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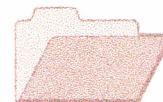
Cooperative Research Centre for
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GEOCHEMISTRY OF WEATHERED ROCKS AT THE TELFER GOLD DEPOSIT, PATERSON PROVINCE, WESTERN AUSTRALIA

Volume 2 - Appendices

J.R. Wilmhurst

CRC LEME OPEN FILE REPORT 70

February 1999

(CSIRO Division of Exploration Geoscience Report 187R, 1991.
Second impression 1999)

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RESEARCH ARISING FROM CSIRO/AMIRA REGOLITH GEOCHEMISTRY PROJECTS 1987-1993

In 1987, CSIRO commenced a series of multi-client research projects in regolith geology and geochemistry which were sponsored by companies in the Australian mining industry, through the Australian Mineral Industries Research Association Limited (AMIRA). The initial research program, "Exploration for concealed gold deposits, Yilgarn Block, Western Australia" (1987-1993) had the aim of developing improved geological, geochemical and geophysical methods for mineral exploration that would facilitate the location of blind, buried or deeply weathered gold deposits. The program included the following projects:

P240: Laterite geochemistry for detecting concealed mineral deposits (1987-1991). Leader: Dr R.E. Smith.
Its scope was development of methods for sampling and interpretation of multi-element laterite geochemistry data and application of multi-element techniques to gold and polymetallic mineral exploration in weathered terrain. The project emphasised viewing laterite geochemical dispersion patterns in their regolith-landform context at local and district scales. It was supported by 30 companies.

P241: Gold and associated elements in the regolith - dispersion processes and implications for exploration (1987-1991). Leader: Dr C.R.M. Butt.

The project investigated the distribution of ore and indicator elements in the regolith. It included studies of the mineralogical and geochemical characteristics of weathered ore deposits and wall rocks, and the chemical controls on element dispersion and concentration during regolith evolution. This was to increase the effectiveness of geochemical exploration in weathered terrain through improved understanding of weathering processes. It was supported by 26 companies.

These projects represented "an opportunity for the mineral industry to participate in a multi-disciplinary program of geoscience research aimed at developing new geological, geochemical and geophysical methods for exploration in deeply weathered Archaean terrains". This initiative recognised the unique opportunities, created by exploration and open-cut mining, to conduct detailed studies of the weathered zone, with particular emphasis on the near-surface expression of gold mineralisation. The skills of existing and specially recruited research staff from the Floreat Park and North Ryde laboratories (of the then Divisions of Minerals and Geochemistry, and Mineral Physics and Mineralogy, subsequently Exploration Geoscience and later Exploration and Mining) were integrated to form a task force with expertise in geology, mineralogy, geochemistry and geophysics. Several staff participated in more than one project. Following completion of the original projects, two continuation projects were developed.

P240A: Geochemical exploration in complex lateritic environments of the Yilgarn Craton, Western Australia (1991-1993). Leaders: Drs R.E. Smith and R.R. Anand.

The approach of viewing geochemical dispersion within a well-controlled and well-understood regolith-landform and bedrock framework at detailed and district scales continued. In this extension, focus was particularly on areas of transported cover and on more complex lateritic environments typified by the Kalgoorlie regional study. This was supported by 17 companies.

P241A: Gold and associated elements in the regolith - dispersion processes and implications for exploration. Leader: Dr C.R.M. Butt.

The significance of gold mobilisation under present-day conditions, particularly the important relationship with pedogenic carbonate, was investigated further. In addition, attention was focussed on the recognition of primary lithologies from their weathered equivalents. This project was supported by 14 companies.

Although the confidentiality periods of the research reports have expired, the last in December 1994, they have not been made public until now. Publishing the reports through the CRC LEME Report Series is seen as an appropriate means of doing this. By making available the results of the research and the authors' interpretations, it is hoped that the reports will provide source data for future research and be useful for teaching. CRC LEME acknowledges the Australian Mineral Industries Research Association and CSIRO Division of Exploration and Mining for authorisation to publish these reports. It is intended that publication of the reports will be a substantial additional factor in transferring technology to aid the Australian Mineral Industry.

This report (CRC LEME Open File Report 70) is a Second impression (second printing) of CSIRO, Division of Exploration Geoscience Restricted Report 187R, first issued in 1991, which formed part of the CSIRO/AMIRA Project P241.

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APPENDIX A

SAMPLE DESCRIPTIONS

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A. SAMPLE DESCRIPTIONS

The following section contains brief notes on the hand-specimen samples of gossan and weathered rock which have been studied in the course of this project, and comprises part of the data set. The notes are intended to be read in association with the illustration of the particular sample which is at the macro-scale,

the photographs however do not necessarily illustrate all features of the sample, particularly the spatial relationships. The key to the illustration follows the sample number in description [for more convenient use in general reference the illustrations are given in sequence of the sample reference number].

The term '**grain**' is used for gold to imply that structure/form/habit is not defined, and '?' is used as a prefix qualifier to indicate probability rather than certainty; '**oxide**' should be taken to mean 'undefined iron-oxides'.

A.1 West Limb - surface gossan.

The general nature of the topography and outcrop is shown in Plate 2. The vegetation is principally native grasses with some very few scattered shrubby-acacia.

67016 [3-2]

The sample is largely siliceous with vuggy quartz, the more massive quartz is translucent. Overgrowths of botryoidal silica are present. No visible gold, but one 400 micron grain of native copper occurs in an iron-oxide matrix.

67046 [3-3]

The specimen is largely after sulfide, with some quartz on the edge. The boxworks are not completely infilled and it carries a meshwork of yellow to orange-brown porcellanic silica, and rare transparent quartz. No visible gold.

67047 [3-4]

This is massive red-black oxide without visible structure, but it carries hard black 'octahedral' pseudomorphs, not pyritohedra, and rare transparent quartz. Visible gold is common on broken surfaces, generally as flattened grains of 200 to 500 micron. There is iridescence on some surfaces, this is polychromic, from yellow through violet, and is not desert varnish (it is similar to that on certain near-surface Mt Morgan gossans).

67048 [4-1]

The sample consists of oxide after large sulfide aggregates, about 10mm, in a quartz matrix. The boxworks are generally not completely infilled. The oxides vary in color from yellow to red-brown. The quartz is not clear and there are no visible terminations. Some vugs contain very small amounts of unidentified secondary minerals. One gold grain, 200 micron, was observed in a cast after sulfide, attached to quartz.

67050 [4-2]

This is an open boxwork of oxide and silica with veins of red porcellanic silica; some terminated micro-quartz occurs in vugs. There are a few deep-red oxide pseudomorphs after pyritohedra, with iridescence on some surfaces. Visible gold, around 100 micron, is common in pseudomorphs after pyrite.

67051 [4-3]

The sample consists of massive quartz and open boxworks after pyrite, transparent quartz is rare. Some boxworks have an unusual platy habit. It carries visible gold; one grain is platy, around 20 micron, and is between the wall plates of a boxwork. A second, some 500 micron, is attached to quartz in a 'vug' after sulfide. Some surfaces are iridescent.

67052 [4-4]

The material consists essentially of boxworks after sulfide which are largely in-filled, there are also some very thin veins of red-brown quartz. On broken surfaces it has a platy appearance with the more massive oxides an iron- grey. The quartz is mostly translucent. Visible gold occurs as paint on quartz and as 20 to 50 micron particles on the walls of open boxworks.

67053 [5-1]

The sample is pervasively quartz-veined, the quartz is translucent but clear terminated crystals are seen in vugs. The oxide ranges from semi-open box-works, yellow-brown to brown in color, to massive dark pseudomorphs. There is much botryoidal oxide, with some almost vitreous. Very rare green secondary minerals were observed together with an unidentified colorless phase. One grain of gold, 10 micron, was seen attached to a boxwork wall and a small grain of native copper adjacent to green secondary minerals.

67054 [5-2]

This is a rather massive ironstone, but evidently after sulfide, some fractures are conchoidal with a grey color. It carries pseudomorphs after pyritohedra with some association with micro terminated-quartz. There are a few 'grains' of clear quartz but most is translucent. One small area of micro-vugs contains apple-green secondary micro-crystallites whilst a second area carries very pale green and colorless secondaries. Gold is common on cut and broken surfaces, generally 20 - 50 micron, but one larger grain is some 400 micron in size.

67055 [5-3]

A massive ironstone with a micaceous contact. There is indication of geometric pseudomorphs in the massive oxide and 'vugs' after pyritohedra in the micaceous selvage. It also carries quartz, mostly translucent, but a little is clear and all is fractured. There are some inclusions of clay. Some little paint gold is visible, together with one grain of 500 micron in a small quartz vein adjacent to oxide after sulfide.

67056 [5-4]

This sample represents a quartz vein with open and infilled boxworks after sulfide, the oxide is red to yellow-red. The quartz carries a number of armoured grains of sulfide, ?pyrite. The boxworks contain powdery or porous residues together with fibrous and botryoidal oxide, suggesting oxidation in a perched position. There are several blebs of pale green secondaries in/on quartz and more in one boxwork after a 7mm sulfide grain. Gold is seen in the form of two grains, 20 and 200 micron, of flattened habit on oxide surfaces contiguous with quartz.

67057 [6-1]

A rather massive ironstone carrying some quartz. The precursor was likely vuggy and there is indication of quartz termination. An armoured grain of pyrite is present in quartz, a little of which is clear. Some iron oxide is pseudomorphic and oxide includes very dense black 'vitreous' oxide in addition to botryoidal and platey habits.

67058 [6-2]

This is a generally massive iron oxide against ?siltstone. There is some quartz veining, mostly translucent but a little is clear. The dense iron oxides are notably bright and abut an area of open boxwork. Several grains of gold, 100 - 200 micron, are in vuggy quartz against the siltstone margin. Another grain, 100 micron, is attached to the wall of a boxwork adjacent to a quartz vug containing clear 500 micron terminated quartz.

67059 [6-3]

This sample is a particularly dense ironstone with no visible structure, it is tough and develops a high polish on sawing. There is very little quartz and fracture is 'conchoidal'. One gold grain is exposed on a fracture surface, as seen it is pyramidal with an exposed side of 1.5mm, as if initially bounded by euhedral pyrite.

67060 [6-4]

This sample is very similar to 67058. It carries one grain of a rather red gold in a semi-open boxwork after a sulfide grain of 3-4mm.

67061 [7-1]

This was part of a very large specimen which was pervasively and particularly auriferous. The sub-sample is mostly red-black indurated oxide with areas of boxwork containing sinter, against a 'clayey sandstone', presumably siltstone. The oxide carries some few yellow or red porcellanic veinlets which seem to be associated with much of the visible gold. Several 50 micron grains occur along the side of such a veinlet together with two 300 micron 'blobs'. A 400 micron 'dumbell' was seen in a siliceous area adjacent to a boxwork. The sample also has areas of boxwork with a rhomboidal pattern (Plate 3), which is ascribed to carbonate which was clearly well defined with large crystals. The webwork of these cells is essentially siliceous.

67062 [7-2]

This specimen is a relatively light weight porous sponge with largely porcellanic boxwork walls but also with the more usual oxide structures. Sinter is abundant. The structure is intersected with a few red porcellanic veinlets. Some small

gold grains, 20 to 50 micron were seen on siliceous boxwork walls and on a siliceous webwork.

67063 [7-3]

This is derived from a larger quartz vein, carrying in part discrete sulfide grains. There are pseudomorphs after pyrite. Discrete secondary minerals are rare with one 500 micron area of green micro-crystallites in a boxwork in vuggy quartz. A 1mm 'blob' of native copper occurred in a vug containing larger, 1mm, terminated quartz. Gold was seen as a 100 micron grain on the wall of a box-work and as a 300 by 400 micron grain in pseudomorphic oxide in a vuggy zone.

67064 [7-4]

The sample is derived from a massive sulfide, quartzose precursor. The quartz is generally translucent and carries pseudomorphs after sulfide. In vuggy areas the quartz is micro-terminated. Some red porcellanic silica is present. The oxide consists of open and infilled boxworks, some of which carry sinter. Visible gold occurs as a 300 micron particle in a vuggy zone, and as a number of 50 to 100 micron particles, adjacent to red silica. These latter appear to be aggregates, or dendritic structures.

67065 [8-1]

This is a gossan against a contact of ?siltstone. It contains vuggy siliceous areas containing micro-crystals of quartz and areas of porcellanic silica. Oxides are in the form of massive pseudomorphs after sulfide and of boxworks. Much of the boxwork web has the unusual platy nature. Gold is found as 100 to 300 micron particle in areas of vuggy silica and in vugs within oxide. There is a little paint gold on oxide fracture surfaces and a 20 micron particle in a red oxidic pseudomorph.

67066 [8-2]

The sample is derived from massive sulfide with limited quartz veining. It consists of boxworks in varying stages of infilling together with areas of more solid pseudomorph. Silica ranges in type from opaque to smaller clear crystals and some 'waxy' silica on surfaces. Gold occurs as 20 to 100 micron particles within boxworks but with one at some 400 micron, and with a 20 micron particle within an oxide pseudomorph. One 300 to 400 micron particle is intergrown with clear quartz in a vug exposed on a broken surface.

67067 [8-3]

The gossan consists largely of a boxwork system with a high proportion of siliceous web-work, and containing zones of leached clay. The siliceous web appears to be largely secondary silica, at least partly botryoidal. It is notable that a significant

proportion of the boxwork possesses parallel webs, after ?carbonate. One 50 micron particle of gold is seen in an area of siliceous boxwork.

67068 [8-4]

The sample is largely boxwork, more or less in-filled with wisps of quartz veining and with massive nondescript brown to red oxide. Cream to red porcellanic silica veining is common. A proportion of the boxwork is 'rhomboidal'. The sample carries a very small quantity of white secondary minerals. No gold was observed.

67069 [9-1]

This is part of a translucent quartz vein system with some pseudomorphic oxide and boxworks which are largely infilled with yellow to orange oxide. Clear quartz is rare but vugs carry unusually large terminated crystals (with reference to this locality).

67070 [9-2]

The sample is significantly siliceous with areas of siliceous boxworks and larger amounts of red porcellanic silica. Most quartz is translucent, but there is some fragmental clear material. The upper contact is clay/siltstone. Oxide boxworks are abundant, seemingly after sulfide, but the siliceous areas are cryptic. Gold is freely visible, ranging in size from 50 to 500 micron and occurring in open boxworks and especially in the red silica. One 1mm particle occurs in the porcellan.

67071 [9-3]

This gossan has ?siltstone as an upper contact and contains a large volume of translucent quartz with secondary clear terminated crystallites. A grain of pyrite is armoured by quartz. There is a limited amount of red porcellanic silica. Open boxworks are after sulfide as are the solid pseudomorphs, however some boxworks appear to be more regular in pattern. A single 500 micron particle of gold was observed in quartz, in contact with oxide after sulfide. A similarly sized particle of copper is present in a vuggy area with subtly green secondaries covering the micro-crystals of quartz.

67072 [9-4]

The sample is largely siliceous with boxworks mostly open. There is much red porcellanic silica with terminated micro-crystals of quartz in vugs and on other surfaces. A proportion of the voids are very elongate and may be after tourmaline. One area of the gossan consists of indeterminate ochreous yellow oxide. Gold is present in the form of a 600 micron grain on a weathered surface and a 300 micron particle in a vug on a cut surface.

67073 [10-1]

The specimen is part of a larger quartz vein, carrying oxide pseudo-morphic after sulfide and semi-infilled boxworks. Some clear quartz is present with larger terminated quartz in vugs. Centimeter scale pseudomorphs are present in the quartz and occasional parallel webworks. Gold is observed as 20 to 50 micron particles on surfaces, a 50 micron particle in an open box-work and a 30 - 50 micron grain in an oxide-filled boxwork.

67074 [10-2]

The sample is somewhat siliceous, but consists mostly of boxworks, some infilled and with a larger amount of sinter, the latter tending to be localised. One small area of the boxwork carries very fine grained green secondaries together with a waxy white phase. One surface carries unexpectedly regular boxworks. Gold is present as a 500 micron particle, distinctly reddish, together with normally colored 100 and 500 micron grains. A 200 micron slug is visible on a broken surface.

67075 [10-3]

A generally dense ironstone gossan but with some boxwork and a limited area of parallel web. Pyrite striations are evident on some surfaces together with outlines of cubic pyrite. Quartz vugs carry secondary terminated micro-crystals and an unidentified pseudomorph. Boxworks also carry botryoidal silica and waxy overgrowths. Gold occurs as paint on broken surfaces, as a reddish grain of 50 - 100 micron on a cut oxide surface and as gold crystals on quartz in a micro-vug.

67076 [10-4]

The sample is somewhat siliceous, with an attached quartz vein. It carries solid pseudomorphs and contiguous open boxworks, probably after 5mm pyrite. Red porcellanic silica is evident, together with a little clear quartz. Some surfaces show pyrite striations. Gold was evidenced only by metallic smears on silicic surfaces.

67077 [11-1]

A somewhat siliceous specimen with boxworks carrying ocherous oxide. Other boxworks carry secondary silica and quartz. A dubious grain of copper (too yellow), 100 - 200 micron, is visible in a silicified area. Definite gold particles of 50 - 100 micron are visible on a broken surface.

67078 [11-2]

This is an unusual specimen, apparently after a planar and extensive siliceous zone in contact with ?siltstone. It consists of parallel micro-veins of silica which may however be secondary. Both clear and red porcellanic silica occur as extensive 'webs'. Boxworks contain sinter, some almost solid, and others ocherous oxide.

Platey oxide represents pseudomorphs of an elongate phase, ?tourmaline and some voids are apparently after the same phase. There is a notably high visible gold content; the gold is generally of a flattened habit occurring in boxworks and on broken surfaces.

67079 [11-3]

An ironstone of rather dense oxide but with areas of boxwork containing sinter which suggest large, 2cm, pyritohedra. There are some small, 1mm, pseudomorphs with striations, after pyritohedral pyrite. Small secondary quartz veins contain micro-crystals of quartz. No visible gold observed.

67080 [11-4]

The sample is a quartz vein with included oxide after sulfide. The quartz is generally translucent, but carries a few clear 'grains' and small clear secondary crystals. Sulfide veining is represented by dense oxide with a conchoidal fracture. Armoured pyrite is present in quartz, and possibly a small grain of gold, 20 micron.

67081 [12-1]

A massive and dense oxide gossan with a vitreous fracture. There is a very limited development of boxworks, which are quite nondescript, but carry, in and around, a white to cream secondary phase. Native copper is present in one 400 micron particle, and slightly reddish gold particles, 300 micron, are visible on a cut surface.

67083 [12-2]

The specimen is zoned, but is, generally, open boxwork with areas of dense oxide and well developed red and yellow porcellanic silica. Some micaceous ?veinlets are present. The boxworks contain some black sinter and ochreous yellow oxide. Pseudomorphs after 4 - 6mm cubic pyrite are visible in the oxide, and a few smaller pseudomorphs in porcellan. Several particles of gold, 100 micron, are visible on web walls.

A.2 East Limb surface rock

A.2.1 creek outcrop

The nature of the outcrop at this location is shown in Plate 1. Adjacent vegetation consisted of native grasses and shrubby acacia.

67091 [14-2]

The sample is after sulfide bearing reef quartz. The quartz varies from opalescent to translucent with very little clear material. There has been substantial infilling with clay. The oxides are mostly webwork, some relatively massive, with few pseudomorphs; some oxide surfaces show very strong iridescence. Four gold particles, 200 micron, were observed on oxide in small ex-sulfide oxide veins.

67092 [14-3]

This is a rather unimpressive specimen, it is translucent vein quartz, in contact with a sandy ?siltstone and with some adherent mauve 'sand'. It carried a relatively small amount of sulfide. A small patch of paint gold is visible on an oxide surface and a 50 micron particle is attached to quartz at the edge of a small oxide veinlet.

67093 [14-4]

The specimen is an example of "disaggregated" reefal quartz, with ?siltstone and micaceous contacts. It consists of relatively small pieces of broken quartz with oxide cement. The quartz carries casts after sulfide, and voids after sulfide occur in interstices. The cement is partly solution deposited and forms a fine web structure. A few vugs contain small clear terminated quartz. Some oxide surfaces are iridescent.

67094 [15-1]

This is the upper contact siltstone, orange to mauve in color. It is somewhat micaceous, with a micro quartz vein on the broken surface; this quartz carries casts after pyrite and is generally clear. The siltstone contains casts after 3 - 4mm cubic pyrite with little residual oxide.

67095 [no illustration]

Translucent reef quartz with a siltstone contact. Clay covers most surfaces and infills some voids. A gold particle, 100 micron, is attached to quartz which also contains a small grain of armoured pyrite.

67096 [15-2]

This is a sample of more massive, translucent, reef quartz, with clear micro-crystals occurring in vugs. It is in contact with disaggregated reef quartz, and has a general clay coating. Some surfaces carry massive oxide and boxworks. Vugs in the quartz appear to have contained sulfides.

67097 [15-3]

The sample is 'massive' quartz, apparently of multiple generations, which carries casts after cubic pyrite, as do more ferruginous areas. The rock has been silicified, likely after an initial oxidation, possibly with reintroduction of pyrite.

67098 [15-4]

A contact siltstone with multiple micro-veins of quartz which is generally clear. There is an oxide coating, partly boxworks, on a broken surface and the rock carries casts after disseminated pyrite cubes, 0.2 to 1mm.

67099 [16-1]

It is a micaceous ?sandstone in contact with a coarser sandstone; it contains micro quartz veins. The rock carries sparse casts after 2mm cubic pyrite.

67156 [17-2]

The sample is reef quartz thoroughly coated and infilled with yellow-brown clay, against a ?siltstone contact. The quartz is generally opaque to translucent, but with some clearer material. It carries oxide webwork, evidently after matrix sulfide; some oxide surfaces are iridescent. The quartz contains casts after 2mm pyritohedra while the oxide shows pyrite striations. Gold was observed as a metal smear on a quartz surface and as a 600 micron wire, also on quartz.

A.2.2 East Limb surface, general

67162 [17-4]

The specimen is a macro webwork of solution deposited iron oxides, with included reef quartz. It has been infiltrated by sand and clay.

65937 [1-3]

The sample is after a sulfide bearing quartz vein, intrusive into the footwall sand-stone. There is a minimal amount of clear quartz. The oxides form web-works and solution deposited forms with some iridescence. There is a significant amount of visible gold, but all is in the form of small particles. One 30 micron grain is attached to a web on a broken surface while two lacey aggregates, 30 and 100 micron are on the surface of a micro-stalagmite.

65938 [1-4]

This is a disaggregated quartz vein, with evidence of sulfides, which is in contact with ?siltstone. The quartz varies from opalescent to translucent. Small pyrite pseudomorphs are present in the siltstone. The development of the oxides is limited, and there is only a small amount of sinter or ocherous infilling in voids, but there is black botryoidal solution-deposited oxide through-out the sample. Gold is present as paint on an oxide surface.

65939 [2-1]

The sample represents an oxidised sulfide vein in siltstone, with associated reef quartz. The present oxides are dense and the contact siltstone is somewhat ferruginised. While there is evidence of a pseudomorphic nature, principally as 4 to 5mm pyrite pseudomorphs, some oxide is solution deposited and of botryoidal habit. The quartz is generally translucent, but with some few clear particles. Reddish gold particles, 30 to 300 micron are present in oxide veinlets after sulfide.

65940 [2-2]

Similar to 65939, the sample is a dense oxide 'vein' with some quartz and in contact with ?siltstone. There is a higher proportion of clearer quartz. The siltstone carries pseudomorphs after pyrite.

65941 [2-3]

The ironstone derives from a sulfide vein with quartz reef to one side and siltstone to the other. The oxides are a combination of boxwork, largely oxide infilled, together with pseudomorphs. The siltstone carries pseudomorphs after 2 to 5mm pyrite. The included quartz is translucent.

65943 [no illustration]

The ironstone, which derives from a sulfide rich vein or zone, is almost totally a solution deposited network which now forms a sponge of black oxide. There are areas of silicic webwork with some indication of rhombic structure. Some micaceous material is included, together with 'veins' of porcellanic silica.

65944 [3-1]

This is a fairly solid ironstone within ?siltstone, with a thin quartz vein on one face. There are extensive areas of open boxworks in the quartz. The oxide represents pseudomorphs, boxwork, partly or largely infilled with dense or limonitic oxides and some solution deposited oxides with a vitreous fracture. Some areas of boxwork are suggestive of a rhombic nature, but others are after a cubic mineral. One particle of gold, 50 micron, is visible in dense pseudomorphic oxide.

A.3 East Limb - Subsurface

A.3.1 general

65935 [1-1]

The sample is a complex steel-grey sinter of laminated appearance due to the inclusion of laminated quartz. It has a contact with ?siltstone and is slightly dusted with a micaceous material. The quartz is mostly translucent with only minor amounts of clear material. The oxides appear to be completely solution deposited with no larger scale features. Botryoidal and micro-botryoidal forms are general, with some iridescence. The sample was taken from a minor fault zone.

65936 [1-2]

The material is a very fine oxide sponge with minor ?occluded quartz. The webwork of the sponge is largely or entirely solution deposited micro-botryoidal structures. The sample was taken from a minor fault zone.

67139 [17-1]

This specimen is a cross-cutting vein at the intersection with the foot-wall of the MVR. It is of a typical violet-grey color and comprises disaggregated quartz at the upper surface with pervasive small scale quartz veining through a leached and/or silicified quartz-clay matrix. It is quite porous with evidence of sulfide in the form of casts and solution deposited iron oxides. There is no visual evidence of gold.

67161 [17-3]

These are striated pseudomorphs of cubic pyrite, taken from the hanging-wall immediate to the MVR at RL 475.

A.3.2 East Limb - Adit 1

These samples have not been included in the photographic record due to their general lack of distinctive features at the macro-scale.

65945

The sample is buff colored 'leached clay' of low density which is transected by a very few narrow white secondary veins.

65942

The sample consists of brown to black cherty iron oxide and opalescent quartz fragments in association with an orange-ocherous leached clay. The massive iron oxide was taken as the working sample.

65946

The sample is a brown-buff 'leached clay' which carries broken pieces of reef quartz with vugs which contain very little or no oxide after sulfide. One included fragment consists of a 5mm thick oxide vein with a very narrow transecting quartz vein against a sandy contact. Some of this quartz is clear and the oxide is in part pseudomorphic or micro-boxwork. There are minor oxide pseudomorphs in the 'sand' of the contact and gold is visible in an oxide lined boxwork (200 micron), and on a broken oxide surface.

65949

This is a 'leached clay' of cobalt pink color. There are some few small transecting quartz veins with attached micro-boxwork iron-oxide after sulfide.

65948

The sample is broken and vuggy reef quartz with included and attached violet-pink sandy clay against a white talcose layer. Some quartz is laminated, with micro-boxworks on surfaces of broken quartz and in vugs. The boxwork is after sulfide with oxide webs.

65950

The material consists of broken pieces of vuggy reef quartz. The vugs contain small terminated quartz crystals and ocherous to violet- brown iron oxides. Some of the quartz surfaces carry clean casts, after carbonate or sulfide.

65947

This is a white 'leached clay' with some narrow pink sandy zones containing pseudomorphs indicating a small sulfide content. The surfaces are talcose.

A.4 West Dome

67084 [12-3]

A dense ironstone, with some little included quartz, against a micaceous contact. There are small areas of boxwork, and striations after pyrite on some oxide surfaces. The micaceous layer contains pseudomorphs after small pyritohedra.

67085 [12-4]

The sample is an oxide zone within micaceous ?siltstone. There is a small area of boxwork which contains a 50 micron particle of gold. Pyritohedral pseudomorphs occur at the contacts and in the siltstone. Areas of the massive oxide are iridescent.

67086 [13-1]

The sample is very similar to 67085.

67087 [13-2]

The specimen consists of pyritohedral pseudomorphs in a micaceous ?siltstone. There appears to have been size grading of the pyritohedra.

67088 [13-3]

The sample is very similar to 67085.

67089 [13-4]

The matrix is a micaceous ?siltstone which grades into ?sandstone, and contains a small vein of translucent quartz. The siltstone carries pseudomorphs of both cubic and pyritohedral pyrite. The sandy layer shows only casts.

67090 [14-1]

The gossan is composed of multiple webs and solution deposited oxide in contact with a partly ferruginised ?sandstone. Some quartz is included in the oxide.

A.5 Fallows Field

67135 [16-2]

The sandstone carried disseminated pyrite and was intersected by micro-quartz/sulfide veins. The sandstone is moderately ferruginised, but now contains only casts after the pyrite, (present in both habits). The veinlets however carry pseudomorphic oxide.

67136 [16-3]

The sample is a fine ?sandstone with some quartz veinlets and casts after sulfide. It is zoned with respect to the nature of the casts. The base zone carries rather nondescript casts and some solid, pseudomorphic, oxide, the central zone carries casts after pyrite cubes of 2 to 4mm whilst the upper zone carries casts after cubic pyrite and after an elongate mineral. It is unlikely that this was elongate pyrite, perhaps tourmaline.

67137 [16-4]

This is a rather dense iron oxide which is very fine grained and is featureless except for color zonation which may be a Liesegang pattern. The color is generally red-brown with a yellow pattern. It is not attractive as an active ironstone and appears to be replacement of a claystone.

APPENDIX B

Select Analytical Data

Table 1.	MVR West Limb - Gossans.
Table 2.	MVR East Limb - Weathered rocks.
Table 3.	MVR West Limb Pit - 4 - Weathered rocks. E - 1 Reef - Weathered rocks. West Dome - Gossan. Fallows Field - Weathered rocks.
Table 4.	MVR East Limb - Profile 11350N RL 525 RL 455
Table 5.	MVR East Limb - Profile 11450N RL 505
Table 6.	MVR East Limb - Profile 11650N RL 510
Table 7.	MVR East Limb - Channel samples 11940N RL 475 RL 450
Table 8.	MVR West Limb - Profile 11450N : WL 554 12000N : WL 556

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	chart	sample	northings	eastings	Ag	Al	As	Au	Ba	Bi	Cs	Cd	Ce	Co	Cr	Cu	Eu	Fe	Hf	K	La	Lu	Mg
2	No.				icp	xrf	naa	naa	naa	icpms	icp	icp	naa	naa	icp	icp	naa	icp	naa	xrf	naa	naa	xrf
3		WL gossan																					
4	1	67016	11180	10270	6	0.08	81	2280	200	2	103	-6	1	32.0	410	270	-0.50	3.57	-1.0	200	2.1	-0.20	-100
5	2	67046	11176	10270	10	0.77	3370	70200	380	55	350	18	190	525.0	137	3380	1.30	33.40	-1.0	1400	211	0.59	200
6	3	67047	11175	10270	18	1.18	5110	213000	-440	61	530	32	89	2940.0	112	2570	1.40	58.60	-1.0	1100	94.5	0.89	1800
7	4	67048	11180	10270	11	0.44	5080	64000	310	14	1020	18	36	245.0	188	1930	1.00	34.30	-1.0	200	36	0.35	700
8	5	67050	11172	10270	20	0.60	4340	214000	440	167	153	26	28	535.0	56	3800	0.82	47.10	-1.0	600	28	1.00	800
9	6	67051	11180	10260	8	0.41	2710	15800	-100	5	144	10	276	198.0	250	830	2.50	17.80	-1.0	700	199	-0.20	200
10	7	67052	11172	10260	12	1.46	5760	56800	400	13	470	26	252	1320.0	104	2050	3.90	46.40	-1.0	400	254	0.89	1200
11	8	67053	11181	10260	45	0.37	5070	22500	1400	14	3030	20	368	405.0	167	3080	3.80	34.60	-1.0	400	286	0.46	800
12	9	67054	11181	10260	38	0.93	4260	692000	-760	95	1170	29	1840	1220.0	71	3840	25.00	60.20	-2.8	-100	1950	1.70	1800
13	10	67055	11195	10260	23	0.75	8110	233000	2000	55	800	31	266	4810.0	84	3360	3.80	53.10	-2.1	800	260	0.57	1900
14	11	67056	11195	10260	9	0.59	2890	9780	730	9	590	14	190	465.0	224	1780	2.40	24.40	-1.0	1100	144	0.88	400
15	12	67057	11183	10260	20	0.98	4670	10500	1900	72	660	31	421	1800.0	56	4360	4.80	54.50	-1.0	300	429	1.00	1200
16	13	67058	11290	10270	12	0.64	5240	72800	580	64	450	29	25	1030.0	79	1710	0.53	52.60	-1.0	200	22	0.48	1100
17	14	67059	11450	10240	12	0.50	2100	24400	420	6	380	33	1	492.0	84	1330	-0.50	58.40	-1.0	-100	8.1	-0.20	2000
18	15	67060	11450	10240	15	0.41	2210	49900	-100	11	650	30	10	952.0	73	1480	-0.50	52.40	-1.0	500	13	0.35	1100
19	16	67061	11450	10240	11	0.80	1440	68100	630	63	370	25	28	1050.0	117	2570	-0.50	43.80	-1.0	600	32	-0.20	1000
20	17	67062	11455	10240	19	0.87	1740	82900	-100	39	1990	15	30	50.0	233	1240	0.71	25.80	-1.0	700	30	0.45	1200
21	18	67063	11500	10240	14	0.10	2080	72500	-100	17	170	14	10	225.0	238	2230	-0.50	24.30	-1.0	-100	9	0.42	200
22	19	67064	11500	10240	14	0.27	1870	161000	230	13	340	19	13	235.0	155	2000	0.70	33.70	-1.0	100	10	0.45	500
23	20	67065	11500	10248	12	0.77	3120	143000	710	12	760	22	98	1070.0	121	2760	1.20	38.80	-1.0	300	105	0.81	800
24	21	67066	11500	10260	12	1.15	3290	65900	690	49	280	31	22	2440.0	88	3890	0.84	53.70	-1.0	100	21	-0.20	1100
25	22	67067	11500	10264	13	0.71	1390	18900	1300	25	168	23	180	141.0	82	2410	3.80	41.70	-1.0	100	107	0.38	900
26	23	67068	11500	10266	14	0.97	1570	151000	1300	37	188	28	110	178.0	143	3100	3.20	50.00	-1.0	200	109	1.20	1100
27	24	67069	11500	10275	11	1.85	2510	12300	920	100	132	24	78	55.0	95	5500	-0.50	43.40	-1.0	100	63.9	-0.20	800
28	25	67070	11510	10275	20	0.51	1460	179000	1400	26	1010	18	17	83.0	235	3160	-0.50	30.80	-1.0	200	21	0.43	300
29	26	67071	11518	10275	15	0.60	3880	65500	2000	36	244	18	18	711.0	125	1750	0.89	32.80	-1.0	100	14	1.10	500
30	27	67072	11530	10240	15	0.39	710	83900	320	24	177	6	17	5.6	280	184	-0.50	11.20	1.1	300	14	0.47	-100
31	28	67073	11530	10250	8	0.32	3090	49300	610	11	157	15	65	264.0	172	2680	0.87	28.50	-1.0	100	48	0.29	600
32	29	67074	11533	10253	35	0.18	4400	213000	890	38	390	22	1	409.0	84	1920	-0.50	40.10	-1.0	-200	12	-0.20	400
33	30	67075	11543	10253	14	0.12	2650	95400	210	9	148	29	4.2	2240.0	81	2980	0.68	54.00	-1.0	-200	3.1	-0.20	700
34	31	67076	11543	10253	9	0.50	2690	39800	-100	19	248	25	59	666.0	86	2930	1.50	44.00	-1.0	-100	48	0.30	500
35	32	67077	11480	10200	10	0.19	1020	8180	1900	8	410	19	1	620.0	120	1380	-0.50	39.30	-1.0	-200	7.1	0.21	600
36	33	67078	11480	10200	16	0.17	2540	447000	1000	79	250	16	1	87.0	122	198	-0.50	33.40	-1.0	-100	3.6	0.58	-100
37	34	67079	11480	10200	12	0.59	1890	77900	3100	11	780	27	9	467.0	111	3050	0.70	54.40	-1.0	-100	13	0.21	1100
38	35	67080	11480	10200	21	0.29	2980	212000	320	13	260	11	15	450.0	229	880	-0.50	21.50	-1.0	-100	17	0.41	-100
39	36	67081	11480	10210	13	0.32	2900	80300	220	15	570	29	16	1510.0	39	4720	-0.50	54.50	-1.0	-100	21	0.25	1200
40	37	67083	11400	10240	9	0.34	1560	42800	250	58	187	15	22	226.0	171	1050	-0.50	32.00	-1.0	-100	20	0.21	-100

Table 1. MVR West Limb - gossan.

	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
1	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Si	Sm	Sr	Ti	Th	U	V	W	Y	Yb	Zn	Zr	LOI	As / Fe
2	lcp	lcp	lcp	lcp	xrf	lcp & lcpms	lcp	naa	naa	xrf	naa	lcp	xrf	lcpms	lcpms	lcp	naa	lcp	naa	lcp	lcp		
3																							
4	29	-10	142	30	100	28	143	6.8	14.9	44.5	0.3	6	50	0.3	7.5	18	150	1	-0.5	17	7	1.02	22.7
5	201	-10	139	229	100	152	310	0.5	25.2	19.8	8.2	83	100	1.9	3.4	24	391	7	2.0	16	15	6.20	100.9
6	730	10	-100	770	1500	78	530	3.4	58.9	1.5	13.0	25	100	1.5	8.5	47	1650	18	2.1	63	10	10.80	90.3
7	480	-10	139	57	800	105	930	1.3	14.3	20.0	3.9	22	50	0.5	2.2	18	564	3	-0.5	24	-5	6.12	147.5
8	181	-10	-100	185	1200	103	260	1.8	35.2	10.0	4.2	10	50	1.2	4.4	19	1890	11	1.5	43	12	8.17	92.1
9	104	-10	128	52	500	64	176	0.5	12.8	33.1	24.1	10	100	3.4	1.6	15	238	6	-0.5	18	7	3.30	152.2
10	860	12	-100	176	2200	88	430	0.5	127.0	7.8	31.5	15	200	3.4	9.4	51	4340	19	2.4	38	10	10.20	124.1
11	149	-10	184	94	800	110	2800	0.5	29.2	19.3	27.5	59	50	3.8	2.7	11	1210	10	1.4	39	-5	5.30	146.5
12	510	12	720	136	2900	131	1090	0.5	47.0	5.3	195.0	48	100	17.0	9.0	47	1250	43	3.7	64	19	9.80	84.9
13	750	11	199	970	1400	149	1120	5.1	38.7	3.7	32.8	73	50	10.0	7.9	65	3020	19	1.5	94	23	9.93	115.1
14	250	-10	145	110	800	94	710	0.5	31.3	27.0	16.0	29	100	1.6	3.1	21	1860	11	2.2	45	6	5.00	118.4
15	540	12	290	400	2600	90	950	0.5	92.1	3.1	50.7	49	100	4.3	8.4	47	1950	17	2.8	98	9	10.70	85.7
16	300	-10	-100	280	1300	152	730	2.3	43.4	6.3	3.2	25	100	1.7	2.8	18	498	7	1.4	38	13	8.07	99.6
17	199	-10	-100	320	2500	630	560	74.7	21.0	1.0	1.0	13	50	0.3	8.1	23	304	3	-0.5	260	10	11.30	38.0
18	139	13	189	300	1800	410	950	11	8.8	4.9	1.4	30	50	1.4	9.2	14	222	5	1.0	85	25	10.07	42.2
19	280	-10	-100	800	1300	260	400	2.8	25.1	11.7	1.5	28	100	2.0	4.7	32	79	4	0.6	30	13	8.45	32.8
20	580	-10	310	75	1500	249	1620	6.5	8.8	24.8	2.8	52	200	3.1	4.7	20	78	7	2.6	62	29	5.78	67.2
21	200	10	104	137	800	215	246	1.1	24.3	27.6	1.4	10	50	0.0	4.9	10	222	3	-0.5	39	-5	4.70	84.8
22	170	-10	103	124	2000	249	360	0.94	30.9	20.0	1.6	17	50	0.4	3.0	27	110	6	1.0	65	8	6.78	55.5
23	540	-10	121	232	2400	580	890	1.7	38.4	14.8	6.1	57	100	2.1	4.1	71	230	9	1.4	98	25	8.28	80.4
24	330	11	-100	243	2400	1110	1040	7	123.0	2.5	5.2	18	100	1.0	17.0	105	563	6	0.5	90	14	11.36	61.3
25	185	11	148	125	2100	1080	750	10	201.0	13.2	17.0	34	100	2.5	16.0	33	356	13	2.3	169	15	9.36	33.3
26	197	12	112	131	3900	1020	740	10	393.0	5.9	15.0	35	100	2.6	22.0	75	415	14	2.4	234	38	11.38	31.4
27	38	11	-100	82	3400	340	350	1.7	40.5	10.4	2.9	35	200	3.1	15.0	78	30	4	-0.5	35	22	9.74	57.8
28	47	-10	215	88	1000	90	1140	8.5	12.1	22.2	0.9	45	100	1.8	5.4	30	275	4	-0.5	18	35	5.78	47.4
29	68	-10	128	155	1000	280	910	3	20.1	20.2	2.1	28	100	2.4	4.3	22	130	7	3.4	57	22	5.55	118.3
30	31	-10	235	10	400	152	350	0.94	10.0	37.8	0.6	15	100	3.6	1.0	82	17	4	1.4	6	28	1.80	63.4
31	221	-10	-100	134	1000	280	380	1.9	35.4	24.9	4.0	26	50	2.4	7.3	39	170	4	0.8	78	19	5.40	116.6
32	152	-10	-100	234	800	260	520	1.4	20.4	14.3	0.9	14	50	1.0	4.6	8	120	2	-0.5	41	-5	7.33	109.7
33	260	10	-100	450	1100	410	410	6.3	40.7	5.0	1.9	8	50	0.2	12.1	13	287	11	1.3	81	-6	8.52	49.1
34	320	11	-100	350	1300	440	380	3.7	25.8	11.4	6.8	18	50	1.4	13.6	85	225	4	0.6	193	11	8.00	61.1
35	500	10	-100	250	1000	170	430	5.1	17.2	17.1	1.4	25	50	0.9	13.8	83	645	5	0.5	480	15	7.19	26.0
36	73	-10	168	10	300	69	1080	2.5	4.7	23.6	-0.2	32	50	0.7	0.7	28	24	-1	0.8	7	6	2.38	76.0
37	167	-10	-100	380	1800	228	1290	2.5	19.3	4.5	1.9	30	50	0.5	5.2	83	87	5	0.9	52	5	3.85	34.7
38	201	-10	-100	108	400	109	450	2	11.4	30.4	1.7	11	50	1.4	6.9	22	262	4	0.7	65	5	3.80	139.1
39	223	20	139	480	2500	630	500	16	7.8	3.6	1.9	32	50	1.3	12.0	11	270	3	1.6	225	8	10.93	53.2
40	84	-10	350	45	700	290	470	3.2	18.8	22.8	2.1	9	100	2.1	2.2	9	110	2	-0.5	30	9	4.52	48.8

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	sample	northings	eastings	Ag	Al	As	Au	Ba	Bi	Ce	Cd	Co	Co	Cr	Cu	Eu	Fe	Hf	K	La	Lu	Mg
2				lcp	xrf	naa	naa	naa	lcpms	lcp	lcp	naa	naa	lcp	lcp	naa	lcp	naa	xrf	naa	naa	xrf
3	ck mvr																					
4	67091	12250	10320	16	1.88	4070	91900	250	6	840	-5	880	36.0	280	290	6.50	9.22	-1.0	1300	642	1.00	600
5	67092			9	1.97	1910	109000	-100	4	1320	-5	247	17.0	290	218	2.10	7.02	1.7	1700	175	1.00	1000
6	67093			12	3.38	5990	91100	1200	2	850	7	1120	63.0	280	390	14.00	13.00	4.1	2500	1020	5.40	1300
7	67094			0.5	1.92	3800	581	840	3	1620	18	6.5	4.2	128	610	1.00	38.20	5.6	9800	14	0.55	1300
8	67095			0.5	3.46	3330	106000	-320	36	1760	-6	827	14.0	280	250	8.40	7.67	15.0	4800	1310	0.89	1200
9	67096			0.5	2.67	3080	59000	130	1	1130	-6	31	7.1	290	249	0.90	8.57	-1.0	1600	18	0.38	700
10	67098			0.5	3.02	1160	3080	240	2	110	-6	25	1.1	199	123	1.70	8.87	14.0	13600	7.5	2.50	500
11	67099			0.5	4.80	2530	10300	600	3	840	8	80	0.5	93	101	0.85	18.20	13.0	18400	72.4	0.73	1600
12	67156			16	1.93	5450	224000	-270	2	2140	6	140	6.4	280	310	3.00	11.40	-1.0	1700	158	1.00	600
13																						
14	E Limb																					
15	67162	11300/505		13	4.17	7140	10800	160	8	1320	14	72	17.0	94	1850	2.00	29.40	-2.1	3900	50.7	1.00	2100
16	65937	11165/505	fw ss f.	29	2.76	4650	48300	-100	31	900	13	48	29.0	174	2700	2.30	27.70	-1.0	1300	48	1.20	2200
17	65938	10700/505	res mvr	0.5	0.82	227	134000	160	26	250	-5	606	300.0	330	310	3.90	9.02	-1.0	300	442	0.45	300
18	65939	10800/505	res mvr	0.5	1.81	1750	35900	2000	31	226	22	170	1130.0	98	2180	2.10	43.20	-1.0	1300	127	2.00	1100
19	65940	11050/505	res mvr	9	1.23	2460	41500	-390	38	3510	25	712	2670.0	91	3150	7.30	47.10	-1.0	100	938	0.41	1500
20	65941	10750/505	res mvr	17	0.24	3490	29100	-100	12	248	28	6.7	212.0	17	3560	4.40	57.90	-1.0	-100	5	2.20	1000
21	65943	11200/500	res mvr	19	1.48	6570	8820	220	42	680	30	23	15.0	53	9500	0.67	50.80	-1.0	500	22	0.33	800
22	65944	10945/505	res mvr	19	1.72	2260	119000	380	16	420	25	76	1840.0	100	2380	2.60	49.00	-1.0	2500	110	1.00	1400
23	67138	11900/475		0.5	1.83	754	1650	-100	17	185	-5	70	3.4	207	42	5.50	4.84	3.7	7700	31	3.90	-100
24	67161	11875/475		16	0.38	4710	23100	-230	87	1170	28	10	835.0	45	1780	10.00	55.60	-1.0	-100	21	4.60	3200
25	65935	11014/460		0.5	0.60	4780	84400	160	25	198	14	28	32.0	194	2700	1.40	28.80	1.4	700	14	0.54	400
26	65936	11014/481		29	2.53	7780	13800	580	100	390	31	818	51.0	85	5300	26.00	49.20	-1.0	100	704	0.41	800
27																						
28	edit-1																					
29	65945	10850		0.5	8.51	190	230	-100	1	193	-5	170	25.0	137	270	1.90	2.88	11.0	1800	102	1.00	-100
30	65942		A1	9	0.71	1240	4110	-210	1	570	26	261	748.0	85	1910	2.60	52.60	-1.0	-100	175	1.30	2300
31	65946		A2	0.5	3.06	1220	28200	590	28	400	9	200	647.0	260	1080	2.40	16.20	-2.6	2900	141	1.30	1000
32	65949		A3	0.5	12.02	74	7030	-100	9	171	-5	639	1.0	146	118	4.00	0.88	12.0	2800	420	1.00	500
33	65948		A4	9	1.27	997	51800	-100	8	177	-5	639	35.0	310	910	4.00	8.02	-1.0	200	472	0.87	-100
34	65950		A5	0.5	0.38	216	130000	-100	3	120	-5	574	85.0	380	570	3.20	2.79	-1.0	-100	398	0.84	-300
35	65947		A6	0.5	13.35	8.5	12100	100	14	150	-5	245	4.1	159	360	2.20	0.45	8.6	3800	167	0.81	400

Table 2. MVR East Limb - weathered rocks.

	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
1	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Si	Sm	Sr	Ti	Th	U	V	W	Y	Yb	Zn	Zr	LOI	As / Fe
2	icp	icp	icp	icp	xrf	icp & icpms	icp	nea	nea	xrf	nea	icp	xrf	icpms	icpms	icp	nea	icp	nea	icp	icp		
3																							
4	29	13	460	10	400	74	176	2	12.3	37.0	66.0	18	900	24.0	3.2	38	110	18	2.9	9	31	3.66	441.4
5	31	-10	460	10	100	38	207	0.6	8.8	38.9	18.0	13	1800	14.9	2.0	31	110	12	4.6	5	37	2.96	272.1
6	62	12	480	10	800	73	430	0.6	16.4	31.1	108.0	43	1500	30.0	4.8	41	10	64	30.0	13	60	6.78	460.8
7	26	-10	136	10	200	71	1080	0.6	14.1	16.1	3.8	38	3800	20.0	3.6	110	35	13	2.4	7	150	4.98	99.6
8	32	-10	320	10	600	680	300	0.6	8.9	36.8	76.7	82	1200	31.0	2.7	38	110	17	2.7	9	41	4.40	434.2
9	33	-10	248	10	60	48	148	1.9	7.6	36.7	4.1	14	600	8.3	2.1	24	64	6	0.7	9	21	4.88	367.1
10	21	-10	248	10	200	46	610	0.44	11.6	36.4	4.3	19	1800	18.0	4.2	42	64	26	14.0	2	240	2.02	130.8
11	27	-10	460	10	200	177	470	0.6	12.8	27.7	4.8	30	3700	18.0	4.0	60	110	15	3.8	6	223	4.27	160.2
12	63	16	270	10	100	78	106	0.6	10.7	34.8	20.0	26	600	11.4	3.2	34	64	13	3.4	9	22	2.38	478.1
13																							
14																							
15	63	-10	1250	10	1500	76	780	1.4	21.2	17.6	7.4	43	1800	13.0	11.4	79	72	12	4.3	13	64	9.47	242.9
16	47	-10	630	10	100	107	430	1.7	34.0	21.1	6.9	43	600	6.0	8.2	90	618	13	6.3	12	26	7.60	167.9
17	160	-10	380	68	600	390	117	0.6	18.1	39.1	38.9	29	200	13.1	2.0	29	100	14	2.8	33	33	2.60	26.2
18	400	-10	-100	196	1600	370	610	0.6	40.9	11.4	16.0	33	400	7.9	4.2	62	433	15	11.0	99	28	8.00	40.6
19	690	-10	700	450	2200	430	610	0.6	62.9	8.0	63.2	113	300	13.7	7.8	28	3270	24	2.6	86	16	8.70	62.2
20	300	-10	214	42	900	340	380	3.9	11.6	1.3	4.2	8	60	0.6	2.1	18	100	18	11.0	110	6	10.80	60.3
21	18	10	290	10	900	60	930	6.6	46.2	6.0	4.7	12	300	6.1	11.0	96	852	3	-0.6	22	17	10.86	129.3
22	1030	11	188	410	2200	167	350	0.6	142.0	6.7	13.0	19	400	3.1	9.7	66	6360	31	6.2	180	36	10.93	46.1
23	69	-10	188	10	100	28	111	0.44	6.1	40.8	9.0	-6	1700	4.7	1.3	16	66	65	23.0	2	70	1.60	166.8
24	1220	-10	1860	106	800	410	880	1.9	16.0	1.6	10.0	34	60	4.4	4.4	18	2830	69	24.0	84	22	11.62	84.7
25	180	-10	106	10	600	31	930	0.6	17.7	24.2	6.4	6	300	3.2	8.6	26	60	8	2.4	24	30	4.67	166.0
26	136	16	390	63	3600	6200	640	2.4	97.4	3.8	117.0	66	200	7.0	19.4	198	80	62	2.8	81	27	10.70	168.1
27																							
28																							
29	670	-10	300	36	100	183	60	1.3	18.1	33.4	13.0	9	4700	29.0	2.6	61	1210	4	4.3	9	244	7.28	66.0
30	630	12	1820	290	2200	116	760	0.6	276.0	3.8	22.7	16	60	8.9	17.3	138	311	26	6.9	164	68	12.60	23.6
31	830	-10	490	223	300	260	148	8.2	68.4	29.4	20.0	11	1400	14.6	3.0	83	4690	7	6.1	46	63	6.70	76.3
32	11	-10	870	21	600	930	144	6	26.6	30.8	34.4	36	5400	34.0	3.1	68	180	22	6.0	2	210	8.86	86.0
33	163	-10	630	24	300	73	238	3	18.6	39.0	46.3	6	400	23.0	2.6	71	499	16	3.3	9	20	2.33	124.3
34	248	-10	380	21	200	21	60	2.4	6.9	44.0	44.1	-6	100	16.0	1.6	21	221	12	1.2	6	-6	1.36	77.4
35	10	-10	237	10	100	136	60	1	20.3	29.8	18.0	8	4800	26.0	2.1	72	49	17	4.6	2	178	9.70	18.9

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	sample	notes	depth m	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Co	Cr	Cu	Eu	Fe	Hf	K	La	Lu	Mg
2		northings	easting	lcp	xrf	nae	nae	nae	lcpms	lcp	lcp	nae	nae	lcp	lcp	nae	lcp	nae	xrf	nae	nae	xrf
3																						
4	pit - 4	11300	10200																			
5	68311	1 - 1		7	10.68	3.4	11	330	0.2	226	-5	130	7.6	128	82	0.95	0.53	6.1	24200	78	0.53	2900
6	68308	1 - 2		0.5	15.84	65	55	-100	0.7	510	-5	655	82.0	66	170	6.70	2.35	17.0	1000	395	2.40	1300
7	68304	1 - 3		9	8.83	1900	5300	-420	14	1640	12	2180	1850.0	102	520	25.00	17.60	20.0	8500	1860	1.80	2200
8	68303	1 - 4		0.5	8.20	543	350	-250	0.8	2470	6	1120	540.0	187	210	12.00	8.16	6.7	5700	922	1.20	1500
9	68310	1 - 5		0.5	12.39	52	546	-100	2	510	-5	368	84.0	121	113	2.30	2.01	11.0	7400	233	0.88	900
10	68307	1 - 6		9	1.23	4650	350	-770	10	2410	33	267	5300.0	88	640	4.70	49.40	-2.5	400	385	0.75	5300
11		11880	10100																			
12	68308	11 - 1		0.5	8.84	18	44	-100	4	216	-5	120	1.7	89	5	1.50	0.19	9.2	5300	80.4	0.82	400
13	68312	11 - 2		0.5	5.25	358	55700	210	7	1780	-5	989	2.4	178	89	8.00	2.39	11.0	6500	708	0.55	300
14	68302	11 - 3		0.5	4.28	224	1820	-100	4	4970	-5	785	1.0	320	49	6.00	0.85	8.3	20300	825	0.58	700
15	68301	11 - 4		0.5	5.99	932	5840	-100	7	3040	-5	502	1.0	221	228	5.20	4.92	11.0	500	355	2.80	500
16	68308	11 - 5		0.5	1.43	808	30290	540	14	5700	-5	471	6.9	390	74	3.10	2.00	1.8	4800	348	1.00	100
17	68305	11 - 6		0.5	7.59	238	5600	-100	7	310	-5	1030	1.0	95	15	8.40	0.60	15.0	6800	728	1.70	400
18																						
19	E-1 reef	11000	10950																			
20	68313	E1 - 1		0.5	7.22	49	130	480	0.3	108	-5	150	20.0	93	280	1.40	1.42	4.9	2500	99.2	0.52	3900
21	68314	E1 - 2		0.5	8.82	97	2250	-100	0.3	8700	-5	289	28.0	149	520	2.50	2.82	15.0	1000	194	0.82	1000
22	68315	E1 - 3		0.5	4.03	211	1320	-100	0.8	280	-5	283	61.0	64	1070	1.30	5.21	5.3	800	184	0.46	800
23	68316	E1 - 4		0.5	8.51	487	6730	-100	7	430	7	229	441.0	117	1040	1.20	11.50	8.4	500	176	0.50	900
24	68319	E1 - 5		0.5	4.71	84	190	-100	0.3	690	-5	190	17.0	99	320	0.87	1.65	14.0	300	129	0.54	200
25	68318	E1 - 6		0.5	8.80	743	680	-100	7	500	8	268	1110.0	112	1240	1.10	13.40	11.0	3800	198	0.89	1600
26	68317	E1 - 7		0.5	5.75	220	2820	-100	0.6	690	-5	227	29.0	100	790	1.80	5.28	10.0	2800	146	0.74	1000
27																						
28	W. Dome																					
29	67084	13320	8807	0.5	1.42	3090	8100	-100	24	142	25	5	659.0	63	320	1.10	51.00	-1.0	1700	8.7	1.10	2000
30	67085	13320	8807	0.5	2.84	3130	7790	-100	38	300	23	7.1	484.0	67	600	0.57	47.40	-1.0	-100	15	0.53	6500
31	67086	13320	8807	0.5	2.20	4280	2460	200	7	480	24	22	885.0	67	400	1.90	50.40	-1.0	6900	26	3.20	1800
32	67087	13320	8807	0.5	2.38	2540	10200	-100	8	310	23	0.5	637.0	68	249	-0.50	47.60	-1.0	7500	20	0.28	1100
33	67088	13320	8807	0.5	2.58	3710	6640	280	11	380	24	2.8	1180.0	86	350	0.67	49.10	-1.0	8200	8.3	0.29	2000
34	67089	13320	8807	0.5	3.58	2010	2040	-100	4	270	13	70	220.0	129	320	1.10	25.20	2.4	14100	56.1	0.22	1800
35	67090	14175	9030	0.5	1.54	6780	5040	870	27	220	20	495	12.0	63	800	1.80	41.10	-1.0	200	393	0.39	600
36																						
37	F. Field																					
38	67135			0.5	2.45	3820	1180	140	8	440	14	17	19.0	75	590	1.80	28.00	1.8	7600	12	0.40	800
39	67136			0.5	2.44	1130	13000	770	45	270	7	7.1	5.4	136	1100	1.00	15.60	2.4	8900	10	0.39	700
40	67137			0.5	1.00	2710	39	500	0.2	710	28	39	122.0	30	2490	4.90	54.20	-1.0	3400	18	1.40	1400

Table 3. Pit - 4, E - 1 Reef, West Dome, Fallows Field

	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
1	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Si	Sm	Sr	Ti	Th	U	V	W	Y	Yb	Zn	Zr	LOI	As / Fe
2	icp	icp	icp	icp	xrf	icp & icpms	icp	naa	naa	xrf	naa	icp	xrf	icpms	icpms	icp	naa	icp	naa	icp	icp		
3																							
4																							
5	10	-10	1110	10	50	38	228	0.1	24.7	32.0	9.3	17	5100	25.0	1.3	117	13	13	3.1	7	168	6.93	6.4
6	50	12	2720	44	800	180	840	0.1	39.4	24.2	44.3	184	9200	50.0	3.9	70	180	34	14.0	20	330	11.83	27.7
7	440	13	6200	219	2600	127	1730	0.1	159.0	19.5	200.0	118	3200	48.0	6.7	97	888	39	10.0	143	163	10.00	108.0
8	380	-10	3630	54	1300	79	2280	0.1	90.2	30.6	91.0	98	2400	23.0	3.5	69	1420	20	6.9	62	111	7.14	66.6
9	77	-10	2450	32	300	100	820	0.1	23.4	29.0	20.1	84	6600	29.0	2.3	80	160	20	4.8	45	230	9.19	25.9
10	4070	18	4520	500	3300	55	2280	0.1	668.0	2.7	39.2	46	100	6.9	10.0	176	3180	33	6.3	161	62	12.98	94.1
11																							
12	-6	-10	430	10	50	11	50	0.57	21.9	35.5	10.0	-5	5300	28.0	3.5	64	32	22	3.3	2	290	6.24	96.3
13	10	18	520	10	500	21	50	3.6	13.8	38.0	83.5	9	2700	39.0	3.2	78	30	19	1.5	2	75	4.59	149.0
14	17	14	580	10	300	82	50	1.7	6.4	39.5	58.0	27	2500	25.0	2.5	39	23	16	2.3	2	82	2.38	263.6
15	16	29	430	10	300	46	159	3.7	17.2	35.1	40.8	14	3200	34.0	4.7	70	28	29	14.0	2	215	5.29	189.4
16	18	-10	390	10	300	140	139	1.3	9.0	42.6	36.3	22	500	13.5	2.1	20	39	17	4.8	2	30	2.00	404.5
17	7	-10	330	10	400	40	50	0.1	22.9	36.2	85.9	10	4900	28.0	4.0	45	28	26	8.7	2	192	5.43	393.3
18																							
19																							
20	53	-10	850	21	100	42	50	0.1	20.4	34.0	10.0	43	4300	22.0	1.8	85	11	15	3.1	10	130	5.43	34.5
21	246	-10	770	22	300	143	138	0.89	14.8	38.3	15.0	119	2900	17.0	2.4	22	26	22	5.0	10	184	6.40	34.4
22	1190	-10	1650	33	500	100	183	0.1	19.4	31.7	14.0	95	4600	20.0	3.1	39	58	12	2.4	15	138	8.07	40.5
23	1000	-10	860	75	500	75	145	0.6	31.3	30.4	17.0	35	2500	13.9	4.0	33	110	13	2.7	20	183	6.74	42.3
24	450	-10	340	10	200	79	50	0.1	13.2	39.5	8.1	73	2200	15.0	2.1	16	38	13	2.3	2	211	4.05	38.8
25	1100	-10	1890	165	700	81	280	1.9	34.0	27.3	20.0	49	3500	17.0	4.9	64	130	17	5.1	23	183	7.57	55.4
26	650	-10	520	28	300	61	111	1	24.0	31.3	14.0	61	5400	24.0	4.3	52	71	18	4.1	15	198	7.62	41.8
27																							
28																							
29	470	-10	138	221	1100	17	390	3	15.1	5.2	3.0	-5	400	1.1	2.7	11	513	23	5.2	48	20	10.17	60.6
30	600	-10	950	214	1100	10	520	1.2	17.2	5.3	2.9	8	800	1.8	3.0	26	680	15	2.1	34	18	10.17	66.0
31	680	-10	224	182	1300	7	680	1.3	48.3	4.5	6.0	17	700	1.0	3.9	28	1550	46	17.0	40	29	10.00	84.8
32	380	-10	178	132	800	6	300	0.5	32.8	7.2	1.9	12	500	2.6	2.2	37	1070	8	1.4	33	23	9.80	53.4
33	1060	-10	217	162	1100	10	450	2.6	25.8	4.8	2.7	8	800	6.0	4.1	35	180	13	1.8	82	35	10.80	75.6
34	200	-10	380	39	700	10	290	0.91	26.2	21.9	7.2	7	1200	4.3	2.2	68	78	6	0.8	27	45	8.90	79.8
35	51	-10	240	10	2400	37	800	0.5	16.4	11.8	16.0	184	1400	17.0	5.5	13	34	8	1.1	23	57	10.12	164.5
36																							
37																							
38	380	-10	-100	10	200	249	490	1.7	8.1	23.4	3.5	13	600	5.4	6.2	44	2	11	1.7	67	50	3.62	136.4
39	104	-10	-100	10	300	61	790	25	10.7	31.2	2.7	9	800	4.9	2.2	39	21	13	1.6	49	47	4.70	72.4
40	1340	-10	-100	104	500	146	630	11	32.9	5.4	14.0	16	400	3.5	6.4	51	2	48	7.3	73	24	6.26	50.0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
sample	notes	depth m	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Co	Cr	Cu	Eu	Fe	Hf	K	La	Lu	Mg
			lcp	xrf	naa	naa	naa	lcpms	lcp	lcp	naa	naa	lcp	lcp	naa	lcp	naa	xrf	naa	naa	xrf
11350/626																					
6736217		4.13	-5	18.0	83	6150	230	1.00	182	-5	248	2.7	108	44	2.60	0.21	8.8	1900	171.0	1.20	300
6736218		4.38	-5	11.6	47	1110	-100	4.00	140	-5	216	3.4	61	46	1.70	0.24	10	2500	141.0	0.90	60
6736219		4.63	8	5.9	807	16700	-370	14.00	217	-5	1640	10	132	231	8.50	2.88	16	3000	1220.0	1.90	200
6736220		4.88	11	5.0	1780	29700	-370	22.00	290	-5	1290	12	141	460	8.60	4.89	12	600	1040.0	2.30	10
6736221		5.13	-5	0.8	483	46700	220	89.00	174	-5	311	9.4	188	280	2.60	2.18	1.9	300	224.0	0.78	50
6736222		5.38	-5	2.4	1930	34100	-280	11.00	330	-5	744	9.4	175	580	5.00	5.39	6.5	500	593.0	2.20	100
6736223		5.63	-5	6.6	681	6810	-100	12.00	189	-5	644	5.1	133	146	4.20	1.18	7	3200	391.0	2.80	200
6736224		5.88	-5	6.4	770	9000	-230	8.00	186	-5	629	5.5	128	510	5.00	2.69	8.8	600	448.0	3.60	50
6736225		6.13	-5	11.7	140	420	-100	4.00	163	-5	261	4.1	86	70	2.50	0.35	10	1500	180.0	1.60	200
6736226		6.38	-5	11.1	78	460	120	1.00	128	-5	180	2.4	101	42	1.60	0.19	10	1000	125.0	0.93	200
6736228		6.88	-5	4.2	70	310	-100	0.40	108	-5	130	3	117	45	1.00	0.29	12	800	89.3	0.87	50
6736230		7.38	-5	2.9	32	430	-100	0.40	127	-5	60	4	125	34	0.61	0.31	7.8	900	41.0	0.35	60
6736234		8.38	-5	3.7	342	589	-100	1.00	142	-5	201	5.6	110	320	1.40	1.15	13	1200	147.0	0.72	50
6736238		9.38	-5	6.4	500	565	160	10.00	136	-5	269	4.3	97	96	1.80	0.41	18	1200	178.0	0.92	50
6736244		11.88	-5	7.1	1310	4660	160	2.00	212	-5	284	3.2	97	580	2.10	2.84	8.4	16900	216.0	1.10	700
6736260		13.38	-5	7.3	408	9450	-100	2.00	145	-5	254	4.3	123	330	2.90	2.74	20	29100	171.0	1.70	800
11350/466																					
6736317		4.13	-5	11.4	170	1560	320	2.00	112	-5	140	0.5	101	15	1.40	1.11	6.9	23800	66.6	0.69	3600
6736318		4.38	-5	12.4	361	5670	-100	7.00	117	-5	272	6.3	96	42	2.00	1.47	10	5900	92.5	0.78	800
6736319		4.63	-5	7.4	1300	26800	240	14.00	184	-5	304	14	134	370	3.10	5.42	11	5000	179.0	0.72	800
6736320		4.88	9	1.9	1340	4850	-200	18.00	202	8	690	7.9	157	242	4.50	8.10	3.8	4500	670.0	1.20	1700
6736321		5.13	7	1.9	667	12700	-100	20.00	162	-5	358	5.4	168	142	4.70	2.74	5.5	7200	276.0	1.00	800
6736322		5.38	8	3.0	904	18300	-100	19.00	186	-5	285	7.4	148	156	3.80	3.81	7.5	12100	220.0	1.10	500
6736323		5.63	5	2.7	713	3780	-100	16.00	260	-5	210	5.7	183	115	2.00	4.85	7.1	12100	154.0	0.64	800
6736324		5.88	8	2.6	1850	4390	-100	24.00	360	9	76	10	124	1050	1.80	13.00	3.4	12000	51.8	0.45	1000
6736325		6.13	-5	1.2	376	1350	-100	29.00	206	-5	170	3.1	204	217	2.10	3.65	7.7	4100	122.0	0.67	400
6736326		6.38	-5	2.8	301	2160	-100	19.00	208	-5	72	3	178	132	1.40	2.58	6.4	7200	49.0	0.45	200
6736327		6.63	-5	4.2	1870	1620	-100	14.00	310	8	68	8.2	130	610	1.70	10.40	4.5	6200	47.0	0.53	800
6736328		6.88	-5	9.1	1430	1770	-100	13.00	236	8	180	5.5	102	530	1.80	7.04	6.8	2300	119.0	0.65	800
6736329		7.13	-5	9.9	333	1850	110	5.00	148	-5	180	1.7	93	83	1.70	1.91	12	1900	124.0	1.00	300
6736330		7.38	-5	4.2	440	1720	-100	2.00	138	-5	110	2.3	90	108	1.30	2.31	9.4	800	78.3	0.52	200
6736332		7.88	-5	9.6	288	450	-100	1.00	121	-5	190	0.5	52	32	1.90	1.43	15	1000	135.0	0.69	100
6736334		8.38	-5	9.3	820	539	-100	5.00	161	-5	284	3.8	57	187	3.30	2.50	10	3200	199.0	3.30	100
6736336		8.88	-5	10.1	110	330	-100	2.00	117	-5	584	2.5	50	18	5.40	0.65	11	7800	423.0	1.90	700
6736338		9.38	-5	12.7	56	3020	-100	2.00	126	-5	180	0.5	75	11	2.10	0.27	16	3500	124.0	1.00	400
6736340		9.88	-5	8.5	120	635	-100	5.00	221	-5	110	1.4	108	21	1.60	0.82	15	1800	72.5	0.81	600
6736344		10.88	-5	10.8	34	4810	380	0.50	89	-5	98	1.6	69	9	1.60	0.50	12	26300	62.5	0.78	3100

Table 4. MVR East Limb - Profile 11350N

	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
1	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Si	Sm	Gr	Ti	Th	U	V	W	Y	Yb	Zn	Zr	LOI
2	icp	icp	icp	icp	xrf	icpms and icp	icp	naa	naa	xrf	naa	icp	xrf	icpms	icpms	icp	naa	icp	naa	icp	icp	
3																						
4	2	13	370	-20	200	440	121	0.1	23.6	26.6	18.0	15	7600	45.0	10.80	81	190	22	6.80	179	231	11.36
5	2	-10	340	-20	100	150	50	0.1	15.6	32.3	18.0	6	5900	27.0	4.80	47	160	18	4.90	250	225	7.86
6	23	-10	400	30	900	380	340	0.1	23.7	36.5	116.0	89	2800	45.0	5.10	50	435	44	10.00	37	90	4.40
7	60	-10	420	39	900	860	430	0.1	30.1	36.2	91.0	132	2400	23.0	4.40	50	1080	33	10.00	65	68	2.38
8	69	-10	460	33	200	220	173	1.3	11.1	44.2	23.1	25	400	8.7	1.40	14	679	13	3.50	55	19	1.26
9	83	-10	480	30	500	990	580	0.1	28	39.0	44.3	140	1200	8.4	2.10	37	1310	26	10.00	48	58	3.05
10	40	-10	420	-20	300	270	600	2.7	22.6	38.0	33.4	90	3100	16.0	2.70	37	231	25	16.00	34	92	5.17
11	30	-10	420	-20	300	121	320	0.1	30.2	36.8	47.0	41	3300	23.0	4.30	48	384	42	21.00	61	131	5.50
12	2	10	340	-20	100	178	50	0.1	27.8	32.1	20.0	11	6500	26.0	3.60	74	110	22	9.40	60	237	8.57
13	2	-10	340	-20	100	370	113	0.1	21.2	32.8	12.0	13	5700	23.0	4.10	58	110	20	5.60	28	230	8.08
14	8	-10	230	-20	50	85	50	0.1	10.2	41.8	10.0	6	2100	11.0	2.30	22	76	13	4.00	71	213	3.67
15	12	-10	380	21	50	40	50	0.67	5.7	43.5	4.7	-5	1400	6.3	1.30	15	66	9	2.10	40	147	2.20
16	18	-10	340	-20	50	54	107	0.1	11.8	41.2	15.0	11	2300	11.7	2.70	25	130	17	3.90	80	233	3.30
17	7	-10	310	-20	100	180	320	0.1	13.9	38.3	16.0	95	4700	23.0	3.90	37	83	21	4.90	81	300	4.88
18	24	14	610	-20	100	209	390	0.1	14.7	34.8	18.0	138	3800	22.0	3.90	47	140	18	5.80	22	188	4.60
19	34	-10	590	-20	200	260	160	0.1	20	34.5	20.0	14	5100	16.0	4.80	89	100	32	9.50	105	370	3.60
20																						
21																						
22	18	10	540	-20	300	30	50	0.1	24.7	31.6	8.8	7	5900	22.0	2.80	121	46	17	3.80	41	187	6.38
23	360	15	420	-20	300	37	50	0.1	31.3	30.3	12.0	7	7300	31.0	4.70	104	78	18	4.70	27	255	8.20
24	640	18	235	34	300	41	235	1.5	18.2	33.4	20.1	18	6400	26.0	6.20	79	90	23	4.20	41	270	5.30
25	460	-10	840	31	700	24	183	2	12.6	38.4	50.9	14	1300	20.0	2.60	70	83	32	6.70	80	54	1.87
26	81	-10	440	23	400	93	137	0.1	9.1	42.6	28.4	16	2700	13.9	3.20	34	49	25	5.40	61	109	1.30
27	72	-10	410	26	300	172	195	0.1	13	40.0	21.9	21	3800	17.0	4.90	49	68	34	6.40	77	170	2.38
28	134	-10	400	-20	100	71	191	0.57	11.5	39.6	16.0	23	4700	16.0	3.60	53	89	19	3.70	21	191	1.64
29	88	-10	360	-20	200	38	580	0.1	8.5	32.8	9.5	15	3100	11.6	6.90	63	51	14	2.50	49	109	3.60
30	63	-10	390	-20	300	21	171	1.2	7.8	42.5	14.0	11	4400	16.0	3.90	44	48	21	3.90	19	190	1.60
31	34	-10	360	-20	200	28	126	1.3	7	41.2	6.2	11	3900	11.5	2.90	47	45	18	3.00	40	169	2.20
32	116	-10	310	-20	300	28	420	1.3	10.3	33.7	8.3	20	3500	11.4	5.30	49	48	14	2.50	52	131	3.88
33	75	13	186	-20	300	131	400	0.1	16.7	30.1	11.0	44	6900	23.0	6.80	75	82	18	3.50	25	238	7.33
34	34	11	127	-20	300	101	165	1.2	14.4	33.0	12.0	24	8000	26.0	4.10	71	59	22	5.60	49	270	7.30
35	35	-10	50	-20	200	122	158	0.39	6.7	40.3	7.4	20	2900	15.0	3.50	26	45	12	2.80	75	188	3.38
36	33	11	134	-20	300	89	50	0.1	14.4	33.9	15.0	8	6800	36.0	6.30	48	85	18	4.20	20	300	7.30
37	26	18	125	-20	400	94	137	0.1	26	33.0	22.3	11	4800	27.0	5.90	50	64	15	18.00	58	213	6.80
38	16	10	50	-20	500	43	50	0.1	16.7	34.0	46.7	-5	5700	35.0	4.50	53	67	17	11.00	43	234	6.76
39	8	12	158	-20	300	70	50	0.1	22.6	30.2	14.0	12	8300	50.0	7.30	112	53	23	5.90	13	350	9.05
40	27	-10	111	-20	300	21	50	0.1	13.4	35.6	10.0	-5	5700	31.0	5.00	61	79	19	4.50	57	320	6.60
41	10	-10	490	-20	200	8	50	0.1	27.4	32.8	8.7	-5	6400	38.0	5.40	111	45	16	3.70	152	270	6.12

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	sample	notes	depth m	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Co	Cr	Cu	Eu	Fe	Hf	K	La	Lu	Mg
2				icp	xrf	naa	naa	naa	icpms	icp	icp	naa	naa	icp	icp	naa	icp	naa	xrf	naa	naa	xrf
3	11450/606																					
4	6735741	top	10.13	-6	10.2	150	655	580	0.20	12700	-5	170	17	121	300	1.80	3.21	6.6	18200	109.0	0.68	2400
5	6735742		10.38	-5	12.1	180	1370	-100	0.40	6800	-5	233	19	133	370	2.10	3.68	8.4	8000	156.0	0.92	700
6	6735743		10.63	-5	7.9	39	400	-100	0.70	1350	-5	252	6.9	88	189	1.70	0.77	10	2100	173.0	0.61	200
7	6735744		10.88	-5	5.9	40	4260	230	1.00	12800	-5	404	8.5	148	241	3.30	0.50	7.1	700	283.0	0.49	200
8	6735745		11.13	-5	8.4	100	3870	-100	6.00	2830	-5	783	15	150	460	6.00	0.71	11	1100	550.0	1.00	50
9	6735746		11.38	6	3.2	180	54800	-100	4.00	3570	-5	283	21	211	227	3.10	1.04	4.2	400	182.0	2.70	50
10	6735747		11.63	-5	11.8	110	53100	180	4.00	420	-5	150	34	155	570	2.00	1.26	10	7200	88.6	0.87	1000
11	6735748		11.88	-5	12.3	47	699	-100	0.60	280	-5	140	8.5	104	270	1.60	0.84	9	13100	85.2	0.77	1800
12	6735749		12.13	-5	10.5	76	542	180	0.70	600	-5	120	7.2	84	400	1.30	0.84	9	10000	74.3	0.80	800
13	6735750		12.38	-5	6.1	42	240	-100	0.50	480	-5	130	2.8	164	89	1.50	0.55	14	2000	83.2	0.75	50
14	6735752		12.63	-5	2.1	38	3030	-100	0.20	188	-5	45	2.1	186	48	-0.50	0.40	9	600	28.0	0.26	50
15	6735754		12.88	-5	6.1	11	553	-100	0.70	192	-5	110	1.2	117	44	1.20	0.43	11	3800	70.2	0.46	50
16	6735756		13.38	-5	10.2	9.5	18	110	0.80	184	-5	140	2.7	104	46	1.20	0.68	11	2800	89.0	0.84	300
17	6735758		13.88	-5	6.4	291	120	-100	2.00	144	-5	120	1.8	128	184	1.80	1.28	18	9000	73.5	0.70	300
18	6735759		14.13	-5	9.2	110	320	160	1.00	151	-5	140	0.5	129	66	1.50	0.83	19	2700	85.6	0.85	400
19	6735760		14.38	-5	5.6	14	69	-100	0.60	105	-5	93	1.2	110	16	0.87	0.18	19	1900	58.4	0.59	50
20	6735762		14.88	-5	4.4	150	260	-100	0.30	140	-5	110	9.5	98	60	1.40	0.55	19	1200	69.6	0.82	50
21	6735764		15.38	-5	6.7	228	5060	-100	3.00	170	-5	130	4.8	124	143	1.50	0.99	16	2800	82.8	0.82	200
22	6735766		15.88	-5	7.8	98	16500	-100	6.00	144	-5	218	7.7	145	73	2.80	0.57	10	2500	143.0	1.30	200
23	6735768		16.38	-5	6.6	130	976	-100	1.00	117	-5	150	1.2	116	68	1.80	0.68	16	1800	97.5	1.10	50
24	6735770		16.88	-5	8.2	140	62	200	0.90	153	-5	160	0.5	126	32	1.70	0.52	14	18800	108.0	0.79	700
25	6735772		17.38	-5	5.1	38	180	-100	0.30	140	-5	87	1	89	16	1.20	0.23	15	6600	51.8	0.72	400

Table 5. MVR East Limb - Profile 11450N.

	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
1	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Si	Sm	Sr	Ti	Th	U	V	W	Y	Yb	Zn	Zr	LOI
2	icp	icp	icp	icp	xrf	icpms and icp	icp	naa	naa	xrf	naa	icp	xrf	icpms	icpms	icp	naa	icp	naa	icp	icp	
3																						
4	26	-10	480	42	100	99	9900	7	21.6	27.2	11.0	29	6100	25.0	2.30	117	69	17	3.90	38	164	8.28
5	27	10	400	48	200	190	4540	8.4	18.1	27.5	14.0	29	6200	30.0	3.00	126	110	20	5.00	27	208	9.88
6	11	-10	300	22	200	229	540	1.1	9.4	35.9	13.0	29	4200	23.0	2.40	47	75	15	3.10	20	168	6.20
7	10	-10	380	-20	200	183	5500	0.1	5.9	37.0	30.4	24	2800	16.0	1.60	36	99	14	2.90	18	130	5.86
8	12	-10	380	-20	400	194	1580	0.1	14.6	35.2	62.2	22	4100	23.0	2.50	60	130	21	5.20	24	164	6.67
9	24	-10	196	24	200	41	880	0.1	7.5	41.7	24.7	6	1800	14.0	1.60	41	120	21	15.00	15	75	2.86
10	14	11	380	29	100	47	139	1.8	20.4	30.6	12.0	9	6300	33.0	3.20	126	283	19	4.90	23	250	8.30
11	9	10	380	22	50	72	119	0.52	22.7	30.0	11.0	11	6400	32.0	2.70	111	140	20	4.70	38	244	8.00
12	10	11	410	-20	50	51	320	0.44	16.3	32.7	10.0	8	4400	29.0	1.90	93	83	16	4.90	16	198	7.50
13	10	-10	228	-20	50	30	116	0.29	7.6	37.9	11.0	5	3300	19.0	2.00	34	73	15	4.40	17	198	7.62
14	12	-10	158	2	50	52	50	0.35	3.8	43.6	3.7	-5	1300	8.4	1.40	16	110	7	1.50	12	131	2.45
15	8	-10	400	22	100	184	114	0.1	7	38.4	8.2	11	3100	18.0	2.50	33	55	12	2.50	10	191	5.14
16	6	-10	370	28	50	114	126	1.4	8.7	33.1	10.0	9	5000	26.0	3.40	49	40	17	3.60	28	250	8.09
17	10	-10	280	21	200	37	50	0.87	12	37.7	10.0	7	3900	24.0	4.80	48	100	16	3.70	55	310	5.02
18	6	-10	290	25	200	39	117	0.43	14.3	34.8	11.0	7	6000	33.0	5.40	89	61	21	5.00	19	370	6.95
19	5	-10	221	29	200	17	50	0.61	10	39.8	8.0	-5	3800	20.0	3.60	33	29	16	3.50	52	330	4.78
20	7	-10	123	26	300	23	50	0.35	10.3	41.3	8.4	10	3400	19.0	3.40	29	37	19	3.60	19	350	3.20
21	8	-10	226	22	300	24	117	1.4	14.1	38.1	11.0	6	6000	25.0	3.80	62	52	20	4.30	72	320	5.00
22	11	-10	260	22	300	28	50	1.3	12.5	36.7	18.0	7	4000	19.0	3.20	42	48	22	7.70	23	211	5.23
23	9	-10	215	24	300	41	50	1.2	10.8	38.1	12.0	8	4100	21.0	2.80	39	43	21	6.80	14	290	4.86
24	12	-10	480	23	400	61	50	1	17.7	35.8	10.0	36	5300	26.0	5.10	80	39	18	4.00	19	290	4.67
25	7	-10	233	21	200	17	50	0.31	10	40.3	7.4	8	3400	18.0	2.40	31	22	15	3.90	27	280	3.24

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	sample	notes	depth m	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Co	Cr	Cu	Eu	Fe	Hf	K	La	Lu	Mg
2				lcp	xrf	naa	naa	naa	lcpms	lcp	lcp	naa	naa	lcp	lcp	naa	lcp	naa	xrf	naa	naa	xrf
3	11650/510																					
4	6735601		0.13	-5	3.4	180	25800	180	3.00	560	-5	81	38	154	249	0.74	4.58	19	2200	58.0	0.65	900
5	6735602		0.38	-5	3.8	180	13400	180	4.00	3560	-5	79	53	139	310	1.00	5.71	14	2500	52.8	0.58	2100
6	6735603		0.63	-5	3.8	352	36900	270	6.00	8100	8	91	114	140	630	1.00	11.20	12	4200	71.4	0.57	2200
7	6735604		0.88	-5	5.8	88	4830	250	2.00	14800	-5	190	31	122	151	1.80	2.75	15	3200	120.0	0.73	3100
8	6735605		1.13	-5	4.9	44	6200	420	3.00	12100	-5	318	19	163	146	2.50	1.98	11	2400	217.0	1.10	2100
9	6735606		1.38	-5	6.3	22	1140	500	1.00	15700	-5	200	8.4	113	230	1.50	1.17	10	2600	133.0	0.69	2100
10	6735607		1.63	-5	6.3	22	701	300	0.70	52200	-5	324	8	101	188	1.80	0.78	7.2	2400	218.0	1.10	1700
11	6735608		1.88	-5	7.4	100	1720	410	2.00	48500	-5	922	24	91	159	8.10	3.29	9.1	1700	859.0	1.90	2500
12	6735609		2.13	-5	1.5	212	27400	180	6.00	11100	-5	180	54	164	280	1.80	4.88	2	700	131.0	0.33	800
13	6735610		2.38	7	3.8	381	84200	120	13.00	9800	5	228	31	159	500	1.50	8.50	3.5	230	180.0	0.80	800
14	6735611		2.63	-5	10.8	88	2130	-100	2.00	13900	-5	250	17	107	213	1.80	2.95	10	1800	166.0	0.82	3100
15	6735612		2.88	-5	10.7	49	37200	-100	2.00	8100	-5	220	12	108	181	1.50	1.27	10	1200	154.0	0.84	2400
16	6735613		3.13	-5	8.8	36	8770	-100	2.00	27100	-5	564	14	127	260	5.00	0.98	9.5	1800	377.0	1.50	2500
17	6735614		3.38	-5	4.8	21	782	-100	0.80	12300	-5	292	7	138	110	2.90	0.61	14	800	194.0	1.10	200
18	6735615		3.63	-5	5.9	22	5450	180	0.80	25600	-5	180	7.8	142	183	2.00	0.67	13	900	124.0	1.80	600
19	6735616		3.88	-5	3.0	26	671	-100	0.60	8700	-5	85	4.1	165	63	1.00	0.67	8.3	1400	55.0	0.55	50
20	6735617		4.13	-5	7.2	14	56	-100	0.70	2670	-5	150	3	115	28	1.30	0.41	13	900	98.7	0.59	50
21	6735618		4.38	-5	7.8	14	57	-100	1.00	5000	-5	130	2.1	89	42	1.30	0.45	12	800	80.8	0.55	600
22	6735619		4.63	-5	8.7	15	220	-100	1.00	15700	-5	150	2.8	117	43	1.50	0.69	10	1700	95.1	0.62	300
23	6735620		4.88	-5	3.9	7.9	24	-100	0.30	980	-5	60	-1	125	25	0.74	0.41	14	600	38.0	0.42	60

Table 6. MVR East Limb - Profile 11650N.

	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
1	Mn	Mo	Na	NI	P	Pb	S	Sb	Sc	Si	Sm	Sr	Ti	Th	U	V	W	Y	Yb	Zn	Zr	LOI
2	icp	icp	icp	icp	xrf	icpms and icp	icp	naa	naa	xrf	naa	icp	xrf	icpms	icpms	icp	naa	icp	naa	icp	icp	
3																						
4	330	-10	630	33	100	128	340	2.2	10.7	38.2	6.0	29	2800	10.0	1.60	46	56	11	3.10	147	123	3.95
5	153	-10	1210	49	100	92	340	1.4	11.6	36.1	6.3	40	2400	10.0	1.60	61	68	10	2.60	86	130	4.70
6	134	-10	1580	71	600	130	1000	3	19.2	32.1	9.3	54	2300	10.0	2.40	60	110	12	2.60	180	122	6.17
7	91	-10	2130	30	200	139	2220	0.65	12.6	34.8	11.0	213	3200	14.0	1.60	62	36	16	4.10	74	168	7.00
8	78	-10	1880	24	200	212	5200	0.72	10.2	36.6	20.0	350	2800	12.0	1.40	46	33	16	6.20	91	124	6.00
9	62	-10	1820	-20	200	164	1780	0.38	9.5	35.5	13.0	60	3300	14.0	1.60	44	21	18	3.80	46	141	7.17
10	28	-10	1070	21	400	187	460	0.34	10.1	32.9	17.0	86	2700	13.0	1.60	33	23	17	6.00	60	113	10.24
11	60	-10	1230	32	70	78	340	2.5	26.3	28.3	74.0	80	3700	20.0	2.70	68	50	28	11.00	81	146	12.07
12	76	-10	630	56	300	64	229	2.1	13	40.0	17.0	28	700	4.5	1.20	31	88	7	1.80	49	31	3.50
13	42	-10	730	38	400	109	1030	0.72	24	35.4	14.0	47	2100	9.3	1.90	67	85	11	3.40	30	78	6.40
14	43	-10	2240	22	300	104	2180	0.58	19.4	27.8	13.0	69	6400	28.0	2.20	87	140	18	4.80	38	260	10.50
15	32	-10	1940	-20	200	93	2250	0.42	16	30.3	14.0	44	6700	28.0	2.20	66	67	16	4.30	28	233	9.40
16	42	-10	1900	28	400	56	12500	0.1	17.7	29.6	46.5	63	4800	24.0	2.10	68	96	19	8.70	27	183	9.12
17	22	-10	940	-20	200	44	9100	0.1	10	37.5	23.5	56	2600	14.0	1.90	24	34	14	6.80	22	220	6.00
18	16	-10	1240	22	200	33	20000	0.34	13.5	33.4	16.0	99	3900	15.0	2.10	38	33	20	10.00	27	237	6.78
19	19	-10	480	-20	50	22	5900	0.45	6.6	40.9	7.1	58	1400	7.8	1.20	24	62	9	3.30	19	146	2.86
20	7	-10	730	-20	100	68	2170	0.38	9.4	36.7	11.0	29	4400	20.0	3.20	35	60	14	3.30	18	280	5.48
21	17	-10	990	-20	100	62	3480	0.37	8.8	35.5	9.2	200	4300	19.0	2.40	33	64	14	3.00	41	240	4.81
22	23	-10	780	-20	50	86	12000	0.38	8.8	31.9	10.0	219	4300	18.0	2.10	47	63	14	3.40	31	218	7.43
23	7	-10	330	-20	50	36	640	0.39	6.6	41.4	4.7	21	2300	10.0	1.90	20	35	11	2.30	26	223	3.40

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	sample	notes	depth m	Ag	Al	As	Au	Ba	Bi	Ce	Cd	Ce	Co	Cr	Cu	Eu	Fe	Hf	K	La	Lu	Mg
2				lcp	xrf	naa	naa	naa	icpms	icp	icp	naa	naa	icp	icp	naa	icp	naa	xrf	naa	naa	xrf
3	RL 460																					
4	67001		1.60	1	1.87	670	940	190	8	138	-5	160	3.2	210	38	2.20	3.16	14.0	6600	110	1.10	700
5	67002		1.40	1	4.81	1000	2490	170	16	232	-5	373	8.4	320	84	4.00	4.82	16.0	23000	284	2.20	1200
6	67003		1.20	1	2.95	1010	1450	170	7	226	-5	304	4.6	320	120	1.50	2.88	10.0	13600	236	0.87	1200
7	67005		1.02	1	0.53	1020	1890	-100	12	220	-5	130	4.5	260	136	2.00	2.61	12.0	1600	90.7	1.20	400
8	67006		0.82	1	0.68	2780	2150	240	14	370	6	160	12.0	208	470	2.30	8.62	12.0	2000	107	1.10	600
9	67007		0.60	1	2.09	354	5220	-100	4	320	-5	120	4.4	270	108	2.40	1.32	8.7	9100	78.9	1.10	400
10	67008		0.40	1	1.20	377	11100	-100	3	206	-5	266	8.1	330	82	3.50	1.10	4.1	5000	197	1.00	300
11	67009		0.25	7	1.78	6130	16700	-360	25	490	13	314	21.0	191	1600	3.00	20.20	9.4	5400	279	1.70	1400
12	67010		0.15	5	1.82	3990	18400	380	12	440	15	222	23.0	129	1140	3.50	24.80	14.0	5800	155	0.95	1100
13	67011		0.08	7	1.38	1860	21100	230	11	280	8	264	15.0	214	220	3.50	12.20	15.0	4800	188	0.81	700
14	67014		0.03	10	1.63	2490	10800	450	17	330	7	838	20.0	270	840	8.70	8.78	20.0	1800	695	5.60	400
15	67016	top	-0.10	8	7.14	854	5680	490	9	340	-5	1220	15.0	240	212	10.00	2.07	14.0	2100	708	2.10	200
16																						
17	67004	solid	1.20	1	3.41	3220	2500	-220	12	440	9	140	25.0	212	430	2.10	14.30	8.3	16300	113	0.88	1400
18	67012	cc blank	0.08	7	1.04	2010	8520	-240	10	280	8	322	14.0	218	156	3.50	13.20	15.0	3400	223	1.10	700
19	67013	ex sulfid	0.08	9	1.49	4480	30500	-310	10	470	13	210	21.0	225	1480	3.70	21.80	10.0	4800	151	1.20	1000
20																						
21	RL 475																					
22	67036		1.50	1	1.07	2110	576	-100	6	370	6	130	5.4	223	680	1.20	9.48	7.5	700	107	0.87	500
23	67036		1.30	1	2.85	473	970	210	8	187	-5	375	1.0	145	45	-0.50	0.88	15.0	2300	344	1.60	100
24	67037		1.10	6	6.05	3020	1490	-280	11	600	9	291	6.2	125	480	3.50	12.80	14.0	1600	180	3.10	1000
25	67038		0.93	1	5.02	55	9120	-200	8	137	-5	268	2.6	340	12	3.10	0.24	15.0	2000	181	2.50	800
26	67039		0.76	6	0.91	3510	3670	280	23	490	9	170	8.7	190	490	1.70	14.70	8.3	500	126	0.88	600
27	67040		0.55	8	0.56	2990	14300	-340	43	370	-5	576	1.0	242	210	-1.10	6.38	14.0	800	584	0.93	800
28	67041		0.38	6	0.52	3580	20100	140	73	390	8	301	4.1	201	310	2.10	13.30	15.0	800	258	1.40	800
29	67042		0.24	10	0.74	210	19000	-400	51	159	-5	1090	1.0	310	16	6.00	0.28	28.0	1100	879	2.70	1200
30	67043		0.08	11	0.24	180	11200	130	41	96	-5	97	6.1	350	25	0.54	0.52	5.0	200	75.9	0.53	50
31	67044	top	-0.08	5	7.93	6700	466000	-380	228	540	13	58	7.1	120	460	2.40	22.00	7.9	700	53.3	1.40	800
32																						

Table 7. MVR East Limb - Channel samples 11940N.

	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
1	Mn	Mo	Na	NI	P	Pb	S	Sb	Sc	Si	Sm	Sr	Ti	Th	U	V	W	Y	Yb	Zn	Zr	LOI	As / Fe
2	icp	icp	icp	icp	xrf	icp & icpms	icp	nae	nae	xrf	nae	icp	xrf	icpms	icpms	icp	nae	icp	nae	icp	icp		
3																							
4	84	-10	187	-20	100	64	50	0.68	14.6	41.3	12.0	14	9000	30.0	6.4	71	48	32	5.3	2	340	1.78	180.4
5	118	-10	430	-20	200	88	111	0.2	20.0	36.2	30.3	18	11800	45.0	6.0	117	88	39	11.0	2	370	2.60	207.6
6	60	-10	360	-20	100	51	101	0.2	12.3	40.3	21.2	23	6600	21.0	4.4	66	63	24	4.6	6	232	2.14	363.1
7	89	-10	390	-20	100	25	50	0.2	14.6	43.6	11.0	11	8800	24.0	4.8	64	84	34	6.1	2	210	1.36	390.8
8	181	-10	310	-20	50	42	260	0.2	16.5	38.8	13.0	28	6800	22.0	7.8	56	74	30	5.4	2	320	2.88	322.5
9	80	-10	580	-20	100	6	143	1.7	8.4	43.0	13.0	-6	4700	12.0	3.0	38	53	39	7.5	2	178	1.36	268.2
10	130	-10	470	-20	50	7	50	0.2	8.3	44.6	23.1	8	2500	10.0	2.1	24	42	23	6.9	2	91	0.88	342.7
11	360	13	490	-20	300	42	740	0.2	20.1	28.1	28.1	38	4400	20.0	12.7	78	55	34	7.7	10	188	4.67	254.0
12	760	12	320	-20	200	17	720	4.5	20.0	25.4	26.8	22	6800	24.0	10.8	95	73	23	4.7	8	300	4.20	160.9
13	680	12	510	23	200	14	260	3.1	16.6	35.7	25.7	16	7300	27.0	5.0	85	84	22	3.8	2	280	2.00	162.6
14	690	10	440	42	600	21	380	6.7	22.7	36.8	79.4	16	11200	62.0	11.4	105	190	110	29.0	2	370	3.20	284.2
15	980	10	510	31	400	16	163	0.2	26.3	35.5	91.3	10	5600	54.0	6.1	70	73	38	10.0	2	187	5.78	412.6
16																							
17	212	12	420	-20	100	63	186	1.5	15.2	31.2	14.0	20	4200	16.0	11.4	63	95	18	3.1	11	185	4.55	225.2
18	730	12	450	24	200	15	231	0.2	16.2	35.5	30.3	17	7400	26.0	4.8	82	93	24	4.7	2	310	2.00	152.3
19	460	11	550	22	200	17	730	0.2	19.3	27.7	26.4	21	6300	25.0	12.2	92	88	27	4.5	9	186	4.50	205.0
20																							
21																							
22	50	-10	195	-20	100	89	410	0.2	19.9	37.9	8.2	32	1400	17.0	7.5	28	64	13	2.8	2	113	3.45	222.6
23	71	-10	510	24	300	490	221	0.2	20.6	42.2	10.0	87	3900	2.3	5.3	33	91	28	7.9	2	310	2.93	537.5
24	99	-10	710	31	300	73	560	0.2	43.9	27.9	26.0	31	9600	45.0	11.9	102	99	44	16.0	5	340	7.60	235.9
25	162	-10	470	-20	100	28	113	0.51	35.9	39.2	20.4	9	12800	37.0	5.5	118	130	42	14.0	2	410	3.86	225.4
26	246	13	195	22	100	50	400	0.2	25.1	33.7	12.0	47	2700	14.0	10.1	44	94	18	3.7	2	116	4.83	238.8
27	171	13	360	28	300	59	300	0.2	19.6	40.2	20.5	132	4400	20.0	5.5	58	95	20	3.9	2	195	2.36	468.7
28	125	14	360	24	200	234	260	2.2	28.2	35.1	17.0	53	7200	31.0	12.9	59	231	26	6.3	2	242	2.98	269.2
29	50	-10	510	37	600	290	108	0.2	22.7	44.9	73.1	37	7000	52.0	7.4	62	100	47	11.0	2	230	0.62	752.7
30	41	-10	250	21	100	62	187	0.37	7.7	46.4	3.9	12	2300	8.3	2.5	30	83	11	2.7	2	128	0.90	365.4
31	180	17	390	-20	200	22	530	7.4	30.7	19.2	11.0	28	9100	65.0	12.1	142	948	21	4.9	6	233	8.48	259.1
32																							

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	sample	notes	depth m	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Co	Cr	Cu	Eu	Fe	Hf	K	La	Lu	Mg
2				lcp	xrf	naa	naa	naa	icpms	icp	icp	naa	naa	icp	icp	naa	icp	naa	xrf	naa	naa	xrf
3	WL #556																					
4	12000N	10085E																				
5	8735172		17.88	-5	14.6	628	53	-100	2.00	218	-5	248	0.5	95	200	2.40	1.87	8.6	3600	180.0	0.92	500
6	8735173		18.13	-5	7.3	268	7270	-100	12.00	1320	-5	560	3.8	90	107	2.80	0.50	9.1	2700	456.0	2.10	200
7	8735174		18.38	-5	6.2	87	13700	140	6.00	400	-5	296	7.2	63	119	2.30	1.07	7.2	12900	221.0	1.20	1100
8	8735175		18.63	-5	6.7	110	460	110	3.00	244	-5	100	1.9	61	68	0.84	0.65	13	9400	66.2	0.49	500
9	8735176		18.88	-5	11.1	251	5500	-100	2.00	176	-5	170	1.4	64	105	2.30	0.91	10	3600	116.0	0.92	50
10	8735177		19.13	-5	11.1	484	10300	-100	2.00	233	-5	170	2.5	88	320	2.30	2.22	13	4600	107.0	1.10	600
11	8735178		19.38	-5	12.3	35	58	210	0.50	3460	-5	120	1.5	100	20	1.50	0.32	12	14800	78.6	0.77	2300
12	8735179		19.63	-5	13.2	170	160	310	0.40	200	-5	110	0.5	105	81	1.50	0.84	12	20800	72.4	0.74	3000
13																						
14	WL #554																					
15	11450N	10086E																				
16	87355127		31.63	-5	8.3	14	1360	190	3.00	154	-5	170	5.5	68	84	1.70	0.48	7.2	15400	103.0	0.57	1800
17	87355128		31.88	-5	7.6	31	43600	-100	8.00	224	-5	983	44	70	310	10.00	0.32	10	2900	664.0	1.50	100
18	87355129		32.13	-5	9.8	39	4680	140	9.00	163	-5	120	33	79	390	1.60	0.48	10	11400	74.2	0.67	1300
19	87355130		32.38	-5	10.0	160	12800	270	5.00	168	-5	110	4.2	90	148	1.60	0.88	9.2	16600	69.4	0.68	2200
20	87355131		32.63	-5	9.7	80	3460	200	1.00	138	-5	100	0.5	81	64	1.40	0.60	8.1	21100	69.1	0.68	2500
21	87355132		32.88	-5	8.4	140	4010	300	0.80	189	-5	90	2.7	94	112	1.20	0.99	8.4	24900	65.7	0.48	3100
22	87355133		33.13	-5	5.1	73	569	-100	0.50	210	-5	74	1.5	43	75	1.00	0.41	14	3000	45.0	0.52	300
23	87355134		33.38	-5	5.0	38	2520	110	1.00	133	-5	86	11	53	122	1.00	1.39	11	5700	53.3	0.54	400
24	87355135		33.63	-5	4.4	25	3390	210	0.90	750	-5	95	10	62	135	1.10	1.64	10	11000	58.4	0.47	1300
25	87355136		33.88	-5	2.5	68	380	-100	0.60	139	-5	41	1.3	63	73	0.85	0.46	11	2200	24.0	0.34	300
26	87355137		34.13	-5	4.5	22	200	-100	0.60	95	-5	68	0.5	34	34	0.79	0.11	14	2100	41.0	0.47	100

Table 8. MVR West Limb - Profile WL 554, WL 556

	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
1	Mn	Mo	Na	NI	P	Pb	S	Sb	Sc	Si	Sm	Sr	Ti	Th	U	V	W	Y	Yb	Zn	Zr	LOI
2	icp	icp	icp	icp	xrf	icpms & icp	icp	naa	naa	xrf	naa	icp	xrf	icpms	icpms	icp	naa	icp	naa	icp	icp	
3																						
4																						
5	13	13	340	-20	100	175	110	1.8	22.7	27.4	17.0	43	7100	47.0	7.00	90	44	17	5.00	48	244	9.78
6	16	-10	380	-20	400	130	280	0.1	10.3	37.2	27.7	206	4200	27.0	3.30	46	40	18	12.00	18	175	5.64
7	60	-10	710	-20	200	61	172	0.78	13.3	37.8	20.6	46	3400	18.0	2.30	54	52	16	7.00	260	137	4.14
8	19	-10	590	-20	50	25	50	0.33	14.2	37.4	7.6	11	4200	19.0	5.10	37	24	13	2.50	50	280	4.88
9	9	13	290	-20	100	20	50	0.56	20.3	32.0	14.0	8	6000	33.0	6.60	59	44	16	4.80	25	250	8.09
10	17	14	320	-20	100	18	124	0.85	26	30.8	15.0	9	6600	41.0	7.90	82	39	18	6.30	38	300	8.19
11	8	-10	380	-20	100	5	50	0.1	31.4	29.8	10.0	8	7000	35.0	7.10	139	27	17	4.50	22	300	8.40
12	19	12	470	-20	100	6	50	0.1	29.7	28.9	9.3	8	6300	42.0	7.10	130	20	16	3.80	19	280	8.00
13																						
14																						
15																						
16	11	-10	380	-20	100	26	50	0.31	11.6	35.8	15.0	6	4400	22.0	2.20	65	31	12	3.20	78	165	5.12
17	10	-10	330	33	300	29	50	1.9	10	37.4	82.8	-6	4000	29.0	2.80	40	31	19	8.50	92	161	5.57
18	8	-10	390	23	100	22	50	1.2	17.5	33.8	11.0	-5	6700	30.0	2.70	101	41	16	3.90	32	234	6.02
19	9	-10	340	-20	100	53	50	1.7	20.3	33.3	10.0	13	5600	31.0	4.50	108	52	14	3.50	53	222	5.67
20	9	-10	340	-20	100	26	50	0.83	20.2	33.6	9.1	9	5300	30.0	3.80	94	34	18	3.80	83	217	5.28
21	13	-10	400	-20	100	26	50	2.2	25.5	33.9	8.2	7	4100	27.0	4.30	136	53	12	2.80	85	189	5.28
22	8	-10	50	-20	50	22	50	0.78	11.1	38.5	6.8	-5	3000	20.0	3.60	37	28	11	2.80	33	260	3.80
23	80	28	50	380	50	27	50	0.75	8.8	38.4	8.1	-6	2700	16.0	3.30	36	819	10	2.40	104	188	7.45
24	95	30	189	380	50	46	430	0.75	8.1	39.7	8.6	8	2400	13.0	2.00	36	679	10	2.40	47	153	3.02
25	18	-10	50	-20	50	32	50	0.81	5.4	43.3	3.9	-5	1700	11.0	2.80	17	42	8	1.70	46	167	2.20
26	25	-10	50	-20	50	53	50	0.22	7.1	40.7	6.1	6	2800	16.0	3.30	22	17	12	2.50	80	230	3.80

APPENDIX C

CHART SEQUENCE 1

Weathered Rock - Summary Data

Key to series numbers.

1 through 37 - West Limb gossan

Appendix B - Table 1.

39 through 47 - East Limb MVR creek exposure gossan

Appendix B - Table 2.

49 through 60 - East Limb surface rocks

Appendix B - Table 2.

62 through 68 - East Limb Adit-1

Appendix B -- Table 2.

71 through 81 - West Limb Pit-4 weathered rocks

Appendix B - Table 3.

83 through 89 - E-1 Reef samples, weathered rock

Appendix B - Table 3.

91 through 97 - West Dome gossan

Appendix B - Table 3.

99 through 101 - Fallows Field weathered rock

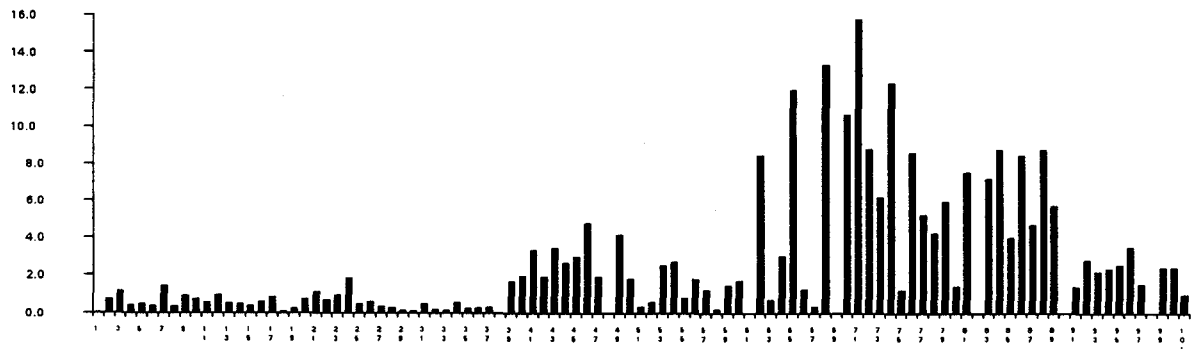
Appendix B - Table 3.

Elements shown:

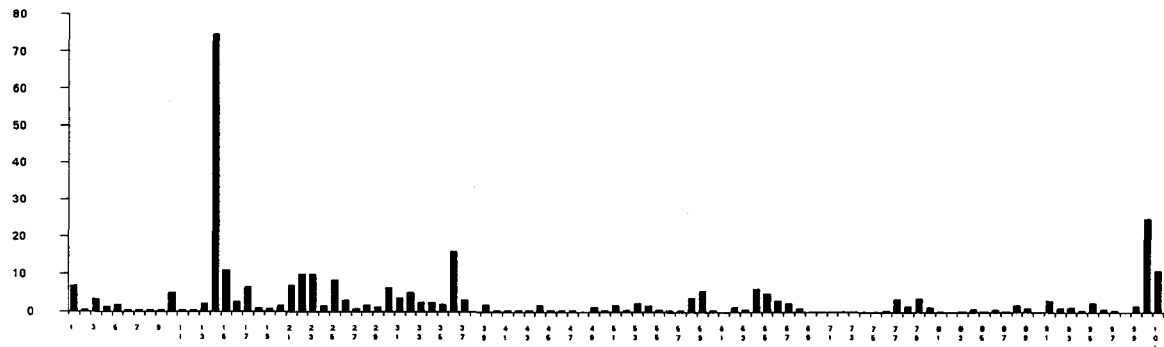
Ag	Ca	Fe	Na	S	Ti	Zn
Al	Ce		Ni	Sb	Th	Zr
As	Co	Mg	P	Sc	U	
Au	Cr	Mn	Pb	Si	V	
Bi	Cu				W	

Appendix C Weathered rock and gossan - Summary Data

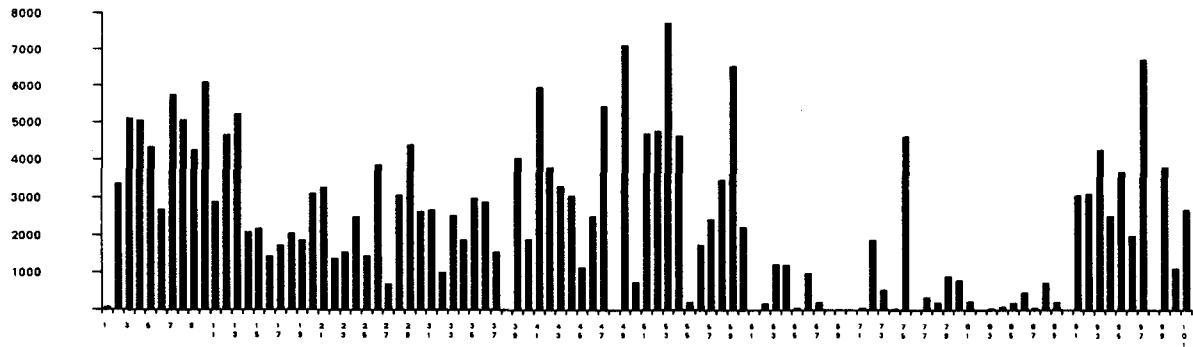
Aluminium



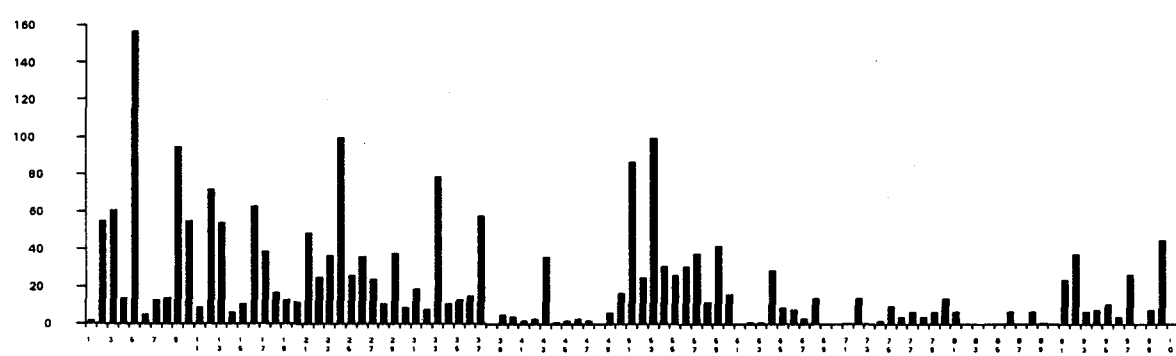
Antimony



Arsenic



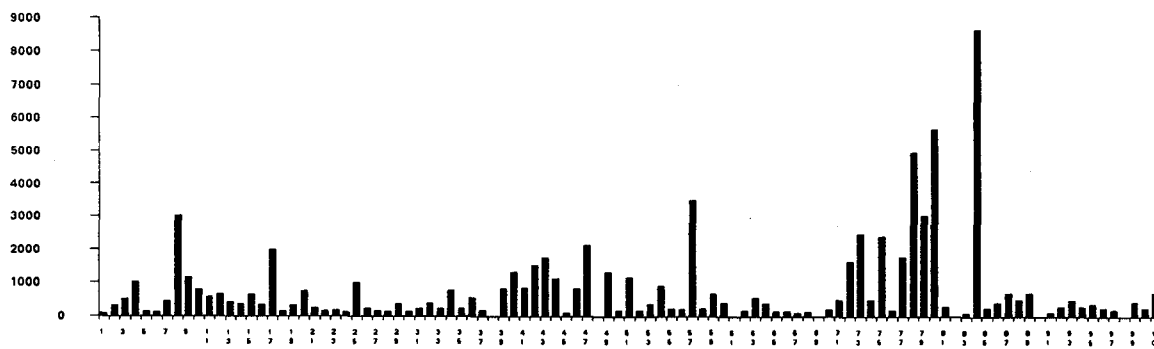
Bismuth



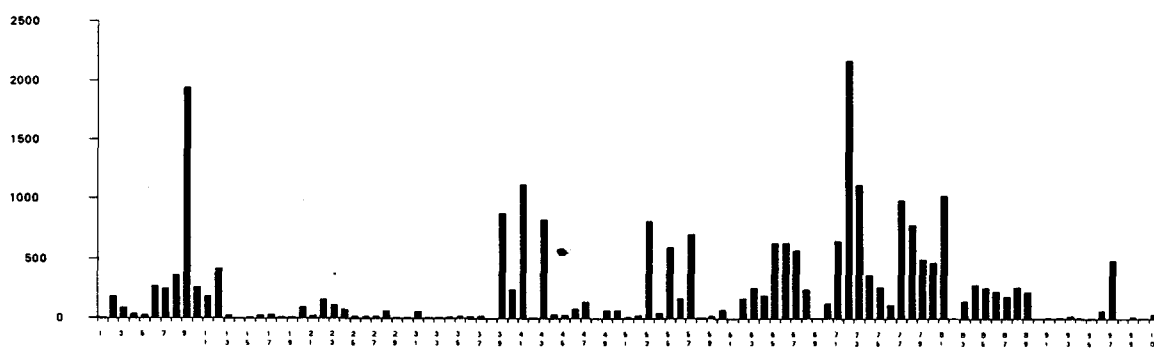
1 - 37 West Limb gossan	39 - 47 East Limb creek exposure	49 - 60 East Limb surface rocks
62 - 68 East Limb Adit-1	71 - 81 West Limb Pit-4	83 - 89 E-1 Reef
91 - 97 West Dome gossan	99 - 101 Fallows Field	

Appendix C Weathered rock and gossan - Summary Data

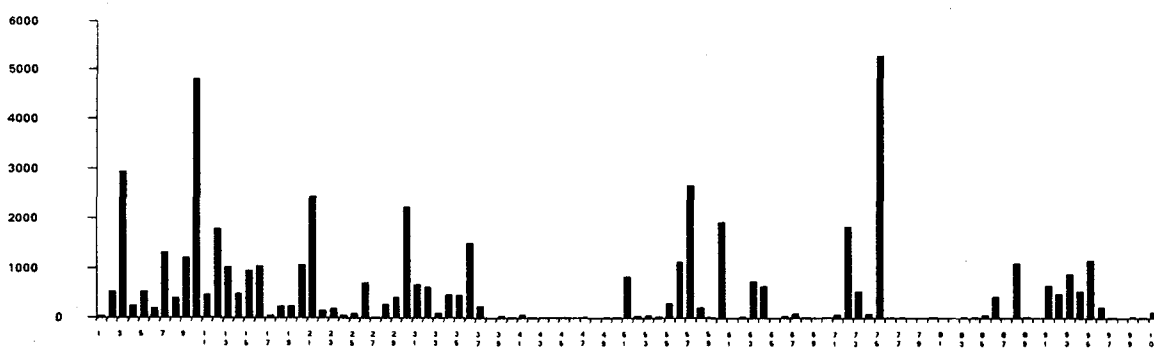
Calcium



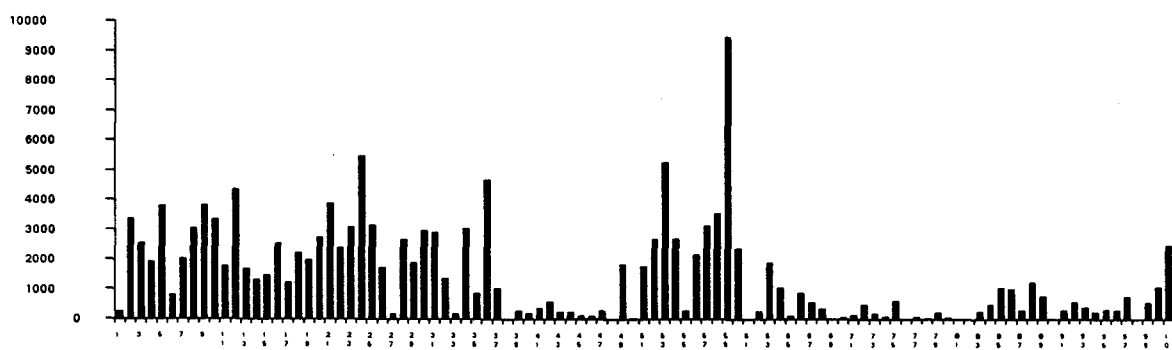
Cerium



Cobalt



Copper

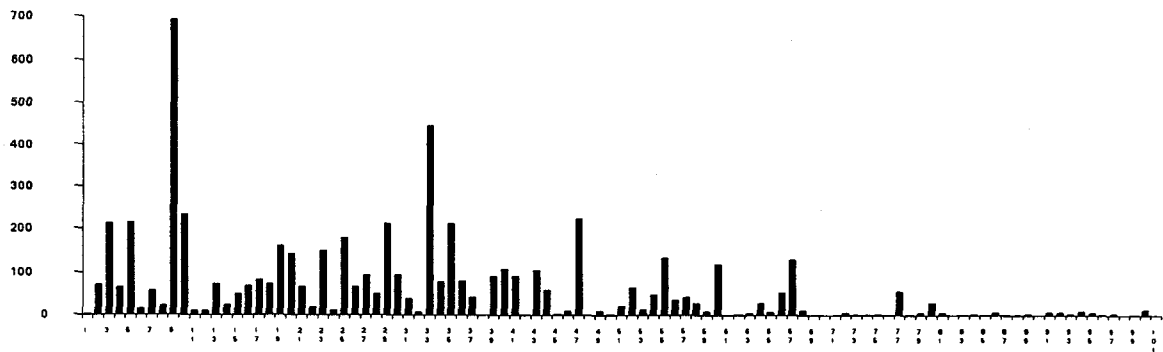


1 - 37 West Limb gossan	39 - 47 East Limb creek exposure	49 - 60 East Limb surface rocks
62 - 68 East Limb Adit-1	71 - 81 West Limb Pit-4	83 - 89 E-1 Reef
91 - 97 West Dome gossan	99 - 101 Fallows Field	

Appendix C Weathered rock and gossan - Summary Data

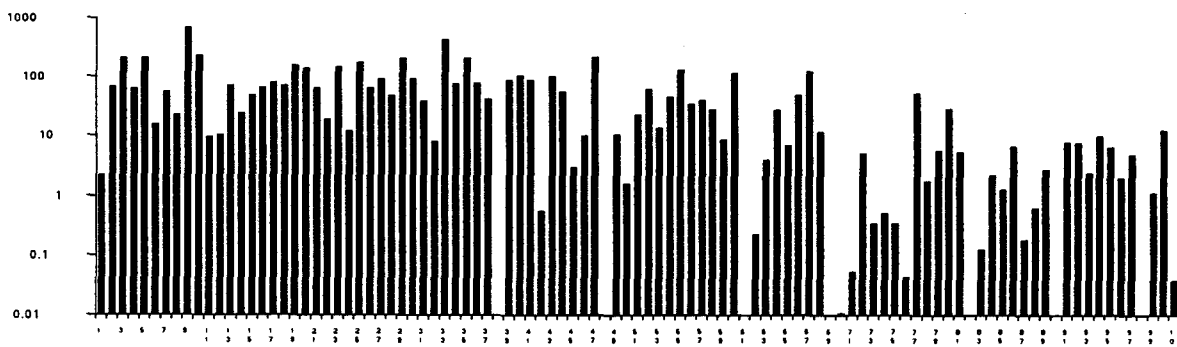
ppm

Gold

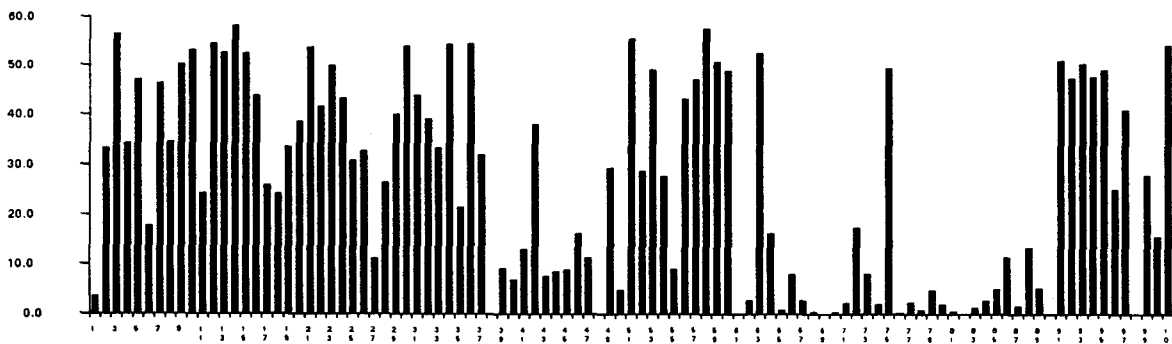


log ppm

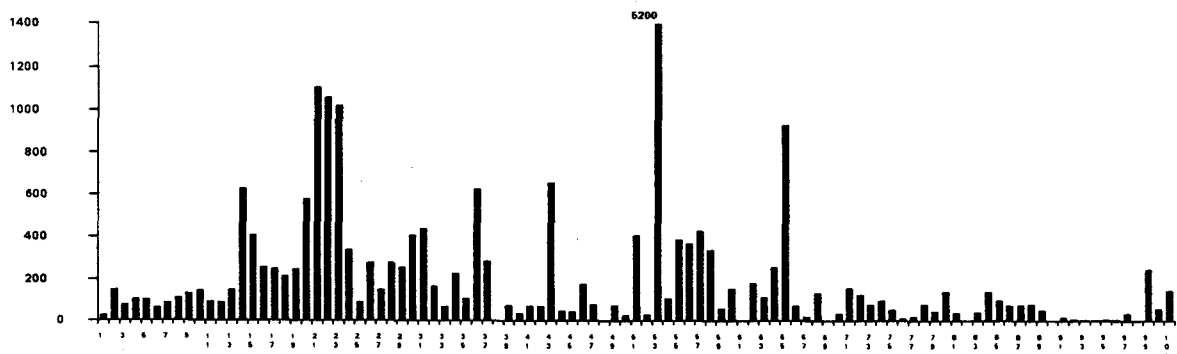
Gold



Iron



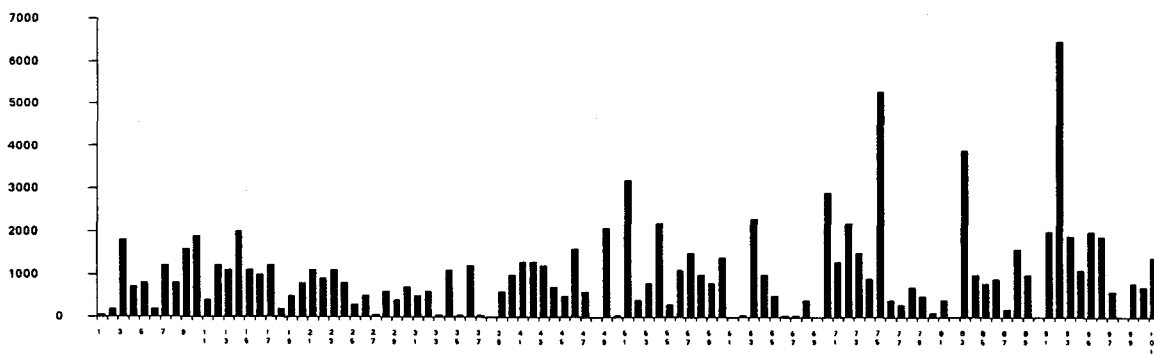
Lead



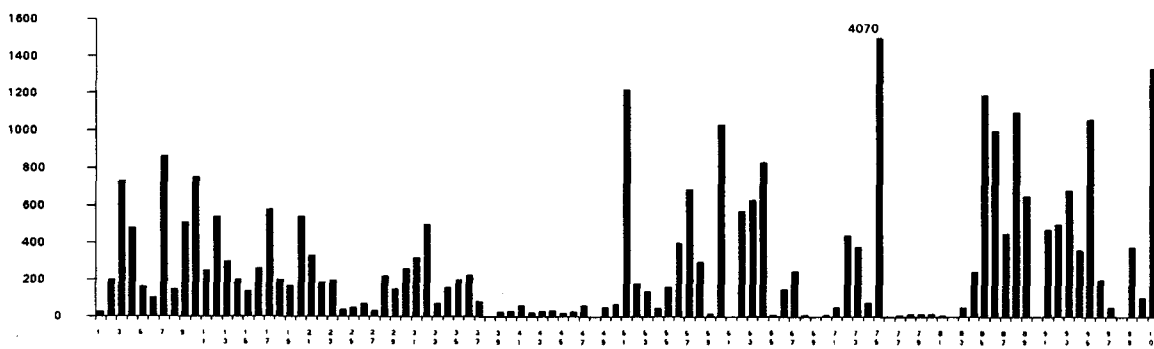
1 - 37 West Limb gossan	39 - 47 East Limb creek exposure	49 - 60 East Limb surface rocks
62 - 68 East Limb Adit-1	71 - 81 West Limb Pit-4	83 - 89 E-1 Reef
91 - 97 West Dome gossan	99 - 101 Fallows Field	

Appendix C Weathered rock and gossan - Summary Data

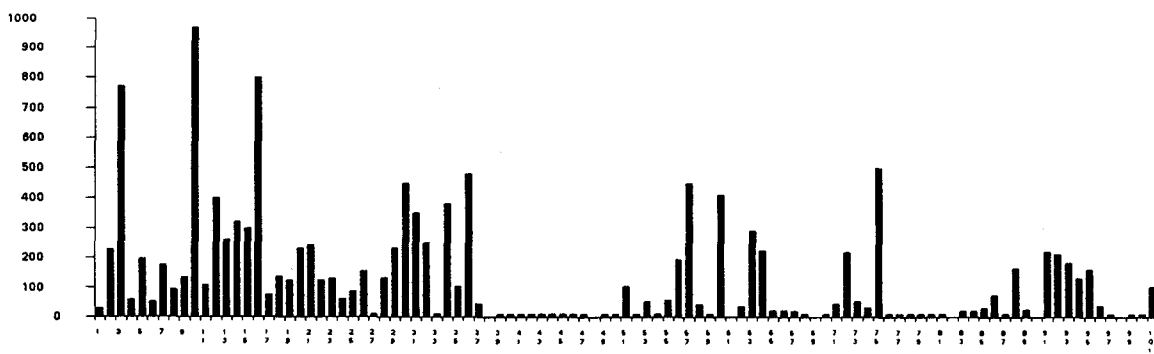
Magnesium



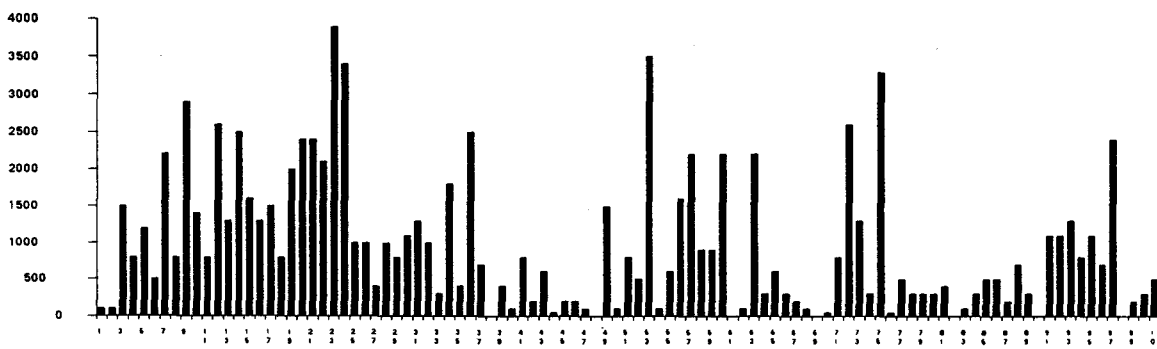
Manganese



Nickel



Phosphorus



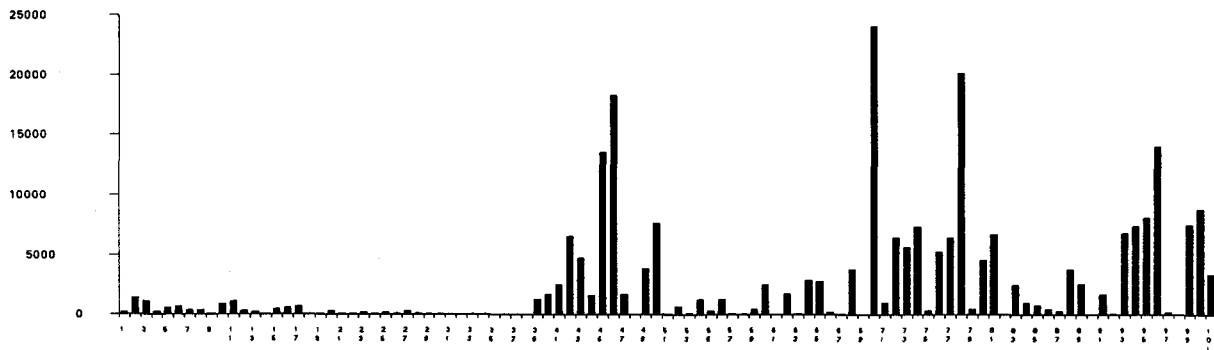
1 - 37 West Limb gossan
62 - 68 East Limb Adit-1
91 - 97 West Dome gossan

39 - 47 East Limb creek exposure
71 - 81 West Limb Pit-4
99 - 101 Fallows Field

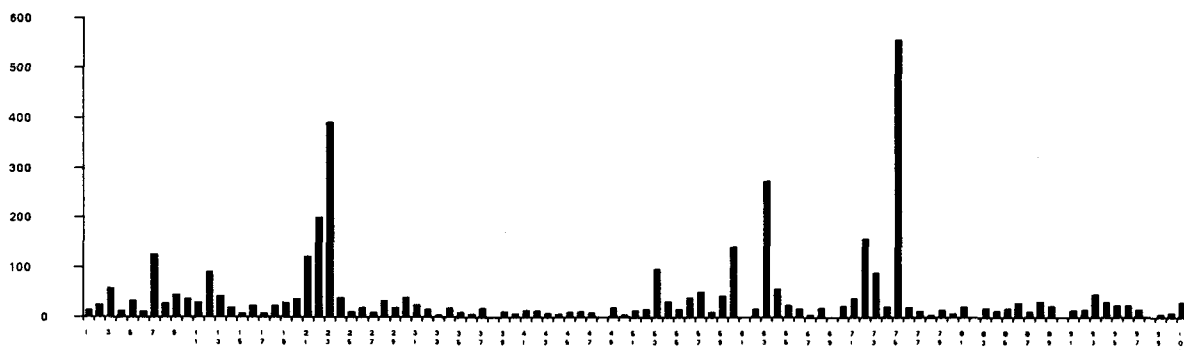
49 - 60 East Limb surface rocks
83 - 89 E-1 Reef

Appendix C Weathered rock and gossan - Summary Data

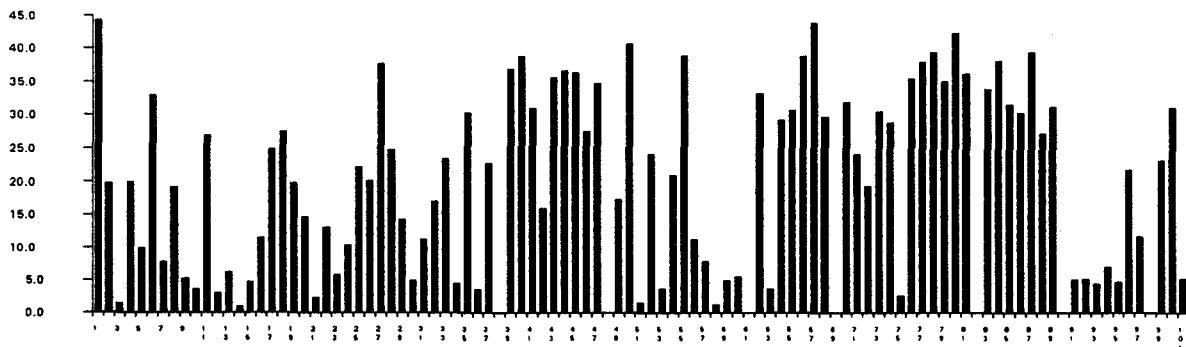
Potassium



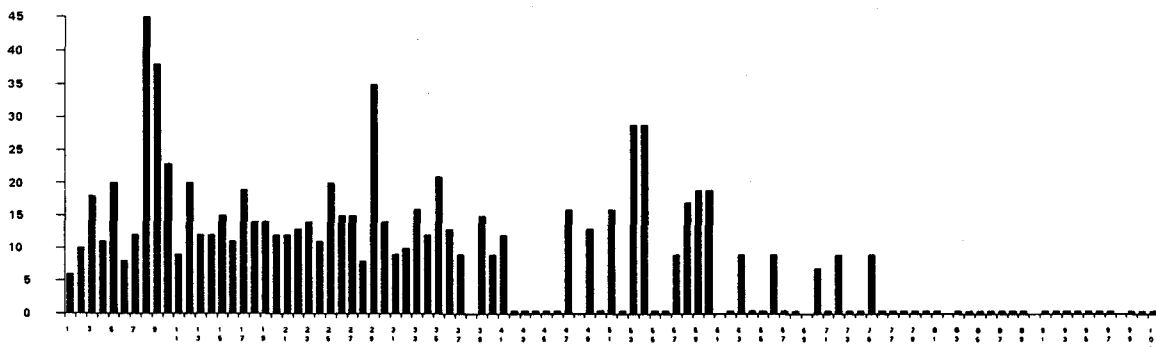
Scandium



Silicon



Silver



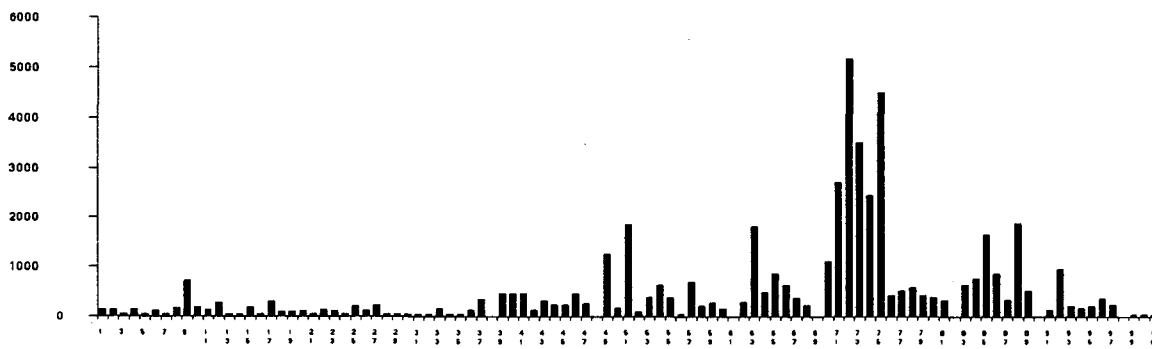
1 - 37 West Limb gossan
62 - 68 East Limb Adit-1
91 - 97 West Dome gossan

39 - 47 East Limb creek exposure
71 - 81 West Limb Pit-4
99 - 101 Fallows Field

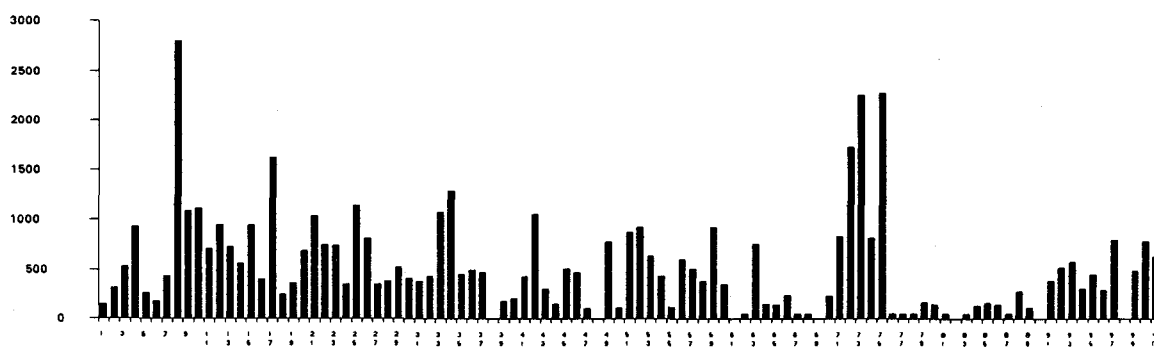
49 - 60 East Limb surface rocks
83 - 89 E-1 Reef

Appendix C Weathered rock and gossan - Summary Data

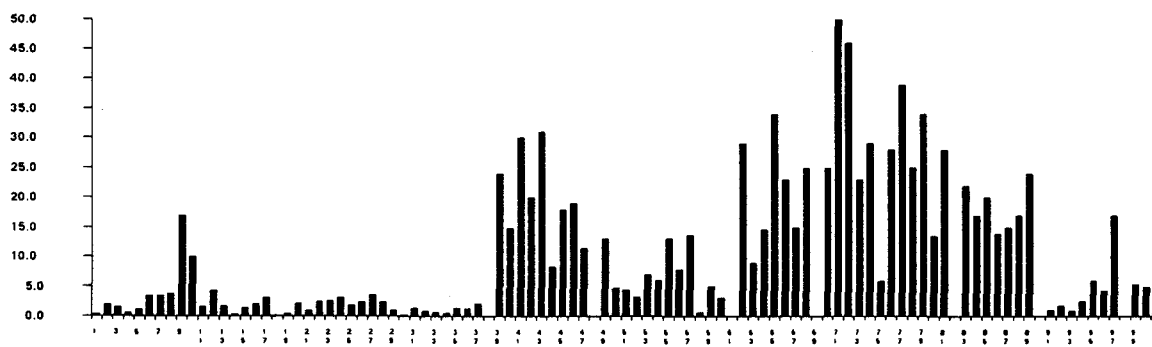
Sodium



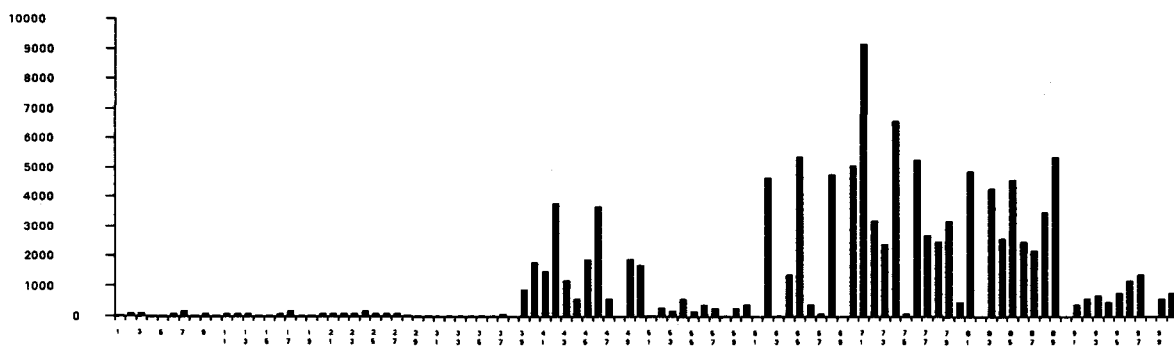
Sulfur



Thorium



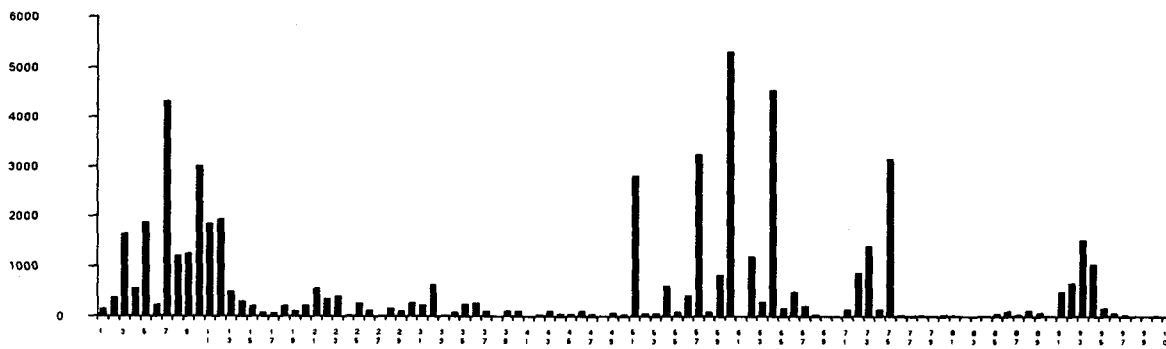
Titanium



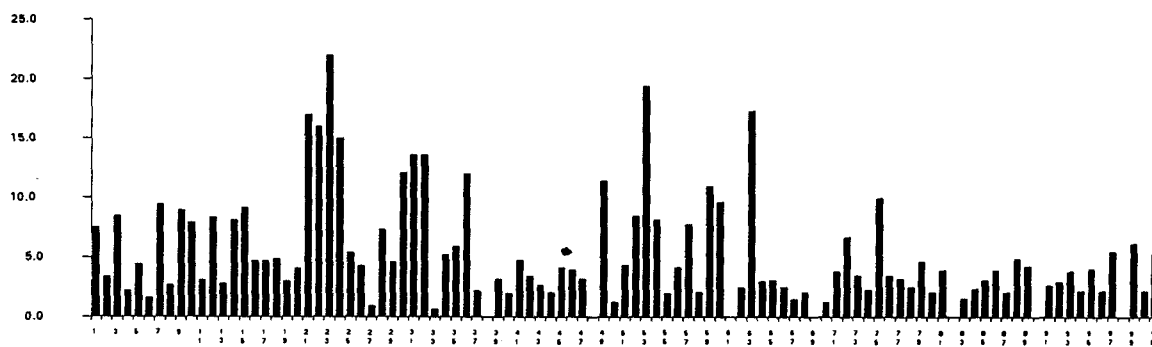
1 - 37 West Limb gossan	39 - 47 East Limb creek exposure	49 - 60 East Limb surface rocks
62 - 68 East Limb Adit-1	71 - 81 West Limb Pit-4	83 - 89 E-1 Reef
91 - 97 West Dome gossan	99 - 101 Fallows Field	

Appendix C Weathered rock and gossan - Summary Data

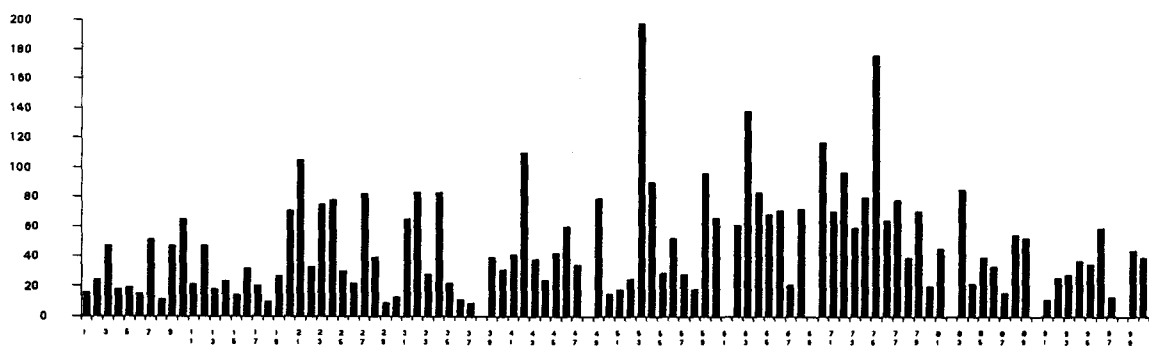
Tungsten



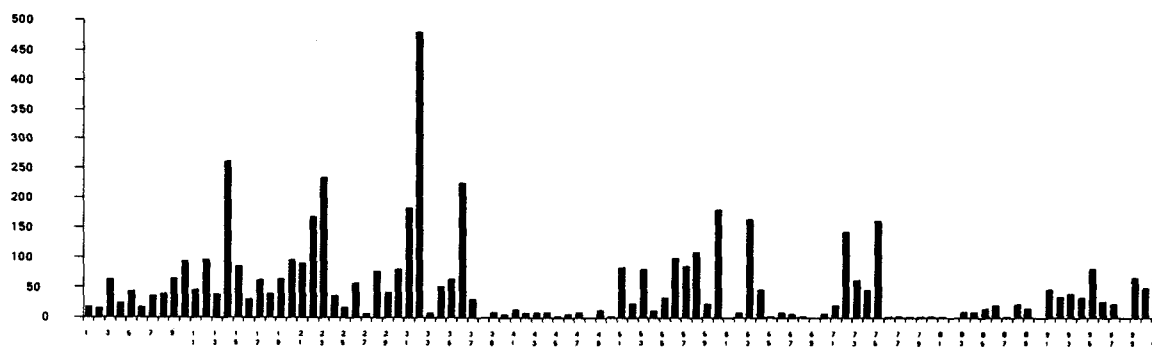
Uranium



Vanadium



Zinc

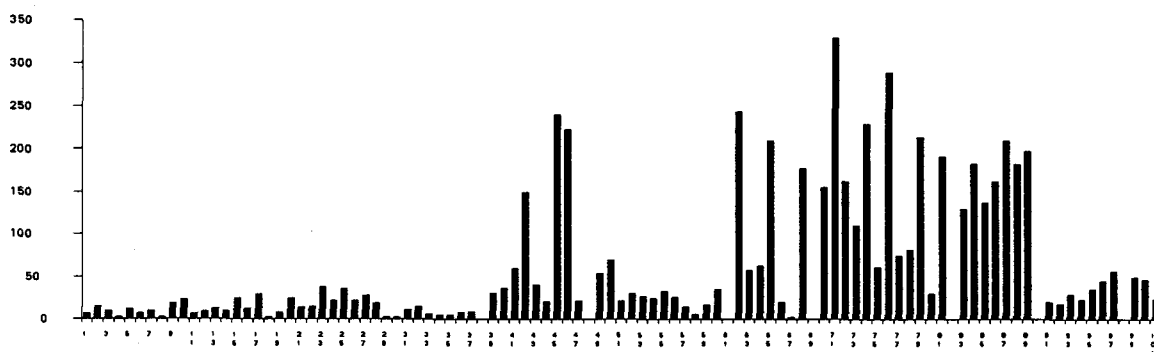


1 - 37 West Limb gossan	39 - 47 East Limb creek exposure	49 - 60 East Limb surface rocks
62 - 68 East Limb Adit-1	71 - 81 West Limb Pit-4	83 - 89 E-1 Reef
91 - 97 West Dome gossan	99 - 101 Fallows Field	

Appendix C

Weathered rock and gossan - Summary Data

Zirconium



1 - 37 West Limb gossan	39 - 47 East Limb creek exposure	49 - 60 East Limb surface rocks
62 - 68 East Limb Adit-1	71 - 81 West Limb Pit-4	83 - 89 E-1 Reef
91 - 97 West Dome gossan	99 - 101 Fallows Field	

APPENDIX C

CHART SEQUENCE 2

East Limb profile - 11940N RL 475, RL 450

reference:

Appendix B - Table 7

Elements shown:

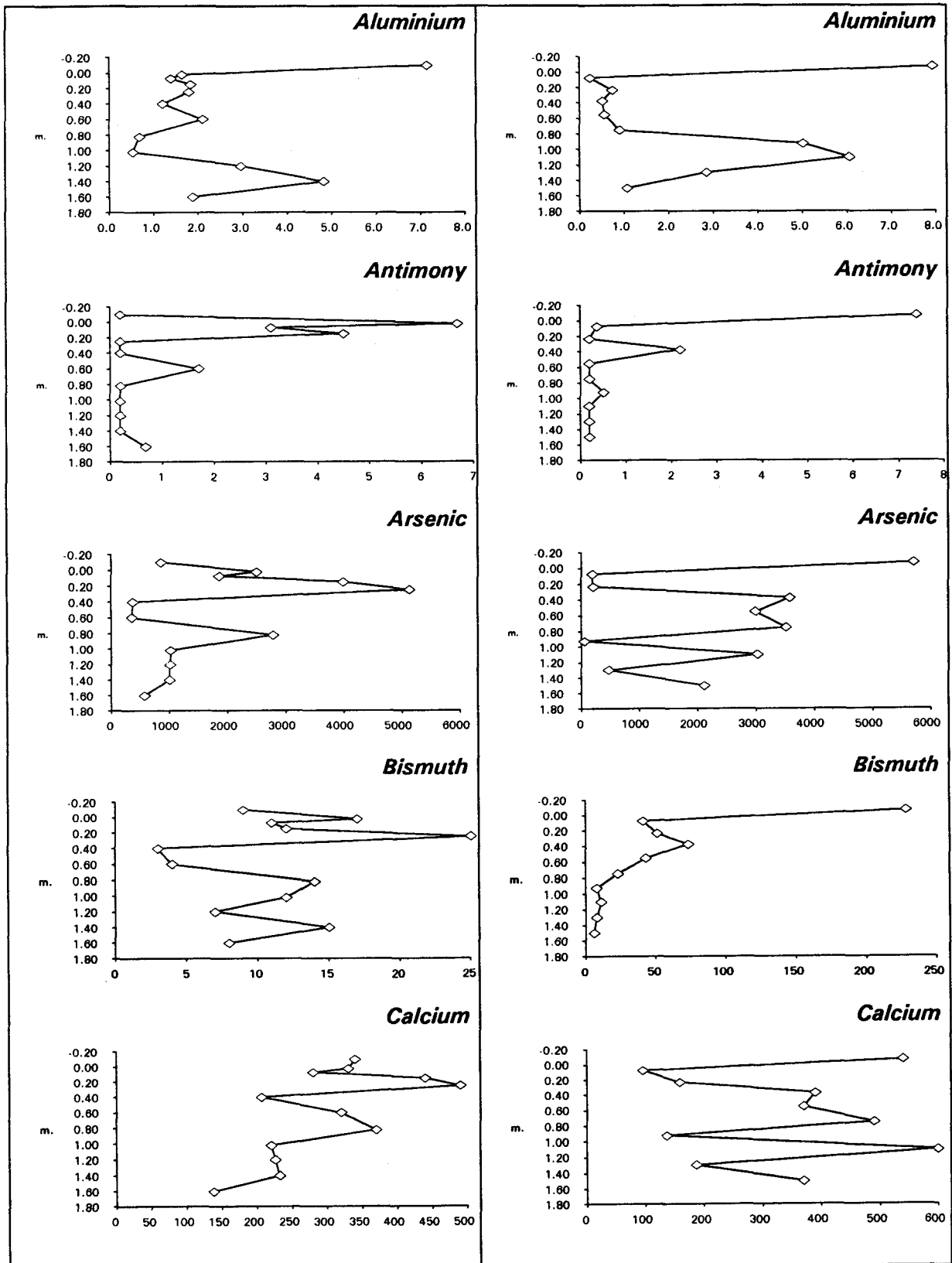
Ag	Ca	Fe	Na	S	Ti	Zn
Al	Ce	K		Sb	Th	Zr
As	Co	Mg	P	Sc	U	L.O.I.
Au	Cr	Mn	Pb	Si	V	
Bi	Cu				W	

Appendix C

East Limb profile 11940N

RL 450

RL 475

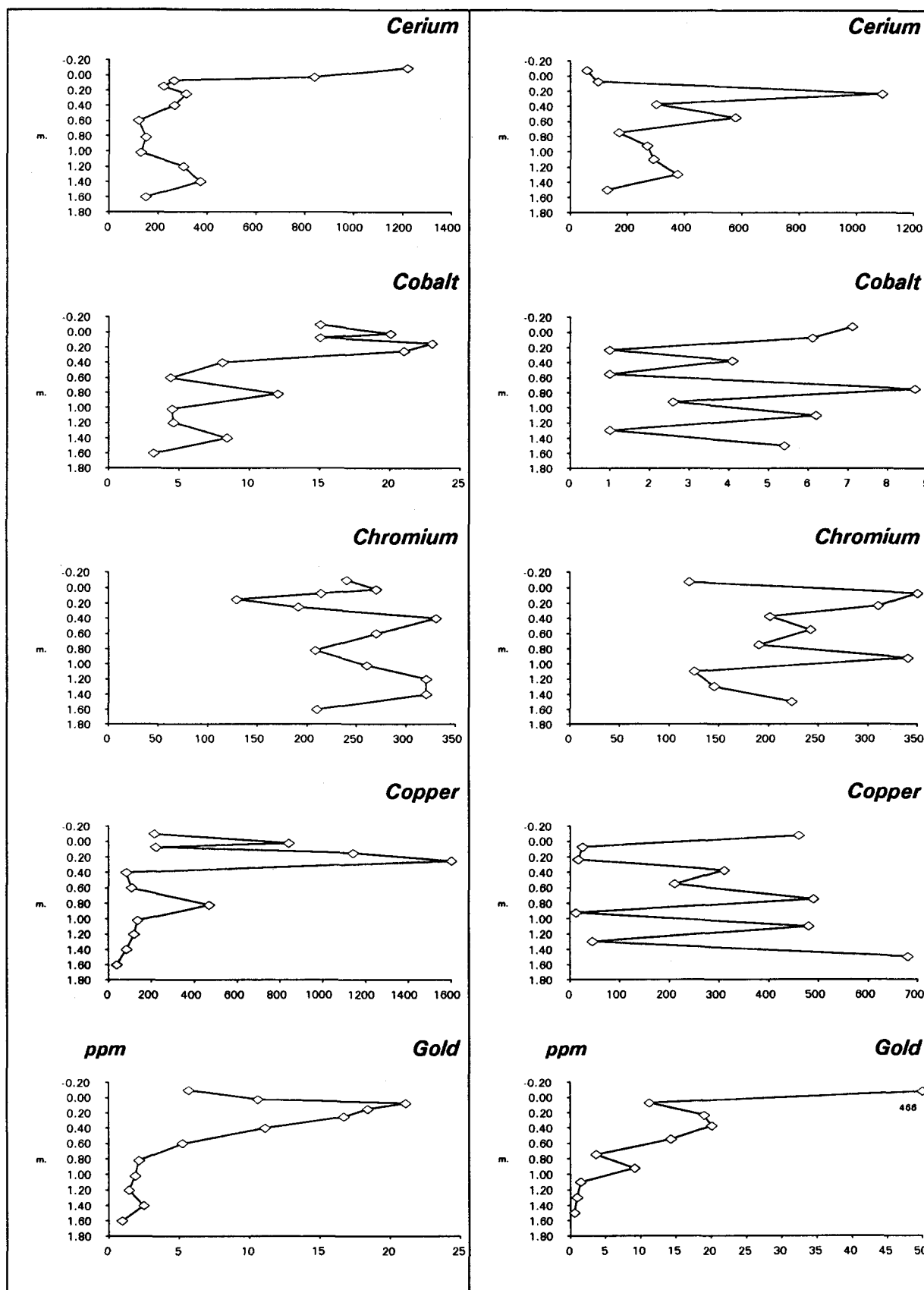


Appendix C

East Limb profile 11940N

RL 450

RL 475

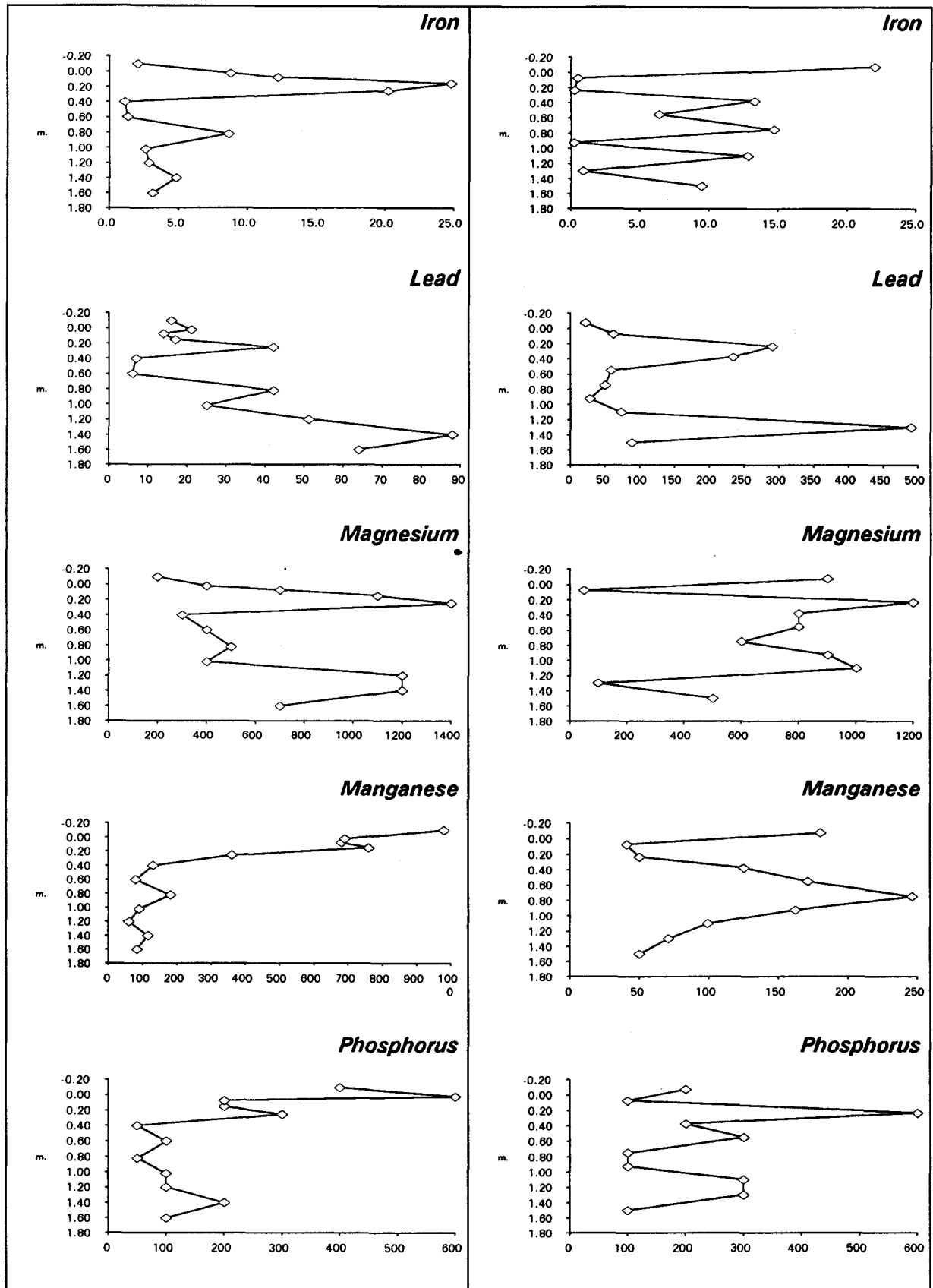


Appendix C

East Limb profile 11940N

RL 450

RL 475

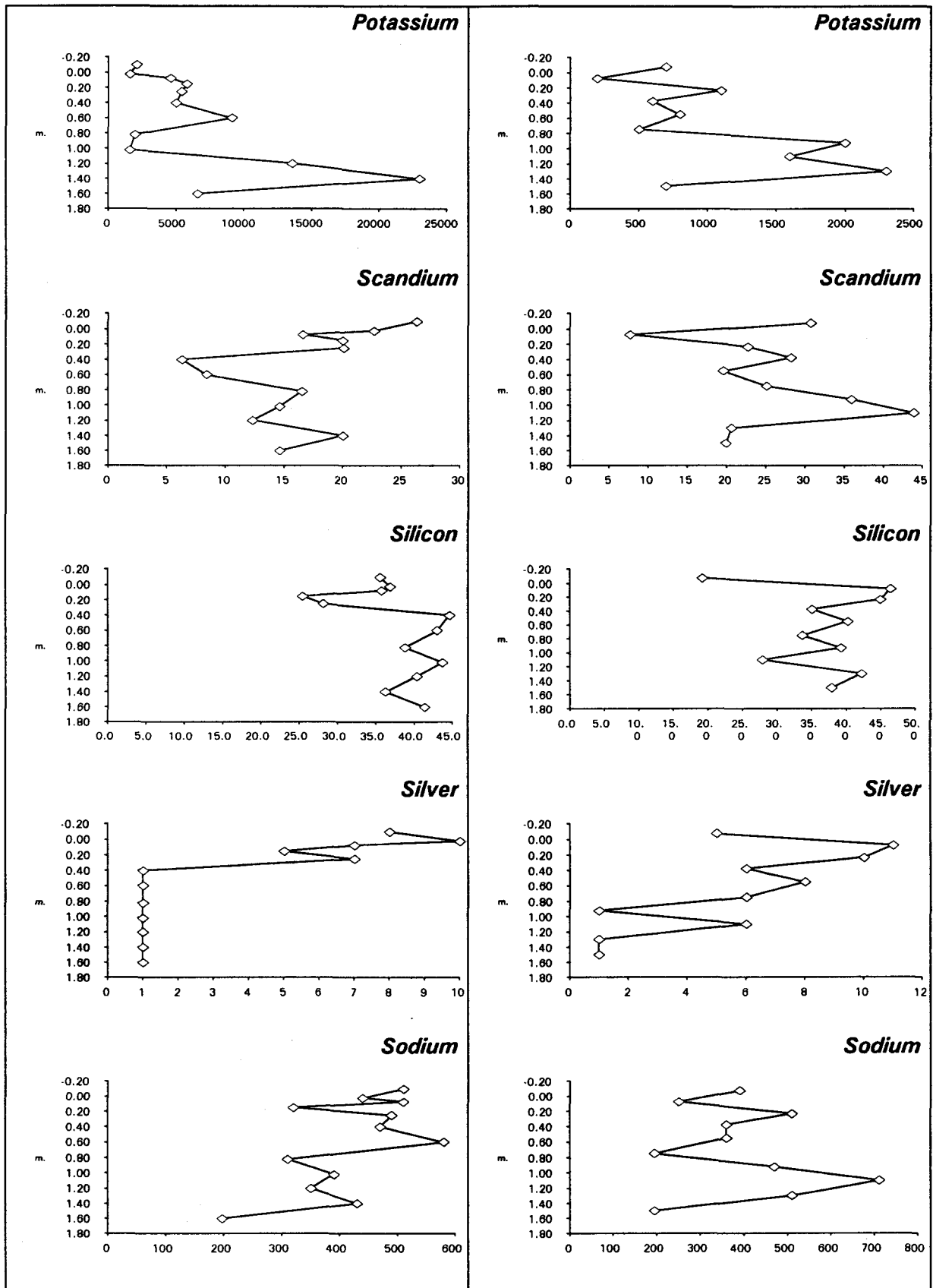


Appendix C

East Limb profile 11940N

RL 450

RL 475

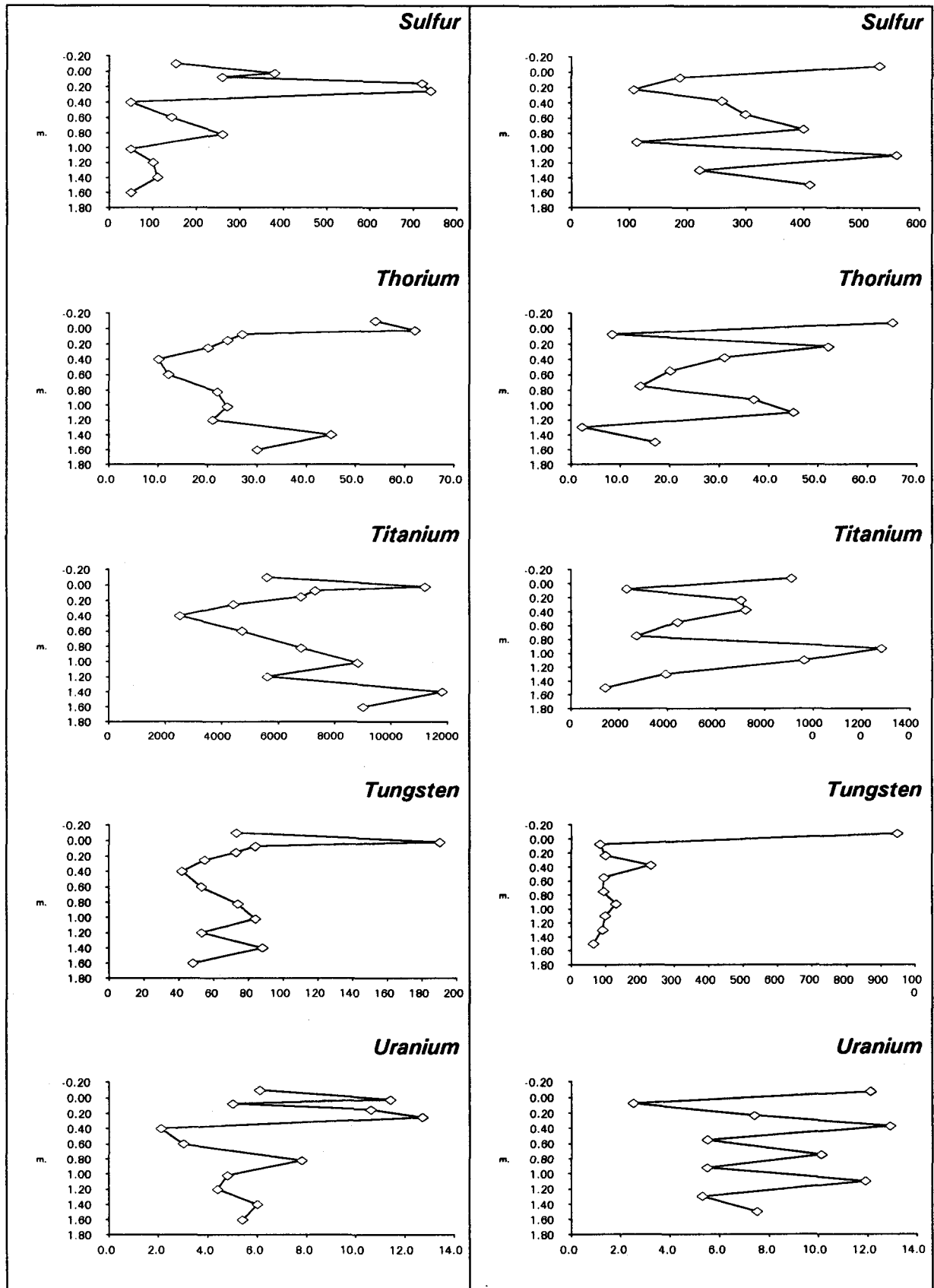


Appendix C

East Limb profile 11940N

RL 450

RL 475

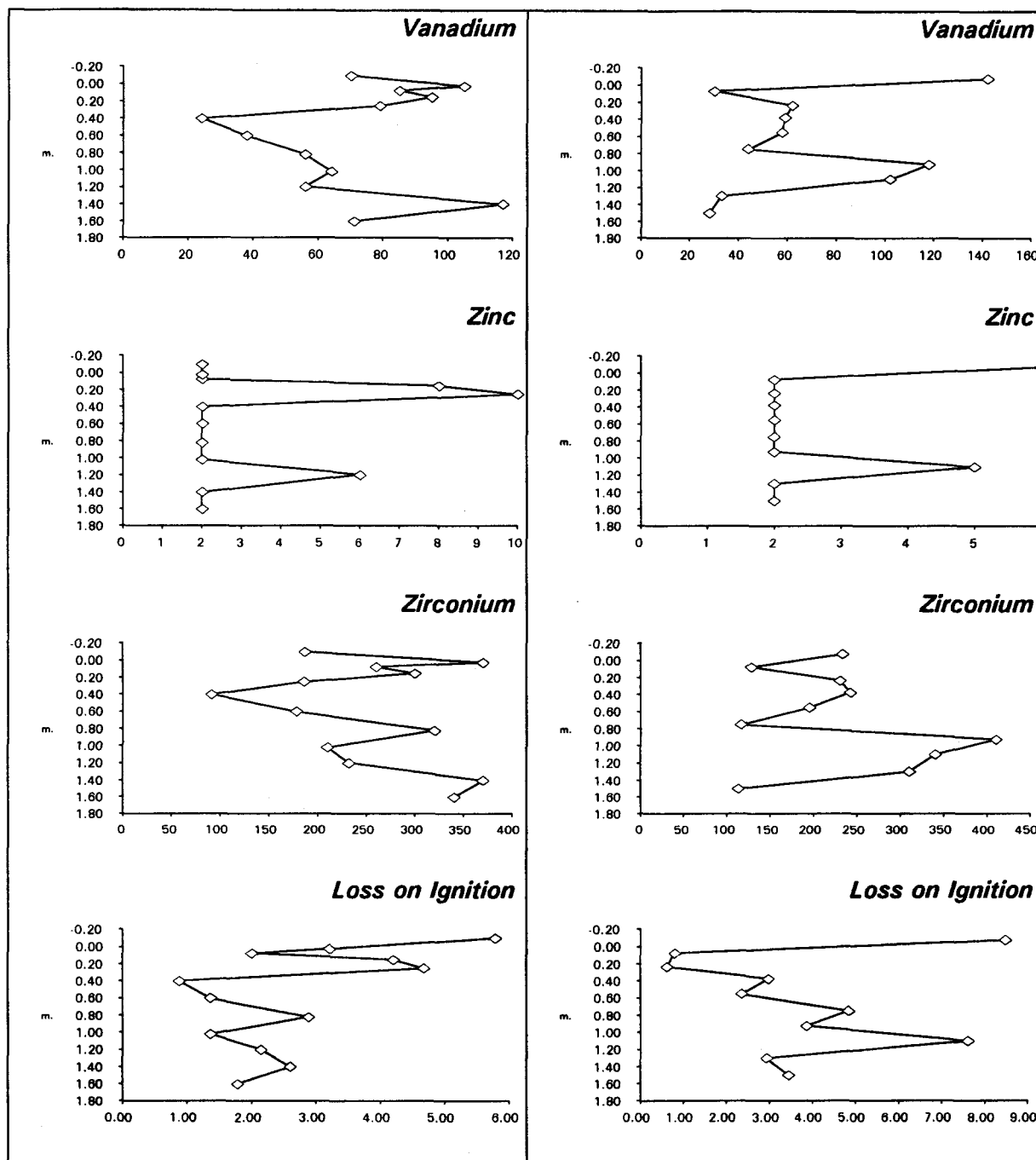


Appendix C

East Limb profile 11940N

RL 450

RL 475



APPENDIX C

CHART SEQUENCE 3

East Limb profile - 11350N RL 525, RL 455

reference:

Appendix B - Table 4

Elements shown:

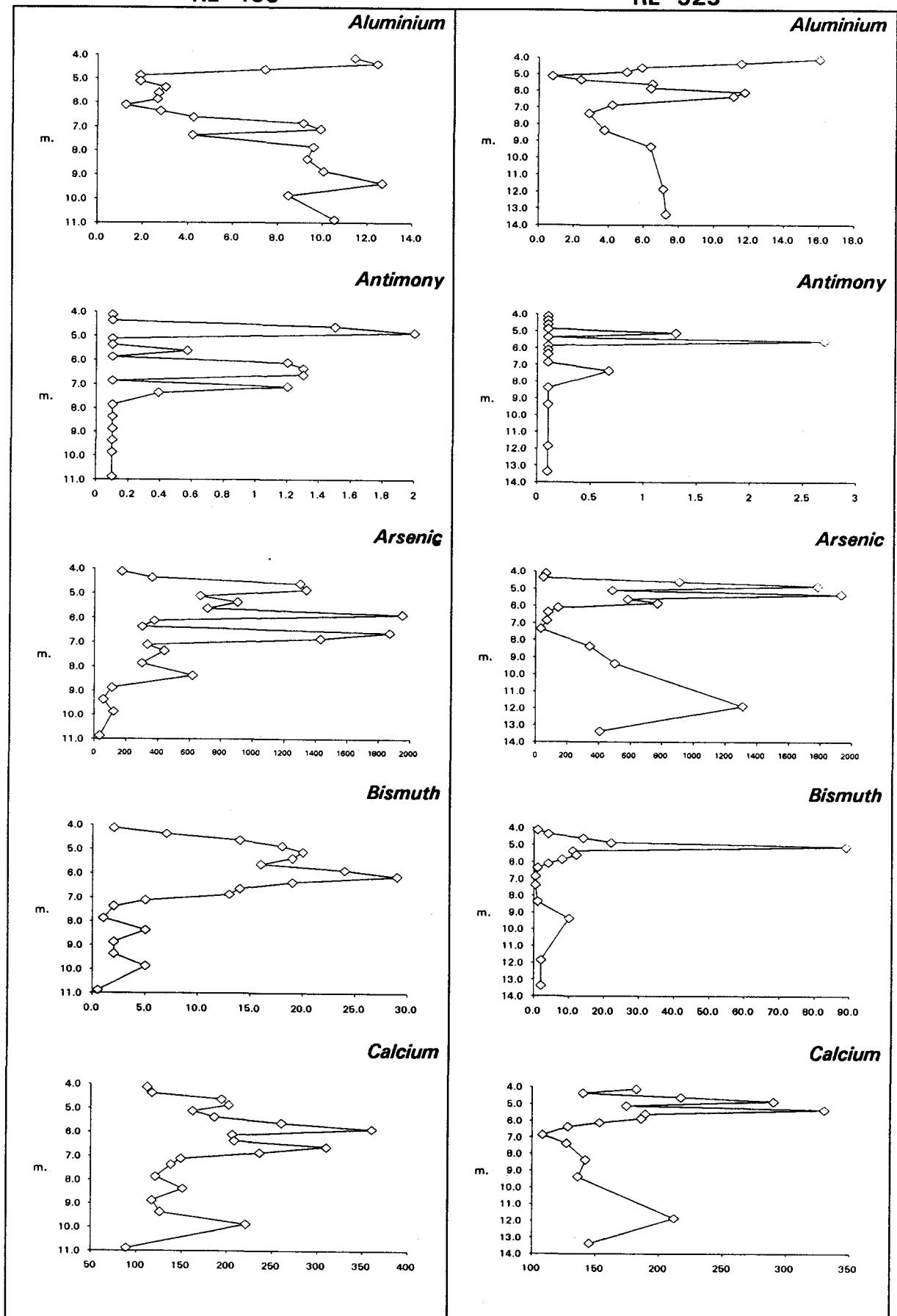
	Ca	Fe	Na	S	Ti	Zn
Al	Ce	K		Sb	Th	Zr
As	Co	Mg	P	Sc	U	L.O.I.
Au	Cr	Mn	Pb	Si	V	
Bi	Cu				W	

Appendix C

East Limb profile 11350N

RL 455

RL 525

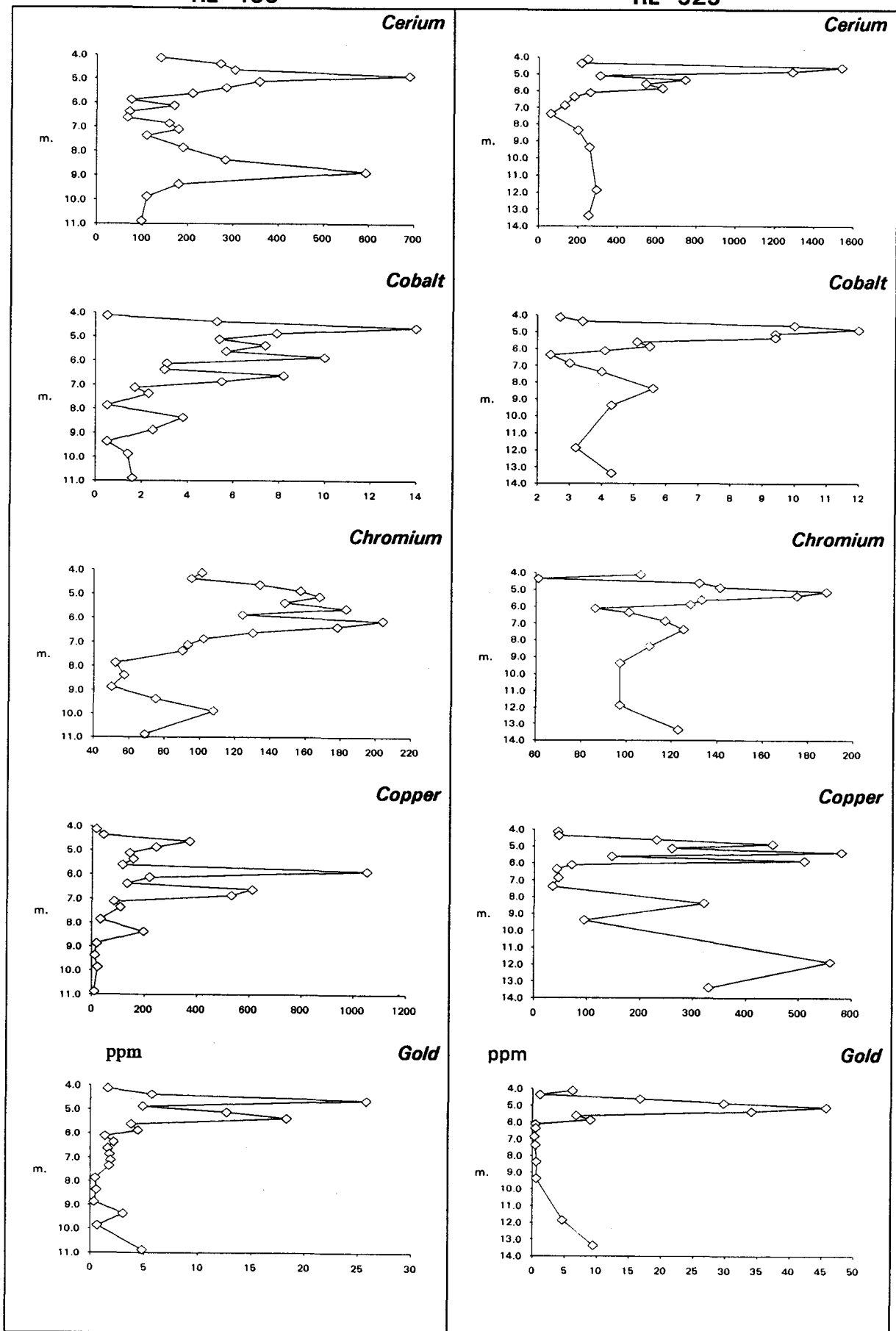


Appendix C

East Limb profile 11350N

RL 455

RL 525

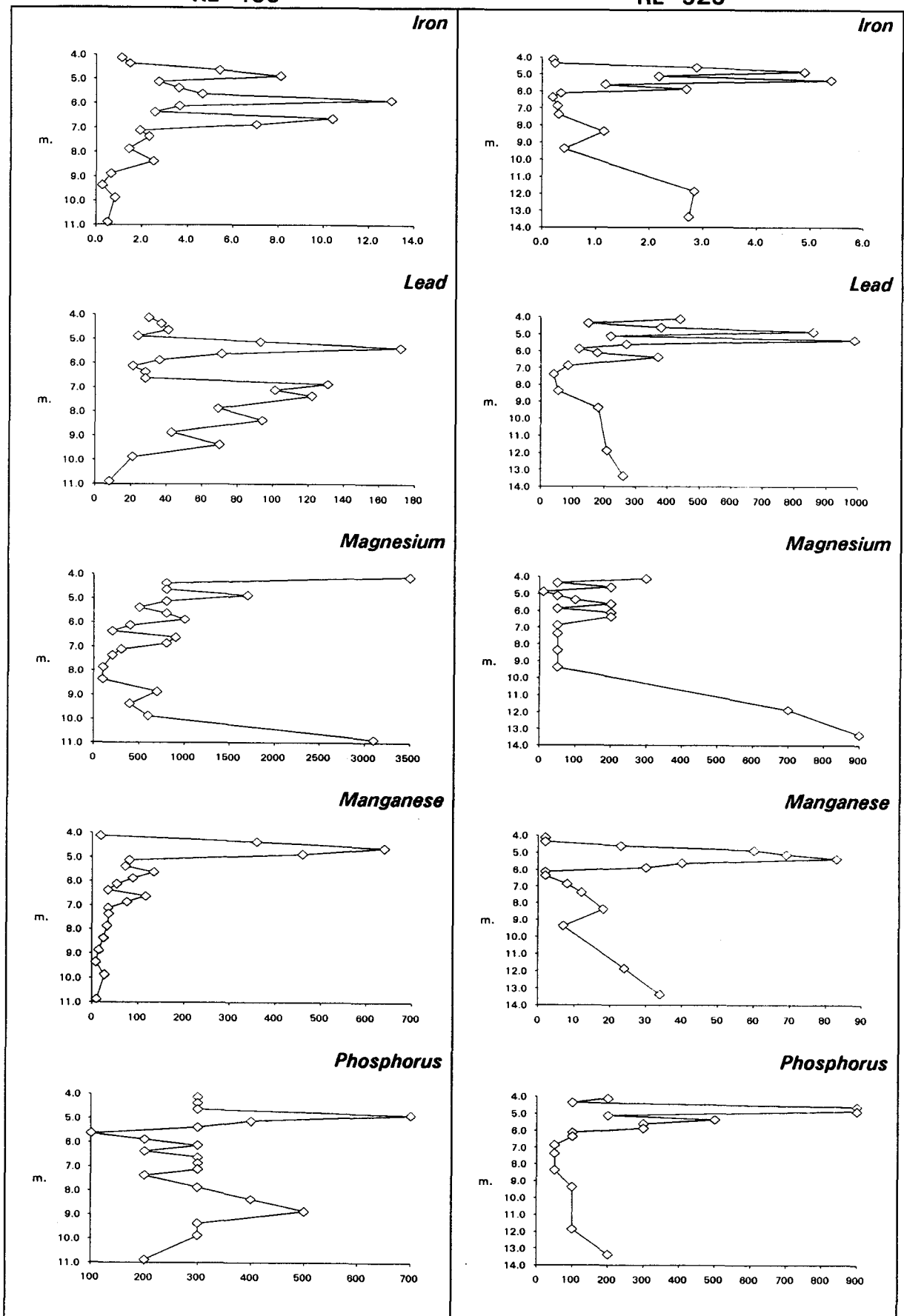


Appendix C

East Limb profile 11350N

RL 455

RL 525

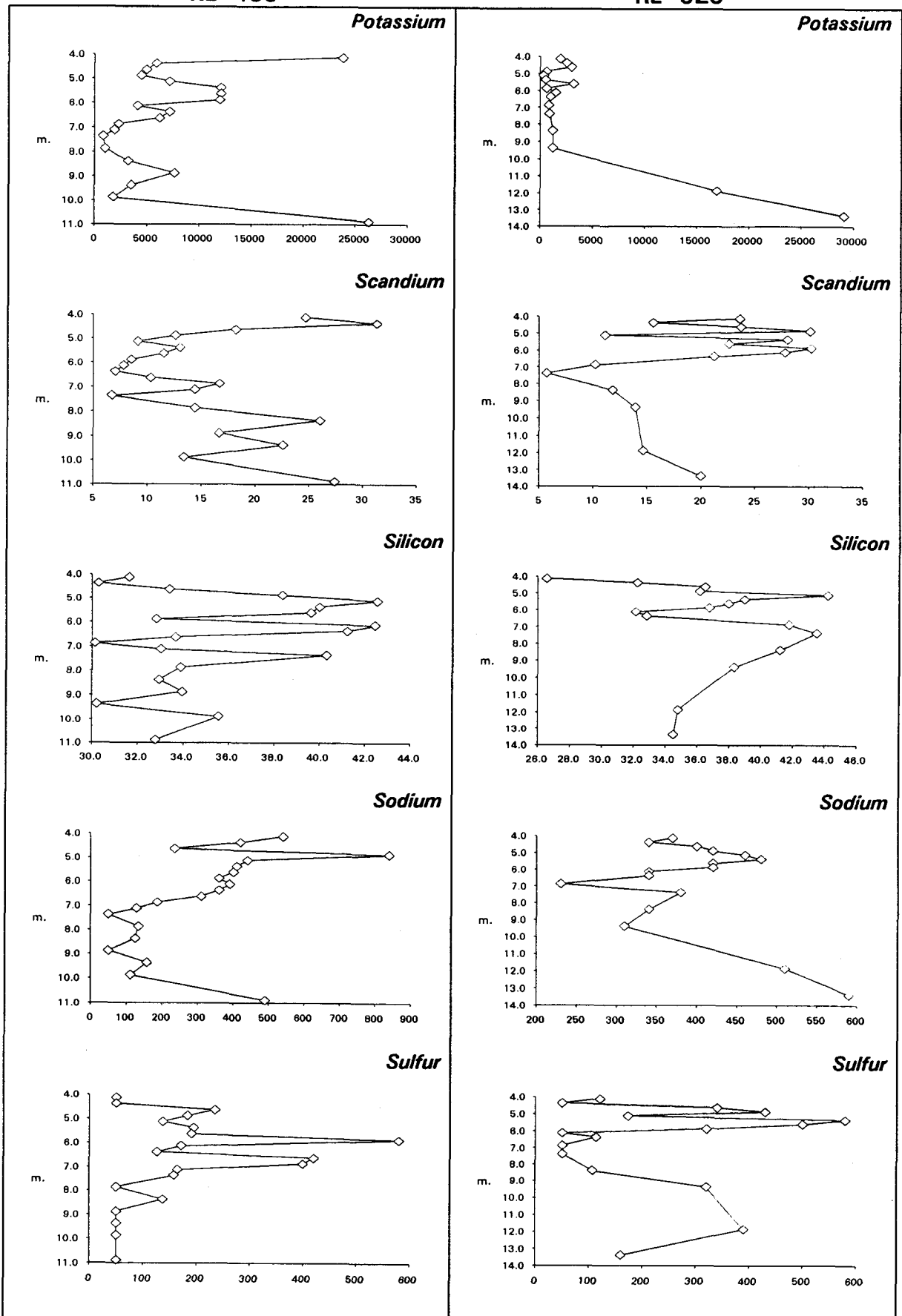


Appendix C

East Limb profile 11350N

RL 455

RL 525

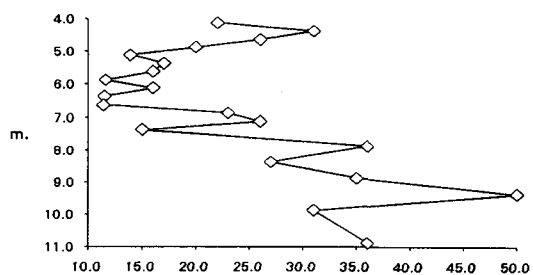


Appendix C

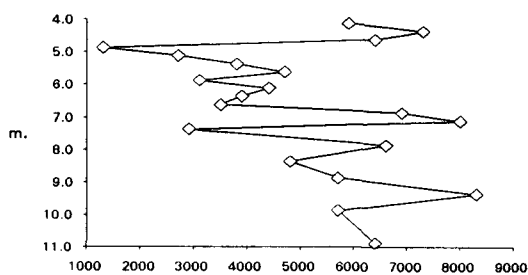
East Limb profile 11350N

RL 455

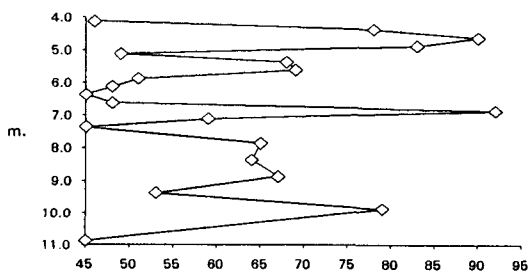
Thorium



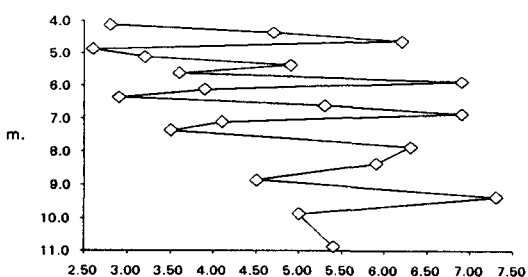
Titanium



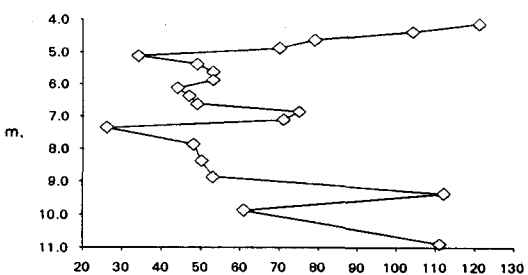
Tungsten



Uranium

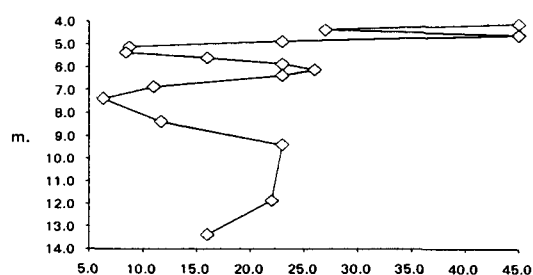


Vanadium

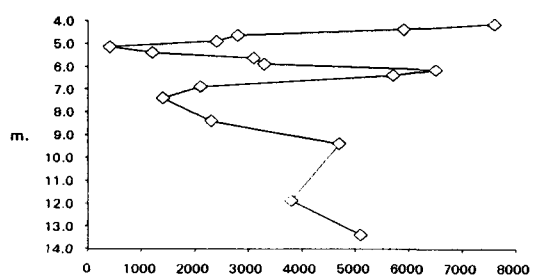


RL 525

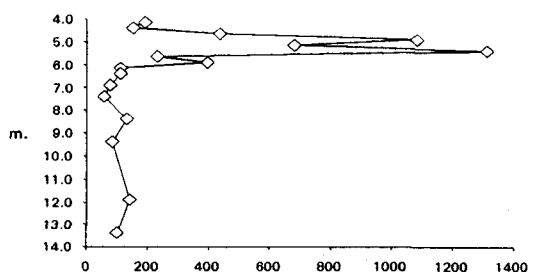
Thorium



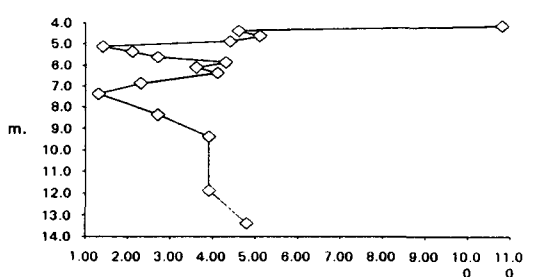
Titanium



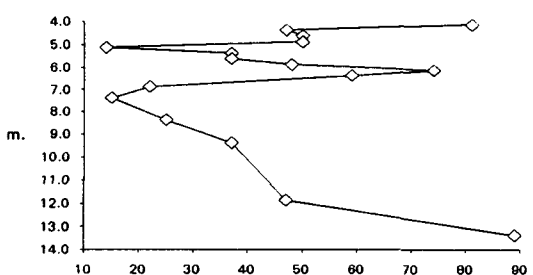
Tungsten



Uranium

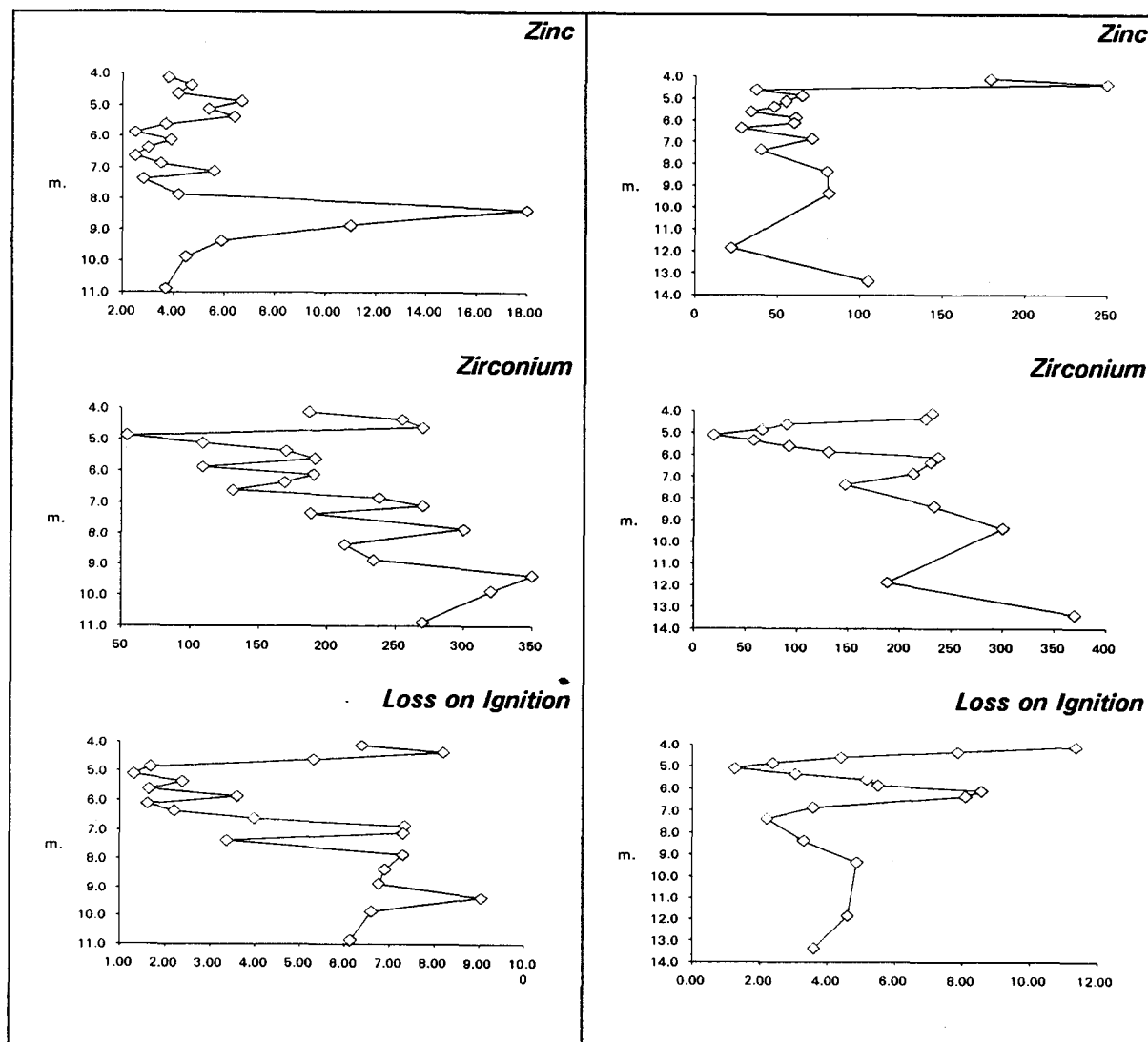


Vanadium



RL 455

RL 525



APPENDIX C

CHART SEQUENCE 4

East Limb profile 11450N RL 505

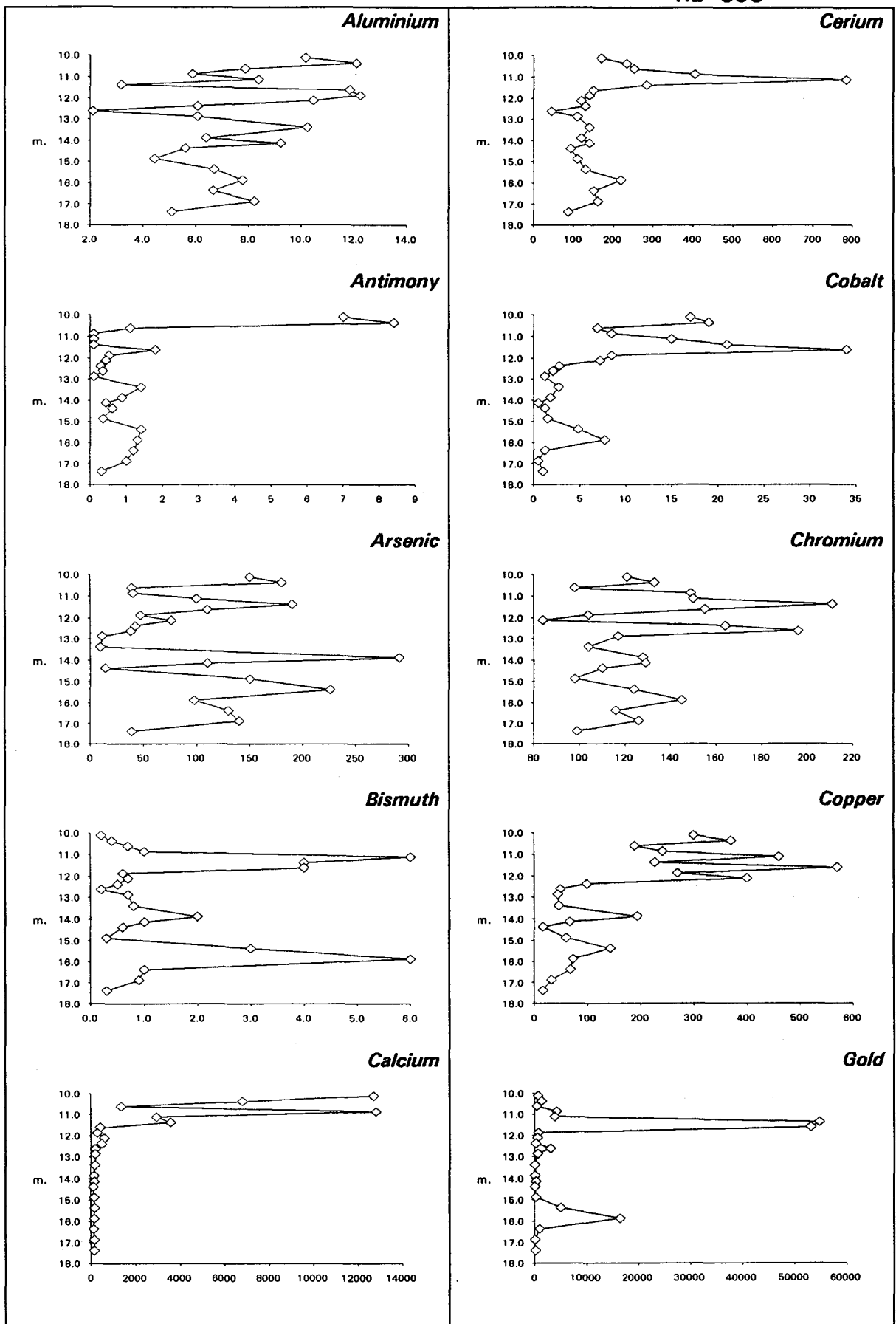
reference:

Appendix B - Table 5

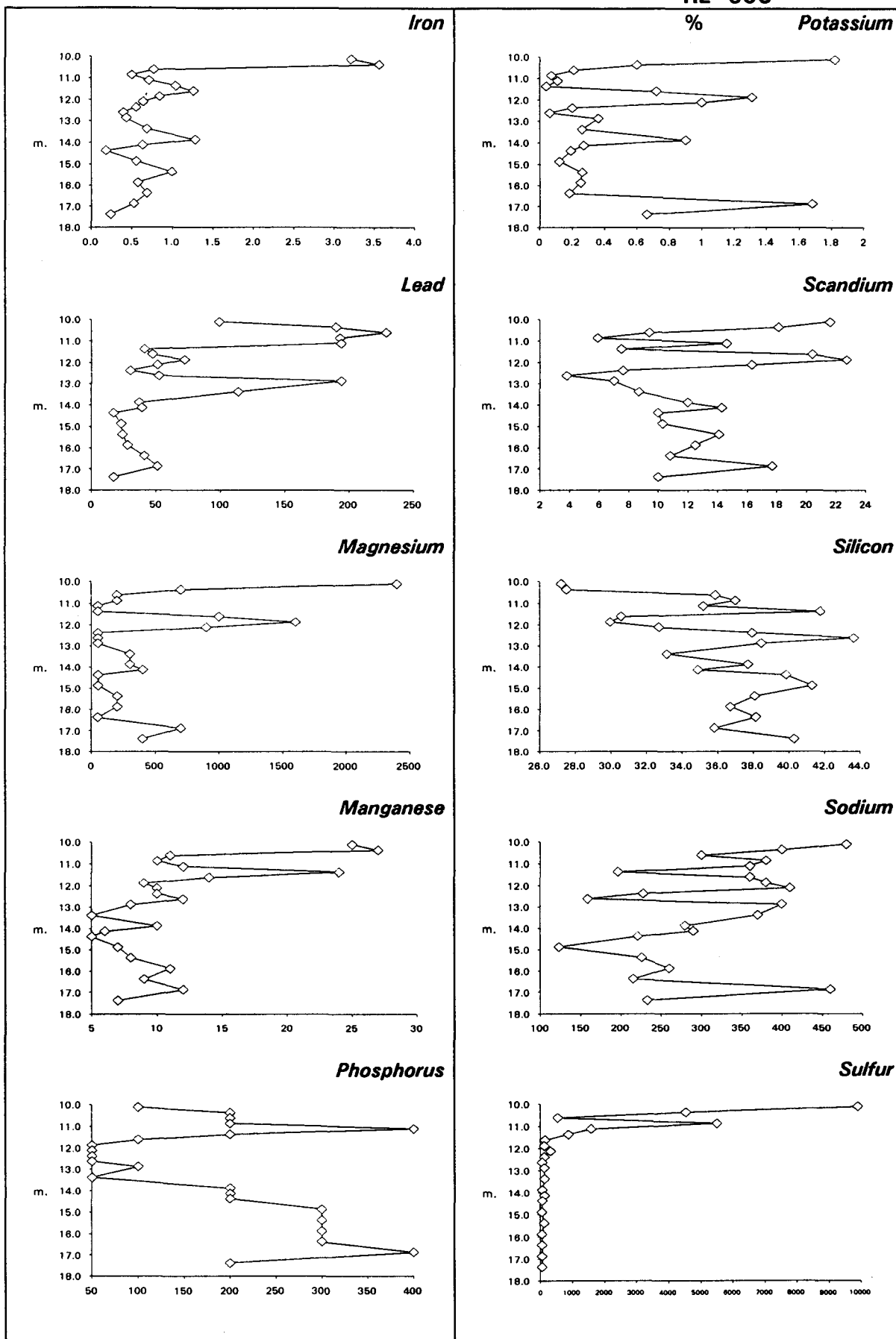
Elements shown:

	Ca	Fe	Na	S	Ti	Zn
Al	Ce	K		Sb	Th	Zr
As	Co	Mg	P	Sc	U	L.O.I.
Au	Cr	Mn	Pb	Si	V	
Bi	Cu				W	

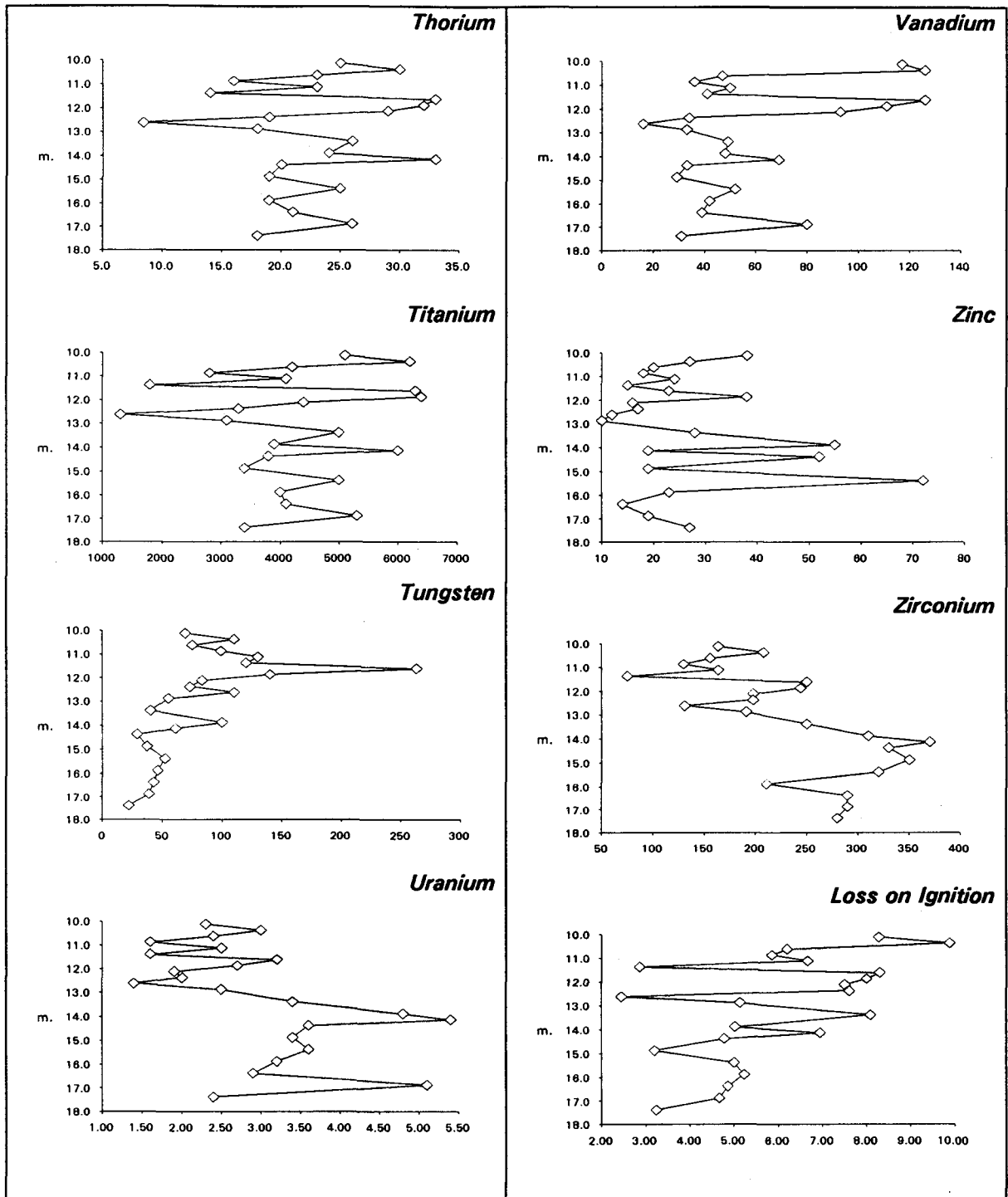
Appendix C
East Limb profile 11450N
RL 505



Appendix C
East Limb profile 11450N
RL 505



Appendix C
East Limb profile 11450N
RL 505



APPENDIX C

CHART SEQUENCE 5

East Limb profile 11650N RL 505

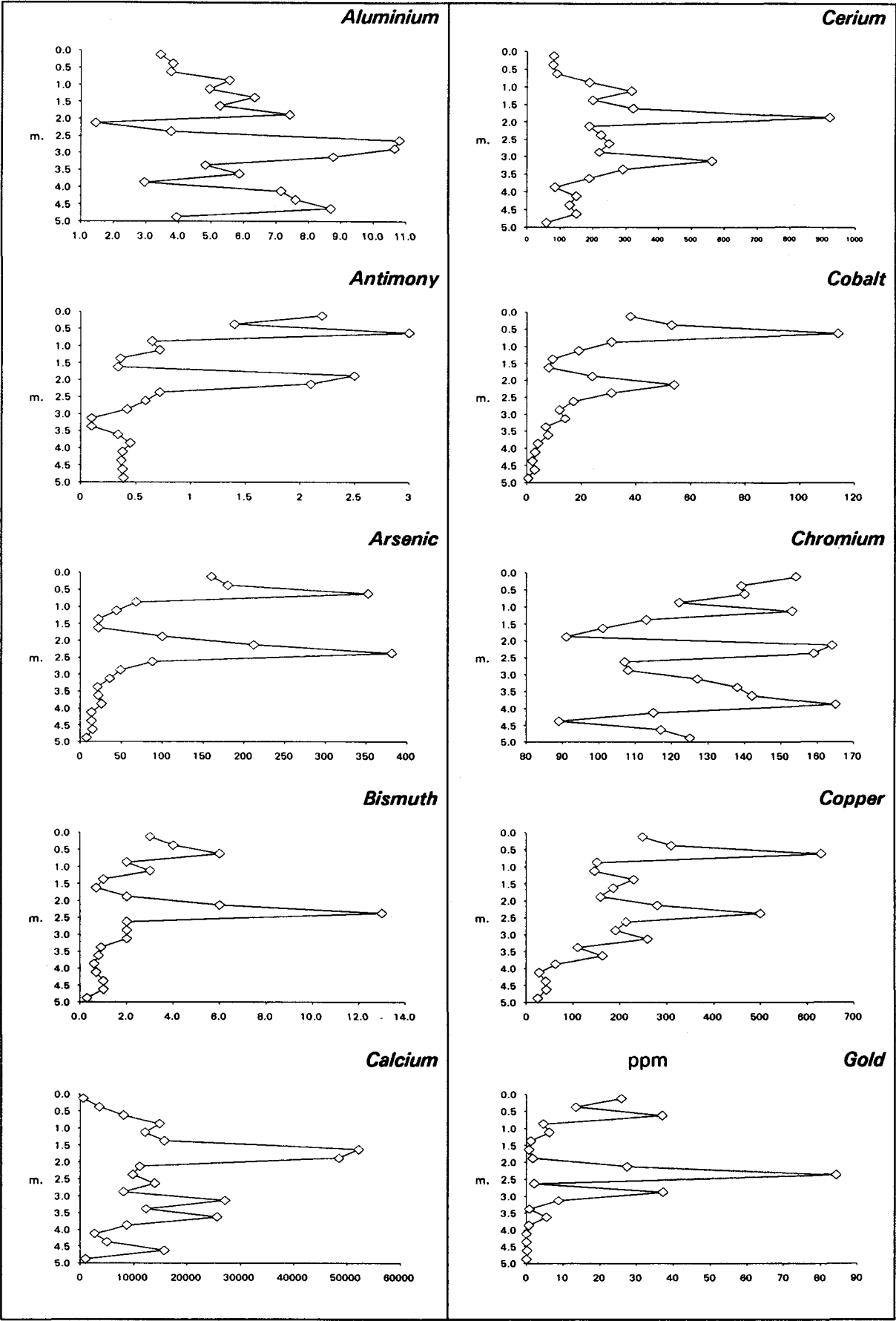
reference:

Appendix B - Table 6

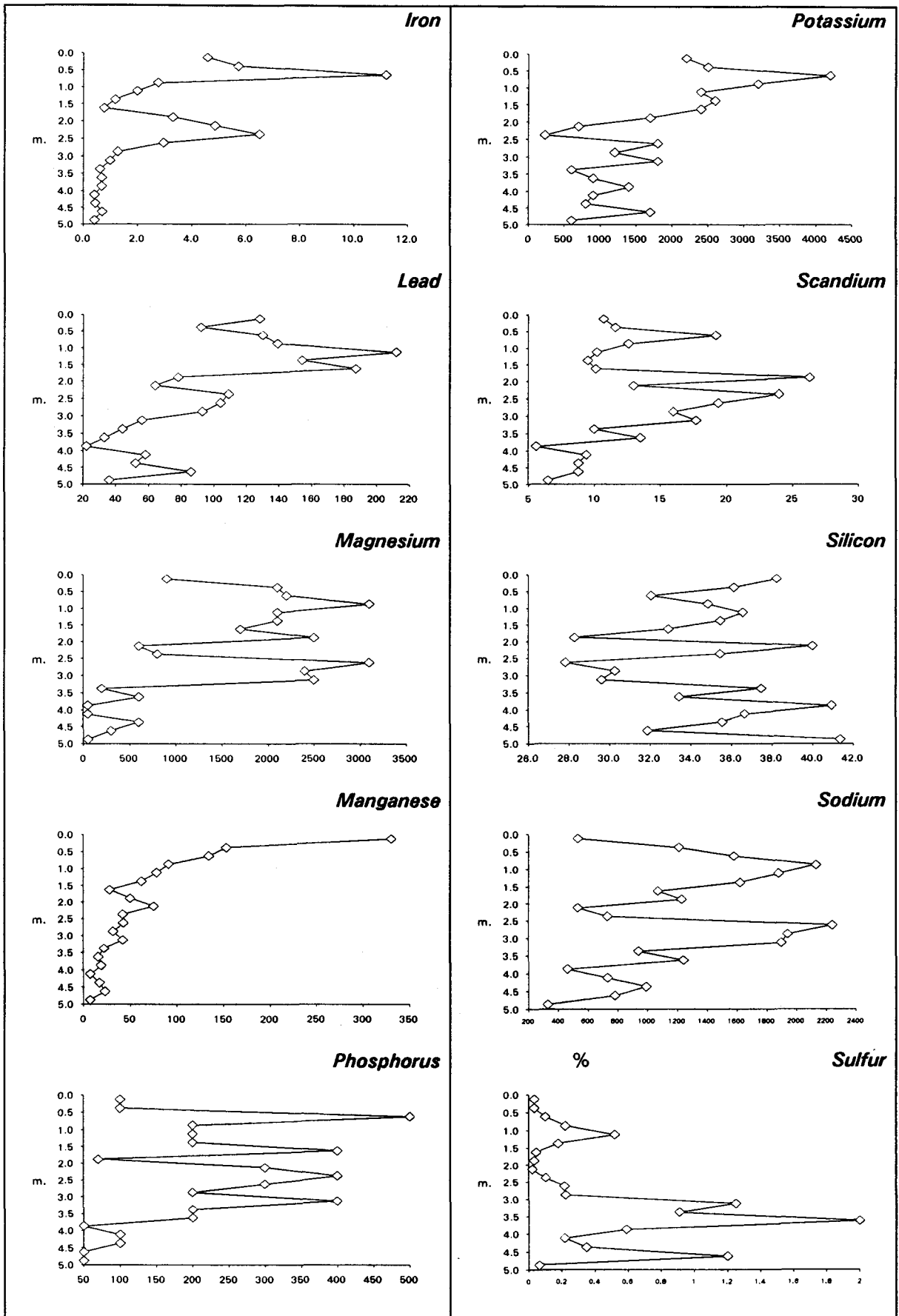
Elements shown:

	Ca	Fe	Na	S	Ti	Zn
Al	Ce	K		Sb	Th	Zr
As	Co	Mg	P	Sc	U	L.O.I.
Au	Cr	Mn	Pb	Si	V	
Bi	Cu				W	

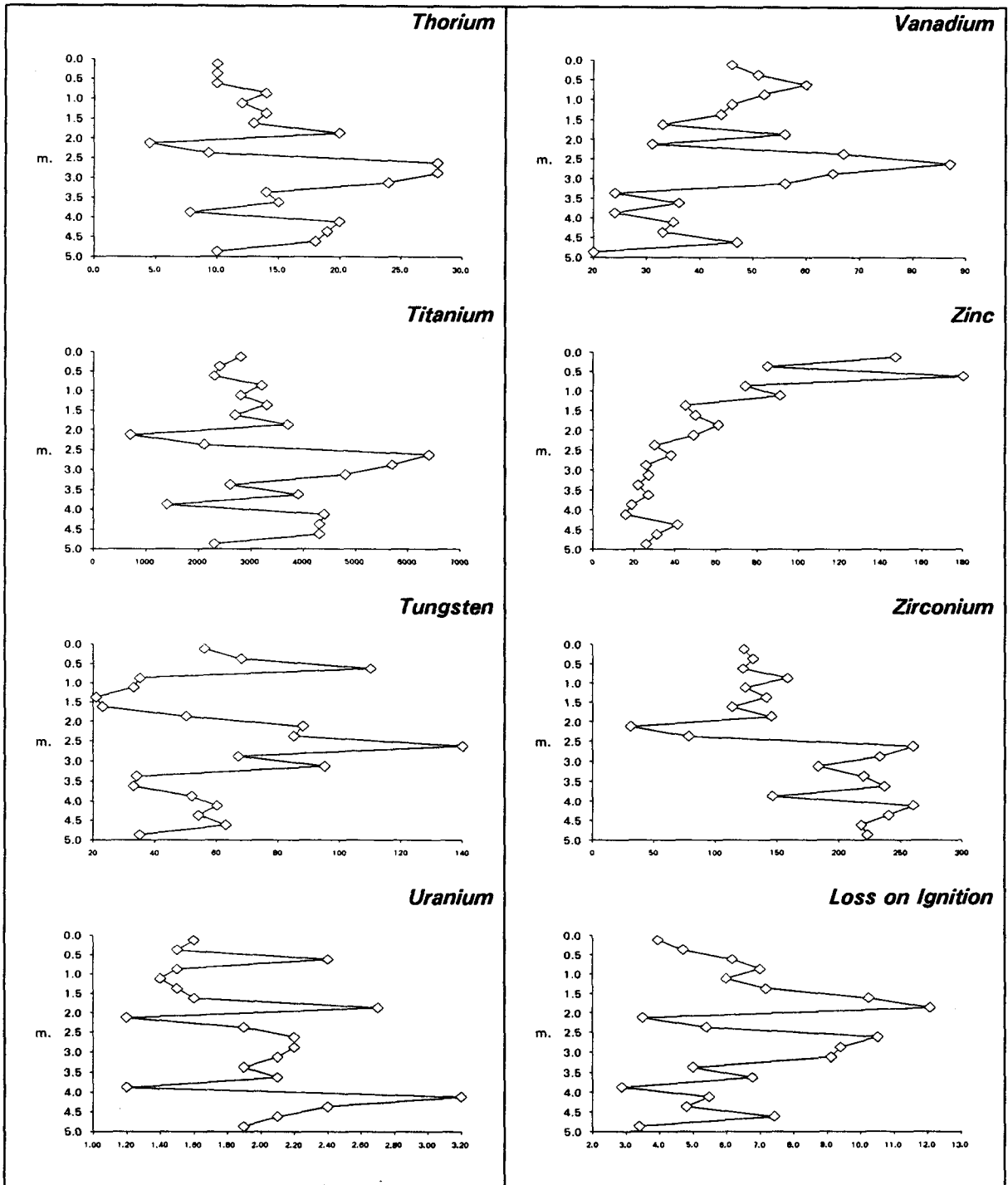
Appendix C
East Limb profile 11650N
RL 510



Appendix C
East Limb profile 11650N
RL 510



Appendix C
East Limb profile 11650N
RL 510



APPENDIX C

CHART SEQUENCE 6

West Limb profile WL 554, WL 556

reference:

Appendix B - Table 8

Elements shown:

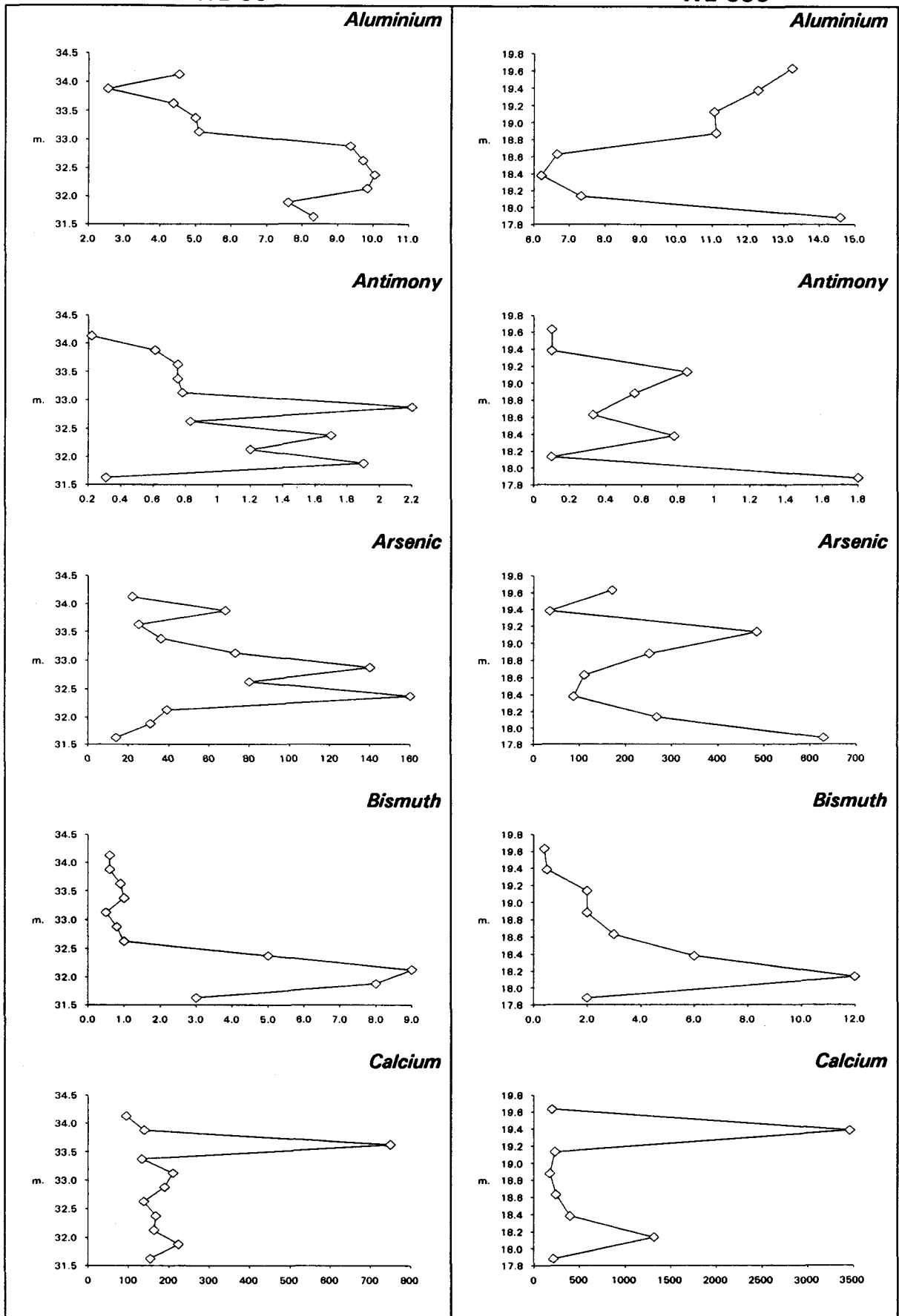
	Ca	Fe	Na	S	Ti	Zn
Al	Ce	K		Sb	Th	Zr
As	Co	Mg	P	Sc	U	L.O.I.
Au	Cr	Mn	Pb	Si	V	
Bi	Cu				W	

Appendix C

West Limb profile WL 554, WL 556

WL 554

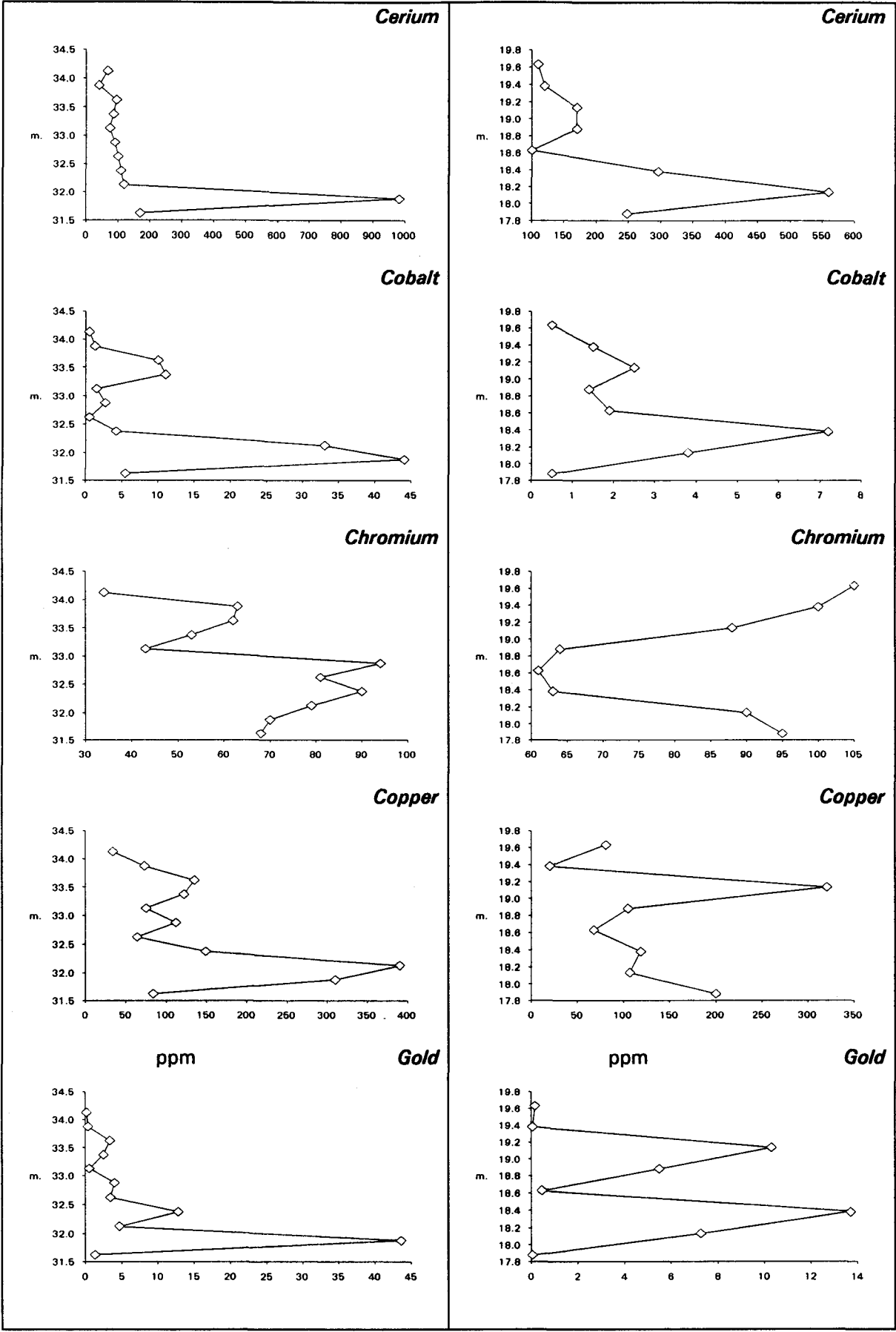
WL 556



Appendix C **West Limb profile WL 554, WL 556**

WL 554

WL 556

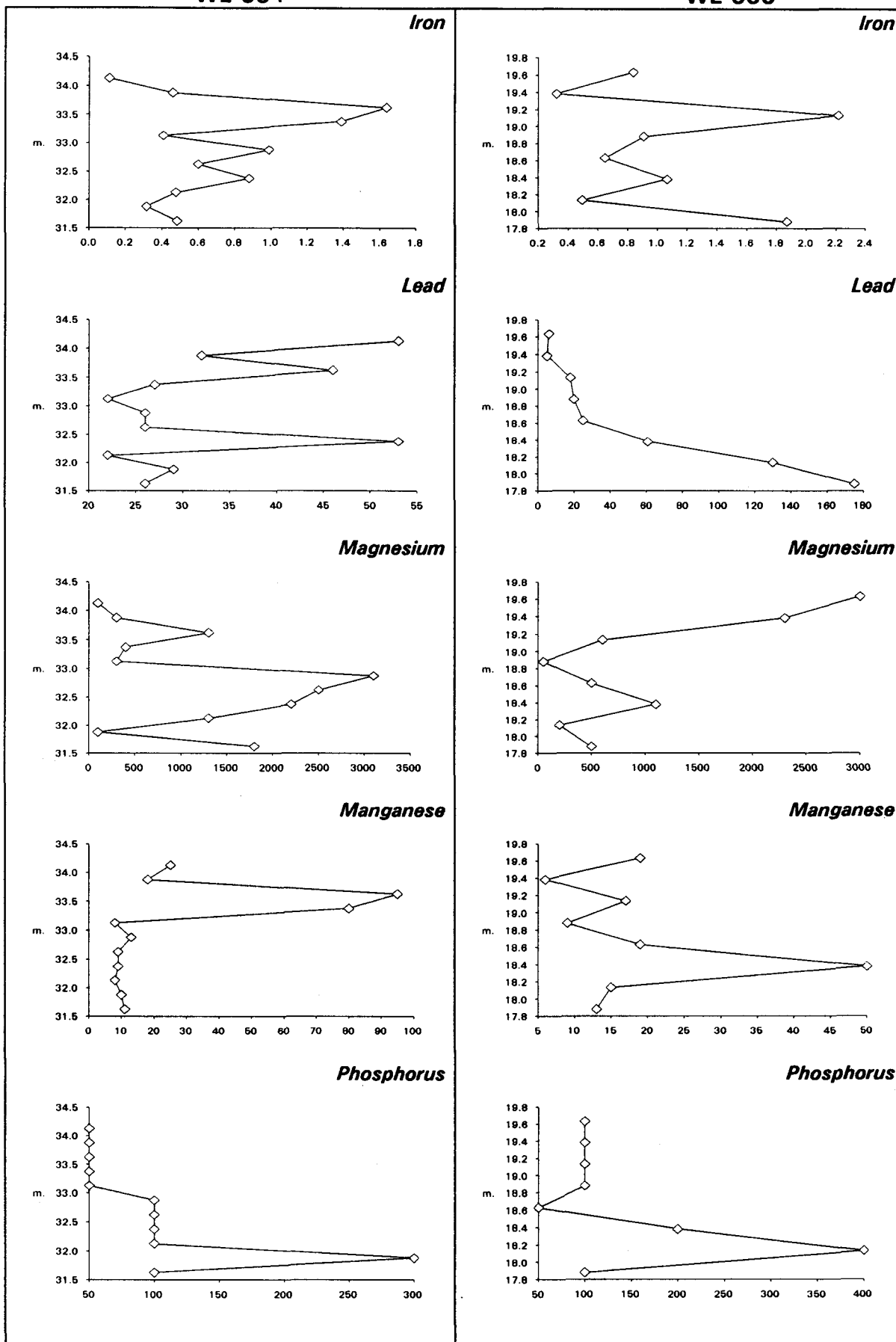


Appendix C

West Limb profile WL 554, WL 556

WL 554

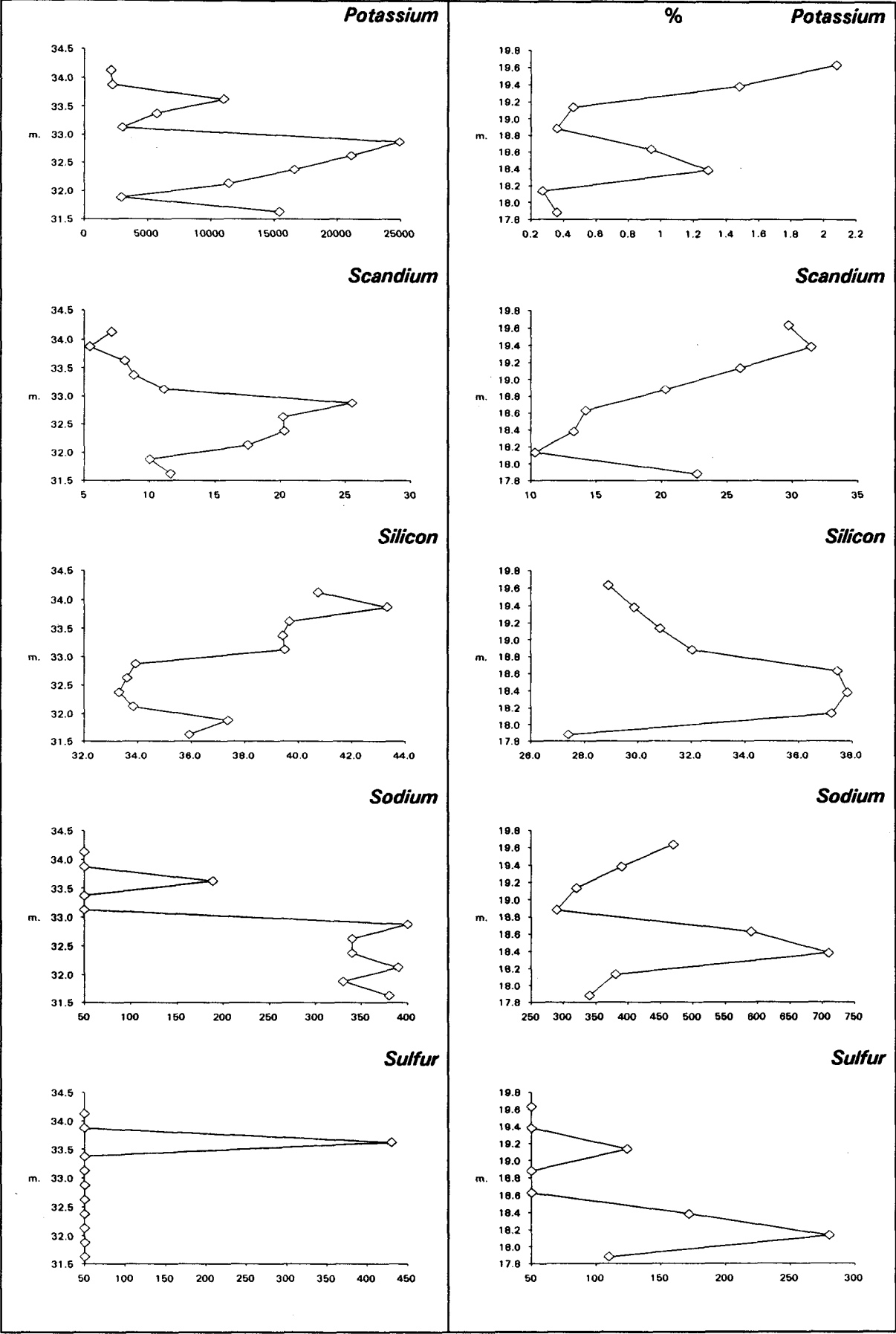
WL 556



Appendix C West Limb profile WL 554, WL 556

WL 554

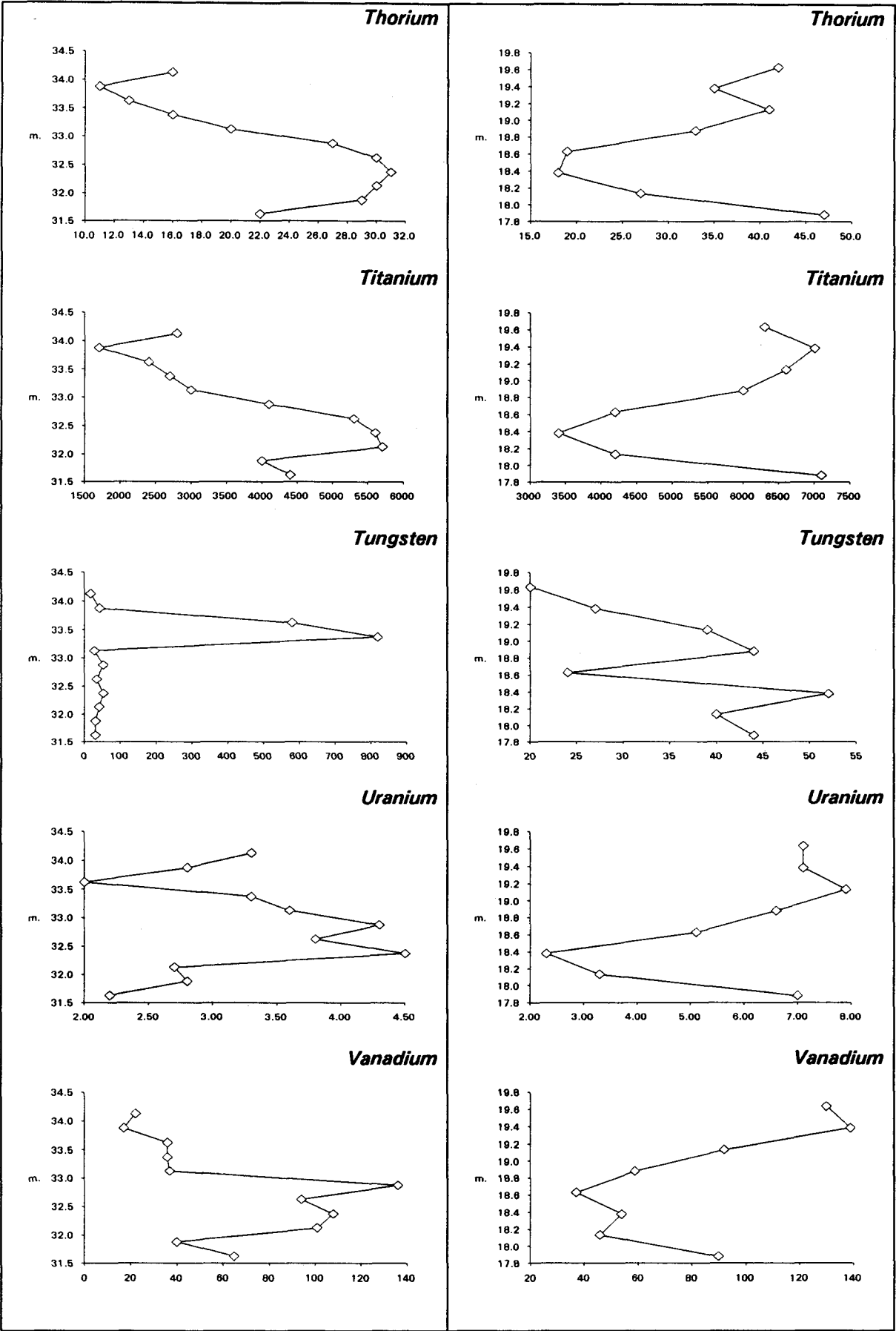
WL 556



Appendix C West Limb profile WL 554, WL 556

WL 554

WL 556



Appendix C

West Limb profile WL 554, WL 556

WL 554

WL 556

