MAP NO.: 105 O 1	**ASSESSMENT REPORT** X **PROSPECTUS** **CONFIDENTIAL** X **OPEN FILE**		**DOCUMENT NO:** 092813 **MINING DISTRICT:** Watson Lake **TYPE OF WORK:** Geology, Geochemistry

REPORT FILED UNDER: Cominco Ltd.

DATE PERFORMED: July 17-19, August 22-28, 1990 **DATE FILED:** February 9, 1990

LOCATION: **LAT.:** 63o10'N **AREA:** MacMillian Pass

LONG.: 130o10'W **VALUE $:** 22,200.00

CLAIM NAME & NO.: TOME 1-144, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165-168, 189-192 YB14942-15133 (not inclusive); JERRY 1-26 YB15501-526

WORK DONE BY: D. Rhodes

WORK DONE FOR: Cominco Ltd.

DATE TO GOOD STANDING:

REMARKS: # 55 TOM EAST Limited soil geochemistry, geological mapping, and prospecting was performed on two of the soil anomalies outlined the previous year. Favourable geological setting was encountered including the MacMillan Pass coarse clastics and a thickened Tom Member carbonaceous mudstone which includes a thick section of cherty mudstone. Several 10-20 cm thick quartz layers conformable with cherty mudstone contained disseminated galena and up to 1.3% Pb and 2 oz/t Ag. A 200 m long Ag, Pb anomaly associated.

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

NTS: 105-0/1

1989 ASSESSMENT REPORT - GEOLOGY, GEOCHEMISTRY

TOM EAST PROPERTY - TOME CLAIMS

WATSON LAKE MINING DISTRICT

YUKON TERRITORY

LATITUDE: 63°10'N

LONGITUDE: 130°10'W

CLAIMS 100% OWNED BY COMINCO LTD.

JANUARY, 1990

D. RHODES
SENIOR GEOLOGIST

This report has been examined by the Geological Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as representation work in the amount of $ 22,500.00.

SD Emond

for Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

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ASSESSMENT REPORT - 1989
TOM EAST PROPERTY - TOME CLAIMS

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COMINCO LTD.

EXPLORATION
NTS: 105-0-1

WESTERN DISTRICT
January, 1990

ASSESSMENT REPORT - 1989
TOM EAST PROPERTY

1. SUMMARY

The Tom East property, staked in 1988, is comprised of 218 claims in two groups - the Tome claims (192 units) and the Jerry claims (26 units). The Tome claims lie to the east of the Tom property. They were staked by Cominco Ltd. because they cover substantial strike lengths of the stratigraphic horizon that hosts the Tom deposits. Work in 1988 on the Tome claims consisted of reconnaissance soil geochemistry contour lines. The 1988 soil geochemistry on the Tome claims delineated a number of anomalies. Anomaly I produced spectacular values in lead (>1,000 ppm) and silver (fire assays of 1.5 and 2 oz/T).

The objectives of the 1989 work were:

i) to investigate contour soil geochemical anomalies on the Tome claims with further soil geochemistry, mapping and prospecting;

ii) to sample additional soil reconnaissance contour lines on the Tome claims;

Actual work undertaken was limited on the Tome claims because it was dependent on helicopter availability. Consequently work on the Tome claims was primarily devoted to sampling additional soil geochemistry contour lines in the Anomaly I/II area with some geological mapping and prospecting and several one day traverses prospecting and examining the other anomalies. No reconnaissance soil geochemistry contour lines were sampled.

The more detailed work on the Anomaly I, II area is presented at 1:2500 scale on Plates 89-1 to 89-9. Geologically the Anomaly I area showed a tight anticlinal structure involving a core of Macmillan Pass Member coarse clastics enveloped by Tom Member carbonaceous mudstones, thick diamictites occurring in place of the usual chert pebble conglomerates, a broad zone of iron enrichment in the Macmillan Pass Member rocks, a thickened Tom Member section and a thick section of cherty mudstones in the Tom Member. Also present were carbonatized mafic intrusive rocks possibly indicating Devonian age intrusions.

Prospecting revealed several, thin (10-20 cm) coarse quartz "beds" conformable with cherty mudstones of the Tom Member. Commonly thin (5-10 cm) crinkly laminated mudstone with vuggy quartz iron oxide laminae capped the quartz beds. One such quartz bed contained disseminated galena and analyzed 1.3% lead and 6.7 oz/T Ag while another not showing any sulphides analyzed 0.2% lead and 4.8 oz/T silver. These beds occuring close to Tom horizon stratigraphy and in a favourable geological setting were regarded initially as highly encouraging. A subsequent lead isotope analysis of the galena has showed the mineralization to have a signature identical with Cretaceous lead-silver deposits of the Yukon. (Apart from the mineralized beds several clusters of 10 to 50 cm iron oxide boulders showing laminated and "pelletal" textures were located). The two

hundred additional soil contour samples taken and analyzed about the Anomaly I, II area continued to show very high silver and lead values with some anomalous copper, zinc, manganese and iron distributed over a 1 km strike length but most enriched in a two hundred metre long zone near the discovered mineralization.

Prospecting traverses on other 1988 Tome anomalies failed to discover any significant mineralization or geologically favourable features.

It is concluded from the 1989 program that the Anomaly I/II area on the Tome claims is geologically interesting. Despite the Cretaceous association of the known mineralization, the broadly anomalous geochemistry seems to be more than can be accounted for by the small amount of mineralization discovered to date. It remains possible that larger Cretaceous age lead-silver deposits of economic importance occur in this area or that Devonian age sedex mineralization is overprinted by younger mineralization. The remainder of the Tome and Jerry claims did not provide any encouragement in 1989 however the work was relatively limited.

It is recommended that a detailed mapping and prospecting program (1:5000) be undertaken on the Tom East property. Particular attention should be paid to the showing area. To provide a base for this mapping a low level colour air photo survey of the claim groups is recommended. Additional soil geochemistry contour lines are recommended in those areas where the Tom stratigraphic horizon has not been tested.

2. LOCATION

The Tom East property is comprised of 218 claims in two groups all staked in 1988. The claims flank the Tom property, the 26 claim Jerry group to the south and southeast and the 192 claim Tome group to the ENE.

3. TENURE

All of the Tom East claims are 100% Cominco owned. Assessment due dates are tabulated below.
Tome 1-24 incl, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45-48 incl; 69-72 incl, 93-96 incl, 117-120 incl, 141-144 incl, 165-168 incl, 189-192 incl. - February 11, 1990

Tome 25, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 49-68 incl, 73-92 incl, 97-116 incl, 121-140 incl, 145-164 incl, 169-188 incl. - February 11, 1991

Jerry 1-26 - February 11, 1991

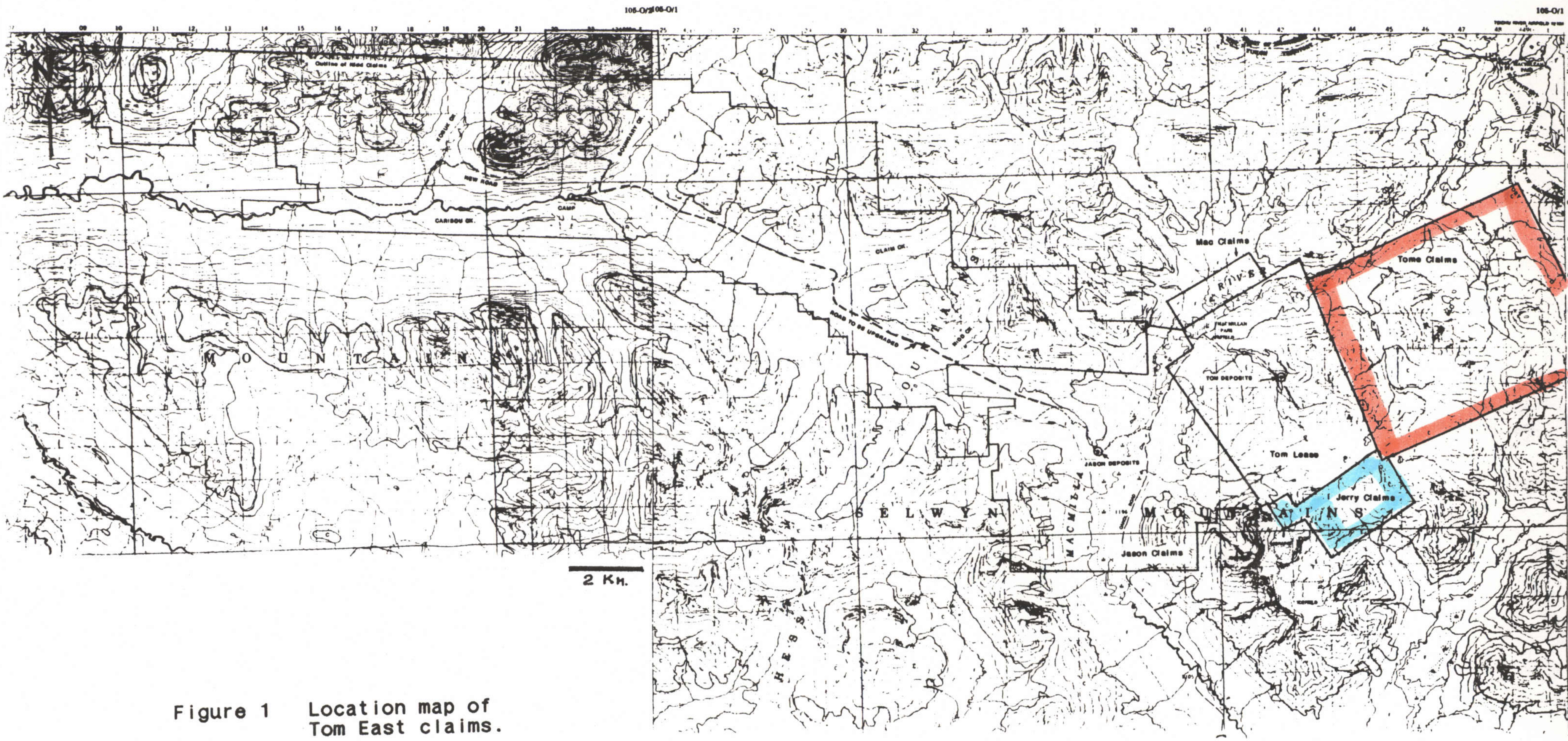


Figure 1   Location map of Tom East claims.

4. HISTORY

The claims were staked by Cominco in 1988 because they cover substantial strike lengths of the stratigraphic horizon that hosts the Tom deposits. Anomalous 1977 Cominco Recce, lead in soil values; a bedded barite/pyrite showing; and a reported but unconfirmed siderite/sphalerite showing in chert pebble conglomerates; were also favourable indications on the Tome claims.

5. WORK IN 1989

I. Objective

The objectives of the 1989 work were:

i) to investigate contour soil geochemical anomalies on the Tome claims with further soil geochemistry, mapping and prospecting;

ii) to sample additional soil reconnaissance contour lines on the Tome claims;

II. Soil Geochemistry

(a) Tome Claims

Soil geochemistry on the Tome claims was restricted to fill in contour sampling on the I, II anomaly area. Additional soil reconnaissance lines planned on the larger claim group were not undertaken due to helicopter availability. In the limited detailed sampling on the I, II anomaly area a base line was established up the ridge line of the adjacent peak for starting point control. Two hundred soil samples were taken on contour lines at 25 metre contour intervals with samples taken at 25 metres spacings. The sample locations from 1989 along with the 1988 sample locations are shown on Plate 2.

All of the samples were shipped to Cominco's Exploration Research Laboratory in Vancouver, B.C. for analysis. The samples were dried and screened. The -80 mesh size fraction was then digested by a 20% nitric acid solution and the lead, zinc, silver contents of all the samples were determined by atomic absorption. The barium content was analyzed by x-ray fluorescence. In addition 116 of the samples were also analyzed by A.A. for copper, manganese and iron. The results of these analyses are presented in Appendix 1 and shown for each metal separately on Plates 3 to 9.

All of the samples were taken in alpine terrain above tree line and hence no true soil profiles were sampled. The "soils" taken comprise fines gathered from rock talus slopes or from areas of colluvial cover.

III. Mapping/Prospecting

(a) Tome Claims

On the Tome claims mapping and prospecting was focussed primarily on the areas of the I and II soil geochemical anomaly (see Plate 88-5) with four limited traverses being undertaken on Anomalies V and III and over a previously identified barite/pyrite horizon (Plate 88-5).

It proved impossible to access the property by foot from the Canol Road or the Tom property and still have time and energy to undertake the work. Consequently the work was dependent on the availability of a helicopter without having to pay costly daily minimum charges. The work was undertaken on July 17 to July 19 sharing the availability of a helicopter contracted by the G.S.C. and on August 22 to 28 when a helicopter was shared with the Macmillan Pass Recce program. This limited time resulted in not as much mapping being undertaken as planned. The lack of any ground control other than 1:50,000 topographic maps or 1:26,000 air photos also made detailed mapping difficult. Plate 1 shows the results of the mapping about the Tom East I and II anomalies.

6. RESULTS OF 1989 MAPPING

A. General Geology

In the Macmillan Pass area a 30 km wide 60 km long belt trends west northwest across the more northerly regional structural grain of the Selwyn Basin. This belt has been referred to as the "Macmillan Fold Belt" (Abbott, G. 1982). Within this belt several separate northwest trending strips of Ordovician to Mississippian strata can be defined by distinctive variations in outcrop pattern, north-south lithofacies variations and structural style. Abbott has identified, in his mapping, three such strips (the North, Central and South Blocks). All of the Macmillan Pass Pb-Zn deposits fall within Abbott's Central Block. The distinctive lithofacies and structure of the Central Block is thought to represent a zone of faulting in Devonian times. While previous workers (Smith, C.L., Carne, R.C.) have talked of the Macmillan Pass "graben" it is probable that the Central Block is more complex than a single palaeo-graben as demonstrated by both structure and facies.

All of the mineralization at MacPass is hosted within Devonian Lower Earn Group rocks. These rocks and particularly their equivalents within the Nahanni 105I map sheet have recently been given formational status as the Portrait Lake Formation (Gordey in prep.). This formational name is used within this report.

The lowermost Lower Earn Group or Portrait Lake Formation at Macmillan Pass consists of a coarser clastic package composed of silt, sand and grit, striped mudstones that are interpreted as turbidites and typically in outcrop/felsenmeer weather brown. This turbidite package is separated into two horizons by a regionally extensive unit of chert pebble conglomerates. Abbott, G. (in prep.) has defined this clastic package as the Macmillan Pass Member of the Portrait Lake Formation and this terminology is also used in this report. The Macmillan Pass Member is limited to the Central Block at Macmillan Pass and is thought to be turbidity and debris flows deposited within this "graben".

Succeeding this coarse clastic package or Macmillan Pass Member is a succession of finer clastics (mudstones) with a higher carbonaceous content that weather blue grey. These rocks are more typical regionally of the Portrait Lake Formation; they have been informally grouped and labelled as the Tom Member within this report.

Drastic changes in thickness of the rock types of both Macmillan Pass and Tom Member over very short distances characterize Portrait Lake Formation sedimentation and are interpreted to be a response to severe syndepositional tectonism (block faulting and rapid subsidence and uplift).

On the Tom East property the only other rocks exposed are lithic micaceous siltstones, sandstones and mudstones that exhibit abundant ripple cross laminated textures. These rocks unconformably overlie the Tom Member. These rocks have recently been classified as Itsi Formation by Gordey (in prep.) and this terminology is used within this report.

All known mineralization at MacPass occurs in areas where facies and thickness changes are particularly severe, demonstrating a relationship of mineralization to areas of maximum syndepositional tectonic disturbance. Often in these areas multiple chert pebble conglomerate horizons occur along with the presence of more heterolithic diamictites composed of grit to boulder size clasts floating in mudstones. Volcanism marked by basaltic flows and pyroclastics preceded Lower Earn Group sedimentation in much of the MacPass area (top of the Road River Group) and on the Nidd property at Boundary Creek was an integral part of Lower Earn sedimentation. Mineralization at MacPass is interpreted to result from expulsion of hydrothermal mineralized brines onto the sea floor. The brines probably migrated up structures and permeable strata from shallow convective systems generated by heat from high level magma chambers (the source for the basalts). Significant mineralization occurs at Tom, Jason and Boundary Creek on the Nidd property.

B. Tome Geology

i) Geology of Claim Group

The rocks exposed on Tom East consist exclusively of Portrait Lake Formation and Itsi Formation of the Earn Group. Intruding these rocks are felsic sills and dykes composed generally of resistant, blocky, light grey to orange weathering, porphyritic to equigranular biotite quartz monzonite and biotite granite. Plate

88-5 shows the geology of most of the Tome claims, taken from Abbott (1983). The map also shows the areas of 1989 work. The focus of interest is and has been the Portrait Lake Formation (the Lower Earn Group of Abbott) and specifically the Tom horizon stratigraphy highlighted on Plate 88-5. This horizon lies stratigraphically at the base of the Tom Member (Abbott's U Dpt unit) and just above the top of the Macmillan Pass Member that is composed regionally of a laterally extensive chert pebble conglomerate unit (Abbott's mu Dcg) sandwiched by sand and silt laminated mudstones (Abbott's mu Dps). Abbott's mapping on Tom East does not show a silt and sand banded mudstone above the chert pebble conglomerate however in all instances observed in 1989 a relatively thin 30 to 100 m thickness of such lithology does exist.

ii) Anomaly I, II and Showing Area

(a) Stratigraphy and Structure

Plate 1 shows the geology of the area concentrated on in 1989 while Figure 2 provides a photographic view of this area. The geology consists of a tight anticline of Portrait Lake Formation rocks plunging northeast. The southwest limb dips off to the southwest while the southern limb is slightly overturned dipping at 70-80° to the southwest. The core of the anticline is occupied by the coarse clastics of the Macmillan Pass Member, while the white to blue grey weathering carbonaceous and siliceous mudstones of the Tom Member form the outer envelopes succeeded by orange to rusty brown weathering mudstones, sandstones and siltstones of the Itsi Formation.

Of significant interest as one flies over the area is a large expanse of rusty brown weathering Macmillan Member rocks in the cliffs and talus slopes on the southwest limb of the anticline. Mapping of this area has shown the rocks to consist of sand striped mudstones overlying several hundred metres of conglomeratic rocks that are for the most part diamictites. These diamictites consist of chert pebble clasts and some mudstone and sand striped mudstone clasts floating in a black quite carbonaceous mudstone matrix. Clast sizes vary from fine to medium (i.e. 0.5 cm to 5 cm average clast size) in most instances, but locally spectacularly coarse fragmentals occur in which 0.3 to 5 metre blocks or rafts of sand and silt striped mudstones are incorporated in the diamictite. Occasionally the chert pebbles become sufficiently abundant (80-90%) and in clast contact such that the rock can be classed as chert pebble conglomerates though they are much blacker and more carbonaceous than usual. While sporadic pyrite crystals are evident throughout the rock, small vugs after leached out pyrite and abundant rust are more common. Overlying the diamictite sequence are mudstones exhibiting fine, very evenly spaced striping by coarse silt to fine sand laminae (2 to 5 mm thick). These rocks are also rusty and pyritic. Underlying the diamictite is a recessive talus slope with silt and sand striped mudstones. It is thought likely that this area is probably a core of the anticline composed of the lower silt and sand striped mudstone unit of the Macmillan Pass Member. Most of the talus appears to have derived from higher upslope, however, and the lack of homogeneous felsenmeer or outcrop makes this interpretation still speculative.

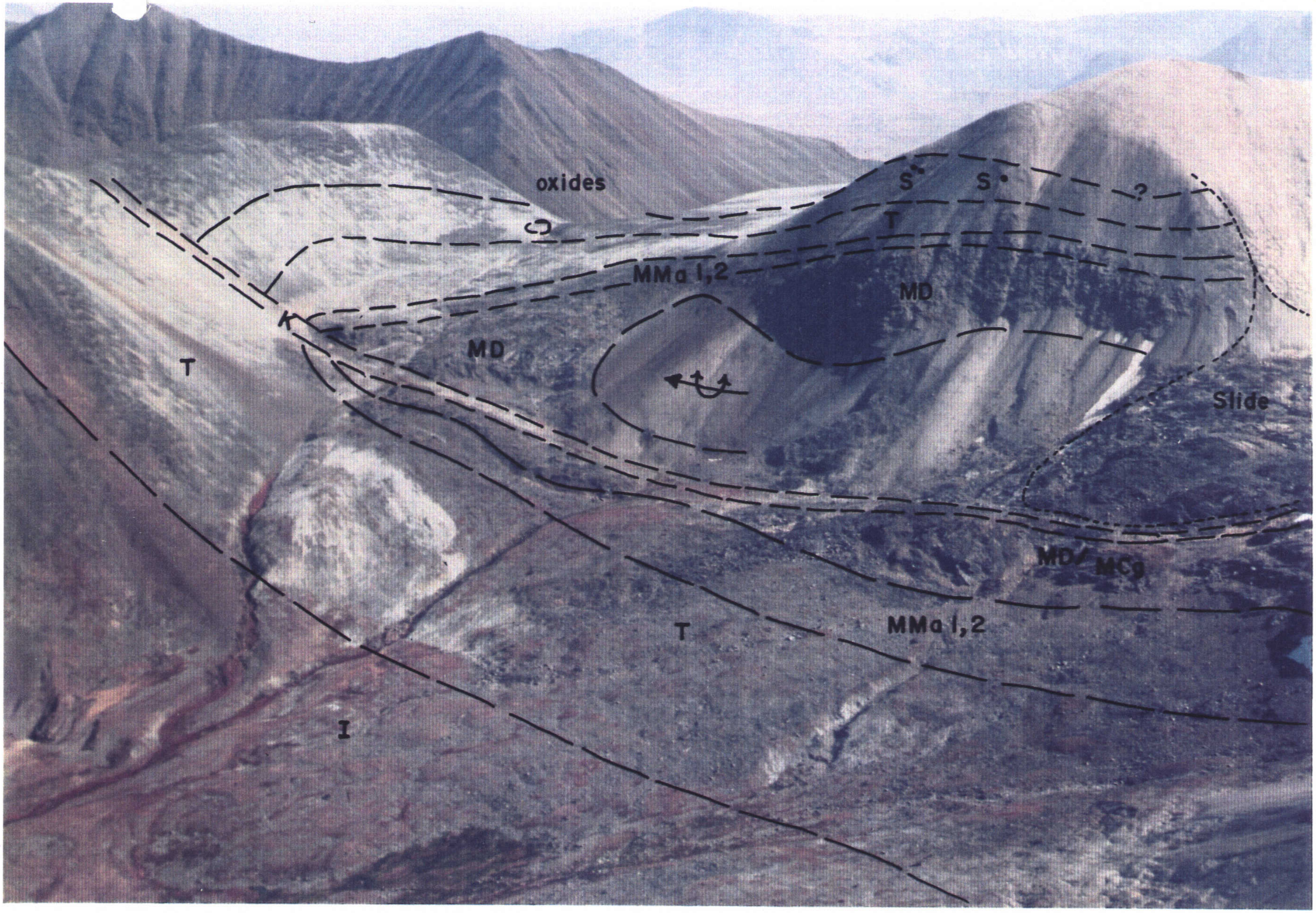


FIGURE 2: View of Tom East Showing area looking east. For geological legend and perspective, look at geology map - Plate 89-1. S's mark site of mineralized beds.

Overlying the Macmillan Pass Member are white to blue grey weathering carbonaceous and variably siliceous mudstones of the Tom Member. Three broad subdivisions of the Tom Member are evident. The lowermost interval consists of about 50 metres of fissile, very fine black carbonaceous mudstones that are quite recessive, break down into a black soil-like material, and are often masked by higher talus. Above this unit a 50 to 100 metre thick horizon of blocky, slightly rusty weathering, medium bedded (10 to 30 cm thick) cherty mudstones occur. It is within this horizon that mineralization described below is encountered. Succeeding this cherty horizon are several hundred metres of thin (1-3 cm) bedded somewhat siliceous mudstones that weather to produce 5-20 cm size flaggy, white to blue grey felsenmeer.

The Tom Member on the Tome claims varies greatly in thickness from apparently less than 100 metres to at least 400 metres thick in the area of Anomaly I and II.

Two types of igneous rock are evident in the area. Cutting through the centre of the map from NW to SE is a 10 to 30 metre wide blocky weathering felsic dyke while off the map to the south a bigger 100 metre thick sill like felsic intrusive caps one of the peaks and appears to intrude along or close to the Tom Member/Itsi Formation formational contact. While not observed at the Itsi Formation/Tom Member contact south of the base line, it is probably this intrusive that is responsible for the bleached, haematized and silicified character of Tom Member felsenmeer in this area.

Three isolated patches of iron carbonatized rock composed of interlocking carbonate rhombs with locally some fine pyrrhotite disseminations occur just west off the base line. These rocks are thought to be an alteredd mafic igneous rock which might be a north-south dyke given the alignment of the three patches discovered to date. The age of these rocks is not known however, it is speculated that their mafic character may link them to the basaltic volcanism evident elsewhere at Macmillan Pass at the top of the Road River Group and in the Macmillan Pass Member of the Portrait Lake Formation.

(b) Mineralization

Prospecting of the steep talus slopes in the cherty mudstone unit of the Tom Member resulted in identification of several thin distinctive beds. These beds consisted of 5 to 15 cm thick coarsely crystalline quartz rock that appeared to be completely conformable with the enclosing beds. Often, but not always, the top of these beds consisted of a crinkly laminated black mudstone with interlaminae composed of orange weathering very porous vuggy limonitic material with some white quartz. The limonite seemed to mark weathered out sulphides. This upper mudstone layer was generally 2 to 10 cm thick and thinner than the underlying quart bed (see Figures 3, 4). At least three of these beds occur in a large outcrop just east of the base line. In this area they do not show any visible sulphides however analysis of six samples of these beds gave the following results:

FIGURE 3: Photograph of coarse quartz "bed", Tom East showing area. Note very conformable character.

FIGURE 4: Photograph of thin, crinkly, laminated quartz bed, Tom East showing area. Not conformable character and offset of bed along small faults.

	Description	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Fe (%)
89-1A	Cherty black mudstone with crinkly quartz/ oxide laminae	26	27	91	0.7	2.4
89-1B	Cherty black mudstone with crinkly quartz/ oxide laminae	40	59	443	1.0	4.3
89-1C	Coarse white quartz - local vugs with yellow orange oxide	47	2340	71	163.0	1.6
89-1D	Cherty black mudstone with crinkly quartz/ oxide laminae	21	89	425	3.4	4.0
89-1E	Coarse crystalline white-blue grey quartz	137	222	26	6.8	2.2
89-1F	Crinkly black mudstone with quartz/oxide laminae	23	77	950	2.7	8.2

These analyses indicate that one of the quartz beds (89-1C) despite not having any visible sulphides hosted 0.2% Pb and 163.0 ppm Ag (or 4.8 oz/T Ag). The other (89-1E) was slightly anomalous in lead/silver. The upper crinkly laminated black mudstone with vuggy quartz/oxide laminae was slightly elevated in lead values and slightly anomalous in zinc, silver and iron contents.

One hundred metres southwest along strike of this large outcrop, several small outcrops of the cherty mudstone occur. One of these hosts a thin (5 cm) white quartz "bed" capped by a 5 cm thick, crinkly, limonite and quartz laminated, vuggy, black mudstone. Within the quartz part of this bed scattered crystals and crystal aggregates of galena occur. The basal quartz rich part of the bed analyzed 215 ppm Cu, 13,400 ppm Pb (1.3%), 402 ppm Zn, 231 ppm Ag (6.7 oz/T) and 5.7% Fe while the upper more interlaminated oxide rich material analyzed 57 ppm Cu, 184 ppm Pb, 685 ppm Zn, 9.0 ppm Ag and 6.7% Fe.

A polished thin section examination of the galena mineralized quartz bed by J.A. McLeod resulted in the following description:

"In section, the host rock is seen to consist almost exclusively of quartz in grains that range from 5.0 mm on down to 0.05 mm in size. The fine grained quartz is usually associated with shears that contain some carbonaceous content.

Parallel to rock layering or shearing are elongate patches of Fe-oxide from 2-3 mm in width and up to 5-10 mm in length. Very minor (a few grains) pyrite in the 10 micron size range is seen associated with Fe-oxide patches.

Galena is present as a elongate patch about 3-4 mm wide and 10 mm long. The rims of the galena are believed altered to anglesite and the outer part of the alteration contains a mixture of anglesite, Fe-oxides and fine felted covellite.

Several areas of the galena and associated rimming alteration were analyzed by SEM-EDX. No silver was detected but the silver would likely have to be present as a distinct phase before it could be detected either visually or by SEM-EDX. The silver may be present in galena and in anglesite-Fe-oxide alteration but this is not proven. Further, the silver reported by analysis may have been missed in this one section."

The nature of these mineralized beds is very unusual. Their coarse crystalline quartz character is vein like, however, they appear remarkably conformable to bedding and are often capped by oxide/quartz laminated mudstones that have a distinctly sedimentary character. It is presently hypothesized that the quartz may be replacing some original bedded material in the rock (barite? carbonate?). The discovery of this mineralization at an horizon close to that of the Tom deposit in a geological environment showing similarities to Tom was regarded as highly encouraging. A sample of the galena mineralized bed was sent for lead isotope analysis. The results of this analysis show isotope values characteristic of Cretaceous age lead-silver veins and not of the Macmillan Pass sedex deposits. The Tom East analysis is tabulated below along with some Tom and Jason data.

	206 Pb / 204 Pb	207 Pb / 204 Pb	208 Pb / 204 Pb
Tom East	19.498	15.733	39.21
Tom & Jason	18.654	15.639	38.771
	18.655	15.666	38.651
	18.633	15.636	38.536
	18.637	15.691	38.704
	18.695	15.727	38.892

Figure 5 plots this sample showing the relationship to Cretaceous Ag deposits. Therefore, despite the very favourable geological setting and the broadly anomalous geochemistry of the Tom East showing, the data suggests that the mineralization is probably of Cretaceous age.

Apart from the quartz beds several accumulations of 10 to 50 cm size boulders of iron oxides (goethite/limonite) were located during the mapping toward the top of the creek cutting the area and close to the low saddle between the two peaks.

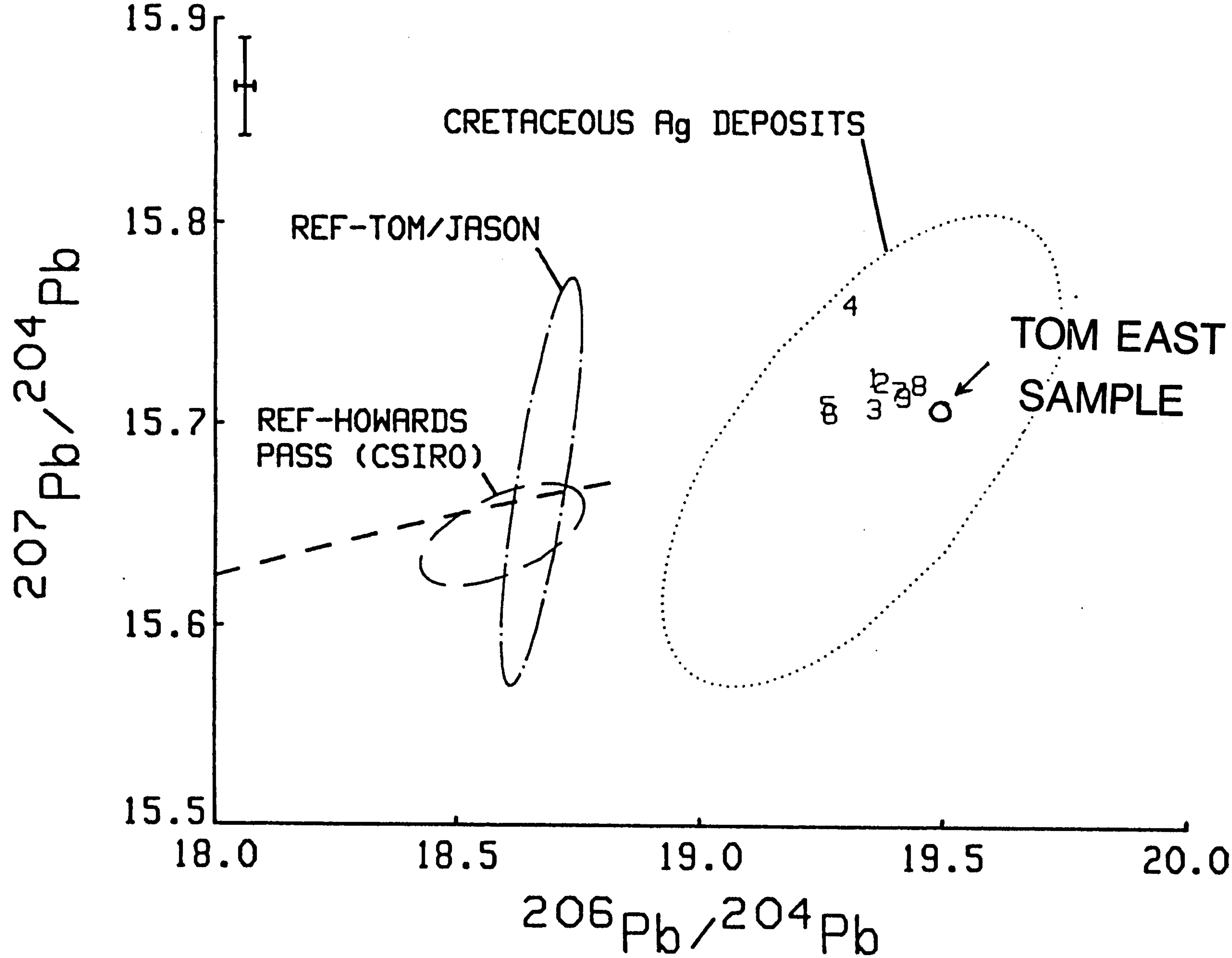


Figure 5 Lead isotope plot of Tom East Isotope Analysis compared to other Yukon galena populations.

These very orange weathering rocks show both laminated and vaguely nodular/pelletal textures that look sedimentary in character. Analysis of several hand samples of these boulders gave the following results.

Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Fe (%)	Mn (ppm)	Ba (ppm)
8.9	412	140	139	41.4	19	1856
4.1	465	115	141	31.1	6	1247
2.6	755	165	225	41.9	12	1078
<0.4	393	28	101	25.4	10	682

These analyses show a very iron rich rock with weakly anomalous values in lead, copper and silver. At present it is presumed the boulders derive from some highly oxidized very pyritic beds with at least some primary textures.

C. Traverse Geology

Anomaly V Traverse

This traverse commenced at the lake below the 1988 anomalous samples. The talus slope was climbed up to the sample site at 1770 metre elevation. The rocks here consisted of sand striped Macmillan Pass Member mudstones only 20 metres east of a contact with a thick chert pebble conglomerate sequence. The top twenty metres of the conglomerate was a diamictite composed of chert pebbles floating in a black mud matrix. No signs of mineralization were identified. The slope was traversed to the southeast of the anomaly to examine the Tom Member succession. This unit here showed a similar subdivision to the Anomaly I, II detailed map area consisting of a lower fine fissile carbonaceous mudstone perhaps 50 metres thick, a 20 to 50 metre blocky weathering cherty mudstone sequence and an upper 100-200 metre thick more coarsely flaggy, white to blue grey weathering mudstone. No mineralization or alteration features were observed.

Anomaly III Traverse

This traverse commenced on the saddle south of II Anomaly, followed the ridge line southwest and then descended into the cirque hosting Anomaly III. On the ridge line a rusty yellow blocky fine porphyritic felsic intrusive dominated part of the saddle. This rock hosted clear quartz like but subhedral crystals (zircons?). Further along the adjacent peak was composed of a fine sugary textured intrusive. The thick (50 metre plus) intrusive sequence seemed to have a sill like character and occur along the Itsi Formation/Tom Member contact.

Quarzites of the Itsi Formation adjacent to the intrusive showed bleaching and haematization and may have been silicified. Down in the cirque a mix of Itsi Formation mudstones, siltstones and quartzites occurred intermixed with Tom Member flaggy carbonaceous mudstones at the anomalous sample sites furthest up in the cirque. No mineralization was identified. The 1988 soil geochemical line was then followed and prospected to the east where several very high lead zinc soil samples occurred. These samples had been taken on areas of rock outcrop composed of silt and sand, ripple cross and planar laminated mudstones of the Itsi Formation. There were no obvious signs of any mineralization.

Pyritic, Baritic Mudstone Traverse

This traverse was undertaken to examine a pyritic barite rich mudstone horizon reported from previous Cominco reconnaissance work. The barite pyrite horizon was located with the aid of Ken Pride 400 metres southwest of where plotted on Plate 88-5. The horizon consisted of a 20 metre thick sequence of relatively resistant siliceous mudstones cropping out of the hillside and hosting 5 to 50% wispily nodular to crinkly laminated barite with associated pyrite extending over more than 100 metres of strike length. Grab samples of the barite-pyrite material gave the following results.

Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Fe (%)	Mn (ppm)	Ba (ppm)
2.3	51	6	51	5.9	140	126972
1.0	29	7	26	1.9	37	66857
2.7	49	9	284	4.3	22	76982
3.1	53	9	208	3.8	17	85082
0.6	39	6	104	2.8	61	80686

The horizon is clearly low in base metal contents. The stratigraphic position of this unit suggests that it may correlate with the blocky siliceous mudstone unit hosting the mineralization only two km away along strike.

7. RESULTS OF 1989 SOIL GEOCHEMISTRY

A. Tome Claims

The 1989 soil analyses are presented in Appendix 1 and plotted on Plates 2 to 9 inclusive. The results show anomalous metal values over about a kilometer of strike length on the southwest limb of the anticline generally associated with the lower two units of the Tom Member and the Macmillan Member clastic rocks. Results are reviewed below for each of the metals analyzed.

Lead Geochemistry (Plate 89-3)

1988 statistics revealed that lead over 50 ppm was weakly anomalous while lead over 100 ppm was strongly anomalous. From these values it can be seen that a substantial portion of the soil geochemistry on Plate 3 is anomalous to very anomalous in lead. The maximum values and highest concentration of anomalous samples is in the area of the mineralized beds and showing, east of the base line. They are concentrated about the Tom Member cherty mudstones but extend down into the iron enriched Macmillan Member rocks. Significantly anomalous lead values do occur along strike to the northeast to the nose of the anticline and around the nose in scattered but distinctly anomalous values on the fold's northwest limb (i.e. 549 ppm, 437 ppm).

Zinc Geochemistry (Plate 89-4)

Zinc in this alpine environment with acid groundwater is commonly leached out of the talus, colluvium and bedrock subsequently any values over a 100 ppm can be regarded as weakly anomalous while values over 1,000 ppm are very anomalous.
Zinc shows moderately anomalous values in the same areas as the lead anomalies but appears to be spatially separated or zoned in as much as the best zinc values occur to the east of the base line in uppermost Tom stratigraphy.

Silver Geochemistry (Plate 89-5)

1988 statistics indicate that silver values over 1.4 ppm are weakly anomalous while values over 2.0 ppm are distinctly anomalous. Surveillance of Plate 89-5 shows that silver is probably the most anomalous element. In general terms its distribution accompanies the lead pattern with spectacularly anomalous values in the showing area with the highest in the lower Tom Member but also significantly enriched in the diamictite unit (down slope dispersal?). Anomalous values extend completely around the anticline with a significant concentration on the northwest limb in an area where lead values were only sporadically anomalous.

Iron Geochemistry (Plate 89-6)

Iron is a common element in the rocks of the Portrait Lake Formation and the Itsi Formation. The Itsi Formation is particularly rusty and seems to contain significant iron though it has not been well studied. Within the Portrait Lake Formation rock iron contents over 3% are probably weakly anomalous while values over 5.0% can be viewed as strongly anomalous. In this context the enriched iron zone about and below the showing area can be seen, as can anomalous iron values at the nose of the anticline in and about the high iron boulder clusters.

Manganese Soil Geochemistry (Plate 89-7)

Statistics from the 1988 population indicate that values over 300 ppm Mn are weakly anomalous while values over 500 ppm are strongly anomalous. Manganese valeus on Plate 89-7 can be seen to be somewhat erratic but with distinct enrichment in the lower Tom Member and Macmillan Pass Member in the showing area. Sporadic weakly to significantly anomalous values continue up to the nose of the anticline with a number of anomalous samples occurring in the vicinity of the iron oxide boulders.

Barium Soil Geochemistry (Plate 89-8)

Barium is enriched in most of the sediments of the Tom Member and much less so in the Macmillan Pass Member. Statistics from the 1988 sampling indicate anomalous samples exceed 8,000 ppm barium. Field experience suggests that at this level barium minerals are visible in the rocks. The barium geochemistry on Plate 89-8 shows a general elevation of barium values in the Tom Member versus the Macmillan Pass Member. No correlation of anomalous barium values with anomalous Pb, Ag, Fe, Mn or Cu values is evident suggesting that barite is not an integral part of the mineralization reflected by these metals. Anomalous barium contents are present to the southeast of the base line in upper Tom Member stratigraphy suggesting that a barite enriched rock is probably present there. There is some correlation of anomalous zinc with some of these barium values.

Copper Soil Geochemistry (Plate 89-9)

1988 statistics indicate copper values over 150 ppm are weakly anomalous while values over 300 ppm are strongly anomalous. Plate 89-9 shows a weak enrichment in copper in the diamictite unit below the showing area with sporadic anomalous values. Sporadic high values occur along strike to the NW up into the Tom Member stratigraphy.

8. CONCLUSIONS

It is concluded from the 1989 work that:

i) The thin mineralized quartz beds in the Anomaly I, II area have an isotopic signature indicating a Cretaceous age and an origin related to the felsic sills and dykes in the area. It is therefore uncertain what the significance of this area is. The very broadly anomalous geochemistry seems to be more than can be accounted for by the small amount of mineralization discovered. it is possible that larger Cretaceous lead-silver occurrences of economic importance occur in this area or that Devonian age sedex mineralization is overprinted by younger mineralization.

ii) None of the other 1988 anomalies show any indications of significant mineralization.

9. RECOMMENDATIONS

It is recommended that a detailed mapping and prospecting program (1:5000) be undertaken on the Tom East claims with particular attention being paid to the showing area. To provide a base for this mapping a low level colour air photo survey of the claim groups is recommended. Additional contour soil geochemistry is recommended in those areas where the Tom stratigraphic horizon has not been tested.

10. REFERENCES

Abbott, G., 1982;
Structure and Stratigraphy of the Macmillan Fold Belt - Evidence for Devonian Faulting; DIAND Open File.

Rhodes, D., 1988;
1988 Year End Report Tom East Property.

Reported by: Derek Rhodes
D. Rhodes
Senior Geologist

Approved for Release by: W. J. Wolfe
W.J. Wolfe
Manager, Exploration
- Western Canada

DR/jd

Distribution: Western District (1)
Administration (1)
Field (1)

1989 ASSESSMENT REPORT

TOM EAST PROPERTY - TOME CLAIMS

APPENDIX "A"

STATEMENT OF EXPENDITURES
JULY 17-19, 1989
AUGUST 22-28, 1989

Salaries:	
D. Rhodes (Senior Geologist) 10 days @ $398.33	$3,983.30
E. Woolven (Field Technician) 6 days @ $188.88	1,133.28
G. Galbraith (Geochem Sampler) 1 day @ $130.00	130.00
D. Jones (Geochem Sampler) 1 day @ $130.00	130.00
J. McLeod (Petrography) 1 day @ $398.33	398.33
Geochemistry:	
116 soil samples prepared and analyzed for Cu, Pb, Zn, Ba, Fe, Mn, Ag @ $12.75	1,479.00
84 soil samples prepared and analyzed for Pb, Zn, Ag, Ba @ $9.75	819.00
Rock analyses 17 rocks prepared and analyzed for Cu, Pb, Zn, Ba, Fe, Mn, Ag @ $15.00	255.00
Isotope analysis - 1 galena sample	250.00
Accommodation:	
Tom camp room and board 18 mandays @ $80.00/day	1,440.00
Transportation:	
Helicopter 11 hours @ $650.00	7,150.00
Vehicle rental	700.00
Fuel/vehicle/helicopter	600.00
Expense Accounts	800.00
Drafting	1,000.00
Report writing 5 mandays - D. Rhodes @ $398.33	1,991.65
TOTAL	$22,259.56

APPENDIX "B"

AFFIDAVIT

I, Dereck Rhodes, of the District of North Vancouver, in the Province of British Columbia, make oath and say:

1. THAT I am employed as a Senior Geologist by Cominco Ltd., and as such have a personal knowledge of the facts to which I hereinafter depose;

2. THAT annexed hereto and marked as Appendix "A" to this my affidavit is a true copy of expenditures incurred in connection with a soil geochemical program carried out on the Tome mineral claims;

3. THAT said expenditures were incurred between the tenth day of July 17 to 19 inclusive, and August 22 to 28, 1989 inclusive, for the purpose of mineral exploration on the noted claims.

Dereck Rhodes

Dereck Rhodes
Senior Geologist

DR/jd

January, 1990

APPENDIX "C"

STATEMENT OF QUALIFICATIONS

I, Dereck Rhodes, of the District of North Vancouver, in the Province of British Columbia, hereby certify:

1. THAT I am a geologist residing at 2514 Bronte Road, North Vancouver, British Columbia with a business address at 700-409 Granville Street, Vancouver, British Columbia.

2. THAT I graduated with a B.Sc. in geology from McMaster University, Hamilton, Ontario in 1969

3. THAT I have practised geology with Cominco Ltd. from June, 1969 to the present.

Dereck Rhodes
Senior Geologist

DR/jd

January, 1990

APPENDIX D

TOME CLAIM SOIL ANALYSES

TOM EAST-WD

JOB V 89-0298R
REPORT DATE 26 JUL 1989

LAB NO	FIELD NUMBER	EAST+ WEST-	NORTH+ SOUTH-	AG PPM	ZN PPM	PB PPM	FE %	BA(4) PPM
R8910860	93501	+1900	+0	.6	7	7	.66	
R8910861	93502	+1900	+25	2	11	25	.68	
R8910862	93503	+1900	+25	19.5	29	543	2	
R8910863	93504	+1900	+50	.8	12	10	.84	
R8910864	93505	+1900	+50	41.3	138	898	4.9	
R8910865	93506	+1900	+75	22.6	65	188	4.11	
R8910866	93507	+1900	+88	1.4	22	28	2.2	
R8910867	93508	+1900	+88	5.5	144	86	16.2	
R8910868	93509	+1925	+75	12.7	159	432	5.3	
R8910869	93510	+1925	+50	3	73	81	11	
R8910870	93511	+1925	+25	1.1	7	13	.49	
R8910871	93512	+1925	+0	.9	8	11	.58	

I=INSUFFICIENT SAMPLE X=SMALL SAMPLE E=EXCEEDS CALIBRATION C=BEING CHECKED R=REVISED
IF REQUESTED ANALYSES ARE NOT SHOWN ,RESULTS ARE TO FOLLOW

ANALYTICAL METHODS

- AG AQUA REGIA DECOMPOSITION / AAS
- ZN AQUA REGIA DECOMPOSITION / AAS
- PB AQUA REGIA DECOMPOSITION / AAS
- FE AQUA REGIA DECOMPOSITION / AAS
- BA(4) X-RAY FLUORESCENCE / PRESSED PELLET

TOM EAST-WD

JOB V 89-0299S
REPORT DATE 26 JUL 1989

LAB NO	FIELD NUMBER	EAST+ WEST-	NORTH+ SOUTH-	AG PPM	ZN PPM	PB PPM	FE %	BA PPM
S8912069	93513	+1875	+0	3.9	88	138	2.64	
S8912070	93514	+1875	+25	5.5	235	114	3.84	
S8912071	93515	+1875	+50	7.6	209	170	10.3	
S8912072	93516	+1875	+75	5.8	266	72	8.3	
S8912073	93517	+1875	+100	5	250	84	8.2	
S8912074	93518	+1875	+128	8.5	160	115	7.1	
S8912075	93519	+1875	+150	2.3	85	49	2.52	
S8912076	93520	+1875	+175	1.9	67	42	2.08	
S8912077	93521	+1900	+107	2.7	61	72	2.21	
S8912078	93522	+1900	+125	8	204	237	6.2	
S8912079	93523	+1900	+150	9.7	489	259	5.9	
S8912080	93524	+1900	+175	5	145	168	3.28	
S8912081	93525	+1900	+200	17.6	70	303	2.8	
S8912082	93526	+1900	+225	24	63	196	2.5	
S8912083	93527			7.3	153	225	5.7	
S8912084	93528	+1900	+250	8.6	38	129	3.45	
S8912085	93529	+1900	+275	4	23	57	3.1	
S8912086	93530	+1925	+250	2.4	28	71	5.7	
S8912087	93531	+1925	+212	2	31	81	2.13	
S8912088	93532	+1925	+200	1.8	70	64	1.96	
S8912089	93533	+1925	+175	3.4	147	118	6.3	
S8912090	93534	+1925	+150	1.3	34	35	1.72	
S8912091	93535	+1925	+125	5.7	50	59	9.9	

I=INSUFFICIENT SAMPLE X=SMALL SAMPLE E=EXCEEDS CALIBRATION C=BEING CHECKED R=REVISED
IF REQUESTED ANALYSES ARE NOT SHOWN ,RESULTS ARE TO FOLLOW

ANALYTICAL METHODS

- AG 20% HNO3 DECOMPOSITION / AAS
- ZN 20% HNO3 DECOMPOSITION / AAS
- PB 20% HNO3 DECOMPOSITION / AAS
- FE 20% HNO3 DECOMPOSITION / AAS
- BA X-RAY FLUORESCENCE / LOOSE POWDER

LAB NO	FIELD NUMBER	EAST+ WEST-	NORTH+ SOUTH-	AG PPM	CU PPM	PB PPM	ZN PPM	FE %	MN PPM	BA PPM
S8916972	93551	+0	+2075	3.7	53	61	72	3.67	34	E6432
S8916973	93552	+25	+2075	5.5	45	60	37	3.3	17	E7132
S8916974	93553	+50	+2075	.7	52	119	58	2.42	22	E11788
S8916975	93554	+75	+2075	<.4	35	25	53	2.29	20	E8031
S8916976	93555	+100	+2075	<.4	40	20	64	2.6	7	E9135
S8916977	93556	+0	+2050	.6	36	38	58	2.81	7	E8367
S8916978	93557	-25	+2050	<.4	34	16	55	2.35	9	E7389
S8916979	93558	-50	+2050	1.7	51	88	222	4.57	132	3242
S8916980	93559	-75	+2050	.8	39	40	58	2.51	20	E9939
S8916981	93560	-100	+2050	2.5	31	47	53	2.48	24	E8453
S8916982	93561	-125	+2050	7.6	40	67	29	3.47	20	E6969
S8916983	93562	-150	+2050	4.6	28	93	26	3.43	20	3990
S8916984	93563	-175	+2050	5.9	89	85	135	3.59	15	3000
S8916985	93564	-211	+2050	7.1	45	279	49	6.4	13	3596
S8916986	93565	+0	+2025	5.1	143	36	48	4.59	7	3155
S8916987	93566	+25	+2025	8.6	150	45	44	4.13	7	2823
S8916988	93567	+50	+2025	1.4	101	45	21	2.56	<5	2180
S8916989	93568	+75	+2025	1	39	22	12	2.34	<5	2766
S8916990	93569	+100	+2025	5.8	55	64	29	3.74	26	3648
S8916991	93571	+150	+2025	4.7	27	50	28	2.24	17	E5063
S8916992	93572	+175	+2025	1.7	29	33	46	1.9	13	E8028
S8916993	93573	+200	+2025	.5	32	18	43	2.12	12	E7618
S8916994	93574	+225	+2025	<.4	64	23	81	7.7	47	E5084
S8916995	93575	+250	+2025	<.4	105	17	197	6	15	E5233
S8916996	93576	+275	+2025	1	36	23	55	2.47	6	E7244
S8916997	93577	+300	+2025	11.4	33	82	37	3.8	5	E9539
S8916998	93655	-200	+1850	9.7	175	223	190	7.6	147	2168
S8916999	93656	-175	+1850	4.4	153	79	190	6.8	110	1945
S8917000	93657	-115	+1850	2.7	119	90	157	7.4	90	1815
S8917001	93658	-90	+1850	7.9	131	210	191	6.4	177	1867
S8917002	93659	-58	+1850	1.4	54	43	84	5	40	2354
S8917003	93660	-25	+1850	2.2	67	58	115	7.1	86	1891
[illegible]	[illegible]	-25	+1850	[illegible]	51	51	[illegible]	5.5	[illegible]	1724

LAB NUMBER	FIELD NO	MAP ZONE	EAST	NORTH	#	M	O	S	COL	SZ	OR	W	D CM	WM S	F H	P	PH	AG PPM	CU PPM	PB PPM	ZN PPM	BA PPM
SB917591	111680		+1925	+0	1	1	3		2B	24	1	1	3	4	B1			1.1	75	28	193	1648
SB917592	111681		+1925	+25	1	1	3		2B	24	1	1	10	4	B1			1.5	66	59	126	3151
SB917593	111682		+1925	+50	1	1	3		2B	24	1	1	6	4	B1			1	43	43	73	3103
SB917594	111683		+1925	+75	1	1	3		2B	24	1	1	6	4	B1			2	165	55	940	1379
SB917595	111684		+1925	+100	1	1	3		2B	23	1	1	6	3	B1			1.2	45	70	90	3480
SB917596	111685		+1925	+125	1	1	3		2B	24	1	1	6	3	B1			1.9	217	56	630	440
SB917597	111686		+1925	+150	1	1	4		2B	24	1	1	4	3	B2			1.7	169	60	121	785
SB917598	111687		+1925	+175	1	1	4		2B	23	1	2	6	3	B1			.8	36	55	92	2722
SB917599	111688		+1925	+200	1	1	3		2B	2	1	1	3	3	B1			<.4	26	15	19	1872
SB917600	111689		+1925	+225	1	1	3		2B	1	1	2	3	3	B1			.4	37	18	18	2260
SB917601	111690		+1925	+250	1	1	3		2B	23	1	1	6	3	B1			<.4	57	105	70	1026
SB917602	111691		+1925	+275	1	1	3		2B	24	1	1	4	3	B1			.6	32	66	54	1676
SB917603	111692		+1925	+300	1	1	4		2B	24	1	1	3	3	B2			.4	43	96	64	1826
SB917604	111693		+1925	+325	1	1	4		3B	24	1	1	6	3	B2			2.7	241	127	245	82
SB917605	111694		+1925	+350	1	1	4		3B	24	1	1	6	3	B2			1.4	269	48	590	575
SB917606	111695		+1925	+375	1	1	4		3B	24	1	1	6	3	B2			2.5	169	75	247	416
SB917607	111696		+1925	+400	1	1	4		1K	23	1	2	3	3	B1			3.2	19	71	24	2268

LAB NUMBER	FIELD NO	MAP ZONE	EAST	NORTH	#	M	O	S	COL	SZ	OR	W	D CM	WM S	F H	P	PH	AG PPM	CU PPM	PB PPM	ZN PPM	BA PPM
SB917608	111697		+1925	+425	1	1	4		2K	24	1	1	4	4	B2			3.5	10	73	14	2418
SB917609	111698		+1925	+450	1	1	3		2K	23	1	1	4	4	B1			2.1	11	35	9	3623
SB917610	111699		+1925	+475	1	1	3		2G	24	1	1	4	4	B1			1.6	10	19	11	2454
SB917611	111700		+1925	+500	1	1	3		2G	24	1	1	4	4	B1			3.3	12	32	13	3711
SB917612	111701		+1925	+525	1	1	3		2G	24	1	1	4	4	B1			2.8	11	34	11	3982
SB917613	111702		+1925	+550	1	1	3		2G	24	1	1	4	4	B1			2.4	14	21	15	2968
SB917614	111703		+1925	+575	1	1	3		2G	24	1	1	4	4	B1			2.9	17	33	17	3636
SB917615	111704		+1925	+600	1	1	4		2K	23	1	1	4	4	B1			3.3	17	54	15	4054
SB917616	111705		+1925	+625	1	1	4		2K	24	1	1	4	4	B2			3.3	26	40	18	4286
SB917617	111706		+1925	+650	1	1	4		2K	24	1	1	4	4	B2			3.4	23	31	17	4198
SB917618	111707		+1925	+675	1	1	4		3K	24	1	1	4	4	B2			1.7	14	28	10	4424
SB917619	111708		+1925	+700	1	1	4		2K	24	1	1	10	4	B2			3.4	19	41	18	3582
SB917620	111709		+1925	+725	1	1	3		2G	24	1	1	4	4	B2			2.6	21	28	16	3272
SB917621	111710		+1925	+750	1	1	4		2K	24	1	1	7	4	B2			4.9	60	53	16	3826
SB917622	111711		+1925	+775	1	1	4		2K	24	1	1	7	4	B2			4.2	61	54	18	3492
SB917623	111712		+1925	+800	1	1	3		2K	24	1	1	7	4	B2			3.9	37	53	20	2511
SB917624	111713		+1925	+825	1	1	3		2K	24	1	1	7	4	B2			3.8	48	60	36	E6319
SB917625	111714		+1925	+850	1	1	3		2K	24	1	1	6	4	B2			3.9	29	40	29	4370
SB917626	111715		+1925	+875	1	1	4		2B	24	1	1	6	4	B2			7.7	44	437	27	4504
SB917627	111716		+1925	+900	1	1	4		2K	24	1	1	6	4	B2			3.4	29	27	62	2831
SB917628	111717		+1925	+925	1	1	3		2B	24	1	1	6	4	B2			5.7	40	28	30	3531
SB917629	111718		+1925	+950	1	1	3		2B	24	1	1	6	4	B1			7.1	34	27	38	4019
SB917630	111719		+1925	+975	1	1	3		1K	24	1	1	6	4	B2			4.8	65	22	44	E5136
SB917631	111720		+1925	+1000	1	1	4		2B	24	1	1	4	4	B1			2.7	40	15	42	E5424
SB917632	111721		+1925	+1025	1	1	3		2B	24	1	1	6	4	B2			5	39	32	67	4891
SB917633	111722		+1925	+1050	1	1	3		1K	24	1	1	6	4	B2			4.8	74	46	162	E6992
SB917634	111723		+1925	+1075	1	1	3		1K	24	1	1	6	4	B2			3.2	84	36	96	E6314
SB917635	111724		+1925	+2000	1	1	3		RB	24	1	1	6	4	B2			<.4	62	9	86	1905

LAB NO	FIELD NUMBER	EAST+ WEST-	NORTH+ SOUTH-	CU PPM	PB PPM	ZN PPM	AG PPM	FE %	MN PPM	BA PPM
S8917847	93536	+0	+1875	101	27	117	.5	16.5	40	1624
S8917848	93537	+25	+1875	76	11	177	<.4	7	148	2168
S8917849	93538	+50	+1875	40	34	46	1.2	3.5	42	2419
S8917850	93539	+75	+1875	48	59	105	4	4	113	1893
S8917851	93540	+100	+1875	24	37	52	.7	3.22	61	3141
S8917852	93541	+125	+1875	21	31	58	<.4	2.68	72	2693
S8917853	93542	+150	+1875	19	34	47	<.4	2.53	30	3195
S8917854	93543	+175	+1875	30	50	57	.6	5.9	37	2309
S8917855	93544	+225	+1875	14	29	52	.4	3.41	30	2320
S8917856	93545	+250	+1875	132	42	113	<.4	15	214	970
S8917857	93546	+308	+1875	35	135	103	5.6	5.8	84	1466
S8917858	93547	+325	+1875	79	100	273	1.2	9.1	313	1774
S8917859	93548	+350	+1875	98	59	32	3.6	11.9	13	2286
S8917860	93549	+375	+1875	61	142	66	2.7	11.9	50	1813
S8917861	93550	+425	+1875	58	138	43	3.1	14.4	77	2960
S8917862	93610	+450	+1875	161	134	76	3	12.9	4130	1435
S8917863	93611	+475	+1875	9	17	4	.9	1.09	9	3989
S8917864	93612	+500	+1875	11	34	8	2.9	2.24	29	4104
S8917865	93613	+525	+1875	19	38	15	3	2.25	60	3038
S8917866	93614	+550	+1875	10	30	6	1.5	1.63	8	2951
S8917867	93615	+580	+1875	22	34	13	3.7	3.24	30	3317
S8917868	93616	+600	+1875	13	22	4	1.6	1.63	5	3885
S8917869	93617	+625	+1875	14	27	6	1.4	2.19	13	3974
S8917870	93618	+655	+1875	17	46	12	2.8	2.99	35	3353
S8917871	93619	+675	+1875	19	59	14	2.5	3.22	21	3106
S8917872	93620	+714	+1875	34	29	6	1.2	1.92	7	2235
S8917873	93621	+731	+1875	25	76	10	3	3.01	19	2575
S8917874	93622	+767	+1875	27	76	8	3.7	2.57	6	2578
S8917875	93623	+860	+1875	28	81	19	6.3	7.5	23	3110
S8917876	93624			18	17	10	3	2.18	8	2323
S8917877	93625	+875	+1875	34	33	20	6.8	3.5	19	4427
S8917878	93626	+900	+1875	39	35	23	5.9	3.86	18	3433
S8917879	93627	+925	+1875	42	23	29	8.8	3.58	25	4137
S8917880	93628	+950	+1875	37	28	43	5	6.9	27	4571
S8917881	93629	+980	+1875	39	32	46	3.1	6.4	34	5740
S8917882	93630	+1000	+1875	35	21	60	2.1	3.23	68	3629
S8917883	93631	+0	+1850	26	27	37	<.4	2.55	35	2196
S8917884	93632	+25	+1850	39	49	53	2.1	7	92	2321
S8917885	93633	+50	+1850	38	52	53	.6	7.1	102	1955
S8917886	93634	+75	+1850	29	46	50	1	6.7	64	2006
S8917887	93635	+100	+1850	94	20	107	.4	7.8	236	1775
S8917888	93636	+125	+1850	44	87	87	2.6	7.4	181	2333
S8917889	93637	+155	+1850	29	49	63	.4	4.07	30	2094
S8917890	93638	+180	+1850	90	64	103	.7	7.9	1030	1102
S8917891	93639	+200	+1850	45	71	184	<.4	7.3	93	1810
S8917892	93640	+230	+1850	66	75	49	.9	15	39	1674
S8917893	93641	+250	+1850	37	130	44	2.8	9.2	42	2542
S8917894	93642	+280	+1850	27	72	53	.5	3.77	60	1550
S8917895	93643	+295	+1850	125	50	64	1.4	8.9	4010	2052
S8917896	93644	+334	+1850	35	105	55	1.8	6.3	81	1915
S8917897	93645	+360	+1850	22	27	38	.6	2.8	22	2459

LAB NO	FIELD NUMBER	EAST+ WEST-	NORTH+ SOUTH-	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Fe %	Mn PPM	Ba PPM
S8917898	93646	+381	+1850	27	124	37	4.9	7.9	50	4551
S8917899	93647	+405	+1850	20	18	9	.5	1.73	5	3239
S8917900	93648	+425	+1850	14	34	8	1.8	2.05	12	3309
S8917901	93649	+450	+1850	11	17	4	1.5	1.34	7	3542
S8917902	93650	+475	+1850	18	53	11	3.2	2.61	32	2948
S8917903	93651	+508	+1850	26	17	6	1.8	1.81	5	2418
S8917904	93652	+528	+1850	20	11	4	1.3	1.22	5	2187
S8917905	93653	+550	+1850	25	31	8	2.2	1.94	5	1923
S8917906	93654	+575	+1850	24	137	13	2.1	2.71	18	2082

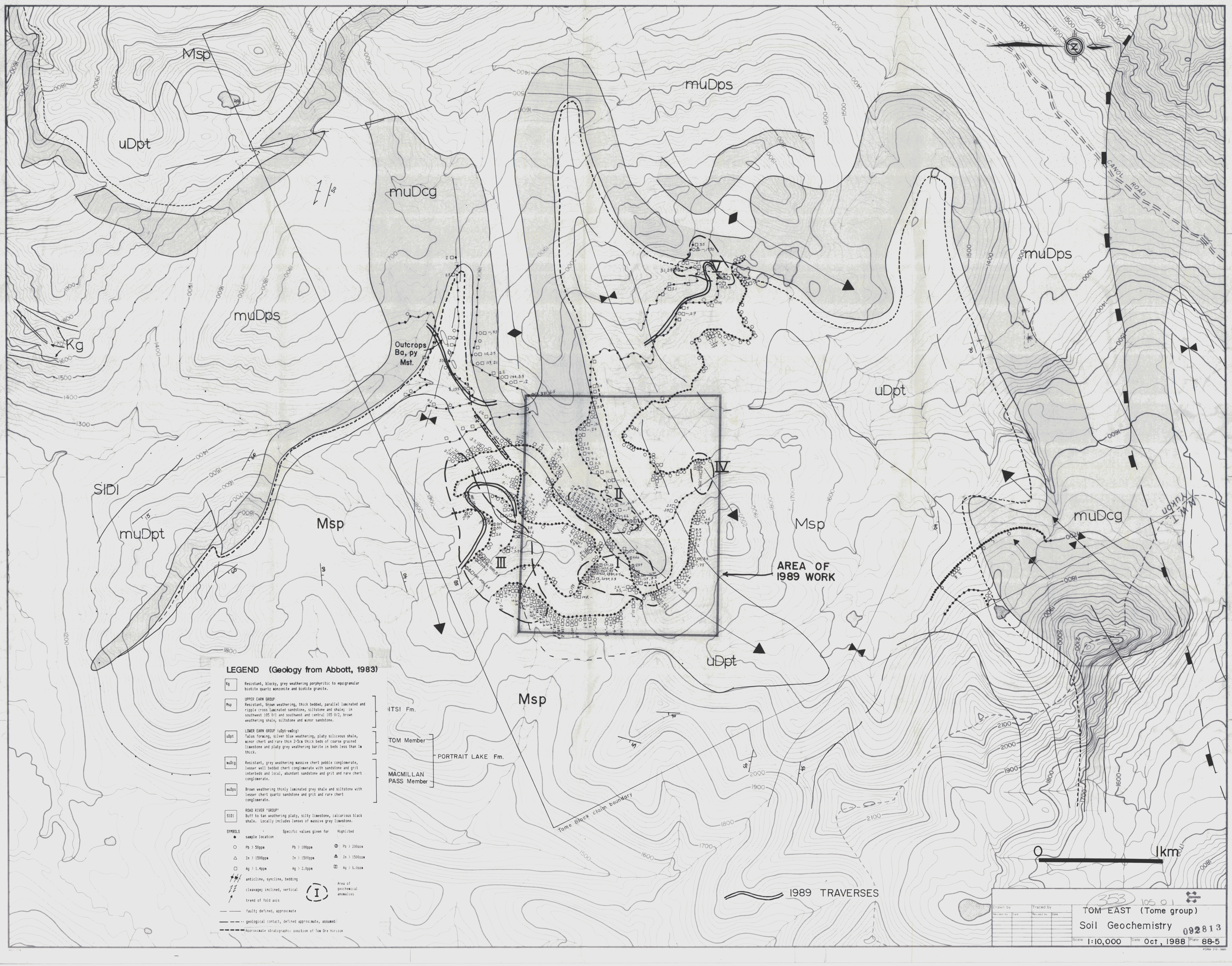
I=INSUFFICIENT SAMPLE X=SMALL SAMPLE E=EXCEEDS CALIBRATION C=BEING CHECKED R=REVISED
IF REQUESTED ANALYSES ARE NOT SHOWN ,RESULTS ARE TO FOLLOW

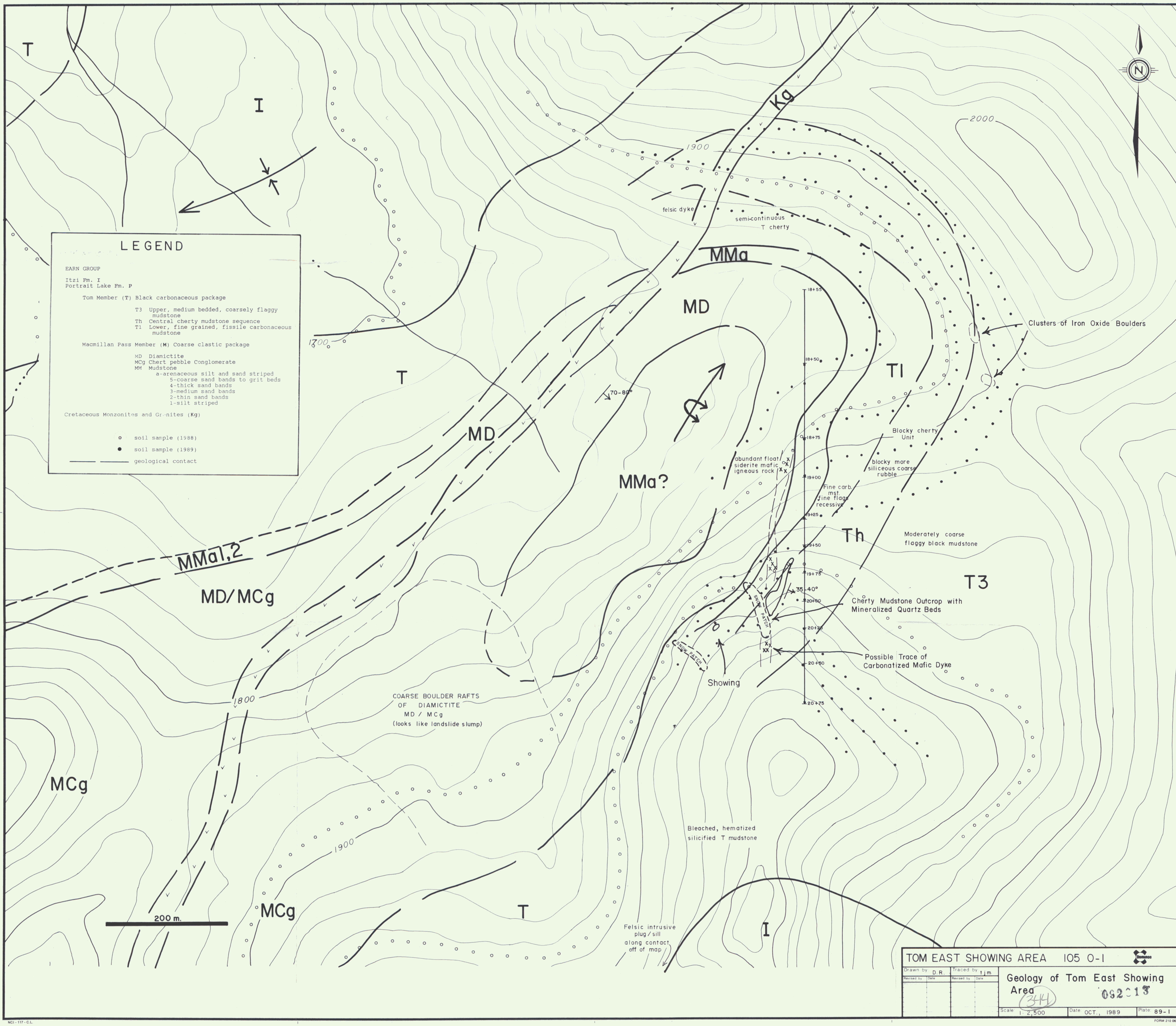
ANALYTICAL METHODS

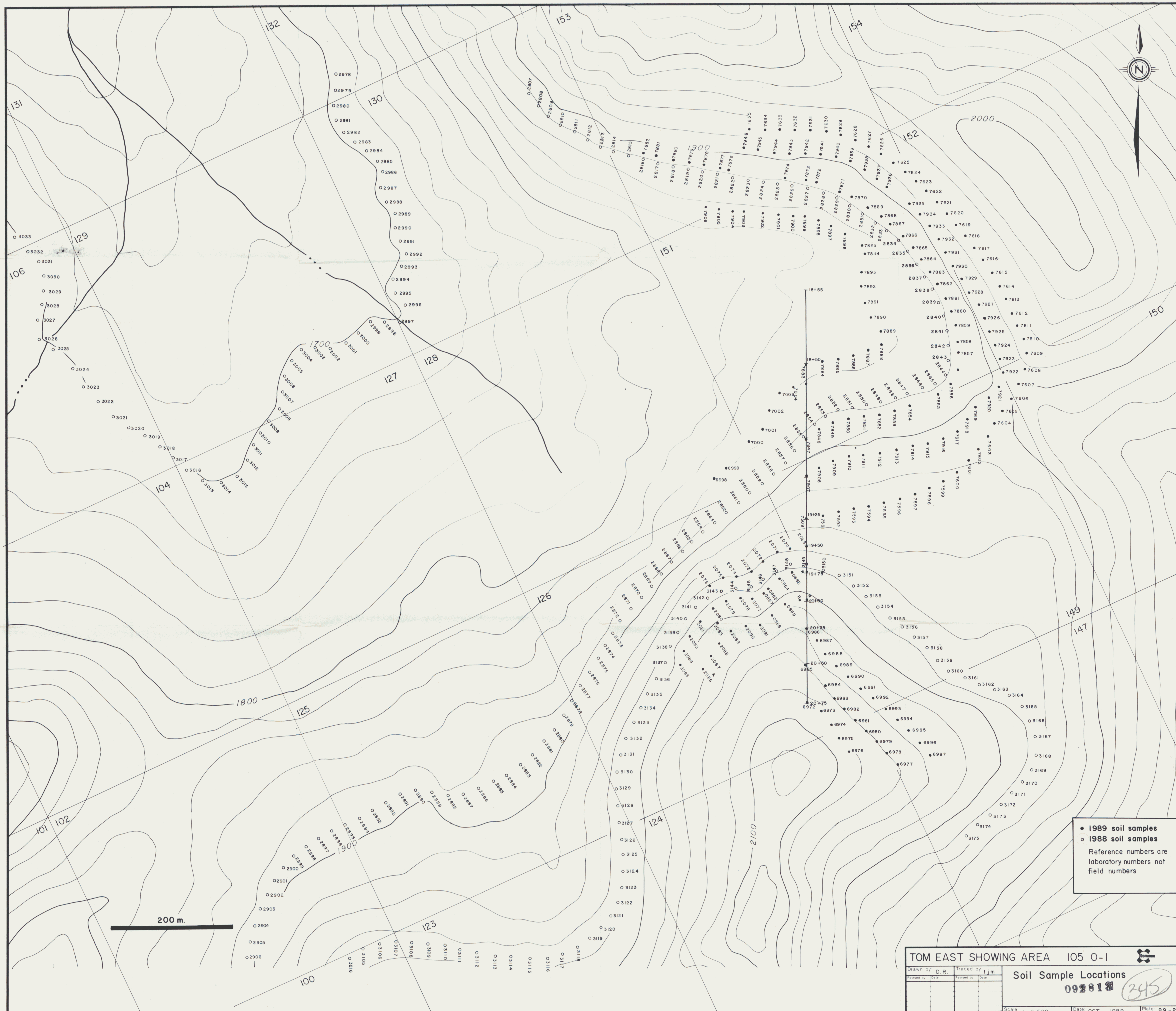
Cu 20% HNO3 DECOMPOSITION / AAS
Pb 20% HNO3 DECOMPOSITION / AAS
Zn 20% HNO3 DECOMPOSITION / AAS
Ag 20% HNO3 DECOMPOSITION / AAS
Fe 20% HNO3 DECOMPOSITION / AAS
Mn 20% HNO3 DECOMPOSITION / AAS
Ba X-RAY FLUORESCENCE / LOOSE POWDER

LAB NUMBER	FIELD NO	MAP ZONE	EAST	NORTH	#	M	O	S	COL	SZ	OR	W	D cm	Wm S	F H	P	pH	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Ba ppm
S8917907	111596		+0	+1900	2	1	3		BG	24	1	1	5	4	B1			.5	31	23	56	2239
S8917908	111597		+25	+1900	2	1	3		2B	24	1	1	4	4	B1			1.5	157	66	203	2400
S8917909	111598		+50	+1900	2	1	3		2B	24	1	2	5	3	B1			0.8	24	33	25	2237
S8917910	111599		+75	+1900	2	1	3		3G	24	1	1	6	3	B1			.8	27	23	45	2197
S8917911	111600		+100	+1900	2	1	3		BG	2	1	2	7	3	B1			.5	19	28	42	3178
S8917912	111601		+125	+1900	2	1	4		2B	24	1	1	5	3	B1			1.1	27	39	39	2574
S8917913	111602		+150	+1900	2	1	3		3B	24	1	2	6	3	B1			2.5	39	59	70	2094
S8917914	111603		+175	+1900	2	1	3		3G	24	1	1	5	4	B1			2	138	75	271	1861
S8917915	111605		+225	+1900	2	1	3		2B	24	1	1	6	4	B1			1.3	39	62	57	2012
S8917916	111606		+250	+1900	2	1	3		BG	24	1	2	7	4	B1			3.5	56	92	83	4417
S8917917	111607		+275	+1900	2	1	3		3G	12	1	2	4	3	B1			.5	8	24	12	1861
S8917918	111608		+300	+1900	2	1	3		2B	24	1	2	8	2	B1			.8	12	34	39	1085
S8917919	111609		+325	+1900	2	1	3		2B	24	1	1	7	3	B1			2.7	243	91	357	646

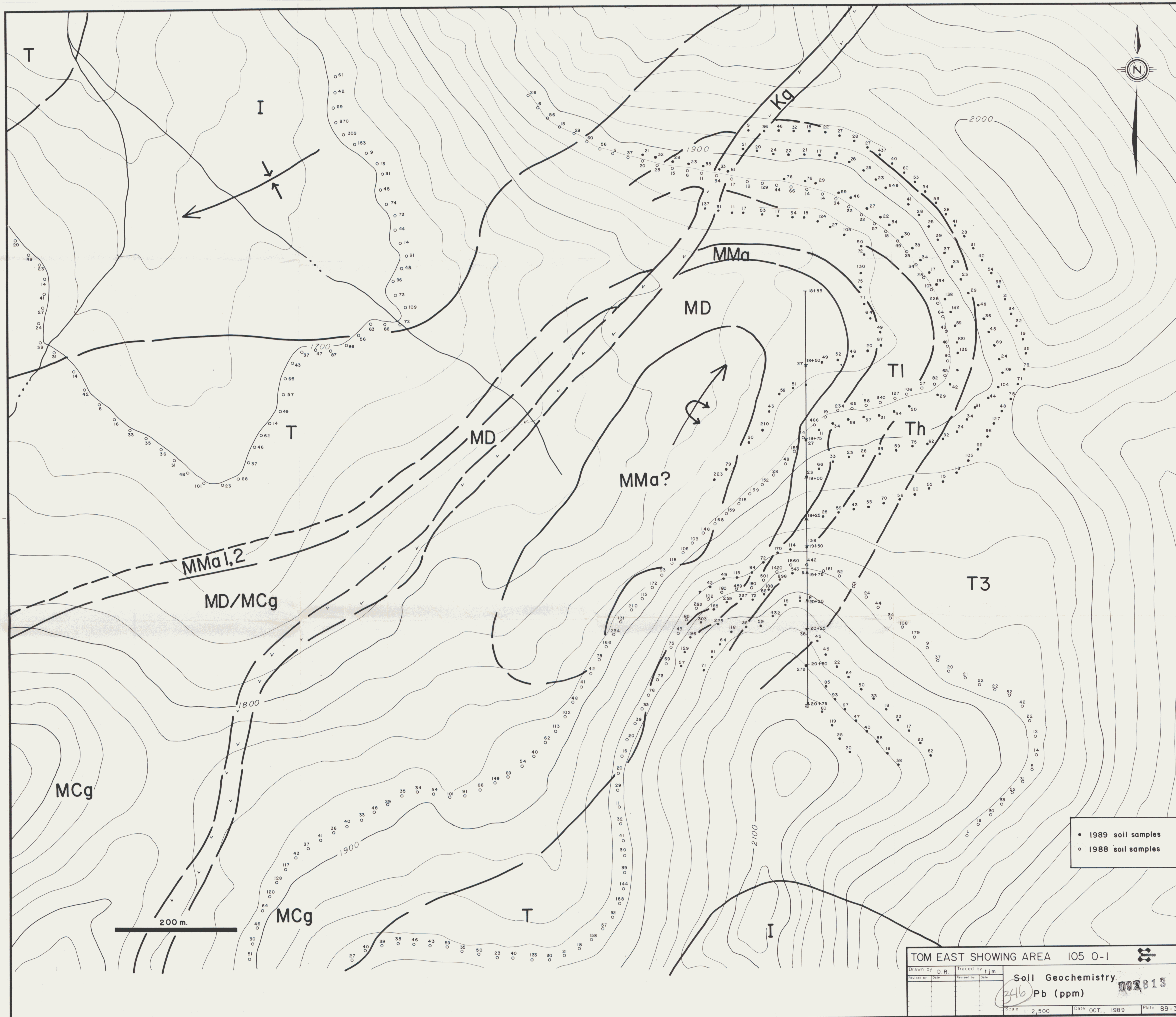
LAB NUMBER	FIELD NO	MAP ZONE	EAST	NORTH	#	M	O	S	COL	SZ	OR	W	D cm	Wm S	F H	P	pH	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Ba ppm
S8917920	111610		+350	+1900	2	1	3		3G	2	1	1	5	3	B1			.9	23	44	50	1976
S8917921	111611		+375	+1900	2	1	4		3K	24	1	2	3	4	B1			5	21	104	25	2601
S8917922	111612		+400	+1900	2	1	4		2K	24	1	2	6	4	B2			6	21	108	17	2880
S8917923	111613		+425	+1900	2	1	3		2G	2	1	1	4	4	B1			1.4	9	24	4	3378
S8917924	111614		+450	+1900	2	1	4		BG	24	1	1	4	4	B2			6.1	53	89	67	3546
S8917925	111615		+475	+1900	2	1	4		1K	24	1	1	5	4	B2			3.1	8	45	9	3395
S8917926	111616		+500	+1900	2	1	4		1K	24	1	1	5	4	B2			2.7	12	36	16	3037
S8917927	111617		+525	+1900	2	1	4		2K	24	1	1	7	4	B2			3.5	17	48	14	3813
S8917928	111618		+550	+1900	2	1	3		3G	24	1	1	4	4	B1			3.6	18	29	13	2923
S8917929	111619		+575	+1900	2	1	3		3G	24	1	1	6	4	B1			1.7	16	23	8	3204
S8917930	111620		+600	+1900	2	1	4		1K	24	1	1	7	4	B1			2	12	23	8	3623
S8917931	111621		+625	+1900	2	1	4		2K	24	1	1	8	4	B2			3.2	15	37	9	3099
S8917932	111622		+650	+1900	2	1	4		KG	24	1	1	4	4	B1			3.6	21	39	11	2930
S8917933	111623		+675	+1900	2	1	4		1K	24	1	1	6	4	B2			3.3	26	25	10	3008
S8917934	111624		+700	+1900	2	1	4		2K	24	1	1	8	4	B2			2.9	33	28	8	2794
S8917935	111625		+725	+1900	2	1	4		2G	24	1	1	5	4	B1			4.5	45	41	19	3012
S8917936	111627		+775	+1900	2	1	3		BG	24	1	1	9	4	B2			7.8	33	549	18	E5451
S8917937	111628		+800	+1900	2	1	4		2G	24	1	1	5	4	B1			4	16	23	23	2338
S8917938	111629		+825	+1900	2	1	3		3B	24	1	1	8	4	B2			6.2	25	25	18	2805
S8917939	111630		+850	+1900	2	1	4		2G	24	1	1	8	4	B2			8.6	31	28	19	3532
S8917940	111631		+875	+1900	2	1	4		2G	24	1	1	5	4	B1			6.2	48	18	30	4337
S8917941	111632		+900	+1900	2	1	3		1G	24	1	1	7	4	B1			6.9	41	17	33	4328
S8917942	111633		+925	+1900	2	1	3		2G	24	1	1	8	4	B1			3.8	37	21	39	4108
S8917943	111634		+950	+1900	2	1	4		1K	24	1	1	7	4	B2			2.7	37	22	61	4578
S8917944	111635		+975	+1900	2	1	3		3G	24	1	1	5	4	B2			3.1	34	24	41	4808
S8917945	111636		+1000	+1900	2	1	3		2B	24	1	1	6	4	B2			2	64	20	84	4071
S8917946	111637		+1025	+1900	2	1	3		1G	24	1	1	5	4	B1			5.3	66	51	86	5507

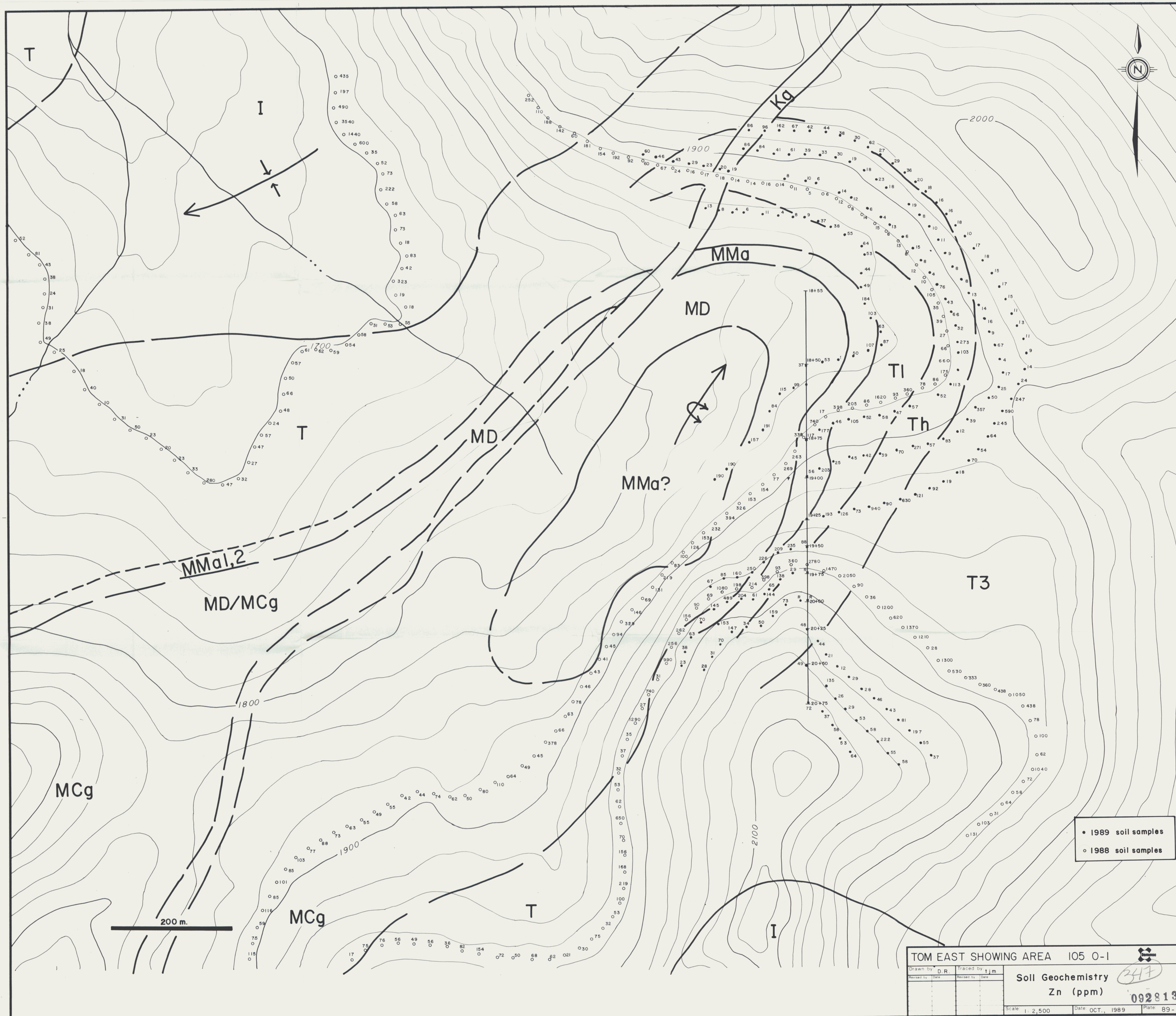

Msp
muDps
uDpt
muDcg
Kg
Outcrops
Ba, py
Mst.
SIDI
muDpt
Msp
II
III
IV
V
AREA OF
1989 WORK
CANOL ROAD
Yukon
N.W.T.
Tome Block claim boundary
0
1km
1989 TRAVERSES
LEGEND (Geology from Abbott, 1983)
Kg
Resistant, blocky, grey weathering porphyritic to equigranular biotite quartz monzonite and biotite granite.
Msp
UPPER EARN GROUP
Resistant, brown weathering, thick bedded, parallel laminated and ripple cross laminated sandstone, siltstone and shale; in southwest 105 O/1 and southwest and central 105 O/2, brown weathering shale, siltstone and minor sandstone.
ITSI Fm.
uDpt
LOWER EARN GROUP (uDpt-emDcg)
Talus forming, silver blue weathering, platy siliceous shale, minor chert and rare thin 2-5cm thick beds of coarse grained limestone and platy grey weathering barite in beds less than 1m thick.
TOM Member
PORTRAIT LAKE Fm.
muDcg
Resistant, grey weathering massive chert pebble conglomerate, lesser well bedded chert conglomerate with sandstone and grit interbeds and local, abundant sandstone and grit and rare chert conglomerate.
muDps
Brown weathering thinly laminated grey shale and siltstone with lesser chert quartz sandstone and grit and rare chert conglomerate.
MACMILLAN PASS Member
S1D1
ROAD RIVER 'GROUP'
Buff to tan weathering platy, silty limestone, calcarious black shale. Locally includes lenses of massive grey limestone.
SYMBOLS
Specific values given for
Highlited
sample location
Pb > 50ppm
Pb > 100ppm
Pb > 200ppm
Zn > 1500ppm
Zn > 1500ppm
Zn > 1500ppm
Ag > 1.4ppm
Ag > 2.0ppm
Ag > 6.0ppm
anticline, syncline, bedding
cleavage; inclined, vertical
trend of fold axis
I
Area of geochemical anomalies
fault; defined, approximate
geological contact, defined approximate, assumed
Approximate stratigraphic position of Tom Ore Horizon
353
105 O 1
TOM EAST (Tome group)
Soil Geochemistry
092813
Scale 1:10,000
Date Oct, 1988
Plate 88-5
FORM 210-0680

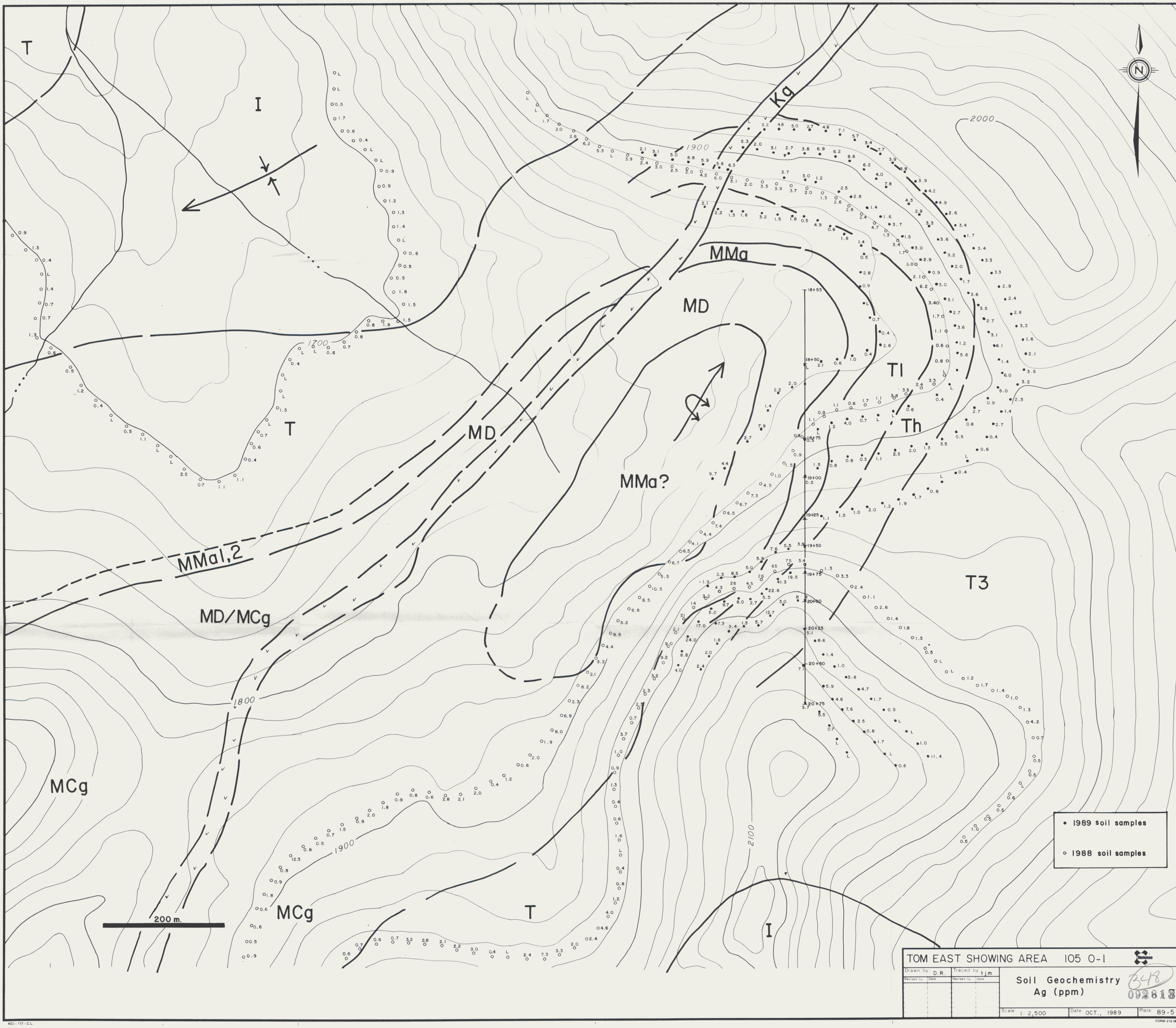

LEGEND
EARN GROUP
Itzi Fm. I
Portrait Lake Fm. P
Tom Member (T) Black carbonaceous package
T3 Upper, medium bedded, coarsely flaggy mudstone
Th Central cherty mudstone sequence
Tl Lower, fine grained, fissile carbonaceous mudstone
Macmillan Pass Member (M) Coarse clastic package
MD Diamictite
MCg Chert pebble Conglomerate
MM Mudstone
a-arenaceous silt and sand striped
5-coarse sand bands to grit beds
4-thick sand bands
3-medium sand bands
2-thin sand bands
1-silt striped
Cretaceous Monzonites and Granites (Kg)
soil sample (1988)
soil sample (1989)
geological contact
T
I
Kg
2000
1900
1800
1700
felsic dyke
semi-continuous T cherty
MMa
MD
Tl
Clusters of Iron Oxide Boulders
70-80°
MMa?
abundant float siderite mafic igneous rock
Blocky cherty Unit
blocky more siliceous coarse rubble
Fine carb. mst. fine flags recessive
Th
Moderately coarse flaggy black mudstone
T3
35-40°
Cherty Mudstone Outcrop with Mineralized Quartz Beds
Possible Trace of Carbonatized Mafic Dyke
Showing
SNOW PATCH
MMa1,2
MD/MCg
COARSE BOULDER RAFTS OF DIAMICTITE MD / MCg (looks like landslide slump)
MCg
Bleached, hematized silicified T mudstone
Felsic intrusive plug / sill along contact off of map
200 m.
18+55
18+50
18+75
19+00
19+25
19+50
19+75
20+00
20+25
20+50
20+75
N
TOM EAST SHOWING AREA 105 O-1
Dominion
Drawn by: D.R.
Traced by: tjm
Revised by
Date
Geology of Tom East Showing Area
344
092013
Scale: 1: 2,500
Date: OCT., 1989
Plate: 89-1
FORM 210 0660
NCI-117-C.L.



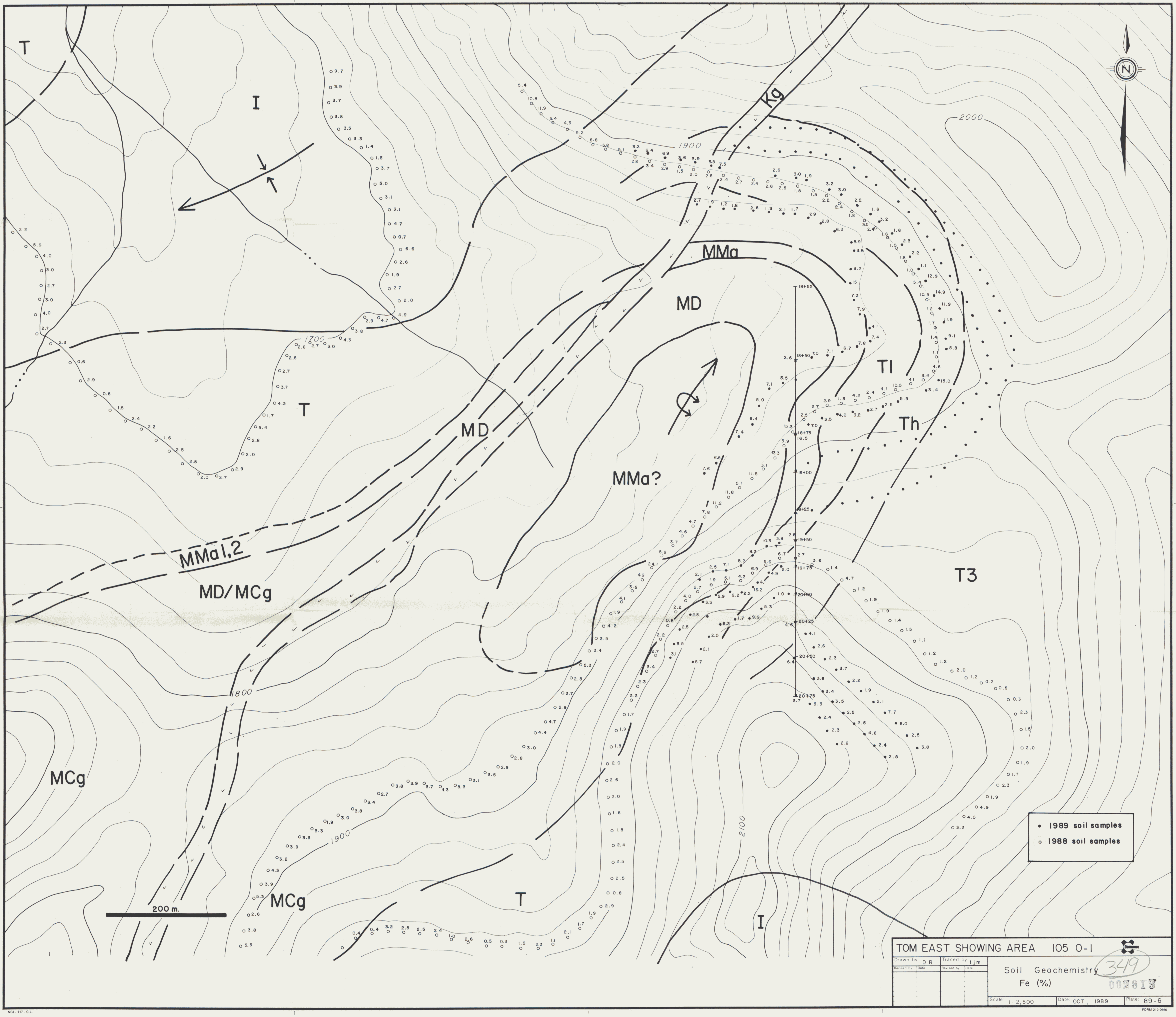
TOM EAST SHOWING AREA 105 O-1
Soil Sample Locations
Drawn by D.R.
Traced by tjm
Scale 1: 2,500
Date OCT., 1989
Plate 89-2
092813
345
● 1989 soil samples
○ 1988 soil samples
Reference numbers are laboratory numbers not field numbers
200 m.
N
1700
1800
1900
2000
2100
18+55
18+50
19+25
19+50
19+75
20+00
20+25
20+50
20+75
NCI-117-C.L.
FORM 210 0660


T
I
Kg
MMa
MD
Tl
Th
MMa?
MMa1,2
MD/MCg
T3
MCg
200 m.
1700
1800
1900
2000
2100
• 1989 soil samples
○ 1988 soil samples
TOM EAST SHOWING AREA 105 O-1
Drawn by D.R.
Traced by l.m.
Soil Geochemistry
Pb (ppm)
Scale 1: 2,500
Date OCT., 1989
Plate 89-3

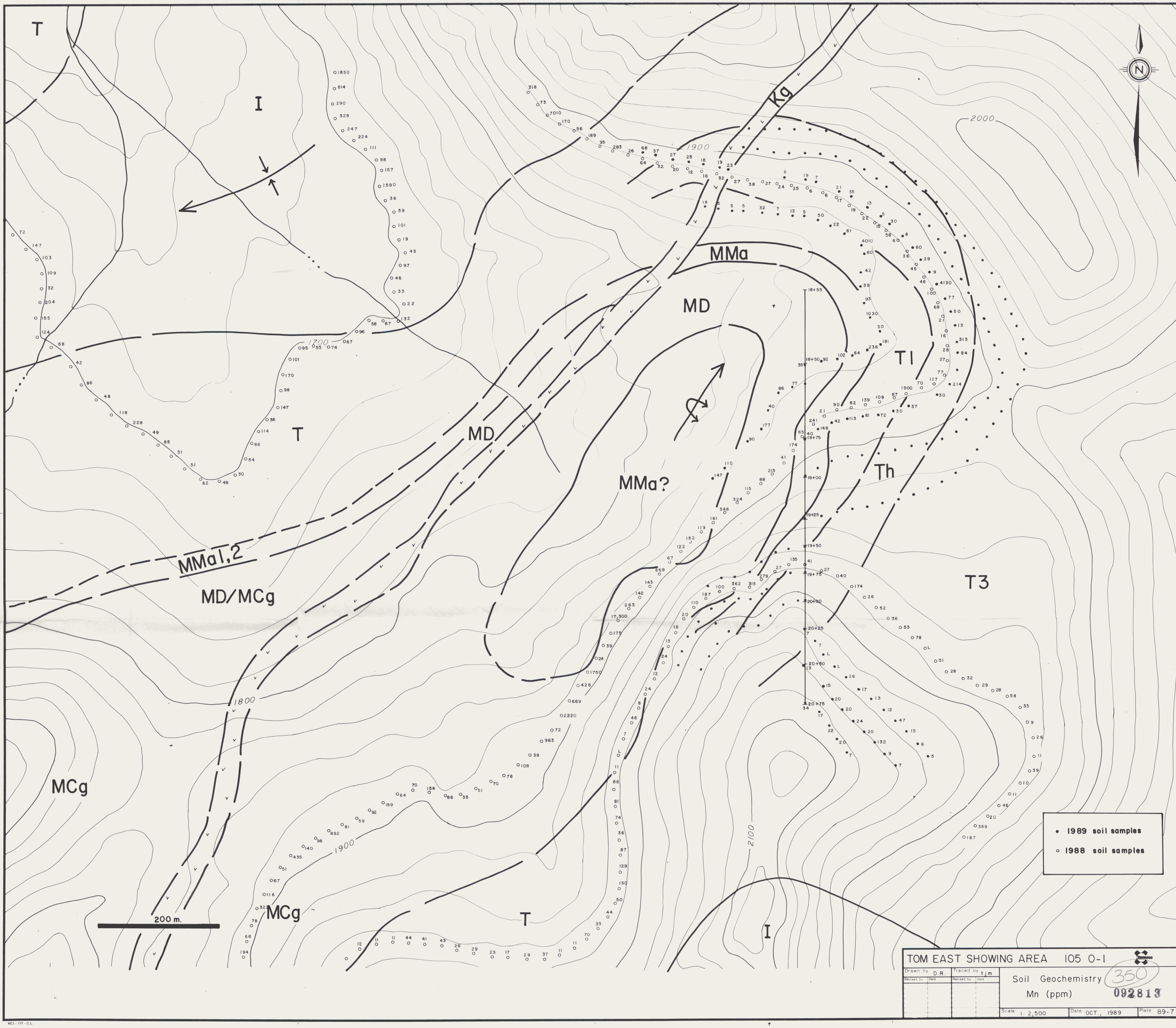

T
I
Kg
MMa
MD
Tl
Th
MMa?
MD
MMa1,2
MD/MCg
T
T3
MCg
MCg
T
I
1700
1800
1900
1900
2000
2100
200 m.
• 1989 soil samples
○ 1988 soil samples
TOM EAST SHOWING AREA 105 O-1
Drawn by: D.R.
Traced by: tjm
Revised by
Date
Soil Geochemistry
Zn (ppm)
347
092813
Scale 1: 2,500
Date OCT., 1989
Plate 89-4
NCI-117-C.L.
FORM 210 0660

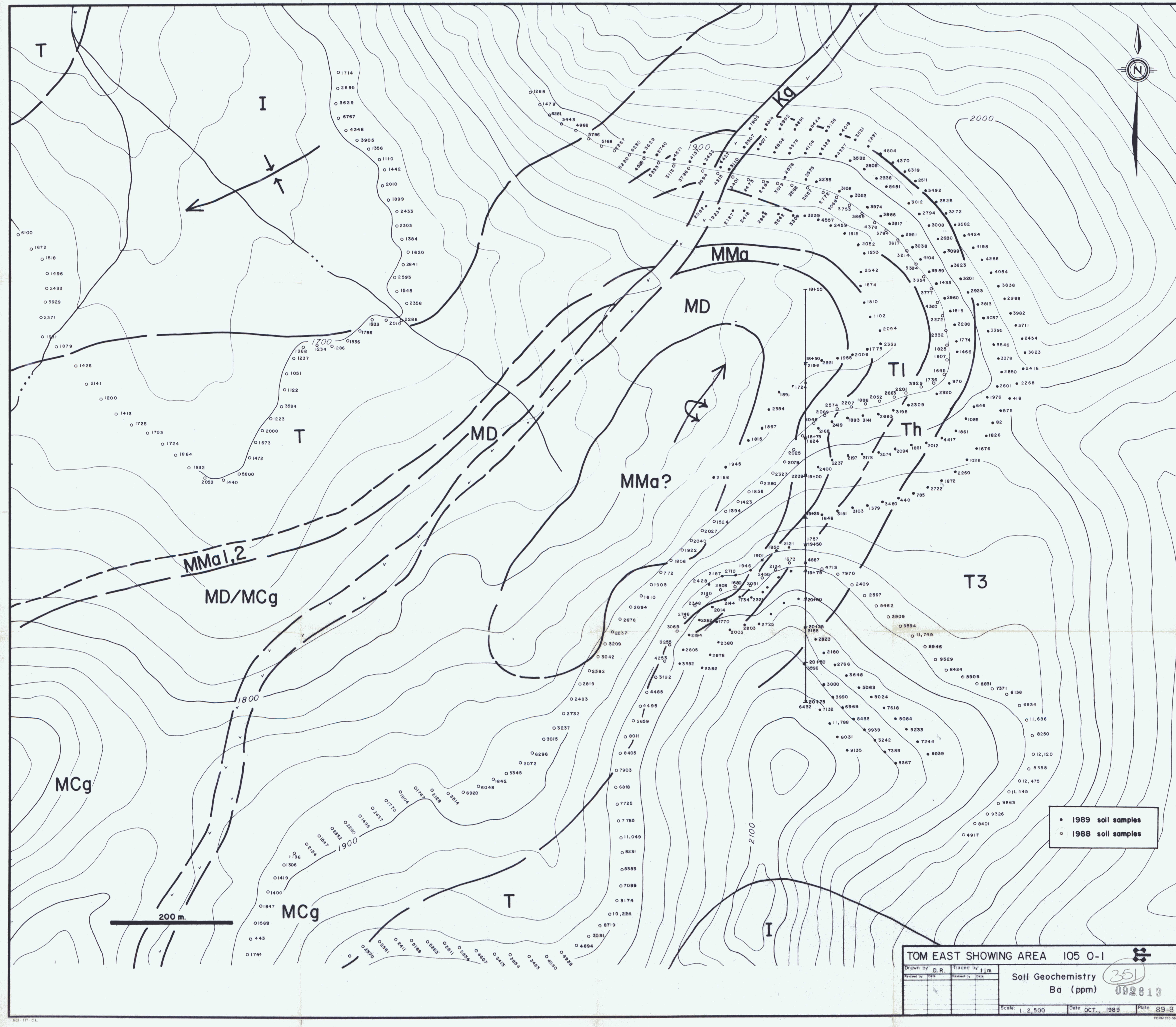


T
I
Kg
MMa
MD
Tl
Th
MMa?
MD
MMal,2
MD/MCg
T3
MCg
MCg
T
I
T
1700
1800
1900
1900
2000
2100
200 m.
• 1989 soil samples
○ 1988 soil samples
TOM EAST SHOWING AREA 105 O-1
Drawn by D.R.
Traced by t.j.m.
Soil Geochemistry
Ag (ppm)
Scale 1:2,500
Date OCT., 1989
Plate 89-5
092813
NCI - 117 - C.L.
FORM 210 0660



T
I
T
MD
MMa
MD
Tl
Th
MMa?
MMa1,2
MD/MCg
T3
MCg
MCg
T
I
Kg
2000
1900
1700
1800
1900
2100
200 m.
• 1989 soil samples
○ 1988 soil samples
TOM EAST SHOWING AREA 105 O-1
Drawn by D.R.
Traced by t.j.m.
Soil Geochemistry
Fe (%)
349
092818
Scale 1: 2,500
Date OCT., 1989
Plate 89-6
NCI - 117 - C.L.
FORM 212 0660


T
I
T
MCg
MCg
T
I
MD/MCg
MMa1,2
MD
MD
MMa
MMa?
Kg
T1
Th
T3
1700
1800
1900
1900
2000
2100
200 m.
• 1989 soil samples
○ 1988 soil samples
TOM EAST SHOWING AREA 105 O-1
Drawn by D.R.
Traced by t.j.m
Soil Geochemistry
Mn (ppm)
350
092813
Scale 1: 2,500
Date OCT., 1989
Plate 89-7
NCI - 117 - C.L.

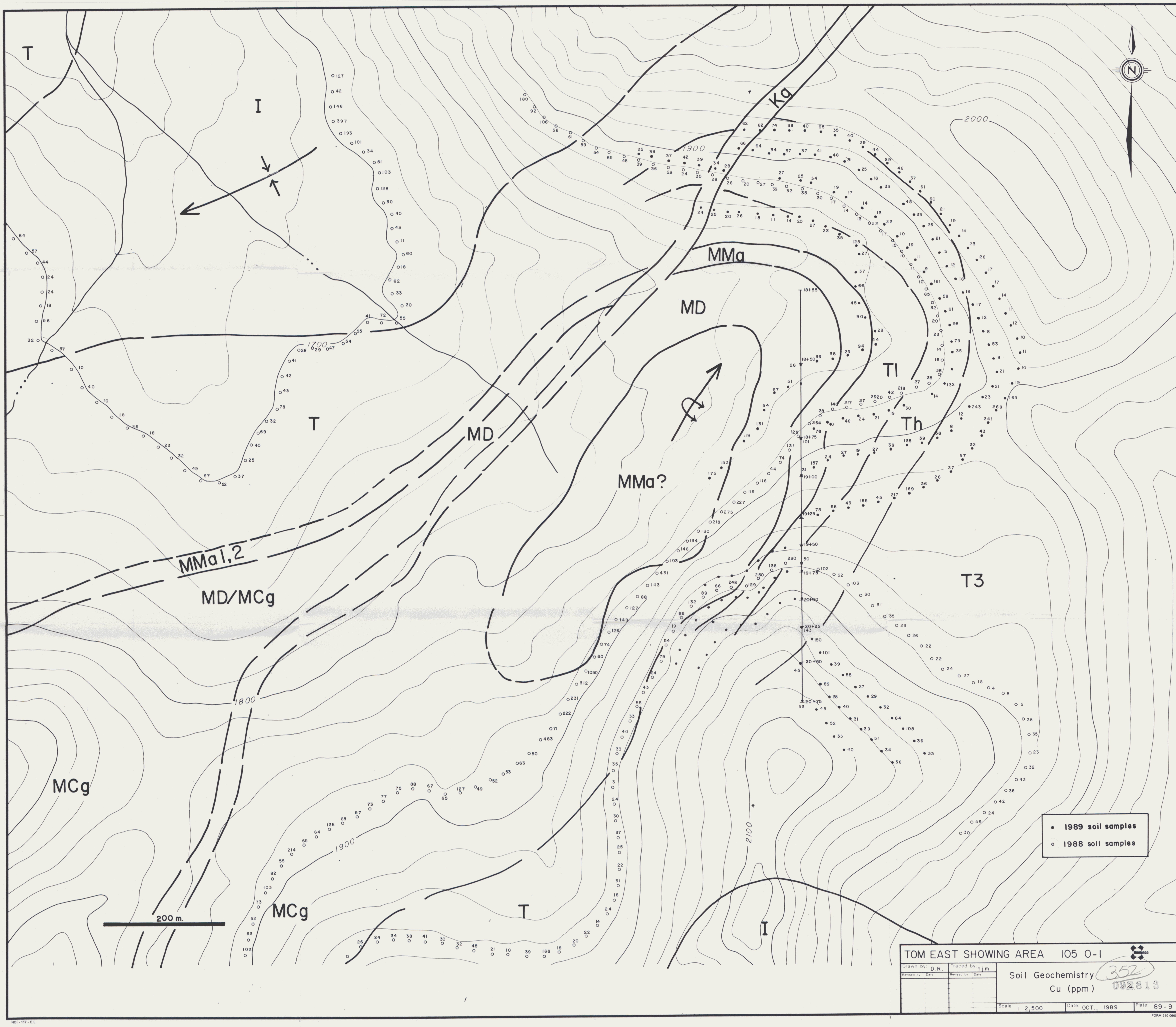


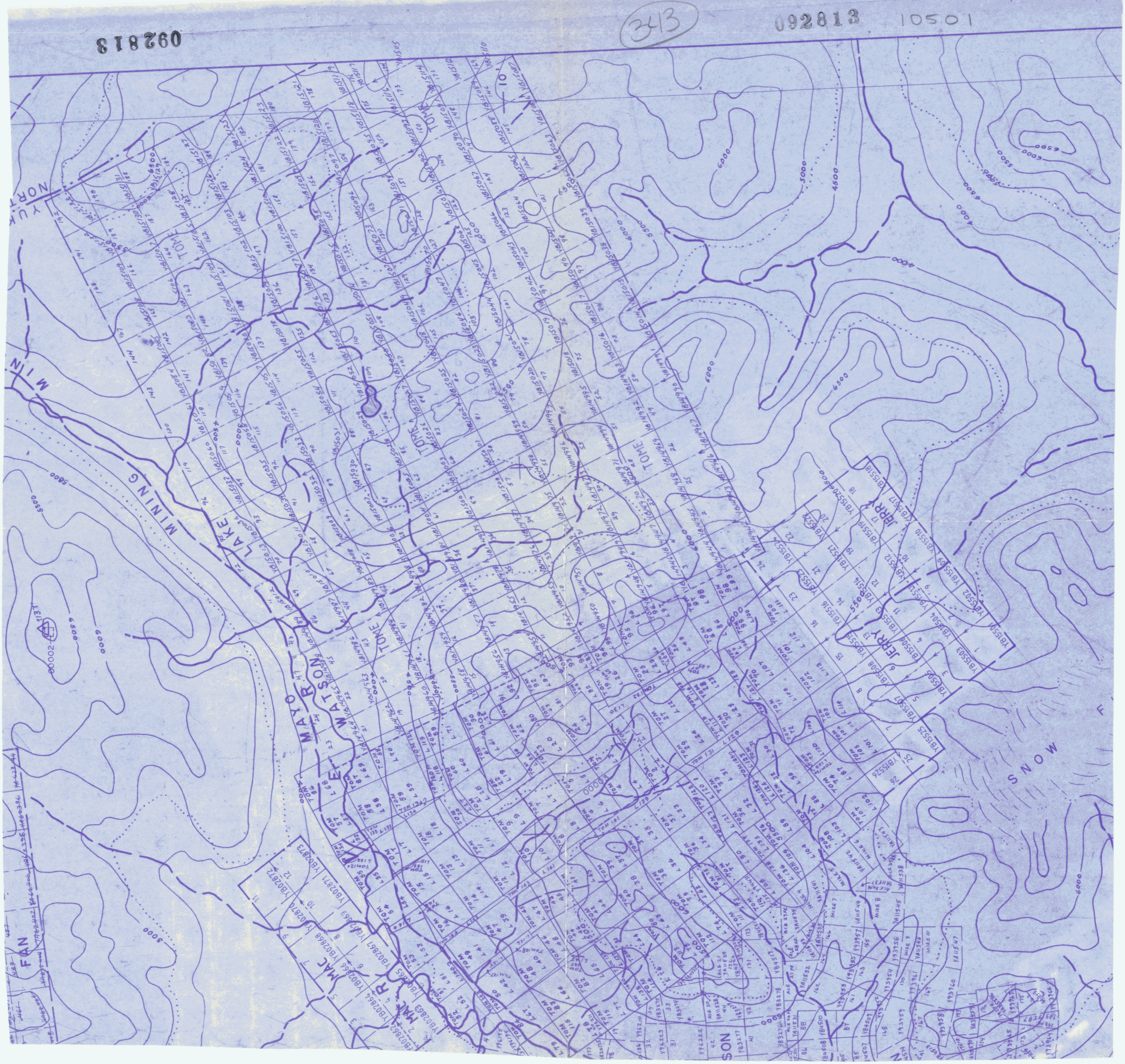
TOM EAST SHOWING AREA 105 O-1

Drawn by: D.R.	Traced by: tjm	Soil Geochemistry Ba (ppm)
Scale 1:2,500	Date OCT., 1989	Plate: 89-8

351

092813


T
I
Kg
2000
1900
1700
1800
2100
MMa
MD
Tl
Th
MMa?
MMa1,2
MD/MCg
T3
MCg
200 m.
• 1989 soil samples
○ 1988 soil samples
TOM EAST SHOWING AREA 105 O-1
Dominco
Drawn by: D.R.
Traced by: tjm
Revised by
Date
Soil Geochemistry
Cu (ppm)
352
092813
Scale: 1: 2,500
Date: OCT., 1989
Plate: 89-9
FORM 210 0660
NCI - 117 - C.L.


343
092813
10501
MINING
LAKE
MAYO
WATSON
TOME
JERRY
SNOW
FAN