GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE

LONO CLAIM GROUP

Report for

Teeshin Resources Ltd.

and

Canadian-United Minerals, Inc.

Owners - Operators

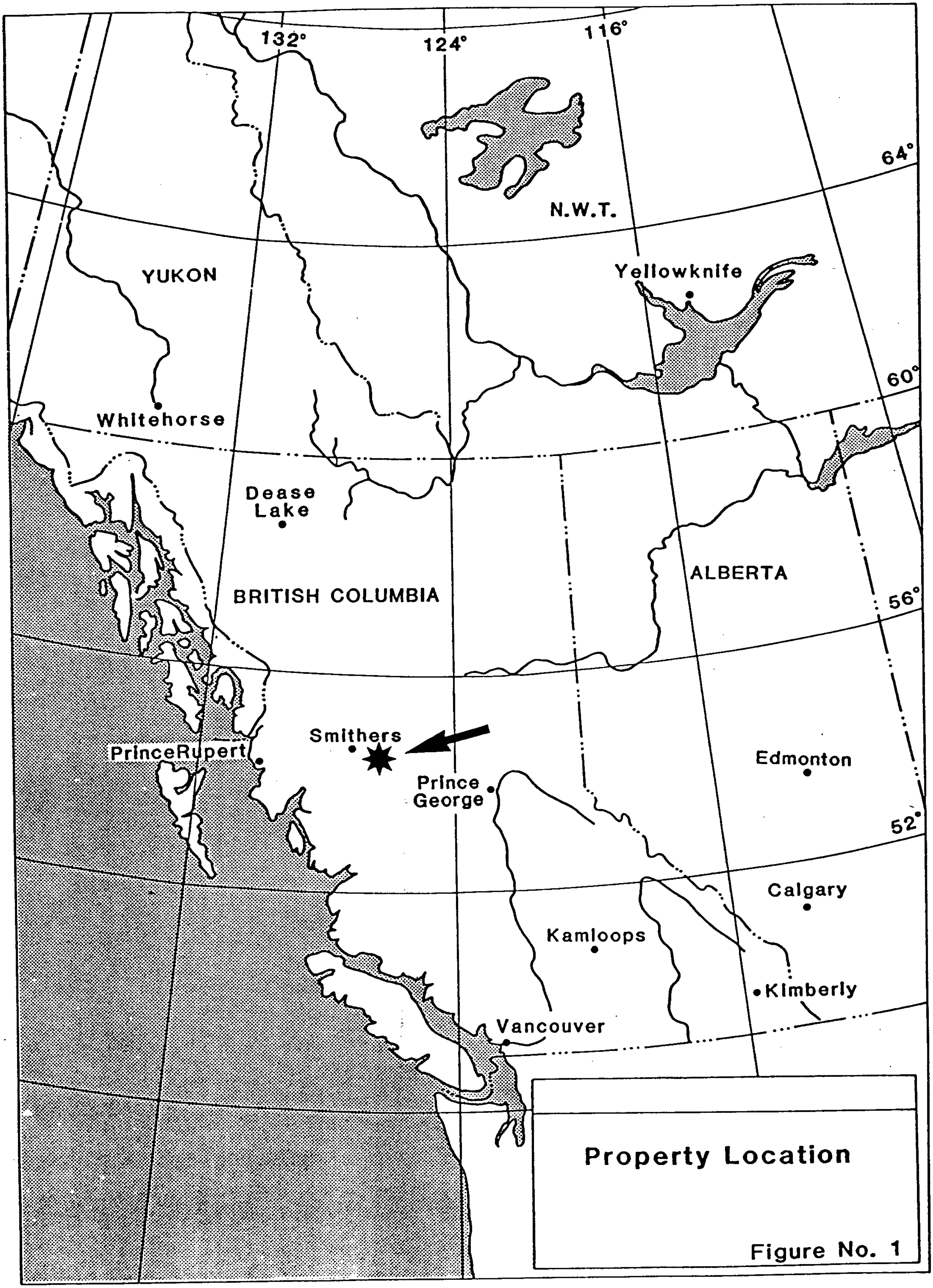
N.T.S. 93L/15E

Omineca Mining Division

Latitude 54°47'N | Longitude 126°44'W

November 22, 1989

Robert Holland, B.Sc., F.G.A.C.
Holland Geoservices Ltd.



Property Location

Figure No. 1

TABLE OF CONTENTS

	page
Summary	1
Introduction	2
Location and Access	2
Claim Status	3
Previous History	3
General Geology	5
Property Geology	6
Structure	9
Mineralization	10
Soil Geochemistry	11
Discussion of Results	12
Conclusions and Recommendations	14
Selected References	16
Statement of Costs	17
Qualifications	18

Appendix 1 Soil Geochem Assay Sheets
Appendix 2 Follow Up Geochem Sketches
Appendix 3 Petrographic Report

LIST OF FIGURES

Fig. 1	Location Map	frontispiece
Fig. 2	Claim Map	4
Fig. 3	Geology	in pocket
Fig. 4	Follow Up Geochem - L160+00N - Copper	Appendix 2
Fig. 5	Follow Up Geochem - L160+00N - Silver	Appendix 2
Fig. 6	Follow Up Geochem - L160+00N - Lead	Appendix 2
Fig. 7	Follow Up Geochem - L160+00N - Zinc	Appendix 2
Fig. 8	Follow Up Geochem - L160+00N - Arsenic	Appendix 2
Fig. 9	Follow Up Geochem - L157+50N - Copper	Appendix 2
Fig. 10	Follow Up Geochem - L157+50N - Silver	Appendix 2
Fig. 11	Follow Up Geochem - L157+50N - Lead	Appendix 2
Fig. 12	Follow Up Geochem - L157+50N - Zinc	Appendix 2
Fig. 13	Follow Up Geochem - L157+50N - Arsenic	Appendix 2
Fig. 14	Follow Up Geochem - L155+00N - Copper-Silver	Appendix 2
Fig. 15	Follow Up Geochem - L155+00N - Lead-Zinc	Appendix 2
Fig. 16	Follow Up Geochem - L155+00N - Arsenic	Appendix 2
Fig. 17	Follow Up Geochem - TL125+00N - Copper-Silver	Appendix 2
Fig. 18	Follow Up Geochem - TL125+00N - Lead-Zinc	Appendix 2
Fig. 19	Follow Up Geochem - TL125+00N - Arsenic	Appendix 2

SUMMARY

The Lono group of claims, located near Smithers, B.C., is host to shear-controlled copper-silver mineralization similar in type and age to the nearby Dome Mountain deposits, where sizable gold-silver mineral reserves have already been outlined. The claims, owned in part by Teeshin Resources Ltd. and Canadian-United Minerals, Inc. and in part by L.B. Warren and A. L'Orsa, have seen very little previous exploration and are still to date a grass roots prospect.

The Lono property is underlain primarily by maroon crystal and crystal lapilli tuffs, likely of the Nilkitkwa formation; and variably calcareous and noncalcareous fine grained sediments and lesser tuffs, possibly of the Smithers formation. These lithologies are locally intruded by minor aplitic and lamprophyre dykes. The sequence is moderately to steeply southwesterly dipping, with minor folding and abundant shearing, block faulting and lesser thrusting. Pervasive carbonate and lesser sericitic alteration of the tuffaceous rocks is common, particularly along Byron Creek in the central survey area. Local zones of silicification, carbonitization, and pyritization are also common. Minor copper staining occurs locally related to shearing.

The main Tina Showing, as exposed in the canyon in Byron Creek, consists of local copper staining and tetrahedrite, with low silver values, associated with a northerly trending zone of intense shearing at least 20 meters wide. Strong carbonate alteration of the host maroon tuff unit occurs associated with this shear zone across a width of some 180 meters. Mineralization exposed in the canyon is not of economic value, however, the presence of such a large hydrothermal system related to the mineralized structure suggests considerable mineral potential for the surrounding area.

Three of the six anomalous soil sites followed up in 1989 were confirmed as being significantly anomalous in three or more of the five elements tested. Strong responses at Anomaly 2, reflect possible extensions to the Tina structure and are considered high priority. Anomaly 1 is associated with a zone of silica, carbonate and pyrite alteration containing anomalous lead-zinc. Geochemically this zone appears to strengthen to the south away from known exposures. Anomaly 3 is as yet unexplained, however minor localized silicification of calcareous sediments occurs in the adjacent area.

Results to date suggest a significant potential exists for economic vein type mineralization on the Lono claim group, and it is recommended that MC and Tina claims be acquired by the Dome Mountain Joint Venture prior to conducting further exploration. Future work programs should include as Phase 1 expanded detailed

soil geochem, detailed mapping and sampling, and VLF E.M. and magnetic surveys over the Tina showing and Anomalies 1 to 3. Follow up prospecting and geochem should also be carried out over other untested soil anomalies. Positive results should be followed up by hand trenching, I.P. and diamond drilling where applicable as Phase 2. The estimated cost of Phase 1 would be $48,500.

INTRODUCTION

In August 1989, an exploration program of geological mapping and soil geochemistry was proposed for the Lono Claim Group, by Teeshin Resources Ltd. and Canadian-United Minerals, Inc. as part of their ongoing Dome Mountain Joint Venture. The purpose of this program was to evaluate the mineral potential of the area, to follow up on soil geochemical response obtained by previous owners, and to perform assessment work on the claims. The work was carried out during the periods of September 6 to 15 and October 16 to November 22, 1989, under the supervision of R. Holland, geologist.

LOCATION AND ACCESS

The Lono Claim Group is located in north central British Columbia, 34 kilometers due east of the town of Smithers and approximately 700 kilometers north northwest of Vancouver. The claims are centered 5.5 kilometers due north of the peak of Dome Mountain, and lie on the northeast flank of the Dome Mountain-Mount McKendrick plateau upland, straddling Byron and Stimson Creeks. Elevations range from 1000 to 1310 meters (3300 - 4300 feet) and the much of the terrain is moderate to steep with local precipitous areas along Byron Creek. The northeastern portion of the property, along the base of the mountain, is largely flat and locally swampy. The area is well vegetated with thick stands of balsam fir with lesser spruce and pine. Buck brush is common on the slopes and devil's club is well established along the base of the hill.

Access to the area is currently by foot along a moderately well marked and cut trail extending from kilometer 75 on the Chapman Lake Forest Road to the base of the mountain at Byron Creek. The trail is about 2 kilometers long. The trail head is reached via 50 kilometers of well maintained, all-season, logging road from Highway 16 just east of Smithers. Helicopter access is also available from a number of bases in Smithers, to a few restricted subalpine swamps along the southwestern edge of the property.

The town of Smithers is an important government and supply center for the outlying Bulkley Valley region. The area is serviced by major highway and railway routes, and lies along important B.C. Hydro power and gas lines. Smithers also boasts an international airport with scheduled twice daily flights to Vancouver and other centers.

CLAIM STATUS

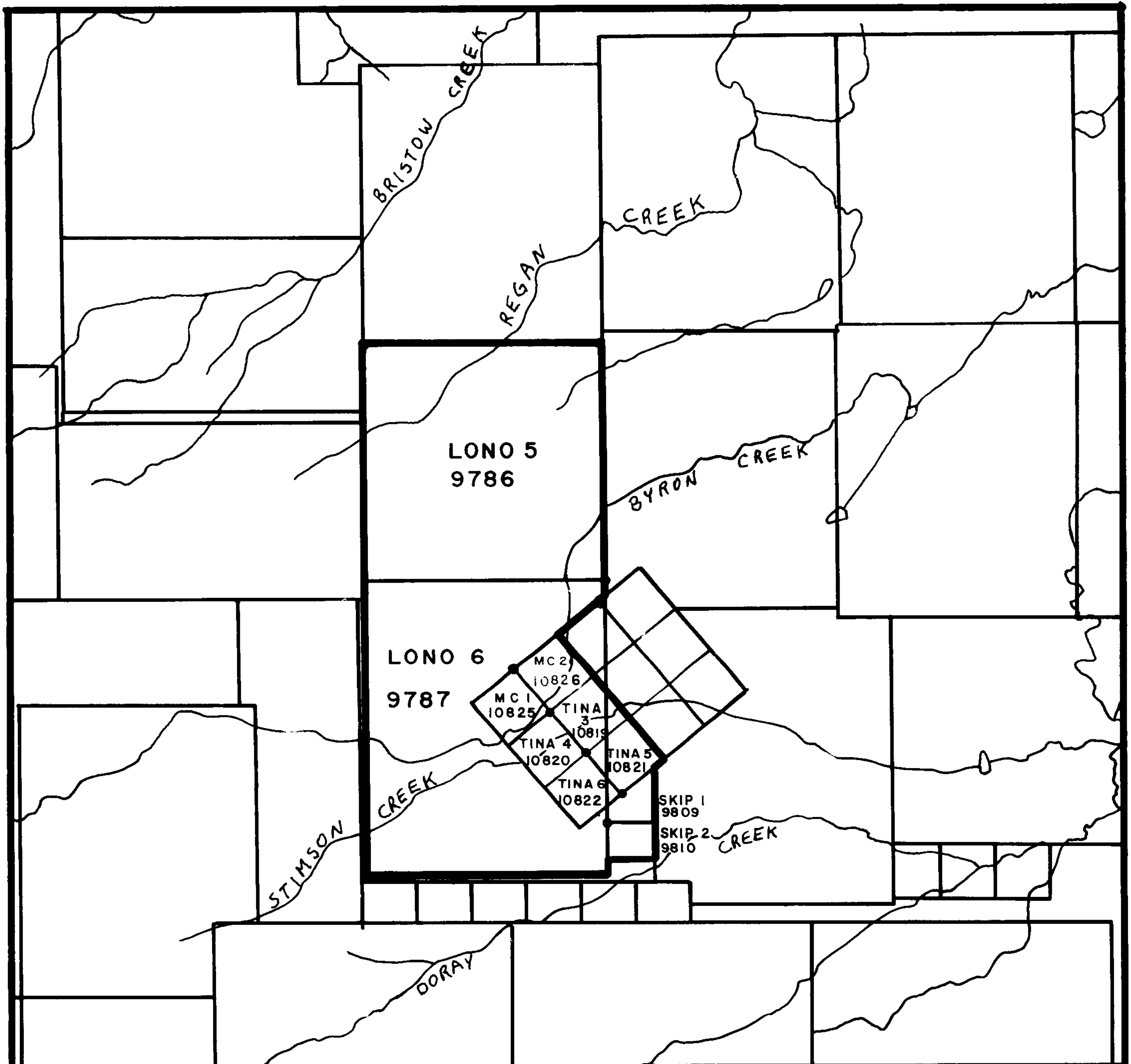
The Lono Group is comprised of the following contiguous claims located within the Omineca Mining Division of B.C. Claim locations are shown in figure 2.

Claim	Record No.	Units	Record Date
Lono 5	9786	16	Sept.16, 1991
Lono 6	9787	20	Sept.16, 1991
MC 1	10825	1	July 2, 1991
MC 2	10826	1	July 2, 1991
Tina 3	10819	1	July 2, 1991
Tina 4	10820	1	July 2, 1991
Tina 5	10821	1	July 2, 1991
Tina 6	10822	1	July 2, 1991
Skip 1	9809	1	Sept.16, 1991
Skip 2	9810	1	Sept.16, 1991
		44	

The Lono and Skip claims are registered in the name of Teeshin Resources Ltd. and held jointly with Canadian-United Minerals, Inc. as part of their Dome Mountain Joint Venture. The MC and Tina claims are owned by A. L'Orsa and L.B. Warren and are included in the above group with permission.

PREVIOUS HISTORY

Mineral exploration in the Dome Mountain area dates back to 1898 with the appearance of the first prospectors in the region. By 1914 several important gold-bearing veins had been discovered. The Dome Mountain gold camp saw considerable surface and underground exploration and development from 1916 to 1925, primarily on the Forks, Cabin, Jane and Ptarmigan Veins. A second period of development occurred between 1932 and 1935, with a focus on the newly discovered Free Gold Veins. In 1940, a shipment of sorted ore totalling 2235 tonnes was reported from the Free Gold occurrence, however activity was once again halted and the area again lay dormant.



LONO CLAIM GROUP

CLAIM MAP

NTS. 93L/15E Oct. '89

Scale 1:50,000

Fig. 2

Resurgence of mining exploration in the region during the 1960's led to further evaluation of Dome Mountain and investigations into reported strataform lead-zinc occurrences on the adjoining Ascot property to the north. During the early 1980's, underground development was carried out on the Free Gold showings by Reako Explorations Ltd. and Panther Mines Ltd. and by 1984 a small portable mill had been set up nearby and a reported 7931 grams (255 oz.) gold and 14,617 grams (470 oz.) silver had been recovered. In 1984, Noranda Exploration Co. Ltd. consolidated the many holdings in the area and carried out detailed surface exploration, including diamond drilling. The property was subsequently acquired by Canadian-United Minerals and Teeshin Resources who carried out extensive drilling and underground programs on the newly discovered Boulder Creek-Argillite Zone. Published proven and probable ore reserves to date include 270,989 tonnes, cut and diluted, grading 12.17 g/t gold and 80.66 g/t silver (298,630 tons of 0.355 opt Au & 2.352 opt Ag).

The Tina and MC claims area were staked by L'Orsa and Warren to cover an area of intense alteration with associated copper mineralization. These claims have been held by restaking for a number of years, however little exploration work has been carried out. In 1985, the surrounding area was staked for Zuni Energy Corp. and during 1986, a program of reconnaissance soil geochemistry was carried out. A number of anomalous samples were obtained but not followed up. This ground was subsequently acquired by the Dome Mountain Joint Venture in 1988.

GENERAL GEOLOGY

Much of the following geological description is summarized from MacIntyre (1985). The Dome Mountain-Mount McKendrick area is underlain predominantly by rhyolitic to basaltic volcanics, volcaniclastics and sedimentary rocks of the Hazelton Group. The Hazelton Group is a island-arc assemblage that was deposited in the northwest trending Hazelton trough during early to middle Jurassic time. Three major formations have been recognized in the Smithers area. The oldest, thickest and most extensive is the Telkwa formation which is comprised of subaerial and submarine pyroclastics and flow rocks with lesser intercalated sediments. Within the Dome Mountain area, these rocks form part of the Babine Shelf facies which separates predominantly subaerial volcanics to the west from their submarine equivalents to the east. Conformably to disconformably overlying the Telkwa formation are rocks of the Nilkitkwa formation. To the west, the Nilkitkwa consists largely of red pyroclastics while to the east it is represented mainly by marine sedimentary units with intercalated rhyolitic to basaltic flows. The Smithers formation disconformably overlies the Nilkitkwa and is comprised of fossiliferous sandstone, siltstone and lesser intercalated felsic tuff.

Several small elongate plugs and dykes of fine to medium grained diorite or diabase intrude the Hazelton sequence in the area. These mafic rich intrusions, although as yet undated, are possibly Jurassic in age (Topley Intrusions) and are potential feeders to the arc system. Outcrops of altered quartz porphyry and porphyritic quartz monzonite have also been reported.

PROPERTY GEOLOGY

Geological mapping carried out as part of the 1989 program was restricted to that area of the claim group in the vicinity of the Tina Showings. Creeks and existing grid lines were used for mapping control. Outcroppings were almost entirely restricted to the creeks, particularly Byron Creek where good exposure occurs along a deeply incised channel, locally with canyon walls, for most of the claim width. Detailed geology of this area is shown in figure 3. A suite of five rock specimens were submitted for petrographic study. Specimen locations are also shown in figure 3 and descriptions are contained in Appendix 3.

The property is underlain by a northwest trending, moderate to steeply southwest dipping sequence of sedimentary and intermediate volcanic tuffs, mapped by MacIntyre et al. (1987) as Nilkitkwa and Smithers formations. The sequence appears to be upright. Shearing, block faulting and minor thrusting are common and may have produced some repetition of stratigraphy. In this regard, mapping is based on lithological subdivision rather than stratigraphic horizons. Eight lithological units and subunits have been recognized in the Lono claim area as described below.

Unit 1a - Maroon Crystal Andesitic Tuff/Lapilli Crystal Tuff

This unit, typical of subaerial Hazelton Group pyroclastics, consists of 10 - 15% euhedral to subhedral, white to clear feldspar phenocrysts, 0.1 - 0.5mm in size, in a very fine grained, red tuffaceous matrix. Coarser, subrounded to rounded, red, and lesser grey and green volcanic fragments are common to very abundant (to >50%), ranging in size up to 4cm and larger. Fragments are mainly monolithic and the pervasive red color is due to very fine disseminated hematite. Local bleaching to green or grey is common. Rusty carbonate stringers and pervasive alteration are also common to locally intense.

The coarser, clast-rich lapilli phase is particularly abundant, consistent and well exposed in the central portion of Stimson Creek. Outcroppings in lower Byron Creek are generally much finer grained, with lapilli fragments largely lacking. Further upstream, above the canyon area, the tuffs tend to be more variable in color and in coarseness, with abundant green and grey components. This multi-colored phase appears localized and seems to grade into the more characteristic maroon phases to the south in Stimson Creek.

Unit 1b - Altered Maroon Crystal Tuff

Within the canyon area of Byron Creek, the maroon crystal tuffs are weakly to very intensely carbonate-sericite altered over at least a 180 meter width. These altered rocks are characterized by a moderate to strong rusty coloration due to pervasive carbonate-sericite replacement and abundant carbonate stringers and veinlets. Shearing is common. This subunit is both gradational and in sharp shear contact with less altered phases. Specimen R89-41B is typical of the moderately well altered phases.

Unit 1c - Light Green Sandy Tuff

Within the tuffaceous and adjoining sedimentary packages, there are distinctive massive, rusty weathering, light green sandy textured tuff horizons. These rocks are comprised of predominantly of sand sized, clear grey feldspar, and lesser subrounded, cryptocrystalline, buff colored, felsic volcanic fragments. Feldspars range from euhedral to subhedral and are strongly fractured. These tuffs are usually clast and crystal supported, often with interlocking fragments and crystals. The matrix material is composed of very fine grained clastics and minor green vitreous material, likely remnant glass. Strong carbonate (ankerite?) alteration is prevalent within the matrix, felsic clasts and along micro-fractures. Sericitic alteration is also common. Rock R89-36C is an atypical specimen more akin to unit 2c.

Unit 2a - Variably Calcareous Sediments

This unit consists of fine grained, grey to black, variably calcareous, faint to well bedded shale/siltstone, with lesser green-grey tuffaceous interbeds. Locally these rocks are fossiliferous, yielding amongst others, poorly preserved Trigonia bivalves and possible ammmonites. Impure grey limestone interbeds were observed in several locales, but these are generally of minor extent and rarely exceed two meters in thickness. One such occurrence, in the lower Byron Creek area, contained abundant, randomly oriented, fine cylindrical to elliptical inclusions which may be oolites or poorly preserved crinoids. The best exposures of this lithology are found in the upper regions of Byron Creek, above TL 125+00E, and further downstream in the central claim area.

Unit 2b - Thin Bedded Shale/Siltstone (Turbidite?)

Underlying unit 2a, is a well developed thin bedded to thin laminated sequence of black, shales and white to greenish siltstone, forming a turbidite-like package. The shales are largely nondescript, noncalcareous and weakly carbonaceous, while the siltstones, in contrast are comprised of well sorted, rounded, cryptocrystalline, felsic volcanic fragments in a strongly calcitic cement. The siltstone component is variable from very abundant to minor and locally absent. Graded bedding was observed in places, but is not common. As above, green-grey tuffaceous interbeds, up to several meters thick, are locally common. These lithologies are well exposed in the upper reaches of Stimson Creek and in Byron Creek, in the vicinity of TL125+00E.

Unit 2c - Andesite - Trachyandesite Tuff

Tuffaceous components within the above lithological units commonly form mappable interbeds, the composition and textures of which can be quite variable. These interbeds are compositionally and texturally variable but are most commonly massive, sandy to gritty textured, green-grey to black in color and contain abundant polylithic felsic fragments, 0.2 - 2.0mm in size. These tuffs are usually clast dominated, consisting, amongst others, of crowded plagioclase porphyritic andesite, fragmented plagioclase crystals, and glassy trachyandesite. Darker varieties, however, commonly have a high percentage of black glassy matrix, often with coarser, more angular (breccia) fragments. At least one interbed, in the lower part of Byron Creek, consisted of predominantly near-glassy dacite with remnant shards and quartz-plagioclase micro-phenocrysts.

Individual interbeds range from a few centimeters up to 15 meters or more in thickness. Most commonly they vary from 1 -10 meters and are often in unconformable or fracture controlled contact with the sediments. Rock specimens R89-36D, R89-37B and R89-40A are examples of unit 2c lithologies.

Unit 3 - Aplitic Dykes

Fine grained, sugary textured, white to pale green, aplitic dykes were observed cutting maroon tuffs at adjacent locales in both Byron and Stimson Creeks. These dyke rocks consist primarily of microcrystalline, intergranular quartz and feldspar, with minor light green muscovite. Fine dendritic Mn staining is common along and adjacent to micro-fractures, most often concentrated at the limit of weathering.

Where observed, contacts are sharp and often irregular, with no apparent preferred orientation, but generally shallow dips. The dykes are unmineralized and have no recognizable alteration effect on their host rocks. At least four dykes were noted, three of which are less than 2 meters thick and traceable for only a few tens of meters. The fourth, located in Stimson Creek, exceeds 15 meters in width and trends near vertically at about 030°. This dyke is traceable for at least 30 meters and appears to trend towards the Tina Showing area.

Unit 4 - Lamprophyre Dykes

Narrow lamprophyre dykes, usually less than 1 meters in thickness, occur throughout the property, cutting all units including the aplite. These dykes are generally comprised of 5 - 10% green, chloritized pyroxene (augite?) phenocrysts, subophitically intergrown with 5 - 10% clear to greenish, unoriented plagioclase needles, both up to 0.5mm in size. The matrix is comprised of microcrystalline, intergranular plagioclase and pyroxene(?). The pyroxene phenocrysts are euhedral to corroded and commonly exhibit hematitic alteration rims and calcite replacement.

STRUCTURE

Structurally the Lono package consists of a southwesterly dipping, homoclinal sequence. Bedding orientations within sedimentary units in Byron Creek consistently strike between 125°-140° with dips ranging from 40° to 60°. These curve to strike 160° to 180° and dip 40° to 85° in Stimson Creek, 200 meters to the southeast, tracing a broad, open, synclinal structure plunging to the west. Several minor fold structures were noted which locally effect bedding orientations. Many of these appear to be drag folds related to faulting. The south-easterly trending orientation also shows up both in Byron Creek and the lower end of Stimson Creek as fractures, minor shears and local cleavages, mainly within tuffaceous lithologies.

Shearing is common within the claim area, the most prominent set of which is the southeasterly shears mentioned above. These appear to be largely block faults with minor displacements. In addition, a number of other shear directions were observed. Of note are several faults trending 045° to 055° with steep dips. These appear to have significant displacement and are often best defined by the courses of the creeks themselves. Also of great interest is a strong, prominent shear zone trending 157°/60° E which hosts mineralization at the Tina Showing. This structure is strongly sheared over a width of at least 20 meters and is associated with strong carbonate\sericite alteration. Weaker, sympathetic shearing occurs over a much greater width, as does the alteration halo. Displacement along this structure is not apparent. Several minor thrust faults were also noted at various locales.

MINERALIZATION

The Dome Mountain area is host to numerous shear-controlled veins containing appreciable values in gold, silver, lead, zinc and copper. Individual vein systems consist of lensoidal quartz-sulfide and quartz-carbonate-sulfide veins, in a typical pinch and swell format, within persistent shear structures. These shear zones have often been traceable on surface for several kilometers. Mineralization typically consists of pyrite with lesser amounts of sphalerite-galena-chalcopyrite-tetrahedrite. Gold commonly occurs in the native form along the margins and in fractures within the other sulfides. Silver appears to occur largely in galena and/or tetrahedrite. Small quartz-tetrahedrite and barite-tetrahedrite veins also occur locally but as yet do not appear to be of economic importance. Vein alteration assemblages consist primarily of pervasive carbonate-sericite-(fuchsite?) replacement envelopes ranging up to several meters in width. These are typically pale to lime green bleached zones and may contain disseminated pyrite and quartz-carbonate+/-sulfides stringers.

Within the Lono claim group, mineralization consists predominantly of tetrahedrite and related copper carbonates (malachite-azurite), with low silver values, in small quartz veins and fracture fillings within zones of shearing. At least two such occurrences have been located to date. The most important of these is the Tina Showing located in Byron Creek, within a steep canyon in the central portion of the MC 1 claim. Here a number of small, erratic mineral occurrences have been located within a strong and persistent shear zone at least 20 meters wide and traceable along the creek for at least 80 meters. Access to much of this exposure is restricted by steep topography. The shear structure strikes 157° and dips 60° to the east. Selected samples by previous operators (A.L'Orsa, 1986) returned the following assay values from various mineral occurrences in the canyon area.

Sample Type	Cu	Ag	Zn	Au
grab	0.46%	0.7opt	0.02%	tr.
1.0m chip	3.44%	tr.	tr.	tr.
selected grab	23.6%	0.8opt	1.56%	tr.
composite grab	0.63%	tr.	tr.	tr.

The Tina shear is hosted within maroon tuffs which have been weakly to strongly carbonatized, with lesser sericitization, over a distance of at least 180 meters. Carbonate, likely ankerite, occurs in the form of pervasive rusty replacement and fracture filling, while sericite occurs mainly as disseminated flakes. Fracturing and minor shearing are common within this alteration zone. The contact with unaltered rock is not exposed to the east but appears to be shear controlled to the west. Weak alteration does persist west of this contact but is erratic and gradually decreases to the west.

The second copper showing occurs along Byron Creek, just upstream from Tieline 125+00E, along the sheared contact between variably calcareous sediments and an andesitic tuff interbed. This occurrence is minor in nature and extent, and is associated with little or no alteration.

Several other areas of interest were also noted. One of these occurs in Byron Creek just below L160+00N, in the vicinity of soil anomaly 1 (see Geochemistry). Here strong quartz-carbonate replacement and stockwork veining, with associated disseminated pyrite and minor tetrahedrite, occurs within a small glassy tuff breccia outcrop. A grab sample returned anomalous values for lead (188ppm), zinc (8470ppm) and arsenic (650ppm). A second zone occurs in Byron Creek at approximately 132+80E. Here, an impure oolitic? limestone interbed is locally silicified and dolomitized, with 1-3% disseminated pyrite. A representative grab sample was anomalous in copper (727ppm).

SOIL GEOCHEMISTRY

The 1986 reconnaissance soil geochemical survey conducted over the Lono claims area outlined a number of wide spaced, coincidental anomalies for copper, lead, zinc, silver, and locally arsenic. The significance and continuity of these were undetermined due to wide line and sample spacing and lack of geological control. No follow up investigations were conducted by previous owners. During the 1989 program, six anomalous sites were revisited. Detailed follow up soil sampling was carried out to determine the validity and reproducibility of previous results. Most areas were resampled using a mini grid system, normally with sampling at 10 meter intervals along 20 meter spaced lines. At one site, a larger area was sampled at 25 meters along 50 meter lines. A total of 75 samples were collected.

Sample collection was carried out using a standard sampling mattock or 'grub hoe' from a depth of 15 - 30 centimeters. The 'B' soil horizon was sampled, where possible and the sample quality was in most cases good. Organic-rich samples were avoided, and no sample was collected if the 'Ao' horizon was not penetratable. Samples were stored in kraft soil bags, labelled as to grid co-ordinates, air dried, and shipped to Acme Analytical Labs in Vancouver for analysis. At the lab, the samples were oven dried overnight, then screened to -80 mesh. A 0.5 gram portion of screened material was digested in 3 ml. of aqua regia at 95° for 1 hour, then diluted to 10 ml. with distilled water. The solution was then analyzed by standard ICP (inductively couple argon plasma) techniques for copper, lead, zinc, silver and arsenic. All results are reported in parts per million (ppm). The original lab geochem sheets are contained in Appendix 1 of this report.

Extensive previous work in the area by a number of operators has established anomalous threshold values for the various elements as approximately equal to the mean plus two standard deviations or roughly at the 96th percentile. The highly anomalous threshold has been arbitrarily chosen at roughly twice the anomalous level. Previous work in the Lono claims area has established the following threshold values (Holland, 1986).

Element	Background	Anomalous	Highly Anomalous
Copper	0 - 65 ppm	66 - 100 ppm	+100ppm
Lead	0 - 20 ppm	21 - 40 ppm	+40 ppm
Zinc	0 - 200 ppm	201 - 400 ppm	+400 ppm
Silver	0 - 0.8 ppm	0.9 - 1.6 ppm	+1.6 ppm
Arsenic	0 - 45 ppm	46 - 100 ppm	+100 ppm

Follow up results are plotted and contoured by element on sketch maps (figures 4 to 19) of the various followed up anomalies. These figures are contained in Appendix 2 of this report.

Discussion of Results

i) Anomaly 1 L160+00N 123+00E Fig. 4 - 8

Previous sampling in this area produced a one station coincidental zinc-lead-arsenic anomaly with high background copper (315-29-45-51 ppm respectively). Follow up investigations showed the area to be underlain by variably calcareous sediments (unit 2a), in the vicinity of as thick tuff interbed (unit 2c). Within 40 meters of the anomalous station is a strongly silicified and carbonatized outcrop of glassy tuff-breccia (unit 2c), with disseminated pyrite. A random chip sample ran 8470 ppm zinc with elevated lead and arsenic.

Follow up geochem confirmed the presence of anomalous metal values in the area. Coincidental elevated responses were obtained for all five elements, and much of the sampled area was weakly anomalous for lead, zinc and arsenic in a zone which appears to trend northwesterly from the above altered outcrop. The strongest response was in the northwest, where one sample returned highly anomalous values for copper (119 ppm), silver (2.3 ppm), lead (69 ppm), zinc (609 ppm), and arsenic (119 ppm). This anomaly is remains open to the northwest and southeast.

ii) Anomaly 2 L157+50N 131+50E Fig. 9 - 13

A strong lead-zinc-arsenic anomaly, with weak silver and elevated copper was recorded at this site. The sample was collected near the top of a steep sidehill above Byron Creek, in the vicinity of, and more or less along strike from, the Tina Showing structure. No outcrop was found near the sample site, however variably calcareous siltstones are exposed downhill to the east, and altered maroon tuffs to the south.

Follow up geochem confirmed the previous anomalous values. Copper-silver-arsenic-lead showed strong anomalies in the south corner of the mini grid, and these are open downhill to the south. Values to 612 ppm copper, 1.1 ppm silver, 133 ppm arsenic and 41 ppm lead were obtained. Lead and zinc, and to a less degree, arsenic were also anomalous in the vicinity of the original sample site, with values to 1173 ppm zinc, 92 ppm lead and 81 ppm arsenic.

iii) Anomaly 3 L157+50N 133+00E Fig. 9 - 13

Previous work obtained weakly anomalous values for lead, zinc and silver here. No outcrop was found in this area. Limited follow up sampling indicated elevated to weakly anomalous values for all five elements, with local highly anomalous zinc (to 486 ppm). These anomalies are open to the northwest and southeast.

iv) Anomaly 4 L155+00N 124+50E Fig. 14 - 16

Follow up work failed to reproduce the weak zinc anomaly at this site. However, a single station, coincidental weak copper-zinc-lead anomaly was obtained nearby. No outcrop was found in the area and overburden appears to be heavy.

v) Anomaly 5 TL125+00E 153+50-154+00N Fig. 14 - 16

Weak zinc responses were also followed up on Tieline 125+00E at 153+50N and 154+00N. Neither of these anomalous values were reproduced and much of the area around the sample sites was marshy with thick organic cover. Follow up resulted in one site being very weakly anomalous for silver-lead-zinc. No outcrop was noted in either area and overburden is likely quite heavy.

vi) Anomaly 6 TL125+00E 158+00N Fig. 17 - 19

Limited follow up work was conducted over this weak lead-zinc anomaly with negative results. The previous anomalous site is located in an marshy area related to a small seasonal spring. The previous sample is therefore suspect. No outcrop was found in the area, however nearby flanking areas are underlain by shaly sediments.

CONCLUSIONS AND RECOMMENDATIONS

Work to date has confirmed that the Lono claim group lies host to Dome Mountain type, shear-controlled, vein mineralization within a wide alteration zone indicative of a large mineralizing hydrothermal system. The best mineralization encountered to date consists of tetrahedrite and copper staining distributed along fracture and shear planes within a 20 meter wide intense shear zone. Silver values are low and exposed mineralization is erratic and sub-economic. The host structure, however, is of considerable size and likely extends for considerable distance along strike into areas of heavier overburden. Almost no effort has been made to trace this structure, however soil anomaly 2, which contains highly anomalous values, lies roughly along strike and could represent a portion of this extension. It should be noted that similar tetrahedrite bearing showings have been noted on Dome Mountain in the general area of the gold-silver veins.

The silicified, carbonatized and pyritized tuffaceous outcrop near L160+00N in Byron Creek is of interest due to its elevated lead-zinc (188, 8470ppm) values and its close association with anomaly 1. Of special interest here is the increasing soil geochem response to the northwest.

The third area of interest is anomaly 3, which although poorly tested and overburden covered, produced some interesting geochem in an area adjacent to known silicified and pyritic outcrops. This may reflect a new mineralized structure.

Geochem targets followed up in 1989 were often selected by ease of access as well as intensity. As a result, there are a number of soil anomalies in peripheral areas of the property which are important but have yet to be followed up.

Reconnaissance work has produced encouraging results and further work is necessary to follow up and expand on these findings. Since the main showing and two to the three better target areas lie within the Tina-MC claim blocks, it is recommended that the Dome Mountain Joint Venture attempt to acquire this ground prior to conducting further work. If a reasonable option agreement can be reached, it is recommended that the following work be carried out as Phase 1 of exploration.

1. Detailed soil geochemistry over the Tina Showing and Anomaly 2 & 3 areas at line spacings of 50 meters and sample spacings of 20 meters. Grid to cover an area of at least 500 meters square (11 lines - 550 samples)

2. Detailed geological mapping and rock geochemistry of the Tina Showing area, at a scale of 1:500 or better, to establish ore controls and trends.

3. V.L.F. electromagnetic and magnetic surveys of the above grid area to attempt to trace the known structures and delineated new ones.

4. Follow up prospecting and soil geochemistry on all previously defined soil anomalies not followed up in 1989.

Positive results of Phase 1 should be follow by a Phase 2 program of hand trenching, induced polarization (I.P.), and limited diamond drilling as applicable and as required. The estimated costs of Phase 1 are shown following.

Phase 1

Wages		
Sr. Geologist	15 days @ $300/day	$4,500
Jr. Geologist	12 days @ $250/day	3,000
Field Assist.	12 days @ $150/day	1,800
Field Assist.	12 days @ $150/day	1,800
Cook	12 days @ $200/day	2,400
Room and Board	60 man-days @ $60/day	3,600
Assay and Geochem	550 soils @ $8/sample	4,400
	100 rocks @ $25/sample	2,500
Helicopter	10 hrs. @ $600/hr.	6,000
Mob. and Demob.		5,000
Truck Rental	15 days @ $60/day	900
Field Equipment/Supplies		2,000
VLF E.M. Rental	15 days @ $40/day	600
Mag. Rental	15 days @ $40/day	600
Data Compilation/Report		5,000
Contingency @ 10%		4,400
	Total	$48,500

SELECTED REFERENCES

Dome Mountain Project Feasibility Study (1989), Unpublished in-house study prepared by M.P.D. Consultants for Teeshin Resources Ltd.

Holland, R. (1986), Reconnaissance Geochemical Report on the McKen Groups 1 to 4, BCMEMPR Assessment Report

L'Orsa, A. (1986), Tina Prospect, Dome Mountain - A Summary, unpublished report.

MacIntyre, D.G. (1985), Geology of the Dome Mountain Gold Camp, BCMEMPR Paper 1985-1

MacIntyre, D., Brown, D., Desjardins, P., Mallett, P., (1987), Geology of the Dome Mountain Area, BCMEMPR Open File Map 1987/1

Tipper, H.W., Richards, T.A. (1976), Jurassic Stratigraphy and History of North Central British Columbia, Geol. Surv. Canada, Bull. 270.

STATEMENT OF COSTS

The following costs were incurred on behalf of Teeshin Resources Ltd. and Canadian-United Minerals, Inc. for work carried out on their Lonc Claim Group located at Dome Mountain near Smithers. Work was carried out during the periods September 6 to 15 and October 16 to November 22, 1989.

Wages	
R. Holland - project geologist	
14 days @ $275/day	$3850.00
Sept. 6-16, Oct. 16, Nov. 3, 9-22	
C. Pyper - field assistant	
1 day @ $150/day Sept. 6	150.00
Room and Board - 7 days @ $70.44/day	493.07
Truck Rental - 8 days @$60/day	480.00
Transportation (gas, freight, airfare)	406.34
Field Equipment and Supplies	71.96
Assays and Geochem	
75 soils @$6.15/sample	461.44
5 rocks @$15.81/sample	79.06
Petrographic Study	425.50
Misc. Office (phone, copying, reports)	156.64
Drafting - 27 hr. @$20/hr.	540.00
Total	$7114.01

QUALIFICATIONS

I, Robert Holland, of 13451 - 112A Avenue, Surrey, British Columbia, hereby certify that the following are true and correct:

1. I graduated from the University of British Columbia in 1976 and hold a Bachelor of Science degree in geology.

2. I am currently employed as a consulting geologist with Holland Geoservices Ltd., of 13451 - 112A Avenue, Surrey, British Columbia.

3. I have been employed in my profession by various mining exploration companies and clients for the past thirteen years.

4. I am a Fellow of the Geological Association of Canada.

5. The information contained in this report entitled Geological and Geochemical Report on the Lono Claim Group was obtained as a result of field work and research carried under my direction and supervision.

6. I am a former employee of Canadian-United Minerals, Inc. (1987-1989) and a minor shareholder of that company. Neither myself, nor Holland Geoservices Ltd., have any interest in the property described, nor in the securities of Teeshin Resources Ltd. or its associated companies, except as stated above, nor do I expect to.

Robert Holland, B.Sc., F.G.A.C.

APPENDIX 1

SOIL GEOCHEM ASSAY SHEETS

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

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 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. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: P1 ROCK P2-P4 SOIL AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: SEP 26 1989 DATE REPORT MAILED: Oct 2/89 SIGNED BY. C. Leong ..D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

CUN MANAGEMENT GROUP INC. PROJECT LONO File # 89-3909 Page 1

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
DRH-89-20	1	727	16	45	.6	5	8	711	2.32	103	5	ND	1	58	1	19	2	7	4.07	.032	3	3	.76	59	.01	2	.17	.03	.05	1	7
DRH-89-21	2	34	4	27	.1	7	5	587	2.32	14	5	ND	1	49	1	2	2	18	3.00	.027	3	4	.57	31	.01	4	.43	.01	.01	1	3
DRH-89-22	3	33	188	8470	.2	6	13	720	2.41	650	5	ND	1	58	24	5	2	5	1.48	.034	2	3	.39	83	.01	10	.21	.03	.10	1	2
DRH-89-23	2	24	44	70	.5	5	8	195	6.41	30	5	ND	1	14	1	3	2	14	.39	.029	3	5	.12	21	.01	3	.41	.04	.14	1	3
DRH-89-24	1	81	19	45	.6	14	22	914	8.59	5	5	ND	1	7	1	2	2	145	.49	.060	5	25	3.78	8	.01	16	3.30	.03	.01	3	1
STD C/AU-R	19	63	38	133	7.1	68	30	1025	3.99	37	20	7	36	49	18	14	17	60	.49	.039	39	55	.39	173	.06	33	1.94	.06	.14	12	490

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM
L157+70N 131+30E	29	14	151	.2	32
L157+70N 131+40E	20	47	254	.3	40
L157+70N 131+50E	30	24	182	.5	45
L157+70N 131+60E	1	2	117	.3	3
L157+70N 131+70E	2	2	102	.1	5
L157+50N 131+30E	42	21	192	.2	67
L157+50N 131+40E	46	18	156	.1	34
L157+50N 131+50E	54	86	497	.5	81
L157+50N 131+60E	58	23	310	.2	32
L157+50N 131+70E	42	92	1173	.2	57
L157+50N 132+80E	49	36	287	.8	48
L157+50N 132+90E	72	46	486	1.0	47
L157+50N 133+00E	66	33	406	.8	35
L157+50N 133+10E	62	35	362	.7	42
L157+50N 133+20E	61	31	178	.2	35
L157+30N 131+30E	162	41	102	1.1	133
L157+30N 131+40E	108	40	190	.6	54
L157+30N 131+50E	43	31	292	.5	68
L157+30N 131+60E	51	30	280	.5	71
L157+30N 131+70E	42	13	148	.1	37
L155+00N 124+25E	17	12	85	.3	27
L155+00N 124+37E	16	12	123	1.2	12
L155+00N 124+50E	24	9	128	.4	24
L155+00N 124+62E	23	8	127	.4	19
L155+00N 124+75E	76	31	256	.6	34
L154+75N 124+25E	17	11	108	.5	22
L154+75N 124+37E	20	10	97	.5	17
L154+75N 124+50E	22	11	172	.4	21
L154+75N 124+62E	16	14	86	.5	19
L154+75N 124+75E	26	16	106	.3	23
L154+25N 124+25E	23	17	125	.2	30
L154+25N 124+37E	20	9	147	.2	18
L154+25N 124+50E	27	14	95	.3	22
L154+25N 124+62E	24	13	115	.2	14
L154+25N 124+75E	25	16	103	.2	17
L152+50N 124+30E	19	10	133	.1	14
L152+50N 124+70E	29	12	114	.2	15
STD C	62	43	132	6.8	44

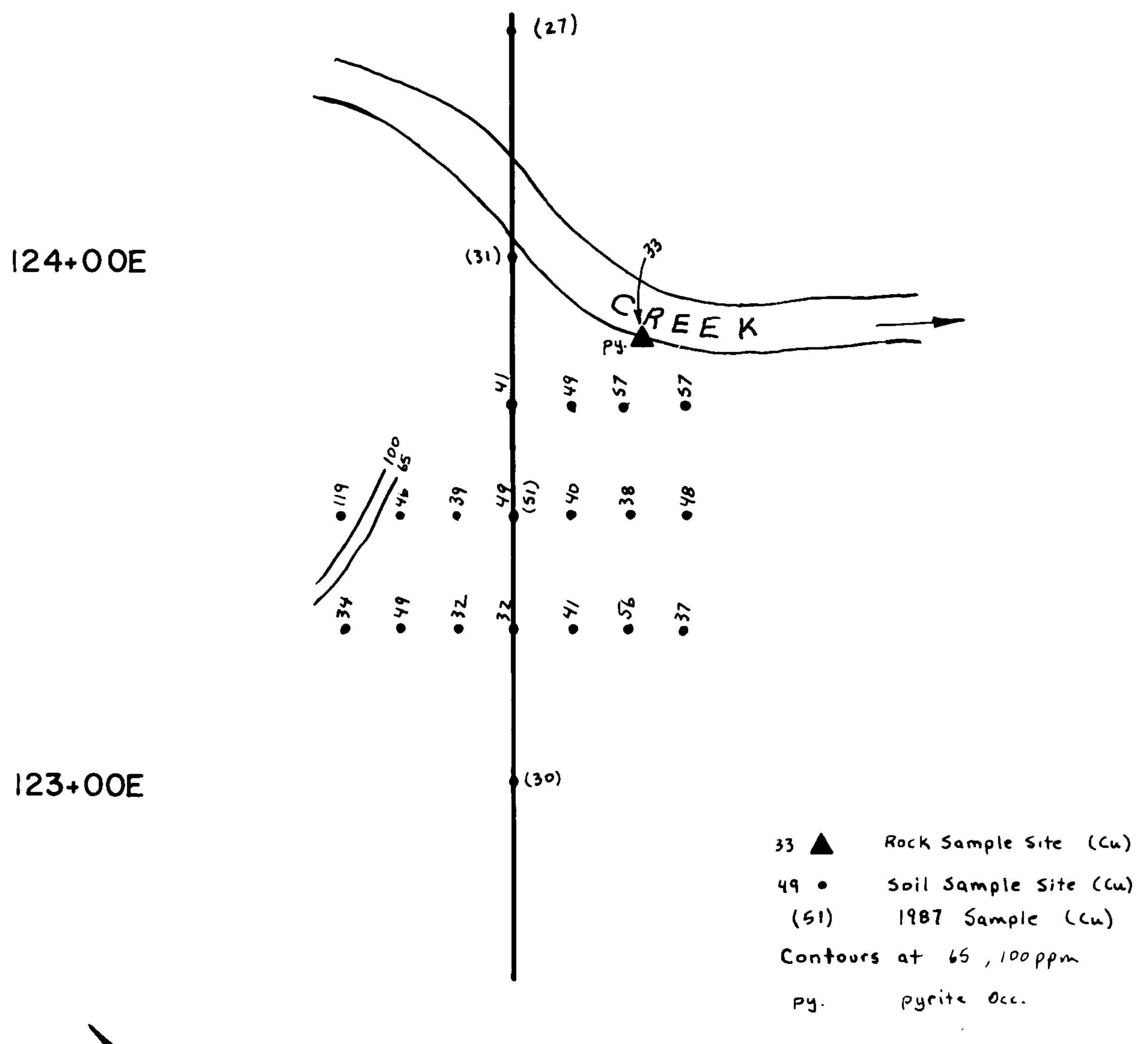
SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM
L123+30E 160+30N	34	12	241	.2	28
L123+30E 160+20N	49	11	159	.1	37
L123+30E 160+10N	32	13	178	.1	42
L123+30E 160+00N	32	19	162	.1	51
L123+30E 159+90N	41	14	173	.1	35
L123+30E 159+80N	56	30	260	.2	42
L123+30E 159+70N	37	10	156	.1	39
L123+50E 160+30N	119	69	609	2.3	119
L123+50E 160+20N	46	22	304	.3	54
L123+50E 160+10N	39	19	216	.1	48
L123+50E 160+00N	49	35	357	.1	47
L123+50E 159+90N	40	30	257	.1	48
L123+50E 159+80N	38	21	180	.1	37
L123+50E 159+70N	48	26	230	.2	44
L123+70E 160+00N	41	26	271	.2	53
L123+70E 159+90N	49	23	236	.1	47
L123+70E 159+80N	57	24	288	.2	56
L123+70E 159+70N	57	45	355	.2	50
L124+50E 154+00N	26	14	106	.3	20
L124+50E 153+75N	25	15	94	.1	20
L124+50E 153+50N	32	13	142	.3	23
L124+50E 153+25N	19	13	114	.3	21
L124+80E 158+20N	52	20	206	.3	36
BL 125+00E 158+20N	36	17	155	.2	33
BL 125+00E 158+10N	46	19	196	.4	34
BL 125+00E 158+00N	38	18	175	.2	31
BL 125+00E 157+90N	47	14	165	.3	37
BL 125+00E 157+80N	47	22	169	.2	36
L125+00E 154+37N	27	16	168	.3	28
L125+00E 154+25N	43	11	119	.5	18
L125+00E 154+13N	20	4	98	.1	12
L125+00E 154+00N	57	13	175	.4	35
L125+00E 153+75N	57	20	187	.4	41
L125+00E 153+62N	58	15	173	.5	29
L125+00E 153+50N	38	11	172	.2	29
L125+00E 153+37N	47	17	154	.5	25
STD C	62	42	132	6.8	42

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM
L125+00E 153+25N	37	22	207	.9	31
L125+20E 158+20N	34	17	152	.4	34

APPENDIX 2

FOLLOW UP GEOCHEM SKETCHES

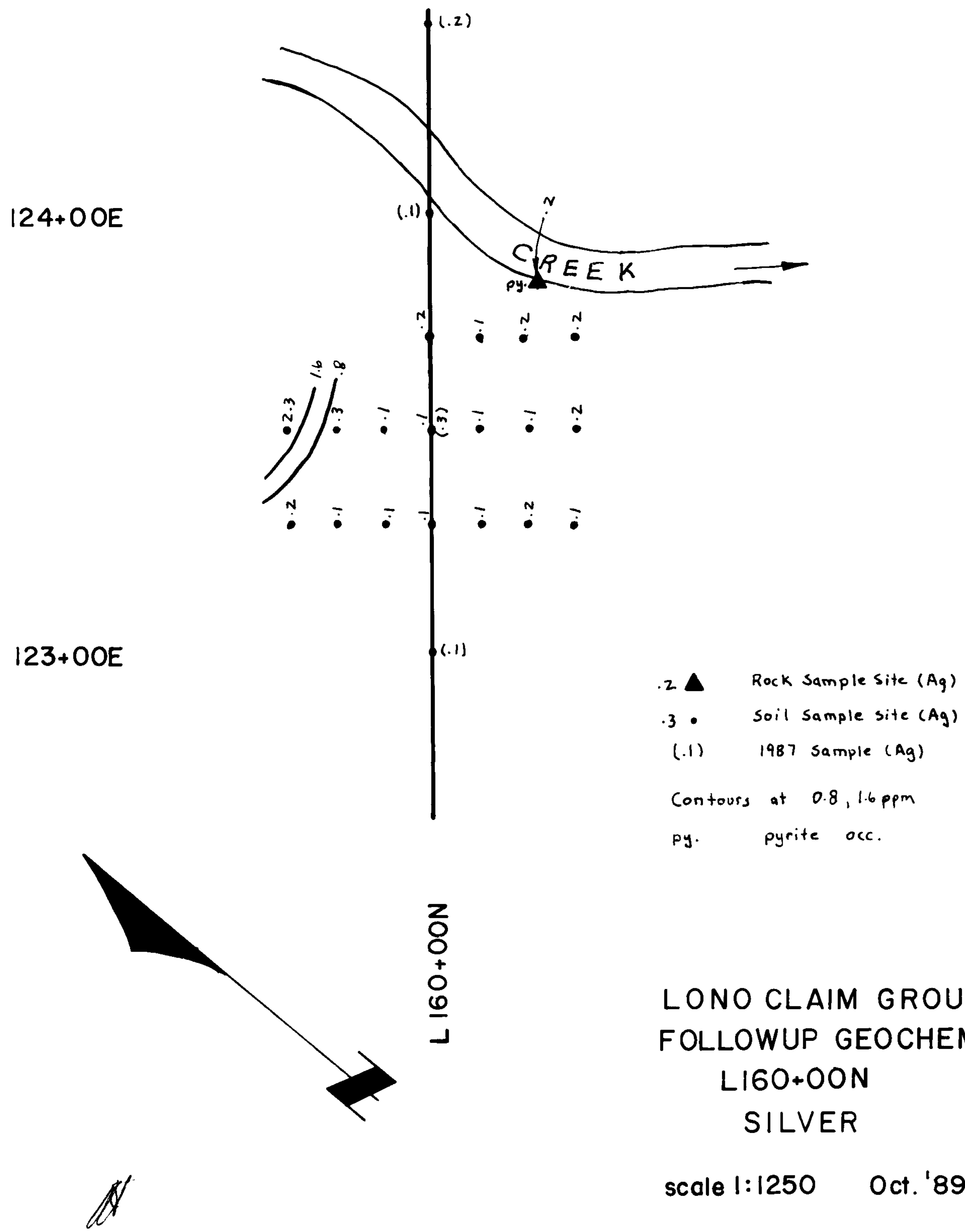
FIGURES 4 TO 19



LONO CLAIM GROUP
FOLLOWUP GEOCHEM
L160+00N
COPPER

scale 1:1250   Oct. '89

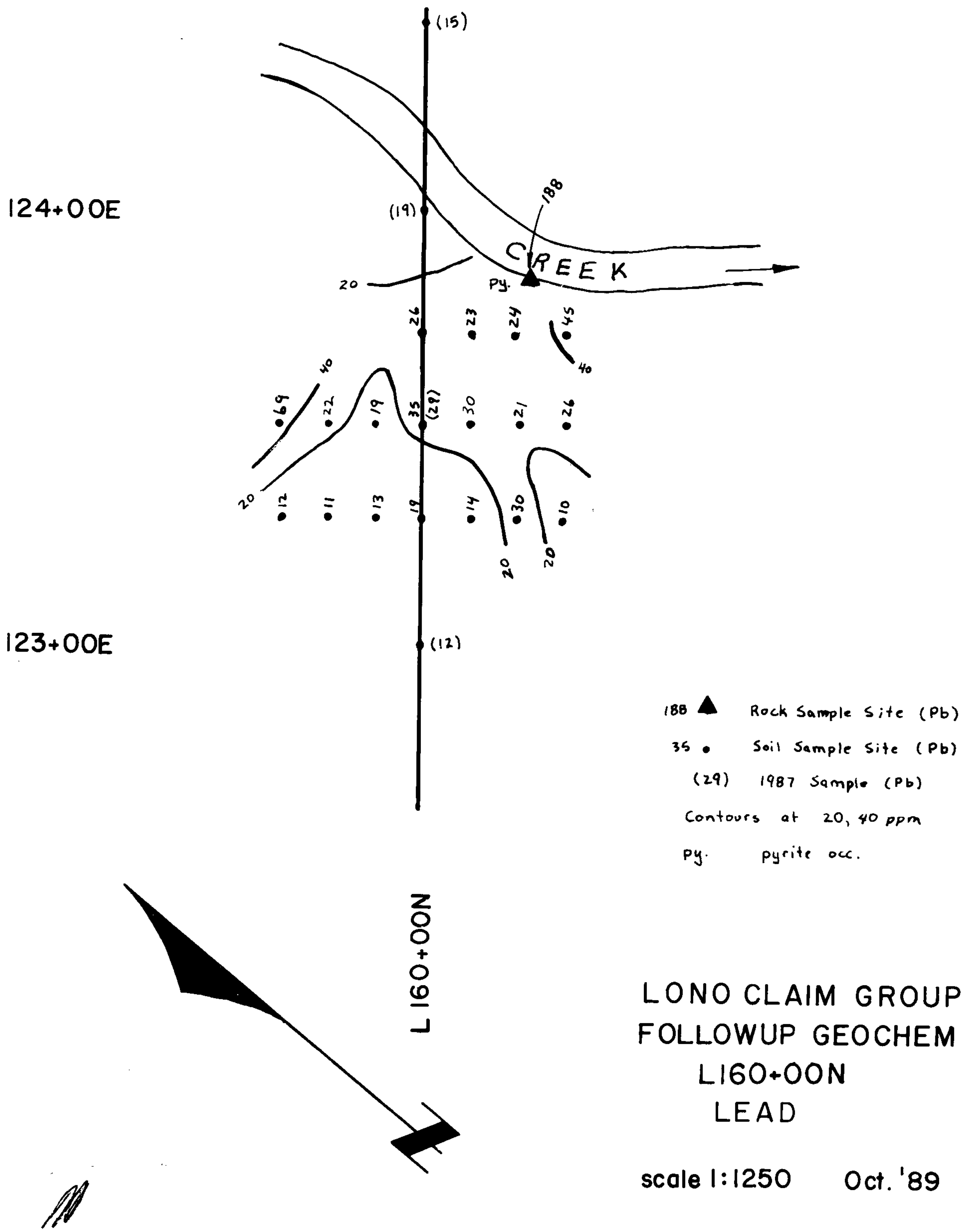
Fig. 4



LONO CLAIM GROUP
FOLLOWUP GEOCHEM
L160+00N
SILVER

scale 1:1250 Oct. '89

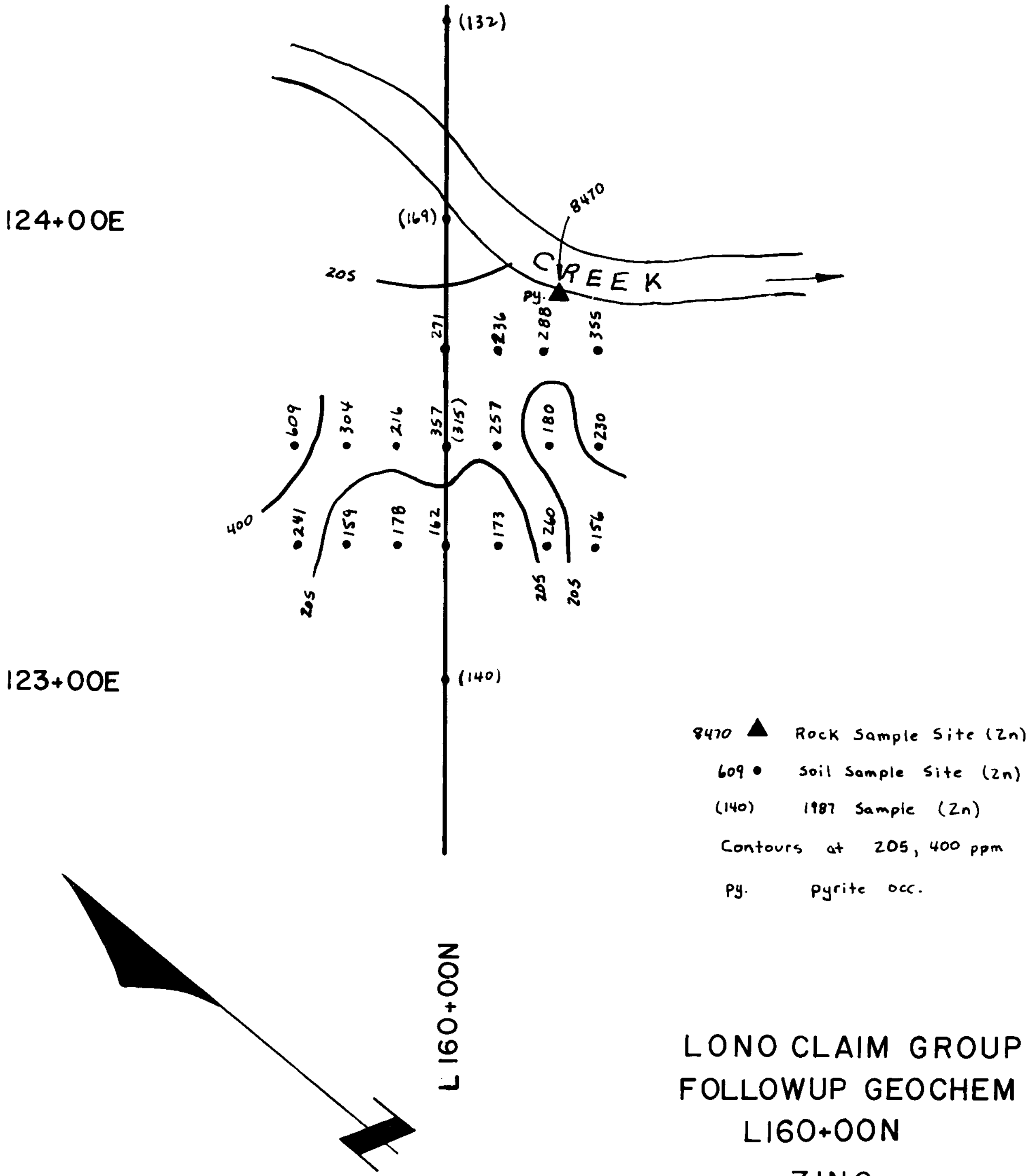
Fig. 5



LONO CLAIM GROUP
FOLLOWUP GEOCHEM
L160+00N
LEAD

scale 1:1250 Oct. '89

Fig. 6

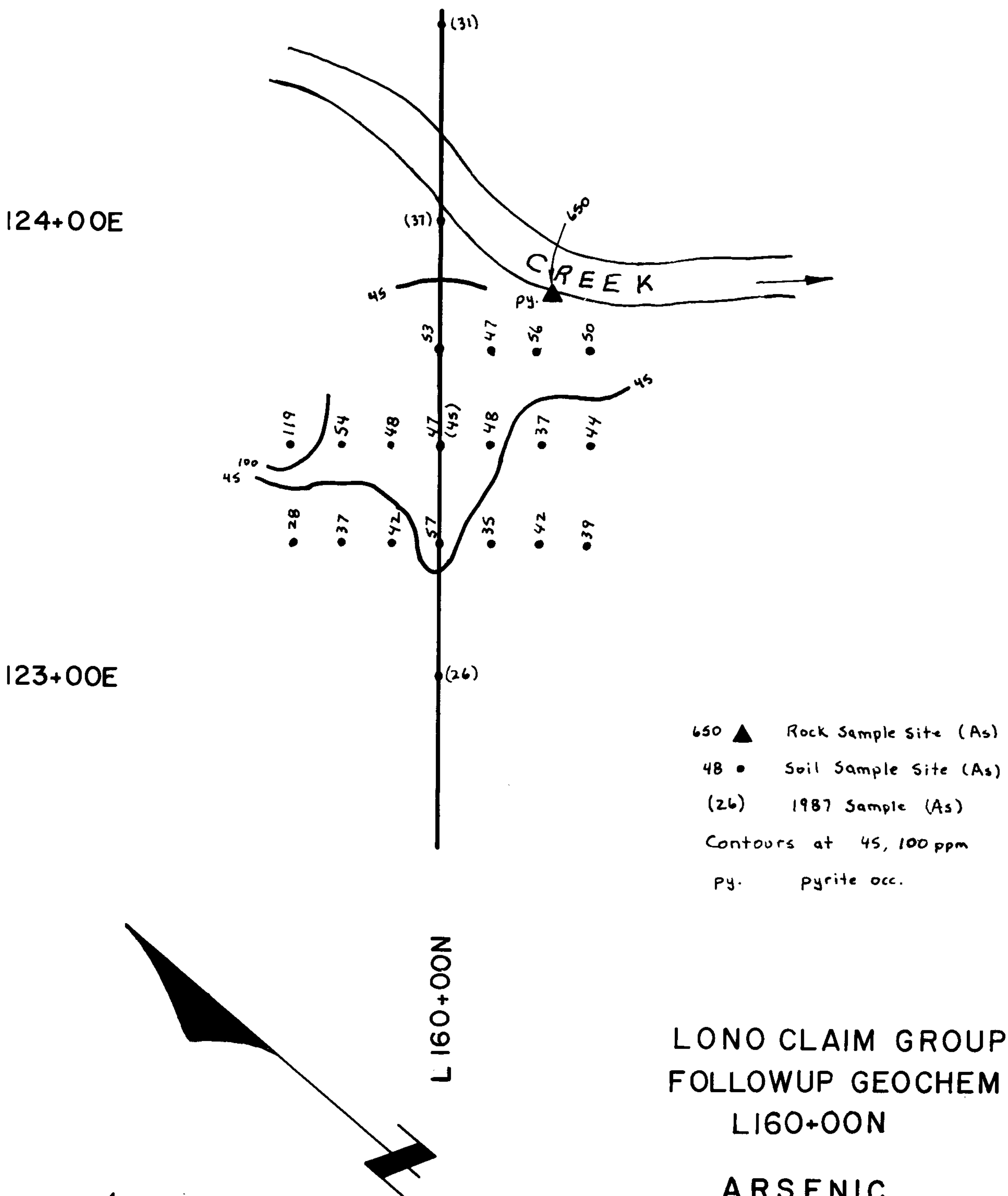


LONO CLAIM GROUP
FOLLOWUP GEOCHEM
L160+00N

ZINC

scale 1:1250 Oct. '89

Fig. 7

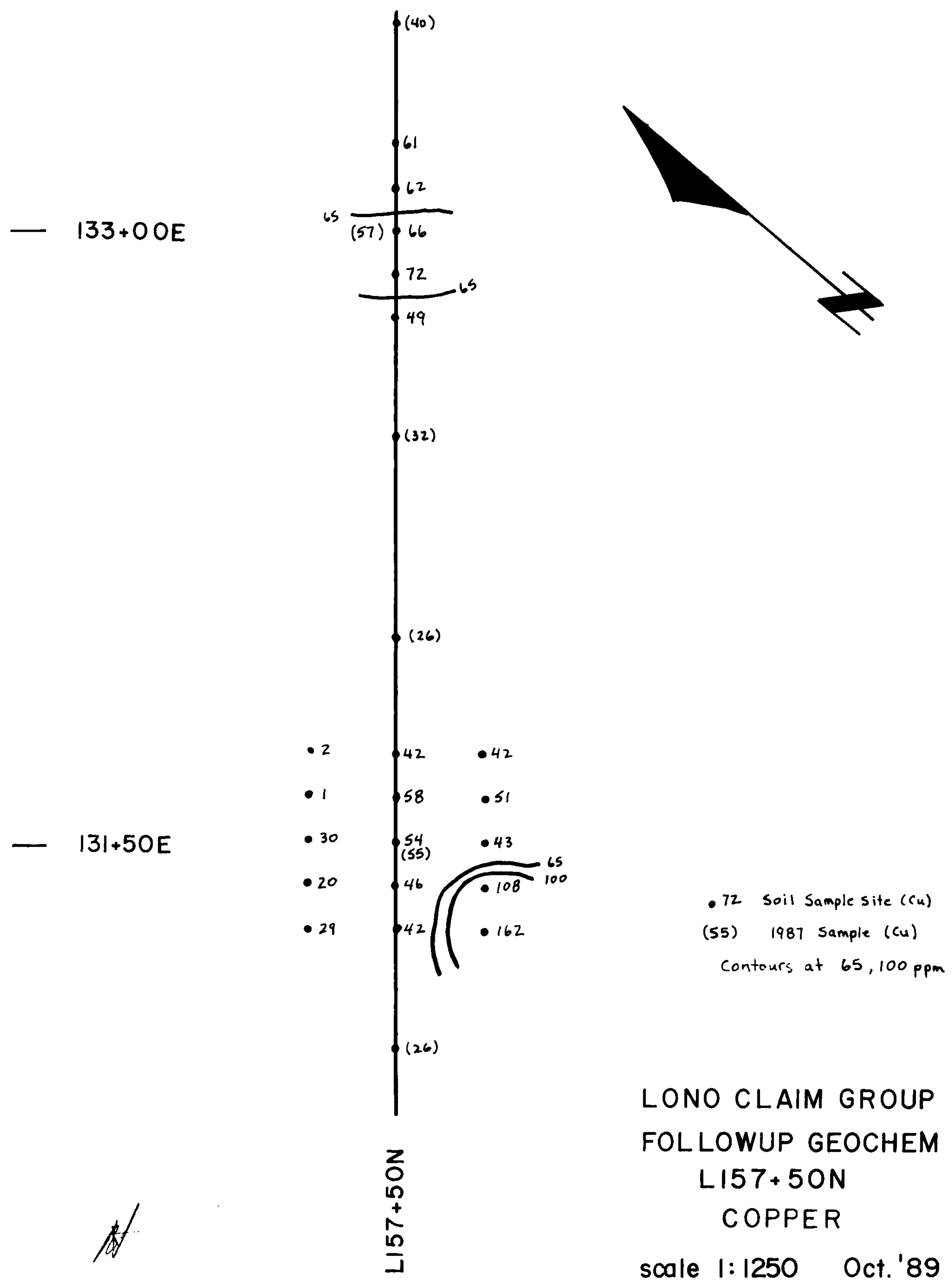


LONO CLAIM GROUP
FOLLOWUP GEOCHEM
L160+00N

ARSENIC

scale 1:1250 Oct. '89

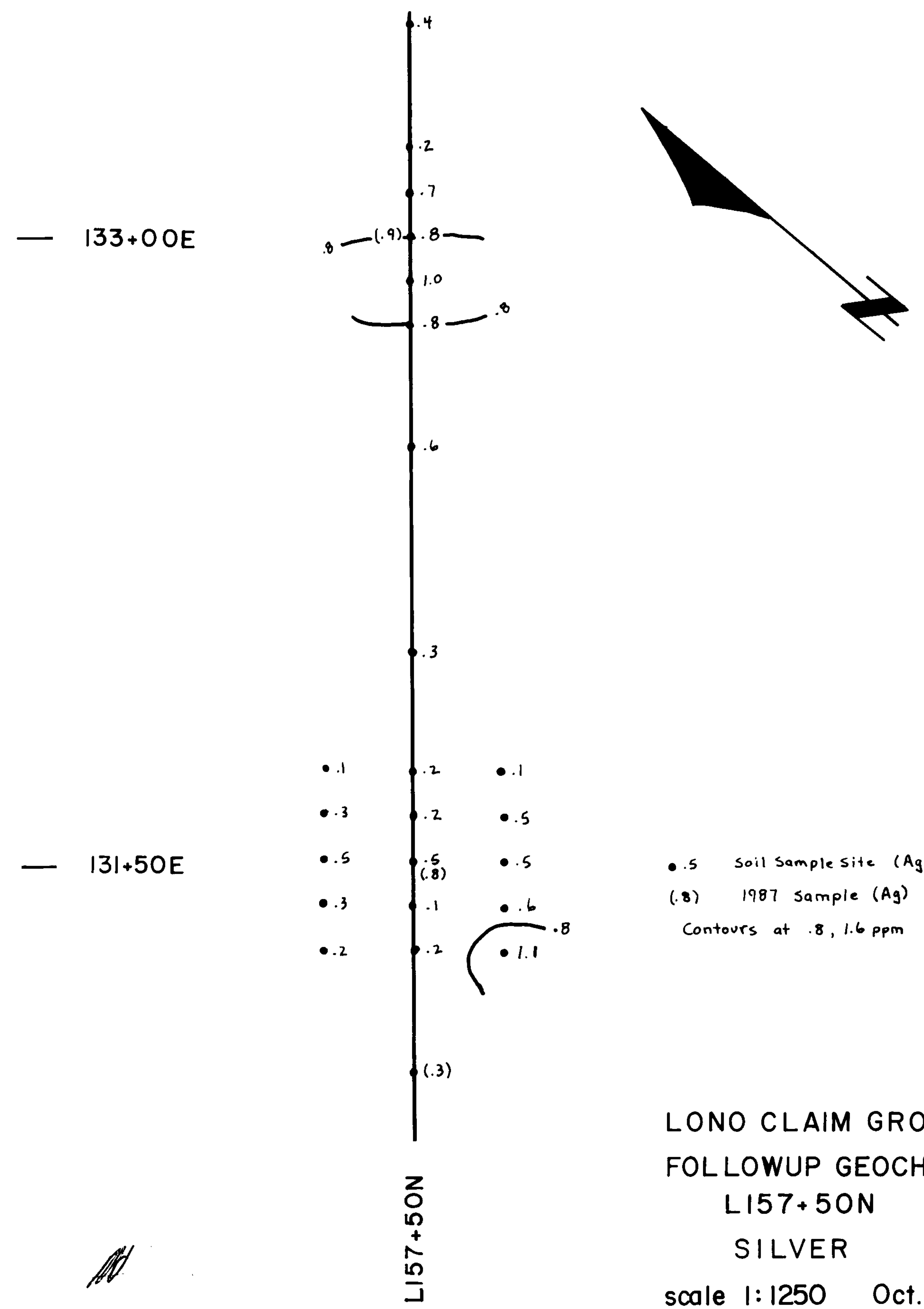
Fig. 8



LONO CLAIM GROUP
FOLLOWUP GEOCHEM
L157+50N
COPPER

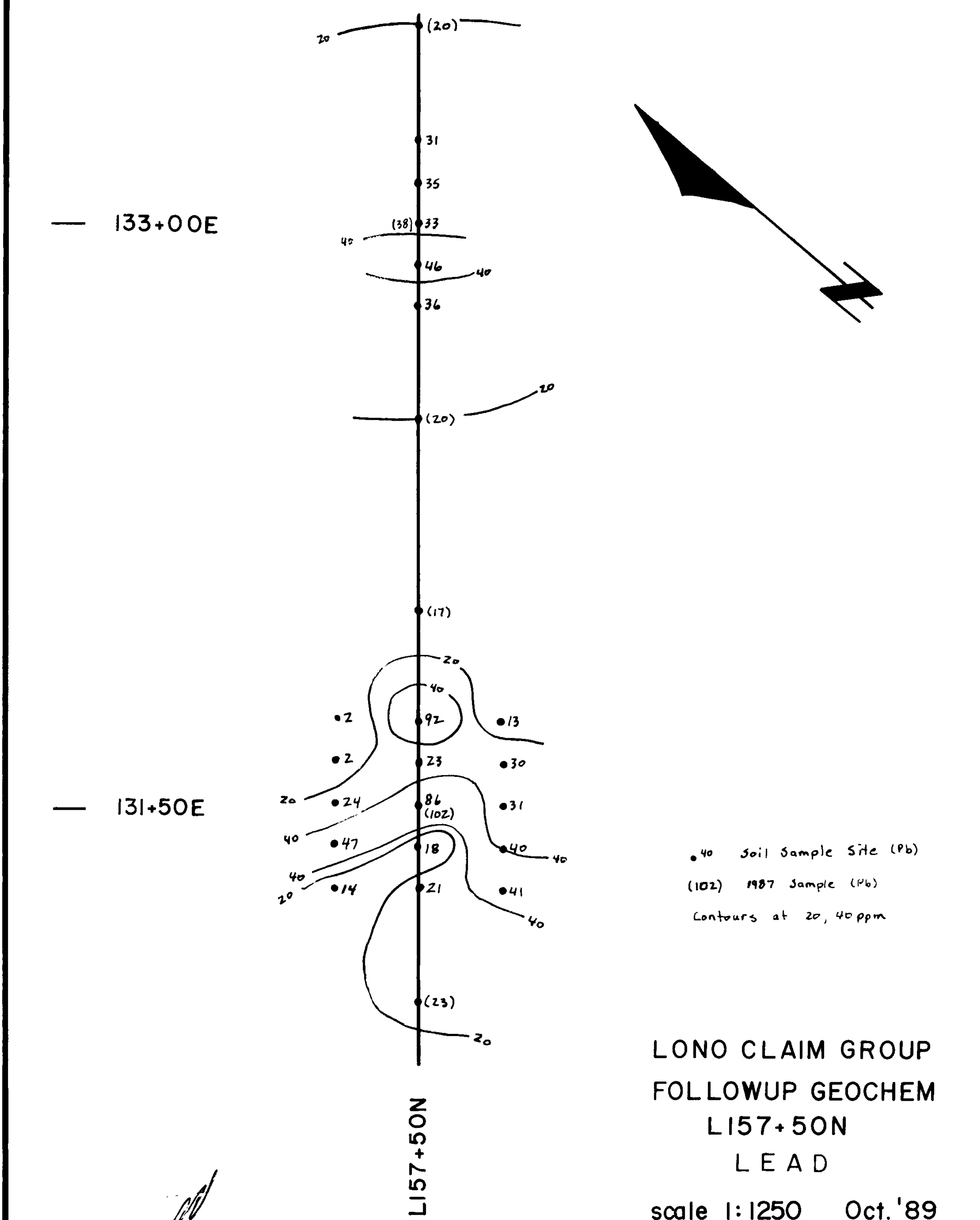
scale 1:1250 Oct. '89

Fig. 9



LONO CLAIM GROUP
FOLLOWUP GEOCHEM
L157+50N
SILVER
scale 1:1250 Oct.'89

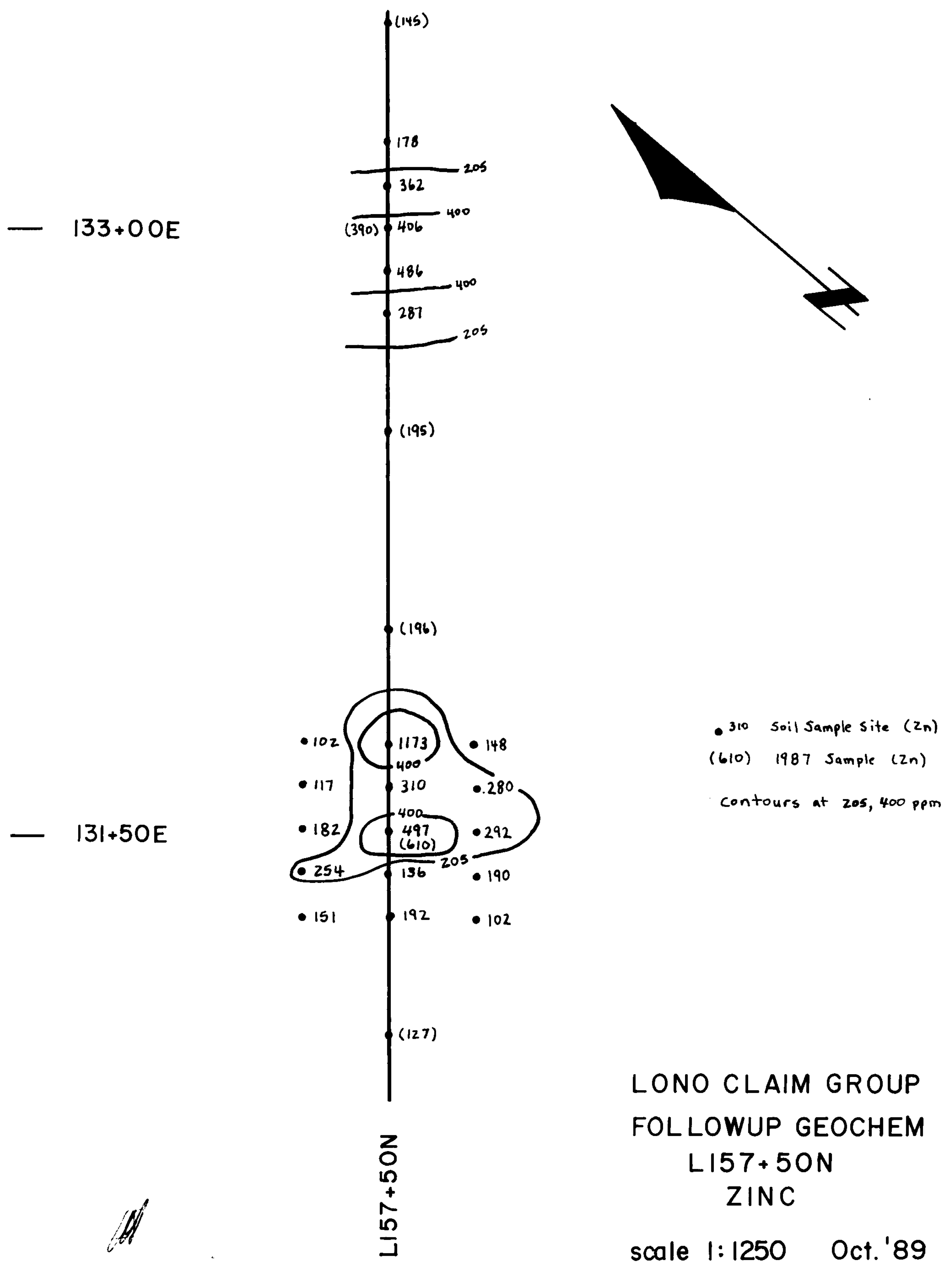
Fig. 10



LONO CLAIM GROUP
FOLLOWUP GEOCHEM
L157+50N
LEAD

scale 1:1250 Oct.'89

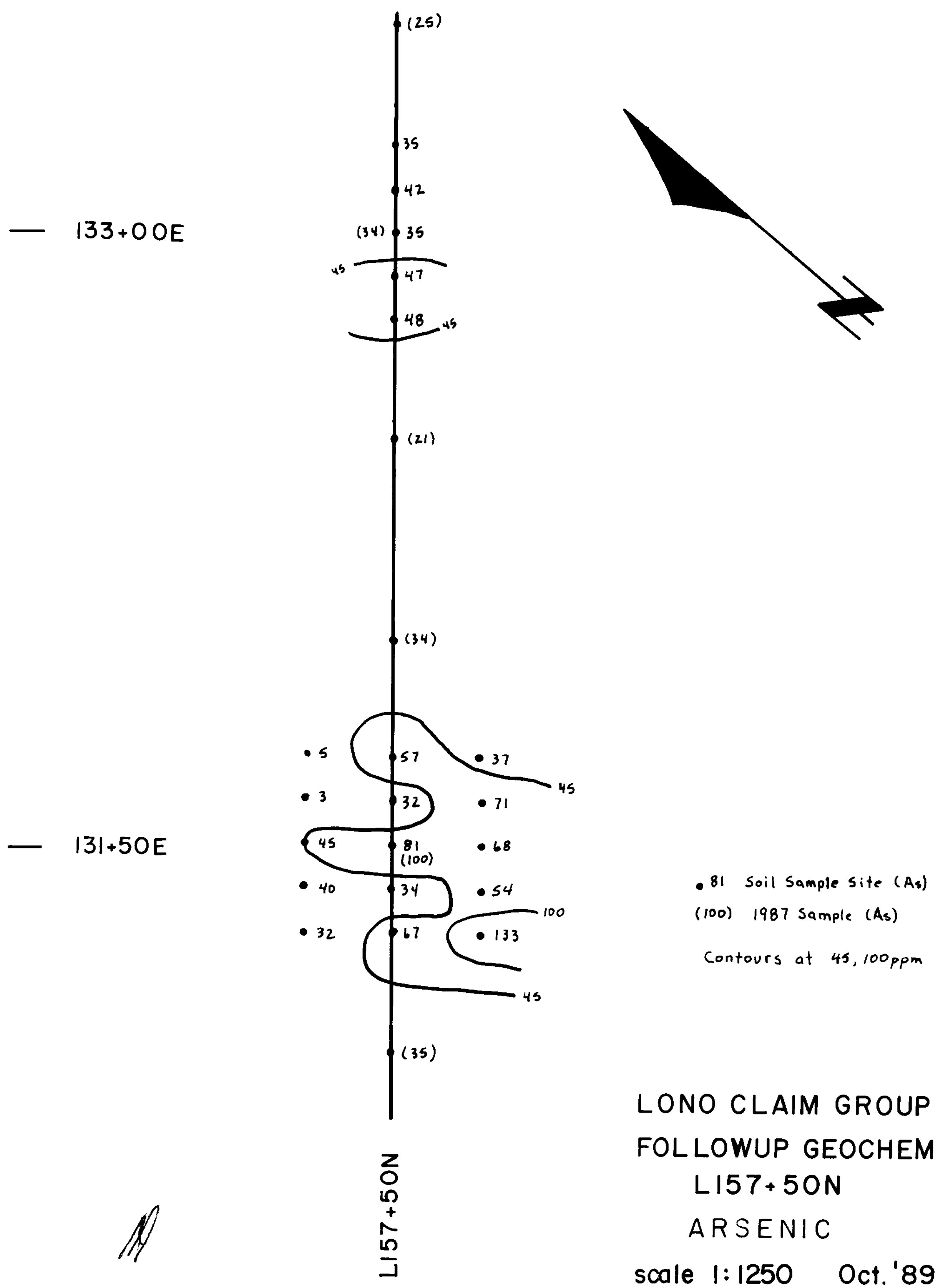
Fig. 11



LONO CLAIM GROUP
FOLLOWUP GEOCHEM
L157+50N
ZINC

scale 1:1250 Oct.'89

Fig. 12



LONO CLAIM GROUP
FOLLOWUP GEOCHEM
L157+50N
ARSENIC

scale 1:1250 Oct. '89

Fig. 13

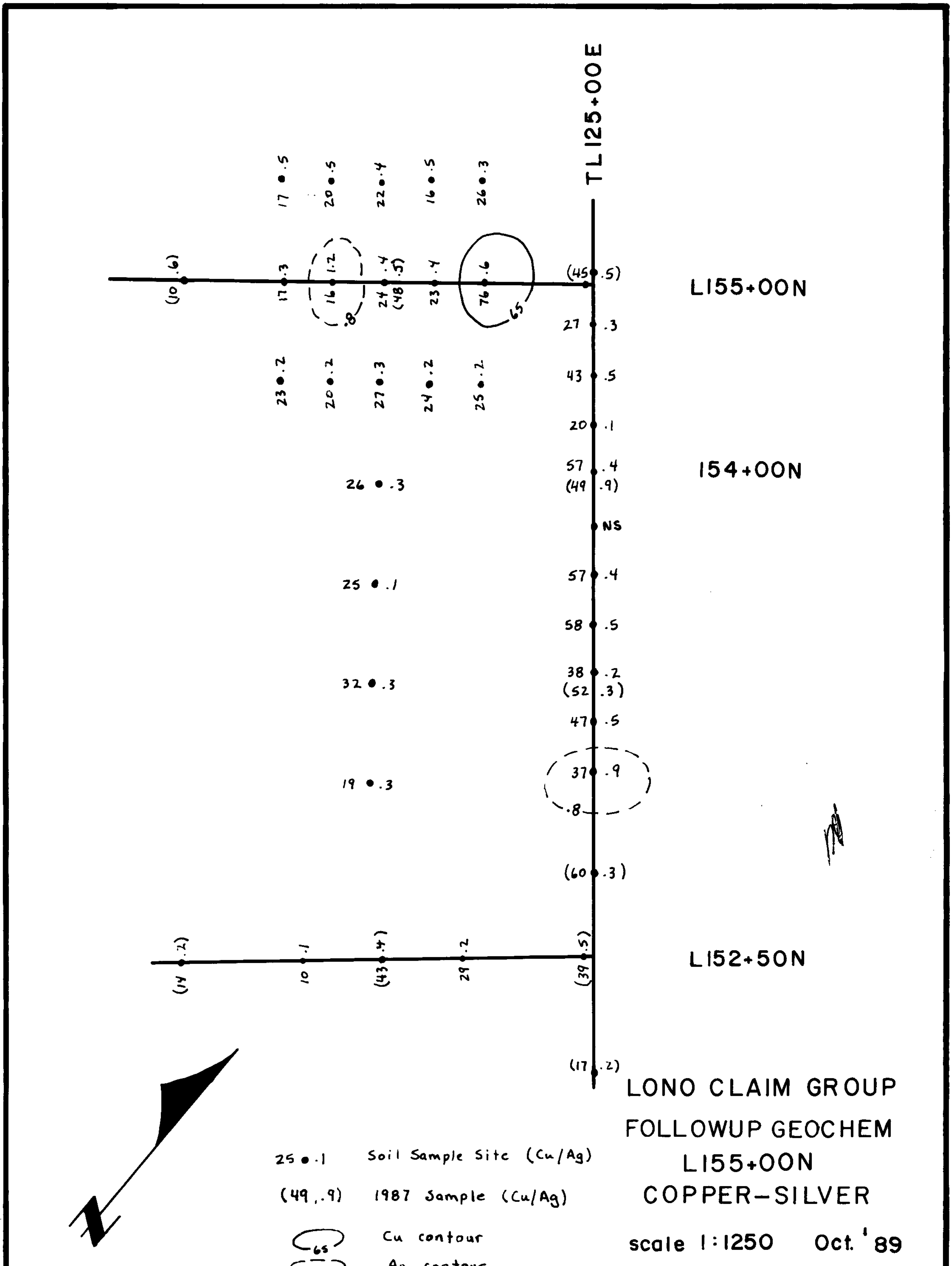
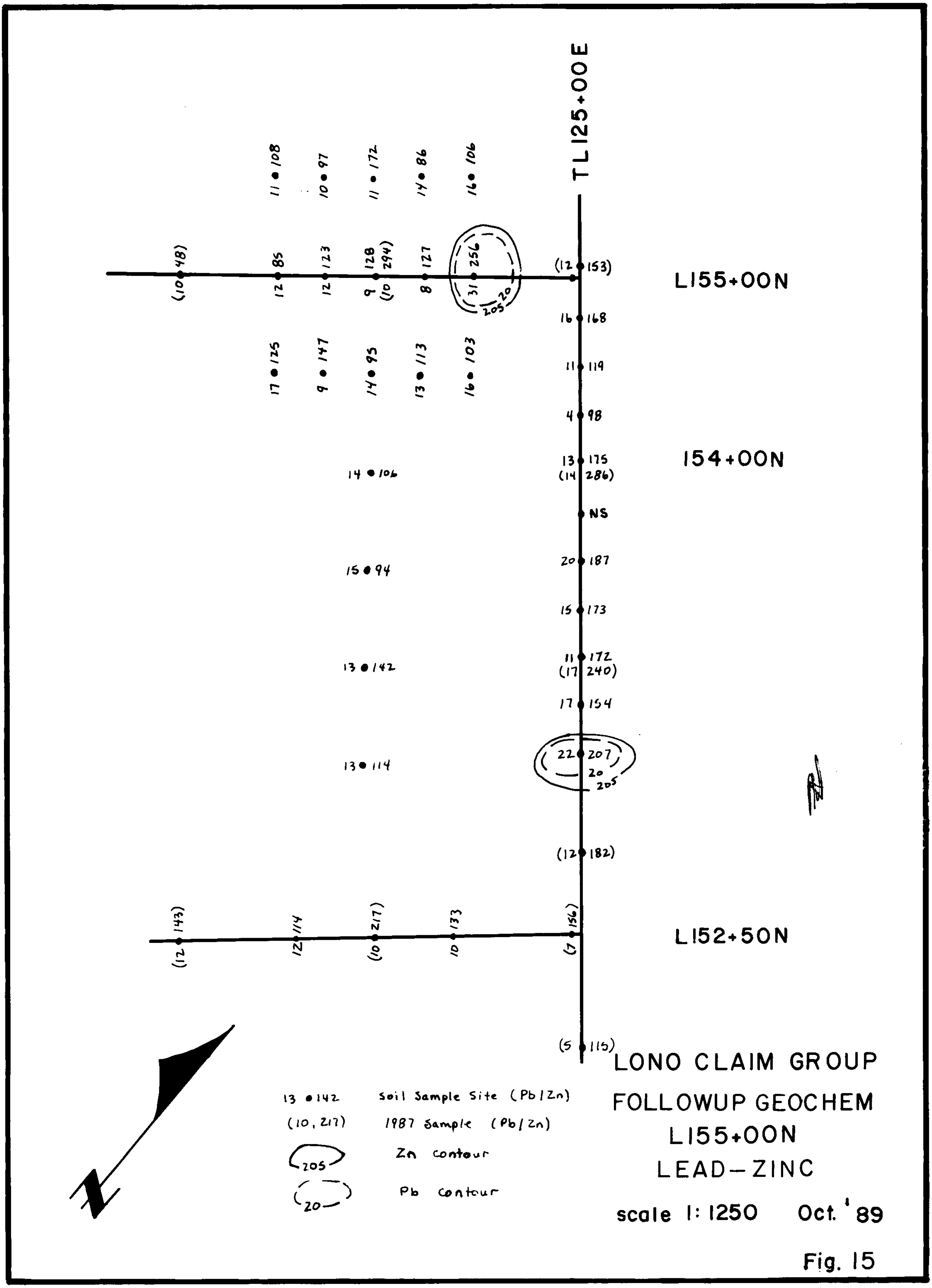

TL125+00E
L155+00N
154+00N
L152+50N
LONO CLAIM GROUP
FOLLOWUP GEOCHEM
L155+00N
COPPER-SILVER
scale 1:1250 Oct. '89
25 • .1 Soil Sample Site (Cu/Ag)
(49 , .9) 1987 Sample (Cu/Ag)
Cu contour
Ag contour

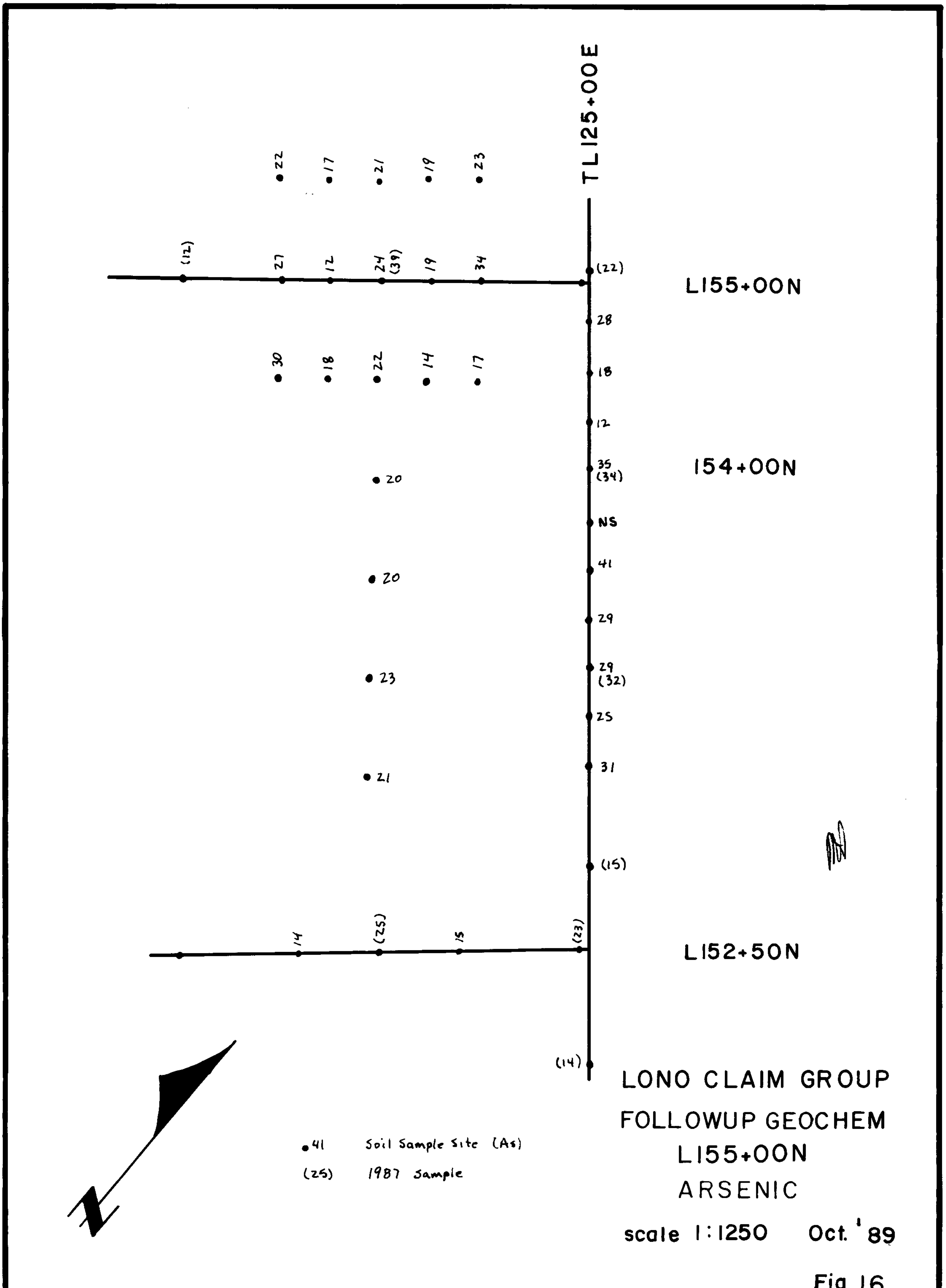
Fig. 14

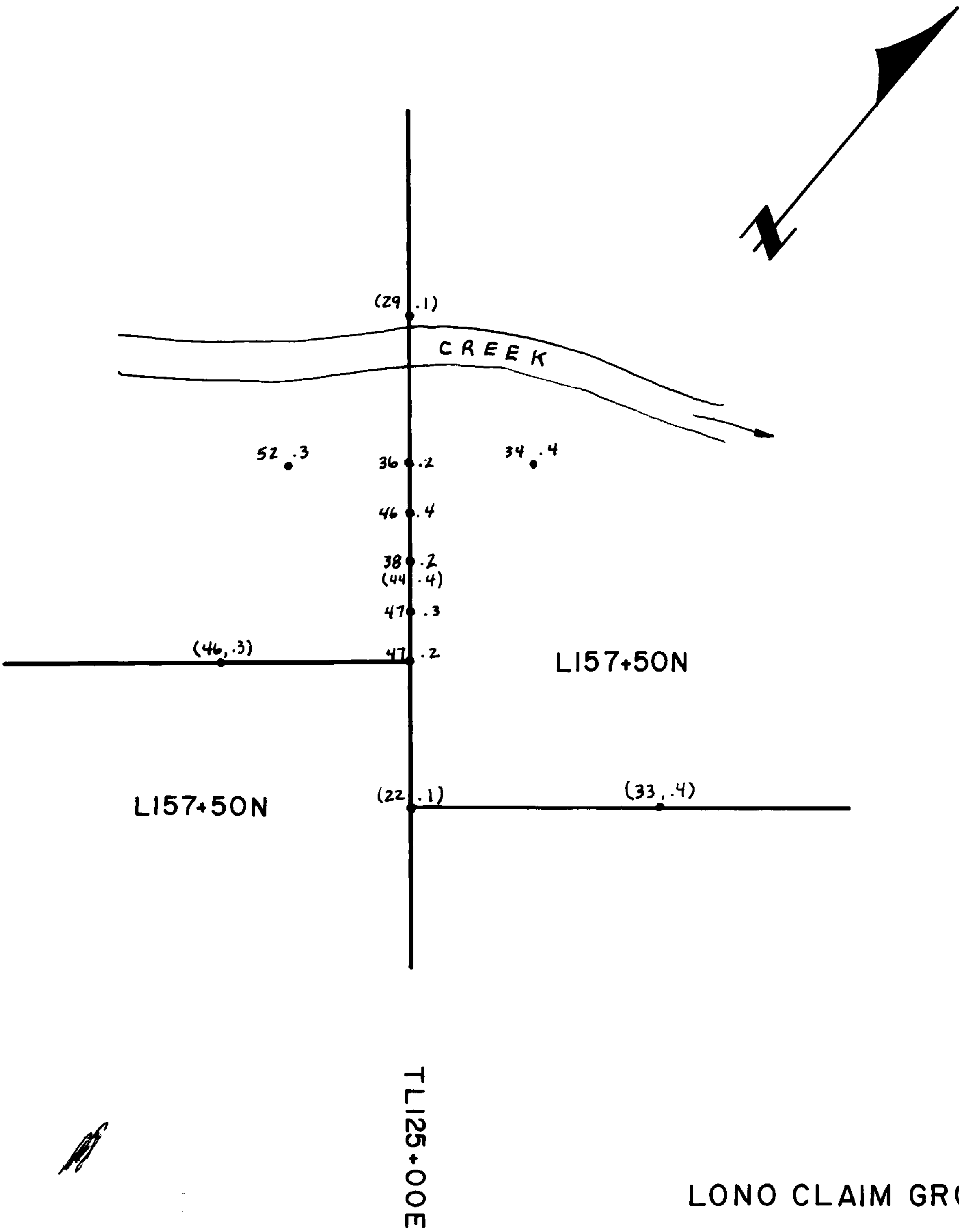


LONO CLAIM GROUP
FOLLOWUP GEOCHEM
L155+00N
LEAD-ZINC

scale 1: 1250 Oct. '89

Fig. 15


TL125+00E
L155+00N
154+00N
L152+50N
NS
• 41 Soil Sample Site (As)
(25) 1987 Sample
LONO CLAIM GROUP
FOLLOWUP GEOCHEM
L155+00N
ARSENIC
scale 1:1250 Oct. '89
Fig. 16



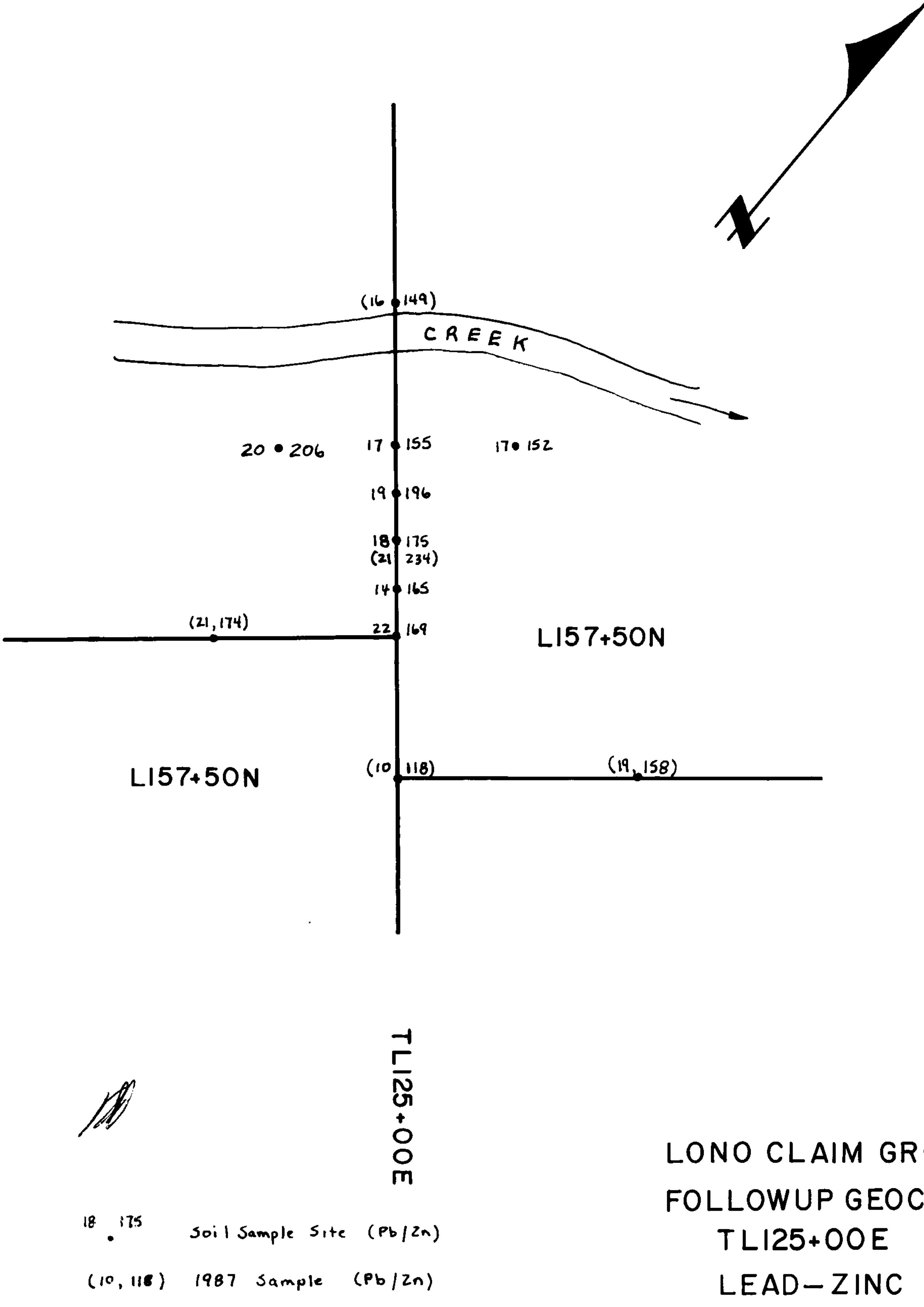
52 .3 Soil Sample Site (Cu/Ag)

(46, .2) 1987 sample (Cu/Ag)

LONO CLAIM GROUP
FOLLOWUP GEOCHEM
TL125+00E
COPPER-SILVER

scale 1:1250 Oct.'89

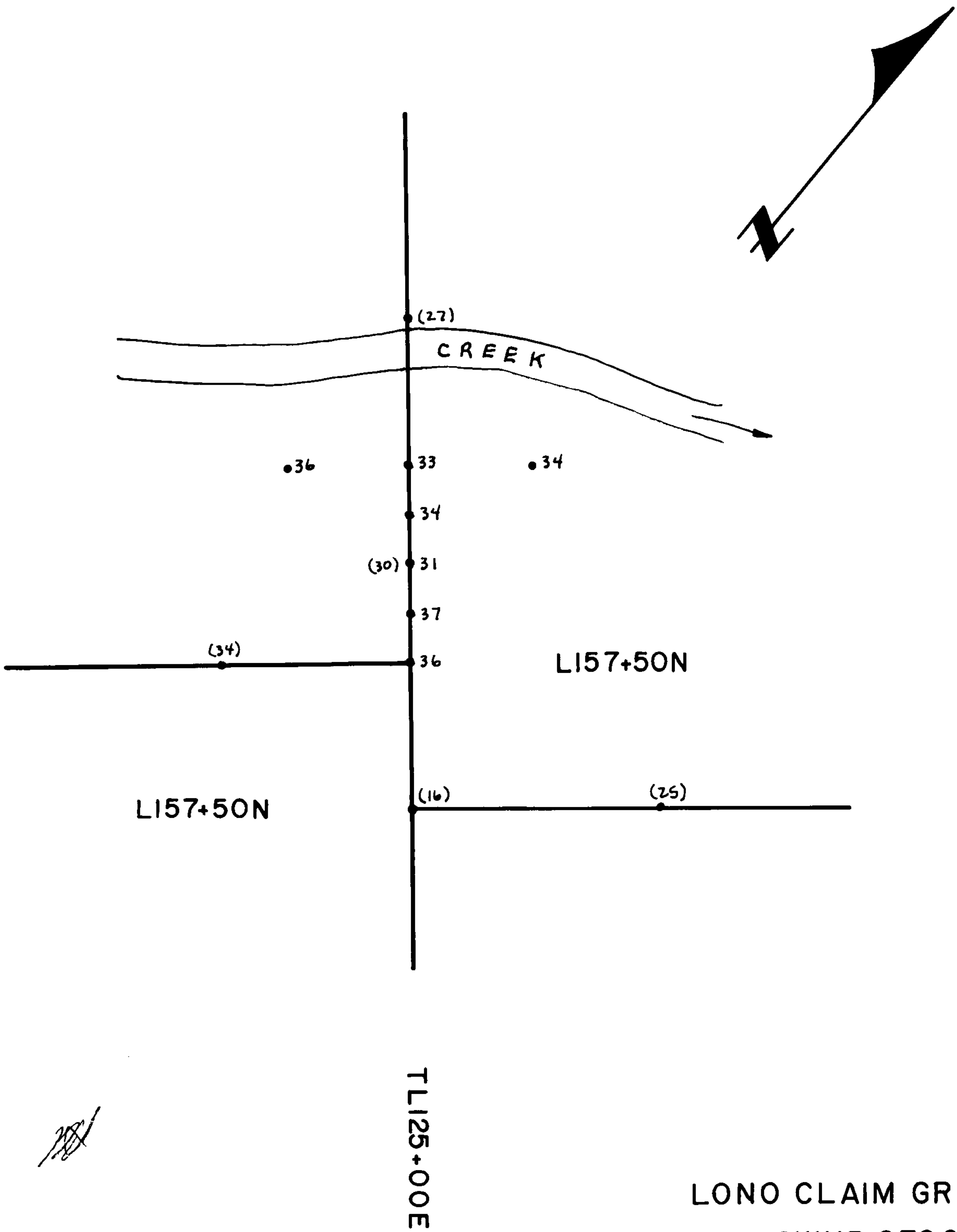
Fig. 17



LONO CLAIM GROUP
FOLLOWUP GEOCHEM
TL125+00E
LEAD–ZINC

scale 1:1250 Oct.'89

Fig. 18



.31 soil Sample site (As)

(16) 1987 Sample

LONO CLAIM GROUP

FOLLOWUP GEOCHEM

TL125+00E

ARSENIC

scale 1:1250 Oct.'89

Fig. 19

APPENDIX 3

PETROGRAPHIC REPORT

Vancouver Petrographics Ltd.

JAMES VINNELL, Manager
JOHN G. PAYNE, Ph.D. Geologist
CRAIG LEITCH, Ph.D. Geologist
JEFF HARRIS, Ph.D. Geologist
KEN E. NORTHCOTE, Ph.D. Geologist

P.O. BOX 39
8080 GLOVER ROAD,
FORT LANGLEY, B.C.
V0X 1J0
PHONE (604) 888-1323
FAX. (604) 888-3642

Report for: Robert Holland,
Holland Geoservices Ltd.,
13451 - 112A Ave.,
Surrey, B.C.
V3R 2G7

Invoice 8576

November 8th, 1989

SAMPLES:

16 rock samples from the Ascot Claims, for thin sectioning and petrographic examination.

Samples are numbered R89-22A, 22B, 36C, 36D, 37B, 40A, 41B, 45, 47, 48, 50A, 54C, 55A, 57A, 59B and 59C.

SUMMARY:

The rocks of this suite fall into 3 main groups, as follows:

A. Probable Flows:

i) Amygdaloidal andesites. Samples 36C, 59C. Aphanitic plagioclase-rich rocks with carbonate amydgules. 36C includes some clays. 59C is sericitized.

ii) Dacite(?). Sample 36D. Aphanitic felsic rock, probably relatively siliceous.

iii) Trachyandesite. Sample 59B. Flow-textured, holocrystalline; possibly amygdaloidal. Could be a dyke rock

B. Probable Hypabyssal Intrusives:

i) Diabase. Sample 45

ii) Diorite porphyry. Sample 55A

iii) Albitite. Sample 50A.

iv) Altered andesite. Sample 22B. Totally altered to sericite, carbonate and chlorite. Could be extrusive.

C. Tuffs:

i) Andesite. Samples 40A, 41B, 47, 57A. Listed in order of decreasing average clast size. Clasts are mixed lithic and crystals. Composition is leucocratic.

ii) Trachyandesite. Samples 37B, 48, 54C. The first two are relatively coarse and contain abundant crystals. The last is finer grained and strongly chloritic.

D. Other:

i) Mineralized breccia. Sample 22A. Brecciated, carbonated trachyandesite with pyrite and sphalerite. Cemented and replaced by fine-grained barite and carbonate.

Details of styles and relative intensities of alteration may be found from the individual petrographic descriptions (attached).

J.F. Harris Ph.D.

(929-5867)

Copy to: Canadian United Minerals Inc.
325-1130, West Pender St.,
Vancouver, B.C.
V6E 4A4

SAMPLE R89-36C VESICULAR ANDESITE (AUTOBRECCIA?)

Estimated mode

Felsitic matrix	83
Quartz	3
Carbonate	12
Clays(?)	2
Pyrite	trace

This rock shows macroscopic features suggestive of a vesicular/ amygdaloidal volcanic.

In thin section it is found to consist predominantly of an even, minutely felsitic matrix of grain size 2 - 10 microns. Judging from the strong white etch on the cut-off block, this matrix is composed largely of plagioclase.

Accessory components include minor quartz, as scattered, diffuse cherty patches and small clumps of relatively coarser crystallization, within the cryptocrystalline matrix. It is probably primary.

Carbonate is a prominent constituent, as abundant, sharply defined, irregular pockets, 0.1 - 1.0mm in size, locally coalescent. These appear to be vesicular infillings. Finer grained carbonate occurs as occasional patches of dispersed flecks, and as hairline veinlets - sometimes with intergrown fine-grained quartz.

Similar, but generally smaller, pockets are filled by minutely fine-grained aggregates of probable kaolinite. Kaolinite becomes a major component (possibly replacing the matrix) in an elongate zone at one side of the slide.

The rock shows patchy textural variations (in terms of abundance and/or size of vesicles, and in the predominance of carbonate vs clays as infillings). This may reflect a fragmental structure - possibly autobrecciation.

The rock is a near-glassy, vesicular volcanic, of probable leuco-andesitic composition.

SAMPLE R89-36D APHANITIC VOLCANIC OR TUFF (DACITIC?)

Estimated mode

Siliceous/felsitic matrix	65
Plagioclase) Quartz)	8
Carbonate	15
Opaques) Sub-opaques)	12

This is a fine-grained rock of rather similar macroscopic appearance to Sample 22B.

The resemblance is not confirmed at the microscopic level, the clearly defined igneous texture of 22B being absent in this thin section. In fact, the rock is largely of minutely felsitic character like 36C (though, judging from the absence of strong white etch reaction on the stained cut-off block, its composition is less plagioclase-rich).

It consists essentially of a minutely microgranular matrix, of grain size 2 - 10 microns. This appears to be made up predominantly of quartz, with accessory plagioclase in indeterminate proportions.

Fine-grained opaque and sub-opaque dust and minute granules are rather abundantly disseminated throughout the matrix - often defining a small-scale, pellety texture, which may be indicative of glassy origin - or possible fine-grained, tuffaceous affinitites.

Small, sub-prismatic micro-phenocrysts (or crystal clasts) of plagioclase and minor quartz, 0.05 - 0.2mm in size, occur randomly scattered throughout. There are also rare, coarser, rather ill-defined phenocrysts, to 1mm in size.

Carbonate is the principal accessory - presumably of alteration origin. It occurs rather evenly distributed as small, irregular flecks and clumps - locally coalescing - 0.05 - 0.2mm in size, and as localized veinlets. As in 22B, the dispersed carbonate is unreactive to dilute acid, but the veinlets are apparently calcite.

The rock includes some tiny spherulites of probable chert, and shard-like bodies of carbonate outlined by opaques.

It appears to be a near-glassy volcanic, or possible tuff, of probable dacitic composition.

SAMPLE R89-37B ANDESITE-TRACHYANDESITE TUFF

Estimated mode

Plagioclase	65
K-feldspar	18
Chlorite	10
Sericite	trace
Carbonate	5
Rutile) Opaques)	2

This rock consists essentially of abundant, fresh prismatic crystals of plagioclase, 0.2 - 2.0mm in size, in a fine-grained matrix of felsitic K-feldspar, with pockets and streaks of chlorite.

At first sight it appears to be a texturally heterogenous porphyry, but closer examination indicates that it is actually a rather coarse-grained, crystal-rich tuff.

The plagioclase crystals tend to be clumped, have a tendency for parallel orientation, and are sometimes fractured. Also, some have what appears to be adhering (or, in the case of the clumps, interstitial) groundmass material, composed of microgranular or sub-trachytic plagioclase.

These phenocryst-rich andesitic lithic clasts and disaggregated crystals are set in a heterogenous matrix of K-spar and intergrown chlorite.

It is often unclear whether this is a pyroclastic matrix - in the form of comminuted ash - or if it is, in fact, the matrix to the plagioclase phenocrysts, in the sense of the rock being a fragmented porphyritic trachyandesite.

Many areas of the matrix show pumiceous or relict shard textures, and there are some definite lithic clasts, 1 - 6mm in size, recognizable on close macroscopic examination of the off-cut block.

Some of the chlorite-rich areas show streaked-out form suggestive of compaction deformation of semi-fluid mafic ejecta.

The rock shows mild carbonate alteration, as diffuse patches and wisps in the fine-grained matrix areas, and occasional thread-like fracture fillings in plagioclase crystals.

It is a polylithic crystal tuff of porphyritic andesite and glassy trachyandesite clasts.

SAMPLE R89-40A **ANDESITIC TUFF**

Estimated mode

Plagioclase	73
Chlorite	15
Carbonate	10
Rutile) Opaques)	2

This rock clearly shows the weakly foliated, rather heterogenous, fragmental fabric typical of a tuff.

In thin section it has a very similar appearance to the previous sample (37B), but is generally finer-grained, and lacks the potassic component of that sample.

It includes abundant lithic clasts, 0.2 - 2.0mm in size, composed of felsitic plagioclase and devitrified glass or pumice, replete with small, relict shards.

These lithic clasts are tightly packed - with consequent deformation and preferred elongation - with abundant crystals of fresh plagioclase, 0.1 - 1.0mm in size. These crystal clasts are subhedral in form, are often fractured, and tend to show sub-parallel preferred orientation. In a few cases they may be phenocrysts within larger lithic clasts.

Chlorite is a common accessory, as shard replacements, vesicles and tiny altered microphenocrysts in the glassy lithic clasts.

Carbonate is a prevalent mild alteration, as in 37B, forming diffuse patches and wisps in the glassy and felsitic clasts and occasional fracture fillings in otherwise fresh plagioclase crystal clasts.

A few clasts of totally carbonated andesite (plagioclase phenocrysts in a compact carbonate matrix) are also seen.

Rutile and opaques form small granules, clumps and interclast wisps throughout.

SAMPLE R89-41B **ANDESITIC TUFF**

Estimated mode

Plagioclase	73
Sericite	10
Carbonate	16
Rutile	1

This is another rather well-sorted, carbonate-rich andesitic tuff composed of felsitic lithic clasts and plagioclase crystal clasts.

It differs from the previous samples in being generally finer-grained (clasts seldom exceed 1mm), and less crystal-rich, having sericite rather than chlorite as the principal accessory, and in being mildly sheared. It also appears to be essentially monolithic in character.

The lithic clasts are various felsitic to sub-trachytic textured leuco-andesites, sometimes with microphenocrysts of plagioclase to 0.3mm in size. They show rounded to elongate/lensoid forms.

Together with scattered small plagioclase crystals (presumably disaggregated phenocrysts from the same volcanic source) these clasts make up a compacted, possibly incipiently sheared, aggregate. Sericite occurs throughout as interclast wisps and sinuous networks.

Carbonate is a prominent constituent, as small, semi-coalescent granules, more or less densely disseminated throughout the rock. It tends to concentrate in the ashy matrix phase, interstitial to the plagioclase crystals and distinct lithic clasts. The carbonate has a notably high relief, and is sometimes limonite-stained. It is unreactive to dilute acid, and is probably ankerite or siderite.

ROCK GEOCHEM

SAMPLE NO.	TYPE	CU	PB	ZN	AG	AS	AU
DRH89-20	Grab	727	16	45	0.6	106	7
DRH89-21	Grab	34	4	27	0.1	14	3
DRH89-22	Grab	33	188	8470	0.2	650	2
DRH89-23	Grab	24	44	70	0.5	20	3

LEGEND

- Claim Post
- Claim Boundary
- Grid Line/ Station
- Geological Contact (Defined/ Assumed)
- Outcrop
- Shear Zone / Fault
- Bedding
- Cleaveage
- Jointing
- Fold Axis
- R89-36C Rock Specimen

4	Lamprophyre Dyke
3	Aplitic Dyke
2c	Andesite – Trachyandesite Tuff
2b	Thin-Bedded Shale/Siltstone
2a	Variably Calcareous Sediments
1c	Light Green Sandy Tuff
1b	Altered Maroon Tuff
1a	Maroon Crystal Tuff/ Crystal Lapilli Tuff

TEESHIN RESOURCES LTD.
CANADIAN-UNITED MINERALS, INC.
LONO CLAIM GROUP

GEOLOGY

Date. Oct. '89	NTS. 93L 15E
Scale. 1:2000	FIG. 3