LOCATION

The Sä Dena Hes Mine is located in southeast Yukon, 50km north of the town of Watson Lake. Access is by an all weather highway to the mine gate. The Jewel Box Hill ore deposit is the first of four ore occurrences to be developed on the Sä Dena Hes property (Figure T1). The deposit is approximately 1km southwest of the concentrator. Additional ore zones occur on Gribbler Ridge, 1km to the northwest and North Hill (Burnick and Attila Zones) 4 km to the north (Figure T2).

HISTORY

Lead/zinc mineralization was discovered and the property first staked in 1962. The area was intermittently explored in the early sixties. After over a decade, the property was reactivated again in 1979 by Cima Resources. From 1979 to 1981, the Main Zone was delineated by surface drilling and several other zones were tested. A proven reserve of 263,000 tonnes was established and a feasibility study was carried out, however no development resulted. The property was purchased in 1984 by Canamax Resources which carried out aggressive exploration from 1985 to 1988; drilling nearly 20,000 metres in 112 holes. On Jewel Box Hill, Canamax drilled 66 holes totalling 10,433m during that period. The Canamax work was important in that it indicated much more extensive mineralization on Jewel Box Hill, Gribbler Ridge and on North Hill in the Burnick and Attila Zones. The property was purchased by the Mt. Hundere Joint Venture in 1989. Extensive drilling was carried out in 1989 (140 holes) and the property was committed to production in the following year. Early in the construction phase, underground exploration and diamond drilling of the Chimney, JB1-Pod and part of the JB1 Zone (see below for zone definitions) was carried out as well as further surface drill definition of the Main Zone and condemnation drilling at the mill site (142 holes, 4,460m). Underground development commenced November 1990. During the pre-production period it is estimated that 11,000 tonnes were mined from the above zones, no record of the grade of this material is available. The first concentrate was shipped on August 1, 1991. The mine was officially opened on September 24, 1991. Total capital cost for the project including acquistion and exploration was $95 million. To August 1, 1992, the effective date of this study, 479,529 tonnes averaging 6.9% Pb and 11.9% Zn had been mined by underground methods from within the area of inventory. An additional 74,047 tonnes averaging 12.6% Pb, 16.1% Zn were mined in 1991 from two small open pits developed on the north end of Jewel Box Hill. Extensive definition diamond drilling (857 holes, 37,780m to August 1, 1992), mainly from underground, has been ongoing since production began. Some additional claim staking was done since acquisition of the property by the Joint Venture.

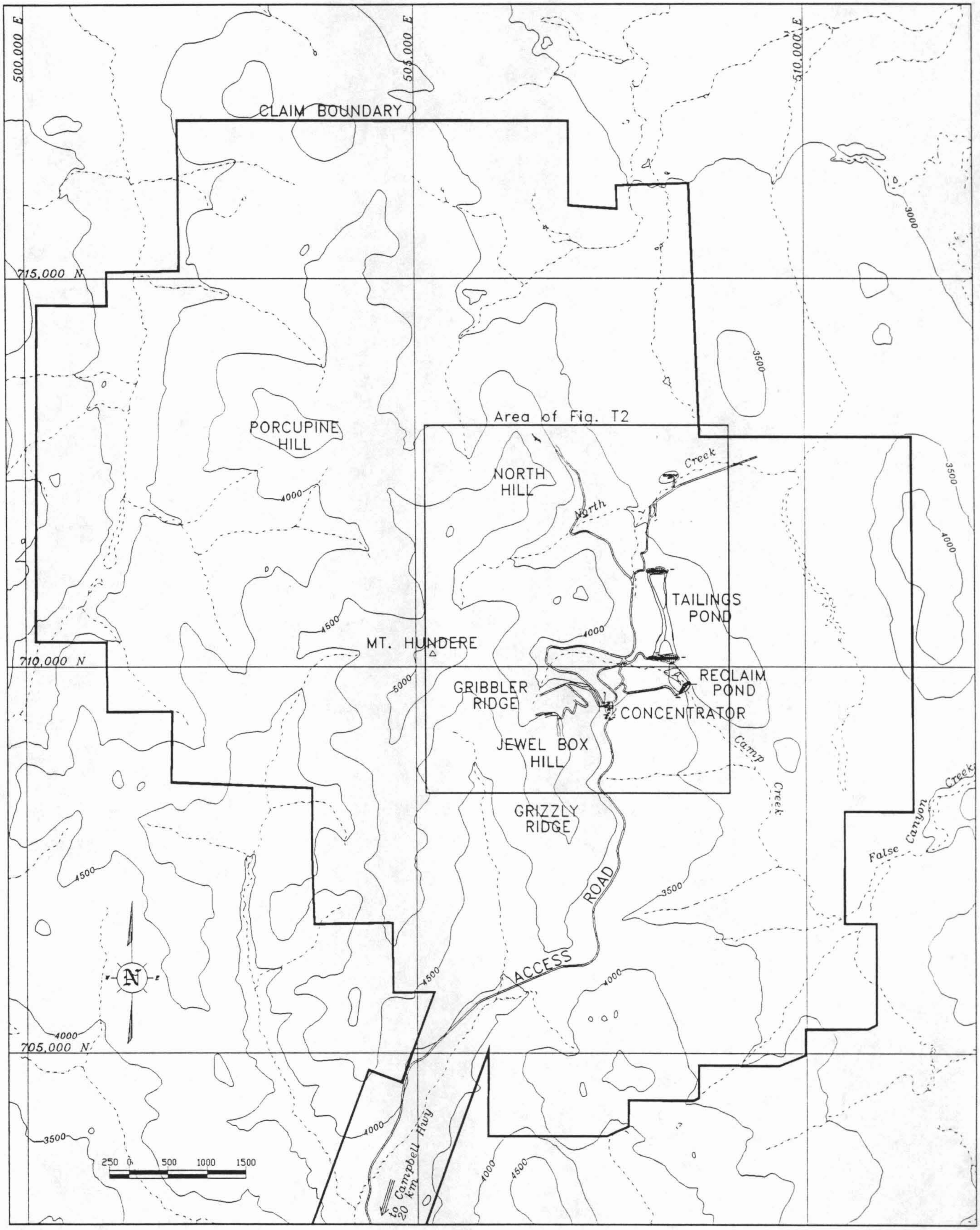


Fig. T1: The Sa Dena Hes Property

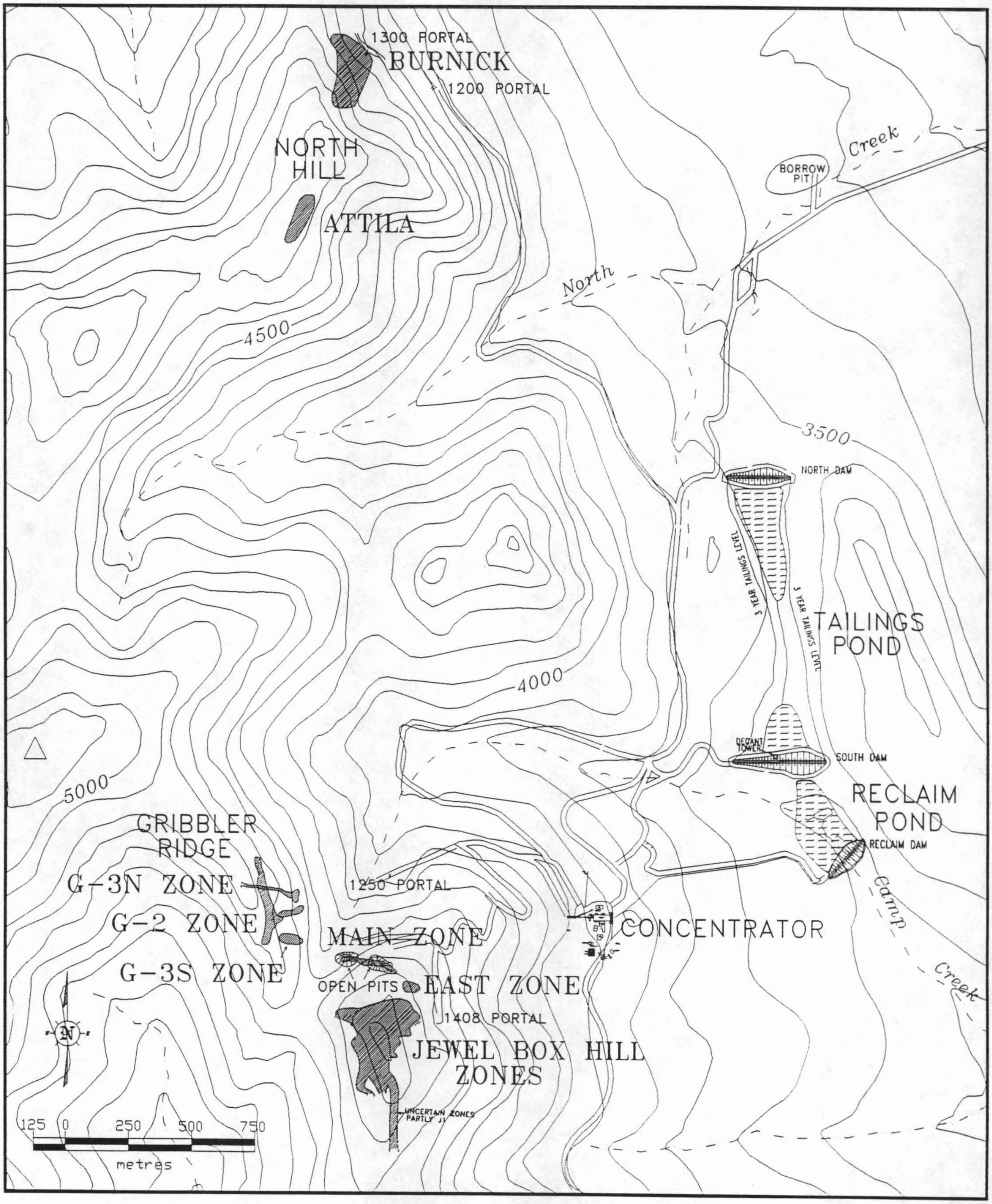


Fig. T2: Sä Dena Hes mine site, showing location of ore zones relative to the Jewel Box Hill deposit.

The property currently consists of 718 claims and four mineral leases (Figure T3). Applications are in preparation for 4 mineral leases and one surface lease application is being processed by the federal government.

GEOLOGY OF THE PROPERTY

Stratigraphy

The Sä Dena Hes property is underlain chiefly by lower Palaeozoic meta-sedimentary rocks including both calcareous and non-calcareous pelitic phyllite and limestone (Figure T4).

Limestone amounts to only about 5% of the stratigraphic sequence; it forms discontinuous units which are up to 100m thick, pinching and swelling over short distances. The thicker limestone units are traceable for hundreds of metres. There is evidence locally that limestone grades laterally into calcareous phyllite (Pigage, 1992 pers. comm.). Limestone has a variety of textures, the thicker units are massive, homogenous, fine grained and grey to bluish grey except near alteration zones where white, coarse grained, calcite marble is common.

A crude stratigraphic sequence for the phyllites appears to exist on the property. This sequence was first recognized by Gabrielse (1966); it is based around a set of one or more limestone layers containing arcaeocyathid fossils of lower Cambrian age (Abbott, 1977). The phyllites below the thickest of these limestones (which will be referred to as the Main Limestone) are generally brown weathering, soft, grey and non-calcareous. The phyllites that overlie the Main Limestone are commonly grey weathering, calcareous and well laminated. It is emphasized that this stratigraphic sequence is of regional significance and in detail there is a broad gradational interlayering of the constituent rock types. Immediately above the Main Limestone is a carbonaceous phyllite unit which varies from ten to over 50 metres thick. Discontinuous argillaceous and carbonaceous limestone occurs locally below this Main Limestone and a second important carbonaceous phyllite unit appears to underlie this argillaceous limestone. Less prominent carbonaceous phyllite and limestone occurs at several other horizons in both the calcareous and non-calcareous phyllite sequences.

Intrusives

Intrusive igneous rocks on the property include three suites all occurring in bodies of limited size. The oldest is a moderately foliated, metamorphosed, mafic or intermediate composition, medium green, chloritic rock with a fine grained relict igneous texture. A second suite of intermediate composition lacks foliation but also has a fine grained igneous texture with fine, off white feldspars in a pale green, very fine grained to aphanitic matrix. The rock is generally strongly altered to skarn mineral assemblages near the ore zones. Its contacts are typically sharp and chilled against the host rocks.

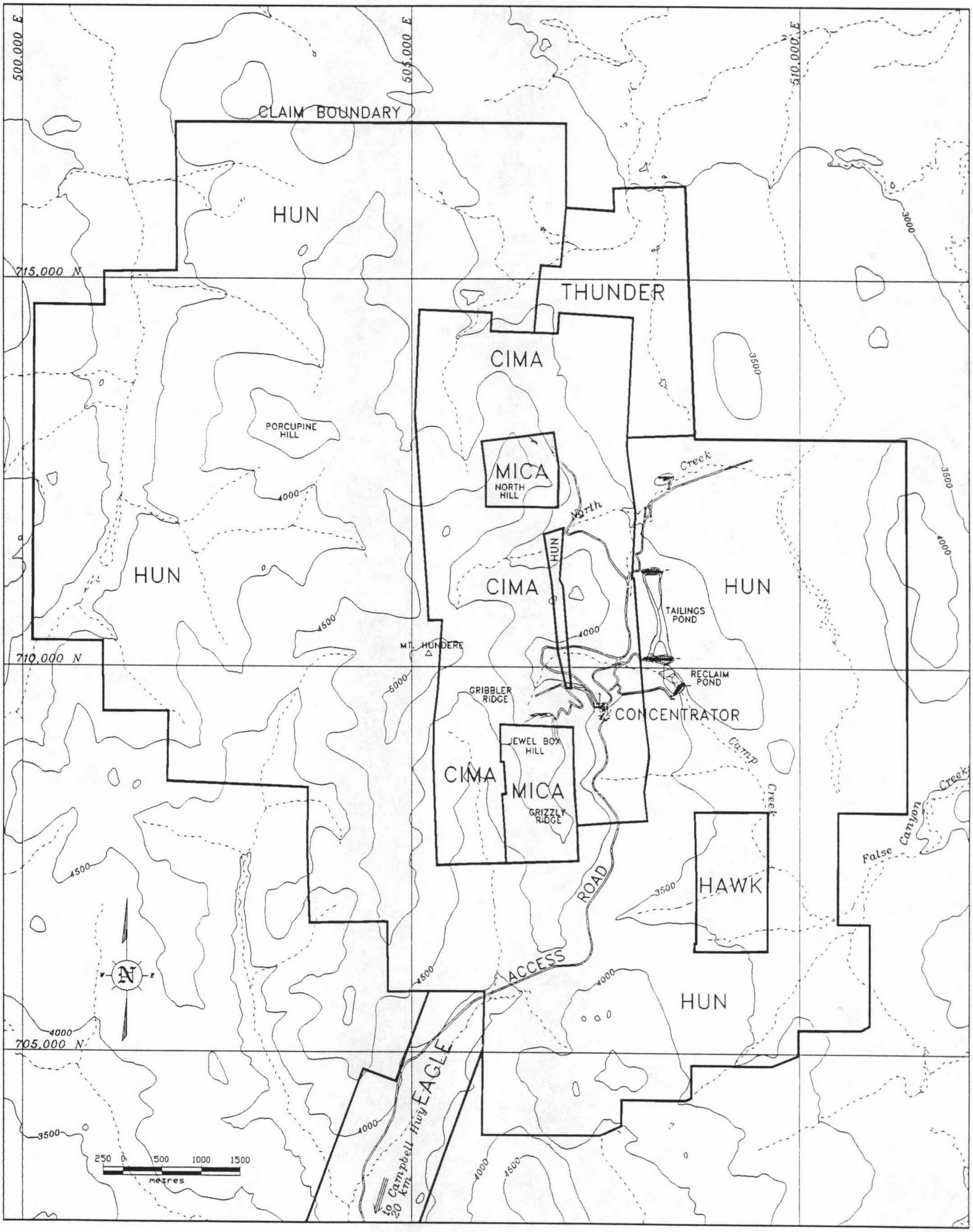


Fig. T3: Claim Map of the Så Dena Hes Property

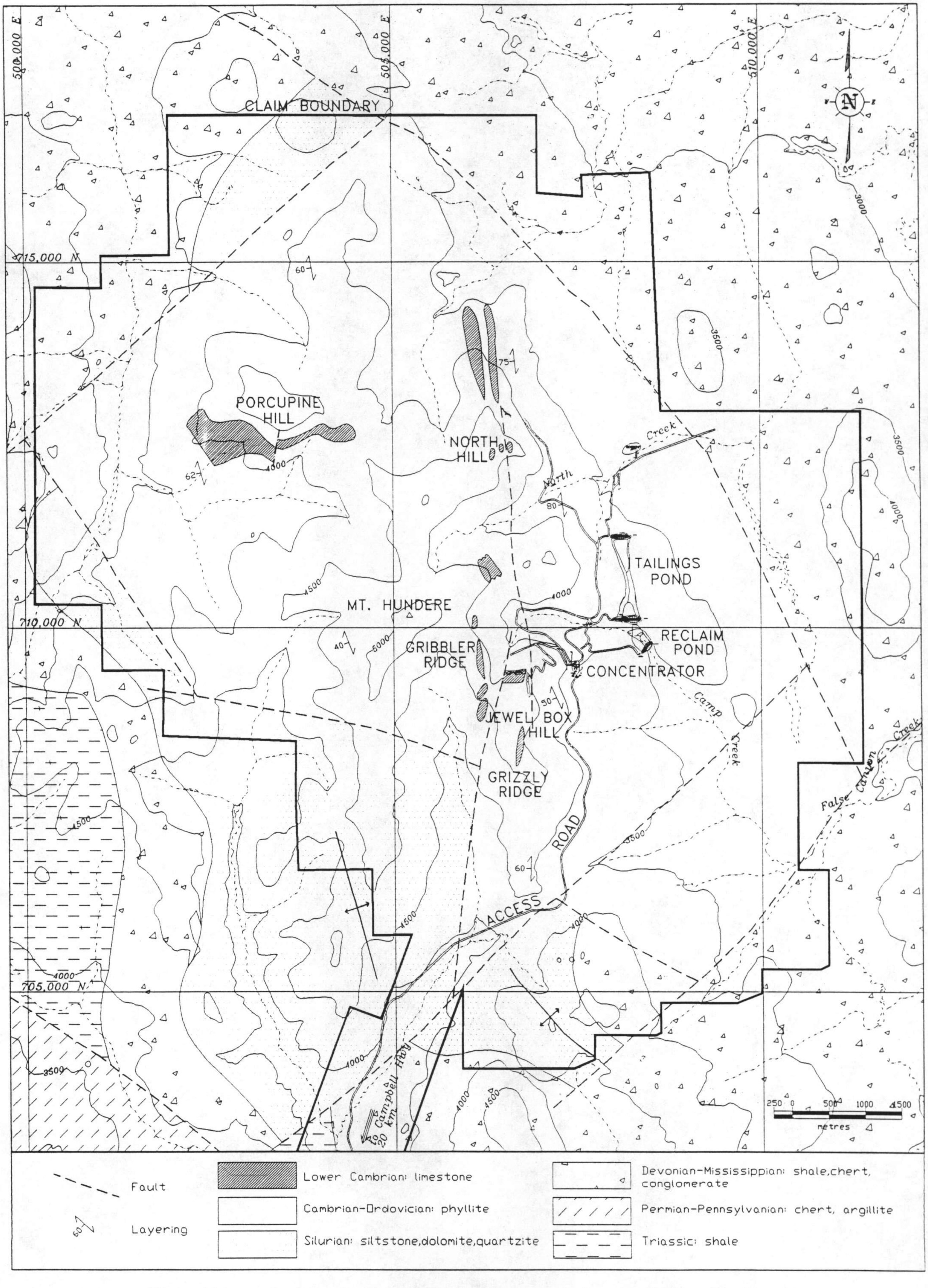


Fig. T4: Geological Map of the Sà Dena Hes Property

This suite is similar to and may be equivalent to the first suite. The last suite is a pale coloured fine grained quartz porphyry which occurs in small cross-cutting dykes.

The age of these igneous rocks is uncertain although Sinclair (quoted in the Yukon Mineral Inventory) reports a 50 ma. K-Ar age from quartz porphyry on the property. The foliated meta-igneous rocks are similar to metabasites of the Vangorda formation and Rabbitkettle Formation (Jennings and Jilson, 1986) and may have a similar origin and early Palaeozoic age.

Larger igneous bodies are not found on the property however, Abbott (1981) has speculated that the area is underlain by a granitic pluton of the mid-Cretaceous Selwyn Plutonic Suite such as that occurring 20km to the north in the core of a fault bounded uplift at Mt. Billings. Canamax geologists have inferred from magnetic data that a buried stock may exist on the Grizzly Ridge area 700m south of the Jewel Box Hill skarn zones (Mann, 1990).

Structure

The sedimentary strata of the property are complexly folded and metamorphosed to greenschist facies muscovite-chlorite phyllites. Most phyllites contain a moderately west dipping crenulation cleavage (S_2) which is axial planar to tight, east verging, shallowly plunging folds in bedding and an earlier cleavage (S_1). Axial directions of second phase folds, where mapped on surface are north - south. The folds appear to be non-cylindroidal and have curving axes at least locally. The significance of the earlier deformation which is formed S_1 is unknown; it is suspected that isoclinal recumbent folds with an axial plane phyllitic cleavage were formed. One or both of these phases of fold deformation may be accompanied by thrust faulting which on regional grounds would be expected to be east directed.

Several directions of post folding, steeply dipping faults occur on the property. The lower Palaeozoic sequence is exposed in a uplift bounded by normal faults trending 150° and 045° (Figure T4). Near the ore zones the most prominent fault trends are 000° to 020°; faults trending 090° to 110° are also common and 135° to 150° trending faults are mapped locally. Most of these faults are thought to have normal displacement however some may be strike slip. Many of the late steeply dipping faults contain quartz-calcite-fluorite breccia veins. On Jewel Box Hill a shallowly southwest dipping shear zone follows the upper contact of the main limestone/marble body. This feature may be due to strain release along the carbonate contact or it may be an related to an extensional fault system.

Rees (1989) noted a predominant fracture set trending approximately 110° and dipping steeply north and south and speculated that this may be an important ore control. This has been confirmed in the underground (Lauzier, 1991, pers. comm.).

Mineralization

Mineralization on the property is hosted by actinolite-hedenbergite-diopside-epidote-garnet (grossularite-andradite)-chlorite-calcite-quartz skarns most commonly developed along the contact of limestone or marble with phyllite. Wollastonite has been reported in the skarns (Dawson, 1964; Abbott, 1977) but may not be present due to confusion with zoisite (Hamilton, 1982). The best grades of lead-zinc appear to be related to retrograde actinolite ±chlorite dominant skarns rather than to prograde garnet-pyroxene dominant skarns. Most important skarns are formed from a limestone protolith; however there are good examples of skarn developed from phyllite and locally from intrusive rocks. Generally these skarns are low grade, however they do make ore locally. The best skarn zones are developed along the Main Limestone contacts, however the lower limestones are mineralized locally at Jewel Box Hill and Gribbler Ridge and may be the major ore host at North Hill. The skarns are not strongly related to intrusive contacts, indeed many of the best ore zones appear totally lacking in any intrusive association.

Sulphide mineralization consists mainly of medium to coarse grained sphalerite and galena heavily disseminated in skarn layers. There is little or no iron sulphide present. Toward the periphery of areas of lead-zinc bearing skarn, magnetite skarns are developed locally. In places, these peripheral skarns also contain pyrrhotite and pyrite and more locally, chalcopyrite.

The ore is anomalous in fluorine, averaging approximately 2,000 ppm and ranging to 20,000 ppm (Mann & Hodgson, 1988). Fluorite and amethyst occur in the skarns and, as noted previously, in near by fault zones suggesting these may be feeder systems. Cadmium is also anomalous in the Sä Dena Hes skarns averaging 700 ppm and ranging to 1800 ppm (Mann & Hodgson 1988). The more silver rich ores contain elevated bismuth contents.

The lead-zinc ratio of the skarns is quite variable from place to place on the property as well as within the major ore zones. The ratio of lead to lead plus zinc (based on results to 1989) is 0.4 on Jewel Box Hill but only 0.05 on North Hill in the Burnick zone. The Attila Zone has an intermediate ratio. The ratio of silver (in grams per tonne) to lead (in %), again based on 1989 data, at Jewel Box Hill is 8.8 whereas at North Hill averages closer to 70. The great variability of lead-zinc-silver ratios within and between ore zones requires that a NSR based equivalent grade function be developed for this mine rather than simply using the arithmetic sum of Pb+Zn as has been the practice.

Mann (1990) has examined zinc-lead and lead-silver ratios and arrived at some interesting preliminary conclusions. He notes that there is a trend towards higher Zn:Pb (ie. relatively more zinc) and lower Pb:Ag (i.e. relatively more silver) with increasing depth at Attila, Burnick and Gribbler Ridge. He noted a rapid transition zone with Zn:Pb above the transition at 1 to 5 and below it at 50-800; Pb:Ag above the transition is approximately 0.1 to 0.3 and below ranges from 0.01 to 0.002. The transition zone is thought to be relatively flat lying based on preliminary data. Jewel Box hill is entirely above the transition but on nearby Gribbler Ridge the transition is at approximately 1,100m elevation. The deepest zones at Jewel Box do show elevated silver to lead. Mann (1990) also noted that quartz-clinopyroxene-galena skarns are relatively silver rich (Zn:Pb = 1 to 4, Pb:Ag = 0.015 to 0.030). These skarns are preferentially developed on the east side of Jewel Box Hill in proximity to the north-south trending Sump Fault, a possible feeder structure. Metal ratio zonation at Jewel Box Hill is discussed in more detail below.

Within 130m of surface the ores are commonly heavily oxidized to soft incompetent rusty masses of clay, quartz, smithsonite, anglesite and cerusite. Commonly some relict sulphides, especially galena, are retained in the oxidized skarn. Although oxidation is generally a near surface phenomena, some oxides have been encountered at depths of 300m or more. Locally smithsonite has been mobilized from the oxidized skarns and deposited in nearby open fractures. Smithsonite cemented overburden has been noted in places.

Mann's work suggested that the lead-zinc ratio and silver content does not change dramatically upon oxidation.

Thermal Metamorphism and Alteration

All sedimentary units are metamorphosed to muscovite-chlorite zone in the metamorphic greenschist facies. Phyllites are moderately soft, brownish grey to silvery grey, and typically break into chips and platelets along the dominant foliation (S_2)

Locally the phyllites are overprinted by a moderate to intense hornfelsing. This hornfelsing is broadly associated with skarn mineralization. Hornfelsing is more readily apparent in the calcareous phyllites; noncalcareous phyllites are not strongly altered until the intense hornfelsing stage. Consequently the contact marking the outer limits of hornfelsing is strongly dependent on rock type.

With slight to moderate hornfelsing, the phyllites become moderately hard and break into angular blocks with sharp edges. Calcareous phyllites develop a mottled appearance with partial replacement of silvery grey micaceous bands by a pale greenish grey, diopside-rich calc-silicate assemblage. With increasing alteration, the calc-silicate assemblage becomes dominant and matric calcite reacts completely to form calc-silicates. Epidote forms discreet bright green lenses up to 2cm across and also forms thin, fine-grained fracture coatings. Locally white quartz veins contain lesser epidote and medium green amphibole. In contrast, the major changes in the non-calcareous phyllites are the development of the slightly blocky weathering pattern and the increase in hardness. Locally the non-calcareous phyllites develop a faint purplish hue due to the scattered growth of fine-grained biotite.

Strongly hornfelsed phyllites, in contrast, are extremely hard and tough. They break with difficulty and form blocky, angular outcrops. Fresh surfaces typically have a strong sugary texture and develop an incipient conchoidal fracture. Non-calcareous phyllites have a strong purplish brown colour due to abundant fine-grained biotite. Calcareous phyllites are totally altered to a hard, strongly banded, dark or light green calc-silicate rock with thin brownish grey, biotite-rich bands or laminae. Epidote continues to form discrete lenses and thin fracture coatings. Thin quartz veins which contain epidote and hornblende are common.

On Jewel Box Hill and Gribbler Ridge the outer limit of hornfelsing occurs dominantly within the calcareous phyllite unit. This contact is readily mapped and can be located with reasonable certainty. Field mapping in 1992 by L. Pigage confirmed the contact location as mapped previously by Canamax geologists.

In contrast, the zones of intense hornfelsing as mapped in 1992 appeared to be much more restricted in spatial extent than previously indicated by Canamax mapping. On Gribbler Ridge, for example, intense hornfelsing was noted only on the lower northeastern slopes in the vicinity of the Fluorite Fault. This difference from previous mapping may be partially related to the occurrence of extensive veining in areas of only moderate hornfelsing. It may also be related to problems with recognizing hornfelsing within the non-calcareous phyllites.

The restricted nature of intense hornfelsing suggests that the highly altered phyllites may be closely associated with faults and or fractures which form conduits for mineralizing (and hornfelsing) fluids. Zones of intense hornfelsing would therefore represent extremely important primary exploration targets and it is important to define objective criteria to reproducibly identify such zones.

Ore Controls

The following features are thought to be significant in localization of ore on the property. The list is preliminary and will evolve as further knowledge is gained of the ore zones and their geologic framework. Not all these features are necessary for the formation of ore; however the first two are nearly universal whereas the following are less so.

1. presence of hornfels alteration zone;
2. presence of limestone protolith within alteration zone, particularly the equivalents of the Main limestone;
3. proximity to limestone/marble -phyllite contacts;
4. presence of white coarse grained marble as opposed to grey limestone;
5. proximity to steeply dipping fractures and faults trending 090° to 110° and/or 000° to 020°;
6. proximity to the intersections of the above fractures sets;
7. proximity to axial regions of folds of any generation;

8. proximity to changes in thickness of carbonate units or attitude of carbonate-phyllite contacts of regardless of the cause of the changes.

Jewel Box Hill Geology

The portion of Jewel Box Hill between 1237.5N and 1625.0N is the subject of this inventory (Figure T5). The Main and East Zones to the north have not been studied. The structure of Jewel Box Hill is very complex but is now beginning to be relatively well understood due to extensive drilling. Some zones (especially JB2L and M2) require further work but the ongoing drilling combined with careful iteration between cross and long sections and more careful consideration of structures observable underground should help resolve these problematic localities.

The structure of Jewel Box Hill is dominated by a flat lying, limestone/ marble unit, the "Main Limestone", approximately 100m thick. This carbonate unit pinches out toward the east in the subsurface for reasons that are not fully understood. The pinch out follows a N35°E trend (Figure 68) swinging to a north-west trend in the north part of the Hill. The Main Limestone interfingers complexly with phyllite in the pinch out area. A second carbonate of unknown stratigraphic correlation, the "FW Limestone", forms a steeply dipping layer just east of the Main Limestone pinch out. This is interpreted to be the steep limb of a easterly inclined second phase fold with axial trend 035°. Another limestone, possibly equivalent to the FW Limestone occurs below the Main Limestone.

Steeply dipping faults and fracture zones trending 090° to 110° are important at Jewel Box Hill and appear to control many of the zones (Rees, 1989; Lauzier, pers. comm. 1992). There is also a north-south bias to mineralization that cuts across the N35°E trend of several of the limestones so that mineralization appears to jump from one limestone to another along the north-south trend (Figure 71). As noted previously, important faults on either side of Jewel Box Hill trend northerly. The Sump Fault exposed near the portal trends north-south and the Fluorite Fault, between Jewel Box Hill and Gribbler Ridge, trends N20°E. Both these structures may be feeders to the Jewel Box Hill ores. The Sump Fault appears to drop calcareous phyllite down significantly on its east side so that the favourable Main Limestone would be expected at depth if is has not lensed out completely in that direction.

A low angle shear zone at the upper contact of the Main limestone has been noted previously. Phyllites above this structure have a west dipping S_2 foliation and lithologic units appear to dip west as well although structure is complex. A carbonaceous unit in the upper plate sequence may equate to carbonaceous phyllites at depth below and east of the FW and Main Limestones. This correlation, if correct, suggests a offset of perhaps 200m (upper plate westerly) on that structure. Marble just below the contact has a strong mylonitic fabric (Crossley, 1992, pers. comm.). Lauzier (1992, pers. comm.) has noted that some ore shoots in the JB1 zone may be controlled by 135° trending stacked fault slivers (duplex structures?) related to the shear zone which manifest themselves as reversals in dip of the upper phyllite marble contact. Atkin (1990,

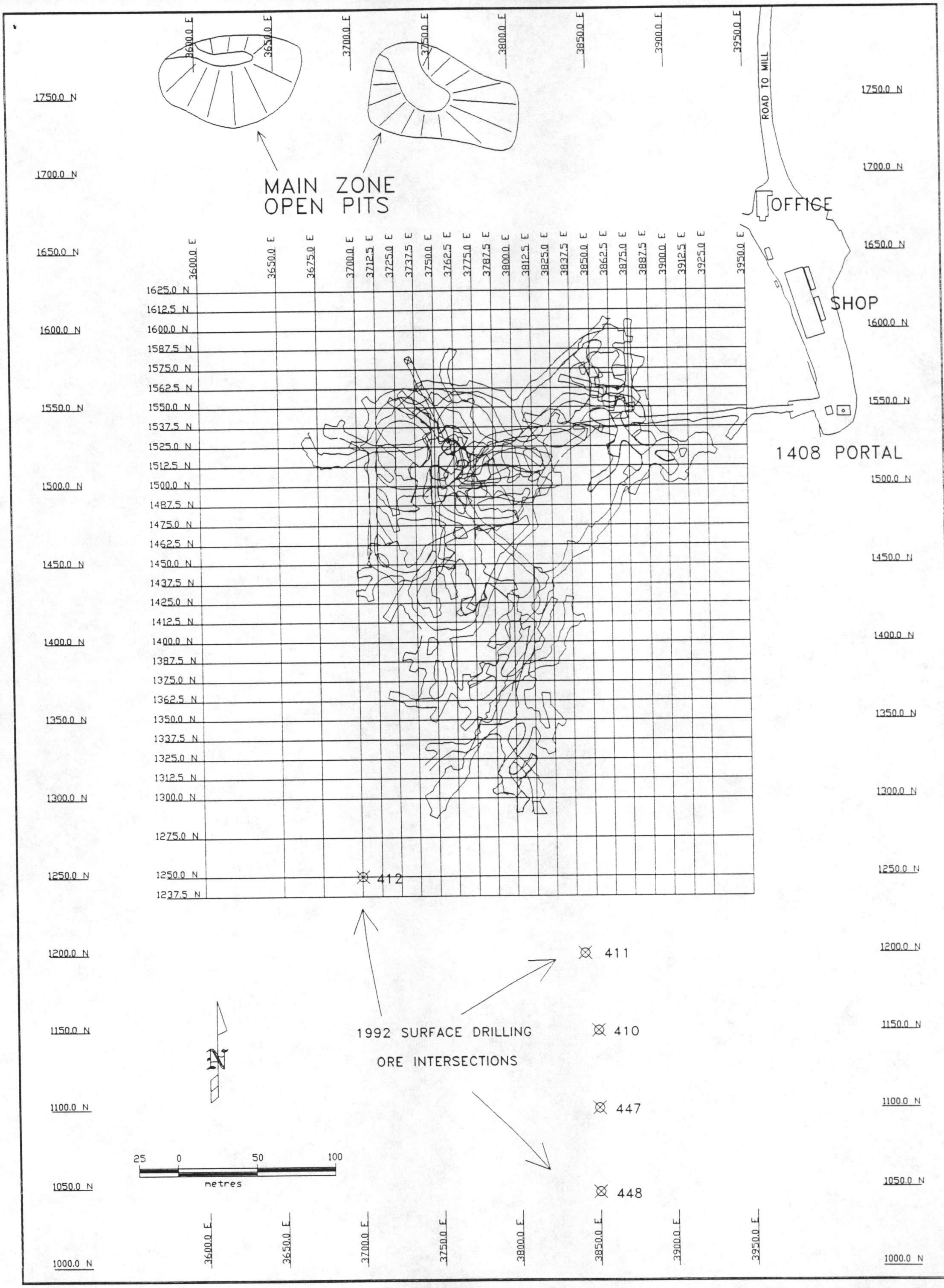


Figure T5: Composite of all workings in existance at the August 1, 1992 effective date of this Mineral Inventory, showing cross sections included in the report, and longitudinal sections used during work.

pers. comm.) has also stressed the importance of "rolls" in the contact as a guide to ore localization.

There appears to be no well defined comparable shear zone at the lower contact of the Main limestone; however low angle faulting is likely to be important there as well. There has been speculation that phyllite carbonate intertongueing, especially related to the Main Limestone pinch out, may be due to thrust interleaving. This thrust interleaving may be significant in ore formation in much the same way that small duplex stacks are important in the JB1 Zone.

There are several ore zones delineated at Jewel Box Hill. The zones are outlined in plan on Figure T6 and identified on several generalized cross sections (Figures T7-T10). Briefly the zones are:

J1	Skarns associated with a complexly folded limestone and graphitic phyllite in the upper plate of the low angle shear. Skarns of this zone are thin, discontinuous and may dip moderately west overall.
JB1	Skarns occurring along the upper contact of the Main limestone. These skarns are < 1 to over 5m thick and pinch and swell rapidly. Oxidation is widespread.
JB1-L	Below the JB1, generally on the lower contact of the uppermost of the easterly protruding noses of limestone.
JB2E and JB2W	Along the lower contact and easterly pinch out of the Main limestone. The distinction between E and W is basically east and west of the Chimney (see below) respectively. These zones are relatively thick and continuous and are two of the more important zones on Jewel Box Hill. The ore is generally silver rich and contains elevated bismuth content. The JB2W is relatively thick along a N-S trend at 3762.5E and also follows a 110° trend to the west.
JB2L	Below a phyllite intertongue into the JB2W area.
M1 and M2	Thin skarn zones of complex and uncertain structure related to intertonguing of phyllite and limestone and possibly to rootless fold hinges of carbonate between the Main and FW limestones (M2 in particular, Figure T8).
FW	Skarns developed on either side of the FW limestone and locally in its interior. These zones locally appear to be related to a pinch out of the FW limestone upward. This zone is also silver rich. The FW is equivalent to the easterly JB2E, north of section 1487.5N (compare Figures T8 and T9).

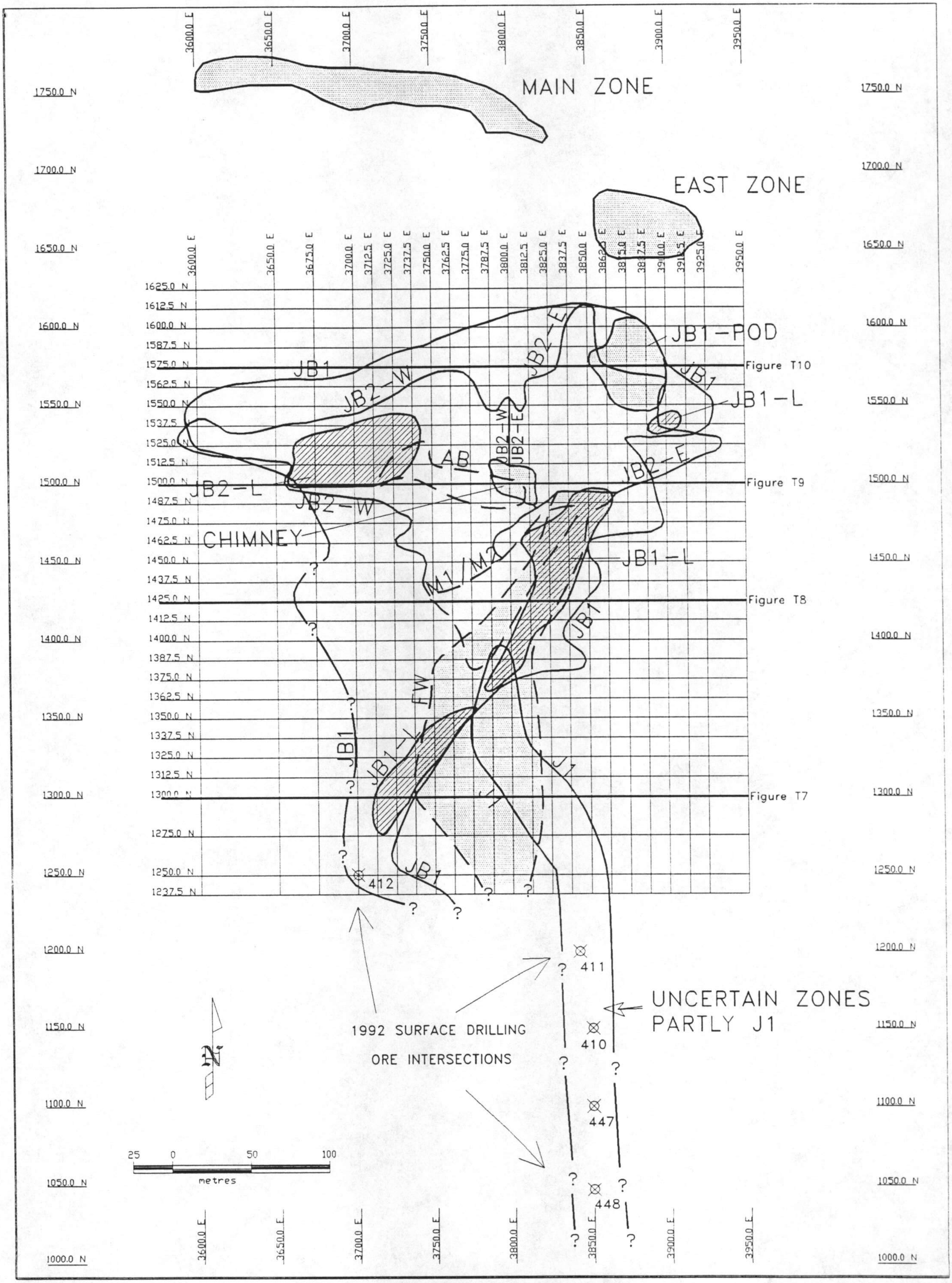


Figure T6: Vertical projection of generalized outlines of the various ore zones on Jewel Box, as shown on the cross sections. See Figures T7 to T10 for generalized sections.

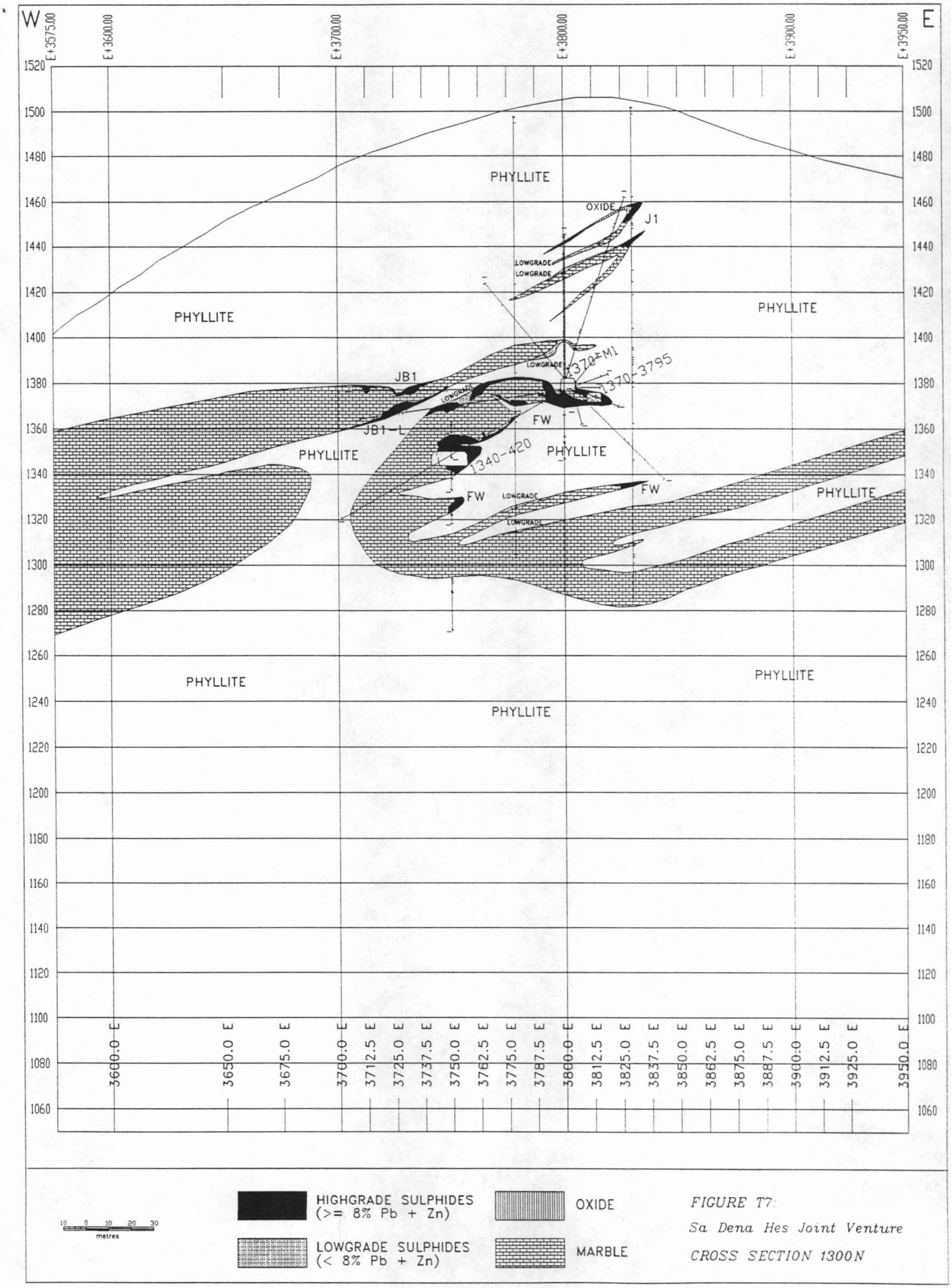


FIGURE T7:

Sa Dena Hes Joint Venture

CROSS SECTION 1300N

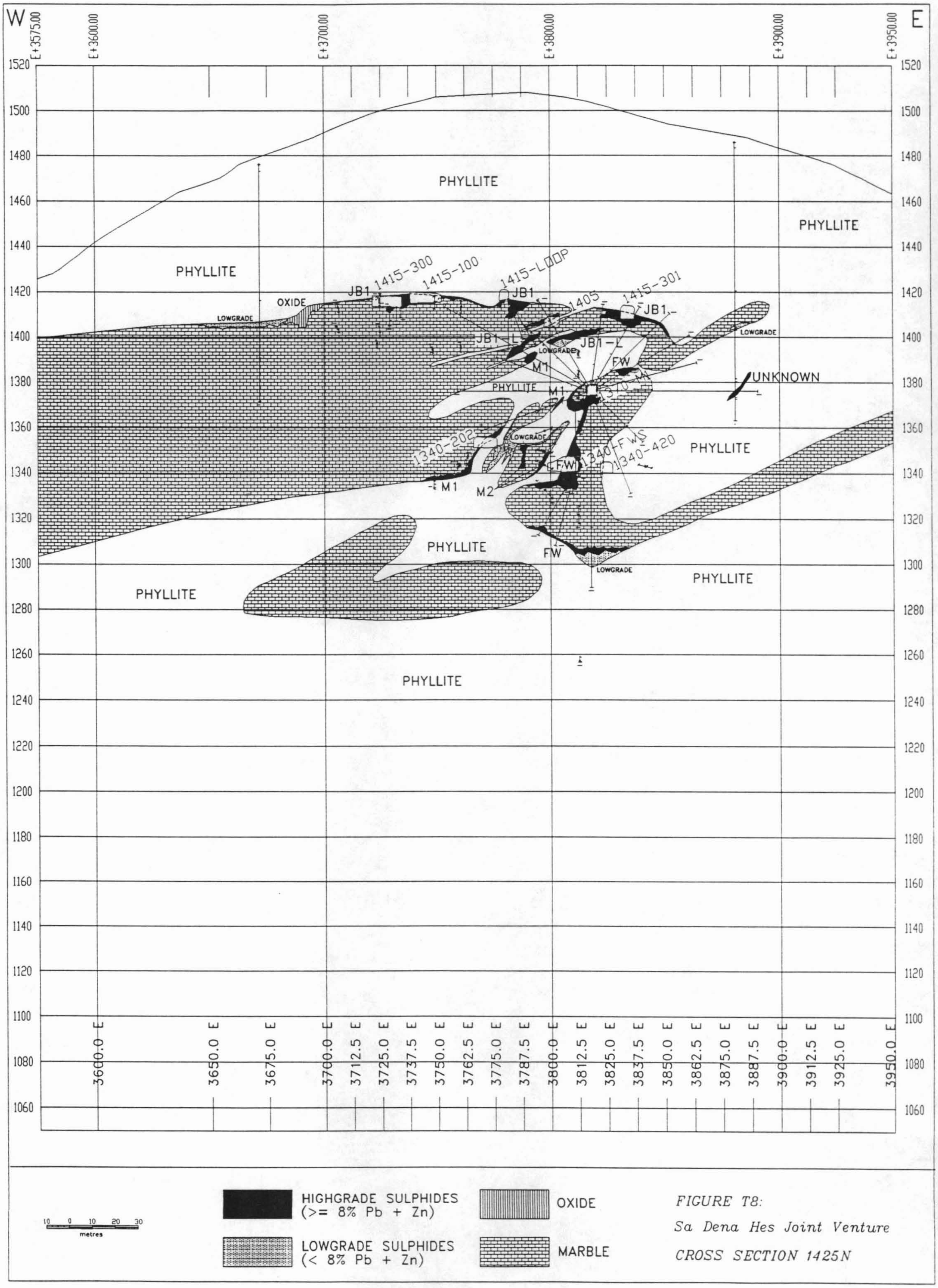
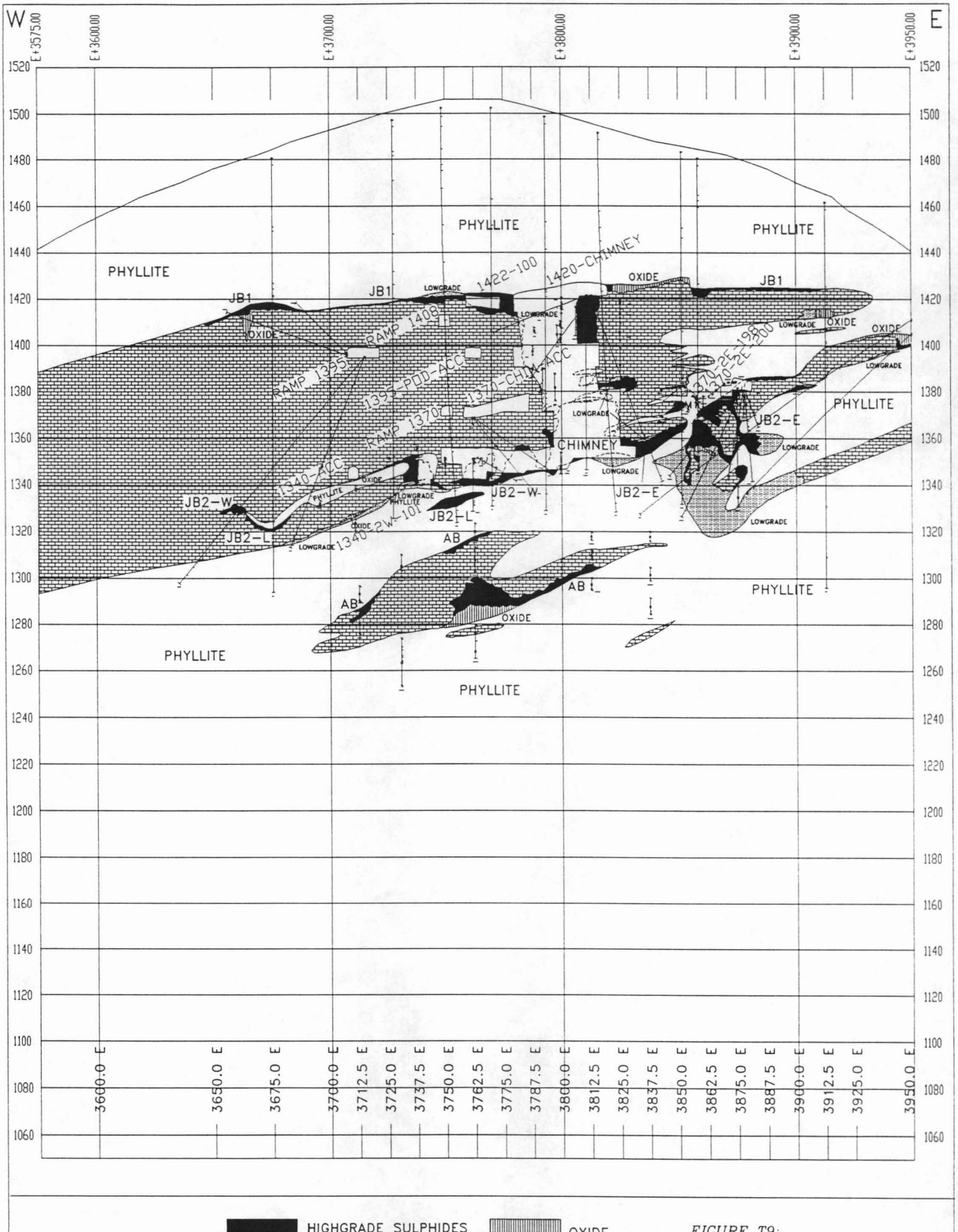


FIGURE T8:

Sa Dena Hes Joint Venture

CROSS SECTION 1425N



■ HIGHGRADE SULPHIDES (>= 8% Pb + Zn)

▒ LOWGRADE SULPHIDES (< 8% Pb + Zn)

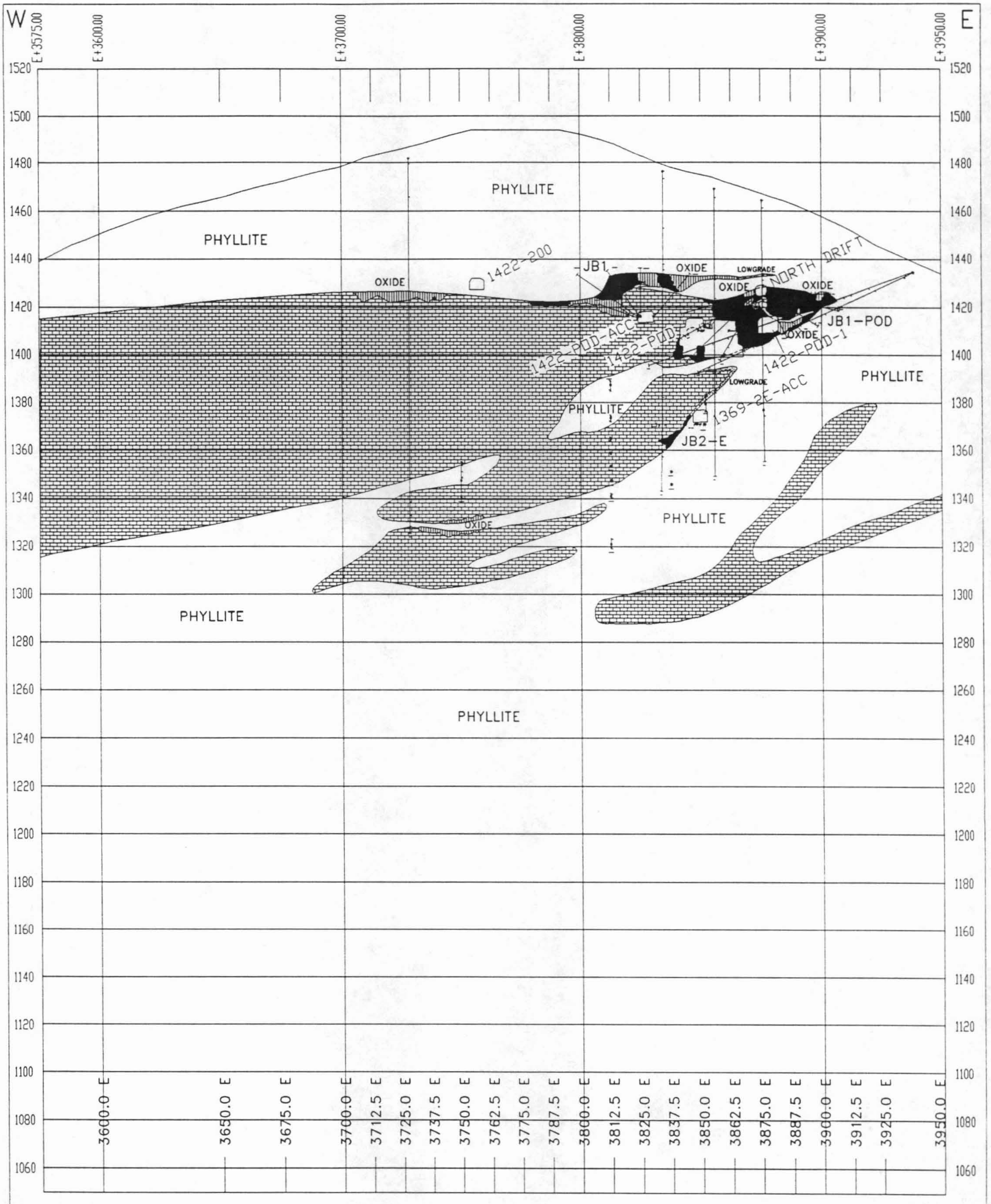
▥ OXIDE

▤ MARBLE

FIGURE T9:

Sa Dena Hes Joint Venture

CROSS SECTION 1500N



10 0 10 20 30
metres

■ HIGHGRADE SULPHIDES (>= 8% Pb + Zn)

▨ OXIDE

▒ LOWGRADE SULPHIDES (< 8% Pb + Zn)

▤ MARBLE

FIGURE T10:

Sa Dena Hes Joint Venture

CROSS SECTION 1575N

JB1 Pod	A thick subhorizontal pod of high grade skarn between sections 1550 and 1600N which appears to be related to the intersection of the Main limestone pinch out and an 090° to 110° fault (along section 1562). The ore is moderately oxidized due to proximity to surface.
Chimney	A vertical pipe of high grade skarn which penetrates the Main Limestone and connects the JB1 and JB2E/W. The Chimney is approximately 15m in diameter and locally is elongate in an southeast-northwest direction.
AB	A local, approximately 110° trending zone in a limestone below the Main limestone. Developed in the vicinity of and below the base of the Chimney in basically the same location and following the same trend as the westerly extension of the JB2W.

The JB1 and JB2 zones are essentially mirror images of one another although the JB2 is thicker and more continuous as well as less oxidized. Both occur along the Main Limestone-phyllite contacts. They tend to have a relatively smooth but locally distorted or folded contact against phyllite but a highly irregular, lobate, ragged contact against marble. The nature of the marble/skarn contact is suggestive of a "corrosional" boundary due to replacement of the carbonate by skarn. The contact against phyllite is by its very nature conformable, however the contact against marble is strongly discordant in detail. On a larger scale the skarn carbonate contact tends to follow the lithologic trends, locally exploiting particular layers in the carbonate. The asymmetry and geometry of the skarn contacts is typical of most skarn zones on phyllite-limestone contacts regardless of orientation. The ragged irregular contacts lead to high waste dilution. The continuity of the skarn zones is limited and they pinch and swell over short distances. Due to the ragged contacts the thickness inferred from drilling can be highly variable over short distances adding to difficulties of inventory estimation. There is definitely a danger of over correlation of skarns in poorly drilled areas and of assigning too large an area of influence to drill intersections. The strong EW control to some skarn zones introduces difficulties in representing the zones on EW cross sections, longitudinal sections must also be consulted. Due to the N35°E trend of fold axis in much of Jewel Box Hill (south of section 1550N) equivalent structures appear to move west on more southerly sections. This has complicated projection problems and inhibited the understanding of the structure and the location of faults.

Metal ratios and metal zoning on Jewel Box Hill are quite variable and no systematic zoning has been defined although there are some hints of increasing Ag and Zn relative to Pb with depth. The ratio of lead to zinc follows a prominent trend on a scatter diagram of two parts lead to three parts zinc (ie. lead/(lead+zinc) = 0.4) but there is considerable scatter particularly toward more zinc rich material (Figure T11). There is no relationship between Pb+Zn grade and Pb Zn ratio (Figure T12).

The ratio of silver to lead (Figure T13) shows two trends as is typical for sample distributions from this property. One trend (approximately 5 g/t Ag to 1% Pb) is dominant over the second

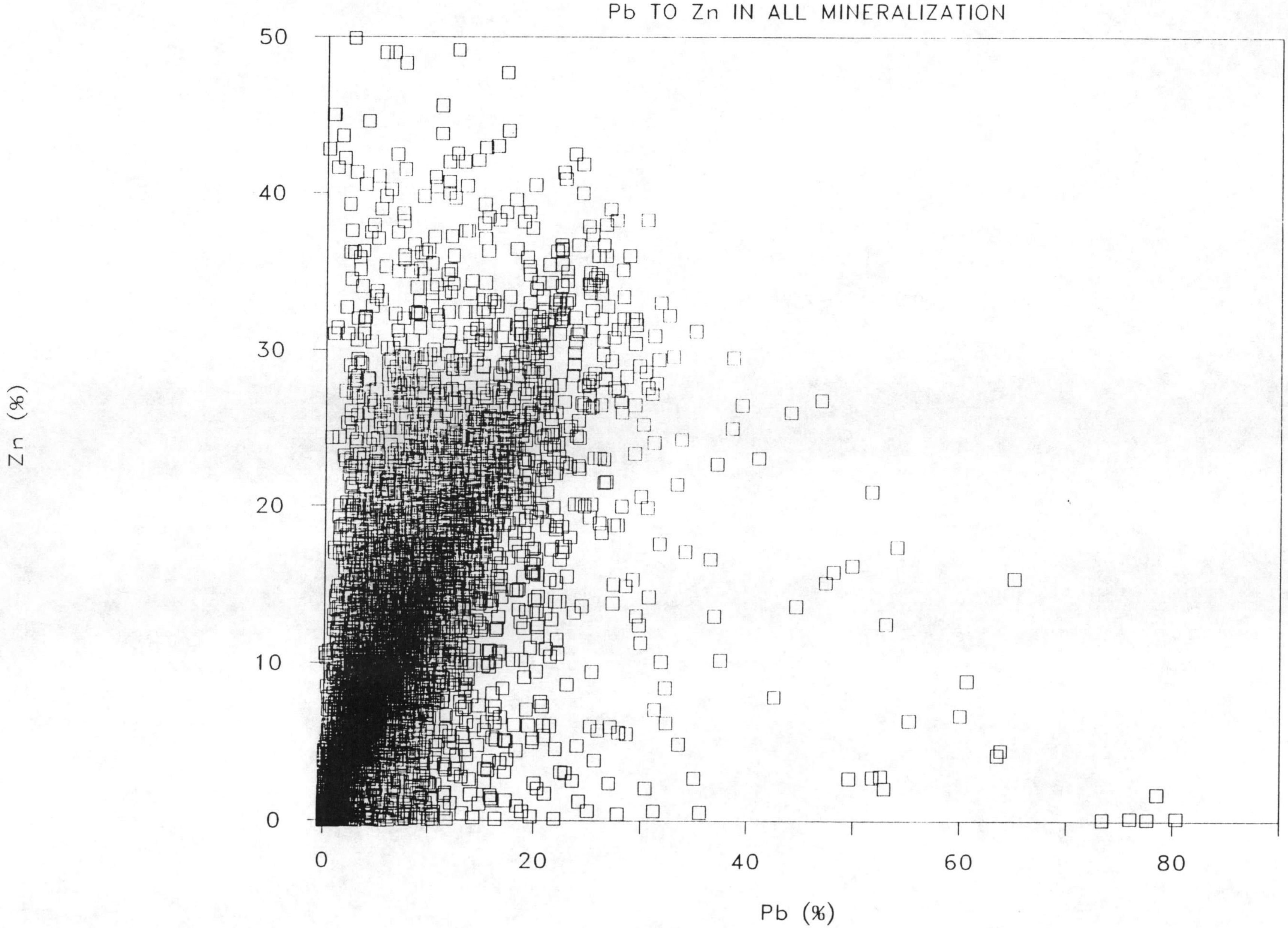


Figure T11: Scatter plot of lead to zinc in drill core samples. N=6177 samples

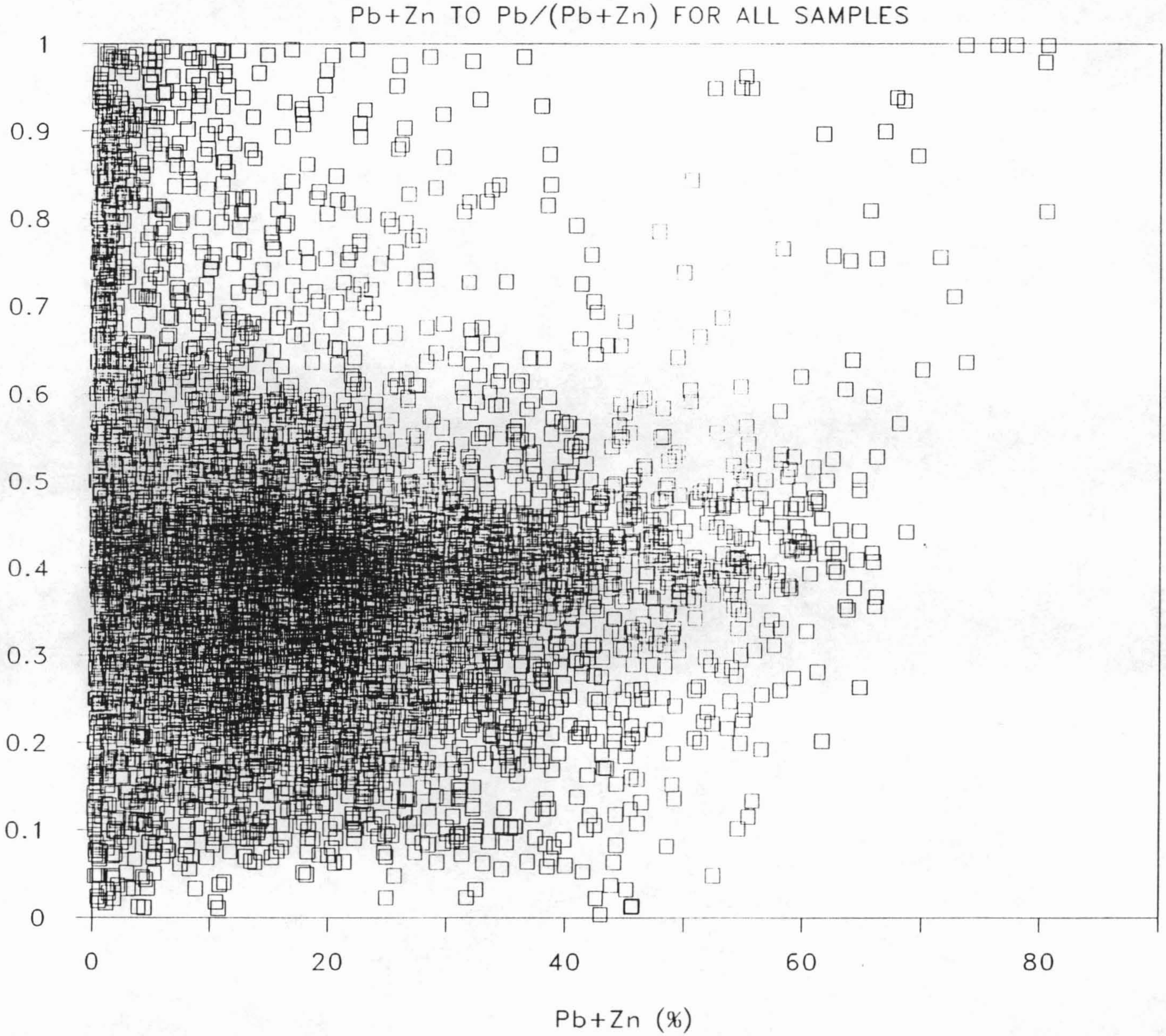


Figure T12: Scatter plot of Pb+Zn grade to Pb-Zn ratio showing no strong dependence of lead-zinc ratio on overall grade. N=6177 samples.

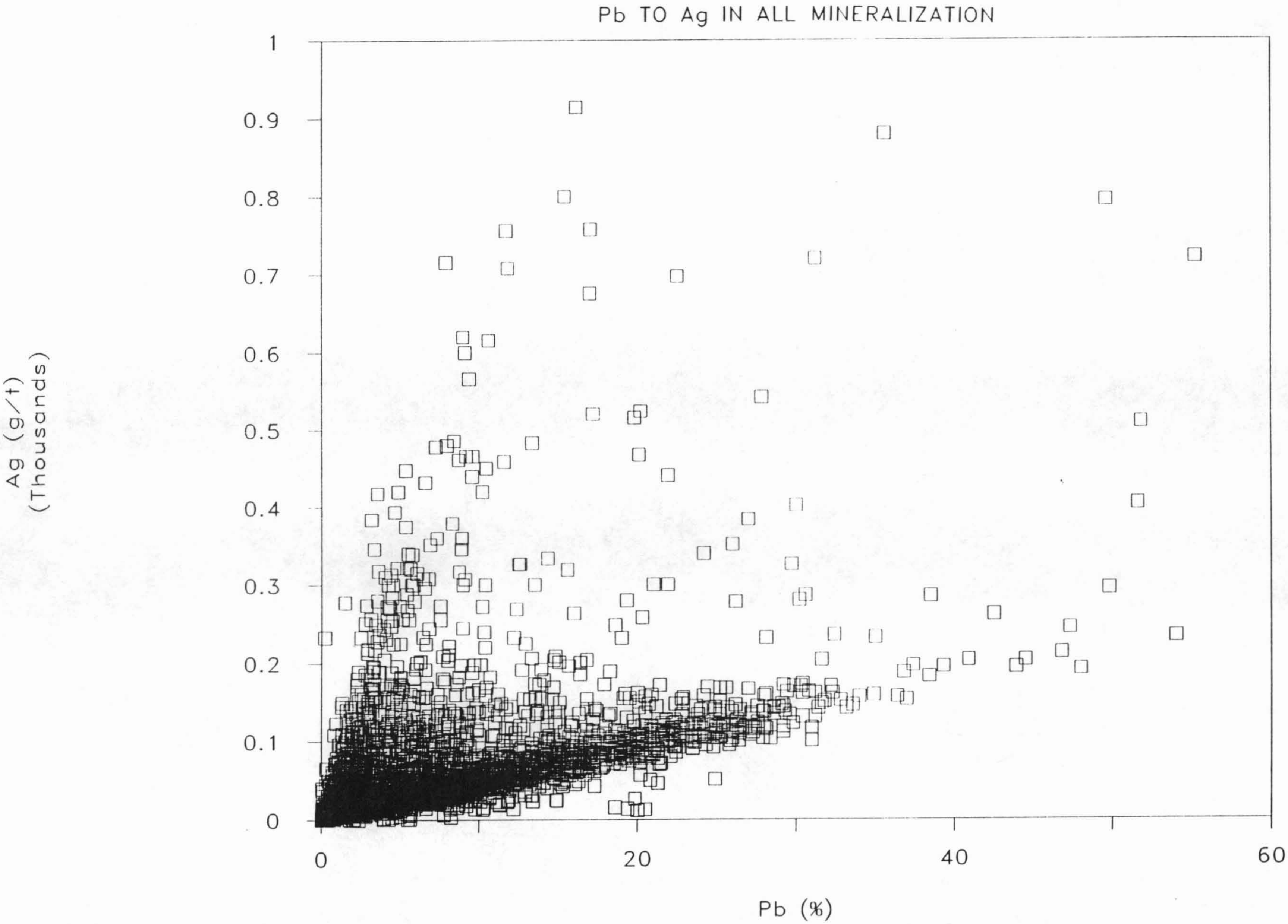


Figure T13: Scatter plot of lead to silver grades in diamond drill core samples. N=6177 samples.

trend (approximately 50g/t Ag to 1% Pb). The reason for this relationship is unknown but the two trends are approximately the average ratios found above (the 5:1 trend) and below (the 50:1 trend) the metal ratio transition noted previously. The higher trend (50:1) may reflect the variable presence of a more silver rich galena or another silver rich mineral phase. There is considerable scatter between the two trends. There is no clear relationship between silver and lead zinc ratio (Figure T14) although some more silver rich ores also tend to be relatively more lead rich.

Figures T15 to T23 show the distribution of lead, zinc and silver ratios on the same cross sections portrayed in Figures T7 to T10. There is a weak tendency for samples with the 50 to 1 silver to lead trend to occur deeper and more easterly in the system than those with the 5 to 1 trend (Figures T15-T17). The lead zinc ratio shows a similar though much weaker trend (Figures T20-T23) with more zinc predominant mineralization at depth.

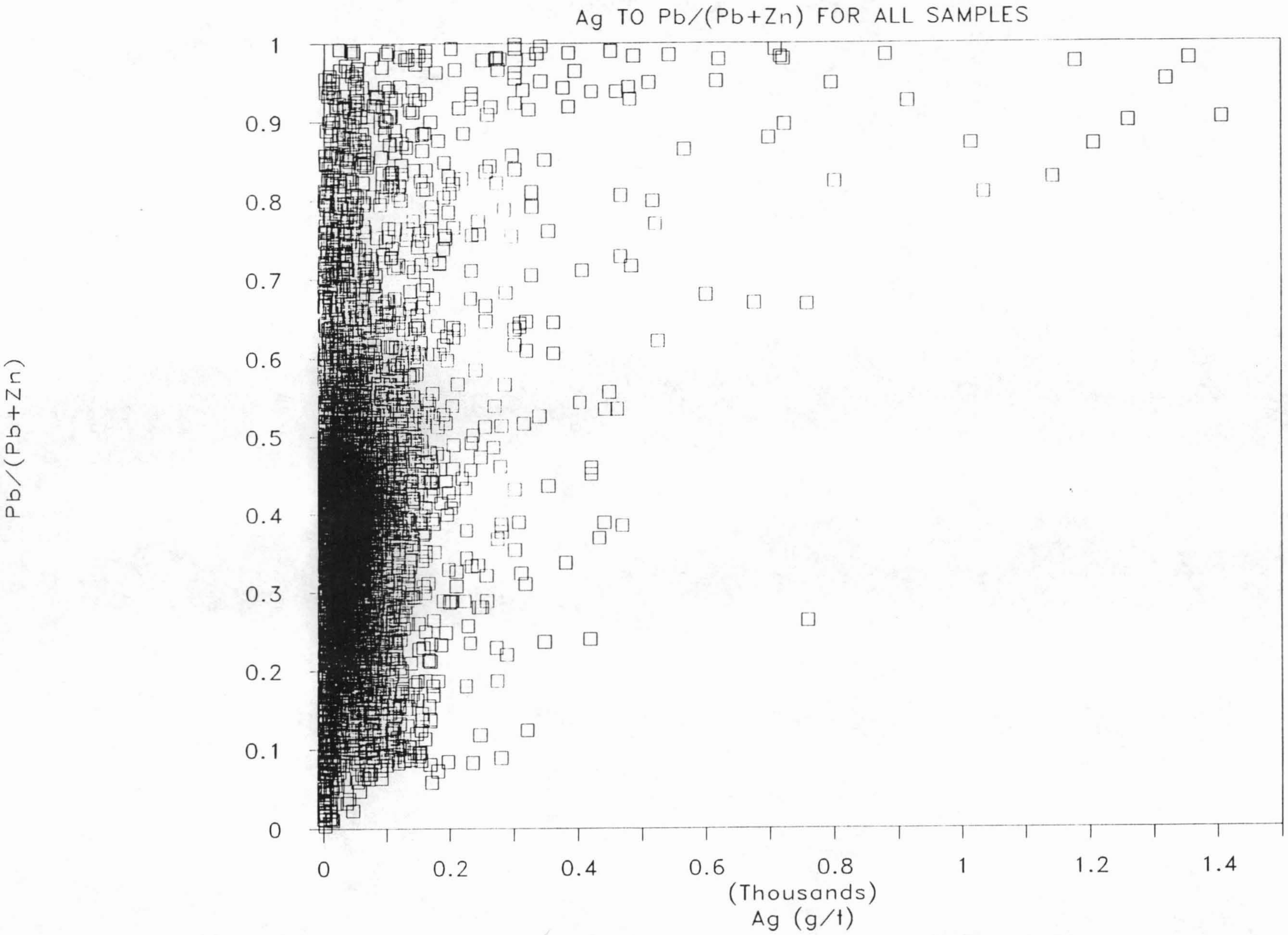


Figure T14: Scatter plot of silver grade to lead-zinc ratio in drill core. N=6177 samples.

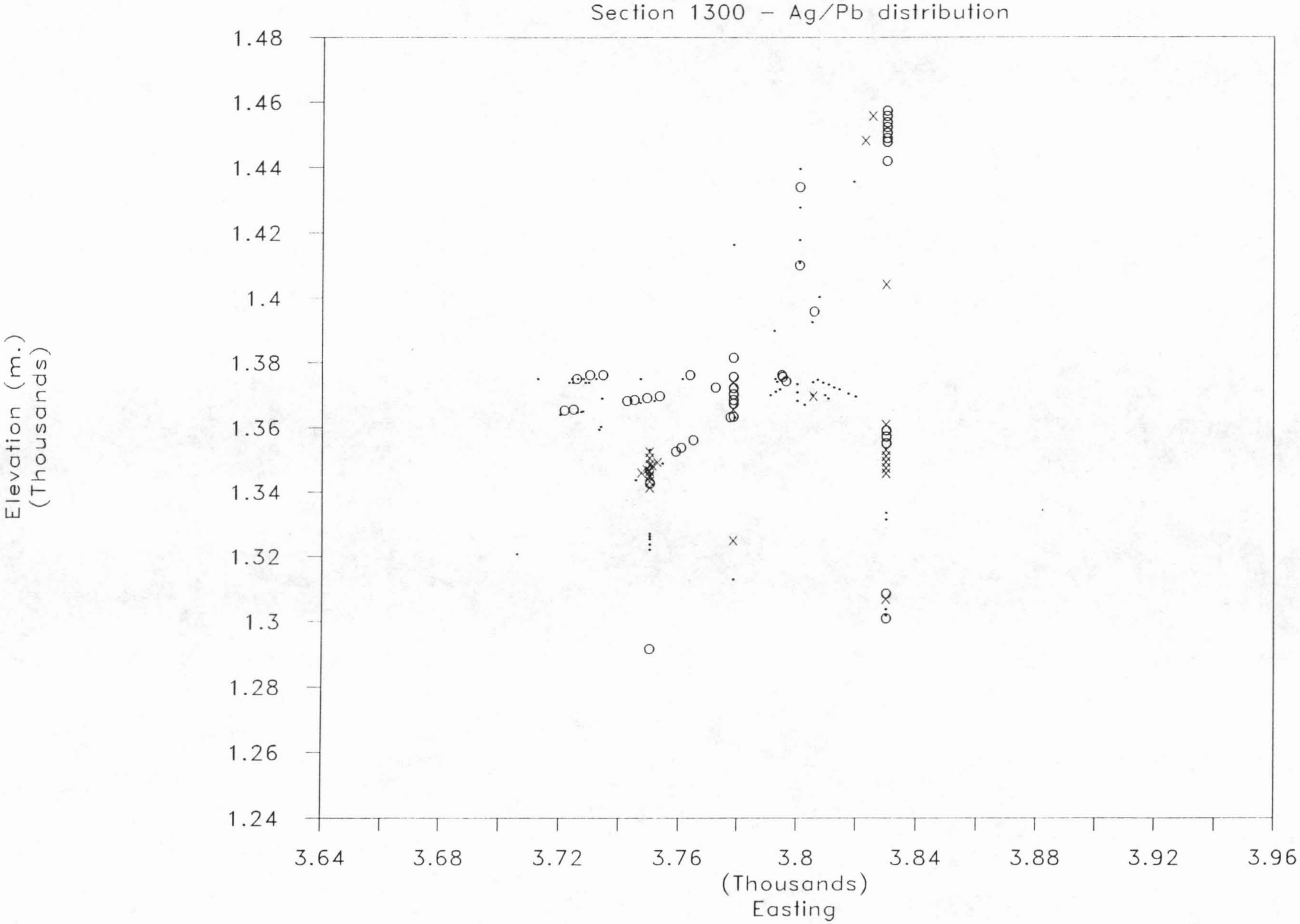


Figure T15: Symbol plot showing Ag-Pb ratio distribution on Section 1300 (Figure T7). More silver rich ores are found at deeper levels.

Legend: x = Ag/Pb <5 · = Ag/Pb 5 to 25 ○ = Ag/Pb >25

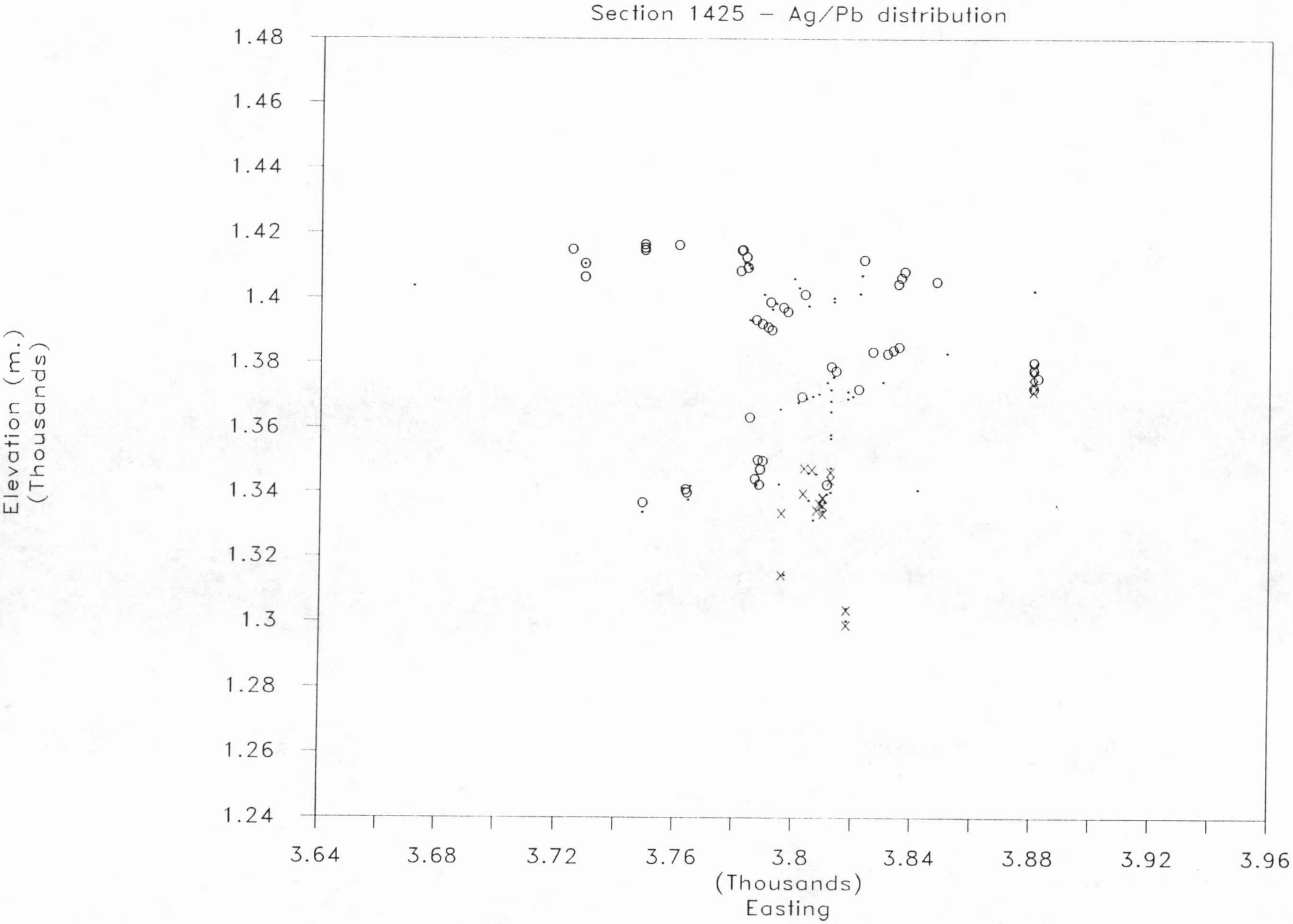


Figure T16: Symbol plot showing Ag-Pb ratio distribution on Section 1425 (Figure T8). Again, deeper ores are more silver rich and the boundary appears to rise toward the east.

Legend: x = Ag/Pb <5 · = Ag/Pb 5 to 25 o = Ag/Pb >25

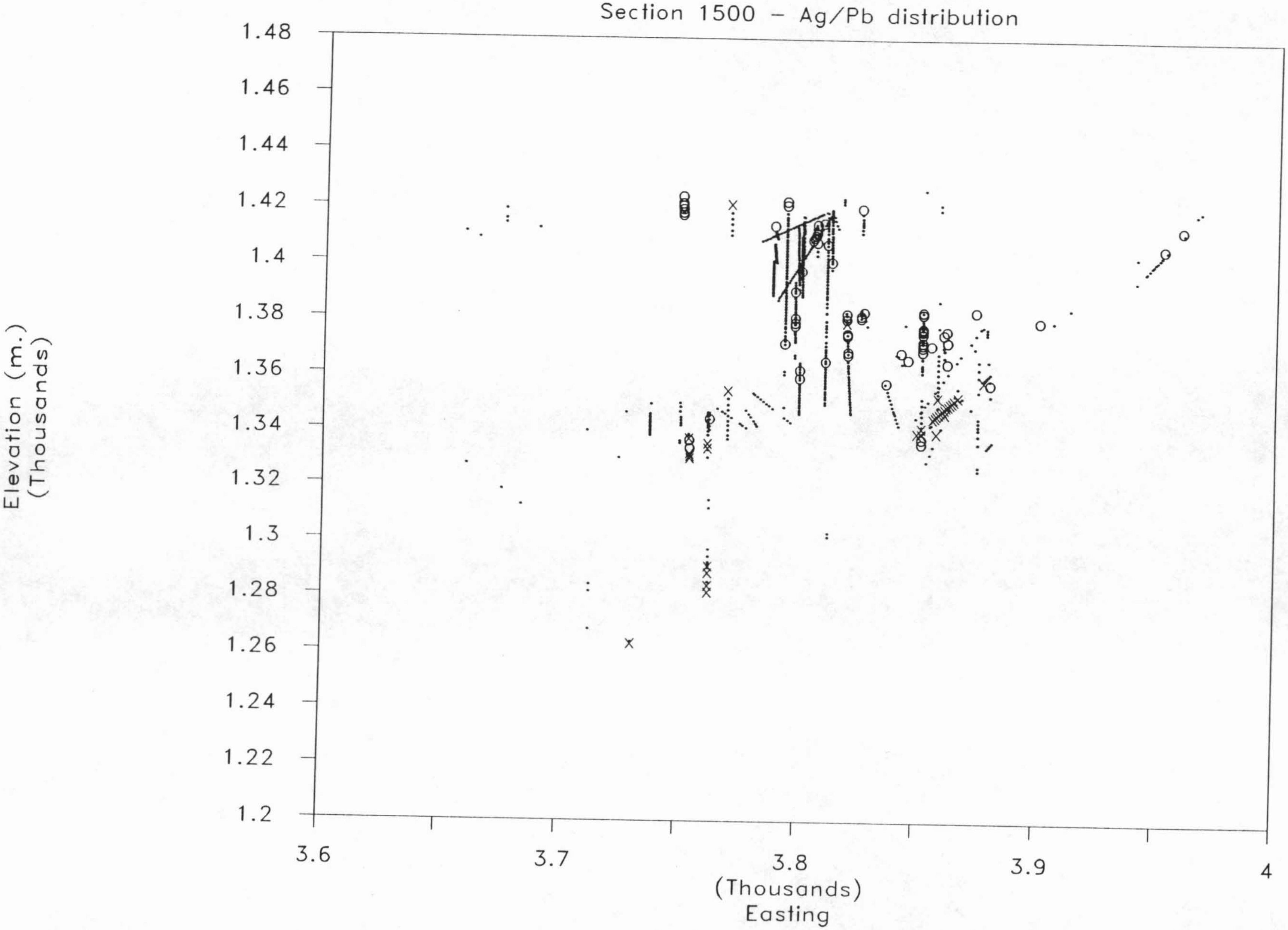


Figure T17: Symbol plot showing distribution of Ag to Pb ratio on cross section 1500N (Figure T9). Although weak, the general tendency for more silver rich ores to occur deeper and more easterly is apparent.

Legend: o = Ag/Pb >50 · = Ag/Pb 4 to 50 x = Ag/Pb ≤4

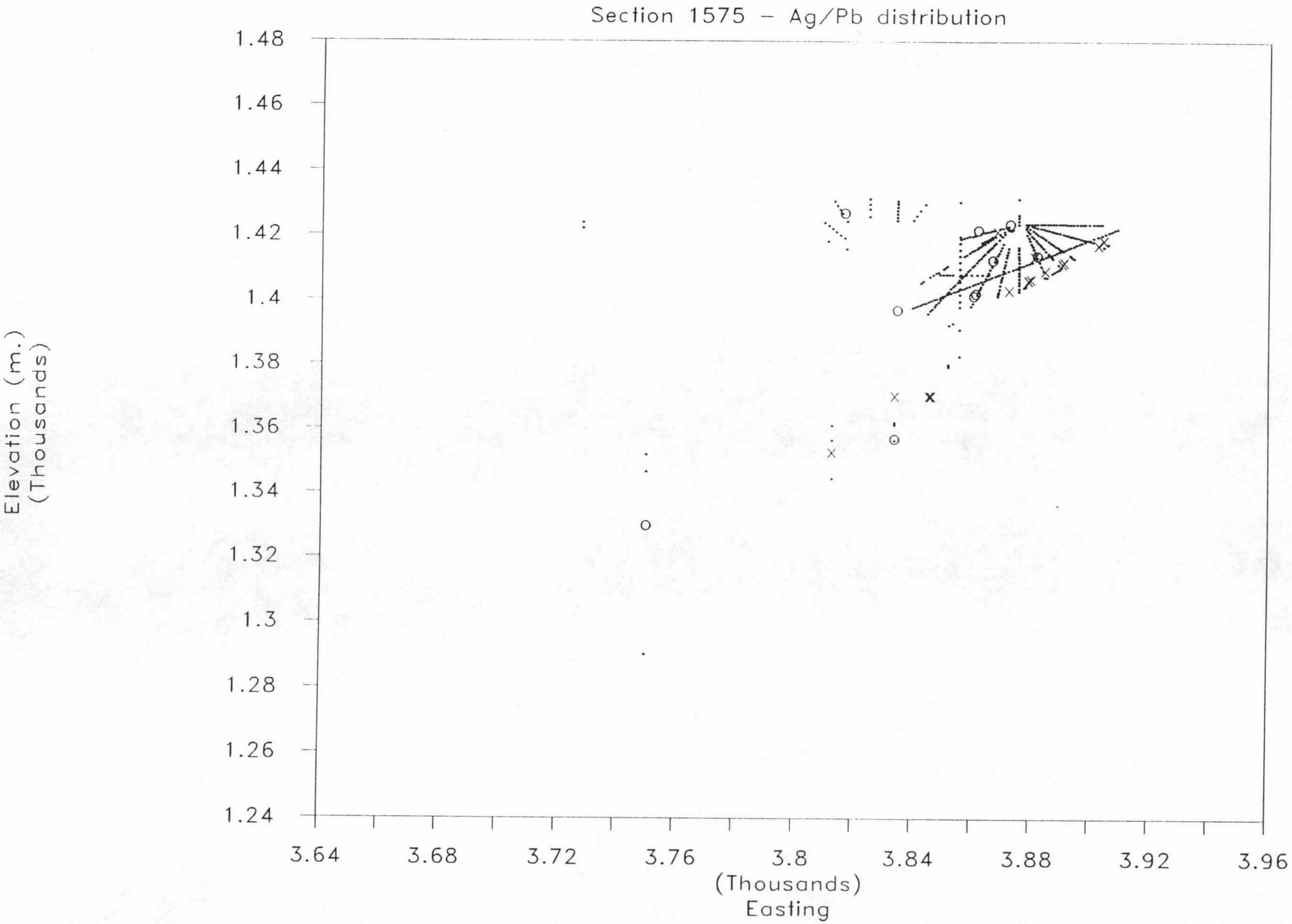


Figure T18: Symbol plot showing distribution of Ag to Pb ratio (in grams per tonne/percent) on cross section 1575N (See Figure T10 for geology). A rind of silver rich ore appears to follow the bottom of the JB1 Pod.
Legend: x = Ag/Pb <4 · = Ag/Pb 4 to 25 o = Ag/Pb >25

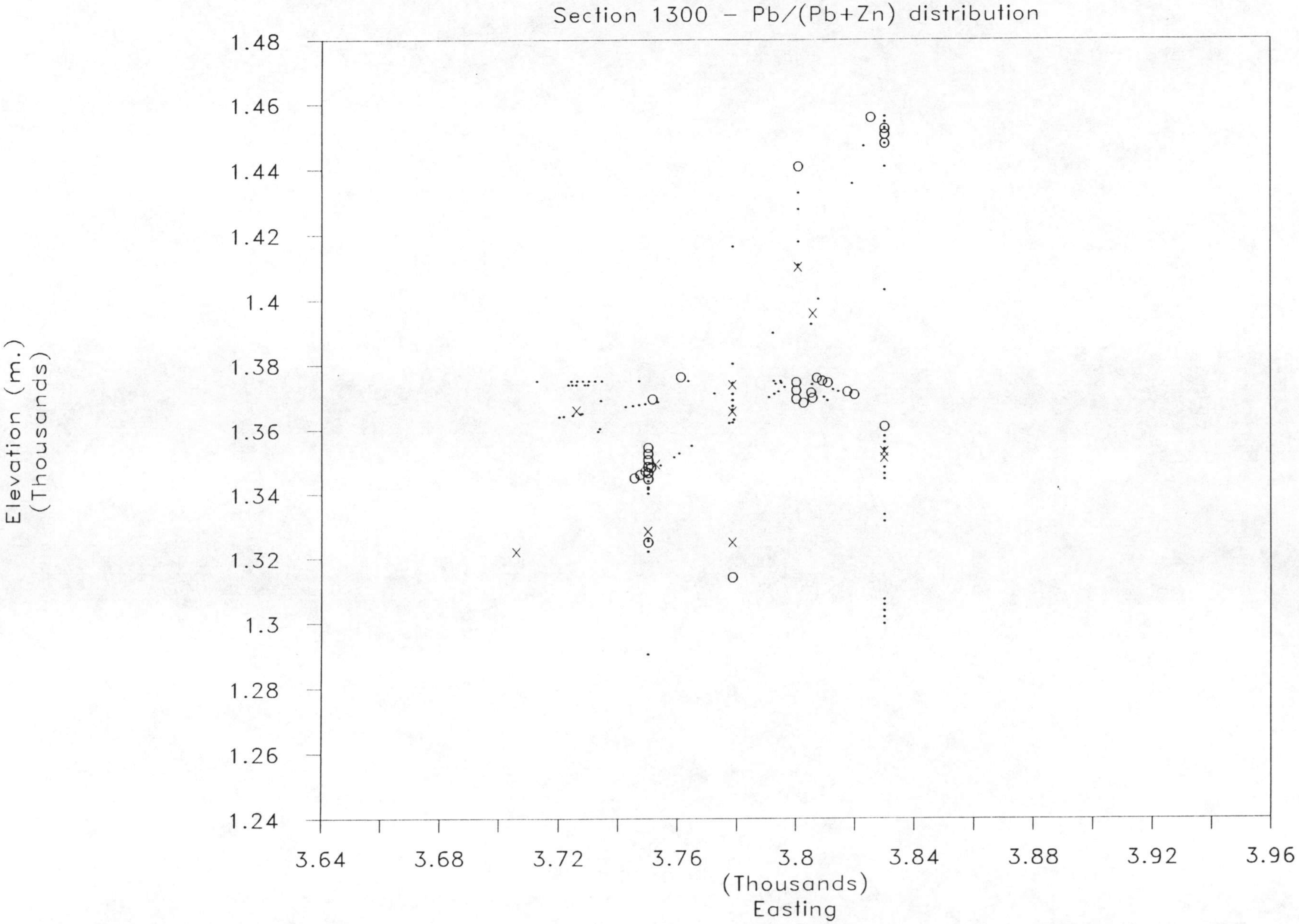


Figure T19: Symbol plot of lead-zinc ratio for cross section 1300N (Figure T7). No trends are obvious.

Legend: x = Pb/Pb+Zn <0.25 · = Pb/Pb+Zn 0.25 to 0.60 o = Pb/Pb+Zn > 0.60

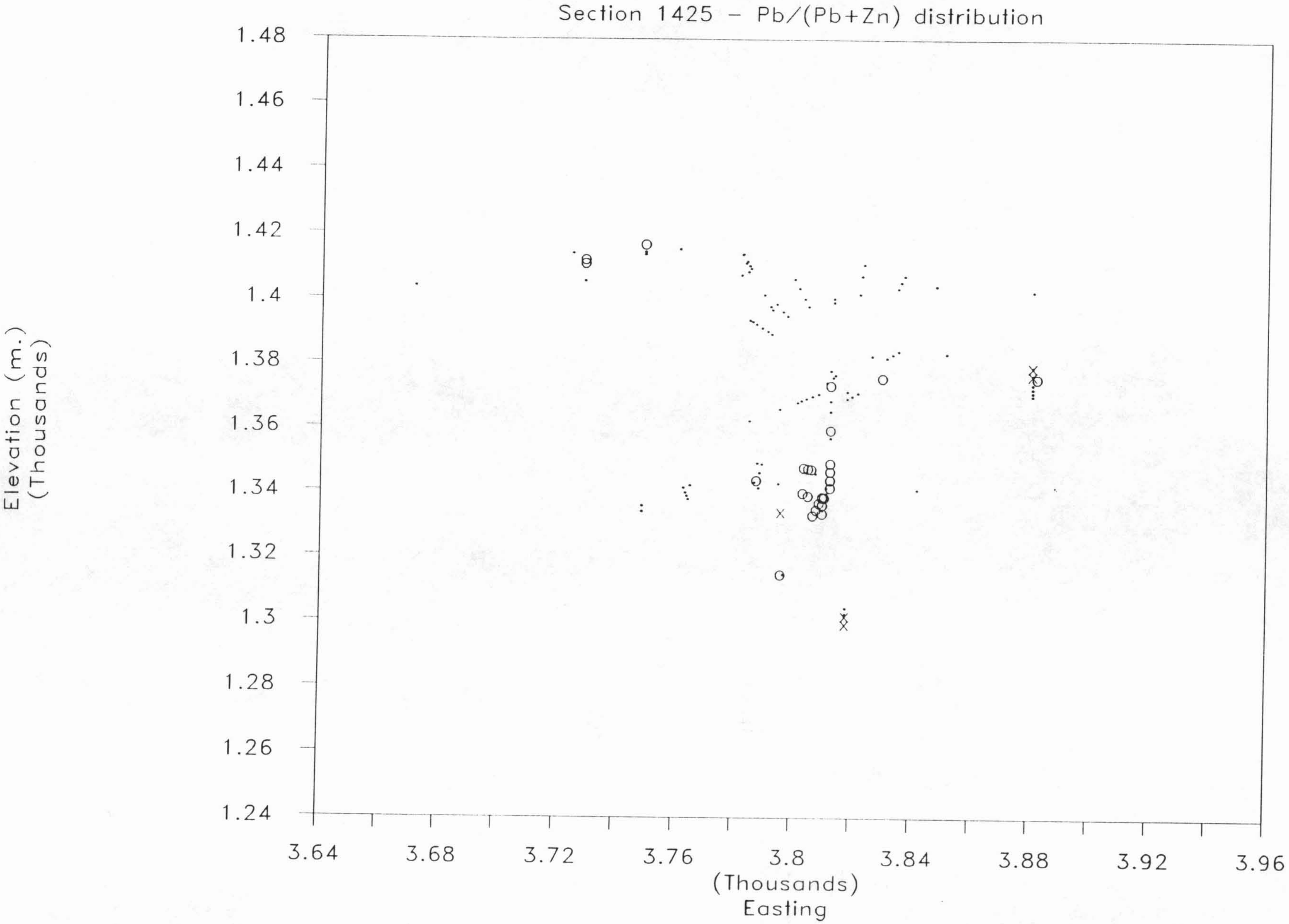


Figure T20: Symbol plot of distribution of lead-zinc ratio for section 1425 (Figure T8). No clear trends are apparent.

Legend: x = Pb/Pb+Zn <0.25 · = Pb/Pb+Zn 0.25 to 0.60 ○ = Pb/Pb+Zn > 0.60

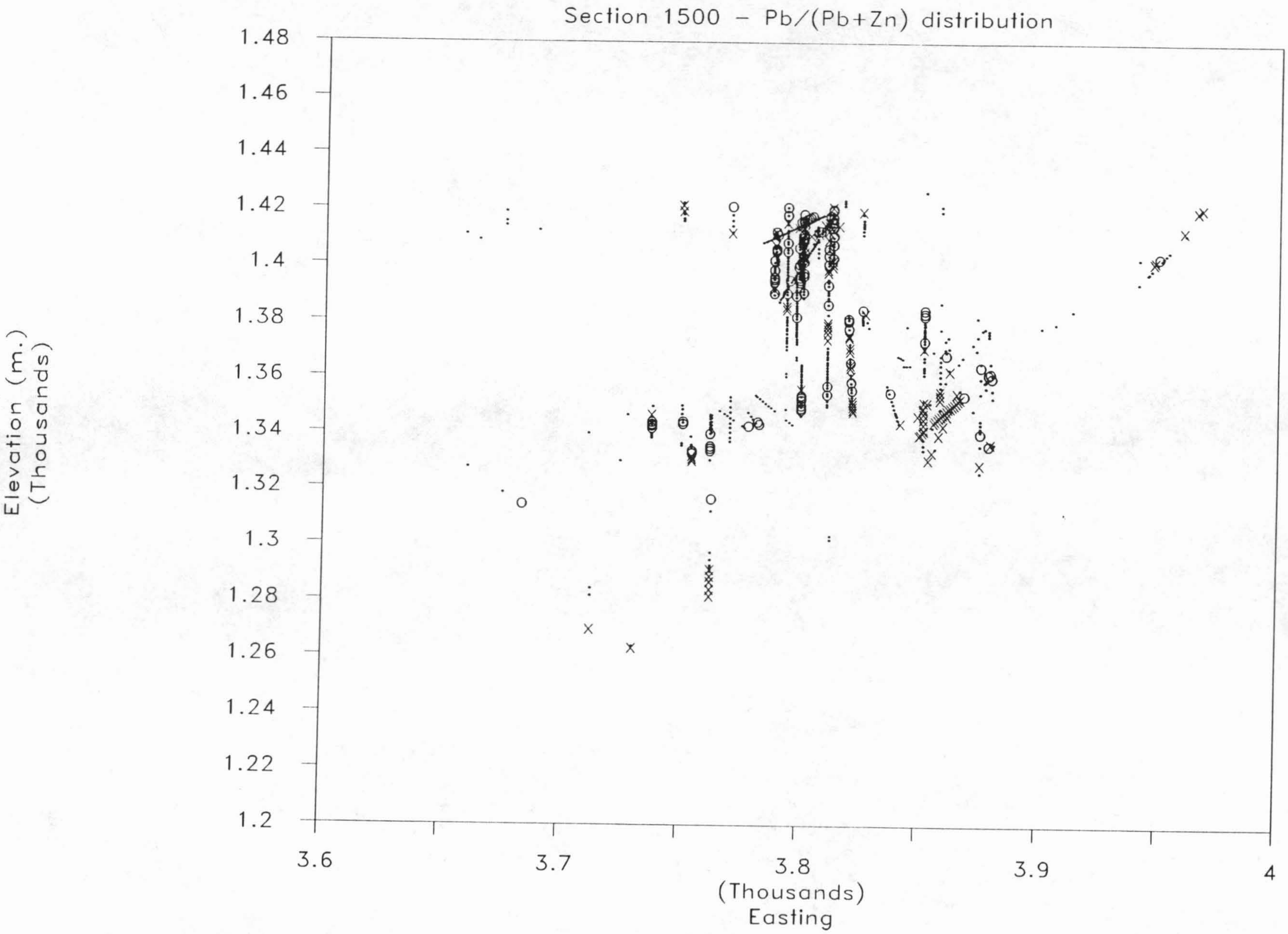


Figure T21: Symbol plot showing distribution of Pb to Pb+Zn on cross section 1500N (Figure T9) Jewel Box Hill. Although overlap is extensive the more zinc rich ores appear to be deeper and more easterly like the more silver rich ores.

Legend: x = Pb/Pb+Zn <0.25 · = Pb/Pb+Zn 0.25 to 0.60 o = Pb/Pb+Zn > 0.60

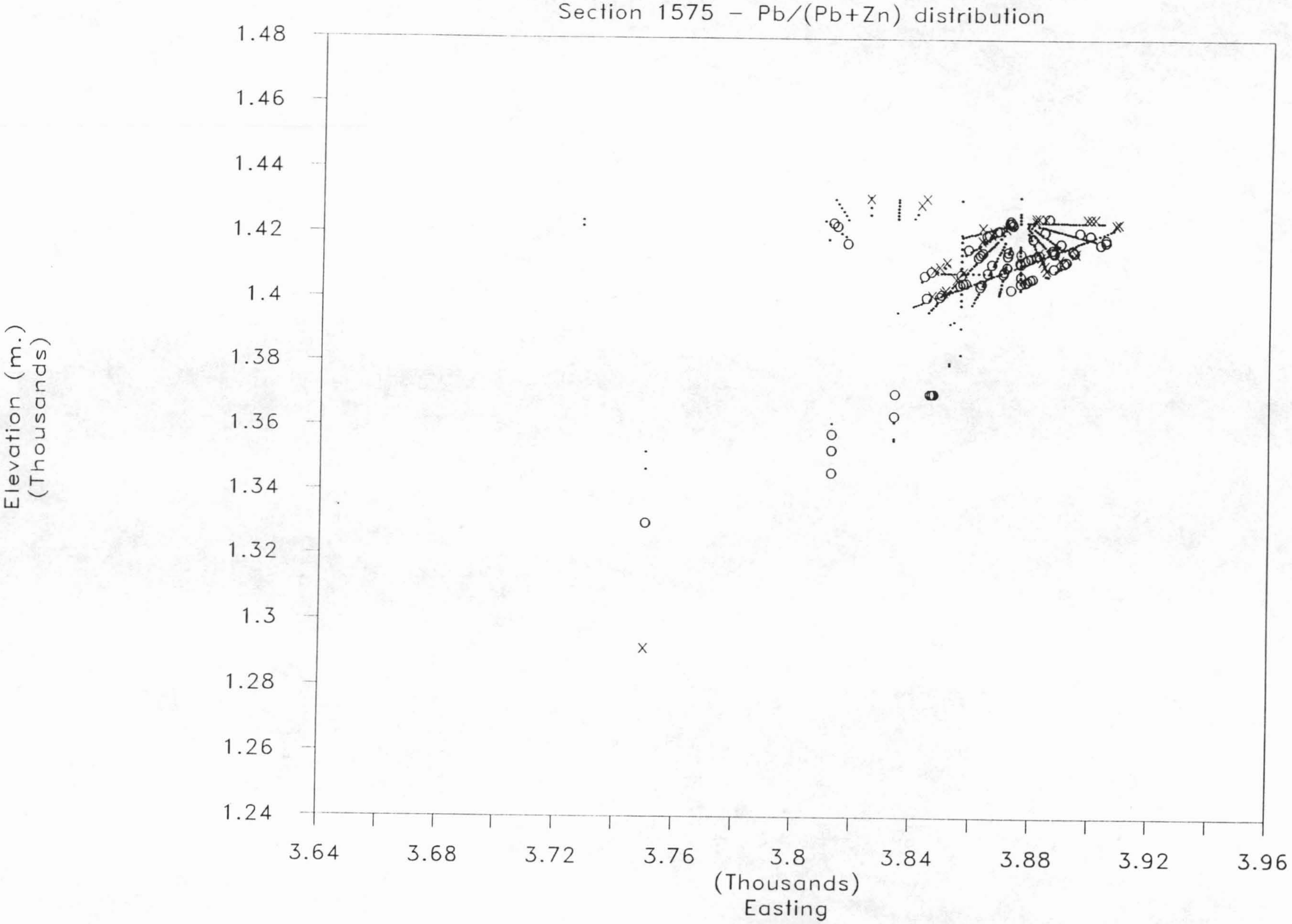


Figure T22: Symbol plot showing distribution of Pb to Pb+Zn on cross section 1575N (Figure T10) Jewel Box Hill. No trend is apparent.

Legend: x = Pb/Pb+Zn <0.25 · = Pb/Pb+Zn 0.25 to 0.60 ○ = Pb/Pb+Zn > 0.60

Diluted Ore Reserves
Sā Dena Hes Mine

	Short Tons	Average Grade		
	Dec. 31 1991	Zinc	Lead	Silver
		(Percentage)		(ounces per ton)
Proven and probable reserves:				
Jewelbox Hill	1,118,879	10.58	6.89	1.51
Burnick	2,037,500	11.53	0.79	1.25
Atilla	425,800	11.50	3.10	1.75
Stockpile	74,363	13.70	10.50	1.88
Total	3,656,542			