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NAT JOINT VENTURE

BULLDOZER TRENCHING REPORT

NUCLEUS 1-50 CLAIMS
(YA51189-51222, YA60256-60271)

DECEMBER, 1983

Office of the Regional Manager Mineral Rights
JAN 31 1984
Yukon Territory

Claim Sheet 115I/6

Latitude 62°20'N; Longitude 137°20'W

W.D. Eaton, B.A., B.Sc.

Work done between September 11 and 16, 1983

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INTRODUCTION

The Nucleus 1-34 claims were staked in August, 1980 to protect an area of anomalous gold and arsenic geochemistry lying immediately west of the Yukon Revenue porphyry copper property. In 1981, sixteen additional claims were staked and preliminary geological mapping, grid soil sampling and a magnetic survey were done. The work outlined several centres of strongly anomalous gold values (up to 3284 ppb Au) over a two sq km area and showed that the best values were associated with a zone of brecciated and altered intrusive and metamorphic rocks.

Mapping, grid soil sampling and reconnaissance chip sampling done in 1982 better defined geological contacts and outlined four soil gold anomalies with associated anomalous values in rocks up to 693 ppb Au across 50 m. A comparison of gold values in soil, rock and drill core (from nearby holes drilled by Kaiser Resources in 1970) suggested that significant surface leaching of gold was taking place.

The 1983 program was restricted to cutting three bulldozer trenches to bedrock on the most accessible gold soil anomaly. The trenches were geologically mapped and chip sampled. Samples were all geochemically analyzed for gold plus 17 potential indicator elements and selected samples were cyanide leach tested and fire assayed.

During the summer the adjacent claims owned by Yukon Revenue were optioned to Shakwak Exploration Co. which conducted preliminary mapping and sampling of known mineral occurrences for gold.

PROPERTY, LOCATION AND ACCESS

The Nucleus property consists of 50 contiguous mineral claims recorded in the Whitehorse Mining District as follows:

Claim Name	Grant Numbers	Expiry Date
Nucleus 1-12	YA51189-YA51200	19 February/87
Nucleus 13-18	YA51201-YA51206	19 February/88
Nucleus 19-34	YA51207-YA51222	19 February/87
Nucleus 35-50	YA60256-YA60271	1 March/87

The claims are located at latitude 62°20'N and longitude 137°20'W on NTS sheet 115I/6, 63 km northwest of Carmacks. Sufficient assessment credit will be available from the 1983 program to file at least two additional year's assessment on all of the claims.

The property is accessible from the end of the Freegold Road by two routes maintained by placer miners. One follows the ridge separating Big Creek from Bow Creek, while the other parallels the south bank of Big Creek. Both are usable in dry weather throughout summer and fall. During 1983, a bulldozer trail was cut from the end of the ridge road to the area trenched, a distance of approximately 600 m.

PREVIOUS WORK

Most of the Nucleus claim group was originally staked as part of the Yukon Revenue property, which was explored as a low-grade copper-molybdenum target with minor values in tungsten, gold and silver. Although placer miner P.F. Guder discovered gold-quartz float as early as 1934 on the northeast side of what is now Yukon Revenue property, he did not stake claims until 1953 when he explored a copper showing assaying 15% Cu and 0.5 oz/ton Au over 5 m with adit and shallow shaft. His property was optioned by Conwest, which conducted an EM survey in 1954; by Teck ECL, which drilled 5 holes (427 m) in 1955; by Cominco in 1959; by Meridian Syndicate, which drilled 3 holes (165 m) and conducted a geochemical survey in 1964; and by General Enterprises in 1967. Most of the drilling tested discontinuous lenses of chalcopyrite and pyrite in a strongly altered (propylitic and argillic) breccia zone.

In 1968, Yukon Revenue ML was formed by General Enterprises. Between 1967 and 1969, General Enterprises and Yukon Revenue ML explored the Revenue property with road building, bulldozer trenching, geochemical sampling, an IP survey and 10 drill holes (1276 m), and during 1974 and 1978 with additional bulldozer trenching. The best precious-metal zone reported in these trenches assayed 0.4 oz/ton Au, 2.0 oz/ton Ag and 0.28% WO_3 across 3.3 m.

The Yukon Revenue property was optioned by Kaiser Resources Limited in 1970, which cut a widely-spaced grid of bulldozer trails and trenches and drilled 25 percussion holes (2245 m) and 13 diamond drill holes (1851 m) on copper-molybdenum geochemical anomalies. Parts of this bulldozer grid were done on ground now covered by the Nucleus claims and provide survey control for the NAT soil sampling grids and reference locations for geological mapping.

The Nucleus 35 to 50 claims occupy ground previously staked as the Cash claims (private individuals from Whitehorse 1979-1980), Com claims (Cominco 1969), and the Roy and Tye claims (Klotassin JV, 1974). Cominco and Klotassin JV conducted geochemical soil surveys near the northwestern corner of the Nucleus claims, but only weak copper and molybdenum anomalies were outlined. Minor fluorite and occasional scheelite were also found in float.

PHYSIOGRAPHY AND GEOMORPHOLOGY

The Nucleus property lies in the Dawson Range, a west-northwest-trending range of low mountains that extends from Carmacks to Dawson. The main drainage in the Nucleus area is Big Creek which occupies a major northwest-trending topographic low that follows the trace of the Big Creek Lineament. Most tributaries of Big Creek, including Mechanic Creek which cuts the Nucleus claims, flow perpendicular to Big Creek and are strikingly linear, suggesting that they are developed along subsidiary structures. Local elevations range from 700 m in the Big Creek Valley to 1000 m on the north-trending ridge west of Mechanic Creek. The property lies below treeline and typical vegetation includes spruce and poplar trees on south- and east-facing slopes with stunted black spruce and thick moss on north- and west-facing slopes.

Although the Dawson Range was not covered by continental ice sheets during the Pleistocene Wisconsin glacial epoch, isolated alpine glaciers were present and glaciofluvial outwash is common. Minor amounts of exotic alluvium which occur along the northern and southern edges of the Nucleus grid, are probably remnants of such outwash debris.

Soil profiles on the Nucleus property include 1 to 10 cm of A horizon organics, 0 to 100 cm of volcanic ash, 5 to 50 cm of B horizon soil, and 100 to 300 cm of C horizon soil over deeply weathered bedrock (there is 30 to 200 m of leaching in most parts of the Dawson Range). The ash horizon covers most of the property but its thickness is highly variable due to local remobilization by fluvial and colluvial processes. It is thickest (up to 100 cm) on flat ridge tops and in solifluction lobes on the slopes west of Mechanic Creek. Elsewhere on the property it is thin to absent. Extensive mixing between ash and locally derived soils has occurred on the lower slopes and in these areas the ash tends to occur as up to 1 cm thick lenses and individual particles within the soil. Permafrost is extensive, particularly at lower elevations and on north- and west-facing slopes.

Less than ten outcrops occur on the property; however, road cuts and old cat trenches expose abundant locally derived float. The degree of downhill transport of the float is difficult to estimate and unit contacts based on float mapping may be shifted downhill as much as 200 m in some areas.

GEOLOGY

General

The Nucleus claims are situated near the western limit of a mid-Cretaceous to Tertiary(?) complex composed of felsic stocks, dykes and intrusive breccias. The complex is elongated in a west-northwesterly direction parallel to the regional trend and the Big Creek Lineament, and intrudes Paleozoic Yukon Metamorphic Complex schists and pre-Cretaceous foliated intrusive rocks.

Several phases have been recognized in the intrusive complex on the Nucleus and Yukon Revenue properties. The earliest consists of biotite-monzonite and quartz-monzonite plutons up to 2 km in diameter. They were succeeded by micro-granite, which forms two 0.5 to 1 km diameter bodies on the east and west side of Mechanic Creek, respectively. The final phase involved quartz-feldspar and feldspar-porphyry dykes and related intrusive breccias.

Units occurring on the property are described below from oldest to youngest and are shown on Figure R1 in the pocket.

Pre-Cretaceous Country Rocks

Yukon Metamorphic Complex (PYMC) - A 500 m wide band of Yukon Metamorphic Complex rocks trends northwesterly across the property and is exposed in placer workings in Mechanic Creek and outcrops on a ridge top 700 m to the west. The unit exhibits strong heterogeneity and includes chlorite schist, quartz-biotite schist, quartz-muscovite schist, amphibolite, impure quartzite and quartz-feldspar granulite. This suite is consistent with a paleolith composed of intermediate-to-felsic tuffs, sediments and mafic-to-felsic dykes. Foliations on the ridge show gentle dips but steepen toward Mechanic Creek. Outcrops are too sparse to allow structural interpretations. Rare garnet porphyroblasts indicate greenschist facies metamorphism.

Gabbro-diorite (PMgb) - An irregular, 100 by 200 m, mafic intrusion invades the Yukon Metamorphic Complex east of Mechanic Creek. In places it exhibits strong compositional layering parallel to foliation in the enclosing schists. This texture shows that it is syntectonic and thus probably pre-Jurassic in age.

Cretaceous Intrusive Complex

Quartz and/or biotite monzonite (Kqm/Kbm) - This unit is medium-to-coarse grained, equigranular and non-foliated. It is compositionally variable and ranges between two end members, one containing greater than 10 percent quartz and less than 5 percent biotite, and the other containing little or no quartz and up to 15 percent biotite. They occur mainly east of Mechanic Creek and west of the main ridge on the property.

Microgranite (Kmcg) - This unit covers a 2 sq km area on the hillside west of Mechanic Creek. The microgranite is a fine-grained, tan to pale green, extremely felsic rock which commonly contains between 1 and 5 percent, small (1 to 5 mm), euhedral plagioclase phenocrysts in a matrix of anhedral quartz and feldspar. Biotite originally comprised up to 3 percent of the rock but is generally altered to chlorite. Flow banding is occasionally present particularly adjacent to the overlying Yukon Metamorphic Complex. The microgranite-schist contact is nearly horizontal near the ridge top but steepens toward Mechanic Creek. The microgranite-biotite monzonite contact has not been observed.

Quartz-feldspar porphyry (Kqfp) - These rocks occur as dykes and consist of 1 to 5 percent quartz and feldspar phenocrysts in a tan, nearly aphanitic, locally flow banded matrix. Argillic alteration is common. In most specimens collected at surface, feldspar phenocrysts appear as holes and the matrix is punky rather than vitreous. The dykes are most abundant in the Mixed Unit (KØX, see below) but a few isolated dykes cut Yukon Metamorphic Complex schists and microgranites. Sparse clasts found in some dykes strongly resemble matrix material.

Mixed Unit (KØX) - This unit includes two separate zones, both of which contain a mixture of quartz-feldspar porphyry and schist float. The degree of heterogeneity of float in soil far exceeds that of simple colluvial mixing and likely represents debris from an extensive dyke swarm superimposed on an irregular microgranite-schist contact. These zones form mappable units surrounded by more uniform lithologies which lack significant amounts of dyke material.

Brecciation

A 100 by 300 m breccia zone occurs on the hillside west of Mechanic Creek and cuts both microgranite and the Mixed Unit. The breccias are typically clast-dense and consist almost entirely of angular microgranite and schist fragments with minimal mixing. The fragments are commonly rotated, indicating some degree of movement during formation. A few slickensides occur in breccia cobbles.

The matrix consists of quartz, clays and limonite. Silicification of clasts, as well as matrix, is particularly evident in breccias composed of microgranite fragments.

Alteration

Two large alteration zones and several small ones have been identified on the Nucleus property, as shown on Figure R1 in the pocket.

The largest, which coincides with the main geochemical anomalies, is an irregular 50 to 300 m wide, 1100 m long, north-trending zone. The southern third of the zone coincides with the breccia zone described earlier, while the northern two-thirds affects microgranite. An extensive stockwork of hairline to 3 cm wide quartz veins is developed in the core of the zone but near the edges swarms of parallel veinlets are seen. Silicification is rarely pervasive. Pervasive sericite and clay alteration is common within the zone and often completely destroys primary textures. Sericitization occurs as greasy, pale green fracture fillings and alteration envelopes with or without quartz. The argillic alteration attacks feldspar phenocrysts and matrix. In most cases it is not possible to distinguish hypogene argillic alteration from supergene weathering.

A poorly-defined, weak argillic alteration zone is developed in the microgranite peripheral to the quartz-sericite zone.

In the Mixed Unit (KØX), quartz-sericite alteration similar to that described above affects the microgranite breccia float, but the schists are typically fresh. The quartz-feldspar dykes, which postdated the main alteration event, characteristically show intense argillic alteration which also affects adjacent wallrocks.

The second large alteration zone lies 600 m southwest of the main zone and coincides with the southern KØX unit. Altered float covers a 100 by 400 m area and includes Yukon Metamorphic Complex schists which are strongly clay-altered and bleached, and quartz-feldspar porphyry rocks that typically show pervasive argillic alteration and occasionally are intensely silicified. Some of the silicified rocks also contain finely disseminated pyrite.

A number of small alteration zones up to 50 m wide and 200 m long are found northwest of the main zone. They are confined to the microgranite and exhibit alteration similar to that in the main zone but lack the intense quartz stockworks.

Immediately south of the main zone, pebbles of cockade quartz, massive magnetite and punky gossanous material occur with unaltered schist in soil. This is best seen in the gully which follows line 1+85 S. These vein fragments may be related to the quartz-sericite alteration and may represent a zone of iron enrichment peripheral to a zone of depletion.

Structure

Because of lack of outcrop data, little is known about the structure of the metamorphic rocks except that they may dip shallowly on the ridge top but steepen toward Mechanic Creek.

A number of NNE-trending air photo lineaments, which are perpendicular to the Big Creek Lineament, occur along and west of Mechanic Creek as illustrated on Figure R1 in the pocket. These topographic lineaments are recognizable on the ground as poorly defined slope breaks and vegetation anomalies, and one of them forms the straight channel of Mechanic Creek. Although most of them do not show offsets or lithologic breaks and thus appear to be fractures rather than faults, one lineament located 200 m west of Mechanic Creek forms the eastern limit of the microgranite (Kmcg) and KØX units.

MINERALIZATION

Sulphide mineralization is rare at surface and is restricted to traces of fine-grained pyrite in quartz veins. A few veins exhibit a medium to dark blue-grey colour which may be due to finely disseminated, microscopic sulphides. Grab samples of this material produced values up to 847 ppb Au. Yellow-to-brown limonite is found in a few quartz veins and on some fractures but is not abundant. Malachite, galena and sphalerite have been reported in previous work on the eastern tributary of Mechanic Creek but have not been relocated by NAT. Magnetite float and cockade quartz vein fragments are common in road cuts immediately west of Mechanic Creek. Selected specimens of this material returned assays up to 1740 ppb Au.

Two of the seven 1970 Kaiser diamond drill holes were relogged by NAT in 1981 and the results were included in the 1981 Assessment Report. The holes were collared along the floor of Mechanic Creek some 300 m east of the area trenched, as shown on Figure R1 in the pocket. In one hole (DDH 70-5), nearly all sulphides were leached to a depth of 40 m and in the other (DDH 70-6) to a depth of 15 m. Below the oxidized cap, pyrite, pyrrhotite and chalcopyrite were seen as veinlets and disseminations. Limonite with traces of malachite, azurite and chalcocite were noted in the oxidized zone but decreased toward surface. The most abundant sulphides (up to 30 percent pyrite with 5 percent chalcopyrite) were associated with 1 to 3 m wide, quartz-flooded breccia zones. The best assays were 3582 ppb Au, greater than 1000 ppm As, and 620 ppm Pb from the same 1.3 m interval; 13.2 ppm Ag from an adjacent 3 m interval; 0.06% Cu from a 3 m interval in the supergene zone; and, 0.003% Mo from several 3 m intervals. The two holes drilled nearest to the main area of interest were percussion drill holes PDH 79-8 and 79-9 (shown on Figure R2). Composite samples representing the entire length of the hole assayed 0.01 oz/ton Au with 0.03% Cu over 67.1 m and 0.007 oz/ton Au with 0.05% Cu over 91.5 m, respectively.

TRENCHING

General

The 1983 bulldozer trenching was done on an east-facing sidehill immediately west of the Nucleus-Yukon Revenue claim boundary to explore 1982 Geochemical Anomaly 2, a 400 by 200 m area exhibiting erratic anomalous gold soil values up to 1940 ppb supported by bulk float sample results up to 523 ppb Au across 50 m. The trenches had a total length of 516 m and formed an "H" with two trenches cut perpendicular to the slope connected by a third trench paralleling the slope. Figure R2 in the pocket illustrates the location of the trenches relative to Anomaly 2 and the property boundaries, as well as surface geology mapped from float in soil. Bedrock geology exposed in the trenches and assays of channel samples from the floors of the trenches.are shown on Figure R3 in the pocket.

The work required 47.5 hours of bulldozer time and was done with a ripper-equipped Komatsu D65E owned and operated by B. Coles, who is placer mining on Mechanic Creek slightly upstream from the main Nucleus soil anomalies. The trenches ranged from 1.0 to 4.0 m (and average 2.0 m) in depth and cut 0.5 to 2.0 m into bedrock. Permafrost was present in all trenches and necessitated use of the ripper once the surface active layer was removed. A total of 4114 cubic metres of material was moved, including 1438 cubic metres of bedrock and frozen soil which required ripping. The work was supervised by geologist M.P. Phillips.

Ninety channel samples averaging 9 kg in weight were collected from a bulldozer ripper cut into the centre of trench floors. Sample intervals varied from 1 to 11 m in length and, wherever feasible, their boundaries coincided with geological contacts. All samples were sent to Chemex Labs in North Vancouver where a -80 mesh split was geochemically analyzed for Au,Ag,As,Sb,Bi,Te,Hg,Cu W,Pb,Zn,Cd,Mo,Ni,Co,Fe,Mn and P. Fire assays for gold and cyanide leachability tests were also performed on some samples. Analytical techniques used are described in Appendix II.

Results

Bedrock geology in the trenches generally agrees with geology as mapped from float in soil, and consists of numerous quartz feldspar porphyry dykes cutting a microgranite plug containing large xenoliths of Yukon Metamorphic Complex and quartz biotite monzonite. The most intense supergene and hypogene clay alteration is seen in the porphyry dykes and adjacent microgranite, while quartz veinlets are best developed in the microgranite and, to a lesser degree, the porphyry. There is no direct evidence linking the quartz veining to the clay alteration and it appears that some veins, particularly those in the microgranite, preceded the more pervasive clay alteration. The quartz veinlets form wide-spaced stockworks and are typically 1 to 5 mm wide, white and massive. Occasional light grey chalcedony veinlets and drusy transparent quartz crystals coating open fractures are seen. The porphyry dykes range from 2 to 48 m in width and are more intensely altered and narrower in Trenches 83N1 and 2 than they are in Trench 83N3. In general, alteration is strongest in flow banded and brecciated dykes. Clasts in the brecciated dykes are dominantly composed of porphyry material similar to that in the matrix, but numerous microgranite and occasional Yukon Metamorphic Complex fragments are also present. The dykes exhibit north to northwesterly strikes and steep dips, except in Trench 82N2 where they appear to be striking west-northwest. This variation may be due to mapping problems created by intense alteration and permafrost encountered in this trench, which made bedrock difficult to distinguish from C horizon soil. Contacts between the xenolith and the microgranite also exhibit northerly trends but foliation attitudes in the Yukon Metamorphic Complex xenoliths are variable. Only two faults were observed, both in Trench 83N1. They are 6.0 m and 3.5 m wide respectively, strike northwest, dip steeply and consist of highly fractured microgranite mixed with fault gouge.

Sulphide mineralization is limited to traces of fine grained, partially oxidized pyrite occurring as disseminations in two porphyry dykes and rare veinlets in Trenches 83N1 and 2, and, a single grain of euhedral tetrahedrite in a 1 cm wide, black manganiferous limonite-filled veinlet cutting a porphyry dyke near the base of Trench 83N1. Brown limonite is common in all three trenches and occurs as coatings on fractures and in fine boxworks. Limonite is best developed in intensely clay-altered porphyry dykes and progressively decreases in abundance away from them. Quartz veinlets generally contain finely disseminated brown limonite. Yellow, red and black limonites are rare.

Assay results are extremely encouraging with thirteen of the ninety samples returning greater than 1000 ppb Au, including one sample from an intensely clay-altered porphyry dyke in Trench 83N1 which assayed 1.304 oz/ton Au across 3.5 m. The mean gold value, excluding the high assay, is 523 ppb and the lowest value obtained was 25 ppb. All samples which produced values over 1000 ppb Au were fire assayed and these results strongly support the geochemical values, as shown on Figure R4 on the following page. In order to test the reproducibility of the 1.304 oz/ton Au assay, a second sample split was taken from the coarse rejects and fire assayed. The second assay returned 1.421 oz/ton Au.

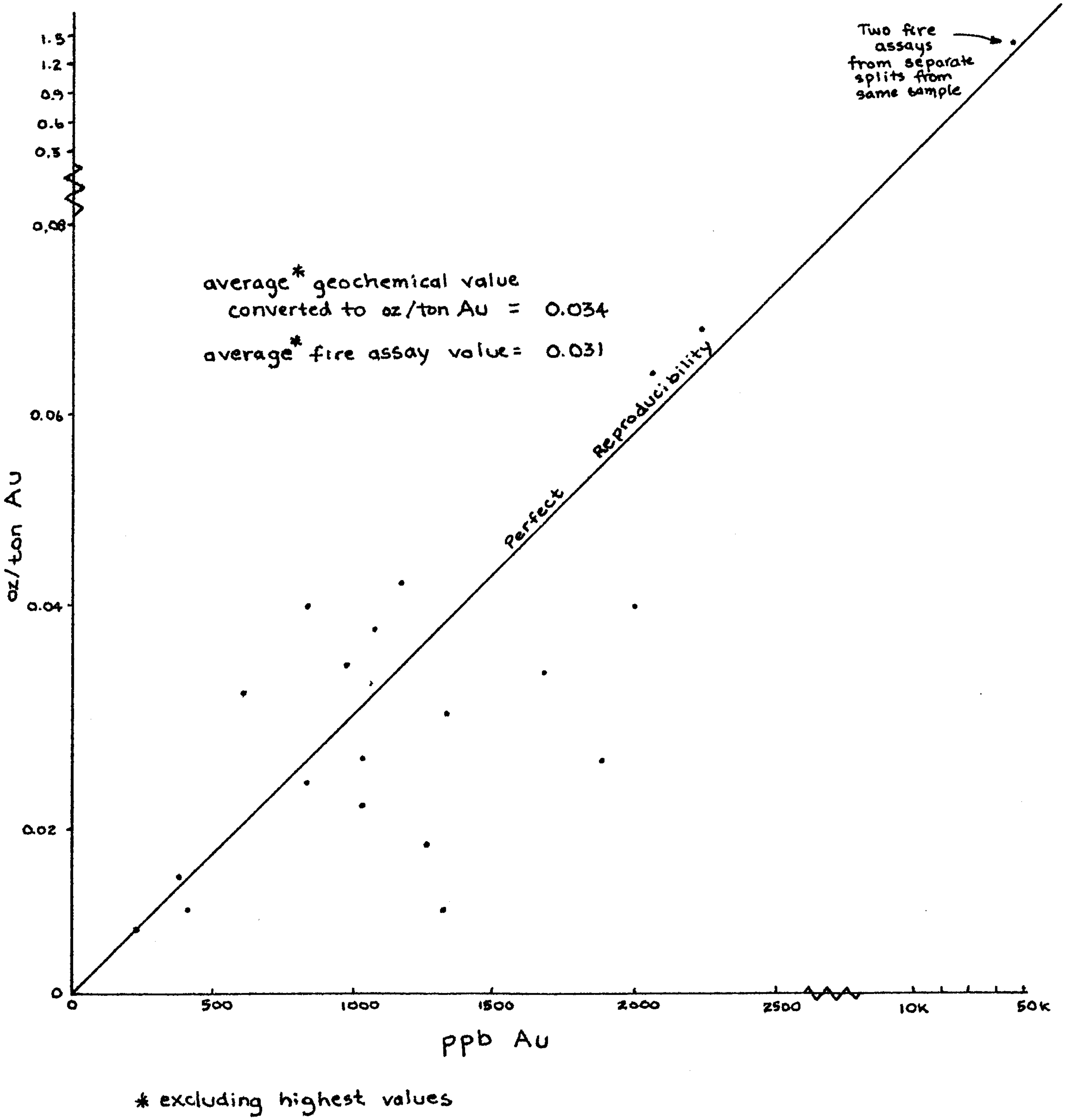

Figure R4: Scatter diagram showing reproducibility of gold values obtained by geochemical analysis vs fire assay, Nucleus property.

The best concentration of high gold values is located in Trench 83N1 and extends from the 1.304 oz/ton Au dyke west to a second dyke which produced the second highest gold assay, 0.07 oz/ton. Both dykes exhibit intense clay alteration and flow banding but differ in that the first is brecciated and exhibits little limonite with no residual sulphides, while the second is unbrecciated and contains abundant limonite with traces of pyrite. Between the two is a zone of limonite and strongly clay-altered microgranite which is cut by a 6.0 m wide fault. Nine samples taken from the dykes and intervening rocks returned an uncut weighted average of 0.179 oz/ton Au across 31.5 m. If the highest value is excluded, the remaining eight samples produced an uncut weighted average of 0.039 oz/ton Au across 28 m. The samples taken from the fault produced the lowest assays in the interval averaging only 0.024 oz/ton Au across 6 m. Soil samples taken directly over this part of the trench returned values in the range of 10 to 50 ppb Au while those farther downhill produced erratic results ranging from 12 to 1940 ppb Au. Bulk float samples appear to have been a better guide to the mineralization as a sample taken directly below the best grade part of the trench returned 274 ppb Au.

In order to determine the extractability of gold in these strongly oxidized rocks, two cyanide leachability tests were performed, one on a split from the 1.304 oz/ton Au sample and one on a composite made from the eight lower grade samples. The results were encouraging but not conclusive with the first yielding 77.8% recovery and the second 82.1%. Test procedures are described in Appendix II.

A second cluster of high values from farther east in Trench 83N1 returned a weighted average of 0.033 oz/ton Au over 30 m. Here the rocks included faulted and fractured, clay-altered microgranite exhibiting fair to moderate limonite on fractures and altered and brecciated porphyry dykes with limonitic boxworks. The weighted average for the entire 134 m length of Trench 83N1 was 0.056 oz/ton Au if the highest value is uncut and 0.024 oz/ton Au if it is cut to 0.1 oz/ton Au.

Samples from the other two trenches produced lower values with the highest assays (up to 0.042 oz/ton Au across 5 m) coming from the northern part of Trench 83N2 close to Trench 83N1. Although the values are lower, they are still 10 to 50 times greater than the regional background for rocks and soils and 5 times greater than values from soils taken directly above them. As in Trench 83N1, the highest values in these trenches were associated with brecciated and altered porphyry dykes.

In addition to gold values, strongly anomalous results were obtained for As,Sb,Te,Bi and Cu and weakly anomalous values were returned for Ag and W. All other metals produced near background values. Pb values in particular are remarkably low, especially if compared to those from the epithermal veins at Lilypad. Bi and Ag appear to be the most specific gold pathfinder elements and the highest value for each (333 and 4.6 ppm respectively) coincide with the highest gold value. Arsenic is also highly correlated. The other anomalous metals form broader haloes and are less directly correlated to gold. It is significant that Fe, which is probably the best indicator of limonite content, shows a poor correlation with gold, and Mn, which is a powerful gold scavenger in the supergene environment, is negatively correlated. Tables 1 and 2 on the following page illustrate significant statistical data and correlation coefficients for the various metals, respectively, while complete analytical results, statistics and scatter plots are included in Appendices III and IV.

DISCUSSION AND CONCLUSIONS

The 1983 bulldozer trenching explored one of four 1982 soil gold anomalies and showed that the gold is derived from a north-trending, steeply dipping swarm of intensely clay-altered, brecciated and occasionally flow banded quartz feldspar porphyry dykes and adjacent clay-altered microgranites. Assays obtained from bedrock average much higher than those from soil or rock fragments in soil, supporting the 1982 conclusions that surface leaching may be present. The highest values, up to 1.304 oz/ton Au across 3.5 m, came from the dykes themselves; thus, they exhibit the greatest potential for a significant tonnage of high grade ore. A broad halo of lower values, in the range of 0.025 to 0.030 oz/ton Au, surrounds the high grade suggesting potential for an open pit with low stripping ratios. Preliminary cyanide leachability tests on this intensely oxidized, lower grade material returned encouraging results indicating the possibility of a heap leaching operation.

Geochemical analyses of the trench samples has shown that the gold is accompanied by strongly anomalous As,Sb,Bi,Te and Cu and weakly anomalous W and Ag values, and that Au:Ag ratios are characteristically greater than 1 to 1. Boyle (1979) describes this geochemical signature as typical of occurrences that were developed proximal to the heat source which drove the mineralizing hydrothermal system. This data, coupled with the presence of porphyry dyke swarms, brecciation and pervasive argillic alteration suggests that the Nucleus mineralization was deposited immediately above a small magma chamber during an explosive degassing event.

A lack of correlation between Fe and Au coupled with a negative correlation between Mn and Au indicates that supergene enrichment of gold has not taken place and that some of the gold may still be leached. The high correlation between Ag and Au, the near absence of sulphide minerals, and the poor correlation between Au and the metals commonly found in limonite, collectively suggest that most gold in the oxidized rocks is present in the form of electrum.

Figure R5 on the following page is a cartoon illustrating the apparent geological environments in which Nucleus and various other precious metal occurrences in the Dawson Range were formed. It now appears that most gold occurrences (Nucleus, Lilypad, Nitro, Freegold and others) found along the southwest side of the Big Creek Lineament are related to quartz feldspar porphyry bodies. As most of the above mentioned occurrences were deposited at a higher level than Nucleus, the obvious implication is that some may have potential for Nucleus-type mineralization at depth.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

W.D. Eaton, B.A., B.Sc.

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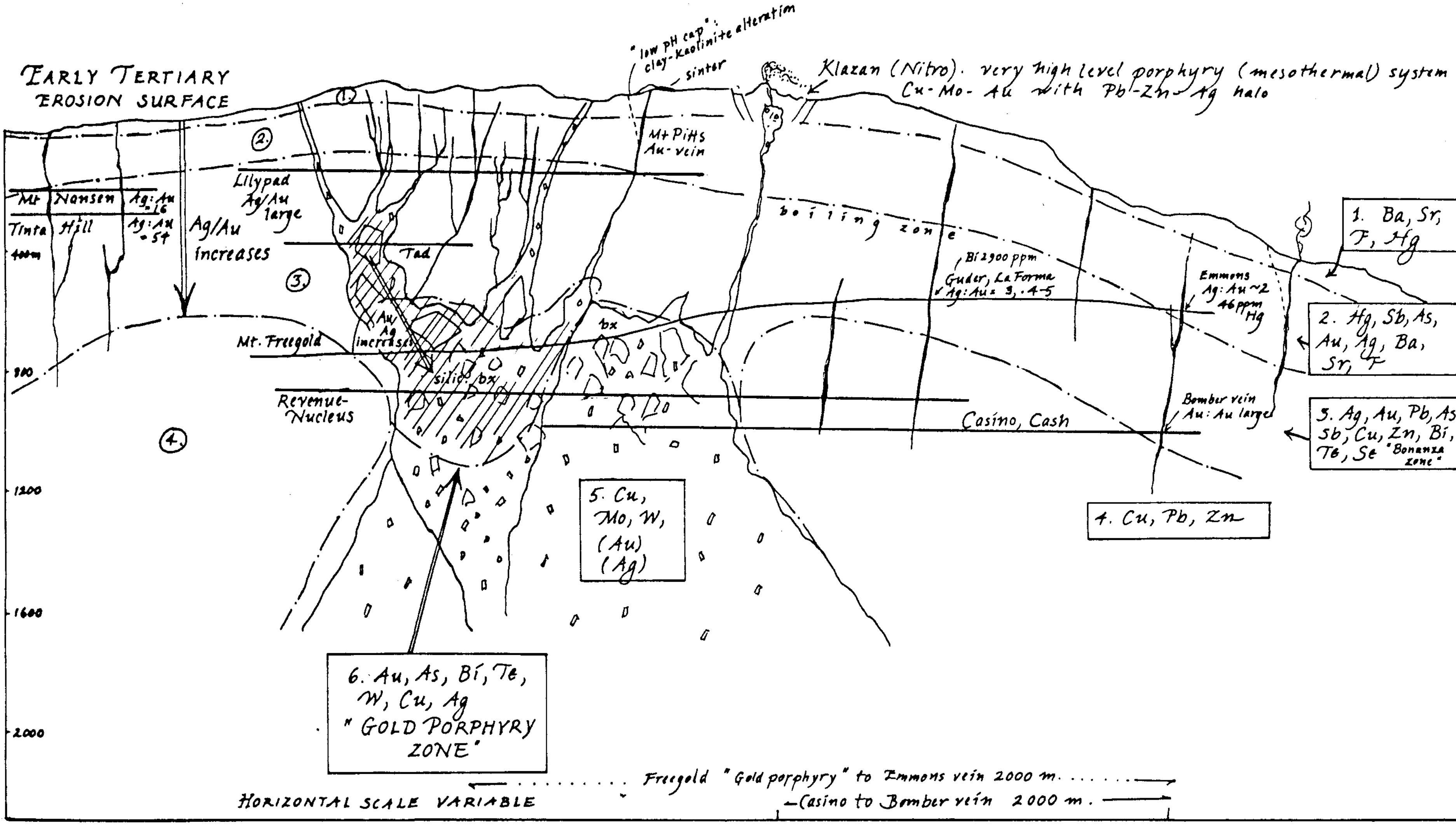

Figure R5 : Geological Environment and Metal Assemblage of Selected Precious Metal Occurrences in the Dawson Range.

APPENDICES

APPENDIX I - STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, W. Douglas Eaton, geologist, with business addresses in Whitehorse, Yukon Territory and Vancouver, British Columbia, and residential address in Burnaby, British Columbia, do hereby declare:

1. I graduated from the University of British Columbia in 1980 with a B.Sc. and am currently enrolled in a M.Sc. majoring in Geological Sciences.
2. From 1971 to the present, I have been actively engaged in mineral exploration in British Columbia and Yukon Territory and on June 1, 1981, became a partner in Archer, Cathro & Associates (1981) Limited.
3. I have personally participated in or supervised the field work reported herein and have interpreted all data resulting from this work.

W. Douglas Eaton, B.A., B.Sc.

APPENDIX II - ANALYTICAL TECHNIQUES

GEOCHEMICAL PREPARATION
AND
ANALYTICAL PROCEDURES

1. Geochemical samples (soils, silts) are dried at 80°C for a period of 12 to 24 hours. The dried sample is sieved to -80 mesh fraction through a nylon and stainless steel sieve. Rock geochemical materials are crushed, dried and pulverized to -100 mesh.

2. A 1.00 gram portion of the sample is weighed into a calibrated test tube. The sample is digested using hot 70% $HClO_4$ and concentrated HNO_3. Digestion time = 2 hours.

3. Sample volume is adjusted to 25 mls. using demineralized water. Sample solutions are homogenized and allowed to settle before being analyzed by atomic absorption procedures.

GOLD NAA - NEUTRON ACTIVATION ANALYSES**

A 1Ø gm sample is fused in litharge, carbonate and silicious flux. The resulting lead button containing any gold in the sample is cupelled in a muffle furnace to produce a precious metals bead.

Sample beads, plus standard and blank beads are irradiated in a thermal neutron flux. The gamma emissions of the irradiated beads are counted utilizing a Ge (Li) detector and quantified for gold.

The detection limit for a 1Ø gm sample is 1 µg/kg (ppb).

PPM SILVER

A 1.Ø gm portion of sample is digested in conc. perchloric-nitric cid (HC1Ø4-HNO3) for approx. 2 hours. The digested sample is cooled and made up to 25 mls with distilled water. The solution is mixed and solids are allowed to settle. Silver is determined by atomic absorption technique using background correction on analysis.

Detection limit - Ø.1 PPM.

PPM ANTIMONY

A 2.Ø gm sample digested with conc. HCl in hot water bath. The iron is reduced to Fe +2 state and the Sb complexed with I-. The complex is extracted with TOPO-MIBK and analyzed via A.A. Correcting for background absorption Ø.2 ppm +/- Ø.2

Detection limit - Ø.2 PPM.

PPM TELLURIUM

A 5.Ø gram sample digested with aqua-regia to dryness. The residue taken up in 25% HCl and the solution adjusted with HBr to 3M Br-. After the reduction of iron with abscorbic acid the tellurium bromide complex is extracted into MIBK, washed and aanlyzed via AA correcting for background absorption.

Detection limit - Ø.1 PPM

GEOCHEMICAL PREPARATION AND ANALYTICAL PROCEDURES ICP-AES

Geochemical samples (soils, silts) are dried at 80° C for a period of 12 to 24 hours. The dried sample is sieved to -80 mesh fraction through a nylon and stainless steel sieve. Rock geochemical materials are crushed, dried and pulverized to -100 mesh. A 0.50 gram portion of the sample is weighed into a calibrated test tube. The sample is digested using hot 70% perchloric acid and concentrated nitric acid. Digestion time is 2 hours. Sample volume is adjusted to 25 mls. using demineralized water. Sample solutions are homogenized and allowed to settle before being analyzed by atomic absorption procedures. Detection limits using Yvon-Jobin 48P Inductively Coupled Plasma Atomic Emission Spectrometer.

Element	Detection	Element	Detection
Arsenic	10 μg/g	Molybdenum	1 μg/g
Bismuth	2 μg/g	Nickel	1 μg/g
Cadmium	0.5 μg/g	Phosphorus	10 μg/g
Cobalt	1 μg/g	Silver	1 μg/g
Copper	1 μg/g	Tungsten	10 μg/g
Iron	0.001%	Uranium	10 μg/g
Lead	1 μg/g	Vanadium	1 μg/g
Manganese	1 μg/g	Zinc	1 μg/g

Elements which exceed the upper limit for geochemical analyses should be assayed quantitatively.

CYANIDE LEACH PROCEDURE

A 10 assay ton (291.7 gram) sample is shaken for 48 hours in 750 ml of a 0.1 % sodium cyanide solution containing sodium hydroxide and sodium peroxide.

The solution is filtered through a large vacuum filter and washed. The pregnant filtrate is evaporated over 90 grams of litharge (PbO) and then fire assayed using the litharge as one of the reagents. After cupellation, the prill is parted and weighed as gold.

The percentage recovery can be calculated from an additional assay on the original pulp.

APPENDIX III - ANALYTICAL RESULTS, NUCLEUS PROPERTY

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sample description	prep code	prep code	As PPM	Mo PPM	Zn PPM	P PPM	Pb PPM	Bi PPM	Cd PPM	Co PPM	Ni PPM	Fe %	Mn PPM	Cu PPM	Ag PPM	Au PPB	W PPM	Hg PPB	Sb PPM	Te PPM	Au-FA oz/t	Au-CN oz/t
COMPOSITE LEACH	214	0																				0.0270
H 56830	208	229	875	2	41	830	5	7	<0.5	5	11	7.73	255	680	1.6	315	16	140	70.0	1.25		
H 56831	208	229	360	<1	13	560	5	20	1.0	3	8	4.21	103	265	0.4	285	12	70	35.0	1.35		
H 56832	208	229	965	1	9	540	8	12	<0.5	2	5	2.88	56	110	<0.2	330	6	50	48.0	0.40		
H 56833	208	229	1590	<1	8	530	4	5	<0.5	2	9	3.47	58	151	<0.2	765	4	40	25.0	0.20		
H 56834	208	229	1220	2	4	605	8	43	0.5	<1	4	2.93	33	80	0.6	225	7	40	50.0	0.55		
H 56835	208	229	840	3	10	815	9	34	<0.5	2	6	3.50	53	128	0.6	175	6	80	46.0	0.60		
H 56836	208	229	275	1	10	1090	5	17	<0.5	1	8	4.44	47	205	<0.2	235	8	50	59.0	1.85		
H 56837	208	229	290	<1	9	765	17	54	<0.5	2	11	3.42	62	172	<0.2	75	11	40	37.0	0.75		
H 56838	208	229	185	<1	22	570	5	5	<0.5	4	17	4.17	103	290	<0.2	48	14	30	13.8	0.20		
H 56839	208	229	105	2	35	450	5	<2	<0.5	8	30	4.25	128	210	<0.2	51	3	20	5.2	0.15		
H 56840	208	229	275	<1	11	535	4	8	<0.5	3	17	3.55	50	245	<0.2	70	11	30	18.8	0.10		
H 56841	208	229	170	3	3	580	5	21	<0.5	2	14	2.51	33	205	<0.2	65	14	40	20.0	0.10		
H 56842	208	229	170	4	3	1060	12	10	<0.5	1	10	3.21	68	245	<0.2	85	13	50	40.0	0.90		
H 56843	208	229	150	1	9	980	3	3	<0.5	4	10	5.89	126	405	<0.2	43	13	30	30.0	0.20		
H 56844	208	229	370	<1	4	540	14	6	<0.5	<1	6	3.62	47	420	<0.2	64	7	30	25.0	0.25		
H 56845	208	229	390	2	6	675	9	17	<0.5	<1	8	3.36	31	176	<0.2	180	8	120	52.0	0.50		
H 56846	208	229	400	1	28	880	6	<2	<0.5	3	8	8.79	115	340	0.4	215	18	130	36.0	0.35		
H 56847	208	229	115	<1	6	685	7	3	<0.5	<1	7	4.98	44	385	<0.2	225	11	50	15.4	0.15		
H 56848	208	229	215	2	21	1220	4	<2	<0.5	3	15	9.06	58	895	<0.2	140	65	70	30.0	2.55		
H 56849	208	229	230	<1	27	960	5	9	<0.5	4	13	7.13	96	590	1.8	495	26	80	36.0	2.65		
H 56850	208	229	1350	1	2	465	6	49	<0.5	2	5	3.86	48	163	1.4	370	8	110	65.0	1.65		
H 56851	208	229	245	<1	15	525	5	24	<0.5	3	9	4.40	89	200	<0.2	600	16	70	32.0	0.80		
H 56852	208	229	1520	1	19	740	7	130	<0.5	1	13	5.54	51	251	1.2	530	10	280	150.0	1.90		
H 56853	208	229	3300	2	43	765	6	42	<0.5	11	15	6.10	270	255	0.6	485	15	150	79.0	2.05		
H 56854	208	229	145	<1	10	355	4	4	<0.5	6	12	2.29	179	91	<0.2	25	3	50	10.0	0.20		
H 60633	208	229	180	<1	<1	340	1	10	<0.5	<1	17	2.07	30	95	<0.2	135	20	40	8.8	0.10		
H 60634	208	229	540	<1	2	315	<1	26	<0.5	<1	13	2.54	16	69	<0.2	395	3	30	7.8	0.15		
H 60635	208	229	520	<1	<1	505	3	29	<0.5	<1	7	2.27	15	46	0.6	815	7	50	16.4	0.35		
H 60636	208	229	1010	2	<1	490	2	35	<0.5	<1	5	2.35	13	51	0.4	560	7	50	15.8	0.75		
H 60637	208	229	355	<1	<1	255	5	23	<0.5	<1	8	1.37	16	45	<0.2	350	3	30	9.6	0.25		
H 60638	208	229	1830	<1	<1	605	11	46	<0.5	<1	5	3.81	20	89	1.6	2230	8	200	40.0	0.90	0.070	
H 60639	208	229	1120	<1	2	305	7	26	<0.5	<1	9	2.37	20	93	<0.2	830	7	100	15.4	0.35	0.040	
H 60640	208	229	560	<1	55	950	6	40	<0.5	7	19	8.88	146	680	0.6	1690	50	50	15.2	0.80	0.034	
H 60641	208	229	205	<1	25	1160	6	14	<0.5	2	15	5.46	78	440	<0.2	240	9	40	9.4	0.15	0.008	
H 60642	208	229	255	6	15	1300	12	2	<0.5	3	21	6.01	66	400	<0.2	420	30	30	8.4	0.05	0.010	
H 60643	208	229	480	1	13	655	19	20	<0.5	<1	17	2.88	36	235	<0.2	1340	25	40	10.0	0.20	0.030	
H 60644	208	229	2080	<1	32	1590	8	168	<0.5	2	18	8.60	87	505	1.8	2065	31	30	11.4	1.70	0.064	
H 60645	208	229	290	1	19	845	4	43	<0.5	2	9	5.50	65	275	0.8	1875	5	20	5.4	0.65	0.026	
H 60646	208	229	1100	<1	14	1040	5	333	<0.5	1	26	7.78	34	600	4.6	>10000	32	40	31.0	3.10	1.304	
H 60646 RESPLIT	236	0																			1.421	1.1050
H 60647	208	229	1010	<1	39	740	<1	155	<0.5	11	22	6.66	210	440	2.2	970	10	20	8.4	1.30	0.034	
H 60648	208	229	255	<1	54	540	<1	8	<0.5	16	20	5.31	320	280	<0.2	400	4	30	3.6	0.10		
H 60649	208	229	315	<1	45	420	<1	35	<0.5	7	10	6.77	126	360	0.4	390	8	30	6.0	0.80		
H 60650	208	229	410	<1	115	515	34	16	<0.5	15	17	5.85	305	270	<0.2	155	3	20	3.2	0.25		
H 60651	208	229	225	<1	101	560	12	6	1.0	16	30	5.51	585	310	<0.2	130	40	20	4.2	0.15		
H 60652	208	229	160	1	37	1000	<1	13	<0.5	11	11	4.73	260	255	<0.2	135	3	20	2.6	0.10		
H 60653	208	229	395	1	37	500	2	15	1.0	10	14	6.18	210	345	<0.2	480	5	10	3.6	0.65		
H 60654	208	229	310	<1	36	365	<1	14	<0.5	12	18	3.66	180	240	<0.2	165	1	10	2.2	0.15		
H 60655	208	229	370	<1	51	575	6	38	2.5	9	14	6.70	101	590	0.6	1025	11	20	11.8	1.50	0.026	

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sample description	prep code	prep code	As ppm	Mo ppm	Zn ppm	P ppm	Pb ppm	Bi ppm	Cd ppm	Co ppm	Ni ppm	Fe %	Mn ppm	Cu ppm	Ag ppm	[illegible] ppb	[illegible]	[illegible]	[illegible]	[illegible]	Au-FA oz/t	Au-CN oz/t
H 60656	208	229	575	1	1	420	3	37	0.5	1	7	2.31	28	195	0.8	2000	[illegible]	[illegible]	[illegible]	1.00	0.040	
H 60657	208	229	545	<1	7	615	1	29	<0.5	2	6	3.81	53	325	1.6	600	9	[illegible]	[illegible]	2.65	0.032	
H 60658	208	229	910	3	34	1050	2	52	1.5	1	10	5.27	26	330	2.2	840	12	[illegible]	[illegible]	3.70	0.024	
H 60659	208	229	2190	3	51	1960	<1	9	2.0	<1	9	10.50	26	455	2.2	900	5	30	140.0	3.20		
H 60660	208	229	250	1	9	295	<1	28	<0.5	1	8	2.06	18	177	1.8	470	11	30	39.0	3.00		
H 60661	208	229	235	2	<1	435	<1	16	<0.5	<1	7	1.72	11	142	0.6	640	3	30	24.0	0.85		
H 60662	208	229	1060	<1	42	515	<1	9	0.5	11	16	5.90	220	340	<0.2	730	2	40	9.4	0.20		
H 60663	208	229	1350	<1	52	500	<1	17	<0.5	11	16	6.26	152	295	<0.2	560	8	40	9.4	0.20		
H 60664	208	229	2360	2	46	590	<1	9	<0.5	11	17	7.54	150	445	<0.2	1070	10	30	14.0	0.25	0.038	
H 60665	208	229	590	<1	53	525	<1	<2	<0.5	7	13	7.97	96	395	<0.2	325	8	30	10.8	0.25		
H 60666	208	229	500	<1	75	595	<1	5	0.5	11	19	7.23	122	645	<0.2	240	15	40	5.4	0.25		
H 60667	208	229	600	<1	87	575	<1	<2	<0.5	20	33	6.98	200	615	<0.2	320	28	30	9.6	0.20		
H 60668	208	229	840	2	4	875	1	9	<0.5	1	15	2.63	25	151	<0.2	380	2	30	12.2	0.10		
H 60669	208	229	1870	2	2	735	4	6	<0.5	2	13	2.55	30	335	<0.2	240	3	50	30.0	0.25		
H 60670	208	229	340	<1	74	735	<1	6	<0.5	12	20	6.33	149	550	<0.2	325	14	40	6.0	0.35		
H 60671	208	229	735	<1	57	750	<1	8	<0.5	9	16	6.33	113	410	<0.2	260	48	30	8.0	2.75		
H 60672	208	229	240	<1	14	825	<1	10	<0.5	4	14	4.88	73	545	<0.2	510	25	30	8.4	1.10		
H 60673	208	229	325	1	<1	1210	5	143	<0.5	<1	9	3.08	18	210	4.0	390	31	110	29.0	3.10	0.016	
H 60674	208	229	260	<1	5	1040	<1	21	<0.5	2	16	3.62	43	360	1.2	1160	60	40	22.0	1.85	0.042	
H 60675	208	229	540	<1	<1	440	<1	34	<0.5	<1	12	2.45	18	205	1.0	750	50	120	30.0	1.35		
H 60676	208	229	550	1	<1	395	<1	12	<0.5	<1	13	1.92	16	138	0.4	405	22	190	36.0	0.55		
H 60677	208	229	210	3	<1	305	<1	25	<0.5	<1	7	1.60	20	94	0.6	270	16	60	16.4	0.50		
H 60678	208	229	260	1	<1	445	<1	27	<0.5	<1	7	2.56	22	122	3.0	395	20	60	18.8	0.90		
H 60679	208	229	270	1	<1	355	1	39	<0.5	<1	8	2.51	25	118	<0.2	735	18	80	25.0	0.60		
H 60680	208	229	290	<1	<1	425	<1	23	<0.5	1	8	3.16	43	275	0.8	490	13	50	14.0	2.05		
H 60681	208	229	325	<1	<1	625	<1	17	<0.5	1	10	4.76	39	450	1.6	535	19	40	21.0	4.40		
H 60682	208	229	225	<1	5	1110	1	5	<0.5	3	9	5.89	57	640	2.0	310	19	30	14.2	7.80		
H 60683	208	229	190	<1	4	730	<1	4	<0.5	2	8	5.93	45	510	2.0	335	9	20	15.8	3.80		
H 60684	208	229	190	<1	<1	410	<1	11	<0.5	<1	7	3.14	14	265	2.6	1255	17	40	23.0	3.15	0.018	
H 60685	208	229	440	<1	<1	420	<1	12	<0.5	1	7	2.72	36	205	1.6	425	24	30	13.6	1.90		
H 60686	208	229	255	2	<1	380	<1	23	<0.5	<1	8	2.08	28	142	1.4	425	15	20	13.6	1.90		
H 60687	208	229	415	1	<1	355	2	73	<0.5	<1	8	1.77	21	96	2.2	1025	15	40	49.0	2.60	0.020	
H 60688	208	229	1030	1	3	770	<1	25	<0.5	<1	6	3.14	26	188	1.6	1320	32	100	120.0	2.65	0.010	
H 60689	208	229	595	1	4	510	<1	60	<0.5	<1	3	2.07	22	121	0.8	515	36	70	35.0	1.00		
H 60690	208	229	595	<1	3	480	<1	15	<0.5	<1	3	2.62	28	165	<0.2	835	35	50	11.0	0.60		
H 60691	208	229	520	1	7	475	5	16	<0.5	1	6	3.17	58	235	<0.2	215	35	60	18.6	1.60		
H 60692	208	229	85	<1	65	960	<1	11	<0.5	12	21	5.90	330	665	<0.2	100	17	30	5.6	3.20		
H 60693	208	229	60	<1	48	1100	<1	5	<0.5	17	19	5.39	350	375	<0.2	75	5	20	1.8	1.50		
H 60694	208	229	230	<1	35	970	2	11	<0.5	7	18	6.55	160	1230	0.4	425	15	40	7.4	1.80		
H 60695	208	229	210	<1	109	725	29	8	<0.5	19	26	7.94	245	965	1.0	660	7	50	7.2	0.95		
H 60696	208	229	345	<1	29	690	<1	16	<0.5	6	14	4.94	134	455	1.0	625	24	60	16.8	1.15		
H 60697	208	229	240	2	38	475	2	13	<0.5	6	9	3.86	116	270	0.4	225	12	60	18.8	0.40		
H 60698	208	229	805	2	14	690	2	20	<0.5	4	5	5.20	129	250	<0.2	260	22	120	51.0	0.75		
H 60699	208	229	240	<1	24	765	2	<2	<0.5	7	7	7.53	290	565	0.4	165	16	100	37.0	0.50		

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sample description	prep code	prep code	As ppm	Mo ppm	Zn ppm	P ppm	Pb ppm	Bi ppm	Cd ppm	Co ppm	Ni ppm	Fe %	Mn ppm	Cu ppm	Ag ppm	Au ppb	W ppm	Hg ppb	Sb ppm	Te ppm	Au-FA oz/t	Au-CN oz/t
H 60656	208	229	575	1	1	420	3	37	0.5	1	7	2.31	28	195	0.8	2000	6	20	24.0	1.00	0.040	
H 60657	208	229	545	<1	7	615	1	29	<0.5	2	6	3.81	53	325	1.6	600	9	30	24.0	2.65	0.032	
H 60658	208	229	910	3	34	1050	2	52	1.5	1	10	5.27	26	330	2.2	840	12	40	77.0	3.70	0.024	
H 60659	208	229	2190	3	51	1960	<1	9	2.0	<1	9	10.50	26	455	2.2	900	5	30	140.0	3.20		
H 60660	208	229	250	1	9	295	<1	28	<0.5	1	8	2.06	18	177	1.8	470	11	30	39.0	3.00		
H 60661	208	229	235	2	<1	435	<1	16	<0.5	<1	7	1.72	11	142	0.6	640	3	30	24.0	0.85		
H 60662	208	229	1060	<1	42	515	<1	9	0.5	11	16	5.90	220	340	<0.2	730	2	40	9.4	0.20		
H 60663	208	229	1350	<1	52	500	<1	17	<0.5	11	16	6.26	152	295	<0.2	560	8	40	9.4	0.20		
H 60664	208	229	2360	2	46	590	<1	9	<0.5	11	17	7.54	150	445	<0.2	1070	10	30	14.0	0.25	0.038	
H 60665	208	229	590	<1	53	525	<1	<2	<0.5	7	13	7.97	96	395	<0.2	325	8	30	10.8	0.25		
H 60666	208	229	500	<1	75	595	<1	5	0.5	11	19	7.23	122	645	<0.2	240	15	40	5.4	0.25		
H 60667	208	229	600	<1	87	575	<1	<2	<0.5	20	33	6.98	200	615	<0.2	320	28	30	9.6	0.20		
H 60668	208	229	840	2	4	875	1	9	<0.5	1	15	2.63	25	151	<0.2	380	2	30	12.2	0.10		
H 60669	208	229	1870	2	2	735	4	6	<0.5	2	13	2.55	30	335	<0.2	240	3	30	30.0	0.25		
H 60670	208	229	340	<1	74	735	<1	6	<0.5	12	20	6.33	149	550	<0.2	325	14	40	6.0	0.35		
H 60671	208	229	735	<1	57	750	<1	8	<0.5	9	16	6.33	113	410	<0.2	260	48	30	8.0	2.75		
H 60672	208	229	240	<1	14	825	<1	10	<0.5	4	14	4.88	73	545	<0.2	510	25	30	8.4	1.10		
H 60673	208	229	325	1	<1	1210	5	143	<0.5	<1	9	3.08	18	210	4.0	390	31	110	29.0	3.10	0.016	
H 60674	208	229	260	<1	5	1040	<1	21	<0.5	2	16	3.62	43	360	1.2	1160	60	40	22.0	1.85	0.042	
H 60675	208	229	540	<1	<1	440	<1	34	<0.5	<1	12	2.45	18	205	1.0	790	50	120	30.0	1.35		
H 60676	208	229	550	1	<1	395	<1	12	<0.5	<1	13	1.92	16	138	0.4	405	22	190	36.0	0.55		
H 60677	208	229	210	3	<1	305	<1	25	<0.5	<1	7	1.60	20	94	0.6	270	16	60	16.4	0.50		
H 60678	208	229	260	1	<1	445	<1	27	<0.5	<1	7	2.56	22	122	3.0	395	20	60	18.8	0.90		
H 60679	208	229	270	1	<1	355	1	39	<0.5	<1	8	2.51	25	118	<0.2	735	18	80	25.0	0.60		
H 60680	208	229	290	<1	<1	425	<1	23	<0.5	1	8	3.16	43	275	0.8	490	13	50	14.0	2.05		
H 60681	208	229	325	<1	<1	625	<1	17	<0.5	1	10	4.76	39	450	1.6	535	19	40	21.0	4.40		
H 60682	208	229	225	<1	5	1110	1	5	<0.5	3	9	5.89	57	640	2.0	310	19	30	14.2	7.80		
H 60683	208	229	190	<1	4	730	<1	4	<0.5	2	8	5.93	45	510	2.0	335	9	20	15.8	3.80		
H 60684	208	229	190	<1	<1	410	<1	11	<0.5	<1	7	3.14	14	265	2.6	1255	17	40	23.0	3.15	0.018	
H 60685	208	229	440	<1	<1	420	<1	12	<0.5	1	7	2.72	36	205	1.6	425	24	30	13.6	1.90		
H 60686	208	229	235	2	<1	380	<1	23	<0.5	<1	8	2.08	28	142	1.4	425	15	20	13.6	1.90		
H 60687	208	229	415	1	<1	355	2	73	<0.5	<1	8	1.77	21	96	2.2	1025	15	40	49.0	2.60	0.020	
H 60688	208	229	1030	1	3	770	<1	25	<0.5	<1	6	3.14	26	188	1.6	1320	32	100	120.0	2.65	0.010	
H 60689	208	229	595	1	4	510	<1	60	<0.5	<1	3	2.07	22	121	0.8	515	36	70	35.0	1.00		
H 60690	208	229	595	<1	3	480	<1	15	<0.5	<1	3	2.62	28	165	<0.2	835	35	50	11.0	0.60		
H 60691	208	229	520	1	7	475	5	16	<0.5	1	6	3.17	58	235	<0.2	215	35	60	18.6	1.60		
H 60692	208	229	85	<1	65	960	<1	11	<0.5	12	21	5.90	330	665	<0.2	100	17	30	5.6	3.20		
H 60693	208	229	60	<1	48	1100	<1	5	<0.5	17	19	5.39	350	375	<0.2	75	5	20	1.8	1.50		
H 60694	208	229	230	<1	35	970	2	11	<0.5	7	18	6.55	160	1230	0.4	425	15	40	7.4	1.80		
H 60695	208	229	210	<1	109	725	29	8	<0.5	19	26	7.94	245	965	1.0	660	7	50	7.2	0.95		
H 60696	208	229	345	<1	29	690	<1	16	<0.5	6	14	4.94	134	455	1.0	625	24	60	16.8	1.15		
H 60697	208	229	240	2	38	475	2	13	<0.5	6	9	3.86	116	270	0.4	225	12	60	18.8	0.40		
H 60698	208	229	805	2	14	690	2	20	<0.5	4	5	5.20	129	250	<0.2	260	22	120	51.0	0.75		
H 60699	208	229	240	<1	24	765	2	<2	<0.5	7	7	7.53	290	565	0.4	165	16	100	37.0	0.50		

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APPENDIX IV - STATISTICAL DATA,
NUCLEUS PROPERTY

DATA TITLE : ARCHER CATHRO & ASSOCIATES (1981) LTD.

VARIABLE : logAu

```
                                                                                 # OF   % OF  CUM.
                                                                               SAMPLES TOTAL   %
  LOWER                           PERCENT OF THE TOTAL SAMPLES
  BOUND
INCLUDED !          5.0           10.0          15.0          20.0          25.0
         !------+------+------+------+------+------+------+------+------+------+
   1.300!                                                                                    0.0
        !*****                                                                     1    1.1
   1.400+                                                                                    1.1
        !                                                                          0    0.0
   1.500+                                                                                    1.1
        !                                                                          0    0.0
   1.600+                                                                                    1.1
        !*********                                                                 2    2.2
   1.700+                                                                                    3.3
        !*****                                                                     1    1.1
   1.800+                                                                                    4.3
        !**********************                                                    5    5.4
   1.900+                                                                                    9.8
        !*********                                                                 2    2.2
   2.000+                                                                                   12.0
        !                                                                          0    0.0
   2.100+                                                                                   12.0
        !**********************                                                    5    5.4
   2.200+                                                                                   17.4
        !******************                                                        4    4.3
   2.300+                                                                                   21.7
        !****************************************                                  9    9.8
   2.400+                                                                                   31.5
        !***************************                                               6    6.5
   2.500+                                                                                   38.0
        !*****************************************************                    12   13.0
   2.600+                                                                                   51.1
        !************************************************                         11   12.0
   2.700+                                                                                   63.0
        !****************************************                                  9    9.8
   2.800+                                                                                   72.8
        !***************************                                               6    6.5
   2.900+                                                                                   79.3
        !***************************                                               6    6.5
   3.000+                                                                                   85.9
        !**********************                                                    5    5.4
   3.100+                                                                                   91.3
        !*********                                                                 2    2.2
   3.200+                                                                                   93.5
        !*********                                                                 2    2.2
   3.300+                                                                                   95.7
        !**************                                                            3    3.3
   3.400+                                                                                   98.9
        !------+------+------+------+------+------+------+------+------+------+
        !          5.0           10.0          15.0          20.0          25.0
        !

                                  PERCENT OF THE TOTAL SAMPLES
```

\ LE: logAu

NUMBER OF OBSERVATIONS:	92
MINIMUM:	1.398
MAXIMUM:	4.000
MEAN:	2.569
STANDARD ERROR OF MEAN:	0.045
STANDARD DEVIATION:	0.434
COEFFICIENT OF VARIATION:	16.892
SKEWNESS:	-0.070
KURTOSIS:	0.662

CHI-SQUARE TEST FOR "GOODNESS OF FIT" WITH A NORMAL DISTRIBUTION

V...ABLE : logAu

CLASS BOUNDS			OBSERVED	EXPECTED	(OBS-EXP)	[(OBS.-EXP.)**2 / EXP.]
-INFINITY	TO	2.013	11	9.2	1.8	0.352
2.013	TO	2.204	5	9.2	-4.2	1.917
2.204	TO	2.341	6	9.2	-3.2	1.113
2.341	TO	2.459	11	9.2	1.8	0.352
2.459	TO	2.569	9	9.2	-0.2	0.004
2.569	TO	2.679	12	9.2	2.8	0.852
2.679	TO	2.796	13	9.2	3.8	1.570
2.796	TO	2.934	10	9.2	0.8	0.070
2.934	TO	3.125	8	9.2	-1.2	0.157
3.125	TO	+INFINITY	7	9.2	-2.2	0.526

CHI-SQUARED VALUE IS 6.91. DEGREES OF FREEDOM ARE 7.

SIGNIFICANCE LEVEL	CHI-SQUARE VALUE
0.500	6.35
0.750	9.04
0.900	12.00
0.950	14.10
0.975	16.00
0.990	18.50
0.995	20.30

DATA TITLE : ARCHER CATHRO & ASSOCIATES (1981) LTD.

VARIABLE : logAs

PERCENT OF THE TOTAL SAMPLES

PERCENT OF THE TOTAL SAMPLES

LOWER BOUND INCLUDED	# OF SAMPLES	% OF TOTAL	CUM. %
1.700			0.0
	1	1.1	
1.800			1.1
	0	0.0	
1.900			1.1
	1	1.1	
2.000			2.2
	2	2.2	
2.100			4.3
	2	2.2	
2.200			6.5
	7	7.6	
2.300			14.1
	15	16.3	
2.400			30.4
	12	13.0	
2.500			43.5
	10	10.9	
2.600			54.3
	6	6.5	
2.700			60.9
	12	13.0	
2.800			73.9
	1	1.1	
2.900			75.0
	6	6.5	
3.000			81.5
	7	7.6	
3.100			89.1
	3	3.3	
3.200			92.4
	3	3.3	
3.300			95.7
	3	3.3	
3.400			98.9
	0	0.0	
3.500			98.9
	1	1.1	
3.600			100.0

VARIABLE: logAs

NUMBER OF OBSERVATIONS:	92
MINIMUM:	1.778
MAXIMUM:	3.519
MEAN:	2.624
STANDARD ERROR OF MEAN:	0.037
STANDARD DEVIATION:	0.350
COEFFICIENT OF VARIATION:	13.355
SKEWNESS:	0.364
KURTOSIS:	-0.334

CHI-SQUARE TEST FOR "GOODNESS OF FIT" WITH A NORMAL DISTRIBUTION

VARIABLE : logAs

CLASS BOUNDS			OBSERVED	EXPECTED	(OBS-EXP)	[(OBS.-EXP.)**2 / EXP.]
-INFINITY	TO	2.175	5	9.2	-4.2	1.917
2.175	TO	2.329	11	9.2	1.8	0.352
2.329	TO	2.440	19	9.2	9.8	10.439
2.440	TO	2.535	8	9.2	-1.2	0.157
2.535	TO	2.624	10	9.2	0.8	0.070
2.624	TO	2.713	3	9.2	-6.2	4.178
2.713	TO	2.808	12	9.2	2.8	0.852
2.808	TO	2.919	2	9.2	-7.2	5.635
2.919	TO	3.073	11	9.2	1.8	0.352
3.073	TO	+INFINITY	11	9.2	1.8	0.352

CHI-SQUARED VALUE IS 24.30. DEGREES OF FREEDOM ARE 7.

SIGNIFICANCE LEVEL	CHI-SQUARE VALUE
0.500	6.35
0.750	9.04
0.900	12.00
0.950	14.10
0.975	16.00
0.990	18.50
0.995	20.30

```
DATA TITLE  :   ARCHER CATHRO & ASSOCIATES (1981) LTD.

VARIABLE  :  logBi
                                                                                                            # OF   % OF  CUM.
                                                                                                          SAMPLES TOTAL   %
 LOWER                                             PERCENT OF THE TOTAL SAMPLES
 BOUND
INCLUDED  !                   5.0                 10.0                15.0                20.0                25.0
          !---------+---------+---------+---------+---------+---------+---------+---------+---------+---------+
   -1.000!                                                                                                                      0.0
          !                                                                                                    0    0.0
   -0.800+                                                                                                                      0.0
          !                                                                                                    0    0.0
   -0.600+                                                                                                                      0.0
          !                                                                                                    0    0.0
   -0.400+                                                                                                                      0.0
          !                                                                                                    0    0.0
   -0.200+                                                                                                                      0.0
          !**************************                                                                          6    6.5
    0.000+                                                                                                                      6.5
          !                                                                                                    0    0.0
    0.200+                                                                                                                      6.5
          !*****                                                                                               1    1.1
    0.400+                                                                                                                      7.6
          !*********                                                                                           2    2.2
    0.600+                                                                                                                      9.8
          !************************************************                                                   11   12.0
    0.800+                                                                                                                     21.7
          !********************************************                                                       10   10.9
     .000+                                                                                                                     32.6
          !******************************************************************                                 15   16.3
    1.200+                                                                                                                     48.9
          !***********************************************************************************                19   20.7
    1.400+                                                                                                                     69.6
          !*********************************************************                                          13   14.1
    1.600+                                                                                                                     83.7
          !****************************************                                                            9    9.8
    1.800+                                                                                                                     93.5
          !*****                                                                                               1    1.1
    2.000+                                                                                                                     94.6
          !**************                                                                                      3    3.3
    2.200+                                                                                                                     97.8
          !*****                                                                                               1    1.1
    2.400+                                                                                                                     98.9
          !*****                                                                                               1    1.1
    2.600+                                                                                                                    100.0
          !                                                                                                    0    0.0
    2.800+                                                                                                                      0.0
          !                                                                                                    0    0.0
    3.000+                                                                                                                      0.0
          !---------+---------+---------+---------+---------+---------+---------+---------+---------+---------+
          !                   5.0                 10.0                15.0                20.0                25.0
          !

                                                   PERCENT OF THE TOTAL SAMPLES
```

V LE: logBi

NUMBER OF OBSERVATIONS: 92

MINIMUM: -0.155

MAXIMUM: 2.522

MEAN: 1.152

STANDARD ERROR OF MEAN: 0.056

STANDARD DEVIATION: 0.534

COEFFICIENT OF VARIATION: 46.385

SKEWNESS: -0.462

KURTOSIS: 0.747

CHI-SQUARE TEST FOR "GOODNESS OF FIT" WITH A NORMAL DISTRIBUTION

V...BLE : logBi

CLASS BOUNDS			OBSERVED	EXPECTED	(OBS-EXP)	[(OBS.-EXP.)**2 / EXP.]
-INFINITY	TO	0.467	7	9.2	-2.2	0.526
0.467	TO	0.702	9	9.2	-0.2	0.004
0.702	TO	0.872	5	9.2	-4.2	1.917
0.872	TO	1.016	12	9.2	2.8	0.852
1.016	TO	1.152	10	9.2	0.8	0.070
1.152	TO	1.287	10	9.2	0.8	0.070
1.287	TO	1.432	13	9.2	3.8	1.570
1.432	TO	1.601	11	9.2	1.8	0.352
1.601	TO	1.836	9	9.2	-0.2	0.004
1.836	TO	+INFINITY	6	9.2	-3.2	1.113

CHI-SQUARED VALUE IS 6.48. DEGREES OF FREEDOM ARE 7.

SIGNIFICANCE LEVEL	CHI-SQUARE VALUE
0.500	6.35
0.750	9.04
0.900	12.00
0.950	14.10
0.975	16.00
0.990	18.50
0.995	20.30

DATA TITLE : ARCHER CATHRO & ASSOCIATES (1981) LTD.

VARIABLE : logAg

```
                                                                                           # OF   % OF  CUM.
                                                                                          SAMPLES TOTAL  %
LOWER                                   PERCENT OF THE TOTAL SAMPLES
BOUND
INCLUDED !            10.0              20.0              30.0              40.0              50.0
         !---------+---------+---------+---------+---------+---------+---------+---------+---------+---------+
   -1.200!                                                                                                                 0.0
         !****************************************************************************************************   46  50.0
   -1.100+                                                                                                                50.0
         !                                                                                                        0   0.0
   -1.000+                                                                                                                50.0
         !                                                                                                        0   0.0
   -0.900+                                                                                                                50.0
         !                                                                                                        0   0.0
   -0.800+                                                                                                                50.0
         !                                                                                                        0   0.0
   -0.700+                                                                                                                50.0
         !                                                                                                        0   0.0
   -0.600+                                                                                                                50.0
         !                                                                                                        0   0.0
   -0.500+                                                                                                                50.0
         !                                                                                                        0   0.0
   -0.400+                                                                                                                50.0
         !******************                                                                                      8   8.7
   -0.300+                                                                                                                58.7
         !******************                                                                                      8   8.7
   -0.200+                                                                                                                67.4
         !                                                                                                        0   0.0
   -0.100+                                                                                                                67.4
         !*********                                                                                               4   4.3
    0.000+                                                                                                                71.7
         !***********                                                                                             5   5.4
    0.100+                                                                                                                77.2
         !*****                                                                                                   2   2.2
    0.200+                                                                                                                79.3
         !********************                                                                                    9   9.8
    0.300+                                                                                                                89.1
         !**************                                                                                          6   6.5
    0.400+                                                                                                                95.7
         !*****                                                                                                   2   2.2
    0.500+                                                                                                                97.8
         !                                                                                                        0   0.0
    0.600+                                                                                                                97.8
         !*****                                                                                                   2   2.2
    0.700+                                                                                                               100.0
         !---------+---------+---------+---------+---------+---------+---------+---------+---------+---------+
         !            10.0              20.0              30.0              40.0              50.0
         !

                                        PERCENT OF THE TOTAL SAMPLES
```

V LE: logAg

NUMBER OF OBSERVATIONS: 92

MINIMUM: -1.155

MAXIMUM: 0.663

MEAN: -0.564

STANDARD ERROR OF MEAN: 0.066

STANDARD DEVIATION: 0.630

COEFFICIENT OF VARIATION: -111.684

SKEWNESS: 0.314

KURTOSIS: -1.583

CHI-SQUARE TEST FOR "GOODNESS OF FIT" WITH A NORMAL DISTRIBUTION

V...LE : logAg

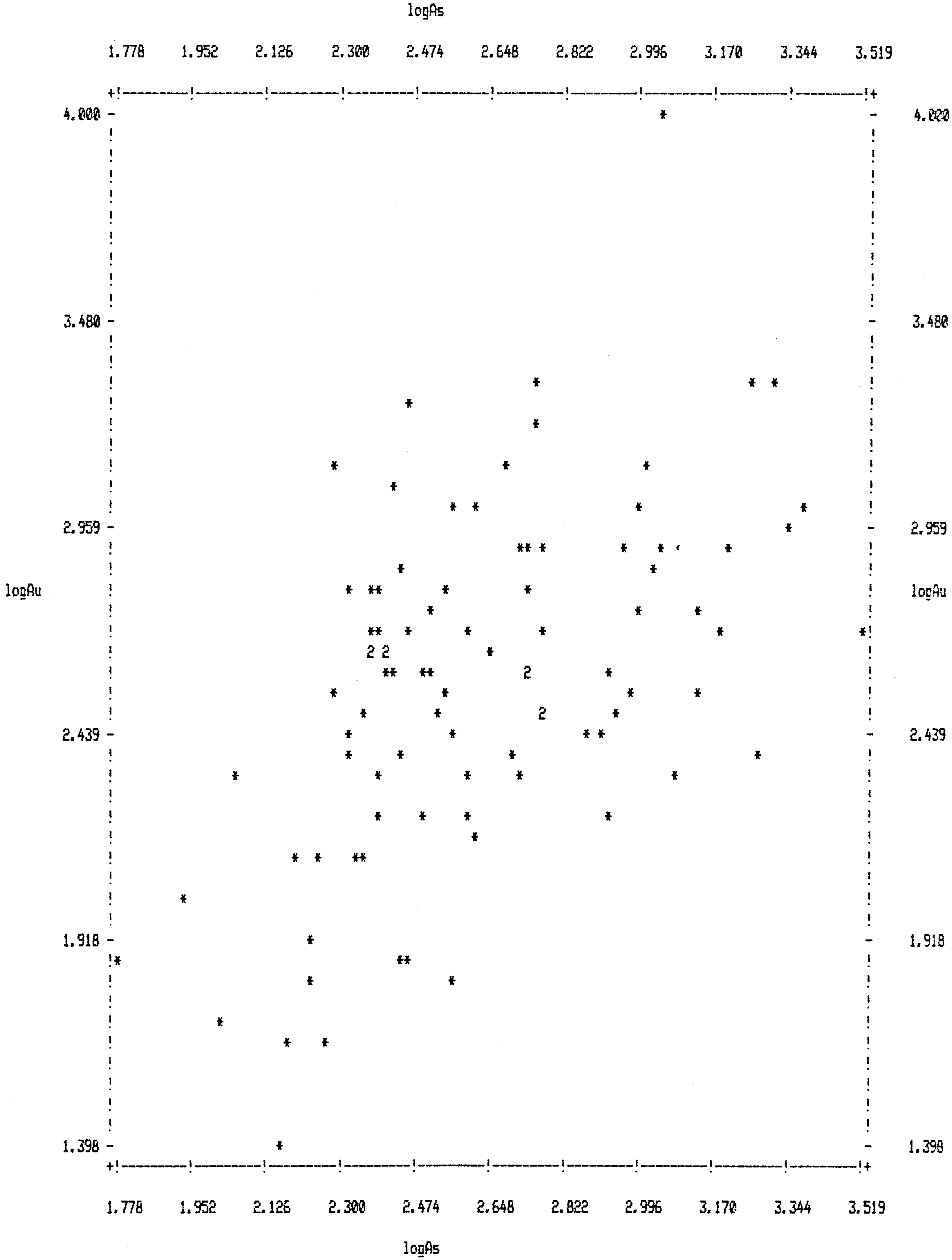
CLASS BOUNDS			OBSERVED	EXPECTED	(OBS-EXP)	[(OBS.-EXP.)**2 / EXP.]
-INFINITY	TO	-1.372	0	9.2	-9.2	9.200
-1.372	TO	-1.094	46	9.2	36.8	147.200
-1.094	TO	-0.895	0	9.2	-9.2	9.200
-0.895	TO	-0.724	0	9.2	-9.2	9.200
-0.724	TO	-0.564	0	9.2	-9.2	9.200
-0.564	TO	-0.405	0	9.2	-9.2	9.200
-0.405	TO	-0.234	8	9.2	-1.2	0.157
-0.234	TO	-0.034	12	9.2	2.8	0.852
-0.034	TO	0.243	13	9.2	3.8	1.570
0.243	TO	+INFINITY	13	9.2	3.8	1.570

CHI-SQUARED VALUE IS 197.35. DEGREES OF FREEDOM ARE 7.

SIGNIFICANCE LEVEL	CHI-SQUARE VALUE
0.500	6.35
0.750	9.04
0.900	12.00
0.950	14.10
0.975	16.00
0.990	18.50
0.995	20.30

$
$

ARCHER CATHRO & ASSOCIATES (1981) LTD.



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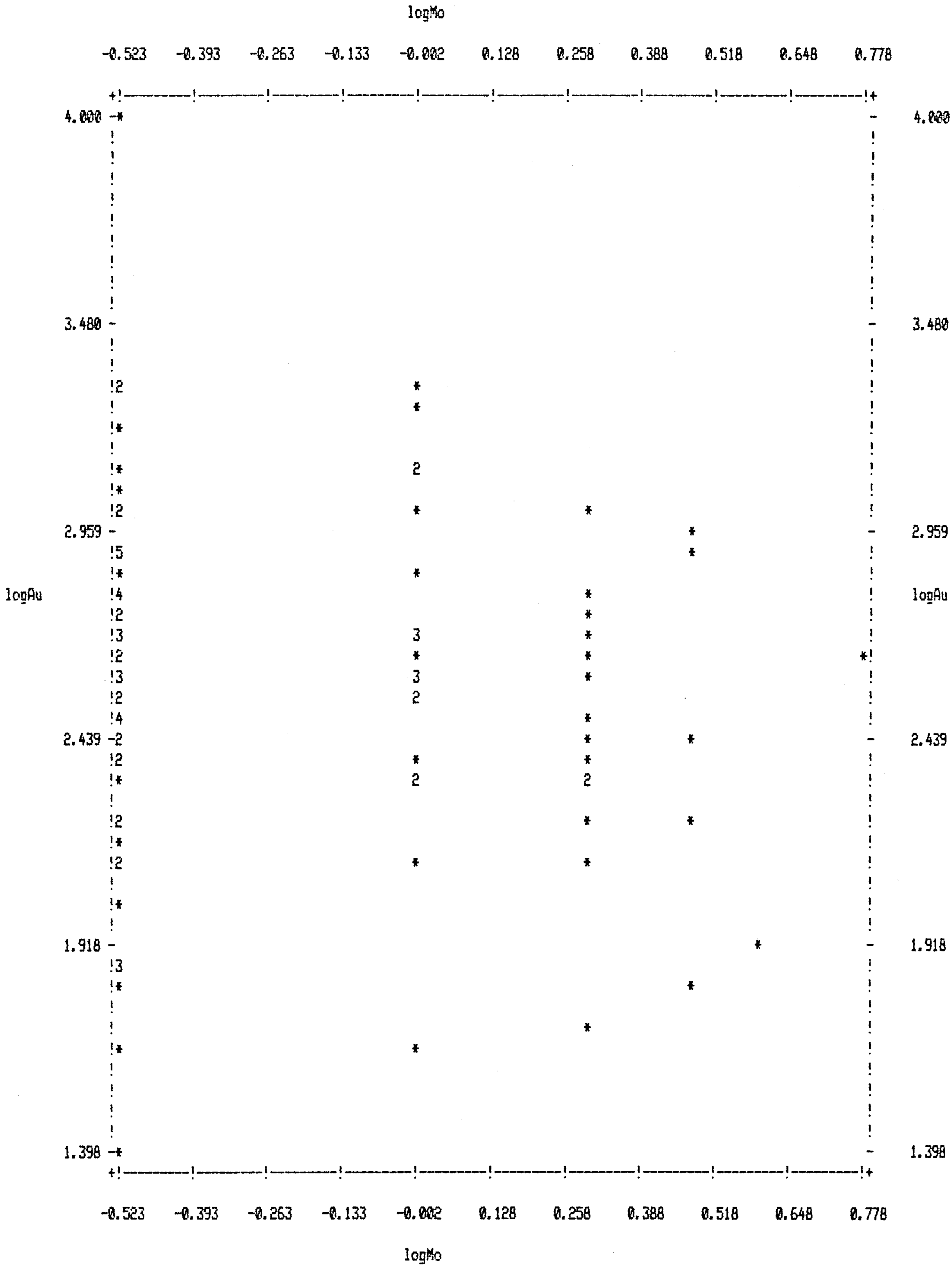

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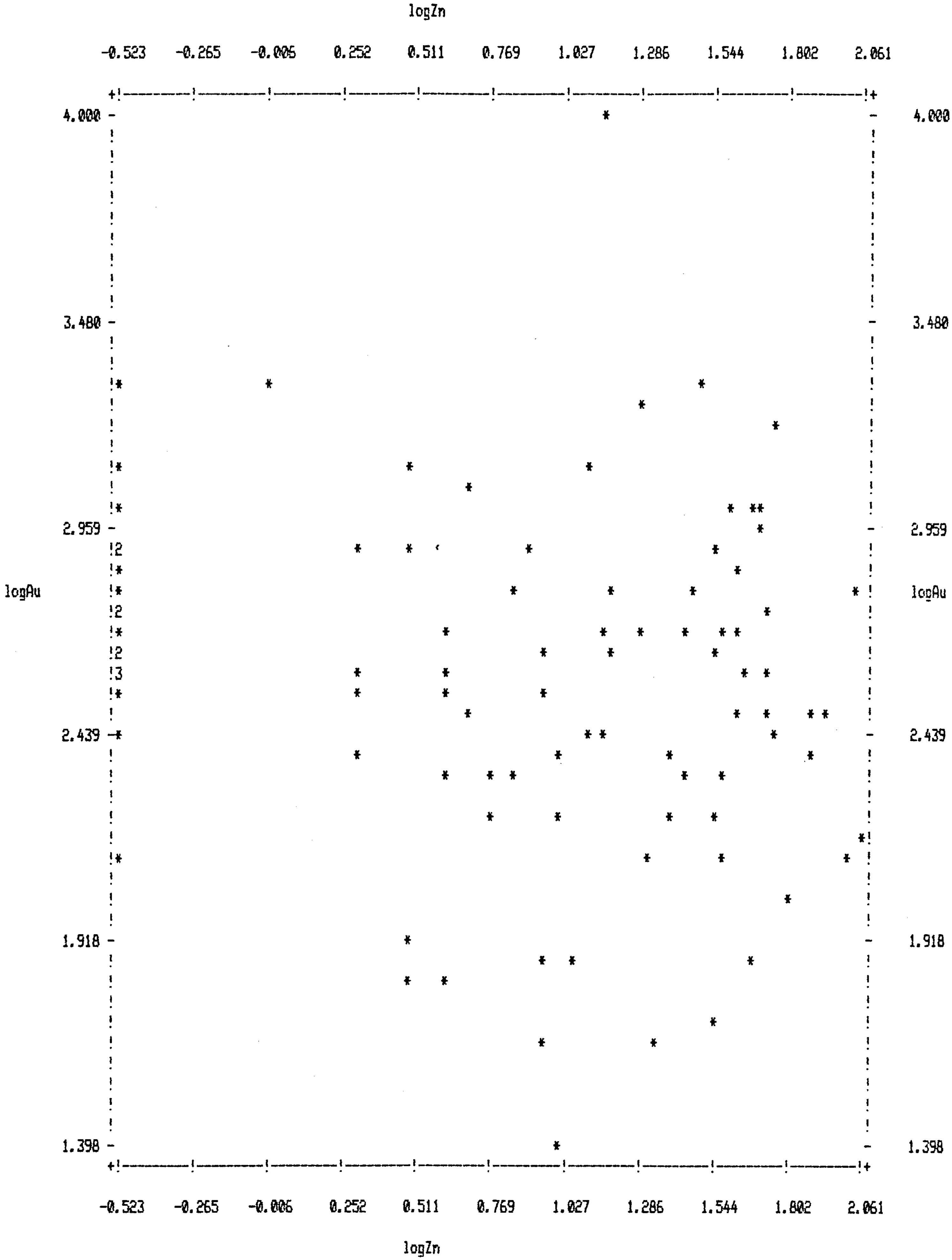

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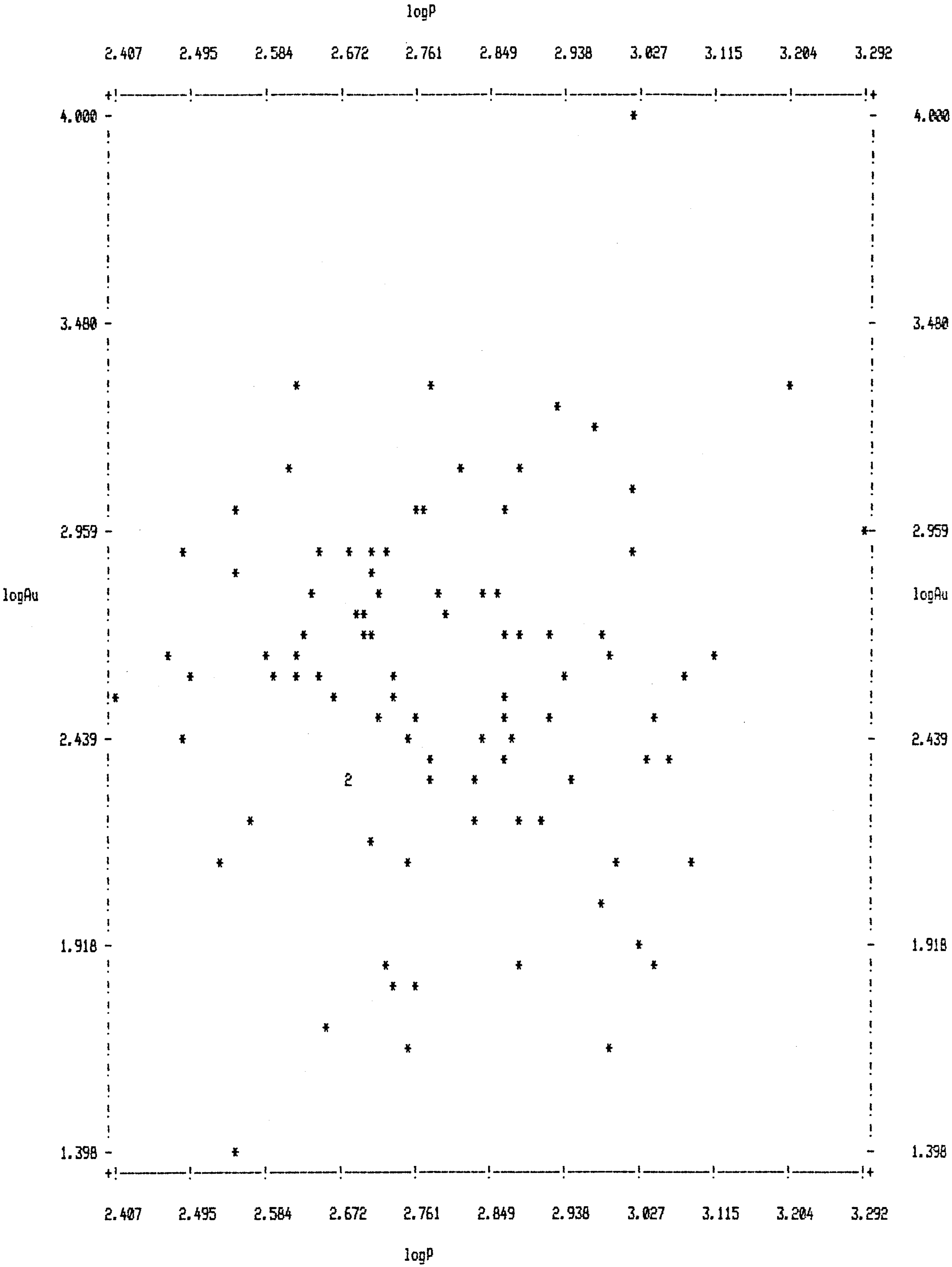

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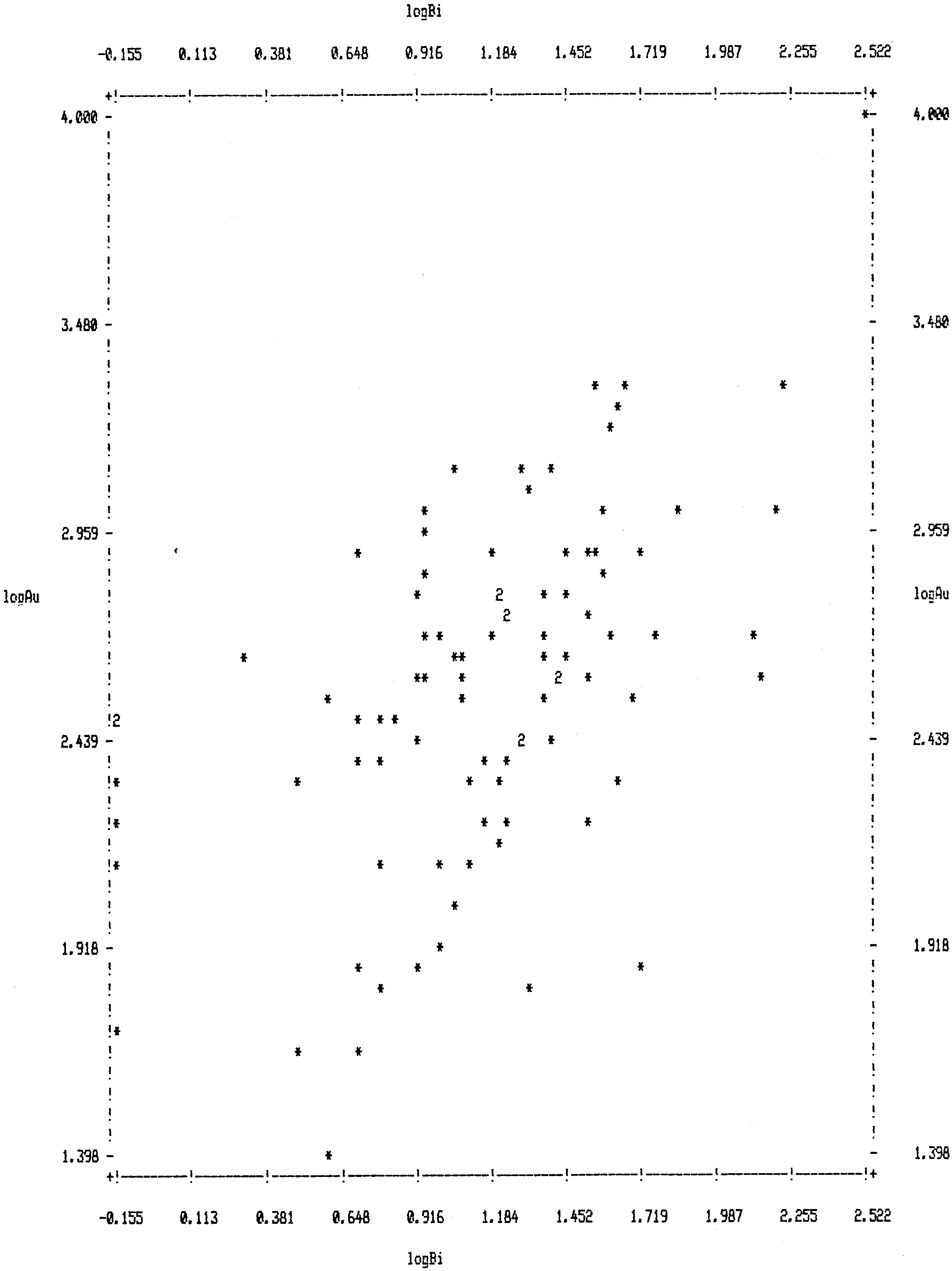

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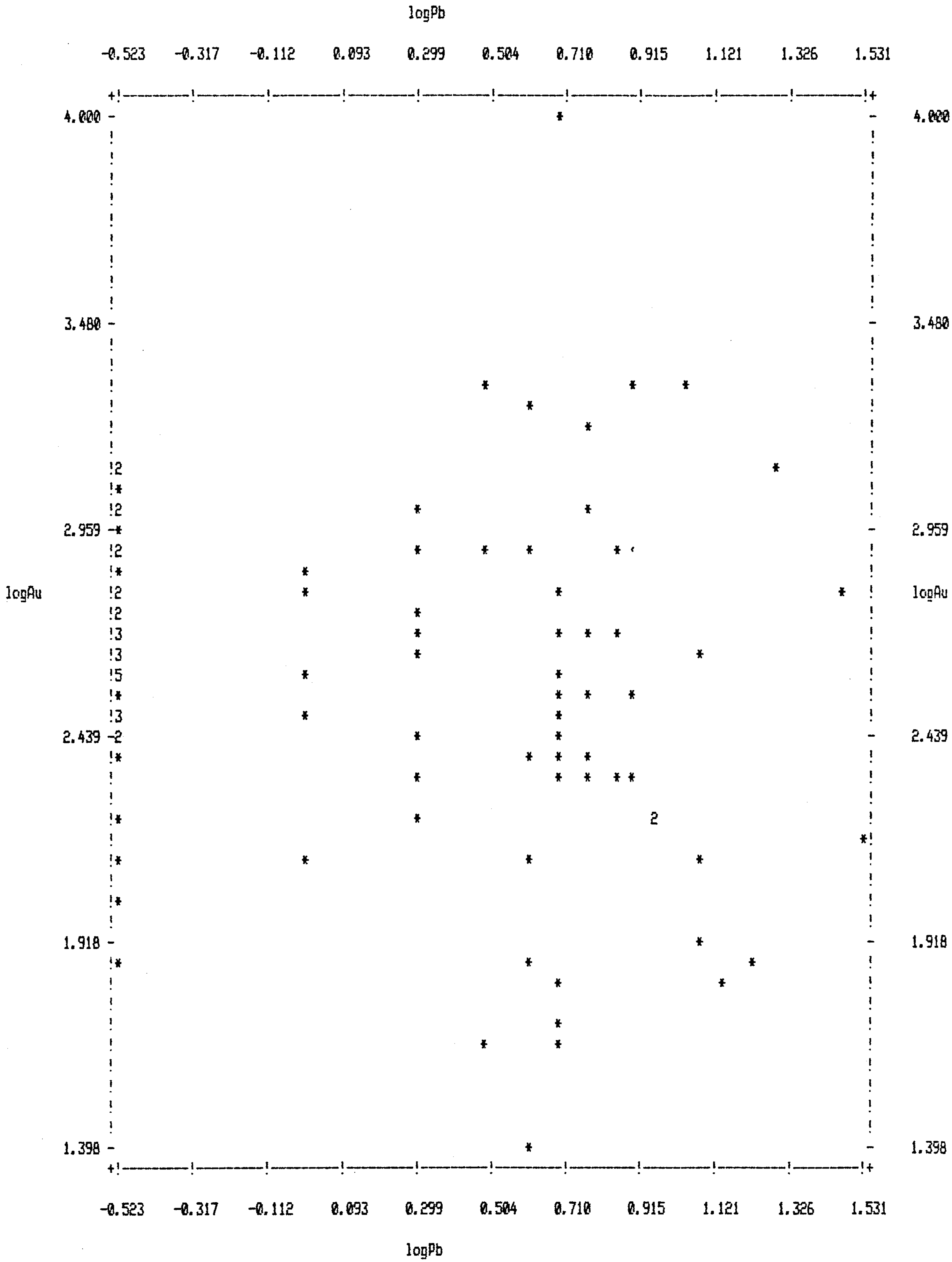

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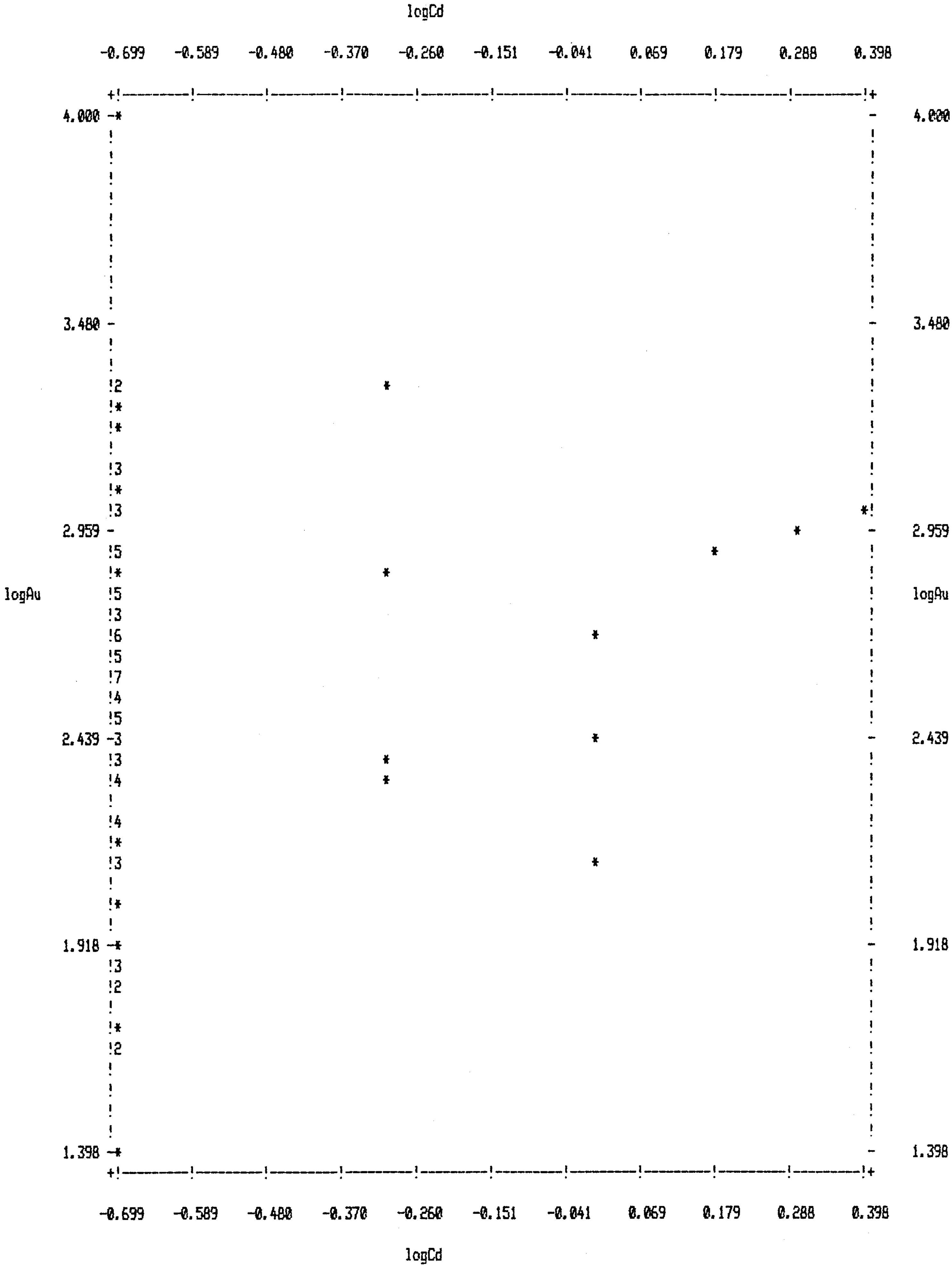

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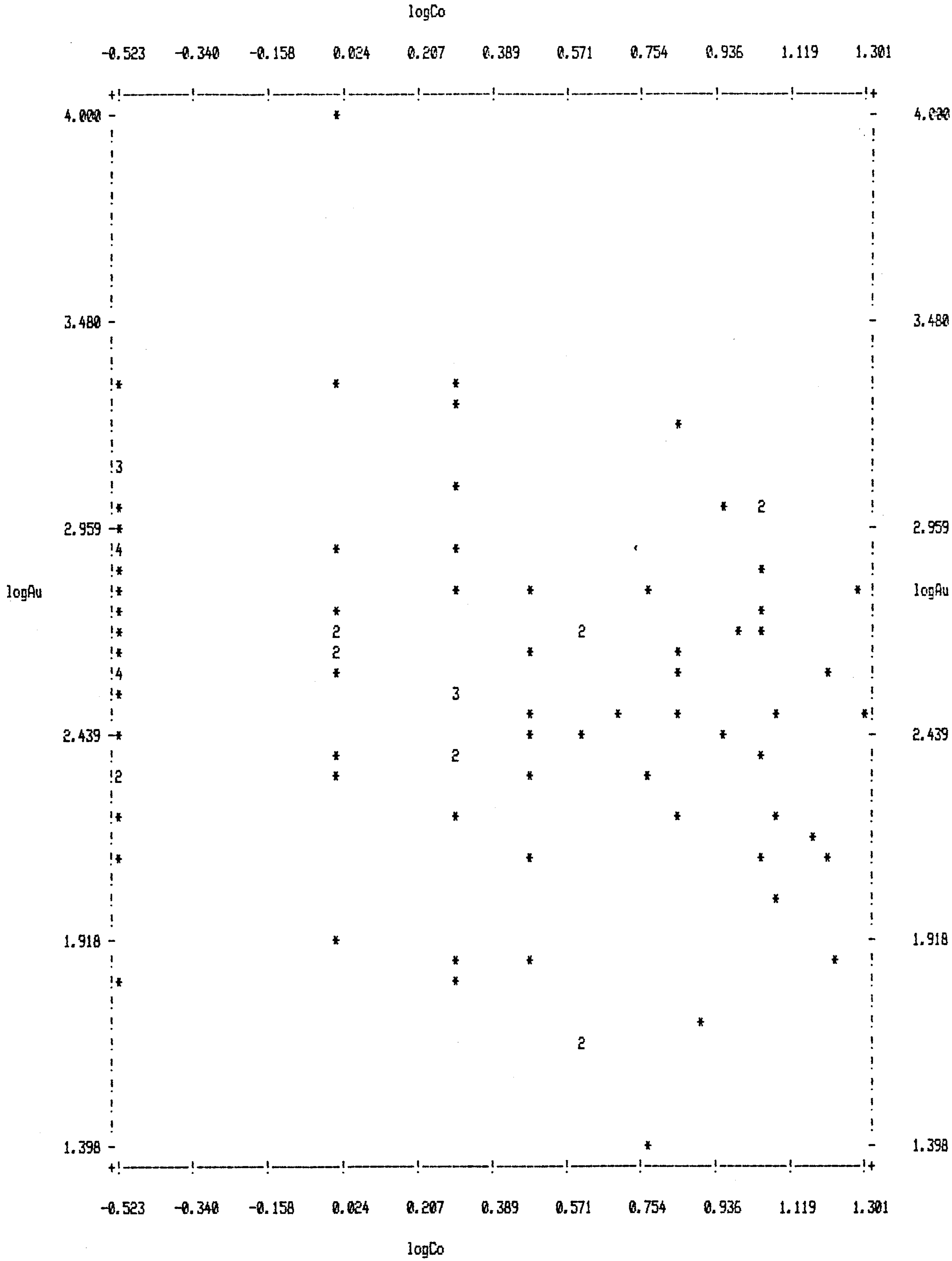

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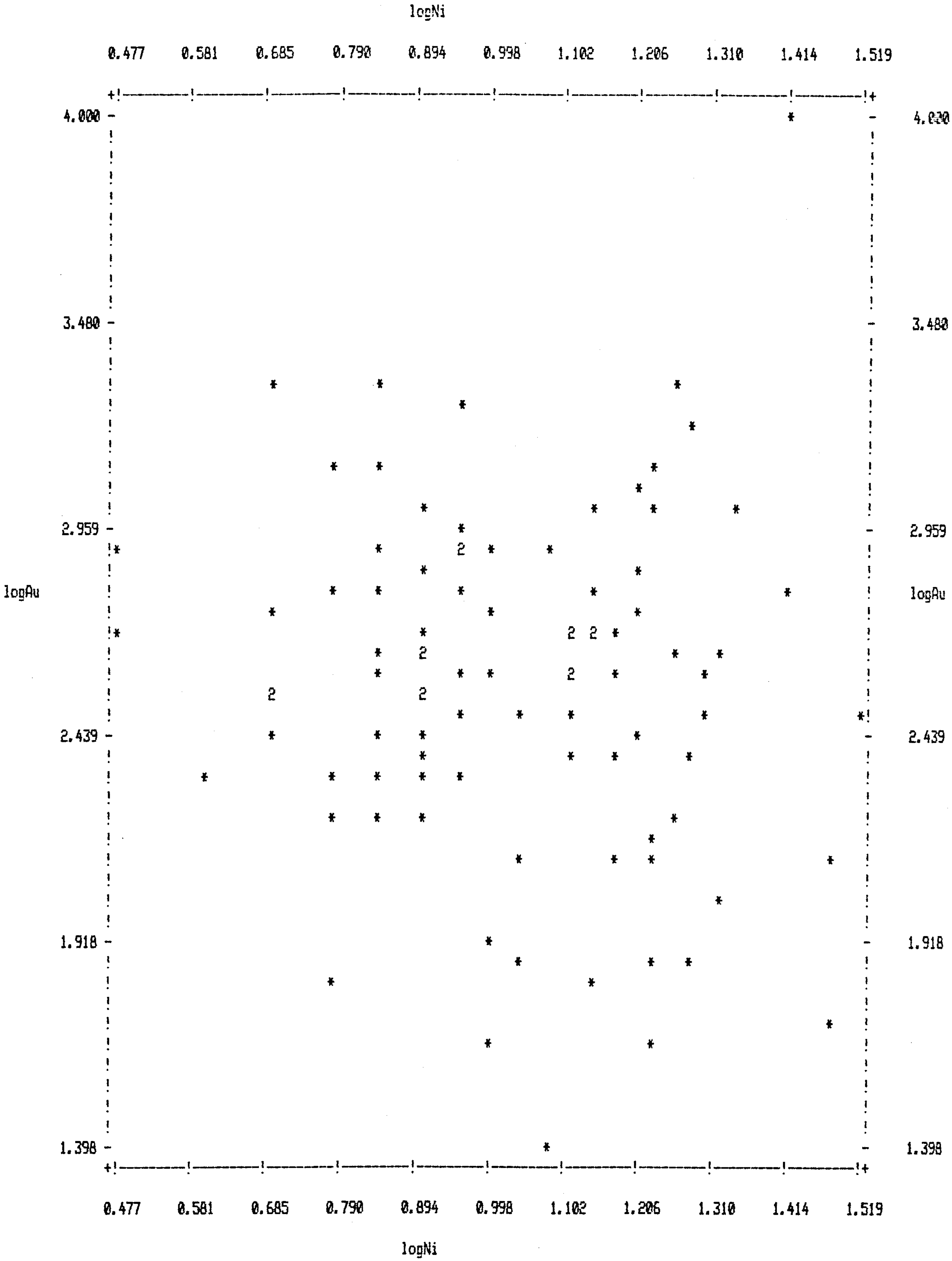

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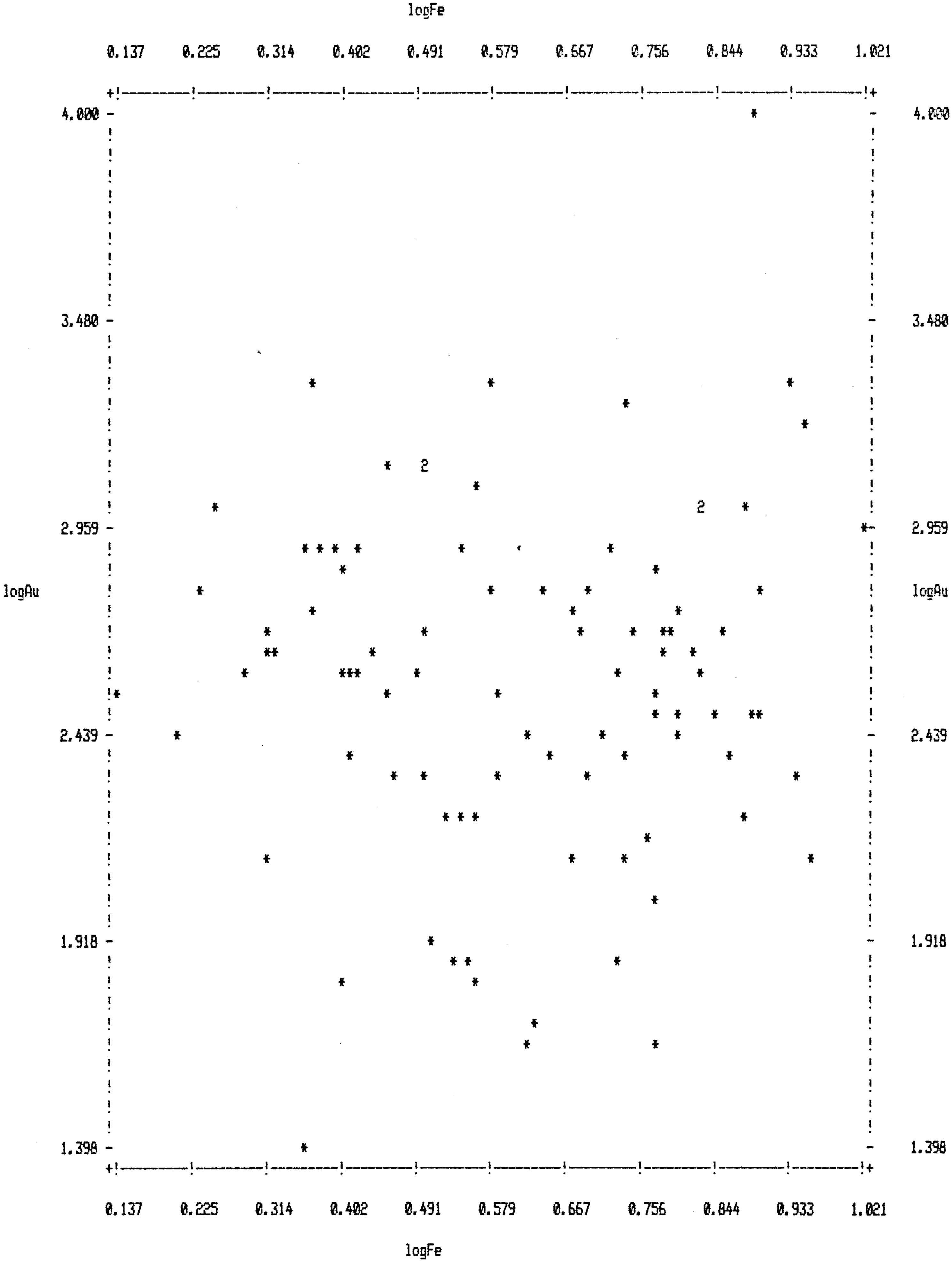

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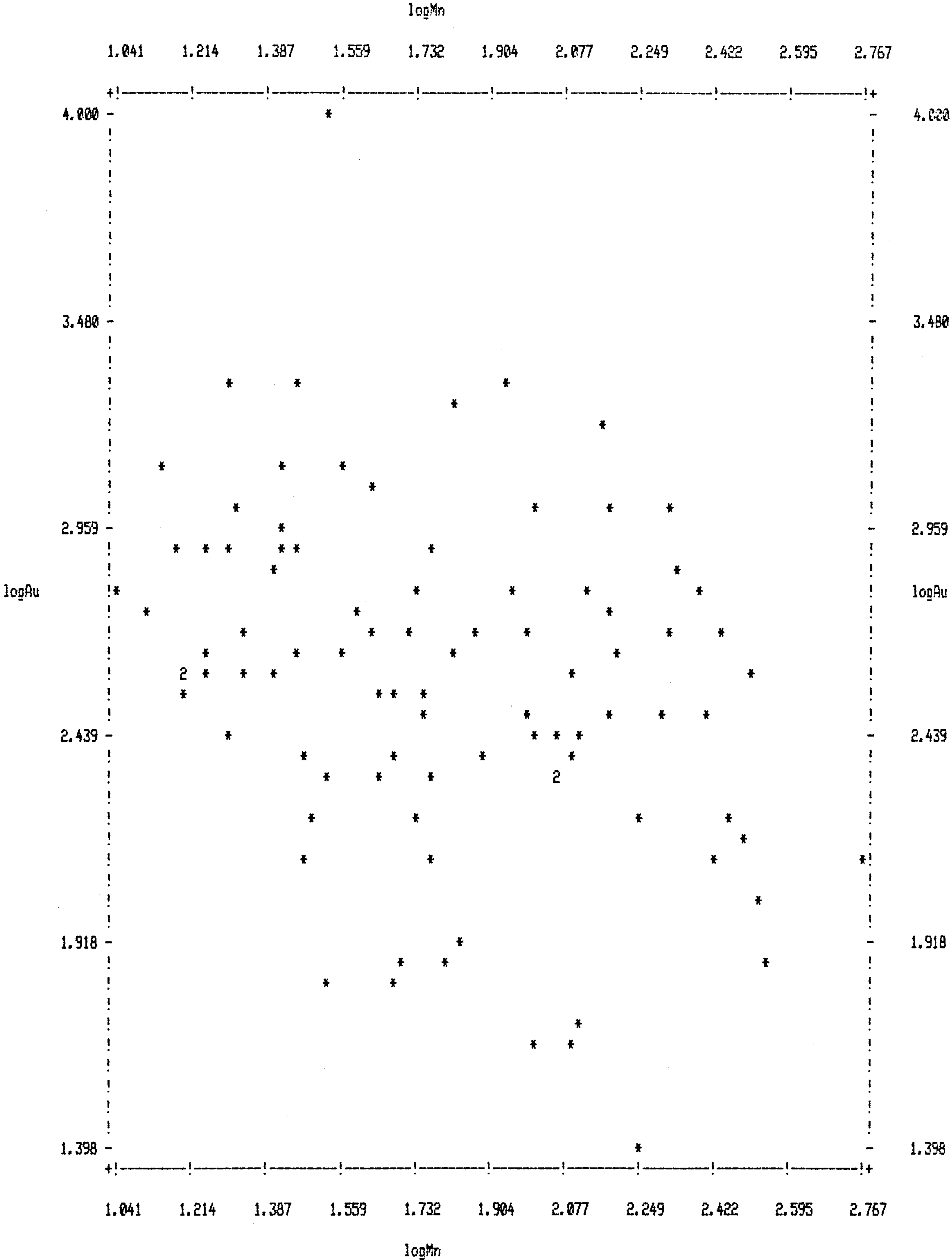

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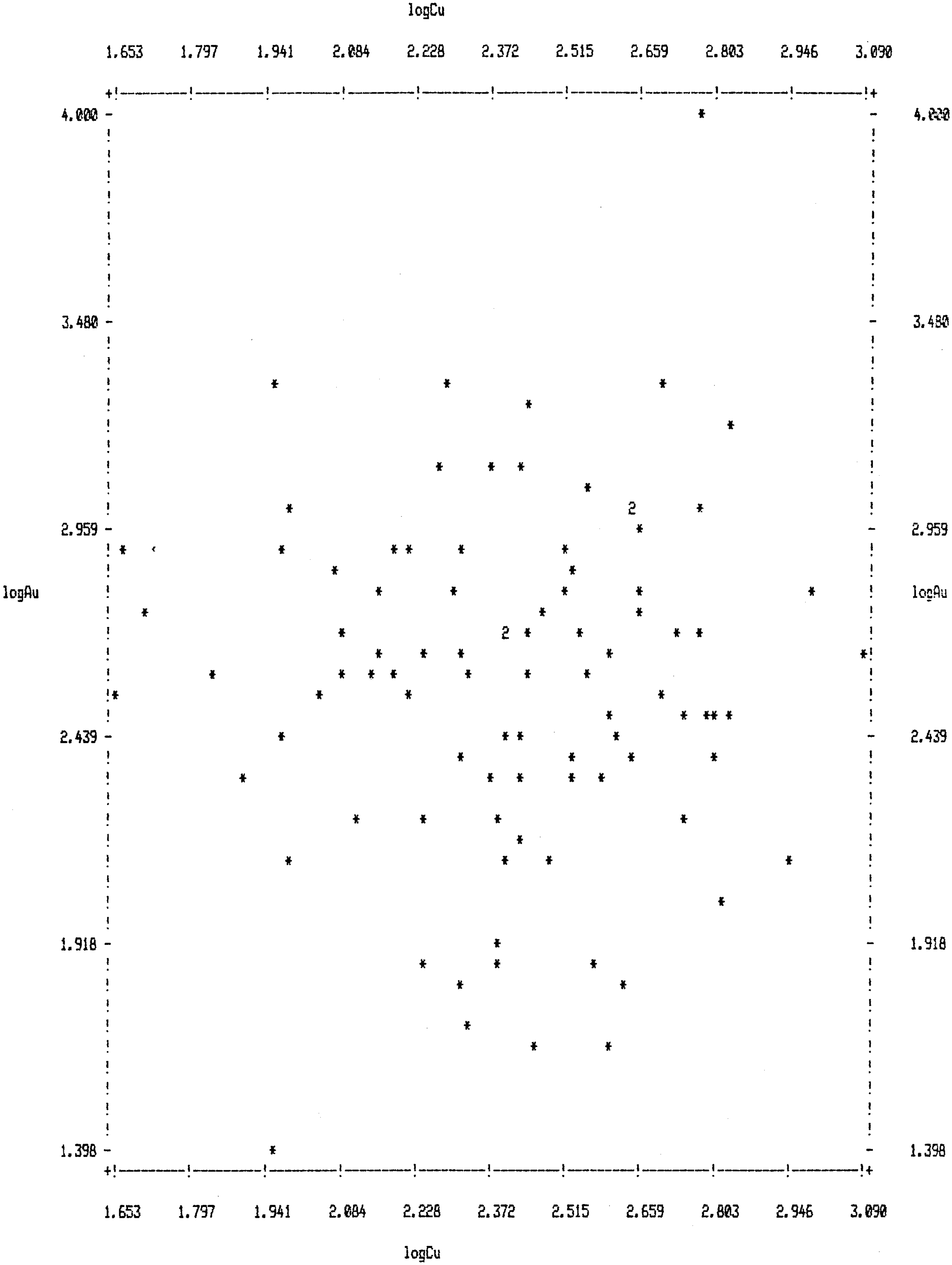

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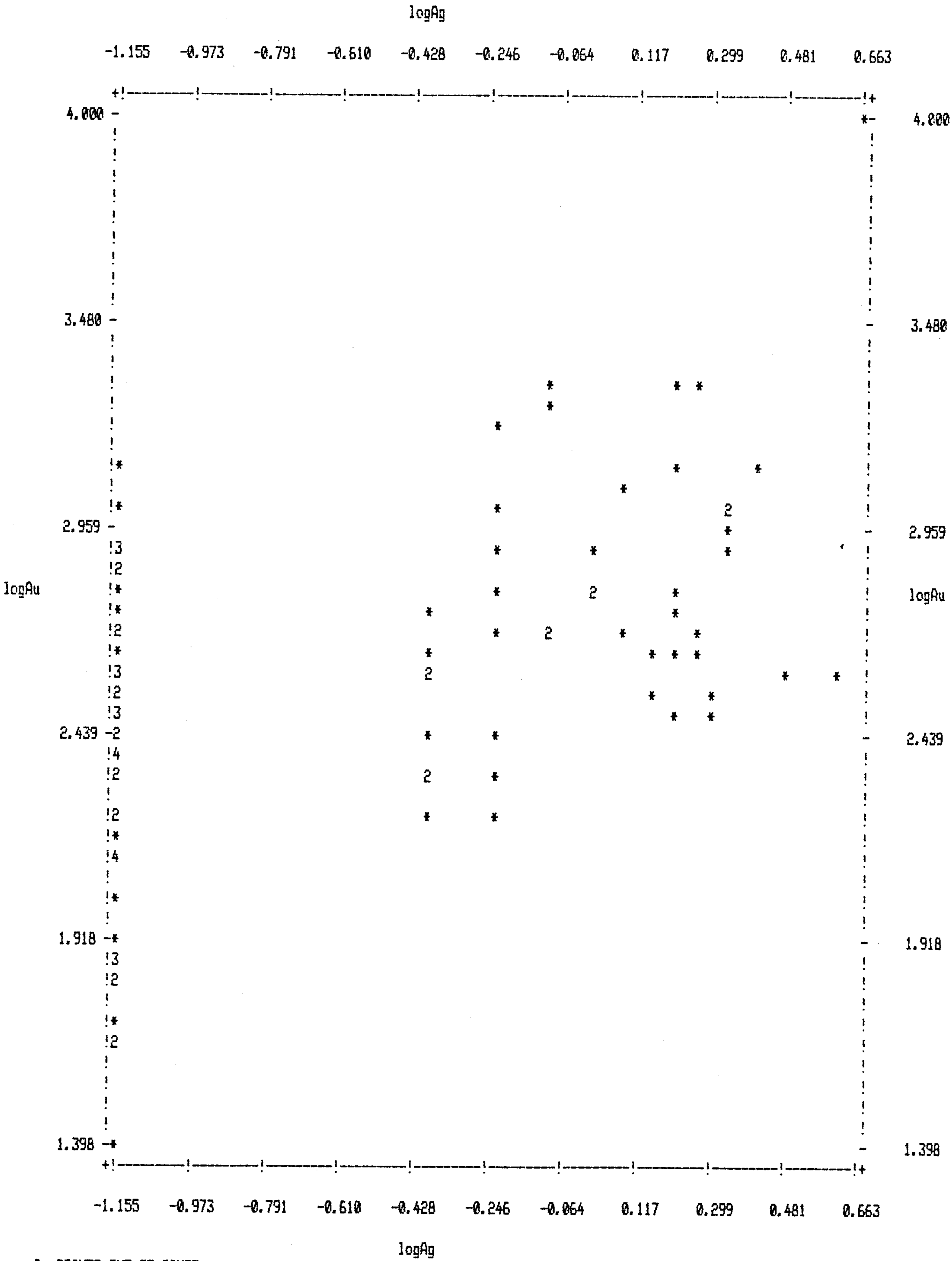

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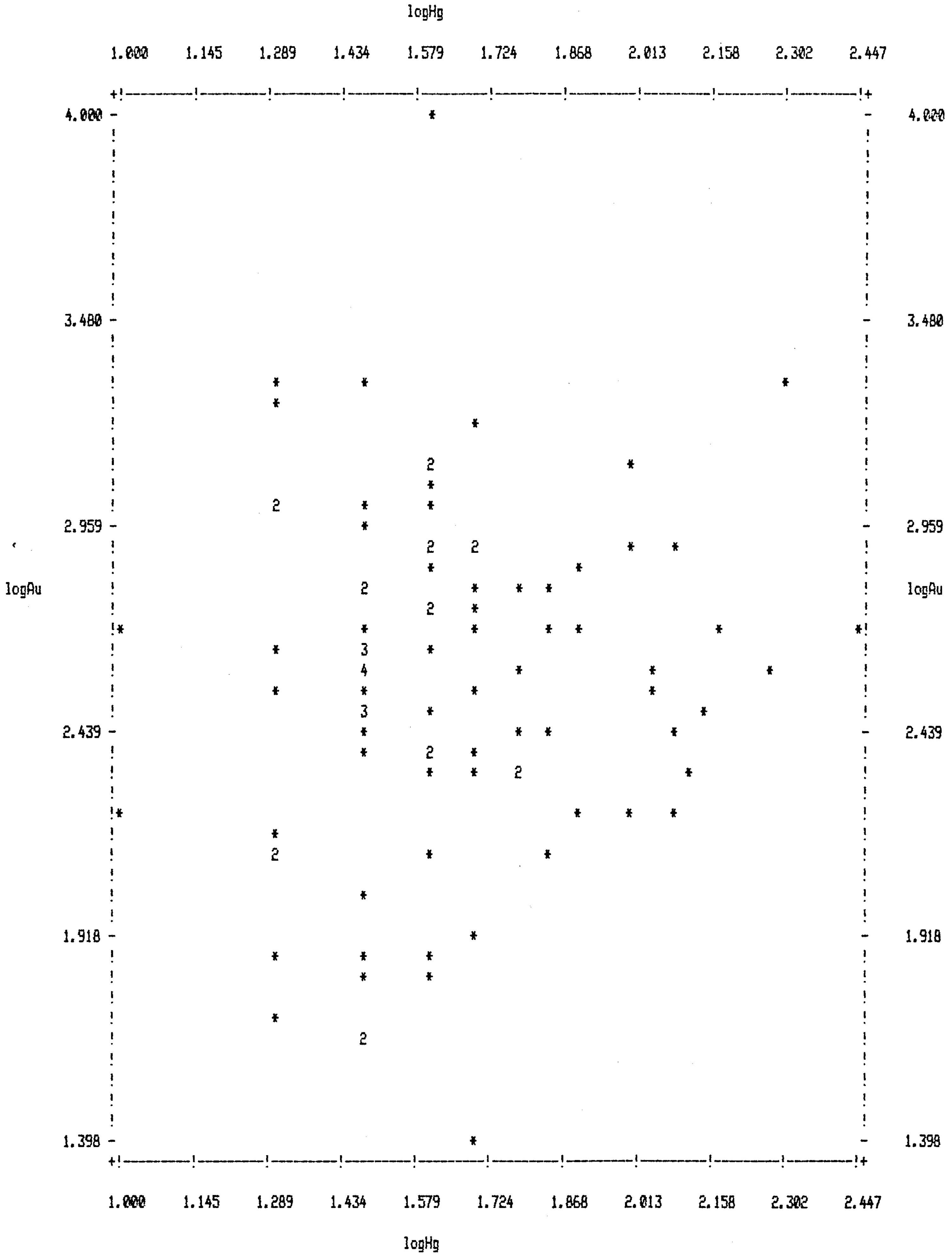

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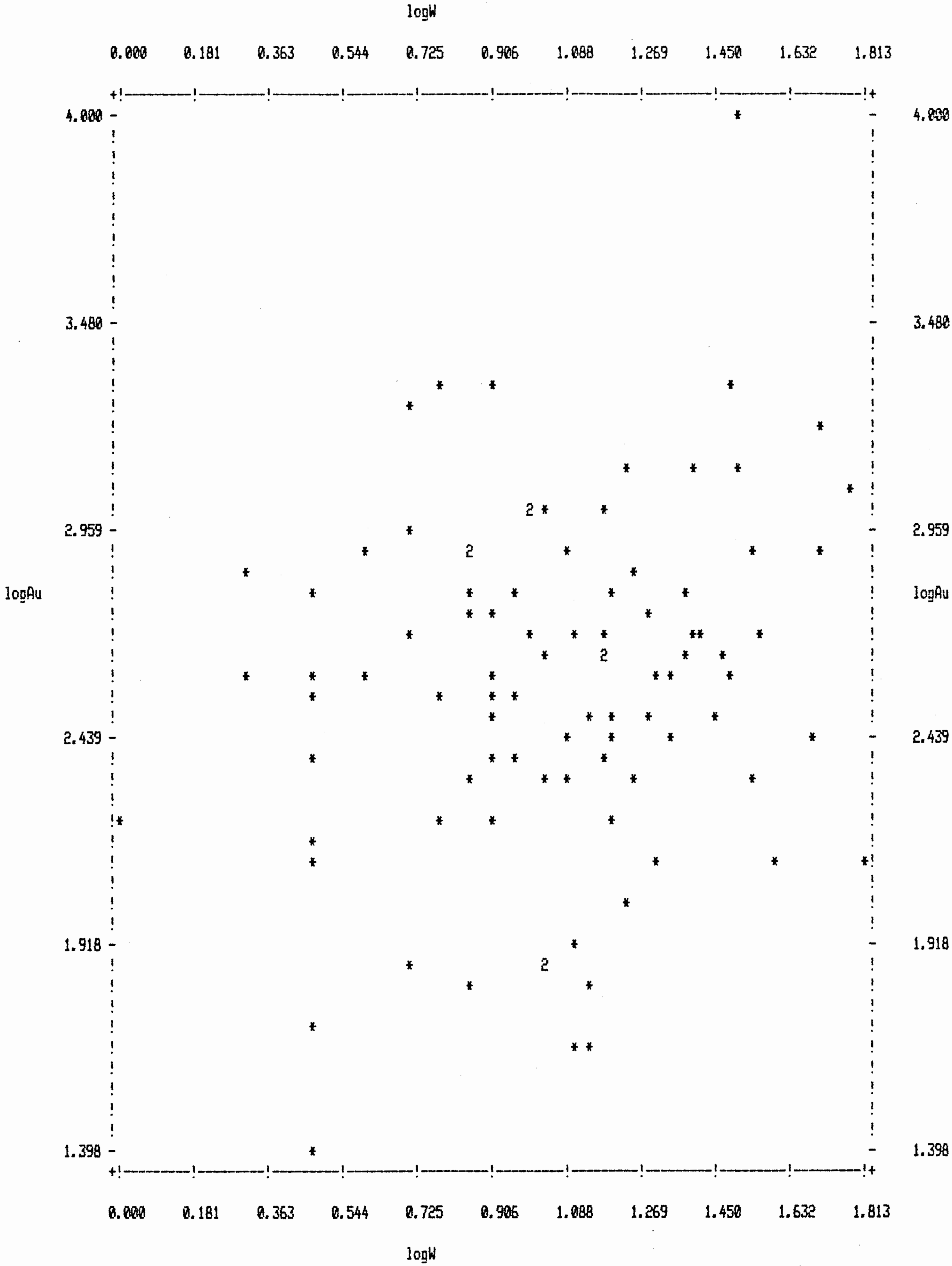
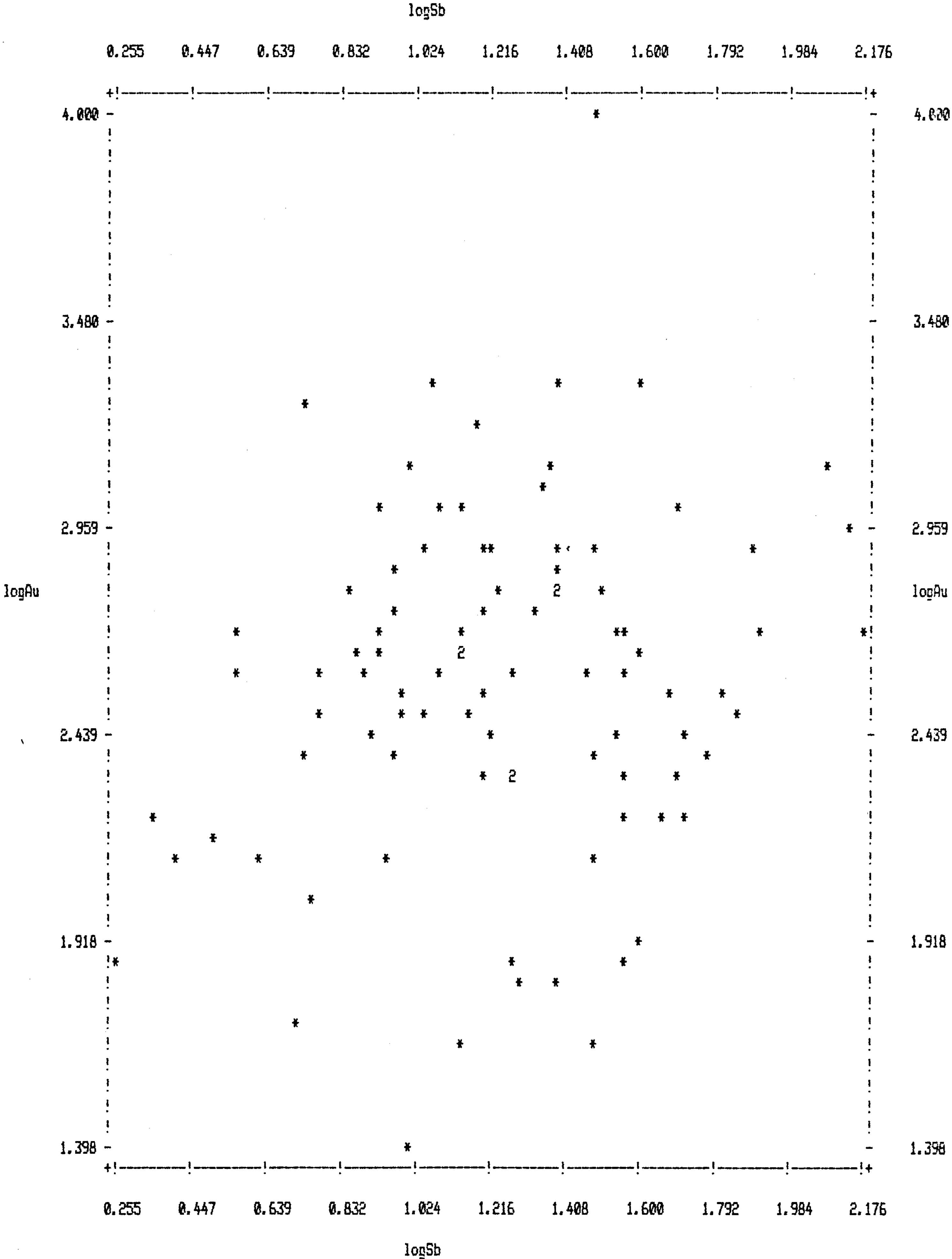


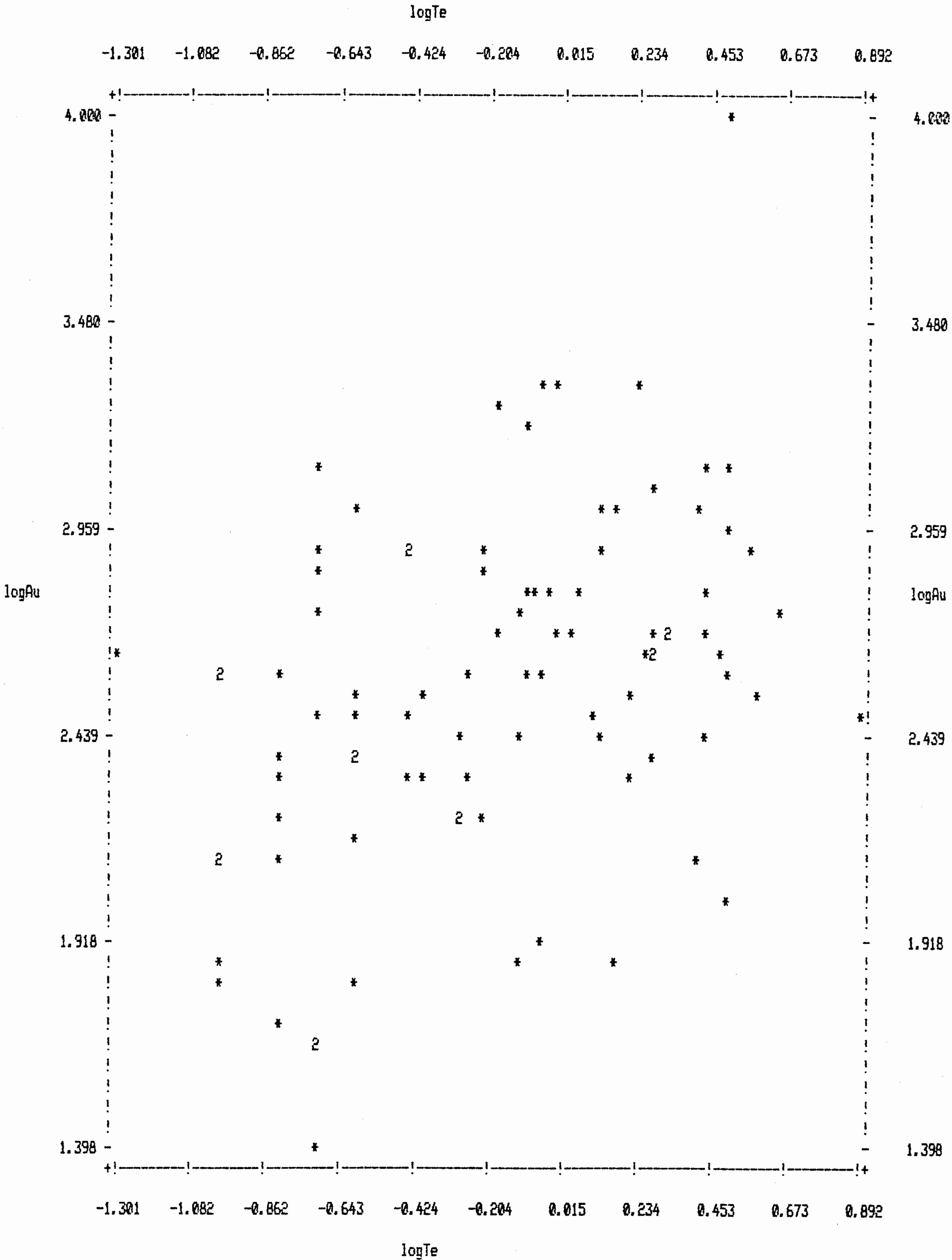
0 POINTS OUT OF RANGE

ARCHER CATHRO & ASSOCIATES (1981) LTD.



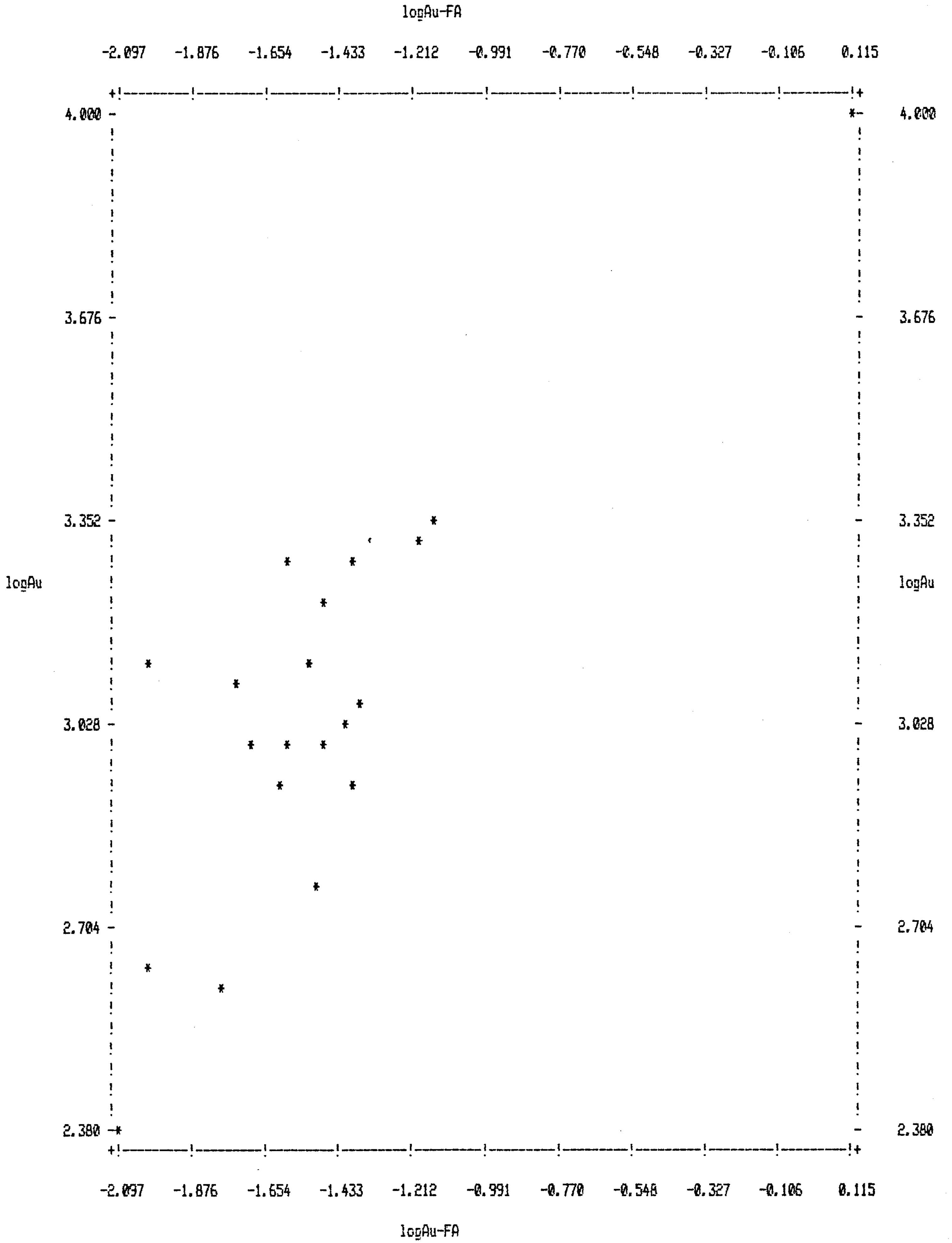
0 POINTS OUT OF RANGE

ARCHER CATHRO & ASSOCIATES (1981) LTD.



0 POINTS OUT OF RANGE

ARCHER CATHRO & ASSOCIATES (1981) LTD.



0 POINTS OUT OF RANGE

APPENDIX V - REFERENCES

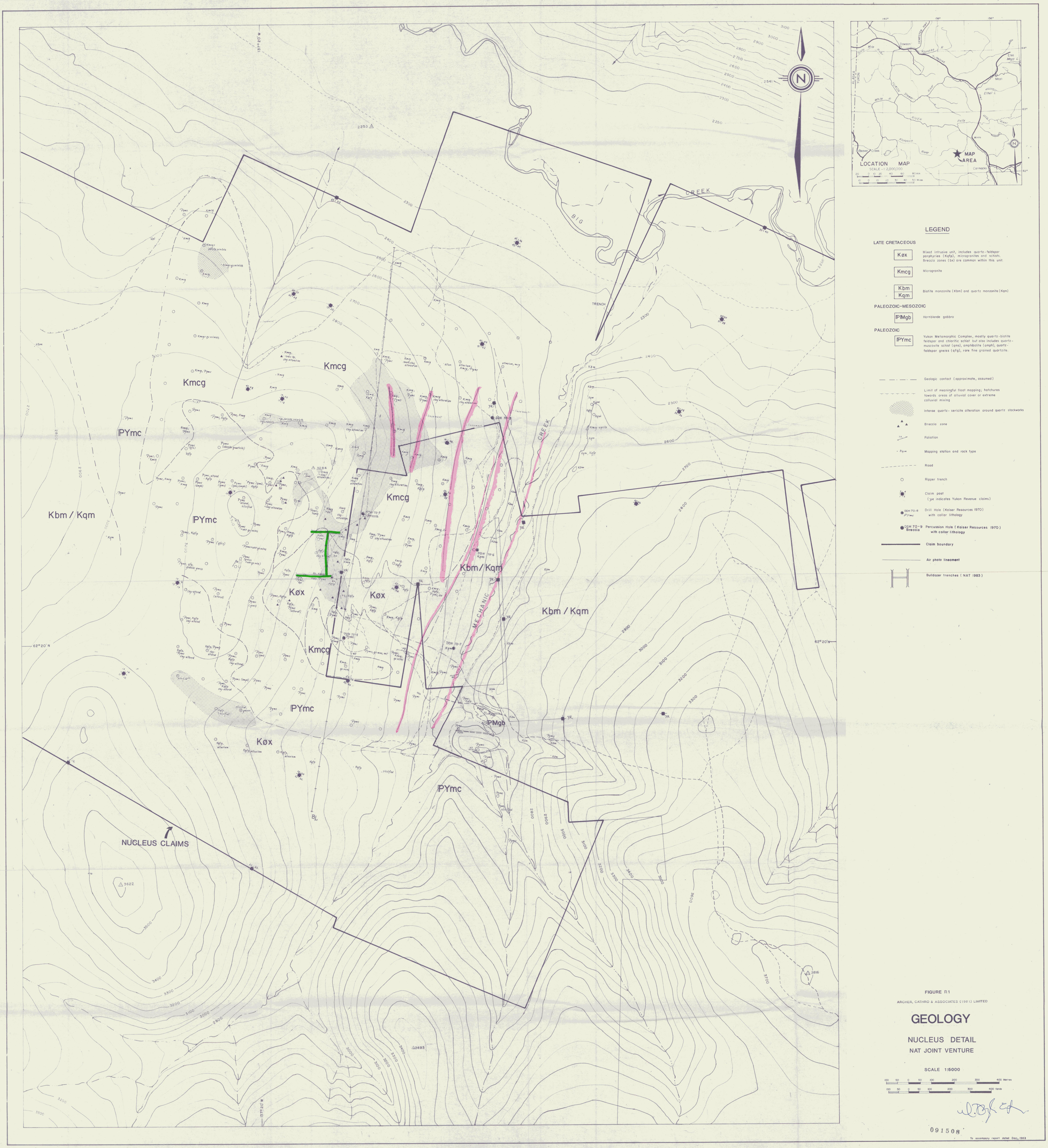
REFERENCES

Boyle, R.W., 1979; The Geochemistry of Gold and its Deposits, GSC Bulletin 280, pp. 419-421

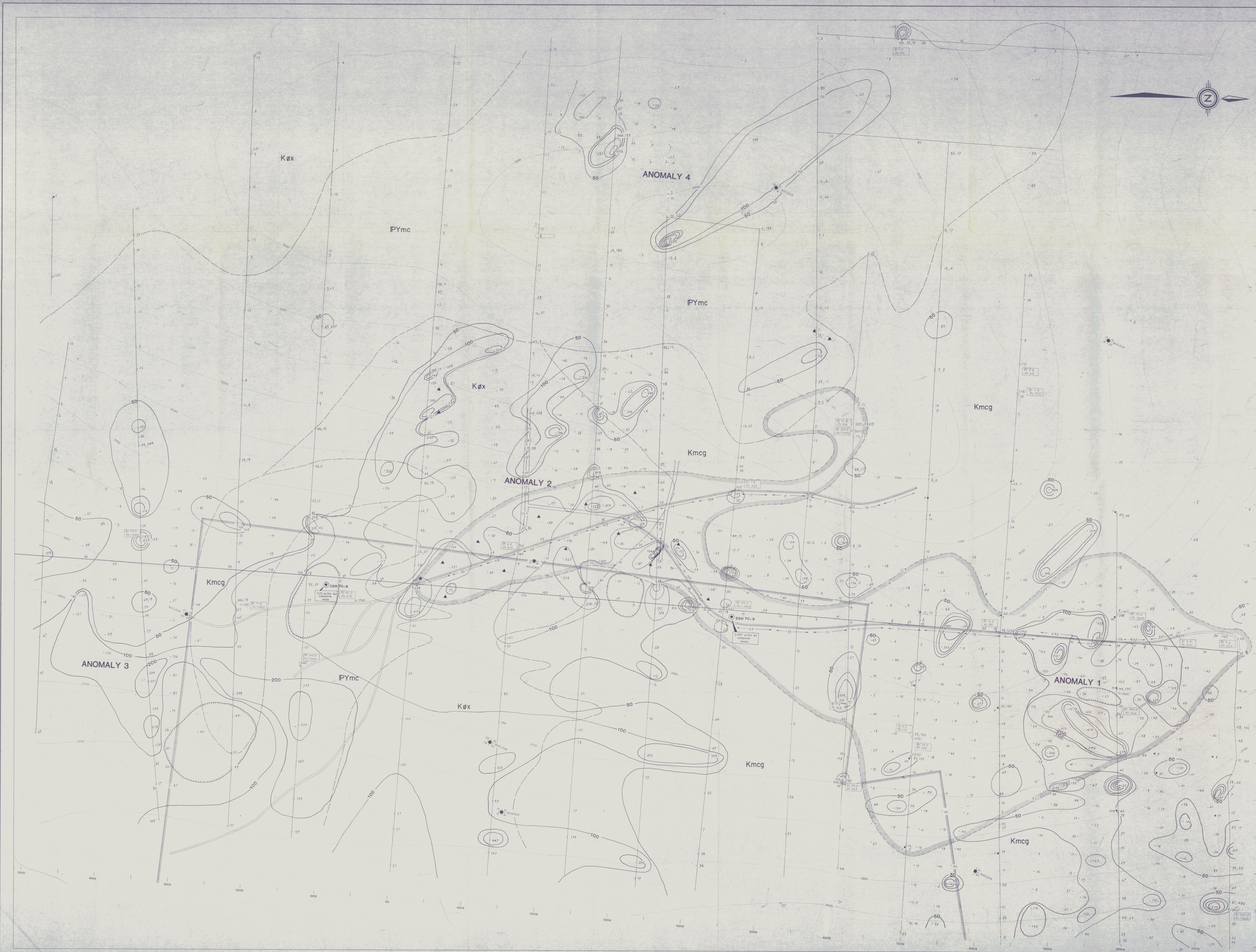
APPENDIX VI - PERSONNEL

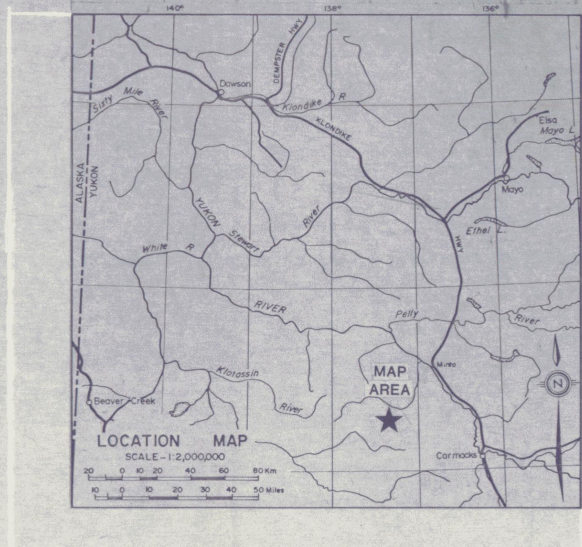
PERSONNEL

W.D. Eaton	Geologist	6108 Burns Street, Burnaby, B.C.
M.P. Phillips	Geologist	50 Alsek Road, Whitehorse, Y.T.



N
LOCATION MAP
SCALE - 1:2,000,000
MAP AREA
Carmacks
BIG CREEK
MECHANIC CREEK
TRENCH
Kmcg
PYmc
Kbm / Kqm
Køx
PMgb
NUCLEUS CLAIMS
62°20'N
137°20'W
LEGEND
LATE CRETACEOUS
Køx
Mixed intrusive unit, includes quartz-feldspar porphyries (Kqfp), microgranites and schists. Breccia zones (bx) are common within this unit.
Kmcg
Microgranite
Kbm
Kqm
Biotite monzonite (Kbm) and quartz monzonite (Kqm)
PALEOZOIC-MESOZOIC
PMgb
Hornblende gabbro
PALEOZOIC
PYmc
Yukon Metamorphic Complex, mostly quartz-biotite feldspar and chloritic schist but also includes quartz-muscovite schist (qms), amphibolite (amph), quartz-feldspar gneiss (qfg), rare fine grained quartzite.
Geologic contact (approximate, assumed)
Limit of meaningful float mapping; hatchures towards areas of alluvial cover or extreme colluvial mixing
Intense quartz-sericite alteration around quartz stockworks
Breccia zone
Foliation
Mapping station and rock type
Road
Ripper trench
Claim post
(YR indicates Yukon Revenue claims)
DDH 70-8
PYmc
Drill Hole (Kaiser Resources 1970) with collar lithology
DDH 70-9
Breccia
Percussion Hole (Kaiser Resources 1970) with collar lithology
Claim boundary
Air photo lineament
Bulldozer trenches (NAT 1983)
FIGURE R1
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
GEOLOGY
NUCLEUS DETAIL
NAT JOINT VENTURE
SCALE 1:5000
100 50 0 50 100 200 300 400 Metres
100 50 0 50 100 200 300 400 Yards
091508
To accompany report dated Dec., 1983





LEGEND

CRETACEOUS

Symbol	Description
Køx	Mixed unit including quartz-feldspar porphyry dikes, breccia, microgranite and schist
Kmcg	Microgranite

PALEOZOIC

Symbol	Description
IPYmc	Yukon metamorphic complex

- Geological contact
- Limit of quartz-sericite alteration and quartz stockworks
- Breccia
- DDH 70-8 — 1970 Kaiser Resources percussion drill hole with Au assay results averaged over hole.
- 113 — Reconnaissance chip sample (with Au assay in ppb)
- 28 — Bulk rock sample (with Au assay in ppb)
- (230) — Grab rock sample (with Au assay in ppb)
- 89 — Soil sample (with Au assay in ppb)
- 360 — Trench soil sample (with Au assay in ppb)
- 50 — 1982 SOIL VALUE CONTOUR LINE
- 1983 BULLDOZER TRENCH

Figure R2

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

GOLD GEOCHEMISTRY

NUCLEUS DETAIL

NAT JOINT VENTURE

091508

SCALE 1:1250

0 50 100 150 metres

To accompany report dated December, 1983

TRENCH 83N1

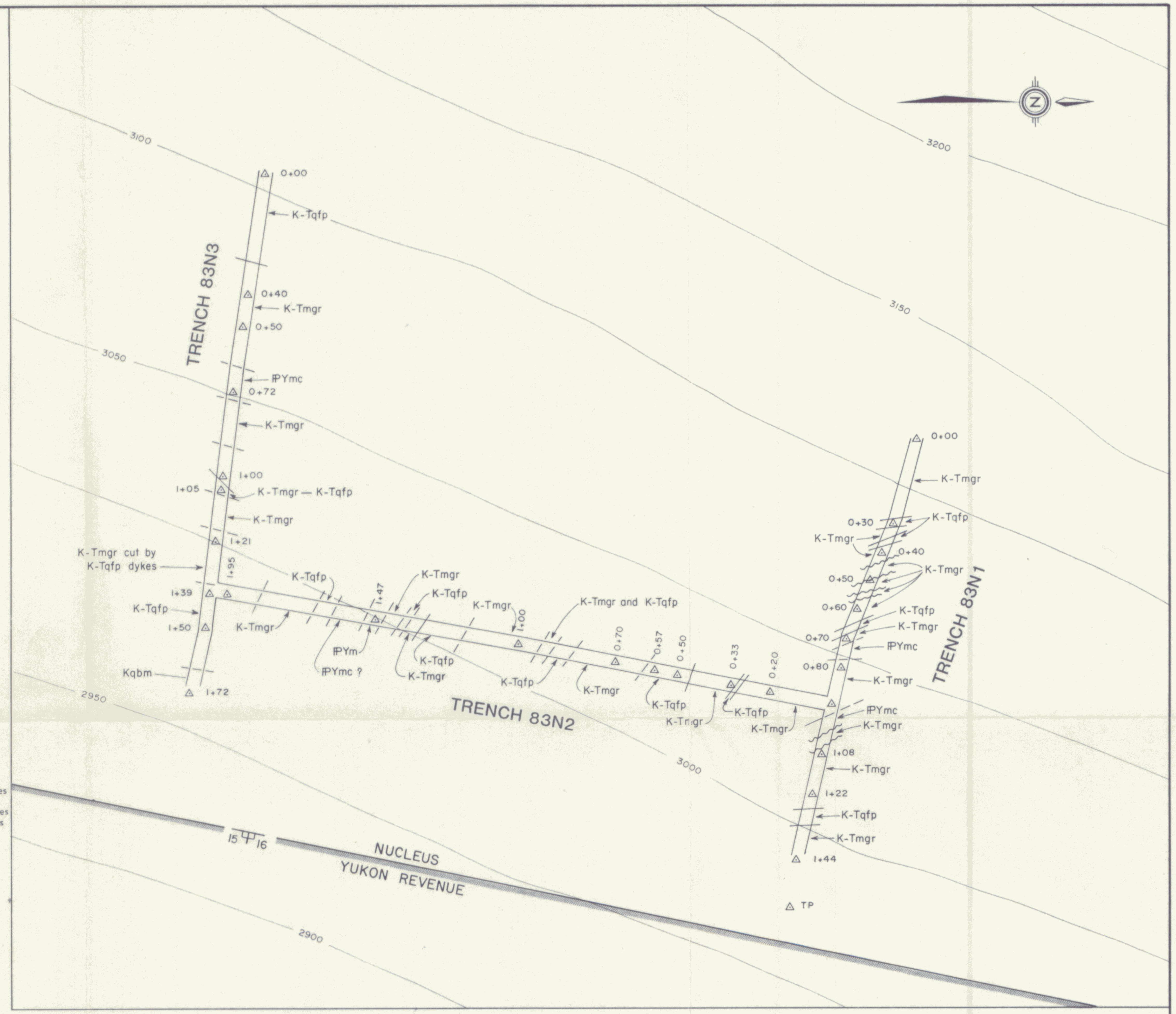
SAMPLE NO.	METRES FROM	METRES TO	WIDTH	GOLD OZ/TON	GOLD PPB	ARSENIC PPM	ANTIMONY PPM	BISMUTH PPM	TELLURIUM PPM	SILVER PPM	TUNGSTEN PPM	ROCK TYPE
H60633	0+10.0	0+20.0	10.0		135	180	8.8	10	0.10	<0.2	20	K-Tmcg
634	10.0	27.0	7.0		395	540	7.8	26	0.15	<0.2	3	K-Tmcg
635	27.0	30.5	3.5		815	520	16.4	29	0.35	0.6	7	K-Tqfp
636	30.5	32.5	2.0		560	1010	15.8	35	0.75	0.4	7	K-Tqfp
637	32.5	35.0	2.5		350	355	9.6	23	0.25	<0.2	3	K-Tmcg
638	35.0	37.5	2.5	0.070	2230	1830	40.0	46	0.90	1.6	8	K-Tqfp
639	37.5	44.0	6.5	0.040	830	1120	15.4	36	0.35	<0.2	7	K-Tmcg
640	44.0	47.5	3.5	0.034	1690	560	15.2	40	0.80	0.6	50	K-Tmcg - gouge
641	47.5	49.0	1.5	0.008	240	205	9.4	14	0.15	<0.2	9	K-Tmcg - fractured
642	49.0	50.0	1.0	0.010	420	255	8.4	2	0.05	<0.2	30	K-Tmcg - gouge
643	50.0	54.0	4.0	0.030	1340	480	10.0	20	0.20	<0.2	25	K-Tmcg - highly altered, weak limonite
644	54.0	58.0	4.0	0.064	2065	2080	11.4	168	1.70	1.8	31	K-Tmcg - highly altered, fair limonite
645	58.0	63.0	5.0	0.026	1875	290	5.4	43	0.65	0.8	5	K-Tmcg - altered, weak-mod. limonite
646	63.0	66.5	3.5	1.304	>10000	1100	31.0	333	3.10	4.6	32	K-Tqfp - brecciated, flow banding, strong alteration
647	66.5	69.5	3.0	0.034	970	1010	8.4	155	1.30	2.2	10	K-Tmcg
648	69.5	77.5	8.0		400	255	3.6	8	0.10	<0.2	4	P Ymc - amphibolite
649	77.5	79.5	2.0		390	315	6.0	35	0.80	0.4	8	K-Tmcg
650	79.5	82.0	2.5		155	410	3.2	16	0.25	<0.2	3	P Ymc
651	82.0	83.0	1.0		130	225	4.2	6	0.15	<0.2	40	K-Tmgr - fractured, fair- mod. boxwork limonite
652	83.0	89.0	6.0		135	160	2.6	13	0.10	<0.2	3	P Ymc
653	89.0	96.0	7.0		480	395	3.6	15	0.65	<0.2	5	K-Tmgr
654	0+96.0	1+02.5	6.5		165	310	2.2	14	0.15	<0.2	1	K-Tmgr
655	1+02.5	1+06.0	3.5	0.026	1025	370	11.8	38	1.50	0.6	11	K-Tmgr - fault bounded, fractured, fair limonite
656	1+06.0	1+16.0	10.0	0.040	2000	575	24.0	37	1.00	0.8	6	K-Tmgr - blocky, fair limonite on fractures
657	1+16.0	1+27.0	11.0	0.032	600	545	24.0	29	2.65	1.6	9	K-Tmgr
658	1+27.0	1+32.5	5.5	0.024	840	910	77.0	52	3.70	2.2	12	K-Tqfp - breccia, strong boxwork limonite
659	1+27.0	1+32.5	Grab		900	2190	140.0	9	3.20	2.2	5	K-Tqfp - as above
660	1+32.5	1+38.0	5.5		470	250	39.0	28	3.00	1.8	11	K-Tmgr
661	1+38.0	1+44.0	6.0		640	235	24.0	16	0.85	0.6	3	K-Tmgr

TRENCH 83N2

SAMPLE NO.	METRES FROM	METRES TO	WIDTH	GOLD OZ/TON	GOLD PPB	ARSENIC PPM	ANTIMONY PPM	BISMUTH PPM	TELLURIUM PPM	SILVER PPM	TUNGSTEN PPM	ROCK TYPE
H60662	0+00	0+05	5.0		730	1060	9.4	9	0.20	<0.2	2	K-Tmgr
663	05	10	5.0		560	1350	9.4	17	0.20	<0.2	8	K-Tmgr
664	10	15	5.0	0.038	1070	2360	14.0	9	0.25	<0.2	10	K-Tmgr - fair-moderate boxwork limonite on fractures
665	15	20	5.0		325	590	10.8	<2	0.25	<0.2	8	K-Tmgr
666	20	25	5.0		240	500	5.4	5	0.25	<0.2	15	K-Tmgr
667	25	29	4.0		320	600	9.6	<2	0.20	<0.2	28	K-Tmgr
668	29	30	1.0		380	840	12.2	9	0.10	<0.2	2	K-Tqfp - porphyritic 2% very fine sulfides-fair limonite boxwork
669	29	30	Grab		240	1870	30.0	6	0.25	<0.2	3	K-Tqfp - as above
670	30	35	5.0		325	340	6.0	6	0.35	<0.2	14	K-Tmgr
671	35	40	5.0		260	735	8.0	8	2.75	<0.2	48	K-Tmgr
672	40	46.5	6.5		510	240	8.4	10	1.10	<0.2	25	K-Tmgr
673	46.5	47.0	0.5	0.016	390	325	29.0	143	3.10	4.0	31	K-Tqfp
674	47	52	5.0	0.042	1160	260	22.0	21	1.85	1.2	60	K-Tqfp - mixed with Kmgr - brecciated - up to 1cm qz veining & qz crystals lining fractures - fair limonite
675	52	57	5.0		790	540	30.0	34	1.35	1.0	50	K-Tqfp
676	57	61	4.0		405	550	36.0	12	0.55	0.4	22	K-Tqfp
677	61	70	9.0		270	210	16.4	25	0.50	0.6	16	K-Tmgr
678	70	76	6.0		395	260	18.8	27	0.90	3.0	20	K-Tmgr
679	76	84	8.0		735	270	25.0	39	0.60	<0.2	18	K-Tmgr
680	84	90	6.0		490	290	14.0	23	2.05	0.8	13	K-Tqfp
681	90	95	5.0		535	325	21.0	17	4.40	1.6	19	K-Tqfp
682	95	97	2.0		310	225	14.2	5	7.80	2.0	19	K-Tmgr? yellow clay
683	97	99	2.0		335	190	15.8	4	3.80	2.0	9	K-Tmgr? strong clay
684	0+99	1+05	6.0	0.018	1255	190	23.0	11	3.15	2.6	17	K-Tmgr - fair in places strong limonite
685	1+05	1+10	5.0		425	440	13.6	12	1.90	1.6	24	K-Tmgr
686	1+10	1+15	5.0		425	235	13.6	23	1.90	1.4	15	K-Tqfp - porphyritic - weak - fair fracture limonite
687	1+15	1+21	6.0	0.020	1025	415	49.0	73	2.60	2.2	15	K-Tqfp - as above
688	1+21	1+28	7.0	0.010	1320	1030	120.0	25	2.65	1.6	32	K-Tqfp - highly brecciated, intense alteration, excel. limonite on fractures
689	1+28	1+32	4.0		515	595	35.0	60	1.00	0.8	36	K-Tqfp - as above, only weaker limonite
690	1+32	1+37	5.0		835	595	11.0	15	0.60	<0.2	35	K-Tmgr - brecciated, intense alteration, fair-mod. limonite on fractures
691	1+37	1+40	3.0		215	520	18.6	16	1.60	<0.2	35	K-Tqfp - brecciated, strong alteration weak-fair limonite on fractures
692	1+40	1+46	6.0		100	85	5.6	11	3.20	<0.2	17	K-Tmgr
693	1+46	1+51	5.0		75	60	1.8	5	1.50	<0.2	5	P Ymc
694	1+51	1+56	5.0		425	230	7.4	11	1.80	0.4	15	P Ymc - bedrock ?
695	1+56	1+61	5.0		660	210	7.2	8	0.95	1.0	7	P Ymc - bedrock ?
696	1+61	1+67	6.0		625	345	16.8	16	1.15	1.0	24	K-Tqfp
697	1+67	1+74	7.0		225	240	18.8	13	0.40	0.4	12	K-Tmgr
698	1+74	1+80	6.0		260	805	51.0	20	0.75	<0.2	22	K-Tmgr
699	1+80	1+84	4.0		165	240	37.0	<2	0.50	0.4	16	K-Tmgr
H56830	1+84	1+90	6.0		315	875	70.0	7	1.25	1.6	16	K-Tqfp
831	1+90	1+95	5.0		285	360	35.0	20	1.35	0.4	12	K-Tqfp

TRENCH 83N3

SAMPLE NO.	METRES FROM	METRES TO	WIDTH	GOLD OZ/TON	GOLD PPB	ARSENIC PPM	ANTIMONY PPM	BISMUTH PPM	TELLURIUM PPM	SILVER PPM	TUNGSTEN PPM	ROCK TYPE
H56832	0+00	0+07	7.0		330	965	48.0	12	0.40	<0.2	6	K-Tqfp
833	+07	14	7.0		765	1590	25.0	5	0.20	<0.2	4	K-Tqfp
834	14	21	7.0		225	1220	50.0	43	0.55	0.6	7	K-Tqfp
835	21	28	7.0		175	840	46.0	34	0.60	0.6	6	K-Tqfp
836	28	31	3.0		235	275	59.0	17	1.85	<0.2	8	K-Tmgr
837	31	38	7.0		75	290	37.0	54	0.75	<0.2	11	K-Tmgr
838	38	45	7.0		48	185	13.8	5	0.20	<0.2	14	K-Tmgr
839	45	52	7.0		51	105	5.2	<2	0.15	<0.2	3	K-Tmgr
840	52	60	8.0		70	275	18.8	8	0.10	<0.2	11	K-Tmgr
841	60	68	8.0		65	170	20.0	21	0.10	<0.2	14	K-Tmgr & PYmc
842	68	76	8.0		85	170	40.0	10	0.90	<0.2	13	K-Tmgr & PYmc
843	76	84	8.0		43	150	30.0	3	0.20	<0.2	13	K-Tmgr
844	84	88	4.0		64	370	25.0	6	0.25	<0.2	7	K-Tmgr
845	88	96	8.0		180	390	52.0	17	0.50	<0.2	8	K-Tqfp
846	96	1+00	4.0		215	400	36.0	<2	0.35	0.4	18	K-Tqfp
847	1+00	1+05	5.0		225	115	15.4	3	0.15	<0.2	11	K-Tqfp
848	05	15	10.0		140	215	30.0	<2	2.55	<0.2	65	K-Tmgr
849	15	25	10.0		495	230	36.0	9	2.65	1.8	26	K-Tmgr - sheared & brecciated cut by Tfp dykes with good alteration, strong limonite on fractures
850	25	34	9.0		370	1350	65.0	49	1.65	1.4	8	K-Tmgr - as above
851	34	45	11.0		600	245	32.0	24	0.80	<0.2	16	K-Tqfp
852	45	54	9.0		530	1520	150.0	130	1.90	1.2	10	K-Tqfp - with 5-20% Kmgr
853	54	64	10.0		485	3300	79.0	42	2.05	0.6	15	K-Tqfp
854	1+64	1+72	8.0		25	145	10.0	4	0.20	<0.2	6	K-Tmgr



LEGEND

LATE CRETACEOUS - TERTIARY (?)

K-Tqfp	quartz - feldspar porphyry
K-Tmgr	microgranite
Kqbm	quartz biotite monzonite

PALEOZOIC

PYmc	Yukon metamorphic complex - schists, gneiss
— - - -	contact - defined, approximate
△0+70	survey marker
▬▬	claim boundary

Figure R3

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

TRENCH MAP AND ASSAY DATA

NUCLEUS CLAIMS

NAT JOINT VENTURE

SCALE - 1:1250

0 50 100 150

Metres

To accompany report dated December, 1983

091508