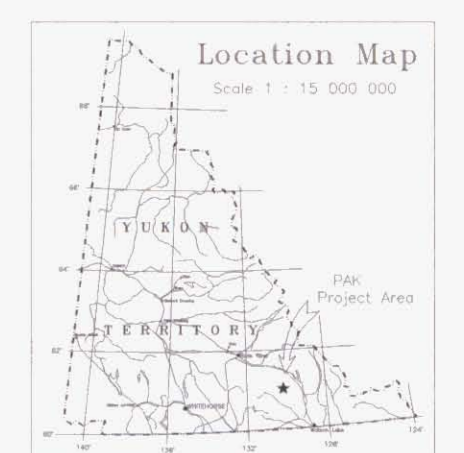




SECTION A-A' a
1:5000



SECTION A-A' b
1:5000



UTM GRID NORTH

LEGEND

Symbols	
	Lake
	Creek
	Topographic Contours (50m interval)
	Lithological Contact (inferred)
	Fault Contact (defined)
Databases	
	Falls, Frost
	Stratification
	Field Axis
	Antiform: upright, overturned
	Synform: upright, overturned
Geological Symbols	
Intrusive Rocks	
UM	Ultramafic
DN	Diorite
OS	Ophiolite
BY	Basalt
MZ	Mylonite
GR	Granodiorite
G	Granite
Volcanic Rocks	
B	Basalt
A	Andesite
D	Diorite
RD	Rhyodiorite
R	Rhyolite
Mineral Prefixes	
q	quartz
qtz	quartz-eyes
ch	chlorite
o	orthoquartz
m	malachite
b	biotite
gr	garnet
fd	feldspar
am	amphibole
ca	carbonaceous
Volcanic Modifiers	
1	flow
l	luff
cl	clastic luff
h	high luff
nl	normal luff
lv	truncated
lv	luff breccia
amv	amygdales
ap	apophysis
Sedimentary Rocks	
CC	Conglomerate
GR	Gneiss
SS	Schistose
SL	Siltstone
LS	Limestone
MS	Mudstone
AR	Argillite
CS	Claystone
BF	Banded Iron Formation
Metamorphic Rocks	
Ph	Phyllite
S	Schist
GR	Gneiss
QTZ	Quartzite
Volcanic/Intrusive Modifiers	
P	Porphyry
Mineralization	
sp	sphalerite
py	pyrite
pr	pyrochlore
so	soferite
po	pyrochlore
ca	calcite
ma	malachite
ch	chlorite
ro	rosetonite
ad	androsite
ba	barroisite
Bo	Barroisite
Da	Dawsonite
Ma	Manganese oxide
Colours	
W	White
Y	Yellow
OR	Orange
B	Brown
Bl	Black

093780

DWG@

Westmin Resources Limited

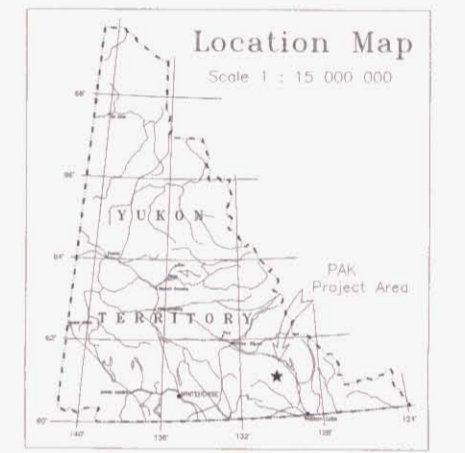
WOLVERINE PROJECT
PAK 1-70 CLAIMS
Property Geology and Sample Locations

Scale: 1:10000

DIAND - YUKON REGION, LIBRARY



PAK CLAIMS



UTM GRID NORTH



LEGEND

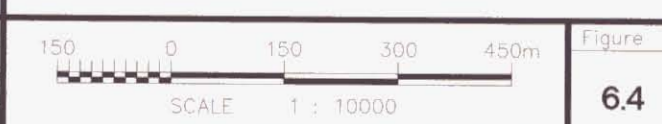
- Symbols
- Contour
 - Topographic Contours (100m intervals)

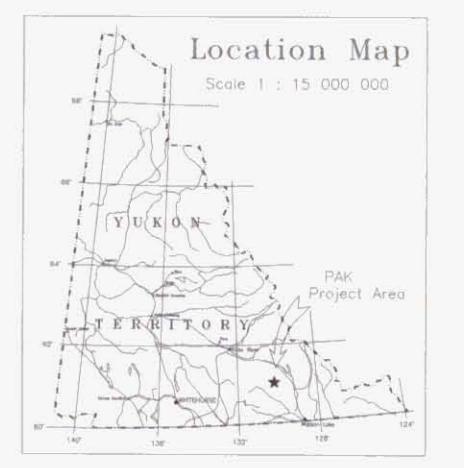
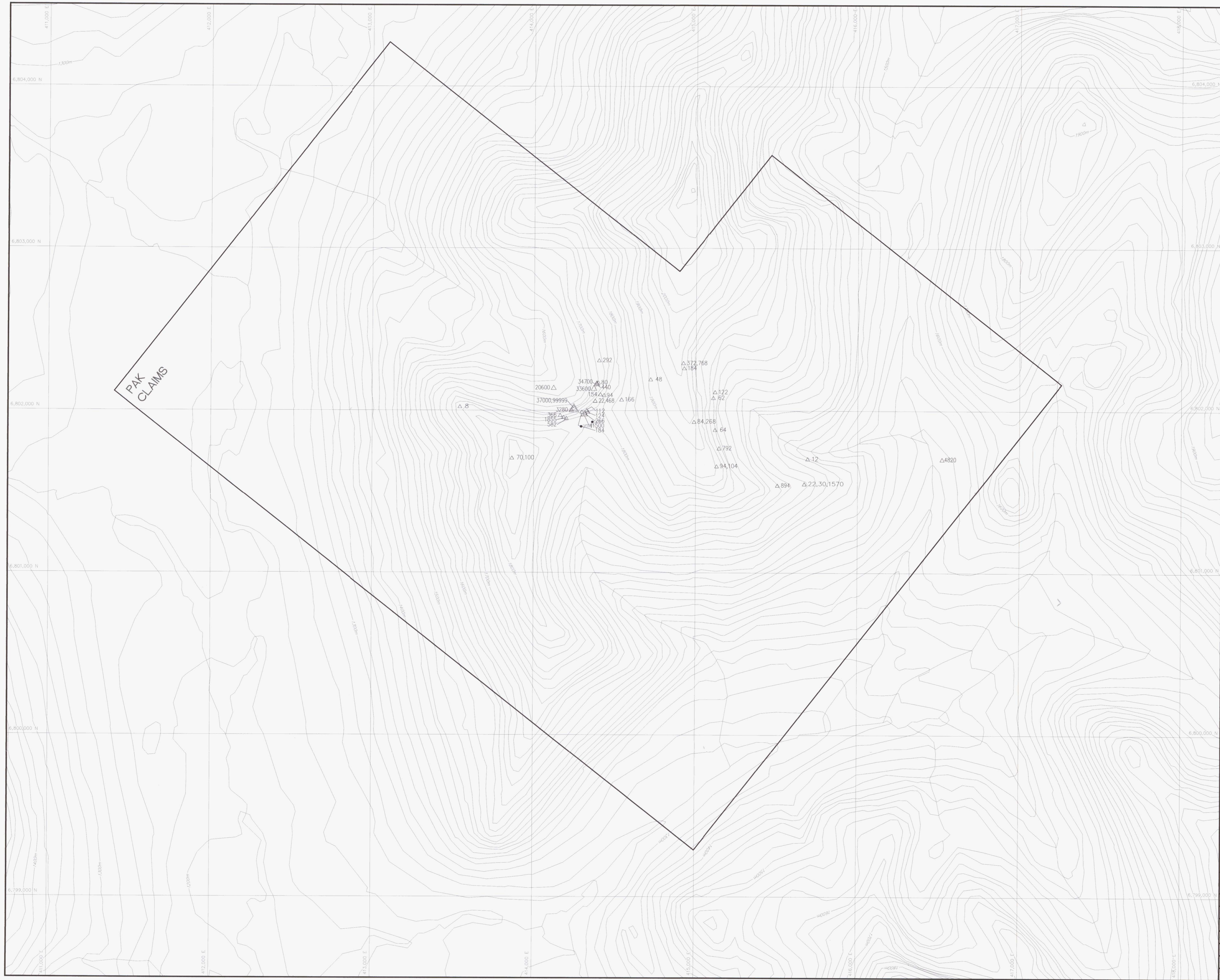
08780
Dwg (5)

Westmin Resources Limited

Drawn By	BT, G&A, N.A. base
Date Drawn	04/05/96
Checked By	P.A. Ivany
Date Revised	Dec. 9, 1997
Revised By	N.A. base
D.T.S. Number	105 577
File Name	PAK_000P.dwg

WOLVERINE PROJECT
PAK 1-70 CLAIMS
Cu in Rock (in ppm)





UTM
GRID
NORTH



LEGEND

- Symbols
- Lake
 - Creek
 - 1200m Topographic Contours (100m intervals)

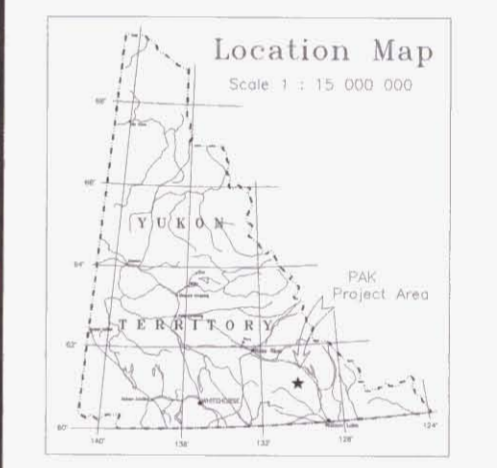
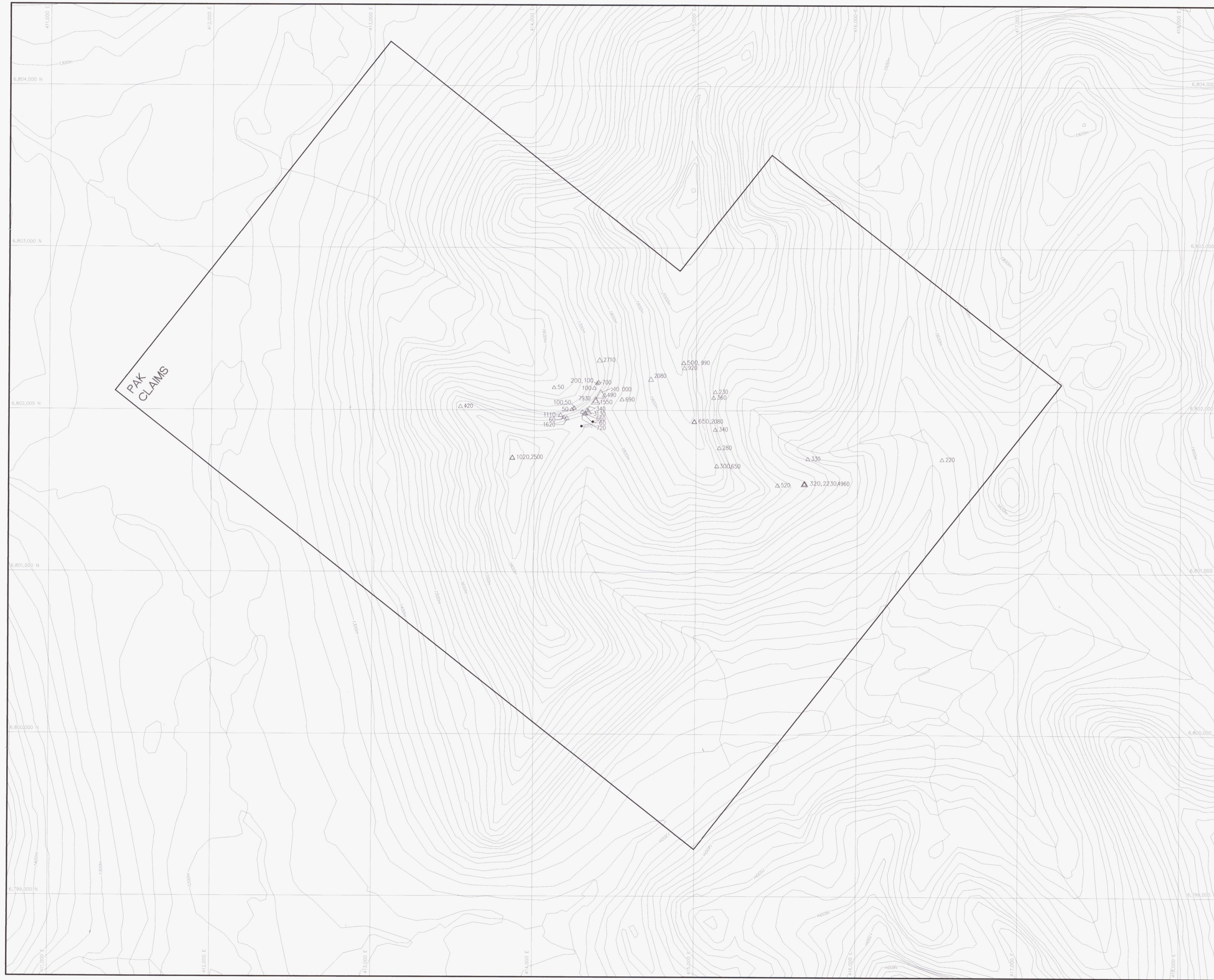
Dwg ① 093780

Westmin Resources Limited

Work By	PAK & NA
Date Drafted	22/02/96
Checked By	P.A. Ivory
Date Revised	Dec. 9, 1997
Checked By	J.M. Kiehl
N.T.S. Number	105 G77
File Name	PAK - 0006.dwg

WOLVERINE PROJECT
PAK 1-70 CLAIMS
Zn in Rock (in ppm)





LEGEND

- Symbols
- Lake
 - Creek
 - 1200 Topographic Contours (100m intervals)

093780
Dwt (8)

Westmin Resources Limited

Work By	TP, G & M, Dpr
Date Drafted	Feb 02, 2007
Checked By	PA, Ivony
Date Revised	Dec 01, 1997
Revised By	LM, Klein
N.T.S. Number	105 (57)
Site Name	PAK CLAIMS

WOLVERINE PROJECT
PAK 1-70 CLAIMS
Ba in Rock (in ppm)

