87-143-1582=

GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL

REPORT ON THE

BAM CLAIMS

Liard Mining Division Telegraph Creek Map Area (104G/2)W

> Latitude 570 12 10.7' Longitude 131912 /30°57.6'

> > **Owner: Chris Graf**

Operator: Chevron Canada Resources Limited

> **Godfrey Walton** December, 19

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VANCOUVER, B.C.

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117 GEOLOGICAL BRANCH

Wayne HewGHISSESSMENT REPORT

a11/28/1

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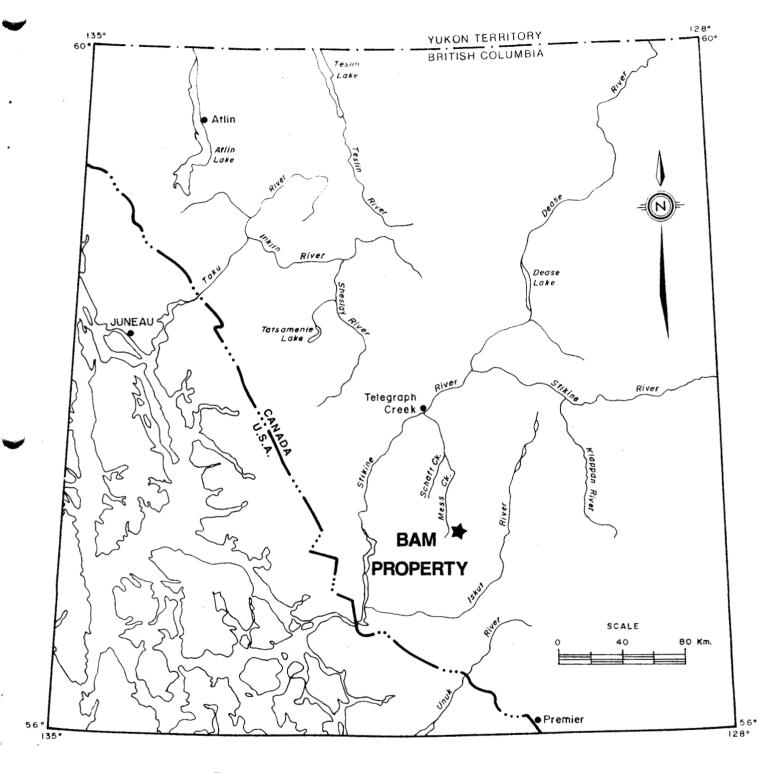
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Chevron

Chevron Canada Resources Limited Minerals Staff

LOCATION MAP BAM PROPERTY

FIGURE 1

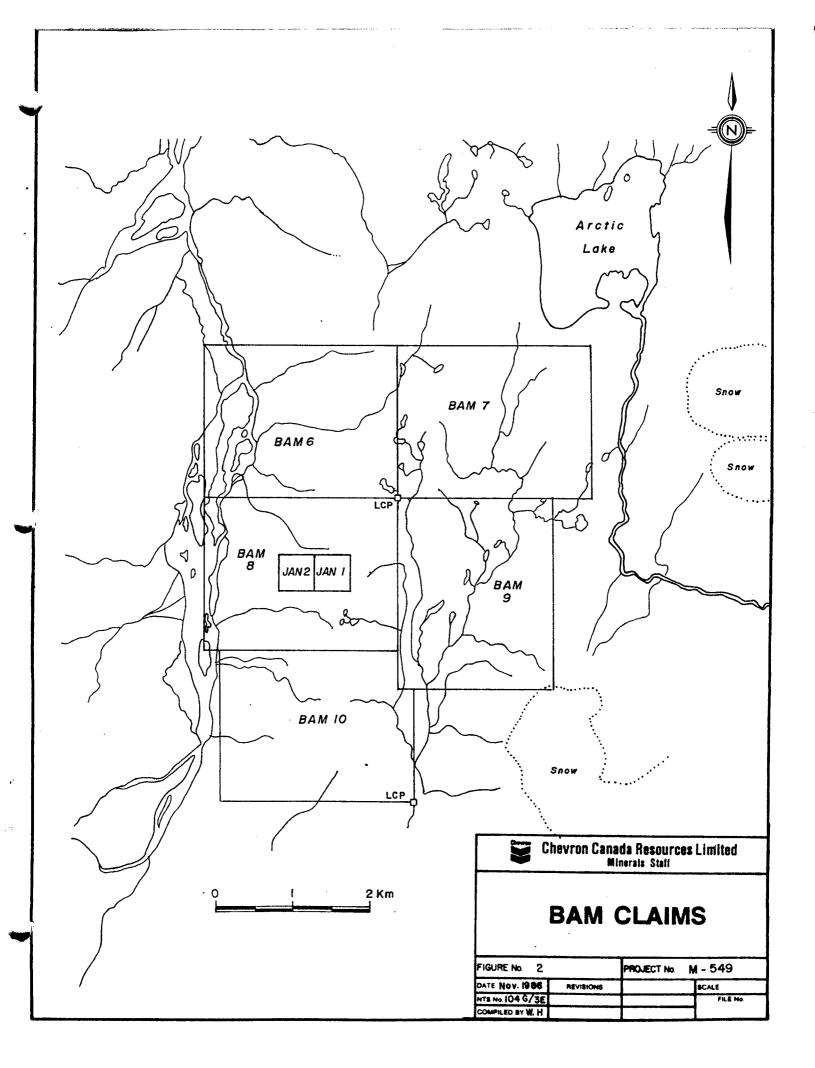
INTRODUCTION

The Bam property consisting of five claims (61 units) is owned by Chris Graf and was explored by Chevron Canada Resources Ltd. under an option agreement signed in 1985. In 1967, previous workers outlined 330,000 tons of 0.76% Cu in tetrahedrite veins cutting dolomitic limestone. The 1986 Chevron program was designed to evaluate the gold potential near two quartz vein samples assaying 212.9 g/t and 15.6 g/ton gold which had been picked up on the property during 1985. The 1986 program consisted of 1:10,000 scale mapping and soil sampling, 1:1,000 detailed geologic mapping, soil sampling, VLF-EM16 geophysics, and trenching.

LOCATION AND ACCESS

The Bam Property is located in the Liard Mining Division of northwestern British Columbia. The property is located near the headwaters of Mess Creek along the eastern side, approximately 80 kilometres south of Telegraph Creek on the Stikine River (Figure 1). The NTS grid reference is 104G/2 and the coordinates 57° 12' north and 131° 22' east.

Access from the base camp at Loon Lake was facilitated by a Northern Mountain Helicopter Bell 206 based in camp. The nearest airstrip is at Schaft Creek, ten kilometres to the northwest of our base camp and is capable of handling moderately sized aircraft. The nearest road access is 40 kilometres along More Creek to Bob Quinn Lake on the Stewart Cassiar Highway (Figure 1) or through Pass Raspberry, the routing of the Telegraph trail, to the Stewart-Cassiar highway.



PHYSIOGRAPHY AND CLIMATE

The elevation of the Bam property ranges from 820 metres in the Mess Creek valley up to 1,620 metres. The property is bounded by the rugged Coast Range Mountains to the west and the Mount Edziza Plateau to the east. The eastern portion of the property is hummocky alpine terrane with rugged cliffs outlining the down-dropped section of the Mess Creek graben to the west.'

Records kepts at Schaft Creek indicate a mean temperature during June, July and August of 13° with winter temperatures seldom below -30°. Precipitation averages about 50 cm per year much of which falls as snow. Snow cover may be heavy and remains on the upper portion of the property until late July. Lower areas of the property are thickly forested with scrub spruce and alder trees.

CLAIM STATUS

The pertinent claim information for the BAM group are outlined below:

<u>Claim</u>	Record Number	Record Date	Expiry Date	Number of Units
BAM 6	2841	June 30, 1983	June 30, 1987	9
BAM 7	2842	June 30, 1983	June 30, 1987	8
BAM 8	2843	June 30, 1983	June 30, 1987	20
BAM 9	2844	June 30, 1983	June 30, 1987	4
BAM 10	2845	June 30, 1983	June 30, 1987	20

- 6 -

WORK SUMMARY AND HISTORY

The Mess Creek area received considerable attention from the 1950's to late 1970's during the porphyry copper rush but little emphasis has been placed on the gold potential other than as a by-product. Newmont Mining Corporation and Silver Standard Mines conducted extensive regional exploration programs in the area with Silver Standard discovering the Schaft Creek porphyry copper deposit which has published reserves of one billion tons at 0.30% Cu, 0.034% MoS₂, 0.004 oz/t Au and 0.035 oz/t Ag (Canadian Mines Handbook, 1986).

The Bam property was drilled in 1967 by Shawinigan Mining and Smelting Company outlining two separate zones totalling 330,000 tons of 0.76% Cu within brecciated carbonates. Mineralization occurs as irregular grains and blebs of tetrahedrite. This zone is within the Jan claim owned by J. N. Anderson. The Bam property was staked by Chris Graf on June 30, 1983.

Homestake Mineral Development Company operated the property in 1984 and conducted a program consisting of reconnaissance scale mapping, prospecting and lithogeochemical sampling to evaluate the precious metal potential of the Bam.

Two field visits, consisting of two days each, located two quartz veins which had values of 15.6 g/ton Au and 212.9 g/ton Au in an area not detected by Homestake personnel. The property was optioned by Chevron prior to the first field visit because the potential of the property was recognized immediately.

REGIONAL GEOLOGY

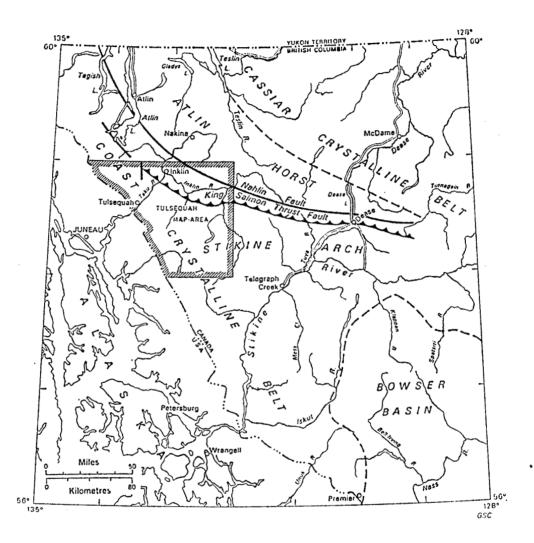
Tectonic Setting

The tectonic setting of the Telegraph Creek Map area is described in G.S.C. Paper 71-44 (Souther, 1972). The Mess Creek valley lies within the Stikine terrane (Monger, 1984) which includes the Stikine Arch composed of crystalline and metamorphic rocks. It is believed that during the Mesozoic time the Stikine Arch was relatively static and had a strong influence on Mesozoic structures and sedimentation around its margins.

The Stikine Arch is bounded on the east and northeast by the Triassic-Jurassic Whitehorse trough of volcanics and clastic sediments and on the southeast by the Jurassic Bowser Basin. The Bowser Basin is a successor basin in which marine sedimentation continued through Jurassic time after marine sedimentation had ceased in the remainder of the area.

The most dominant structural trends in the region are the Tertiary north-south faults which produced the Mess Creek valley. The Tertiary normal fault movement occurred along the same fault surfaces as Mesozoic reverse faulting. Repeated movement along these Tertiary structures has resulted in a graben structure of which the Mess Creek valley is the down-dropped section. The recent movement along this fault structure is recorded by the progresive overlapping of lavas from the Mount Edziza Complex.

Volcanic activity from the Mount Edziza Complex is believed to have occurred as late as a few hundred years while the latest fault movement is at least as old as the 1,340 year old Arctic Lake Olivine Basalt (Souther, 1970).



TECTONIC ELEMENTS IN NORTHWESTERN B. C.

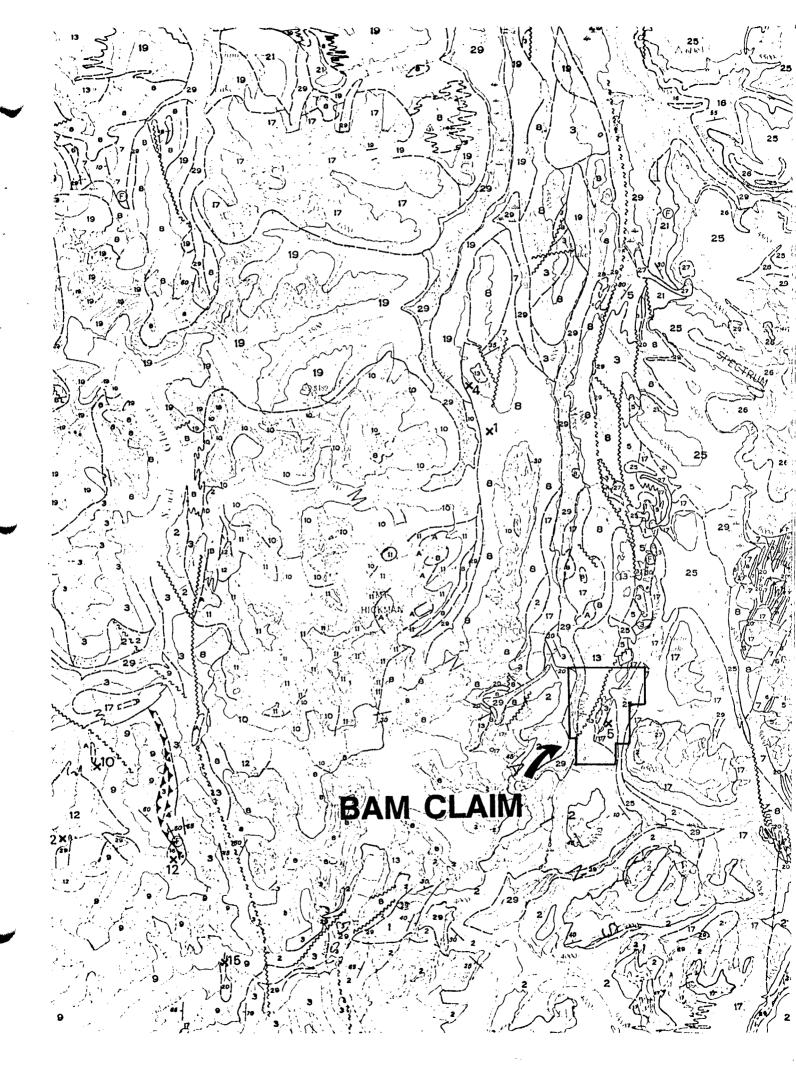
(Souther, 1971)

Figure 3

LEGEND

QUATERNARY PLEDTOCENE AND RECENT 20 Huviaile gravel; sand, sili; glaoini eutwash, illi, alpine moraine and colluvium 20 Hol-spring deposit, iula, aragonite 27 Olivine basali, related pyroclastic rocks and loose tophra; youngor than eome of 29 TERTIARY AND ONATERNARY	THASSIC AND ATHASHE POST-UPPEN THASSIC PRE-LOWER JURASSIC 12 Symple, erthoolase porphyry, montonlie, pyraxenite HICKMAN DATHOLITH 10. Hornblonde granodiorite, minor hornblonde-quartz disrite 11. Hornblonde, quartz disrite, bornblonde-pyrozene diorite, amphibolite and pyrozene-boaring amphibolite
TERTIARY AND QUATERNARY UPPER TERTIARY AND PLEISTOCENE 20 Rhyolite and dacite flows, lavs domes, pyroclastic rocks and related sub- volcanic intrusions; minor basait 23 Basait, clivine basait, dacite, related pyroclastic rocks and subvolcanic intrusions; minor rhyolite; in part younger than some 20	TRUASSIC UPPER TRUASSIC D Undifferentiated volcanio and sedimentary rocks (units 5 to 8 inclusive) Augite-endesits flows, pyroclastic rocks, derived volcaniclastic rocks and related subvolcanio intrusions; minor groywacke, siltatons and polymicilo conglomerate
CRETACEOUS AND TERTIARY UPPER CRETACEOUS AND LOWER TERTIARY SLOKO GROUP 24 Light green, purple and white rhyolite, trachyte and dacito flows, pyroclastic rocks and derived codiments	 Stitstone, thin-bedded silicoous silistone, ribbon chort, calcarcous and dolomictic silistone, greywacke, volcanic conglomerate, and minor limestone Limestone, fettid argiliaceous limestone, calcarcous shale and reefoid limestone; may be in part younger than some 7 and 3
22.23 22. Diotite leucogranite, subvolcanic stocks, dykes and sills 23. Porphyritic blotte andesite, lavs domes, flows and (7) sills SUSTUT GROUP 21 Chart-pebble conglomerate, granite-boulder conglomerate, quartzose sandstone, stkese, silistone, carboanceaus shale and minor coal	 Greywacke, silistone, shale; minor conglomerate, tuff and volcanic sandstone MIDDLE TRIASSIC Shale, concretionary black shale; minor calcarcous shale and silistone
20 Felsite, quartz-feldspar porphyry, pyrillforous felsite, orbicular rhyelite; in part equivalent to 22 [19] Accdum-to coarse-grained, pink biolite-hornblende quarts messanite	PERMIAN MIDDLE AND UPPER PERMIAN Limestone, thick-bedded mainly bioclastic limestone; minor silicione, chert and tuil
JURASSIC AND/OR CRETACEOUS POST-UPPER TRIASSIC PRE-TERTIARY	PERMIAN AND OLDER Phyllite, argillaceous quartatio, quarta-sericite schist, chiorite schist, creenstone, minor chert, achistose tull and limestone
[17] Granodiorite, guarta diorite; minor diorite, loucogranito and migmatite	MISSISSIPPIAN Limestone, crinoidal limestone, ferruginous limestone; marcoo tuff, chert and phylite
JURASSIC MEDDLE (?) AND UPPER JUBASSIC DOWSER GROUP 16 Chert-puble conglomerate, grit, groywacke, subgroywacke, siltatone and shalo; may include some 13	Amphibolito, amphibolite gneiss; age unknown probably pre-Upper Jurassie Amphibolito, amphibolite, gneiss; age unknown probably pre-Upper Jurassie Amphibolito, control and the serventialite; age unknown, probably pre-Lower Jurassie
MIDDLE JURASSIC IS Basalt, pillow lava, tuff-breecta, derived volcaniclastic rocks and related subvolcante intrusions LOWER AND MIDDLE JURASSIC IA Shale, minor elitistone, siliccous and calcarcous silistonu, greywacke and ironstone LOWER JURASSIC Oxigomerato, polymictic conglomerate; granite-bouldur conglomurate, grit, greywacks, silistone; bassific and andustic volcante rocks, peperites, pillow-breects and derived volcaniclastic rocks	Geological boundary (defined and approximate; assumed)
1	ENDEX TO MENERAL PROPERTIES 1. Idard Copper 5. Dam 9. Aug 13. Ang. Sa
	2. Galore Crouk 6. Gordon 10. UIK 14. 5F 3. QC, QCA 7. Limpoke 11. JW 15. Goat 4. Nake 6. Poke 12. Cupper Canyon 16. Stary

TELEGRAPH CREEK MAP AREA 104G (SOUTHER, 1972)



Stratigraphy

The stratigraphy in the area has been broken down into six tectonostratigraphic packages and are listed by Souther (1971) as follows:

- 1. <u>Mississippian to Middle Triassic</u> Carboniferous rocks that were deformed and regionally metamorphosed during the early to mid-Triassic, Tahltanian orogeny.
- 2. <u>Upper Triassic</u> Unmetamorphosed, moderately deformed Upper Triassic volcanic and sedimentary rocks. This package is separated from overlying strata by a disconformity representing the latest Triassic to earliest Jurassic Inklinian uplift and contemporaneous emplacement of granitic rocks (e.g. Hickman Batholith).
- 3. <u>Lower to Middle Jurassic</u> Mainly clastic sedimentary rocks derived in part from (2) above, and separated from overlying strata by a disconformity, representing the mid-Jurassic Nassian uplift.
- 4. <u>Middle to Upper Jurassic</u> Clastic sediments derived in part from 1, 2, and 3 above and separated from overlying strata by a profound angular unconformity that truncates decollement folds formed during the Columbian Orogeny.
- 5. <u>Cretaceous and Tertiary</u> Acid volcanic rocks and genetically related intrusions; and a contemporaneous clastic sediment separated from overlying strata by an angular unconformity related to early Tertiary extension and block faulting.
- 6. Late Tertiary and Quaternary Lava flows and pyroclastic rocks.

Intrusive Rocks

The earliest known intrusive activity in the area is the Post-Upper Triassic to Pre-Lower Jurassic Hickman batholith which outcrops at the north end of Schaft Creek. It is crudely zoned ranging from a hypidimorphic biotite-hornblende quartz monzonite in the centre to a more quartz rich less mafic quartz diorite towards the perimeter. This unit is believed to underlay a major portion of the southern portion of the Bam property. A younger group of small equidimensional plutons occur throughout the area one of which is genetically associated with the Galore Creek orebody (Allen et al, 1976). These rocks are commonly porphyritic with potash feldspar crystals up to 10 cm across in a fine grained matrix of orthoclase aegirine-augite and biotite.

A Jurassic and/or Cretaceous medium to coarse grained quartz monzonite occurs along the Mess Creek valley most notably on the steep cliffs on the west side of Mess Lake.

The rock is plagiolcase feldspar porphyritic with a fine grained orthoclase matrix and chloritized mafic minerals.

Ultramafic rocks of undetermined age occur throughout the map area. Most of these occurrences are small serpentinized units associated with fault structures. Northeast of Mount Hickman is an apparently unaltered dunite to peridodite body. As its exterior margin it is altered to a fine grained dark grey rock which is believed to be a contact metamorphic zone between the Hickman Batholith and the ultramafic rocks.

PROPERTY GEOLOGY

Lithologic Units

The oldest rocks on the Bam are the Permian volcanics and volcaniclastics. The unit includes massive greenstone, chloritic phyllite, chloritic schist and minor greywacke. Adjacent to the intrusive contact the volcanics are Fe-carbonate altered to an orange-brown colour and xenoliths of this rock type are included throughout the granite. In areas of apparent fault contact between the two units the chloritic schist contains abundant guartz sweats parallel to foliation.

Above this unit is a relatively thick package of Permian dolomite and limestone with interbedded chert. The dolomite has been Fe-carbonate altered and forms large orange cliffs on the west side of the property. The carbonate package hosts much of the copper mineralization in the form of disseminated grains, blebs and veins of tetrahedrite.

The unit locally contains abundant corals, crinoid stem and mollusc shell fragments. The G.S.C. has assigned a Mississippian age to the fossils found in this area (Souther, 1972). The rocks have been locally highly brecciated, most intensely within the bedded chert.

Unconformably overlying the Permian section is a relatively thick section of Lower Jurassic clastic sediments comprising polymictic pebble conglomerates, arkosic sandstone and argillites. Graded bedding and rip up clasts observed on a vertical section exposed on the cliffs indicates the package is right side up and dips 45° to the northeast. Locally the unit is heavily mineralized with tetrahedrite, auzurite and malachite.

A Jurassic quartz diorite to granite intrusion underlies a major portion of the southeast area of the Bam and hosts the gold bearing veins that were the focus of the 1986 program. The granite is a pale orange limonitic colour with saussuritized plagioclase feldspar crystals, in a matrix of grey to white quartz, pale pink plagioclase feldspar and minor chloritized mafics. The rock is highly fractured and has locally been intensely Fe-carbonate altered and silicified to the point where it is often difficult to distinguish between silicified granite and quartz veins.

The youngest rock type on the property are the Arctic Lake olivine basalts that cover the north and eastern portion of the property. Good columnar jointing is seen in the north of the property. This unit has been dated as 1,340 years old (Souther, 1970).

Minor fault bounded serpentinized ultramafics of undetermined age occur on the property. These rocks have a rough weathered surface and are highly chloritic.

<u>Alteration</u>

Three main types of alteration occur on the Bam:

- 1) Dolomitization of the limestone;
- 2) Carbonatization of the conglomerates grits, and volcanics;
- Hydrothermal alteration and associated quartz veining in the granitic rocks.

Both the hydrothermal alteration and the carbonatization are probably related to the later stage of the granitic intrusion. The carbonatization of the volcanics is greatest adjacent to the intrusive contact. The mild carbonatization of the granitic rocks would infer that this alteration continued throughout cooling and final crystalization of the magma.

Mineralization

Gold mineralization in the granitic host rocks occurs as fine to coarse grained pyrite within grey quartz veins. Native gold has been observed in polished thin sections but has not been seen in hand specimens. The quartz veins are discontinuous and tend to pinch out and disperse into the highly fractured granitic host rock. Copper and silver mineralization occur as irregular grains and blebs of tetrahedrite, malachite and auzurite within the Permian carbonates and the lower Jurassic conglomerate and arkose. As the mineralization occurs in both stratigraphic units it can be assumed that this mineralization occurred post lower Jurassic and may be related to the granitic instrusion.

Timing of the mineralization is purely speculation. The hypothesis tested during the initial properly assessment in 1986 is that the known copper-antimony mineralization of the Bam showing could be the upper level of a gold bearing hydrothermal system. If this is the case both the gold mineralization and the copper mineralization may be related to the Jurassic granitic intrusion. The quartz veining may be a late deuteric phase of the intrusion.

ROCK AND SOIL GEOCHEMISTRY

A total of 98 rock and 283 soil samples were taken in 1986 and analysed for Au, Ag, Sb, As, Cu, Pb, Zn, Mo, Bi, Tl, Ga and Cd as outlined in Appendix I. Two soil grids were established by hip chain and compass. Rocks were collected while mapping along the 1:10,000 and 1:1,000 grid lines.

Soil sample spacings on the 1:10,000 grid were 100 metres on lines 500 metres apart. On the detailed soil grid soils were collected every 50 metres on lines spaced 50 metres apart. Where possible B horizon soil samples were collected with a mattock at a depth of 15 - 25 cm, placed in Kraft wet strength soil bags and air dried before shipment to Chemex Labs in North Vancouver. Detailed mapping and sampling were carried out on the detailed grid (1:1,000) to determine the extent of the vein system. Much of the area mapped is very highly fractured outcrop and felsenmeer with most samples grab samples of limonitic granite, vein material, altered volcanics and carbonates.

Soil Geochemistry Results

The results of the soil geochemistry survey outlined two anomalous areas. One area anomalous in gold and antimony adjacent to the volcanic intrusive contact, and another area related to the copper mineralization. The detailed soil grid failed to outline further vein type targets even in the immediate area of the discovery showing. Two reasons could be proposed for this, first being the spotty mineralization in the area and the second the poor soil development above the underlying granitic rocks.

Gold values up to 675 ppb were obtained along the contact between the intrusive and volcanics. The high gold and antimony values occur in hybrid areas where volcanic rocks have been assimilated into the intrusion. Anomalous values in copper, and zinc occur in the area underlain by the arkosic sandstone, conglomerate and argillites. Anomalous zinc values are ubiquitous when associated with this lithology inferring a high background for zinc. The high copper and zinc values occur below the mineralized cliffs of the Bam copper showing. These values may be due to downslope dispersion and probably do not represent mineralization in underlying rocks.

The poor soil development problem may be overcome by digging test pits and systematically sampling different horizons in the pit to determine if an alternate horizon to the B horizon would be more useful for geochemical evaluation in the area.

Rock Geochemical Results

Detailed rock sampling adjacent to the discovery showing returned several anomalous values of altered granite and vein material. Resampling the discovery showing returned an assay of 200.80 gms/tonne gold. Another sample of relatively unaltered granite to the west returned a value of 9700 ppb.

Anomalous values in gold were almost always associated with abundant pyrite and dark-orange-purple limonitic alteration. These samples also tend to be anomalous in silver, bismuth and antimony. Anomalous copper with these samples often indicates the presence of tetrahedrite.

The area adjacent to the Bam copper showing is naturally anomalous in copper. The tetrahedrite samples also contain anomalous values of silver, zinc, arsenic, antimony and cadmium, but are deficient in gold.

Trench Geology

A total of 68 trench samples were taken in four trenches with a total length of 63 metres. The trenches were drilled with a punjar hand drill, blasted and hand mucked. The trenches are one to two metres deep and one metre wide.

With the minor exception of local Fe-carbonate altered volcanic xenoliths, the only rock type in the trenches is the highly siliceous granite. The granite is a pale orange colour with pale green saussuritized plagioclase feldspars, smoky grey quartz and minor chloritized mafics in a pale pinkish-orange matrix of plagioclase feldspars and quartz. Adjacent to quartz veining the granite is intensely silicified and is often difficult to distinguish from the veins. The granite is locally very heavy due to small

barite stringers. Small dots and dendrites of pyrolusite often gives the rock a pale grey appearance. Two prominant fracture orientations occur in the trenches and appear to be related to the limonitic and mineralized zones. An earlier 140° - 150° trend is often offset by a later more dominant 030° - 060° set. Trench 86-1 was oriented perpendicular to this more dominate orientation but mapping indicated it was the earlier orientation that is associated with the pyrite-gold deposition.

The solutions associated with the later fractures appeared to have oxidized the pyrite where they intersected the mineralized zones. The limonite was then dispersed along these fractures giving the initial impression that these were the mineralized zones and thus the important fracture orientation.

Mineralization occurs mainly in medium dark grey quartz veins with greyish yellow subhedral cubes and blebs of fine to medium grained pyrite. A petrographic examination revealed native gold (approximately .0018 mm) along fractures in the pyrite and disseminated in the quartz matrix. No native gold has been observed in hand specimen.

Trench 86-1 returned the highest value. Grab samples returned assays up to (200.80 g/tonne). One three metre section averaged 22.80 gms/tonne gold and 9.07 gms/tonne silver. A weighted average across the total length of 19.34 metres averaged 7.413 g/tonne gold per metre. This includes one 0.34 metre sample assaying 87.34 g/tonne. The intense fracturing of the rock makes the veins discontinuous and grades erratic. This fracturing, however, has established a stockwork that has the potential to continue laterally in both directions and may become more consistent with depth.

Using EM-16 instrument oriented to the Senttle transmitter.

GEOPHYSICAL STUDY

A VLF-EM survey was carried out on a slope corrected grid established surrounding the discovery showing. The area of the survey has relatively low relief. The lines are 50 metres apart and readings were taken every 12.5 metres along the line.

The in phase values from the VLF survey have all been Fraser filtered, to assist the identifying of conductors. The Fraser filtering causes any cross overs which occur over conductors to appear as peaks while all other data appears as low positive or negative values. Figure 22 displays the contoured Fraser filtered values which outline the conductors. Most of the conductors correlated with known structures which have been idenfitied from airphotograph lineaments. The VLF profiles help in correlating structures which have similar, in phase and Fraser filter responds across lines.

Two strong conductors occur on the grid area. One of these occurs along the volcanic - intrusive contact to the northwest of the discovery showing. The other corresponds with a northeast trending fault gulley.

It appears that this type of geophysical survey is useful in outlining major faults and contacts but is less useful in delineating stockwork vein structures. An Induced Polarization geophysical survey may be better to define this type of mineralization.

CONCLUSION AND RECOMMENDATION

The BAM property previously known for its small tonnage copper deposit now shows potential for a vein type gold deposit. The gold occurs in late stage deuteric quartz veins associated with a Jurassic quartz diorite. Trench assays average 7.413 g/tonne. A three stage program is recommended each contingent on the results of the previous stage. Firstly an induced polarization geophysical program should be conducted to delineate areas of sulfide mineralization within the granitic rocks. Stage two would invoilve flying in a small Bobcat or Kabota backhoe to strip the overburden from prospective areas.

- 22 -

Diamond drilling would be the final stage to determine the depth potential of the vein system. Several small lakes could supply the necessary water for this program.

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STATEMENT OF QUALIFICATIONS

I, Wayne Hewgill, have worked in the mineral exploration industry since 1983.I graduated in 1985 with a B.Sc. (Majors) from the University of BritishColumbia. I presently work for Chevron Canada Resources Limited and havedone so on a seasonal basis since 1983.

hayl 5

WAYNE HEWGILL

STATEMENT OF QUALIFICATIONS

I, Godfrey Walton, have worked as a geologist since 1974 in Alberta, British Columbia, Yukon, Northwest Territories and Ontario. I graduated in 1974 with a B.Sc. (Hons) degree from the University of Alberta and was awarded a M.Sc. degree from Queens University in January 1978. I have been employed by Chevron on a permanent basis since 1976.

I am a member in good standing with the Canadian Institute of Mining and Metallurgy, the Society of Exploration Geochemists and the Mineralogical Association of Canada.

I supervised and carried out the work on the BAM Claims.

GODFREY WALTON

COST STATEMENT

BAM 6, 7, 8, 9, 10, 11

A) Personnel

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		Field Day	Office Day
	G. Walton	4	1
	E. Titley	4	
	W. Hewgill	12	6
	J. MacRae	9	
	G. Wober	_12	
		41	7
	41 field days at \$150/day		\$ 6,150.00
	7 office days at \$150/day		1,050.00
B)	Camp and food supplies		
0)	41 man days at \$60/man day		2,460.00
C)	Helicopter		
	9.6 hours at \$560/hr including fuel		5,280.00
D)	Drafting		
·	6 day at \$150/day		900.00
C)	Casabanaistan		
E)	Geochemistry		
	Rock and soil analyzed for Au, Ag, As, Sb, Cu, Mo, Pb, Zn, Tl, Bi, Ga and Cd	Analysis	8,543.70
		Shipment	4,000.00
F)	VLF-EM 16 Rental fee 30 days @\$35/day + t	ax	1,148.00
G)	Plane fare from Vancouver		
	\$600/person - 6 people (5 field, 1 cook)	25% prorated	<u>\$ 900.00</u>
	TOTAL		\$30,431.70
			<u>430,431.70</u>

a33/01/26

COST STATEMENT - PHYSICAL WORK

<u>BAM 10</u>

A) Personnel

		Field Day	Office Day
	W. Hewgill	5	1
	J. MacRae	13	
	G. Wober	<u>_11</u>	
		29	I
	·		
	29 field days at \$150/day		\$ 4,350.00
	l office day at \$150/day		150.00
B)	Camp and food supplies		
_,	29 man days at \$60/man day		1,740.00
			.,
C)	Helicopter		
	5.4 hours at \$560/hr including fuel		3,024.00
D)	Drafting		
	4 days at \$150/day		600.00
E)	Geochemistry		
	Rock and soil analyzed for Au, Ag,	Analysis	1,064.00
		Shipment	1,000.00
F)	4 x 25 kg. Explosives		
• /	- A 20 Kg. EAPloines		
	TOTAL		\$12,961.61

APPENDIX A

GEOCHEMICAL PREPARATION AND ANALYTICAL PROCEDURES

- Geochemical samples (soils, silts) are dried at 50°C for a period of 12 to 24 hours. The dried sample is sieved to -80 mesh fraction through a nylon and stainless steel sieve. Rock geochemical materials are crushed, dried and pulverized to -100 mesh.
- 2. A 1.00 gram portion of the sample is weighted into a calibrated test tube. The sample is digested using hot 70% HC104 and concentrated HN03. Digestion time = 2 hours.
- 3. Sample volume is adjusted to 25 mls. using demineralized water. Sample solutions are homogenized and allowed to settle before being analyzed by atomic absorption procedures.
- 4. Detection limits using Techtron A.A.5 atomic absorption unit.

Copper	-	l ppm
Molybdenum	-	l ppm
Zinc	-	l ppm
*Silver	-	0.2 ppm
*Lead	-	l ppm
*Nickel	-	l ppm
Chromium	-	5 ppm

*Ag, Pb & Ni are corrected for background absorption.

5. Elements present in concentrations below the detection limits are reported as one half the detection limit, i.e. Ag - 0.1 ppm.

PPM Antimony:

A 2.0 gm sample digested with conc. HC1 in hot water bath. The iron is reduced to Fe +2 state and the Sb complexed with 1 -. The complex is extracted with TOPO-MIBK and analyzed via A.A. Correcting for background absorption 0.2 ppm ± 0.2.

Detection limit: 0.2 ppm

PPM Arsenic:

A 1.0 gram sample is digested with a mixture of perchloric and nitric acid to strong fumes of perchloric acid. The digested solution is diluted to volume and mixed. An aliquot of the digest is acidified, reduced with KI and mixed. A portion of the reduced solution is converted to arsine with NaBH₄ and the arsenic content determined using flameless atomic absorption.

Detection limit: 1 ppm

FIRE ASSAY METHOD - Silver & Gold

Silver and gold analyses are done by standard fire assay techniques. In the sample preparation stage the screens are checked for metallics which, if present, are assayed separately and calculated into the results obtained from the pulp assay.

0.5 assay ton sub samples are fused in litharge, carbonate and siliceous fluxes. The lead button containing the precious metals is cupelled in a muffle furnace. The combined Ag & Au is weighed on a microbalance, parted, annealed and again weighed as Au. The difference in the two weighings is Ag.

F.A. - A.A. GOLD COMBO METHOD

For low grade samples and geochemical materials 10 gram samples are fused with the addition of 10 mg of Au-free Ag metal and cupelled. The silver bead is parted with dilute HNO3 and then treated with aqua regia. The salts are dissolved in dilute HC1 and analyzed for Au on an atomic absorption spectrophotometer to a detection of 5 ppb.

Copper, Lead, Zinc, Silver ppm:

1.0 gm sample is digested with perchloric-nitric acid (HC104-HN03) for approximately 2 hours. The digested sample is cooled and made up to 25 mls with distilled water. The solution is mixed and solids are allowed to settle. Copper, lead, zinc and silver are determined by atomic absorption techniques. Silver and lead are corrected for background absorption.

Detection limit:	Copper, Zinc - 1 ppm
	Silver – 0.2 ppm
	Lead - 2 ppm

Lead, Molybdenum, Copper:

An aliquot from an acid-preserved filtered sample is taken and digested to dryness with concentrated nitric acid. The residue is dissolved in warm perchloric acid and sufficient water is added to restore the sample to proper dilution. The concentration of each element is then determined by its atomic absorption with Varian AA-5 spectrophotometer calibrated with blanks and standard metal solutions prepared similarly. Background absorption corrections was applied to the measurement of lead. The detection limit for all elements by this method is 0.01 g/ml.

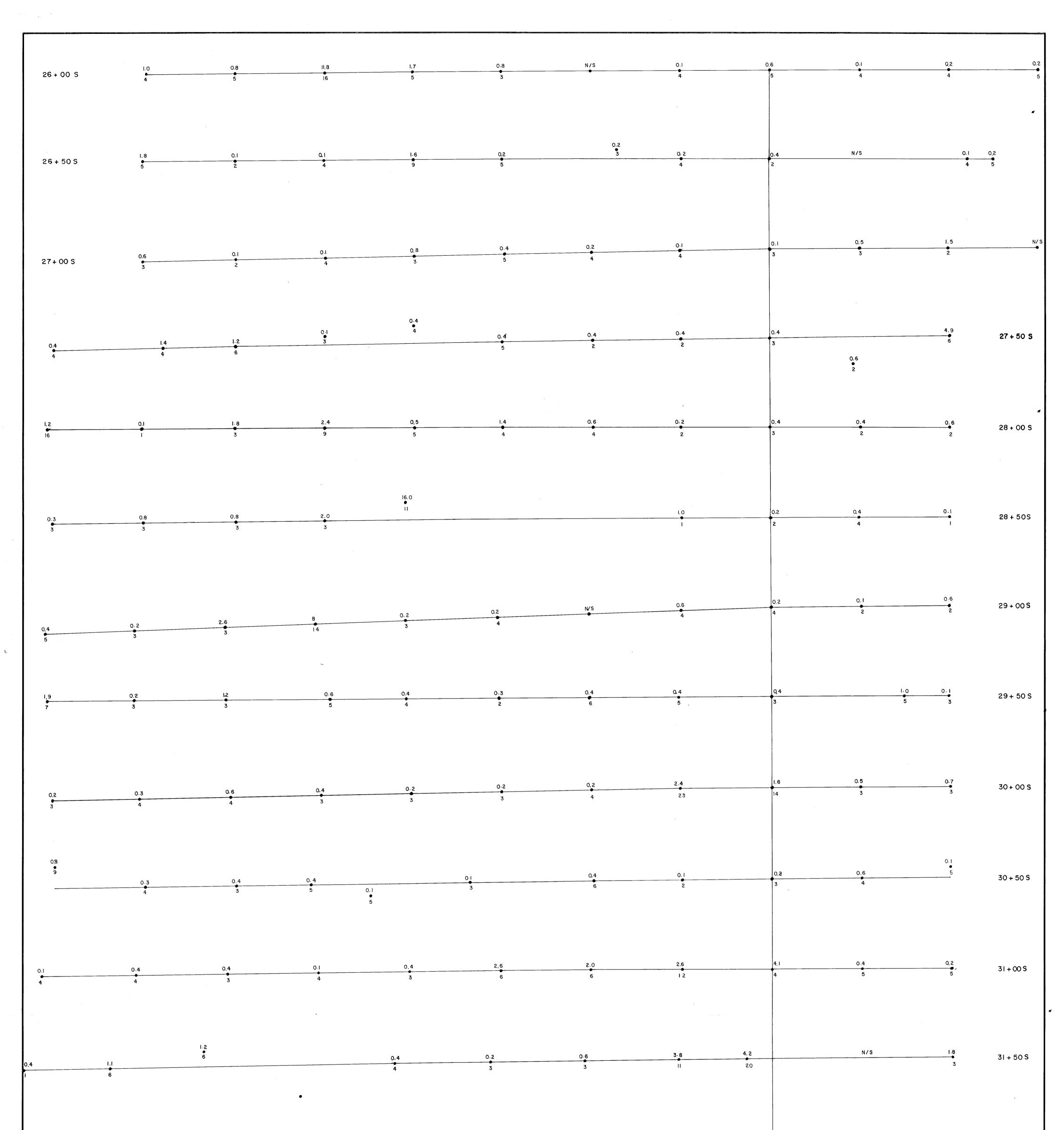
Bismuth ppm:

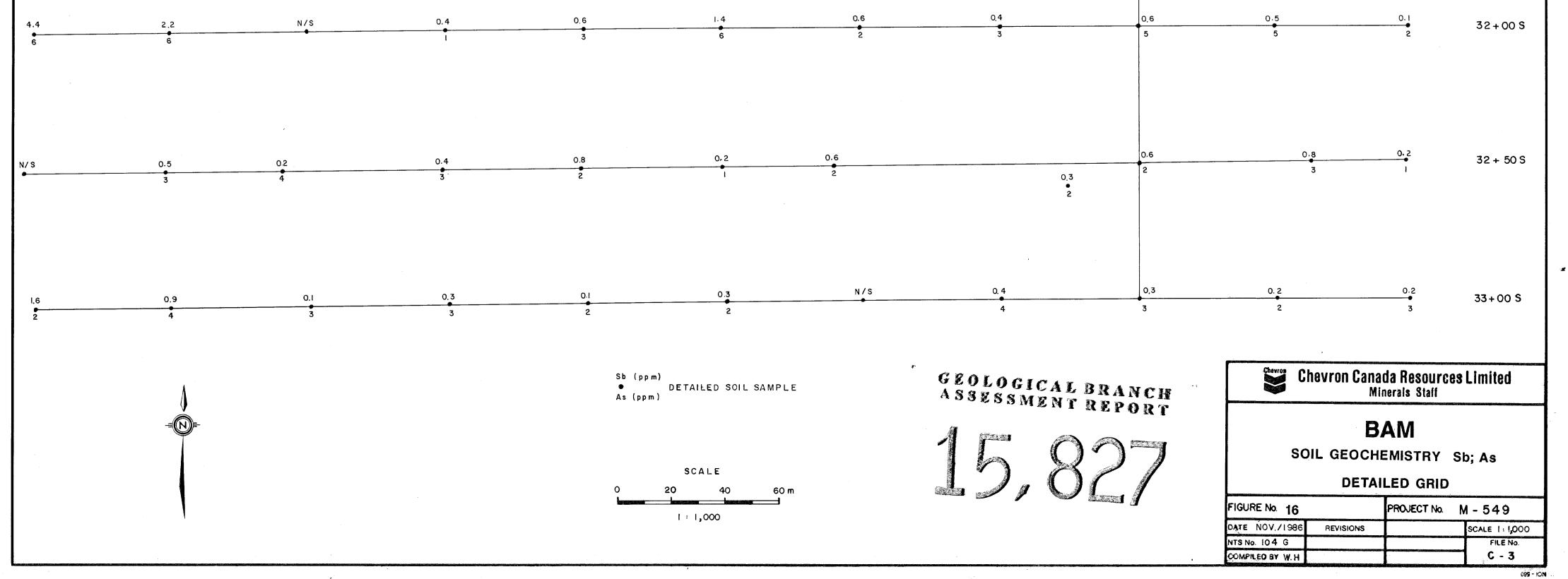
A 2.0 gram sample is digested with concentrated HCI and potassium chlorate. The solution is then cooled. After the addition of KI and the reduction of iron, the solution is extracted with MIBK aliquot 336 and analyzed via standard AA procedure, correcting for background absorption.

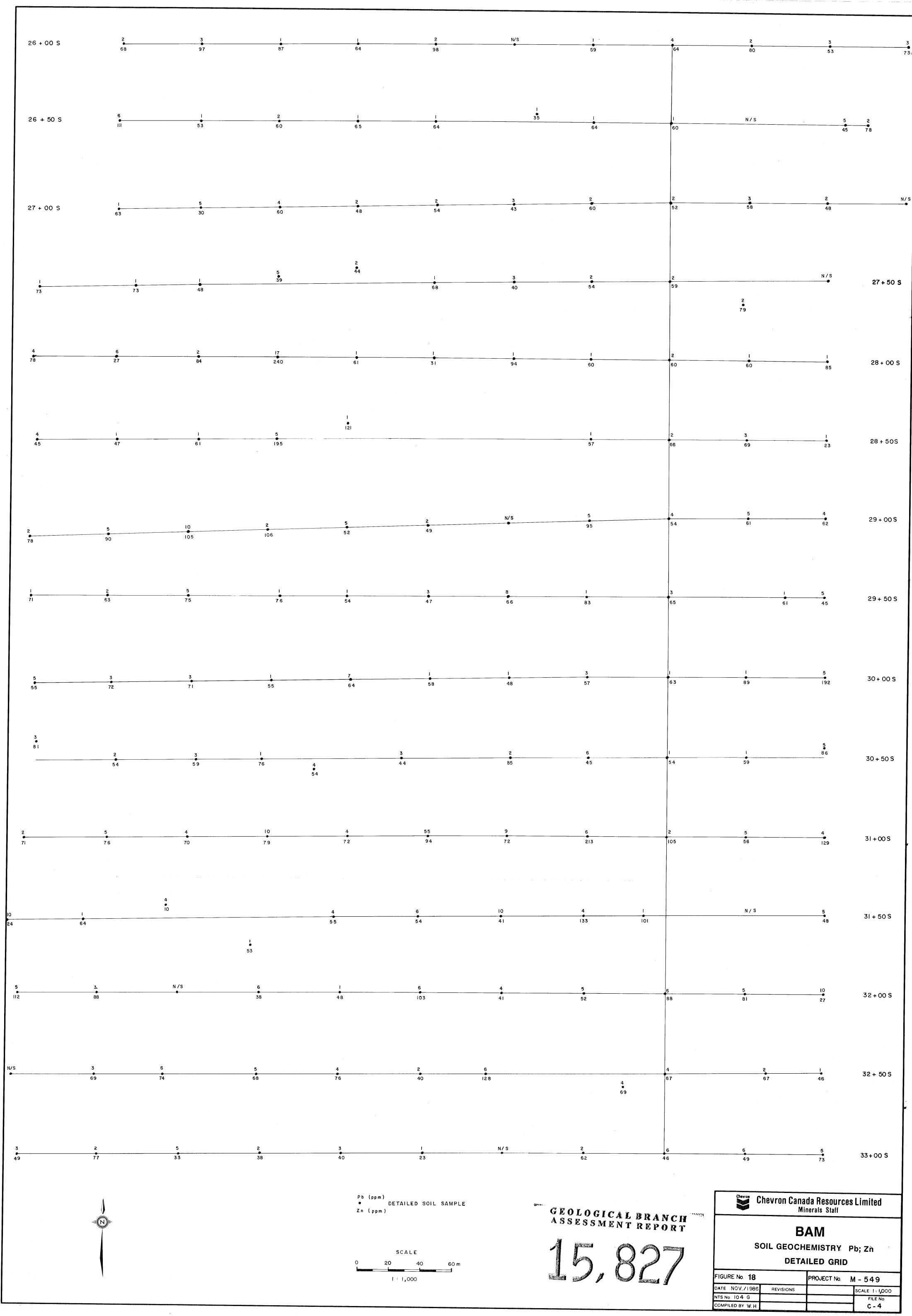
Detection limit: 0.2 ppm

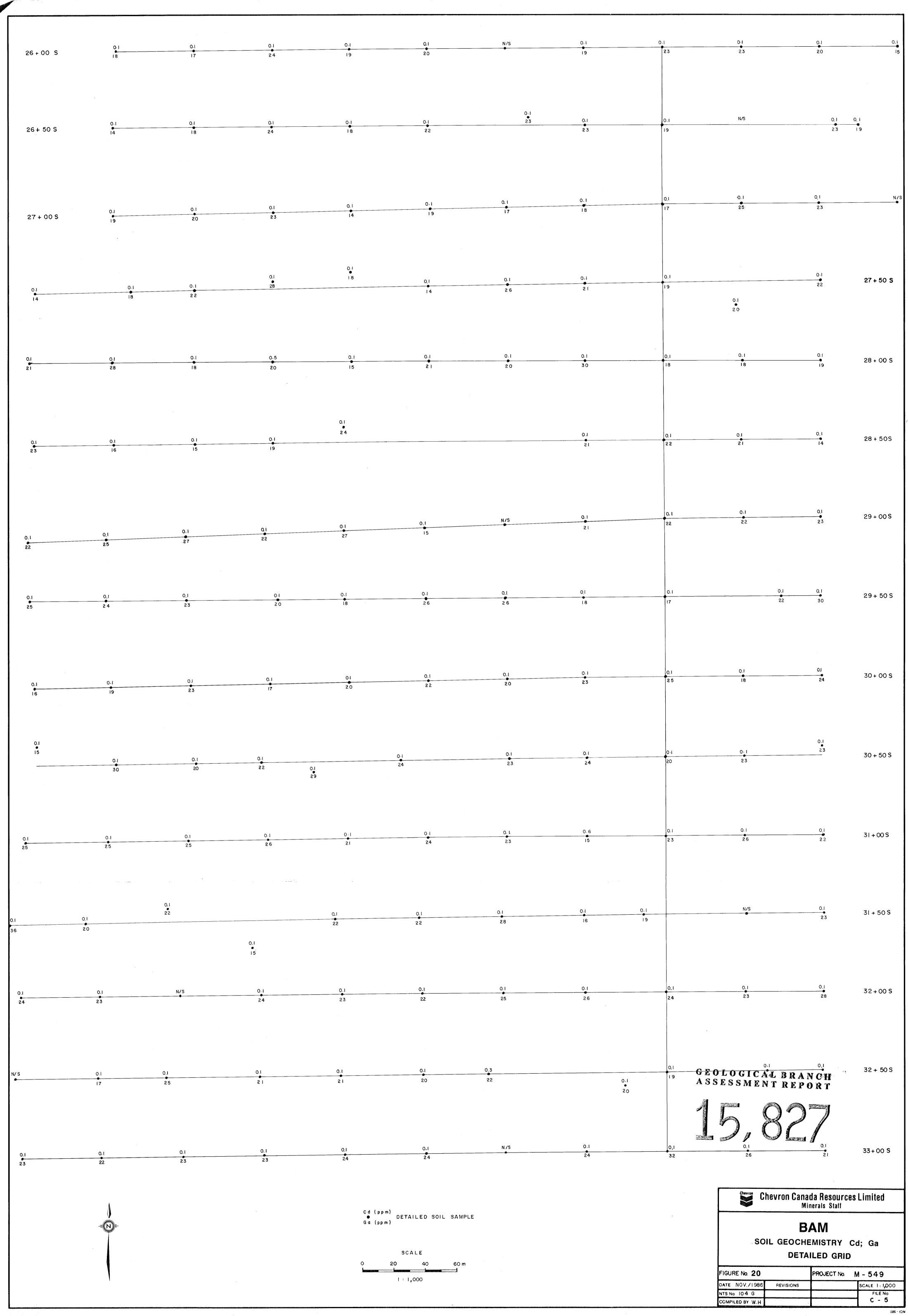
Thallium and Gallium:

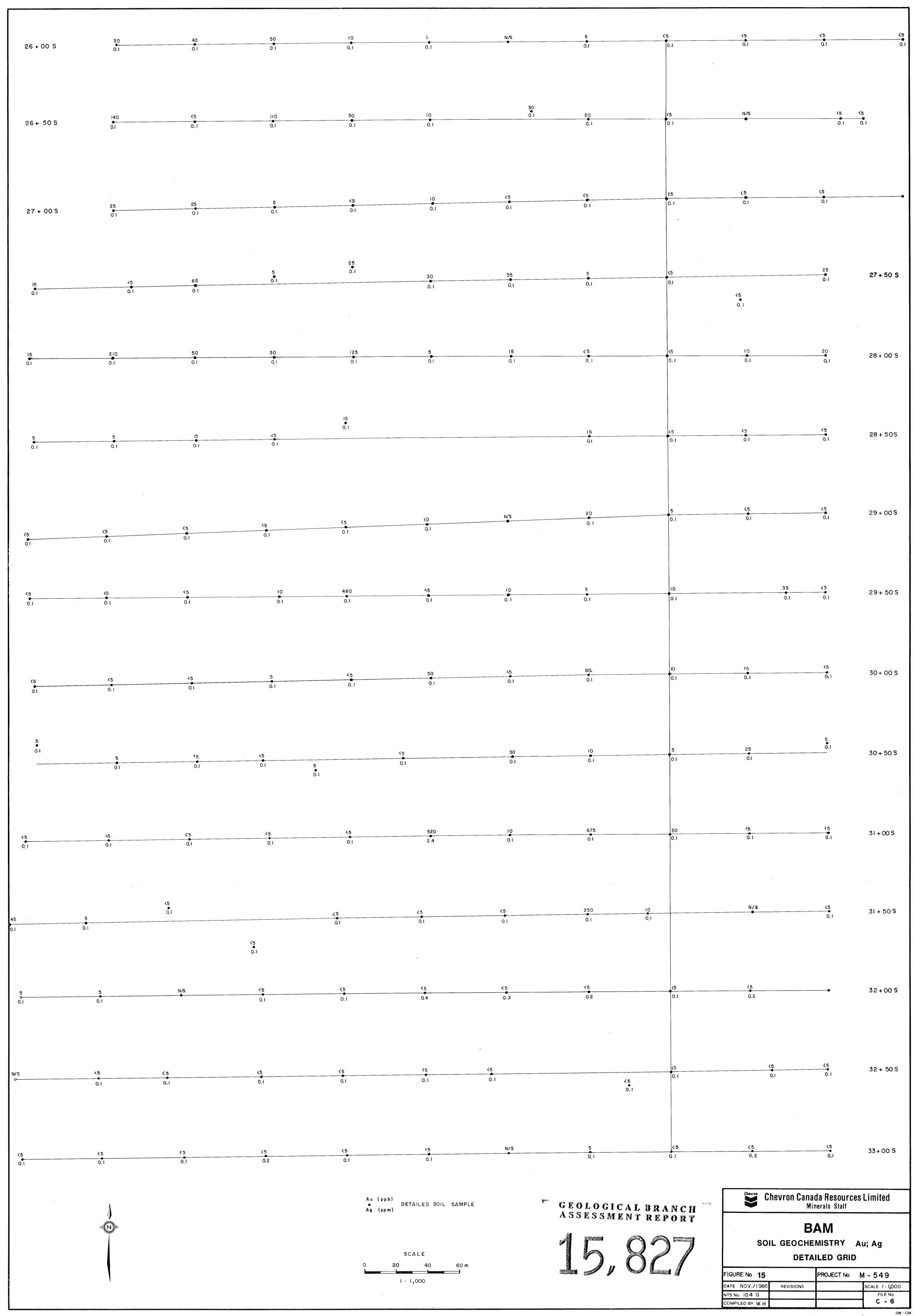
2 gms sample - HC104, HN03, and HF digestion - organic extraction of iodide complex and atomic absorption finish correcting for non-atomic background absorption.

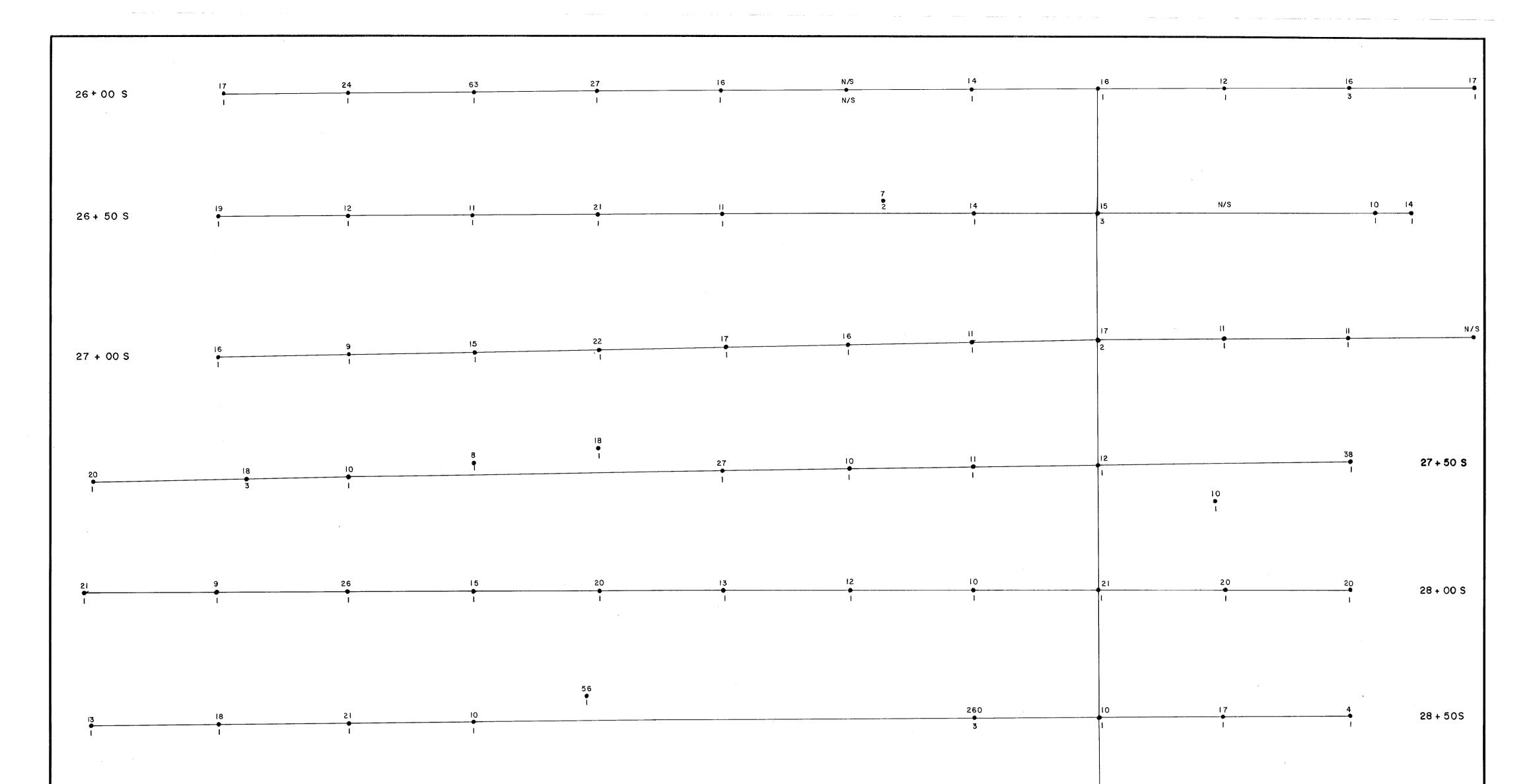


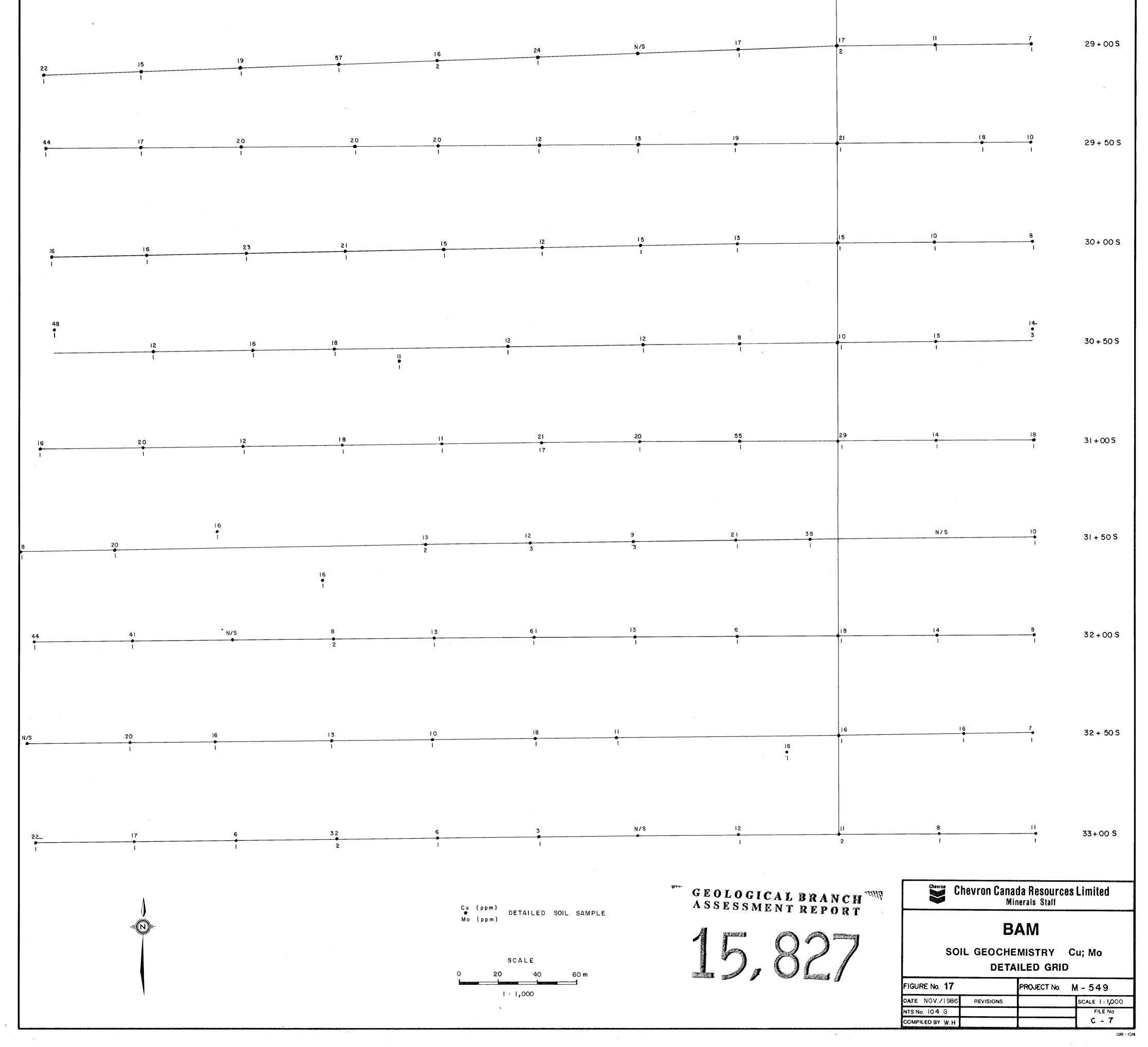


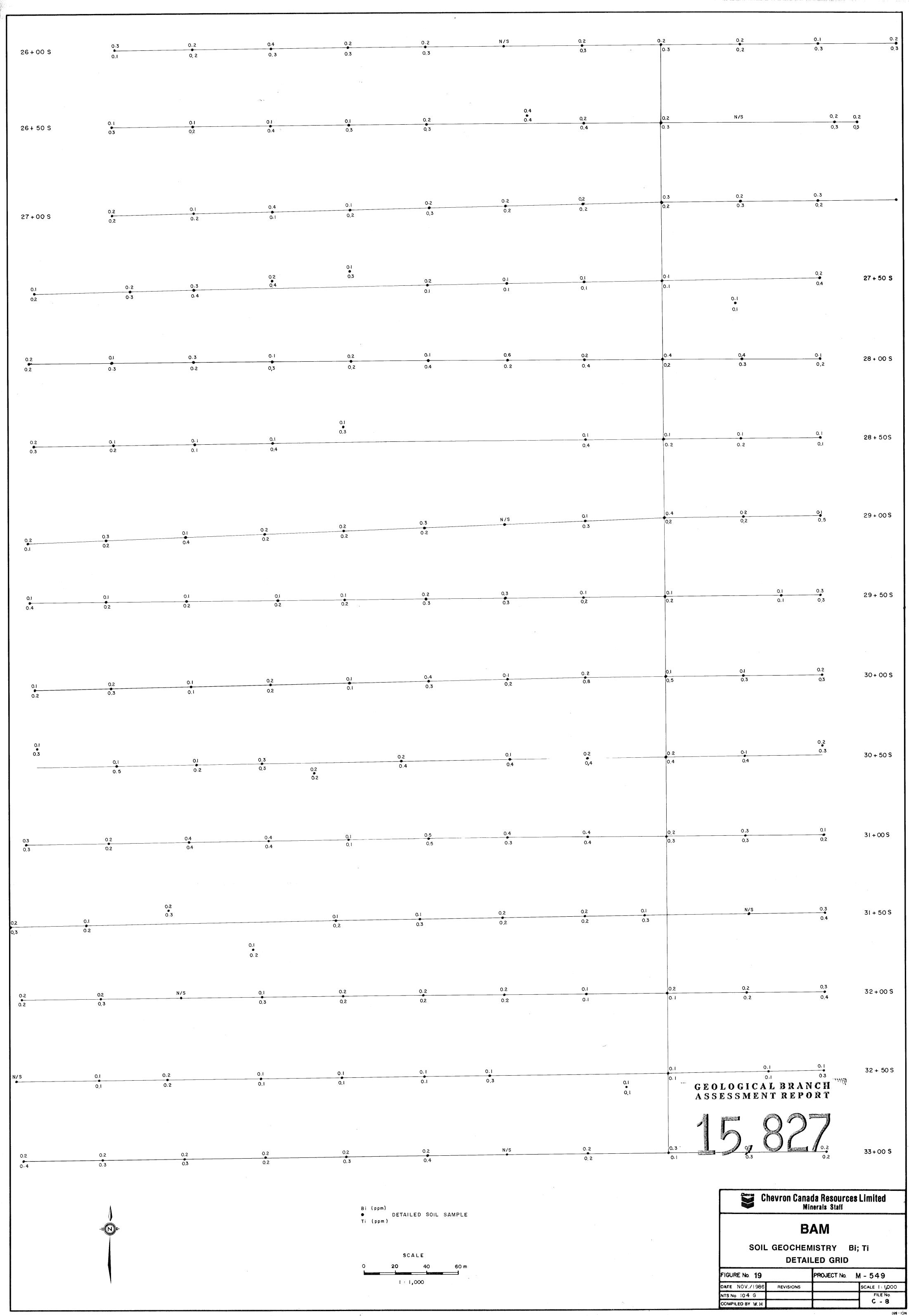


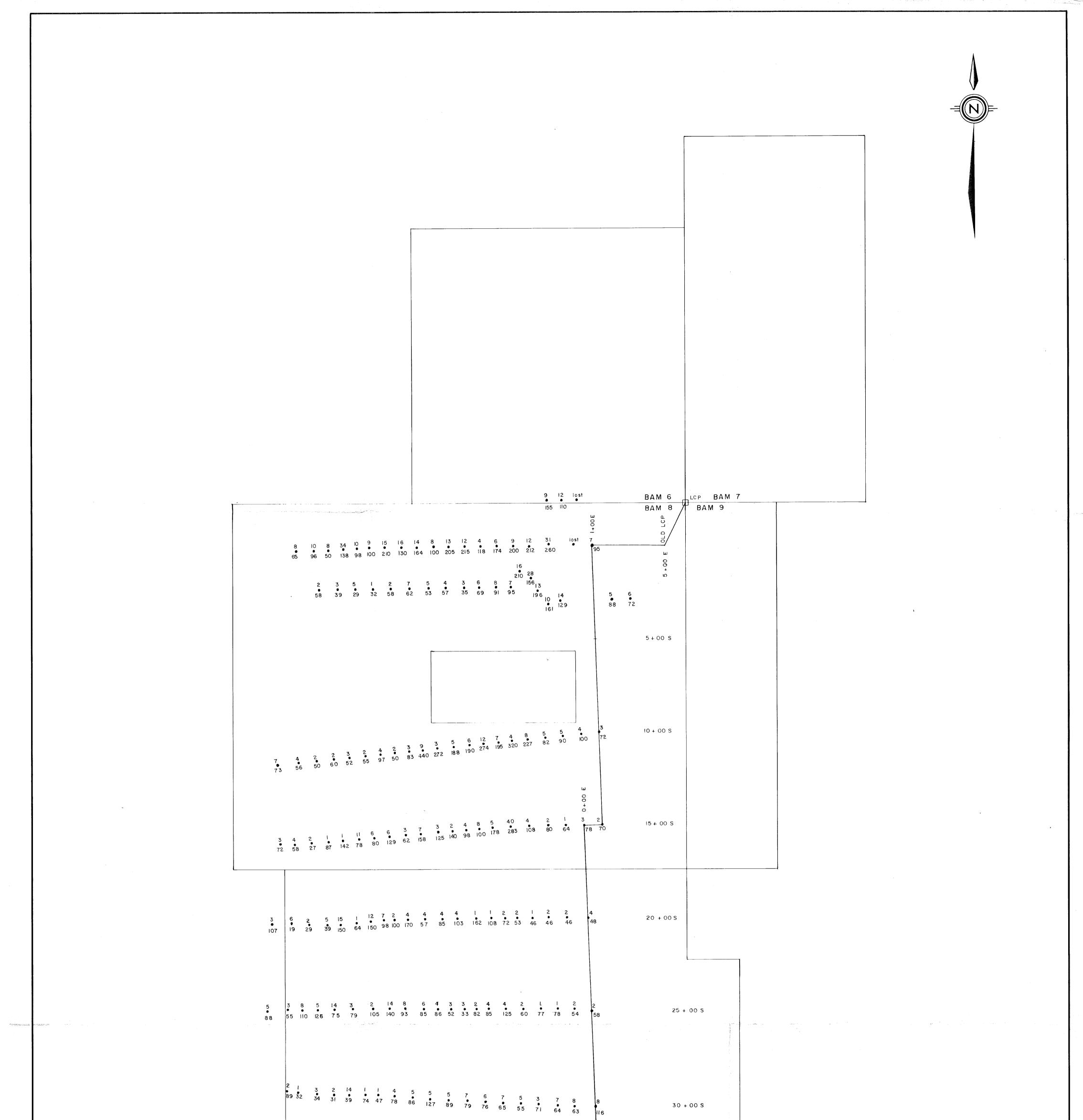






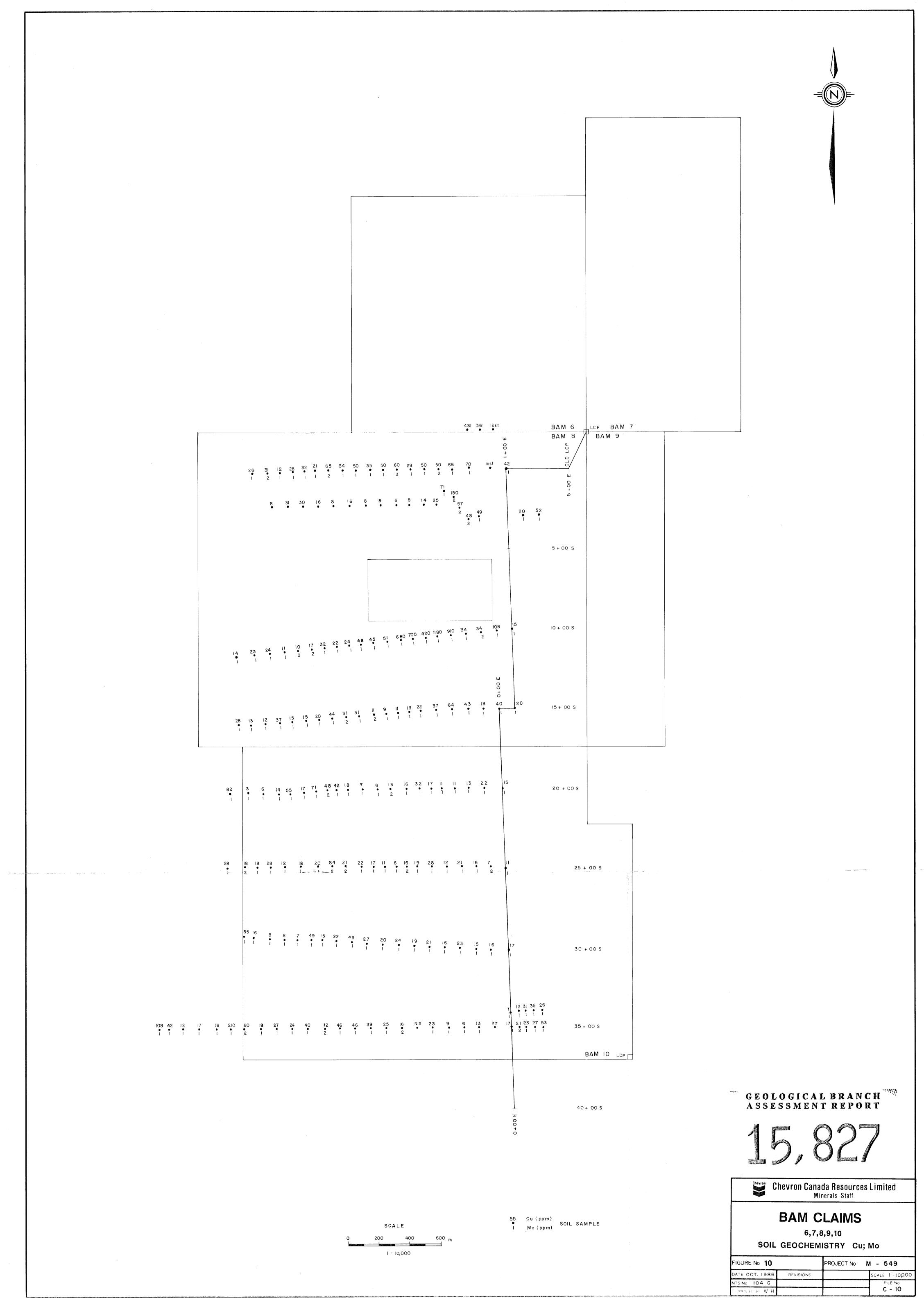




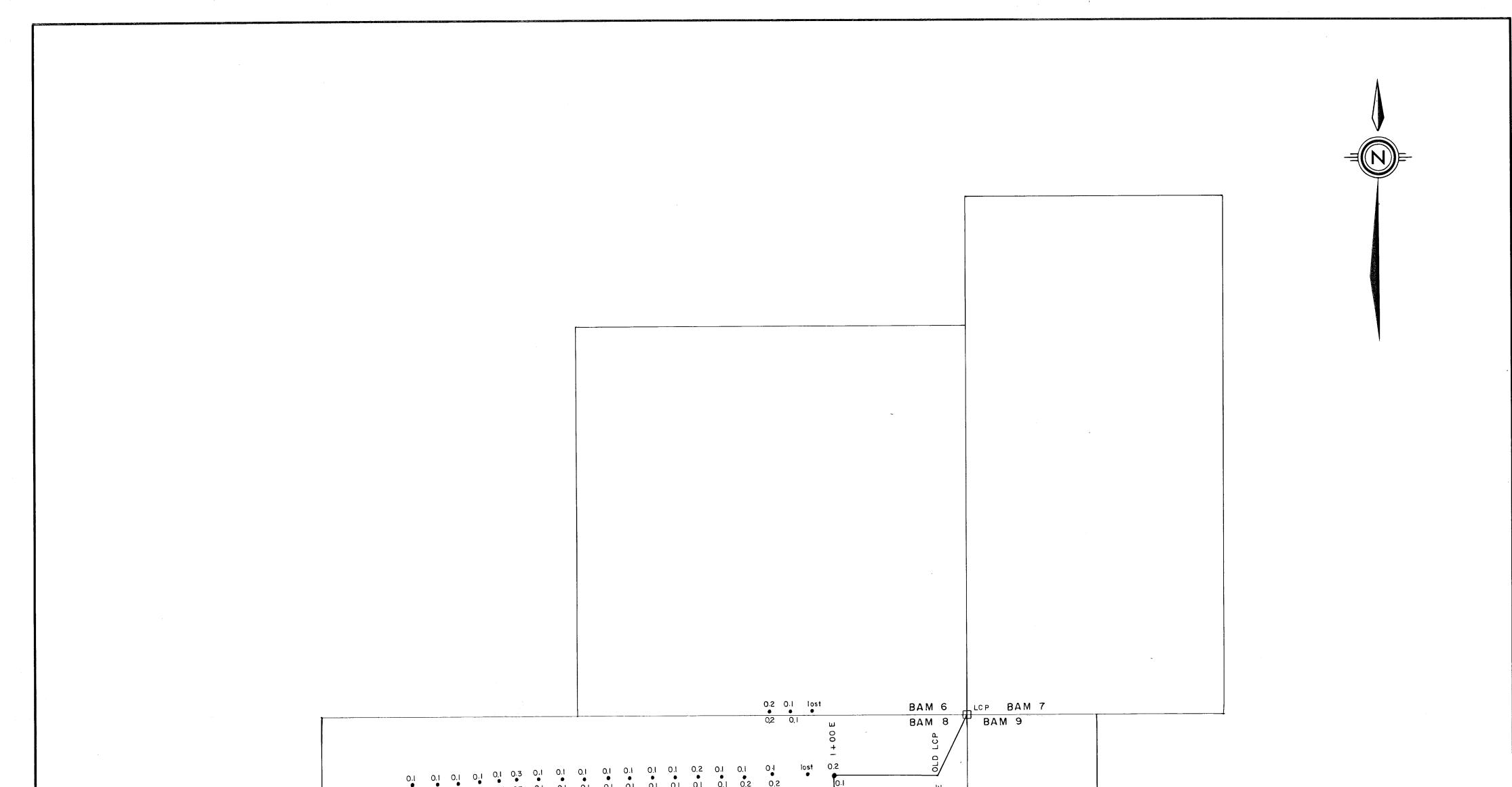


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	SCALE 0 200 400 600 m	2 Pb(ppm) SOIL SAMPLE 88 Zn(ppm) :	Chevron Canada Resources Limited Minerals Staff BAM CLAIMS 6,7,8,9,10
	I : 10,000		SOIL GEOCHEMISTRY Pb, ZnFIGURE No.11PROJECT No.M - 549DATE OCT.1986REVISIONSSCALE 1 : 10,000NTS No.104 GFILE NoCOMPILED BY W. HC - 9

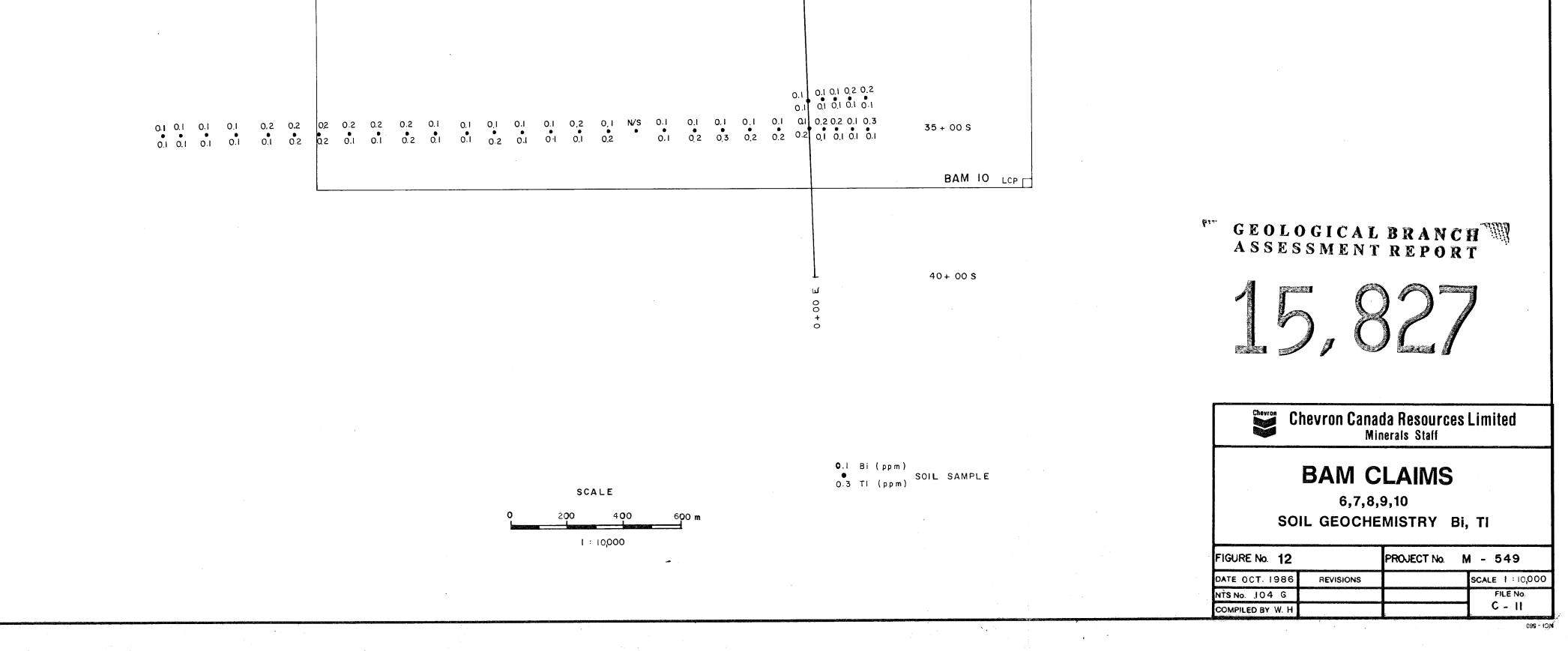
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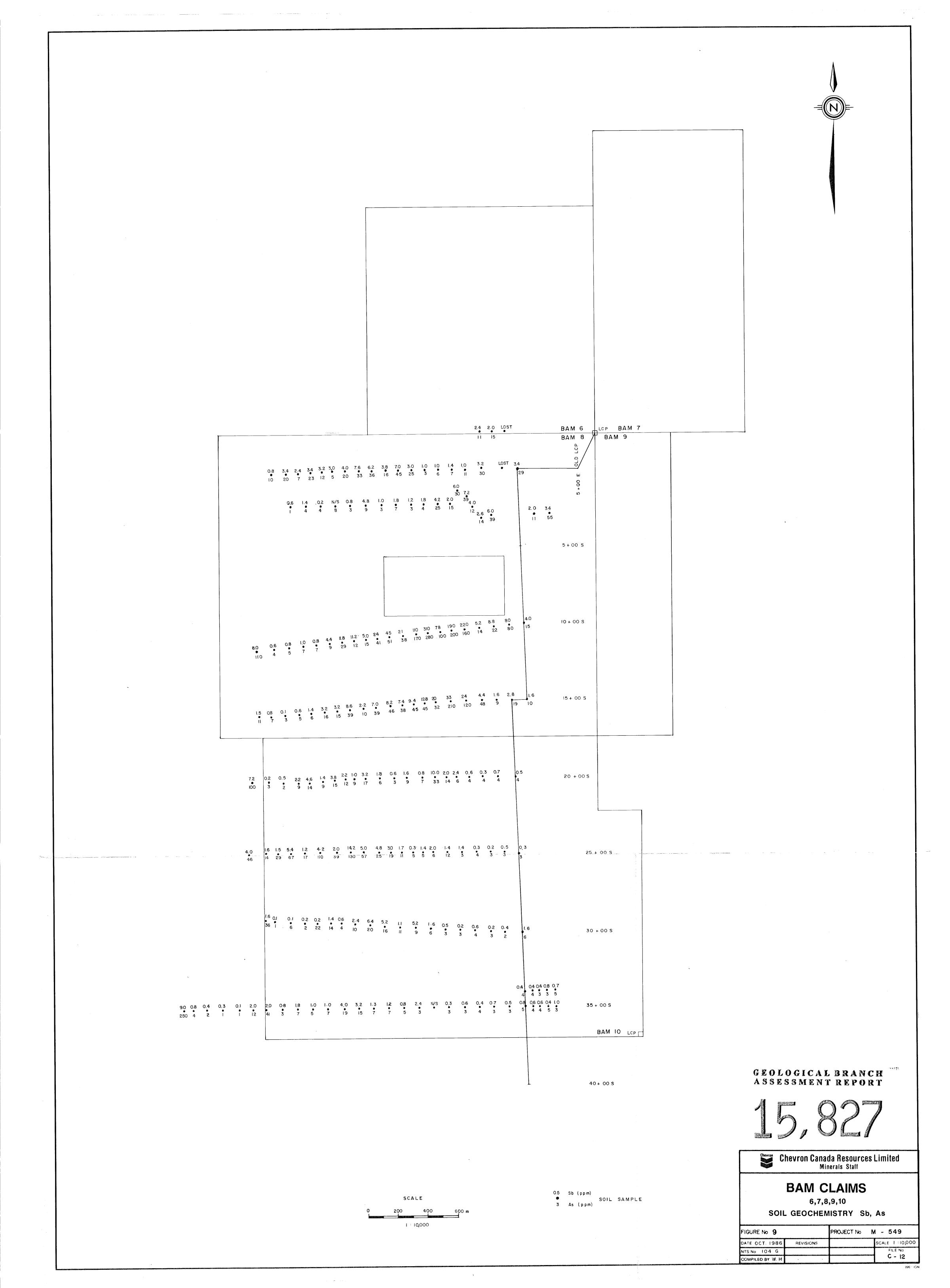


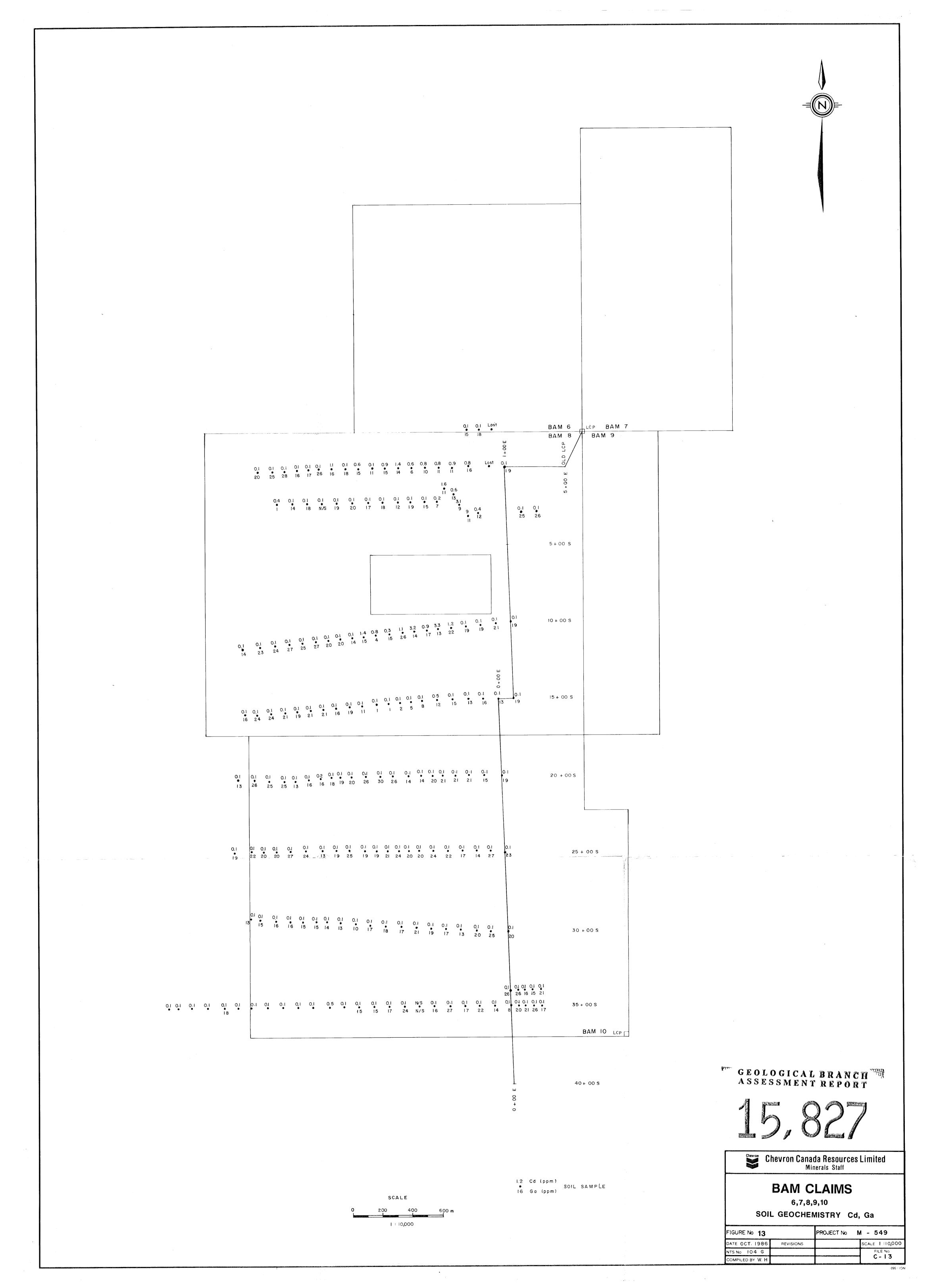
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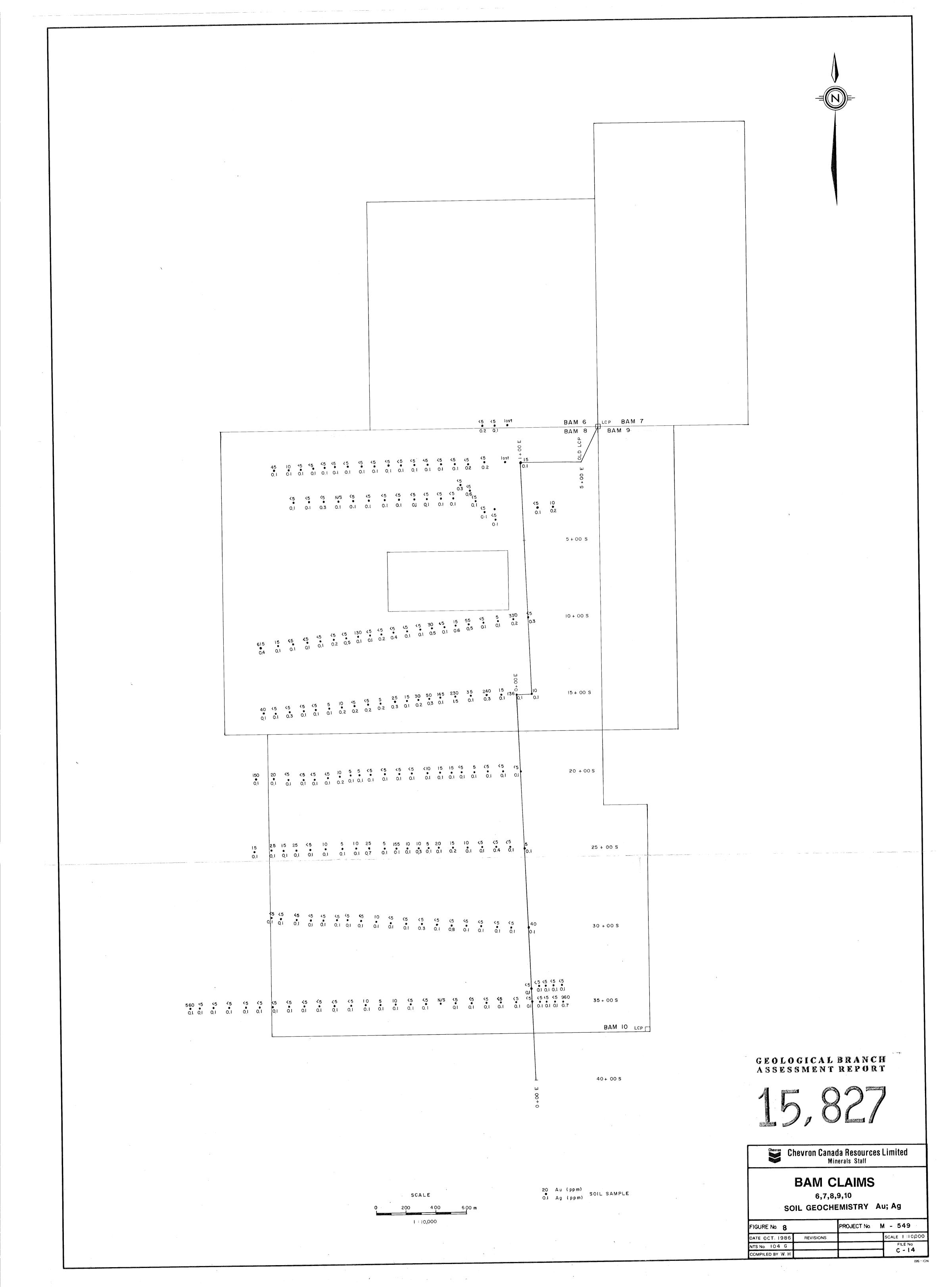


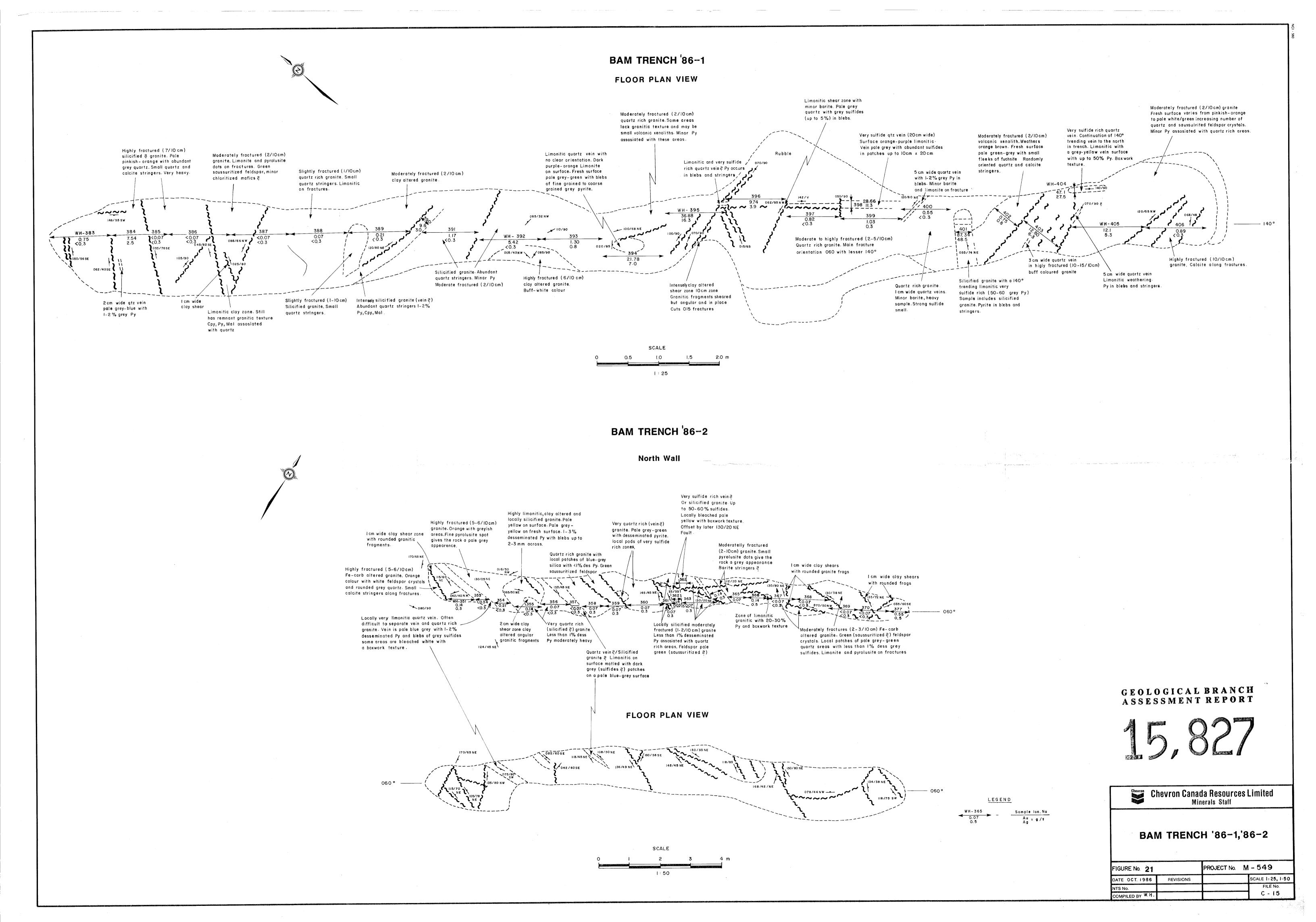
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Slightly fractured (1-10 cm) orange stained granite. Minor HCI reaction on fractures - Pyrolusite stain on tractures 🦯

130°

Moderately fractured (2/10cm) Fe carb altered granite.Very quartz rich with orange-pink stained matrix. (Not K-spar) Matrix reacts to HC1 when powdered. Small stringers of white calcite. No visible sulfides but heavier than normal granite Non magnetic main fracture orientation 025°

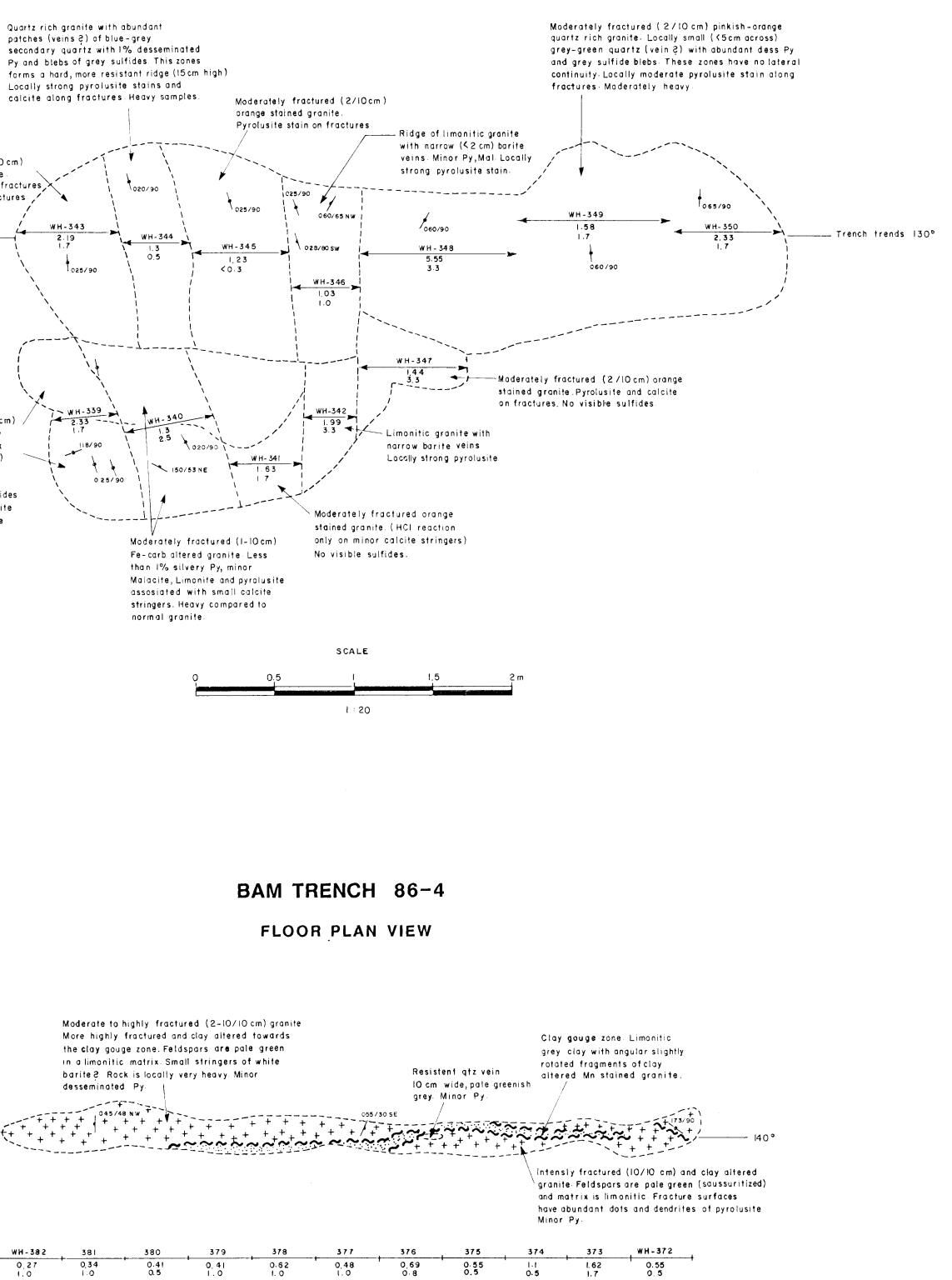
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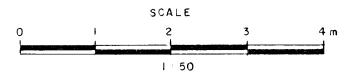
140 9

WH-382 0,27 1.0

BAM TRENCH 86-3

FLOOR PLAN VIEW





LEGEND WH- 348 5-55 3.3 Sample loc.No $\frac{Au}{Ag} = g/t$ WH-379 0.48 1.0 Sample loc. No Au = g/t Ag

		82	
Chevron Cl		ida Resource inerals Staff	es Limited
BAM	TRENCH	1 '86-3,'	86-4
FIGURE No. 21		PROJECT No.	M-549
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NTS No.			FILE No
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COMPILED BY M.H

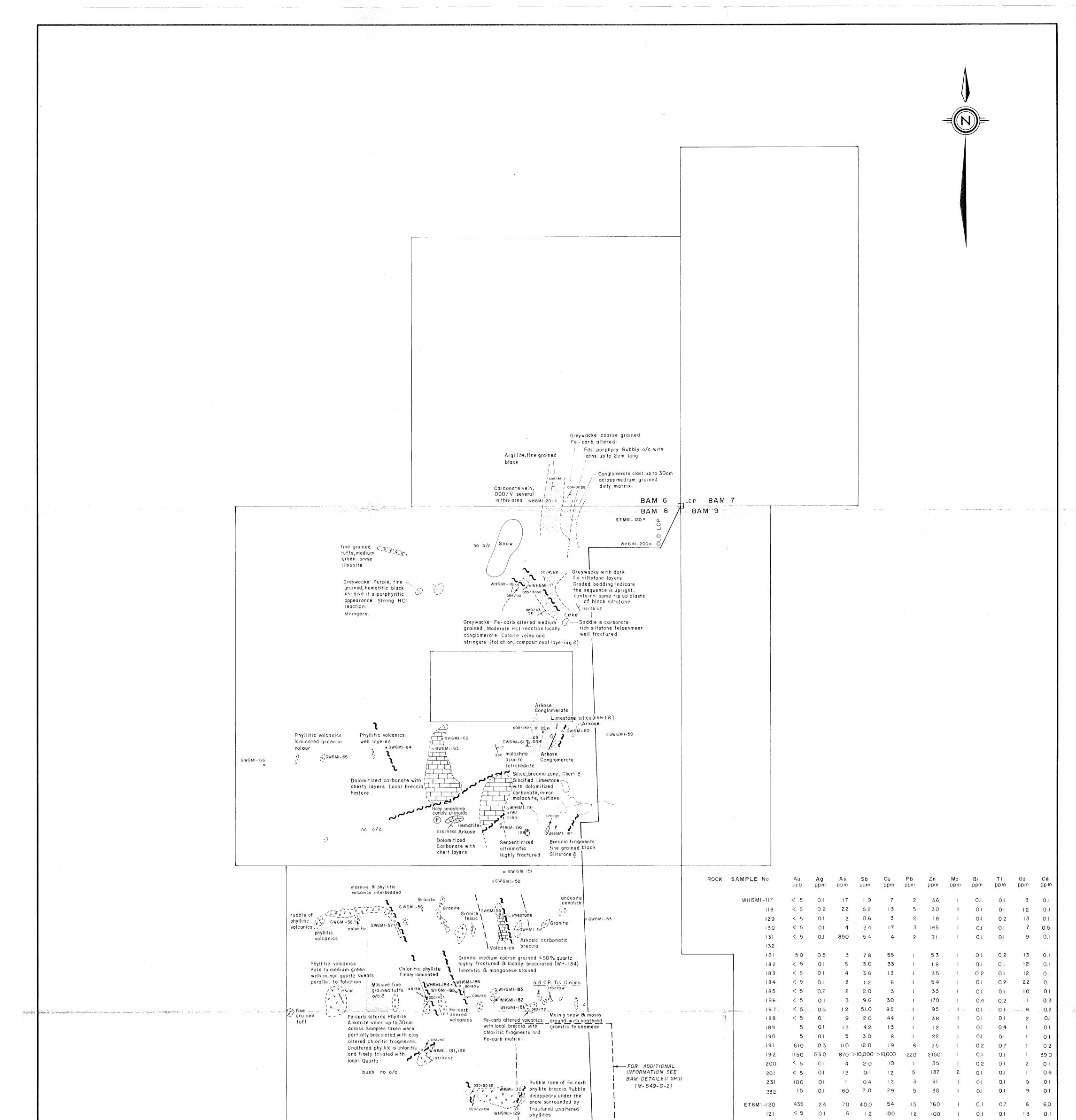
ASSESSMENT REPORT

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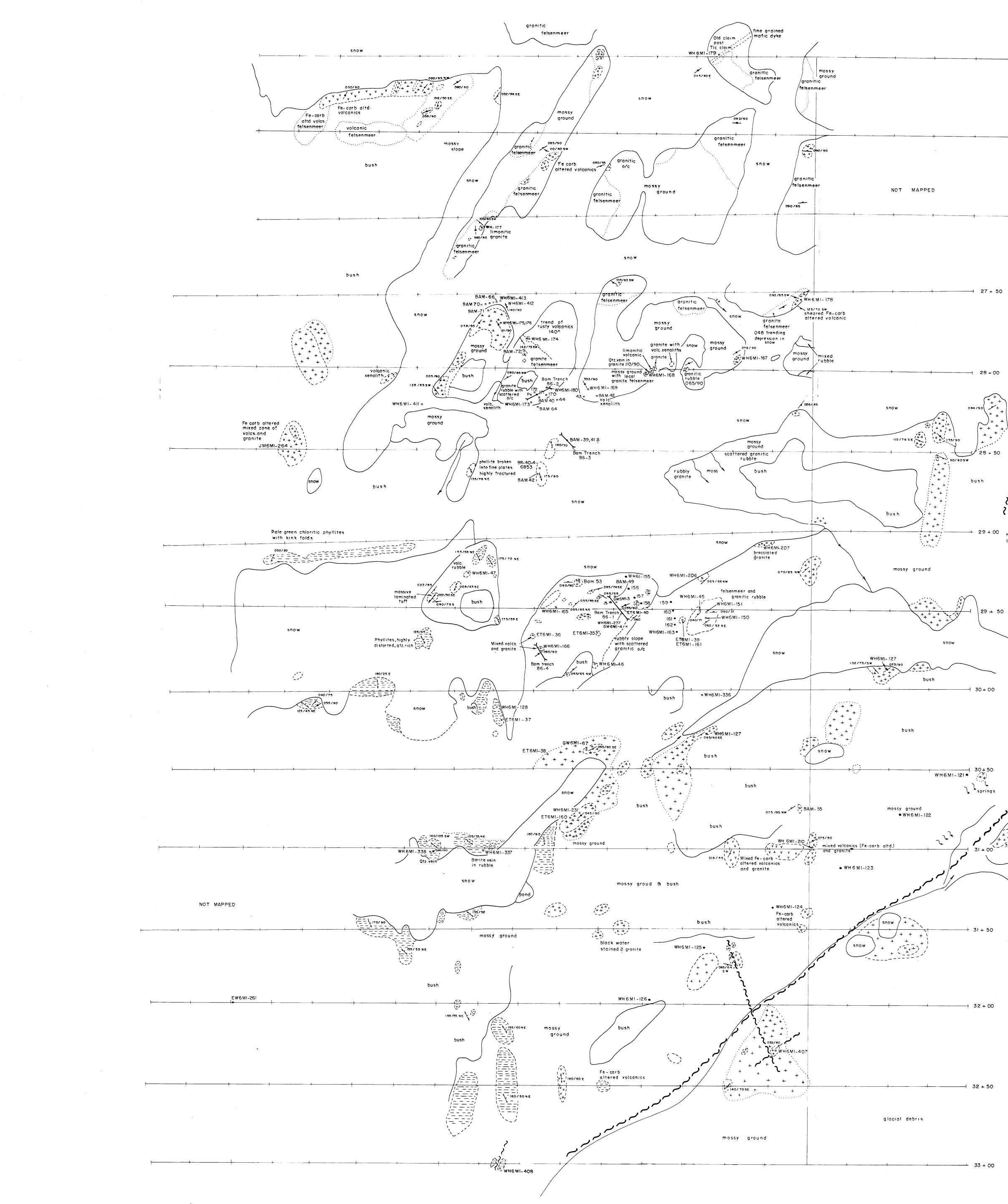
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170/70 W	FRACTURE ORIENTATION		VOLCANICS, XENOLI	THS, Fe-CARB ALTERED		68 EW6MI-342	60 30	0.1	3	0.2	50 940	3 22	540 29	1 10	0.1 0.3	0.1 0.2	9 4
□ WH6MI-162	ROCK SAMPLE 1986		LIMESTONE , DOLOMI	TE, CHERT		65 66	< 5 3 5 0 0	0.6	12 45	50.0 160.0	113	1 27	80 47	1	0.2 4.0	0.1	16 2
	LEGEND			₩H6ML-410 ¤ ₩H6ML-409 [™]	SOIL SAMF	LE GW6M2-64	10	0.2	10	5.6	16	7	45	1	0.3	0.3	21
	÷					62	< 5 < 5	11.2 078	650 38	1000.0 90.0	3,700 18 0	1	700 135	1	0,1 0 1	0.1 0.1	1
						60 61		0.1 >100.0	>10,000 >			59	22 >10p00	17	0,8	0,1 0,1	1 > 20
L						59	< 5 < 5	0.1	4	0.4 7.4	2 20	1	20 22	1	0.1 0 1	0.1 0.1	2 1
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	EW6MI-343 EW6MI-342	040 ET6 MI-122				56	< 5	0.1	2	0.8	3	i ,	78	l	0.1	0.2	24
	GW6ML68 238 V/ 245 V/					54 55	< 5 < 5	0.1 0.1	2 1	2.2 0,4	6 9]	62 65	1	0.3 0.2	0,1 0,1	13
	ET6M1-124 ET6M1-123	near contact. Local chlorit epidotized. ET6MI-123	ized, with bleach tuf green tuff xend			53	< 5	0.1	-	0.6	5	1	22	I	0.2	0.1	13
		green ± pyroclastics, lapill bleached. Local quortz sto	i, local homogenous me ockwork grained limonit	ic serecitic		GW6M1- 51 52	< 5 < 5	0.1 0.5	5 25	0.6 57.0	8 260	1	30 11 8	ł	0.2 01	0.1 0.1	2 (
		Mafic Tuffs: fine grained	dark Granitic Rock :	Fairly		124	< 5	0.1	4	4.0	16	7	101	L	0.1	0 <u>.</u> 1	2 (
						1											



	1985 ROCK SAMPLE No	A u pp d	Ag ppm	As ppm	Sb ppm
	BAM 39	156(g/t)			6.0
	40	< 1 (g/t)	1.7(g/t)		0.4
	4	2 600	2.8	10	5.8
	4 2	15	0.2	5	1.0
	43	250	0.2	5	0.6
	44	15	0.1	5	2.2
	45	385	1.7	41	1,6
	46	55	0,3	5	1.0
1 26 + 00	47	10	0.4	5	1,2
	48	20	0.1	4	0.6
	49	212.9(gA)	55.0	80	150.0
	50	2 200	2.6	11	8.2
	51	60	0.5	10	1.0
	52	1680	5.6	9	8,4
	53	30	0,1	4	1.0
	54	350	0,7	7	1.0
	55	190	10	4	0.5
	61	< 5	0, 1	5	1.0
26 + 50	62	< 5	0,1	3	0.6
	63	15	0.1	9	3.6
	64	165	0.7	17	1.2
	65	15	0,2	5	0.8
	66	1300	2.5	19	2.6
	67	240	0.4	9	3.2
•	68	335	0.4	<u>9</u>	3,6
	69	40	0.1	7	6.8
	70	380	0,5	ð	1.8
27 + 00	7 1	85	0.1	6	1.8
	72	10	0,1	50	0.8
	73	<5	0.1	5	1.2

ROCK SAMPLE No As Sb Cu Pb Zn Mo Bi Tl Ga Cd oom ppm ppm 1.9 19 1.8 < 5 0.1 2 0.2 (++++) 38 < 5 0.1 1 0.6 39 2.516 (oz/t) 44.0 11 30.0 40 6.456 (oz/t) 1000.00 30 32.0 160 1250 2.6 7 0.9 bush 161 45 0,1 3 1.0 13 9 20 3 0.3 0,1 16 0,1 GW6MI- 3 4.668(oz/t) 68.0 80 130.0 16 2 29 1 0.1 0.1 11 0.1 4 5 0.1 1 0.9 6 3 24 1 0.1 0.1 7 0.1 018° trending gulley fault? or glacial 67 825 1.4 3 0.6 105 8 19 1 0.2 0.1 13 0.1 (+)teature (contains) |+ abundant glacíal float bush WH6MI- 45 615 0.5 7 1.2 012/82 NW 60 0.1 6 6,2 46 <5 0.1 2 0.4 47 0.1 4 3.0 9 2 30 1 0.2 0.1 7 0.1 127 55 < 5 0.1 2 1.0 30 2 45 1 0.1 0.1 13 0.1 128 ----- 29+00 mossy ground < 5 0.1 3 0.8 4 3 12 1 0.1 0.2 9 0.1 150 < 5 0.1 4 C.8 5 7 14 1 0.1 0.1 11 0.1 151 and bush < 5 0.1 4 0.6 6 1 46 1 0.1 0.1 6 0.1 165 9700 3.9 3 0.8 6 3 15 1 0.2 0.1 13 0.1 166 0.1 3 5.7 23 1 22 1 0.1 0.1 8 0.1 20 0.1 2 5.4 12 1 9 1 0.1 0.1 11 0.1 168 0.1 1 0.1 3 1 7 1 0,1 0,1 8 0,1 169 35 0.7 17 0,4 14 2 7 1 0.1 0.1 12 0.1 0.9 10 1.0 16 45 24 2 0.2 0.1 13 0.1 1.6 17 1.2 8 23 6 3 0.4 0.1 13 0.1 435 + + • 1.6 10 1.0 18 89 12 1 0.3 0.1 13 0.1 129 + 50173 325 174 0.9 27 1.0 20 16 6 1 0.1 1.0 15 0.1 150 1.0 11 2 24 2 0.3 0,1 11 1.0 176 200 0.1 2 1.0 9 1 27 1 0.1 0.1 8 0.1 177 35 0.1 1 0.1 3 1 16 1 0,1 0,1 10 0,1 25 0.2 6 7.0 208 1 80 1 0.2 0.2 14 0.1 178 4 6,4 40 1 69 1 0,1 0,2 13 0,2 179 0.2 1.3 6.6 35 7 24 1 0.4 0.1 13 0.1 1 0.1 19 3 0.1 I 0.2 17 2 36 I 0.1 0.1 9 0.1 WH6MI-119 20 0.1 2 1.8 22 3 10 1 0.1 0.1 7 0.1 208 10 0.1 1 0.8 11 4 10 1 0.1 0.1 7 0.1 209 230 0.6 4 2.0 41 6 18 13 0.2 0.1 8 0.1 210

•WH6MI-120

Springs / 0 42/80 SE (+) WH6 MI-209 -31 + 00

040/30 SE 022/50SE 060/80 SE 🦯 045/90.

D WH-176 ROCK SAMPLE • WH-155 SOIL SAMPLE FRACTURE ORIENTATION FOLIATION COMPOSITIONAL LAYERING/BEDDING SNOW OUTLINE OUTCROP OUTLINE FELSENMEER OUTLINE FRACTURE ORIENTATION VERTICAL

EW6M1-261

WH6M1-336

337

412

413

TRENCH

LEGEND

STREAMS PYRITE (++)GRANITE vvvv CHLORITE PHYLLITE BRECCIA ZONE · · · · · · GEOLOGIC BOUNDRY (ASSUMED)

ppm

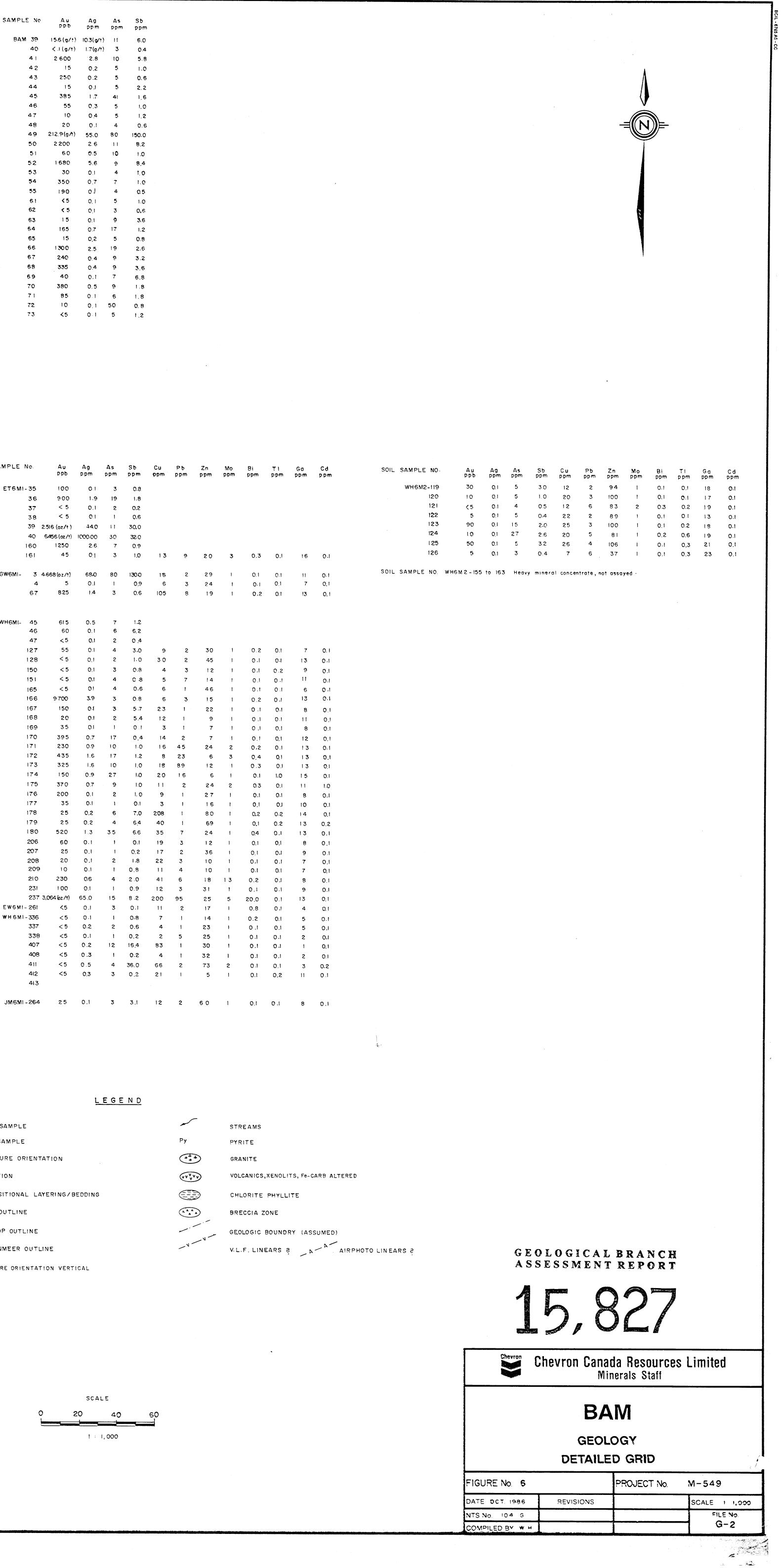
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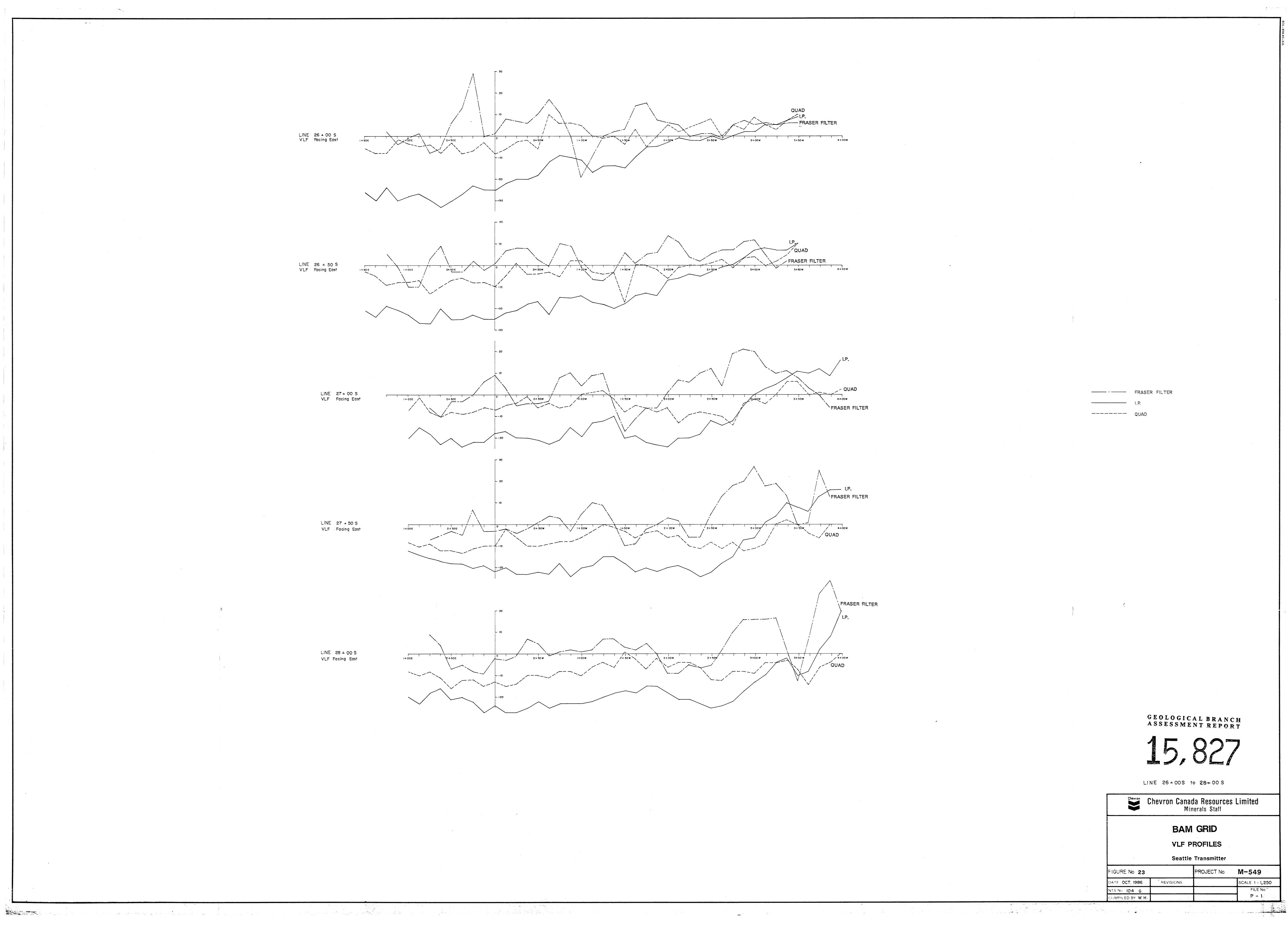
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GEOLOGICAL BRANCH ASSESSMENT REPORT

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LINE 26+005 to 28+00 S

Chevron		ida Resources inerals Staff	s Limited
х. Х.	BAN	I GRID	
	VLF F	PROFILES	
	Seattle	e Transmitter	
FIGURE No 23		PROJECT No.	M-549
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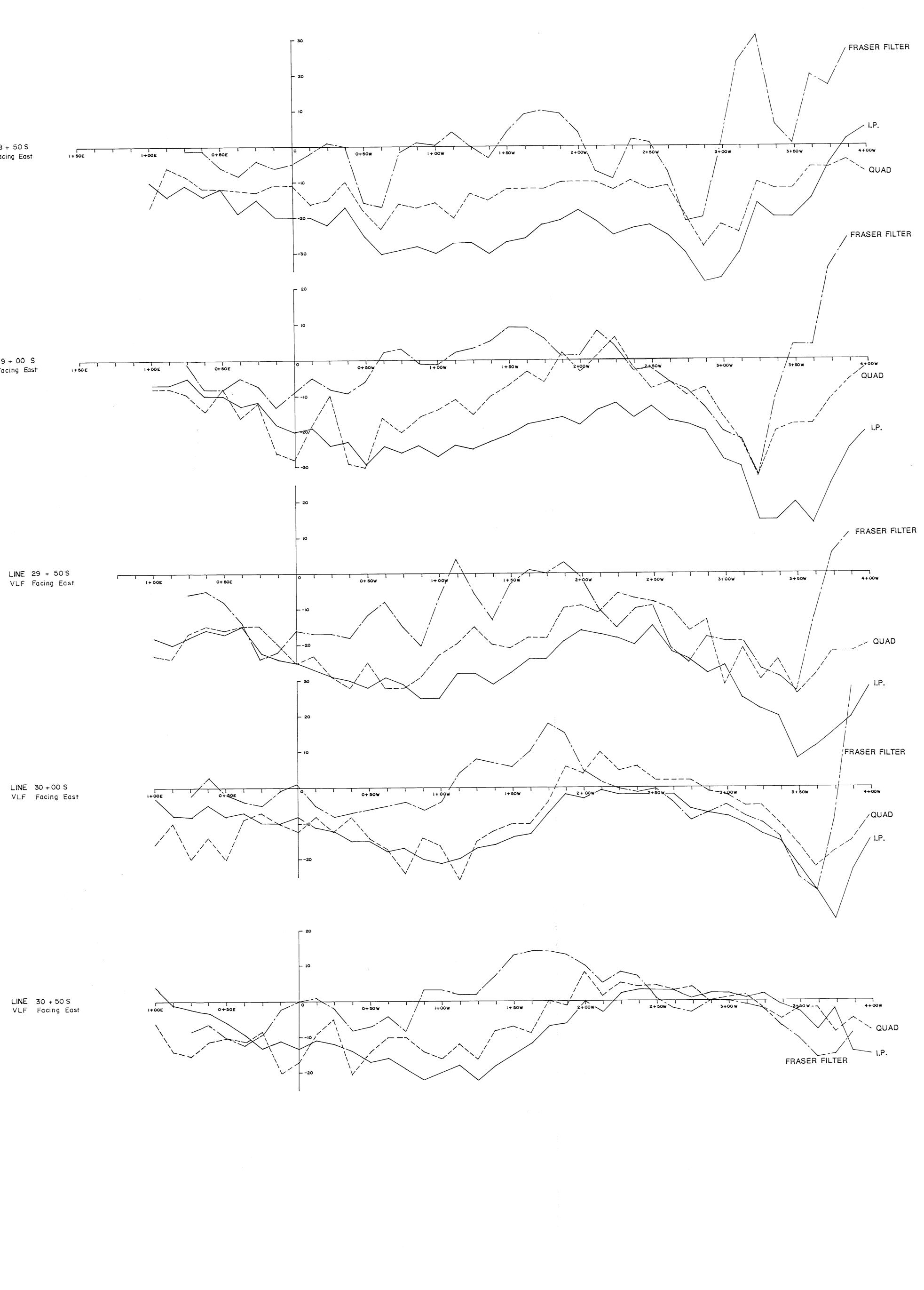
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LINE 28 + 50 S VLF Facing East

LINE 29 + 00 S VLF Facing East

LINE VLF

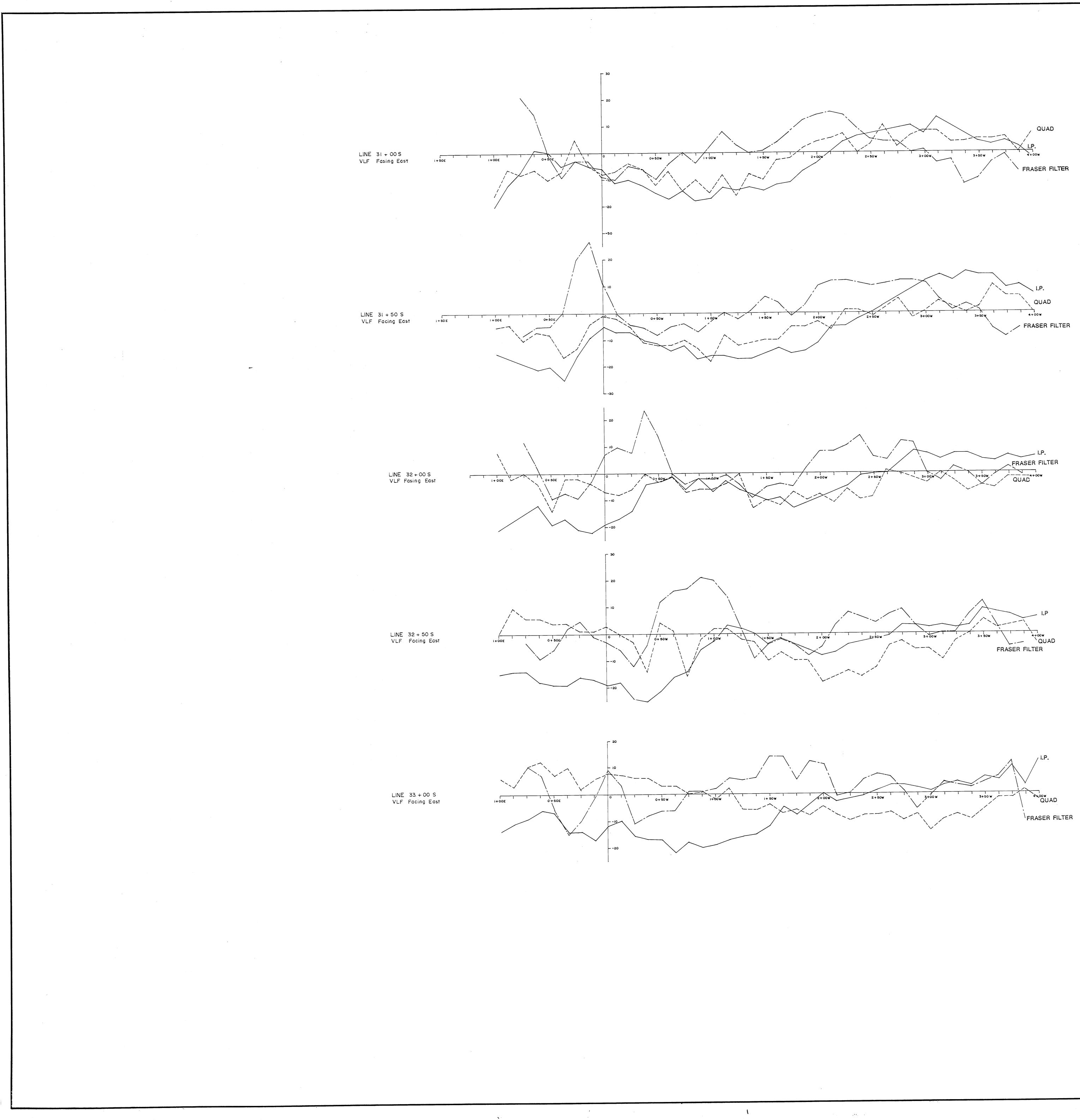


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------ FRASER FILTER ______ I.P. _____ QUAD GEOLOGICAL BRANCH ASSESSMENT REPORT 027 LINE 28+505 to 30+505 Chevron Canada Resources Limited Minerals Staff BAM GRID VLF PROFILES Seattle Transmitter PROJECT No. M-549 FIGURE No. 24 SCALE 1 : 1,250 FILE No. DATE OCT. 1968 REVISIONS NTS No. 104 G P - 2 COMPILED BY W.H

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GEOLOGICAL BRANCH ASSESSMENT REPORT



LINE 31+005 to 33+005

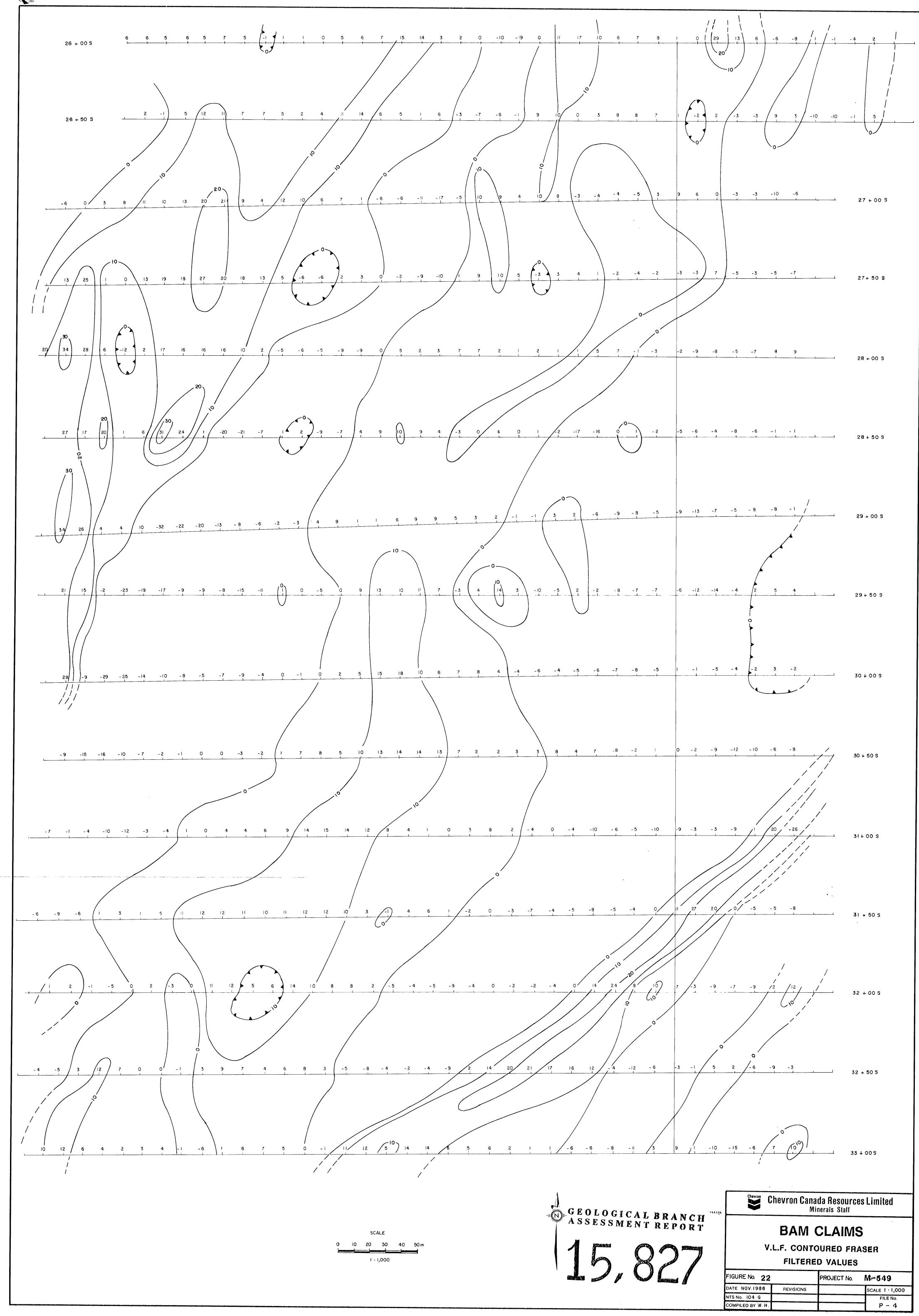
Chevron Canada Resources Limited Minerals Staff

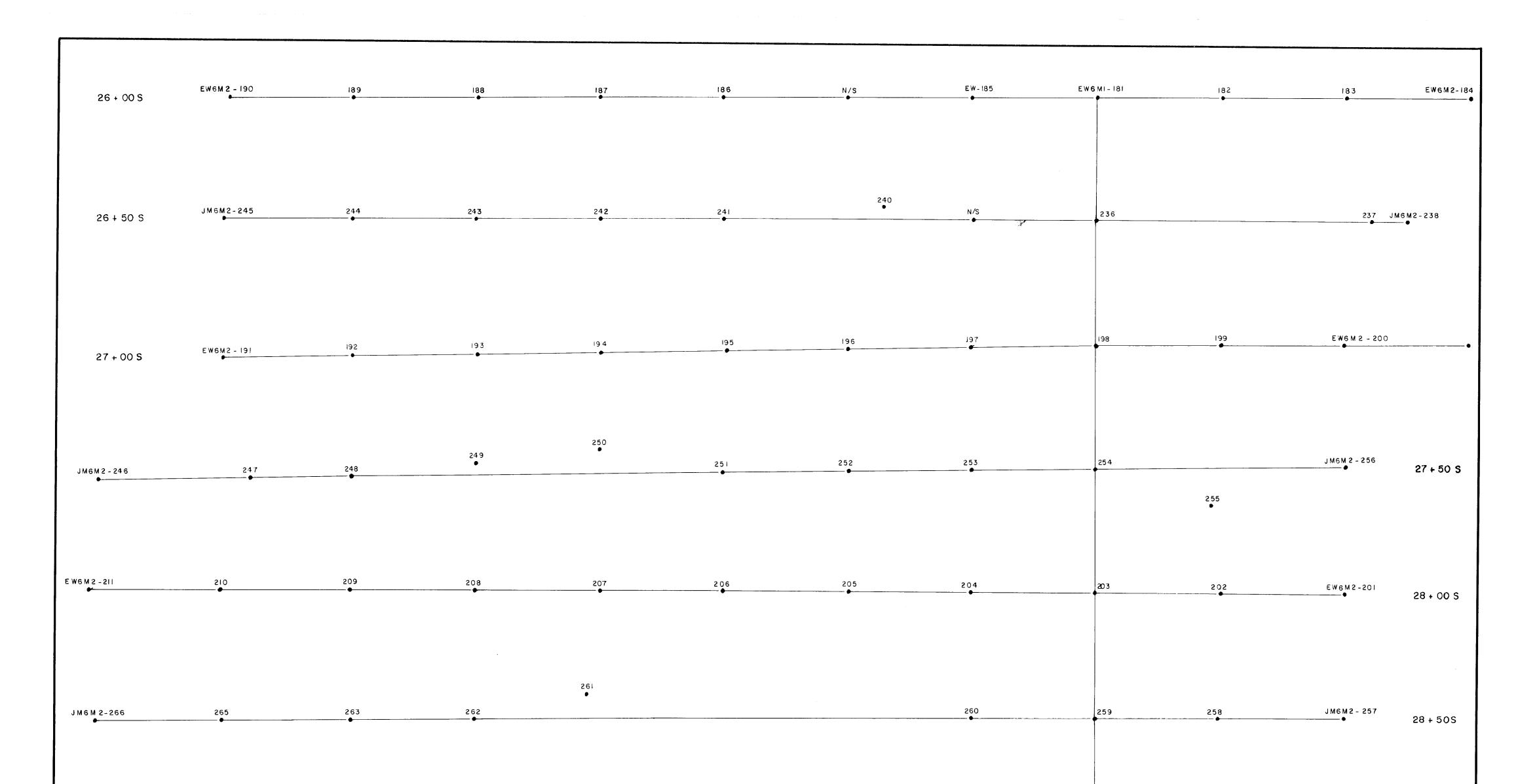
BAM GRID

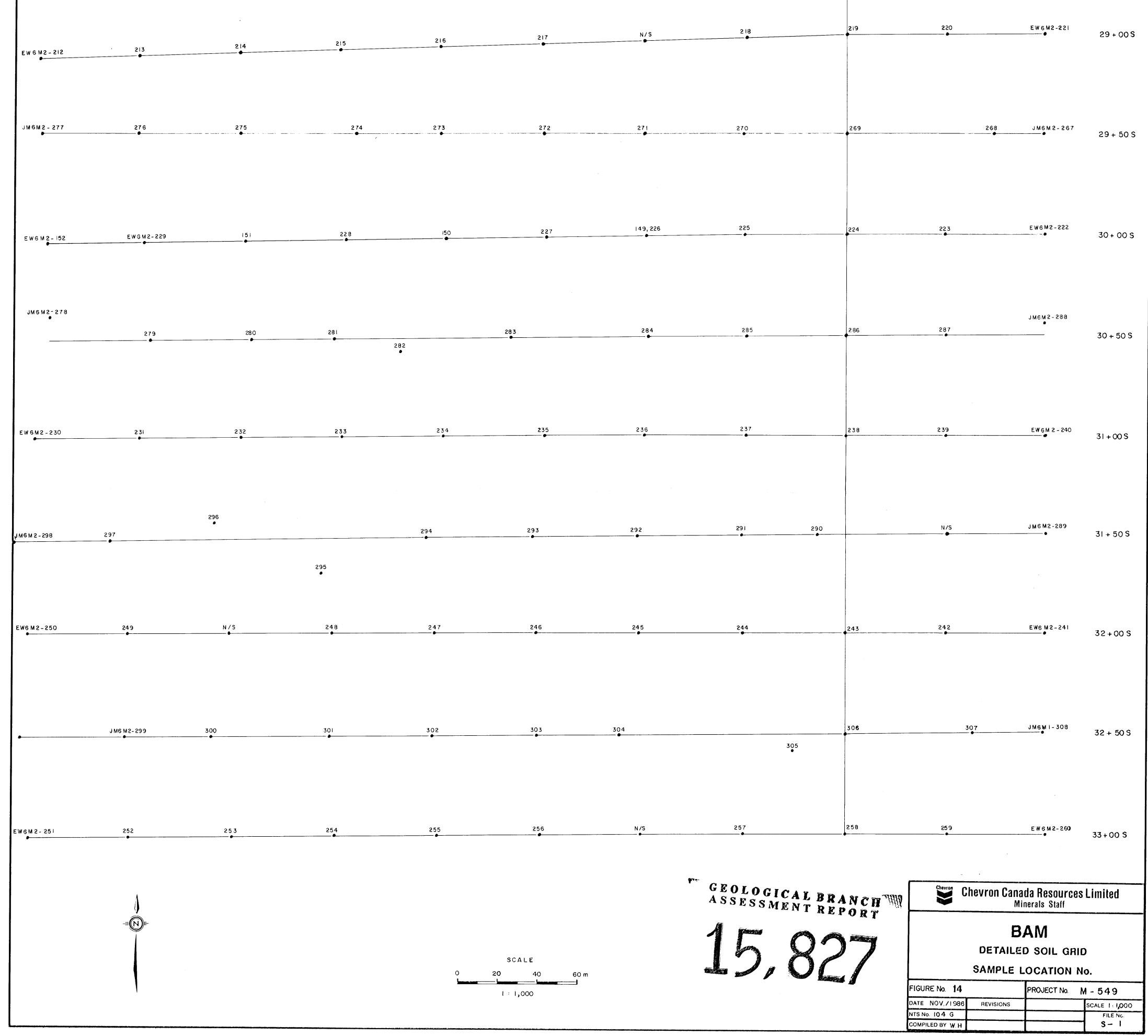
VLF PROFILES

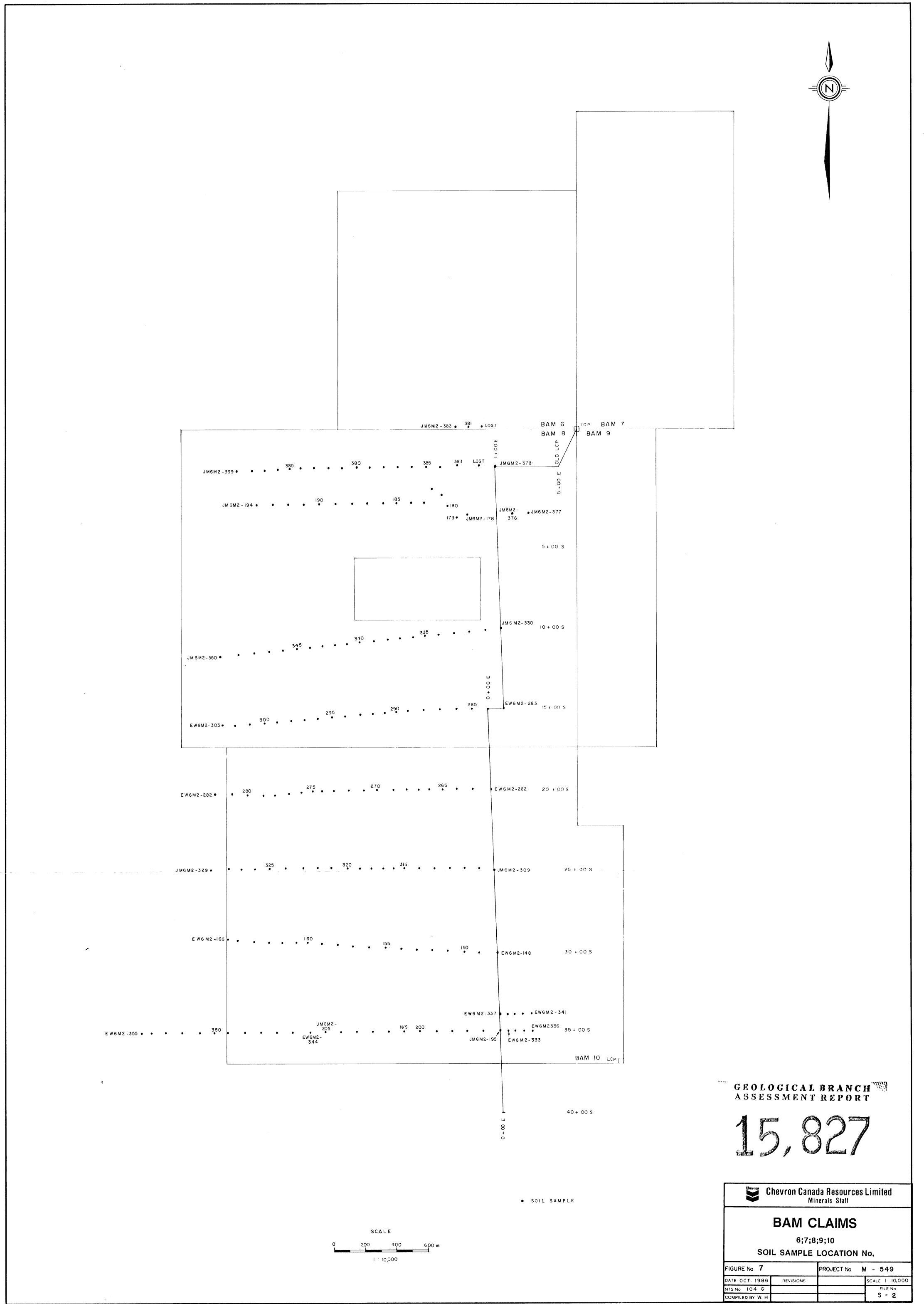
Seattle Transmitter

FIGURE No. 25		PROJECT No.	M-549
DATE OCT. 1986	REVISIONS		SCALE 1 : 1,250
NTS NO. 104 G			FILE NO.
COMPILED BY W. H			P-3









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