LIMESTONE CREEK FAULT
DIAMOND DRILLING
ASSESSMENT REPORT

LOT 7176 (Tenure #344928)

ATLIN MINING DIVISION
NTS 104K/1W

Latitude: 58°14'00"N
Longitude: 132°18'00"W

Owned and Operated by:

NORTH AMERICAN METALS CORP.
1500-700 West Pender Street
Vancouver, B.C.

Andrew P. Hamilton, B.Sc.

December 1997

Field Work Completed
July 5 - July 21, 1997

25,315

SUMMARY

The Limestone Creek Fault Zone is a gold prospect that occurs on the Golden Bear Mine property in northwestern British Columbia. During the 1997 field season North American Metals Corp. carried out a diamond drilling program to test the zone downdip from the mineralized intersection obtained from a 1996 drillhole. Two HQ diameter holes totalling 311.49 metres were drilled.

The zone occurs in a northwesterly trending, westerly dipping fault zone that forms the contact between Stikine Assemblage quartzites and epiclastic rocks to the west and Permian carbonate rocks to the east. Gold mineralization encountered in earlier drilling occurs in a very strongly altered volcanic fault sliver or dyke within the fault zone.

The 1997 drillholes into the Limestone Creek Fault Zone failed to return significant gold values. Holes drilled to the north, south and now downdip of the 1996 mineralized intersection effectively close off the potential for an economic gold deposit along this portion of the fault. As such no further work is recommended for this area.

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1.0 INTRODUCTION

The Limestone Creek Fault Zone is a recently discovered gold prospect that occurs on the Golden Bear Mine property. It is located roughly four kilometres northwest of the Bear Main deposit which was mined from both underground and open pit workings between startup in 1989 and June 1994, producing 6,781,698 grams of gold from 535,277 tonnes of ore. The project is 100% owned by North American Metals Corp (NAMC), an 82% owned subsidiary of Wheaton River Minerals Ltd.

2.0 SCOPE OF REPORT

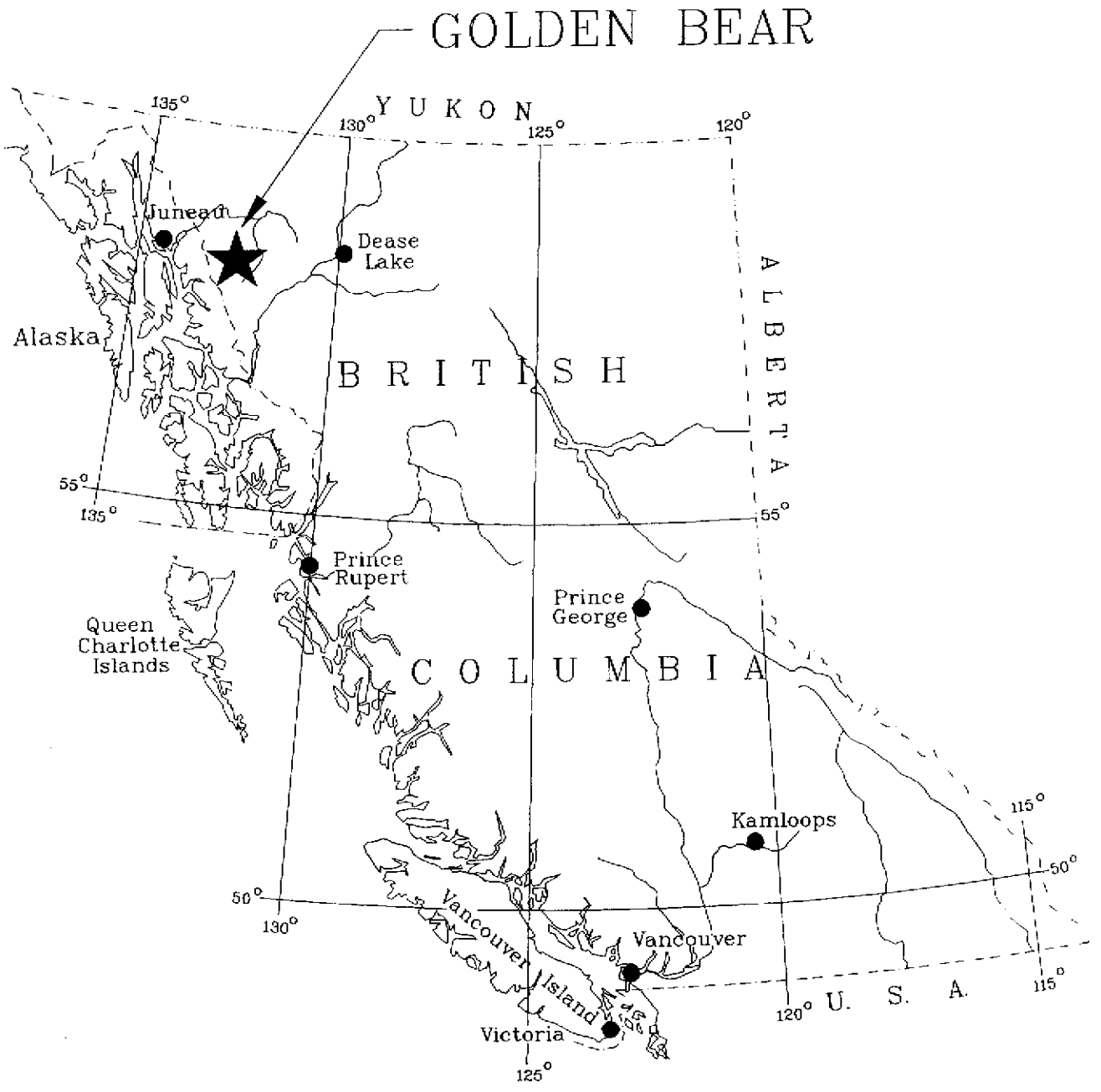
This report serves to present the results of the exploration program carried out on the Limestone Creek Fault Zone in 1997. Work completed during the field season consisted of 311.49 metres of diamond drilling in 2 HQ holes.

3.0 LOCATION, ACCESS AND PHYSIOGRAPHY

The Limestone Creek Fault Zone is located on the Golden Bear Mine property in northwestern British Columbia. The project is in the Atlin Mining Division near 132°17' west and 58°13' north. The project area occurs on the Tulsequah (104K) and Bearskin Lake (104K/1) mapsheets. The town of Dease Lake lies 140 kilometres to the east and Juneau, Alaska is 100 kilometres to the west (see Figure 1).

The mine property lies within moderately rugged terrain on the eastern side of the Chechidla Range of the Coast Mountains, where elevations range from 600 to 2200 metres. Treeline is at roughly 1100 metre elevation with little or no vegetation other than grass occurring above this point. Lower slopes are forested with dense spruce, pine and alder. Glaciers and permanent snow are present but not abundant, however snow melts slowly on western and northern facing slopes where surface exploration can only be effectively conducted between July and mid-September.

Access to the Golden Bear property can be gained by two wheel drive road, fixed wing aircraft or helicopter. Access by road is gained by public road for 80 kilometres west from Dease Lake and then by an all-weather private access road extending 155 kilometres northwest from near Telegraph Creek. A 1500 metre gravel airstrip is present at the minesite to accommodate small fixed wing aircraft. Contract helicopter service is available based out of Dease Lake. For safety reasons use of both the mine access road and the airstrip is restricted. Once at the minesite the property can be accessed by a number of all weather gravel and four-wheel drive exploration roads.



NORTH AMERICAN METALS CORP.

GOLDEN BEAR

LOCATION MAP

N.T.S.: 104 K | Figure: 1

4.0 LAND TENURE

The Golden Bear Mine property consists of a total of 31,136.13 hectares of contiguous mineral claims and mining leases as shown on Figure 2. The Limestone Creek Fault Zone is covered by Lot 7176 (Tenure # 344928), a mining lease which covers 419.0 hectares (see Figure 3). The lease has a primary term of 30 years and is subject to an annual rental fee.

5.0 EXPLORATION HISTORY

The ground covered by Lot 7176 was originally covered by the Totem 2 mineral claim, staked in 1982 by Chevron Canada Minerals Ltd. during the original staking over the Bear Main deposit. Between 1982 and 1985 Chevron carried out 1:5000 scale mapping and prospecting over the area. Additional mapping at 1:5000 was performed by J. Oliver in 1988 and 1989 as part of his PhD project on the Tatsamenie Lake area (Oliver and Hodgson, 1989, 1990).

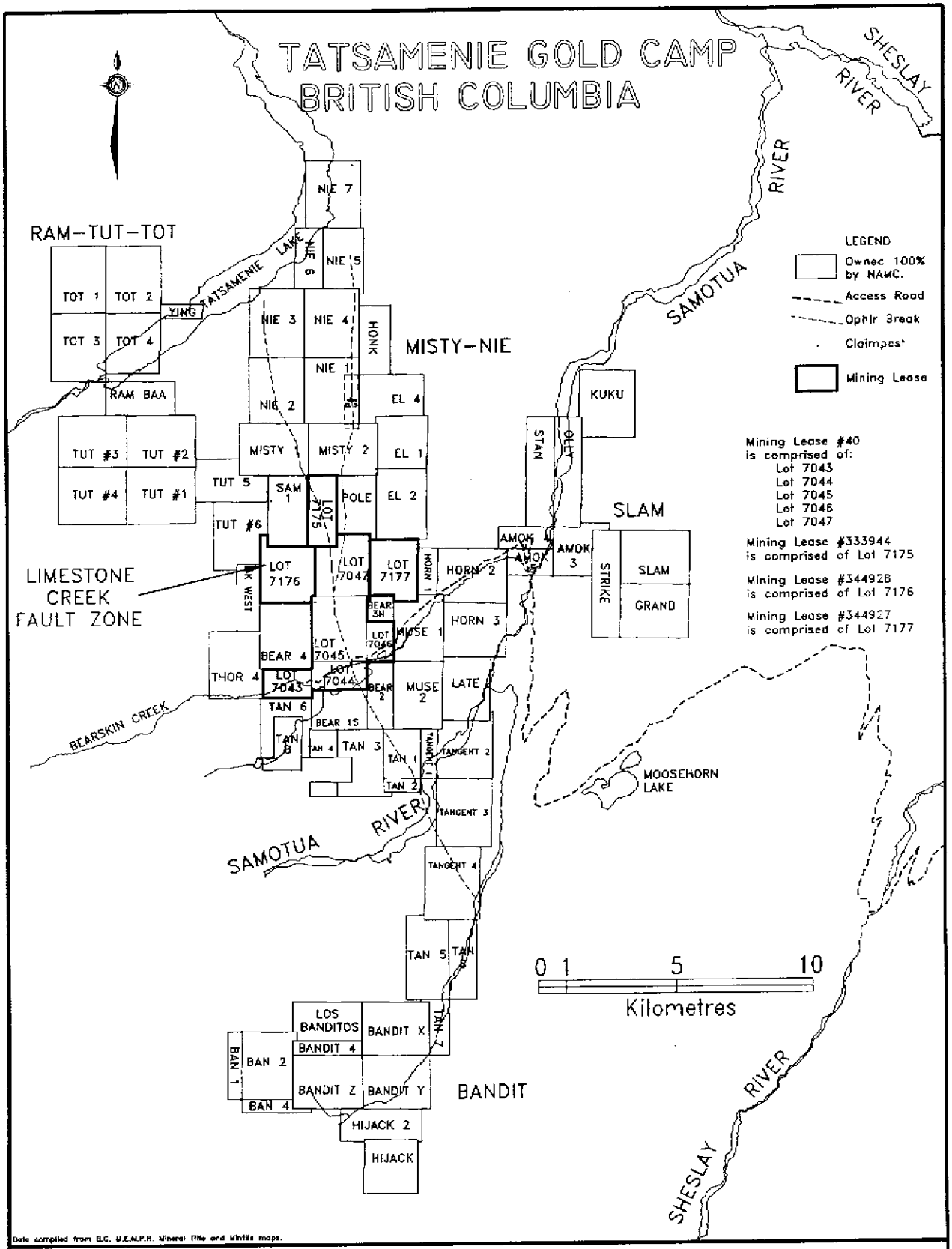
The Limestone Creek Fault area did not see any further exploration work until 1995 when NAMC, encouraged by the discovery of the Kodiak A and Ursa deposits, covered much of the property with a soil geochemistry grid and prospecting traverses. This work outlined a coincident arsenic, antimony and mercury anomaly coincident with the fault. A conductor was also detected to be coincident with the fault by a HLEM survey run over the area during the same field season.

Based on the geochemical and geophysical results NAMC drilled 5 HQ and NQ drillholes into the Limestone Creek Fault Zone in 1996. The first hole intersected a strongly altered volcanic, either a fault sliver or a dyke within the fault, that returned a value of 7.93 g/t gold over 4.57 metres. Two holes drilled 100 metres to the north and south, respectively, failed to return any significant gold values. Two attempts to drill 40 meters beneath the mineralized intersection failed due to extremely broken ground conditions.

6.0 REGIONAL GEOLOGY

Regional stratigraphy and structure for the area was first described by Souther (1971) and more recently by Oliver (Oliver and Hodgson, 1989, 1990) and Bradford and Brown (1993a, 1993b). Detailed property geology has been reported by Pigage (1994) and Cooley (1996), and economic mineralization for selected mineral occurrences has been reported by Schroeter (1985, 1986, 1987). The following description of the regional geology is summarized from these authors.

The Limestone Creek Fault Zone lies within the Intermontaine belt where the lowermost stratigraphic sequence exposed consists of the Stikine Assemblage. The Assemblage consists of a sequence of foliated metavolcanic rocks



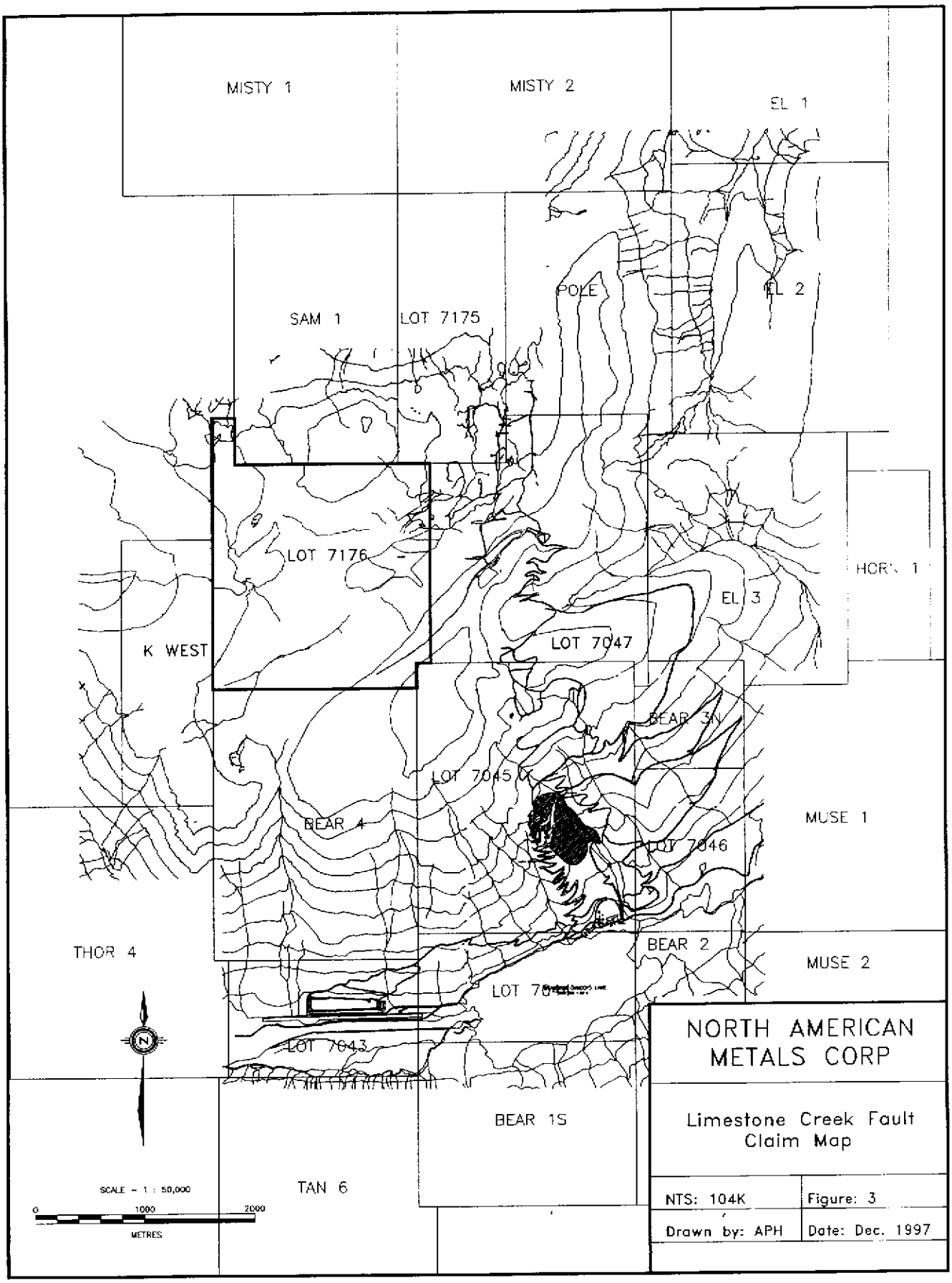
NORTH AMERICAN METALS CORP.

GOLDEN BEAR PROPERTY

CLAIM MAP

N.T.S.: 104 K

Figure 2


MISTY 1
MISTY 2
EL 1
POLE
EL 2
SAM 1
LOT 7175
LOT 7176
K WEST
EL 3
LOT 7047
BEAR 3N
LOT 7045
BEAR 4
MUSE 1
LOT 7046
THOR 4
BEAR 2
MUSE 2
LOT 7043
BEAR 1S
TAN 6
SCALE - 1 : 50,000
0
1000
2000
METRES
NORTH AMERICAN METALS CORP
Limestone Creek Fault Claim Map
NTS: 104K
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dominated by andesitic ash to lapilli tuffs, feldspar and augite phyric tuffs and flows. Minor grey limestone interbeds up to 25 metres in thickness occur throughout the sequence. Lesser argillite and conglomerate also occur as interbeds. The age of the Stikine Assemblage is poorly constrained, however recent zircon dates by Oliver and Gabites (1993) of felsic volcanics in the package indicate ages as old as Pennsylvanian (316 Ma).

A thick, fossiliferous Permian limestone unit forms a distinctive marker within the Stikine Assemblage. The unit ranges from massive to thin bedded, includes both calcitic and dolomitic end members, and has been estimated to be in excess of 200 metres in thickness (McBean and Reddy, 1993). Poorly preserved fusilinids and rugosan corals confirm an early Permian date for the unit (Souther, 1971). Detailed mapping by several geologists has further refined the internal stratigraphy of the Permian limestone unit (McBean and Reddy, 1993; Jaworski and Reddy, 1993; Pigage, 1994; Cooley, 1996).

Unconformably overlying the Stikine Assemblage is a thick package of volcanic and sedimentary rocks comprising the Upper Triassic Stuhini Group. The group consists mainly of red-brown weathering, plagioclase and augite bearing volcaniclastic rocks with lesser pillow basalts, epiclastic rocks and quartzites. The Stuhini Group rocks are typically much less deformed than those of the Stikine Assemblage with a pervasive chloritic foliation typically only developed near major shear zones.

The Stuhini Group is unconformably overlain by subhorizontal, columnar jointed basalts of the Miocene Level Mountain Group (Souther, 1971).

Most of the intrusive rocks in the immediate Bearskin Lake area consist of compositionally heterogeneous, variably foliated hornblende diorite to quartz monzodiorite. These rocks, dated to the late Triassic, intrude both Stikine Assemblage and Stuhini Group rocks. The voluminous Eocene intrusions comprising the Coast Belt occur west of the Limestone Creek Fault area.

Structural interpretation of the Golden Bear Area is difficult because of the lack of stratigraphic control in the Stikine Assemblage rocks. The extensive foliation in the Stikine Assemblage rocks is consistent with at least one and perhaps two pre-Late Triassic phases of folding followed by an erosional interval before deposition of the Stuhini Group. D1 folds are tight to isoclinal and trend dominantly north-south. D2 folds trend either northeast or northwest. Folding interpreted as occurring during D3 and D4 deformation events are considered to be latest Triassic to Middle Jurassic events respectively.

Faulting is dominated by north and northwesterly trending, high angle strike slip faults. The Ophir Break is an economically important fault zone which extends for at least 20 kilometres, and provides the primary structural conrtrol for the Golden Bear property gold deposits. it is comprised of several anastamosing fault

strands across a width of 50 to 100 metres. Fault grooves and slickensides on Ophir Break structures have predominantly shallow plunges, however both Lehrman and Caddey (1989) and Oliver (1995) suggest that there has been recent right lateral reverse movement.

7.0 PROPERTY GEOLOGY

The geology of the Limestone Creek Fault area is dominated by rocks of both the Permian limestone unit (Stikine Assemblage) and the Stuhini Group. The fault zone, which strikes northwesterly and dips moderately to the west, juxtaposes Permian carbonates (east side) against Stuhini Group epiclastics and sediments (west side). Brief descriptions of pertinent units are given below:

DOCH - This is the only carbonate unit intersected to date in the footwall to the Limestone Creek Fault. It consists of thick bedded to massive, fine to medium grained pale tan to buff weathering, grey dolomite with irregular chert beds and nodules. The chert nodules range from light to dark gray in colour and weather in relief. Chert may constitute up to 40% the unit. This is a very widespread unit on the Golden Bear property, indicating that dolomitization was early (diagenetic?) and not related to alteration associated with mineralization.

QUARTZITE - Massive to thinly bedded white to medium gray quartzite. Locally may contain thin argillite or graphitic interbeds. Often contains drusy quartz lined cavities where high level hydrothermal fluids have infiltrated fracture zones.

MFEP - thinly bedded, very fine grained, dark green to brown epiclastic tuff. Where deformed there is development of phyllitic partings. May contain centimetre to decimetre scale quartz +/- feldspar sweats.

MFCA - hydrothermally altered mafic volcanic rocks. Light green to buff coloured on fresh surfaces, weathering to orange. Fine bedding feature are often preserved. May contain fine disseminated euhedral pyrite.

Large scale D1 and D2 folds have not been discernable in drill core. Numerous small scale folds of unknown orientation have been observed.

8.0 MINERALIZATIION

The strongest mineralization detected to date in the Limestone Creek Fault Zone is hosted in a very strongly altered volcanic rock or dyke that lies within the fault zone. The mineralized material is an orangy red colour, is very soft, and completely oxidized. Anomalous to low grade gold values have been obtained from samples of both quartzite and MFEP in the hangingwall to the fault however the values are erratic and there is not any particular structural control that can be identified.

9.0 1997 WORK PROGRAM

The 1997 Limestone Creek work program was carried out between July 5 and July 21, 1997, and consisted of 2 HQ diameter drillholes totalling 311.49 metres. The purpose of the program was to test the down dip potential of the mineralized zone intersected in 1996.

The collar location and orientation of each drillhole was surveyed using mine grid coordinates. Depth down the drill hole is measured from the top of the casing. Down hole deviations were measured at regular intervals using a single-shot Sperry Sun instrument.

The drill core was logged for lithology, structure, assay and geotechnical information at the exploration trailer at thwe minesite camp using custom logging forms. All core was photographed prior to being split. The core is stored at the airstrip situated immediately west of the minesite camp. Rerquested intervasls of core were assayed at the minesite lab by fire assay for gold only (see Appendix III for analytical procedures). Appendix IV contains the logging codes and conventions used for logging core on the project, along with the logs for each of the holes.

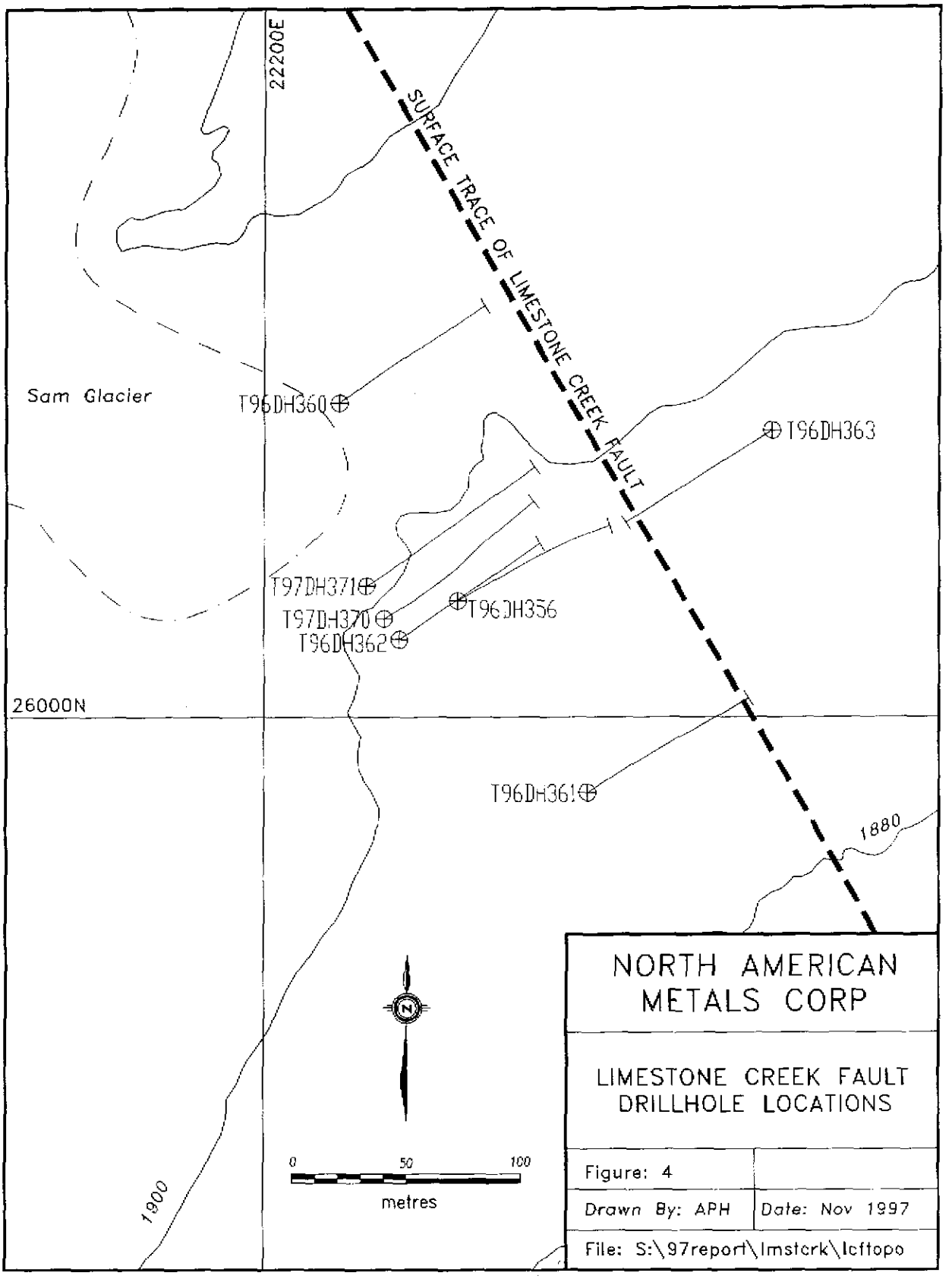
10.0 RESULTS

The location of the 1997 drillholes is shown with the 1996 drillholes on Figure 4. The downhole geology and assay results are shown on two vertical sections, Figures 5 and 6. Assay results are summarized in Table 1. Both holes were drilled on an azimuth of 060°, first passing through a sequence of interbedded quartzites and epiclastic rocks before entering the Limestone Creek Fault Zone.

Drillhole	From (m)	To (m)	Au (g/t)	Length (m)
T97DH370	32.96	33.43	2.13	0.47
	89.91	91.26	1.17	1.35
	141.57	142.33	1.10	0.76
T97DH371	no	significant	results	

Table 1: 1997 Limestone Creek Diamond Drill Summary

As with the 1996 drilling, the 1997 drillholes encountered extremely broken ground when the holes reached the fault zone. T97DH370 had encountered carbonate rocks at its final depth of 149.33 metres when the hole was lost due to bad ground, however it had not reached its target depth, which had allowed for a projection of a near vertical fault system. As such it was uncertain as to whether or not the carbonate rocks in the core represented a large block within the fault zone, or the eastern side of the fault where carbonate rocks were expected. A second hole, T97DH371, was collared 25 metres to the north which did manage to get through the fault and to target depth. It intersected carbonate rocks at the same depth as the first hole, indicating that the fault actually dips 65 to 70


22200E
SURFACE TRACE OF LIMESTONE CREEK FAULT
Sam Glacier
T96DH360
T96DH363
T97DH371
T97DH370
T96DH362
T96DH356
26000N
T96DH361
1880
1900
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metres
NORTH AMERICAN METALS CORP
LIMESTONE CREEK FAULT DRILLHOLE LOCATIONS
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degrees to the west in this area. Niether of the 1997 drillholes encountered the altered material that hosted gold mineralization in the 1996 drillhole.

No significant gold assays were returned from the drill holes. The only assays of greater than one gram per tonne were obtained from T97DH370, as shown above, and only the assay from 141.57 to 142.33 metres was within the fault zone. The two other assays were from higher up the hole and hosted in mafic volcanics and quartzite respectively. Alteration was not observed to be intense or extensive in either of these units, even in close proximity to the fault zone.

11.0 CONCLUSIONS AND RECOMMENDATIONS

Diamond drilling in 1997 below the mineralized intersection obtained during the 1996 program failed to return significant gold mineralization. Holes to the north, south and now downdip, effectively close off the potential for an economic deposit along this portion of the Limestone Creek Fault and no further work is recommended for this area. This however, does not preclude the possibility that significant gold mineralization may exist elsewhere along strike to the northwest or southeast.

12.0 REFERENCES

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APPENDIX I

Statement of Qualifications

Statement of Qualifications

I, Andrew P. Hamilton, with a residence address of #201-2166 West 8th Avenue, Vancouver, B.C., do hereby certify that:

1. I am a graduate of the University of British Columbia at Vancouver, B.C., with a Bachelor of Science Degree in Geological Sciences.

2. I have practiced my profession as a Geologist in British Columbia and the Northwest Territories since 1991.

3. I am presently employed full time as a project geologist with North American Metals Corp. of #1500 - 700 West Pender Street, Vancouver, B.C.

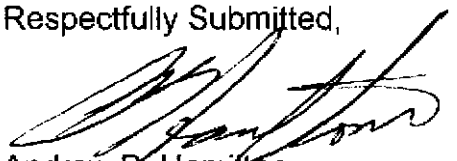
4. The work described in this report is based on fieldwork conducted form July 5 to July 21, 1997, in which I supervised.

5. I have no direct or indirect financial interest in any company known by me to have an interest in the mineral properties described in this report, Nor de I expect to receive any such interest.

6. I am the author of this report.

Dated at Vancouver, B.C., this 10TH day of DECEMBER, 1997

Respectfully Submitted,



Andrew P. Hamilton

APPENDIX II

Statement of Costs

Statement of Costs

Work completed July 5 - July 21, 1997

Wages - field days (12 hours)		
Geologist - A. Hamilton 11 days		$4125.00
Assistant - G. Dennis 16 days		$3600.00
Wages - office (8 hours)		
Geologist - A. Hamilton - report preparation (3 days)		$750.00
Room and Board	NAMC crew (27 days @ $32.00/day)	$864.00
	Drilling Crew (44 days @ $32.00/day)	$1408.00
Diamond Drilling - 311.49 metres of HQ diameter core		
Advanced Drilling, Surrey, B.C.		$57086.35
Equipment Rental - Sperry Sun single shot survey instrument (2 weeks)		
Pothier Enterprises, Richmond, B.C.		$1000.00
Laboratory analyses - 267 fire assays @ $7.00/ sample		
Golden Bear Mine		$1869.00
	TOTAL	**$70702.35**

APPENDIX III

Golden Bear Mine Lab fire Assay Procedures

GOLDEN BEAR MINE ASSAY LAB - ANALYTICAL PROCUDURES

All rock samples assayed at the minesite were assayed for gold using standard fire assay techniques:

- samples are dried, crushed and ring milled to 85% -200 mesh.
- one assay tonne is fused at 1980°c and the resulting lead button is cupelled at 1760°C.
- dore bead is then parted in 20% HNO_3.
- parted bead is washed,dried and weighed.
- final weight is recorded, multiplied by 34.286 and reported ad grame per tonne.

Assays are not considered accurate if they are below 0.17 grams per tonne.

APPENDIX IV

NAMC Logging Codes and Conventions
Diamond Drill Logs
Assay Sheets

LOGGING CODES
for
PC-XPLOR DRILL HOLE DATABASE

G:\DATA\WP51\LOGCODEWPD

TABLE 1 Drill Hole Name and Location

Hole-ID

Surface drill holes in the Golden Bear area are numbered sequentially from the first hole drilled on the property in 1983. The hole-id consists of an 8 character code. The first letter refers to the claim name (all Kodiak A holes start with the letter T because they were drilled on the former Totem claim). The next two numbers indicate the year the hole was drilled. The next two characters are DH for surface hole or UG for underground hole. The final three characters refer to the sequential hole number. Underground and surface holes have separate sequential numbering systems.

Collar Location

Collar locations of the drill holes are measured from the top of the casing. Coordinates are most generally referenced using the Mine Grid coordinate system.

Length of Drill Hole

The total depth of the hole is recorded in metres to 2 decimal places.

Project Area

The general project area is defined using this alphanumeric variable. This variable is useful for defining subsets of drill holes based on mineralized horizons or areas intersected. All Kodiak A drill holes were assigned the variable name KODIAK.

TABLE 2 Downhole Deviation Data

Depth

Depth of the downhole deviation measurement. Collar surveyed orientations have a depth of 0.00.

Azimuth

Azimuth of the downhole deviation or collar measurement reported in decimal degrees in a clockwise direction from North. North corresponds to 0.0 degrees and angles up to 360 degrees are allowed.

Dip

Dip of the downhole deviation or collar measurement reported in decimal degrees. A vertical upright drill hole has a dip of +90.0 degrees, and a vertical downward hole has a dip of -90.0 degrees.

Test Type

A brief description of the test type is recorded with this variable. Acid dip tests are recorded as ACID. Sperry-Sun single shot tests are recorded as SPERRY. Surveyed orientations (collar) are reported as SURVEY.

TABLE 3 General Drill Hole Information

Drill Hole Type

Core diamond drill holes are assigned the type DH. Reverse circulation drill holes are assigned the type RC.

Size of Core

The size of core is recorded as HQ, NQ, or BQ. If reduction had to occur during drilling, all the different sizes are indicated sequentially, i.e. HQNQ.

Start Date

This variable records the day the drill hole was collared. It is recorded using the format DD/MM/YYYY. Collaring of a hole during the morning hours of a night shift is still recorded as being for the previous day.

Stop Date

The date the hole was shut down is indicated in format DD/MM/YYYY. As with the start date, early morning night shift shutdowns are recorded as being for the previous day.

Logged By

This variable contains the initials of the geologist logging the drill hole. Up to three characters may be used.

Edited By

This variable records the initials of the person who edited the drill log.

Surveyed By

The initials of the surveyor for the collar coordinates are entered here.

Contractor

This variable records the drilling contractor for the drill hole.

Rig Type

The type of rig used to drill the hole is indicated here.

Units

By default the drill holes are logged in metres. Feet may be used in special situations.

TABLE 4 Lithology Information

From

The start of a lithologic interval is recorded to two decimal places. The top of the hole is assigned the From of 0.00. The FROM variable for the next unit must correspond to the TO variable for the present unit. Current practice does not allow for nested intervals; the lithological units are reported sequentially starting from the top of the drill hole.

To

The end of a lithologic interval is recorded to two decimal places. Please note the above discussion concerning nested lithologic intervals.

Flag

Key flags are utilized to mark geologic intervals of specific structural importance. Generally these are reserved for key fault zones which may be mineralized.

CUB	Cub Fault
BF	Bear Fault
FWF	Footwall Fault
ISH	Internal Sliver Hangingwall Fault
ISF	Internal Sliver Footwall Fault
ISL	Internal Sliver Fault
FOF	Foster's Fault
WWF	West Wall Fault
BLF	Black Fault
FLF	Fleece Fault
FWT	Footwall Fault
CNF	Central Fault
BLS	Base of Landslide

Rock Code

Rock types encountered in the different Golden Bear drilling programs have been assigned a 4 letter code as defined below:

CASE Casing - used at the top of a hole where the casing was drilled into bedrock or firm ground.

CAVE Material which has been recovered with an interval of core but which has fallen into the recovered position from higher up the hole. If labelled as cave by the drill crew, this code and interval is generally skipped as it is not included within their footage tags.

OVER Overburden - Core recovery through unconsolidated soil or gravel over bedrock.

TRIC Triconed - Interval where the hole was advanced using a tricone bit. No recovery for this interval.

LOST An interval through which no recovery of core has occurred. This code should be used sparingly; it is not intended for zones of poor recovery.

VNQZ Quartz vein of substantial size (i.e. greater than 10 cm).

VNCA Calcite vein of substantial size.

BSDY Basaltic Dyke - Fine grained, dark green to black, equigranular "basalt" dyke. Locally may be vesicular or amygdaloidal. Correlates with Miocene Level Mountain Basalt.

ANDY Andesite Dyke - Fine grained, dark green-grey, intermediate intrusive dyke. Contains up to 20% feldspar phenocrysts up to 2 mm across enclosed in an aphanitic groundmass.

RHDY Rhyolite dyke.

DIDY Diorite Dyke - Dark green, medium grained intrusive containing euhedral pyroxene and feldspar crystals up to 4mm across.

GRDI Granodiorite - Coarse to medium grained granodiorite with hornblende as the chief mafic constituent. Biotite is usually present. Plagioclase forms light grey, white, or greenish subhedral crystals. Plagioclase is commonly surrounded by anhedral grains of flesh coloured K-feldspar. Clear, colourless or smoky quartz occurs as interstitial grains and subhedral crystals lining miarolitic cavities.

GRDF Foliated Granodiorite - Fine to medium grained diorite to quartz monzonite. Chlorite-altered hornblende is the most abundant mafic constituent. Feldspars are opaque, chalky white or tinted pink. Characteristically shows a strong mineral alignment, both planar and linear.

GOUG Highly sheared, "punky", extremely soft clay material from an unidentifiable protolith. Assumed to be a sheared variant of the wallrock lithology.

PYTF Pyritic shear developed in mafic volcanic rocks. Rock is highly sheared, dark grey to black. It is silicified and competent to clay-rich and soft. It contains abundant fine to medium grained sulphides, mainly pyrite. Invariably anomalous in gold and silver.

PGTF Same original lithology as PYTF but entirely broken down to soft clay fault gouge by post mineral fault motion. No

original texture preserved. The gouge is dark grey, locally limonitic. Invariably anomalous in gold and silver; grade is variable.

GBRO Gabbro - Medium green, massive, porphyritic gabbro containing 1 to 4 mm crystals of plagioclase and pyroxene.

MFTF Mafic Volcanic Rock - Underground use only. Undifferentiated basaltic pyroclastic and flow rocks. Generally massive to poorly bedded. Lithologies include MFAS, MFEP, MFLP. All are dark grey to dark green in colour.

MFAS Mafic Ash Tuff - Basaltic pyroclastic rock comprised of at least 50% vitric and lithic clasts less than 2 mm across. Variants include crystal tuff where at least some of the clastic components include crystal fragments. Rock may be well bedded to poorly bedded and is typically dark green.

MFEP Mafic Epiclastic Volcanic Rock - Dark grey to green clastic sedimentary rock formed through erosion and reworking of mafic volcanic rocks. Typically well bedded with normal grading of moderately sorted clasts.

MFLP Mafic Lapilli Tuff - Basaltic pyroclastic rock comprised of vitric and lithic clasts 2mm to 64mm across which occupy greater than 50% of the rock by volume. Rock may be massive or poorly bedded and is typically dark green.

MFFL Mafic Volcanic Flow - Basaltic volcanic flow rock. Typically dark green with plagioclase and pyroxene phenocrysts 2mm to 4mm across. Commonly massive in appearance but may display pillow structures in outcrop.

MFCA Mafic Volcanic Rock, Carbonate Altered - Basaltic pyroclastic, flow, or epiclastic rocks bleached medium brown to light grey or cream. Coloured by carbonatization including development of silica, ankerite, dolomite, calcite, sericite, "mariposite", and clay enrichment. May contain up to 10% pyrite developed as patches, veinlets and envelopes. Most commonly anomalous in gold and silver; rarely ore grade.

ARGI Argillite - Fine grained, dark grey to black, massive to finely bedded, pelitic rock which is commonly graphitic. Where tectonized it may develop distinct graphitic slip planes.

CHSB Chert, Silicified and Brecciated - Matrix supported, brecciated chert with angular chert and minor dolomite or silicified dolomite clasts in a light to medium grey matrix of secondary silica. Clasts are rotated. There is commonly a heterogeneous component including minor volcanic fragments. Trace sulphides may be present. May contain anomalous gold and silver grades.

CHXB Chert, Silicified, Brecciated, and Sulphidized - Matrix supported, brecciated chert with angular primary quartz and minor dolomite or silicified dolomite clasts in a dark grey matrix of secondary silica and fine grained sulphides. Clasts are rotated. There is commonly a heterogeneous component including up to 30% tuff and pyritic tuff fragments. Commonly ore grade.

CHRT Chert - Massive to finely laminated, white to dark grey cryptocrystalline, primary quartz. May be interbedded with up to 20% limey particulate beds. May be crackled or form jigsaw breccias with a silica or ankeritic matrix. May contain minor veinlets or replaced limy layers of silica with trace pyrite. May contain anomalous gold and silver.

DOSB Dolomite, Silicified and Brecciated - Matrix supported, brecciated dolomite with angular primary chert and dolomite or silicified dolomite clasts in a matrix of secondary silica. Commonly light grey but may locally be dark grey. clasts are rotated. There may be a heterogeneous component, including minor tuff fragments. Trace sulphides may be present. May contain anomalous gold and silver grades.

DOXB Dolomite, Silicified, Brecciated, and Sulphidized - Matrix supported, brecciated dolomite with angular clasts of primary chert, dolomite, or silicified dolomite in a dark grey matrix of secondary silica and fine grained sulphides. Clasts are rotated. There is commonly a heterogeneous component including up to 30% tuff and pyritic tuff fragments. Commonly has anomalous gold and silver grades.

DOCH Dolomite with Chert Interbeds - Thick bedded to massive, tan to light brown, fine to medium grained dolomite with primary fossiliferous chert as narrow discontinuous lenses, layers, or beds. Primary chert forms greater than 20% of the unit. Chert occurs as white to medium grey to dark grey, massive to finely laminated layers or lenses (nodules) in the dolomite. No sulphides are present in this lithology unless silicified. Where tectonized, this rock is extensively fragmental with abundant, angular to rounded, large fragments of chert up to 8cm across and smaller fragments of dolomite up to 3cm across.

DOLO Dolomite - Massive to thick bedded, tan to light brown, fine to medium grained dolomite. Contains up to 20% discontinuous primary chert layers. Where tectonized this rock appears extensively fragmental with angular to rounded dolomite and chert fragments up to 5cm across.

LMBC Limestone, Banded and Crinoidal - Buff to tan or grey coloured, thin bedded limestone locally containing crinoidal bioclastic debris. May contain cherty layers.

LMST Limestone - Massive or thick to medium bedded, calcitic limestone. White to pale grey in colour with local bioclastic debris or argillaceous components.

KRST Karst Breccia Zone: used either for karst-related textures or for lost zones caused by karst holes within the rocks being drilled. Breccias consist of limestone and chert clasts in a fine grained, orange brown, limonitic sand to silt matrix. Matrix may contain some sedimentary textures. The karst breccias typically contain late, anastamosing, translucent grey, calcite veinlets which crosscut all other features.

PHYL Phyllite - Fine grained, dark, clastic sedimentary rock with secondary fine grained mica development forming a platy phyllitic texture and lustrous sheen. Typically intercalated with volcanic rocks which have been largely converted to greenstone and chlorite-amphibole schist. Primary bedding and textural features are preserved.

LMSL Silicified Limestone - Rock is severely silicified, but may retain some features described under LMST or LMBC (*i.e.*

bedding, laminae, bioclastic debris). Rock cannot be scratched with a steel blade. Rock does not effervesce in 10% HCl.

SLST Siltstone - Generally greyish to orange-brown in colour. Contains greater than 50% silt size material and less than 50% carbonate minerals. Massived to bedded and/or laminated. Locally interbedded with LMBC, LMST, and/or LMSL. Pyrite may be present as disseminated cubes or aggregates. Locally fossiliferous.

HLBX Heterolithic Breccia - Breccia containing more than one lithology type among the clasts.

LMBX Limestone Breccia - Breccia containing limestone and silicified limestone as the dominant clast lithology. It is suggested that this code be discontinued; instead use the appropriate limestone code with BX as the first texture.

LMCH Limestone with Chert - Texturally identical to DOCH. Fine to medium grained, off white to light grey, calcitic limestone with primary chert lenses or layers. Chert bands are typically pale grey.

LMGT Limestone, Graphitic and Thin Bedded - Thinly bedded, medium dark to dark grey, calcitic limestone. Bedding occurs on a scale of 5cm to 30cm. The unit appears to be nonfossiliferous. Surface weathering results in a strong ribbed appearance with dark grey limestone weathering recessively and calcareous quartz siltstone weathering in relief. Incipient black chert lenses are developed preferentially in the siltstone interbeds.

Colour

Two alphanumeric characters are used to describe the colour of the rock type. If two colours are listed together, the dominant colour is the second entry. RU, for example, is reddish brown. Colours such as pink can be described as 7R = light red.

Lightness Scale	
9	palest
8	pale
7	light
6	light-ish
5	medium (50% light)
4	dark-ish
3	dark
2	very dark
1	darkest

Colour Scale	
A	grey
B	blue
G	green
L	lime (YG)
M	mauve
N	black
O	orange
P	purple
Q	aqua (BP)
R	red
T	tan (khaki)
U	brown (umber)
V	violet (BP)
W	white
Y	yellow

Texture

Four different textures may be described by these two letter codes. The dominant texture should be listed first and the most poorly developed texture should be listed last.

AM	amygdaloidal
BD	bedded
BN	banded
BW	boxworked
BX	brecciated
CR	crackled
FO	foliated
GO	gouged
GN	gneissic
GR	graded
LM	laminated
MS	massive
PH	phyllitic
PL	plutonic
PP	porphyritic
RB	rebrecciated
SC	schistose
SH	sheared
SK	stockworked
VG	vuggy
VN	veined
VS	vesicular

Structural Intensity

This two character code indicates the degree of fracturing, brecciation, or gouge present in the geologic interval. The first character indicates the type of structural disturbance using the definitions below:

0 no brecciation, no shearing, no gouge. Minor fracturing.(no structural intensity modifier is required, ie. No second character)
1 fracturing, only minor gouge and brecciation
2 brecciation and gouge

The second character indicates the degree of intensity of the structural disturbance using the following definitions:

2 very weak
4 fairly weak
6 fairly strong
8 very strong
9 completely

Alteration Facies/Intensity

This two character code indicates the alteration facies and the alteration intensity of the geologic interval. The codes are defined below:

Carbonate Package

0 very weak to unaltered limestone

12 weakly dolomitized
14 moderately dolomitized — less than 15% quartz
16 strongly dolomitized
18 very strongly dolomitized

19 totally dolomitized

22 weakly silicified — may be dolomitized
24 moderately silicified
26 strongly silicified
28 very strongly silicified

29 totally silicified

Greenstone Package

0	very weak to unaltered greenstone	
12	weakly veined, bleached	less than 1%
14	moderately veined, bleached	pyrite and/or
16	strongly veined, bleached	fine sulphides
18	very strongly veined, bleached	
19	totally bleached	
22	weakly bleached, pyritized	
24	moderately bleached, pyritized	greater than 1%
26	strongly pyritized, possibly bleached	pyrite and/or
28	very strongly pyritized, possibly bleached	fine sulphides
29	intensely pyritized, possibly bleached	

Structural Identity

Distance: enter the depth at which the structure occurs.

A two letter code describes structural features observed in the geologic interval. Any number of structures may be defined.

BD	bedding	QA	quartz-Fe carbonate vein
BN	banding	QC	quartz-calcite vein
CD	calcite-dolomite vein	QD	quartz-dolomite vein
CM	chilled margin	QV	quartz vein
CV	calcite vein	SH	shear
DV	dolomite vein	SS	slickensides
FC	fault contact	SV	sulphide vein
FR	fracture	UC	upper contact
FO	foliation	VN	vein
FZ	fault/fracture zone	$$	sheeting
LC	lower contact	FS	flame structure
LM	lamination		

Thickness of Structure

The thickness scale is used to indicate the thickness of the structural feature described immediately above.

9	extremely thick	greater than 20m
8	very thick	20m
7	thick	6m
6	medium thick	2m
5	medium	60cm
4	medium thin	20cm
3	thin	6cm
2	very thin	2cm
1	laminated	0.6cm
0	thinly laminated	0.2cm

Angle of Structure

The angle of the above structural feature relative to the core axis. Structures going straight down the core axis have an angle of 0.

Mineral

Certain alteration and/or ore minerals are noted during the core logging. The following abbreviations are used for the different minerals:

QZ	quartz	PY	pyrite
CA	calcite	CP	chalcopyrite
AK	ankerite	LI	limonite
CL	chlorite	HE	hematite
GY	gypsum	JA	jarosite
MU	muscovite-sericite	SC	scorodite
CY	clay	FS	fine sulphides
FU	"mariposite"		
DO	dolomite		

Mineral - How

The following two letter code indicates how the alteration and ore minerals occur.

AM	amygdules	SP	spots
BL	blebs	PR	pervasive
BM	breccia matrix	PT	patches (as in quilts)
CO	coatings	CC	rosettes and crystal clusters
CL	clasts	SL	selvages
DS	disseminated	$$	sheeting
EN	envelopes	ST	staining (as in tarnish)
FC	framework crystals	EU	euhedral crystals
GO	gouge	VN	veins, macroveins, microveins
RP	replaced, phenocrysts	BW	boxwork
EY	eyes, augen	DA	dalmationite
IN	interstitial		
SK	stockwork		
LM	laminations - bedded		
MS	massive		
ND	nodules		

Mineral - Amount

The two character numeric code indicates the amount of the alteration or ore mineral present. Enter the estimated % from 0 to 99.

TABLE 5 - Assay Information

From

The start of an assay interval is recorded to two decimal places. Assay intervals should not cross lithologic interval boundaries. The assay intervals are reported sequentially starting from the top of the drill hole. Intervals without assays are not entered into the PC-XPLOR database.

To

The end of an assay interval is recorded to two decimal places.

Sample Tag Number

The sample tag number for a particular assay interval is reported. This field is alphanumeric. In the Golden Bear drill hole database the sample tag numbers are not unique; therefore assay values cannot be merged into the the database.

Recovery

The length of core present within an assay interval is recorded to two decimal places in the recovery column. This variable is reported as metres. It is converted to a % within the database using data manipulation.

Au g/t

Gold assay values in grams/tonne are recorded to two decimal places.

Ag g/t

Silver assay values in grams/tonne are recorded to one decimal place. This value is not always present.

TABLE 6 - Geotechnical Data

All geotechnical information is collected between footage tags present in the core box. Each intervals between footage tags represents a single drill run where the core tube is retrieved and core is placed in the core box.

From

The start of a geotechnical interval is recorded to two decimal places. Geotechnical intervals are between drill runs and will cross lithologic and assay interval boundaries. The geotechnical intervals are reported sequentially starting from the top of the drill hole.

To

The end of a geotechnical interval = drill run is recorded to two decimal places.

Recovery

The actual length of recovered core is reported in metres to two decimal places. Efforts should be made to "squeeze" spread out core back together before measuring the amount of core recovered.

RQD - Rock Quality Designation

The RQD per drill run is recorded to two decimal places. This variable records the sum of the lengths of core which are longer than twice the core diameter. For NQ core it records the sum of the lengths greater than 10cm. For HQ core the RQD reports the sum of the lengths greater than 12 cm. It is reported in metres.

Hardness

The strength of intact rock can be estimated from a simple index using tools readily available to the core logger. The following table summarizes the classification system used for estimating rock hardness.

S1	very soft clay	easily penetrated several inches by fist
S2	soft clay	easily penetrated several inches by thumb
S3	firm clay	can be penetrated several inches by thumb with moderate effort
S4	stiff clay	readily indented by thumb but penetrated only with great effort
S5	very stiff clay	readily indented by thumbnail
S6	hard clay	indented with difficulty by thumbnail
R0	extremely weak rock	indented by thumbnail
R1	very weak rock	crumbles under firm blows with point of geological hammer, can be peeled by a pocket knife

R2	weak rock	can be peeled by a pocket knife with difficulty, shallow indentations made by firm blow with point of geological hammer
R3	medium strong rock	cannot be scraped or peeled with a pocket knife, specimen can be fractured with single firm blow of geological hammer
R4	strong rock	specimen requires more than one blow of geological hammer to fracture it
R5	very strong rock	specimen requires many blows of geological hammer to fracture it
R6	extremely strong rock	specimen can only be chipped with geological hammer

Fracture Intensity

This one character numeric code indicates the fracture density for a drill run. The code ranges from 0 through 9 according to the following scale:

Fracture Frequency per 3.05 Metres	Geolog Rating
0-16	0
17-32	1
33-46	2
47-60	3
61-76	4
77-92	5
93-104	6
105-122	7
123-136	8
137-152	9

The Geolog rating is the value entered into the PC-XPLOR database.

DATE:

NORTH AMERICAN METALS CORP.

DRILL LOG COVER SHEET

PAGE 1 OF

DRILL HOLE # T97DH370 PROJECT AREA: LIMESTONE CREEK SECTION:

DRILL HOLE LOCATION DATA

EASTING: 22252.2E

NORTHING: 26042.2N

ELEVATION: 1898.88

HOLE LENGTH (M): 142.33

DRILL DIARY

STARTING DATE: 06/07/97 (DD/MM/YYYY)

COMPLETION DATE: 10/07/97 (DD/MM/YYYY)

LOGGED BY: B. DAVY RIG: ADL300

CONTRACTOR: ADVANCED CORE SIZE: HQ/NQ

SURVEYED BY: NG EDITED BY:

DOWN HOLE SURVEY DATA

SURVEY LEVEL	DEPTH	AZIMUTH	DIP (+/-)	TEST TYPE
COLLAR	0	60.60°	-53.15	SURVEY
1	22.86	57°	-52°	SPERRY
2	83.21	45°	-56°	SPERRY
3	103.63	51°	-54.5°	SPERRY
4				
5				

PURPOSE:

LITHOLOGY SUMMARY

FROM	TO	ROCK CODE	REMARKS	FROM	TO	ROCK CODE	REMARKS
0.00	12.99	CASE	NO RECOVERY				
12.99	21.96	QTZT					
21.96	43.18	MFLA					
61.87	69.43	MFEP					
69.43	84.35	QTZT	FZ				
84.35	88.26	MFLA	FZ				
88.26	115.97	QTZT	FZ				
115.97	128.62	LOST	NO RECOVERY				
128.62	130.43	GOUGE	FZ				
130.43	131.00	LOST	NO RECOVERY				
131.00	132.57	DOLO					
132.57	142.33	DOCH					
	EOH						

COMMENTS:

CHECK LIST ASSAY REPORT CORE PHOTOS

MEMO

TO: **Maggie**
Exploration Dept.

FROM: **Neil Giesbrecht**
Engineering Dept.

RE: **Sept. 7, 1997 Diamond Drill Hole Survey**

The collar coordinates and survey information for diamond drill holes 371 & 372 as observed Sept 7, 1997 are as follows;

DDH #	Northing	Easting	Elevation	Azimuth	Dip
371	26056.64	22244.54	1899.78	58°45'	-54°55'
370	26042.22	22252.20	1898.88	60°36'	-53°09'

If you have any questions, too bad.

GOLDEN BEAR OPERATING COMPANY

DATE: _____

MINE ASSAY REPORT (SAMPLES)

ASSAYER: SG

TAG NUMBER	SAMPLE DESCRIPTION	Au g/t	Ag g/t	C %	S %	S %
40848	DDH	.31				
9		TR	DDH 370			
50		.03				
40871		.10				
40872		TR				
3		TR				
4		1.10				
5		.10				
6		TR				
7		TR	DDH 371			
8		.07				
9		.10				
40880		.96	← standard			
1		.89				
2		TR				
3		.31				
4		.10				
5		.10				
6		.17				
7		.10				
8		TR				
9		TR				
40890		TR				

GOLDEN BEAR OPERATING COMPANY

DATE

MINE ASSAY REPORT (SAMPLES)

ASSAYER

TAG NUMBER	SAMPLE DESCRIPTION	Au g/t	Ag g/t	C %	S %	
40891	DDH	TR				
2		.03				
3		.07				
4		.14				
5		.07				
6		.10				
7		.10				
8		TR				
9		TR				
40900		TR				
1		.14				
2		TR				
3		TR				
4		.34				
5		TR				
6		.09				
7		.07				
8		.07				
9		.10				
40910		TR				
1		.03				
2		TR				
3		.10				
40914		TR				

GOLDEN BEAR OPERATING COMPANY

DATE: July 17, 1997

MINE ASSAY REPORT (SAMPLES)

ASSAYER: D

	TAG NUMBER	SAMPLE DESCRIPTION	Au g/t	Ag g/t	C %	S %	S= %
	40915	DDH	.03				
	6		.03				
	7		.10				
	8		.07				
	9		.03				
	920		.96	←			
	1		TR				
	2		.07				
	3		TR				
	4		.14				
	5		.07				
	6		.10				
	7		TR				
	8		.03				
	9		.03				
	930		.07				
	1		.07				
	2		.07				
	3		.07				
	4		.03				
	5		.10				
	6		.14				
	7		.14				
	40938		.10				

GOLDEN BEAR OPERATING COMPANY

DATE: Oct 17, 1997

MINE ASSAY REPORT (SAMPLES)

ASSAYER:

TAG NUMBER	SAMPLE DESCRIPTION	Au g/t	Ag g/t	C %	S %	S= %
40939	DDH	.34				
940		.03	←			
1		.07				
2		.07				
3		.03				
4		.17				
5		.16				
6		.14				
7		.07				
8		.14				
9		.16				
950		.31				
1		.07				
2		.10				
3		.24				
4		.14				
5		.14				
6		.07				
7		.10				
8		.07				
9		.14				
960		.99	←			
1		.27				
40962		.17				

GOLDEN BEAR OPERATING COMPANY

DATE: Dec 17, 1997

MINE ASSAY REPORT (SAMPLES)

ASSAYER: D.

	TAG NUMBER	SAMPLE DESCRIPTION	Au g/t	Ag g/t	C %	S %	S= %
	40963	DDH	.10				
	4		.24				
	5		.17				
	966		.17				
	967		.07				
	8		.10				
	9		.03				
	970		TR				
	1		.21				
	2		.38				
	3		.27				
	4		.14				
	5		.03				
	6		TR				
	7		.03				
	40978		.09				

GOLDEN BEAR OPERATING COMPANY

MINE ASSAY REPORT (SAMPLES)

DATE: July 18

ASSAYER: Cynthia

	TAG NUMBER	SAMPLE DESCRIPTION	Au g/t	Ag g/t	C %	S %	S= %
	40979	IAT	.31				
	80		.21	←	Blank		
	81		.03				
	82		.10				
	83		.14				
	84		.37				
	85		.05				
	86						
	87						

GOLDEN BEAR OPERATING COMPANY

MINE ASSAY REPORT (SAMPLES)

DATE: July 21/97

ASSAYER: Cynthia

	TAG NUMBER	SAMPLE DESCRIPTION	Au g/t	Ag g/t	C %	S %	S= %
	40201	DDH	.03				
	02		.10				
	03		TR				
	04		TR				
	05		.24				
	06		TR				
	07		.10				
	08		TR				
	09		TR				
	10		.10				
	11		.10				
	40988		.24				
	89		.21				
	90		.38				
	91		.24				
	92		.37				
	93		.21				
	94		.14				
	95		.10				
	96		TR				
	97		TR				
	98		.69				
	99		.14				
	41000		.82	← Hanna			

GOLDEN BEAR OPERATING COMPANY

DATE: July 22/97

MINE ASSAY REPORT (SAMPLES)

ASSAYER: ROSA

	TAG NUMBER	SAMPLE DESCRIPTION	Au g/t	Ag g/t	C %	S %	S= %
	40212	DDH	.03				
	13		.10				
	14		.03				
	15		.03				
	16		TR				
	17		.03				
	18		.03				

NORTH AMERICAN METALS CORP
GEOTECHNICAL LOGGING SHEET

DDH T97DDH371
PAGE 1 of _____

FROM (m)	TO (m)	RECOVERY (m)	RQD (m)	HARDNESS (1-5)	FRACTURE INTENSITY
15.34	15.54	0.17	0	4	8
15.54	16.15	0.66	0	3	9
16.15	17.68	1.52	0	3	9
17.68	19.20	1.63	0.13	3	9
19.20	20.73	1.47	0.51	2	9
20.73	22.25	1.23	0.19	2	8
22.25	22.86	0.62	0.30	1	8
22.86	25.30	0.13	0	0	9
25.30	26.82	1.45	0.18	2	9
26.82	28.04	1.51	0.40	2	9
28.04	29.26	0.63	0.16	4	8
29.26	30.57	1.03	0.30	3	7
30.57	31.39	1.74	0.26	2	9
31.39	33.53	0.94	0.20	2	8
33.53	34.13	0.45	0	0	9
34.13	34.59	0.25	0	0	9
34.59	35.96	1.21	0.36	3	1
35.96	37.49	1.48	0.84	3	1
37.49	39.01	1.53	1.08	2	1
39.01	40.54	1.58	0.47	2	1
40.54	42.06	1.45	0.19	2	5
42.06	43.58	1.47	0.87	2	4
43.58	45.11	1.35	0.82	2	2
45.11	46.63	1.51	0.81	3	2
46.63	48.15	1.37	0.52	3	3
48.15	49.68	1.46	0.60	2	2
49.68	51.20	1.57	1.10	2	1
51.20	52.73	1.47	0.37	1	2
52.73	54.25	1.29	0.38	1	5
54.25	55.78	1.52	0.96	3	1
55.78	57.30	1.48	0	3	4
57.30	58.83	1.57	0.24	3	2
58.83	60.35	1.50	0.26	3	2

NORTH AMERICAN METALS CORP
GEOTECHNICAL LOGGING SHEET

DDH T97DH371

PAGE 2 of _____

FROM (m)	TO (m)	RECOVERY (m)	RQD (m)	HARDNESS (R)	FRACTURE INTENSITY
60.35	61.87	1.52	0.22	3	3
61.87	63.39	1.42	0.15	3	5
63.39	64.92	1.55	0	3	5
64.92	66.44	1.30	0.32	3	5
~~66.44~~ 67.97	~~67.97~~ 68.88	~~1.53~~ 0.77	0	3	5
68.88	70.56	1.52	0.96	1	3
70.56	72.08	1.55	0.33	1	5
72.08	73.76	1.53	0.45	0	9
73.76	75.43	1.54	0.34	3	3
75.43	76.81	1.10	0.49	3	3
76.81	77.45	0.80	0.31	3	5
77.45	78.94	0.35	0	3	6
78.94	80.16	0.80	0.32	3	7
80.16	81.68	1.50	0.31	3	4
81.68	83.20	1.45	1.27	3	0
83.20	84.73	1.70	0.88	3	1
84.73	86.25	1.10	0.58	3	1
86.25	87.78	0.89	0	3	9
87.78	89.00	.67	.12	3	7
89.00	89.30	.30	.20	3	6
89.30	90.22	.34	0	3	4
90.22	90.83	.55	.18	3	9
90.83	91.74	.60	0	3	9
91.74	92.81	.55	0	3	9
92.81	93 57	.57	0	3	9
93.57	94.33	.40	0	3	9
94.33	94.94	.60	0	3	9
94.94	96.92	.80	0	2	9
96.92	98.45	1.09	0	1	9
98.45	99.97	1.00	.49	3	7
99.97	101.50	1.30	.87	3	4
101.50	103.02	1.10	.70	3	4
103.02	104.24	1.40	.93	3	4

NORTH AMERICAN METALS CORP
GEOTECHNICAL LOGGING SHEET

DDH _____
PAGE 3 of _____

FROM (m)	TO (m)	RECOVERY (m)	RQD (m)	HARDNESS R	FRACTURE INTENSITY
104.24	106.07	.97	.35	3	6
106.07	107.59	.43	0	3	9
107.59	109.42	1.42	0	0	9
109.42	111.55	1.06	.21	2	7
111.55	113.08	1.31	0	1	9
113.08	115.82	.35	0	3	6
115.82	116.74	.78	0	3	9
116.74	118.26	.04	0	3	1
118.26	121.01	.36	0	3	5
121.01	122.22	.99	0	2	7
122.22	124.05	.94	0	2	6
124.05	125.58	.33	0	2	9
125.58	127.10	0			
127.10	127.71	0			
127.71	128.93	.44	0	1	9
128.93	130.76	.18	0	0	9
130.76	131.98	.88	0	0	9
131.98	132.28	.28	.13	2	8
132.28	133.81	1.44	.88	2	4
133.81	135.03	1.10	.49	2	1
135.03	136.55	1.48	1.22	3	2
136.55	137.77	1.14	1.05	3	1
137.77	139.29	1.45	1.17	3	1
139.29	140.51	1.26	1.14	3	0
140.51	142.04	1.59	1.38	3	3
142.04	143.56	1.44	1.19	2	0
143.56	145.08	1.49	1.06	2	2
145.08	146.61	1.46	1.38	2	0
146.61	148.13	1.48	1.38	2	1
148.13	150.11	1.34	.85	2	4
150.11	151.64	1.43	.90	2	5
151.64	153.31	1.52	1.17	2	4
153.31	154.84	1.52	1.23	2	0

NORTH AMERICAN METALS CORP
GEOTECHNICAL LOGGING SHEET

DDH _____

PAGE 4 of _____

FROM (m)	TO (m)	RECOVERY (m)	RQD (m)	HARDNESS (1-5)	FRACTURE INTENSITY
154.84	156.36	1.57	1.38	2	1
156.36	157.89	1.37	.87	3	2
157.89	159.41	1.34	.92	3	1
159.41	160.02	.78	.58	3	0
160.02	161.54	1.56	1.45	3	1
161.54	162.76	1.05	1.00	3	0
162.76	164.29	1.50	.87	3	2
164.29	165.51	1.06	1.06	3	0
165.51	167.03	1.33	.83	3	1
167.03	168.55	1.27	.98	3	2
168.55	169.16	.71	.31	3	4

gtechlog.wq1

NORTH AMERICAN METALS CORP
LITHOLOGY LOGGING SHEET

Logged by: BAD

DDH 97DH370

Date: JULY 7, 1997

PAGE 1 OF 7

FROM	TO	FLAG	ROCK CODE	COLO	TEXT 1	TEXT 2	TEXT 3	TEXT 4	STRUC INT	ALTN INT	MINERALIZATION MINERAL // HOW // AMOUNT	STRUCTURE DIST	STRUCTURE FT/TH/AN	FROM	TO	SAMPLE#	RECOV	AU G/T	S%
0.00	12.99		CASE																
			- no recovery																
12.99	21.96		QTZT	W	MS	CR	Bx	60	28	26	FS/DS/TR	18.32	60/4/-	13.99	14.99	40157	1.00	0.34	
			massive, fine grained milky white quartzite									19.61	60/3/-	14.99	15.99	40158	0.55	0.51	
			interbedded with 15-30 cm beds of light									19.85	60/3/-	15.99	16.99	40159	0.79	0.27	
			tan MFCA, crackled texture. 70% gravel											16.99	17.99	40161	0.98	0.10	
			sized material, local dark brown clay											17.99	18.99	40162	1.04	0.21	
			gouge, very fine grained FS locally											18.99	19.99	40163	1.08	0.07	
			disseminated, contact between quartzite											19.99	20.99	40164	0.97	0.17	
			and MFCA at 17.95m is at 40° TCA											20.99	21.96	40165	1.01	0.38	
21.96	34.30		MFCA	LT	GO	Bx	CR	VG	28	18				21.96	22.96	40166	0.96	0.10	
DIFFERENT QUARTZITE UNIT?			light tan, fine grained carb altered mafic											22.96	23.96	40167	1.00	0.07	
			volcanics interbedded w milky white											23.96	24.96	40168	0.92	0.10	
			quartzite, ≤60% dark brown, muddy gouge,											24.99	25.96	40169	1.03	0.03	
			≤30% gravel sized material, ≤10% lightly											25.96	26.96	40170	0.98	0.10	
			fractured, locally vuggy (etched??)											26.96	27.96	40171	0.87	0.48	

0.86 STANDARD 40160

NORTH AMERICAN METALS CORP Logged by: BAD DDH J97DH370
LITHOLOGY LOGGING SHEET

Date: JULY 7, 1997 PAGE 2 OF 2

FROM	TO	FLAG	ROCK CODE	COLO	TEXT 1	TEXT 2	TEXT 3	TEXT 4	STRUC INT	ALTN INT	MINERALIZATION MINERAL // HOW // AMOUNT	STRUCTURE DIST	STRUCTURE FT/TH/AN	FROM	TO	SAMPLE#	RECOV	AU G/T	S%
														27.96	28.96	40172	0.86	0.10	
														28.96	29.96	40173	0.77	0.10	
														29.96	30.96	40174	0.97	0.07	
														30.96	31.96	40175	0.50	0.17	
														31.96	32.96	40176	0.34	0.31	
														32.96	33.43	40177	0.44	2.13	
														33.43	34.30	40178	0.54	0.10	
34.30	39.55		MFCA	FT	MS	CR	GO	VN	10	18	FS/PR/0.1	37.37	60/3/-	34.30	35.30	40179	1.08	0.03	
			light tan, massive, fine grained, carb altered mafic volcanics (proto MFAS) locally crackled, locally gouged, carb veins 2mm wide every 10cm @ various ∠ TCA.									38.45	60/31/-	35.30	36.30	40181	1.02	0.10	
												34.73	QC/0/40	36.30	37.30	40182	1.00	0.14	
														37.30	38.30	40814	1.09	0.27	
														38.30	39.55	40815	1.11	0.14	
39.55	43.18		MFCA	TA	MS	CR	VN	BD	14	14	FS/DS/0.5			39.55	40.55	40183	1.03	0.14	
			tan to blue gray, massive, fine grained carb altered volcanics (proto = MFAS), crackle texture, edges of "clasts" are altered to a tan color, quartz-calcite veins 1mm to 1cm wide every 10 to 20cm @ various ∠ TCA, locally											40.55	41.55	40184	0.99	0.14	
														41.55	42.55	40185	1.09	0.21	
														42.55	43.18	40186	0.66	0.10	

0.03 BLANK 40180

NORTH AMERICAN METALS CORP Logged by: BAD DDH 97DH1370
LITHOLOGY LOGGING SHEET

Date: JULY 8, 1997 PAGE 3 OF 7

FROM	TO	FLAG	ROCK CODE	COLO	TEXT 1	TEXT 2	TEXT 3	TEXT 4	STRUC INT	ALTN INT	MINERALIZATION MINERAL // HOW // AMOUNT	STRUCTURE DIST	STRUCTURE FT/TH/AN	FROM	TO	SAMPLE#	RECOV	AU G/T	S%
		poorly bedded, local beds of the underlying sed unit, locally gritty (quartzite?)																	
43.18	61.87		MFER	AT	BD	SH	60	VN	26	16	FS/DS/0.1 HE/DV/3.0 CL/AV/20			43.18	44.18	40187	0.83	0.24	
		fine grained, olive grey to orange tan/brown mafic epiclastic volcanics, thinly bedded (mm scale), sheared (esp 44.40m - 66.23m), quartz carbonate veins 2/cm thick one every 30cm, fuchsite alteration												44.18	45.18	40188	0.96	0.17	
														45.18	46.18	40189	1.03	0.07	
														46.18	47.18	40190	0.98	0.03	
														47.18	48.18	40191	0.94	0.07	
														48.18	49.18	40192	0.92	0.10	
		along zone beds, locally gouged.												49.18	50.18	40193	1.09	0.41	
														50.18	51.18	40194	0.98	0.14	
														51.18	52.18	40195	0.96	0.34	
														52.18	53.18	40196	1.00	0.14	
														53.18	54.18	40197	0.92	0.14	
														54.18	55.18	40198	0.98	0.17	
														55.18	56.18	40199	1.07	0.07	
														56.18	57.18	40801	0.92	0.21	
														57.18	58.18	40802	1.02	0.14	
														58.18	59.18	40803	0.97	0.21	
														59.18	60.18	40804	1.00	0.03	
														60.18	61.18	40805	0.96	0.10	
														61.18	61.87	40806	0.72	0.03	

0.07!
40200 STANDARD
CHECK 0.09

NORTH AMERICAN METALS CORP Logged by: BAD DDH T97DH370
LITHOLOGY LOGGING SHEET

Date: JULY 8, 1997 PAGE 4 OF 7

FROM	TO	FLAG	ROCK CODE	COLO	TEXT 1	TEXT 2	TEXT 3	TEXT 4	STRUC INT	ALTN INT	MINERALIZATION MINERAL // HOW // AMOUNT	STRUCTURE DIST	STRUCTURE FT/TH/AN
61.87	64.04		QTZT	TA	BD	GO	VN		14	12	FS/DS/0.5	63.68	60/3/–
			fine grained, light tan-gray quartzite, poorly to well bedded (mm scale) @ 50° TCA, weakly altered + locally gouged, calcite veining < 1 cm thick, one every 10–15 cm.									63.21	60/3/–
64.04	69.43		MFEP	TG	BD	SH	GO	VN	28	14		68.93	CV/1/–
			fine grained, medium tan green, well bedded (<2mm), strongly altered, gouged locally + pervasively from 66.23–67.52m, calcite veins <1cm, one every 15–20cm, locally etched + vuggy (68.44–68.99m c 10%), Local HE + Li alteration.									46.23	60/6/–
												68.08	60/4/–
69.43	84.35	FZ	QTZT	TA	BD	SH	60	VN	16	12	FS/DS/1	73.60	60/9/–
			fine grained, light blue-gray, well bedded (<1cm) at 50° TCA, altered, prominent fracture set along bedding planes, locally gouged, carbonate veins (2mm wide) are every 10cm, locally etched (71.98m),									75.14	60/5/–
												72.67	60/3/–
												73.42	CV/0/35
												77.15	FB/0/50
			and lots of MFEP + MFCA fault zone starts at 89.21 and continues mostly below.										

FROM	TO	SAMPLE#	RECOV	AU G/T	S%
61.87	63.18	40807	1.12	0.07	
63.18	64.04	40808	0.88	0.07	
64.04	65.18	40809	1.15	0.31	
65.18	66.23	40810	1.09	0.21	
66.23	67.52	40811	1.23	0.14	
67.52	68.52	40812	0.90	0.17	
68.52	69.43	40813	0.90	/	
69.43	70.52	40816	1.10	0.21	
70.52	71.52	40817	0.99	0.10	
71.52	72.52	40818	0.90	0.14	
72.52	73.52	40819	0.89	0.07	
73.52	74.52	40821	0.97	0.07	
74.52	75.52	40822	0.87	0.03	
75.52	76.52	40823	0.95	0.07	
76.52	77.52	40824	0.98	0.10	
77.52	78.52	40825	0.93	0.07	
78.52	79.52	40826	0.96	0.03	
79.52	80.99	40827	1.28	0.27	
80.99	81.68	40828	0.69	0.07	
81.68	82.78	40829	100	0.07	
82.78	84.35	40830	1.54	0.14	

0.07 40820 BLANK

NORTH AMERICAN METALS CORP Logged by: BAD DDH 97DH370
LITHOLOGY LOGGING SHEET

Date: JULY 8, 1997 PAGE 5 OF 7

FROM	TO	FLAG	ROCK CODE	COLO	TEXT 1	TEXT 2	TEXT 3	TEXT 4	STRUC INT	ALTN INT	MINERALIZATION MINERAL // HOW // AMOUNT	STRUCTURE DIST	STRUCTURE FT/TH/AN	FROM	TO	SAMPLE#	RECOV	AU G/T	S%
84.35	88.26	FZ	MFGA	FT	MS	VN	60	ET	28	18		86.65	QV/1/–	84.35	85.35	40831	0.84	0.07	
												84.56	60/5/–	85.35	86.35	40832	1.02	0.03	
												85.95	60/4/–	86.35	87.35	40833	1.08	0.14	
												86.95	60/6/–	87.35	88.26	40834	0.84	0.03	
88.26	98.01	FZ	QTZT	BA	BD	SH	VN		26	14	FS/DS/0.1			88.26	89.26	40835	1.00	0.07	
		fine grained light to dark grey well bedded quartzite, altered to sandy gravel locally, esp 88.73-91.42, 93.72-98.01, from 94.89 quartzite is finer grained (cherty) w dmzy fine grained quartz in cavities												89.26	90.26	40836	0.50	0.10	
														90.26	91.26	40837	0.54	1.17	
														91.26	92.26	40838	0.90	0.21	
														92.26	93.26	40839	1.00	0.10	
														93.26	94.26	40841	0.95	0.45	
														94.26	95.26	40842	0.87	0.07	
														95.26	96.26	40843	0.85	0.07	
														96.26	97.26	40844	0.50	tr	
														97.26	98.01	40845	0.60	0.07	
98.01	101.79		QTZT	TW	BD	BX	VN		26	18	FS/DS/1			98.01	99.01	40846	0.82	0.07	
		very fine grained milky white to light tan, well bedded quartzite, strongly fractured, brecciated & mostly secondary material, epithermal quartz infilling along fractures → dmzy cavities.												99.01	99.97	40847	0.70	tr	
														99.97	100.99	40848	0.83	0.31	
														100.99	101.79	40849	0.76	tr	

0.89 ← 40840 STANDARD

NORTH AMERICAN METALS CORP
LITHOLOGY LOGGING SHEET

Logged by: BAD

DDH T97DH370

Date: JULY 8, 1997

PAGE 6 OF 7

FROM	TO	FLAG	ROCK CODE	COLO	TEXT 1	TEXT 2	TEXT 3	TEXT 4	STRUC INT	ALTN INT	MINERALIZATION MINERAL // HOW // AMOUNT	STRUCTURE DIST	STRUCTURE FT/TH/AN
101.79	115.97		QTZT	TY	BX	VN	SH	BD	16	18	FS/VN/0.1		
		fine grained, pale tan-yellow quartzite brecciated w/ epithermal quartz infilling along fractures, druzy cavities, poor to well-bedded (mm-cm scale), sheared and brecciated locally, fine grained dissem sulphides in qtz; from 107.80-115.97 strongly brecciated and gouged											
115.97	128.62		LOST										
		- no recovery											
128.62	130.43	FZ	GOUG	OR					29	0			
		- orangy red, noncalcareous, muddy clay gouge.											

FROM	TO	SAMPLE#	RECOV	AU G/T	S%
101.79	103.02	40850	0.47	0.03	
103.02	104.24	40861	0.92	tR	
104.24	105.20	40862	0.94	0.24	
105.20	106.20	40863	1.00	0.14	
106.20	107.20	40864	0.68	0.17	
107.20	108.20	40865	0.74	0.10	
108.20	110.03	40851	0.93	0.31	
110.03	111.15	40852	0.72	0.10	
111.55	113.68	40853	0.28	tR	
113.68	115.97	40854	0.30	TR	
128.62	130.43	40855	0.07	tR	

0.07
40860
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REDUCE TO NQ.

NORTH AMERICAN METALS CORP
LITHOLOGY LOGGING SHEET

Logged by: BAD

DDH 97DH370

Date: JULY 9, 1997

PAGE 7 OF 7

FROM	TO	FLAG	ROCK CODE	COLO	TEXT 1	TEXT 2	TEXT 3	TEXT 4	STRUC INT	ALTN INT	MINERALIZATION MINERAL // HOW // AMOUNT	STRUCTURE DIST	STRUCTURE FT/TH/AN	FROM	TO	SAMPLE#	RECOV	AU G/T	S%
130.43	131.00			LOST															
		- no recovery																	
131.00	132.57		DOLO	VO	MS	VN			O	12				131.00	131.97	40856	0.97	0.14	
		fine grained, massive red brown to orange-yellow dolomite, calcite veins <0.5cm thick, one every 20-30cm, patchy & coarse calcite cupolety, includes clasts 1mm to 2cm of grey DOCH												131.97	132.57	40857	0.60	0.07	
132.57	142.33		DOCH	AT	MS	CR	BX	SH	14	26				132.57	133.57	40858	1.17	TR	
		fine grained dark grey to tan dolomite w/ dark grey chert beds/clasts, cracked to locally highly brecciated (136.22-136.69), locally sheared and brecciated to gravel aged pieces (135.10-135.98m), brown clay gouge from 139.61-139.74m, calcite veins 2.0mm, one every 30cm also coarse, bot stage calcite veins and patches.												133.57	134.51	40866	0.74	0.07	
														134.57	135.57	40867	0.98	TR	
														135.57	136.57	40868	1.01	0.07	
														136.57	137.57	40869	0.92	0.03	
														137.57	138.57	40870	0.96	0.27	
														138.57	139.57	40871	0.64	0.10	
														139.57	140.57	40872	1.17	TR	
														140.57	141.57	40873	0.94	TR	
														141.57	142.33	40874	0.64	1.10	

142.33 E.O.H.

DATE:

NORTH AMERICAN METALS CORP.

DRILL LOG COVER SHEET

PAGE 1 OF

DRILL HOLE # T97DH371 PROJECT AREA: LIMESTONE CK SECTION:

DRILL HOLE LOCATION DATA

EASTING: 22244.5E

NORTHING: 26056.6N

ELEVATION: 1999.78m

HOLE LENGTH (M): 169.16m

DRILL DIARY

STARTING DATE: 11/07/97 (DD/MM/YYYY)

COMPLETION DATE: 16/07/97 (DD/MM/YYYY)

LOGGED BY: BAD RIG: ADL 300

CONTRACTOR: ADVANCED CORE SIZE: NQ/HQ

SURVEYED BY: NG EDITED BY:

DOWN HOLE SURVEY DATA

SURVEY LEVEL	DEPTH	AZIMUTH	DIP (+/-)	TEST TYPE
COLLAR	0	58.75°	-59.92°	SURVEY
1	21.33	55°	-56°	SPERRY
2	77.11	54°	-57.5°	SPERRY
3	137.15	56°	-59.5°	SPERRY
4	165.55	54°	-59.0°	SPERRY
5				

PURPOSE:

LITHOLOGY SUMMARY

FROM	TO	ROCK CODE	REMARKS
0.00	15.34	CASE	NOT RECOVERED
15.34	29.53	QTZT	
29.53	39.59	MFCA	
39.59	43.17	MFEP	
43.17	46.15	MFAS	
46.15	55.13	MFEP	
55.13	68.88	QTZT	
68.88	72.74	MFCA	
72.74	79.14	QTZT	
79.14	87.80	MFCA	
87.80	91.66	CHRT	
91.66	99.45	QTZT	
99.45	115.82	MFEP	FZ
115.82	132.07	QTZT	FZ
132.07	139.37	DOCH	
139.37	141.93	CHRT	
141.93	156.38	DOCH	
156.38	169.16	LMGT	
	169.16		EOH

FROM	TO	ROCK CODE	REMARKS

COMMENTS:

CHECK LIST ASSAY REPORT CORE PHOTOS

MEMO

TO: **Maggie**
Exploration Dept.

FROM: **Neil Giesbrecht**
Engineering Dept.

RE: **Sept. 7, 1997 Diamond Drill Hole Survey**

The collar coordinates and survey information for diamond drill holes 371 & 370 as observed Sept 7, 1997 are as follows;

DDH #	Northing	Easting	Elevation	Azimuth	Dip
371	26056.64	22244.54	1899.78	58°45'	-54°55'
370	26042.22	22252.20	1898.88	60°36'	-53°09'

If you have any questions, too bad.

GOLDEN BEAR OPERATING COMPANY

DATE: JULY 9, 1997

MINE ASSAY REPORT (SAMPLES)

ASSAYER:

TAG NUMBER	SAMPLE DESCRIPTION	Au g/t	Ag g/t	C %	S %	S %
40157	DDH 370	.34				
8		.51				
9		.27				
160		.86				
1		.10				
2		.21				
3		.07				
4		.17				
5		.38				
6		.10				
7		.07				
8		.10				
9		.03				
170		.10				
1		.48				
2		.10				
3		.10				
4		.07				
5		.17				
6		.31				
7		2.13				
8		.10				
9		.03				
180		.03				
40181		.10				

GOLDEN BEAR OPERATING COMPANY

DATE: JULY 10, 1997

MINE ASSAY REPORT (SAMPLES)

ASSAYER: G

TAG NUMBER	SAMPLE DESCRIPTION	Au g/t	Ag g/t	C %	S %	
40182	DDH	.14				
3		.14				
4		.14				
5		.21				
6		.10				
7		.24				
8		.17				
9		.07				
190		.03				
1		.07				
2		.10				
3		.41				
4		.14				
5		.34				
6		.14				
197		.14				
40814		.27				
815		.14				
35000	GRAB	.14				

GOLDEN BEAR OPERATING COMPANY

DATE: JULY 16, 1997

MINE ASSAY REPORT (SAMPLES)

ASSAYER: D.

TAG NUMBER	SAMPLE DESCRIPTION	Au g/t	Ag g/t	C %	S %	
40801	DDH	.21				
2		.14				
3		.21				
4		.03				
5		.10				
6		.03				
7		.07				
8		.07				
9		.31				
40810		.21				
1		.14				
2		.17				
6		.21				
7		.10				
8		.14				
9		.07				
820		.07				
1		.07				
2		.03				
3		.07				
4		.10				
40825		.07				

GOLDEN BEAR OPERATING COMPANY

DATE: Dec 11, 1997

MINE ASSAY REPORT (SAMPLES)

ASSAYER: D

TAG NUMBER	SAMPLE DESCRIPTION	Au g/t	Ag g/t	C %	S %	
40826	DDH	.03				
7		.27				
8		.07				
9		.07				
830		.14				
1		.07				
2		.03				
3		.14				
4		.03				
40835		.07				
40120	CHECK	.89				
✓	✓	.89				

GOLDEN BEAR OPERATING COMPANY

DATE Dec 11, 1987

MINE ASSAY REPORT (GRAB SAMPLES)

ASSAYER GE

TAG NUMBER	SAMPLE DESCRIPTION	Au g/t	Ag g/t	C %	S %	
35101		51.57	✓			
2		.14	✓			
3		.34	✓			
35104		.10	✓			
37678		13.71	✓			
40051		.69	✓			
2		.07	✓			
3		.10	✓			
4		.07	✓			
40055		.24	✓			
40819		.14				
40840		.89				
40200		.89				
"		.93				

BAP

Oft all

APM

370

DDH 370 checks

GOLDEN BEAR OPERATING COMPANY

DATE: JULY 11, 1997

MINE ASSAY REPORT (SAMPLES)

ASSAYER: D. GC

TAG NUMBER	SAMPLE DESCRIPTION	Au g/t	Ag g/t	C %	S %	
40851	DDH	.31				
2		.10				
3		TR				
4		TR				
5		TR				
6		.14				
7		.07				
8		TR				
40860		.07				
1		TR				
2		.24				
3		.14				
4		.17				
5		.10				
6		.07				
7		TR				
8		.07				
9		.03				
40870		.27				
40198		.17				
9		.07				
40200		.07				

GOLDEN BEAR OPERATING COMPANY

DATE

MINE ASSAY REPORT (DDH SAMPLES)

ASSAYER

TAG NUMBER	SAMPLE DESCRIPTION	Au g/t	Ag g/t	C %	S %	S %
40848	DDH	.31				
9		TR	DDH 370			
50		.03				
40871		.10				
40872		TR				
3		TR				
4		1.10				
5		.10				
6		TR				
7		TR	DDH 371			
8		.07				
9		.10				
40880		.96				
1		.89				
2		TR				
3		.31				
4		.10				
5		.10				
6		.17				
7		.10				
8		TR				
9		TR				
40890		TR				

GOLDEN BEAR OPERATING COMPANY

DATE: JULY 13, 1997

MINE ASSAY REPORT (SAMPLES)

ASSAYER: DD

TAG NUMBER	SAMPLE DESCRIPTION	Au g/t	Ag g/t	C %	S %	
40836	DDH	.10				
7		1.17				
8		.21				
9		.10				
841		.45				
2		.07				
3		.07				
4		TR				
5		.07				
6		.07				
40847		TR				

NORTH AMERICAN METALS CORP
GEOTECHNICAL LOGGING SHEET

DDH T97DDH370
PAGE 1 of 3

FROM (m)	TO (m)	RECOVERY (m)	RQD (m)	HARDNESS	FRACTURE INTENSITY
0	13.99	0	/	/	/
13.99	14.02	1.03	0	4	9
14.02	15.54	0.82	0	4	9
15.54	16.15	0.59	0	3	9
16.15	17.53	1.07	0	4	9
17.53	18.59	1.27	0.44	2	8
18.59	20.27	1.63	0.18	1	6
20.27	22.10	1.70	0.53	3	8
22.10	23.77	1.52	0.41	1	4
23.77	25.30	1.39	0	0	9
25.30	26.82	1.44	0	0	9
26.82	28.34	1.15	0.35	2	9
28.34	[illegible]	1.12	0	2	9
29.87	[illegible]	1.20	0	2	9
31.39	32.92	0.20	0	4	9
32.92	33.22	0.20	0	4	9
33.22	33.83	0.35	0	3	9
33.83	34.44	0.67	0.24	2	8
34.44	35.96	1.41	0.43	2	4
35.96	37.49	1.51	0.95	2	2
37.49	39.01	1.52	0.53	1	3
39.01	40.53	1.51	1.06	1	3
40.53	42.06	1.60	0.94	2	2
42.06	43.58	1.50	0.53	2	2
43.58	45.11	1.51	0.20	2	6
45.11	46.63	1.69	0	2	7
46.63	48.16	1.48	0.20	2	6
48.16	49.67	1.67	0.58	3	6
49.67	51.20	1.45	0.60	3	5
51.20	52.73	1.52	0.86	2	5
52.73	54.25	1.55	0.42	2	3
54.25	55.76	1.63	0.14	1	6
55.76	57.30	1.36	0.69	0	8

NORTH AMERICAN METALS CORP
GEOTECHNICAL LOGGING SHEET

DDH T97DN370
PAGE 2 of 3

FROM (m)	TO (m)	RECOVERY (m)	RQD (m)	HARDNESS "R"	FRACTURE INTENSITY
57.30	58.82	1.55	0.44	2	2
58.82	60.34	1.50	0.40	1	3
60.34	61.87	1.55	0.30	1	5
61.87	63.39	1.35	0.54	3	1
63.39	64.92	1.51	0.74	2	2
64.92	66.44	1.48	0.46	1	5
66.44	67.96	1.48	0.17	0	9
67.96	69.49	1.42	0	1	6
69.49	71.01	1.49	0	3	4
71.01	72.54	1.35	0	3	4
72.54	74.06	1.52	0	3	3
74.06	75.59	1.45	0	3	3
75.59	77.11	1.50	0	3	5
77.11	78.63	1.51	0	3	5
78.63	80.15	1.50	0	3	6
80.15	81.68	1.50	0	3	8
81.68	83.21	1.19	0.53	3	7
83.21	84.73	1.50	0.20	3	9
84.73	86.25	1.60	0.20	3	9
86.25	87.78	1.55	0.30	3	9
87.78	89.30	1.41	0.13	2	9
89.30	89.91	0.43	0	0	9
89.91	92.35	1.50	0.59	2	8
92.35	93.87	1.52	0.88	3	1
93.87	95.40	1.45	0.18	3	7
95.40	96.01	0.60	0	3	7
96.01	96.92	0.60	0	4	8
96.92	97.83	0.70			
97.83	98.44	0.50	0	4	5
98.44	99.97	1.40	0	4	7
99.97	100.42	0.05	0	4	8
100.42	101.49	1.35	0.25	4	6
101.49	103.02	0.95	0	4	7
103.02	103.32	0.32	0	4	7

REVERT TO N2

gtechlog wq1

NORTH AMERICAN METALS CORP
GEOTECHNICAL LOGGING SHEET

DDH T97DDH370
PAGE 3 of ?

FROM (m)	TO (m)	RECOVERY (m)	RQD (m)	HARDNESS "R"	FRACTURE INTENSITY
103.32	104.24	0.52	0.34	4	3
104.24	105.76	1.52	1.07	4	2
105.76	107.28	1.20	0.80	4	1
107.28	108.20	0.71	0.32	4	2
108.20	110.03	0.93	0.66	4	2
110.03	111.55	0.72	0	3	8
111.55	113.68	0.28	0	3	9
113.68	115.97	0.30	0	2	9
115.97	128.62	LOST			
128.62	130.45	0.07	0	0	9
130.45	131.97	1.64	0.81	3	0
131.97	133.34	1.21	0.95	?	1
133.34	135.10	1.44	0.67	3	3
135.10	136.54	1.50	0.49	3	4
136.54	138.07	1.43	0.96	3	2
138.07	139.59	1.20	0.29	3	2
139.59	141.12	1.43	0.33	3	6
141.12	142.33	1.13	0.98	3	0

NORTH AMERICAN METALS CORP
LITHOLOGY LOGGING SHEET

Logged by: BAD

Date: JULY 12, 1997

DDH 97DH371

PAGE 1 OF 8

FROM	TO	FLAG	ROCK CODE	COLO	TEXT 1	TEXT 2	TEXT 3	TEXT 4	STRUC INT	ALTN INT	MINERALIZATION MINERAL // HOW // AMOUNT	STRUCTURE DIST	STRUCTURE FT/TH/AN
0.00	15.34		CASE								- not recovered		
15.34	29.53		QTZT	W	MS	GO	BX		20	16	very fine grained, massive milky white quartzite, strongly gouged (orange to dark brown muddy clay gouge) and brecciated to grand sized pieces, rare competent core up to 30 cm long, local bands of MFEA: GOUGE 15.91-17.68, 19.05-20.01, 22.56-23.47, 24.00-24.95, 16.00-26.92	15.91	
												19.05	
												22.56	
												24.09	
												26.00	

FROM	TO	SAMPLE#	RECOV	AU G/T	S%
15.34	16.34	40875	1.00	0.10	
16.34	17.34	40876	1.00	tr	
17.34	18.34	40877	1.00	tr	
18.34	19.34	40878	1.00	0.07	
19.34	20.34	40879	1.06	0.10	
20.34	21.34	40881	0.94	0.89	
21.34	22.34	40882	0.76	tr	
22.34	23.34	40883	0.70	0.31	
23.47	24.34	40891	0.80	tr	
24.47	25.34	40884	0.77	0.10	
25.47	26.34	40885	1.04	0.10	
26.47	27.47	40886	0.70	0.17	
27.47	28.53	40887	0.84	0.10	
28.53	29.53	40888	0.84	tr	

0.96 STANDARD 40880

NORTH AMERICAN METALS CORP
LITHOLOGY LOGGING SHEET

Logged by: BAD

DDH T97DH371

Date: JULY 12, 1997

FROM	TO	FLAG	ROCK CODE	COLO	TEXT 1	TEXT 2	TEXT 3	TEXT 4	STRUC INT	ALTN INT	MINERALIZATION MINERAL // HOW // AMOUNT	STRUCTURE DIST	STRUCTURE FT/TH/AN
29.53	34.59		MFA	TA	GO	CR	BD		28	18		30.97	GO/6/-
* a box from this interval was dropped + doubled.			fine grained light grey to pale tan carbonate altered mafic volcanics, phyllitic + locally									31.85	GO/5/-
												33.08	GO/6/-
			30.97-31.53, 31.85-32.10, 33.08-34.59, crackle									29.66	BD/0/50
			breccias, locally strongly foliated @50°TCA, QTZT									32.70	BD/0/50
			bed from 29.92-30.22									31.58	-V/1/50
34.59	43.17		MFEP	VA	BD	VN	SH		14	12		35.66	GO/3/-
			fine grained, well bedded, dark greeny-grey									36.63	BD/3/55
			+ red brown mafic aphanitic volcanics.									39.84	CV/1/50
			beds <1.0cm, strongly laminated @55°TCA, calcite									42.95	SH/5/-
			veins <5mm wide one every 10cm @ 90°TCA,										
			qtz patches 36.16-36.36, locally altered and										
			lightly gouged.										
43.17	46.15		MFAS	GT	FO	MS	BD	VN	12	14			
			fine grained, light greeny-tan, moderately										
			bleached mafic volcanic tuff, massive to										
			strongly foliated, locally intruded										
			with MFEP, calcite veins 2mm to 5mm										
			thick one every 30-50 cm.										

FROM	TO	SAMPLE#	RECOV	AU G/T	S%	
29.53	30.53	40889	0.90	tr		
30.53	31.53	40890	0.72	tr		
31.53	32.53	40892	0.56	0.03		
32.53	33.53	40893	0.90	0.07		
33.53	34.59	40894	0.78	0.14		
34.59	35.59	40895	0.85	0.07		
35.59	36.59	40896	1.00	0.10		
36.59	37.59	40897	0.99	0.10		
37.59	38.59	40898	1.01	tr		
38.59	39.59	40899	1.00	tr		← 40900 BLANK
39.59	40.59	40901	1.03	0.14		
40.59	41.89	40902	1.23	tr		
41.89	43.17	40903	1.30	tr		
43.17	44.15	40904	0.92	0.34		
44.15	45.15	40905	0.94	tr		
45.15	46.15	40906	1.04	0.07		

NORTH AMERICAN METALS CORP Logged by: BAD DDH T97DH371

LITHOLOGY LOGGING SHEET

Date: JULY 13, 1997 PAGE 3 OF 8

FROM	TO	FLAG	ROCK CODE	COLO	TEXT 1	TEXT 2	TEXT 3	TEXT 4	STRUC INT	ALTN INT	MINERALIZATION MINERAL // HOW // AMOUNT	STRUCTURE DIST	STRUCTURE FT/TH/AN
46.15	55.13		MFEP	GA	BD	SH	VN		14	O	HS/S/PV // LI/3/PV	51.56	SH/16/-
			fine grained, well bedded, thinly laminated, dark green-gray and red-brown mafic epiclastic volcanics w rare beds of MFAS and quartzite. Cleaved w local gouge, low + low alteration from 51.56-53.59m, calcite veins 2mm - 2cm thick one every 30cm, qtz-calcite vein 18cm thick at 46.89, locally sheared + lightly gouged.							46.40	SH/4/-
												46.89	QC/4/30
55.13	68.88		QTZT	WB	BD	SH	VN		16	14		65.59	GO/4/-
			fine grained, light grey/blue and white, well bedded quartzite, beds @ 60° TCA, 2mm to 5cm thick. Strongly sheared and locally gouged. Centrally ↑ downhole), calcite veins 2-10mm one every 10cm @ various									61.09	CV/1/-
												67.15	CV/1/-
			± TCA										

FROM	TO	SAMPLE#	RECOV	AU G/T	S%
46.15	47.15	40907	0.94	0.07	
47.15	48.15	40908	1.00	0.07	
48.15	49.15	40909	0.95	0.10	
49.15	50.15	40910	1.02	tr	
50.15	51.15	40911	1.05	0.03	
51.15	52.15	40912	1.03	tr	
52.15	53.15	40913	0.96	0.10	
53.15	54.15	40914	0.97	tr	
54.15	55.13	40915	1.01	0.03	
55.13	56.15	40916	1.02	0.03	
56.15	57.15	40917	0.98	0.10	
57.15	58.15	40918	0.98	0.07	
58.15	59.15	40919	1.02	0.03	
59.15	60.15	40921	0.99	tr	
60.15	61.15	40922	1.03	0.07	
61.15	62.15	40923	0.99	tr	
62.15	63.15	40924	0.87	0.14	
63.15	64.15	40925	1.15	0.07	
64.15	65.15	40926	0.95	0.10	
65.15	66.15	40927	0.94	tr	
66.15	67.15	40928	1.00	0.03	
67.15	68.15	40929	0.99	0.03	
68.15	68.88	40930	0.73	0.07	

0.96 STAR DUAL 40920

NORTH AMERICAN METALS CORP Logged by: BAD DDH 97DH371
LITHOLOGY LOGGING SHEET

Date: JULY 13, 1997 PAGE 4 OF 8

FROM	TO	FLAG	ROCK CODE	COLO	TEXT 1	TEXT 2	TEXT 3	TEXT 4	STRUC INT	ALTN INT	MINERALIZATION MINERAL // HOW // AMOUNT	STRUCTURE DIST	STRUCTURE FT/TH/AN
68.88	72.74		MFCA	50	MS	GO	VN		18	16	CL/PV/20 // HE/PV/10	71.40	QV/3/-
			massive, fine grained, orange brn/dk orange brown, carb altered mafic volcanics (proto=MFAS?), strongly gouged from 71.88 - 73.99, calcite veins 1-5mm one every 10-20cm, rare quartzite beds (<10cm thick).										
72.74	79.14		QTZT	WB	BD	VN	ET	BX	16	16		72.74	SH/4/-
			fine grained, olive to white, well bedded @ various ATCA, calcite veins 1-10cm NP-ATCA, one every 5-10 cm, locally stained, locally brecciated + silicified, locally strongly broken.									73.76	SH/4/-
												74.63	SH/5/-
												76.90	SH/5/-
												73.20	CV/1/-
												76.59	CV/1/-
79.14	87.80		MFCA	BT	BD	VN	CR	SH	14	18		85.95	CV/1/30
			fine grained light tan to blue, bleached + quartz vnl, sandy carb altered mafic volcanics (protolith = MFAS?), poorly to well bedded @ various ATCA, beds typically 5-10cm thick, locally interbedded w light to dark brn quartzite beds, qtz/carb veins 2-5cm thick form 10% of unit, crackled + locally brecciated textures, locally strongly broken, locally vuggy.									85.95	BD/2/60
												86.40	GO/4/-
												83.55	QV/1/-

FROM	TO	SAMPLE#	RECOV	AU G/T	S%
68.88	69.88	40931	1.01	0.07	
69.88	70.88	40932	1.00	0.07	
70.88	71.88	40933	1.02	0.07	
71.88	72.74	40934	0.85	0.03	
72.74	73.74	40935	0.95	0.10	
73.74	74.74	40936	1.00	0.14	
74.74	75.74	40937	0.96	0.14	
75.74	76.74	40938	0.93	0.10	
76.74	77.45	40939	1.01	0.34	
77.45	79.14	40941	0.58	0.07	
79.14	81.14	40942	0.78	0.07	
80.14	81.14	40943	1.15	0.03	
81.14	82.14	40944	0.98	0.17	
82.14	83.14	40945	0.92	0.10	
83.14	84.14	40946	0.95	0.14	
84.14	85.14	40947	1.19	0.07	
85.14	86.45	40948	1.06	0.14	
86.45	87.80	40949	0.82	0.10	

0.03 BLANK 40940

NORTH AMERICAN METALS CORP Logged by: BAD DDH 97DH371
LITHOLOGY LOGGING SHEET

Date: JULY 14 1997 PAGE 5 OF 8

FROM	TO	FLAG	ROCK CODE	COLO	TEXT 1	TEXT 2	TEXT 3	TEXT 4	STRUC INT	ALTN INT	MINERALIZATION MINERAL // HOW // AMOUNT	STRUCTURE DIST	STRUCTURE FT/TH/AN
87.80	91.66		CHRT	BA	BD	SH	ET		26	14			
			aphanitic dark blue grey chert interbedded with medium grey fine grained sandstone (~25%) and MFGA (~5%), well bedded 4cm - 10cm beds, strongly broken, locally grungy, MFGA is veined.										
91.66	99.45		SIZT	WO	BD	MS	SH	GO	28	12		97.88	3D/3/60
			fine grained white to 80% orange limonite stained quartzite, well bedded & massive, strongly sheared and locally gouged.									98.40	GO/4/-
												97.02	GO/5/-
99.45	104.75		MFGA	BA	BD	VN	VG		12	14		109.35	FR/0/60
			fine grained light to dark blue grey qtz rich mafic epiclastic sediments, well bedded @ 60° TCA, interbedded MFGA (~15%), calcite veins 2-10 mm thick one every 10-20 cm, local orange clay									99.69	FR/0/60
												99.69	BD/2/60
104.75	115.82	FZ	MFGA	AT	GO	SH	BD		29	12		108.26	GO/6/-
			medium to light blue grey, fine grained mafic epiclastics to strong qtz carb component, sheared and broken tan-brown, gritty clay coatings, strongly gouged from 108.26 - 109.42, 109.67 - 111.00, 112.05 - 112.67									109.67	GO/6/-
												112.05	GO/5/-

FROM	TO	SAMPLE#	RECOV	AU G/T	S%
87.80	88.80	40950	0.59	0.31	
88.80	90.22	40951	0.86	0.07	
90.22	91.66	40952	1.19	0.10	
91.66	92.81	40953	0.60	0.24	
92.81	94.33	40954	0.98	0.14	
94.33	96.92	40955	1.30	0.14	
96.92	98.00	40956	0.86	0.07	
98.00	99.45	40963	0.95	0.10	
99.45	100.45	40957	1.00	0.10	
100.45	101.45	40958	0.87	0.07	
101.45	102.45	40959	0.82	0.14	
102.45	103.45	40961	1.00	0.27	
103.75	104.75	40962	1.00	0.17	
104.75	106.07	40964	0.66	0.24	
106.07	107.59	40965	0.52	0.17	
107.59	108.42	40966	0.70	0.17	
108.42	109.42	40967	0.95	0.07	
109.42	111.55	40968	1.19	0.10	
111.55	112.55	40969	0.99	0.03	
112.55	113.08	40970	0.53	tR	
113.08	115.82	40971	0.40	0.21	

0.99 STANDARD 40960

NORTH AMERICAN METALS CORP Logged by: BAD DDH T97DH371
LITHOLOGY LOGGING SHEET

Date: JULY 15, 1997 PAGE 6 OF 8

FROM	TO	FLAG	ROCK CODE	COLO	TEXT 1	TEXT 2	TEXT 3	TEXT 4	STRUC INT	ALTN INT	MINERALIZATION MINERAL // HOW // AMOUNT	STRUCTURE DIST	STRUCTURE FT/TH/AN	FROM	TO	SAMPLE#	RECOV	AU G/T	S%
115.82	132.07	FZ	QTZT	BA	SH	GO	BD		29	O		121.01	60/71/–	115.82	116.74	40972	0.89	0.38	
		very fine grained, dark bluegray qtzite, well bedded, interbedded MFP, strongly sheared + broken, gouge from 121.01 is										132.07	LC/0/40	116.74	118.26	40973	0.07	0.27	
														118.26	121.01	40974	0.40	0.14	
														121.01	122.22	40975	1.21	0.03	
		medium gray becoming progressively more												122.22	124.05	40976	1.17	tr	
		red brown towards end of unit, lower												124.05	127.71	40977	0.39	0.03	
		contact with DOCH is sharp, ave												127.71	128.93	40978	0.57	0.07	
		recovery from 125.58 - 127.71.												128.93	130.76	40979	0.22	0.31	
														130.76	132.07	40981	1.10	0.03	
132.07	139.37		DOCH	TR	CR	BX	VN	3D	14	12		133.22	60/3/–	132.07	133.07	40982	0.97	0.10	
		fine grained tan to dark grey crackled										133.55	60/4/–	133.07	134.07	40983	1.00	0.14	
		to brecciated dolomite with 10% chert										134.27	60/3/–	134.07	135.07	40984	0.88	0.27	
		interbedded at bottom of unit, calcite										136.08	QV/1/–	135.07	136.07	40985	1.02	0.07	
		and quartz veins < 1cm Third one every 10-15cm										134.06	CV/1/–	136.07	137.07	40986	1.06	0.24	
		Cavernous & TCA. Strong limonite on												137.07	138.20	40987	1.03	0.24	
		first few metres of core.												138.20	139.37	40988	1.07	0.24	

0.21
40980
BLANK

NORTH AMERICAN METALS CORP Logged by: BAD DDH T97DH371
LITHOLOGY LOGGING SHEET

Date: JULY 15, 1997 PAGE 7 OF 8

FROM	TO	FLAG	ROCK CODE	COLO	TEXT 1	TEXT 2	TEXT 3	TEXT 4	STRUC INT	ALTN INT	MINERALIZATION MINERAL // HOW // AMOUNT	STRUCTURE DIST	STRUCTURE FT/TH/AN
139.37	141.93		CHRT	3A	MS	CR	VN		12	29		140.19	CV/1/1-
											aphanitic, dark grey, massive, crackled chert, locally interbedded in light grey DOCH, calcite veins <1cm thick are every 15-20cm @ various & TCA.	141.82	CV/1/50
141.93	156.38		DOCH	YA	MS	CR	VN	BD	12	14		144.29	CV/3/-
											massive, fine grained, crackled to lightly brecciated, light to medium olive-grey dolomite w pale yellow alteration on fractures, entire unit bleached to very pale yellow 143.20 - 146.13, 155.14 - 156.38, calcite + quartz veins 5mm to 6 cm thick, one every 10-30 cm, local interbeds of dark grey chert, brecciated (149.13 - 149.93), minor gouge (154.84 - 154.90, sharp lower contact @ 60° TCA.	145.19	CV/3/-
												156.38	LC/0/60

FROM	TO	STRUC INT	ALTN INT	MINERALIZATION MINERAL // HOW // AMOUNT	FROM	TO	SAMPLE#	RECOV	AU G/T	S%
139.37	140.51	12	29		139.37	140.51	40989	1.20	0.21	
140.51	141.93				140.51	141.93	40990	1.42	0.38	
141.93	142.93	12	14		141.93	142.93	40991	0.93	0.24	
142.93	143.93				142.93	143.93	40992	1.03	0.34	
143.93	144.93				143.93	144.93	40993	1.05	0.21	
					144.93	145.93	40994	0.98	0.14	
					145.93	146.93	40995	0.97	0.10	
					146.93	147.93	40996	1.00	tr	
					147.93	148.93	40997	1.00	tr	
					148.93	149.93	40998	0.70	0.69	
					149.93	150.93	40999	1.05	0.14	
					150.93	151.93	40201	0.98	0.03	
					151.93	152.93	40202	0.91	0.10	
					152.93	153.93	40203	0.97	tr	
					153.93	154.93	40204	1.00	tr	
					154.93	156.38	40205	1.53	0.24	

0.82
41000
STANDARD

NORTH AMERICAN METALS CORP
LITHOLOGY LOGGING SHEET

Logged by: BAD

DDH 97DH371

Date: JULY 17, 1997

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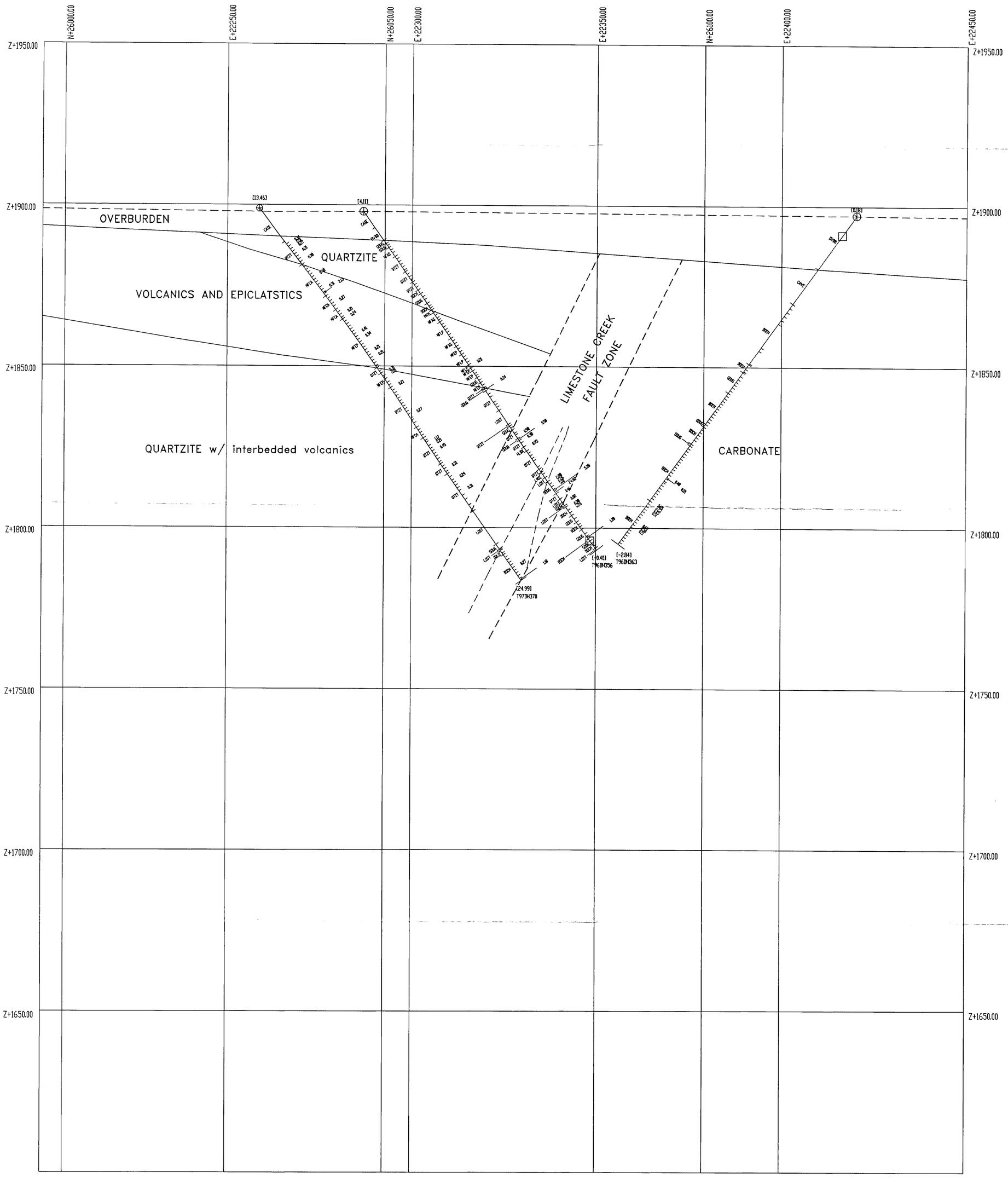
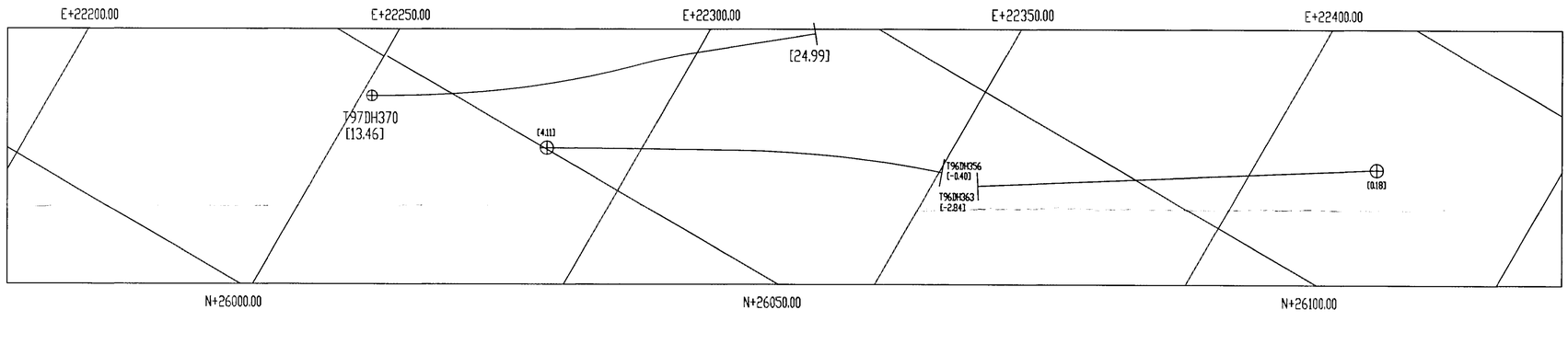
FROM	TO	FLAG	ROCK CODE	COLO	TEXT 1	TEXT 2	TEXT 3	TEXT 4	STRUC INT	ALTN INT	MINERALIZATION MINERAL // HOW // AMOUNT	STRUCTURE DIST	STRUCTURE FT/TH/AN
156.38	169.16		LMST	ZA	VN	BD			14	12	HS/FR/3		
			very fine grained, very dark grey, thinly bedded graphitic limestone, strongly veined (calcite) 5mm - 5cm thick (locally comprises 10% of core), interbeds of DOLH and very dark grey chert. Locally strongly hematitic coatings along fractures, locally very lightly etched (161.23 - 161.42, 162.84 - 163.25, 165.88 - 166.18, 167.18 - 167.31, 158.78 - 158.90), entire unit is moderately broken.						
169.16	169.16		E.O.H.										

FROM	TO	SAMPLE#	RECOV	AU G/T	S%
156.38	157.38	40206	0.97	tr	
157.38	158.38	40207	0.93	0.10	
158.38	159.38	40208	0.89	tr	
159.38	160.38	40209	1.16	tr	
160.38	161.23	40210	0.93	0.10	
161.23	162.38	40211	0.94	0.10	
162.38	163.38	40212	0.90	0.03	
163.38	164.38	4023	1.09	0.10	
164.38	165.38	40214	0.82	0.03	
165.38	166.38	40215	0.85	0.03	
166.38	167.38	40216	1.00	tr	
167.38	168.38	40217	0.83	0.03	
168.38	169.16	40218	0.93	0.03	





25, 315

SCALE 1 : 500

0 30 50

metres

060°

SECTION THICKNESS = 40 metres

DRILL HOLE LITHOLOGIES & AU ASSAYS

NORTH AMERICAN METALS CORP.

GOLDEN BEAR MINE

REVISIONS

No	Item	Date

LIMESTONE CREEK FAULT

VERTICAL SECTION

T96DH356

T96DH362

T97DH370

Figure No: 5

File:s:\97REPORT\LMSTCRK\LCF356

Approved: Report:

Drawn By: APH Date:

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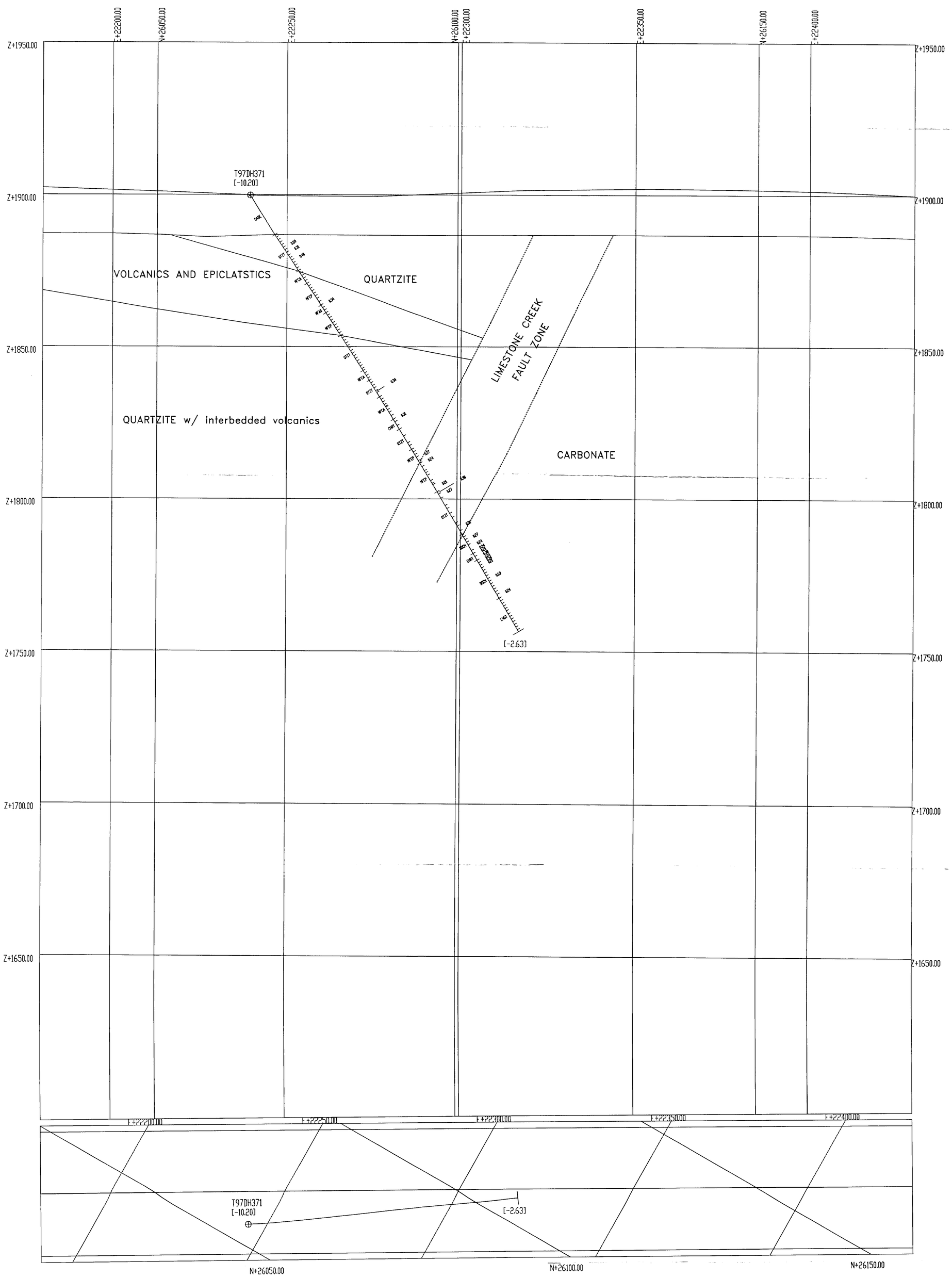

25,315

SCALE 1 : 500

0 30 50

metres

060°

SECTION THICKNESS = 40 metres

DRILL HOLE LITHOLOGIES & AU ASSAYS

NORTH AMERICAN METALS CORP.

GOLDEN BEAR MINE

REVISIONS		
No	Item	Date

LIMESTONE CREEK FAULT

VERTICAL SECTION

T96DH371

Figure No: 6	
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Approved:	Report:
Drawn By: APH	Date: