

COMINCO LTD.

EXPLORATION

NTS: 105 0/1&2

WESTERN DISTRICT

10 September 1982



ASSESSMENT REPORT

GEOLOGICAL, GEOCHEMICAL, AND ROAD BUILDING REPORT

ON THE

NIDD CLAIMS

Situated at:

63°11'N; 130°21'W

MAYO MINING DISTRICT

YUKON TERRITORY

REPORT BY:

DERECK RHODES

091365

This report has been examined by
the State Geologist at
under section 3000 Quartz
Mining and Geology
report for work to the amount
of \$ 50,000-

P. W. Wadsworth

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

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION	1
II. SUMMARY	1
III. LOCATION AND ACCESS	1
IV. TENURE	2
V. LINECUTTING	2
VI. ROAD BUILDING	3
VII. GEOCHEMISTRY	3
VIII. GEOLOGY	
A) Regional	3
B) Property	4
C) Stratigraphy	4
D) Structure	10
IX. ATTACHMENTS	11
X. REFERENCES	12

ATTACHMENTS

- APPENDIX A - Affidavit
- APPENDIX B - Statement of Expenditures
- APPENDIX C - Statement of Qualifications

ASSESSMENT REPORT

GEOLOGICAL, GEOCHEMICAL, AND ROAD BUILDING REPORT

ON THE

NIDD CLAIMS

MAYO MINING DISTRICT

YUKON TERRITORY

I. INTRODUCTION

The Nidd claims were staked between 1976 and 1981 to cover the westerly strike extension of the stratigraphy which hosts the nearby Tom and Jason lead-zinc-silver deposits.

The property is underlain by the Ordovician-Silurian Road River Group and the Devonian-Mississippian Earn Group. This latter group is divided into the Canol and Imperial formations.

This report covers several groups of claims, on the western half of the Nidd group, that required assessment work during the summer of 1982. It covers work carried out both prior to, and after the due dates.

II. SUMMARY

Field work on the Nidd claims being reported on in this report, consisted of geological mapping (1:5,000 and 1:10,000 scales), prospecting, a minor amount of geochemical sampling, and road building. Work commenced in early June and has continued to the present date (September 4).

III. LOCATION AND ACCESS

The Nidd Property is located approximately 390 km northwest of Whitehorse, Yukon Territory, and 24 km west of MacMillan Pass at 63°11'N, 130°21'W on NTS sheets 105 0/1&2. Access to the property is by good gravel road (North Canol Road) to the MacMillan Pass airstrip, then by helicopter to the camp which is central to the claim group. A 4x4 access road is currently being constructed to connect the camp to the Canol Road.

2.

IV. TENURE

Assessment work is being reported on the following claims:

A) Claims due July 22, 1982: (Block E on map)

Nidd 521-574
Nidd 619-620
Nidd 625-630

B) Claims due July 22, 1982 (Block F on map)

Nidd 575-618, 622

C) Claims due on August 7, 1982 (Block A on map)

Nidd 635-672
Nidd 674-696
Nidd 731-788

D) Claims due on August 7, 1982 (Block B on map)

Nidd 699-730
Nidd 789-801

E) Claims due on August 27, 1982 (Block G on map)

Nidd 803-818

V. LINECUTTING

A wide spaced grid, totalling 106 km, was cut over the entire Nidd property during the months of June and July 1982, to assist in the ground control of geological mapping, prospecting, geochemical sampling, and road construction.

Only a portion of this was done on the area covered by this report. The amounts are:

Block E -	4.5 km
Block F -	8.3 km
Block A -	18.0 km
Block B -	2.0 km
Block G -	<u>0.8 km</u>
Total	33.6 km

Linecutting was carried out by McCrory Holdings Ltd. of Whitehorse, Y.T. and was transit controlled. Stations were marked by aluminum tags on pickets and spaced every 50 meters on E-W lines, and 25 meters on N-S lines.

3.

VI. ROAD BUILDING

Although a fair amount of road building was done on the Nidd claims, only a minor amount was on the area covered by this report. Les Munro of Whitehorse was the contractor, utilizing a D6 caterpillar. Road work was on Block E, south and west of camp, (see the geochemistry map).

VII. GEOCHEMISTRY

A total of 204 soil samples were collected on Block E, over the Road River formation. They were collected at 50 meter intervals along cut lines, claim lines, or traverse lines. The samples were dug by mattock and taken from the B horizon (if it could be identified) at depths ranging from 10 to 30 cm. Extensive permafrost on swamp was encountered, so occasionally samples could not be obtained. Organics may render some results questionable. Sampling was carried out by personnel of McCrory Holdings Ltd. of Whitehorse, Y.T.

Samples were collected in kraft envelopes, dried, and sent to Cominco's lab for processing. There they were processed in the usual manner and analyzed for Pb, Zn and Ba.

The results are plotted on the attached maps at a scale of 1:10,000. Anomalous values, calculated by previous work in the area, are:

Pb - > 100 ppm
Zn - > 1,000 ppm
Ba - > 6,000 ppm

Since insufficient coverage is available to allow contouring, the anomalous values are marked by different symbols on the maps. Only a very few values are anomalous.

VIII. GEOLOGY

Mapping on the Nidd property continued all summer, both before and after the claim due dates. The resultant maps therefore represent the net result of the overall mapping program. Assessment credits applied for include those previously reported, (before the due dates) and those that have since accumulated.

A) Regional

The Nidd property is underlain by sediments and volcanics of the Road River and Earn Groups. The overall regional geology is described by various reports by government geologists, and even now is being revised and updated. The area has received detail work in recent years because of the economic potential of the area as suggested by the Tom, Jason and MacTung deposits.

4.

B) Property

During 1982, the Nidd property was mapped by a team of Cominco geologists, and it is now felt a good understanding of the stratigraphy and gross structure has been obtained.

Outcrop is well exposed in the higher parts of the property along ridgetops, although much is felsenmeer. At lower levels overburden cover is extensive, with the minor amount of outcrop confined mainly to narrow creek channels.

C) Stratigraphy

The stratigraphy on the claim group consists of rock units within the Ordovician to Silurian Road River Formation¹ and the Devono-Mississippian aged "Black Clastic Group" or Earn Group.

Within the Road River Group six mappable units are defined. These are in ascending stratigraphic order: UNIT 2 - Lower Cherty Mudstone; UNIT 3 - Brown Weathering Mudstone; UNIT 4 - Orange Marker, UNIT 5 - Calcareous Mudstone; UNIT 6 - Carbonate Rich Volcanics; UNIT 8 - Upper Cherty Mudstone. Locally UNIT 6 is distinctly sideritic - this diagenetic facies has been labelled UNIT 7 on the map and in the attached legend. The various Road River Group subunits are briefly described in ascending stratigraphic order below:

UNIT 2 - Lower Cherty Mudstone:

This unit is the oldest rock unit within the map area. It is at least 100 meters thick with the base not being observed. The unit consists of black, non-calcareous, quite carbonaceous, mudstones and mudshales that commonly are graptolitic with interbeds of black chert (or silicified mudstone). The unit weathers blue grey to brown.

UNIT 3 - Brown Weathering Mudstone:

This unit is 50 meters plus, thick and is composed of brown weathering, iron stained, dark grey mudstone, mudshale and siltstone with occasional calcareous and dolomitic silt bands that are lighter, creamy brown weathering. A variable volcanic component is evident in this interval ranging from a few green cherty, probably tuffaceous beds to numerous interbeds of grey-green intermediate to felsic tuffs and less commonly agglomerates in some areas. The volcanics interbed with the mudstones and siltstones. In the agglomerates, often 10% or more mudstone fragments are evident.

. . . /5

¹in recent literature ie. S.P. Gordey, J.G. Abbot and M.J. Orchard have informally given group status to the Road River rocks.

5.

UNIT 4 - Orange Weathering Marker

This dominantly mudstone unit with a characteristic orange weathering colour is a regionally extensive marker over much of the Selwyn Basin. It is composed of a grey-green mudstone with silty lenses which may be a starved ripple or flaser bedding feature, and imparts a distinctly wispy, wavy laminated texture to the mudstones. Sometimes the unit is strongly bioturbated. The unit is about 50 meters thick within the map area.

UNIT 5 - Calcareous Mudstone

This unit which is up to 350 meters thick exhibits a number of different lithologic subdivisions with local variations suggestive of rapid facies changes. The distinctive feature of the unit is its calcareous character. The dominant rock type is a finely laminated, calcareous, mudstone/mud-shale which weathers recessively to a fine, platy, felsenmeer with a light orange colour. Some horizons of carbonaceous limestone with tentaculites and occasionally crinoidal debris, occur toward the base of the mudstones. Locally coarser sandstone and siltstone beds that are distinctly calcareous interbed with the mudstones forming facies variants of the mudstones, marking coarser clastic input possibly due to local differentiation of the Road River basin.

UNIT 6 - Carbonate Rich Volcanics

The volcanic suite seems to have a restricted areal extent, being in large part confined to the Nidd claim group and immediately adjacent ground to the north. (Although it is possible that regional mapping has not been sufficiently detailed to delineate similar volcanics elsewhere). The volcanics show a variable thickness ranging from 0 to perhaps as much as 100 meters, sometimes interbedding with mudstone lithologies. To some extent the volcanics may be diachronous, with possibly some deposition of volcanics extending into the Lower Earn Group rocks, although this is not certain at this time. In general the bulk of the volcanic rocks have been deposited at the Upper Road River Group/Lower Earn Group contact.

The volcanic rocks consist of both flows and pyroclastic/volcaniclastic rocks with agglomerates being dominant amongst the volcaniclastic rocks. The volcanic flow rocks are in many instances amygdaloidal with 1-10 mm rounded vesicles infilled with carbonate and lesser chlorite and other unidentified minerals (zeolites? clays?). The groundmass of the flows generally appears as a finely felted texture that was probably originally a fine groundmass of plagioclase and lesser ferromagnesian minerals. The rock is now largely altered to carbonate, lesser pyrophyllite, and minor sub opaques (leucoxene, iron oxides and clays) that pseudomorph the original texture. In some flow rocks ferromagnesian phenocrysts of micas or pyroxene/amphibole are evident.

The volcanic fragmentals - lithic lapilli tuffs dominantly, exhibit fragment sizes between 0.1 and 4.0 cm. The fragments are angular to subrounded and appear to be largely identical in composition to the flow rocks.

6.

In most of the agglomerates 5 to 20% of the fragments are black mudstone clasts presumably derived from the footwall Road River Group lithologies. As with the flow rocks the fragmentals are commonly carbonatized and largely composed now of carbonate minerals, pyrophyllite and lesser sub-opaques. These minerals pseudomorph the original minerals, thereby preserving most of the original volcanic texture. Finer tuffs not dissimilar in composition to the lapilli tuffs can also be recognized interbedding with mudstones. These tuffs often show some degree of sedimentary re-working.

The carbonate nature of the volcanics varies from largely calcite with lesser dolomite and a varying ferroan component to dominantly iron carbonate (siderite). The carbonate content of the volcanics presumably is due to substantial venting of CO_2 on the sea floor. The zonation of Ca to Fe carbonate may perhaps be indicative of proximity to the volcanic vents.

Table 1 presents some whole rock compositions for the volcanics. The extensive alteration of these rocks precludes any definitive identification. All that can be said at this time is that the analyses most correspond with a basalt composition but with some substantial deviations.

T A B L E 1

		SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	TiO ₂	MgO	CaO	Na ₂ O	K ₂ O	P ₂ O ₅	MnO	LOI	Total
Sideritic Lithic Lapilli Tuff	R82-5548	9.52	3.53	55.97	0.99	1.8	0.96	0.65	0.03	0.27	1.86	26.09	101.67
Sideritic Tuff	R82-5549	30.55	8.15	40.14	1.91	1.77	0.51	0.4	0.03	0.08	1.2	16.15	100.89
Carbonatized Lithic Lapilli Tuff	R82-5517	12.56	7.65	8.57	1.51	10.73	22.74	0.48	0.07	0.29	0.19	33.7	99.12
Carbonatized Lithic Lapilli Tuff	R82-5519	21.28	7.78	6.76	1.61	9.92	21.03	0.42	0.51	0.7	0.18	30.45	100.64
Carbonatized Lithic Lapilli Tuff	R82-5521	22.15	8.32	8.7	1.75	8.88	20.04	0.55	0.49	0.46	0.18	29.99	101.51

UNIT 8 - Upper Cherty Mudstone

Light grey weathering black carbonaceous mudstone with chert (siliceous mudstone?) interbeds compose this unit. This rock type is found on the property, only to the northwest, although north of the Nidd Property it forms a substantial thickness of strata (>200 m). On the property it is up to 100 meters thick. Some barite as beds and disseminated blebs is present in this unit, while north of the property 30 meter thicknesses of barite are encountered in this unit. This lithology seems to be a time stratigraphic equivalent to the Upper Road River volcanic strata, part of the calcareous mudstone and perhaps some of the basal Earn Group. The time equivalent volcanics may in part explain the high silica and barite contents of this unit.

Within the Earn Group on the property - two major stratigraphic units or formations can be discerned. The lower composed of black clastic rocks, has in the past been referred to as the Canol Formation while the upper composed of siltstones, sandstones with some mudstones has been referred to as the Imperial Formation. These names have been discarded by recent workers because of differences in both lithology and age between the rocks in the MacPass area and the type sections of both the Canol and Imperial Formations. The two stratigraphic units are now referred to as Lower Earn and Upper Earn by recent workers (Gordey, Abbot).

The Lower Earn Group lies on either the Calcareous Volcanic, the Calcareous Mudstone or the Upper Cherty Mudstone Units of the Road River Group.

Previous workers believe this contact to be unconformable and the relative sharpness of the contact and locally some pinching and swelling of the basal Lower Earn lithologies against these rocks, suggest this is indeed the case although definitive evidence is lacking from 1982 mapping.

The Lower Earn Group exhibits complex lateral facies changes accompanied by drastic thickening and thinning of rock units. In the mapping and on the accompanying maps four major subunits of the Lower Earn have been defined. On the legend and map these are referred to as C1, C2, C3a, and C3b. These rock units are briefly described below.

C1 and C3a - Lower Member and Lower Upper Member

These two rock units are grouped because they largely share the same characteristics and are designated separately only because they occur on either side of a major, laterally extensive, and regionally mappable, chert pebble conglomerate (Unit C2). The rocks in this unit consist of carbonaceous, somewhat pyritic, noncalcareous mudstones with a varying clastic component occurring as silt laminae and/or sand and/or grit laminae and bands alternating in a cyclical fashion due to turbidite deposition. The rocks weather a grey to rusty brown colour, and occasionally host Devonian plant fragments. In general unit C1 tends to be

finer with pinstripe alternations of silt laminae with mudstone while unit C3a has coarser sand bands. The amount and coarseness of the clastic component seems to vary considerably in and beyond the map area. Those areas where coarse sands and grits interbed with the mudshales seem to mark local sub-basinal areas in which much greater clastic input occurred. In some areas (ie. the Boundary Creek area), mudstone supported debris flows and clast supported chert pebble conglomerates to grits, similar to 2c (see below), form parts of these units suggesting a maximum input of clastic material related to probably the central portion of limited sub-basins.

It should be noted that to some extent the Upper Cherty Mudstone described as Road River, may be coeval with Lower Earn Group rocks. (Abbot has included this rock unit within the Lower Earn Group).

Both Unit C1 and Unit C3a seem to thicken and thin in response to local facies variations again controlled by basinal developments. Thinning and thickening of Unit C1 below the major chert pebble conglomerate (Unit C2), may also be a response to paleorelief on the postulated unconformity below C1. Unit C1 varies in thickness from 1 meter up to 100 meters with an average thickness of about 50 meters. Unit C3a shows great thickness variations from 30 meters to possibly as much as 400 meters.

Unit C2a - Chert Pebble Conglomerate

This unit is a very resistant massive ridge forming unit composed of grey weathering chert pebble conglomerates and grits. The conglomerates and grits are composed of rounded to subangular clasts of light grey and black silicas that is in most instances chert, but in some cases may be silicified mudstones. The conglomerate is usually clast supported with a matrix of finer silica sand. Sorting in the conglomerate ranges from moderately good (particularly in finer beds) to very poor. A bi-modal size distribution of larger clasts and matrix often seems to be present. Individual beds or debris flows in the unit range from 2 to 20 meters in thickness while the conglomerate unit itself varies in thickness from 10 meters or less to 300 meters. In several locales the conglomerate can be seen to thin drastically over a strike length of 1,000 meters. Within the map area the conglomerate forms a distinct mappable horizon although locally (ie. Boundary Creek area) there appear to be other chert pebble conglomerate lenses developed in Unit C3a and possibly C1. The appearance of more than one chert pebble conglomerate horizon and the rapid thickening locally of the C2 unit itself are probably due to local sub-basinal developments. Other conglomerate beds composed of chert and heterolithic clasts in a mudstone matrix are found locally in Units C1 and C3a and mark a different form of conglomerate debris flow.

Unit C3b

This unit is composed of very carbonaceous partly siliceous mudshales and silty mudshales with occasional siltstones ranging in thickness from 200 meters to 450 meters on the Nidd property. This unit is commonly very silvery grey weathering although some units are more brown weathering

particularly in the lower half of the interval. Where this unit is at its thickest, it appears to be at the expense of Unit 3a which is correspondingly thinner. It is probable that parts of 3a in some areas are time/stratigraphic equivalents of 3b in other areas.

Immediately northwest of the Boundary Creek area this unit hosts 0 to 20 meters of massive well laminated light grey-yellow or brown weathering dark grey barite. ie the Kobuk barite. Elsewhere on the property thin 1-3 meter beds of barite and witherite are seen in this unit (ie. between Boundary Creek and Claim Creek.

The top of the Lower Earn Group on some conodont data plus regional and sedimentological evidence is thought to be unconformable by previous workers (Abbot 1982, Carne 1979). The Lower Earn Group on the property is overlain by the youngest exposed rocks on the property - the Upper Earn (formerly referred to as the Imperial Formation), which is divisible into two units 11a and 11b briefly described below:

11a - This lithology consists of interbedded .3 to 1 meter mudshale beds alternating with 0.1 to .3 meter siltstone and fine sandstone beds. The rocks weather brown. The sandstone and siltstone beds are ripple cross laminated and plane parallel laminated.

11b - This rock type is composed of siltstones and sandstones similar to those of unit 11a but without the mudshale interbeds. The medium bedded brown weathering sandstones and siltstones are commonly parallel planar laminated with some cross ripple laminations. The unit tends to be resistant and ridge forming. Unit 1a seems to be somewhat transitional upward into Unit 1b.

Units 1a and 1b together are about 200 meters thick north of the Boundary Creek camp but appear to be 400 meters plus thick on the west end of the property (Plate 4). This may be due to incision of the Upper Earn into older strata to the west, (if the postulated unconformity between the Upper and Lower Earn is valid).

D) Structure

Although the detailed stratigraphy is quite well understood, the structure is only known in gross, for extensive overburden cover, facies changes, and probable faulting complicate the detail picture.

An overall trend of 290° controls the structure in this area. Large anticlines and synclines with axial planes running 270 to 290° are cut by a few thrust and normal faults of roughly the same bearings.

The Imperial Formation is confined to, and covers much of, the southwestern part of the mapped area. A thrust fault separates it from the Canol Formation west of Imperial Creek, and from the Road River Formation between Imperial Creek and Kobuk Creek. The Imperial Formation is well exposed in the mountain tops of this area, but only inferred to be the formation underlying the swampy valley to the southwest.

Between Imperial and Kobuk creeks, the Road River Formation forms a moderate syncline that has a normal fault contact with a relatively thin portion of the lower Canol Formation to the north. The Canol likely is fairly tightly folded in relatively minor anticlines and synclines north of this fault. Finally, the Road River Formation is again apparent in the normal stratigraphic position below the Canol, in the northern part of this area.

Between Kobuk and Boundary creeks, a somewhat similar style exists. The Road River Formation on the south is cut by a normal fault that (to the northwest) brings the Road River against down faulted Canol Formation rocks. The Canol forms the base of the mountains at this point, and is topped by a thick portion of the Imperial Formation. The Imperial/Canol rocks form a large syncline, the north limb of which forms the south limb of an adjacent anticline which is displayed by the underlying Road River Formation to the north. The northern limb of this anticline is cut by a southerly dipping thrust fault which brings the Road River up onto another portion of the Canol Formation. Here the Canol is in a recumbent synclinal configuration, with axial plane dipping moderately to the south.

Minor faults and folds have also been identified, but their presence does little to affect the overall structural picture that has been discussed above.

IX. ATTACHMENTS

- A) Affidavit
- B) Statement of Expenditures
- C) Statement of Qualifications
- D) Location Map
- E) Geological Maps - Sheets 3 and 4 . Scale 1:10,000
- F) Geochemical Maps, with road building . Scale 1:10,000

Submitted by: *Derek Rhodes*
D. Rhodes, Senior Geologist

Endorsed by: *J.A. Collins*
J.A. Collins, Assistant Manager

Approved for
Release by: *J.A. Collins*
for G. Harden, Manager
Exploration
Western District

DR/skm

Distribution

Mining Recorder (2)
Western District (1)

X. REFERENCES

- ABBOTT, J.G. 1981. Walt Property, Yukon Geology and Exploration 1979-80 D.I.A.N.D. Geology Section Pub., Whitehorse, p. 216-217.
- BLUSSON, S.L. 1971. Sekwi Mountain map-area, Yukon Territory and District of Mackenzie; Geol. Surv. Can., Paper 71-22
- BLUSSON, S.L. 1974. Operation Stewart (northern Selwyn Basin): Mount Eduni (106 A), Bonnet Plume Lake (106 B), Nadaleen River (106 C), Lansing (105 N) and Nidderly Lake (105 O); Geol. Surv. Can., Open File 205.
- CARNE, R.C. 1979. Geological Setting and Stratiform Mineralization, Tom Claims, Yukon Territory, D.I.A.N.D. EGS 1979-4, 30 p.
- CECILE, M.P. 1980. Geology of Northeast Nidderly Lake Map Area, Yukon (105 O); Geol. Surv. Can., Open file 765.
- DAWSON, K.M. 1977. Regional Metallogeny of the Northern Cordillera; Geol. Surv. Can., Paper 77-1A, p. 1-14.
- DAWSON, K.M. and ORCHARD, M.J. 1982. Regional Metallogeny of the Northern Cordillera: Biostratigraphy of Bedded Barite Occurrences in Eastern Yukon and Western District of Mackenzie. Geol. Surv. Can., Paper 82-113 (in prep).
- GORDEY, S.P. 1981a: Geology of Nahanni map-area (105 I), Yukon Territory and District of Mackenzie; Geological Survey of Canada, Open File 780.
- GORDEY, S.P., WOOD, D.H., and ANDERSON, R.G. 1981b: Stratigraphic framework of southeastern Selwyn Basin, Nahanni map-area, Yukon Territory and District of Mackenzie; Geol. Surv. of Can., Current Research, Part A, Paper 81-1A, p. 395-398.
- GORDEY, S.P., ABBOTT, J.G., and ORCHARD, M.J. 1982. Devono-Mississippian (Earn Group) and Younger Strata in East-Central Yukon; Geol. Surv. Can., Paper 82-1B (in press).
- HARRIS, F.R. 1977. Geology of the MacMillan Tungsten Deposit, Mineral Industry Report 1976. D.I.A.N.D. EGS 1977-1, p. 20-32.
- WINN, R.D., Jr., BAILES, R.J., and LU, K.I. 1981. Debris Flows, Turbidites and Lead-Zinc Sulfides Along a Devonian Submarine Fault Scarp, Jason Prospect, Yukon Territory, in Siemers, C.T., Tillman, R.W., and Williamson, C.R. eds S.E.P.M. Core Workshop No. 2, p. 396-416.

APPENDIX A

IN THE MATTER OF THE YUKON QUARTZ MINING ACT
AND IN THE MATTER OF GEOLOGICAL & GEOCHEMICAL SURVEYS & ROADBUILDING
CARRIED OUT ON MINERAL CLAIMS OF THE NIDD PROPERTY
LOCATED IN THE MAYO MINING DIVISION, YUKON TERRITORY
MORE PARTICULARLY N.T.S.: 105 0/1,2

A.F.F.I.D.A.V.I.T

I, DERECK RHODES, OF THE DISTRICT OF NORTH VANCOUVER, IN THE PROVINCE
OF BRITISH COLUMBIA, GEOLOGIST, MAKE OATH AND SAY:-

1. THAT I am employed as a geologist by Cominco Ltd. and, as such have
a personal knowledge of the facts to which I hereinafter depose;
2. THAT annexed hereto and marked "Appendix B" to this my affidavit is
a true copy of expenditures on geological, geochemical surveys, and
roadbuilding carried out on mineral claims on the Nidd property.
3. THAT the said expenditures were incurred between the 8th day of June
1982, and the 3rd day of September 1982, for the purpose of mineral
exploration on the above noted property.

Signed: *Derek Rhodes*
D. Rhodes, Senior Geologist

APPENDIX B

Statement of Expenditures

I. Work Done On: Nidd 521-574, 619-620, 625-630 - Known as "Block E"

Period of Work: June 1 - July 22, 1982

Work Filed: GR#D-19450, July 29, 1982

Linecutting - 5.3 km @ \$450/km	\$ 2,385	
Geochemistry - 204 samples	3,009	
Road Building - 1 day	700	
Geological mapping		
B. Waters - 2 days @ \$206	412	
Geological - Helicopter Access		
.5 hrs. @ \$600	300	
Miscellaneous costs	400	
(Domicile, equipment, supplies)		\$ 7,206

II. Work Done On: Nidd 575-618, 622 - Known as "Block F"

Period of Work: June 1 - July 22, 1982

Work Filed: GR #D-19450, July 29, 1982

Linecutting - 8.3 km @ \$450/km	\$ 3,735	
Geological mapping		
B. Waters - 10.5 days @ \$206	2,163	
D. Rhodes - 2.5 days @ \$252	630	
Geological - Helicopter Access		
2.5 hrs. @ \$600	1,500	
Miscellaneous costs	200	
(Domicile, equipment, supplies)		\$ 8,228

III. Work Done On: Nidd 635-672, 674-696, 731-788 - Known as "Block A"

Period of Work: June 7 - August 6, 1982

Work Filed: GR #D-19494, August 17, 1982

Linecutting - 18 km @ \$450/km	\$ 8,100	
Geological mapping		
M. Murrell - .5 day @ \$222	111	
E. Olfert - 2 days @ \$206	412	
P. Scott - 5.5 days @ \$160	880	
P. Sorbara - 11.5 days @ \$160	1,840	
Geological - Helicopter Access		
8 hrs. @ \$600	4,800	
Domicile - 19.5 man days @ \$40	780	
Miscellaneous equipment & supplies	195	
		\$ 17,118

2.

IV. Work Done On: Nidd 699-730, 789-801 - Known as "Block B"

Period of Work: June 7 - August 6, 1982

Work Filed: GR #D-19494, August 17, 1982

Linecutting - 2 km @ \$450/km	\$ 900
Geological mapping	
D. Rhodes - .5 day @ \$252	126
E. Olfert - 4 days @ \$206	824
B. Waters - 4 days @ \$206	824
R. Edmunds - 5 days @ \$285	1,425
Geological - Helicopter Access	
2 hrs. @ \$600	1,200
Domicile - 13.5 man days @ \$40	540
Miscellaneous equipment & supplies	135
	<hr/>
	\$ 5,974

V. Work Done On: Nidd 803-818 - Known as "Block G"

Period of Work: June 21 - July 7, 1982

Work Filed: GR #A06155, August 27, 1982

Linecutting - .8 km @ \$450/km	\$ 360
Geological mapping	
E. Olfert - 7 days @ \$206	1,442
R. Stanton - 1 day @ \$206	206
Geological - Helicopter Access	
2 hrs. @ \$600	1,200
Domicile - 8 man days @ \$40	320
Miscellaneous equipment & supplies	80
	<hr/>
	\$ 3,608

VI. Work Done On: Nidd 699-730, 789-801 - Known as "Block B"

Period of Work: August 8 - August 31, 1982

Work Filed: Enclosed with this report

Geological mapping	
P. Scott -.5 day @ \$160	\$ 80
D. Pighin -.5 day @ \$206	103
Geological - Helicopter Access	
1 hr. @ \$600	600
Domicile - 1 man day @ \$40	40
Miscellaneous equipment & supplies	10
	<hr/>
	\$ 833

3.

VII. Work Done On: Nidd 575-618, 622 - Known as "Block F"

Period of Work: July 23 - August 31, 1982

Work Filed: Enclosed with this report

Geological mapping	
P. Scott - 6 days @ \$160	\$ 960
R. Edmunds- 4 days @ \$285	1,140
D. Pighin - .5 day @ \$206	103
Geological - Helicopter Access	
4 hrs. @ \$600	2,400
Domicile - 10.5 man days @ \$40	420
Miscellaneous equipment & supplies	105
	<hr/>
	\$ 5,128

VIII. Work Done On: Nidd 483-496, 507-520 - Known as "Block H"

Period of Work: June 26 - August 31, 1982

Work Filed: Enclosed with this report

Geological mapping	
E. Olfert - 1 day @ \$206	\$ 206
B. Waters - 1 day @ \$206	206
P. Scott - 6 days @ \$160	960
R. Edmunds - 2 days @ \$285	570
Geological - Helicopter Access	
4 hrs. @ \$600	2,400
Domicile - 10 man days @ \$40	400
Miscellaneous equipment & supplies	100
	<hr/>
	\$ 4,842

TOTAL VALUE OF WORK CREDITS \$ 52,937.00

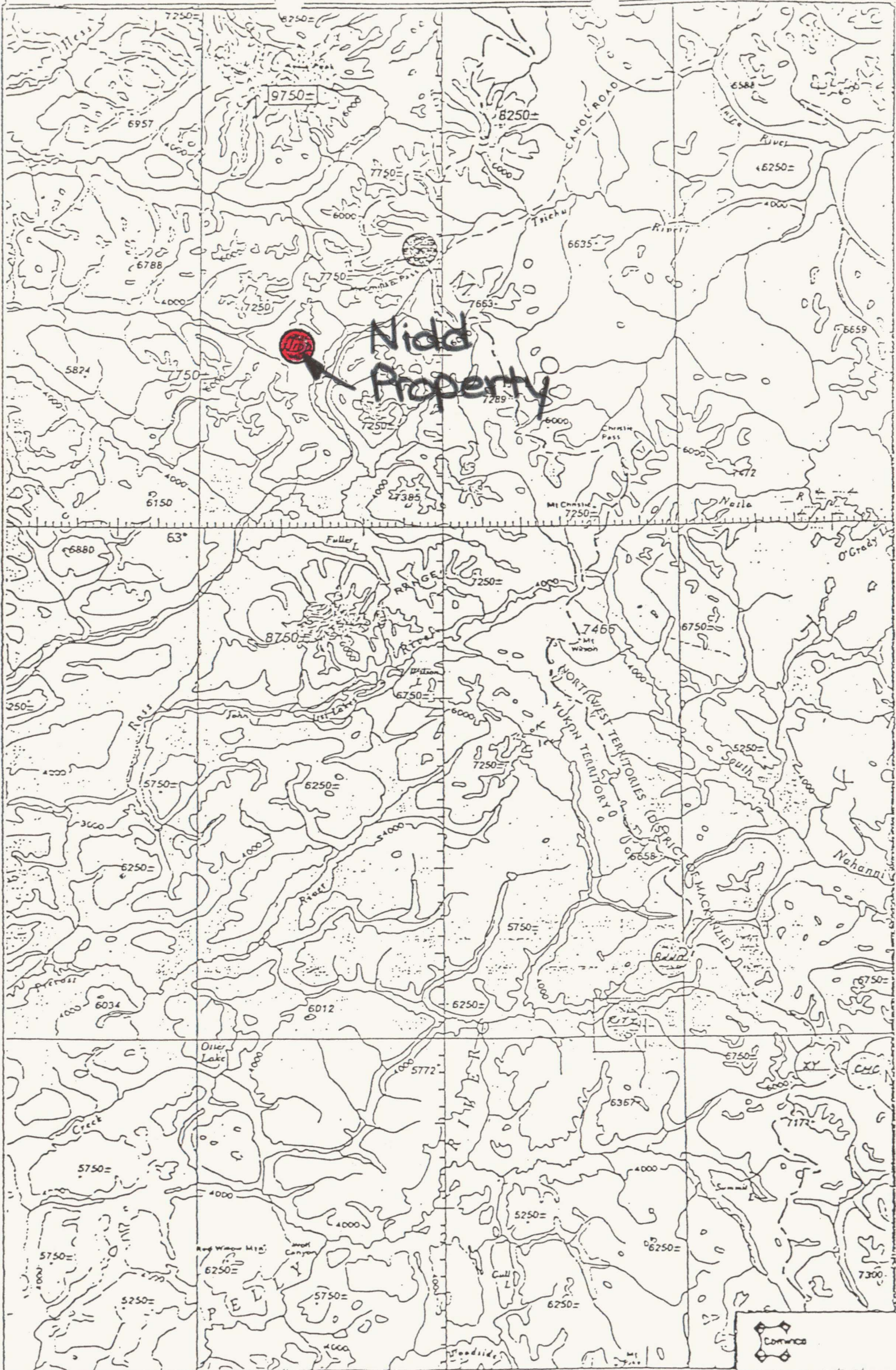
Signed: *Daniel Rhodes*
D. Rhodes, Senior Geologist

APPENDIX C

Statement of Qualifications

I, Dereck Rhodes of 2514 Bronte Road, in the district of North Vancouver, in the province of British Columbia hereby state that I graduated from McMaster University, Hamilton Ontario with a B.Sc. in Geology in 1969. Upon graduation I joined Cominco Ltd. and have worked in many aspects of mining exploration since that time.

Signed: *Dereck Rhodes*
D. Rhodes, Senior Geologist



Drawn by: <i>RWL</i>	Traced by:
Revised by: _____	Revised by: _____
Date: _____	Date: _____

091365 LOCATION MAP
 NIDD PROPERTY Mc MILLAN PASS, YUKON

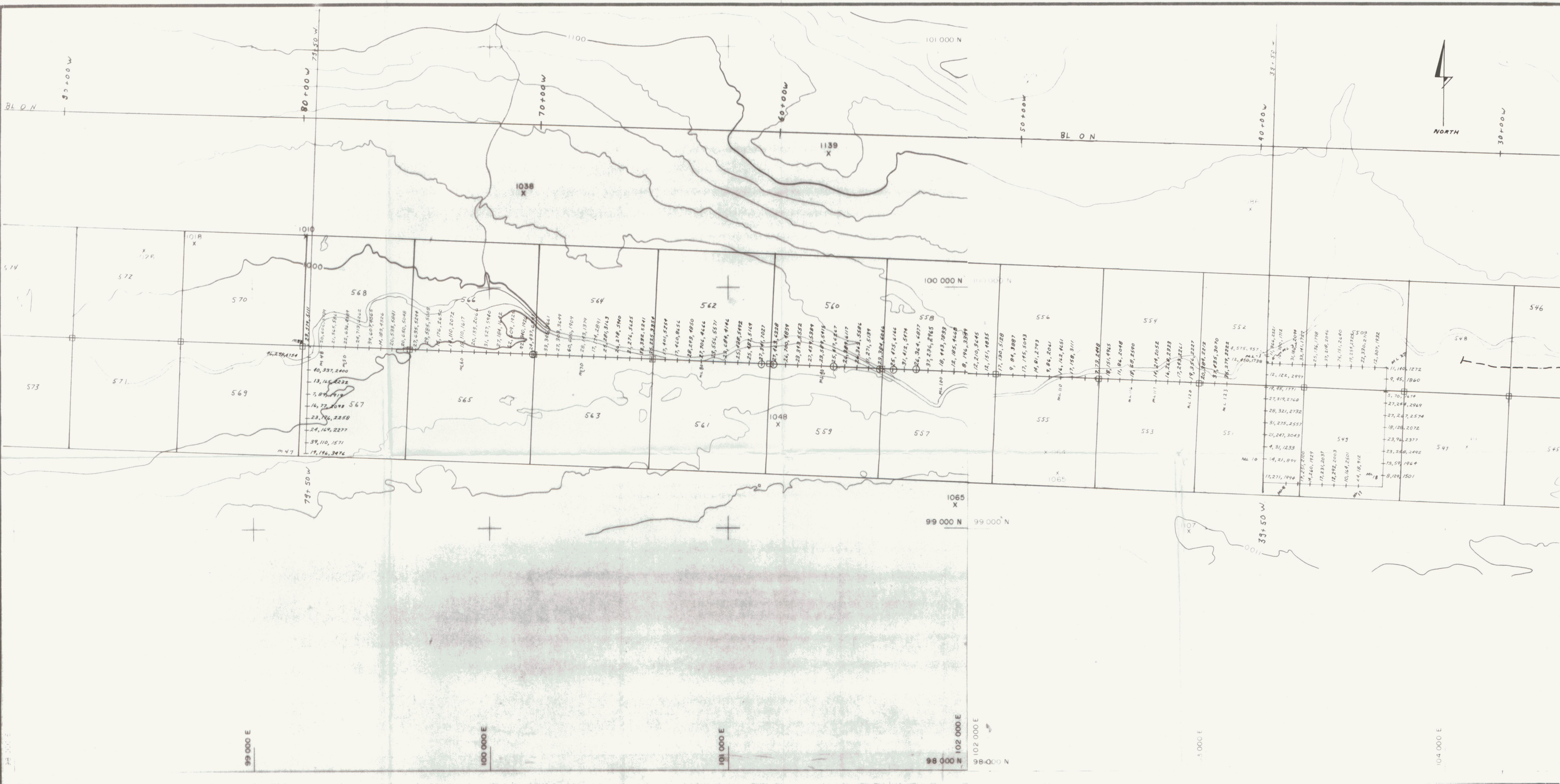
Scale: 1:500,000 Date: _____ Plate: _____



LEGEND
 11,204,2839 - Pb, Zn, Ba
 Anomalous ○
 Pb > 100
 Zn > 1000
 Ba > 6000
 --- Road - approximate position only



NIDD PROPERTY			
Drawn by: MRM		Traced by:	
Revised by:	Date:	Revised by:	Date:
GEOCHEM and ROAD LOCATION		09 2005 SOUTH AREA	
Scale: 1:10,000	Date: July 16, 1982	Plate:	



LEGEND
 11, 204, 2039 - Pb, Zn, Ba
 Anomalous ○
 Pb > 100
 Zn > 1000
 Ba > 6000
 --- Road - approximate position only



NIDD PROPERTY					
Drawn by:	M/R/M	Traced by:		GEOCHEM and ROAD LOCATION 091365 SOUTH AREA	
Revised by:	Date	Revised by:	Date		
				Scale:	1:10,000
				Date:	July 14, 1992
				Plate:	

