ASSESSMENT REPORT

GEOLOGICAL/GEOCHEMICAL AND GEOPHYSICAL SURVEY

ON THE

COQUIHALLA GROUP OF CLAIMS

N.T.S. 92H/11

New Westminster and Similkameen

Latitude 49°31.5'   Longitude 121°03'

UTM 5487000 m N 642000 m E

L.R. Erdman (Project Geologist)
Noranda Exploration Company, Limited (no personal liability)
November, 1989

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INTRODUCTION

The Christa mineral claims were located by Noranda Exploration Company, Limited (n.p.l.) in October 1988 to cover an area underlain by rocks of the Coquihalla Tertiary Volcanic Complex. The claims are located in the New Westminster and Similkameen Mining Divisions, and are comprised of 5 modified grid claims totalling 92 units (Figure 1). In July 1989 the claims were grouped as the Coquihalla Group. Claim information is given in Table 1 below.

TABLE 1 CLAIM STATUS

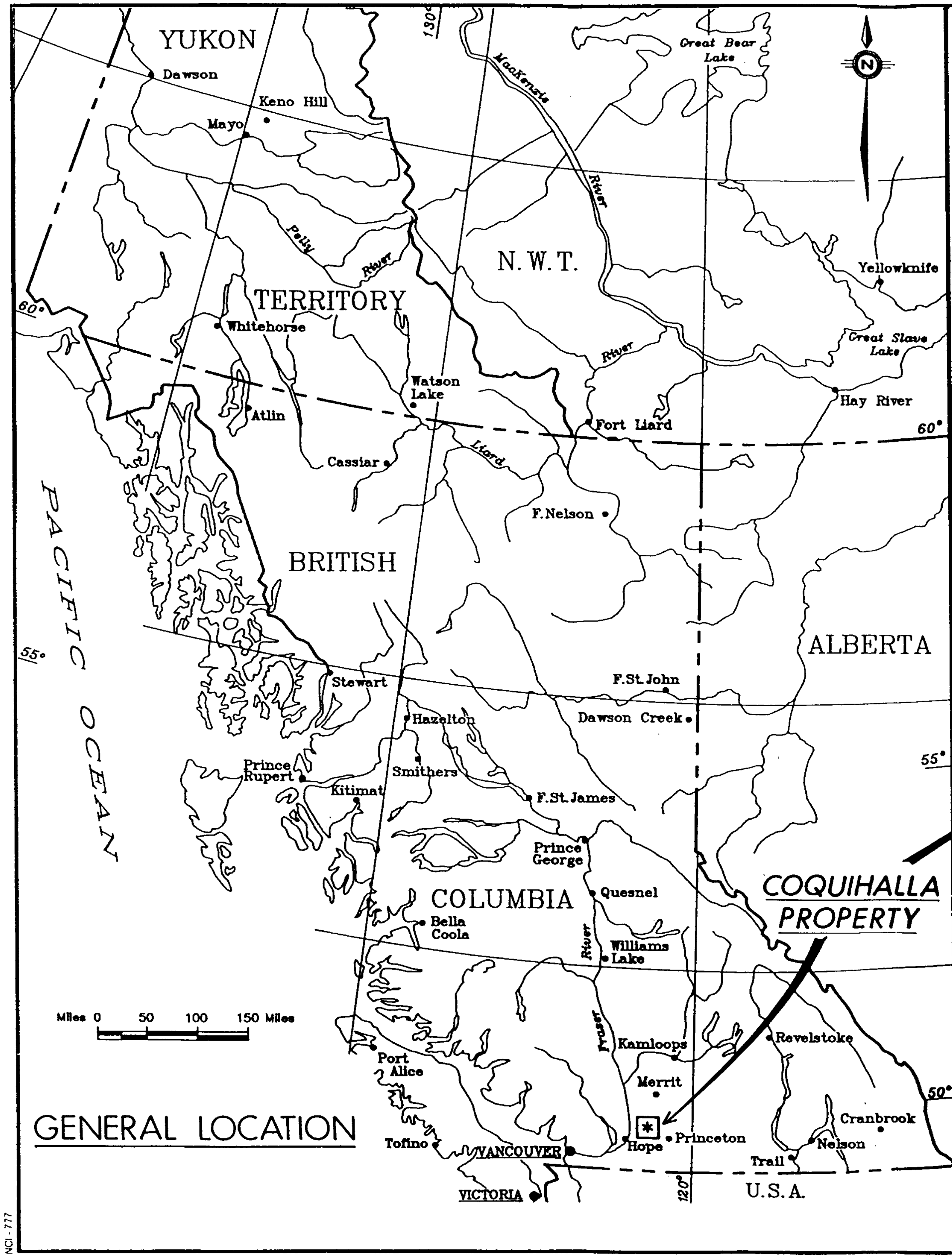
Claim Name	Record No	Mining Div.	Units	Date Recorded
Christa 1	3233	Similkameen	20	Oct. 2, 1988
Christa 2	3234	Similkameen	20	Oct. 2, 1988
Christa 3	3235	Similkameen	12	Oct. 2, 1988
Christa 4	3236	Similkameen	20	Oct. 2, 1988
Christa 5	3461	New Westminster	20	Oct. 3, 1988

LOCATION AND ACCESS

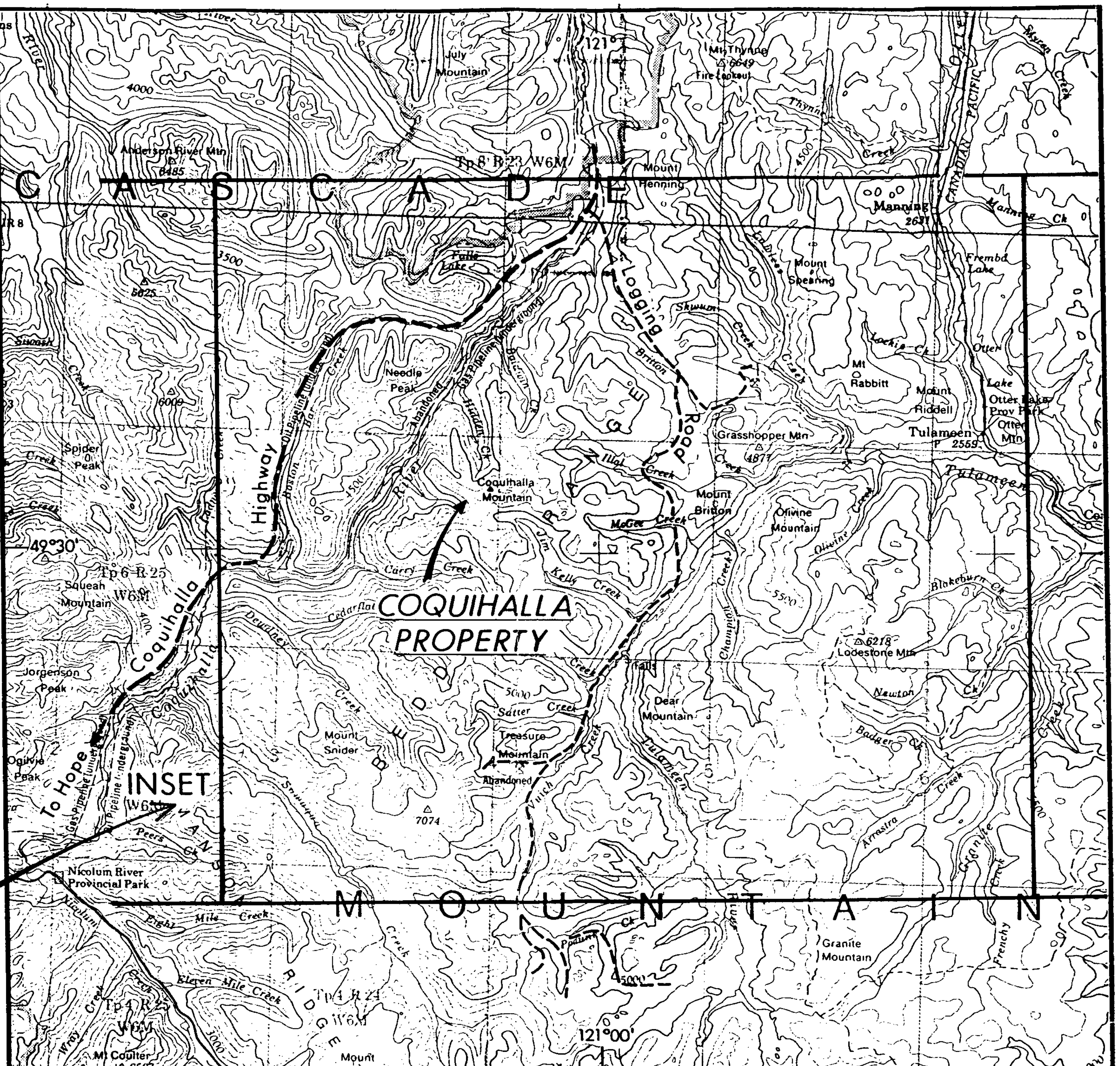
The Coquihalla Group is located approximately 40 km northeast of Hope, B.C., 11 km east of the Coquihalla Highway (Figure 2). There are no roads onto the property, consequently access is by helicopter from Hope, an 80 minute round trip.

Relief is 880 m, from 1280 m at Jim Kelly Creek, to 2160 m on the peak of Coquihalla Mt. Vegetation is alpine to sub-alpine at elevations above 1615 m, and is conifer forest at lower elevations.

There were 3 camp locations, all situated on the shores of small lakes. The first campsite was adjacent to the LCP for Christa 1-4, the second camp was located approximately 2 km NNW of the first camp, and the third camp was located approximately 200 m north of the LCP for Christa 5. Camp moves were helicopter assisted, but all traverses were completed on foot.



GENERAL LOCATION



ROAD ACCESS

REVISED	
	COQUIHALLA PROPERTY
	GENERAL LOCATION & ROAD ACCESS MAP

PROJ.No. 116 — SURVEY BY: L. Erdman — DATE: Nov. 1989

N.T.S. — DRAWN BY: J. Serwin — SCALE:

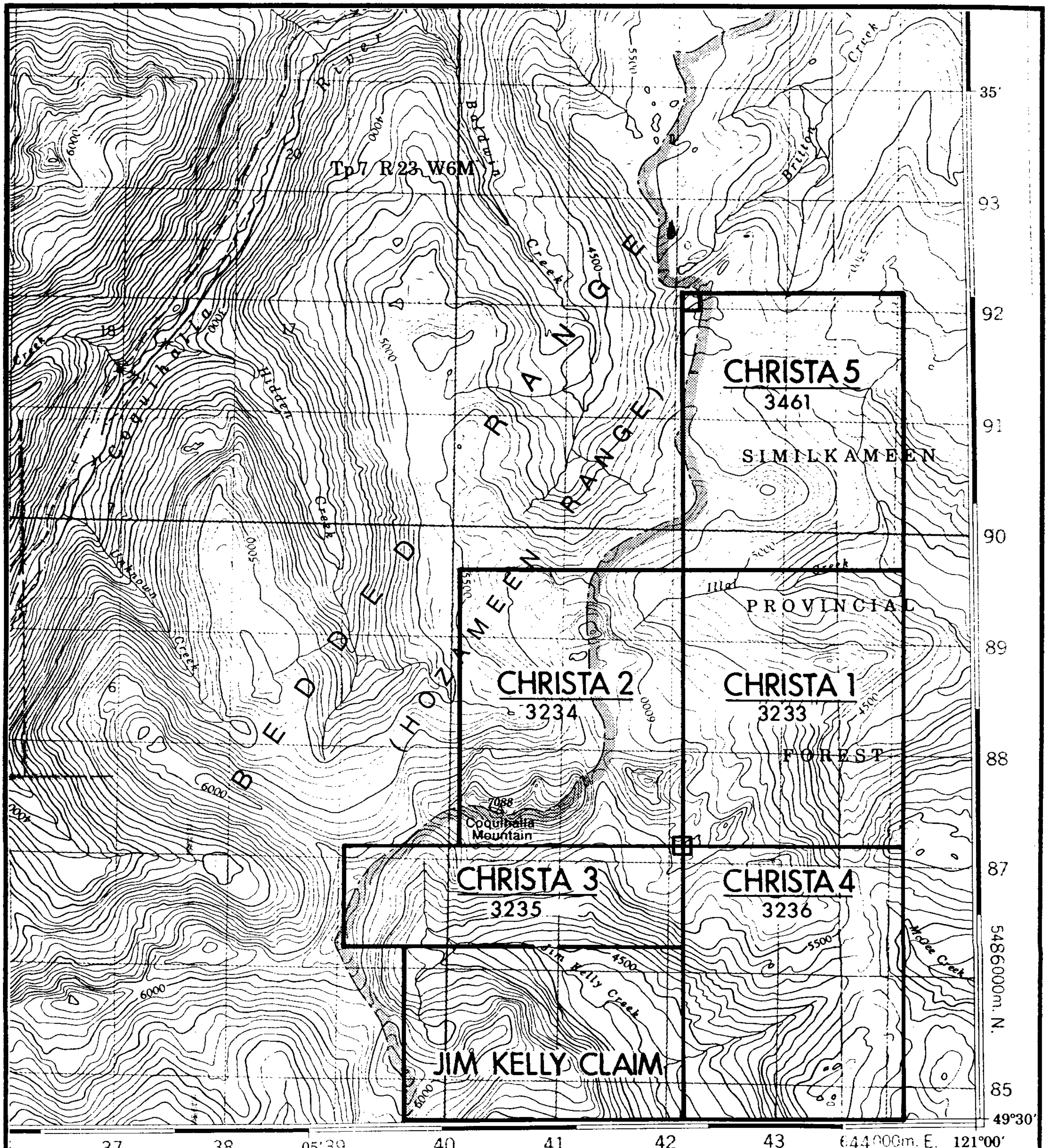
DWG.No. 2

NORANDA EXPLORATION

OFFICE: VANCOUVER

NCI-777

P.J.A



REVISED	COQUIHALLA PROPERTY
	CLAIM LOCATION
PROJ. No. 116	SURVEY BY: L. E. DATE: Nov. 89
N.T.S. 92H/11	DRAWN BY: J. S. SCALE: 1:50000
DWG. No. 1	NORANDA EXPLORATION OFFICE: VANCOUVER

NCI-774

PREVIOUS WORK

Prior to staking the Christa claims, the majority of work in this area was concentrated in the valley of Jim Kelly Creek.

Earliest reports are of gold-bearing quartz veins in the upper reaches of Jim Kelly Creek. These were being worked for gold in 1914 (BCDMAR 1914 p. K232).

The area experienced a second period of activity in 1937 when gold and silver-bearing quartz veins were worked with open cuts and short adits (BCDMAR 1937 p. D21). The exact locations of these quartz veins, and of those worked in 1914 is not given in contemporary descriptions.

In 1966 a considerable amount of work was done on the south side of Jim Kelly Creek by Bethex Exploration Limited. Bethex excavated 32 trenches totalling over 5,486 m in length and drilled 863 m in 5 holes (BCDMAR 1966 p.174). The objective at the time appears to have been copper in a porphyry-type situation. Samples were assayed for copper and molybdenum but not for gold or silver. Assays for these samples are not available.

In November 1981 to February 1982, Mine Quest Exploration Associates Ltd. staked 13 claims on behalf of Clifton Resources Ltd. The claims straddled Jim Kelly Creek on the southeast side of Coquihalla Mountain.

Five contour soil lines between 4500 m and 5500 m were put in around the Jim Kelly Creek basin. Seven hundred-twenty soils were collected along these lines. Of the 5 lines soiled, 1 line proved anomalous on it's east half in Au and Ag. Rock chip samples along this line had uniformly low Au values (AR 10,868).

The exploration programme also consisted of prospecting and geological examination. In particular, attempts were made to find the gold-bearing locations which are described in BCMAR in 1914 and 1937. This was unsuccessful.

In 1985, a follow-up sampling programme hoped to extend the anomalous zone of gold values to the southeast across the Tertiary Volcanic/Eagle Granodiorite contact. Because of snow conditions, sampling had to take place at the 1330 m level (below the treeline) and none of the collected samples were anomalous. It was thought that the 1982 samples were collected closer to the source or in an area of thinner overburden, than those collected from forest soil (AR 14,362).

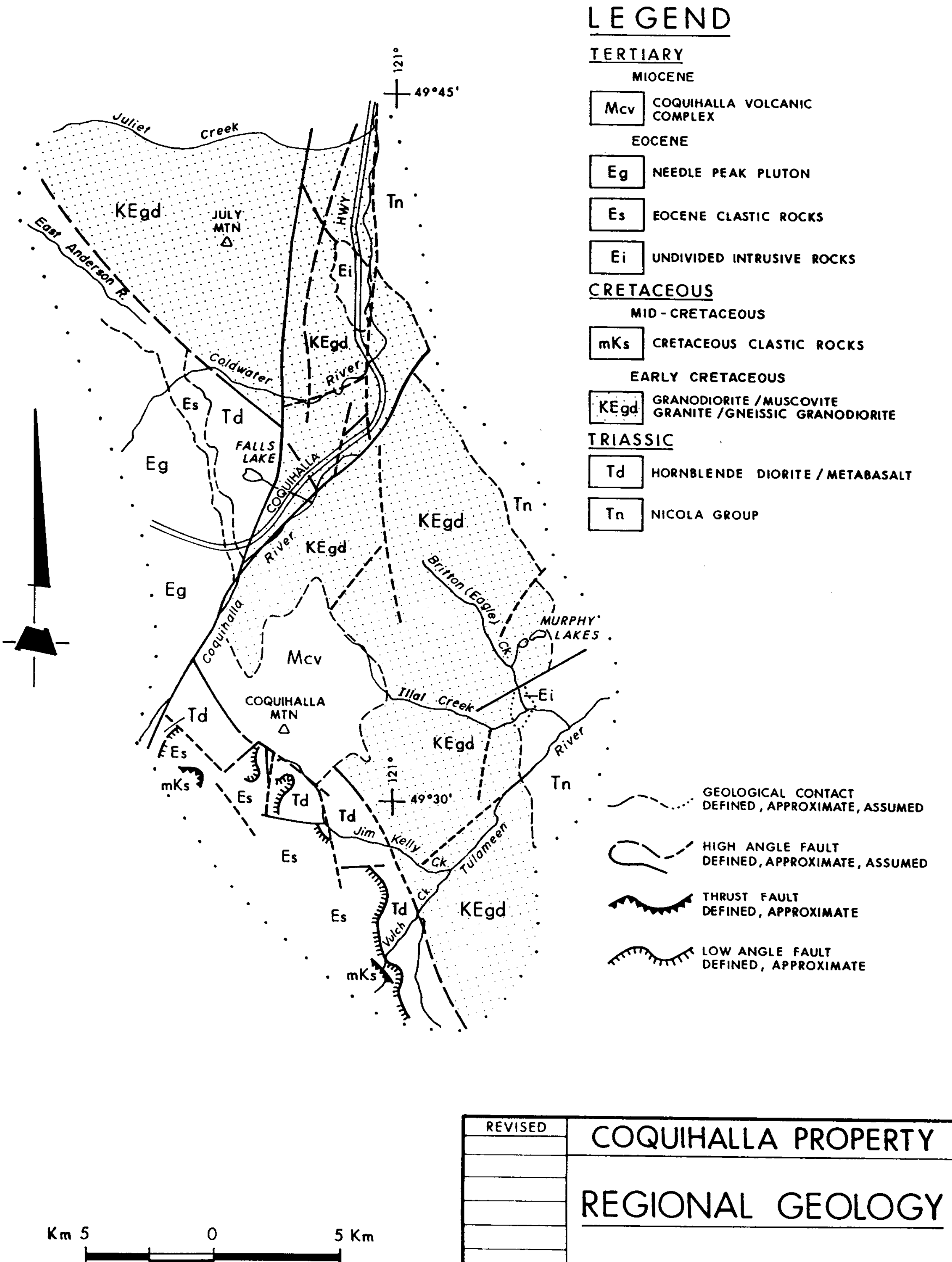
A short recce programme targeting the Tertiary Coquihalla Volcanic Complex was implemented by Noranda Exploration during the 1988 summer field season. Grab samples from several outcrops were collected, and returned weakly to highly anomalous gold values. The two most interesting gold anomalies came from an outcrop of quartz breccia exposed on a south facing hillside. On grab sample contained 3315 ppb Au/35.9 ppm Ag and the other had 1540 ppb Au/13.4 ppm Ag. Based on these results the Christa claims were staked in October 1988.

REGIONAL GEOLOGY

The Coquihalla Volcanic Complex occurs in the northern part of the Cascade Mountains; near the physiographic boundaries with the Coast Mountains on the west and the Interior Plateau on the east. The eastern boundary roughly corresponds to the tectonic division between the Coast Plutonic Complex and the Intermontane Belt.

The Tertiary Volcanic Complex lies unconformably on the Cretaceous Eagle plutonic complex on all sides except to the southwest, where it is in fault contact with Eocene clastic rocks (Grieg, 1988) (Figure 3). The Volcanic Complex covers approximately 30 km^2 and is exposed at elevations between 840 m and 2160 m. It is composed of calc-alkaline acid to intermediate extrusive and intrusive rocks. Avalanche breccias and minor amounts of epiclastic conglomerate and sandstone are also present.

The Eagle plutonic complex is a large body of gneissic granodiorite, muscovite granite and heterogeneous gneiss (Grieg, 1988). It is the southern part of the Mount-Lytton Eagle Complex, an elongate north northwest trending plutonic complex that has a length of for 200 km.



Regional Geology (from Greig , 1988)

REVISED	COQUIHALLA PROPERTY
	REGIONAL GEOLOGY
PROJ. No. 116	SURVEY BY: L. Erdman DATE: Nov. 89
N.T.S. 92H/11	DRAWN BY: J. Serwin SCALE:
DWG. No. 3	NORANDA EXPLORATION OFFICE: VANCOUVER

NCI - 774

PROPERTY GEOLOGY

The area covered by the Coquihalla Group is primarily underlain by rocks of the Tertiary Coquihalla Volcanic Complex (Figures 4a and b). This complex of rocks was mapped in detail by Berman (1979) as part of a MSc thesis project at the University of British Columbia.

Berman divided the igneous rocks into eight map units based on mineralogical and textural properties. The following descriptions are a combination of Berman's 1979 work, and field observations from the work completed by Noranda personnel in August 1989.

The oldest extrusive igneous rocks within the Tertiary complex are acidic tuffaceous pyroclastics (Unit 6). This unit has the greatest aerial extent and is present throughout the map area. The tuffs range from crystal lithic lapilli-tuffs with 15% to 40% well developed phenocrysts of feldspar, quartz and biotite, and 15% volcanic and granitic fragments, to lithic-crystal lapilli tuffs with up to 60% granitic and pumice fragments and 15% feldspar phenocrysts. No place in outcrop were there features suggestive of cooling breaks between individual ash flows. Berman notes that lack of features such as this is consistent with descriptions of intracaldera ash flows.

The youngest extrusive rock has a limited extent and is best exposed on the ridge west and northwest of the second camp. This unit was identified by Berman as an explosion breccia and is comprised of 75% to 80% angular granitic fragments within a coarse grit matrix (Unit 7). Clast size ranges from 5 cm - 30 cm, and in general the unit is poorly sorted. A vague layering is defined by changes in proportions of clasts and matrix in adjacent layers. In the field this unit appears similar to the avalanche breccia unit (described below), except that the explosion breccia has a greater proportion of fragments.

The remaining igneous rocks within the Tertiary complex are all intrusive, emplaced within the already deposited pyroclastic tuffs. Relative ages of the intrusive rocks are difficult to determine because of the general lack of crosscutting relations. The following descriptions are therefore not in stratigraphic order.

A flow banded rhyolite, (Unit 5), is exposed at the base of Coquihalla Mountain on the north and southeast sides, and also immediately north of the Christa 5 claim boundary. The rhyolite contains phenocrysts of quartz and feldspar in a cream coloured cryptocrystalline matrix. The most northern rhyolite exposure also contains xenoliths of volcanic and granitic rocks. Steep flow banding in the rhyolite on the north side of Coquihalla Mountain, and almost horizontal flow banding on the east side suggests this exposure may represent the remnant of a rhyolite dome.

Crosscutting the rhyolite dome is a dioritic to quartz dioritic stock (Unit 1) which forms the core of Coquihalla Mountain. The stock is coarse grained and is composed of plagioclase and pyroxene, with lesser quantities of quartz and feldspar. This stock may represent the final major upwelling of magma through an already established fracture and conduit system.

Pyroxene and hornblende andesites, (Units 2 and 3), form dykes, sills, and domes. The rocks are dark greenish grey to greyish black, and contain phenocrysts of plagioclase, pyroxene, hornblende and magnetite. They are more resistant to erosion than the surrounding tuffs, and form prominent ridges and crags throughout the map area. Columnar joints perpendicular to contacts are commonly well developed in the domes and sills and may exhibit radiating patterns. Gossanous zones on the south, north and west sides of Coquihalla Mountain occur around crosscutting andesite dykes and are produced by the weathering of magnetite, hornblende, and/or pyroxene.

Dykes of pyroxene andesite, (Unit 2) may represent the final phase of igneous activity within this Tertiary complex. One such dyke cuts the northeast part of the Coquihalla Mountain stock and has irregular ductily deformed contacts, indicating intrusion prior to complete solidification of the enclosing stock.

The hornblende dacite unit, (Unit 4) is much less abundant than the andesites, but also occurs as dykes and domes. The dacite is light grey to greenish-grey in colour and contains phenocrysts of feldspar, hornblende and magnetite.

Sedimentary rocks comprise only a minor percentage of the Coquihalla Complex. Thin sandstone layers underlying exposures of the explosion breccia are thought to represent short periods of volcanic quiescence. The close association of sandstone and volcanic breccia suggest the breccia was produced by a vent clearing eruption.

Of much greater extent is a unit identified by Berman (1979) as an avalanche breccia (Unit 8). This rock type is primarily exposed in the southeast, adjacent to the volcanic-intrusive contact. This unit formed through large scale avalanching into the subsiding Coquihalla basin. The eastern part of the breccia is comprised of angular granodiorite fragments in a coarse grit matrix of quartz, feldspar and lithic fragments. This grades laterally westward to a breccia characterized by angular sedimentary fragments in a matrix of clay and fine grained shale clasts. Fragments range from a few cm to 30 cm in size, with rare fragments to 20 m. Bedding is typically absent. This breccia unit is similar to monolithologic breccias described by Lambert (1974) at the Bennett Lake caldera complex.

GEOLOGIC HISTORY

The eruption of ash flows on a pre-Miocene erosional surface may have been initiated by movement along the Jim Kelly Fault, or conversely, fault movement may have taken place in response to emptying of a shallow magma chamber by pyroclastic eruptions. The locus for these eruptions may have been a central vent, located near the present day site of Coquihalla Mountain (Berman, 1979). Removal of the magma by pyroclastic eruptions, and the weight of the accumulated pyroclastic rocks caused tilting of the unconformity on the Eagle granodiorite to the southeast. Ring like features visible on air photographs suggest caldera type subsidence. Concomitant with faulting, tilting, and subsidence, avalanche breccias repeatedly slid off over-steepened, exposures of sedimentary and intrusive rocks. Similar avalanche breccias are seen at the Bennett Lake caldera complex in northern B.C. (Lambert, 1974).

After accumulation of nearly 1000 m of pyroclastic rocks, a period of volcanic quiescence occurred, local sandstone and conglomerate were deposited and then pyroclastic eruptions resumed. Movement along the Jim Kelly Fault ceased, and subsequent pyroclastics filled and overflowed the edge of the basin.

Finally numerous hypabyssal intrusives were emplaced. Coquihalla Mountain stock represents the final large diapiric mass of magma, it's location guided by a pre-existing fracture and conduit system formed during earlier pyroclastic eruptions.

WORK OBJECTIVE

The 1989 field programme was designed to locate additional areas of mineralization within the claim block, produce a more detailed map in the area surrounding the anomalous outcrop, determine the possible extent of additional mineralization away from the anomalous outcrop, and suggest a possible deposit model based on geological observations and geochemical signatures.

Field work commenced on August 6, 1989 and was completed on August 27, 1989. An additional day of geophysical work was done on September 19, 1989. A total of four persons were present for the duration of the work period.

FIELD PROCEDURE, DESCRIPTIONS AND RESULTS

Quartz Breccia

The primary target of the 1989 work programme centred on the anomalous outcrop of quartz breccia (Figure 4a). Two grab samples from this outcrop collected in 1988 ran 3315 ppb Au/35.9 ppm Ag and 1540 ppb Au/13.4 ppm Ag respectively.

The outcrop forms a cliff 3 m to 7 m in height, trending approximately 027°. Most of the outcrop is comprised of clear to milky quartz fragments in a siliceous matrix. However, minor portions of the outcrop do not exhibit breccia textures. At these locations the rock is a highly silicified-sericitized host containing a quartz stockwork. This latter rock type is gradational into the breccia. In the brecciated portions of the outcrop fragments are angular to subrounded and vary from a few mm to 30 cm in size. In general the larger fragments are less angular than the smaller fragments. The breccia is poorly sorted with fragment density ranging from 50% to 80%. A vague orientation of fragments is locally observed striking 073° and dipping 65° to the southeast. Locally thin (>5 mm) quartz veins are present cutting through both the fragments and matrix, in other locations veins are present within the fragments only. Thicker milky white quartz veins cut across the thinner clear quartz veins indicating at least 2 generations of quartz veining. There are no visible sulfides, but the outcrop is variably coloured white to orange. The orange tint is not a surface coating, but is pervasive throughout the breccia.

Eight samples of the breccia were sent to Vancouver Petrographics Ltd. for petrographic description (Appendix 1). Specifically it was hoped that petrography would enable determination of the protolith.

In thin section the two dominant minerals are secondary quartz (70% - 80%) and sericite (15% - 25%). The remaining mineral is identified as limonite (1% - 5%). There is very little difference mineralogically between the fragments and the matrix, and in thin section it is often difficult to tell them apart. It is felt that the matrix is derived by crushing of the same material that forms the clasts. This may have been achieved by brecciation of an intensely stockworked and silicified-sericitized altered tuff or granodiorite, similar to the unbrecciated sections observed in outcrop. Additional quartz veining has occurred post brecciation, and limonite has been introduced, most probably by oxidation of pyrite. Rare cubic limonite pseudomorphs, cubic casts, and relics of unoxidized pyrite are observed in thin section.

In summary, the quartz breccia outcrop is a product of various stages of a multi-phase process of diffuse silicification and sericitization, stockwork quartz veining, fragmentation, quartz veining and further intense shattering and brecciation. The original protolith cannot be determined.

Seventy-two rock samples were collected from the outcrop of quartz breccia. All samples were sent to Acme Analytical Laboratories for 30 element ICP analysis, plus Au by AA (Appendix 2). With the exception of sample number 112936 all of the remaining samples are chip samples, from either a 1.5 m or 2 m distance (Figure). Distances were measured and marked with orange spray paint and a continuous chip was collected, either horizontally or vertically, between the orange marks. Selected intervals were marked with the corresponding sample number for ease in identification at a later date.

Fifty-one horizontal chip samples, for a total length of 76 m, were collected from the front face of the outcrop. Fifteen vertical chip samples from 5 separate locations were also chip sampled. Of the 51 horizontal chips, all samples had gold values greater than 10 ppb Au, and 47 of the samples had values greater than 100 ppb Au (Appendix 3). Silver values greater than 1.0 ppm Ag are present in 48 of the 51 samples. The average over 76 m is 514 ppb Au and 5.4 ppm Ag, including a 13.5 m section of 1034 ppb Au and 9.6 ppm Ag. Within the latter interval, 2 of the 1.5 m chips contained 2630 ppb Au/28.2 ppm Ag and 2220 ppb Au/17.0 ppm Ag.

Values from the 15 vertical chip samples appear to be lower than values from the horizontal chips but statistically the difference is insignificant. Twenty-nine percent of the horizontal chips have greater than 600 ppb Au, and 7.8% have greater than 1000 ppb Au. In comparison, 26% of the vertical chips have greater than 600 ppb Au and 6.7% have greater than 1000 ppb Au. If a greater number of vertical chips had been collected the percentages would probably correlate even more closely.

Also of interest is the relatively high concentration of barium (Ba) in almost all of the quartz breccia samples (Appendix 3). Several of the samples have Ba values greater than 1000 ppm, in contrast to the other 98 samples from the rest of the property which generally have Ba contents less than 250 ppm Ba. The Ba content obtained from 30 element ICP analysis represents only the soluble Ba present in the rock. Ba in barite is insoluble, therefore some of the samples were re-run for total Ba content. If total Ba was significantly higher than soluble Ba this would suggest the presence of barite, despite the fact that barite was not observed in thin section.

The nine samples comprising the 13.5 m higher grade section were re-analyzed for total Ba, Hg, and F, and were fire assayed (duplicate analysis) for Au (Appendix 3). Table 2 shows values obtained from ICP vs. values from this re-analysis.

TABLE 2: Comparison of Soluble Ba vs. Total Ba, and Geochemical Au vs. Fire Assay Au

	ICP		Geochemical/Fire Assay		
Sample #	Soluble Ba (ppm)	Au (ppb)	Total Ba (ppm)	Au (oz/t)	Au oz/t
114515	503	980	525	0.028	0.031
114516	940	460	1039	0.012	0.013
114517	1632	710	2136	0.019	0.023
114518	416	300	445	0.008	0.008
114519	610	510	708	0.015	0.015
114520	531	2630	623	0.079	0.081
114521	1065	620	1253	0.017	0.018
114522	1178	2220	1541	0.066	0.066
114523	170	880	396	0.024	0.026

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The similarity of the soluble Ba and total Ba values strongly suggest that barite is not present in the quartz breccia. Gold contents from duplicate fire assays compare very well, and are also very similar to results obtained by AA analysis. This suggests that the gold is very fine and evenly distributed.

Of interest is the fact that the highest gold grades are associated with sections of the outcrop which have the most intense orange tint. In thin section the orange tinted rocks have 1% to 2% more limonite, but otherwise are indistinguishable from the remainder of the outcrop.

Cliff Creek

A deeply incised creek valley, trending ~045° and located west of the quartz breccia outcrop, was mapped and sampled (Figure 4a). The creek was given the name Cliff Creek and will be referred to as such in the remainder of the report. The cliff section of Cliff Creek is an intensely altered (silica, clay) fault contact between Eagle granodiorite to the east and Coquihalla complex rocks to the west. Location of the fault is defined by a narrow zone of gouge with a 3 to 4 m wide alteration envelope. Although the alteration envelope is highly gossanous very few sulfides were observed in outcrop. One location (Sample 58523) contained 5% disseminated pyrite, but in general pyrite content was less than 1%.

A pan sample (47452) collected near the mouth of Cliff Creek contained 450 ppb Au and 1.2 ppm Ag (Appendix 4).

Nineteen rock samples were collected from gossanous and/or altered outcrops in the Cliff Creek valley, but only one of these contained gold greater than 100 ppb (Appendix 3). Sample 58523 from a 0.6 by 1.5 m pod of silicified granodiorite within an unsilicified granodiorite host contained 1350 ppb Au and 2.8 ppm Ag. This sample contained 5% pyrite, disseminated and in randomly oriented fractures. Six other samples from the Cliff Creek Zone contain lesser amounts of gold (12 ppb to 72 ppb Au), and two of these have coincident silver anomalies of 1.4 ppm Ag and 1.5 ppm Ag. All Au/Ag anomalous samples are from exposures of silicified, sheared, and gossanous granodiorite. Samples of sheared and/or gossanous volcanics are not anomalous.

Samples from the Cliff Creek Zone are not anomalous in Ba.

Gossans

Three gossanous areas were investigated and 27 rock samples were collected (Appendix 3). The gossans are located on (1) the south side of Coquihalla Mountain, (2) a saddle at the west margin of the Christa claim block, and (3) to the north of Coquihalla Mountain (Figure 4a). The gossans are associated with pyroxene andesite and hornblende andesite dykes, and contain zones of shearing. Gossans 2 and 3 are hosted by volcanic lithic-crystal tuff whereas gossan 1 is hosted by diorite of the Coquihalla Mountain stock. The gossans contain from trace to 5% fine grain, disseminated and fracture fill pyrite. Quartz stringers are noted in a 40 cm wide shear zone at gossan 1. This shear has no visible sulfides, but sample 23333 contained 434 ppm Pb, 261 ppm Zn, 6.9 ppm Ag, and 222 ppm As. None of the other samples are anomalous.

Northern Rhyolite

A north-south trending soil line was placed over the northern exposure of rhyolite, to the north of the Christa 5 claim, with sample spacing at 50 m intervals (Figure 4b). Seventeen soils and 4 rock chip samples were collected (Appendix 3). Sampling and prospecting of this area was initiated in order to establish whether the claims needed to be extended to the north to cover the rhyolite dome. Exposures of rhyolite contain xenoliths of granodiorite (possibly Eagle granodiorites), as well as unidentified volcanic tuff. To the north the rhyolite has 10% round quartz eyes but these appear to decrease toward the south. Locally the rhyolite also has phenocrysts of biotite, possibly originating from xenoliths of granodiorite.

Neither the soil samples nor the rock samples were anomalous in gold, silver or base metals, and therefore an extension of the claims is not recommended.

Other Rock Samples

Fifty additional rock samples were collected from various locations on the property (Figures 4a and b). Sample descriptions are given in Appendix 3. Samples ranged from quartz veined and/or silicified Eagle granodiorite adjacent to the volcanic-intrusive contact, through quartz breccia outcrops similar in appearance to the mineralized quartz breccia, to unmineralized samples of rhyolite, or volcanic tuff. None of the 50 samples are anomalous.

Grid Preparation

A grid was placed over the Coquihalla Complex/granodiorite contact for a total of 11.6 line km (Figure 4a). The 1.4 km base line oriented at 068° is labelled 2600N. The eastern end of this line is approximately parallel to the contact. Thirteen cross lines are oriented at right angles to the base line, are spaced 100 m apart, and are numbered from 3000E to 4200E. Two cross lines are spaced at 75 m, and are numbered 4275E and 4350E. On each cross line stations are spaced at 25 m intervals. In addition, two mini-lines are placed directly over exposures of quartz breccia. These latter two lines, numbered 4240E and 4410E, are also sampled at 25 m spacings. The cross lines have varying lengths, depending on topography and geology. All stations are marked with flagging tape and the corresponding grid location is written on the tape.

Soil Geochemistry and Results

A total of 420 soil samples were collected from stations on the grid. The locations at which a sample was not collected were either on a talus slope or at an outcrop. If possible, all soils were collected from the B horizon at a depth of 15 cm to 30 cm. However, some of the samples most probably represent an immature soil horizon developed on the extremely steep (37°), sparsely vegetated, south facing slope. All of the soil samples were sent to Acme Analytical Laboratories Ltd. for analysis by 30 element ICP, plus Au by AA (Appendix 2).

Results for Au, Ag and base metals are uniformly low (Appendix 5). Only 10 of the 420 samples have gold contents greater than 10 ppb Au, and silver values were all less than 1.0 ppm Ag. The only element which showed any great variation is barium (Ba). Values ranged from a low of 17 ppm Ba to an isolated high of 1501 ppm Ba, and several of the samples have Ba contents greater than 200 ppm Ba (Figure 5). With the exception of one sample, barium values greater than 300 ppm Ba are found in soils developed over the Eagle granodiorite. However, not all soils over the granodiorite are high in Ba.

Geophysics

A ground magnetometer survey over 7.8 km of the grid was completed on September 19, 1989 (Appendix 6). Many of the linear features of high magnetic response are correlative with outcrops of pyroxene andesite dyke, implying the dykes are much more continuous than outcrop suggests. The mineralized quartz breccia lies in a magnetically quiet area, open to the east. A similar quiet zone occurs in the west, separated from the showing by linear feature "B", interpreted as a fault (Appendix 5, Plate 2). Four other linear features labelled A, C, D, and E, also thought to be faults are sub-parallel and trend in an east-west direction.

Summary

The Coquihalla property is primarily underlain by Tertiary Age rocks belonging to the Coquihalla Volcanic Complex. These overlie granodiorites of the Cretaceous Eagle Plutonic Complex, and are in fault contact with Eocene clastic rocks to the south.

A 76 m long outcrop of quartz breccia hosted in micaceous granodiorite, is exposed on a south facing hillside, north of Jim Kelly Creek. In 1988 two grab samples from this outcrop returned anomalous levels of gold and silver. In 1989, continuous 1.5 m chip samples all contained anomalous amounts of Au, coincident with high values of Ag. Toward the western end of the outcrop a 13.5 m section contained 1034 ppb Au and 9.6 ppm Ag, including two 1.5 m sections with 2630 ppb Au, and 2220 ppb Au respectively. The barium content of the quartz breccia is also extremely high, with values to 1899 ppm Ba.

Petrographic work suggests the quartz breccia is a product of various episodes of quartz veining, brecciation, and diffuse silicification. The deeply incised valley of Cliff Creek (field name) exposes zones of clay altered and/or silicified granodiorite, locally containing up to 5% disseminated pyrite. This valley marks the contact between granodiorite and rocks of the Coquihalla Complex. One sample from a silicified granodiorite, contained 1350 ppb Au and 2.8 ppm Ag.

Rock samples, collected from various gossans, silicified volcanics, exposures of rhyolite, and quartz veined granodiorites, failed to produce any anomalous values.

Soil samples collected from a grid located over the Coquihalla Complex/granodiorite contact were surprisingly non-anomalous in Au and Ag, even directly downslope from the mineralized quartz-breccia showing. The only element showing any enrichment is barium. Ba concentrations greater than 300 ppm occur in soils developed above Eagle granodiorite, but not all "granodiorite" soils are anomalous in Ba.

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A ground magnetometer survey showed several linear trends of high magnetic response interpreted to be intrusive dykes, as well as several east-west trending faults. The quartz breccia outcrop occurs in a zone of quiet magnetics, which is open to the east. A similar quiet zone to the west may be a faulted offset of this zone.

CONCLUSIONS

The siliceous breccia containing anomalous amounts of Au and Ag, in combination with high concentrations of Ba, suggest the breccia represents the upper part of an epithermal system. Based on this suggestion it follows that a precious metal deposit may be expected at depth.

To test this theory future work will include:

1. Expansion of the grid to the east, and extension of the cross lines to a uniform length.
2. Soil geochemistry on the "new" portions of the grid.
3. Detailed mapping in the area of the showing.
4. A ground magnetometer survey over the "new" sections of the grid.
5. An I.P. survey over the areas of low magnetic response.
6. Trenching based on results from the above programmes.

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christa.le

APPENDIX 1

PETROGRAPHY OF SELECTED ROCKS

christa.le

September 1, 1989

Vancouver Petrographics
8080 Glover Road
Langley, B.C.
VX 1J0

Dear Sir:

Enclosed are seven (7) rock samples in numbered bags. Please ignore any numbers which may be written on the rock and use only the number on the bag.

Sample numbers 23940 to 23943 are from the same outcrop. This is a quartz breccia unit exposed in a cliff, 4m high and 60m wide. I believe it may be a completely silicified brecciated granodiorite, but others believe it to be a silicified volcanic breccia (the volcanic breccia is sample number 23945). Some of the fragments in the quartz breccia look like they may be pieces of a brecciated quartz vein. Is this possible to determine, or do completely silicified fragments look like primary quartz? Sample number 23943 is located at the base of the cliff exposure, and vague layering suggests it is stratigraphically below 23940 to 23942. Can these latter 3 samples be formed from a rock such as 23943, or were 23940 to 23942 a pre-existing breccia, whereas 23943 appears to be relatively unbrecciated in hand sample?

Sample number 23946 is from an outcrop approximately 100m distance from the cliff of quartz breccia (23940 to 23943). The rocks in this area are mapped as granodiorite, and exposures show both unbrecciated and brecciated intrusive rocks. Locally the brecciated granodiorite is veined by quartz and looks similar to sample number 23943. Are numbers 23943 and 23946 the same rock type?

Sample numbers 23944 and 23945 are mapped as different lithologic units but I am not so sure that they really are. Do these two samples appear similar in thin section? Could they be the same rock?

Here are some specific questions:

23940
1. What is the matrix?
2. Is this breccia the same or different to numbers 23491, 23492?
3. Are all of the fragments the same?
4. Is the brecciation associated with the silicification event, or is it pre-silicification, or post-silicification?

23491
1. What is the matrix?
2. Are there any veins, and if so do the veins go through both fragments and matrix?
3. Are the veins aligned?
4. Are all fragments similar rock type i.e. all primary quartz? all silicified material?
5. Is there any fabric in the rock?
6. Is there any barite, and if so where does it occur. Is the barite introduced at the same time as the silica?
7. Are there any sulfides?
8. Were the fragments silicified before or after brecciation?
9. How is this rock related to 23943?
10. Are the tiny fragments the same lithology as the larger fragments?
11. Did all the fragment sizes form from the same tectonic event?

23942

Questions are the same as 23941.

23943
1. Is the rock related to 23940-23942?
2. Are there any sulfides?
3. Has the rock been brecciated?
4. What is the relationship between the hairline and thicker veins?
5. What type of quartz is in the veins: crystalline, chalcedonic, filling open spaces?
6. Can you determine the original rock, pre-silicification?

23944 1. Is this rock volcanic or sedimentary?
2. Any alteration?
3. Does the rock have a fabric?
4. If volcanic, is it welded?
5. What are the lithologies of the larger fragments?

23945 1. Is this rock similar to 23944, do they have the same origin?
2. Which is the fragment, which is the matrix?
3. Describe each lithology separately:
White rock vs. grey-green rock
A) Volcanic, sedimentary, intrusive?
B) Any texture?
C) Alteration?
D) If there are fragments present, are they volcanic or sedimentary?

23946 1. Is this rock the same as 23943?
2. If they are not the same, could they be related?

If you have any questions, please telephone me at Noranda, 684-9246. Thank you.

Yours sincerely,

Linda Erdman
Project Geologist

Encl.

LE/mk

Vancouver Petrographics Ltd.

JAMES VINNELL, Manager
JOHN G. PAYNE, Ph.D. Geologist
CRAIG LEITCH, Ph.D. Geologist
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PETROGRAPHY OF SEVEN ROCK SPECIMENS

Report for: Linda Erdman
Noranda Exploration Co. Ltd.
P.O. Box 2380
Vancouver, B.C.
V6B 3T5.

Invoice 8438
Sept. 21 1989

Samples submitted: 23940 to 23946.

23940: "QUARTZ BRECCIA" OF STOCKWORKED ?VOLCANIC FRAGMENTS IN A CRUSHED MATRIX OF THE SAME

Coarse quartz breccia containing subangular to subrounded clasts of grey quartz and pale greenish highly altered and stockworked rock up to 4 cm across in a white matrix of crushed rock. The rock fragments are not positively identifiable in hand specimen, but they are very fine-grained, and the colour suggests some sericite mixed with secondary silica. They are intensely veined by thin (0.1-2 mm) grey quartz veins. There are no sulfides visible, although minor limonite staining on fractures suggests its former presence in trace amounts. Rare vugs contain minor crystalline quartz. In polished thin section, the mineralogy is dominated by secondary quartz and sericite:

Quartz	75%
Sericite (muscovite)	20%
Limonite	5%

There is very little difference mineralogically between the fragments and matrix in this rock; in fact, in thin section, it is difficult to tell them apart. However, most of the smaller (less than 1 cm) fragments are composed of coarser, more abundant quartz grains (roughly 0.2 to 0.4 mm long) while the matrix contains more sericite and finer grained quartz (about 0.05 mm diameter). The matrix probably represents merely crushed or more finely divided clast material, and as such probably has the same bulk composition as the clasts. In places, the matrix is strongly stained by limonite (the clasts are not).

Not all the clasts appear to be the same. Larger clasts have clear (albeit irregular) coarser quartz veins crossing a matrix that is similar to the breccia matrix in terms of mineral composition (fine quartz and sericite). This suggests that an originally highly stockworked and silicified rock has then been brecciated, with the fragments of quartz vein now visible in the breccia possibly having been more cohesive and preferentially forming fragments. Thus the brecciation event is probably post-silicification.

The texture of the originally stockworked rock is very difficult to be sure of. In places, the texture is suggestive of a tuffaceous rock, with 0.2 mm quartz grains and sericite patches whose outlines suggest they may have replaced shardy feldspar grains. This texture is not unlike that of the finer portion of 23945 (volcanic breccia). Although the texture of the least-altered granodiorite specimen (23946) is dissimilar, it itself is very strongly altered.

My (subjective) feeling is that 23940 is derived by brecciation of an intensely stockworked and silicified-sericitized tuff similar to that of 23945. This breccia appears to be similar to 23942; the fragments in 23941 are slightly coarser grained and could have been derived from the granodiorite. It should be pointed out, however, that there is no reason why, if the granodiorite intrudes the volcanic, clasts of both might be found in the breccia, an the two would be difficult ot separate after both intense silicification and later brecciation.

In reflected light, the only opaque mineral is limonite (probably mainly goethite, $\pm$ some hematite). Although the bulk of the limonite found along fractures and is therefore transported, there are enough cubic casts and limonite pseudomorphs to suggest that pyrite was formerly present, as 1-2% euhedral to subhedral crystals up to 0.2 mm across.

<u>23941: "QUARTZ BRECCIA" OF STOCKWORKED ?GRANODIORITE FRAGMENTS IN A CRUSHED MATRIX OF SIMILAR MATERIAL</u>

Slightly rusty, orangey-brown weathering breccia similar to 23940 but with more abundant limonite, principally in the matrix, which although brown rather than white, is similar to the matrix of 23940. Clasts are subangular to angular and up to 1-2 cm across (finer than the clasts of 23940, but similar in appearance). The clasts are mostly of intensely stockworked rock, with a few apparently of re-brecciated rock. There are abundant quartz veins that at the fragment boundaries; also, rare thin white quartz veinlets (1-2 mm thick) appear to traverse the rock, suggesting some veining <u>after</u> brecciation. I see no fabric in the rock, nor any suggestion that the veins (in fragments or crossing them) are aligned. In thin section, the mineralogy is again dominated by secondary quartz and sericite (primary quartz is not identifiable:

Quartz	75%
Sericite (muscovite)	20%
Limonite (goethite)	5%

As in 23940, the matrix in this breccia is difficult to see in thin sectioin, but appears to be composed of fine-grained quartz and sericite, plus minor limonite. The average grain size is about 0.03 mm, although some gradation of size in quartz fragments exists towards the larger clasts. This suggests that the matrix is derived by crushing of the same material that forms the clasts, although some hydrothermal addition may be implied by the fact that sericite is more abundant in the matrix than in the clasts. There is no suggestion of fragments formed in different tectonic events.

The clasts appear to be all the same, and are themselves highly silicified and stockworked, with irregular quartz veins ranging up to 1 mm thick composed almost entirely of subhedral to anhedral quartz of approximately 0.2 to 0.4 mm size. This quartz is clear, with well-defined fluid inclusions about 5 micron size that would be suitable for microthermometry. Vapour bubbles are about 1 micron in diameter and occupy about 10% of the inclusions by volume. The rock hosting the veins was intensely altered (before brecciation), and is composed of secondary quartz and sericite. The quartz is about 0.05 to 0.1 mm in diameter; the sericite forms patches suggestive of former feldspars, up to 0.3 mm across. In general, the overall texture of the rock between the quartz veins is coarser than that observed in 23940 and 23942, suggesting derivation from the granodiorite rather than the volcanic. However, intense alteration could have coarsened the texture; all three could be derived by brecciation of silicified and stockworked volcanic. In this context, I believe 23941 probably was derived from a rock such as 23943.

There is no suggestion of barite in thin section - does geochemistry suggest its presence? There are no sulfides; most of the limonite is transported, although there are rare cubic casts after former pyrite.

23942: "QUARTZ BRECCIA" OF STOCKWORKED ?VOLCANIC CLASTS IN CRUSHED MATRIX OF SIMILAR MATERIAL

Orange-brown weathering breccia formed of clasts of fine grained, intensely stockworked, silicified and sericitized, pale green ?volcanic rock similar to that in 23940, and likely derived from a rock such as 23943. Clasts are up to 5 cm across, and there is a distinct suggestion of non-rotated fragments fitting together as in a jigsaw puzzle, implying this part of the breccia was formed without movement of the fragments. There may be a gradation from more brecciated 23940/41 to less brecciated 23942 to relatively unbrecciated 23943. As in 23940 and 41, the matrix is probably formed of crushed and ground material of the same composition as the clasts. All the clasts appear to be the same. In thin section, the mineralogy is secondary and similar to that of 23940 and 41:

Quartz	80%
Sericite (muscovite)	15%
Limonite	5%
Pyrite	tr

In thin section, the derivation of this rock is much clearer than in 23940 and 41, due to the lesser degree of brecciation and lack of rotation and crushing. The fragments are clearly defined, with intense criss-crossing by stockworks of thin quartz veinlets, and the matrix is also clearly defined as a thin "crackling" of the host rock, with minor introduction of limonite that seems to be mainly after sulfide, probably pyrite. The matrix is thus mainly composed of limonite in the thin section, although in the hand specimen areas of white crushed rock are visible. All the veins in this specimen appear to be restricted to the fragments, ending at their boundaries and not crossing the matrix. The veins are random, forming a true stockwork in the altered rock before brecciation took place.

The fragments (including the small ones) all appear to be monolithic, i.e. all of the same rock type. They are composed of veinlets of relatively clear quartz (subhedral to anhedral, up to 0.5 mm across) and minor muscovite (up to 0.1 mm diameter) cutting fine-grained (about 0.03 mm) quartz and minor sericite. There is no barite (which would have pronounced positive relief against quartz) identifiable; if geochemistry suggests its presence, it must be very fine grained. The rock type is difficult to identify due to the really intense alteration (silicification and sericitization accompanying stockworking). However, the presence of scattered shardy-looking quartz grains (which could be primary) and sericite patches that probably represent former feldspar grains, in a fine and even groundmass, suggests that the volcanic (23945) is a likely candidate. Certainly the texture is very similar to that of 23943, where brecciation is absent.

There is no fabric discernible in thin section (no alignment of quartz grains or sericite flakes). There is also no suggestion of several tectonic events; all the fragments probably formed from the same event.

Boxworks in the sawn slab suggest that sulfide masses up to 2 mm across were present in the breccia matrix before oxidation. In fact, the matrix may have originally been mainly sulfide. However, it is now composed almost entirely of goethite ($\pm$ some hematite, with reddish internal reflections). In reflected light, tiny remnants of pyrite of 10 to 30 micron size (0.01 to 0.03 mm) confirm that the bulk of the limonite is derived by oxidation of sulfide, probably mainly pyrite. Rare euhedral grains of pyrite up to 0.1 mm across were also present in the altered fragments; relict cores of pyrite in limonite grains are preserved.

23943: INTENSELY SILICIFIED, SERICITIZED AND STOCKWORKED ?VOLCANIC

The hand sample is of an orangey-brown weathering, fine-grained, intensely altered and stockworked rock which has not suffered the brecciation that 23940 and 42 have, but is otherwise similar. The secondary quartz stockwork takes two forms: thin sharp grey veinlets of 0.5 mm thickness, and thick massive white quartz veins up to 2 cm thickness. It is not possible to be sure, but the larger veins seem to cut and replace the finer stockwork. There are vague outlines of ?former phenocrysts scattered throughout the highly altered rock betweeen the veins, and cubic outlines of 0.5 mm pyrite grains now pseudomorphed by limonite. In polished thin section, the rock is once again composed entirely of secondary minerals:

Quartz	70%
Sericite (muscovite)	25%
Limonite (after pyrite)	5%
Rutile	<1%

This rock is made up of almost 40% quartz veins, with the balance being highly altered remnants of wallrock. There is no appreciable difference between the thin grey veinlets and the thick white veins in thin section: both are made up of relatively clear quartz. Neither is chalcedonic; the thicker veins have distinctly coarser quartz as subhedral grains that may be up to 2 mm long, while the veinlets have anhedral grains up to 0.2 mm long, and minor sericite. In thin section, the thin veinlets look to be later than the thick veins (the opposite suggested by hand specimen), since hairline veinlets are seen crossing the thick veins.

The host rock is composed of 0.2 to 0.5 mm patches of sericite, probably after former feldspar, and lesser quartz grains of 0.2 mm diameter, in a groundmass of fine (0.02-0.03 mm) quartz and interstitial sericite (0.01 mm). The texture is similar to the texture of the finer portion of 23945 (volcanic breccia), where unaltered feldspar laths and rare quartz grains are seen. Occasional patches of sercite and quartz have abundant minute needles of rutile in them, suggesting they were after former mafic crystals that are now completely altered. Such mafic relics are also present in 23945, although mostly replaced by pyrite.

Cubic limonite pseudomorphs after pyrite are also common in this sample, averaging less than 0.1 mm across. No pyrite remains in the pseudomorphs, and no other sulfides were seen in reflected light.

<u>23944: VOLCANIC TUFF-BRECCIA OF INTERMEDIATE COMPOSITION</u>

Pale grey-green fragmental volcanic rock, possibly a tuff-breccia, with a wide variety of clast types up to 3 cm across. The clasts include a medium-grained granitic type, black ?shale chips, a large red (hematitic) fine-grained volcanic, and white (argillized) to green (chloritic) volcanic fragments. K-feldspar is moderately abundant in the reddish fragment, the granitic fragments, and some of the volcanic fragments. In polished thin section, the mineralogy is (very approximately, due to the varied clasts) as follows:

Plagioclase (phenocrysts and matrix)	30%
Quartz	30%
K-feldspar	15%
Sericite (muscovite)	10%
Chlòrite, hydrobiotite	5%
Carbonate (calcite)	5%
Limonite (goethite after pyrite)	5%
Apatite	<1%
Zircon (?)	tr

In thin section, boundaries between the volcanic fragments and the matrix are difficult to discern, although the granitic and fine-grained reddish fragments stand out clearly. The reddish fragment is volcanic, not sedimentary, and is composed of 0.1-0.2 mm interlocking laths of feldspar (mainly K-spar) with interstitial quartz (0.05 mm) and sericite (less than 0.05 mm). Minute (1-2 micron) particles of earthy hematite stain the fragment red. The granitic fragments have a hypidiomorphic texture and are composed of relatively coarse-grained (1 mm or less) interlocking anhedral quartz, K-feldspar, altered plagioclase remnants, hydrobiotite and sericite, with minor calcite.

Phenocrysts in the volcanic fragments comprise quartz, plagioclase, K-feldspar and mafic relics. The plagioclase forms euhedral crystals and broken shards varying from 0.1 to 1 mm in size, and extinction angles of Y^010=17 degrees, Z^001=19 degrees, together with relief about the same as that of quartz, suggest it is andesine about An_{30-35}. The plagioclase is lightly altered to sericite and calcite. K-feldspar forms similar sized crystals and shards ranging up to 2 mm long; some appear to have replaced plagioclase, but this could be a late-magmatic feature rather than hydrothermal. Mafic relics are replaced by chlorite, with minor hydrobiotie, and some quartz, sericite, calcite, apatite and minute ?zircon crystals.

The matrix of the rock is made up of ultra fine-grained (0.01-0.02 mm, or 10-20 micron) quartz, ?plagioclase, and interstitial sericite and iron oxides.
There is a suggestion of a weakly developed fabric, with some fragments showing alignment of elongated shapes. These are now almost entirely muscovite and chlorite, and could be fiamme, suggesting flattening (welding) of a tuffaceous rock. The feldspar-rich matrix and the fragments do not suggest that this is a sedimentary rock.

23945: GREY-GREEN VOLCANIC BRECCIA CONTAINING FRAGMENTS OF WHITE FELSIC VOLCANIC ?TUFF AND GRANITIC ROCK

Fragmental volcanic generally similar to 23944. This could be a breccia like 23944; the hand specimen may be misleading in suggesting a layered or bedded rock, but the light-coloured, finer-grained portion appears to actually be a fragment, 15 cm across. This fragment is of a felsic volcanic; other porphyritic felsic volcanic fragments are present, and one ?granitic fragment (also seen in thin section) is like those seen in 23944. In polished thin section, the mineralogy is as follows:

White fragment		Grey-green host	
Plagioclase phenocrysts	20%	Quartz (shards)	20%
Quartz eyes	10%	Plagioclase (shards)	20%
Plagioclase groundmass	40%	K-feldspar (shards)	5%
Quartz groundmass	15%	Lithic fragments	35%
Secondary quartz	5%	Sericite (muscovite)	10%
Mafic relics (chlorite)	5%	Chlorite	5%
Opaque (limonite)	5%	Opaque (limonite)	5%
Barite	<1%		

The texture and composition of this rock clearly confirm that it is volcanic, not sedimentary. It appears to be related to 23944 in its fragmental nature, composition, and type of fragments; it is certainly similar in origin. I would be tempted to map them as the same unit unless field evidence suggested otherwise.

The white rock is the fragment. It is made up of scattered feldspar phenocrysts, mostly euhedral to slightly broken plagioclase with minor K-feldspar, about 0.5 mm across, and rounded quartz "eyes" of 0.2 to 0.4 mm size, in a felsic groundmass. One anhedral grain of barite, 0.3 mm long, was seen associated with the quartz. Scattered mafic relics are replaced by chlorite; their elongate shapes, up to 0.5 mm long, suggest they may have been hornblende. Cubic pyrite grains of 0.1 mm diameter are sprinkled throughout; they are partly replaced by goethite. The groundmass is composed of feathery interlocking alkali feldspar (probably albitic) of 0.05 mm size, with interstitial quartz (finer) and minute opaque (hematite).

The grey-green material is the matrix. It is composed of fragments of quartz, volcanic and granitic rock with an interstitial matrix of crushed quartz, chlorite, sericite and feldspar. The volcanic fragments are similar to the white fragment described above. The quartz grains appear to be derived from broken-up granitic clasts, which are composed of 1-2 mm anhedral quartz, highly altered plagioclase remnants, and lesser K-feldspar grains with interstitial muscovite, chlorite, and limonite. The plagioclase is difficult to determine because of replacement by quartz, sericite and possibly K-spar; it may be albitic. There is a weakly developed foliation defined by elongated

23946: STRONGLY STOCKWORKED AND SILICIFIED MEDIUM GRAINED QUARTZ DIORITE

Orange-brown weathering, intensely altered and stockworked medium-grained granitic rock. It is much coarser-grained than 23943, and lacks the porphyritic texture of 23943; I do not believe it is, nor could be, the same rock. In polished thin section, this view is reinforced; the texture is hypidiomorphic, and the mineralogy is mainly secondary (or recrystallized) and is as follows:

Quartz	45%
Plagioclase (albitic)	40%
Clay-sericite	10%
Limonite (goethite, hematite)	5%
Sphene	<1%

About 20% of this rock is now composed of vein quartz, which forms clear anhedral interlocking grains up to 0.4 mm across. The wall rock is composed of anhedral interlocking plagioclase grains and quartz grains with rare interstitial sericite, overprinted by fine-grained secondary silica and sericite.

The plagioclase forms shapeless grains up to about 1 mm long with relict polysynthetic twinning still visible. Locally these grains may aggregate to 2 mm across. The extinction angles of about 15 degrees and negative relief compared to quartz suggest it is albitic, An_{10} or less. It is mildly replaced by minute flecks of clay and sericite, and strongly attacked by secondary quartz.

The interstitial sericite (muscovite) may be the remnants of former mafic grains in the rock; it forms shreds and flakes up to 0.3 mm across.

Limonite is found as amorphous masses in fractures and interstitial to grains, as well as cubic pseudomorphs of former pyrite grains. It is mostly goethite.

Rare subhedral grains of sphene up to 0.1 mm long are found associated with the limonite and sericite areas; they may have been associated with former mafic grains.

There is no K-feldspar evident in thin section or from staining tests, so this rock may more properly be called a quartz diorite rather than a granodiorite.

Craig H.B. Leitch, Ph.D. P.Eng.

(604) 921-8780 or 228-2646

September 21, 1989

Vancouver Petrographics Ltd.
8080 Glover Road
Langley, B.C.
V0X 1J0

Dear Sirs:

Please find enclosed four rock samples numbered 1-3 and R112936 along with instructions for analysis.

All of these samples were taken from an outcrop about sixty meters in length and about 5-7m in height. The outcrop generally considered to be a quartz breccia and thought to sit within a large fault zone. It appears bleached in some areas and colored (light beige-yellow to reddish-brown) in other areas. There has been no observation of any visible sulphides seen in the outcrop.

Age of this outcrop is Tertiary. There appears to be various events of veining within clasts and matrix in some parts and silicification of matrix to various degrees.

If you have any questions please call and ask for Linda Erdman, Kent Pearson, or Joan McCorquodale.

Sincerely,

K. Pearson

Encl.
KP/mk

Rock Sample 1

(1) How many generations of quartz veining are present? Can you determine the order of veining?

(2) Is the milky white quartz pre- or post the thin clear quartz veining?

(3) Are there any fragments, and if so what are the fragments?

(4) If there are fragments does the veining cut the fragments, or is the veining a pre-fragmental event?

(5) Are there any sulfides?

(6) Is there any carbonate?

(7) Does the brownish coloured quartz differ from the non-brown quartz, and if so can you determine what makes it different?

(8) Can the protolith of any fragments (or this whole sample) be determined, if it has undergone any alteration?

Rock Sample 2

(1) Are there any veins and if so, how many generations of veining are there?

(2) What is the cream coloured matrix material? Is it an alteration product?

(3) What is the fragment lithology?

(4) Any carbonate?

(5) Do the fragments have an orientation?

(6) How many different fragment types are there?

(7) Is the matrix (cement) the same throughout the rock?

(8) If the fragments are altered can you determine a possible protolith?

(9) Was this rock tectonically formed or was it formed through sedimentary processes?

Rock Sample 3

(1) What gives this sample its orange-brown colour?

(2a) How many veining events are present?

(b) Is there any relationship between the brown color and any veining?

(3) If more than one episode of veining, can you determine the order of veining?

(4) Any carbonate?

(5) Any sulfides?

(6) What is the matrix/cement made of?

(7) What is the relationship between the fragments and the veining?

(8) What are the fragments composed of?

(9) Is there more than one type of fragment?

(10) What is packing density of the fragments in comparison to sample 2?

(11) Are there open spaces for fluid migration?

Rock Sample R112936

(1) What is the dark brown mineral?

(2) What is the lighter brown-orange mineral?

(3) Can you determine a genetic relationship between the dark and light brown minerals?

(4) Are all of the fragments the same?

(5) What are the fragments?

(6a) Is there any veining, and if so is it pre- or post the brown mineral,

(b) or syngenetic with the brown mineral?

(7) Any carbonate?

(8) Any sulfides?

(9) What is the composition of the matrix, what, if any, alteration might it have undergone?

(10) Was this rock formed through tectonic or sedimentary processes?

Vancouver Petrographics Ltd.

JAMES VINNELL, Manager
JOHN G. PAYNE, Ph.D. Geologist
CRAIG LEITCH, Ph.D. Geologist
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Report for: Kent Pearson,
Noranda Exploration Co. Ltd.,
1050 Davie Street,
P.O. Box 2380,
Vancouver, B.C.
V6B 3T5

Invoice 8478

October 18th, 1989

Samples:

4 samples of silicified rock for petrographic examination.

Samples are numbered 1, 2, 3 and R 112936. The first was prepared as a conventional thin section; the others were prepared as polished thin sections (to enable observations of the traces of opaques).

Summary:

These samples - all composed essentially of quartz - represent various stages of a multi-phase process of diffuse silicification, stockwork quartz introduction, fragmentation, quartz veining, and further intense shattering and brecciation, which affects an original protolith of indeterminate type.

Traces of limonitized pyrite, and possible electrum, are sometimes present. Sample 112936 contains abundant tranported limonite. The pyrite may be an early phase, pre-dating the veining and brecciation.

Questions posed in the covering letter are dealt with in the individual petrographic descriptions (attached). Illustrative photomicrographs are also included.

J.F. Harris Ph.D.

(929-5867)

PHOTOMICROGRAPHS

Photos are by transmitted light at a scale of 1cm = 0.17mm, except where otherwise stated.

SAMPLE #1

Neg. 160-0: Shows contact of coarse quartz vein (upper right) with area of altered felsitic host rock (brown, speckled) with stockwork of mutually intersecting hairline veinlets of quartz (lighter). Note through-going late fractures coated with limonite (dark brown).

Neg. 160-1: Same field as 160-0, but cross-polarized light Shows internal fabric of the coarse quartz veinlet (subhedral angular coarse grains with interstitial very fine-grained quartz). Host rock area appers dark, speckled. The more prominent hairline veinlets (compare with 160-0) are recognizable as lighter strings of microgranular texture.

Neg. 160-2: Shows remnant brecciated areas of altered felsitic host (dusty, brownish) with hairline quartz stockwork, separated by coarser quartz veinlets. Note pockets of barite (colourless, high relief; outlined by dark rims) filling vuggy centres of some of the later quartz veinlets.

Neg. 160-3: Similar features to 160-2, but includes a few small limonite pseudomorphs (black) after pyrite. Note that these occur without obvious relationship to any of the veining episodes.

SAMPLE #2

Neg. 160-4: Reflected light.
Breccia texture. Shows a relatively coarse, elongate fragment (centre to upper left) of the brownish altered felsitic host with hairline stockwork veinlets. The surrounding material is what appears macroscopically as the cream-coloured matrix. It is seen to consist, in fact, of a minutely shatter-brecciated aggregate of close-packed quartz chips, cemented by cryptocrystalline, cherty material (darker). Note sparsely disseminated, tiny, equant, limonite pseudomorphs (blue-grey) after pyrite, in the large host-rock clast.

SAMPLE #3

Neg. 160-5: Reflected light. Scale 1cm = 42 microns
Shows probable electrum (bright cream colour) associated with limonite (bluish-grey). Background is granular quartz matrix.

Neg. 160-6: Reflected light. Scale 1cm = 85 microns
Shows cluster of cubic pseudomorphs of limonite (grey, speckled with black pits). Occasional small grains and remnant specks of unoxidized pyrite (creamy white) are also present.

SAMPLE R 112936

Neg. 160-7: Typical field, showing a large breccia fragment (left) which is of similar type to Sample #1 - consisting of a patch of remnant host rock (brownish) cut and surrounded by vein-type quartz (white). Remainder of field is composed of smaller quartzose fragments in a dark matrix of cryptocrystalline chert, more or less densely pervaded by earthy limonite; lighter flecks within this represent residual chert (e.g. upper left centre). Field includes a small pocket of compact, crystalline limonite (area at right centre, devoid of fragments, showing flecks of translucent brown material barely distinguishable from the black background).

SAMPLE #1

Estimated mode

Quartz veinlets	50
Felsitic host	50
Barite	trace
Limonite	trace

As is clearly apparent from the cut-off block on the macro scale, this sample consists of a complexly fractured matrix (etched slightly white, and possibly somewhat feldspathic in composition) veined and permeated by quartz.

The host phase consists of a minutely felsitic aggregate, of grain size 2 - 20 microns, sparsely dusted with micron-sized limonite and tiny flecks of sericite (occasionally aggregating as small, diffuse clumps and wisps). No primary textural features are recognizable, and the protolith - which may be more or less intensely modified by pervasive silicification - is indeterminate. It was most likely an aphanitic volcanic, tuff or sediment.

Sparse, cubic pseudomorphs (limonite after probable pyrite), 10 - 50 microns in size, are randomly disseminated through the host - without any apparent relation to the quartz veining.

The stockwork of thread-like quartz veinlets range from 20 microns to 1.0mm or so in thickness. They are multidirectional, and not recognizably of more than one distinct generation.

Traces of barite are associated with a few of these veinlets, as small pockets and elongate fillings of vuggy cores - apparently later in the paragenesis.

The large veinlet (1cm or more in thickness) is composed of varigranular quartz, partially of subhedral prismatic form. Possibly this is the one you refer to as "milky white". It includes some angular to diffuse-margined inclusions of the felsitic host - complete with stockwork quartz threads. Similar felsitic material forms an interstitial phase to some of the clusters of sparry quartz - suggesting that the veinlet is partially of replacement and/or assimilation origins. Its contact relationships with the finer stockwork veinlets are ambiguous, but it may represent a later generation.

No (limonitized) sulfides are seen in the major quartz veinlet - or, for that matter, in the stockwork threads.

The rock is cut by a set of sub-parallel late fractures which can locally be seen to offset the stockwork quartz threads, and also cut the thicker veinlet. These appear devoid of infilling except for minor coatings of sericite and limonite.

Sample #1 cont.

The sample contains no carbonate.

The brownish-coloured quartz referred to in your questions is not clearly differentiatable. It probably contains a little more diffuse limonite staining than the rest.

SAMPLE #2

Estimated mode

Silicified fragments	80
Cherty cement	20
Limonite	trace

This sample is a multiphase siliceous breccia.

Angular fragments, 0.5 - 15mm or more in size, are clearly composed of similar material to Sample #1: i.e. a felsitic, possibly pervasively silicified, host (showing a whitish etch), which has been complexly veined, cemented and partially assimilated by a stockwork phase of quartz introduction.

Fragments of this material are set in a white to cream-coloured matrix (see cut-off block), packed with tiny chips of the same material as the coarser fragments.

These relationships are difficult to distinguish in thin section, where essentially everything appears to be quartz - ranging from minutely felsitic material to patches and threads of coarser prismatic aggregates.

The cream-coloured matrix to the angular fragments is found to be a fine-grained, shatter breccia of tiny quartz chips, 0.02 - 0.2mm in size, interstitially cemented by a cryptocrystalline, chert-like material.

Opaques and limonite are rare in this sample. Limonite is seen as localized pockets of vuggy impregnation of the cherty breccia-cement, and as tiny pseudomorphs in patches of the Sample #1 host phase incorporated in the coarser fragments.

Re your questions: Yes there are veins - probably more than one generation. Sample #1 exemplifies the fragment lithology in Sample #2. The cream-coloured matrix is cherty quartz with sand-sized clasts. Fragments and matrix cement are probably of one type throughout.

The fragments sometimes appear semi-matching. They probably represent intense shatter brecciation of an assemblage like Sample #1.

The brecciation is probably of tectonic origin.

No carbonate is present.

SAMPLE #3

Estimated mode

Quartz stockwork	5
Altered host rock	15
Coarse quartz vein	80
Barite	trace
Limonite	trace
Pyrite	trace
Electrum(?)	trace

This sample closely resembles #1, except that the altered (white-etched) host rock, with stockwork of thin quartz veinlets, is confined to one small area (about 20% of the slide). The remainder is coarser vein quartz - apparently cross-cutting the stockwork (and equivalent to the 1cm veinlet in Sample #1).

The massive vein quartz area contains diffuse patches recognizable as included, and partially replaced, fragments of the altered, stockwork-veined host.

Very rare, angular vugs in the coarser quartz aggregate are filled by barite.

As in Sample #1, the rock is cut by late fractures or micro-crush zones (etched white in the cut-off block).

This sample contains scattered clusters of limonite pseudomorphs after pyrite, 0.02 - 0.5mm in size. These are randomly distributed through the coarse quartz - possibly associated with remnants of largely assimilated host rock.

Some of the limonite pseudomorphs contain relics of unoxidized pyrite, One patch of limonite has a cluster of tiny grains (5 - 40 microns in size) of more highly reflective, cream-coloured mineral which may be electrum.

Re your questions: Any overall brownish colour (not really discernible in the portion sectioned) is almost certainly due to diffuse limonite staining from traces of oxidizing sulfides.

How many veining events, and what order? i) quartz stockwork ii) coarse quartz vein iii) late fractures.

Carbonate? No. Sulfides? Yes (partially limonitized pyrite).

Composition of matrix/cement? There is none - unless you mean the altered/silicified host rock. Everything else is quartz.

There are no actual fragments. This is a network-brecciated host rock infilled by quartz threads and, after additional fracturing, cut by coarse quartz veining with incorporation of fragments of the stockwork phase.

Sample #3 cont.

Packing density? Not applicable.

Open spaces? These must have existed in abundance during the formational history. The rock now appears quite tight (on the thin section scale).

SAMPLE R 112936

Estimated mode

Silicified rock fragments	65
Limonitized chert matrix	34
Compact limonite	1

This sample is a breccia of sub-angular, silicified fragments, 0.15mm - 1.5cm in size, set in a limonitized matrix.

The fragments are composed of the same assemblage seen in previous samples - a silicified felsitic host rock cut by a fine stockwork of hairline veinlets and refractured, veined and engulfed by coarser vein quartz.

This sample is apparently of essentially the same type as #2, except that the cherty material forming the matrix (which supports and separates the abundant, discrete fragments, ranging in size down to fine sand) is strongly and evenly impregnated by amorphous (non-polishing) limonite. Occasional pockets and veniform threads and networks of massive, crustified/crystalline limonite are developed within this.

No pseudomorphous forms (after sulfides) are seen, and the abundant limonite in this sample may be predominantly of exogenic (transported) type.

Re your questions: The dark brown mineral is limonite; the orange-brown is limonite-impregnated cherty silica. The first fills pockets in the second.

The fragments are all the same. They are silicified rock like Samples #1 and #3, but with multiphase quartz veining dominant over relict host rock.

The matrix is cryptocrystalline silica, diffusely impregnated by limonite. The rock was probably formed by tectonic shattering and hydrothermal cementation.

APPENDIX 2

ANALYTICAL METHOD

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ACME ANALYTICAL LABORATORIES LTD.
Assaying & Trace Analysis
852 E. Hastings St., Vancouver, B.C. V6A 1R6
Telephone: 253-3158

GEOCHEMICAL LABORATORY METHODOLOGY & PRICES - 1989

Sample Preparation

S80	Soils or silts up to 2 lbs drying at 60 deg.C and sieving 30 gms -80 mesh (other size on request)	$ .85
SJ	Saving part or all reject	.45
S20R	Soils or silts - drying at 60 deg.C and sieving -20 mesh & pulverizing (other mesh size on request.)	2.00
SP	Soils or silts - drying at 60 deg.C pulverizing (approx . 100 gms)	1.50
RP100	Rocks or cores - crushing to -3/16" up to 10 lbs, then pulverizing 1/2 lb to -100 mesh (98%)	3.00
Cr	Surcharge crushing over 10 lbs	.25/lb
2PX	Surcharge for pulverizing over 1/2 lb	1.00/lb
RPS100	Same as RP100 except sieving to -100 mesh and saving +100 mesh (200gms)	3.75
RPS100 1/2	Same as above except pulverizing 1/2 the reject - additional	1.00/lb
RPS100 A	Same as above except pulverizing all the reject - additional	1.00/lb
OP	Compositing pulps - each pulp Mixing & pulverizing composite.	.50 1.50
HM	Heavy mineral separation - S.G.2.96 + wash -20 mesh	12.00
V1	Drying vegetation and pulverizing 50 gms to -80 mesh	3.00
V2	Ashing up to 1 lb wet vegetation at 475 deg.C	2.00
H1	Special Handling	17.00/hr

Sample Storage

Rejects - Approx. 2 lbs of rock or total core are stored for three months and discarded unless claimed.

Pulps are retained for one year and discarded unless claimed.

Additional storage - for 3 years $10.00/1.2 cu.ft. box
or 15 cents/sample pulp
or 5 cents/sample soil

Supplies

Soil Envelopes	4" x 6"	$125.00/thousand
Soil Envelopes	4" x 6" with gusset	$140.00/thousand Plastic
Bags	7" x 13" 4 ml	$10.00/hundred
Plastic Bags	12" x 20" 6 ml	$ 20.00/hundred
Ties		$ 2.00/hundred
Assay Tags		N/C
10% HCl		$ 5.00/liter
Dropping bottles		$ 1.00/each
Zn Test	A & B	$ 12.00/each liter

Conversion Factors

1 Troy oz = 31.10 g
1 oz/ton = 34.3 ppm = 34.3 g/tonne = 34,300 ppb
1 % = 10,000 ppm

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GEOCHEMICAL ANALYSES - Rocks and Soils

Group 1 Digestion

.50 gram sample is digested with 3 mls 3-1-2 HCl-HNO3-H2O at 95 deg.C for one hour and is diluted to 10 ml with water. This leach is near total for base metals, partial for rock forming elements and very slight for refractory elements. Solubility limits Ag, Pb, Sb, Bi, W for high grade samples.

Group 1A - Analysis by Atomic Absorption.

Element	Detection	Element	Detection	Element	Detection
Antimony*	2 ppm	Copper	1 ppm	Molybdenum	1 ppm
Bismuth*	2 ppm	Iron	0.01 %	Nickel	1 ppm
Cadmium*	0.1 ppm	Lead	2 ppm	Silver	0.1 ppm
Chromium	1 ppm	Lithium	2 ppm	Vanadium	2 ppm
Cobalt	1 ppm	Manganese	5 ppm	Zinc	2 ppm

First Element $2.25 Subsequent Element $1.00

Group 1B - Hydride generation of volatile elements and analysis by ICP.

This technique is unsuitable for sample grading over .5% Ni or Cu. Cu Massive Sulphide.

Element	Detection
Arsenic	0.1 ppm
Antimony	0.1 ppm
Bismuth	0.1 ppm
Germanium	0.1 ppm
Selenium	0.1 ppm
Tellurium	0.1 ppm

First Element $4.75 All Elements $5.50

Group 1C - Hg

Detection limit - 5 ppb Price $2.50

Hg in the solutions are determined by cold vapour AA using a F & J scientific Hg assembly. The aliquots of the extract are added to a stannous chloride/hydrochloric acid solution. The reduced Hg is swept out of the solution and passed into the Hg cell where it is measured by AA.

Group 1D - ICP Analysis

Element	Detection
Ag	0.1 ppm
Cd,Co,Cr,Cu,Mn,Mo,Ni,Sr,Zn	1 ppm
As,Au,B,Ba,Bi,La,Pb,Sb,Th,V,W	2 ppm
U	5 ppm
Al,Ca,Fe,K,Mg,Na,P,Ti	0.01 %

Any	2 elements	$3.25
	5 elements	4.50
	10 elements	5.50
All	30 elements	6.25

Group 1E - Analysis by ICP/MS

Element	Detection
Ga,Ge	1 ppm
Au,Bi,Cd,Hg,In,Ir,Os,Re,Rh,Sb,Te,Th,Tl,U	0.1 ppm

All Elements 15.00 (minimum 20 samples per batch or $15.00 surcharge)

Hydro Geochemical Analysis

Natural water for mineral exploration

26 element ICP - Mo,Cu,Pb,Zn,Ag,Co,Ni,Mn,Fe,As,Sr,Cd,V,Ca,P, Li,Cr,Mg,Ti,B,Al,Na,K,Ce,Be,Si — $8.00

F by Specific Ion Electrode	- detection	20 ppb	$3.75
U by UA3	- detection	.01 ppb	5.00
pH		.1 pH	1.50
Au	- detection	.001 ppb	4.00

* Minimum 20 samples or $5.00 surcharge for ICP or AA and $15.00 surcharge for ICP/MS. All prices are in Canadian Dollars

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Group 2 - Geochemical Analysis by Specific Extraction and Instrumental Techniques

Element	Method	Detection	Price
Barium	0.100 gram samples are fused with .6 gm LiBO2 dissolved in 50 mls 5% HNO3 and analysed by ICP. (other whole rock elements are also determined)	10 ppm	$4.00
Boron	.5 g/Na2O2 fustion - 50ml in 20% HCl	2 ppm	4.00
Carbon	LECO (total as C or CO2)	.01 %	5.75
Carbon+Sulfur	Both by LECO	.01 %	6.50
Carbon (Graphite)	HCl leach before LECO	.01 %	8.00
Chromium	0.50 gram samples are fused with 1 gm Na2O2 dissolved in 50 ml 20% HCl, analysed ICP.	5 ppm	4.00
Fluorine	0.25 gram samples are fused with NaOH; leached solution is adjusted for pH and analysed by specific ion electrode.	10 ppm	4.50
Sulphur	LECO (Total as S)	.01 %	5.50
Sulphur insoluble	LECO (After 5% HCl leach)	.01 %	8.00
Tin	1.00 gram samples are fused with NH4I. The sublimed Iodine is leached with 5 ml 10% HCl, and analysed by Atomic Absorption.	1 ppm	4.00
Tl	.50 gram digested with 50% HNO3 - Dilute to 10 ml - graphite AA	.1 ppm	4.00
Tungsten	.50 gram samples are fused with Na2O2 dissolved in 20 ml H2O, analysed by ICP.	1 ppm	4.00

Group 3 - Geochemical Noble Metals

Element	Method	Detection	Price
Au*	10.0 gram samples are ignited at 600 deg.C, digested with hot aqua regia, extracted by MIBK, analysed by graphite furnace AA.	1 ppb	$ 4.50
Au** Pd,Pt,Rh	10.0 gram samples are fused with a Ag inquart with fire assay fluxes. After cupulation, the dore bead is dissolved and analysed by AA or ICP/MS.	1 ppb 2 ppb	6.00 - first element 2.50 - per additional 10.00 - for All 4

Larger samples - 20 gms add $1.50
30 gms add $2.50

Group 4A - Geochemical Whole Rock Assay

0.200 gram samples are fused with LiBO2 and are dissolved in 100 mls 5% HNO3.

SiO2, Al2O3, Fe2O3, CaO, MgO, Na2O, K2O, MnO, TiO2, P2O5, Cr2O5, LOI + Ba by ICP.

Price: $3.75 first metal $1.00 each additional $9.00 for All.

Group 4B - Trace elements

Element	Detection	Analysis	Price
Co,Cu,Ni,Zn,Sr	10 ppm	ICP	$3.75 first element or
Ce,Nb,Ta,Y,Zr	20 ppm	ICP	$1.00 additional to 4A
			$6.00 for All.

Group 4C - analysis by ICP/MS.

Be, Rb, Y, Zr, Nb, Sn, Cs, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Hf, Ta, W, Th, U

Detection: 1 to 5 ppm Price : $20.00 for All.

* Minimum 20 samples or $5.00 surcharge for ICP or AA and $15.00 surcharge for ICP/MS. All prices are in Canadian Dollars

ANALYTICAL METHOD DESCRIPTIONS FOR GEOCHEMICAL ASSESSMENT REPORTS

The methods listed are presently applied to analyses geological materials by the Noranda Geochemical Laboratory at Vancouver.

Preparation of Samples:

Sediments and soils are dried at approximately 80°C and sieved with a 80 mesh nylon screen. The -80 mesh (0.18 mm) fraction is used for geochemical analysis.

Rock specimens are pulverized to -120 mesh (0.13 mm). Heavy mineral fractions (panned samples * from constant volume), are analysed in its entirety, when it is to be determined for gold without further sample preparation.

Analysis of Samples:

Decomposition of a 0.200 g sample is done with concentrated perchloric and nitric acid (3:1), digested for 5 hours at reflux temperature. Pulps of rock or core are weighed out at 0.4 g and chemical quantities are doubled relative to the above noted method for digestion.

The concentrations of Ag, Cd, Co, Cu, Fe, Mn, Mo, Ni, Pb, V and Zn can be determined directly from the digest (dissolution) with a conventional atomic absorption spectrometric procedure. A Varian-Techtron, Model AA-5 or Model AA-475 is used to measure elemental concentrations.

Elements Requiring Specific Decomposition Method:

Antimony - Sb: 0.2 g sample is attacked with 3.3 ml of 6% tartaric acid, 1.5 ml conc. hydrochloric acid and 0.5 ml of conc. nitric acid, then heated in a water bath for 3 hours at 95°C. Sb is determined directly from the dissolution with an AA-475 equipped with electrodeless discharge lamp (EDL).

Arsenic - As: 0.2 - 0.3 g sample is digested with 1.5 ml of perchloric 70% and 0.5 ml of conc. nitric acid. A Varian AA-475 equipped with an As-EDL is used to measure arsenic content in the digest.

Barium - Ba: 0.1 g sample digested overnight with conc. perchloric, nitric and hydrofluoric acid; Potassium chloride added to prevent ionization. Atomic absorption using a nitrous oxide-acetylene flame determines Ba from the aqueous solution.

Bismuth - Bi: 0.2 - 0.3 g is digested with 2.0 ml of perchloric 70% and 1.0 ml of conc. nitric acid. Bismuth is determined directly from the digest with an AA-475 complete with EDL.

Gold - Au: 10.0 g sample is digested with aqua regia (1 part nitric and 3 parts hydrochloric acid). Gold is extracted with MIBK from the aqueous solution. AA is used to determine Au.

Magnesium - Mg: 0.05 - 0.10 g sample is digested with 4 ml perchloric/nitric acid (3:1). An aliquot is taken to reduce the concentration to within the range of atomic absorption. The AA-475 with the use of a nitrous oxide flame determines Mg from the aqueous solution.

Tungsten - W: 1.0 g sample sintered with a carbonate flux and thereafter leached with water. The leachate is treated with potassium thiocyanate. The yellow tungsten thiocyanate is extracted into tri-n-butyl phosphate. This permits colourimetric comparison with standards to measure tungsten concentration.

Uranium - U: An aliquot from a perchloric-nitric decomposition, usually from the multi-element digestion, is buffered. The aqueous solution is exposed to laser light, and the luminescence of the uranyl ion is quantitatively measured on the UA-3 (Scintrex).

N.B.: If additional elemental determinations are required on panned samples, state this at the time of sample submission. Requests after gold determinations would be futile.

LOWEST VALUES REPORTED IN PPM:

Ag - 0.2	Mn - 20	Zn - 1	Au - 0.01
Cd - 0.2	Mo - 1	Sb - 1	W - 2
Co - 1	Ni - 1	As - 1	U - 0.1
Cu - 1	Pb - 1	Ba - 10	
Fe - 100	V - 10	Bi - 1	

EJvL/ie

APPENDIX 3

ROCK DESCRIPTIONS AND ANALYTICAL RESULTS

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ROCK SAMPLES FROM MINERALIZED QUARTZ BRECCIA

christa.le

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________ N.T.S. 92H/11

LAB REPORT # ____________ DATE Aug 8,9&10/89

PROJECT COQUIHALLA (QUARTZ BRECCIA SHOWING)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
114501 to 114557	Chip samples taken across 1.5m. Quartz breccia cemented by quartz matrix. No visible sulfides. Local rusty weathering surface. Breccia fragments are angular to subrounded, poorly sorted, few mm to 30 cm large. Fragments have a vague orientation at 055°/045°SE. Fracture fill quartz veins in the fragments. Thicker (to 1.5cm), milky quartz veins in many directions are continuous through fragments and matrix.		Chips	1.5								L. Erdman L. Anonby
	-R47435-49 are vertical chip channel samples of the outcrop of quartz breccia. These samples represent 5 vertical sections of the showing.											
R47435	Located from 05 /06 sample divider down (painted 35). Quartz breccia, slightly gossanous with 90% pebble size fragments in a clayey matrix. High temperature fine grained		Chip	1.0								D. Sharpe

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________ N.T.S. 92H/11

LAB REPORT # ____________ DATE Aug 18,19/89

PROJECT COQUIHALLA (QUARTZ BRECCIA SHOWING)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R47435(con't)	'glitter' quartz, 1-2% secondary 1-1.5 cm milky quartz veining, and 1% clear-blue 1-2mm quartz veining observed. Limonitic.											
R47436	Vertically up from R47435. As at R47435 but gets more siliceous, less clayey, and more gossanous towards top.		Chip	2.0								D. Sharpe
R47437	Vertically up from R47436, to within 10 cm of top of outcrop; same as R47436.		Chip	2.0								D. Sharpe
R47438	Sample from horizontal sample 14-15 divider down. Quartz breccia with pebble to boulder size fragments and 5%-7% secondary 1-2 cm milky stockwork quartz veining. Also high temperature 'glitter' quartz in hanging wall of penetrative joint. (Joint trending 358° dipping 77° East).		Chip	1.0								D. Sharpe
R47439	Vertically up from R47438. As at R47438 with increase of secondary 1-2 cm veining to		Chip	2.0								D. Sharpe

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________ N.T.S. 92H/11

LAB REPORT # ____________ DATE Aug 18,19/89

PROJECT COQUIHALLA (QUARTZ BRECCIA SHOWING)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R47439(con't)	8-10%. Poorly cemented (i.e. very little matrix).											
R47440	Vertically up from R47439. Similar to 47439.		Chip	2.0								D. Sharpe
R47441	Sample from horizontal sample 27-28 divider down, painted "41". Quartz breccia with pebble clasts, well cemented with ~20-23% matrix (~30-35% clays). Outcrop is limonitic. Sample is in penetrative joint set area. No secondary quartz veining observed.		Chip	1.0								D. Sharpe
R47442	Vertically up from 47441. Similar to 47441.		Chip	2.0								D. Sharpe
R47443	Vertically up from 47442. Similar to 47441.		Chip	2.0								D. Sharpe
R47444	Sample from horizontal 35-36 divider down, painted "44". Quartz breccia slightly gossa-nous, poorly sorted bimodal clast size: pebbles ~65%, boulders ~35%. Clasts have been almost completely re-crystallized by seconary quartz		Chip	1.0								D. Sharpe

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________ N.T.S. 92H/11

LAB REPORT # ____________ DATE Aug 18,19/89

PROJECT COQUIHALLA (QUARTZ BRECCIA SHOWING)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R47444(con't)	veining: 0.5-2 cm white stockwork ~15-17%, 1-2 mm blue clear ~3-4%, and high temperature glitter quartz.											
R47445	Vertically up from 47444. Similar to 47445 but boulders decrease to 7-10%.		Chip	2.0								D. Sharpe
R47446	Vertically up from 47445. Similar to 47445. Cut by a recessive joint oriented at $011^{o}/83^{o}$.		Chip	2.0								D. Sharpe
R47447	Vertically up from 47446. Similar to 47446, but no joint.		Chip	2.0								D. Sharpe
R47448	Sample from horizontal 46-47 divider down, painted "48". Quartz breccia, gossanous and limonitic. Sample has: 3-4%, 1-2 cm white stockwork quartz veins, 2-3%, 1-2 mm clear blue quartz veins, and high temperature 'glitter' quartz. Poorly cemented by 100% silica.		Chip	2.0								D. Sharpe
R47449	Vertically up from 47448. Similar to 47448.		Chip	2.0								D. Sharpe

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________ N.T.S. 92H/11

LAB REPORT # ____________ DATE Sept. 19/89

PROJECT COQUIHALLA (QUARTZ BRECCIA)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)	Au	Ag	Ba	Cu	Pb	Zn		SAMPLED BY
112931	Fresh Surface: Creamy white to beige to reddish-brown. Weathered Surface: Same as fresh surface. Outcrop Size: 5m long, 2.5m wide. The outcrop changes gradually from a quartz breccia in the upper portion, to a more massive siliceous rock in the lower portion. Fragments are subangular to angular and range in size from 2 to 10 cm. The entire outcrop has a stockwork of bull quartz veins (to 1cm thick) and thinner clear quartz veins (less than or equal to 1mm). The thicker bull quartz veins show two general orientations: 214°/050° and 280°/080° Veins comprise from 2% to 4% of the rocks volume.		Chip	2								
112932	Fresh Surface: Light grey to creamy white to milky white. A quartz breccia with all fragments composed entirely of quartz. Fragments range from		Chip	2								Pearson

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # 116

LAB REPORT # ____________

N.T.S. 92H/11

DATE Sept. 19/89

PROJECT COQUIHALLA (QUARTZ BRECCIA)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
112932(con't)	pebble to cobble size. The matrix is sandsize particles, and is highly siliceous. Quartz veins comprise less than 1% of rock volume. Local limonitic coloured surface stain.											
112933	Fresh Surface: Creamy white, milky white, limonitic (?). Weathered Surface: Same as fresh surface outcrop of quartz breccia. Fragments are sand to cobble size and sit in a siliceous matrix, which may have been clay. Fragments contain bull and clear quartz veins to 1cm width. Veins comprise 2% of rock volume. A shear zone approximately 25cm in width cuts through this outcrop.		Chip	2								Pearson
112934	Quartz breccia. Small clast size. Matrix is yellow to light orange to rusty brown. No visible sulfides. Steeply east dipping fractures, trending north-south, containing		Chip	1.5								McCorquodale

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # 116

LAB REPORT # ____________

N.T.S. 92H/11

DATE Sept. 19/89

PROJECT COQUIHALLA (QUARTZ BRECCIA)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
112934(con't)	limonite and/or manganese stain.											
112935	Adjacent, and to the west of 112934. Locally the matrix has a yellowish colour. A lesser amount of limonitic fracturing than in previous sample.		Chip	1.5								McCorquo-dale
112936	High grade of limonitic colored material in outcrop to east of small creek. Higher matrix to clast ratio in this section of the outcrop. The matrix is coloured but not all of the clasts are coloured.		Grab									

From ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716 @ REGULAR FORMAT
To Noranda Exploration Co. Ltd. PROJECT 8909-014, 8908-070 116
Acme file # 89-3345, # 89-3027

ELEMENT SAMPLES	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
47435	13	34	111	63	9.6	7	1	37	0.41	11	5	1	1	6	1	26	2	1	0.02	0.002	2	7	0.01	359	0.01	2	0.08	0.01	0.04	1	840
47436	5	5	34	18	0.7	6	2	38	0.41	5	5	1	1	5	1	2	4	1	0.01	0.004	2	5	0.01	186	0.01	2	0.06	0.01	0.03	2	60
47437	7	6	20	7	1.8	9	1	91	0.32	2	5	1	1	10	1	2	3	1	0.01	0.001	2	8	0.01	1324	0.01	2	0.04	0.01	0.02	2	260
47438	4	4	41	16	2.9	7	1	265	0.49	5	5	1	1	7	1	2	2	1	0.01	0.004	2	6	0.01	247	0.01	2	0.10	0.01	0.05	2	310
47439	4	10	15	4	2.2	8	1	154	0.34	2	5	1	1	2	1	2	3	1	0.01	0.002	2	7	0.01	76	0.01	2	0.02	0.01	0.01	1	160
47440	3	4	13	3	2.1	7	2	366	0.31	2	5	1	1	8	1	2	4	1	0.01	0.003	2	7	0.01	1490	0.01	4	0.04	0.01	0.01	1	290
47441	7	4	63	34	14.8	8	1	70	0.48	4	5	2	1	7	1	2	2	1	0.01	0.002	2	7	0.01	343	0.01	2	0.05	0.01	0.03	2	1830
47442	6	3	37	21	1.6	8	1	28	0.45	4	5	1	1	8	1	2	4	1	0.01	0.001	2	7	0.01	728	0.01	2	0.03	0.01	0.02	1	200
47443	9	8	37	12	1.8	8	1	56	0.36	2	5	1	1	3	1	2	5	2	0.01	0.001	2	7	0.01	76	0.01	3	0.06	0.01	0.03	2	250
47444	3	4	19	2	3.1	7	1	53	0.26	2	5	1	1	2	1	3	2	1	0.01	0.001	2	5	0.01	180	0.01	4	0.15	0.01	0.11	1	214
47445	5	9	23	12	5.3	9	1	37	0.42	8	5	1	1	6	1	3	2	1	0.01	0.002	2	8	0.01	504	0.01	3	0.09	0.01	0.05	1	330
47446	6	4	23	23	5.2	9	2	42	0.67	10	5	1	1	10	1	2	2	2	0.01	0.003	2	6	0.01	1192	0.01	3	0.06	0.01	0.04	2	680
47447	4	5	14	5	5.5	9	1	48	0.34	3	5	1	1	1	1	2	2	1	0.01	0.001	2	8	0.01	22	0.01	2	0.02	0.01	0.01	1	530
47448	4	2	71	8	10.6	5	1	40	0.60	12	5	1	1	10	1	3	3	1	0.01	0.003	2	5	0.01	746	0.01	3	0.09	0.01	0.05	1	640
47449	9	6	52	14	7.9	7	2	44	0.81	12	5	1	1	13	1	2	2	1	0.01	0.004	2	6	0.01	1132	0.01	8	0.11	0.01	0.06	1	360
114501	10	7	55	25	6.7	11	1	40	0.55	7	5	1	1	4	1	2	2	1	0.01	0.006	2	8	0.01	66	0.01	2	0.09	0.01	0.04	2	880
114502	10	26	86	25	1.3	11	1	29	0.49	7	5	1	1	6	1	2	2	1	0.01	0.005	2	9	0.01	213	0.01	5	0.08	0.01	0.03	1	240
114503	8	20	59	38	1.5	10	1	41	0.55	8	5	1	1	9	1	2	2	1	0.01	0.003	2	9	0.02	268	0.01	2	0.09	0.01	0.04	1	111
114504	5	12	33	8	1.2	9	1	56	0.32	5	5	1	1	2	1	2	2	1	0.01	0.001	2	8	0.01	87	0.01	2	0.04	0.01	0.01	1	94
114505	15	8	93	41	1.9	11	1	195	0.79	12	5	1	1	12	1	2	2	1	0.01	0.008	2	10	0.02	407	0.01	3	0.13	0.01	0.05	1	200
114506	10	9	40	40	1.8	11	1	53	0.59	8	5	1	1	10	1	3	2	1	0.01	0.002	2	9	0.01	884	0.01	2	0.11	0.01	0.05	1	126
114507	9	34	109	132	14.2	10	1	55	0.61	15	5	1	1	7	2	11	5	1	0.01	0.003	2	9	0.01	577	0.01	3	0.11	0.01	0.04	1	1780
114508	7	13	99	47	3.8	8	1	60	0.48	5	6	1	1	7	1	2	3	1	0.01	0.002	2	8	0.01	659	0.01	5	0.12	0.01	0.04	2	460
114509	9	8	78	20	1.4	10	1	52	0.49	4	5	1	1	5	1	2	2	1	0.01	0.002	2	8	0.01	351	0.01	3	0.10	0.01	0.04	2	129
114510	9	36	46	22	2.8	6	1	56	0.50	17	5	1	1	7	1	2	2	1	0.02	0.001	2	4	0.01	547	0.01	6	0.13	0.01	0.06	1	360
114511	6	14	41	16	2.7	6	1	34	0.44	11	5	1	1	6	1	2	2	1	0.01	0.002	2	3	0.01	346	0.01	10	0.09	0.01	0.05	1	240
114512	10	22	59	22	1.7	8	1	86	0.53	13	5	1	1	6	1	2	2	1	0.01	0.002	2	6	0.01	245	0.01	5	0.09	0.01	0.04	1	104
114513	5	9	32	16	2.5	8	1	79	0.46	11	5	1	1	10	1	2	2	1	0.02	0.003	2	5	0.01	472	0.01	9	0.07	0.01	0.04	1	270
114514	4	12	33	10	5.6	9	1	192	0.41	9	5	1	1	7	1	2	2	1	0.01	0.002	2	5	0.01	321	0.01	5	0.04	0.01	0.03	1	580
114515	5	27	54	12	7.7	7	1	106	0.43	23	5	2	1	7	1	2	2	1	0.01	0.004	2	5	0.01	503	0.01	7	0.06	0.01	0.03	1	960
114516	6	24	40	27	5.6	8	2	68	0.57	14	5	1	1	14	1	2	2	1	0.01	0.004	2	5	0.01	940	0.01	5	0.10	0.01	0.06	1	460
114517	4	9	49	23	7.2	8	2	52	0.46	6	5	1	1	17	1	2	2	1	0.01	0.002	2	6	0.01	1632	0.01	4	0.08	0.01	0.05	1	710
114518	4	10	42	9	3.8	7	1	72	0.33	6	5	1	1	4	1	2	2	1	0.01	0.001	2	6	0.01	416	0.01	5	0.05	0.01	0.03	1	300
114519	5	5	43	22	5.3	8	1	26	0.51	7	5	1	1	11	1	2	2	1	0.01	0.004	2	5	0.01	610	0.01	5	0.07	0.01	0.04	1	510
114520	7	6	99	30	28.2	7	1	42	0.60	8	5	4	1	12	1	2	2	1	0.01	0.003	2	5	0.01	531	0.01	4	0.08	0.01	0.05	1	2630
114521	6	18	102	35	7.8	8	2	64	0.61	8	5	1	1	17	1	5	2	2	0.01	0.004	2	6	0.01	1065	0.01	8	0.08	0.01	0.05	1	620
114522	6	23	128	35	17.0	8	2	59	0.55	9	5	4	1	15	1	8	2	3	0.01	0.003	2	7	0.01	1178	0.01	3	0.08	0.01	0.05	1	2220
114523	4	13	61	17	5.5	8	1	50	0.42	4	5	2	1	5	1	2	2	3	0.01	0.004	2	5	0.01	170	0.01	4	0.05	0.01	0.03	1	880
114524	5	14	44	18	3.6	9	1	46	0.45	5	5	1	1	13	1	2	2	3	0.01	0.003	2	7	0.01	526	0.01	2	0.05	0.01	0.03	1	210
114525	4	7	24	12	1.9	7	1	37	0.34	5	5	1	1	1	1	2	2	2	0.01	0.002	2	5	0.01	41	0.01	6	0.02	0.01	0.01	1	240
114526	5	8	43	27	3.4	8	1	54	0.46	3	5	1	1	7	1	2	2	1	0.01	0.003	2	6	0.01	474	0.01	7	0.04	0.01	0.02	1	410
114527	5	3	42	18	4.5	6	1	191	0.39	5	5	1	1	4	1	2	2	1	0.01	0.003	2	5	0.01	230	0.01	2	0.03	0.01	0.02	1	550
114528	5	5	33	19	3.9	8	1	126	0.46	6	5	1	1	2	1	2	2	1	0.01	0.004	2	6	0.01	107	0.01	2	0.06	0.01	0.02	1	380
114529	6	3	23	37	6.4	7	2	89	0.45	4	5	1	1	21	1	2	2	1	0.01	0.002	2	7	0.01	1899	0.01	9	0.07	0.01	0.04	1	640
114530	4	10	10	12	1.4	7	1	34	0.27	4	5	1	1	9	1	2	2	1	0.01	0.001	2	7	0.01	1122	0.01	2	0.09	0.01	0.06	1	161
114531	4	6	30	14	3.9	7	1	100	0.40	2	5	1	1	8	1	2	2	1	0.01	0.002	2	5	0.01	714	0.01	2	0.07	0.01	0.04	1	500
114532	7	4	55	28	10.7	7	2	41	0.59	9	5	1	1	19	1	2	2	1	0.01	0.002	2	5	0.01	1261	0.01	5	0.09	0.01	0.05	1	870
114533	3	6	20	19	2.0	8	1	191	0.54	5	5	1	1	8	1	2	2	1	0.01	0.003	2	7	0.01	435	0.01	5	0.07	0.01	0.04	1	107
114534	3	6	17	4	4.8	7	1	49	0.25	3	5	1	1	13	1	2	2	1	0.01	0.002	2	7	0.01	1304	0.01	2	0.07	0.01	0.06	1	480
114535	2	5	24	1	8.7	4	1	31	0.27	2	5	1	1	3	1	2	2	1	0.01	0.001	2	3	0.01	284	0.01	2	0.11	0.01	0.08	1	1010
114536	3	6	39	5	8.8	5	1	123	0.26	3	5	1	1	7	1	3	2	1	0.01	0.002	2	5	0.01	783	0.01	3	0.10	0.01	0.07	1	690
114537	4	6	61	7	3.5	7	1	109	0.40	7	5	1	1	5	1	5	2	1	0.01	0.005	2	5	0.01	469	0.01	2	0.06	0.01	0.03	1	440

ELEMENT SAMPLES	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
114538	7	6	122	5	10.4	6	1	128	0.49	17	5	1	1	11	1	2	2	1	0.01	0.004	2	6	0.01	1221	0.01	2	0.09	0.01	0.05	1	710
114539	7	5	78	7	8.0	6	2	69	0.74	16	5	1	1	12	1	2	2	1	0.01	0.005	2	6	0.01	1420	0.01	2	0.10	0.01	0.06	1	500
114540	6	6	40	10	4.8	7	1	132	0.48	8	5	1	1	9	1	2	2	1	0.01	0.003	2	7	0.01	854	0.01	3	0.07	0.01	0.04	1	450
114541	4	3	12	3	0.4	6	1	68	0.31	2	5	1	1	7	1	2	2	1	0.01	0.001	2	5	0.01	668	0.01	2	0.10	0.01	0.08	1	18
114542	5	5	28	9	2.4	8	1	116	0.58	9	5	1	1	7	1	2	2	1	0.01	0.004	2	5	0.01	211	0.01	2	0.09	0.01	0.05	1	300
114543	4	5	21	5	0.8	6	1	166	0.47	5	5	1	1	9	1	2	2	1	0.01	0.003	2	44	0.01	275	0.01	6	0.09	0.01	0.04	1	121
114544	4	10	23	5	5.8	7	1	99	0.45	4	5	1	1	4	1	2	2	1	0.01	0.002	2	8	0.01	121	0.01	4	0.06	0.01	0.03	1	650
114545	2	6	16	2	3.2	5	1	63	0.34	2	5	1	1	2	1	2	2	1	0.01	0.001	2	44	0.01	24	0.01	2	0.06	0.01	0.03	1	370
114546	6	5	50	9	15.8	4	1	77	0.67	12	5	1	1	5	1	2	3	1	0.01	0.003	2	33	0.01	315	0.01	9	0.11	0.01	0.06	1	550
114547	6	5	54	6	2.7	6	1	30	0.55	7	5	1	1	10	1	2	2	1	0.01	0.002	2	6	0.01	942	0.01	5	0.09	0.01	0.04	1	138
114548	7	3	63	9	11.5	4	1	25	0.59	8	5	1	1	11	1	2	3	1	0.01	0.004	2	32	0.01	489	0.01	3	0.08	0.01	0.04	1	500
114549	6	4	24	6	1.6	10	1	52	0.54	3	5	1	1	11	1	2	2	1	0.01	0.002	2	8	0.01	370	0.01	4	0.04	0.01	0.02	1	77
114550	2	3	10	7	0.4	5	1	61	0.32	2	5	1	1	2	1	2	2	1	0.01	0.001	2	33	0.01	102	0.01	5	0.02	0.01	0.01	1	14
114551	5	4	15	21	2.0	11	1	69	0.58	2	5	1	1	12	1	2	2	1	0.01	0.002	2	9	0.01	464	0.01	3	0.06	0.01	0.03	2	103

ACME ANAL -CAL LABORATORIES LTD. 852 E. HASTINGS ST. VAN -UVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(60 -53-1716

WHOLE ROCK ICP ANALYSIS

A .2000 GRAM SAMPLE IS FUSED WITH .60 GRAM OF LIBO2 AND IS DISSOLVED IN 100 MLS 5% HNO3.
- SAMPLE TYPE: Pulp

DATE RECEIVED: SEP 27 1989 **DATE REPORT MAILED:** Oct 6/89 **SIGNED BY**.......... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

NORANDA EXPLORATION CO. LTD. PROJECT 8908-070 116 File # 89-3027R2

SAMPLE#	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	Ba PPM	La PPM	Zr PPM	Y PPM	Nb PPM	LOI %	SUM %
114515	96.17	1.71	.71	.07	.03	.05	.39	.02	.01	.03	.007	525	25	5	5	20	.6	99.89
114516	93.21	3.77	.80	.14	.02	.05	1.01	.05	.01	.01	.006	1039	25	25	5	20	.6	99.86
114517	93.77	3.07	.63	.09	.03	.05	.79	.03	.01	.01	.008	2136	25	8	5	20	.7	99.56
114518	96.09	1.86	.49	.07	.03	.05	.49	.02	.01	.01	.005	445	25	6	5	20	.5	99.71
114519	94.48	3.10	.75	.11	.03	.05	.84	.05	.02	.01	.005	708	25	23	5	20	.2	99.77
114520	93.54	3.43	.85	.12	.03	.05	.90	.06	.01	.01	.004	623	25	17	5	20	.7	99.82
114521	93.67	2.99	1.01	.11	.03	.05	.79	.05	.02	.01	.006	1253	25	16	5	20	.8	99.76
114522	93.67	3.16	.76	.12	.04	.05	.79	.05	.01	.01	.004	1541	25	14	5	20	.9	99.83
114523	95.89	1.95	.57	.08	.03	.05	.54	.03	.01	.01	.003	396	25	5	5	20	.8	100.04
114524	96.55	1.66	.65	.09	.02	.05	.46	.03	.01	.01	.005	622	25	9	5	20	.4	100.05

Coquihalla RR (LE) 8908-070

ACME ANALYTICAL LABORATORIES LTD. DATE RECEIVED: SEP 5 1989
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716 DATE REPORT MAILED: Sept. 14/1989.

GEOCHEMCIAL/ASSAY CERTIFICATE

- SAMPLE TYPE: Pulp AU** BY FIRE ASSAY FROM 1/2 A.T.
HG ANALYSIS BY FLAMELESS AA.
F - NAOH FUSION - SPECIFIC ION ELECTRODE ANALYSIS.
BA* .1 GM SAMPLES FUSED WITH .6 GM LIBO2 DISSOLVED IN HNO3 ANALYSIS.

SIGNED BY...D.Toye... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

NORANDA EXPLORATION CO. LTD. PROJECT 8908-070 116 FILE # 89-3027R

SAMPLE#	Au** OZ/T	Au** OZ/T	Hg PPB	F PPM	Ba* PPM
114515	.028	.031	5	50	525
114516	.012	.013	5	160	1039
114517	.019	.023	5	130	2136
114518	.008	.008	5	50	445
114519	.015	.015	5	110	708
114520	.079	.081	5	140	623
114521	.017	.018	5	100	1253
114522	.066	.066	5	110	1541
114523	.024	.026	5	50	396

'89 Rp LE RK

8909-071

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

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: SEP 22 1989 DATE REPORT MAILED: Oct 3/89 SIGNED BY..........D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

Noranda Exploration Co. Ltd. PROJECT 8909-071 116 File # 89-3862

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
R 112931	7	38	134	40	16.1	8	2	27	.88	20	5	ND	1	15	1	16	3	6	.03	.007	2	49	.02	940	.01	4	.14	.01	.07	3	1070
R 112932	2	12	14	6	.5	6	1	92	.39	2	5	ND	1	1	1	2	2	2	.01	.003	2	5	.01	35	.01	2	.06	.01	.02	1	39
R 112933	1	10	9	1	.6	3	1	20	.32	2	5	ND	1	4	1	3	2	1	.01	.002	2	52	.01	107	.01	10	.15	.01	.10	2	74
R 112934	9	6	27	41	1.2	8	1	40	.93	2	5	ND	1	9	1	2	2	1	.01	.005	2	7	.01	389	.01	2	.07	.01	.03	1	96
R 112935	4	3	16	5	1.3	6	1	26	.35	2	5	ND	1	7	1	4	2	1	.01	.001	2	76	.01	249	.01	4	.03	.01	.02	4	81
R 112936	8	2	18	47	.7	9	1	32	1.05	2	5	ND	1	6	1	3	3	1	.01	.005	2	7	.01	76	.01	2	.06	.01	.03	2	111

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

WHOLE ROCK ICP ANALYSIS

A .2000 GRAM SAMPLE IS FUSED WITH .60 GRAM OF LIBO2 AND IS DISSOLVED IN 100 MLS 5% HNO3.
- SAMPLE TYPE: ROCK

DATE RECEIVED: SEP 22 1989 DATE REPORT MAILED: Oct 3/89. SIGNED BY..........D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

Noranda Exploration Co. Ltd. PROJECT 8909-071 116 File # 89-3862

SAMPLE#	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	Ba PPM	La PPM	Zr PPM	Y PPM	Nb PPM	LOI %	SUM %
R 112931	91.73	3.63	1.07	.19	.10	.05	.99	.10	.02	.01	.014	942	25	16	5	20	1.4	99.47
R 112932	97.36	1.04	.47	.07	.02	.05	.22	.02	.01	.01	.003	59	25	8	5	20	.4	99.69
R 112933	90.48	5.07	.66	.25	.01	.05	1.68	.04	.01	.01	.014	269	25	11	5	20	1.5	99.83
R 112934	95.95	1.12	1.05	.06	.01	.05	.33	.02	.01	.01	.005	385	25	5	5	20	1.1	99.79
R 112935	97.86	.70	.50	.04	.01	.05	.19	.01	.01	.01	.020	243	25	5	5	20	.7	100.15
R 112936	96.30	1.10	1.21	.06	.01	.05	.31	.02	.02	.01	.003	93	25	5	5	20	1.0	100.12

ROCK SAMPLES FROM OTHER AREAS ON THE PROPERTY

christa.le

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # 116

LAB REPORT # ______

N.T.S. 92H/11

DATE Aug. 30/89

PROJECT COQUIHALLA (BERRY CREEK)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R11640	North end of fault. Strong limonitic and argillic alteration. Contains 5-10 cm fault gouge trace - 1% cubic pyrite, some secondary quartz veining.	Tr-1%	Chip	1.0								B. Singh
R11641	North end of Berry Creek. About 2m south of 11640. Highly silicified. 5-10% disseminated cubic pyrite. Heavy limonitic and hematitic stain. Sample collected from a possible fault zone.	5-10	Chip	1.0								
R11642	2 m south of R11640; Strong limonitic and argillic alteration. Strong surfacial manganese. Cubic pyrite in concentrated patches. Sample contains some fault gouge.	Tr	Chip	1.0								B. Singh
R11643	Western extension of R11642; strong limonitic and argillic alteration, some jarosite. Trace pyrite some surfacial manganese.	Tr	Chip	1.0								B. Singh

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # 116

LAB REPORT # ______

N.T.S. 92H/11

DATE Aug. 30/89

PROJECT COQUIHALLA (BERRY CREEK)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R11644	Granodiorite - moderately to intensely silicified, minor sericite alteration. Cut by numerous veins filled with iron weathering products. Veins up to 0.5 cm wide, variably oriented.		Grab	-								Pearson
R11645	Moderate silicification, argillic and sericite alteration. Hematite staining. Rock is locally cut by pyrite and/or quartz veins. Pyrite occurs in disseminated form and in stringers. Sample chipped perpendicular to foliation/ shearing trend 300°. Outcrop is 5m strike length (exposed) and 2m wide (vertical).		Chip	1m vertical								Pearson & Singh
R58276	51/50 creek, -36+90E 25+00N; slightly silicified granodiorite. Strong argillic alteration, strong limonite, strong manganese staining. Some jarosite, trace pyrite. Possibly at the contact of the granodiorite and the avalanche	Tr	Chip	1.0								B. Singh

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # 116

LAB REPORT # ____________

N.T.S. 92H/11

DATE Aug. 30/89

PROJECT COQUIHALLA (BERRY CREEK)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R58276(con/t)	breccia.											
R58277	37+80E 25+00N. Sugar quartz with moderate limonitic stain. angular float.		Float Grab									B. Singh

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________

LAB REPORT # ____________

N.T.S. 92H/11

DATE Aug. 13/89

PROJECT COQUIHALLA

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
23326	Pale green, very fine grained, looks siliceous but it is not. No visible sulfides. No visible veining. Part of a fault envelope.		Chip	0.8								L. Erdman L. Anonby
23327	Chip along 1.5m. Fault material. Light green fine grained material. Hair to 2mm wide quartz veins. Locally dark grey crystalline quartz. Very soft rock, mainly clay.		Chip	1.5								L. Erdman L. Anonby
23328	Same location as 23327 but approx. 6m upstream. Pale green, fine grained rock with 2%-3% coarse cubic, disseminated pyrite. Rock has been silicified, but 5% remnant feldspar phenos (1mm-2mm) are clay altered.		Chip	1								L. Erdman L. Anonby
23329	Med grained granodiorite with 5% muscovite. Veined by milky quartz comprising <1% of total outcrop area. Quartz veins ~7mm thick trending 254° and 326°. Outcrop has a rusty weathering surface, but no visible sulfides.		Chip	1								L. Erdman L. Anonby

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________ N.T.S. 92H/11

LAB REPORT # ____________ DATE Aug 14/89

PROJECT COQUIHALLA (GOSSAN 1)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
23330	Light green-grey fresh surface, rusty weathering surface, no visible sulfides. Weakly magnetic with rare visible magnetic crystals. A finely crystalline intrusive, possibly rhyolite. Slightly chloritic.		Chip	1.5								L. Erdman L. Anonby
23331	Similar to the previous sample but locally there are quartz filled fractures. Fractures in many directions.		Chip	1								L. Erdman L. Anonby
23332	Dacitic (?) dyke. 15% mafic (Hb) phenocrysts, to 3mm large slightly altered to chlorite. Very magnetic. Pervasive, spotty 1mm epidote (5%), 5% visible quartz crystals, well crystallized feldspar. Local traces of very fine grained pyrite. The pyrite does not occur throughout the rock.	Tr	Chip	1								L. Erdman L. Anonby
23333	Shear zone, 40 cm width separating dyke from rhyolite. Trending 180 . Very thin quartz veins parallel to the shear direction. Pods of dyke		Chip	0.4								L. Erdman L. Anonby

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________

LAB REPORT # ____________

N.T.S. 92H/11

DATE Aug 14/89

PROJECT COQUIHALLA (GOSSAN 1)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
23333(con't)	material, within the shear, along axis in direction of shear. Rusty weathering but no visible sulphides.											
R23334	Chip across a shear zone 2m wide. Very altered bleached white fine grained material. Fractures (hair - 1mm) wide filled with quartz, and the shear envelope is very siliceous. Fractures parallel to strike of shear (14°), fractures 1cm - 25cm apart. Weathering surface within shear zone is orange-red iron staining that also appears in fracture envelope. Rock is red-orange stained with spotty manganese staining. No visible pyrite but has a distinctive sulfide odour.		Chip	2								L. Erdman
23335	Shear zone. Sample collected from an altered dyke on the hanging wall of the shear zone. Close to the shear the dyke has 7% fine grained disseminated	1-7	Chip	1								L. Erdman

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # 116

LAB REPORT # ____________

N.T.S. 92H/11

DATE Aug. 14/89

PROJECT COQUIHALLA (GOSSAN 1)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
23335(con't)	pyrite, further away the pyrite occurs in fractures. The dyke is a light green-grey colour close to the shear and grades outward to a darker grey colour weathering surface is rusty.											

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________ N.T.S. 92H/11

LAB REPORT # ____________ DATE Aug. 12/89

PROJECT COQUIHALLA (GOSSAN 2)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
23932	Chip across 2m very fine grained light green rock with 5% epidote crystals. Altered feldspar 5%, chlorite 5-10% (1-3mm). Red-brown staining on weathering surface and spotty holes (1%) within the rock. Some of sample is very altered material, (bleach white with 5% fine grain pink crystals). Original rock is a crystal tuff.		Chip	2								L. Erdman L. Anonby
23933	Grey fresh surface, dark rust weathering surface. 10%, 2mm, feldspar phenocrysts, random orientations. 5% (<1mm) mafic minerals perhaps pyroxene, weakly altered to chlorite. 5% very fine grain disseminated pyrite, with coarser pyrite clusters closely associated with the mafic minerals. Probably a dyke.	5	Chip	1								L. Erdman L. Anonby
23934	Chip across 1m very fine grain medium green matrix with 10%-15% anhedral epidote crystals,	1	Chip	1								L. Anonby

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________

LAB REPORT # ____________

N.T.S. 92H/11

DATE Aug. 12/89

PROJECT COQUIHALLA (GOSSAN 2)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
23934(con't)	5% dark green chlorite fragments 2-3mm (anhedral-euhedral) 10% feldspar crystals, 1% pyrite - very finely disseminated. Fracture surfaces have 25% sheared pyrite. Sample is mostly fresh rock with some quite bleached material. Rock sample looks like a dyke.											
23935	Light grey fresh surface, dark red orange weathering surface. 2%-3% fine grain disseminated pyrite. Clay alteration of a feldspar porphyry dyke as described for 23933.	2-3	Chip	0.75								L. Erdman
23936	Chip across 1m mostly extremely altered crystal tuff. Bleached white very fine grained rock with trace chloritic fragments (0.3cm), <1% epidote crystals, 20% <1mm, qtz crystals 15% red-brown stained rounded holes. Rare amount of very fine disseminated pyrite. Weathered surface is red-orange. Also included in sample is 10%	Tr	Chip	1								L. Anonby

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________

LAB REPORT # ____________

N.T.S. 92H/11

DATE Aug. 12/89

PROJECT COQUIHALLA (GOSSAN 2)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
23936(con't)	porphyritic dyke rock with 25% disseminated pyrite, euhedral feldspar (2mm) crystals, 5% epidote crystals (1mm), 10% dark green mafic crystals. Pyrite is assoc. with the mafic crystals within the crystal tuff.											
R23937	Light green fresh surface, dark rusty-orange weathering surface Weak propylitic alteration of a feldspar porphyry dyke, as at 23933. 15% total pyrite. About 3% is fine grain disseminated throughout the rock and 12% is coarser and is within or on the margins of the chloritized mafic phenocrysts. Part of the sample includes a bleached un-mineralized lithic tuff, as at 23936, but on the weathered surface no distinction between rock types is possible.	15	Chip	1								L. Erdman

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________

LAB REPORT # ____________

N.T.S. 92H/11

DATE Aug. 24/89

PROJECT COQUIHALLA (CAMP 3)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R47434	At 5m up Britton Creek from 1988 pan locations H49060A, 61B. 1.5m chip sample across creek. Silicified, sercitized Eagle granodiorite. Appears sheared.	-	Chip	1.5								D. Sharpe
R47450	At 28m upstream from R47434. Sheared sericitized, silicified Eagle granodiorite. Iron stained. 1.5m chip sample across stream.	-	Chip	1.5								D. Sharpe
R47503	At 520m upstream from R47434 Sheared, sericitized Eagle granodiorite with local silica enrichment. Some original biotite banding seen. Feldspar altering to clay. 2m chip in creek bed.	-	Chip	2								D. Sharpe
R58280	Altered granodiorite, moderate to strong argillic alteration, moderate limonitic and minor Mn stain. Some sericite. Some quartz veining.	-	Chip	1.5								B. Singh

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # 116

N.T.S. 92H/11

LAB REPORT # ____________

DATE Aug. 27/89

PROJECT COQUIHALLA (GOSSAN 3)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R47461	Gossanous zone. Altered fine grained silicified crystal lithic tuff. 1-2% fine disseminated pyrite. Cut by diorite dykes.	2	Grab	-								BKN
R47462	Clay altered silicified crystal lithic tuff in contact with diorite dyke. Chip sample crosses a fracture trending 140° and dipping 10° to the southwest.	<1	Chip	2								BKN
R47463	Gossanous zone. Chip sample across diorite dyke. Medium grained with feldspar crystals up to 5mm long. Green chloritic groundmass. Very fine grained magnetite and trace of disseminated pyrite. Trending approximately 060°.	<<1	Chip	2								BKN
R47464	Altered, silicified material to east of above mentioned dyke. Trace of very fine grained pyrite. Appears to be a mixture of lithic tuff and intrusive.	<<1	Chip	2								BKN

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # 116

LAB REPORT # ____________

N.T.S. 92H/11

DATE Aug. 27/89

PROJECT COQUIHALLA (GOSSAN 3)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R47465	Altered, silicified, gossanous lithic tuff. Proximal to area of shearing. Shearing trends approximately 180° dipping 85° to the west. 1% pyrite.	1	Chip	2								BKN
R47466	Gossanous zone. Altered, silicified lithic tuff. Shattered. Minor visible sulphides <1%.	<1	Chip	2								BKN
R47467	Rock as above but more silicified. Approximately 1% pyrite. Proximal to a diorite dyke at east edge of the gossanous 3 zone.	1	Chip	2								BKN
R58309	Gossan Zone. Clay altered crystal lithic tuff. 1-2% finely disseminated pyrite.	1-2	Chip	2								BKN
R58310 to R58311	Gossanous/silicified tuff with some argillic alteration. Heavy hematitic/limonitic alteration on weathered surfaces and within small fractures. Local disseminated pyrite. Outcrop strikes 140°.	<5	Vertical Chip	All 2m								Pearson

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # 116

N.T.S. 92H/11

LAB REPORT #

DATE

PROJECT COQUIHALLA (GOSSAN 3)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R58312	Extrusive? (Tuff?) Weathered surface - rust - hematite stained. Fresh surface - light grey. Heavily silicified/argillically altered. Remnant and surviving feldspars (plagioclase?) present. Pinpoint size to <1mm vugs present. Sulphides of pyrite finely disseminated.	~2	Vertical Chip	All 2m								Pearson
R58313	Fine grained intrusive (diorite) Fresh surface - Medium to dark grey/mesocratic. Weathered surface - Light to medium grey, locally rusty. Appearing to be extrusive at times showing porphyritic texture. Local silicification. Minor pyrite.	<1	Chip Vertical	2								Pearson

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # 116

LAB REPORT # ____________

N.T.S. 92H/11

DATE Aug. 24/89

PROJECT COQUIHALLA (GOSSAN 3)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R58314 to R58315	Weathered Surface - rust/dark brown. Fresh Surface - Light grey silicified with argillic alteration. Cut by numerous hematite filled veinlets, <1mm wide. Sulphides of pyrite - finely disseminated. Appear to be within a shearing/shattered zone trending 020° dipping 072° to the southeast. Outcrop is 5m wide and strikes 140° .	up to 2%	Horizontal Chip	2								Pearson
R58316	Weathered surface - rust and medium gray. Fresh surface - Light to dark grey. Fresh surface displays silicified argillically altered rock fragments of intrusive(diorite) and rhyolite (?). The less altered material shows feldspar (plagioclase/K-feldspar?) within fine grained matrix. Local epidote and minor veinlets of hematite filling present in more silicified portions of sample.	Up to 2%	Vertical Chip	2								Pearson

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________

LAB REPORT # ____________

N.T.S. 92H/11

DATE Aug 14/89

PROJECT COQUIHALLA (OU812 CREEK)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R47426	Located at L32+95E 20+10N. Outcrop is exposed only in creek bed. Contact between foliated to massive Eagle granodiorite overlaying gossanous unoriented quartz breccia. Contact oriented 311°/16 °. Sampled across the contact. No visible sulphides.		Chip	1.5								D. Sharpe

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________ N.T.S. 92H/11

LAB REPORT # ____________ DATE ____________

PROJECT COQUIHALLA (NORTH OF CAMP 2)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R47468	Silicified plagioclase porphyry Crystals 2-4mm in length. Rusty staining along fractures. Jointing trending 022° dipping 70°E.		?									BKN
R58317	Rusty weathering surface, light grey fresh surface. Silicified plagioclase porphyry (as above) in which feldspars are altered to clays. Up to 2% disseminated pyrite. Hematite on fracture surfaces.	2	Chip	?								BKN

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________

LAB REPORT # ____________

N.T.S. 92H/11

DATE Aug. 17/89

PROJECT COQUIHALLA (CLIFF CREEK)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R47476	Location: 32+20E and just above Cliff Creek. Grab sample of gossanous zone above Cliff Creek. Intensely argillicly altered, silicified granodiorite. Heavy hematite staining. Manganese oxide present on weathered surface. No sulphides observed.		Grab	0.5								Pearson Northcote

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________

LAB REPORT # ____________

N.T.S. 92H/11

DATE Aug. 16/89

PROJECT COQUIHALLA (CLIFF CREEK)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)							SAMPLED BY
R58518	Silicified granodiorite. Intensely limonitic & jarositic strong-intense blue grey silicification for 1.0m and fault gouge for 0.5m 1% pyrite, trace arsenopyrite. Located at 22+75N 31+25E.		Chip	1.5							B. Singh
R58519	2m east of R58518. Silicified quartz-granodiorite breccia. Intense pervasive blue-grey silicification. 1% disseminated pyrite cubes, as well as very fine grained. 1% second generation pyritic quartz veins (1mm) which are strongly limonitic and moderately Jarositic.		Chip	1.5							B. Singh
R58520	Northern extension of R58519. Intense blue grey silicification strongly limonitic, moderately jarositic. 1% pyrite as at 58519. 1%, 1mm blue grey quartz veining.		Chip	1.50							B. Singh
R58521	Silicified granodiorite? strongly jarositic and limonitic. Some argillic alteration. Blue grey silicification.		Chip	1.50							B. Singh

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________

LAB REPORT # ____________

N.T.S. 92H/11

DATE Aug. 16/89

PROJECT COQUIHALLA (CLIFF CREEK)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R58521(con't)	Trace pyrite. 1% second genera-tion blue grey pyritic quartz veining. Located at 31+80E 22+55N.											
R58522	Northern extension of R58521. Less jarosite but more limonite moderate to strong silicifica-tion. Less than 1% py. 1% second generation quartz vein-ing.		Chip	1.50								B. Singh
R58523	Silicified granodiorite. Strong intense blue grey silicification, strong limonitic staining. 5% pyrite in masses and concentrated in veins. Trace arsenopyrite, trace pyrrhotite.	5	Chip	1.0								B. Singh
114564	Chip sample across 0.5m light green medium grained siliceous granodiorite. Local red brown weathering and manganese stain-ing. Siliceous zones form podi-forms within the granodiorite. The host granodiorite is slightly foliated and has 35% feldspar, 60% quartz and a	5	Chip	0.5								L. Anonby

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________

LAB REPORT # ____________

N.T.S. 92H/11

DATE Aug. 11/89

PROJECT COQUIHALLA (CLIFF CREEK)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
114564(con't)	trace of muscovite. 5% pyrite occurs as small disseminated cubes and within veinlets (Hair to 1.5mm) generally with no preferred orientation. Some of the veinlets are parallel to the foliation.											
114565	50cm wide shear zone. Light rust to yellow weathering surface. Completely silicified breccia, no visible sulfides. Abundant hairline clear quartz veins in all directions.		Chip	0.5								L. Erdman
114566	Similar to sample 114564. Red brown weathering along fractures and in podiform shapes. Fractures are oriented at 040°/ $80^{\circ}-90^{\circ}$. The pod shapes are finely brecciated with fragments from 2 to 4mm but the hosting granodiorite is unbrecciated. No visible mineral-ization. Sample includes mainly pod material, but also some of the wall rock.		Chip	0.7								L. Anonby

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________

LAB REPORT # ____________

N.T.S. 92H/11

DATE Aug. 11/89

PROJECT COQUIHALLA (CLIFF CREEK)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
114567	Chip across 0.5m. Pod of fine grained siliceous green rock. Bladed pyrite on fracture surfaces. Trace to rare amounts of disseminated pyrite, unevenly distributed throughout. Qtz occurs in veins, ~5%. Green siliceous zone is 15cm wide & grades into light green siliceous granodiorite (slightly foliated) with no visible sulphides. Rock then grades into a medium green granodiorite with 3 mm quartz veining.		Chip	0.5								L. Anonby
114568	Rusty zone, 0.75m width. Host rock is a granodiorite. In the centre the outcrop is highly silicified with 10% fine grain disseminated pyrite. On the margins the outcrop is not so silicified and phenocrysts of clay altered feldspar are visible. This part of the outcrop contains 10%-15% fine grain disseminated pyrite. The rusty zone appears to be at the	10-15	Chip	0.75								L. Erdman

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________ N.T.S. 92H/11

LAB REPORT # ____________ DATE Aug. 11/89

PROJECT COQUIHALLA (CLIFF CREEK)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
114568(con't)	margins of an unmineralized dyke.											
R114569	A 2cm wide shear zone with weakly silicified alteration envelopes. Center of shear has clay fault gouge. Host rock is a granodiorite with abundant hairline quartz veins. Shear zone and the alteration envelope have a light rusty weathering surface, whereas the host granodiorite is grey. Fractures host 1% silverish coloured pyrite as well as a chloritic coating.	1	Chip	0.5								L. Erdman
R114570	Brecciated granodiorite that has been almost completely silicified to quartz. Light green to dark grey colour rock. Breccia fragments are 0.4 cm to 5 cm. Orange red weathering surface. Sample taken along a shear zone. Gouge material is dark grey with small (<1 cm) clay and quartz fragments. 5% fine grain disseminated pyrite	5	Chip	1								L. Anonby

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # __________

LAB REPORT # __________

N.T.S. 92H/11

DATE Aug. 11/89

PROJECT COQUIHALLA (CLIFF CREEK)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R114570 con't	throughout the rock. Orientation of shear is $200^{\circ}/38^{\circ}$E.											
R47427 - R47430	Located at L131+30E 22+50N. 4 1m true width samples of gossanous mineralized quartz breccia in a shear zone oriented at $140^{\circ}/76^{\circ}$. Samples taken at 230° trend but not at the same elevation. Shear zone is very gossanous with sheared angular quartz pebbles and a matrix of quartz/hematite/jarosite. All samples mineralized with trace pyrite/pyrrhotite.	Tr	Chip	1m true								D. Sharpe
R47431	Located at 33+80E/23+25N. Sample is of mineralized sericitized avalanche breccia with rounded to subangular Eagle granodiorite pebbles to boulders, approximately 55% clasts; and approximately 45% clayey matrix. Mineralized with trace to 1% finely disseminated sulfides, probable (silver coloured) pyrite.	Tr-1	Chip	0.5								D. Sharpe

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________ N.T.S. 92H/11

LAB REPORT # ____________ DATE Aug. 10/89

PROJECT COQUIHALLA

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
114558	Altered granodiorite containing 5% muscovite. Granodiorite is silicified and contains 2% milky quartz veins to 1 cm. The granodiorite appears to be comprised of granodiorite fragments (subrounded, up to 5 cm) in a granodiorite matrix. Local rusty weathering surface, but no visible sulfides.		Chip	3								L. Erdman L. Anonby
114559	Very fine grained siliceous light green rock. Local rusty weathering. Hair size quartz veins in a stockwork. Thicker quartz veining (3mm) cuts across the fine stockwork veining. These thicker veins are subparallel trending 260° with a vertical dip. Locally outcrop contains clasts of the same lithology (1-3") trace amounts of fine disseminated py.	Tr	Chip	2								L. Erdman L. Anonby

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________ N.T.S. 92H/11

LAB REPORT # ____________ DATE Aug. 10/89

PROJECT COQUIHALLA

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
114560	Crumbly outcrop of altered granodiorite. Has been silicified. Abundant, thin (<8mm) milky white quartz veins in many orientations. Granodiorite looks like a breccia. Trace amount of disseminated pyrite hosted by the granodiorite, pyrite is not in the quartz veins.	Tr	Chip	1.5								L. Erdman L. Anonby
114561 to 114563	Each sample is a 2.5m chip. Sampled across parts of the outcrop which have a rusty weathering surface. Trace of disseminated pyrite. Host rock is a quartz fragment breccia cemented by quartz, similar to outcrops sampled from 114501 to 114557.	Tr	Chip	2.5								L. Erdman L. Anonby
114571	Chip across width of slightly rusty, quartz rich, granodiorite breccia. No visible sulfides. Quartz appears to be pieces of broken-up vein material, in all directions.		Chip	0.3								L. Erdman L. Anonby

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________ N.T.S. 92H/11

LAB REPORT # ____________ DATE Aug. 11/89

PROJECT COQUIHALLA

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
114571(con't)	Granodiorite fragments are silicified.											
114572	Unmineralized o/c. May be a fault breccia. Small quartz fragments (a few mm to 1.5 cm), tightly packed, angular to rounded, brown coloured cement. Cement material may be Fe-carbonate. Locally there are crystals of muscovite, suggesting an altered granodiorite.		Chip	1								L. Erdman L. Anonby
114573 114574	These two samples are separated by 0.25 m of soil, but are part of the same outcrop. A breccia comprised of granodiorite as well as quartz fragments. No visible sulfides. Fragment size from 2mm to 5cm, granodiorite frags are largest. 15% quartz fragments. Total fragment density is 70%. Granodiorite fragments are more rounded than the quartz fragments. Outcrop may be veined by quartz but exposure so poor cannot tell for sure.		Chip Chip	1.2 0.8								L. Erdman L. Anonby

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________ N.T.S. 92H/11

LAB REPORT # ____________ DATE Aug. 11/89

PROJECT COQUIHALLA

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
114575	Sheared, altered granodiorite. Variably silicified. 1% quartz fragments, no obvious quartz veins. Rusty weathering surface but no visible sulfides. Light green, fresh surface. Chip is parallel to shear direction (273°/64°N). Outcrop appears to be a granodiorite breccia.		Chip	1								L. Erdman L. Anonby
R47454	Gossanous granodiorite breccia. Silicified. Includes a small fault or zone of clay alteration trending 060° and dipping 20°NW. No visible sulfides.		Grab									BKN
R47455	Gossanous, sheared altered granodiorite. Locally silicified, possibly brecciated. No visible sulfides.		Grab									BKN
R47456	Iron stained, very siliceous (silicified) granodiorite breccia. No visible sulfides. Looks altered. In a small anticline (radius 1.5m) 150°/38°N.		Grab									BKN

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________

LAB REPORT # ____________

N.T.S. 92H/11

DATE Aug. 21/89

PROJECT COQUIHALLA

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R47457	Extremely silicified granodiorite breccia, or possibly the quartz breccia. Fragments range from 2cm to 4cm in size. Fragments are milky quartz, locally with a sugary appearance. Fragments may contain some later quartz veining. Local clay alteration of the matrix.		Chip	2								BKN
R47458	Suboutcrop of gossanous rock. Similar to 47457 but greater argillic alteration.		Grab									BKN
R47459	Small zone of silicification in a creek bed. Hosted by iron stained granodiorite containing large muscovite flakes. No visible sulfides.		Chip	1								BKN

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________ N.T.S. 92H/11

LAB REPORT # ____________ DATE ____________

PROJECT COQUIHALLA (NORTH OF COQUIHALLA MOUNTAIN)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R47460	North slope of Coquihalla Mountain. Chloritized intrusive probably a diorite. Minor pyrite in fractured zone.	1	Chip	1								BKN
R58303	Weathered surface - Buff to light brown, Fresh surface - dark grey green Horneblend 5-10%, plagioclase 20%, quartz -5%. Heavily silicified, small <1mm veinlets filled with hematite. Local hematite staining on fresh surface. Occasional epidote clots. Sample may be outer portion of diorite stock. No specific structure - thus grab sample out of massive outcrop.		Grab	-								Pearson
R58304	Pyroclast tuff/flow, rhyolite flow. Tuff: Weathered surface - matrix greenish grey. Fresh Surface: Greenish grey. Lithic fragments including diorite, granodiorite, feldspars, quartz. Occasional flow characteristics, interbedded with rhyolite flow.		Chip	0.5 Vertical								Pearson

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ____________

LAB REPORT # ____________

N.T.S. 92H/11

DATE Aug. 24/89

PROJECT COQUIHALLA (NORTH OF COQUIHALLA MOUNTAIN)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R58304(con't)	Rhyolite flow: Weathered surface - green/dark grey to buff/light grey. Fresh Surface - dark grey green Flow banding displayed. Very siliceous. Occasional rusted pyrite cubes (<1mm wide).											
R58305	Gossan: Intensely rusted, rock type uncertain (grano-diorite?/rhyolite?). Minor silicification, well mineralized with 3% finely disseminated pyrite, and pervasive argillic alteration. Heavily fractured.	3	Chip	1.5 across strike								Pearson
R58306 to R58308	Location: 200m downstream from head of Dome Creek. Gossan: Within volcanic and/ or intrusive. Localized sulphide mineralization of pyrite, finely disseminated. Weathered surface: Hematitic/ limonitic silicification with intense argillic alteration.	2-3	Chip	all 2m								Pearson

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # 116

LAB REPORT #

N.T.S. 92H/11

DATE Aug. 30/89

PROJECT COQUIHALLA (LB HORN GRID)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R58278	LB Horn Grid - 64+15N 49+95E; Porphyritic xenolithic andesite Quartz rich, feldspar phenocrysts. Xenoliths composed of granodiorite and unidentified volcanic.	-	Chip	1.5								B. Singh
R58279	LB Horn Grid - 60+96N 50+00E; Same as R58278 but less quartz and feldspar. Moderate Mn stain, trace epidote.	-	Chip	1.5								B. Singh
R47432	At 49+95E 67+95N L.B. Horn Grid 1.0m horizontal chip of vuggy rhyolite with 10% quartz eyes, well developed muscovite crystals, and xenoliths of Eagle granodiorite and unidentified volcanics. Questionable trace pyrite in sample.	Tr	Chip	1.0								D. Sharpe
R47433	At 49+80E 66+10N L.B. Horn Grid 1.0m horizontal chip of vuggy, manganese stained rhyolite.	-	Chip	1.0								D. Sharpe

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # ______________

LAB REPORT # ______________

N.T.S. 92H/11

DATE Aug 20/89

PROJECT COQUIHALLA (YESI812 CREEK)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)								SAMPLED BY
R58301	Granodiorite. Argillic/ siliceous alteration. Local pyrite mineralization up to 10%. Sample includes shear zone and wall rock.	10	Chip	1.5								Pearson
R58302	Weathered surface - buff/rust, fresh surface medium grey. Appears to contain sericitic alteration with minor argillic and siliceous content. Trace sulphides. Minor veining approximately 1 mm wide contain hematite filling. Spots of manganese oxide present. Chip across structural trend of 020°.	Tr	Chip	1.5								Pearson

From ACME A CAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(60 1716 @ REGULAR FORMAT
To Noranda Ex .oration Co. Ltd. PROJECT 8909-014, 8908-070 116
Acme file # 89-3345, # 89-3027 Filename: T15.WK1

ELEMENT	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au*
SAMPLES	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	%	PPM	PPM	%	PPM	%	PPM	%	%	%	PPM	PPB
11640	1	67	8	124	0.1	11	15	1064	4.90	2	5	1	1	16	1	2	2	53	0.50	0.043	5	13	0.21	206	0.01	3	0.54	0.02	0.15	1	6
11641	1	6	3	49	0.2	3	7	761	2.80	3	5	1	1	8	1	2	2	15	0.17	0.055	8	1	0.07	284	0.01	6	0.30	0.03	0.10	1	11
11642	1	3	5	78	0.1	12	10	1685	4.82	2	5	1	1	10	1	2	2	32	0.19	0.073	11	12	0.04	392	0.02	3	0.37	0.03	0.10	1	3
11643	1	5	4	52	0.2	4	7	1056	3.73	2	5	1	1	8	1	2	2	24	0.14	0.057	12	1	0.02	288	0.01	4	0.33	0.03	0.10	1	46
11644	1	30	6	43	0.1	3	6	528	1.85	2	5	1	1	46	1	2	2	12	2.55	0.027	3	7	0.49	244	0.01	6	0.27	0.02	0.15	1	2
11645	1	31	10	43	0.2	4	8	552	2.33	4	5	1	1	46	1	2	2	25	1.77	0.029	4	8	0.39	176	0.01	7	0.38	0.02	0.15	3	3
23326	1	29	16	120	0.2	73	15	1099	3.36	3	5	1	2	72	1	2	2	30	1.93	0.162	22	65	0.52	895	0.01	6	0.60	0.02	0.10	1	6
23327	1	6	4	42	0.1	9	5	652	1.94	2	5	1	1	31	1	2	2	17	0.95	0.034	5	11	0.34	498	0.01	15	0.34	0.02	0.09	1	4
23328	1	7	2	47	0.2	5	9	879	3.18	3	5	1	1	13	1	2	2	9	0.53	0.058	3	3	0.22	50	0.01	3	0.33	0.02	0.13	1	9
23329	4	11	27	21	0.6	7	1	211	0.41	3	5	1	1	3	1	2	2	1	0.03	0.006	2	5	0.01	60	0.01	5	0.22	0.02	0.09	2	3
23330	6	6	74	72	0.4	4	1	457	1.79	8	5	1	9	9	1	2	3	13	0.02	0.023	22	7	0.26	43	0.04	8	0.91	0.04	0.12	1	2
23331	5	9	74	46	0.8	3	2	593	2.39	34	5	1	8	2	1	2	2	9	0.01	0.024	18	5	0.22	29	0.02	6	0.81	0.01	0.17	1	1
23332	1	23	17	68	0.2	5	9	803	4.52	7	5	1	4	33	1	2	2	90	0.65	0.103	12	14	0.9	36	0.17	9	1.46	0.09	0.12	2	1
23333	5	48	434	261	6.9	7	6	1290	6.37	222	5	1	4	14	1	2	6	63	0.20	0.078	15	16	0.94	81	0.05	7	2.29	0.03	0.33	1	15
23334	3	5	18	44	0.8	3	2	421	2.07	18	5	1	5	3	1	2	2	4	0.06	0.025	20	2	0.02	43	0.01	12	0.39	0.01	0.21	1	12
23335	11	18	24	103	0.6	6	6	1133	4.19	15	5	1	4	10	1	2	2	55	0.18	0.062	14	11	0.59	113	0.07	9	1.28	0.04	0.19	1	11
23932	3	12	8	83	0.1	6	3	661	2.91	6	5	1	3	22	1	2	2	31	0.31	0.069	9	11	0.82	168	0.11	5	1.65	0.04	0.12	1	2
23933	1	16	11	89	0.2	7	7	755	4.92	7	5	1	1	50	1	2	2	107	0.57	0.099	7	19	1.7	42	0.22	5	2.37	0.08	0.04	1	3
23934	2	16	31	87	0.2	4	6	874	3.78	7	5	1	3	38	1	2	2	52	0.35	0.062	11	14	1.26	123	0.11	6	2.32	0.06	0.21	1	4
23935	4	6	98	115	0.3	5	3	673	3.40	9	5	1	4	5	1	2	2	9	0.07	0.065	8	9	0.76	89	0.01	10	1.31	0.02	0.18	1	1
23936	6	7	7	32	0.2	3	1	244	3.30	8	5	1	4	13	1	2	2	19	0.08	0.050	6	8	0.34	55	0.19	2	1.06	0.04	0.15	2	1
23937	2	8	51	130	0.3	6	5	1014	3.84	8	5	1	3	19	1	2	2	43	0.30	0.093	8	13	1.3	105	0.09	7	2.09	0.03	0.09	1	1
47426	2	9	2	15	0.1	4	1	311	0.41	2	5	1	5	68	1	2	2	1	1.06	0.007	6	4	0.01	44	0.01	4	0.35	0.03	0.20	1	1
47427	2	10	6	15	0.2	5	3	203	1.37	8	5	1	1	11	1	2	2	2	0.07	0.028	3	4	0.05	58	0.01	9	0.36	0.01	0.09	1	28
47428	2	5	2	10	0.4	6	1	64	0.79	13	5	1	2	8	1	2	2	1	0.05	0.014	3	4	0.01	47	0.01	14	0.29	0.01	0.09	1	68
47429	1	4	5	10	0.1	3	1	228	1.16	29	5	1	2	11	1	2	2	1	0.03	0.027	8	2	0.03	48	0.01	20	0.44	0.02	0.07	1	12
47430	1	4	7	27	0.1	4	3	1057	1.70	14	5	1	1	32	1	2	2	3	0.68	0.085	6	6	0.25	266	0.01	12	0.80	0.02	0.12	1	6
47431	1	30	11	29	0.2	4	4	554	0.89	24	5	1	1	93	1	2	3	6	1.26	0.023	9	4	0.15	319	0.01	4	0.55	0.02	0.12	2	4
47432	1	1	8	16	0.1	2	1	297	0.54	3	5	1	5	10	1	2	2	3	0.04	0.004	8	3	0.04	121	0.02	2	0.70	0.07	0.19	1	1
47433	2	3	15	32	0.1	4	1	348	0.71	2	5	1	3	9	1	2	2	4	0.06	0.008	13	4	0.06	59	0.02	2	0.64	0.05	0.18	2	1
47434	1	2	3	13	0.1	13	1	175	0.39	2	5	1	1	45	1	2	3	1	0.63	0.015	6	20	0.1	552	0.01	3	0.20	0.03	0.07	1	1
47450	1	33	13	65	0.2	12	9	402	2.08	2	5	1	1	104	1	2	2	18	2.07	0.071	15	15	0.16	533	0.01	2	0.60	0.02	0.15	1	7
47454	2	73	8	38	0.2	11	3	291	1.04	8	5	1	1	7	1	5	2	5	0.06	0.023	4	4	0.01	239	0.01	9	0.24	0.02	0.07	1	5
47455	2	85	3	61	0.3	12	6	345	3.48	15	5	1	1	3	1	3	2	20	0.09	0.053	3	9	0.04	117	0.01	11	0.52	0.02	0.10	1	10
47456	2	3	2	9	0.1	5	1	115	0.53	2	5	1	1	4	1	2	3	1	0.01	0.004	4	5	0.01	144	0.01	3	0.15	0.03	0.05	1	4
47457	2	7	5	5	0.1	5	1	97	0.33	2	5	1	1	4	1	2	2	1	0.01	0.003	3	5	0.01	234	0.01	3	0.13	0.03	0.04	2	4
47458	5	6	6	7	0.1	5	1	56	0.86	5	5	1	1	2	1	2	2	2	0.01	0.006	6	5	0.01	59	0.01	2	0.22	0.03	0.04	2	1
47459	1	4	22	20	0.1	3	1	347	0.51	2	5	1	1	14	1	2	2	1	0.35	0.019	4	3	0.01	153	0.01	3	0.22	0.02	0.10	1	3
47460	1	118	79	281	0.8	5	9	938	3.96	2	5	1	1	18	1	3	2	33	1.00	0.089	23	13	1.34	192	0.01	2	1.68	0.03	0.14	1	1
47461	3	5	107	77	0.3	6	3	764	2.51	10	5	1	2	10	1	2	2	23	0.22	0.047	10	11	0.69	33	0.11	4	1.02	0.03	0.10	1	1
47462	3	11	13	67	0.3	6	3	445	1.69	4	5	1	2	11	1	2	2	17	0.25	0.041	6	11	0.55	33	0.08	2	0.98	0.03	0.11	1	2
47463	1	11	11	73	0.1	6	10	571	3.07	2	5	1	1	41	1	3	2	44	0.80	0.074	7	11	1.23	36	0.11	3	1.94	0.06	0.12	1	13
47464	38	14	5	73	0.1	7	6	511	1.92	2	5	1	3	17	1	2	2	29	0.39	0.039	7	25	0.99	22	0.09	3	1.34	0.03	0.07	1	1
47465	4	4	11	42	0.3	4	1	304	1.52	9	5	1	3	8	1	2	2	14	0.18	0.032	9	8	0.43	32	0.09	2	0.72	0.03	0.10	2	1
47466	160	5	148	109	0.4	4	1	725	1.69	5	5	1	3	8	1	2	2	11	0.17	0.034	9	10	0.67	23	0.08	2	1.00	0.02	0.11	1	1
47467	8	5	20	66	0.1	4	2	587	2.26	18	5	1	2	10	1	2	3	26	0.23	0.041	8	14	0.95	26	0.12	3	1.25	0.03	0.10	1	1
47468	6	11	35	88	2.5	4	5	774	3.77	18	5	1	1	58	1	2	2	45	0.24	0.090	11	19	0.96	83	0.02	3	1.73	0.04	0.10	1	6
47476	1	7	6	84	0.1	5	6	1776	2.28	6	5	1	1	6	1	2	3	12	0.02	0.013	6	6	0.34	62	0.01	6	1.08	0.02	0.07	1	6
47503	10	3	4	31	0.1	6	3	261	1.24	2	5	1	1	36	1	2	2	14	0.43	0.026	4	8	0.25	222	0.01	2	0.66	0.03	0.07	2	4
58276	1	4	6	26	0.1	3	4	812	1.64	13	5	1	1	9	1	2	3	4	0.07	0.016	7	13	0.02	70	0.01	4	0.44	0.02	0.08	1	1
58277	4	4	2	3	0.1	10	1	76	0.33	2	5	1	1	3	1	2	2	1	0.01	0.001	2	8	0.02	158	0.01	3	0.05	0.01	0.01	2	2
58278	3	2	6	11	0.1	2	1	138	0.29	2	5	1	6	20	1	2	2	2	0.23	0.005	13	6	0.05	109	0.01	3	0.65	0.49	0.26	2	1

ELEMENT SAMPLES	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
58279	1	1	7	9	0.1	2	1	379	0.31	2	5	1	5	13	1	2	2	2	0.18	0.004	11	2	0.05	124	0.01	5	0.57	0.64	0.35	1	1
58280	3	10	3	50	0.1	5	3	228	1.25	4	5	1	1	8	1	2	2	11	0.12	0.039	8	6	0.19	287	0.01	3	0.65	0.02	0.11	2	1
58301	1	77	9	118	0.1	30	13	2077	4.62	2	5	1	1	183	1	2	2	69	3.53	0.109	8	40	1.07	198	0.01	11	1.92	0.03	0.07	1	3
58302	2	4	2	31	0.1	2	1	408	0.82	2	5	1	1	60	1	2	3	1	1.67	0.025	5	17	0.13	78	0.01	4	0.49	0.03	0.07	1	1
58303	1	13	9	91	0.1	6	8	601	3.41	5	5	1	3	31	1	2	2	64	0.89	0.085	11	13	1.05	80	0.15	21	1.49	0.06	0.04	2	1
58304	4	16	16	76	0.1	11	5	867	2.25	2	5	1	5	8	1	2	3	23	0.13	0.037	18	15	0.52	75	0.03	5	0.91	0.04	0.08	1	1
58305	6	10	12	53	0.1	5	3	571	1.83	7	5	1	3	5	1	2	2	9	0.15	0.038	5	9	0.42	112	0.06	6	0.92	0.01	0.13	1	1
58306	6	8	9	11	0.1	3	3	54	2.05	17	5	1	2	3	1	2	2	3	0.02	0.014	10	8	0.04	94	0.01	2	0.41	0.01	0.17	1	1
58307	6	7	10	9	0.1	7	3	46	1.95	20	5	1	1	2	1	2	2	2	0.02	0.011	7	4	0.03	64	0.01	2	0.32	0.01	0.14	1	1
58308	4	12	22	40	0.1	5	5	272	2.09	13	5	1	1	3	1	2	2	9	0.10	0.030	3	5	0.2	46	0.03	5	0.52	0.01	0.13	2	1
58309	4	2	9	21	0.1	2	1	126	0.73	2	5	1	2	4	1	2	2	2	0.07	0.011	8	2	0.07	45	0.05	2	0.55	0.02	0.12	1	1
58310	3	4	6	37	0.1	3	2	422	2.50	3	5	1	1	13	1	2	2	15	0.23	0.066	8	13	0.39	58	0.11	4	0.81	0.02	0.12	2	3
58311	4	5	14	31	0.1	4	2	324	1.95	3	5	1	2	8	1	2	2	8	0.17	0.037	9	5	0.27	58	0.10	3	0.79	0.02	0.12	3	1
58312	4	6	19	34	0.1	4	2	195	1.50	6	5	1	3	6	1	2	2	9	0.16	0.030	6	6	0.18	38	0.10	2	0.59	0.02	0.12	3	1
58313	1	41	5	60	0.1	16	12	358	3.77	13	5	1	1	121	1	2	2	99	1.35	0.082	11	23	1.41	40	0.15	2	2.84	0.17	0.05	1	1
58314	3	17	19	71	0.1	8	6	515	2.43	11	5	1	3	58	1	2	2	55	0.78	0.048	8	28	1.03	37	0.13	3	1.78	0.1	0.09	1	1
58315	3	5	13	53	0.1	5	3	579	1.95	10	5	1	4	23	1	2	2	26	0.26	0.034	9	14	0.77	28	0.08	2	1.09	0.04	0.07	1	1
58316	2	18	17	136	0.1	12	8	705	2.48	4	5	1	2	39	1	2	2	51	0.63	0.049	8	24	1.39	24	0.11	3	1.83	0.06	0.05	1	1
58317	3	10	28	73	0.4	3	4	504	3.24	20	5	1	1	24	1	2	2	29	0.19	0.085	10	9	0.61	80	0.02	2	1.38	0.03	0.10	1	3
58518	3	2	6	19	0.1	4	1	434	1.00	8	5	1	2	19	1	2	2	1	0.03	0.021	6	4	0.03	374	0.01	14	0.48	0.03	0.05	1	2
58519	4	5	2	2	1.4	6	1	16	0.50	4	5	1	1	13	1	2	2	1	0.06	0.006	3	5	0.01	177	0.01	10	0.22	0.01	0.07	1	35
58520	5	10	4	4	1.5	5	1	28	0.82	8	5	1	1	14	1	2	2	1	0.08	0.018	2	3	0.01	108	0.01	9	0.30	0.01	0.07	1	77
58521	2	3	10	8	0.1	5	1	58	0.49	2	5	1	2	8	1	2	2	1	0.04	0.025	4	4	0.01	40	0.01	6	0.32	0.03	0.10	1	6
58522	3	15	6	7	0.1	4	1	54	0.89	5	5	1	1	7	1	2	2	1	0.03	0.015	2	3	0.01	52	0.01	4	0.33	0.03	0.10	1	2
58523	6	26	24	25	2.8	14	13	949	3.90	62	5	2	1	22	1	6	2	7	0.40	0.024	3	6	0.08	35	0.01	11	0.35	0.02	0.12	1	1350
114552	2	4	8	8	0.6	5	1	64	0.42	2	5	1	1	2	1	2	2	1	0.01	0.003	2	47	0.01	50	0.01	5	0.10	0.01	0.06	1	45
114553	4	4	30	15	1.1	8	1	53	0.69	7	5	1	1	3	1	2	3	2	0.01	0.004	2	5	0.01	98	0.01	4	0.11	0.01	0.07	1	38
114554	2	17	14	9	0.3	6	1	104	0.36	3	5	1	1	2	1	2	3	1	0.01	0.003	2	39	0.01	47	0.01	2	0.05	0.01	0.03	1	27
114555	3	16	29	26	0.2	9	3	332	0.40	5	5	1	1	3	1	2	2	1	0.01	0.003	2	8	0.01	65	0.01	2	0.06	0.01	0.03	1	6
114556	3	34	31	33	0.4	5	2	310	0.45	4	5	1	1	2	1	2	3	1	0.01	0.003	2	39	0.01	88	0.01	5	0.10	0.01	0.06	1	4
114557	3	7	16	15	0.4	9	1	171	0.41	2	5	1	1	1	1	2	2	1	0.01	0.004	2	7	0.01	44	0.01	5	0.07	0.01	0.02	1	5
114558	8	8	2	4	0.1	3	1	72	0.63	3	5	1	1	7	1	2	2	1	0.01	0.003	5	26	0.01	441	0.01	5	0.22	0.02	0.07	1	1
114559	1	4	2	6	0.1	5	1	50	0.38	3	5	1	4	1	1	2	2	1	0.01	0.002	3	5	0.01	33	0.01	2	0.29	0.03	0.12	1	1
114560	1	11	2	13	0.1	3	1	222	0.58	2	5	1	1	4	1	2	2	2	0.01	0.005	3	27	0.01	136	0.01	5	0.18	0.03	0.03	1	1
114561	3	20	9	22	0.3	7	1	52	0.55	11	5	1	1	6	1	2	2	1	0.02	0.007	2	7	0.01	683	0.01	4	0.14	0.01	0.02	1	1
114562	1	4	2	5	0.1	3	1	143	0.34	5	5	1	2	1	1	2	2	1	0.01	0.003	2	21	0.01	42	0.01	4	0.30	0.02	0.08	1	1
114563	4	29	17	5	0.6	8	1	184	0.47	14	5	1	1	1	1	15	11	1	0.01	0.003	2	8	0.01	49	0.01	2	0.08	0.01	0.02	1	1
114564	1	6	11	10	0.3	7	9	1641	3.59	22	5	1	1	6	1	7	2	8	0.18	0.043	5	16	0.01	26	0.01	4	0.32	0.01	0.17	1	16
114565	2	7	12	5	0.2	5	1	195	0.49	9	5	1	1	7	1	2	2	2	0.04	0.014	6	4	0.01	153	0.01	6	0.26	0.01	0.13	1	6
114566	1	6	9	47	0.1	8	6	1261	1.80	4	5	1	1	6	1	2	2	10	0.06	0.031	7	28	0.29	318	0.01	4	0.91	0.01	0.15	1	6
114567	1	14	11	37	0.3	5	5	450	2.91	8	5	1	1	7	1	2	2	26	0.07	0.035	3	4	0.09	104	0.01	9	0.71	0.01	0.14	1	12
114568	1	9	28	4	0.1	3	4	52	1.88	8	5	1	1	10	1	2	2	3	0.03	0.017	4	10	0.01	75	0.01	10	0.42	0.02	0.10	1	7
114569	1	3	4	17	0.1	7	3	345	1.16	6	5	1	1	5	1	2	3	3	0.06	0.024	3	4	0.05	154	0.01	3	0.40	0.01	0.12	1	1
114570	1	16	11	33	0.5	22	12	211	3.24	22	5	1	1	7	1	2	2	5	0.13	0.036	2	21	0.05	30	0.01	5	0.51	0.01	0.13	1	15
114571	5	4	2	11	0.1	6	1	243	0.44	2	7	1	1	3	1	2	2	1	0.03	0.007	2	5	0.01	29	0.01	3	0.19	0.02	0.07	1	1
114572	1	9	10	26	0.1	7	3	949	1.02	2	7	1	1	10	1	2	2	4	0.41	0.006	2	26	0.07	199	0.01	2	0.19	0.03	0.05	1	1
114573	2	12	7	18	0.1	7	1	193	0.36	4	5	1	1	7	1	2	2	1	0.04	0.014	4	5	0.01	214	0.01	6	0.30	0.02	0.08	1	1
114574	1	6	6	9	0.1	4	1	73	0.24	3	5	1	1	8	1	2	2	1	0.03	0.011	3	29	0.01	282	0.01	2	0.30	0.02	0.08	1	1
114575	2	3	5	2	0.1	5	1	48	0.35	2	5	1	1	4	1	2	2	1	0.01	0.007	9	4	0.01	118	0.01	4	0.27	0.02	0.12	1	1

APPENDIX 4

STREAM GEOCHEMISTRY

christa.le

NORANDA VANCOUVER LABORATORY

PROPERTY/LOCATION:COQUIHALLA　　　CODE :8909-014

Project No. :116　　Sheet:1 of 1　　Date rec'd:AUG.30
Material :5 PANS　　Geol.:D.S.　　Date compl:SEP.18
Remarks :

Values in PPM, except where noted.

T.T. No.	SAMPLE No.	Wt. g.	PPB Au	Cu	Zn	Pb	Ag
20	11646	16.1	5	18	44	6	0.2
21	11647	21.2	5	16	50	4	0.1
22	47451	6.3	5	8	18	2	0.2
23	47452	25.0	450	24	48	18	1.2
24	47501	20.9	10	8	10	1	0.1

N.B. Pan-con: entire sample used for Au determination.
*Cu, Zn, Pb, Ag values obtained from Aqua Regia sol'n.

PAN SAMPLES

Noranda Exploration Co. Ltd. PROJECT 8909-014 116 FILE # 89-3345 Page 2

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
S-47453	1	17	20	58	.4	4	7	980	1.94	10	5	ND	2	15	1	2	2	13	.23	.042	10	4	.26	180	.01	8	.81	.01	.06	1	1
S-47502	1	1	3	7	.1	1	1	68	.26	2	5	ND	1	9	1	2	2	5	.11	.024	2	1	.07	60	.02	3	.29	.01	.01	1	1

SILT SAMPLES

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
58524	1	12	15	63	.1	4	5	554	1.69	3	5	ND	2	12	1	2	2	21	.16	.033	5	4	.08	180	.01	7	.54	.01	.09	1	1

MOSS MAT SAMPLE

APPENDIX 5

SOILS - ANALYTICAL RESULTS

christa.le

MAIN GRID SURVEY

christa.le

NORANDA EXPLORATION CO. LTD. PROJECT 8908-070 116 FILE # 89-3027

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	AU* PPB
L30+00E 31+00N	1	17	42	236	.3	6	6	14228	.91	2	5	ND	1	177	1	2	2	12	1.96	.191	7	5	.11	1501	.01	11	.62	.01	.12	1	3
L30+00E 30+75N	1	17	45	94	.2	7	8	4384	2.45	3	5	ND	1	14	1	2	2	33	.11	.120	10	8	.14	199	.02	7	1.70	.01	.06	1	3
L30+00E 30+50N	1	15	27	82	.2	7	5	727	3.05	5	5	ND	1	9	1	2	2	46	.08	.071	12	12	.24	83	.03	4	3.24	.01	.05	1	9
L30+00E 30+25N	1	16	36	85	.2	6	5	1166	3.07	3	5	ND	1	14	1	2	2	46	.13	.087	10	10	.24	91	.02	2	1.96	.01	.08	1	3
L30+00E 30+00N	1	9	27	77	.1	5	4	654	3.23	2	5	ND	1	11	1	2	2	40	.11	.075	12	8	.22	77	.02	2	2.31	.01	.06	1	2
L30+00E 29+25N	1	32	38	105	.2	17	19	2160	3.75	12	5	ND	1	29	1	2	2	39	.36	.104	7	18	.45	130	.07	3	2.38	.01	.12	1	6
L30+00E 28+75N	1	33	77	139	.3	15	15	1448	4.32	15	5	ND	1	12	1	2	2	43	.12	.106	15	20	.43	129	.02	2	2.98	.01	.09	1	1
L30+00E 28+50N	1	21	57	124	.1	9	9	2771	3.21	10	5	ND	1	14	1	2	2	39	.17	.103	17	12	.27	115	.03	3	2.31	.01	.07	2	1
L30+00E 28+25N	1	24	33	91	.2	8	8	893	4.10	11	5	ND	1	13	1	2	2	48	.13	.089	14	14	.30	81	.04	2	2.33	.01	.08	1	1
L30+00E 28+00N	1	24	24	71	.3	7	6	413	3.67	5	5	ND	1	14	1	2	2	50	.14	.069	10	14	.30	78	.03	2	2.44	.01	.08	1	4
L30+00E 27+75N	1	12	35	79	.1	5	4	1084	2.29	4	5	ND	1	8	1	2	2	40	.09	.073	11	11	.12	65	.02	2	1.78	.01	.08	1	1
L30+00E 27+50N	1	21	22	80	.2	8	6	579	3.51	5	5	ND	1	12	1	2	2	47	.16	.055	10	14	.28	69	.04	2	2.69	.01	.06	2	3
L30+00E 27+25N	1	17	21	65	.3	7	5	358	4.14	8	5	ND	1	8	1	2	2	50	.06	.060	9	14	.20	55	.03	2	3.05	.01	.04	1	3
L30+00E 27+00N	1	11	25	65	.3	5	4	237	3.84	6	5	ND	1	8	1	2	2	47	.07	.053	12	12	.17	53	.03	2	2.68	.01	.05	1	1
L30+00E 26+50N	1	10	15	41	.1	3	3	979	1.57	2	5	ND	1	11	1	2	2	34	.08	.040	12	6	.05	69	.01	4	.98	.01	.11	1	1
L30+00E 26+25N	1	14	22	79	.2	8	8	6623	2.68	2	5	ND	1	11	1	2	2	33	.10	.120	7	12	.12	193	.01	2	1.72	.01	.10	1	3
L30+00E 26+00N	1	16	26	86	.1	8	5	408	3.36	3	5	ND	1	6	1	2	2	34	.06	.081	8	11	.24	88	.01	2	2.71	.01	.08	1	1
L30+00E 25+75N	1	12	19	63	.1	6	5	274	3.80	5	5	ND	1	7	1	2	2	46	.10	.066	5	11	.22	82	.02	2	2.68	.01	.07	3	1
L30+00E 25+50N	1	14	17	70	.1	7	5	623	3.80	7	5	ND	1	5	1	2	2	43	.05	.062	5	11	.22	88	.02	2	3.32	.01	.07	1	1
L30+00E 25+25N	1	12	22	72	.3	5	5	2230	2.53	6	5	ND	1	16	1	3	2	29	.28	.122	12	8	.20	203	.01	4	2.38	.01	.09	1	1
L30+00E 25+00N	2	11	22	52	.3	5	5	692	2.89	4	5	ND	1	15	1	2	2	39	.20	.059	8	8	.16	103	.02	4	1.84	.01	.07	1	3
L31+00E 31+00N	1	30	214	91	.5	8	7	1348	1.99	2	5	ND	1	13	1	2	2	27	.10	.140	9	7	.10	73	.03	7	3.08	.01	.04	2	2
L31+00E 30+75N	1	20	40	48	.2	5	6	951	2.51	2	5	ND	1	10	1	2	2	33	.07	.109	10	7	.08	64	.02	2	2.03	.01	.04	1	3
L31+00E 30+50N	1	10	42	78	.2	6	5	1129	3.42	2	5	ND	1	6	1	2	3	35	.04	.096	13	9	.15	84	.02	2	2.43	.01	.05	1	1
L31+00E 30+25N	1	12	40	100	.1	6	7	2667	3.08	2	5	ND	1	8	1	2	2	42	.06	.103	13	10	.26	106	.03	2	2.47	.01	.06	1	3
L31+00E 30+00N	1	20	55	122	.1	8	8	1974	3.03	4	5	ND	1	10	1	2	2	41	.09	.117	15	12	.38	96	.03	2	2.41	.01	.08	1	1
L31+00E 29+75N	2	19	57	128	.2	9	12	2179	3.07	10	5	ND	1	9	1	2	3	37	.09	.101	18	11	.31	146	.03	2	2.68	.01	.07	1	3
L31+00E 29+25N	1	39	36	129	.1	23	22	1514	4.10	22	5	ND	1	14	1	2	2	30	.20	.105	13	19	.76	89	.05	3	2.67	.01	.09	2	2
L31+00E 29+00N	1	28	40	133	.2	19	20	2138	4.51	15	5	ND	1	27	1	2	2	34	.29	.145	9	18	.63	178	.03	4	2.67	.01	.10	1	2
L31+00E 28+75N	1	25	27	92	.2	14	11	1553	5.19	7	5	ND	1	18	1	2	2	42	.16	.165	7	19	.37	93	.02	2	2.56	.01	.08	1	1
L31+00E 28+50N	1	24	26	72	.1	10	9	1166	5.43	9	5	ND	1	8	1	2	2	43	.05	.128	8	15	.26	64	.02	2	2.13	.01	.07	1	1
L31+00E 28+25N	1	24	26	102	.2	13	14	2151	4.79	10	5	ND	1	9	1	2	2	35	.07	.141	9	16	.39	90	.02	2	3.12	.01	.07	1	1
L31+00E 28+00N	1	18	38	103	.3	10	8	1481	3.49	10	5	ND	1	8	1	2	2	37	.08	.111	10	13	.30	80	.03	2	3.16	.01	.06	1	2
L31+00E 27+75N	1	10	18	53	.2	5	4	406	2.93	4	5	ND	1	7	1	2	2	38	.04	.066	10	9	.11	71	.02	2	1.82	.01	.06	1	2
L31+00E 27+50N	1	11	23	60	.4	5	3	219	3.74	4	5	ND	1	9	1	2	2	43	.06	.052	10	11	.16	98	.03	2	2.09	.01	.05	1	1
L31+00E 27+25N	1	11	23	74	.3	6	4	366	4.06	4	5	ND	1	11	1	2	2	51	.09	.050	9	12	.19	62	.04	2	2.32	.01	.05	1	1
STD C/AU-S	18	63	43	132	6.9	75	31	1013	4.19	41	18	7	37	49	19	15	23	59	.49	.093	40	57	.86	179	.07	33	2.03	.06	.13	12	52

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	AU* PPB
L31+00E 27+00N	1	11	25	67	.4	5	4	477	3.59	3	5	ND	1	7	1	2	3	46	.05	.046	9	9	.14	62	.03	5	2.04	.01	.05	2	1
L31+00E 26+75N	1	19	35	83	.4	6	7	1852	3.54	6	6	ND	1	7	1	2	2	42	.05	.236	9	11	.20	68	.02	5	2.17	.01	.06	1	1
L31+00E 26+00N	1	14	31	66	.3	5	5	845	2.96	5	5	ND	1	5	1	2	2	35	.04	.104	9	7	.18	80	.01	3	1.71	.01	.07	1	1
L31+00E 25+75N	1	18	40	87	.1	9	7	1129	2.92	6	5	ND	1	6	1	2	2	32	.07	.099	10	11	.25	97	.02	5	2.34	.01	.10	1	1
L31+00E 25+50N	1	18	38	69	.2	7	5	796	3.08	10	5	ND	1	7	1	2	2	39	.07	.089	18	10	.18	83	.03	4	2.65	.01	.06	1	2
L31+00E 25+25N	1	8	12	46	.1	3	3	245	3.02	4	5	ND	1	7	1	2	2	49	.06	.061	8	7	.14	56	.02	3	1.69	.01	.05	2	1
L31+00E 25+00N	1	15	18	84	.4	6	7	540	3.35	6	5	ND	1	8	1	2	3	36	.08	.056	10	11	.23	100	.01	6	2.20	.01	.07	1	1
L31+00E 24+75N	4	14	22	73	.4	7	7	2007	2.87	7	5	ND	1	28	1	2	2	35	.31	.075	12	11	.19	236	.01	2	2.27	.01	.07	1	1
L31+00E 24+50N	1	20	36	82	.3	9	7	772	3.36	11	5	ND	1	13	1	2	2	42	.16	.093	10	11	.31	135	.02	6	2.21	.01	.10	1	1
L31+00E 24+25N	1	15	23	95	.1	9	6	1163	3.09	2	5	ND	1	7	1	2	2	38	.06	.070	11	14	.33	149	.01	4	2.50	.01	.08	1	1
L31+00E 24+00N	1	10	19	58	.1	4	4	548	2.97	2	5	ND	1	17	1	2	2	51	.20	.041	9	7	.09	150	.05	4	1.36	.01	.06	1	1
L31+00E 23+75N	1	15	16	71	.1	7	6	710	3.44	2	5	ND	1	7	1	2	2	46	.05	.063	8	14	.24	94	.01	3	2.18	.01	.07	1	1
L31+00E 23+50N	1	11	16	49	.1	5	4	236	3.48	6	5	ND	1	8	1	2	2	55	.07	.030	9	10	.12	166	.02	3	1.87	.01	.05	1	1
L31+00E 23+25N	1	25	24	117	.1	8	9	522	2.85	10	5	ND	1	8	1	2	2	40	.08	.062	5	12	.30	93	.02	5	2.70	.01	.09	2	2
L31+00E 22+25N	1	10	18	59	.1	6	4	220	3.71	4	5	ND	2	6	1	2	2	55	.05	.033	6	11	.24	73	.03	2	3.17	.01	.05	1	1
L31+00E 22+00N	1	9	16	63	.1	5	3	148	3.40	4	5	ND	2	5	1	2	2	41	.04	.037	4	11	.15	46	.05	4	4.40	.01	.05	2	4
L31+00E 21+75N	1	15	13	56	.1	5	4	133	2.42	2	5	ND	1	6	1	2	2	38	.04	.024	5	6	.17	60	.02	2	2.14	.01	.06	1	1
L31+00E 21+50N	1	8	7	40	.1	4	3	95	1.98	5	5	ND	1	5	1	2	2	26	.04	.033	5	5	.14	64	.01	2	2.07	.01	.05	3	30
L31+00E 21+25N	1	5	12	52	.1	3	3	148	1.66	2	5	ND	1	3	1	2	2	28	.03	.022	5	4	.08	51	.01	2	2.00	.01	.04	1	1
L31+00E 21+00N	1	14	14	72	.1	7	6	306	3.55	6	5	ND	2	7	1	2	2	38	.05	.032	13	11	.30	128	.01	4	2.42	.01	.06	2	1
L32+00E 31+00N	2	15	27	49	.4	5	3	829	3.65	5	5	ND	1	7	1	2	2	35	.06	.125	7	8	.12	50	.05	2	3.35	.01	.04	1	1
L32+00E 30+75N	1	19	29	67	.2	5	7	1352	3.11	4	5	ND	1	9	1	2	2	40	.07	.106	9	8	.23	54	.04	2	2.77	.01	.04	1	1
L32+00E 30+50N	1	11	25	39	.1	4	3	576	2.41	2	5	ND	1	10	1	2	2	30	.07	.090	8	6	.08	50	.03	2	1.99	.01	.06	1	1
L32+00E 30+25N	1	10	26	74	.1	4	4	570	3.53	5	5	ND	1	10	1	2	2	46	.08	.077	9	8	.20	69	.02	2	2.08	.01	.04	2	1
L32+00E 30+00N	1	8	28	88	.2	5	5	1170	3.09	3	5	ND	1	11	1	2	2	33	.09	.080	13	7	.20	129	.03	3	2.06	.01	.07	1	1
L32+00E 29+75N	1	14	19	72	.3	4	4	337	3.49	5	5	ND	1	10	1	2	2	47	.09	.051	11	9	.25	83	.02	3	1.82	.01	.06	1	1
L32+00E 29+50N	2	13	29	77	.1	6	5	826	2.83	5	5	ND	1	14	1	2	2	39	.14	.065	10	11	.21	87	.03	2	1.57	.01	.05	1	1
L32+00E 29+25N	2	21	28	106	.6	12	7	482	6.37	12	5	ND	1	20	1	2	2	42	.24	.086	16	16	.40	123	.05	2	2.55	.01	.05	2	1
L32+00E 29+00N	1	30	18	103	.3	17	12	1004	5.27	9	5	ND	1	10	1	3	2	46	.08	.077	5	20	.56	101	.01	3	2.40	.01	.07	1	1
L32+00E 28+50N	1	25	26	102	.2	14	13	1784	4.38	10	5	ND	1	8	1	2	2	36	.08	.110	6	16	.54	120	.01	3	2.54	.01	.08	1	1
L32+00E 28+00N	1	20	19	99	.1	9	10	1821	3.87	7	5	ND	1	12	1	2	2	34	.14	.130	11	13	.31	171	.01	2	1.93	.01	.11	2	4
L32+00E 27+75N	1	28	26	115	.1	14	11	1210	3.86	20	5	ND	1	7	1	3	2	35	.07	.108	13	16	.49	90	.01	2	2.92	.01	.08	1	6
L32+00E 27+50N	1	20	14	82	.2	8	6	1005	3.52	7	5	ND	1	12	1	2	2	44	.13	.080	9	13	.29	89	.02	2	2.14	.01	.07	1	3
L32+00E 27+25N	1	13	22	67	.1	5	4	771	2.79	4	5	ND	1	10	1	2	3	44	.09	.070	10	11	.21	61	.03	2	1.75	.01	.08	1	2
L32+00E 27+00N	1	19	28	69	.2	6	6	758	3.12	4	5	ND	1	10	1	2	2	42	.08	.116	10	14	.29	63	.02	2	2.34	.01	.07	1	3
L32+00E 26+75N	1	16	23	103	.2	6	6	1566	2.68	9	5	ND	1	11	1	2	2	38	.11	.093	9	10	.23	88	.03	2	2.38	.01	.06	1	2
STD C/AU-S	18	60	36	132	6.7	72	30	1019	4.04	39	17	7	38	49	18	15	19	59	.47	.090	39	56	.87	179	.07	33	1.87	.06	.14	12	47

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	AU* PPB
L32+00E 26+50N	1	18	23	86	.2	5	4	1020	3.02	4	5	ND	1	11	1	2	3	42	.10	.070	10	9	.13	80	.02	2	1.72	.01	.05	1	3
L32+00E 26+25N	1	5	20	47	.2	3	2	105	1.20	2	5	ND	1	6	1	2	2	20	.05	.063	15	4	.05	61	.02	2	1.44	.01	.04	1	1
L32+00E 25+75N	1	8	12	60	.2	4	3	121	2.95	4	5	ND	1	7	1	2	2	38	.08	.037	13	8	.14	50	.01	2	1.89	.01	.06	1	1
L32+00E 25+50N	1	12	17	65	.1	6	4	254	3.41	3	5	ND	1	8	1	2	2	35	.05	.052	12	9	.15	82	.01	3	2.37	.01	.06	1	1
L32+00E 25+25N	2	18	81	78	.4	6	6	798	2.69	5	5	ND	1	27	1	2	2	32	.30	.075	20	10	.15	185	.01	6	2.36	.01	.06	1	1
L32+00E 25+00N	1	11	18	80	.2	5	5	705	3.06	3	5	ND	1	7	1	3	2	44	.07	.039	11	11	.19	84	.02	2	2.14	.01	.06	1	1
L32+00E 24+75N	2	15	20	96	.2	7	5	686	3.40	6	5	ND	1	8	1	2	2	47	.07	.051	11	14	.21	92	.04	7	2.57	.01	.06	1	2
L32+00E 24+50N	2	15	19	90	.2	6	5	438	3.04	3	5	ND	1	7	1	2	2	43	.06	.039	13	12	.20	99	.02	2	2.70	.01	.06	1	2
L32+00E 24+25N	1	25	15	98	.1	7	6	929	3.26	3	5	ND	1	7	1	2	2	42	.06	.056	9	11	.27	121	.02	2	2.72	.01	.07	1	1
L32+00E 24+00N	1	15	11	81	.1	8	7	235	3.76	4	5	ND	1	6	1	2	2	54	.05	.036	8	12	.22	119	.02	2	2.95	.01	.05	1	3
L32+00E 23+25N	1	18	7	58	.3	9	7	391	3.96	7	5	ND	1	5	1	2	2	57	.05	.030	8	12	.28	45	.02	3	1.95	.01	.04	1	3
L32+00E 23+00N	1	11	17	104	.1	5	4	131	3.82	4	5	ND	1	8	1	2	4	60	.06	.025	6	13	.19	64	.04	2	2.98	.01	.04	1	1
L32+00E 22+75N	1	16	9	55	.1	5	4	155	2.44	5	5	ND	1	9	1	2	2	38	.08	.029	6	10	.25	72	.02	2	2.11	.01	.06	1	3
L32+00E 22+50N	1	20	14	92	.1	8	7	437	3.60	2	5	ND	1	14	1	2	2	52	.11	.045	6	12	.30	213	.02	3	2.77	.01	.10	1	2
L32+00E 22+25N	1	17	14	87	.1	7	6	387	3.38	2	5	ND	1	6	1	2	2	37	.04	.059	7	10	.29	80	.01	2	3.36	.01	.08	1	2
L32+00E 22+00N	1	10	12	48	.1	4	3	135	3.61	3	5	ND	1	7	1	2	2	56	.05	.035	5	9	.13	39	.04	3	2.78	.01	.03	1	4
L32+00E 21+75N	1	14	11	64	.1	6	4	277	2.93	2	5	ND	1	9	1	2	2	44	.07	.064	5	11	.20	48	.03	2	3.06	.01	.05	1	46
L32+00E 21+50N	1	16	7	54	.1	5	4	217	3.48	4	5	ND	1	10	1	2	2	52	.09	.072	4	9	.18	56	.03	2	2.17	.01	.04	1	2
L32+00E 21+25N	1	16	13	58	.1	5	4	137	2.65	3	5	ND	1	8	1	2	2	41	.06	.057	5	11	.18	58	.03	2	3.81	.01	.04	1	2
L32+00E 21+00N	1	19	12	61	.2	7	5	203	3.23	4	5	ND	1	9	1	2	2	46	.08	.087	5	13	.25	53	.03	2	3.87	.01	.04	1	3
L32+00E 20+75N	1	18	19	72	.1	7	5	275	3.76	3	5	ND	1	8	1	2	2	46	.07	.116	4	13	.21	60	.03	2	4.77	.01	.04	1	6
L32+00E 20+50N	1	16	14	80	.2	7	6	337	3.35	2	5	ND	1	7	1	3	2	43	.06	.059	5	12	.17	70	.03	2	3.87	.01	.04	1	2
L32+00E 20+25N	1	9	9	38	.2	3	3	218	2.90	2	5	ND	1	5	1	2	2	43	.03	.074	6	8	.06	31	.03	2	2.17	.01	.04	1	6
L32+00E 20+00N	1	10	11	55	.1	5	3	137	3.54	2	5	ND	1	5	1	3	2	46	.03	.042	6	10	.11	38	.03	2	2.30	.01	.03	1	2
L32+00E 19+75N	1	13	7	52	.2	4	4	125	3.27	3	5	ND	1	7	1	2	2	54	.06	.033	5	10	.14	58	.02	2	2.04	.01	.04	1	1
L32+00E 19+50N	1	19	12	57	.1	8	7	157	2.99	5	5	ND	1	7	1	2	2	42	.07	.052	5	12	.27	89	.02	4	2.64	.01	.05	1	2
L32+00E 19+25N	1	11	4	46	.1	4	2	117	3.96	3	5	ND	1	9	1	2	2	53	.06	.092	4	11	.11	32	.03	2	2.36	.01	.03	2	2
L32+00E 19+00N	1	6	4	30	.1	3	2	465	1.71	2	5	ND	1	7	1	3	2	35	.06	.048	4	6	.05	17	.02	2	1.19	.01	.03	1	2
L32+00E 18+75N	1	7	7	29	.1	2	2	196	2.49	2	5	ND	1	5	1	2	2	42	.04	.038	4	6	.05	26	.03	2	1.78	.01	.02	1	1
L32+00E 18+50N	1	8	8	36	.1	4	3	87	2.89	3	5	ND	1	6	1	2	2	56	.03	.021	5	7	.06	33	.04	2	1.35	.01	.02	1	1
L32+00E 18+25N	1	5	4	28	.1	3	2	87	1.91	2	5	ND	1	5	1	2	2	48	.03	.011	7	5	.04	29	.04	2	1.14	.01	.02	1	1
L32+00E 18+00N	1	5	6	30	.1	3	2	74	2.61	2	5	ND	1	8	1	2	2	46	.06	.021	6	6	.06	31	.03	2	1.58	.01	.02	1	1
L32+00E 17+75N	1	9	9	45	.1	4	4	110	3.70	2	5	ND	1	9	1	2	2	54	.07	.042	5	11	.14	28	.03	2	2.04	.01	.03	1	1
L32+00E 17+50N	1	7	8	40	.1	4	3	105	3.22	2	5	ND	1	10	1	2	2	72	.07	.042	5	9	.09	23	.06	5	1.33	.01	.04	1	2
L32+00E 17+25N	1	11	10	47	.1	4	5	215	2.30	2	5	ND	1	9	1	2	2	34	.12	.048	5	8	.15	54	.03	2	1.95	.01	.04	3	2
L32+00E 17+00N	1	9	11	40	.1	4	3	125	3.21	3	5	ND	1	10	1	2	2	54	.09	.038	5	11	.16	49	.04	3	1.81	.01	.04	1	1
STD C/AU-S	18	58	38	132	6.9	74	30	1017	4.22	41	16	8	38	49	18	15	18	60	.49	.091	40	56	.87	180	.07	35	2.03	.06	.13	11	52

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	AU* PPB
L33+00E 25+75N	1	5	13	23	.1	2	1	165	1.39	2	5	ND	1	3	1	2	2	27	.01	.032	6	4	.03	23	.06	2	.89	.01	.03	1	2
L33+00E 25+50N	1	5	10	22	.1	1	1	92	1.28	2	5	ND	1	3	1	2	2	25	.01	.026	5	3	.02	18	.05	2	.78	.02	.02	1	3
L33+00E 25+25N	1	8	20	68	.1	4	3	268	2.57	2	5	ND	2	5	1	2	2	28	.03	.048	11	8	.10	63	.01	4	3.20	.01	.04	1	1
L33+00E 25+00N	1	11	11	57	.1	4	3	221	3.02	5	5	ND	1	7	1	2	2	37	.05	.083	9	7	.13	56	.01	2	1.91	.01	.04	1	3
L33+00E 24+75N	1	12	19	71	.1	5	4	615	3.11	3	5	ND	1	6	1	2	3	36	.06	.068	8	9	.13	73	.01	2	2.32	.01	.06	1	2
L33+00E 24+50N	1	9	19	45	.1	4	4	579	3.92	5	5	ND	1	9	1	2	2	62	.09	.063	8	9	.10	46	.07	3	1.78	.01	.04	1	1
L33+00E 24+25N	1	20	30	112	.3	5	6	3612	1.94	2	5	ND	1	32	1	2	3	31	.57	.107	5	7	.12	243	.04	6	1.29	.01	.08	1	3
L33+00E 24+00N	1	14	23	65	.1	5	5	900	3.82	4	5	ND	1	11	1	2	2	48	.17	.056	7	11	.14	87	.02	6	1.77	.01	.06	1	6
L33+00E 23+75N	1	17	13	68	.2	5	7	1157	3.15	2	5	ND	1	9	1	2	2	44	.10	.052	9	10	.17	146	.02	4	2.16	.01	.05	1	1
L33+00E 23+50N	1	13	13	55	.1	5	5	380	3.27	5	5	ND	1	7	1	2	3	43	.08	.041	6	9	.15	76	.01	4	2.00	.01	.04	1	1
L33+00E 23+25N	1	25	13	68	.1	7	7	674	3.07	6	5	ND	1	6	1	2	2	39	.05	.058	6	13	.26	65	.02	3	2.74	.01	.05	1	3
L33+00E 23+00N	1	9	14	41	.1	4	3	134	3.69	2	5	ND	1	5	1	2	2	61	.03	.025	6	9	.09	36	.02	2	1.91	.01	.03	1	4
L33+00E 22+75N	1	15	12	47	.1	6	4	151	2.77	2	5	ND	1	7	1	2	2	48	.06	.025	4	11	.18	51	.02	2	1.99	.01	.05	1	4
L33+00E 22+50N	1	11	12	48	.1	4	4	124	4.03	5	5	ND	1	6	1	2	2	57	.05	.035	6	9	.15	51	.03	2	3.33	.01	.04	1	1
L33+00E 22+25N	1	9	7	41	.1	3	3	116	3.39	4	5	ND	1	5	1	2	2	55	.03	.031	5	8	.09	34	.03	3	1.44	.01	.04	1	1
L33+00E 22+00N	1	10	8	41	.1	3	3	178	2.34	2	5	ND	1	6	1	2	2	34	.05	.029	5	6	.11	58	.01	2	1.69	.01	.04	1	1
L33+00E 21+75N	1	14	10	66	.1	5	5	228	2.59	5	5	ND	1	8	1	2	2	37	.06	.030	6	10	.21	79	.02	3	2.79	.01	.06	1	2
L33+00E 21+50N	1	7	6	35	.1	3	2	117	2.14	2	5	ND	1	16	1	2	2	44	.13	.027	5	6	.08	70	.02	2	1.32	.01	.05	1	1
L33+00E 21+25N	1	10	8	45	.1	4	4	160	3.30	2	5	ND	1	8	1	2	2	52	.06	.033	5	10	.11	58	.02	2	1.92	.01	.04	1	6
L33+00E 21+00N	1	8	10	53	.1	4	3	191	2.95	2	5	ND	1	6	1	2	2	43	.04	.032	7	9	.12	75	.02	3	1.98	.01	.04	1	1
L33+00E 20+75N	1	18	15	56	.2	6	4	722	2.01	4	5	ND	1	9	1	2	2	32	.09	.063	5	10	.18	69	.02	3	2.16	.01	.08	1	190
L33+00E 20+50N	1	17	19	81	.1	5	5	653	3.67	5	5	ND	1	12	1	2	2	51	.09	.092	4	11	.16	60	.02	3	1.64	.01	.05	1	7
L33+00E 20+25N	1	9	12	60	.1	4	3	356	1.57	3	5	ND	1	5	1	2	3	20	.04	.052	5	7	.10	64	.01	6	1.69	.01	.07	1	2
L33+00E 20+00N	1	14	20	67	.1	7	6	246	3.48	3	5	ND	1	5	1	2	2	47	.04	.052	7	13	.18	76	.01	3	2.94	.01	.06	1	1
L33+00E 19+75N	1	10	10	51	.1	5	4	148	2.84	2	5	ND	1	5	1	2	4	43	.04	.029	7	10	.09	46	.01	2	1.62	.01	.05	1	6
L34+00E 26+00N	1	6	7	37	.1	3	2	91	1.66	2	5	ND	1	5	1	2	2	38	.03	.025	8	6	.05	31	.02	2	1.32	.01	.03	1	1
L34+00E 25+75N	1	8	14	35	.1	3	2	171	2.56	2	5	ND	1	4	1	2	3	41	.02	.032	7	7	.07	34	.04	2	1.55	.01	.02	1	3
L34+00E 25+50N	2	21	23	61	.1	6	4	370	3.63	9	5	ND	1	5	1	2	4	41	.03	.069	8	14	.21	49	.02	4	2.44	.01	.04	1	1
L34+00E 25+25N	1	12	11	40	.1	3	3	142	3.63	2	5	ND	1	5	1	2	2	50	.04	.054	9	9	.14	53	.01	3	2.38	.01	.04	1	3
L34+00E 25+00N	1	23	13	68	.1	8	7	711	3.35	8	5	ND	1	9	1	2	2	41	.15	.068	8	17	.24	83	.01	2	2.48	.01	.05	1	5
L34+00E 24+75N	1	15	21	53	.2	4	5	972	2.46	5	5	ND	1	7	1	2	2	31	.13	.106	11	9	.10	110	.01	2	2.84	.01	.05	1	1
L34+00E 24+50N	1	23	16	62	.2	7	7	1055	2.88	5	5	ND	1	9	1	2	4	44	.08	.105	9	13	.17	114	.02	2	2.24	.01	.05	1	3
L34+00E 24+25N	1	16	26	79	.1	4	6	1116	3.78	4	5	ND	1	6	1	2	2	44	.06	.075	12	10	.25	103	.01	2	2.48	.01	.09	1	1
L34+00E 24+00N	1	19	18	82	.1	6	8	1269	3.24	2	5	ND	1	8	1	2	2	42	.10	.077	9	11	.28	115	.02	2	2.51	.01	.05	1	3
L34+00E 23+75N	1	15	15	62	.1	5	5	511	3.34	2	5	ND	1	11	1	2	2	44	.14	.064	7	9	.14	101	.02	4	1.55	.01	.05	1	5
L34+00E 23+50N	1	17	14	67	.1	6	7	667	3.87	5	5	ND	1	6	1	2	4	45	.06	.075	6	11	.17	77	.01	3	2.31	.01	.04	1	2
STD C/AU-S	17	62	38	132	6.5	74	31	1043	4.14	38	18	7	38	48	18	15	21	58	.48	.090	39	55	.84	174	.07	36	1.99	.06	.14	12	52

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
L34+00E 23+25N	1	22	10	54	.1	6	6	177	3.34	10	5	ND	1	4	1	2	2	33	.04	.033	6	8	.18	60	.01	4	2.56	.01	.04	1	8
L34+00E 23+00N	1	13	9	57	.1	6	6	193	5.43	7	5	ND	1	4	1	2	2	75	.03	.030	2	27	.26	38	.01	5	2.79	.01	.05	1	1
L34+00E 22+75N	1	16	12	65	.1	6	6	163	3.74	10	5	ND	1	7	1	2	2	43	.05	.035	6	12	.35	131	.01	3	3.01	.01	.07	1	1
L34+00E 22+50N	1	11	11	45	.1	4	4	117	3.22	5	5	ND	1	6	1	2	2	60	.03	.022	6	8	.13	60	.02	2	2.25	.01	.03	3	3
L34+00E 22+25N	2	27	20	62	.2	11	9	242	3.67	12	5	ND	1	18	1	2	2	53	.14	.066	14	12	.29	372	.02	4	3.10	.01	.10	1	3
L34+00E 22+00N	1	8	12	57	.1	6	7	306	2.26	6	5	ND	1	15	1	2	2	32	.12	.020	6	10	.33	231	.01	2	1.61	.01	.07	1	3
L34+00E 21+75N	1	11	12	58	.1	3	3	137	3.58	6	5	ND	1	9	1	2	2	43	.07	.030	6	7	.19	78	.01	2	2.19	.01	.06	1	1
L34+00E 21+50N	1	13	7	57	.1	4	4	249	2.82	3	5	ND	1	6	1	2	2	37	.05	.043	4	8	.09	49	.02	2	1.82	.01	.04	1	3
L34+00E 21+25N	1	16	12	93	.2	7	6	1516	2.91	3	5	ND	1	10	1	2	2	43	.09	.070	6	10	.16	100	.03	8	2.10	.01	.07	1	2
L34+00E 21+00N	1	9	6	48	.1	4	3	140	1.98	2	5	ND	1	10	1	2	3	45	.07	.030	5	7	.06	55	.02	4	1.05	.01	.03	1	1
L34+00E 20+75N	1	11	13	62	.1	4	3	293	3.16	6	5	ND	1	7	1	2	2	44	.06	.058	5	10	.11	44	.02	3	2.40	.01	.03	1	3
L34+00E 20+50N	1	12	11	67	.1	5	4	186	3.40	6	5	ND	1	5	1	2	2	45	.03	.036	6	9	.14	51	.01	3	2.62	.01	.05	1	1
L34+00E 20+25N	1	6	10	33	.1	4	2	81	1.95	2	5	ND	1	6	1	2	2	29	.06	.024	5	7	.09	50	.01	2	1.80	.01	.04	2	1
L34+00E 20+00N	1	7	6	40	.1	3	3	137	1.92	2	5	ND	1	19	1	2	2	33	.20	.017	7	7	.07	153	.01	3	1.09	.01	.05	1	1
L35+00E 26+00N	1	8	17	40	.1	4	3	93	2.55	3	5	ND	1	6	1	2	2	45	.04	.020	10	4	.05	63	.03	3	1.27	.01	.03	2	2
L35+00E 25+75N	2	19	22	52	.1	6	4	230	3.20	7	5	ND	1	9	1	2	2	47	.06	.041	11	11	.14	120	.03	2	1.86	.01	.04	1	2
L35+00E 25+50N	3	19	19	56	.8	8	5	237	3.18	5	5	ND	1	8	1	2	3	45	.06	.046	21	14	.19	130	.03	2	2.62	.01	.04	1	1
L35+00E 25+25N	1	14	15	65	.1	5	6	586	4.31	5	5	ND	1	9	1	2	2	70	.13	.035	8	11	.33	85	.02	2	2.21	.01	.06	1	3
L35+00E 25+00N	1	14	21	61	.1	7	5	203	3.89	6	5	ND	1	7	1	2	2	54	.06	.027	8	12	.28	74	.01	2	3.17	.01	.04	1	1
L35+00E 24+75N	1	13	14	39	.1	4	4	158	3.00	5	5	ND	1	3	1	2	2	52	.04	.039	6	6	.08	91	.01	2	1.77	.01	.04	1	2
L35+00E 24+50N	1	10	13	41	.1	5	4	154	4.44	2	5	ND	1	5	1	2	2	67	.04	.028	6	8	.08	48	.02	2	1.90	.01	.03	1	3
L35+00E 24+25N	1	13	12	45	.1	6	5	310	4.14	6	5	ND	1	6	1	2	2	56	.08	.050	7	11	.13	75	.01	3	1.81	.01	.05	1	2
L35+00E 24+00N	1	21	15	69	.1	8	9	1012	3.24	7	5	ND	1	34	1	2	2	41	.30	.048	11	13	.36	470	.01	2	2.10	.01	.08	1	4
L35+00E 23+75N	1	21	15	93	.1	8	10	1927	3.21	3	5	ND	1	45	1	2	2	50	.39	.070	12	16	.39	635	.02	2	2.12	.01	.07	1	1
L35+00E 23+50N	1	21	14	95	.1	8	9	526	3.64	4	5	ND	1	111	1	2	2	52	.60	.059	8	15	.30	620	.02	2	2.14	.01	.09	1	3
L35+00E 23+25N	1	18	11	69	.1	6	5	182	4.64	7	5	ND	1	11	1	2	2	55	.06	.036	6	11	.25	171	.01	2	2.51	.01	.09	1	3
L35+00E 23+00N	1	13	17	58	.1	5	5	263	4.83	4	5	ND	1	8	1	2	2	59	.08	.056	7	9	.17	74	.01	3	2.18	.01	.06	2	1
L35+00E 22+75N	1	34	10	61	.3	15	5	615	5.92	12	5	ND	1	19	1	2	2	40	.04	.073	7	16	.07	76	.01	2	1.70	.01	.06	1	72
L35+00E 22+50N	1	10	15	40	.1	4	3	113	3.44	5	5	ND	1	5	1	2	2	49	.03	.025	6	7	.07	39	.01	2	2.58	.01	.03	1	4
L35+00E 22+25N	1	10	10	43	.1	4	3	247	3.38	4	5	ND	1	6	1	2	2	48	.04	.038	6	7	.08	48	.02	2	1.47	.01	.04	1	2
L35+00E 22+00N	1	14	8	50	.1	6	4	193	3.10	5	5	ND	1	12	1	2	2	47	.11	.049	6	10	.15	53	.02	2	1.37	.01	.05	1	5
L35+00E 21+75N	1	17	12	66	.1	6	5	902	2.80	4	5	ND	1	8	1	2	2	42	.06	.051	7	10	.14	88	.02	2	1.93	.01	.05	1	1
L35+00E 21+50N	1	14	14	52	.1	7	5	290	2.84	3	6	ND	1	9	1	2	2	41	.09	.036	6	11	.13	91	.01	2	1.59	.01	.05	1	4
L35+00E 21+25N	1	17	9	56	.1	7	6	445	2.57	4	5	ND	1	7	1	2	2	37	.07	.055	5	11	.19	64	.01	2	1.66	.01	.05	1	2
L35+00E 21+00N	1	9	10	42	.1	5	3	110	2.87	5	5	ND	1	5	1	2	2	55	.03	.017	5	8	.07	44	.02	2	1.66	.01	.03	2	3
L35+00E 20+75N	1	11	13	45	.1	5	4	122	3.49	5	5	ND	1	8	1	2	2	57	.05	.025	5	9	.10	64	.02	2	1.90	.01	.03	1	1
STD C/AU-S	18	63	44	132	6.9	74	30	1020	4.17	45	19	7	38	50	18	14	21	60	.49	.092	40	55	.85	179	.07	33	1.90	.06	.13	11	53

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	AU* PPB
L35+00E 20+50N	1	13	11	67	.2	5	6	841	2.84	4	5	ND	1	9	1	2	2	44	.09	.044	6	11	.12	90	.02	2	2.02	.01	.04	1	1
L35+00E 20+25N	1	13	17	78	.1	7	6	1069	3.32	4	5	ND	1	12	1	2	2	51	.13	.051	6	13	.14	99	.02	2	1.60	.01	.05	1	1
L35+00E 20+00N	1	10	10	55	.1	5	4	310	3.50	6	5	ND	1	6	1	2	2	46	.04	.084	5	11	.12	47	.02	2	2.25	.01	.04	1	2
L35+00E 19+75N	1	14	2	44	.1	5	4	542	2.14	2	5	ND	1	11	1	2	2	47	.11	.025	5	10	.08	50	.02	2	.85	.01	.04	1	1
L35+00E 19+50N	1	9	8	49	.1	4	3	281	2.76	4	5	ND	1	8	1	2	2	48	.09	.040	5	10	.10	44	.02	2	1.52	.01	.05	1	4
L35+00E 19+25N	1	11	6	45	.1	3	3	300	2.03	3	5	ND	1	10	1	2	2	41	.10	.037	6	7	.07	50	.02	2	1.01	.01	.05	1	1
L35+00E 19+00N	1	28	10	78	.3	7	7	921	4.29	8	5	ND	1	8	1	2	2	57	.08	.100	5	12	.18	70	.03	2	2.47	.01	.05	1	3
L36+00E 26+00N	1	16	21	77	.3	6	5	252	4.49	10	5	ND	1	9	1	2	2	53	.06	.040	11	14	.26	75	.02	3	2.10	.01	.04	1	1
L36+00E 25+75N	1	23	20	84	.1	10	6	491	3.39	10	5	ND	1	10	1	2	2	51	.10	.056	12	17	.36	108	.03	2	2.26	.01	.05	1	3
L36+00E 25+50N	2	24	31	84	.6	8	9	1241	2.85	10	5	ND	1	14	1	2	2	42	.18	.073	28	16	.38	195	.01	2	2.56	.01	.07	1	1
L36+00E 25+25N	1	14	15	58	.1	4	5	248	3.18	3	5	ND	1	9	1	2	2	51	.08	.042	10	10	.20	152	.01	2	1.97	.01	.06	1	2
L36+00E 25+00N	2	19	17	73	.4	5	7	1169	2.31	5	5	ND	1	26	1	2	2	33	.30	.122	21	12	.30	396	.01	2	2.40	.01	.08	1	4
L36+00E 24+75N	1	13	15	50	.3	6	6	214	2.90	7	5	ND	1	31	1	2	2	39	.33	.039	8	9	.14	330	.01	2	1.70	.01	.07	1	2
L36+00E 24+50N	1	16	14	39	.1	4	5	138	4.37	6	5	ND	1	4	1	2	2	49	.03	.031	7	8	.09	56	.01	2	1.98	.01	.05	1	2
L36+00E 24+25N	2	17	17	104	.1	7	9	1710	3.58	7	5	ND	1	28	1	2	2	49	.28	.075	13	14	.32	396	.01	2	2.47	.01	.07	1	2
L36+00E 24+00N	1	15	14	90	.1	6	7	665	3.75	4	5	ND	1	23	1	2	2	56	.22	.049	6	12	.26	280	.02	2	2.53	.01	.08	1	6
L36+00E 23+75N	2	16	13	61	.2	5	5	198	4.59	2	5	ND	1	14	1	2	2	58	.10	.050	6	10	.20	112	.01	2	2.57	.01	.05	1	1
L36+00E 23+50N	2	17	16	77	.1	6	9	1931	2.67	2	5	ND	1	70	1	2	2	39	.56	.106	9	12	.34	655	.02	2	1.93	.01	.08	3	8
L36+00E 23+25N	1	21	9	76	.4	6	9	1397	3.37	4	5	ND	1	41	1	2	2	45	.35	.077	20	12	.28	563	.01	2	2.27	.01	.08	1	3
L36+00E 23+00N	1	15	9	68	.1	4	5	541	4.06	4	5	ND	1	10	1	2	2	49	.12	.061	7	8	.14	117	.01	3	1.68	.01	.07	1	5
L36+00E 22+75N	1	14	13	77	.1	5	8	502	4.33	2	5	ND	1	8	1	2	2	69	.06	.042	5	9	.46	136	.01	2	2.64	.01	.07	1	3
L36+00E 22+50N	1	17	13	77	.1	5	6	396	4.46	6	5	ND	1	9	1	2	2	50	.07	.043	7	10	.20	100	.02	2	2.06	.01	.07	1	1
L36+00E 22+25N	1	25	12	106	.2	5	8	2071	4.10	3	5	ND	1	10	1	2	2	49	.14	.068	8	8	.14	169	.01	3	1.84	.01	.09	1	1
L36+00E 22+00N	1	17	12	106	.2	8	8	2196	3.22	3	5	ND	1	12	1	2	2	44	.17	.080	7	11	.20	248	.02	4	1.88	.01	.08	1	2
L36+00E 21+75N	1	13	13	87	.3	6	7	1093	3.85	3	5	ND	1	5	1	2	2	48	.04	.088	7	12	.10	93	.01	2	1.78	.01	.06	1	1
L36+00E 21+50N	1	37	14	65	.4	4	7	268	7.43	6	5	ND	1	5	1	2	2	108	.04	.072	4	7	.18	45	.01	2	3.26	.01	.04	1	2
L36+00E 21+25N	1	18	21	67	.2	6	4	175	5.40	4	5	ND	1	8	1	2	2	85	.06	.054	6	11	.11	53	.04	2	3.15	.01	.03	1	2
L36+00E 21+00N	1	15	11	53	.1	5	6	219	5.06	5	5	ND	1	8	1	2	2	123	.10	.052	3	12	.23	35	.02	2	2.14	.01	.04	1	1
L36+00E 20+75N	1	26	12	63	.2	8	7	337	3.70	4	5	ND	1	10	1	2	2	59	.07	.050	7	13	.20	79	.05	2	2.16	.01	.04	1	1
L36+00E 20+50N	1	10	10	44	.1	4	3	138	2.79	5	5	ND	1	9	1	2	2	62	.08	.035	5	8	.06	43	.04	3	1.04	.01	.03	1	1
L36+00E 20+25N	1	33	17	124	.1	9	9	844	6.56	9	5	ND	1	16	1	2	2	75	.16	.099	6	14	.23	72	.02	2	2.77	.01	.05	1	5
L36+00E 20+00N	1	20	17	119	.4	10	10	5712	4.16	6	5	ND	1	13	1	2	2	53	.16	.073	6	16	.23	192	.03	4	2.22	.01	.08	1	3
L36+00E 19+75N	1	21	10	95	.2	7	9	2035	3.67	4	5	ND	1	10	1	2	2	46	.11	.064	6	12	.15	106	.01	3	1.59	.01	.07	1	3
L36+00E 19+50N	1	17	16	93	.2	8	8	1793	2.95	4	5	ND	1	12	1	2	2	39	.15	.076	6	12	.17	115	.01	2	1.94	.01	.07	1	2
L36+00E 19+25N	1	18	27	120	.3	7	9	5982	2.94	4	5	ND	1	29	1	2	2	40	.40	.094	11	12	.19	343	.02	5	2.02	.01	.06	1	1
L36+00E 19+00N	1	15	19	103	.1	6	8	2661	2.66	5	5	ND	1	26	1	2	2	31	.35	.074	7	10	.15	251	.01	2	1.44	.01	.05	1	1
STD C/AU-S	19	62	41	132	7.0	75	31	1016	4.21	44	17	7	38	50	18	15	23	60	.50	.091	40	57	.87	181	.07	36	2.03	.06	.13	11	47

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	AU* PPB
L36+00E 18+75N	1	13	13	108	.1	6	7	1855	2.89	2	5	ND	1	21	1	2	2	46	.24	.054	6	11	.13	231	.03	5	1.46	.01	.06	3	4
L36+00E 18+50N	1	13	9	81	.1	5	6	957	2.99	2	5	ND	1	16	1	2	2	47	.20	.050	6	10	.11	103	.02	6	1.48	.01	.06	1	3
L36+00E 18+25N	1	11	10	72	.1	6	5	306	3.03	2	5	ND	1	13	1	2	2	48	.13	.042	6	10	.11	77	.02	4	1.35	.01	.06	1	1
L36+00E 18+00N	1	37	15	95	.2	6	9	2562	3.31	3	5	ND	1	27	1	2	2	46	.30	.103	15	11	.18	220	.01	2	1.74	.01	.06	2	3
L37+00E 27+00N	1	9	19	41	.1	4	2	109	1.98	2	5	ND	1	6	1	2	2	36	.05	.049	7	6	.05	48	.02	2	1.98	.01	.03	2	1
L37+00E 26+75N	1	17	19	61	.2	6	5	523	3.11	2	5	ND	1	6	1	2	2	45	.06	.069	11	10	.16	96	.03	5	2.45	.01	.05	1	1
L37+00E 26+50N	1	13	20	59	.2	6	4	251	3.72	4	5	ND	1	7	1	2	2	44	.07	.057	9	12	.13	57	.04	3	2.79	.01	.04	1	6
L37+00E 26+25N	1	16	24	71	.1	6	4	330	2.73	10	5	ND	1	8	1	2	2	44	.09	.052	9	10	.20	59	.03	2	1.55	.01	.06	1	1
L37+00E 26+00N	1	19	22	63	.3	6	5	599	2.89	4	5	ND	1	10	1	2	2	42	.09	.094	11	10	.19	70	.03	6	2.68	.01	.05	1	4
L37+00E 25+75N	1	26	22	108	.1	13	10	2090	3.58	3	5	ND	1	24	1	2	2	55	.27	.081	20	20	.41	382	.02	4	2.74	.01	.10	1	2
L37+00E 25+50N	1	33	15	116	.1	7	10	1497	5.90	2	5	ND	1	7	1	2	2	77	.07	.086	9	17	.42	160	.01	2	3.43	.01	.11	1	3
L37+00E 25+25N	1	34	12	87	.1	4	12	2043	4.39	3	5	ND	2	11	1	2	2	56	.13	.093	12	9	.29	354	.01	4	2.13	.01	.19	1	1
L37+00E 25+00N	1	15	15	74	.2	5	6	386	3.13	3	5	ND	1	37	1	2	2	39	.38	.053	8	8	.16	356	.01	4	1.73	.01	.09	1	2
L37+00E 24+75N	1	29	6	69	.1	7	9	786	5.09	9	5	ND	1	7	1	2	2	67	.08	.049	8	9	.20	100	.01	2	2.75	.01	.07	2	2
L37+00E 24+50N	1	18	14	102	.2	7	9	3235	3.72	5	5	ND	1	19	1	2	2	52	.24	.098	8	12	.23	244	.02	3	2.11	.01	.13	1	3
L37+00E 24+25N	1	17	18	117	.2	6	11	6429	3.55	2	5	ND	1	43	1	2	2	49	.56	.157	10	11	.26	639	.02	4	1.70	.01	.12	1	2
L37+00E 24+00N	1	13	11	47	.1	4	3	203	3.25	2	5	ND	1	8	1	2	2	49	.10	.039	6	7	.10	96	.01	2	1.66	.01	.07	2	2
L37+00E 23+75N	1	15	9	60	.1	4	5	426	4.10	2	5	ND	1	6	1	2	2	52	.06	.050	6	8	.15	96	.01	2	2.03	.01	.08	2	3
L37+00E 23+50N	1	14	6	48	.1	4	4	159	3.82	2	5	ND	1	8	1	2	2	62	.06	.050	7	8	.14	92	.01	2	2.28	.01	.07	1	5
L37+00E 23+25N	1	25	11	86	.1	14	9	538	5.28	6	5	ND	1	12	1	2	2	63	.09	.084	8	16	.49	173	.01	3	2.90	.01	.10	1	3
L37+00E 23+00N	1	10	5	43	.1	5	4	144	2.91	2	5	ND	1	11	1	2	2	65	.09	.033	6	8	.13	123	.03	2	1.45	.01	.06	1	3
L37+00E 22+75N	1	10	5	65	.1	5	5	216	4.76	2	5	ND	1	11	1	2	2	69	.15	.058	7	9	.23	128	.02	3	2.46	.01	.07	1	4
L37+00E 22+50N	1	17	9	93	.1	5	10	3913	4.57	2	5	ND	1	12	1	2	2	60	.13	.120	5	8	.13	315	.01	2	2.00	.01	.15	1	4
L37+00E 22+25N	1	23	17	130	.1	5	13	5106	5.10	6	5	ND	1	15	1	2	2	57	.23	.179	11	9	.33	431	.01	3	2.38	.01	.18	1	4
L37+00E 22+00N	1	23	10	110	.1	6	14	3780	5.18	3	5	ND	1	10	1	2	2	58	.15	.190	15	12	.55	334	.01	2	2.69	.01	.14	1	4
L37+00E 21+75N	1	17	20	75	.2	5	11	4305	2.87	2	5	ND	1	40	1	2	2	42	.61	.185	34	8	.20	638	.02	2	1.43	.01	.09	1	6
L37+00E 21+50N	1	11	6	51	.1	4	5	286	4.35	2	5	ND	1	7	1	2	2	71	.05	.056	6	9	.14	60	.02	2	2.03	.01	.04	1	2
L37+00E 21+25N	1	11	14	48	.1	6	3	117	2.66	2	5	ND	1	5	1	2	2	41	.03	.040	6	9	.12	40	.05	2	1.48	.01	.04	1	2
L37+00E 21+00N	1	19	9	58	.1	8	4	181	2.58	4	5	ND	1	6	1	2	2	40	.05	.044	7	12	.21	55	.02	2	1.52	.01	.06	1	3
L37+00E 20+75N	1	14	8	78	.1	8	5	270	6.46	5	5	ND	1	11	1	2	2	56	.11	.073	6	21	.20	53	.02	2	2.55	.01	.04	1	4
L37+00E 20+50N	1	15	9	63	.2	8	5	1298	2.91	2	5	ND	1	7	1	2	2	49	.05	.064	8	15	.16	105	.02	2	2.08	.01	.05	1	2
L37+00E 20+25N	1	25	10	85	.1	12	9	1900	4.16	2	5	ND	1	7	1	2	2	75	.06	.075	7	30	.24	90	.03	2	2.89	.01	.06	1	1
L37+00E 20+00N	1	23	14	139	.3	12	11	3261	3.87	2	5	ND	1	35	1	2	2	55	.50	.142	11	22	.24	334	.02	2	2.76	.01	.06	1	2
L37+00E 19+75N	1	16	12	104	.1	12	6	1124	2.35	3	5	ND	1	22	1	2	2	34	.32	.116	8	14	.33	340	.01	2	2.11	.01	.08	1	4
L37+00E 19+50N	1	22	12	138	.2	13	10	3640	3.27	2	5	ND	1	27	1	2	2	50	.38	.139	8	20	.33	367	.02	2	2.22	.01	.08	1	1
L37+00E 19+25N	1	44	16	129	.2	14	14	4275	3.53	3	5	ND	1	24	1	2	2	57	.28	.128	8	20	.38	340	.02	2	2.08	.01	.10	1	4
STD C/AU-S	18	60	38	132	6.7	69	31	960	4.09	39	16	7	37	49	19	15	18	59	.48	.093	39	57	.85	177	.07	34	2.00	.06	.14	12	51

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	AU* PPB
L37+00E 19+00N	1	46	13	134	.2	14	15	4182	3.97	3	5	ND	1	33	1	2	2	66	.41	.122	20	24	.41	358	.03	10	2.68	.01	.07	1	2
L38+00E 27+00N	1	18	9	85	.1	8	7	516	4.84	2	5	ND	1	11	1	2	2	86	.14	.044	7	21	.28	194	.03	2	2.18	.01	.07	1	3
L38+00E 26+75N	1	18	24	49	.4	4	4	248	2.96	4	5	ND	1	8	1	2	4	38	.11	.071	12	8	.09	126	.02	4	2.51	.01	.05	1	3
L38+00E 26+50N	1	9	7	53	.4	3	3	209	2.31	2	5	ND	1	24	1	2	2	51	.26	.065	6	6	.09	76	.08	4	1.19	.01	.05	1	1
L38+00E 26+25N	1	16	14	71	.2	6	6	425	3.88	2	5	ND	1	15	1	2	3	63	.21	.058	11	12	.33	127	.03	2	2.97	.01	.09	2	3
L38+00E 26+00N	1	18	21	106	.1	8	12	2581	4.60	3	5	ND	1	10	1	2	2	70	.11	.105	8	14	.50	302	.02	2	3.08	.01	.13	1	3
L38+00E 25+75N	1	20	20	94	.3	5	12	2192	4.40	3	5	ND	1	15	1	2	2	54	.19	.125	7	9	.47	400	.01	5	2.46	.01	.18	1	1
L38+00E 25+50N	1	16	13	88	.1	3	12	2415	3.88	2	5	ND	1	19	1	2	2	53	.29	.115	6	7	.30	277	.01	3	1.83	.01	.15	1	1
L38+00E 25+25N	1	16	13	88	.3	6	8	907	3.61	5	5	ND	1	22	1	2	2	44	.28	.074	8	9	.17	268	.01	4	1.95	.01	.11	1	2
L38+00E 25+00N	1	14	11	48	.1	6	4	201	2.68	3	5	ND	1	5	1	2	3	41	.03	.046	7	13	.05	59	.01	2	1.46	.01	.05	1	2
L38+00E 24+75N	1	21	14	113	.3	14	11	1498	4.81	13	5	ND	1	6	1	2	2	67	.04	.087	7	39	.32	127	.01	4	3.73	.01	.07	1	3
L38+00E 24+50N	1	22	17	115	.1	10	12	2824	4.02	8	5	ND	1	21	1	2	2	51	.29	.150	10	17	.42	343	.01	6	2.46	.01	.14	1	4
L38+00E 24+25N	2	24	9	65	.2	4	8	877	4.18	2	5	ND	1	12	1	2	2	69	.15	.068	10	11	.25	170	.01	3	2.35	.01	.10	1	3
L38+00E 24+00N	1	14	9	66	.1	4	6	568	3.97	3	5	ND	1	12	1	2	2	63	.17	.071	8	10	.22	167	.01	3	2.54	.01	.10	1	2
L38+00E 23+50N	2	20	9	78	.1	5	8	1825	4.21	2	5	ND	1	10	1	2	4	69	.12	.089	7	15	.27	116	.02	2	2.46	.01	.08	2	3
L38+00E 23+25N	2	46	14	140	.2	11	18	6183	5.78	2	5	ND	1	15	1	2	2	82	.14	.175	9	27	.37	439	.01	2	2.46	.01	.18	1	2
L38+00E 23+00N	1	35	14	77	.1	11	8	428	4.30	4	5	ND	1	7	1	2	2	50	.06	.099	8	16	.35	142	.02	2	3.55	.01	.08	1	8
L39+00E 27+00N	1	14	59	155	.5	7	6	3156	2.49	17	5	ND	1	12	1	2	3	29	.12	.187	13	9	.15	203	.02	2	3.25	.01	.09	2	1
L39+00E 26+75N	1	17	12	65	.1	6	6	913	3.23	5	5	ND	1	8	1	2	2	45	.09	.100	7	12	.22	140	.01	2	2.16	.01	.09	1	2
L39+00E 26+50N	1	7	16	30	.1	1	1	75	.69	2	5	ND	1	4	1	2	2	19	.03	.078	7	5	.06	76	.01	2	1.50	.01	.06	1	3
L39+00E 26+25N	1	17	15	66	.2	7	6	988	4.04	4	5	ND	1	12	1	2	3	56	.11	.112	10	14	.41	57	.05	2	3.60	.01	.03	1	1
L39+00E 26+00N	1	17	18	61	.1	6	5	270	3.83	14	5	ND	1	20	1	2	2	62	.24	.084	7	13	.35	79	.04	2	3.18	.01	.06	2	2
L39+00E 25+75N	1	22	17	107	.1	5	9	1464	3.20	5	5	ND	1	29	1	2	2	45	.66	.142	17	10	.38	992	.01	3	2.65	.01	.13	1	2
L39+00E 25+50N	1	16	11	95	.2	3	9	948	4.46	2	5	ND	1	6	1	2	2	68	.08	.117	6	9	.41	182	.01	2	2.55	.01	.16	1	1
L39+00E 25+25N	1	17	14	106	.1	3	11	1774	4.77	5	5	ND	1	12	1	2	2	59	.18	.130	6	6	.25	263	.01	2	2.01	.01	.20	1	2
L39+00E 25+00N	1	13	8	94	.1	4	6	736	4.11	2	5	ND	1	13	1	2	2	62	.20	.094	7	7	.33	208	.02	2	2.14	.01	.12	2	2
L39+00E 24+75N	1	36	11	101	.3	6	19	4222	4.28	2	5	ND	1	13	1	2	2	84	.24	.146	7	13	.61	299	.01	3	2.10	.01	.16	1	2
L39+00E 24+50N	1	24	17	96	.1	6	9	1692	4.06	3	5	ND	1	9	1	2	2	65	.08	.114	6	12	.37	111	.02	2	3.09	.01	.09	1	12
L39+00E 24+25N	1	28	17	96	.2	6	9	2032	3.91	5	5	ND	1	8	1	2	2	59	.08	.132	7	13	.37	94	.03	3	3.04	.01	.11	1	1
L39+00E 24+00N	1	35	13	93	.2	8	11	2535	4.77	5	5	ND	1	9	1	2	2	67	.07	.131	7	14	.45	105	.03	10	2.92	.01	.10	1	1
L39+00E 23+75N	2	60	11	91	.1	8	16	2337	5.62	3	5	ND	1	24	1	2	3	108	.31	.098	11	20	.90	325	.03	2	3.25	.01	.11	2	3
L39+00E 23+25N	1	25	17	92	.1	5	10	1608	3.91	2	5	ND	1	16	1	2	2	59	.20	.068	12	12	.37	375	.01	2	2.83	.01	.12	1	6
L39+00E 23+00N	1	26	18	104	.1	6	12	3331	4.09	3	5	ND	1	25	1	2	2	56	.30	.123	11	11	.37	571	.02	3	2.34	.01	.17	1	12
L39+00E 22+75N	1	32	79	105	.3	6	10	2137	3.57	2	5	ND	1	39	1	2	2	47	.44	.080	23	13	.37	606	.02	6	2.38	.01	.11	1	18
L39+00E 22+50N	1	14	12	59	.1	5	6	526	1.83	2	5	ND	1	28	1	2	2	27	.32	.037	6	10	.34	400	.02	2	1.46	.01	.09	1	3
L39+00E 22+25N	1	27	12	104	.1	5	12	2002	3.89	5	5	ND	1	34	1	2	2	37	.39	.150	12	9	.37	500	.01	2	2.07	.01	.16	2	3
STD C/AU-S	18	63	40	132	6.7	74	30	1013	4.12	41	17	7	38	49	18	15	18	59	.48	.092	40	57	.85	178	.07	31	1.99	.06	.13	12	51

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	AU* PPB
L39+00E 22+00N	1	23	14	80	.2	4	8	1334	2.61	2	5	ND	1	81	1	2	2	34	.78	.124	14	9	.35	682	.01	4	1.90	.01	.11	2	4
L39+00E 21+75N	1	18	15	83	.1	4	9	1258	2.92	3	5	ND	1	36	1	2	2	39	.33	.078	9	10	.37	480	.01	2	2.02	.01	.11	1	3
L39+00E 21+50N	1	16	18	85	.2	5	6	865	2.54	2	5	ND	1	61	1	2	2	39	.34	.086	8	10	.34	362	.02	4	2.19	.01	.10	1	1
L39+00E 21+25N	1	9	21	63	.1	15	5	422	4.22	5	5	ND	1	21	1	2	2	81	.23	.044	5	48	.21	163	.03	4	1.49	.01	.05	1	1
L39+00E 21+00N	1	14	24	53	.2	4	4	985	3.53	3	5	ND	1	5	1	2	2	49	.03	.053	6	11	.12	43	.02	2	2.11	.01	.05	1	4
L40+00E 27+00N	1	7	59	45	.2	1	2	93	1.58	2	5	ND	1	5	1	2	3	19	.03	.055	17	3	.05	59	.01	2	3.00	.01	.04	2	1
L40+00E 26+75N	1	11	18	35	.1	2	1	62	1.86	2	5	ND	1	6	1	2	2	21	.02	.068	21	2	.04	39	.01	3	1.91	.01	.05	2	2
L40+00E 26+50N	1	13	18	46	.1	3	7	1574	1.95	2	5	ND	1	8	1	2	2	37	.10	.119	14	6	.13	222	.01	2	2.49	.01	.10	2	1
L40+00E 26+25N	1	35	10	66	.2	3	8	619	3.99	2	5	ND	1	4	1	2	2	60	.03	.068	9	7	.14	68	.01	2	2.93	.01	.09	1	2
L40+00E 26+00N	1	82	19	80	.2	4	9	1059	5.73	7	5	ND	1	4	1	2	2	76	.03	.077	5	9	.19	161	.01	7	2.38	.01	.12	1	4
L40+00E 25+50N	1	4	6	22	.1	1	1	53	.54	2	5	ND	1	5	1	2	2	17	.05	.023	3	2	.02	26	.01	4	.60	.01	.04	2	3
L40+00E 25+25N	1	10	10	54	.5	4	5	211	3.71	4	5	ND	1	5	1	2	2	53	.07	.065	6	9	.31	76	.02	2	2.12	.01	.09	2	2
L40+00E 25+00N	1	36	18	98	.1	6	11	475	5.82	7	5	ND	1	5	1	2	2	91	.05	.085	11	17	.81	177	.02	2	3.18	.01	.27	1	2
L40+00E 24+75N	1	42	24	125	.3	9	16	2205	4.92	3	5	ND	1	10	1	2	2	84	.09	.124	9	18	.95	244	.02	4	3.38	.01	.29	1	1
L40+00E 24+50N	1	43	61	116	.2	6	12	2332	4.68	3	5	ND	1	6	1	2	2	64	.04	.156	8	12	.49	137	.02	4	3.49	.01	.16	1	1
L40+00E 24+25N	1	27	18	93	.1	5	10	1791	4.48	7	5	ND	1	8	1	2	2	68	.04	.183	11	10	.39	156	.01	2	3.26	.01	.10	1	2
L40+00E 24+00N	1	26	25	115	.2	6	12	2168	4.86	2	5	ND	1	16	1	2	2	68	.19	.148	7	11	.44	246	.01	2	2.95	.01	.15	1	2
L40+00E 23+75N	1	18	17	94	.1	5	14	608	7.32	2	5	ND	1	23	1	2	2	141	.23	.063	10	18	1.36	451	.06	3	3.28	.01	.28	1	1
L40+00E 23+50N	1	18	17	103	.2	6	14	1847	5.25	4	5	ND	1	25	1	2	2	80	.29	.092	11	15	.90	456	.03	6	3.20	.01	.17	1	1
L40+00E 23+00N	1	17	22	122	.1	8	14	2455	4.86	4	5	ND	1	17	1	2	2	71	.18	.100	10	15	.77	370	.03	2	2.92	.01	.19	1	1
L40+00E 22+75N	1	14	21	109	.1	6	11	1857	4.30	2	5	ND	1	19	1	2	2	60	.19	.085	9	12	.49	350	.02	3	2.62	.01	.17	1	3
L40+00E 22+50N	1	14	19	93	.1	6	12	1875	4.07	5	5	ND	1	36	1	2	2	47	.37	.150	14	9	.49	550	.01	2	2.49	.01	.16	1	1
L40+00E 22+00N	1	16	15	81	.1	6	9	1756	2.94	2	5	ND	1	48	1	2	2	40	.44	.072	9	11	.42	654	.02	2	2.04	.01	.11	1	1
L40+00E 21+75N	1	17	17	98	.1	6	9	1426	2.90	5	5	ND	1	47	1	2	2	39	.45	.075	9	12	.38	661	.02	2	1.94	.01	.10	1	1
L40+00E 21+50N	1	12	14	57	.2	5	4	155	4.86	5	5	ND	1	8	1	2	2	68	.04	.026	6	10	.12	57	.03	2	2.59	.01	.03	1	1
L40+00E 21+25N	1	16	17	57	.1	11	4	125	4.84	6	5	ND	1	6	1	2	2	61	.03	.028	6	18	.12	76	.02	2	2.45	.01	.04	1	1
L40+00E 21+00N	1	11	14	51	.1	5	4	246	3.70	7	5	ND	1	5	1	2	2	50	.03	.031	6	10	.12	54	.02	2	2.24	.01	.04	1	5
L41+00E 27+00N	1	11	54	111	.2	5	5	1798	1.95	5	5	ND	1	18	1	2	2	23	.14	.135	17	6	.16	225	.01	7	2.28	.01	.09	1	1
L41+00E 26+75N	1	6	8	29	.1	1	1	160	.76	2	5	ND	1	5	1	2	2	16	.03	.066	21	4	.04	74	.01	2	1.33	.01	.06	1	3
L41+00E 26+50N	1	12	25	46	.5	2	2	596	2.73	4	5	ND	1	7	1	2	2	20	.04	.179	13	5	.07	61	.01	4	2.44	.01	.05	1	1
L41+00E 26+25N	1	7	13	81	.1	4	3	1014	1.85	3	5	ND	1	3	1	2	2	18	.02	.080	30	3	.09	50	.01	2	1.57	.01	.10	1	3
L41+00E 26+00N	1	11	29	74	.1	5	7	2239	1.39	3	5	ND	1	5	1	2	2	18	.04	.261	20	6	.08	84	.01	2	2.07	.01	.11	1	1
L41+00E 25+75N	1	16	14	52	.1	6	4	128	5.98	4	5	ND	1	10	1	2	2	91	.04	.052	9	14	.20	98	.04	2	2.38	.01	.07	1	2
L41+00E 25+25N	1	20	17	87	.1	5	6	656	3.58	2	5	ND	1	5	1	2	2	51	.05	.062	8	11	.42	81	.04	5	2.75	.01	.14	1	1
L41+00E 25+00N	1	11	14	38	.1	3	3	90	3.44	8	5	ND	1	10	1	2	2	57	.05	.062	8	8	.13	51	.01	4	3.04	.01	.05	1	1
L41+00E 24+75N	1	23	41	97	.2	4	7	1736	2.93	6	5	ND	1	5	1	2	2	34	.04	.118	8	7	.21	102	.01	4	2.40	.01	.12	1	2
STD C/AU-S	18	63	39	132	7.2	75	30	1026	4.21	44	19	7	40	51	19	15	20	61	.49	.094	40	57	.86	179	.07	37	2.02	.06	.13	11	53

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SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	AU* PPB
L41+00E 24+25N	1	40	19	106	.1	4	15	2002	5.22	2	5	ND	1	7	1	2	2	76	.08	.106	8	12	.55	230	.01	6	2.86	.01	.20	2	2
L41+00E 24+00N	1	27	17	100	.2	5	13	2054	4.86	3	5	ND	1	20	1	2	2	81	.23	.103	7	11	.40	260	.01	4	2.47	.01	.17	1	4
L41+00E 23+75N	2	25	16	99	.2	6	10	1096	4.32	3	5	ND	1	9	1	2	2	81	.09	.056	7	13	.61	157	.03	4	2.72	.01	.16	1	4
L41+00E 23+50N	1	40	20	105	.1	6	17	1547	5.68	2	5	ND	1	10	1	2	2	123	.10	.063	6	19	1.20	217	.03	3	3.46	.01	.22	1	3
L41+00E 23+25N	1	41	14	76	.1	6	13	796	5.69	4	5	ND	1	10	1	2	2	82	.10	.096	8	13	.45	177	.01	3	3.27	.01	.14	1	1
L41+00E 23+00N	1	37	18	97	.1	7	14	956	5.57	2	5	ND	1	15	1	2	2	85	.13	.072	9	14	.41	231	.02	3	2.94	.01	.14	1	1
L41+00E 22+75N	1	34	18	84	.1	7	9	671	3.40	5	5	ND	1	33	1	2	2	42	.34	.070	14	12	.22	590	.01	5	2.14	.01	.12	1	2
L41+00E 22+50N	1	14	14	56	.1	3	5	169	3.17	3	5	ND	1	11	1	2	2	39	.10	.032	7	6	.08	95	.02	2	1.63	.01	.06	1	2
L41+00E 22+25N	1	24	24	106	.1	4	9	471	5.09	4	5	ND	1	9	1	2	2	50	.08	.059	6	6	.09	114	.01	2	1.56	.01	.10	1	2
L41+00E 22+00N	1	27	17	100	.3	7	8	1368	3.29	4	5	ND	1	23	1	2	2	38	.23	.109	20	11	.19	387	.01	4	1.79	.01	.08	1	7
L41+00E 21+75N	1	14	12	48	.1	7	4	317	2.50	7	5	ND	1	8	1	2	2	39	.06	.060	8	11	.13	67	.02	2	2.21	.01	.03	1	1
L41+00E 21+50N	1	23	36	95	.1	15	12	1132	4.83	10	5	ND	1	22	1	2	2	70	.24	.096	10	35	.13	346	.01	2	1.91	.01	.08	1	1
L41+00E 21+25N	1	21	13	62	.1	8	6	993	2.87	6	5	ND	1	13	1	2	2	39	.13	.071	7	12	.18	199	.01	5	1.60	.01	.05	1	2
L41+00E 21+00N	1	23	21	123	.4	9	9	3272	3.33	2	5	ND	1	19	1	2	2	47	.24	.135	19	15	.20	334	.02	2	2.59	.01	.08	1	8
L42+00E 27+00N	1	17	30	100	.4	6	8	1576	3.11	32	5	ND	1	10	1	2	2	47	.11	.125	12	11	.23	114	.02	4	1.95	.01	.07	1	2
L42+00E 26+75N	1	12	17	43	.1	3	3	488	3.02	3	5	ND	1	6	1	2	2	41	.04	.094	9	5	.05	34	.03	3	1.62	.01	.04	2	6
L42+00E 26+50N	1	12	28	83	.8	5	4	2328	1.82	6	5	ND	1	20	1	2	2	24	.20	.149	11	6	.11	210	.01	4	1.96	.01	.08	1	2
L42+00E 26+25N	1	10	8	34	.2	2	2	154	1.06	2	5	ND	1	7	1	2	2	25	.04	.063	5	6	.14	60	.01	4	1.17	.01	.07	1	1
L42+00E 26+00N	1	9	26	60	.1	5	3	108	.90	2	5	ND	1	5	1	2	2	17	.04	.129	17	7	.15	59	.01	2	1.92	.01	.08	1	2
L42+00E 25+75N	1	10	18	41	.1	4	3	477	1.18	2	5	ND	1	6	1	2	2	21	.06	.103	17	8	.14	33	.01	3	1.80	.01	.08	1	1
L42+00E 25+50N	1	16	25	64	.1	4	5	1120	1.78	4	5	ND	1	5	1	2	2	26	.04	.108	25	9	.15	52	.02	2	2.82	.01	.08	1	2
L42+00E 25+25N	1	16	11	78	.1	4	6	347	3.61	2	5	ND	1	4	1	2	2	43	.04	.066	14	10	.37	75	.01	3	3.38	.01	.09	1	1
L42+00E 25+00N	1	63	16	116	.1	4	11	1667	4.23	6	5	ND	1	4	1	3	2	50	.04	.122	14	9	.48	145	.01	2	2.84	.01	.14	1	1
L42+00E 24+75N	1	49	19	129	.1	4	12	1676	4.67	3	5	ND	1	4	1	2	2	54	.04	.143	13	8	.59	142	.01	4	3.35	.01	.13	1	1
L42+00E 24+50N	1	28	16	108	.1	4	10	1676	4.23	2	5	ND	1	5	1	2	2	51	.03	.136	10	8	.41	103	.02	4	2.73	.01	.11	1	1
L42+00E 24+25N	2	32	19	151	.1	5	13	1967	5.22	5	5	ND	1	7	1	2	2	61	.08	.135	10	9	.39	252	.01	6	2.85	.01	.13	1	1
L42+00E 24+00N	1	34	19	158	.1	6	14	2175	4.93	2	5	ND	1	13	1	2	2	66	.16	.117	12	14	.58	324	.02	2	3.24	.01	.16	1	1
L42+00E 23+75N	1	21	19	111	.1	8	10	1578	3.32	2	5	ND	1	18	1	2	2	44	.23	.116	9	11	.33	453	.01	3	2.13	.01	.08	1	2
L42+00E 23+50N	2	20	11	92	.1	7	7	778	2.65	5	5	ND	1	19	1	2	2	38	.23	.116	13	11	.39	400	.01	7	2.33	.01	.09	1	1
L42+00E 23+25N	1	16	10	99	.1	6	7	915	2.66	5	5	ND	1	13	1	2	2	35	.13	.092	9	10	.24	284	.01	2	2.34	.01	.09	1	3
L42+00E 23+00N	1	12	19	67	.1	4	5	351	2.83	4	5	ND	1	13	1	2	2	43	.12	.055	6	6	.12	147	.02	2	1.71	.01	.09	1	1
L42+00E 22+75N	1	14	16	70	.1	4	6	593	2.95	3	5	ND	1	7	1	2	2	34	.05	.062	6	7	.12	100	.01	3	1.81	.01	.07	1	2
L42+00E 22+50N	1	28	24	120	.1	5	13	2098	5.12	2	5	ND	1	10	1	2	2	49	.13	.082	7	6	.11	211	.01	2	1.37	.01	.10	1	1
L42+00E 22+25N	1	13	20	56	.1	6	5	312	3.41	4	5	ND	1	10	1	3	2	50	.08	.039	7	10	.10	144	.03	2	1.58	.01	.05	1	1
L42+00E 22+00N	1	13	12	47	.2	4	4	107	3.19	3	5	ND	1	15	1	2	2	44	.15	.035	12	8	.07	226	.03	2	1.66	.01	.03	2	1
STD C/AU-S	18	58	39	132	6.8	71	31	955	4.12	40	19	7	38	49	18	15	19	59	.48	.092	39	55	.84	176	.07	33	1.87	.06	.14	11	49

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SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	AU*
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	%	PPM	PPM	%	PPM	%	PPM	%	%	%	PPM	PPB
L42+00E 21+50N	1	27	15	93	.1	8	10	826	4.34	5	5	ND	1	9	1	2	2	62	.08	.085	9	12	.15	206	.01	2	2.06	.01	.07	1	1
L42+00E 21+25N	1	24	16	88	.1	8	9	1518	3.28	4	5	ND	1	12	1	2	2	52	.13	.081	11	13	.26	276	.01	2	2.41	.01	.07	2	1
L42+00E 21+00N	1	14	17	64	.1	6	7	1453	2.71	4	5	ND	1	16	1	2	2	45	.17	.084	11	12	.21	336	.01	2	2.02	.01	.06	1	2
L42+40E 25+75N	1	9	8	52	.1	4	2	209	1.59	4	5	ND	1	4	1	2	2	23	.03	.070	18	7	.09	41	.01	2	2.02	.01	.07	1	1
L42+40E 25+50N	1	9	18	55	.1	4	3	177	1.93	3	5	ND	1	5	1	2	3	27	.03	.119	25	7	.17	80	.01	2	3.15	.01	.07	1	1
L42+40E 25+25N	1	12	24	106	.2	2	10	1087	3.85	11	5	ND	1	2	1	2	4	29	.01	.109	3	3	.14	58	.01	4	1.58	.01	.12	1	1
L42+40E 25+00N	7	11	41	112	.1	3	5	1591	2.39	6	5	ND	1	3	1	2	2	23	.02	.102	7	4	.14	98	.01	2	2.15	.01	.10	2	2
L42+40E 24+75N	7	18	29	96	.1	4	5	330	4.03	10	5	ND	1	4	1	2	3	40	.03	.076	7	7	.17	57	.01	5	3.33	.01	.09	1	2
L42+40E 24+50N	4	29	79	164	.1	5	9	2224	3.60	5	5	ND	1	9	1	2	3	36	.11	.181	7	7	.25	425	.01	2	2.41	.01	.12	1	15
L42+40E 24+25N	6	77	266	348	.3	10	13	1655	4.83	12	5	ND	1	22	2	2	2	50	.29	.170	11	13	.41	618	.01	2	2.52	.01	.16	1	15
L42+40E 24+00N	1	20	20	83	.6	8	7	1114	4.24	5	5	ND	1	5	1	2	2	57	.04	.082	8	16	.16	138	.01	3	2.66	.01	.06	3	3
L42+40E 23+75N	1	11	10	37	.1	3	3	189	2.73	6	5	ND	1	7	1	2	4	33	.04	.067	7	5	.06	85	.01	3	1.73	.01	.04	1	1
L42+75E 26+00N	1	13	11	56	.2	7	3	319	2.09	4	5	ND	1	6	1	2	2	32	.04	.089	12	14	.19	74	.02	2	3.12	.02	.06	1	2
L42+75E 25+75N	1	11	3	46	.1	4	3	307	3.17	3	5	ND	1	6	1	2	2	32	.04	.079	15	5	.09	61	.01	2	2.02	.01	.05	1	1
L42+75E 25+50N	3	21	27	91	.3	5	7	299	4.42	12	5	ND	3	4	1	2	2	52	.03	.044	17	9	.15	109	.01	2	3.85	.01	.08	1	5
L42+75E 25+25N	2	41	38	140	.2	2	13	3425	3.68	15	5	ND	1	4	1	6	2	18	.07	.076	3	2	.04	405	.01	2	1.05	.01	.11	1	2
L42+75E 25+00N	2	23	28	100	.1	3	9	1910	2.56	12	5	ND	1	2	1	3	2	15	.02	.057	6	1	.05	180	.01	5	.77	.01	.09	1	1
L42+75E 24+75N	2	26	28	139	.1	7	10	1871	3.81	9	5	ND	1	6	1	2	3	31	.04	.172	9	8	.10	145	.01	2	1.90	.01	.11	1	4
L42+75E 24+50N	3	24	30	114	.1	4	7	2172	2.31	11	5	ND	1	16	1	2	2	17	.18	.119	4	3	.04	361	.01	3	.64	.01	.11	1	4
L42+75E 24+25N	1	10	18	45	.1	3	3	176	2.83	7	5	ND	1	6	1	2	2	40	.06	.050	5	5	.05	89	.01	3	1.61	.01	.05	1	2
L42+75E 24+00N	1	24	19	79	.3	7	9	1237	3.39	6	5	ND	1	6	1	2	2	48	.04	.074	8	10	.14	118	.02	2	2.57	.01	.06	1	1
L42+75E 23+75N	1	21	15	73	.2	7	6	645	3.72	3	5	ND	1	8	1	2	2	47	.04	.068	7	9	.10	123	.01	3	1.69	.02	.06	1	3
L42+75E 23+50N	1	29	17	79	.3	8	9	1310	3.58	6	5	ND	1	7	1	2	2	37	.05	.091	10	9	.13	184	.01	2	2.26	.01	.07	1	2
L42+75E 23+25N	1	31	16	105	.3	27	16	1997	4.84	4	5	ND	1	11	1	2	3	55	.10	.147	11	26	.17	364	.01	3	2.04	.01	.08	1	1
L42+75E 23+00N	1	25	15	132	.2	22	19	2813	5.98	5	5	ND	1	11	1	2	2	75	.11	.123	9	26	.19	312	.01	3	1.89	.01	.08	1	1
L42+75E 22+75N	1	17	11	105	.2	12	9	1149	3.94	5	5	ND	1	10	1	2	2	49	.10	.075	7	13	.11	199	.01	2	1.58	.01	.07	1	1
L42+75E 22+50N	1	12	13	56	.1	7	4	131	3.85	5	5	ND	1	10	1	2	2	46	.05	.042	7	12	.12	73	.02	2	1.99	.01	.04	1	1
L42+75E 22+25N	1	16	9	76	.1	12	7	378	2.73	7	5	ND	1	13	1	2	2	40	.13	.028	11	13	.18	502	.01	4	1.84	.01	.06	1	2
L42+75E 22+00N	1	9	9	44	.1	4	3	103	2.82	5	5	ND	1	7	1	2	2	54	.08	.019	7	7	.07	80	.02	2	1.46	.01	.04	1	2
L42+75E 21+75N	1	20	59	123	.1	7	9	2502	3.46	8	5	ND	1	15	1	2	2	42	.21	.099	7	5	.19	344	.01	3	1.67	.01	.09	1	2
L42+75E 21+50N	1	19	17	92	.1	10	7	769	3.32	7	5	ND	1	10	1	2	2	53	.09	.046	8	12	.18	253	.01	2	2.17	.01	.07	1	1
L42+75E 21+25N	1	12	15	56	.1	7	5	344	2.96	7	5	ND	1	7	1	2	2	43	.05	.043	6	11	.11	96	.01	3	1.83	.01	.05	1	1
L42+75E 21+00N	1	7	5	40	.1	3	2	78	1.33	3	5	ND	1	10	1	2	2	46	.07	.017	6	6	.03	61	.02	3	.75	.01	.04	1	1
L43+50E 26+00N	1	18	14	60	.1	7	4	245	3.27	7	5	ND	1	5	1	2	2	33	.03	.094	14	8	.19	92	.01	4	2.82	.01	.07	1	2
L43+50E 25+75N	1	13	13	51	.2	4	3	134	3.44	8	5	ND	1	5	1	2	3	40	.02	.048	7	6	.06	43	.01	2	2.17	.01	.05	1	1
L43+50E 25+50N	2	18	18	96	.1	4	5	1865	2.15	12	5	ND	1	5	1	2	3	21	.03	.117	5	5	.07	128	.01	9	2.00	.01	.10	1	4
STD C/AU-S	18	60	41	132	6.8	76	30	1024	4.19	44	18	8	39	51	18	15	20	60	.49	.093	40	57	.87	183	.07	35	2.04	.06	.13	12	53

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	AU* PPB
L43+50E 25+25N	2	43	14	129	.2	20	13	1507	4.35	13	7	ND	1	2	1	2	2	34	.01	.103	5	10	.06	127	.01	2	1.92	.01	.08	1	1
L43+50E 25+00N	2	37	17	144	.2	13	13	2236	3.93	9	5	ND	1	11	1	2	2	32	.08	.180	7	8	.10	212	.01	5	1.96	.01	.10	1	1
L43+50E 24+75N	1	38	12	89	.3	25	13	1983	3.67	15	5	ND	1	7	1	2	2	37	.06	.157	11	19	.13	92	.01	2	1.93	.01	.06	1	1
L43+50E 24+50N	1	21	11	38	.2	7	3	168	1.48	3	5	ND	1	7	1	2	2	28	.05	.097	10	10	.15	105	.02	2	2.90	.01	.04	2	2
L43+50E 24+25N	1	29	10	94	.4	9	15	2177	4.72	4	5	ND	1	8	1	3	2	49	.05	.144	7	12	.10	160	.01	3	2.01	.01	.08	2	1
L43+50E 24+00N	1	18	22	51	.1	4	5	976	2.31	5	5	ND	1	9	1	2	2	31	.07	.063	6	6	.05	127	.01	2	1.38	.01	.06	1	1
L43+50E 23+75N	1	30	18	103	.2	12	15	4396	4.13	6	5	ND	1	8	1	2	2	35	.05	.122	7	9	.12	170	.01	2	2.24	.01	.07	1	1
L43+50E 23+50N	1	22	9	64	.2	8	6	774	2.32	5	5	ND	1	6	1	2	2	31	.04	.098	6	9	.15	88	.02	2	2.04	.01	.04	1	2
L43+50E 23+25N	1	15	8	58	.5	8	9	1754	3.67	5	5	ND	1	10	1	2	2	30	.10	.125	9	8	.08	88	.01	2	1.45	.01	.07	1	7
L43+50E 23+00N	1	18	21	72	.4	6	7	988	3.06	7	5	ND	1	9	1	2	2	27	.07	.111	7	5	.07	94	.01	4	1.56	.01	.09	1	1
L43+50E 22+75N	1	19	10	84	.6	18	9	1120	3.46	5	5	ND	1	12	1	2	2	41	.06	.091	11	21	.12	198	.01	2	1.65	.01	.07	1	2
L43+50E 22+50N	1	4	3	29	.1	2	1	83	1.55	2	5	ND	1	4	1	2	2	41	.02	.030	5	2	.02	44	.01	2	.89	.01	.05	1	1
L43+50E 22+25N	1	15	10	64	.1	6	5	559	3.38	3	5	ND	1	5	1	2	2	63	.02	.044	6	11	.11	57	.01	2	1.78	.01	.04	1	2
L43+50E 21+75N	1	27	11	129	.2	6	17	3440	5.52	3	5	ND	1	28	1	2	2	89	.31	.154	14	11	.35	527	.01	3	2.54	.01	.09	1	1
L43+50E 21+50N	1	18	10	101	.3	7	11	2136	3.75	2	5	ND	1	10	1	2	2	59	.10	.128	10	9	.22	176	.01	4	2.20	.01	.07	1	1
L43+50E 21+25N	1	19	13	94	.7	7	7	1271	3.22	2	5	ND	1	12	1	2	2	52	.13	.100	31	9	.16	426	.01	2	2.47	.01	.05	1	1
L43+50E 21+00N	1	10	12	46	.1	4	3	139	2.33	5	5	ND	1	5	1	2	2	32	.03	.031	6	6	.09	73	.01	2	1.48	.01	.05	1	1
L44+10E 25+75N	3	41	13	110	.1	4	7	1159	3.07	14	5	ND	1	3	1	4	2	20	.03	.103	5	2	.10	107	.01	2	1.93	.01	.10	1	2
L44+10E 25+50N	2	43	20	103	.2	6	11	1947	3.69	15	5	ND	1	13	1	2	2	36	.19	.148	14	7	.28	309	.01	3	2.40	.01	.12	1	1
L44+10E 25+25N	3	49	22	93	.3	5	9	1515	3.00	13	5	ND	1	5	1	2	3	26	.03	.121	6	4	.09	81	.01	2	1.65	.01	.07	1	3
L44+10E 25+00N	1	26	9	46	.1	6	7	566	1.72	4	7	ND	1	7	1	2	2	26	.06	.114	21	10	.12	102	.02	2	2.86	.01	.05	1	1
L44+10E 24+75N	1	19	13	52	.2	6	5	2114	3.16	5	5	ND	1	6	1	2	2	34	.04	.085	8	11	.13	90	.03	2	3.17	.01	.04	1	12
L44+10E 24+50N	1	10	11	33	.1	3	3	191	3.25	5	5	ND	1	13	1	2	2	49	.11	.049	5	6	.07	64	.02	2	1.59	.01	.04	1	1
L44+10E 24+25N	1	21	8	53	.1	6	6	1523	3.30	3	5	ND	1	8	1	2	2	46	.04	.083	5	9	.09	61	.03	2	1.99	.01	.04	1	1
L44+10E 24+00N	1	15	13	62	.1	4	6	1287	3.01	2	5	ND	1	6	1	2	3	34	.03	.101	8	3	.04	68	.01	2	1.82	.01	.06	1	1
STD C/AU-S	18	63	41	132	6.9	75	30	1020	4.16	44	16	8	39	49	18	15	22	60	.49	.092	40	57	.85	179	.07	36	2.02	.06	.13	11	51

NORTHERN RHYOLITE SURVEY

christa.le

ACME ANAL[illegible].CAL LABORATORIES LTD. 852 E. HASTINGS ST. VA[illegible]UVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(6[illegible] 253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: P1 SOIL P2 SILT P3 MOSS MAT P4-P5 ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: AUG 30 1989 DATE REPORT MAILED: Dec 4/89. SIGNED BY. .D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

Noranda Exploration Co. Ltd. PROJECT 8909-014 116 File # 89-3345 Page 1

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
50+00E 68+00N	1	10	9	41	.3	3	2	309	1.00	2	5	ND	7	46	1	2	2	11	.06	.035	13	5	.15	479	.01	2	4.99	.05	.16	2	1
50+00E 67+50N P	2	10	15	28	.5	2	2	78	1.88	6	5	ND	2	6	1	2	2	20	.03	.069	11	7	.06	96	.04	4	3.42	.01	.05	1	1
50+00E 67+00N	1	19	12	42	.4	7	3	374	2.33	2	5	ND	1	8	1	2	2	30	.04	.064	10	14	.18	111	.06	2	4.09	.01	.07	1	1
50+00E 66+50N P	1	14	16	69	.2	3	2	1198	1.66	2	5	ND	1	13	1	2	3	18	.04	.063	10	6	.10	120	.03	2	3.48	.01	.07	1	1
50+00E 66+00N	1	13	19	49	.5	4	4	318	2.17	2	5	ND	4	15	1	2	2	23	.05	.050	11	8	.15	113	.03	3	3.76	.01	.07	1	1
50+00E 65+50N	1	12	22	50	.1	5	3	1076	1.55	2	5	ND	2	59	1	2	2	19	.08	.045	11	7	.13	389	.04	2	3.86	.02	.10	1	1
50+00E 65+00N P	1	13	8	30	.1	4	4	843	.99	2	5	ND	1	16	1	2	2	15	.05	.043	12	5	.10	150	.02	2	1.71	.13	.24	1	1
50+00E 64+50N	1	7	9	23	.1	1	2	536	.90	2	5	ND	3	6	1	2	2	8	.03	.053	13	3	.08	100	.02	2	2.42	.03	.14	1	1
50+00E 64+00N P	1	12	11	38	.1	3	2	224	1.53	2	5	ND	3	29	1	2	2	21	.09	.025	12	6	.11	126	.04	2	3.04	.05	.17	1	1
50+00E 63+50N	1	10	15	40	.1	4	3	87	2.29	2	5	ND	6	43	1	2	2	29	.06	.027	9	8	.12	248	.06	2	5.05	.02	.08	1	2
50+00E 63+00N P	1	9	18	62	.2	5	3	395	1.64	2	5	ND	7	110	1	2	2	18	.12	.046	14	6	.11	398	.02	2	5.06	.02	.19	1	1
50+00E 62+50N	1	16	11	40	.4	6	4	125	2.66	4	5	ND	3	9	1	2	2	34	.05	.045	6	12	.21	54	.06	6	4.16	.01	.05	1	1
50+00E 62+00N P	1	14	24	52	.3	3	4	200	3.50	5	5	ND	1	10	1	2	2	37	.10	.129	6	8	.29	46	.06	2	2.98	.01	.03	1	1
50+00E 61+50N	1	17	10	41	.6	5	4	353	3.35	2	5	ND	2	7	1	2	3	39	.05	.069	8	10	.28	47	.06	3	2.63	.01	.05	1	1
50+00E 61+00N P	1	11	12	26	.1	3	2	1117	.87	2	5	ND	1	7	1	2	2	16	.05	.052	7	5	.06	73	.02	2	.96	.06	.17	1	1
50+00E 60+50N	1	9	4	24	.1	2	2	93	1.26	2	5	ND	2	9	1	2	2	22	.04	.030	11	4	.06	81	.03	4	1.65	.08	.10	1	1
50+00E 60+00N P	1	11	11	33	.2	6	4	290	1.65	2	5	ND	5	16	1	2	3	23	.07	.043	10	8	.25	154	.02	2	3.05	.06	.09	1	2
STD C/AU-S	19	56	40	132	7.1	68	31	1025	4.18	42	22	8	40	50	18	15	19	61	.51	.091	40	55	.92	180	.07	35	2.08	.06	.13	13	51

APPENDIX 6

GEOPHYSICAL REPORT - MAGNETOMETER SURVEY

christa.le

During September 19, 1989 a geophysical survey consisting of total field magnetics was completed on a grid emplaced on the property during the summer. The magnetometer survey was completed by Noranda personnel using the EDA Omni Plus magnetometer system. Sampling interval along the survey lines was 12.5 m. while survey line separation was 100 m.

DISCUSSION OF COQUIHALLA GRID RESULTS

Plate 1 shows the plotted magnetic map. The linear features which are evident through the grid correspond to outcrop locations of andesite. These trends are somewhat discontinuous, while the interpretation is that they are more continuous, as shown by labels A to E. An algorithm was applied to "force" the structures along the interpretation shown by the labels, the result of which is shown on Plate 2.

There appears to be three magnetic terrains found in the grid area. The first type is the most intense and likely represents the andesite dikes since it corresponds to outcrop locations of this rock. The second type of terrain is moderately active and is found predominately at the southern corner of the grid. Type three, a very quiet zone, is found at 2 areas of the grid: 1)the eastern edge of the grid on Lines 4200E - 4350E, 2)Lines 3600E - 3800E/2475 - 2550N. The last two areas may be continuous, however this is difficult to tell since the signature may be influenced by the adjacent high features. The area of interest, i.e. the showing, lies within area #1 of the quiet unit.

Several linear faults are mapped by the magnetics and are labelled on Plate 2. These structures persist even after the "forcing" algorithm. The faults are subparallel, with an E - W trend. Fault A corresponds to a mapped fault. Feature B is suspected to be a major fault.

Based on the above interpretation and the known geology, there are two areas which can be assigned for testing:

Priority 1: A) The area of the showing and its associated magnetic signature
B) L.3800E/2550N to test the magnetic signature

Priority 2: L.3900E/2467.5N to test the continuity of the Type 3 zone and the suspected faults. Contingent on Priority 1 results.

christa.le

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COSTS

PROJECT: COQUIHALLA　　　　DATE: December 1, 1989

TYPE OF REPORT: GEOPHYSICAL

a) Wages:

No. of Days　4 mandays

Rate per Day　$T. Wong 2 @ $180, W. Kerby 2 @ $195

Dates From:　Sept. 19, 1989 to Oct. 8, 1989

Total Wages　x $　　$ 750.00

b) Food & Accomodations:

No. of Days　4 mandays

Rate per Day　$65.70/day

Dates From:　Sept. 18 & 19, 1989

Total Costs　4 x $ 65.70　　$ 262.80

c) Transportation: Truck plus helicopter

No. of Days　2

Rate per Day　$65.15/truck

Dates From:　Sept 18 & 19, 1989

Total Costs　2x $ 65.15 (Truck)　　$ 130.30

Helicopter hours　1.5

Rate per hour　$610.00

Total Costs (helicopter)　　$ 915.00

TOTAL COSTS: (Truck & Helicopter)　　$1,045.30

Rate per Day　$

Dates From:

Total Costs　x $

Type of Instrument

No. of Days

Rate per Day　$

Dates From:

Total Costs　x $

e) Analysis:
(See attached schedule)

f) Cost of preparation of Report

Author:

Drafting:

Typing:

g) Other: MAGNETOMETER SURVEY

~~Contractor~~

No. of km:	7.8 km	
Rate per km:	$127.69	
Dates from:	September 19, 1989	
TOTAL COST:	7.8 x $127.69	$ 995.98

Total Cost $3,054.08

h) Unit costs for MAGNETOMETER SURVEY

No. of Days	4 mandays	
No. of Units	7.8 km	
Unit costs	$391.56 / km	
Total Cost	7.8 x $391.56	$3,054.16

STATEMENT OF QUALIFICATIONS

I, Ted Wong, of the City of Vancouver, Province of British Columbia, hereby certify that:

1. I am a geophysicist residing in Burnaby, B.C.

2. I have graduated from the University of British Columbia in 1983 with a B.Sc. in Geophysics.

3. I am a professional geophysicist, registered with the Association of Professional Engineers, Geologists and Geophysicists of Alberta. I am a licensed professional geophysicist, registered with the Association of Professional Engineers, Geologists and Geophysicists of the Northwest Territories.

4. I have practised by profession on a continual basis since 1984.

5. I have been employed by Noranda Exploration Company, Limited since September, 1989.

Ted Wong

Ted T. Wong

APPENDIX 7

STATEMENT OF COSTS

christa.le

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COSTS

PROJECT: Coquihalla DATE: December 1, 1989

TYPE OF REPORT: Geological/Geochemical/Geophysical

a) Wages

No. of Days : 105 man days

Rate per Day :	L. Erdman	20 days @ $170.00	$3,400.00
	L. Anonby	16 days @ $120.00	$1,920.00
	D. Sharpe	20 days @ $130.00	$2,600.00
	B. Singh	21 days @ $120.00	$2,520.00
	B. Northcote	13 days @ $120.00	$1,560.00
	K. Pearson	13 days @ $160.00	$2,080.00
	J. McCorquodale	2 days @ $170.00	$ 340.00

Dates From: Aug. 5-31, 1989 and Sept. 19, 1989

Total Wages: $14,420.00

b) Food & Accommodations:

No. of Days: 105 man days

Rate per Day: $41.00

Dates From : Aug. 5-31, 1989 and Sept. 19, 1989

Total Costs : 105 x $41.00 $4,305.00

c) Transportation: Truck Rental plus Helicopter

No. of Days: 35 (1 truck for 21 days, 2 trucks for 7 days)

Rate per day: $65.18/day (truck)

Dates From : Aug. 5-31, 1989 and Sept. 19, 1989

Total Cost for 2 trucks: 35 x $65.18 $2,281.30

Helicopter time: 8.8 hours

Rate per hour : $610.00

Total Cost for Helicopter: 8.8 x $160.00 $5,368.00

Total Cost for Transportation: $7,649.30

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e)	Analysis: (See attached schedule)	$9,392.70
f)	Cost of preparation of Report	
	Author : 3 days @ $170/day	$ 510.00
	Typing : 1 day @ $120/day	$ 120.00
g)	Other: Linecutting	
	No. of Days: 8 mandays	
	Rate per day: $150.00	
	Dates From : Aug. 6-9, 1989	
	Total Wages : 8 x $150.00	$1,200.00
	Other: Geophysics (See Appendix 6)	$3,054.11
	Other: Petrography	
	No. of thin sections: 11	
	Cost per thin section: $93.75	
	Total Cost: 11 x $93.75	$1,031.25
	TOTAL COST:	$41,682.36
h)	Unit Costs for Geology	
	No. of Days: 72 mandays	
	No. of Units: 72	
	Unit Costs : $346.66 manday	
	Total Cost : 72 x $346.66	$24,959.52
	Unit Costs for Geochemistry	
	No. of Days : 25 mandays	
	No. of Units: 659 samples	
	Unit Costs : $15.81/sample	
	Total Cost : 659 x $15.81	$10,420.95

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Unit Costs for Linecutting

No. of Days :	8 mandays	
No. of Units:	11.6 km	
Unit Costs :	$280.00/km	
Total Cost :	11.6 x $280.00	$3,248.00

Unit Costs for Geophysics

No. of days:		
No. of Units:	7.8 km	
Unit Costs :	$391.55	
Total Cost :	7.8 x $391.55	$3,054.09
TOTAL COST:		$41,682.56

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NORANDA EXPLORATION COMPANY, LIMITED

(WESTERN DIVISION)

DETAILS OF ANALYSES COSTS

PROJECT:

ELEMENT	NO. OF DETERMINATIONS	COST PER DETERMINATION	TOTAL COSTS
30 Element) ICP plus Au) by AA)	172 rocks	16.85	$2,898.20
	437 soils	13.85	$6,052.45
	5 pan	9.90	$ 49.50
	2 silt	13.85	$ 27.70
	1 mossmat	13.85	$ 13.85
			$9,041.70
Hg	9 rocks	2.50	$ 22.50
F	9 rocks	4.50	$ 40.50
Geochemical whole rock	15 rocks	9.00	$ 135.00
Fire Assay Au (duplicate)	9 rocks	17.00	$ 153.00
		TOTAL	$9,392.70

APPENDIX 8

STATEMENT OF QUALIFICATIONS

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STATEMENT OF QUALIFICATIONS

****

I, Linda R. Erdman of the City of Vancouver, Province of British Columbia, hereby certify that:

1. I am a resident of British Columbia, residing at 2-2291 West 1st. Avenue, Vancouver, B.C.

2. I am a graduate of the University of British Columbia, with a B.Sc. (Honours) in Geology (1978) and an M.Sc. in Geology (1985).

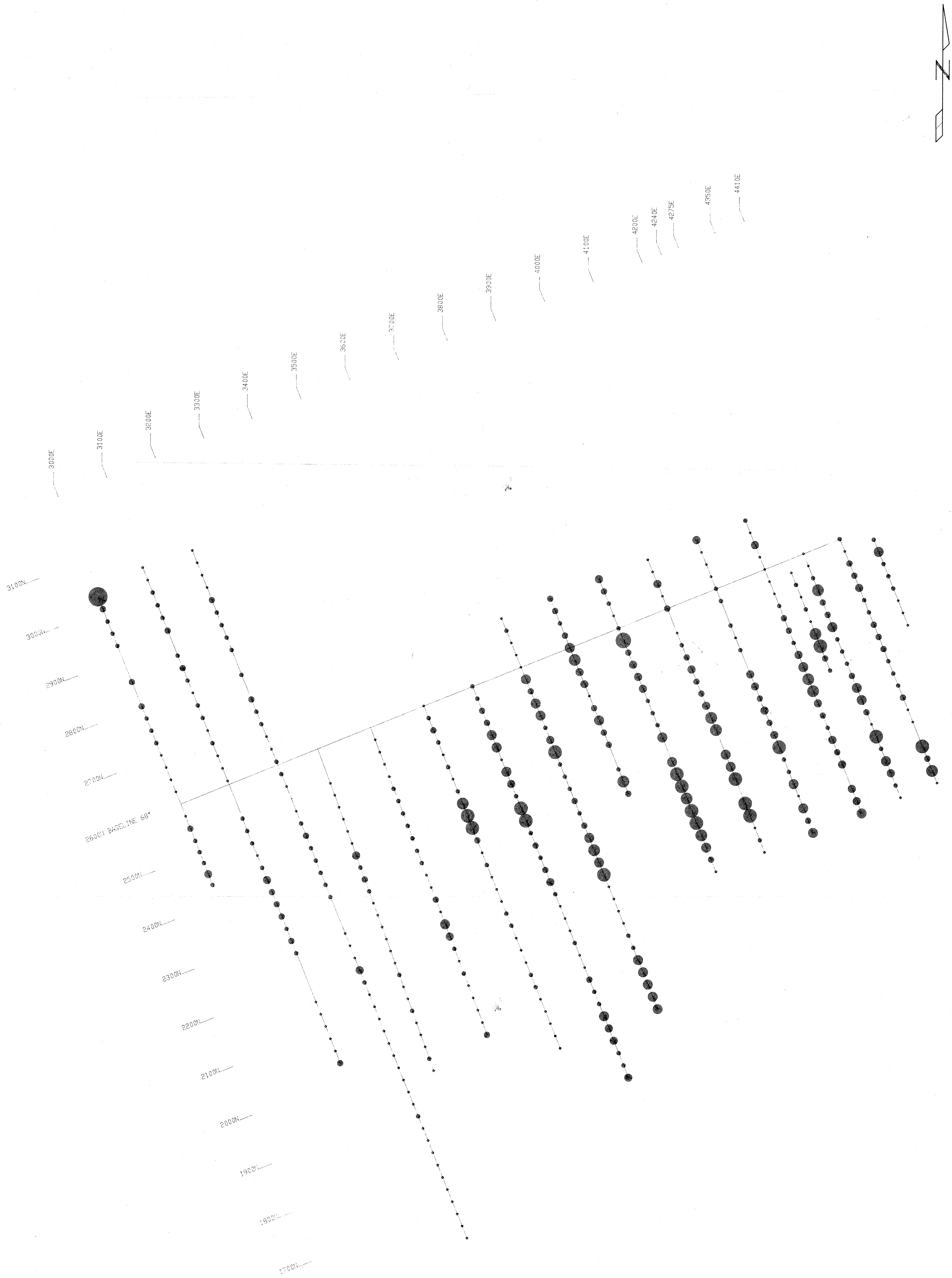
3. I am a Fellow of the Geological Association of Canada.

4. I have been engaged in mining exploration for 10 years.

5. I have been a temporary employee of Noranda Exploration Company, Limited (no personal liability) since May, 1986 and a permanent employee since November, 1987.

Linda Erdman

Linda R. Erdman, M.Sc.
Project Geologist



GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,446

FIGURE 5
SOIL GRID

50m 25m 0m 50m 100m

Ba IN SOILS

>0 <75	>=75 <125	>=125 <200	>=200 <300	>=300 <400	>=400 <500	>=500 <750	>=750 <1000	>=1000 <1250	>=1250

PPM Ba

COQUIHALLA

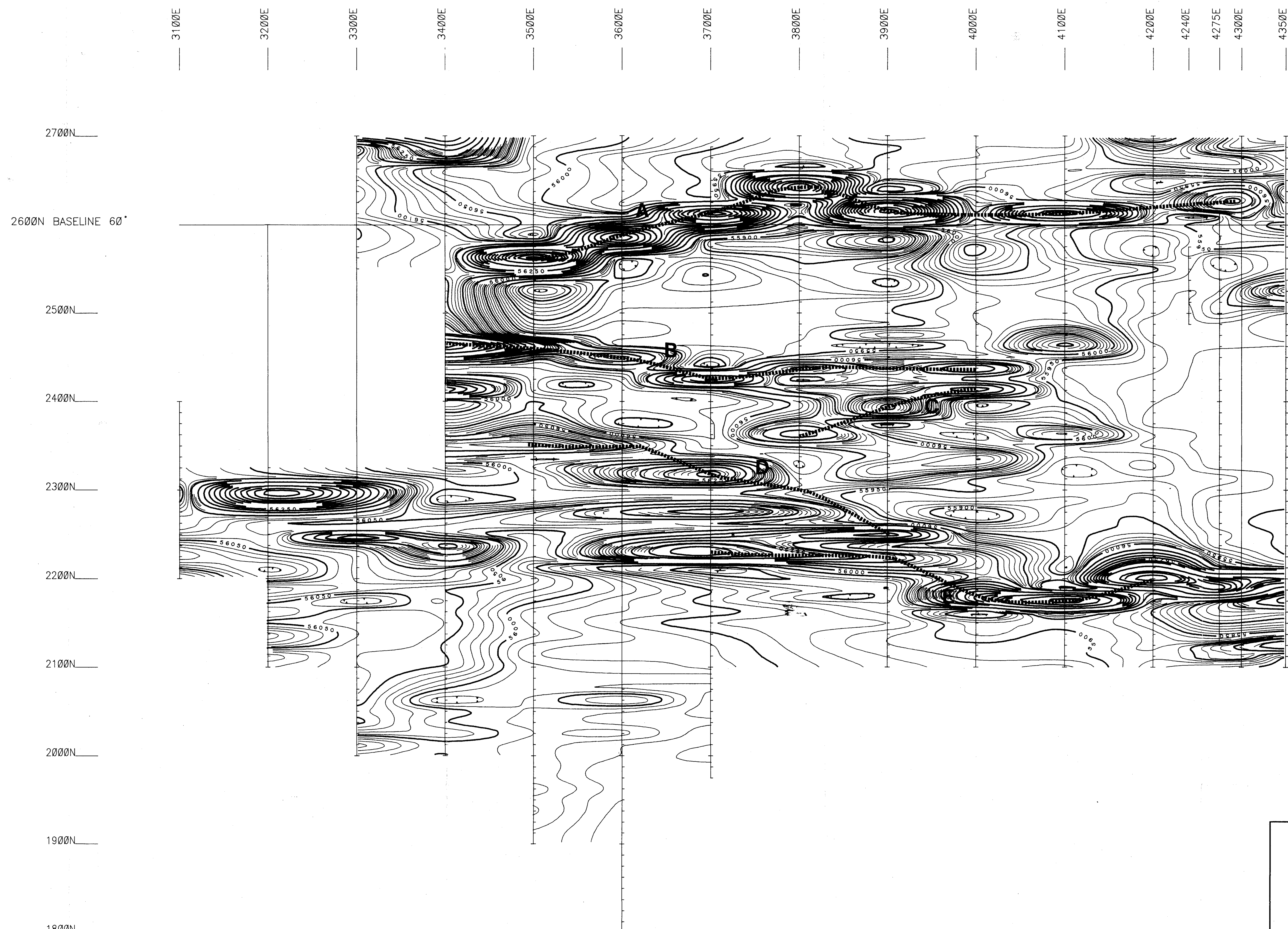
SOIL GEOCHEMICAL SURVEY
PPM Ba
PROJECT: COQUIHALLA MTN PROJECT # : 116
BASELINE AZIMUTH : 68 Deg.

SCALE = 1: 2500 DATE : 8/13/89
SURVEY BY : L ERDMANN NTS : 092H11
FILE: C116COQ
NORANDA EXPLORATION

noranda
NORANDA EXPLORATION CO. LTD.


LB HORN GRID
L.6800N.
L.6700N.
L.6600N.
L.6500N.
L.6400N.
L.6300N.
L.6200N.
L.6100N.
L.6000N.
L.5000E.
R58280
R47432
R47433
R58276
R58279
H47501
S47502
R47503
R47450
R47434
Britton Creek
Baldwin Creek
Hidden Creek
Illal Creek
4500
5000
5500
6000
L.C.P.
CHRISTA 5
643000mE
5491000mN.
CLAIM BOUNDARY
CLAIM BOUNDARY
R58317
R47488
49°34'
LEGEND
1 Quartz Diorite to Diorite
2 Pyroxene Andesite
3 Hornblende Andesite
4 Hornblende Dacite
5 Rhyolite
6 Volcanic Tuff
7 Volcanic Breccia
8 Avalanche Breccia
9 Eagle Granodiorite
10 Eagle Granodiorite Breccia
Contact (assumed,inferred)
Syncline
Layering/bedding
Foliation
Joint
Fault (observed, assumed)
R Rock Sample Location
H Pan Sample Location
S Silt Sample Location
MM Mossmat Sample Location
GEOLOGICAL BRANCH
ASSESSMENT REPORT
19,446
Metres 100 50 0 100 200 300 400 Metres
GEOLOGY AFTER BERMAN (1979)
REVISED
COQUIHALLA PROPERTY
GEOLOGY
SAMPLE LOCATIONS
LB HORN GRID ORIENTATION
(NORTH PART)
SURVEY BY: L.Erdman
DRAWN BY: J.Serwin (ACAD)
DATE: November 1989
SCALE: 1:5000
N.T.S. 92H/11
DWG No. 4b
NORANDA EXPLORATION
OFFICE: VANCOUVER

COQUIHALLA MOUNTAIN
7088
GOSSAN 1
GOSSAN 2
GOSSAN 3
CAMP 1
CAMP 2
L.C.P.
CHRISTA 1
Dome Creek
Jim Kelly Creek
JIM KELLY FAULT
CLAIM BOUNDARY
McGee Creek
Berry Creek
Cliff Creek
OU812 Creek
YES1812 Creek
QUARTZ BRECCIA
OUTCROP
BL 2600N.
L 3000N.
LEGEND
1 Quartz Diorite to Diorite
2 Pyroxene Andesite
3 Hornblende Andesite
4 Hornblende Dacite
5 Rhyolite
6 Volcanic Tuff
7 Volcanic Breccia
8 Avalanche Breccia
9 Eagle Granodiorite
10 Eagle Granodiorite Breccia
Contact (assumed,inferred)
Syncline
Layering/bedding
Foliation
Joint
Fault (observed, assumed)
R Rock Sample Location
H Pan Sample Location
S Silt Sample Location
MM Mossmat Sample Location
Geology after Berman (1979)
GEOLOGICAL BRANCH
ASSESSMENT REPORT
19,446
Metres 100 50 0 100 200 300 400 Metres
REVISED
COQUIHALLA PROPERTY
GEOLOGY
SAMPLE LOCATIONS
GRID ORIENTATION
(SOUTH PART)
PROJ.No. 116
N.T.S. 92H/11
DWG No. 4a
SURVEY BY: L.Erdman
DATE: November 1989
DRAWN BY: J.Serwin (ACAD)
SCALE: 1:5000
NORANDA EXPLORATION
OFFICE: VANCOUVER



GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,446

Instrument	: OMNI
Field	: TOTAL
Datum	: 0.0 nT
Contour Interval	: 10.0 nT
Conductor Axis	:

50m 25m 0m 50m 100m

COQUIHALLA MTN.

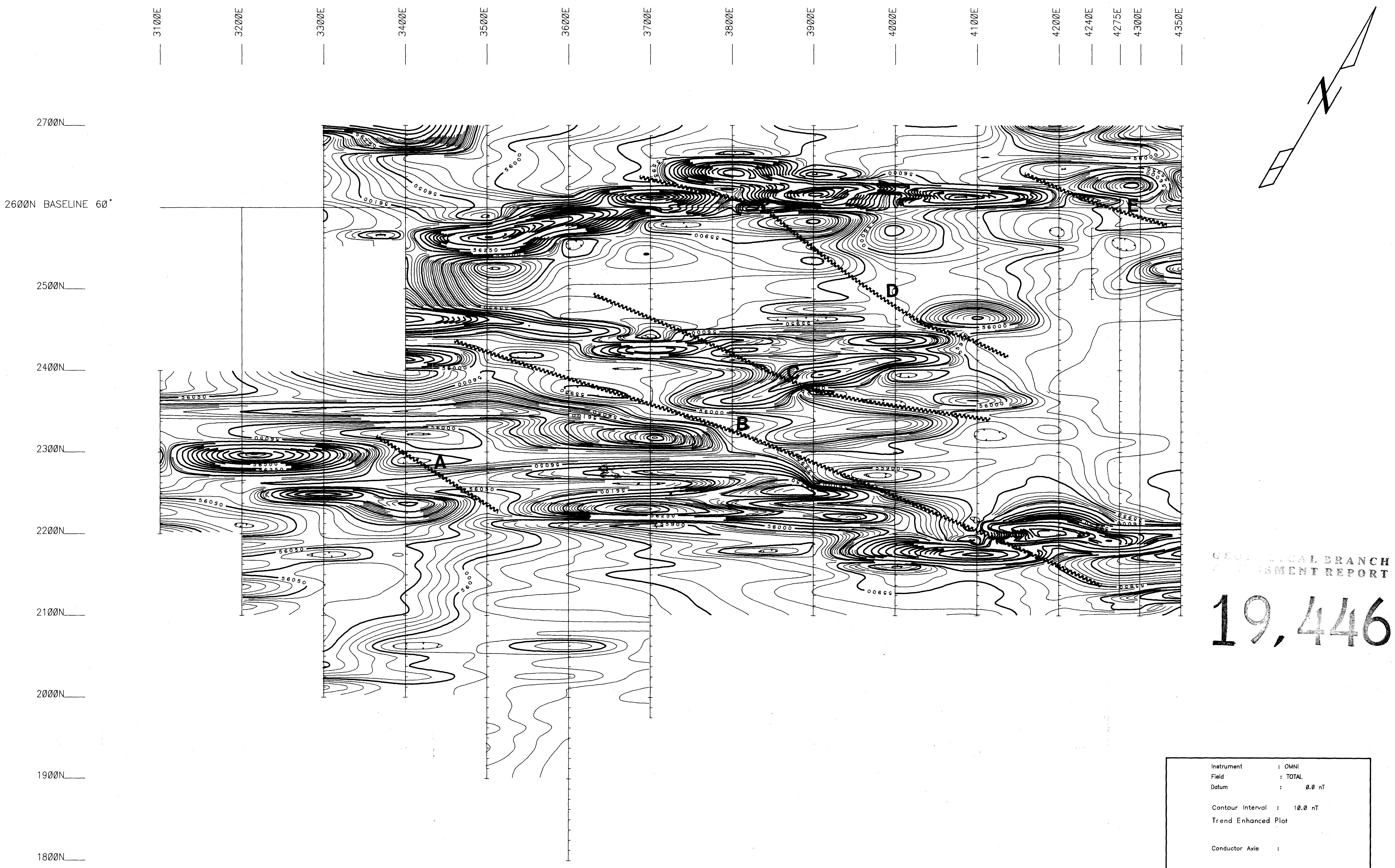
MAGNETOMETER SURVEY

PROJECT: COQUIHALLA MTN. PROJECT # : 116
BASELINE AZIMUTH : 60 Deg.

SCALE = 1 : 2500 DATE : 9/19/89
SURVEY BY : WK/TW NTS :
FILE: M116
NORANDA EXPLORATION

PLATE 1

Vers. 5.01 Wed 27 Sep 1989 at 8:16 Centre of plot at 3725.0E/2250.0N Serial # M89140 Registered User : NORANDA EXPLORATION



GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,446

Instrument	:	OMNI
Field	:	TOTAL
Datum	:	0.0 nT
Contour Interval	:	10.0 nT
Trend Enhanced Plot		
Conductor Axis	:	

50m 25m 0m 50m 100m

COQUIHALLA MTN.

MAGNETOMETER SURVEY

PROJECT: COQUIHALLA MTN. PROJECT # : 116
BASELINE AZIMUTH : 60 Deg.

SCALE = 1 : 2500 DATE : 9/19/89
SURVEY BY : WK/TW NTS :
FILE: M116
NORANDA EXPLORATION

PLATE 2

Vers. 5.01 Wed 27 Sep 1989 at 8:16 Centre of plot at 3725.0E/2250.0N Serial # M89140 Registered User : NORANDA EXPLORATION

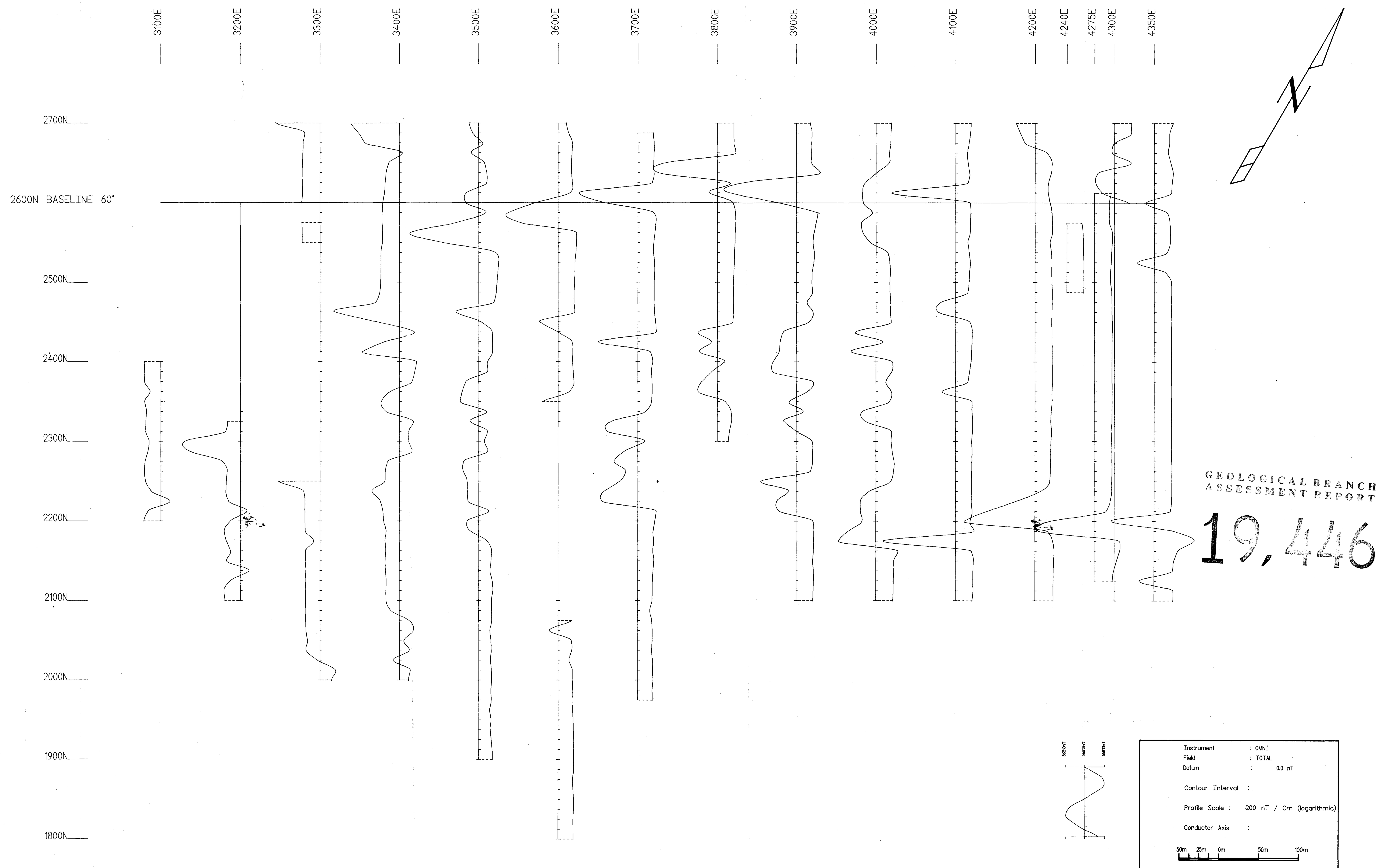


PLATE 3

COQUIHALLA MTN.

MAGNETOMETER SURVEY

PROJECT: COQUIHALLA MTN. PROJECT # : 116
BASELINE AZIMUTH : 60 Deg.

SCALE = 1 : 2500 DATE : / /
SURVEY BY : WK/TW NTS :
FILE: M116
NORANDA EXPLORATION

Vers. 5.01 Fri 6 Oct 1989 at 9:17 Centre of plot at 3725.0E/2250.0N Normal profile centred on 56013.0 nT Serial # M89140 Registered User : NORANDA EXPLORATION