BRITISH COLUMBIA

PROSPECTORS ASSISTANCE PROGRAM

MINISTRY OF ENERGY AND MINES

GEOLOGICAL SURVEY BRANCH

PROGRAM YEAR:	1996/1997
REPORT #:	PAP 96-26
NAME:	BRYAN MULOIN

BRITISH COLUMBIA
PROSPECTORS ASSISTANCE PROGRAM
PROSPECTING REPORT FORM (continued)

B. TECHNICAL REPORT

- One technical report to be completed for each project area.
- **Refer to Program Requirements/Regulations, section 15, 16 and 17.**
- If work was performed on claims a copy of the applicable assessment report may be submitted in lieu of the supporting data (*see* section 16) required with this TECHNICAL REPORT.

Name BRYAN MULOIN Reference Number 96/97 P62

LOCATION/COMMODITIES

Project Area (as listed in Part A) JAWBONE CREEK MINFILE No. if applicable ____

Location of Project Area NTS 93 H 4Z Lat 53°2' Long 121°45'

Description of Location and Access By highway 26 from Quesnel to the 72C logging road east of Timon Ck, thence to 12 to 13 km

Main Commodities Searched For Gold

Known Mineral Occurrences in Project Area Foster Benches, Lightning Creek

WORK PERFORMED

1. Conventional Prospecting (area) ____
2. Geological Mapping (hectares/scale) ____
3. Geochemical (type and no. of samples) alder leaves 63
4. Geophysical (type and line km) magnetometer & H loop EM -
5. Physical Work (type and amount) trenching 15 m³
6,. Drilling (no,. holes, size, depth in m, total m) ____
7. Other (specify) ____

SIGNIFICANT RESULTS

Commodities ____ Claim Name ____

Location (show on map) Lat ____ Long ____ Elevation ____

Best assay/sample type 4510S, BL alder geochem 40 ppb Au

Description of mineralization, host rocks, anomalies
intrusive structure into phyllite with extensive alteration and shatter envelope identifiable by magnetic and EM surveys.

Supporting data must be submitted with this TECHNICAL REPORT

Information on this form is confidential for one year from the date of receipt subject to the provisions of the *Freedom of Information Act.*

GEOPHYSICAL AND GEOCHEMICAL SURVEYS ON JAWBONE CREEK

CARIBOO MINING DISTRICT
BRITISH COLUMBIA
NTS 93H/4 b,c,f,g,

LATITUDE 53x 2'
LONGITUDE 121x 45'

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APPENDIX:

- ASSAY SHEETS:
- ASSAYERS BILL
- DETAILED MAGNETIC SURVEY
- GEOCHEM STUDIES:

MOLYBDENUM	COPPER
LEAD	ZINC
SILVER	NICKEL
COBALT	MANGANESE
IRON	ARSENIC
URANIUM	STRONTIUM
CADMIUM	ANTIMONY
BISMUTH	CALCIUM
PHOSPHORUS	LANTHANUM
CHROMIUM	MAGNESIUM
BARIUM	BORON
ALUMINUM	SODIUM
POTASSIUM	GOLD

MAPS IN POCKET:

HORIZONTAL LOOP EM SURVEY
DETAILED MAGNETOMETER SURVEY

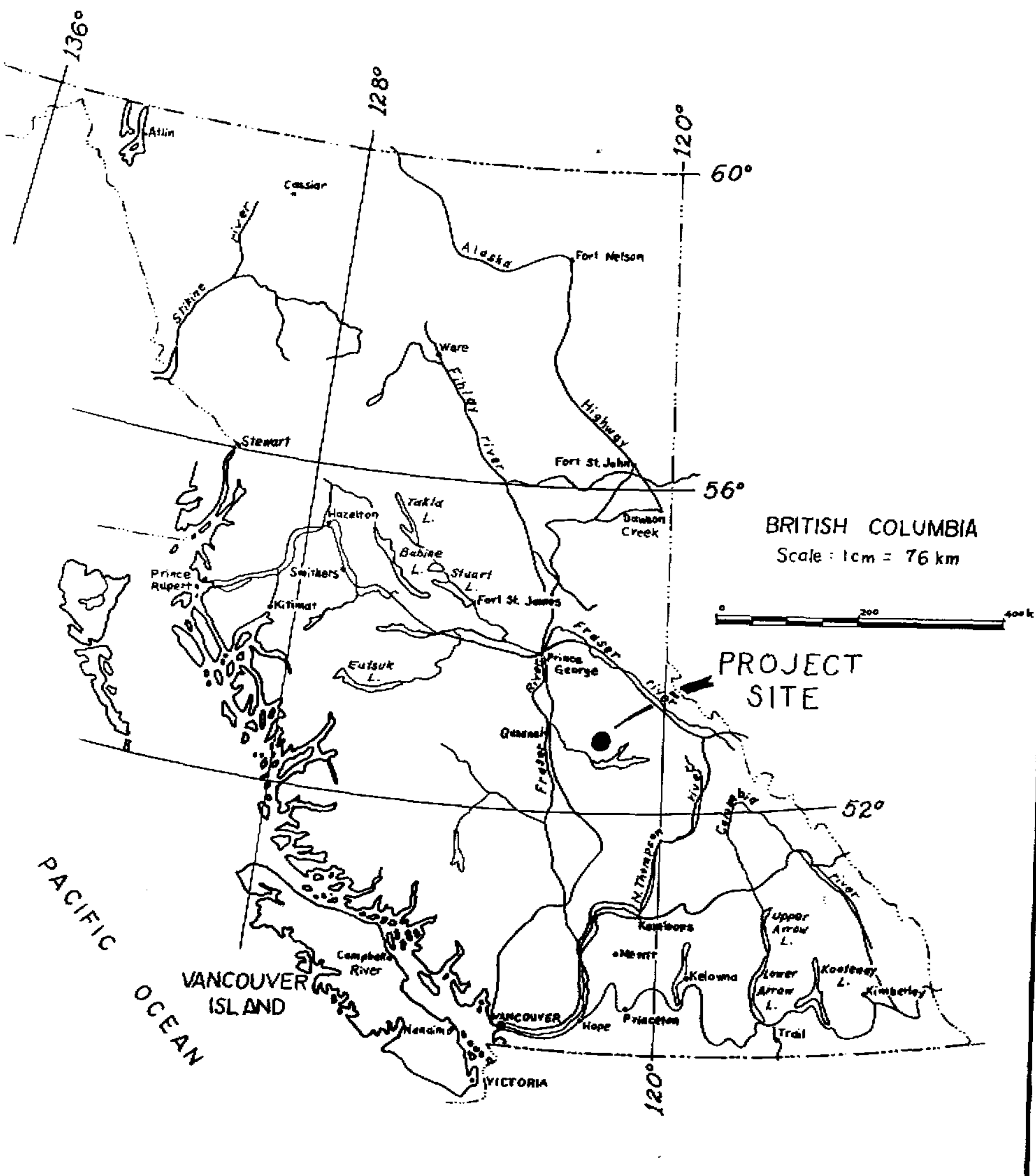


FIG 1

LOCATION MAP

12/87

INTRODUCTION

These studies are a continuation of assessment work done from '91 to '96 on the TARA and KNOW group of mineral claims east of Jawbone Creek.

Work prior to '91 comprised of a dip angle VLF survey on a line spacing of 500 meters, and some geochem sampling, both on the TARA claim group. From this work one strong conductor on the east branch of Jawbone Creek was singled out for study in '91.

The KNOW group covers that VLF structure for over a mile along the east branch of Jawbone Creek. Study to date includes magnetometer and VLF-EM traverses every 50 meters extending 100 to 400 meters either side. As part of that study a precision magnetic survey was initiated to define components in the alteration shatter envelope. These features are thought to be the feeders for the gold worked by a previous generation of miners. Ground flumes, shafts, and washes local to these structures attest to their interest.

An orientation geochemical survey done in '91 indicated the magnetically defined structures are related to subdued gold responses.

LOCATION AND ACCESS

Topographic description of site:

NTS 93H/4b,c,f,g

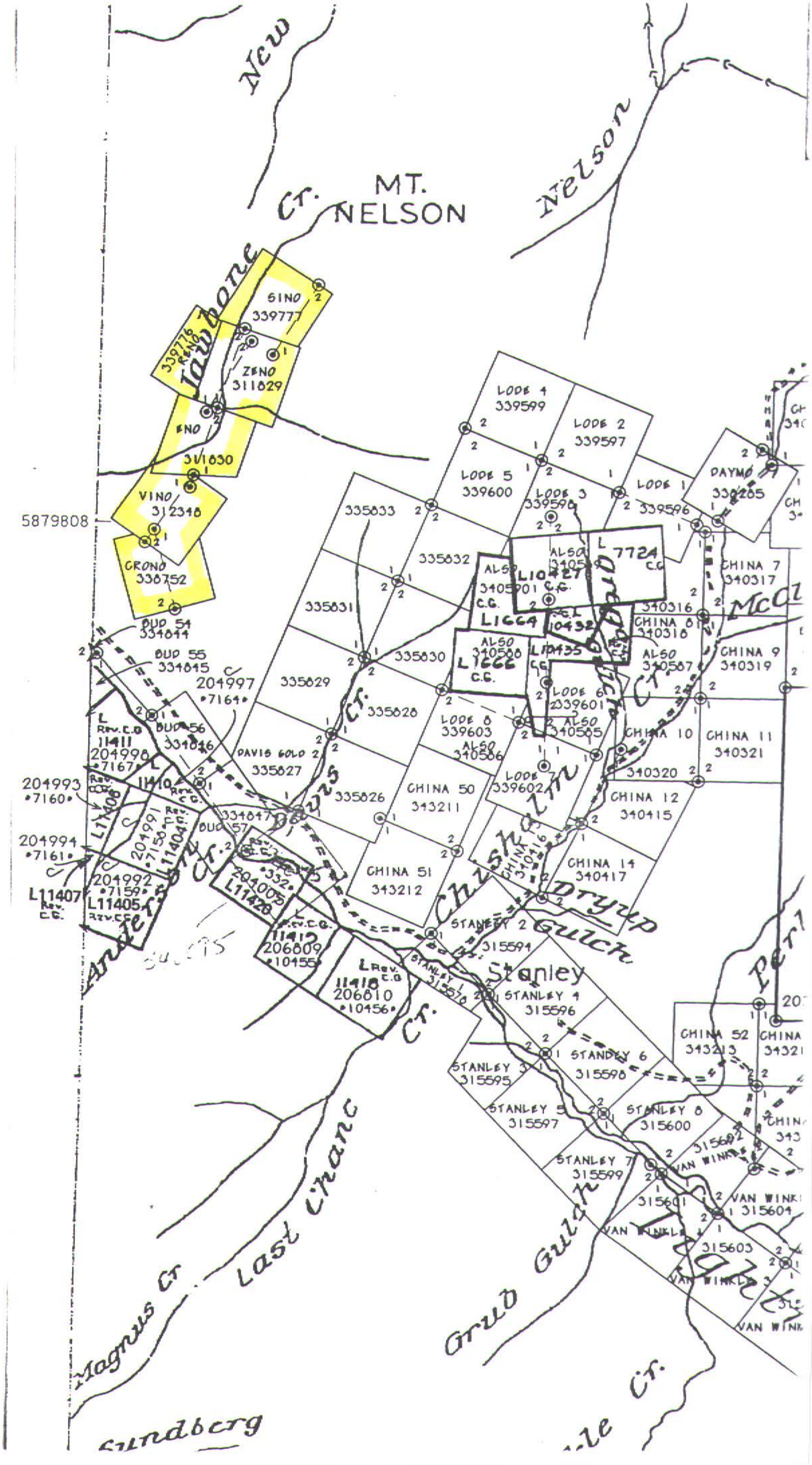
The KNOW Group, now 7 of 2 post claims: VINO, ENO, ZENO, SINO, CRONO, RENO and RHINO is successor to Jawbone and Tara Groups of mineral claims. It is situated in the area known as the Barkerville Gold Belt or the Cariboo Gold Mining District. For a general location see figure 1 on preceeding page and in more detail, Know Claim Group Location Map, Figure 2 after this page. Access to the property from Highway 26 is by logging road 720 at Timon Creek and a short road just west of Jawbone Creek. It is situated west of the former community of Stanley enroute between Quesnel and Wells. Another, older, road enters the area from the north over Nelson Mountain from Slough Creek.

HISTORY

The Stanley and VanWinkle area on Lightning Creek to the south is a notable mining area. Butcher Bench produced the largest recorded nugget of the Cariboo 36.4 oz with 6100 oz coming from an area of only a few square yards. The district has several continuing active operations.

The Slough Creek area north of the property has attracted extensive work, and is reputed to have produced more gold than Williams Creek. Most recent photos showing the large nugget gold of the Cariboo are from the south side of this creek.

The promise of the KNOW prospect is inspirational if one beleaves the find reported by Stuart S. Holland 1948, p.34 that: "F.J. Tregillus, of Barkerville, says that the father of W.M. Hong, of Barkerville, told him a Chinese miner had found a 41 ounce nugget on the left fork of Jawbone Creek. The nugget was never shown locally because the finder shortly left for China."



MT. NELSON
New Cr.
Nelson
Jawbone Cr.
SINO 339777
339776 RENO
ZENO 311829
ENO 311830
VINO 312348
CRONO 338752
5879808
BUD 54 334844
BUD 55 334845
204997 •7164•
BUD 56 334846
DAVIS GOLD 335827
204998 •7167•
204993 •7160•
204994 •7161•
204992 •7159•
L11407 Rev. C.G.
L11405
L11408
204991 •7158•
L11404
L11410
L11411
BUD 57 334847
204005
L11428
11412 206809 •10455•
11418 206810 •10456•
Anderson Cr.
Davis Cr.
Last Chance Cr.
Magnus Cr
Sundberg
Grub Gulch
Chisholm Cr.
Dryup Gulch
Stanley
LODE 4 339599
LODE 2 339597
LODE 5 339600
LODE 3 339598
LODE 1 339596
LODE 6 339601
LODE 8 339603
LODE 7 339602
DAYMO 338265
335833
335832
335831
335830
335829
335828
335826
ALSO 340501
ALSO 340506
ALSO 340505
ALSO 340508
ALSO 340507
L10427 C.G.
L7724 C.G.
L1664 C.G.
L1666 C.G.
L10435 C.G.
CHINA 7 340317
340316
CHINA 8 340318
CHINA 9 340319
CHINA 10
CHINA 11 340321
340320
CHINA 12 340415
CHINA 14 340417
CHINA 50 343211
CHINA 51 343212
CHINA 52 343213
STANLEY 2
315594
STANLEY 1
STANLEY 4 315596
STANLEY 3 315595
STANLEY 5 315597
STANLEY 6 315598
STANLEY 7 315599
STANLEY 8 315600
315601
315603
315604
VAN WINKLE
McC
Per

HISTORY cont.

The father of W.M.Hong was Wong Gar Wong born in 1852 in Kwangtung, China. Wong Gar Wong aged 10 in 1862, traveled with two older brothers to Silver City Nevada. In 1880 he made his way to Stanley, B.C. where as a miner he earned less than $10 a month. He some how managed to buy the Kwong Lung Kee grocery store and by 1885 return to China to marry and ship groceries from Hong Kong. Fred Tregillus estimated the freight cost for the bull team from Yale to Stanley at $4000 as he personally checked the weight of this freight. Won Gar Wong took his family; wife and five children back to China in 1910 for a visit lasting till 1912. He probably knew the fortunate miner of the 41 ounce nugget. His own good fortune suggests he to was in some such venture.

The remains of a cabin are present near the area of both white and chinese mining on Jawbone Creek. Its size suggests white construction, possibly the home of H.M. Bryant. Artifacts in the moss of its floor include five still useable shovels, opium containers, bottles with mercury in them, and a bronze pot repaired at least 3 times. This suggests the residence of the fortunate miner and four partners.

LOCAL GEOLOGY

Previously the area was included in the Richfield formation, a basal quartzite. Struick introduced the concept of terraines and renamed the formations. His description of the Jawbone Creek area is that it is underlain by phyllites. Structural elements he defines are: a fault parallel to Davis Creek, and the Lightning Creek Anticlinorum halfway up Mount Nelson.

Forestry road 72C, continued into the area in 1993, exposes phyllite bedrock. Brecciated phyllite outcrops, 5550S, 70E to 80E, its occurrence on a steep slope accounts for its exposure. To the west and just off the grid at about 4950S another out crop, in Jawbone Creek, is a resistant phyllite. These with the group of siliceous outcrops just south of the grid are representative of the country rock.

There are also remnants of north striking mafic dykes presumably related to the Mount Murry intrusives. On the road cut they can be seen extending into the enclosing till. They have weathered as an angular gravel. At 10.6 km the intrusive is seen to perimeter a small pond. It is tempting to interpret it as a volcanic pipe. The road builders obtained gravel from it for use on this road. Examination will still locate other thinner dykes, evidence that these soils are not glacial tills. The Fraser glaciation could not have completely covered the interior Basin as suggested by Tipper, 1971. This may explain the lack of observed moraines noted by him. His 1971 report is an invitation to discussion. Subsequent writers ignore this purpose of Bulletin 196 treating this writting as proven fact.

LOCAL GEOLOGY cont.

South of Lightning Creek, the Dominion Claims were visited by Holland, 1948, p.56. A precis of that information follows:

The north east of Lot 11404 is underlain by grey flaggy quartzites and squeezed pea size quartz pebble conglomerate. They are overlain by about 100 feet of limestone outcropping in the canyon of Anderson Creek. Overlying the limestone is a 1500 feet or more belt of chloritic rocks grading upward from bright green chloritic schist to brown weathering chlorite schist to quartzite. They strike north 30 degrees west and dip 20 to 40 degrees west. The claims are south west of the major anticlinal axis but the limestone and chloritic schists are not repeated on the north east side.

It is suspected that Holland has described the components of alteration.

Along the baseline, parallel the VLF-EM, magnetic structures, see Geology map, the outcrop is similar to the Dominion Claims pebble conglomerate further exposed by blasting. Quartz intrusive alteration, is necessary for outcrops to expose through the mature weathered soils. The pisolites (pebbles) have a hyaline, opalene sheen to them. On the Dominion Claims they are seen to grade from oolites, 3mm, at the ends of the outcrop area, inward, to the larger size, 8 to 10mm with associated carbonate. On the grid, 5550S, 20E, an outcrop is quartz with phenocrysts of feldspar. This is also seen just east of the Dominion Claims adit possibly relating to the pre-Mississippian Proserpine type intrusive described by Holland 1948, p.18.

Some exposures have manganese stains, often a mineralization indicator. EM conductors when drilled may be labeled as graphitic shear zones, which may be wad. Drilling inclined holes at this type of EM zone often misses the metallic component, other alteration features being seen instead.

In the area of this study, between 4300S and 4330S, 80E to 90E, a "B" type quartz vein of over a meters width is located. Its vertical dip and exposed side give it the appearance of being over 2 to 3 meters across. This too is a measure of silica alteration intensity. Two parts of the EM conductor straddle this quartz vein. To the west near 40W the EM target is poorly conductive. To the east, at 200E, is an other conductor. This seems to indicate a sequence of events in this intrusive. First silica flooding, followed by intrusion of a more diverse chemical nature. The silica having sealed up the primary vents the subsequent activity has to shatter into a more brittle cap or divert around it.

Of some interest is that the only placer mining along Jawbone Creek is on the east bank of the east branch where the outpourings of the mineralizing structure have enriched the weathered overburden.

LOCAL GEOLOGY cont.

The 720 road from 12.5 km to 13.5 km exposes considerable outcrop allowing for some structural information to be observed. The schists are seen to have various shallow dipping orientation with several small tight folds. This does not seem to identify the lightning creek anticlinorum supposed to be here. Of interest are the two borrow pits excavated at 11.5 km and 11.8 km. They show quartz veining and general silicification at depth, 10 to 20 meters, that is not continous to surface. When one realizes this is a mature weathered terrain, not deeply excavated by natures agencies through eons of time, there is significance to this observation. The processes of mountain building can be explained by other than great synclinal folding and valley scouring. This report is not intended as a vehicle for geological theory so this tasty observation is left for speculation.

The orientation of jointing is dominantly 004 mag or 027 degrees and dips 82 degrees west. This is the "B" vein direction.

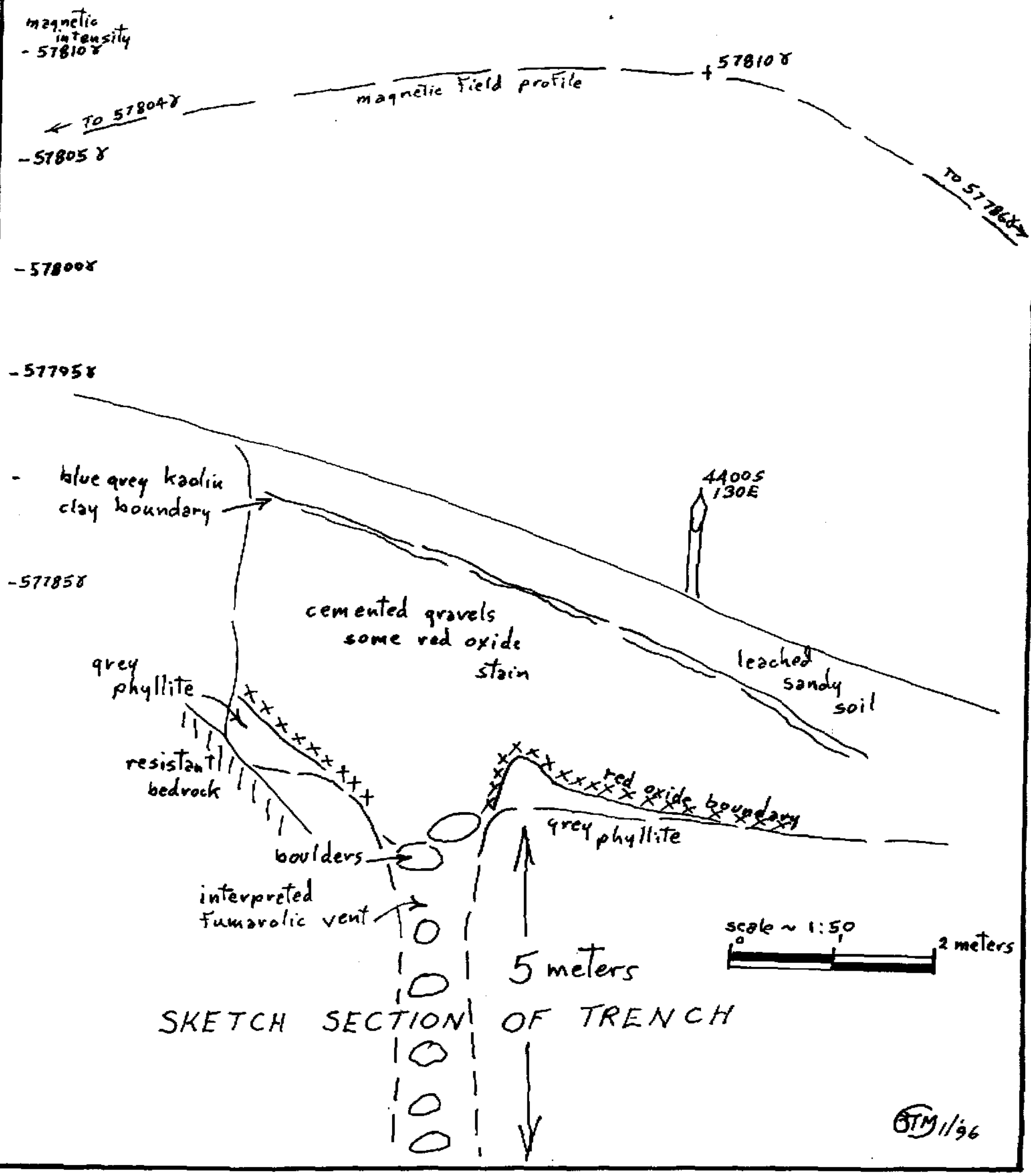
Further excavation on the trench at 4400S, 130E seems to cross section a fumarolic vent expected to be the source of the weak magnetic structures followed in this study. A simple alteration pattern is assosciated with this vent. See sketch on page 9 following. This years effort extended the hole 5 meters down in what is essentially altered bedrock. The boulders seem to continue to depth. At present boulders exist only on the north side of the excavation with brown altered phyllite on the other three sides. Both gold and pyrite seem to increase with depth as tested by panning.

GEOPHYSICS

The present grid was initiated at 1675W on line "J" The base line is due magnetic north or 23 degrees east of true north. Numbering on the baseline is from 5000S at this point and follows along the VLF field strength maximum of the conductor.

The VLF conductive structure is continuous on or near the baseline for its entire length. It appears that the conductivity of the structure significantly drops off by about 4500S. North of this point the conductive nature of the structure appears to have transposed to both the east and west. Line extensions pick it up at about 200E. Exploration to the west is progressing. This bifurcation of the structure may indicate two cycles of intrusion, a primary one silica rich opening and initiating mineralization, and a secondary cycle in which a metallic rich injection occurs in selected channel ways.

Several alteration components of these intrusives are identifiable by geophysical means. The alteration can be divided into mineralogical, petrological, and shatter envelope components. The shatter envelope is the passages, plumbing, for alteration to develope in. With detailed study it is seen to have a fairly consistent pattern.


magnetic intensity
- 57810 γ
- 57805 γ
- 57800 γ
- 57795 γ
- 57785 γ
← TO 57804 γ
magnetic field profile
+ 57810 γ
TO 57786 γ
4400S
130E
blue grey kaolin clay boundary
cemented gravels some red oxide stain
leached sandy soil
grey phyllite
resistant bedrock
red oxide boundary
grey phyllite
boulders
interpreted fumarolic vent
5 meters
scale ~ 1:50
0
1
2 meters
SKETCH SECTION OF TRENCH
GTM 1/96

GEOPHYSICS cont.

A hint of the shatter envelope pattern is seen in the magnetometer survey, being irregular magnetic highs and lows flanking the EM conductor to the west and a fairly continuous but moderate high flanking on the east and uphill side of the conductor. The difference in the two flanking structures was dictated by the topography at the time of intrusion. This shows the terrain is mature and not heavily eroded since that time. The down hill side may be more interesting to the prospector. Here we are deeper into the shatter envelope where the focii of shear and tension stress form explosive venting passage ways. To identify this a closer grid spacing, 10 meters by 10 meters, was used. Detailed magnetometer surveys were paced in between lines.

To test the main structure, the VLF-EM conductor, several of these shatter cone, secondary zones, have been identified by magnetic surveys. The magnetometer gives structural detail on cloudless days. Clouds can cause reading drift of at least 20 gammas or more. This is not acceptable when the total range of the readings is 60 gammas.

The tension veins radiate laterally and parallel the intrusive, VLF-EM conductor. They show up as weak magnetic highs. There is also a pattern of oblique or shear fractures. Where these stress indicators focus is an area of intense shattering, the vent where the intrusive has released pressure. Depending on many complex factors these vents may be mineralized. On other prospects they have been seen to form dumbbell patterns or pairs straddling the intrusive. Because of the steepness of this hillside the uphill side was not tested assuming structural and geometric reasons for greater difficulty in identification.

Between 4230S and 4410S two parallel tension patterns are seen as the focus of venting. Chinese workings where the structure crosses the creek attest to this. These structures were not defined at their northern end. Complementary structures are suggested by more chinese workings to the east. Further surveys were done in this area: the detailed magnetometer survey, 4100S to 4550S, by 100E to 400E extending the previous detailed surveys.

The detailed magnetometer survey identifies the alteration pattern extending at least 400 meters east from its center. A regular pattern of oblique shears reticulate the survey. They focus on the most intense magnetic structure encountered in the Jawbone Creek area. Assosciated with this intense magnetic structure are: chloritic alteration, amygdular silicification along the road, and copper mineralization in the broken rock exposed by road building seen on line 4200S.

The horizontal loop EM survey, using a Geonix EM17L again gave very poor responses. There is some correlation with the known magnetic and VLF-EM structures but it offers little interpretive value.

GEOCHEMICAL TESTING

In '91 Warren Hunt requested that two of the shatter structures be tested by sampling of alder leaves. Two traverses were made then across magnetically defined structures. The assays are not spectacular for their values. They do seem to indicate gold concentration where they are near to the shatter structures interpreted from the magnetometer study.

The limitations in alder leaf sampling were again encountered with this study. Alders do not grow every where in the area of interest. Presumably water and depth of soil control their location. In 1994 a block comprizing 51 locations was tested. In 1995 another 63 locations were tested. Again in 1996 another 63 locations were tested. The samples were of one to two pounds in size. At some locations this defoliated all the alders. It took about an hour a pound to collect the samples. Assays are by the method ICP, induction coupled plasma emission spectrometry, for thirty elements with GF/AA for the gold. The studies all differ. The '94 series was picked in July and the orientation survey was sampled in September '91. The '95 and '96 series were picked in August.

Differing areas of the intrusive structure are being studied. The '94 area was fairly level and in an area east of intense silicification. The area tested in '95 is very steep and just west of the primary VLF structure because the silicification event was not as intense. This area tested in '96 joins up to the two previous surveys and should indicate the transition between them.

A complex pattern of mineralization seems evident. The similarity of metal distribution patterns for all elements plotted, see appendix, indicates that a primary mineralizing source is being examined. If this were a glacially distributed mineralization it would be expected that there would be a more random distribution of elements.

Gold was the primary interest. The highest concentration to date, 40ppb at 4510S, BL is centrally located in a magnetic structure. This compares favourably with the survey results of C.E. Dunn etal. over the Mt. Milligan MBX zone. With the previous sampling in 1994 a NW/SE texture through the area 4350S to 4550S is evident similar to arsenic, cadmium, lead, and uranium. In this area we approach the south end of the silica flooding.

Molybdenums distribution is subdued, it has low but essential biological usage in nitrogen metabolism. There seems to be a change in analysis detection characteristics over the three years of this survey. The strongest values are assosciated with magnetic features at 5050S and 4400S. The known relationship of copper and molybdenum is evident in this study but there is an offsetting or adjacent character to be seen in it.

GEOCHEMICAL TESTING cont.

Copper patterns correspond to the magnetics in all three parts of this study. Both high values 204ppm at 4830S, 70W, and 220ppm at 4510S, BL are on magnetic highs and have placer miner activity near them suggesting its correlation with gold.

Lead has the highest analysis, 28ppm at 4480S, 10E and with other good values is adjacent to a magnetic feature. This is not a significantly high value in comparison to other biochemical studies where means run 50 to 80ppm. This may be a characteristic of alder in not taking up much lead generally a toxic substance. To the south on '95's study area it correlates with molybdenum, zinc, arsenic and barium to indicate the N/S vein through 5050S, 20W. With the sampling in 1994 a NW/SE texture is evident through the area 4350S to 4550S. This is similar to arsenic, cadmium, and uranium as well. In this area we approach the south end of the silica alteration dome or silica flooding.

Zinc is an essential metabolic nutrient, its presence in alder leaves is responsive to many factors including drainage, available sunlight, and plant health. Even so its high values 1213ppm at 4580S, 10E, and 1203ppm at 4520S, 60E align along a magnetic feature. They are also high along the parallel feature 4510S, BL to 4470S, 50E. To the south on '95's study area zinc correlates with lead, molybdenum, arsenic and barium along the N/S vein at 5050S, 20W/30W.

Silver was more variable and expressed identifiable trends in '94s study. It seems the assay detection limits have changed. The high 5ppm value at 4210S, 160E on the continuation of a magnetic structure is significant. Silver normally runs less than 1ppm in plant material.

Nickel has a reasonably high response as a biological assay. Its highs; 449, 429ppm along the baseline and with similar values to the south suggest a mafic dyke along an axial plane cleavage above the intrusive structure. Cobalt also seems to correlate with this.

Cobalt like nickel assosciates with the magnetic structures. The anomalusly high value, 82ppm at 4670S, 20W is adjacent to such a structure. Like zinc its high values 19ppm at 4580S, 10E, and 17ppm at 4520S, 60E align along a magnetic feature. They are also high along the parallel feature 4510S, BL at 10ppm, to 4470S, 50E at 40ppm, to 4400S, 100E at 13ppm. Cobalt is an essential element biologically as it is present in vitamin B12, cyanocobalamine.

GEOCHEMICAL TESTING cont.

Manganese follows the concentration patterns of the other elements in their evident relationship to the magnetic features. Alder may have a natural affinity to this element as the values are exceedingly high. At 4460S, 50E, 57,541ppm is equivalent to 5.75% manganese in the plant tissues. Manganese seems to be an important element of the alteration pattern of the structure.

Iron also has a similar pattern like the other elements in their evident relationship to the magnetic features.

Arsenic values are high too for organic matter, it is possible alder has a high tolerance for this essential but also toxic substance. As most elements in this study it is related to the magnetic structures too. High values: 353ppm at 4560S, BL; 371ppm at 4550S, 20E; and 388 ppm at 4480S, 90E align along one such feature. It is curious from 4200S to 4600S arsenic like gold cadmium, lead, and uranium seems to indicate a NW/SE pattern. Like molybdenum, lead, zinc and barium arsenic too identifies the vein at 5050S, 20W.

Uranium shows distinct zoned concentrations in all three years and areas. Its assay is also quite high for plant material a possible feature of alder. Proximity to the silica dome and axis was suggested as a control to its occurence. Like gold, arsenic, cadmium, and lead it seems to have a NW/SE texture.

Thorium does not respond above the detection limit in this years and 1994's samples though in 1995 it did. This probably is due to changes in the analysis technique. It did show correlation with uranium, manganese, strontium, and bismuth, at 5000S, 40W and 4800S, 50W to 70W, a placer miners flumed wash.

Strontium is only nominally significant. It is biologically active supposibly replacing calcium. The high value 1959ppm, at 4680S, 20W adjacent to a magnetic structure compares well with the results of Dunn etal. They had 2300ppm from pine bark adjacent to the MBX. It also, weakly, seems to indicate the NW/SE texture like gold, arsenic, lead, and uranium.

Cadmium is concentrated relative to the magnetic anomalies with the highest value 3.4ppm at 4620S, 10E on one. From 4200S to 4600S cadmium like gold, arsenic, lead, and uranium seem to indicate a NW/SE pattern.

Antimony is assayably present and shows zoned concentrations related to the magnetic structures in this years sample set. The detection limit of the ICP method is too high to monitor the range of this element catching only anomalously high values, 3 and 4ppm.

GEOCHEMICAL TESTING cont.

Bismuth assays low in this 1996 sample set. This may be another expression of the offsetting pattern assosciated but mutually exclusive to the other mineralization. Where assays are generally higher for most elements in this area bismuth assays low.

Calcium, present in high percentage values is plotted for completeness.

Phosphorus, present in high percentage values is plotted for completeness. It too shows zoned concentrations.

Lanthanum is assayably present and shows zoned concentrations related to magnetic and other identified structures. The limits of the ICP method is too high to monitor the range of this element catching only anomalously high values, 3 and 4ppm. The value 7ppm at 5060S, 60W is interestingly high.

Chromium assays are low relative to general abundances. The high values are located near magnetic features though.

Magnesium, present in high percentage values is plotted for completeness. It too shows zoned concentrations.

Barium appears to decrease towards the south over the three sample sets. It shows zoned concentrations, particularly at 4500S, 60E.

Boron is also zonally concentrated. It is an essential biological element.

Aluminum assays are low relative to general abundances. It appears to be zonally concentrated.

Sodium, present in high percentage values is plotted for completeness. It too shows zoned concentrations.

Potassium, present in high percentage values is plotted for completeness. It too shows zoned concentrations.

The assay report is presented in the appendix, See also the Geochemical maps.

CONCLUSIONS AND RECOMMENDATIONS

The distribution patterns developed in the geochemical study identify small vein structures, and that this is a residual soil that is being tested. The bedrock topography of this hill side is more rugged than the soil surface.It is between 20 to 30 feet to these veins judging from the magnetometer survey. The range in bedrock topograpy can be seen in the quartz veining which stands high and exposes above the soil surface. Metallic veins can be expected to weather deeply. Fumarolic sources of metal are likely to be very deep fissures.

Further work on the trench at 4400S, 130E will give more information on the alteration pattern being studied in this project. Drill holes and backhoe work may be convenient, they seem not necessary, and not as environment friendly as the pick and shovel.

Recommendations seem meaningless when directed to ones self. The interest in this prospect at this point is both further exploration along lines already defined and the lure of a potential mine. To this end: continued geophysics to follow and define the structure; alder sampling to chemically develope the picture of structural component significance; and excavation for first hand knowledge are all required.

STATEMENT OF QUALIFICATIONS

I, BRYAN T. MULOIN, declare that I am a graduate of Queen's University, Kingston, Ontario, having received a bachelor's degree in Geological Sciences from its Faculty of Applied Science in 1971; and that I have been employed since then in mining exploration.

B. T. Muloin

BRYAN T. MULOIN, GEOLOGIST

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ACME ANALYTICAL

Bryan Muloin FILE # 96-4467

ACME ANALYTICAL

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb	ASH gm	SAMPLE gm
4570S 10E	1	94	10	636	<.3	49	5	3597	.19	102	<5	<2	<2	812	<.2	<2	<2	<1	23.80	2.628	<1	2	7.06	439	<.01	210	.02	.01	18.65	<2	2	4.4	210
4570S 60E	<1	90	15	1118	<.3	20	1	6404	.14	44	7	<2	2	1010	.3	<2	<2	1	26.27	2.608	2	3	9.04	869	<.01	374	.10	.01	20.23	<2	1	4.6	210
4580S 10E	2	192	28	1213	<.3	209	19	7998	.29	64	9	<2	<2	1064	.8	<2	<2	1	23.27	3.402	2	5	12.73	448	<.01	171	.13	.02	21.42	<2	<1	3.8	220
4580S 70E	<1	79	8	1105	<.3	21	1	8972	.10	35	<5	<2	<2	963	.2	<2	<2	<1	26.09	2.326	1	3	9.10	736	<.01	463	.02	.01	17.15	<2	3	5.3	210
4590S 20E	<1	104	13	720	<.3	53	4	7805	.15	43	<5	<2	<2	887	1.3	<2	<2	<1	23.66	2.192	1	4	8.65	660	<.01	302	.03	.01	14.75	<2	<1	4.2	220
4590S 30E	1	108	15	688	<.3	53	2	3653	.14	27	<5	<2	<2	990	2.6	<2	<2	1	25.55	2.229	2	5	9.51	670	<.01	393	.03	.01	16.20	<2	3	3.9	220
4590S 70E	1	105	11	747	<.3	29	2	2299	.18	58	8	<2	<2	772	2.4	<2	<2	1	21.95	2.866	1	3	9.51	300	<.01	214	.02	.01	19.85	<2	4	3.6	210
4590S 80E	1	67	9	796	.3	29	1	2235	.10	28	5	<2	<2	864	2.1	<2	<2	<1	22.39	2.554	<1	2	11.17	289	<.01	282	.02	.01	15.40	<2	1	4.1	210
4600S 20E	1	126	16	909	<.3	45	7	6929	.16	59	<5	<2	<2	954	3.1	<2	<2	<1	24.55	2.716	<1	4	11.48	563	<.01	307	.03	.01	15.52	<2	2	3.8	210
4600S 50E	1	155	18	1077	<.3	142	13	5787	.18	83	8	<2	<2	842	2.9	<2	<2	<1	20.37	3.549	1	3	11.71	404	<.01	248	.10	.01	21.87	<2	9	4.1	210
4600S 60E	1	142	10	818	<.3	162	17	9536	.24	322	9	<2	<2	1014	.5	<2	<2	1	21.68	3.582	3	3	13.59	257	<.01	264	.09	.01	19.88	<2	1	4.4	220
4600S 70E	<1	170	4	1168	<.3	116	5	6574	.27	95	9	<2	<2	749	1.2	<2	2	<1	19.31	3.441	1	3	12.12	342	<.01	116	.04	.01	20.21	<2	<1	3.5	220
4600S 80E	1	84	11	838	<.3	34	2	9335	.13	111	8	<2	<2	711	1.3	<2	<2	<1	20.25	2.665	<1	2	8.59	316	<.01	358	.02	.01	21.25	<2	<1	4.5	210
4610S 100E	1	80	8	685	<.3	42	5	4828	.12	31	9	<2	<2	813	.2	<2	<2	<1	21.40	2.359	<1	2	9.25	344	<.01	315	.02	.01	19.22	<2	<1	4.6	210
4620S 10E	<1	157	12	1062	<.3	201	3	22804	.30	185	12	<2	<2	767	3.4	2	<2	1	14.75	3.409	<1	3	6.79	279	<.01	286	.15	.02	22.72	<2	1	3.5	210
4630S 10E	1	142	9	967	<.3	124	4	11736	.33	40	10	<2	<2	929	2.3	3	<2	1	19.47	3.273	1	4	9.13	395	<.01	177	.11	.02	17.37	<2	2	3.6	210
RE 4630S 10E	1	138	9	945	<.3	122	4	11270	.32	41	14	<2	<2	912	2.1	<2	<2	1	19.14	3.178	<1	4	8.93	383	<.01	171	.11	.02	17.03	<2	19	-	-
4670S 20W	<1	156	14	851	.3	299	82	18333	.19	46	11	<2	<2	1028	1.6	<2	<2	<1	13.58	2.745	3	3	10.12	305	<.01	307	.64	.01	21.40	<2	4	3.4	220
4680S 10W	<1	45	8	1019	<.3	218	6	17788	.14	22	<5	<2	<2	1959	1.2	<2	<2	<1	29.43	2.396	1	11	9.83	355	<.01	227	.03	.02	9.16	<2	9	4.1	210
4680S BL	<1	126	12	841	<.3	88	14	10208	.17	79	<5	<2	<2	1190	2.0	3	<2	<1	26.87	2.638	1	4	10.18	642	<.01	375	.04	.02	14.04	<2	14	4.2	220
4680S 10E	<1	82	12	517	.3	41	3	3572	.13	38	<5	<2	<2	963	1.0	<2	<2	<1	24.37	2.185	1	2	12.29	466	<.01	207	.04	.01	15.28	<2	5	4.2	220
4690S BL	<1	96	7	1026	<.3	172	2	9053	.15	57	<5	<2	<2	1193	.9	3	<2	<1	26.44	2.048	2	3	8.01	280	<.01	220	.04	.01	13.27	<2	5	4.8	210
4700S 10W	1	158	14	773	.3	230	9	10549	.20	99	6	<2	<2	1100	3.1	3	2	1	21.83	2.364	2	8	9.08	329	<.01	254	.07	.02	16.06	<2	7	3.5	220
4730S 30W	1	141	10	893	<.3	228	49	14042	.26	51	6	<2	<2	1116	1.1	2	<2	<1	21.20	2.918	1	4	9.41	308	<.01	181	.08	.01	14.23	<2	3	3.3	220
4730S 20W	<1	153	10	983	<.3	391	15	19164	.20	47	<5	<2	<2	1079	1.4	<2	3	<1	20.84	2.651	<1	9	7.64	271	<.01	145	.07	.01	13.54	<2	2	3.0	210
4740S 30W	<1	119	6	836	<.3	242	32	13718	.18	40	10	<2	<2	987	1.2	<2	<2	<1	20.06	2.563	<1	3	8.16	516	<.01	220	.04	.01	18.69	<2	1	4.0	220
4750S 50W	2	157	10	907	.3	198	11	7527	.23	31	8	<2	<2	1086	2.2	<2	<2	1	23.10	2.825	4	7	10.72	477	<.01	252	.08	.01	16.79	<2	7	3.6	220
4490S ~~4990S~~ 50E	<1	88	7	871	<.3	25	5	6423	.09	29	10	<2	<2	860	.2	<2	<2	<1	23.27	2.296	2	2	7.70	524	<.01	314	.01	.01	18.09	<2	3	5.1	220

Sample type: VEGETATION. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.
AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Bryan Muloin File # 96-4467 Page 2

P.O. Box 1312, Fort St. James BC V0J 1P0

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb	ASH gm	SAMPLE gm
4460S 20E	2	117	8	895	.3	163	5	3307	.26	221	<5	<2	<2	874	1.4	<2	<2	<1	18.30	2.820	<1	5	8.38	285	<.01	222	.08	.01	14.98	<2	6	3.7	210
4460S 80E	<1	72	<3	835	<.3	12	1	4625	.13	146	<5	<2	<2	827	1.8	<2	<2	<1	24.39	2.577	1	3	8.23	415	<.01	385	.03	.01	15.51	<2	4	4.2	210
4460S 90E	<1	147	12	954	.3	109	17	5123	.23	95	<5	<2	<2	671	2.1	<2	2	<1	19.58	2.950	<1	3	7.33	606	<.01	206	.09	.01	16.22	<2	9	3.5	220
4470S 50E	<1	143	4	1107	<.3	105	40	57541	.30	112	7	<2	<2	769	2.1	<2	3	<1	17.49	3.077	1	3	7.11	297	<.01	453	.09	.03	17.68	<2	1	3.9	220
4470S 80E	<1	157	7	829	<.3	78	18	6900	.21	73	<5	<2	<2	828	3.3	<2	<2	<1	23.22	3.210	<1	2	8.69	599	<.01	180	.05	.01	15.52	<2	2	3.5	210
4470S 90E	<1	124	<3	712	<.3	29	2	1931	.15	71	<5	<2	<2	765	3.0	<2	<2	<1	23.12	2.400	<1	2	7.61	719	<.01	224	.03	.01	15.36	<2	3	4.3	220
4480S 40E	<1	136	4	1172	<.3	84	17	28906	.29	66	6	<2	<2	938	2.4	<2	2	<1	22.02	2.537	1	3	7.85	416	<.01	352	.09	.03	14.36	<2	1	3.2	210
4480S 50E	<1	107	9	943	<.3	20	2	8130	.13	51	<5	<2	<2	886	2.9	<2	<2	<1	26.00	1.947	1	2	8.43	639	<.01	308	.03	.02	11.05	<2	3	3.9	220
4480S 60E	<1	74	<3	805	<.3	11	1	4868	.09	61	<5	<2	<2	840	1.4	<2	<2	<1	24.31	2.381	<1	2	7.59	570	<.01	353	.02	.01	13.88	<2	3	4.5	210
4480S 70E	<1	91	<3	697	<.3	27	4	14018	.14	82	5	<2	<2	791	<.2	<2	<2	<1	24.44	2.517	3	2	8.28	606	<.01	407	.02	.01	13.91	<2	8	5.0	220
4480S 80E	<1	134	5	834	<.3	119	5	5230	.23	35	<5	<2	<2	811	1.2	<2	<2	<1	24.46	2.885	<1	2	8.85	544	<.01	190	.05	.01	15.83	<2	4	4.7	220
4480S 90E	<1	82	8	659	<.3	32	1	1794	.20	388	<5	<2	<2	770	.6	2	<2	<1	24.23	2.351	<1	4	7.38	225	<.01	248	.06	.01	14.64	<2	1	4.1	210
4490S 70E	<1	163	3	939	<.3	150	14	9654	.19	81	<5	<2	<2	813	.3	2	<2	<1	20.60	3.074	<1	2	8.66	496	<.01	189	.04	.01	17.44	<2	1	4.0	220
4490S 90E	<1	93	5	737	<.3	22	1	3802	.22	50	<5	<2	<2	864	2.7	4	<2	<1	26.87	2.440	1	4	8.29	404	<.01	247	.08	.02	13.28	<2	5	4.4	210
4500S 20E	1	126	11	809	<.3	197	4	7171	.23	103	<5	<2	<2	975	1.8	<2	2	<1	20.68	2.732	1	5	6.93	283	<.01	256	.06	.02	17.76	<2	4	3.3	220
4500S 50E	<1	139	9	826	<.3	54	5	4977	.15	75	<5	<2	<2	914	.5	<2	<2	<1	26.44	2.250	<1	2	11.60	320	<.01	160	.03	.01	10.18	<2	1	4.0	210
4500S 60E	<1	91	7	718	<.3	17	3	8796	.14	24	5	<2	<2	787	.2	<2	<2	<1	23.43	2.131	<1	1	7.35	725	<.01	322	.02	.01	14.65	<2	1	4.7	220
4500S 70E	<1	142	4	884	<.3	122	11	7758	.17	49	<5	<2	<2	713	2.3	2	<2	<1	20.13	2.448	1	3	8.90	768	<.01	222	.04	.01	18.24	<2	1	4.6	220
4510S BL	1	220	11	1070	<.3	429	10	9720	.24	126	<5	<2	<2	1216	1.8	2	<2	<1	21.92	3.542	1	12	8.82	285	<.01	216	.10	.03	17.93	<2	40	2.8	210
4510S 50E	<1	70	<3	742	<.3	14	2	5214	.11	72	<5	<2	<2	791	.4	<2	<2	<1	24.73	2.232	<1	2	7.99	606	<.01	293	.02	.01	13.72	<2	5	4.8	220
4510S 70E	<1	118	<3	943	<.3	104	12	8676	.14	49	<5	<2	<2	777	1.4	<2	<2	<1	23.00	2.409	1	1	8.12	400	<.01	232	.03	.01	14.34	<2	2	4.9	220
4510S 80E	<1	100	8	731	<.3	18	2	4900	.12	50	<5	<2	<2	784	1.3	<2	<2	<1	25.54	2.464	2	2	7.27	438	<.01	334	.03	.01	17.10	<2	1	4.0	210
4510S 90E	<1	143	10	906	.3	55	11	3087	.16	93	<5	<2	<2	706	<.2	<2	<2	<1	20.69	2.842	<1	2	7.92	271	<.01	180	.03	.01	16.66	<2	1	4.1	220
4510S 100E	<1	127	7	939	<.3	46	7	10794	.13	63	<5	<2	<2	592	.3	<2	<2	<1	19.81	2.476	<1	2	6.96	759	<.01	378	.03	.01	17.88	<2	<1	4.6	220
RE 4510S 100E	<1	126	3	927	<.3	45	7	10747	.13	63	<5	<2	<2	581	.4	<2	<2	<1	19.48	2.536	1	2	6.83	755	<.01	381	.03	.01	17.36	<2	3	-	-
4520S 50E	<1	119	<3	965	<.3	55	1	12774	.12	30	<5	<2	<2	789	1.0	<2	2	<1	23.45	1.932	1	2	6.98	326	<.01	228	.02	.01	15.31	<2	2	5.8	220
4520S 60E	<1	157	5	1203	<.3	61	17	6246	.14	40	<5	<2	<2	819	2.8	<2	<2	<1	22.43	2.343	<1	2	7.63	278	<.01	138	.03	.01	15.57	<2	3	4.4	210
4520S 80E	<1	120	5	1090	<.3	58	10	5222	.27	49	<5	<2	<2	748	1.3	<2	<2	<1	22.64	2.134	1	4	7.44	625	<.01	156	.10	.01	15.12	<2	4	4.3	220
4520S 90E	<1	91	4	854	<.3	32	2	3551	.13	87	<5	<2	<2	669	2.2	<2	<2	<1	21.60	2.402	<1	2	7.44	454	<.01	240	.02	.01	16.29	<2	4	4.1	220
4530S 60E	<1	137	<3	878	<.3	44	6	6507	.16	58	5	<2	<2	859	.6	2	<2	<1	24.77	2.558	2	2	9.68	554	<.01	194	.02	.01	14.03	<2	<1	4.9	210
4530S 70E	<1	127	<3	886	<.3	79	7	5180	.17	90	<5	<2	<2	772	.2	3	<2	<1	22.06	2.614	1	2	9.61	348	<.01	215	.06	.01	15.88	<2	3	4.3	220
4550S 10E	<1	91	<3	1001	<.3	35	2	2524	.16	72	<5	<2	<2	829	.7	<2	<2	<1	26.21	2.142	<1	4	6.59	245	<.01	219	.03	.01	12.21	<2	2	5.0	220
4550S 20E	<1	89	5	891	<.3	34	2	4056	.15	371	<5	<2	<2	804	1.0	2	<2	<1	26.16	2.136	1	4	6.91	163	<.01	237	.03	.01	10.99	<2	<1	3.9	210
4550S 60E	<1	120	3	1140	<.3	75	5	9252	.13	38	<5	<2	<2	754	1.3	<2	<2	<1	20.81	3.123	<1	2	7.20	330	<.01	335	.01	.01	15.87	<2	3	4.5	210
4560S BL	1	165	7	963	<.3	449	33	9671	.23	353	<5	<2	<2	1018	2.0	<2	<2	<1	17.11	3.252	2	5	7.59	154	<.01	269	.11	.01	18.14	<2	10	3.3	210
4560S 10E	<1	111	<3	790	<.3	60	10	5094	.16	163	<5	<2	<2	893	.2	<2	<2	<1	25.75	2.237	<1	2	7.65	206	<.01	149	.04	.01	10.53	<2	<1	4.7	210
4560S 20E	1	166	10	971	<.3	86	3	5656	.23	141	<5	<2	<2	1051	.7	2	<2	<1	23.74	2.731	3	7	8.85	226	<.01	141	.07	.01	13.63	<2	5	3.0	210

ICP - 1 GRAM SAMPLE IS DIGESTED WITH 6ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 20 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: P1 ROCK P2 TO P3 VEGETATION AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.(1 gm)
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: SEP 14 1996 **DATE REPORT MAILED:** Oct 3/96 **SIGNED BY**..........D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

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

ASSAY CERTIFICATE

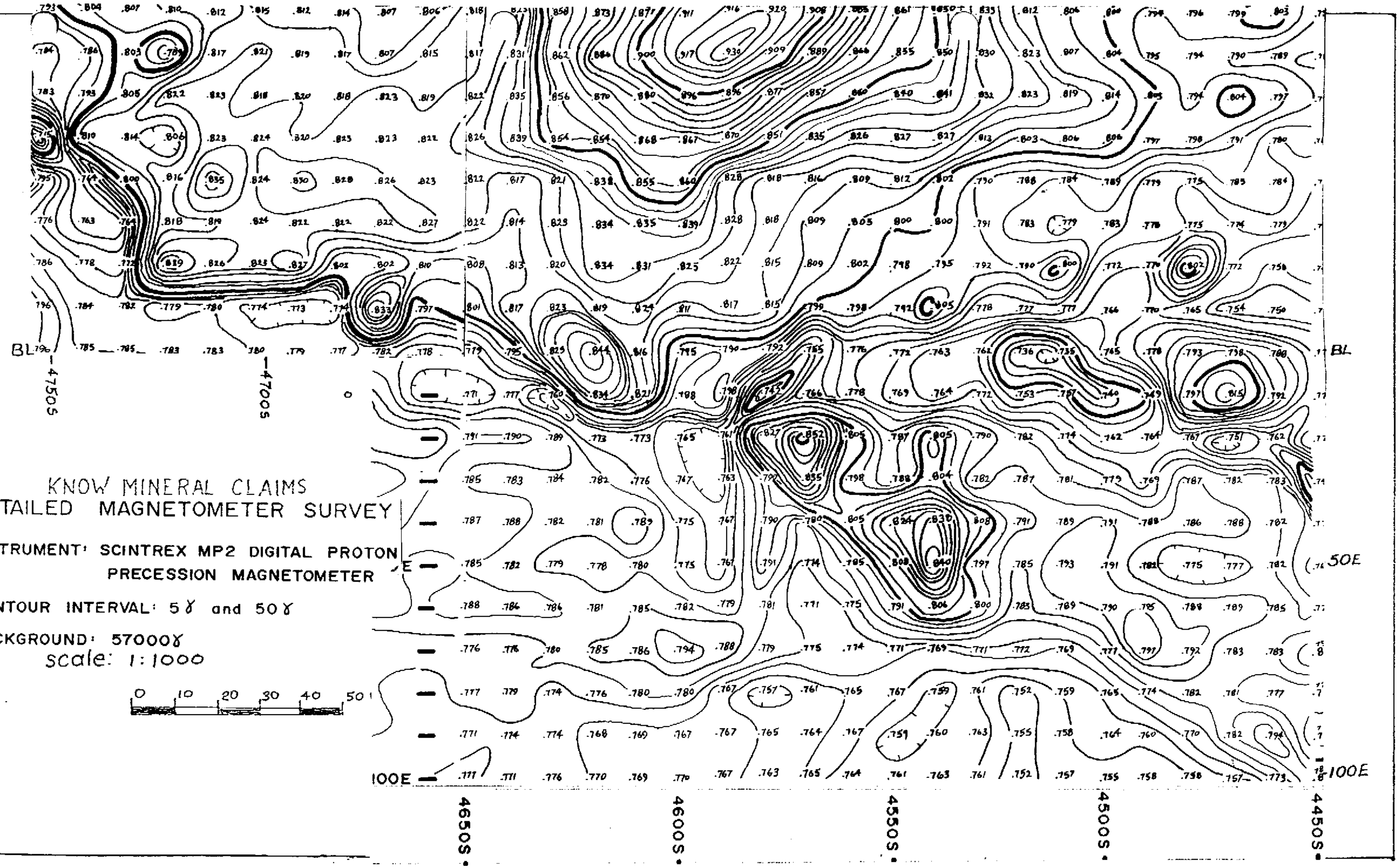
Bryan Muloin File # 96-4467 Page 1
P.O. Box 1312, Fort St. James BC V0J 1P0

SAMPLE#	Au** oz/t
A	.440
B	1.313
RE B	1.313

AU** BY FIRE ASSAY FROM 1 A.T. SAMPLE.
- SAMPLE TYPE: P1 ROCK P2 TO P3 VEGETATION

Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: SEP 14 1996 DATE REPORT MAILED: Oct 3/96 SIGNED BY.......... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS



KNOW MINERAL CLAIMS

DETAILED MAGNETOMETER SURVEY

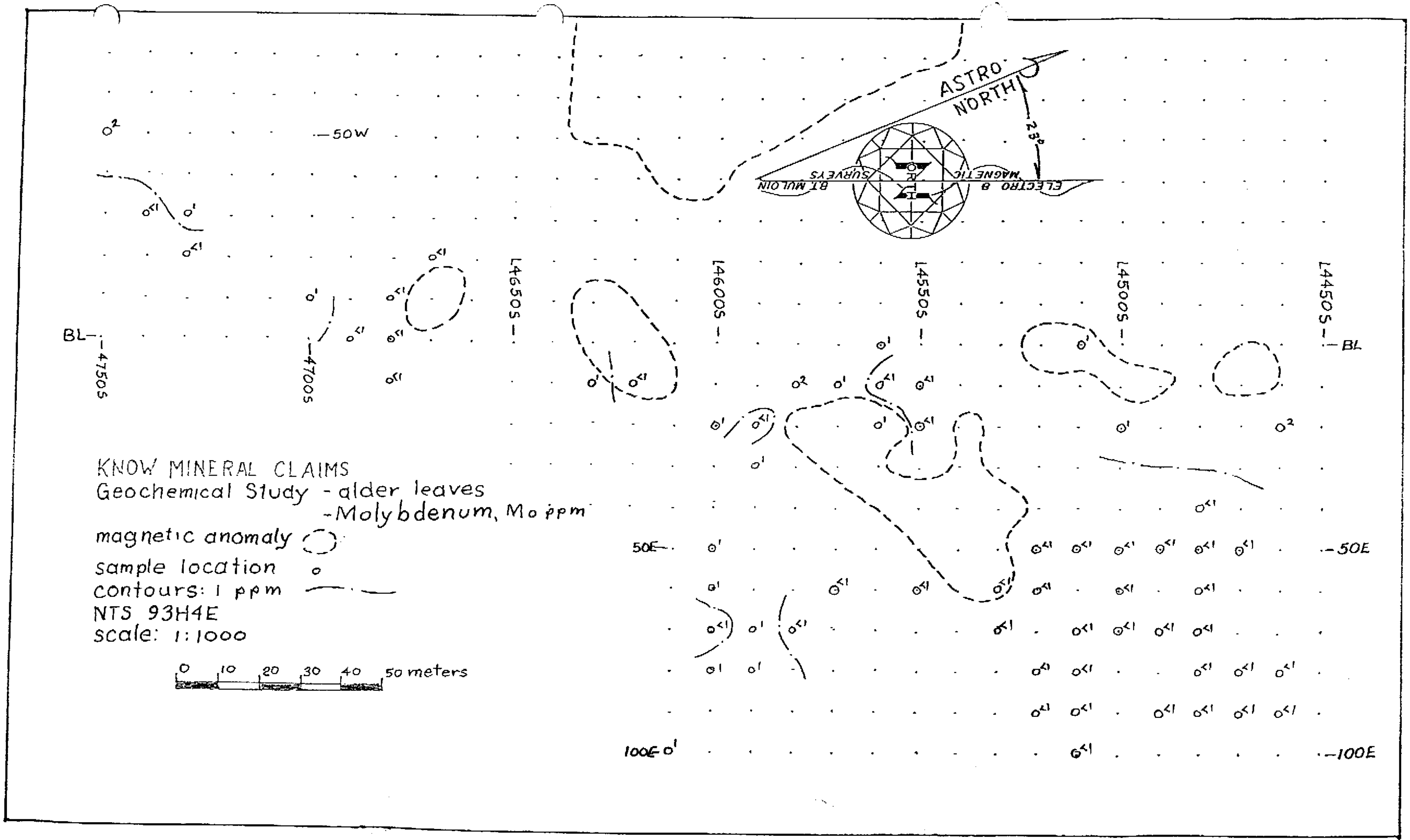
INSTRUMENT: SCINTREX MP2 DIGITAL PROTON PRECESSION MAGNETOMETER

CONTOUR INTERVAL: 5γ and 50γ

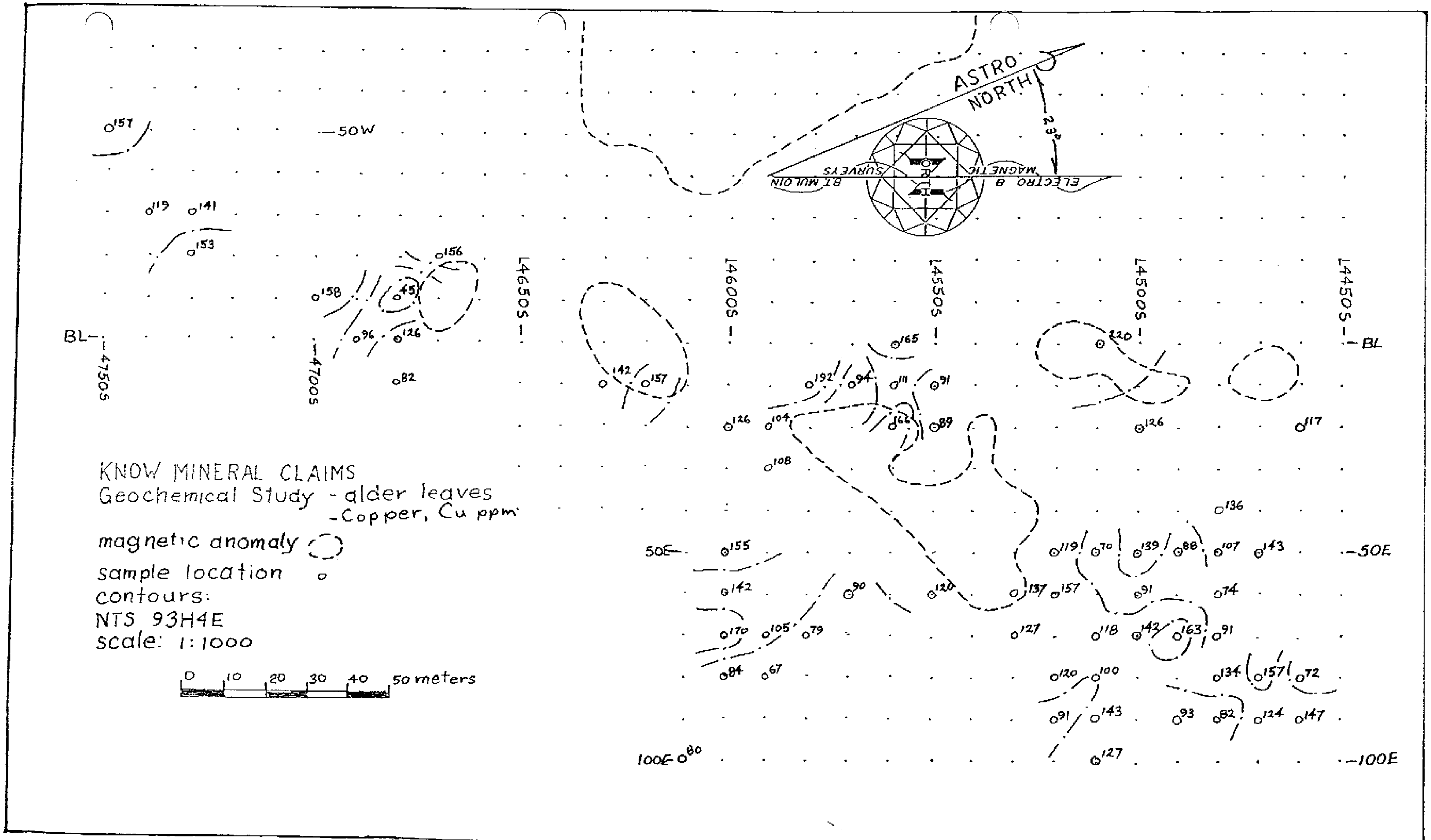
BACKGROUND: 57000γ

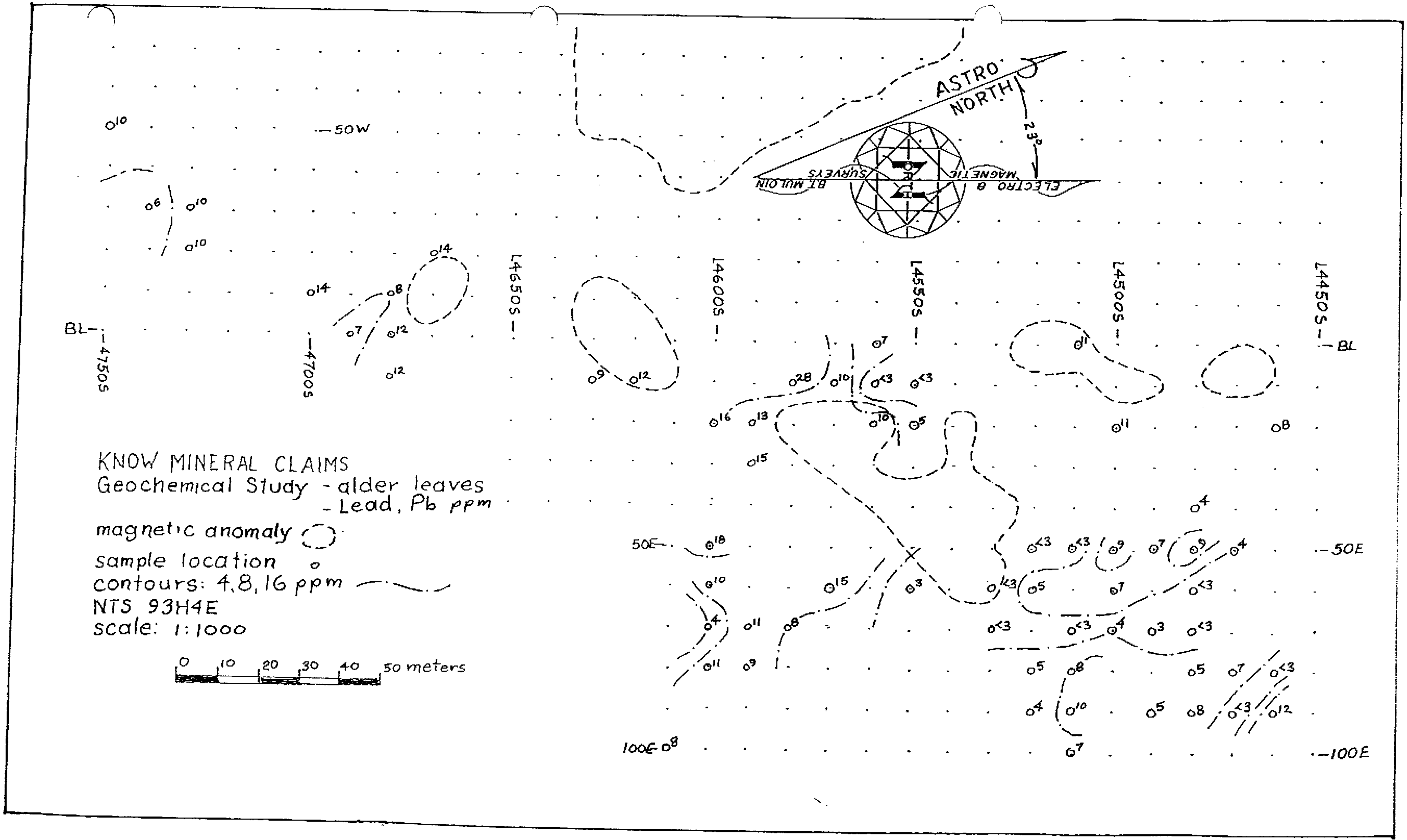
scale: 1:1000

0 10 20 30 40 50

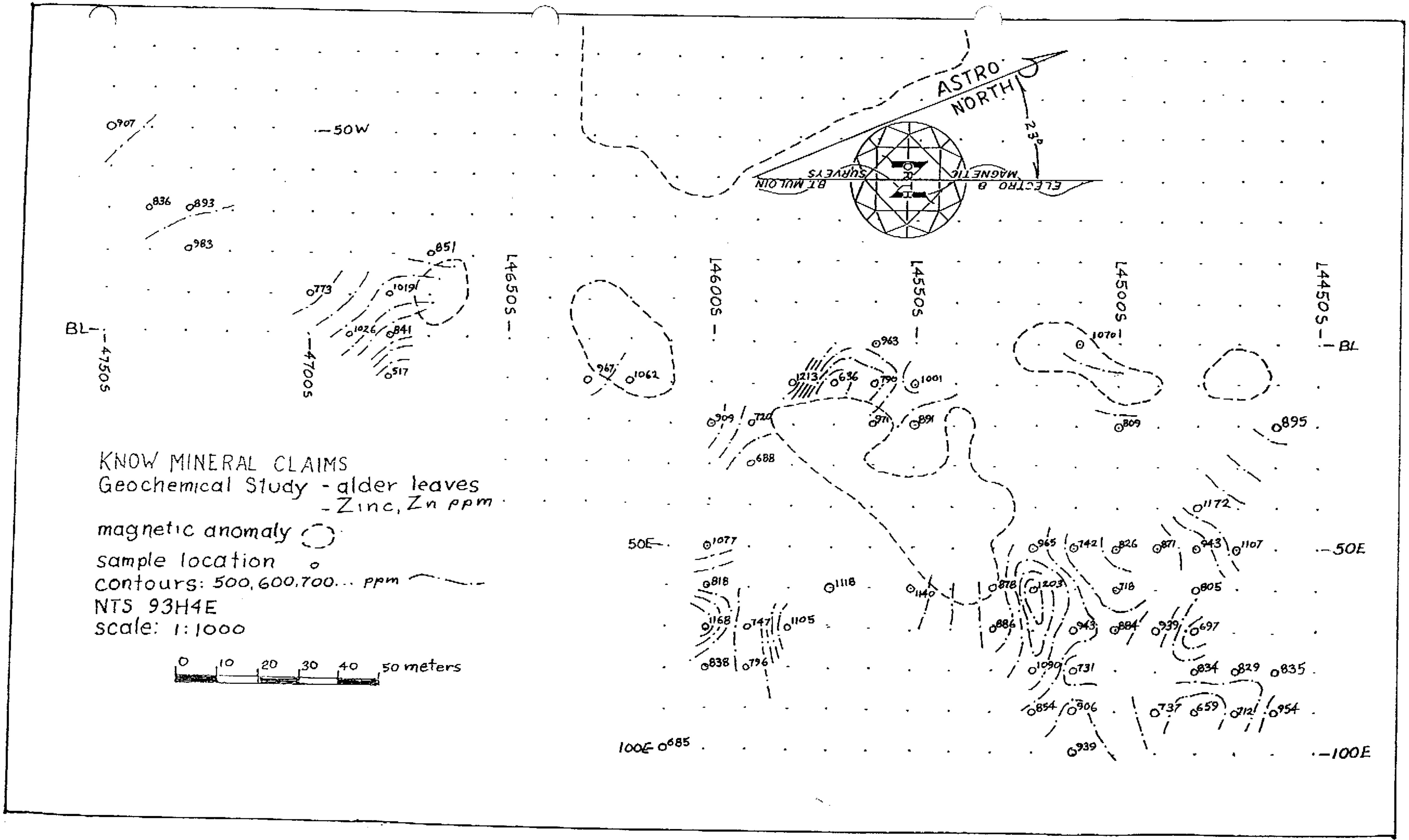


KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
-Molybdenum, Mo ppm
magnetic anomaly
sample location
contours: 1 ppm
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
MAGNETIC
23°
ELECTRO & MAGNETIC SURVEYS
B.T. MULOIN
50W
BL
4750S
4700S
L4650S
L4600S
L4550S
L4500S
L4450S
50E
100E


KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
-Copper, Cu ppm
magnetic anomaly
sample location
contours:
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
ELECTRO B MAGNETIC SURVEYS BT MULOIN
50W
BL
4750S
4700S
L4650S
L4600S
L4550S
L4500S
L4450S
50E
100E



KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
- Lead, Pb ppm
magnetic anomaly
sample location
contours: 4, 8, 16 ppm
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
ELECTRO & MAGNETIC SURVEYS
BL
4750S
4700S
L4650S
L4600S
L4550S
L4500S
L4450S
50W
50E
100E


KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
- Zinc, Zn ppm
magnetic anomaly
sample location
contours: 500, 600, 700... ppm
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
ELECTRO & MAGNETIC SURVEYS
B.T. MULOIN
BL
BL
50W
50E
50E
100E
100E
4750S
4700S
L4650S
L4600S
L4550S
L4500S
L4450S
907
836
893
983
851
773
1019
1026
841
517
967
1062
963
1213
636
790
1001
1070
909
720
971
891
809
895
688
1172
1077
965
742
826
871
943
1107
818
1118
1140
878
1203
718
805
1168
747
1105
886
943
884
939
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1090
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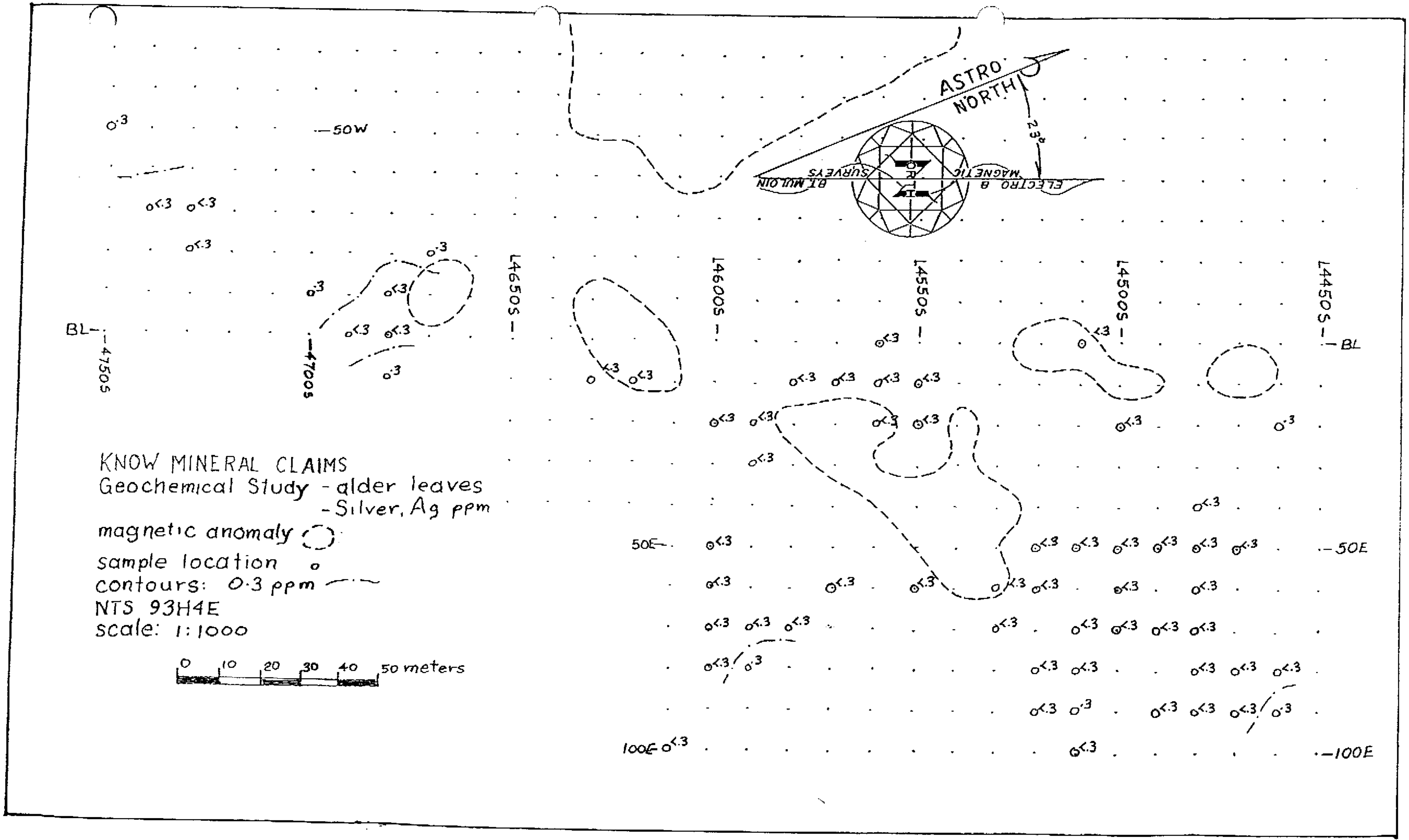
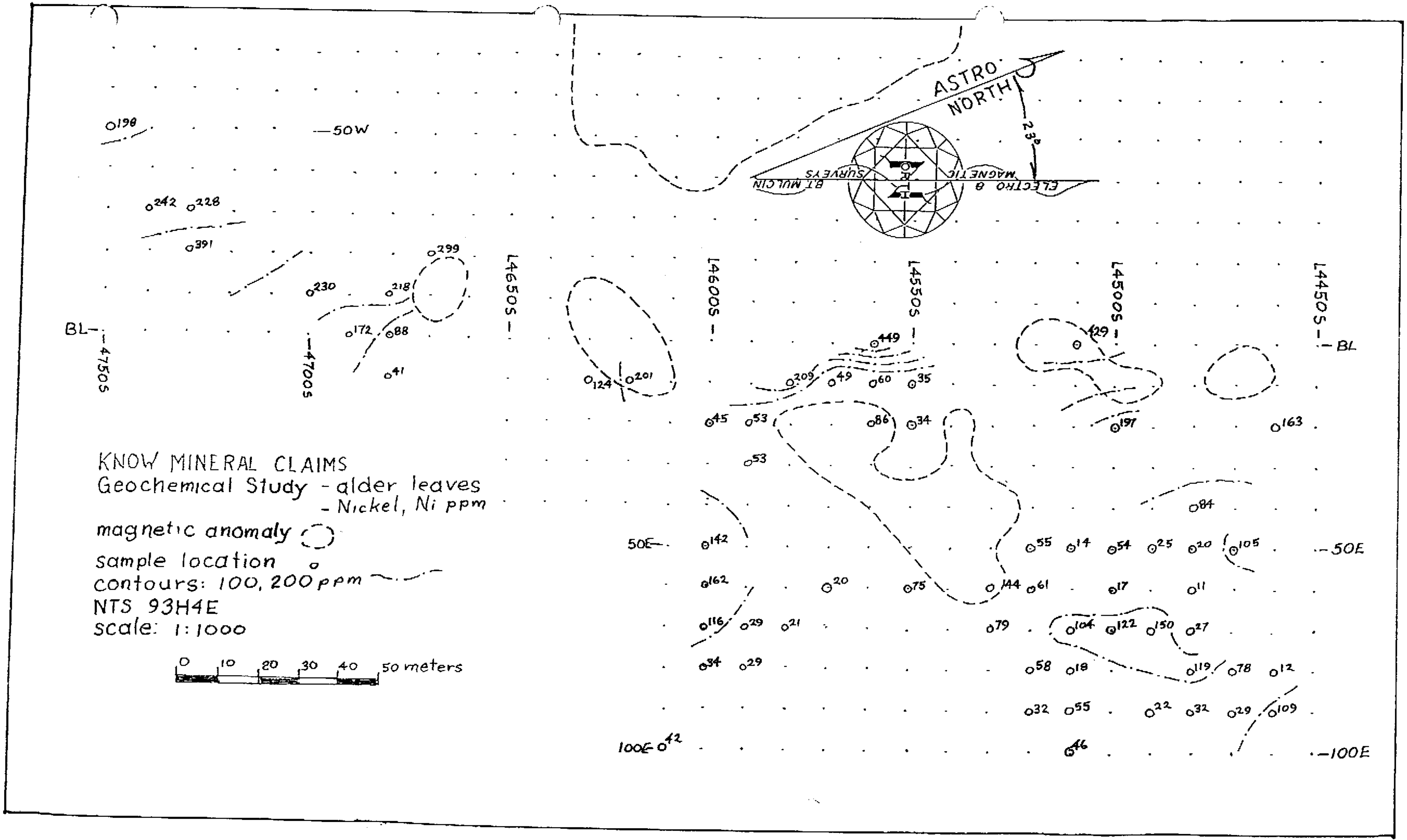
834
829
835
854
906
737
659
712
954
685
939


KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
- Silver, Ag ppm
magnetic anomaly
sample location
contours: 0·3 ppm
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
BL
L4750S
L4700S
L4650S
L4600S
L4550S
L4500S
L4450S
50W
50E
100E
BY MULOIN SURVEYS
ELECTRO & MAGNETIC


KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
- Nickel, Ni ppm
magnetic anomaly
sample location
contours: 100, 200 ppm
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
ELECTRO & MAGNETIC SURVEYS
B.T. MULCIN
L4650S
L4600S
L4550S
L4500S
L4450S
4750S
4700S
BL
50W
50E
100E
198
242
228
391
299
230
218
172
88
41
124
201
449
209
49
60
35
129
45
53
86
34
191
163
53
84
142
55
14
54
25
20
105
162
20
75
144
61
17
11
116
29
21
79
104
122
150
27
34
29
58
18
119
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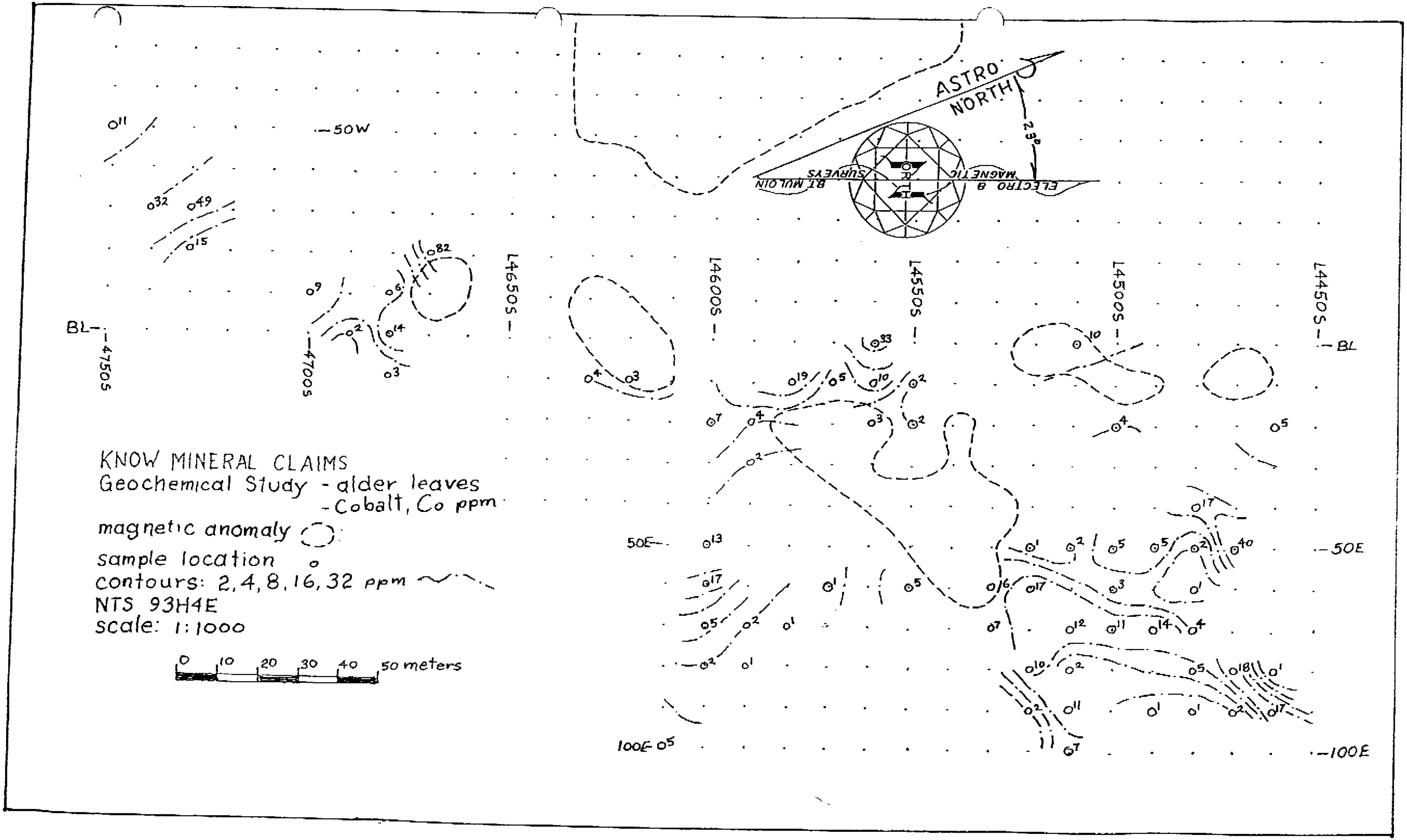
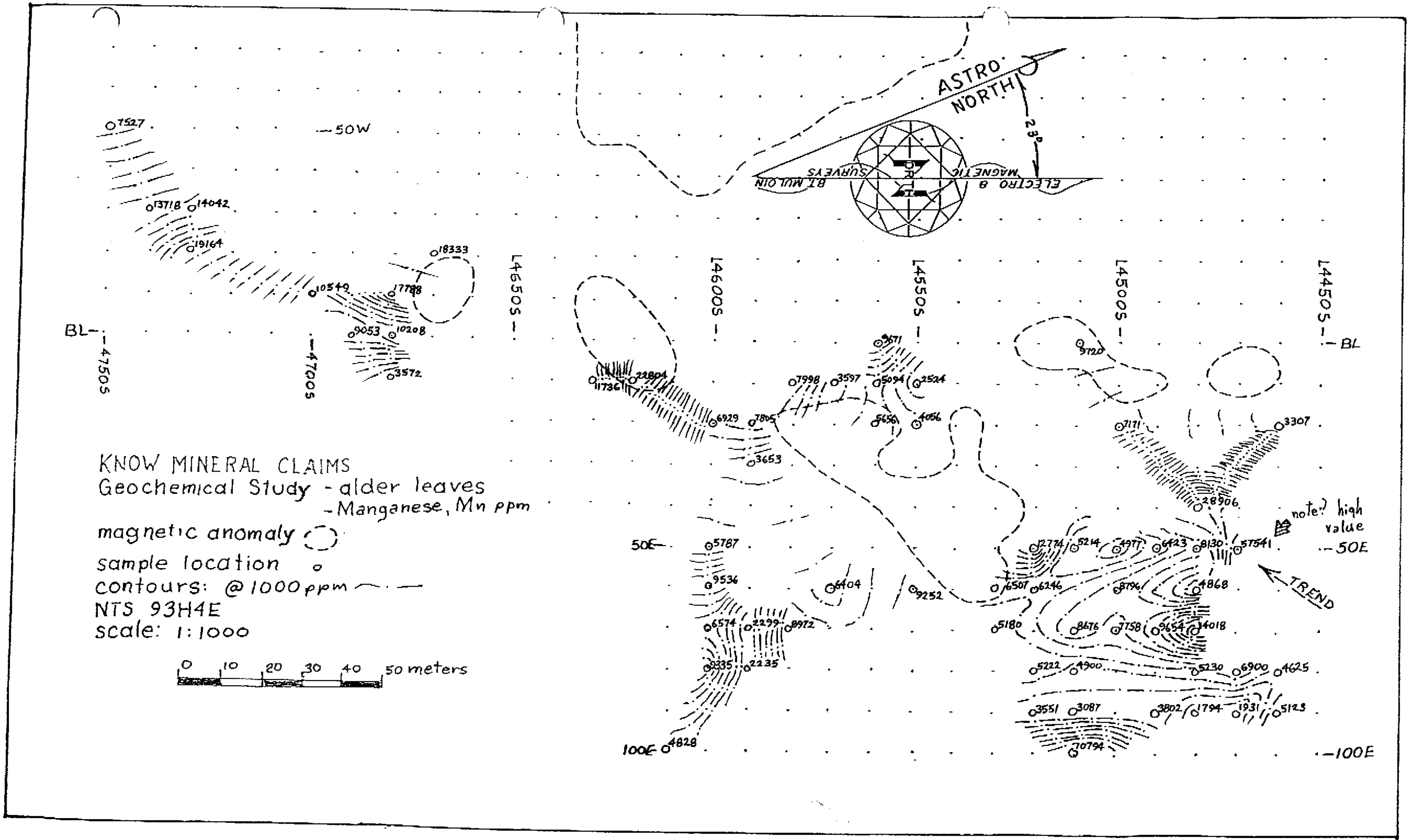
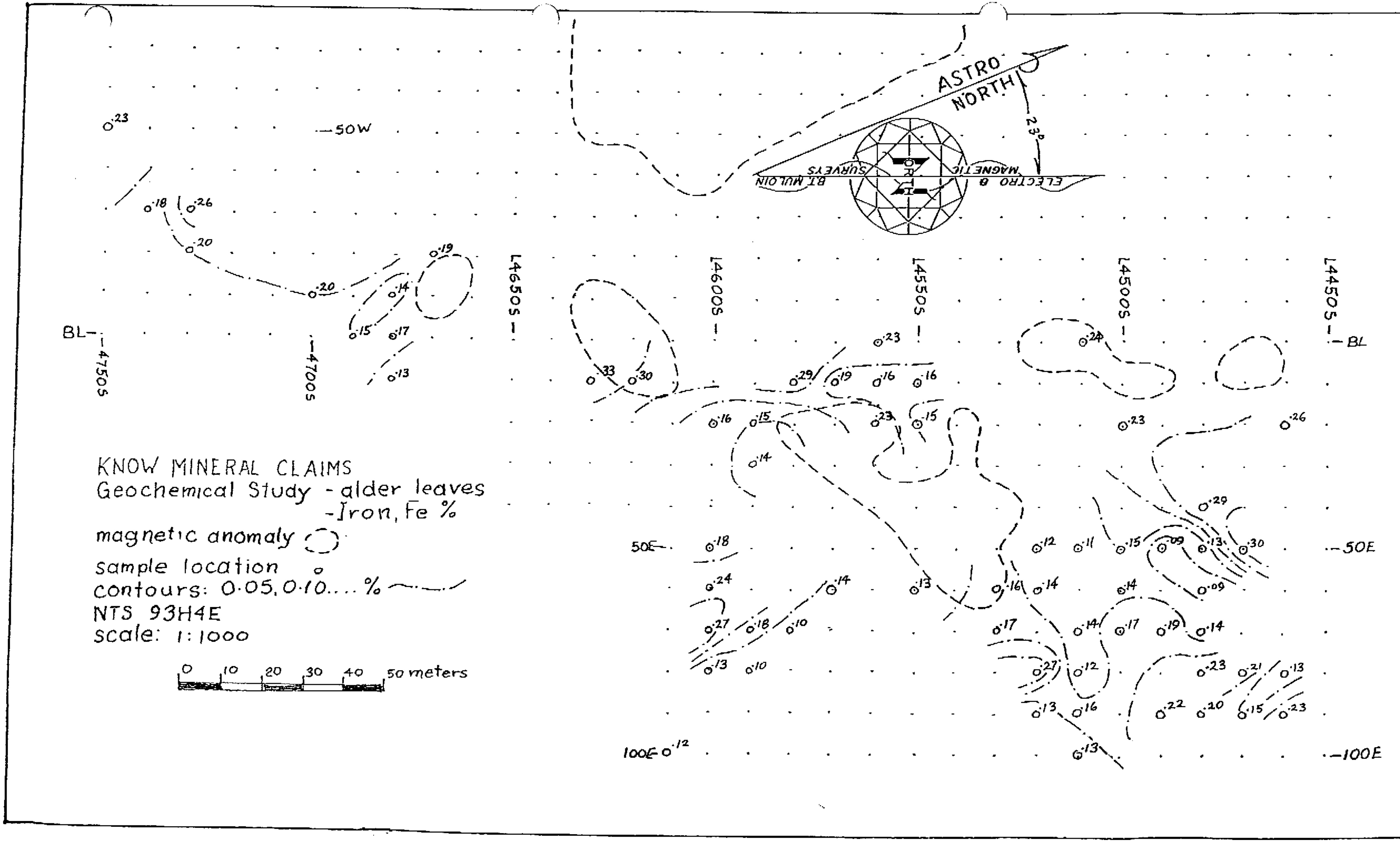
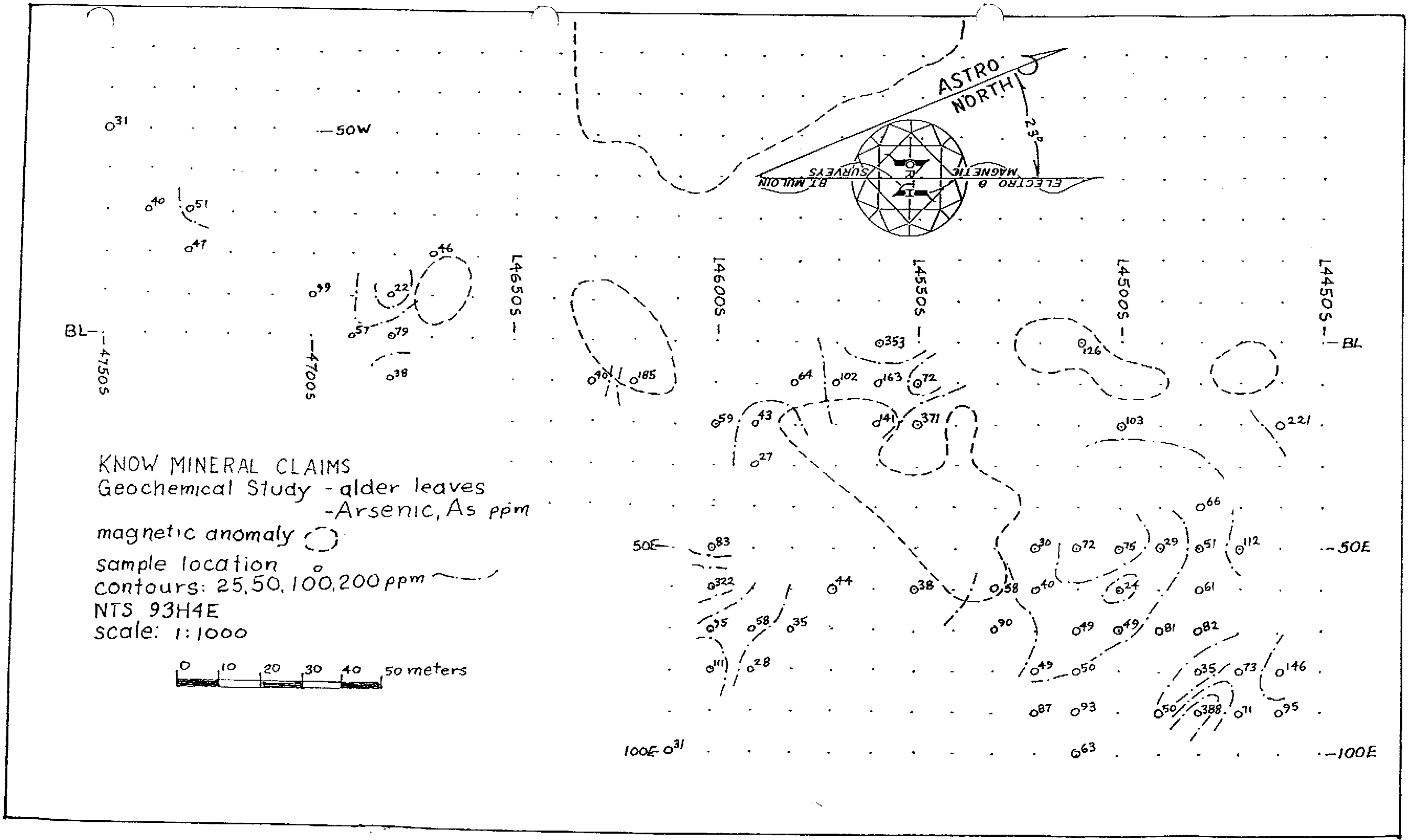
32
29
109
42
46

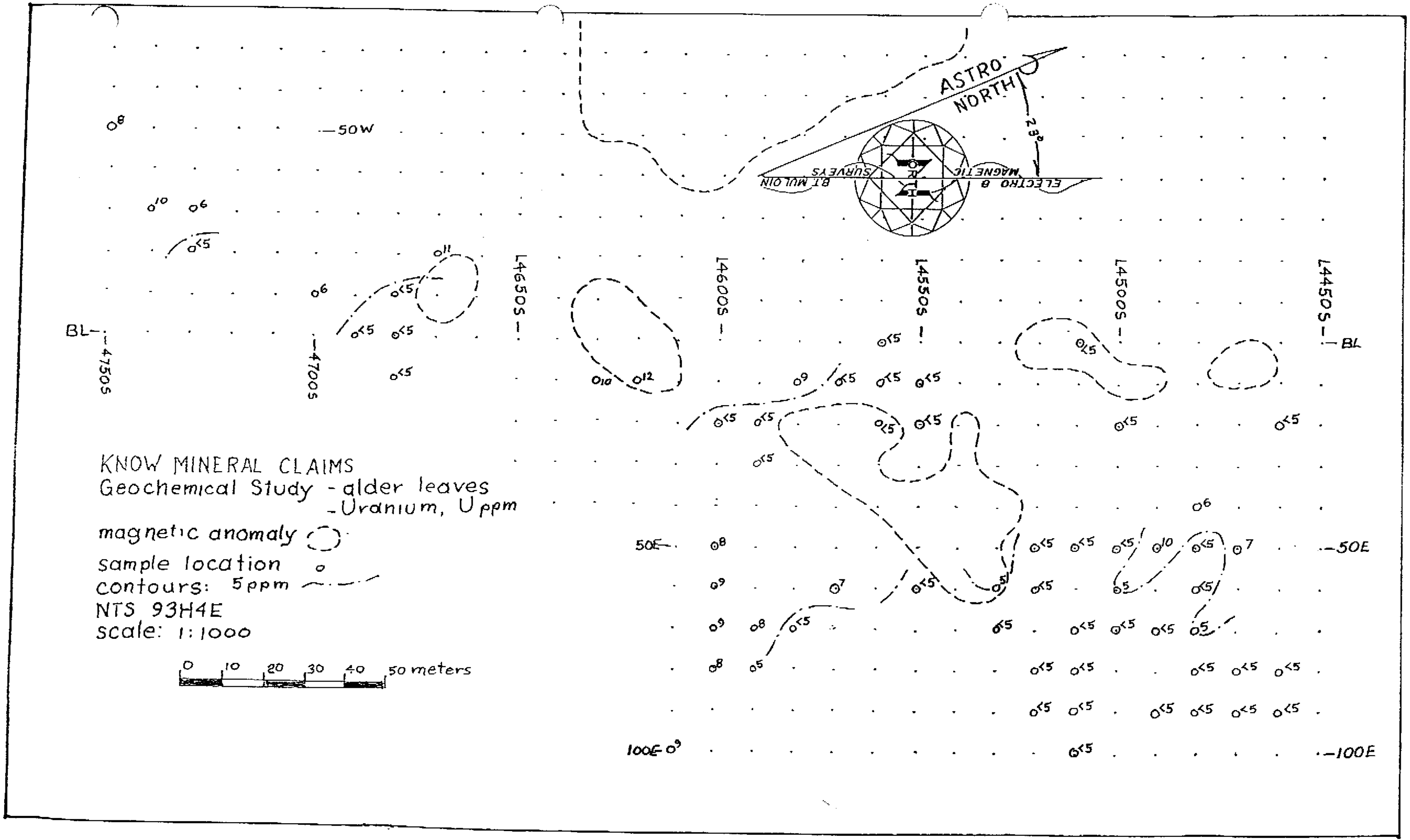

KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
- Cobalt, Co ppm
magnetic anomaly
sample location
contours: 2, 4, 8, 16, 32 ppm
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
ELECTRO & MAGNETIC SURVEYS
BL
50W
50E
100E
L4750S
L4700S
L4650S
L4600S
L4550S
L4500S
L4450S

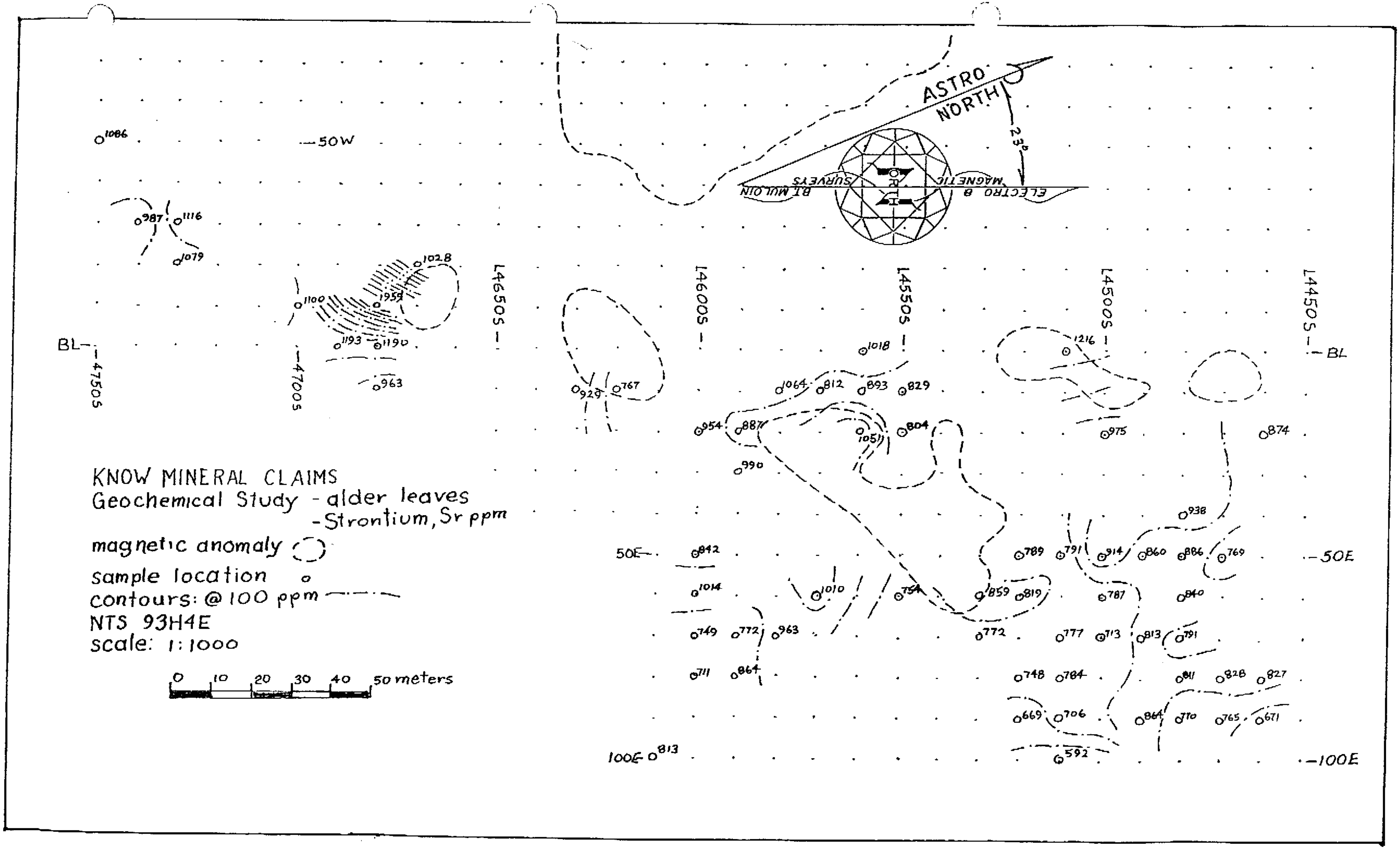

KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
- Manganese, Mn ppm
magnetic anomaly
sample location
contours: @1000 ppm
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
ELECTRO & MAGNETIC SURVEYS BT MULLIN
L4650S
L4600S
L4550S
L4500S
L4450S
4750S
4700S
BL
50W
50E
100E
TREND
note: high value

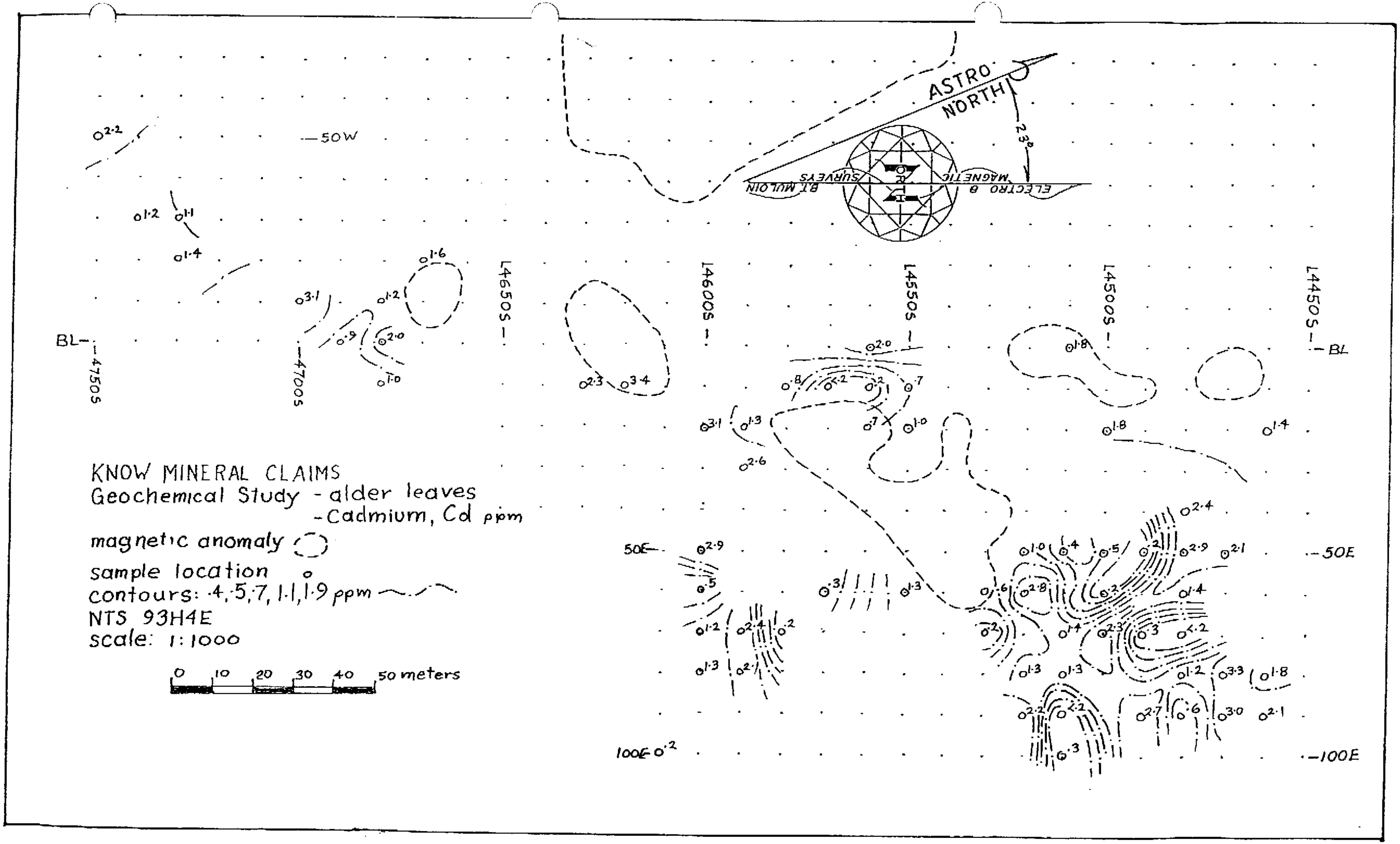


ASTRO NORTH
23°
ELECTRO & MAGNETIC SURVEYS BT MULOIN
50W
BL
BL
4750S
4700S
L4650S
L4600S
L4550S
L4500S
L4450S
50E
50E
100E
100E
KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
-Iron, Fe %
magnetic anomaly
sample location
contours: 0.05, 0.10.... %
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters

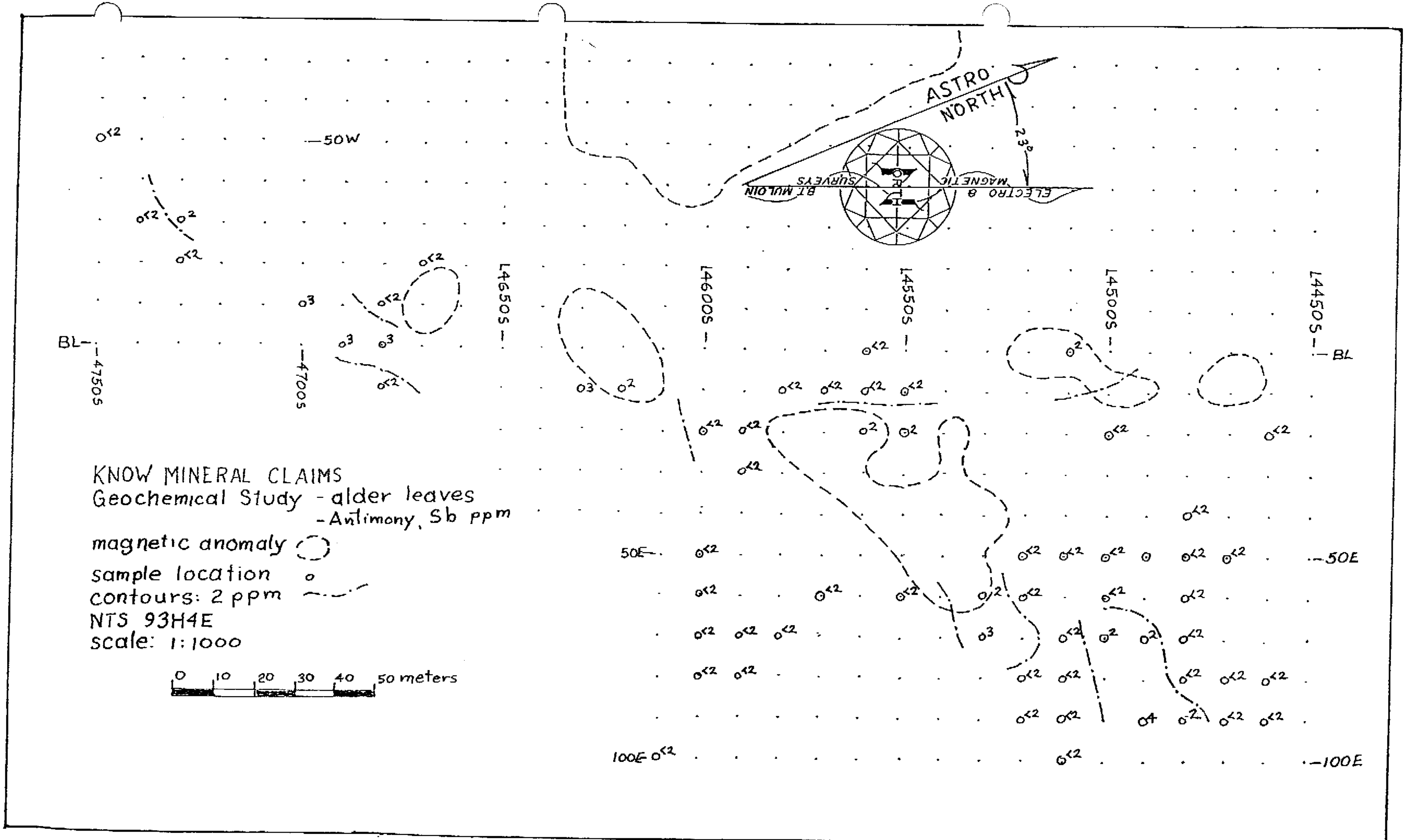

KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
-Arsenic, As ppm
magnetic anomaly
sample location
contours: 25, 50, 100, 200 ppm
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
ELECTRO & MAGNETIC SURVEYS
BL
L4750S
L4700S
L4650S
L4600S
L4550S
L4500S
L4450S
50W
50E
100E

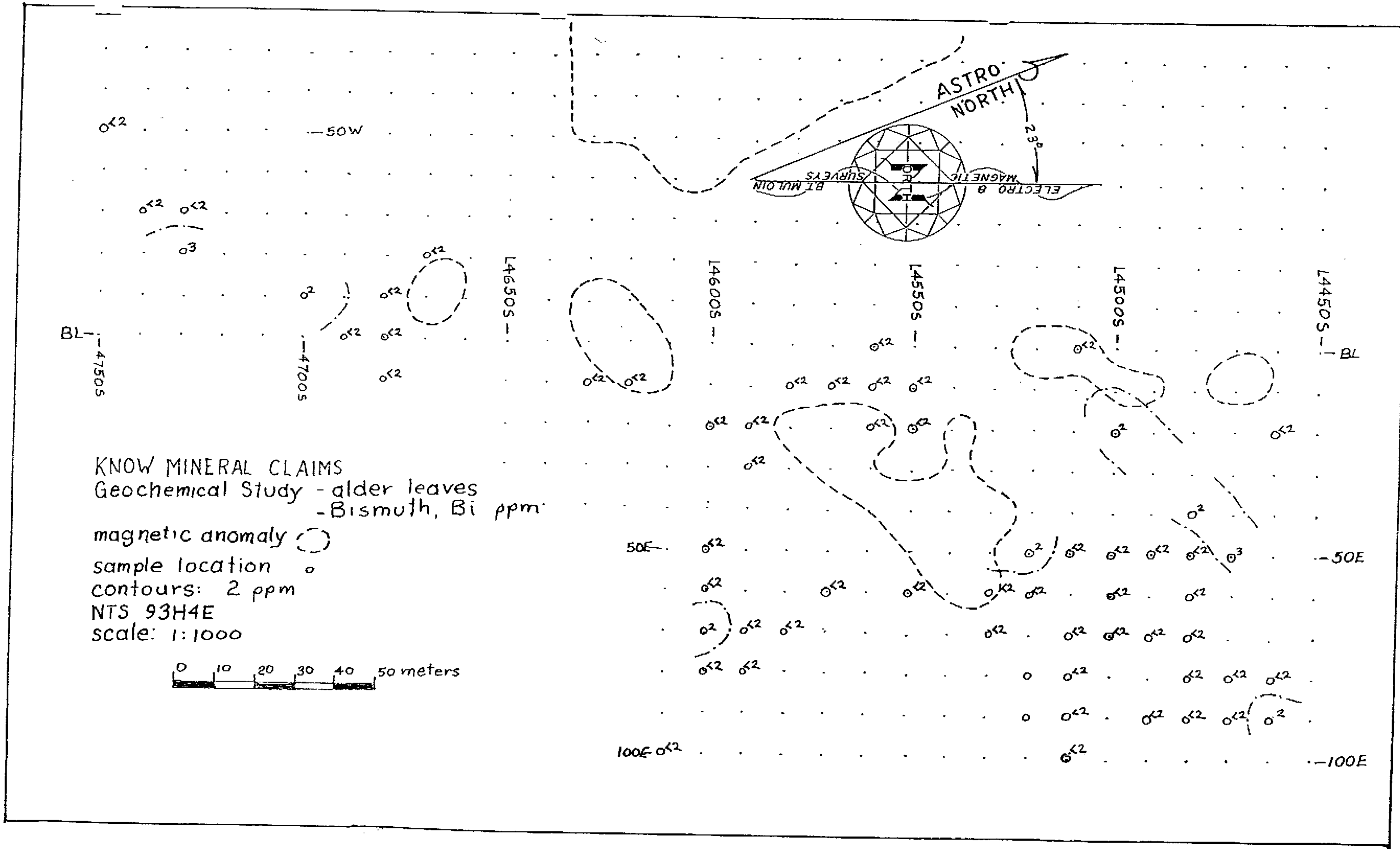

KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
-Uranium, U ppm
magnetic anomaly
sample location
contours: 5ppm
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
ELECTRO B MAGNETIC SURVEYS
B.T. MULOIN
BL
BL
50W
4750S
4700S
L4650S
L4600S
L4550S
L4500S
L4450S
50E
50E
100E
100E

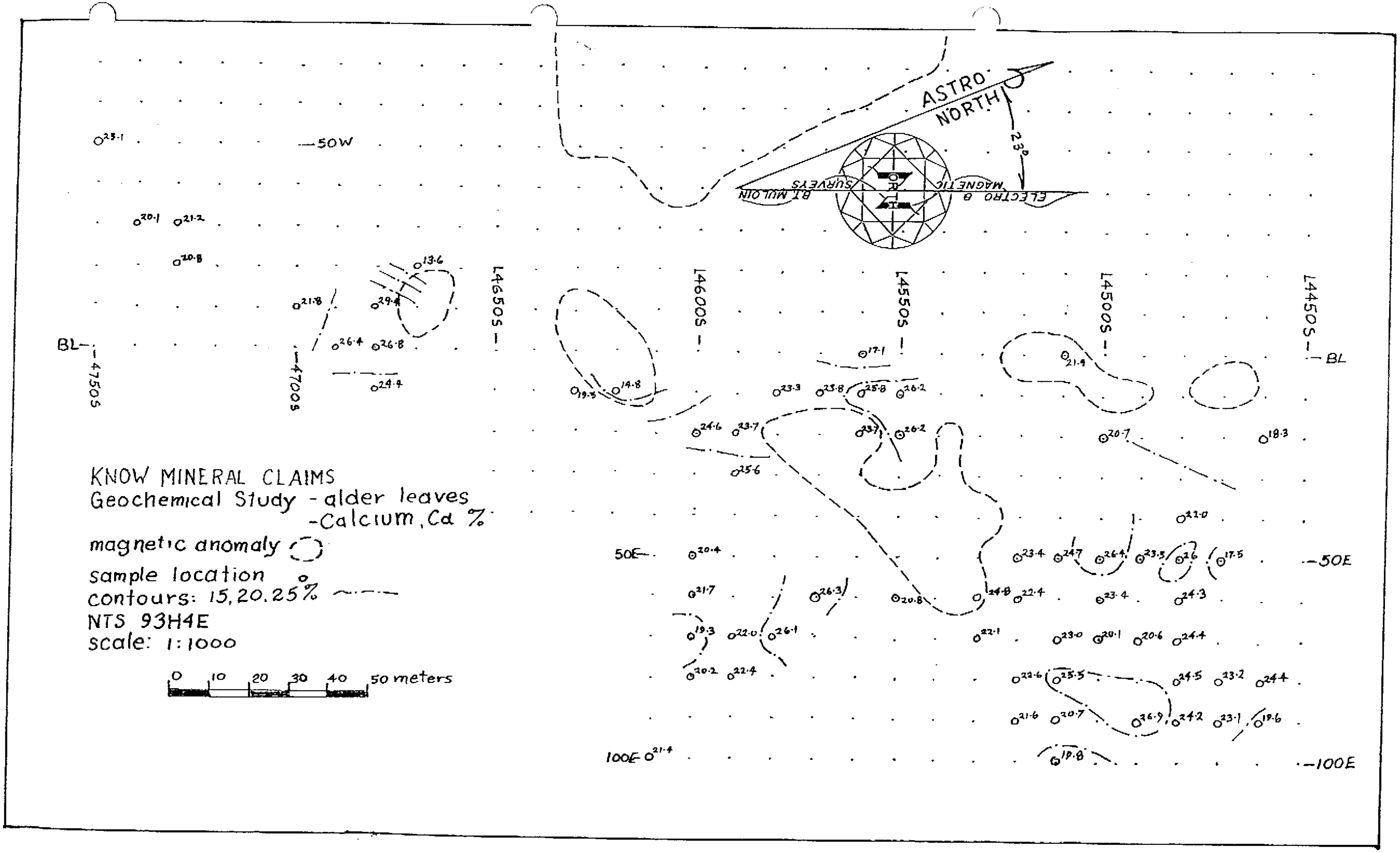

KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
- Strontium, Sr ppm
magnetic anomaly
sample location
contours: @ 100 ppm
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO
NORTH
23°
L4650S
L4600S
L4550S
L4500S
L4450S
BL
4750S
4700S
50W
50E
100E
1086
987
1116
1079
1028
1959
1100
1193
1190
963
929
767
1018
1216
1064
812
893
829
954
887
1051
804
975
874
990
938
842
789
791
914
860
886
769
1014
1010
754
859
819
787
840
749
772
963
772
777
713
813
791
711
864
748
784
811
828
827
669
706
864
710
765
671
813
592



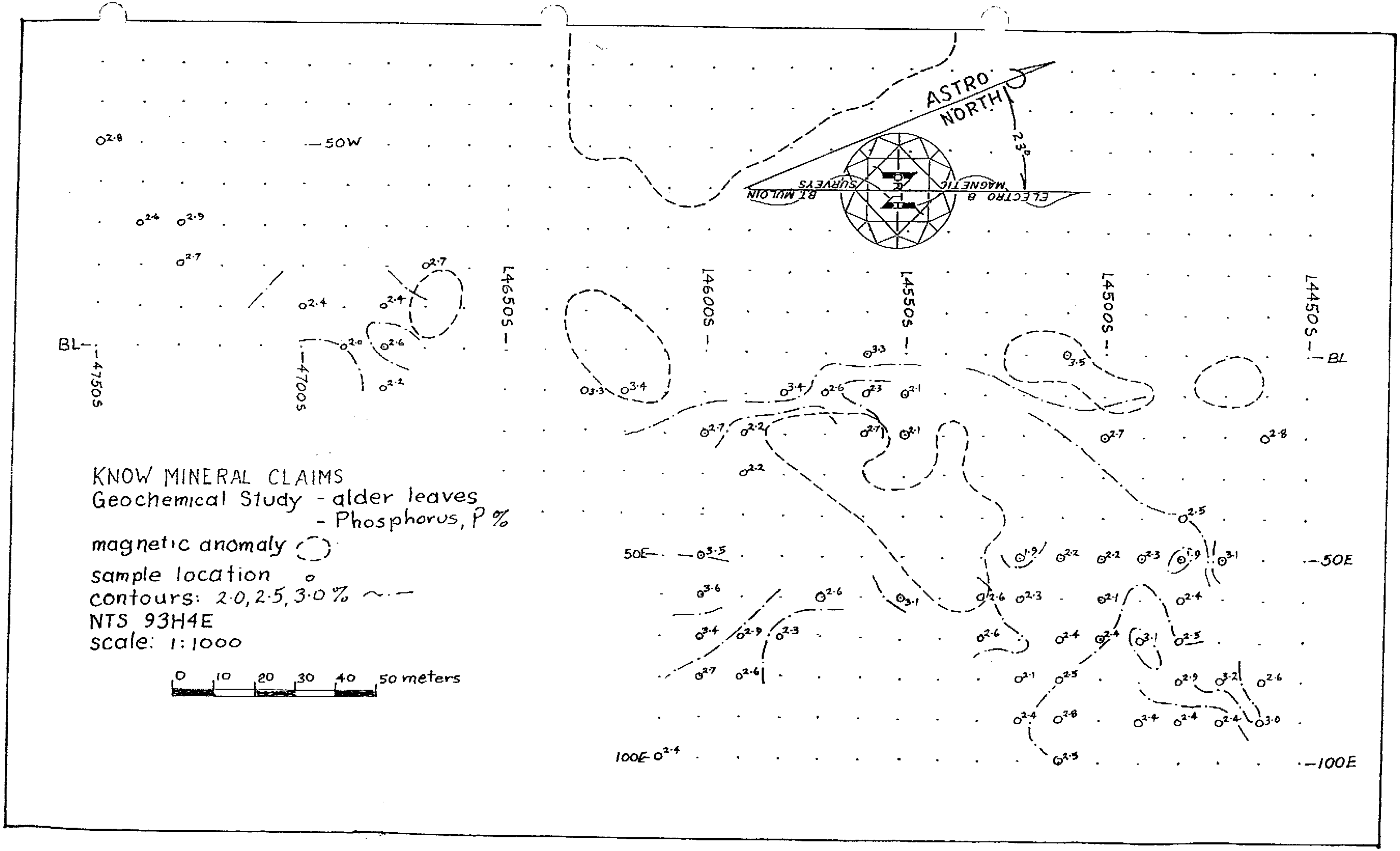
KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
- Cadmium, Cd ppm
magnetic anomaly
sample location
contours: .4, .5, .7, 1.1, 1.9 ppm
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
ELECTRO & MAGNETIC SURVEYS
B.T. MULOIN
50W
BL
BL
4750S
4700S
L4650S
L4600S
L4550S
L4500S
L4450S
50E
50E
100E
100E


KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
- Antimony, Sb ppm
magnetic anomaly
sample location
contours: 2 ppm
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
ELECTRO & MAGNETIC SURVEYS
B.T. MULOIN
50W
BL
BL
4750S
4700S
L4650S
L4600S
L4550S
L4500S
L4450S
50E
50E
100E
100E

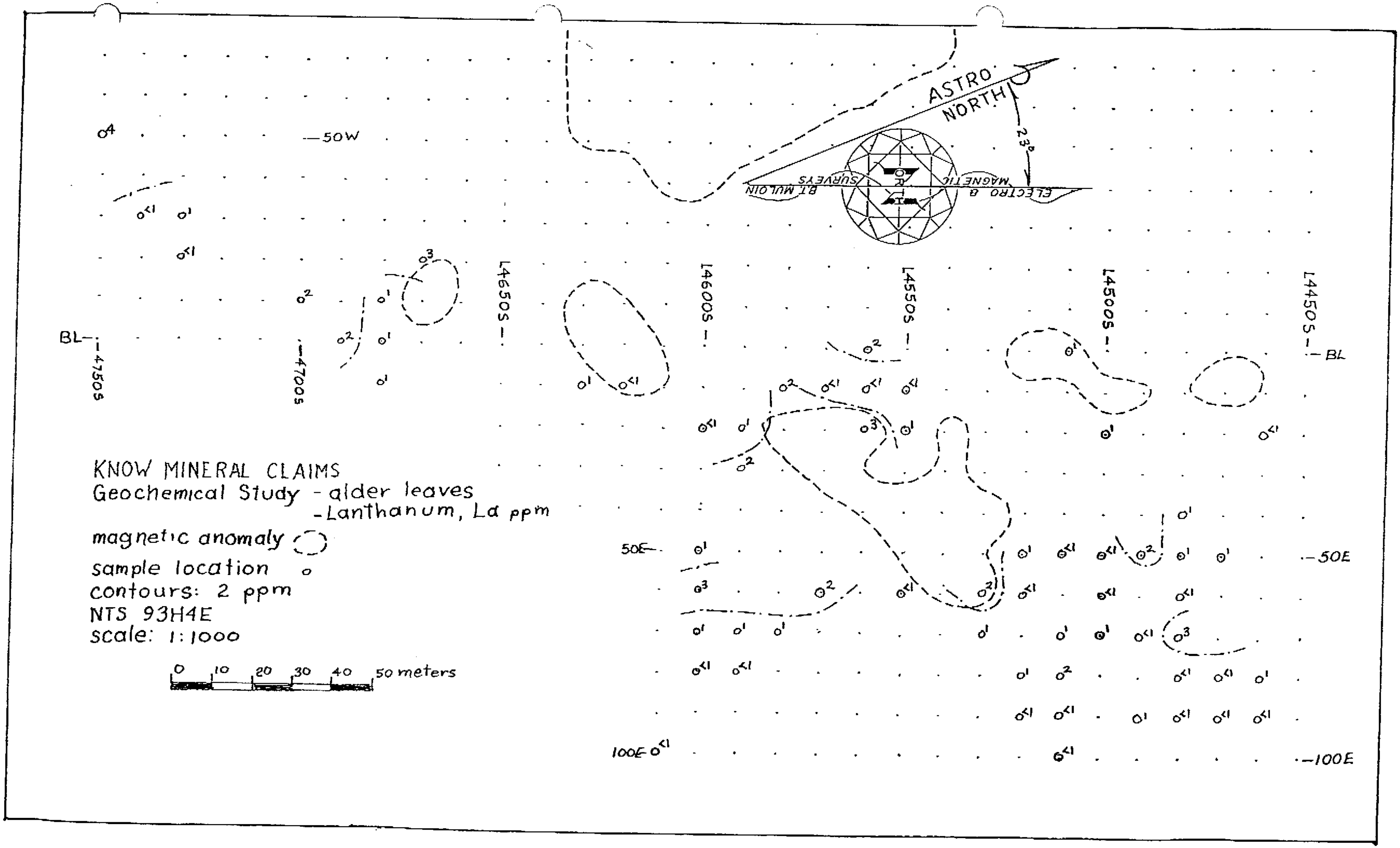

KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
-Bismuth, Bi ppm
magnetic anomaly
sample location
contours: 2 ppm
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
L4650S
L4600S
L4550S
L4500S
L4450S
BL
4750S
4700S
50W
50E
100E



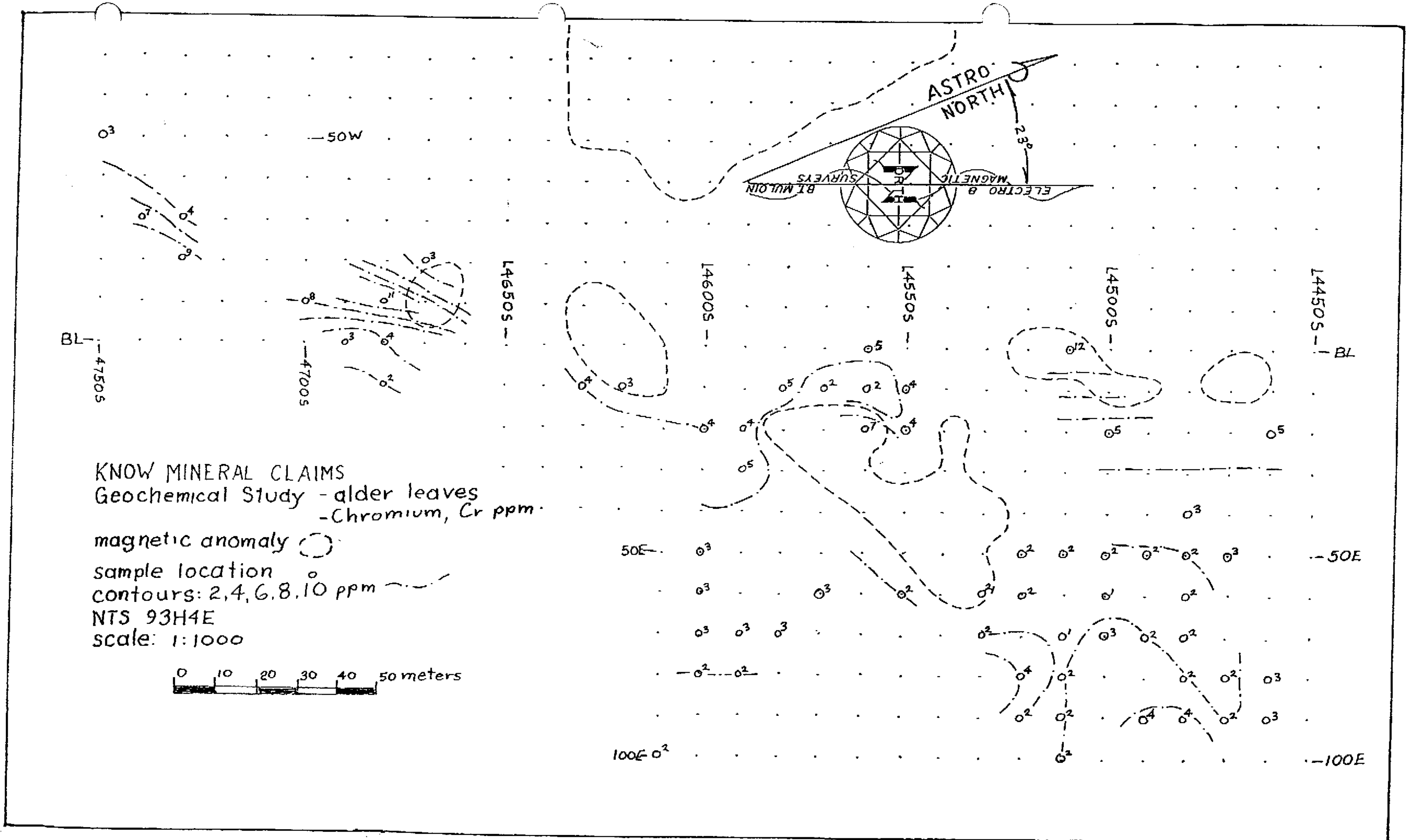
KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
-Calcium, Ca %
magnetic anomaly
sample location
contours: 15,20,25%
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
L4750S
L4700S
L4650S
L4600S
L4550S
L4500S
L4450S
BL
50W
50E
100E



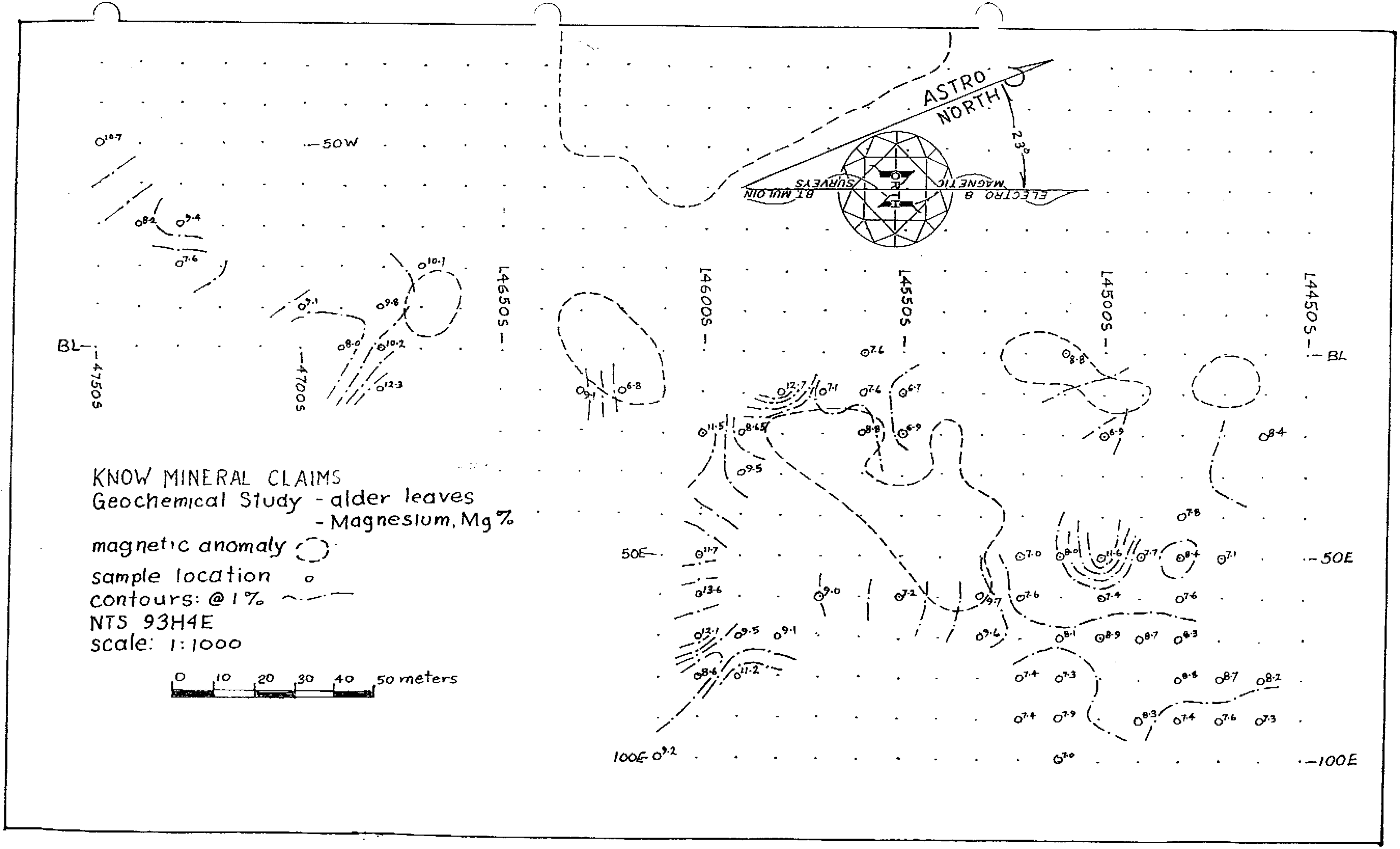
KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
- Phosphorus, P %
magnetic anomaly
sample location
contours: 2.0, 2.5, 3.0 %
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
L4650S
L4600S
L4550S
L4500S
L4450S
BL
4750S
4700S
50W
50E
100E



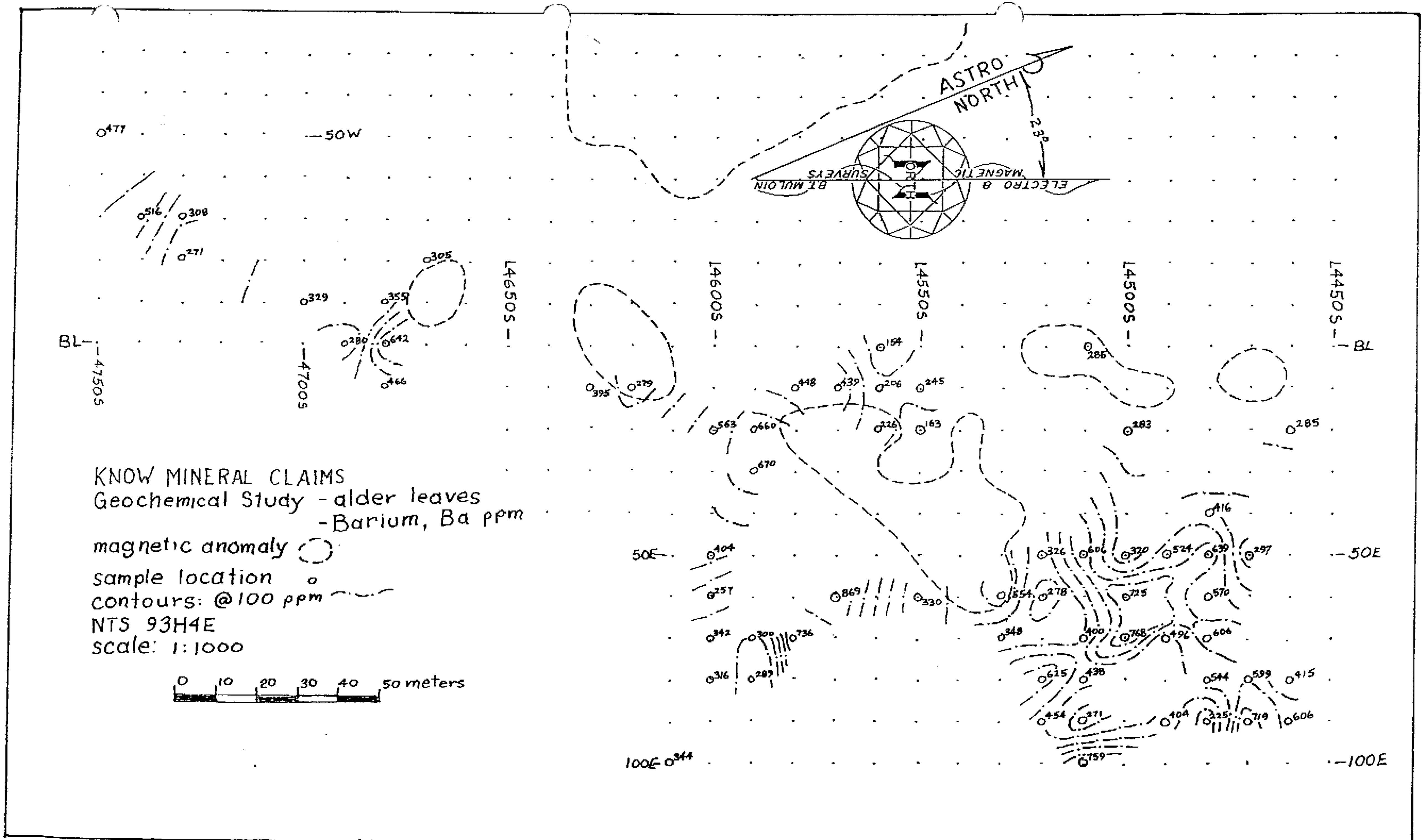
KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
-Lanthanum, La ppm
magnetic anomaly
sample location
contours: 2 ppm
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
ELECTRO & MAGNETIC SURVEYS
B.T. MULOIN
50W
BL
BL
4750S
4700S
L4650S
L4600S
L4550S
L4500S
L4450S
50E
50E
100E
100E



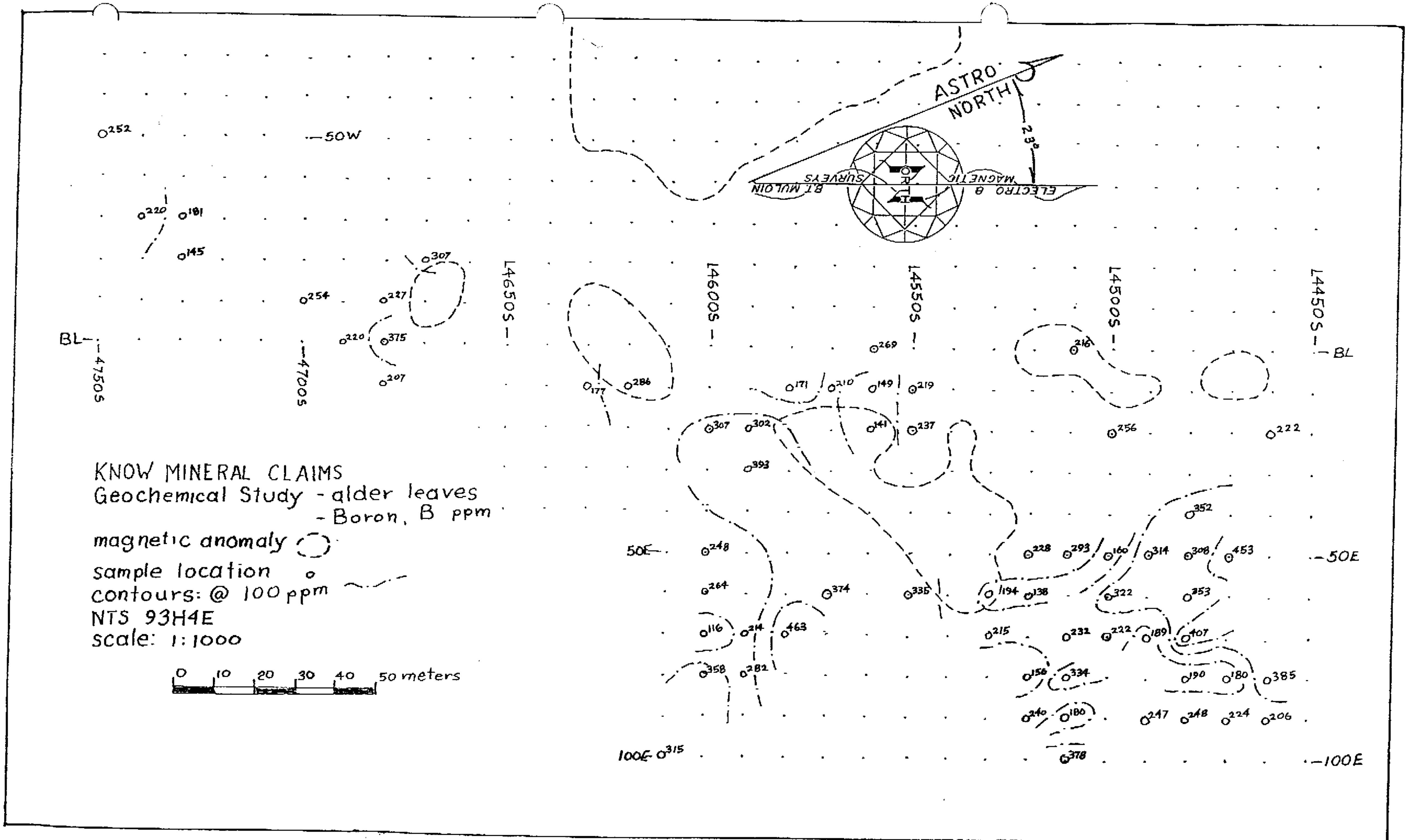
KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
-Chromium, Cr ppm
magnetic anomaly
sample location
contours: 2,4,6,8,10 ppm
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
50W
50E
100E
BL
4750S
4700S
L4650S
L4600S
L4550S
L4500S
L4450S

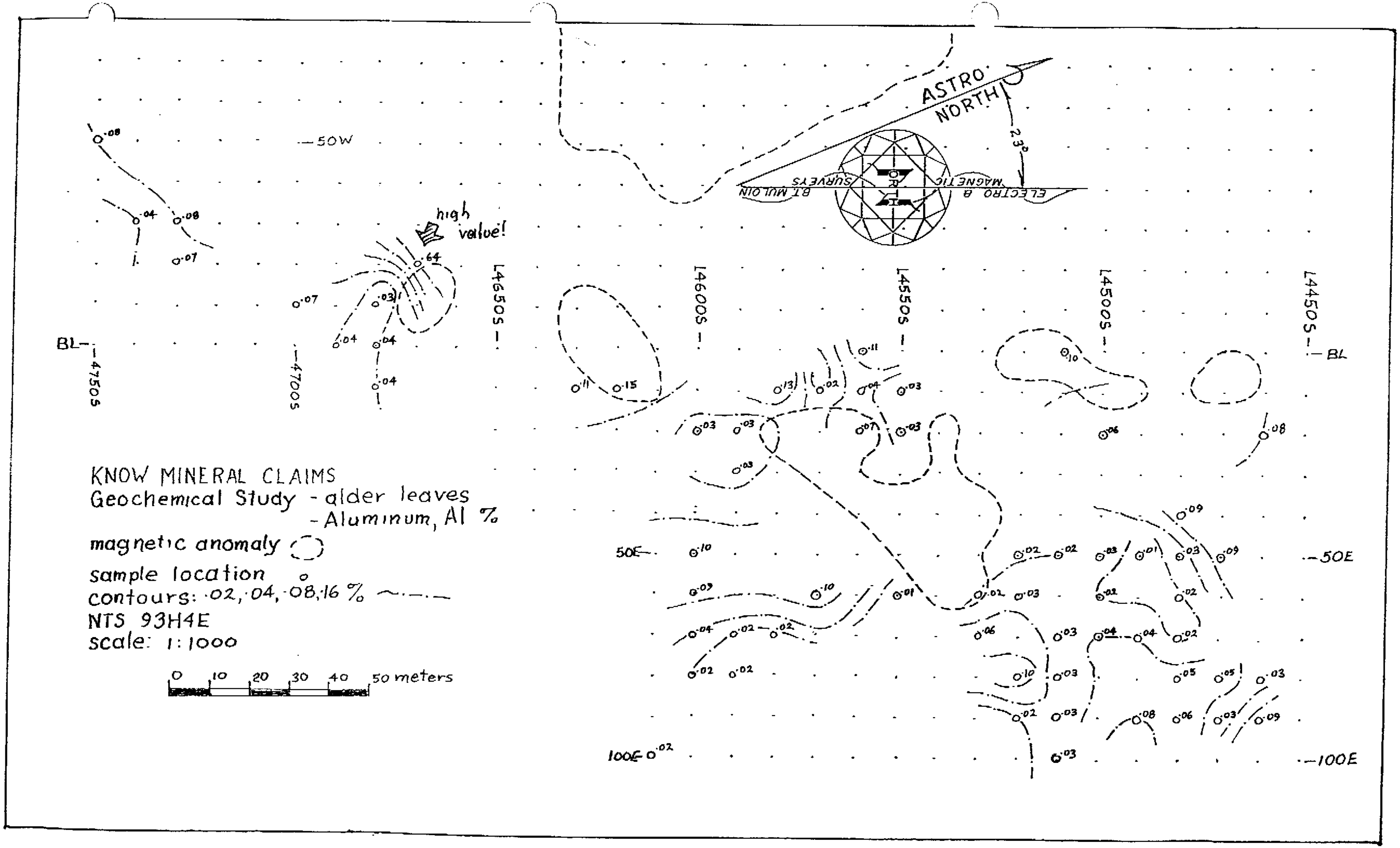


KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
- Magnesium, Mg %
magnetic anomaly
sample location
contours: @ 1 %
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
50W
BL
4750S
4700S
L4650S
L4600S
L4550S
L4500S
L4450S
50E
100E

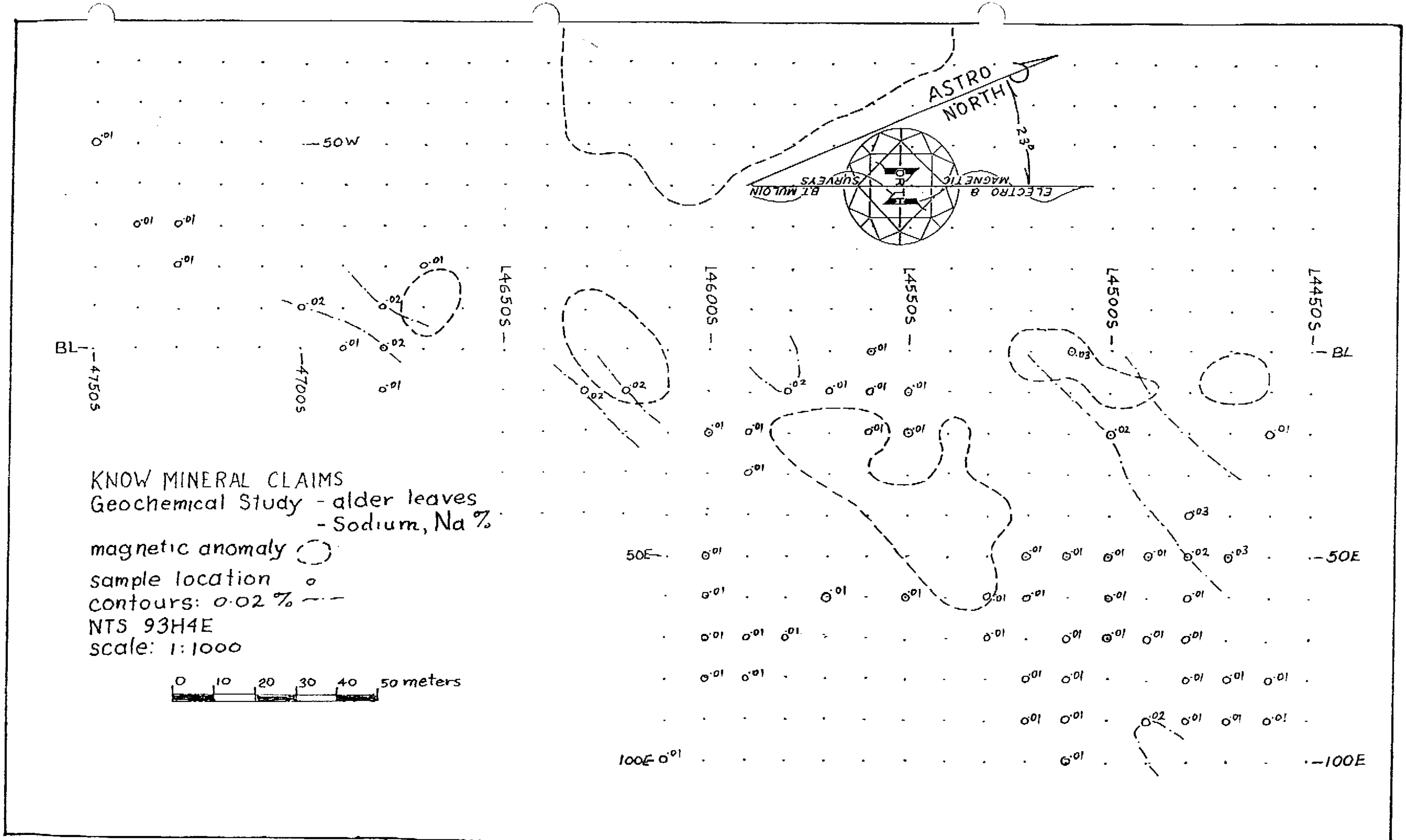


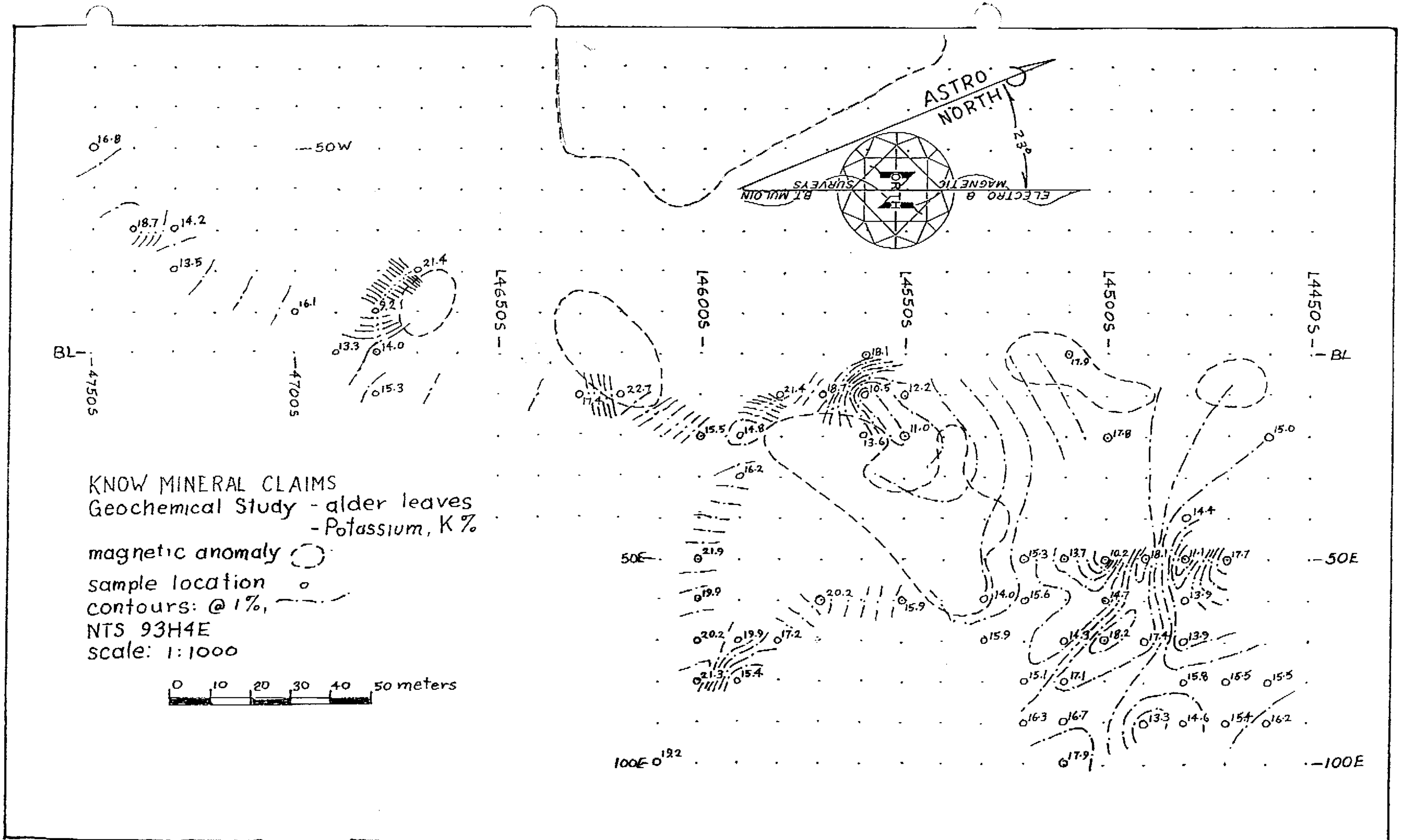
KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
- Barium, Ba ppm
magnetic anomaly
sample location
contours: @100 ppm
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
L4650S
L4600S
L4550S
L4500S
L4450S
4750S
4700S
BL
50W
50E
100E

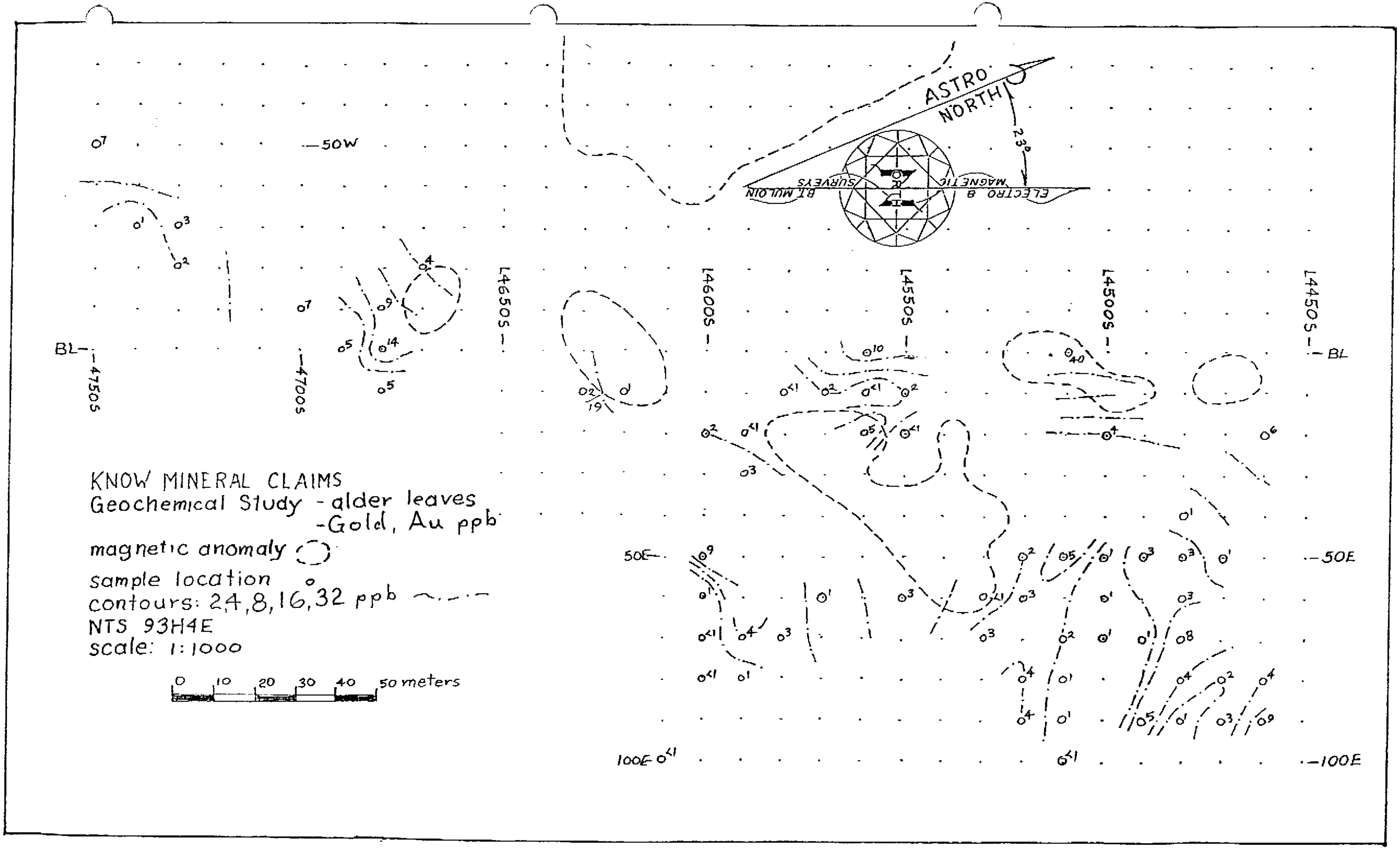

KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
- Boron, B ppm
magnetic anomaly
sample location
contours: @ 100 ppm
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
ELECTRO & MAGNETIC SURVEYS
B.T. MULOIN
L4750S
L4700S
L4650S
L4600S
L4550S
L4500S
L4450S
BL
50W
50E
100E

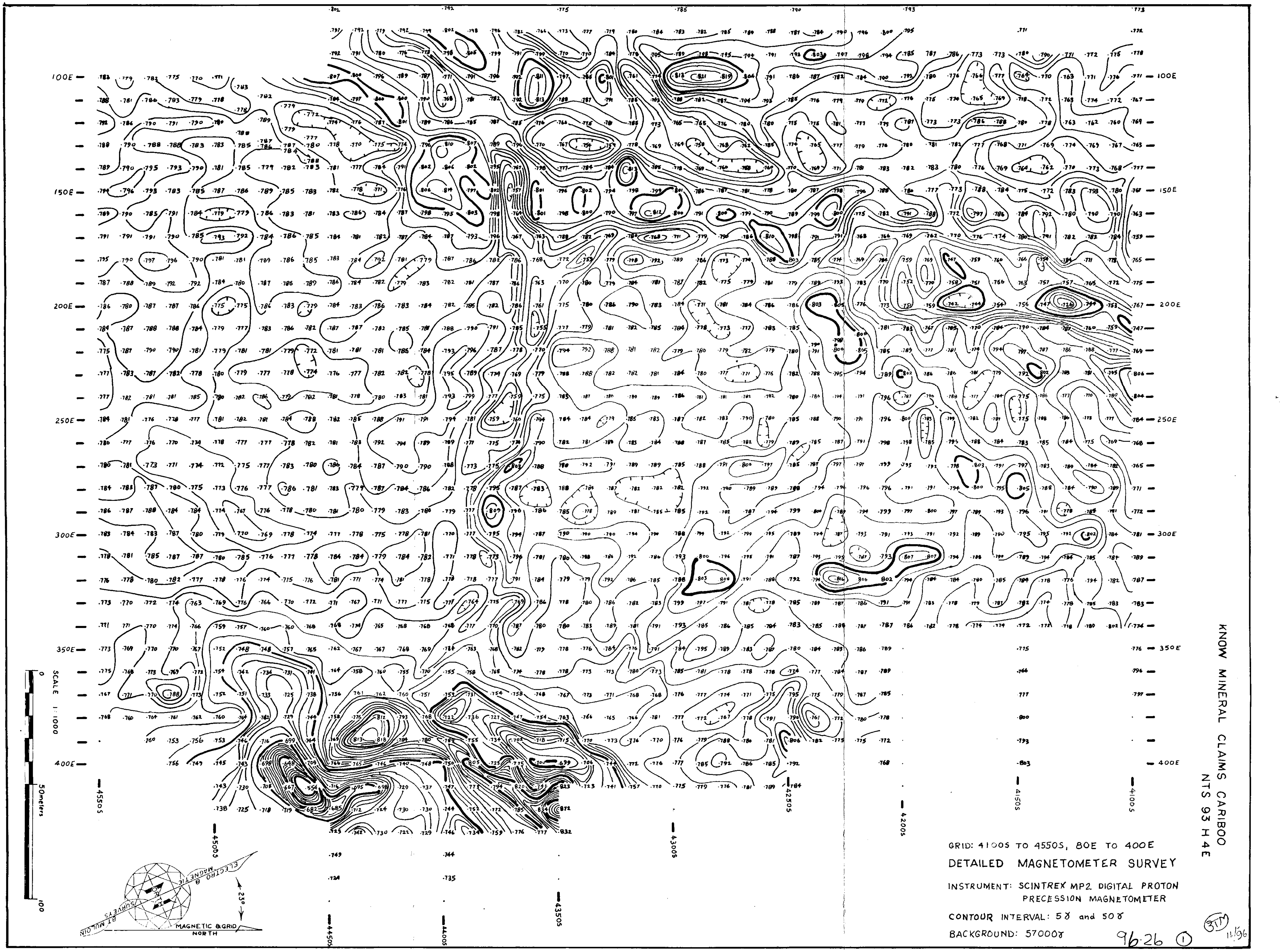


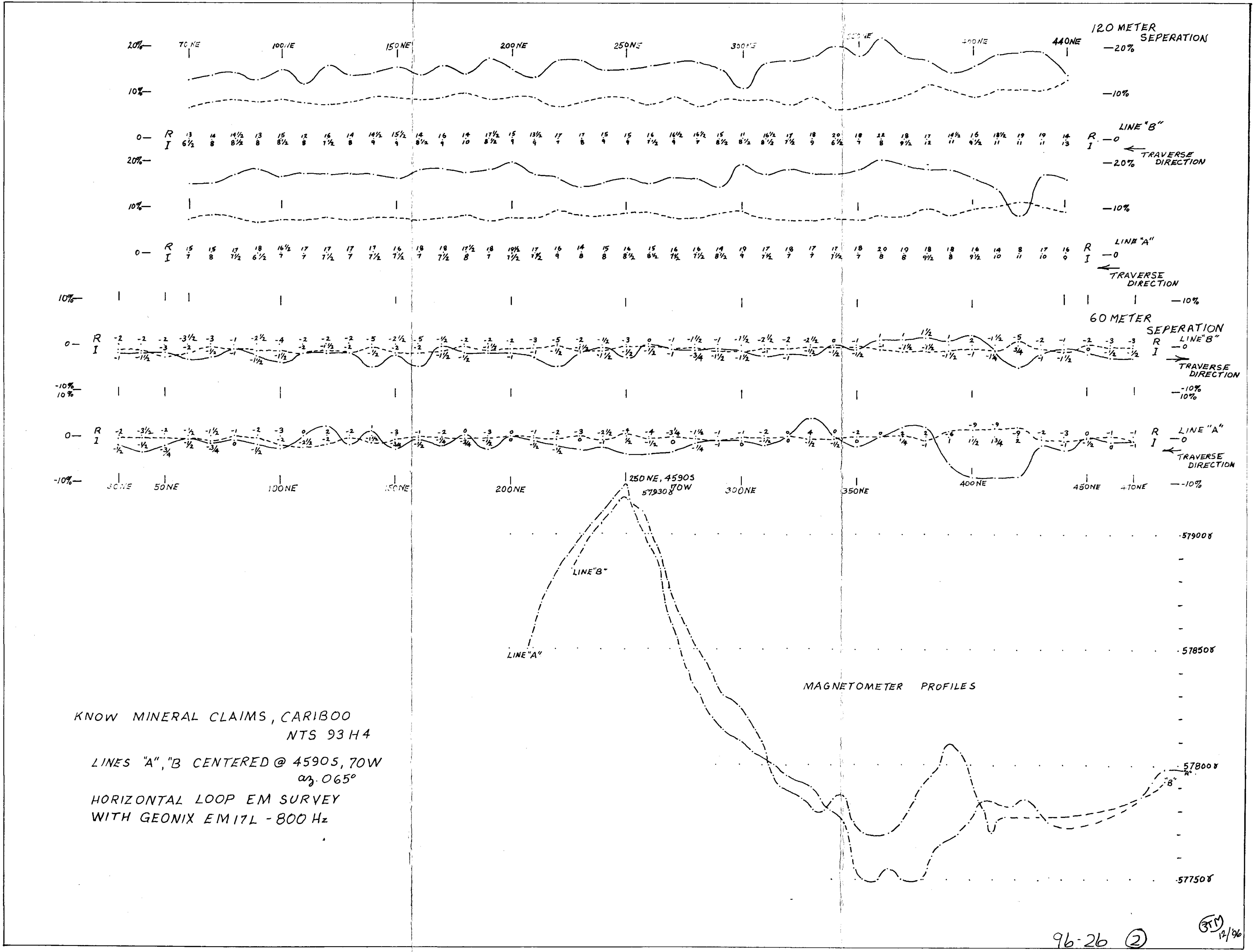
KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
- Aluminum, Al %
magnetic anomaly
sample location
contours: .02, .04, .08, .16 %
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
high value!
50W
BL
BL
4750S
4700S
L4650S
L4600S
L4550S
L4500S
L4450S
50E
50E
100E
100E


ASTRO
NORTH
23°
50W
BL
4750S
4700S
L4650S
L4600S
L4550S
L4500S
L4450S
50E
100E
KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
- Sodium, Na %
magnetic anomaly
sample location
contours: 0.02 %
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters


KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
- Potassium, K %
magnetic anomaly
sample location
contours: @ 1%,
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
ELECTRO & MAGNETIC SURVEYS
B.T. MULLIN
L4650S
L4600S
L4550S
L4500S
L4450S
BL
4750S
4700S
50W
50E
100E
16.8
18.7
14.2
13.5
21.4
9.2
16.1
13.3
14.0
15.3
17.4
22.7
15.5
14.8
21.4
18.7
18.1
10.5
12.2
13.6
11.0
17.9
17.8
15.0
16.2
21.9
19.9
20.2
20.2
19.9
17.2
21.3
15.4
15.9
14.0
15.6
15.9
15.3
13.7
10.2
18.1
11.1
17.7
14.4
14.7
13.9
14.3
18.2
17.4
13.9
15.1
17.1
15.8
15.5
15.5
16.3
16.7
13.3
14.6
15.4
16.2
17.9
19.2


KNOW MINERAL CLAIMS
Geochemical Study - alder leaves
-Gold, Au ppb
magnetic anomaly
sample location
contours: 2,4,8,16,32 ppb
NTS 93H4E
scale: 1:1000
0 10 20 30 40 50 meters
ASTRO NORTH
23°
ELECTRO 8 MAGNETIC SURVEYS
R.T. MULLIN
50W
BL
4750S
4700S
L4650S
L4600S
L4550S
L4500S
L4450S
50E
100E


KNOW MINERAL CLAIMS CARIBOO
NTS 93 H 4E
GRID: 4100S TO 4550S, 80E TO 400E
DETAILED MAGNETOMETER SURVEY
INSTRUMENT: SCINTREX MP2 DIGITAL PROTON PRECESSION MAGNETOMETER
CONTOUR INTERVAL: 5γ and 50γ
BACKGROUND: 57000γ
SCALE 1:1000
50 meters
MAGNETIC & GRID NORTH
23°
96-26 (1)



KNOW MINERAL CLAIMS, CARIBOO
NTS 93 H4

LINES "A", "B CENTERED @ 4590S, 70W
az. 065°

HORIZONTAL LOOP EM SURVEY
WITH GEONIX EM17L - 800 Hz