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85-1195-14782

ASSESSMENT REPORT

D.D.H. BAR 85-1

DRILLING ON THE BAR 8 MINERAL CLAIM

N.T.S. 82G/5W

Latitude 49°27'N Longitude 115°~~00'~~ 55.5'

FORT STEELE MINING DIVISION

FILMED

MINISTRY OF ENERGY, MINES
AND PETROLEUM RESOURCES
Rec'd APR 1 1986
SUBJECT _____
FILE _____
VANCOUVER, B.C.

Owner : Therm Exploration

Operator: Noranda Exploration Company, Limited (no personal liability)

Author : James McDonald

Date : March 3, 1986

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

14,782

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Scale 1:1,000

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1. INTRODUCTION

During 1985 diamond drill hole Bar 85-1 was initiated in order to test the Sullivan time horizon for a Sullivan type ore body. The objective of the hole was to intercept the large mineralized apron associated with such an ore body, and then follow the apron to the ore body with additional drill holes. The hole was drilled to a total depth of 1550.30 m (5,080 ft.) during the months of May, June, July, October and November. The initial 107 m of the hole was applied for assessment on July 2, 1985. This report is for assessment work applied on December 30, 1985 and covers the last 940 m of the hole from 610 m to 1550.30 m.

The Bar 8 mineral claim was staked by John Leask of 843 west 15th. Avenue, Vancouver, B.C. V5Z 1R8, during June of 1984. The property was subsequently optioned from him in a joint venture agreement between Noranda Exploration Company, Limited, Skylark Resources Ltd., Canadian United Minerals Inc., and Laramide Resources Ltd. Noranda Exploration Company, Limited acted as contractor and operator of the project.

2. LOCATION AND ACCESS

Diamond drill hole Bar 85-1 is located approximately 12 km southwest of Cranbrook, B.C. on the southwestern end of the Lumberton reservoir, at approximately the following co-ordinates:

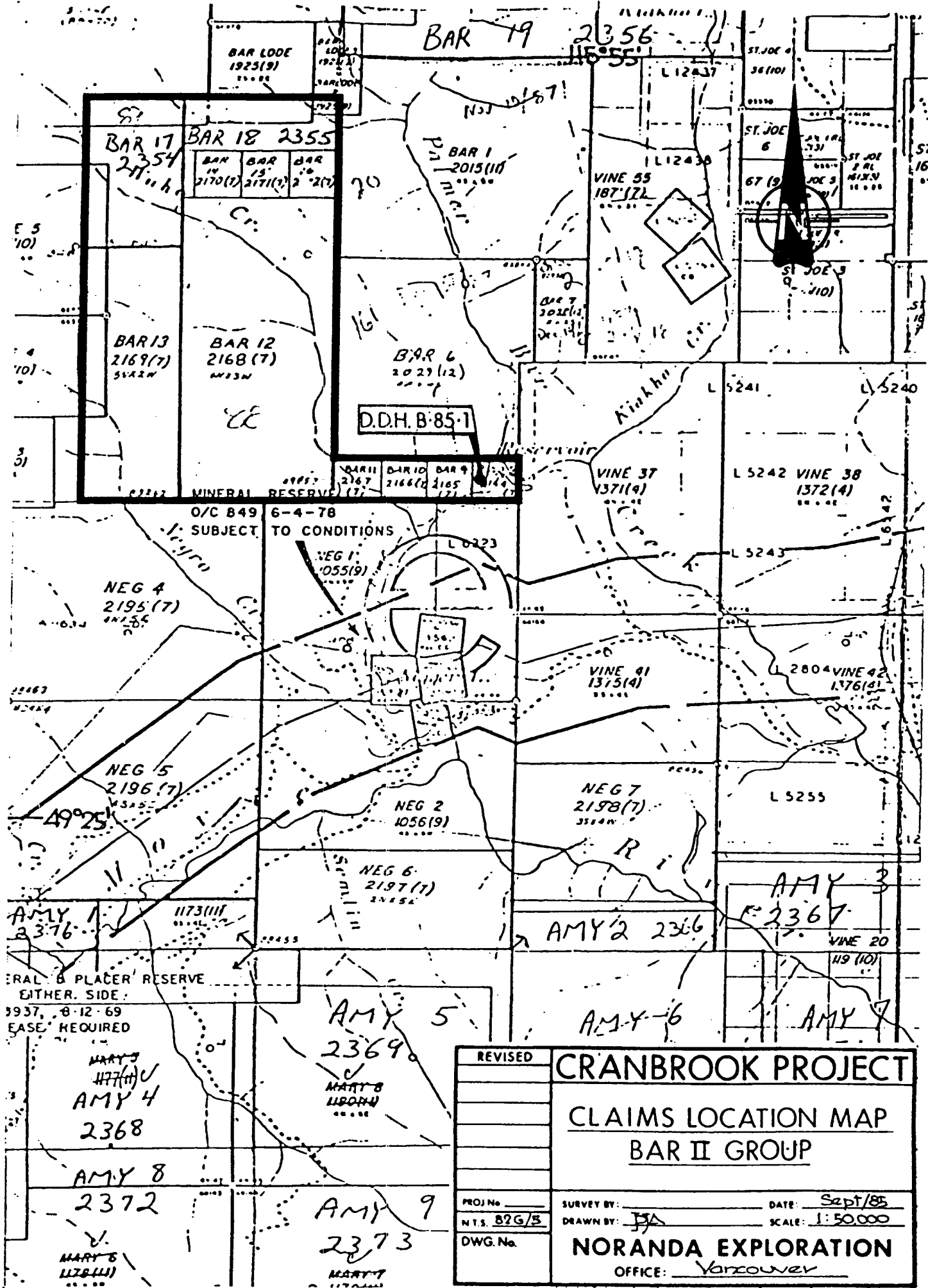
Longitude: 115°56'W

Latitude : 49°27'N

It is accessed by about 11 km of paved highway (#3) southward, 12 km of gravel road westward and northward, and 2 km of dirt road eastward to the drill site.

3. TOPOGRAPHY

The relief on the property is variable with slopes varying from 10° to 90°. Maximum relief is about 2,100 feet. Vegetation consists primarily of second growth pine, douglas fir, spruce, and tamarack, and a good portion of the west and central portions of the property have been logged off.



| | | |
|---------------------|----------------------------|------------------------|
| REVISED | CRANBROOK PROJECT | |
| | CLAIMS LOCATION MAP | |
| | BAR II GROUP | |
| PROJ. No. | SURVEY BY: <u>JSA</u> | DATE: <u>Sept/85</u> |
| N.T.S. <u>B2G/B</u> | DRAWN BY: <u>JSA</u> | SCALE: <u>1:50,000</u> |
| DWG. No. | NORANDA EXPLORATION | |
| | OFFICE: <u>Vancouver</u> | |

4. CLAIMS INFORMATION

The Cranbrook-Bar property consists of 15 mineral claims comprising two claim groups having a total of 108 units. Claims information is as follows:

BAR GROUP

| Claim Name | Units | Record Number | Record Date |
|------------|-------|---------------|-------------------|
| Bar 1 | 20 | 2015 | November 10, 1983 |
| Bar 6 | 14 | 2028 | December 14, 1983 |
| Bar 7 | 2 | 2029 | December 14, 1983 |
| Vine 55 | 18 | 1871 | July 18, 1983 |

BAR II GROUP

| Claim Name | Units | Record Number | Record Date |
|------------|-------------|---------------|-------------------|
| Bar 8 | 1 | 2164 | July 3, 1984 |
| Bar 9 | 1 | 2165 | July 3, 1984 |
| Bar 10 | 1 | 2166 | July 3, 1984 |
| Bar 11 | 1 | 2167 | July 3, 1984 |
| Bar 12 | 18 | 2168 | July 3, 1984 |
| Bar 13 | 10 | 2169 | July 3, 1984 |
| Bar 14 | 1 | 2170 | July 3, 1984 |
| Bar 15 | 1 | 2171 | July 3, 1984 |
| Bar 16 | 1 | 2172 | July 3, 1984 |
| Bar 17 | 6 | 2354 | February 20, 1985 |
| Bar 18 | 3 | 2355 | February 20, 1985 |
| Bar 19 | 8 | 2356 | February 20, 1985 |
| Bellville | Crown Grant | | |
| Lookout | Crown Grant | | |

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5. MODELING

The model used in targetting the Bar 85-1 drill hole was that of a simple, uncomplex sub-basin formed by a transverse fault in an immature spreading ridge environment. In analagous situations in modern day basins these spreading ridges follow some linear trend and the tensional stress built up by them is periodically taken up by cross-cutting transverse faults.

The importance of these transverse faults is three-fold: 1) It causes down-faulting which in turn forms a sub-basin necessary for the accumulation of sulfide ore bodies; 2) It halts the propagation of the spreading centre allowing the system to be resident long enough for lead and zinc to be leached from the surrounding sediments and concentrated as sulfides on the sea floor; and 3) It acts as a conduit for the hydrothermal fluids which leach and concentrate the lead and zinc. An elevated geothermal gradient, which would assist in the leaching and concentration of lead and zinc, is caused by

gabbroic to dioritic sills injected into unconsolidated sediment, contemporaneously with deposition.

Under such a model there is a large, stratiform apron of sulfides flanking the orebody, as seen at the Sullivan Mine. Cominco's Vine property, a cross-cutting vein with high grade lead-zinc, may have been derived from such an apron, and diamond drill holes, drilled by Cominco, in the region of the Vine, have reportedly intercepted thin layers of stratiform sulfides at the Sullivan horizon. These thin layers of sulfide are believed to be part of a large apron flanking a stratiform lead-zinc orebody. The direction of thickening of this apron would likely be northward towards the Cranbrook Fault, since it represents a transverse fault and would have caused down-faulting and the development of a sub-basin in which economic thicknesses of sulfide could accumulate. Thus the exploration thrust is two fold, it must identify a sub-basin and it must also find one in which sulfides were being deposited.

6.0 DRILL RESULTS

A repetitive succession of turbidite flows typical of the Middle Aldridge Formation was encountered from 610 m to 864.49 m. The succession was primarily comprised of proximal and intermediate turbidites, the former being represented by thick and medium bedded, coarse or medium grained quartz wacke bases and thin bedded siltstone or mudstone tops. Sedimentary features common to proximal turbidites include thick amalgamated bases, scours, vague current laminations, rip up clasts, and a general massive character. Intermediate turbidites were typified by medium and thin beds of interbedded fine and medium grained quartz wacke, siltstone, and mudstone, some scours, upwards grading, plane parallel and cross laminations, and minor load casts. Intercalated with the proximal and intermediate flows were distal turbidite flows which were typified by thin interbeds of fine grained quartz wacke, siltstone, mudstone, minor scours, plane parallel and cross parallel laminations, load casts, and a general thin bedded fine grained character. Any of the turbidite flows may be separated by thin or thick bedded mudstones or interturbidites and slumps which in the upper part of the hole are not prevalent. Also encountered in this interval was a fine grained altered sill of dioritic composition from 771 to 772.53 metres. This was followed by a heavily sheared alteration zone from 776.58 m to 786.45 metres. This zone was intensely altered by chlorite and quartz and was pervaded with quartz veins and veinlets, brecciation, with minor pyrrhotites and pyrite associated with the quartz.

A thick interval (864.49 m to 892.98 m) of distal turbidites underlies the intercalated intermediate and proximal turbidites, and is in turn intruded by a thick gabbroic to dioritic sill. This sill extends from 892.98 m to 1056.70 m, and its upper contact is gradational changing from a siliceous fine grained wacke, to a fine grained chloritic-albitic wacke "mush", to a fine grained diorite to a medium grained diorite. Included within the sill are several "windows" of altered sediment represented by intensely silicified (cherty) quartz wacke and chloritized mudstone. Also included is an amphibolite (1031.98 m to 1034.30 m) and a distinctive interval of brecciated rock from 1035.27 m to 1047.24 m. This brecciated rock consists of blotches of biotite in a coarse grained matrix of quartz and feldspar giving it a

"leopard skin" texture. The matrix changes to a quartz-chlorite mush at about 1037.07 m with fine and occasionally coarse grained fragments of hornblende commonly replaced by biotite. This "leopard skin" interval is foliated throughout. The bottom of the sill is fault bounded at its lower contact where it is contacted with a fault breccia from 1030.04 to 1030.46 m.

Alteration within the bounding sediments is prevalent on either side of the sill. This alteration is seen primarily as quartz-chlorite-mica-garnet alteration closely associated with proximity to the sill and steep vertical fractures in the core. Also prevalent to the proximity of the sill is leaching (possibly albitization), which particularly in the hangwall of the sill intensifies with proximity to it, Knottenscheiffer alteration manifested by well rounded biotitic clasts in mudstones and siltstones, and lastly pyrrhotite, \pm chalcopyrite, \pm sphalerite along (hairline) fractures. The quartz-chlorite-mica-garnet alteration is ubiquitous, is closely related to fracturing, and becomes more pronounced in proximity to the sill. Leaching is more directly affected by the sill and is seen approximately 300 m either side of it, but is most intense within about 90 m of the hangwall side, proximity to the footwall side has less effect on the intensity and this may be due to displacement along the fault contact. The Knottenscheiffer alteration occurs within 100 m of the hangwall contact and within 60 m of the footwall contact of the sill, again this difference in proximity between the footwall and hangwall sides may be due to displacement along the faulted footwall contact.

The rocks below the sill are markedly different in character than those above it. This is accounted for in the greater proportion of mudstones and siltstones overall, that is, the assemblage has changed from a predominance of proximal and intermediate, turbidites to a predominance of distal, and interturbidites. Also observed is a marked increase in the number of interbedded slumps.

Another change in the assemblage occurs at 1309.43 m, where a massive quartz wacke base grades up into laminated siltstone and fine grained quartz wacke. This interval marks the start of a sequence of thick, commonly graded turbidite bases interbedded with distal and inter-turbidites, slumps, and thin calcareous beds. This sequence is culminated with a massive interval of thick bedded turbidite bases with regular, medium, interbedded slumps, from 1415.62 to 1435.10, beneath which is a thick interval (1435.10 to 1482.35 m) of laminated siltstone, and laminated and non-laminated mudstone with thin interbeds of limy siltstone, silty limestone, and rare thin interbeds of intra-formational conglomerate. This siltstone-mudstone interval is rich in Fe-sulphides in the form of pyrrhotite disseminations, blebs, stringers, and laminations. Given sulfide rich intervals contained laminations up to 1 cm wide at a frequency of 1 to 2 per cm with the sulfide content varying from 2% to 20%.

At 1482.35 m is the top contact of a thick intraformational conglomerate consisting of rounded to angular clasts of mudstone, siltstone, and pyrrhotite (\pm chalcopyrite). Clasts range from very coarse grained to pebble size and make up anywhere from 15 to 55% of the fragmental. The pyrrhotite clasts consist of mudstone or siltstone clasts with disseminations, blebs or laminations of pyrrhotite and semi-massive or massive clasts of pyrrhotite. These sulfide clasts make up 5 to 25% of the conglomerate. The matrix is primarily siltstone or rarely very fine grained quartz wacke. Within the

conglomerate are two interbeds of interlaminated siltstone and/or mudstone at 1482.94 m to 1485.15 m and 1490.06 m to 1491.10 m. The first contains 1 to 2 pyrrhotite laminations per cm with laminations upto 3 mm wide resulting in an overall sulfide content of 10 to 15%. The second interval is sulfide poor with less than 1% pyrrhotite. The conglomerate grades down into an interval, from 1520.90 to 1526.98 m, of interbedded mudstone and muddy siltstone with occasionally clasts and slumps, and 5 to 10% disseminated pyrrhotite, which is in turn underlain by a sequence of thin and very thin interbeds of fine and medium grained quartz wackes, siltstones, and mudstones. This unit contains disseminations and occasionally laminations of pyrrhotite throughout regular thin interbeds of calcareous siltstone, and rare slumps. It began at 1526.98 metres and continued through to the end of the hole at 1550.30 m.

7.0 SUMMARY

The hole encountered typical Aldridge rocks throughout, with a fining of the sequence just below the sill at about 1030 m. This change is interpreted as a transition from high energy turbidite deposition to low energy turbidite deposition, indicating a change in tectonic activity and the rate of sedimentation. The geological history has been interpreted as follows:

Initially sediment was being slowly deposited as thin distal turbidites, followed by a period of very quiet deposition. This period of quiescence deposited a thick interval of mudstone from 1520.90 m to 1526.98 m. During this time there was some subsidence causing the deposition of the slumps and clasts seen within the mudstone interval. This event marks the initial development of sub-basin formation and as it's formation progressed continued subsidence caused slope instability and the deposition of an intraformational conglomerate. This conglomerate represents a slope facies, probably distally located as it contains only pebble sized clasts. Since it contains numerous pyrrhotite clasts there were sulfides vented onto the sea floor prior to it's formation. This period of conglomeratic deposition was followed by another period of quiescence in which mudstones and siltstones were deposited over the distal fan facies. At the same time iron rich fluids were being vented onto the sea floor forming the numerous pyrrhotite laminations seen throughout the interval. Then a sequence of thick turbidites interbedded with slumps were deposited marking an increase in the rate of sedimentation which continued for some time. This period of increased, yet moderate, sedimentation was frequently interrupted by periods of quiescence, during which time the numerous muddy and silty intervals seen in the section between the sill and the top of the mudstone-siltstone interval overlying the intraformational conglomerate were deposited. The sub-basin was slowly being filled during this period of sedimentation and the presence of slumps throughout the interval indicate the presence of a nearby slope facies implying the basin was not completely filled. Above the sill the rate of sedimentation increased again with the deposition of thicker, more frequent, and more proximal turbidite flows. As well, periods of quiescence became fewer so the proportion of silty or muddy intervals decreased. The sub-basin at this time had nearly been filled as is evidenced by the decreasing number of slumps implying a disappearing slope facies. This facies of repetitive proximal to intermediate turbidites continued and was seen throughout the remainder of the hole. The sills encountered in the hole would have been injected into unconsolidated sediment shortly after deposition, and the heat from the sills

would form convection cells around them. These cells would largely be responsible for the alteration around the sill.

8.0 CONCLUSION

The hole encountered a thick sequence of repetitive turbidite flows which fined down into a thick intraformational conglomerate, representing the base of a sub-basin. The discovery of this sub-basin is very significant in the model used because it is the area where economic quantities of sulfide would accumulate. The thick interval overlying the intraformational conglomerate is also important because it is enriched with stratiform iron sulfides in the form of numerous pyrrhotite laminations and disseminations. This interval may well represent the distal part of a stratiform sulfide apron associated with a Sullivan type ore body. The high iron-sulfide content is also reflected with the numerous sulfide clasts within the conglomerate.

The next exploration step would be continued drilling in an effort to determine if the sulfide rich interval is an apron to a large lead-zinc ore body. Additional drilling would be in the direction of stratigraphic thickening (i.e. the deepest part of the basin), and following the exploration model, that direction would be northward against the transverse Cranbrook Fault. Kink folds in olithostromes from the core also indicate that the direction of thickening is to the north. However, due to the depth of the mineralized interval in the hole the economics of a lead-zinc sulfide body, at today's prices, at that depth are poor. Thus the expense of such an exploration programme is hard to justify unless there is an upswing in the price of lead and zinc.

NOTE: All core is stored in Cranbrook warehouse rented
by Mr. Leask

Core was logged by the author.

Drilling for structure - no assays done

(T.K.ph. 6.2.87)

APPENDIX 1
STATEMENT OF COSTS

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

| PROJECT | DATE |
|---------------------------|--------------------------|
| TYPE OF REPORT | |
| a) Wages: | |
| No. of Days | 40 |
| Rate per Day | \$ 105.30 |
| Dates From: | August 31 - November 30 |
| Total Wages | 40 x \$ 105.30 |
| | \$ 4,212.00 |
| b) Food and Accomodation: | |
| No of days | 32 |
| Rate per day | \$ 51.27 |
| Dates From: | October 15 - November 15 |
| Total Cost | 32 x \$ 51.27 |
| | \$ 1,640.64 |
| c) Transportation: | |
| No of days | 32 |
| Rate per day | \$ 44.49 |
| Dates From: | |
| Total Cost | 32 X \$ 44.49 |
| | \$ 1,423.68 |
| d) Instrument Rental: | |
| Type of Instrument | |
| No of days | |
| Rate per day | \$ |
| Dates From: | |
| Total Cost | X \$ |
| Type of Instrument | |
| No of days | |
| Rate per day | \$ |
| Dates From: | |
| Total Cost | X \$ |

f) Analysis
(See attached schedule)

g) Cost of preparation of Report

| | |
|----------|-----------|
| Author | \$ 400.57 |
| Drafting | \$ 203.00 |
| Typing | \$ 104.00 |

h) Other:

| | |
|---------------------------|---------------|
| Contractor Drilling | \$ 165,603.44 |
| Contractor Management Fee | \$ 5,648.47 |

Total Cost \$ 179,271.80

e) Unit costs for Drilling

No of days

No of units 940 m.

Unit costs 190.71 / meter

Total Cost 940 × \$ 190.71 \$ 179,271.80

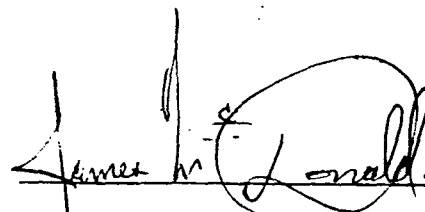
Assessment for this report on last 940 m. of hole. Total cost of hole was \$ 352,751.42 or \$ 227.58/meter over 1550 m.

APPENDIX II
STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, James McDonald of the City of Vancouver, British Columbia, do certify that:

1. I am a graduate of the University of Alberta with a Bachelor of Science in Geology.
2. I have been steadily employed by Noranda Exploration Company, Limited since May, 1983.

A handwritten signature in black ink, appearing to read "James McDonald", written over a horizontal line.

James McDonald
Geologist
Noranda Exploration
Company, Limited
(No Personal Liability)

APPENDIX III

DRILL LOGS

NORANDA EXPLORATION COMPANY LTD.

DDH BAR 85-1

| Date Collected May 12/85 | | Date Completed | Core Size HQ | DIP TESTS | | | | PROPERTY Cranbrook JV | PROJECT No. 3140 | N.T.S. No. 82G/5W | | |
|-----------------------------|---------|--------------------------|--|-----------|-----------|--|-----------|--------------------------|---------------------|----------------------|--------|--|
| FIELD CO-ORDINATES | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | |
| Lat | Elev | Dip -90 | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat | Elev. | Dip | | |
| Dep | Length | Bearing | | | | | Dep. | Length | Bearing | HOLE No. BAR 85-1 | | |
| From | To | Recovery | Description | | | Structure | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | |
| | | 596.04 to 599.09 83% | Same Clasts of 'quartz wacke' up to 2cm x 1cm with matrix of chlorite and quartz. | | | Blocky to Rubbly Bedding to C.A. 79 deg. | | | | | | |
| 606.01 | 612.732 | 599.09 to 602.13 83% | Quartz Wacke/Siltstone Medium and fine grained 'Quartz wacke' interbedded with very fine grained 'quartz wacke' and siltstone that shows plane parallel laminations and rare convoluted bedding. | | | Blocky to Rubbly Bedding to C.A. 79 deg. | | | | | | |
| | | 602.13 to 605.49 89% | Same Rare very thin interbeds of mudstone. Medium interbeds (10cm to 50cm). Minor albitization. A and C to D with rare E tops. Also in frequent interlaminations and veinlets of py and | | | Fractures at 0 deg. to C.A. with minor Qtz. and Py | | | | | | |
| | | 605.49 to 611.59 99% | Same po with rare cpy. approx. 1% | | | Bedding to C.A. 79 deg. | | | | | | |
| 612.732 | 612.781 | 611.59 to 614.63 98% | Marker | | | | | | | | | |
| 612.781 | 616.40 | 614.63 to 617.68 96% | Same Fine grained pink garnets occasional in medium 'wackes'. | | | Blocky | | | | | | |
| | | 617.68 to 620.73 100% | 'Quartz Wacke' Thick to massive bedded, amalgomated medium grained. Occasional current laminating and scour. Non graded and upwards graded. | | | Fractures at 0 deg. to C.A. | | | | | | |
| 616.40 | 635.184 | 620.73 to 623.78 100% | 'Quartz Wacke' Medium and fine grained 'quartz wacke' interbedded with plane parallel laminated siltstone and mudstones. A, D, and E sequence. Minor albite alteration. | | | Bedding to C.A. 76 deg. | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | | | | | |
|--------------------|---------|-------------------------|--|-----------|--|-----------|-------------------------------------|-----------|----------|-----------------------|------------|-----------|-------------|----------|------------|--------|--|---------|--|----------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | | | | | |
| Lat | | Elev | | Dip | | RECORDED | | CORRECTED | | RECORDED | | CORRECTED | | Lat | | Elev | | Dip | | HOLE No. | | |
| Dep | | Length | | Bearing | | | | | | | | | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | | | | | |
| | | 623.78 to 626.83 99% | Same [redacted] Medium to thin bedded. Minor scours, sharp even contacts. A bases sometimes contain fine grained clusters of pink garnets, or medium grained pink garnets. Py along fractures. | | | | Blocky | | | | | | | | | | | | | | | |
| | | 626.83 to 629.88 97% | Same [redacted] po as disseminations, along fractures and interlamination. Rare cpy that is more commonly associated with discordant features than concordant ones. | | | | Blocky Bedding to C.A. 81 deg. | | | | | | | | | | | | | | | |
| | | | Same [redacted] | | | | Blocky | | | | | | | | | | | | | | | |
| | | 629.88 to 632.93 93% | Same [redacted] Get chloritized fine to medium grained hornblende and biotite in finer beds and occasionally in medium grained wackes. Aligned parallel to sub-parallel to C.A. | | | | Blocky | | | | | | | | | | | | | | | |
| | | 632.93 to 635.98 92% | Same [redacted] 633.34 to 635.98 Albite alteration - preferentially alteration of silt and mudstones. Medium | | | | Blocky | | | | | | | | | | | | | | | |
| | | | Same [redacted] grained wacke show lesser alteration and irregular, blotchy alteration contact with finer albitized sediments. | | | | Bedding to C.A. 82 deg. | | | | | | | | | | | | | | | |
| 635.184 | 635.304 | 635.98 | Marker [redacted] Albitized. | | | | | | | | | | | | | | | | | | | |
| 635.304 | 641.73 | 635.98 to 639.02 92% | Same [redacted] Same as overlies albitized marker. | | | | Fractures to C.A. 0 deg. to 25 deg. | | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | | | | | |
|--------------------|--------|--------------------------|---|-----------|--|-----------|--|-----------|----------|-----------------------|-----------|-----------|-------------|-----|------------|----------|--|---------|--|----------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | Sheet of | | | | | | |
| Lot | | Elev | | Dip | | RECORDED | | CORRECTED | | RECORDED | | CORRECTED | | Lot | | Elev | | Dip | | HOLE No. | | |
| Dep | | Length | | Bearing | | | | | | | | | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No | Width | ASSAYS | | | | | | | | | |
| | | 639.02 to 642.09 98% | Same | | | | Blocky Bedding to C.A. 80 deg. | | | | | | | | | | | | | | | |
| 641.73 | 657.14 | 642.09 to 643.29 100% | 'Quartz Wacke' Medium to thick interbeds of medium to coarse grained, light grey 'quartz wacke'. Amalgomated wackes with scours, occassional current laminations and siltstone-mudstone (thin | | | | | | | | | | | | | | | | | | | |
| | | 643.29 to 646.45 88% | Same bedded) tops. A with thin E tops (occassional D tops as well). | | | | Bedding to C.A. 76 deg. | | | | | | | | | | | | | | | |
| | | 646.45 to 651.52 89% | Same 644.41 to 651.52 Fracture zone. Blocky to rubbly throughout. Moderate but not strong development of | | | | Blocky to Rubbly. Fractures at 0-30 deg. to C.A. | | | | | | | | | | | | | | | |
| | | 651.52 to 656.40 97% | Same slicks. Chlorite well developed in fracture zones with minor carbonate. Also zones of clay alteration (sausseritized albite?). | | | | Blocky to Rubbly Bedding to C.A. 78 deg. | | | | | | | | | | | | | | | |
| | | 656.40 to 661.59 94% | Same 646.24 to 646.81 Clay Alteration an Albitization. Clay may be alteration of albite. Py disseminations 1-2% | | | | Blocky Bedding to C.A. 81 deg. | | | | | | | | | | | | | | | |
| | | | Same 646.94 to 647.44 underlain by Quartz veins. Coarse grained wacke leached by quartz, with quartz at 0-10 deg. to C.A. Py along veins with | | | | | | | | | | | | | | | | | | | |
| | | | Same 1% or less Cpy and Sphl. Py disseminated throughout approx. 15% | | | | | | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Collared | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | |
|--------------------|----|----------------|-------------|------------------|--|-----------|-----------|-----------|----------|------------|-----------------------|--------|-------------|---------|------------|--|----------|--|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | Sheet of | |
| Lat | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat | | Elev | | Dip | | HOLE No. | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | | Same | 647.93 to 648.31 | Coarse grained wacke leached by quartz as before. Veining less pronounced and Py | | | | | | | | | | | | | |
| | | | Same | 648.31 to 648.49 | disseminations approx. 25% with minor sphl. Clay-Albite alteration as before grades down into zone | | | | | | | | | | | | | |
| | | | Same | 648.49 to 648.86 | of quartz alteration. Quartz wacke pervaded by quartz as before 25-35% +/- sphl. +/- gal. | | | | | | | | | | | | | |
| | | | Same | 648.86 to 648.96 | Fault breccia albitized, clay alteration, and some chlorite. | | | | | | | | | | | | | |
| | | | Same | 650.51 to 651.52 | Quartz wacke pervaded by quartz as before. Veinlets and fractures at 0-15 deg. to | | | | | | | | | | | | | |
| | | | Same | | C.A. with py, +/- sph. Also disseminated py throughout, +/- sphl. approx. 25% | | | | | | | | | | | | | |
| | | | Same | 653.50 to 653.97 | Clay-Albite alteration as before (clay altered from albite). Approx 1-2% | | | | | | | | | | | | | |
| | | | Same | 653.97 to 654.42 | disseminated py. Quartz wacke pervaded by quartz as before. Py 15 to 25% +/- sphl. | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | |
|--------------------|--------|----------------|---|-----------|--|-----------|-----------|-----------|------------|------------|-----------------------|--------|-------------|---------|------------|----------|-------|----|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | | |
| Lat | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat | | Elev | | Dip | | Sheet | of |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | HOLE No. | | |
| From | To | Recovery | Description | | | | Structure | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | | |
| | | | Same 650.75 to 650.93 Quartz wacke pervaded by quartz. Py approx. 5-10%, no quartz veins. | | | | | | | | | | | | | | | |
| | | | Same 655.93 to 656.21 Albite-clay alteration py > 1% | | | | | | | | | | | | | | | |
| | | | Same 656.21 to 657.14 Medium grained 'Quartz wacke' with minor quartz veins at 0-20 deg. to C.A. Py | | | | | | | | | | | | | | | |
| | | | Same disseminations 5% +/- sphl. some py and minor sphl with veining. | | | | | | | | | | | | | | | |
| 657.14 | 668.77 | | Interbeds interbeds of medium and fine grained 'quartz wacke', siltstone and mudstone. Scours, plane parallel laminations and minor load structures. | | | | | | | | | | | | | | | |
| | | | Same 659.08 to 659.81 A with D-E tops. Thin bedded very fine grained 'quartz wacke' and siltstone marked by very thin laminations | | | | | | | | | | | | | | | |
| | | | Same 661.00 to 661.42 of pyrite. Minor albite alteration. Alteration in medium grained wacke of quartz, chlorite and | | | | | | | | | | | | | | | |
| | | | Same 661.42 to 662.23 minor carbonate. Py 2-3% with minor galena. Albite-clay alteration. Py 1-2%, +/- galena. | | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colliard | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | |
|--------------------|---------|-----------------------|-------------|---|---|-----------|--------------------------------|-----------|------------|------------|-----------------------|--------|-------------|---------|------------|----------|-------|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | |
| Lat | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat | | Elev | | Dip | | Sheet |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | HOLE No. | |
| From | To | Recovery | Description | | | | Structure | % Sulph | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | | Same | 664.85 to 668.57 | Alteration zone. Albite, Quartz, chlorite with 1-5% py and minor galena disseminations. | | Blocky | | | | | | | | | | |
| | | | Same | 668.57 to 669.32 | Fractures at 0-30 deg. Albite-clay alteration. | | Blocky | | | | | | | | | | |
| 668.79 | 669.234 | | Marker | Albitization. | | | Blocky Bedding to C.A. 82 deg. | | | | | | | | | | |
| 569.234 | 678.62 | 661.59 to 666.46 100% | Same | 669.32 to 675.58 | Same as overlies marker. Alteration spotty chlorite and quartz with thin intervals of albite-clay alteration. | | Blocky | | | | | | | | | | |
| | | 666.46 to 671.34 | Same | 674.58 to 672.42 | Zone of strong albite-clay alteration, with fractures and quartz veinlets at 0-10 | | Blocky Bedding to C.A. 78 deg. | | | | | | | | | | |
| | | | Same | deg. to C.A. Chlorite and minor carbonate along fractures. Py and along fractures and veinlets with | | | Blocky | | | | | | | | | | |
| | | | Same | 672.01 to 672.04 | po disseminations in rock <1%. Minor fault gouge and breccia chlorite, clay, and silica, minor slicks py, po <1%. | | | | | | | | | | | | |
| | | 676.22 to 680.79 | Same | 672.42 to 776.71 | Intervals of thin bedded albite-clay alteration with minor disseminated py and po, cpy along quartz veins. | | Blocky Bedding to C.A. 82 deg. | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | | | | | |
|--------------------|--------|------------------|---|-----------|--|-----------|--|-----------|----------|-----------------------|------------|-----------|-------------|----------|------------|------|--|-----|--|----------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | | | | | |
| Lot | | Elev | | Dip | | RECORDED | | CORRECTED | | RECORDED | | CORRECTED | | Lot | | Elev | | Dip | | HOLE No. | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | | | | | |
| | | | Same 676.71 to 677.81 Zone of chlorite-quartz alteration with fractures at 0-10 and 45 deg. with slicks showing dip slip movement all underlain by albitization about 60cm wide. | | | | | | | | | | | | | | | | | | | |
| | | 680.79 to 685.67 | Same 678.72 to 681.16 Zone of albitization and quartz veinlets, minor py and some weathered ant albite crystals. | | | | Blocky bedding to C.A. 72 deg. | | | | | | | | | | | | | | | |
| | | | 684.89 to 688.45 Zone of alteration albite-clay quartz, chlorite, few sulfides | | | | | | | | | | | | | | | | | | | |
| | | | Same 689.35 to 690.94 Py, po -1%. Zone of fracturing with minor quartz veins and albitization. Py, po <1% | | | | | | | | | | | | | | | | | | | |
| | | | Same 689.43 to 689.63 Fault gouge clay and chlorite alteration. | | | | | | | | | | | | | | | | | | | |
| | | | Same 689.35 to 691.86 Fracture zone. Fractures at 0-10 deg., and 40 deg. to C.A. Minor quartz veinlets, chlorite, and minor carbonate. Few to no sulfides. | | | | Blocky to Rubbly Fractures to C.A. 0-10, 40 deg. Bedding to C.A. 84 deg. | | | | | | | | | | | | | | | |
| 678.62 | 697.55 | 685.67 to 689.93 | 'Quartz Wacke' Medium bedded (50-100cm), medium grained with thin interbeds of siltstone and mudstone. A with C and E tops. | | | | Blocky | | | | | | | | | | | | | | | |

DRILL LOG - 01

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | |
|--------------------|--------|-----------------------|--|-----------|--|--------------------------------|-----------|----------|------------|-----------------------|-------|--------|-------------|----------|------------|----------|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | |
| Lot | | Elev | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot. | | Elev. | | Dip | | HOLE No. | |
| Dep | | Length | | Bearing | | | | | | Dep. | | Length | | Bearing | | | |
| From | To | Recovery | Description | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | 689.93 to 694.82 96% | Same [redacted] 695.98 to 696.34 Minor albite alteration in siltstones. | | | Blocky Bedding to C.A. 84 deg. | | | | | | | | | | | |
| | | | Same [redacted] 697.21 to 697.55 Albite-clay alteration in mudstone and siltstone with weathered albite crystals | | | | | | | | | | | | | | |
| | | | Same [redacted] and a thin quartz vein at 25 deg. to C.A. with pyrite and cpy, approx. 35% of vein. | | | | | | | | | | | | | | |
| 697.55 | 708.28 | 694.82 to 699.85 98% | 'Quartz Wacke' [redacted] Thick to massive bedded medium grained with scours and occasional fine grained tops. | | | Blocky | | | | | | | | | | | |
| 708.28 | 710.35 | 699.85 to 707.88 96% | Interbeds [redacted] Thin bedded medium and fine grained 'Quartz wacke' and siltstone and mudstone. Occasional scours and plane laminations. A with C. D. E. tops. | | | | | | | | | | | | | | |
| | | 707.88 to 709.91 112% | Same [redacted] Alteration: Minor albite alteration in siltstones and mudstones. | | | Blocky Bedding to C.A. 80 deg. | | | | | | | | | | | |
| 710.35 | 717.27 | 709.91 to 714.94 96% | 'Quartz Wacke' [redacted] Medium bedded, medium grained with thin interbeds of siltstone and mudstone, scours. | | | | | | | | | | | | | | |
| | | 714.94 to 719.82 101% | Same [redacted] Minor alteration some albitization, quartz veins with py, po, and chlorite. Disseminated py varies from 1% to 5%. | | | Blocky Bedding to C.A. 82 deg. | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Collared | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N.T.S. No. | | |
|--------------------|--------|------------------------|---|-----------|--|-----------|--|-----------|------------|-----------------------|-------|-------------|--|------------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | |
| Lot | | Elev | | Dip | | RECORDED | | CORRECTED | | Lot | | Elev | | Dip | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | |
| From | To | Recovery | Description | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | |
| 717.27 | 725.00 | 19.82 to 24.70 100% | Interbeds Thin bedded (5-10cm) interbeds of medium and fine grained 'quartz wacke'. Very fine grained 'quartz wacke', siltstone and mudstone. Some mudstones contain up to 15 or 2% | | | Blocky | | | | | | | | | | |
| | | 24.70 to 29.57 97% | Same medium to fine grained rounded quartz clasts - D top? Some scours, mostly sharp contacts, plane parallel and ripple cross laminations. | | | | | | | | | | | | | |
| | | | Same Siltstone mostly thickly laminated. A, C, D, and E sequence. Distal turbidites. | | | Blocky | | | | | | | | | | |
| | | | Same Alteration: Selective albite alteration of finer beds. Some quartz veinlets with po, py, cpy. In medium grained wackes have up | | | | | | | | | | | | | |
| | | | Same to 20% py disseminations. Some carbonate along fractures. Fractures 20 to 30 deg. to C.A. | | | | | | | | | | | | | |
| | | | Same Appearance of occasional thick interbed of medium graind 'quartz wacke'. Also have appearance of rare clasts up to 3.5cm x 0.5 cm. Also very fine grained 'quartz wacke' and | | | | | | | | | | | | | |
| | | | Same siltstones show convoluted bedding slump. Medium grained wackes occasionally show vague cross-bedding, B horizon. Also siltstones and very fine grained wackes show | | | | | | | | | | | | | |
| | | | Same plane parallel laminations. So have A, C, D, E; A, D-E; and A, B, D, E. | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Collected | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | |
|--------------------|----|------------------------|-------------|--|---------|-----------|--------------------------------|------------|-----------------------|----------|--------|--------|-------------|---------|------------|----------|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | |
| Lat | | Elev | | | Dip | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | | HOLE No. |
| Dep | | Length | | Bearing | 2523' | 220° | | 82° | | Dep | | Length | | Bearing | | |
| From | To | Recovery | Description | | | Structure | % Sulph. | Est. Grade | SAMPLE No | Width | ASSAYS | | | | | |
| | | 29.57 to 34.45 101% | Same | Thus have intermediate to distal turbidites. Alteration: Thin to medium grained 'quartz wacke' often contain 10-15% | | | Blocky Bedding to C.A. 78 deg. | | | | | | | | | |
| | | 34.45 to 39.33 88% | Same | disseminated py, and are commonly overlain by siltstone or mudstone that has minor albite alteration over 2-10cm wide. Common occurrence | | | | | | | | | | | | |
| | | | Same | of medium grained, pink garnets in A horizon. Fractures at 0-20, 30, 45 deg. to C.A. with carbonate chlorite, and po, cpy (<1%). Also have | | | Blocky | | | | | | | | | |
| | | | Same | quartz veinlets at same angle to C.A. with po and cpy (infrequent). | | | | | | | | | | | | |
| | | 39.33 to 43.90 99% | Same | 737.86 Have fine grained clast (1x0.5cm) surrounded by 30% po grains across thin interbed 3cm wide. | | | | | | | | | | | | |
| | | | Same | 743.02 Have large (3.5 x 6cm) clast of semi-massive po with minor cpy at base of scour. Also | | | | | | | | | | | | |
| | | 43.02 to 48.93 99% | Same | have pebble size siltstone clasts. | | | Blocky Bedding to C.A. 81 deg. | | | | | | | | | |
| | | 48.93 to 53.96 98% | Same | 744.60 to 744.80 Have laths of chloritized hornblende medium grained, aligned (sub)parallel to C.A. | | | Bedding to C.A. 83 deg. | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | |
|--------------------|--------|-----------------------|--|-----------|--|-----------|--|-----------|----------|------------|-----------------------|--------|-------------|---------|------------|--|----------|--|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | Sheet of | |
| Lat | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat | | Elev | | Dip | | HOLE No. | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| 759.02 | 771.00 | 753.96 to 758.84 99% | 'Quartz Wacke' Thick bedded, medium grained, mainly non-graded with occasional siltstone mudstone thin bedded tops. A with thin E beds 1-2m thick, tops 2 to 5cm wide. | | | | Blocky | | | | | | | | | | | |
| | | 758.84 to 763.72 101% | Same 763.47 to 762.88 Quartz vein, minor po, also albite crystals, (sausseritized) albite alteration in | | | | Blocky Bedding to C.A. 80 deg. | | | | | | | | | | | |
| | | 763.72 to 768.90 87% | Same thin silt-mudstones 20cm below vein. | | | | | | | | | | | | | | | |
| 762.88 | 771.00 | | Interbeds 'quartz wacke' interbedded with siltstone and mudstone tops, rare convoluted bedding. Medium and thin bedded, beds 10cm to 80 cm. | | | | | | | | | | | | | | | |
| | | | Same Alteration: Mudstone and siltstone show preferential albite alteration and are usually associated with medium grained 'quartz wacke' | | | | | | | | | | | | | | | |
| | | | Same carrying 10-25% py disseminations with minor po and trace cpy. Also quartz veinlets with po and trace cpy. | | | | | | | | | | | | | | | |
| 771.00 | 772.53 | | Sill Medium grained plagioclase approx. 35%, biotite (and altered hornblende or pyroxene) 40%, quartz 25%. Likely replaced quartz wacke as | | | | Fractures at 20 deg., 80 deg. to C.A. Blocky | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N.T.S. No. | | |
|--------------------|--------|-----------------------|--|-----------|---------|--|-----------|------------|-----------------------|----------|--------|-------------|----------|------------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | |
| Lat | | Elev | | | Dip | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat. | | Elev | | Dip | | |
| Dep | | Length | | Bearing | | | | | | Dep. | | Length | | Bearing | | |
| From | To | Recovery | Description | | | Structure | % Sulph | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | | Same there are some vague sedimentary features, such as scours observed. Laths of plag. aligned sub-parallel to C.A. | | | Some slicks indicating reverse? movement | | | | | | | | | | |
| 772.53 | 774.51 | 768.90 to 773.78 99% | Interbeds Same as above 759.02 to 771m. | | | | | | | | | | | | | |
| 774.51 | 776.85 | | 'Quartz Wacke' Medium grained, thick bedded with thin mudstone top | | | | | | | | | | | | | |
| | | 773.78 to 777.74 100% | Same 775.02 to 776.06 Alteration zone. Pervaded by quartz with Chlorite (5%) and po, cpy (2-5%). | | | Fractures to C.A. 20, 40 deg. | | | | | | | | | | |
| 776.85 | 786.45 | 777.74 to 781.40 73% | Alteration Zone Heavily sheared, Shears at 20 deg. and 45 deg. to C.A. Chlorite approx. 60-80%, quartz 20-40%. Minor po, py associated with quartz. Some slicks. Also carbonated throughout. | | | Rubbly | | | | | | | | | | |
| | | | Same 777.74 A few centimeters of fault gouge. | | | Rubbly Shears and Fractures | | | | | | | | | | |
| | | | Same Zone shows brecciation healed by quartz veins. Also quartz veinlets occur throughout. Alteration weakens downward and grades into medium grained 'quartz wacke'. | | | to C.A. 0-10, 20, 30, 45 deg. | | | | | | | | | | |
| | | | Same 779.12 to 780.21 Very rubbly-gravelly and fault gouge. | | | Rubbly | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size Reduced to | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N.T.S. No. | | |
|--------------------|--------|-----------------------|---|----------------------|--|--------------------------------|--|-----------|------------|-----------------------|-------|-------------|--|------------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | |
| Lot | | Elev | | Dip | | RECORDED | | CORRECTED | | Lot | | Elev | | Dip | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | |
| From | To | Recovery | Description | | | Structure | | % Sulph | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | |
| | | 781.40 to 784.84 72% | Same [redacted] Minor py crystals throughout. | | | | | | | | | | | | | |
| 786.45 | 790.24 | 784.84 to 789.33 90% | 'Quartz Wacke' Medium grained, thick bedded and altered. Blocky. | | | Bedding to C.A. 84 deg. | | | | | | | | | | |
| | | 789.33 to 790.24 111% | Same [redacted] Alteration: Chlorite-albite alteration throughout with quartz veinlets and sweats throughout carrying minor po and trace cpy. | | | Blocky | | | | | | | | | | |
| | | | Same [redacted] Also common medium to fine grained light pink garnets in coarser intervals. And quartz. Albite is in matrix and shows some crystal growth to | | | | | | | | | | | | | |
| | | | Same [redacted] form clast component. Also sericite occurs throughout - associated with albite. Fine grained py disseminations approx. 1% overall. Fractures | | | | | | | | | | | | | |
| | | | Same [redacted] contain carbonate. Fractures and quartz veins to C.A. 0, 20, 30, 45 deg. | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| 790.24 | 811.61 | 790.24 to 793.29 120% | Interbeds Thin to medium bedded medium to very coarse grained 'quartz wacke' and common granule to pebble conglomerate medium (to thick?) interbeds. Some are matrix supported with a | | | Blocky Bedding to C.A. 82 deg. | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Collared | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | |
|--------------------|--------|-----------------------|--|-----------|----------|-----------|-------------------------|-----------|-----------------------|------------|-------|--------|-------------|--|------------|--|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | | |
| Lot | Elev | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat. | Elev | Dip | | HOLE No. | | | | | |
| Dep | Length | Bearing | | | | | | Dep | Length | Bearing | | | | | | | | |
| From | To | Recovery | Description | | | | Structure | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | | |
| | | | Same [redacted] matrix of mudstone and siltstone with altered (biotite quartz) silt clasts near pebble size. Clasts approx. 25-30%. Also have clast supported conglomerate with granule size clasts of quartz and siltstone. The matrix supported conglomerates appear as if they are mud flows due to vague convoluted bedding. Mudstone interbeds contain thin siltstone tops. | | | | | | | | | | | | | | | |
| | | 793.29 to 796.34 100% | Same [redacted] Alteration: Quartz wackes and conglomerates in grain or clast supported varieties commonly have medium grained light pink garnets | | | | Blocky | | | | | | | | | | | |
| | | | Same [redacted] from 1-8%. Have common biotite alteration of grains and albite sericite and minor chlorite alteration of matrix with py disseminations of 1% | | | | Bedding to C.A. 81 deg. | | | | | | | | | | | |
| | | 796.34 to 799.39 103% | Same [redacted] or less. Also have trace cpy in matrix. Sericite up to 5-6% in wackes. In matrix supported conglomerates have approx. 20-25% chlortie in matrix | | | | | | | | | | | | | | | |
| | | | Same [redacted] and siltstone and mudstone clasts relatively unaltered. Occasional angular medstone clast in matrix supported conglomerate and quartz wacke, some | | | | | | | | | | | | | | | |
| | | | Same [redacted] may be slightly tourmalinized. These occur at 791.52 and 793.24. | | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | |
|--------------------|--------|--------------------------|---|-----------|--|-----------|--|-----------|----------|-----------------------|------------|-----------|-------------|----------|------------|--------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | |
| Lat | | Elev | | Dip | | RECORDED | | CORRECTED | | RECORDED | | CORRECTED | | Lot | | Elev. | | |
| Dep | | Length | | Bearing | | | | | | | | | | Dep | | Length | | |
| Dep | | Length | | Bearing | | | | | | | | | | Dep | | Length | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | 799.39 to 802.44 98% | Same Also have thin ascicular crystals of tourmaline at 793.31 and 793.45, aligned sub-parallel to C.A. | | | | Blocky Bedding to C.A. 83 deg. | | | | | | | | | | | |
| | | 802.44 to 805.49 97% | Some 'wackes' contain up to 10% disseminated py, these are thin bedded. Albitization occurs preferentially | | | | | | | | | | | | | | | |
| | | 805.49 to 808.23 98% | in mudstone and occurs primarily as fine to medium grained albite crystals. Some also show strong albiti- | | | | Blocky | | | | | | | | | | | |
| | | | zation. These interbeds are whitish and clay altered and contain some distinct albite crystals. | | | | | | | | | | | | | | | |
| | | 808.23 to 811.28 98% | Carbonate and quartz occur along veinlets. Veinlets to C.A. 0-10 deg. and 25,40 deg. Fractures at 20-25 and 40 deg. | | | | Blocky Bedding to C.A. 84 deg. | | | | | | | | | | | |
| 810.61 | 816.94 | 811.28 to 814.33 90% | Fracture Zone Fractures to C.A. 0-20 deg. Quartz-carbonate veins throughout with po and trace cpy, sphl. Common clusters of red-pink garnets. Also chlorite along fractures. Disseminated py 1% | | | | Blocky to Rubbly Bedding to C.A. 82 deg. | | | | | | | | | | | |
| | | 814.33 to 817.38 100% | Same or less. Breccia with chloritized angular fragments up to 10mm x 7mm. Breccia healed by | | | | | | | | | | | | | | | |
| | | 817.38 to 820.43 99% | Same Calcite. | | | | Bedding to C.A. 83 deg. Blocky | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N.T.S. No. | |
|--------------------|--------|----------------------|--|-----------|--|---------------------------|-----------|----------|------------|-----------------------|-------|-------------|--|------------|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | |
| Lot | | Elev | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | |
| From | To | Recovery | Description | | | Structure | | % Sulph | Est. Grade | SAMPLE No. | Width | ASSAYS | | | |
| 816.94 | 822.87 | 820.43 to 823.48 98% | Interbeds Same as above fracture at 811.61 to 816.94. Also have introduction of medium to coarse grained, medium bedded 'lithic wacke' | | | Blocky bedding to C.A. 80 | | | | | | | | | |
| | | | Same with sub-rounded clasts of quartz, siltstone and mudstone. Alteration: Same as above fracture zone but have greater amounts of | | | | | | | | | | | | |
| | | | Same sericite and biotite approx. 10 to 20%. Albitization of mudstones and siltstones. | | | | | | | | | | | | |
| 822.87 | 829.31 | 823.48 to 826.52 98% | Interbeds Medium to coarse grained, medium bedded, lithic wacke, with lesser quartz 'wacke' and thin to medium interbeds of siltstone | | | Blocky | | | | | | | | | |
| | | | Same with lenses of mudstone with knottenscheifer alteration. Alteration: Same as overlying unit | | | | | | | | | | | | |
| | | 826.52 to 829.57 98% | Same same convoluted bedding in siltstones. (Shows vague convoluted bedding) | | | | | | | | | | | | |
| 829.31 | 835.59 | 829.57 to 832.62 98% | Interbeds Thin bedded fine to medium grained quartz wacke and siltstone with lesser mudstone, well bedded or laminated throughout with sharp | | | Bedding to C.A. 81 deg. | | | | | | | | | |
| | | | Same contacts. 830.37 to 831.43m. Interval of thin to very thinly bedded, rhythmic succession of siltstone supported granule conglomerate. | | | | | | | | | | | | |

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Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | |
|--------------------|----|--------------------------|--|-----------|--|-----------|---|-----------|----------|------------|-----------------------|--------|-------------|---------|------------|--|----------|--|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | Sheet of | |
| Lat | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat. | | Elev. | | Dip | | HOLE No. | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | 832.62 to 835.67 96% | Same [redacted] Clasts well rounded, elongate, aligned parallel to bedding. Clasts vary from 35 to 60%. Altered beds have minor scouring at the base and | | | | Blocky | | | | | | | | | | | |
| | | | Same [redacted] a very thin siltstone or mudstone layer at the top. Also disseminations of py and minor thin interlamination of py. Py approx. 2% overall. | | | | | | | | | | | | | | | |
| | | 835.67 to 838.72 100% | Alteration: Albitization of finer grained fractions. Wackes contain abundant biotite 15 to 30% & sericite 5 to 10% | | | | Fractures and veins to C.A. 0 deg. to 10 deg. | | | | | | | | | | | |
| | | | Same [redacted] and contain carbonate within the matrix and along fractures. Some quartz flooding with minor chlorite associated with it. Py disseminated throughout, more than overlying | | | | Blocky bedding to C.A. 78 deg. | | | | | | | | | | | |
| | | | Same [redacted] unit, but approx. 1% or less overall. Siltstones, mudstones, and altered beds commonly contain fine grained asicular crystals of tourmaline aligned | | | | | | | | | | | | | | | |
| | | | Same [redacted] sub-parallel to bedding and C.A. In the bottom 40cm of unit quartz flooding is prominent along with more intense albitization of matrix in the 'quartz wackes'. Medium grained | | | | | | | | | | | | | | | |
| | | | Same [redacted] pink garnets are common. | | | | | | | | | | | | | | | |
| | | | [redacted] | | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | |
|--------------------|--------|--------------------------|--|-----------|--|-----------|----------------------------|----------|-----------|-----------------------|------------|--------|-------------|----------|------------|----------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | |
| Lat | | Elev | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat | | Elev. | | Dip | | HOLE No. | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| 835.59 | 864.49 | 838.72 to 841.77 100% | Interbeds Medium to thick bedded coarse grained quartz wacke (with lesser fine and medium grained fractions) with some interbeds of 'lithic wacke', coarse | | | | Blocky | | | | | | | | | | | |
| | | 841.77 to 844.82 100% | Same to medium grained with sub-rounded fragments. Common thin to medium bedded interbeds of siltstone-mudstone. A and F with same B and C. B shows | | | | | | | | | | | | | | | |
| | | 844.82 to 847.87 96% | Same plane parallel lamination in a fine grained 'quartz wacke'. Also slumps with convoluted bedding. Also E (or D) shows plane parallel lamination or is | | | | | | | | | | | | | | | |
| | | 847.87 to 850.91 100% | Same structureless. Alteration: Same as above but quartz and lithic wackes are more silicious (i.e. more quartz | | | | | | | | | | | | | | | |
| | | 850.91 to 853.96 97% | flooding) and they have good albite alteration in the matrix and more abundant pink garnets. Quartz-carbonate | | | | | | | | | | | | | | | |
| | | 853.96 to 857.01 100% | veins contain po with trace gal. and sphl. Garnets become rare around 847.50m | | | | Veins to C.A. 0 to 10 deg. | | | | | | | | | | | |
| | | 857.01 to 861.89 100% | 848.66 to 850.21 Highly altered 'wacke' or (sill?) Remnant bedding. Biotite 45 to 60%. Albite | | | | | | | | | | | | | | | |
| | | 861.89 to 866.77 99% | 25 to 35%, Quartz 15 to 25%. Albite also occurs as anhedral porphyroblasts. Zone | | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N.T.S. No. | | |
|--------------------|--------|------------------|---|-----------|--|-----------|-------------------------|-----------|------------|------------|-----------------------|-------------|------|------------|-----|--|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | |
| Lat | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | |
| From | To | Recovery | Description | | | | Structure | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | |
| | | | Same [redacted] also has some quartz veining and flooding. | | | | Blocky | | | | | | | | | |
| 864.49 | 892.98 | 866.77 to 871.80 | Interbeds [redacted] Thin interbeds of fine and medium grained 'quartz wacke' with Lesser siltstone. Siltstones and fine to very fine grained 'quartz wackes' are | | | | Blocky | | | | | | | | | |
| | | 871.80 to 876.52 | Same [redacted] thickly laminated and have plane parallel laminations. Also have medium bed of rhythmic siltstone with knottenscheiffer. alteration. | | | | Bedding to C.A. 64 deg. | | | | | | | | | |
| | | 876.52 to 881.40 | Same [redacted] 872.88 to 892.98 Irregular very thin to thin interbeds of light green siliceous wacke or siltstone with 8 to 10% disseminated | | | | | | | | | | | | | |
| | | 881.40 to 885.67 | Same [redacted] pyrite. Alteration: Same as overlying unit. Rare garnets. Finer grain with albitization of | | | | | | | | | | | | | |
| | | 885.67 to 890.55 | Same [redacted] matrix in medium grained 'quartz wacke'. Also quartz 'flooding' in medium grained wackes. | | | | Bedding to C.A. 76 deg. | | | | | | | | | |
| | | 890.55 to 892.88 | Same [redacted] Primarily plane parallel laminations with uncommon convolute bedding and rare scours. Disfal turbidite | | | | | | | | | | | | | |
| | | 892.88 to 897.26 | Same [redacted] B - C - D minor E. | | | | | | | | | | | | | |
| | | 104% | | | | | | | | | | | | | | |

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Date _____ Logged By _____

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| Date Collared | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | |
|--------------------|----|--------------------------|--|-----------|---------|------------------|----------|------------|-----------------------|-----------|--------|--------|-------------|---------|------------|--|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | |
| Lot | | Elev | | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev. | | Dip | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | |
| From | To | Recovery | Description | | | Structure | % Sulph | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| 892.98 | | 897.26 to 901.52 99% | Sill Dioritic Contact is very gradational from a very siliceous fine grained wacke to a fine grained 'mush' of chlorite-albitic fine grained 'wacke' | | | | | | | | | | | | | |
| | | 901.52 to 906.55 100% | Same to a fine grained diorite to a medium and coarse grained diorite. Plag. 25 to 35%, Quartz 25 to 35%, hornblende-augite? 30 to 35% | | | | | | | | | | | | | |
| | | 906.55 to 911.28 96% | Same Approx. 70cm to 100cm either side of gradational contact are abundant criss-crossing veins of carbonate which carry some po and cpy. | | | | | | | | | | | | | |
| | | 911.28 to 916.16 96% | Same veins are 20 deg., 55 deg., to 70 deg., 85 deg. to C.A. Lessor carbonate and quartz-carbonate veins throughout with minor po, cpy. | | | | | | | | | | | | | |
| | | 916.16 to 921.34 96% | Same 910.99 to 911.28 lenses of highly siliceous cherty? sediment very thinly bedded with sericitic | | | Blocky | | | | | | | | | | |
| | | 921.34 to 923.48 96% | Same 911.28 - partings. Gradual decrease in quartz to 10 to 15% and increase in chloritized matrix | | | Blocky to Rubbly | | | | | | | | | | |
| | | 923.48 to 927.44 90% | Same 929.20 - to 45 to 60%. (approximate) Sill fines downward, gradationally from very coarse to | | | Blocky | | | | | | | | | | |
| | | 927.44 to 928.96 105% | Same medium or coarse grained. | | | Blocky | | | | | | | | | | |

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|--------------------|----|--------------------------------|--------------------------|---|--|-----------|-----------|-----------|------------|------------|-----------------------|--------|-------------|---------|------------|----------|-------|----|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | | |
| Lat | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat | | Elev | | Dip | | Sheet | of |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | HOLE No. | | |
| From | To | Recovery | Description | | | | Structure | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | | |
| | | 928.96 to 942.07 94% | Same 932.50 to 933.84 | Quartz veins with 1 - 2% py and 10 to 15% po. | | | | | | | | | | | | | | |
| | | 942.07 to 945.12 95% | Same | | | | | | | | | | | | | | | |
| | | 945.12 to 949.70 87% | | | | | | | | | | | | | | | | |
| | | 949.70 to 952.13 95% | | | | | | | | | | | | | | | | |
| | | 952.13 to 956.71 102% | | | | | | | | | | | | | | | | |
| | | 956.71 to 958.23 123% | Same 95% | | | | | | | | | | | | | | | |
| | | 958.23 to 967.68 80% | Same 959.25 to 960.28 | Gabbroic-sediment 'mush' as found near contact zones of highly altered sediment and sill mixed together. quartz-feldspar-chlorite- hornblade Brecciated and veined with quartz and calcite. | | | | | | | | | | | | | | |

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|--------------------|----|--------------------------|---|-----------|--|-----------|---|-----------|----------|------------|-----------------------|-------|-------------|--|------------|--|----------|--|--|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | Sheet of | | |
| Lot | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | | HOLE No. | | |
| Dep | | Length | | Bearing | | 972.86m | 228 deg. | | | 81.5 deg. | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | | |
| | | | Same Brecciated with angular fragments of chloritized mudstone along fractures at 0 - 10 deg. and 26 deg. to C.A. Fragments are granule | | | | Blocky Fractures to C.A. 40 deg. 25 - 30 deg. | | | | | | | | | | | | |
| | | 967.68 to 969.82 78% | Same to cobble sized. Zone is veined with calcite and lesser quartz with no py and cpy. | | | | Blocky | | | | | | | | | | | | |
| | | 969.82 to 974.70 61% | Same 967.10 to 978.15 Fault Zone Rubbly to Blocky with Fractures at 0 to 10 deg. to C.A. and 25 - 30 deg. to C.A. | | | | Blocky | | | | | | | | | | | | |
| | | | Same Slicks show dip slip movement. Also some carbonate veins and carbonate along fractures. Minor py along fractures. | | | | Fractures 0 - 10 deg. 25 - 30 deg. | | | | | | | | | | | | |
| | | | Same 970.22 Calcite lined fracture with small angular fragments of sill shows approx. 7cm of normal movement. | | | | | | | | | | | | | | | | |
| | | 974.70 to 972.27 75% | Same 976.62 to 977.47 Fault breccia angular to sub angular fragments of sill and quartz up to | | | | | | | | | | | | | | | | |
| | | 972.27 to 982.93 100% | Same pebble or cobble size calcite with minor quartz along veins with 2 to 5% py. Fragments aligned at 30 deg. and 0 deg. to C.A. | | | | Blocky | | | | | | | | | | | | |
| | | 982.93 to 991.77 99% | Same 998.32 to 1015.28m Fracture zone rubbly throughout. Fractures at 0 to 10 deg., 20 to 25 deg., 45 deg., 70 deg. | | | | | | | | | | | | | | | | |

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| Date Collected | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | |
|--------------------|----|---------------------------|---|-----------|--|-----------|------------------|-----------|----------|-----------------------|------------|-----------|-------------|----------|------------|----------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | |
| Lat | | Elev | | Dip | | RECORDED | | CORRECTED | | RECORDED | | CORRECTED | | Lot. | | Elev. | | |
| Dep | | Length | | Bearing | | | | | | Dep. | | Length | | Dip | | HOLE No. | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | 91.70 to 96.95 97% | Same Common calcite and quartz veins throughout. Minor po and cpy. Also minor coarse grained py along some fractures. | | | | | | | | | | | | | | | |
| | | 96.95 to 1000.30 89% | Same 1006.09 to 1008.34 Altered sediment with calcite veins 1006.09 to 1006.16 Sheared, biotite, garnets? | | | | Rubbly to Blocky | | | | | | | | | | | |
| | | 1000.30 to 1003.35 95% | Same and approx. 25% disseminated py along foliation. (py is thinly laminated). Py and | | | | | | | | | | | | | | | |
| | | 1003.35 to 1005.52 76% | Same foliation shows contorted bedding. Sediment is slightly recrystallized quartz 'wacke' with | | | | Rubbly | | | | | | | | | | | |
| | | 1005.52 to 1009.15 80% | Same abundant biotite. Fractures have slicks that indicate dip slip movement | | | | | | | | | | | | | | | |
| | | 1009.15 to 1011.28 95% | Same 1030.04 to 1030.46 Quartz vein or highly silicified sediment. Appears to be thinly laminated perpendicular | | | | Rubbly | | | | | | | | | | | |
| | | 1011.28 to 1013.72 84% | Same to the C.A. These are marked by a pronounced parting in this direction, which may be due to shearing. | | | | Rubbly | | | | | | | | | | | |
| | | 1013.72 to 1015.24 95% | Same 131.98 to 134.30 Fine grained amphibolite approx. 80% amphibole. 10 - 15% Feldspar 5% quartz 5% po disseminations and trace cpy. | | | | Rubbly | | | | | | | | | | | |

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|--------------------|---------|----------------------------------|--|-----------|--|-----------|------------------|-----------|----------|------------|-----------------------|--------|-------------|---------|------------|--|----------|--|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | Sheet of | |
| Lot | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | | HOLE No. | |
| Dep | | Length | | Bearing | | | | | | Dep. | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | 1015.24 to 1017.38 88% | Same This slowly grades downward into a medium grained diorite with (pseudo) myrmecitic texture. Quartz 15 - 20% | | | | Rubbly to Blocky | | | | | | | | | | | |
| | | 1017.38 to 1021.34 66% | Same Feldspar 15 - 20%, chloritized hornblende 60 - 70%, few sulfides. Also throughout this zone are | | | | Blocky to Rubbly | | | | | | | | | | | |
| | | 1021.34 to 1026.22 95% | Same small (<1cm) blotches of dark grey, metallic, fine grained crystals that streak a very dark, reddish brown. | | | | Blocky | | | | | | | | | | | |
| | | 1026.22 to 1030.49 88% | Same | | | | Blocky | | | | | | | | | | | |
| | | 1030.49 to 1034.45 95% | Same | | | | | | | | | | | | | | | |
| 1035.28 | 1047.24 | 1034.45 to 1036.89 111% | Alteration Zone 1035.27 to 1037.07 Blotches of biotite within a coarse grained matrix of quartz and feldspar with | | | | Blocky | | | | | | | | | | | |
| | | 1036.89 to 1042.68 85% | minor chlorite alteration Quartz and feldspar form almost a pegmatitic texture. Overall texture looks like leopard skin. | | | | | | | | | | | | | | | |
| | | | 1037.07 Matrix changes to a quartz-chlorite mush. The rock is also brecciated. | | | | | | | | | | | | | | | |

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| Date Collared | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | |
|--------------------|---------|------------------|---|-----------|---------|--|----------|------------|-----------------------|-----------|--------|--------|-------------|---------|------------|--|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | |
| Lot | | Elev | | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | |
| From | To | Recovery | Description | | | Structure | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | | Same _____ containing fine grained fragments of hornblende throughout. Occassionally fragments are | | | | | | | | | | | | | |
| | | | Same _____ very coarse grained. They are rounded to angular. Biotite replaces many of the fragments. The blotches | | | | | | | | | | | | | |
| | | | Same _____ of biotite are now foliated at 60 deg. to the C.A. Occassionally there are thin bands with coarse quartz | | | Foliation to C.A. 60 deg. | | | | | | | | | | |
| | | | Same _____ and feldspar as before. Sulfides throughout consist of approx. 1% disseminated py,po with trace cpy | | | | | | | | | | | | | |
| | | | Same _____ - 103.24 | | | Thin lamination of sphalerite along a vein? of quartz | | | | | | | | | | |
| | | 042.68 to 047.26 | Same _____ | | | Hornblende crystals (laths) are aligned parallel to the foliations. | | | | | | | | | | |
| | | 101% 1047.20 | | | | Small, thin lens of | | | | | | | | | | |
| | | 047.26 to 051.52 | | | | dark grey, metallic, fine grained mineral with a dark grey-brown streak. | Blocky | | | | | | | | | |
| | | 93% | | | | | | | | | | | | | | |
| 1047.24 | 1056.70 | 051.52 to 056.25 | Sill _____ Gabbro, medium-coarse grained. Fines to medium grained over 1m above contact with underlying sediments. | | | Blocky | | | | | | | | | | |
| | | 92% | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N.T.S. No. | |
|--------------------|---------|-------------------------|--|-----------|---------|-------------------------|----------|------------|-----------------------|-----------|--------|-------------|----------|------------|-----|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | |
| Lot | | Elev | | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | |
| From | To | Recovery | Description | | | Structure | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | |
| 1056.70 | 1058.09 | 056.25 to 059.76 70% | FAULT BRECCIA Granule sized clasts of quartz, rounded to sub-rounded supported by a silt to mudstone matrix. Sheared with shears at 45 deg. to C.A. | | | Bedding to C.A. 80 deg. | | | | | | | | | |
| | | | Same Minor scours, also some thin wisps of dark-grey to black material laminated throughout (carbonaceous?) upwards grading. Sphalerite disseminations along | | | Blocky to Rubbly | | | | | | | | | |
| | | | Same quartz vein at 45 deg. C.A./1057.51 to 1058.09 Fracture Zone with fault gouge, quartz and calcite veining | | | Rubbly | | | | | | | | | |
| | | | Same and fine grained cubes of py. Possibly some barite? Also contains a 30cm wide vugg. | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 1058.09 | 1060.70 | | Quartz Wacke Fine grained, thick bedded, with thin interbeds of siltstone and fine grained wacke, and mudstone. Thin interbeds uncommon. Wackes are scoured. | | | | | | | | | | | | |
| | | | Same Quartz veins with po and trace cpy. Quartz veins to C.A. 0 to 10 deg. Mudstone tops are slightly albitized with fine grained crystals of albite. | | | | | | | | | | | | |
| 1060.70 | 1061.55 | | Interbeds Thin bedded interbeds of fine grained quartz wacke and siltstone, and mudstone. Po disseminated throughout 2 to 3%. In the bottom 55cm there are | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | |
|--------------------|---------|---------------------------|---|-----------|--|-----------|--------------------------------|-----------|----------|-----------------------|------------|--------|-------------|----------|------------|----------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | |
| Lot | | Elev | | Dip | | RECORDED | | CORRECTED | | Lot. | | Elev. | | Dip | | HOLE No. | | |
| Dep | | Length | | Bearing | | RECORDED | | CORRECTED | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | | Same several 'wispy', very thin interlamination of po. | | | | | | | | | | | | | | | |
| 1061.55 | 1065.40 | 1059.75 to 1063.41 86% | Quartz Wacke Thick bedded, fine to medium grained with rare thin interbeds of siltstone and fine grained wacke. Some albitization of matrix, also some minor chlorite alteration at the base of wackes and rare subhedral pink garnets. Minor disseminated py, po <1% | | | | Blocky Bedding to C.A. 85 deg. | | | | | | | | | | | |
| 1065.40 | 1071.84 | | Interbeds Thin bedded fine grained quartz wacke siltstone and mudstone. Plane parallel laminations. | | | | | | | | | | | | | | | |
| | | | Same 1066.10 to 1072.20 Alteration: Speckly textured, quartz and chlorite. Apparent | | | | | | | | | | | | | | | |
| | | | Same alteration of clasts? Py and Po varies from <1% to 5%. Siltstones commonly biotite, sericite rich. | | | | | | | | | | | | | | | |
| | | | Same 1067.30 to 1067.60 Fine grained disseminated sphalerite <1%? | | | | | | | | | | | | | | | |
| | | | Same 1071.28 to 1071.75 Py, Po 2 to 5%. Apparent | | | | | | | | | | | | | | | |
| | | | Same mud clasts, chlorite altered in silty matrix with some albitization. 'Shot' texture. | | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N.T.S. No. | |
|--------------------|---------|----------------|--------------|---|---|---|----------|------------|-----------------------|----------|--------|-------------|----------|------------|--|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | |
| Lat | Elev | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat | Elev | Dip | | HOLE No. | | |
| Dep | Length | Bearing | | | | | | Dep | Length | Bearing | | | | | |
| From | To | Recovery | Description | | | Structure | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | |
| | | | Same | 1069.32 to 1078.69 | Fracture zone. Rubbly to Blocky throughout. Fractures | Rubbly to Blocky Fractures to C.A. 0 to 20 deg. | | | | | | | | | |
| | | | Same | | at 0 to 20 deg. to C.A. with minor chlorite and carbonate | | | | | | | | | | |
| 1071.84 | 1078.26 | | Quartz Wacke | | Medium to thick bed of fine grained 'quartz wacke', thinly bedded to thickly laminated with thin bedded interbed of siltstone, thinly laminated | Rubbly to Blocky Bedding to C.A. 81 deg. | | | | | | | | | |
| | | | Same | 1075.205 - 1075.315 & 1076.44 - 1077.03 | Medium interbed of thinly laminated, biotite rich, siltstone. | | | | | | | | | | |
| | | | Same | 1071.84 to 1074.47 | Po disseminations and very thin interlaminations 2 to 5%. | | | | | | | | | | |
| | | | Same | | Alteration: Weak some minor garnets in wackes. | | | | | | | | | | |
| 1078.26 | 1079.94 | | Quartz Wacke | | Thick to massive bedded, medium grained. Alteration: Pervaded by quartz, 5 to 10% sericite, 20% biotite, 5% disseminated Po | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | |
|--------------------|---------|----------------|---|-----------|--|-----------|--|-----------|----------|------------|-----------------------|--------|-------------|---------|------------|--|----------|----|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | Sheet | of |
| Lot | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat | | Elev | | Dip | | HOLE No. | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| 1079.94 | 1081.00 | | <p><u>Quartz Wacke</u> Thin to medium bedded, fine to medium grained with thin interbeds of siltstone. Convolute bedding Alteration: Quartz pervaded, some chlorite and albite matrix, po 1% or less. Some scours.</p> | | | | | | | | | | | | | | | |
| 1081.00 | 1082.35 | | <p><u>Interbeds</u> Thin interbeds of siltstone and fine grained 'quartz wacke' coarse grained, rounded, clasts or concretions.</p> | | | | | | | | | | | | | | | |
| 1082.35 | 1093.00 | | <p><u>Quartz Wacke</u> Thick to medium bedded fine grained with thin interbeds of siltstone and mudstone. Some scours and rare coarse, rounded, biotitic clasts, scours.</p> | | | | Blocky to Rubbly Bedding to C.A. 84 deg. | | | | | | | | | | | |
| | | | <p><u>Same</u> Alteration: some quartz pervaded wackes, also with minor chlorite and garnets, minor albite alteration of some mudstones.</p> | | | | | | | | | | | | | | | |
| | | | <p><u>Same</u> Biotite 10 - 15%, Sericite 5%</p> | | | | | | | | | | | | | | | |
| | | | <p><u>Same</u> 1086.55 - Fracture zone. Rubbly to Blocky. Gravelly. Fractures</p> | | | | | | | | | | | | | | | |
| | | | <p><u>Same</u> 1089.02 primarily 0 to 10 deg. to C.A. with carbonate. Minor slicks show dip slip movement.</p> | | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | | | | | | |
|--------------------|---------|----------------|---|-----------|--|-----------|--------------------------------|-----------|----------|-----------------------|------------|-----------|-------------|----------|------------|------|--|-----|--|----------|--|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | | | | | | |
| Lot | | Elev | | Dip | | RECORDED | | CORRECTED | | RECORDED | | CORRECTED | | Lot | | Elev | | Dip | | HOLE No. | | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | | | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | | | | | | |
| 1093.00 | 1093.78 | | <p><u>Interbeds</u> Thin bedded interbeds, of fine to medium grained 'quartz wacke' and siltstone to mudstone. Scoured bases. Wackes contain 15-20% medium to coarse grained size clots</p> <p><u>Same</u> of biotite likely altered clasts.</p> <p>Alteration: Minor albite alteration of fine fractions po < 1%</p> | | | | Blocky | | | | | | | | | | | | | | | | |
| 1093.78 | 1096.72 | | <p><u>Knottenscheifer</u> Thin bedded interbeds of Knottenscheifer with silt to mudstone tops and lesser 'quartz wacke'. Knottenscheifer contain 15-35% rounded, elongate, clasts of mudstone.</p> <p><u>Same</u> Clasts are medium to coarse grained and commonly altered to biotite. Scoured bases. Up to granule sized clasts.</p> | | | | Blocky Bedding to C.A. 84 deg. | | | | | | | | | | | | | | | | |
| | | | <p><u>Same</u></p> <p>1095.23 - 1096.86 Medium grained 'quartz wackes' are biotite and sericite rich 20-30%. Also</p> | | | | | | | | | | | | | | | | | | | | |
| | | | <p>po disseminations are 1-3% overall. Bottom 30cm have thin, wispy, interlaminations of po and one coarse</p> | | | | | | | | | | | | | | | | | | | | |
| | | | <p>grained clast of po. Also have po up to 10-15%, and lath shaped, fine grained py clasts oriented sub</p> | | | | | | | | | | | | | | | | | | | | |
| | | | <p>parallel to C.A. altered hornblende or biotite crystals. Trace cpy</p> | | | | | | | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | |
|--------------------|---------|----------------|---|-----------|---------|-----------|----------|------------|-----------------------|-----------|--------|--------|-------------|---------|------------|--|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | |
| Lat | | Elev | | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat | | Elev | | Dip | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | |
| From | To | Recovery | Description | | | Structure | % Sulph. | Est. Grade | SAMPLE No | Width | ASSAYS | | | | | |
| | | | Same Alteration: Minor albitization of finer fraction. Rare medium, grained pink garnets and biotite or hornblende crystals | | | | | | | | | | | | | |
| | | | Same to C.A. Biotite alteration of clasts. 1095.23 to 1096.86 Quartz pervaded, chlorite and sericite altered. | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| 1096.72 | 1103.71 | | Quartz Wacke Thick bedded, medium grained with thin interbeds of siltstone and mudstone. Occasional medium grained clots of biotite - altered clasts. | | | | | | | | | | | | | |
| | | | Same 1099.91 to 1100.15 Thin laminated siltstone slump. Kink fold of slump indicates movement | | | | | | | | | | | | | |
| | | | Same in down dip direction, Scouring is common. Alteration: Medium grained 'Quartz Wacke' is commonly quartz pervaded and contains | | | | | | | | | | | | | |
| | | | Same abundant sericite 5-10%. Also rare pink garnets, medium grained. | | | | | | | | | | | | | |
| 1103.71 | 1105.47 | | Interbeds Thin bedded interbeds of medium to fine grained 'Quartz Wacke' and siltstone to mudstone. Some wackes contain clots of biotite - altered clasts? | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | |
|--------------------|---------|----------------|--|-----------|--|-----------|-------------------------|-----------|----------|------------|-----------------------|--------|-------------|---------|------------|--|----------|--|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | Sheet of | |
| Lot | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev. | | Dip | | HOLE No. | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | | Same 1104.90 to 1105.18 Thinly laminated silt and mudstone with disseminated po along laminations 1%. | | | | Bedding to C.A. 83 deg. | | | | | | | | | | | |
| | | | Same Also one medium grained lath shaped, clast of po and cpy aligned parallel to C.A. - altered hornblende or biotite. Albitized. | | | | | | | | | | | | | | | |
| | | | Same Alteration: Minor albitization | | | | | | | | | | | | | | | |
| 1105.47 | 1112.28 | | Quartz Wacke Thick to massive bedded, medium grained with thin interbeds of siltstone. 1106.28 to 1106.74 Chlorite - soricite altered | | | | | | | | | | | | | | | |
| | | | Same 1106.74 Coarse grained mudstone clast parallel to bedding. 1108.23 to 1112.50 Fracture Zone | | | | | | | | | | | | | | | |
| | | | Same Heavily fractured rubbly throughout. Fractures at 0-10 deg. to C.A. and 55 and 80 deg. to C.A. | | | | | | | | | | | | | | | |
| | | | Same Minor slicks indicate dip slip movement Alteration: Minor chlorite; and quartz veins carbonate along fractures. | | | | | | | | | | | | | | | |
| 1112.28 | 1114.71 | | Mudstone Thick bedded mudstone with 30% fine-medium grained biotite forming a pepper texture - altered clasts also thin interbeds of thinly | | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Collared | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S No. | | | |
|--------------------|---------|----------------|--|-----------|--|-----------|---|----------|---------|-----------------------|------------|--------|-------------|----------|-----------|----------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | |
| Lat | | Elev | | Dip | | RECORDED | | RECORDED | | Lat | | Elev | | Dip | | HOLE No. | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | | Same [] laminated, biotite rich, fine grained 'quartz wacke'. Mudstone is thickly laminated. Po Disseminations approx. 1%. Albitized | | | | | | | | | | | | | | | |
| 1114.71 | 1116.86 | | Quartz Wacke [] Thick bedded, medium and fine grained with minor thin interbeds of mudstone. Alteration: Minor albitization | | | | | | | | | | | | | | | |
| 1116.86 | 124.03 | | Interbeds [] Thin to medium interbeds of fine and medium grained 'quartz wacke', siltstone and mudstone. Mudstone contains biotite altered, medium grained clasts. Also some coarse grained | | | | Blocky to Rubbly Bedding to C.A. 81 deg | | | | | | | | | | | |
| | | | Same [] biotite altered grains in 'quartz wacke'. Some po disseminations and wispy, laminations in mudstones. Fine grained biotite commonly disseminated throughout the | | | | | | | | | | | | | | | |
| | | | Same [] mudstones. | | | | | | | | | | | | | | | |
| | | | Same [] 1116.50 to 1129.00m Fracture Zone. Rubbly to Blocky. Minor slicks along bedding planes. Fractures | | | | | | | | | | | | | | | |
| | | | Same [] primarily 0-20 deg. to C.A. also 50 deg. to C.A. Carbonate along fractures. Some hairline fractures | | | | | | | | | | | | | | | |
| | | | Same [] with minor po, cpy and trace sphalerite. Occasional chlorite and fine grained py along fractures. | | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | |
|--------------------|---------|----------------|--------------|--------------------|---|---|-----------|----------|------------|-----------------------|-------|--------|-------------|----------|------------|----------|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | |
| Lot | | Elev | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | | HOLE No. | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | |
| From | To | Recovery | Description | | | Structure | | % Sulph. | Est. Grade | SAMPLE No | Width | ASSAYS | | | | | |
| | | | Same | 1122.00 to 1122.53 | Thin bedded mudstone-siltstone and fine grained quartz wacke with po | | | | | | | | | | | | |
| | | | Same | 1123.04 to 1123.23 | disseminations 2-5% (up to 25%) and Zns disseminations <1%. Blebs of po, trace cpy, Zns? along hairline fractures. | | | | | | | | | | | | |
| | | | Same | 1123.78 to 1124.03 | Biotite rich (35-50%) interval at mudstone with thin laminations. po <1% | | | | | | | | | | | | |
| | | | Same | 1123.34m | Po disseminations 15% in siltstone. Alteration: Chlorite, sericite, garnets | | | | | | | | | | | | |
| 1124.03 | 1144.67 | | Quartz Wacke | | Medium to thick bedded, medium grained with thin interbeds of mudstone or siltstone. Occasional scours and medium to coarse grained clasts. | Bedding to C.A. 86 deg. | | | | | | | | | | | |
| | | | Same | 1125.08 to 1125.12 | Occasional disseminations of po along laminations in mudstone. Mudstone commonly thinly laminated. po disseminations 15% | Blocky Fractures at 0-10 deg. and 30 deg. to C.A. | | | | | | | | | | | |
| | | | Same | 1125.20 to 1140.83 | trace disseminations of Zns Zns disseminations <1% and wisps of po and cpy. | | | | | | | | | | | | |
| | | | Same | 1141.95 to 1142.23 | Disseminated Po approx. 1% and disseminated po along laminations. | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No | | N.T.S. No. | |
|--------------------|---------|----------------|--------------------|-----------|----------|---|---------------------------------|-----------|-----------------------|-----------|-------|--------|------------|--|------------|--|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | |
| Lot | Elev | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | Elev | Dip | | HOLE No. | | | |
| Dep | Length | Bearing | | | | | | Dep | Length | Bearing | | | | | | |
| From | To | Recovery | Description | | | | Structure | % Sulph. | Est. Grade | SAMPLE No | Width | ASSAYS | | | | |
| | | | Same | | | | | | | | | | | | | |
| | | | 1129.20 1136.66 | | | Slump: 2n's 2mm wide lamination of po with 3mm normal offset along | | | | | | | | | | |
| | | | Same | | | fracture at 30 deg. to C.A. | Fractures | | | | | | | | | |
| | | | 1136.97 | | | Possible ZnS dissemination? very fine grained. | 10 deg. 30 deg. to C.A. with | | | | | | | | | |
| | | | 1138.08 | | | Thin 2mm wide po lamination with | 10mm and 3mm | | | | | | | | | |
| | | | Same | | | 1cm of normal offset | normal offset | | | | | | | | | |
| | | | | | | Po and trace Cpy along hairline fractures. Occasional Po disseminations up to 10% over 2-3cm. | | | | | | | | | | |
| 1144.67 | 1154.66 | | Interbeds | | | Thin to thick beds of medium grained 'quartz wacke' with thin and some medium interbeds of siltstone and mudstone. Scours, thin laminations, and rare cross bedding. Mudstones | | | | | | | | | | |
| | | | Same | | | commonly contained fine grained biotite. Also occasional disseminations of po in 'quartz wacke' usually approx. 1% | | | | | | | | | | |
| | | | Same | | | | | | | | | | | | | |
| | | | 1120 - | | | Also occasional medium grained clasts of po along bedding of | | | | | | | | | | |
| | | | Same | | | 'Quartz Wacke' | | | | | | | | | | |
| | | | 1145 to 1152m | | | Fracture Zone Blocky to rubbly some quartz -carbonate veins. | | | | | | | | | | |

ORILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No | | N.T.S. No. | | | |
|--------------------|---------|----------------|--|-----------|--|-----------|---|-----------|----------|-----------------------|------------|--------|------------|----------|------------|----------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | |
| Lot | | Elev | | Dip | | RECORDED | | CORRECTED | | Lot | | Elev | | Dip | | HOLE No. | | |
| Dep | | Length | | Bearing | | RECORDED | | CORRECTED | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | | Same [] Carbonate along fractures. Minor slicks. Some po along hairline fractures. Fractures to C.A. 0-20 deg. and 50 deg. Fault breccia at 1151.89 approx. 3cm wide and 16cm long | | | | | | | | | | | | | | | |
| | | | Same [] at 10 deg. to C.A. healed by calcite with minor py along edges | | | | | | | | | | | | | | | |
| | | | [] | | | | | | | | | | | | | | | |
| | | | Same [] Alteration: Minor chlorite-sericite-garnet alteration in fracture zone. | | | | Bedding to C.A. 81 deg. | | | | | | | | | | | |
| 1154.66 | 1160.80 | | Interbeds [] Thin and medium interbeds of fine and medium grained 'quartz wacke', siltstone and mudstone. Po laminations, disseminations, blotches and clasts throughout. Clasts are medium | | | | | | | | | | | | | | | |
| | | | Same [] grained and rare. Overall po 1-3% and up to 10-15% over 1 or 2cm. Also irregular hairline fractures with po and cpy. Fractures at 45 deg. to C.A. Po lamination and | | | | Hairline fractures at 45 deg. to C.A. Blocky Fractures at | | | | | | | | | | | |
| | | | Same [] wisps more commonly in silt or mudstones. Po laminations up to 3-4mm wide. | | | | 25 deg., 45 50 deg. to C.A. | | | | | | | | | | | |
| | | | Same [] Trace sphalerite disseminations at: 1159.40 - 1159.43 and 1160.82. | | | | | | | | | | | | | | | |
| | | | Alteration: 'Quartz Wackes commonly | | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N.T.S. No. | | |
|--------------------|---------|----------------|---|-----------|--|-----------|--|-----------|-----------|------------|-----------------------|-------------|------|------------|-----|--|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | |
| Lot | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | |
| From | To | Recovery | Description | | | | Structure | % Sulph | Est Grade | SAMPLE No. | Width | ASSAYS | | | | |
| | | | Same _____ contain 20-30% fine grained biotite or phlogopite, and often is altered with quartz flooding, chlorite, sericite, biotite and garnets. (anhedral, light pink). | | | | | | | | | | | | | |
| | | | 1160.23 to 1160.30 Coarse grained quartz, albitized matrix, chlorite sericite, and 15-25% py-po disseminations. | | | | | | | | | | | | | |
| | | | Same _____ Mudstones and siltstones commonly albitized and have fine grained albite crystals. | | | | | | | | | | | | | |
| | | | 1154.73 to 1159.41 Occurrence of very coarse grained albite crystals | | | | | | | | | | | | | |
| | | | Same _____ 4 x 3cm (grow 11 to C.A.) | | | | | | | | | | | | | |
| | | | 1159.52 Slump, convoluted bedding, clast. | | | | | | | | | | | | | |
| 1160.80 | 1167.94 | | Interbeds _____ Thick and medium bedded, medium grained (to coarse) 'quartz wacke' sometimes graded, rare scours, and siltstone and mudstone commonly with fine grained disseminated biotite. | | | | Blocky to Rubbly Bedding to C.A. 87 deg. | | | | | | | | | |
| | | | Same _____ Some po laminations and wisps and dissemination. Approx. <1% overall. Alteration: Primarily biotite, sericite and quartz in wackes and minor albitization in | | | | | | | | | | | | | |
| | | | Same _____ silt or mudstones. Also po along hairline fractures. | | | | | | | | | | | | | |
| | | | 1166.89 to 1167.34 Siltstone thinly bedded | | | | Strain shadows ad 45 deg. to C.A. | | | | | | | | | |
| | | | Same _____ | | | | | | | | | | | | | |
| | | | 1167.34 to 1167.94 Mudstone clast 1166.87 coarse grained, black, elongate, rounded. Minor carbonate in some wackes. Carbonate-chloride along fractures. | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | |
|--------------------|---------|----------------|--|-----------|--|-----------|-----------|-----------|------------|------------|-----------------------|--------|-------------|---------|------------|--|----------|--|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | Sheet of | |
| Lat | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot. | | Elev | | Dip | | HOLE No. | |
| Dep | | Length | | Bearing | | | | | | Dep. | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | | |
| 1167.94 | 1170.65 | | <p>'Quartz Wacke' Thick bedded, medium grained with thin interbeds of siltstone. Po up to 10% over 3cm overall approx. 1% or less. Alteration: minor quartz flooding, sericite and Same biotite.</p> | | | | | | | | | | | | | | | |
| 1170.65 | 1174.44 | | <p>Interbeds Thin bedded medium and fine grained 'quartz wacke' siltstone, and mudstone. Po laminations and disseminations up to 20% approx. 1-2% overall. Same Alteration: Biotite, sericite, and garnet alteration in wackes (minor). Some hairline fractures with minor po.</p> | | | | | | | | | | | | | | | |
| 1174.44 | 1181.24 | | <p>'Quartz Wacke' Thick bedded, medium, coarse grained with occasional thin interbeds of siltstone and mudstone. Minor po disseminations. Same 1176.01 to 1182.50 Fracture zone block to rubbly. Fractures at 0-20 and 40-50 deg. to C.A. Same 1177.05 to 1177.20 Thin quartz carbonate veins. Blotches of po Alteration in fracture zone.</p> | | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | |
|--------------------|---------|----------------|--|-----------|--|--|-----------|----------|-----------|-----------------------|-------|--------|-------------|----------|------------|----------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | |
| Lot | | Elev | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | | HOLE No. | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | Structure | | % Sulph. | Est Grade | SAMPLE No. | Width | ASSAYS | | | | | | |
| | | | Same [redacted] Some quartz flooding with chlorite and garnets associated with fractures. Also 'shot rock' texture with few or no sulfides. | | | Bedding to C.A. 76 deg. Occasional slick on bedding. | | | | | | | | | | | | |
| | | | Same [redacted] Rare po, cpy along fracture or vein. Some biotite development in basal wacke. | | | | | | | | | | | | | | | |
| 1181.24 | 1187.01 | | 'Quartz Wacke' Medium with some thin interbeds of medium to fine grained wacke and thin with some medium interbeds of siltstone-mudstone. Siltstones and mudstones are thinly bedded and | | | Blocky | | | | | | | | | | | | |
| | | | Same [redacted] sometimes show load structures. 'Quartz Wackes' carry disseminations of po up to 2%, overall <1%. | | | Bedding to C.A. 80 deg. | | | | | | | | | | | | |
| | | | Same [redacted] Alteration: Some biotite alteration of 'quartz wackes'. Minor albitization of silt and mudstones. | | | | | | | | | | | | | | | |
| | | | Same [redacted] 1181.30 to 1182.34 Some very coarse grained growths of albite coming in parallel to C.A. | | | | | | | | | | | | | | | |
| | | | Same [redacted] 1183.23 Minor quartz vein with po and minor sphl. | | | | | | | | | | | | | | | |
| 1187.01 | | | 'Quartz Wacke/Arenite' Thick bedded medium grained 'quartz wacke' and medium to coarse grained siliceous wacke (quartz arenite) with thin | | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Collared | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N.T.S. No. | | |
|--------------------|---------|----------------|-------------------------|--|---------|-----------|--------------------------------|------------|-----------------------|-----------|--------|-------------|----------|------------|-----|--|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | |
| Lat | | Elev | | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot. | | Elev | | Dip | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | |
| From | To | Recovery | Description | | | Structure | % Sulph. | Est. Grade | SAMPLE No | Width | ASSAYS | | | | | |
| | | | Same | irregular interbeds of siltstone. Contacts generally not well defined. Po <1%. Graded upwards. Alteration: Quartz, sericite, minor garnets. | | | | | | | | | | | | |
| | | | Same | 1194.08 to 1194.69 Siltstone interbed, minor po laminations and disseminations <1% | | | | | | | | | | | | |
| | | | Same | Quartz flooded in parts with approx. 5-10% sericite and minor garnets. | | | | | | | | | | | | |
| 1194.75 | 1196.00 | | Interbeds | Thin interbeds of mudstone siltstone, and 'quartz wacke'. Plane parallel laminations and convoluted bedding. Po dissemination and blebs common in wackes up to 30% across 2cm. | | | Blocky Bedding to C.A. 81 deg. | | | | | | | | | |
| | | | Same | Minor po in silt and mudstones. Alteration: Wackes contain abundant biotite up to 30-40% and quartz and sericite near base. Siltstones and mudstone. | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| 1196.00 | 1211.11 | | 'Quartz wacke/arenite?' | Thick bedded medium to coarse grained, common upwards grading with indistinct contacts and distinct contacts. Thin interbeds of siltstone or mudstone with regular | | | | | | | | | | | | |
| | | | Same | medium interbeds of thin bedded mudstone and siltstone. | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | |
|--------------------|--------|----------------|-------------|--------------------|---|---|----------|------------|-----------------------|----------|--------|--|-------------|--|------------|--|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | |
| Lat | Elev | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat. | Elev | Dip | | HOLE No. | | | |
| Dep | Length | Bearing | | | | | | Dep. | Length | Bearing | | | | | | |
| From | To | Recovery | Description | | | Structure | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | | Same | 1197.68 to 1198.06 | Medium interbed of thin bedded silt and mudstone with regular 'wispy' laminations of po. | | | | | | | | | | | |
| | | | Same | 1201.97 to 1203.35 | Medium to thick interbed of thinly bedded wacke, siltstone-mudstone. Some beds of wacke | | | | | | | | | | | |
| | | | Same | | contain abundant biotite. Also several bands about 2-3cm wide of wacke with po disseminations or laminations | | | | | | | | | | | |
| | | | Same | | containing 15-30% po. Unit has coarse grained base, quartz rich, distinct grains of quartz, maybe quartz | | | | | | | | | | | |
| | | | Same | | arenite at about 1209m. Appear to be some lithic fragments (medium grained). Also have thin beds of wacke | | | | | | | | | | | |
| | | | Same | | with quartz eyes and mud matrix. Alteration: Thin bedded wackes contain abundant biotite and distinct albite? crystals. Coarser and thicker bedded wackes are | | | | | | | | | | | |
| | | | Same | | quartz flooded (quartz arenite?) and contain varying amounts of garnet, chlorite, sericite, albite, po, and py. Po and py varies from 1 to | | | | | | | | | | | |
| | | | Same | 1201.83 to 1209.15 | 20% and overall is approx. 1% (disseminated). Fracture Zone. Fractures at 25 to 30 deg. to C.A. with carbonate and chlorite along fractures. | Fractures at 25 to 30 and 0-15, 20 deg. to C.A. | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Collared | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | |
|--------------------|---------|----------------|--|-----------|--|-----------|------------------------------------|-----------|----------|------------|-----------------------|--------|-------------|---------|------------|--|--|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | |
| Lot | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No | Width | ASSAYS | | | | |
| | | | Same Fractures at 0-15 deg., 20 deg. to C.A. commonly chlorite (light green). 1208.62 Hairline fracture at 0 deg. to C.A. with probable fine grain. | | | | Blocky to rubby. | | | | | | | | | | |
| | | | Same tourmaline. Note: albite occurs primarily as distinct fine grained crystals. | | | | | | | | | | | | | | |
| 1211.11 | 1214.18 | | Mudstone and Siltstone Thin bedded to thickly laminated. 1211.30 to 1211.55 Thin wisps and disseminations of po with sphl disseminations | | | | Bedding to C.A. 81 deg. | | | | | | | | | | |
| | | | Same <1%. Also po, cpy trace sphl along | | | | Hairline fractures to C.A. 55 deg. | | | | | | | | | | |
| | | | Same 1211.97 Band of 3-4cm with 20% disseminated po. Also 'chloritic-quartz' shot rock | | | | | | | | | | | | | | |
| | | | Same texture-Rounded discoloured coarse grained blebs. | | | | | | | | | | | | | | |
| 1214.18 | 1225.32 | | Same as 1196.00 - 1211.11 But have more frequent (every 2 or 3m) medium interbeds of thinly bedded siltstone and mudstone. | | | | Blocky Bedding to C.A. 81 deg. | | | | | | | | | | |
| | | | Same Alteration: Same as 1196.00 to 1211.11 some hairline fractures with po, cpy. 1217.44 to 1217.51 'Peppered' alteration texture in mudstone. | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | |
|--------------------|---------|----------------|--------------|--------------------|---|-----------|-----------|----------|--------------------------------|-----------------------|-------|--------|-------------|----------|------------|----------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | |
| Lot | | Elev | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | | HOLE No. | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | % Sulph | Est. Grade | SAMPLE No | Width | ASSAYS | | | | | | |
| | | | Same | 1222.51 to 1223.74 | Thinly interbedded siltstone and 'quartz wacke' with po disseminations up to 10% | | | | | | | | | | | | | |
| | | | Same | | Also wisps and very thin laminations. Overall po 2-3%. Some quartz wackes are very thinly laminated with | | | | | | | | | | | | | |
| | | | Same | | abundant biotite. Also some fractures with quartz and po parallel to sub-parallel to bedding. | | | | | | | | | | | | | |
| | | | Same | | Note: siliceous (quartz) chlorite, sericite, garnet (biotite), albite alteration here and in above units closely associated to fracturing. | | | | | | | | | | | | | |
| | | | Same | | (usually light green-grey) | | | | | | | | | | | | | |
| 1225.32 | 1232.70 | | Quartz Wacke | | Medium grained, light grey thin to thick bedded with occasional thin interbeds of siltstone or mudstone. Wavy current laminations and plane parallel laminations. | | | | Blocky Bedding to C.A. 72 deg. | | | | | | | | | |
| | | | Same | | Alteration: Some quartz flooding, chlorite, sericite, garnet and albite. Py alteration in wackes usually associated with | | | | | | | | | | | | | |
| | | | Same | | fractures. Also fine grained albite? crystals in mudstone partings. | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | |
|--------------------|---------|----------------|--|-----------|--|-----------|-----------|-----------|------------|-----------------------|-------|--------|-------------|----------|------------|----------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | |
| Lot | | Elev | | Dip | | RECORDED | | CORRECTED | | Lot | | Elev | | Dip | | HOLE No. | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | % Sulph | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | | |
| | | | Same 1229.26 to 1232.70 Medium to thick bedded. | | | | | | | | | | | | | | | |
| 1232.70 | 1237.09 | | Quartz Wacke Medium to thick bedded with occasional thin beds and thin laminations. Thin bedded mudstone or siltstone interbeds. Regular (2 to 3m) medium interbeds of thin bedded | | | | | | | | | | | | | | | |
| | | | Same to thickly laminated mudstone, siltstone and sandstone. Some convoluted bedding. | | | | | | | | | | | | | | | |
| | | | Same 1240.00 to 1240.31 Slump, convoluted bedding siltstone, and sandstone. | | | | | | | | | | | | | | | |
| | | | Same 1232.73 to 1233.06 Thin bedded siltstone and mudstone with bands of po wisps and disseminations 1 to | | | | | | | | | | | | | | | |
| | | | Same 3cm wide. Po content 10 to 20% with possible disseminations of sph. | | | | | | | | | | | | | | | |
| | | | Same 1233.06 to 1233.56 Medium to fine grained wacke with garnet, biotite quartz alteration. Po disseminations | | | | | | | | | | | | | | | |
| | | | Same approx. 1-2% overall. 1234.52 to 1234.91 Thin bedded-laminated mudstone and siltstone with | | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | |
|--------------------|---------|----------------|-------------|---|---------|-----------|-----------|------------|-----------------------|----------|--------|--------|-------------|---------|------------|----------|--|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | |
| Lat | | Elev | | | Dip | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat | | Elev | | Dip | | HOLE No. | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | |
| From | To | Recovery | Description | | | Structure | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | | |
| | | | Same | convolute bedding (slump?) with po wisps and thin laminations and dissemination. Disseminations occur in bands | | | | | | | | | | | | | |
| | | | Same | of 1 to 2cm wide po approx 15%. Thin laminations have thin quartz veins running parallel to them and they | | | | | | | | | | | | | |
| | | | Same | also have disseminated sphalerite <1% on their underside. Trace sphalerite throughout. Also cpy with po | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| 1237.09 | 1248.16 | | Interbeds | Thin and medium interbeds of medium grained, quartz wacke with thin to medium interbed of siltstone and mudstone. | | | | | | | | | | | | | |
| | | | Same | Alteration: same as above but po laminations sometimes are altered by quartz and cholorite. | | | | | | | | | | | | | |
| | | | Same | 1237.09 to 1237.34 Thin bedded siltstone, mudstone and fine wacke. Po disseminations 1 to 2% with frequent grains | | | | | | | | | | | | | |
| | | | | grains of sphalerite <1%. | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | |
|--------------------|----|----------------|-------------|--------------------|---|-----------|-----------|-----------|--------------------------------|------------|-----------------------|--------|-------------|---------|------------|--|----------|--|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | Sheet of | |
| Lot | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot. | | Elev. | | Dip | | HOLE No. | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | | Same | 1238.14 to 1238.71 | Biotite, garnet alterations with chlorite quartz fractures in 'quartz wacke'. Fine | | | | Fractures to C.A. 20-25 deg. | | | | | | | | | |
| | | | Same | | grained py or po approx. 1-2%. | | | | | | | | | | | | | |
| | | | Same | 1240.78 to 1241.73 | Thinly laminated siltstone and mudstone with some silicification, biotite and | | | | Blocky Bedding to C.A. 70 deg. | | | | | | | | | |
| | | | Same | | chlorite alteration. Po rich bands 1-3cm wide with 15 to 30% po disseminations and blebs. Occasional wisps of | | | | | | | | | | | | | |
| | | | Same | | po. Sphalerite disseminations throughout <1%. | | | | | | | | | | | | | |
| | | | Same | 1242.68 to 1243.42 | Thinly laminated siltstone with fine grained wacke top. Have one band approx. 1cm wide of | | | | | | | | | | | | | |
| | | | Same | | chlorite with blebs of po. Po disseminations throughout approx. 3%. Some convoluted bedding at base. | | | | | | | | | | | | | |
| | | | Same | 1244.32 to 1244.75 | Thin bedded quartz wacke and siltstone with | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N.T.S. No. | | |
|--------------------|----|----------------|--|-----------|--|-----------|-------------------------|-----------|------------|-----------------------|-------|-------------|--|------------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | |
| Lat | | Elev | | Dip | | RECORDED | | CORRECTED | | RECORDED | | CORRECTED | | HOLE No. | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | |
| From | To | Recovery | Description | | | | Structure | % Sulph | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | |
| | | | Same quartz-chlorite-garnet alteration along fractures. Also po disseminations along laminations up to 10% across 1cm 2cm? | | | | | | | | | | | | | |
| | | | Same 1244.75 to 1245.02 Very thin bedded siltstone. Top contains fine grained quartz eyes in mud matrix. | | | | | | | | | | | | | |
| | | | Same One thin (1cm) band of brecciated chloritied mudstone with minor po and trace Zns. Appears to be related to | | | | | | | | | | | | | |
| | | | Same fracture. Same very thin laminations of light green chlorite also some chlorite clasts? Disseminated po | | | | | | | | | | | | | |
| | | | Same throughout approx. 15-20% some up to 35-40% across 2 to 5mm. Trace sphl? grades down into lightly mineralized | | | | | | | | | | | | | |
| | | | Same siltstone at 1245.02 - 1245.35. 1246.49 to 1246.85 Thin bedded siltstone and quartz wacke. Convoluted bedding. Very fine grained | | | | | | | | | | | | | |
| | | | Same Po? Py? 1-2%. Some trace sphl. One quartz vein with minor po and trace sphl. 1247.00 to 1247.39 Thin bedded quartz wacke and | | | | Bedding to C.A. 65 deg. | | | | | | | | | |
| | | | Same siltstone with minor po, one band up to 10% po. bleached zone chlorite? albite? 1247.22 to 1247.39 | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | |
|--------------------|---------|----------------|-------------|---|--|-----------|----------|-----------|-----------------------|----------|--------|--------|-------------|---------|------------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | |
| Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | | | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | |
| From | To | Recovery | Description | | | Structure | % Sulph | Est Grade | SAMPLE No. | Width | ASSAYS | | | | | | |
| | | | Same | 1247.80 to 1248.16 | Siltstone-mudstone Band 10cm wide with 5% disseminated po and trace sphl. Also trace stratiform quartz vein with po and sphl? | | | | | | | | | | | | |
| 1248.16 | 1258.31 | | Interbeds | Thinly bedded medium beds of quartz wacke with thin and medium interbeds of siltstone-mudstone. Forms a series of upward fine and medium sized beds. Occasional thin interbed of wacke with quartz eyes and mudstone matrix. Last 2m start getting thick, coarse, wackes. | | | | | | | | | | | | | |
| | | | Same | Alteration: Minor chlorite-biotite-quartz-garnet alteration associated with fractures. | | | | | | | | | | | | | |
| | | | Same | 1252.02 to 1252.54 | Thin bedded to very thinly laminated fine grained 'quartz wacke' and siltstone- | | | | | | | | | | | | |
| | | | Same | mudstone. Disseminated po throughout 10 to 15%. Some chlorite quartz alteration along fractures. Also some | | | | | | | | | | | | | |
| | | | Same | 1254.57 to 1255.21 | light coloured and chlorite alteration along laminations. Thinly bedded siltstone and mudstone with albite crystals (fine grained) and one | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N.T.S. No. | | | | |
|--------------------|---------|----------------|--------------------|--|--|-----------|-----------|-----------|----------|-----------------------|------------|-------------|--------|------------|--|----------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | |
| Lot | | Elev | | Dip | | RECORDED | | CORRECTED | | Lot | | Elev | | Dip | | HOLE No. | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | | Same | thin interbed of fine-medium grained 'quartz wacke' with 5-7% disseminated po,py? Siltstones-mudstones contain | | | | | | | | | | | | | | |
| | | | Same | po disseminated along laminations 1-2% overall. Also thin waffer textured white alteration bounding | | | | | | | | | | | | | | |
| | | | Same | po lamination. | | | | | | | | | | | | | | |
| | | | 1255.64 to 1255.79 | Thinly laminated mudstone with 'quartz eye' alteration. | | | | | | | | | | | | | | |
| | | | Same | 1257.85 to 1258.14 Finely disseminated po 5-15%, also disseminated along laminations with trace cpy in | | | | | | | | | | | | | | |
| | | | Same | mudstone and siltstone thinly bedded. | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| 1258.31 | 1263.59 | | Quartz Wacke | Thick to massive bedded with thin bedded siltstone and mudstone tops. Alteration: Quartz, chlorite, sericite, albite, garnet with disseminated py (approx. 2%) | | | | | | | | | | | | | | |
| | | | Same | occurs throughout. Unit shows some upwards fining and occassional thin interbeds of quartz eye mudstone matrix wacke. | | | | | | | | | | | | | | |

DRILL LOG - 61

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Collected | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N.T.S. No. | | |
|--------------------|---------|------------------------|--|-----------|---------|-----------|----------|------------|-----------------------|-----------|--------|-------------|----------|------------|-----|--|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | |
| Lot | | Elev | | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | |
| From | To | Recovery | Description | | | Structure | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | | SAME 1261.79 - 1261.95 Mudstone with 'quartz eye' alteration. Also waffer textured (thin) light (white) coloured alteration with concentration of 'quartz eye' alteration. | | | | | | | | | | | | | |
| 1263.59 | 1264.59 | | INTERBEDS Thinly bedded and thinly laminated siltstone. Some slump textures at 1264.53 to 1264.63. Po disseminated throughout particularly along laminations up to 25% overall approx. 10% | | | | | | | | | | | | | |
| | | | SAME At 1264.38 have very coarse elongate blebs of Po with trace Cpy above which are coarse grained blotches of Po for approx. 20cm. Also wisps of Po and trace Sphl. dissemination. | | | | | | | | | | | | | |
| 1264.59 | 1270.10 | 1265.55 to 1268.60 97% | QUARTZ WACKE Medium to thick bedded, light grey medium and fine grained with rare scours and occasional upwards grading, also have thin interbeds of siltstone and mudstone that have thin, plane, parallel laminations. Alteration: Quartz wackes occasionally pervaded by quartz with chlorite alteration and sericite alteration. This is associated with thin hairline fractures. Also have medium | | | Blocky | | | | | | | | | | |
| | | | SAME grained, light pink garnets at the wacke bases. Finer fractions show albite alteration and occasionally contain fine grained crystals of albite. Hairline fractures with Po and | | | | | | | | | | | | | |
| | | | SAME minor Cpy throughout. Also rare stratiform quartz veinlets with medium grained Po with trace Cpy. Also in silt and mudstone are minor, very thin laminations of tan coloured clay? | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N.T.S. No. | | |
|--------------------|---------|----------------------------|---|-----------|---------|-----------|---|-----------|-----------------------|------------|------------|-------------|----------|------------|-----|--|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | |
| Lot | | Elev | | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat. | | Elev. | | Dip | |
| Dep. | | Length | | Bearing | | | | | | Dep. | | Length | | Bearing | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | |
| | | | Same with very minor Py disseminations, sometimes these laminations display a wafer texture and contain some light green chlorite. At 1265.55 m have calcite vein. Very weakly calcareous quartz wackes. | | | | | | | | | | | | | |
| | | 1268.60 to 1269.21 100% | 1265.25 - 1267.45 Po disseminations 2-4% and Po disseminations with accompanying stratiform quartz and chlorite. Also very fine grained, hard, black crystals (tourmaline). 1268.35 - 1268.60 Po, Py disseminations up to 15% over 1-3 cm. Overall 5-8% Po, Py. | | | | | | | | | | | | | |
| 1270.10 | 1272.58 | 1269.29 to 1272.25 89% | INTERBEDS Thin and medium interbeds of medium to very fine-grained quartz wackes. (some upwards-fining) and siltstones and mudstones. Siltstones and mudstones are thinly to thickly laminated, plane parallel and ripple cross-laminations (x-lams are uncommon). Same load structures and scours also rare flaser bedding. | | | | Blocky to massive | | | | | | | | | |
| | | | Same Alteration: Minor preferential albite alteration and garnets in quartz wacke bases. Siltstones and mudstones have varying amounts of disseminated and stringers and thin interlamina- | | | | Bedding to C.A. @ 76° Fractures to C.A. @ 15 - 25° | | | | | | | | | |
| | | | Same tions of Py and Po. Also have some hairline fractures with Po and trace Cpy. 1272.34 - 1272.58 Have four thin laminations (1-4mm) of pyrite-pyrrhotite with | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Collared | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | |
|--------------------|---------|--------------------|--|-----------|--|-----------|-----------|----------|-----------|-----------------------|------------|--------|-------------|----------|------------|----------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | |
| Lot | | Elev | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | | HOLE No. | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | | Same | | | | | | | | | | | | | | | |
| | | | accompanying (stratiform) quartz and chlorite. | | | | | | | | | | | | | | | |
| 1272.58 | 1274.39 | 1272.25 to 1274.39 | QUARTZ WACKE Thick to medium bedded, medium and fine grained quartz wacke with one thin interbed of siltstone and mudstone. Fines upwards into a thinly laminated siltstone. | | | | | | | | | | | | | | | |
| | | 90% | Same Alteration: Some minor chlorite alteration along fractures @ 20° to C.A. also fine grained light pink garnets associated with the same fractures. Some scour marks. | | | | | | | | | | | | | | | |
| 1274.39 | 1278.08 | 1274.39 to 1277.44 | INTERBEDS Thin and medium interbeds of medium to very fine grained quartz wacke and siltstone and mudstone. Some rare scours and fining upwards. Load structures and uncommon flaser bedding in silt/mudstones. Siltstone is commonly very thinly laminated. | | | | Blocky | | | | | | | | | | | |
| | | Mis-latch | Alteration: Garnets in quartz wacke as before and minor chlorite along fractures. Minor albite alteration? in silt and mudstones. Some calcite along fractures. Common disseminations, stringers, and thin inter-laminations of Py, Po in siltstones and mudstones. At 1274.39 have 4-5 cm wide calcite vein. Also get | | | | | | | | | | | | | | | |
| | | | Same 2-4% fine to medium grained disseminations of Po in the thin wacke bases. | | | | | | | | | | | | | | | |
| | | | 1275.20 - 1276.45 Have disseminations and stringers of stratiform Po throughout with minor Cpy and very rare fined grained disseminations of sphalerite. | | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | |
|--------------------|---------|----------------------------|--|-----------|--|-----------|--|-----------|----------|------------|-----------------------|--------|-------------|---------|------------|--|----------|--|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | Sheet of | |
| Lat | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat | | Elev | | Dip | | HOLE No. | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| 1278.08 | 1281.66 | 1277.44 to 1278.51 100% | Quartz Wacke _____ Thick bedded with minor thin interbeds of silt/mudstone, light grey, medium grained, generally sharp contacts some upwards grading. Alteration: 1278.35 - 45m Light grey-green, quartz flooded wacke. Minor occurrence of medium grained, light pink garnets. | | | | Blocky | | | | | | | | | | | |
| | | 1278.51 to 1281.71 87% | | | | | | | | | | | | | | | | |
| 1281.66 | 1284.95 | 1281.71 to 1284.15 93% | INTERBEDS _____ Thin with some medium interbeds of medium and fine grained, light grey quartz wacke and medium grey silt and mudstones. Grading upwards, some scours, load structures, minor contorted bedding, (slumps). Alteration: Minor occurrence of medium grained light pink garnets in wacke base. Chlorite alteration along hairline fractures. Hairline fractures sometimes carry fine disseminations of Po. 1281.71 - 1283.75 Have fine to very fine grained disseminations of Po and Py throughout up to 2-3%, average content about 17. | | | | | | | | | | | | | | | |
| | | 1284.15 to 1287.20 93% | Same _____ 1283.08 - 1283.48 Have numerous hairline fractures giving a pseudo web-like texture; these fractures carry Po and sphalerite. | | | | Blocky Hairline fractures to C.A. 0-20° | | | | | | | | | | | |
| 1284.95 | 1291.61 | | SAME AS ABOVE _____ But have regular (every 1-3m) thick and medium interbeds of medium to fine grained, light grey quartz wacke, and medium and thin interbeds of moderately laminated siltstone and mudstone with | | | | Blocky | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Collected | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N.T.S. No. | | |
|--------------------|----|-------------------------|--|-----------|--|-----------|--|-----------|-----------|------------|-----------------------|-------------|------|------------|----------|--|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | |
| Lat | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | |
| Dep | | Length | | Bearing | | | | | | Dep. | | Length | | Bearing | | |
| From | To | Recovery | Description | | | | Structure | % Sulph. | Est Grade | SAMPLE No. | Width | ASSAYS | | | | |
| | | | SAME AS ABOVE disseminations, stringers and thin laminations of Po and Py with minor Cpy and trace Zns. | | | | | | | | | | | | | |
| | | 1287.20 to 1288.57 80% | 1287.35 - 1288.67 One massive-thick bedded, light grey, medium grey quartz wacke. Bottom 25 cm of which has fractures healed by quartz - i.e. Qtz-chl-ser alteration. | | | | Fractures @ 0 - 15% to C.A. Bedding to C.A. | | | | | | | | | |
| | | 1288.57 to 1291.46 104% | SAME Alteration: Very little, minor garnets as in above unit. 1286.85 - 1287.35 m Moderately laminated siltstone and mudstone (with minor thin bedded, medium grained quartz wacke) with disseminations, stringers, and thin laminations of Py, Po, ± Cpy ± Zns throughout. Minor convoluted bedding. | | | | Blocky Bedding to C.A. 77° | | | | | | | | | |
| | | | 1289.38 - .84m Moderate laminations of mudstone and siltstone with 15% stringers and disseminations of Py and Po, Also hairline fractures. | | | | | | | | | | | | | |
| | | | 1284.98 - 1285.38 Siltstone with stringers of Po and Py and rare Zns with accompanying stratiform quartz. | | | | | | | | | | | | | |
| | | | 1290.54m Have hairline fractures with disseminated Po and sphalerite. Alteration: At approx. 1291m Have Qtz-Chl.-Ser-Gt alteration of quartz wacke. | | | | Fracture to C.A. 15° | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N.T.S. No. | | |
|--------------------|---------|----------------|--|-----------|---------|-----------|-------------------------------|-----------|-----------------------|------------|------------|-------------|----------|------------|-----|--|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | |
| Lot | | Elev | | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | |
| 1291.61 | 1299.50 | 1291.46 | INTERBEDS: SAME AS ABOVE Quartz wacke bases predominate over medium and thin interbeds of siltstone and mudstone. (Also turbidite bases with relatively few little quartz grains) | | | | Blocky Bedding to C.A. 66° | | | | | | | | | |
| | | 1295.57 | Have scours and some amalgamation. Mudstones and siltstones commonly contain fine grained disseminations and stringers of Po with rare Cpy ranging from 1-15% Average content is about 17. | | | | Fractures to C.A. @ 20° & 50° | | | | | | | | | |
| | | 1295.57 | SAME | | | | | | | | | | | | | |
| | | 1296.04 | Alteration: Occasional quartz-chlorite-sericite-garnet alteration of wackes. Also rare coarse grained growths of albite crystals in some thin bedded quartz wackes, also, minor medium to fine grained albite crystals in mudstones. A few (3-4) thin laminations are bleached and some are invaded by quartz-sericite. Hairline fractures occur throughout with Po, Cpy, ± Zn. Fractures and hairline fractures carry quartz and calcite. Quartz wackes are very weakly calcareous. | | | | Blocky Fractures to C.A. 24° | | | | | | | | | |
| | | 1299.50 | QUARTZ WACKE Medium and thick bedded with thin bedded siltstone and mudstone tops. Scours, minor amalgamation of bases, minor fining upwards. | | | | Bedding to C.A. 71° | | | | | | | | | |
| | | 1304.15 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S No. | | |
|--------------------|---------|------------------------|---|-----------|--|-----------|-----------------------------------|-----------|------------|------------|-----------------------|--------|-------------|---------|-----------|--|--|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | |
| Lat | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat | | Elev | | Dip | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | |
| From | To | Recovery | Description | | | | Structure | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| 1299.50 | 1304.15 | 1296.04 to 1299.09 89% | SAME and minor coarse grained clasts. Some vague current laminations. Alteration: Quartz, chlorite, sericite, garnet alteration associated with fractures, also have | | | | Bedding to C.A. 70° | | | | | | | | | | |
| | | 1299.09 to 1302.13 78% | SAME minor amounts < 1% of disseminated Po. Regular hairline fractures healed by quartz or calcite occassionally with disseminated Po. | | | | | | | | | | | | | | |
| | | 1302.13 to 1305.18 93% | SAME 1298.64 to 1302.31 Fault Zone | | | | | | | | | | | | | | |
| | | | Fractured rubbly to blocky. 1302.13 - 1302.31 Fault Gouge. | | | | Fractures to C.A., 17°, 25°, 20°. | | | | | | | | | | |
| | | | Same slickensides 1299.74 to 1299.80. Quartz vein and fault breccia with coarse grained angular clasts of quartz and sediment with minor chlorite, carbonate and Po. At | | | | | | | | | | | | | | |
| | | | 1302.70 thin interbed of very calcareous medium grained quartz wacke. Very weakly calcareous in quartz wackes. | | | | | | | | | | | | | | |
| 1304.5 | 1309.43 | | INTERBEDS Medium grey, medium grained quartz wacke, medium bedded with rare thick interbed, and thin to medium interbeds of siltstone and mudstone | | | | Blocky bedding to C.A. 69° | | | | | | | | | | |
| | | 1305.18 to 1308.23 98% | SAME Siltstones and mudstones have about 1 to 2% very fine grained disseminated Po. Contacts are generally sharp. Fining upwards is common. Alteration: Silt/mudstones are weakly | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | |
|--------------------|---------|-------------------------|--|-----------|--|-----------|-----------------------------|----------|-----------|-----------------------|------------|--------|-------------|----------|------------|----------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | |
| Lat | | Elev | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat | | Elev | | Dip | | HOLE No. | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | | SAME albipized. Hairline fractures throughout. Occasionally with calcite or clay or Po, Cpy. | | | | | | | | | | | | | | | |
| | | | SAME 1308.84 to 1309.45 Silt/mudstone with 2 to 3% disseminated Po ± Cpy and Po ± Cpy along hairline fractures. Also very fine grained biotite sprinkled throughout (some of which could be Zns? | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | 1308.23 to 1308.84 100% | | | | | | | | | | | | | | | | |
| 1309.43 | 1311.95 | 1308.84 to 1309.70 81% | QUARTZ WACKE Medium to fine grained thickly laminated throughout. Alteration: Strongly altered by sericite and biotite (20-25%) with rare disseminations of Po. Also hairline fractures ± | | | | Fractures to C.A. 31° | | | | | | | | | | | |
| | | 1309.70 to 1311.15 89% | clay, Po, Cpy. Calcareous throughout. | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| 1311.95 | 1314.88 | 1311.15 to 1314.18 96% | INTERBEDS. Thinly laminated, thick interbed of siltstone grading downwards into thinly bedded, thinly laminated interbeds of fine-medium grained quartz wacke and siltstone. | | | | Blocky. Bedding to C.A. 71° | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N T S No. | | |
|--------------------|--------------------|----------------|--|-----------|--|-----------|-----------|----------|------------|-----------------------|-------|-------------|--|-----------|--|----------|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | |
| Lat | | Elev | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat | | Elev | | Dip | | HOLE No. |
| Dep | | Length | | Bearing | | | | | | Dep. | | Length | | Bearing | | |
| From | To | Recovery | Description | | | Structure | | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | |
| | 1314.18 to 1315.70 | 111% | SAME [redacted] Minor load structures and scours, primarily straight contacts. Po, Py disseminated throughout with Po - Cpy along fractures at 81° to C.A. | | | Blocky | | | | | | | | | | |
| | | | SAME [redacted] Po, Py about 2 to 3% overall is concentrated along laminae. Alteration weak to moderate albitization. Quartz wackes are weakly calcareous. | | | | | | | | | | | | | |
| 1314.88 | 1316.53 | | QUARTZ WACKE [redacted] Medium grained, light grey, thick bedded. Alteration: Quartz-chlorite-sericite garnets associated with fractures at 1315.95 2 cm wide | | | | | | | | | | | | | |
| | 1315.70 to 1318.90 | 95% | SAME [redacted] quartz vein with minor Po and bleaching on either side of vein. | | | | | | | | | | | | | |
| 1316.53 | 1332.90 | | INTERBEDS [redacted] Primarily medium bedded with rare thin or thick beds of medium grained quartz wacke interbedded with thin to medium bedded and occasional thick interbeds of siltstone and mud- | | | | | | | | | | | | | |
| | | | stone. Alteration: Quartz wackes commonly display quartz-chlorite-sericite-garnet • albite • Po ± Cpy associated with fractures at 18-20° to C.A., where albite occurs it commonly | | | | | | | | | | | | | |

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forms spots around small blebs of Po.

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Collared | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S No. | | |
|--------------------|---------|----------------|--|-----------|--|----------------------------------|-----------|------------|-----------|-----------------------|--------|--------|-------------|----------|-----------|----------|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | |
| Lot | | Elev | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | | HOLE No. | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | |
| From | To | Recovery | Description | | | Structure | % Sulph | Est. Grade | SAMPLE No | Width | ASSAYS | | | | | | |
| | | 1318.90 | SAME About 1/3 of the quartz wackes are very weakly calcareous. Silstones and mudstones are weakly to moderately albitized with varying amounts of disseminated Po, Py ± Cpy and | | | | | | | | | | | | | | |
| | | 1322.13 | SAME stringers of Po, Py ± Cpy. Hairline fractures occur throughout occasionally with Po ± Cpy and rarely with Zns. | | | | | | | | | | | | | | |
| | | 1322.13 | SAME 1321.60 - 1321.95 Hairline fracture with Zns disseminations <1% | | | | | | | | | | | | | | |
| | | 1325.18 | 95% 1324.52 - 1325.18 Po disseminations and stringers with disseminations concentrated along laminae 1-3% and up to 8%. | | | | | | | | | | | | | | |
| | | 1325.18 | 1328.35 1331.40 - 1331.79m Po disseminations in thickly laminated siltstone. Po concentrated along coarser laminae. Approx. 2%. | | | | | | | | | | | | | | |
| | | 1328.35 | to 1332.56 - 1332.66m Po disseminations up to 8% overall 2-3%. | | | Blocky Bedding to C.A. 69° - 70° | | | | | | | | | | | |
| | | 1331.40 | 92% SAME Po disseminations in Qtz-Chl-Ser-Gt ± albite alteration vary from < 1% - 2%. At 1332.50 - .70m Have hairline fractures at 50° to C.A. that show normal movement of Po stringers of 1mm. | | | | | | | | | | | | | | |
| 1332.90 | 1334.81 | 1331.40 | 92% QUARTZ WACKE Thick bedded medium to fine grained at top (1m) of unit and coarse to medium grained at the base of the unit. | | | Blocky | | | | | | | | | | | |

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NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N.T.S. No. | |
|--------------------|---------|----------------------------------|---|-----------|----------|-----------|-----------------------|-----------|-----------------------|------------|-------|-------------|----------|------------|--|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | |
| Lat | Elev | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat | Elev | Dip | | HOLE No. | | |
| Dep | Length | Bearing | | | | | | Dep | Length | Bearing | | | | | |
| From | To | Recovery | Description | | | | Structure | % Sulph | Est. Grade | SAMPLE No. | Width | ASSAYS | | | |
| | | 1334.45 to 1337.50 100% | SAME Alteration: 1334.25 - 1334.60m Quartz-chlorite-sericite-carbonate (weakly calcareous) alteration associated with fractures @ 10° to C.A. | | | | Fractures to C.A. 10° | | | | | | | | |
| | | 1337.50 to 1340.54 87% | SAME | | | | | | | | | | | | |
| 1334.81 | 1337.79 | | INTERBEDS Thin bedded medium and coarse grained quartz wacke siltstone and mudstone with occasional medium interbeds of quartz wacke and very thinly bedded silt-mudstones. | | | | | | | | | | | | |
| | | | SAME Alteration: Minor chlorite, quartz, sericite, garnet alteration. Hairline fractures are common and commonly contain | | | | | | | | | | | | |
| | | | SAME disseminations and blebs of Po with lesser Cpy and sparse Zns. 1335.74 - 1336.34 and 1336.81 - 1336.96 Medium interbeds of thin to very | | | | Bedding to C.A. 64° | | | | | | | | |
| | | | thinly bedded silt/mudstones with stringers to thin laminations of Po ± Cpy and rare specks of Zns, also have Po, Cpy, ± Zns along hairline | | | | | | | | | | | | |
| | | | fractures Contacts are plane parallel. | | | | | | | | | | | | |
| 1337.79 | 1344.05 | 1340.54 to 1344.51 72% | QUARTZ WACKE TO ARENITE Coarse and medium grained, light grey with infrequent medium interbeds of slump (siltstone and quartz wacke) with convoluted bedding with disseminated Po, Cpy ± galena (a dark | | | | Blocky | | | | | | | | |

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Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | |
|--------------------|---------|------------------------|---|-----------|---------|-----------|------------------------------------|----------|-----------------------|------------|------------|--------|-------------|---------|------------|----------|--|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | |
| Lot | | Elev | | | Dip | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | | HOLE No. | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | |
| | | | SAME [redacted] bluish-grey-very fine grained metallic mineral also found disseminated in quartz wacke). ± Zns. Found at 1340.30 - 1340.54 and 1347.18 - 1347.70 Alteration: Qtz-Chl-Ser-Gt alteration along coarser fractures also core is weakly calcareous where it has this alteration. Also have minor scours and a pebble-boulder sized clast at 1337.96m. | | | | | | | | | | | | | | |
| 1344.08 | 1352.15 | 1344.51 to 1347.74 64% | SAME AS ABOVE [redacted] Fault zone. Rubbly, heavily fractured, fault breccia with medium to very coarse grained angular fragments of quartz wacke healed by quartz. | | | | | | | | | | | | | | |
| | | | SAME [redacted] 1344.51 - 1344.35 Fault breccia with patches of Py with minor Cpy. 1342.97 - 1345.20 Highly fractured with abundant fault breccia healed by quartz. Some infillings contain euhedral quartz. | | | | Fractures primarily at 44° to C.A. | | | | | | | | | | |
| | | 1347.74 to 1350.91 92% | SAME [redacted] Fault breccia at 1348.64 - 1349.09. Fractures @ 26° and 50°. Minor clay gouge. Fault breccia at 1349.68 - 1349.85. Fault breccia at 1351.96 - 1352.15 m. Fractures to S.A. at 32° & 55°. Minor clay gouge. | | | | Also @ 15° & 60° | | | | | | | | | | |
| | | | NOTE: Wherever brecciation occurs at or near a mudstone quartz wacke contact there has been some movement as evidenced by minor rounding and | | | | Rubbly to blocky | | | | | | | | | | |

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Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S No. | | | |
|--------------------|---------|----------------------------|---|-----------|--|-----------|---------------------|-----------|---------|-----------------------|------------|-----------|-------------|----------|-----------|----------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | |
| Lat | | Elev | | Dip | | RECORDED | | CORRECTED | | RECORDED | | CORRECTED | | Lat | | Elev | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | HOLE No. | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | | SAME displacement of clasts as well as minor fault gouge development. In the quartz wacke itself the brecciation more closely resembles a crackle breccia healed by quartz with little displacement of clasts. Quartz veins and quartz-carbonate veinlets throughout occasionally with pyrite along them, about 2-3mm of normal displacement. | | | | Bedding to C.A. 71° | | | | | | | | | | | |
| 1352.15 | 1354.72 | 1350.91 to 1357.32 100% | QUARTZ WACKE Same as above, fault zone but have thin interbeds of mudstone. | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
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DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | |
|--------------------|---------|------------------------|--------------|---|---------|-----------|------------------------------|------------|-----------------------|-----------|--------|--------|-------------|---------|------------|--|----------|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | |
| Lot | | Elev | | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat | | Elev | | Dip | | HOLE No. |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | |
| From | To | Recovery | Description | | | Structure | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | | |
| 1354.72 | 1358.93 | | INTERBEDS | Very thin to medium interbeds of medium, to fine grained quartz wacke, siltstone and mudstone. Contacts wavy and even, occasional load structures. | | | Blocky | | | | | | | | | | |
| | | | SAME | Quartz wacke is very thinly laminated. Alteration: Minor Qtz-chl-ser-gt alteration of quartz wackes, also with fine grained spots of | | | | | | | | | | | | | |
| | | | SAME | quartz and albite? Spots appear to be crystalline. Mudstone appears to be weakly albitized and contains fine grained albite crystals. | | | | | | | | | | | | | |
| | | | SAME | Mud/siltstone interbeds contain fine disseminations of Po concentrated along laminae up to 10-15% over 3-4mm overall 1-3%. | | | | | | | | | | | | | |
| | | | SAME | Approximately 1/3 of unit is calcareous with one thin interbed of sandy limestone to calcareous wacke. Some rare laminations of Po with Qtz-albite alteration. Hairline fractures | | | Bedding to C.A. 69° | | | | | | | | | | |
| | | | SAME | throughout with minor Po, Cpy. 1357.98m medium to coarse grained angular clast of galena. | | | Fractures to C.A. 20° to 25° | | | | | | | | | | |
| 1358.93 | 1360.60 | 1357.32 to 1363.72 99% | QUARTZ WACKE | Thin to medium interbeds of very thinly laminated, calcareous, medium to fine grained wacke. Vague reddish tinge. Very fine grained Po disseminations. | | | Blocky Bedding to C.A. 67° | | | | | | | | | | |
| | | | SAME | Sericitic, resembles paper lams. | | | | | | | | | | | | | |

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Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | |
|--------------------|--------------------|----------------|---|-----------|--|-----------|-------------------------------|-----------|------------|------------|-----------------------|--------|-------------|---------|------------|--|--|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | |
| Lot | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | |
| From | To | Recovery | Description | | | | Structure | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| 1360.60 | 1362.23 | | <p>INTERBEDS Thin to very thin interbeds of siltstone, mudstone and fine to medium grained quartz wacke with flat even contacts and fine grained disseminations of Po and Py. <1% overall</p> <p>SAME wacke has weak qtz-chl-ser-gt alteration.</p> <p>1360.60 - 1361.43 Interval of dissem. Po along laminations about 7-10% overall</p> | | | | Bedding to C.A. 63° | | | | | | | | | | |
| 1362.23 | 1368.78 | | <p>QUARTZ WACKE Medium to fine grained light grey to light bluish-grey, sometimes with a vague reddish tinge. Interbeds of medium or thin bedded (usually non-laminated non-calcareous)</p> <p>SAME mudstone. Some irregular coarse grained interbeds and rare calcareous interbeds.</p> <p>Note: Quartz wacke is probably weakly calcareous</p> <p>SAME over 50% of unit, this carbonate appears to be related to fracturing and weak qtz-chl-ser-gt alteration. Hairline fractures with Po.</p> | | | | Bedding to C.A. 60° | | | | | | | | | | |
| 1368.78 | 1376.63 to 1370.12 | 1363.72 to 96% | <p>INTERBEDS Very thin to thin interbeds of mudstone, siltstone and medium to fine grained quartz wacke. Generally plane parallel laminations, occasional load structures and thin slumps</p> <p>SAME (convoluted bedding).</p> <p>Alteration: 1370.46 weakly calcareous associated with qtz-chl along fractures at 35° to C.A.</p> <p>Weak albitization of mud/siltstones and few or no disseminated sulfides.</p> <p>SAME Hairline fractures with minor Po, Py, ± Cpy.</p> <p>1372.95 5 cm wide quartz vein with abundant biotite and garnets.</p> | | | | Blocky Bedding to C.A. 68° | | | | | | | | | | |

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Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N.T.S. No. | | |
|--------------------|---------|-------------------------|---|-------------------------------|---------|-----------|------------|-----------|----------|-----------|-----------------------|-------------|------|------------|----------|--|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | |
| Lat | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat | | Elev | | Dip | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | |
| From | To | Recovery | Description | Structure | % Sulph | Est Grade | SAMPLE No. | Width | ASSAYS | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | SAME 1370.70 - 1371.15 breccia calcareous. Bottom .50m have bleached laminations related to hairline fractures | | | | | | | | | | | | | |
| | | | 1376.53 & 1377.07 Laminations of emerald green chlorite. | | | | | | | | | | | | | |
| 1376.63 | 1381.71 | 1370.12 to 1376.22 100% | QUARTZ WACKE Medium grained thick bedded with 3 medium interbeds of slump spaced roughly 1m apart. At 1379.55 - 1380.19 Have thick interbed, coarse grained base (quartz grains 50-60% with silty matrix) grading upwards in to a medium grained quartz wacke this interval is weakly calcareous. Slumps have minor disseminations and stringers of Po. | | | | | | | | | | | | | |
| | | 1376.22 to 1380.79 92% | Alteration: Quartz wackes are fractured throughout and are altered by quartz and sericite minor chlorite. Fractures are commonly hairline and are healed by quartz and/or carbonate, they carry few or no sulfides. | Fractures to C.A. 0°, 18° 34° | | | | | | | | | | | | |
| 1381.71 | 1383.31 | | INTERBEDS Thin bedded, laminated siltstones, mudstones and very fine grained quartz wackes. Po disseminations common throughout 1-2% overall. | | | | | | | | | | | | | |
| | | | SAME Minor qtz veinlets with Po, ± Cpy. 1382.74 - 1383.15 Calcareous interbed, very fine grained, very thinly laminated, | | | | | | | | | | | | | |

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Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colliard | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No | | N.T.S. No | | | |
|--------------------|---------|------------------------|---|-----------|--|-----------|-----------------------------------|-----------|------------|------------|-----------------------|--------|------------|---------|-----------|--|----------|--|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | Sheet of | |
| Lat | | Elev | | Dip | | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat | | Elev | | Dip | | HOLE No. | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | | |
| | | | SAME [redacted] biotite rich, minor Po disseminations approx. 1-2%. Resembles paper lams. Also reddish-grey, mudstones commonly contain fine grained quartz grains. | | | | | | | | | | | | | | | |
| 1383.31 | 1389.66 | 1380.79 to 1385.67 94% | QUARTZ WACKE Medium grained and bedded light grey, vaguely laminated. Minor sericite, biotite and thin interbeds of laminated and non-laminated mudstone (weakly albitized). | | | | Blocky Fractures to C.A. 21°, 55° | | | | | | | | | | | |
| | | | SAME [redacted] Also < 1% Po disseminations. Unit is weakly calcareous (except for the mudstones) for roughly 25% of interval. Carbonate is related to the matrix and fracturing. | | | | Bedding to C.A. 64° | | | | | | | | | | | |
| | | | SAME [redacted] Alteration: Minor sericite. Specks of fine grained chlorite (altered biotite) throughout. Also some very fine grained interbeds near base. | | | | | | | | | | | | | | | |
| | | | SAME [redacted] 1386.67 - 1386.73m Fractured with quartz flooding. Po, Cpy and minor Zns associated with fractures and quartz. | | | | Fractures @ 16°, 38°, 74° to C.A. | | | | | | | | | | | |
| 1389.66 | 1394.62 | 1385.67 to 1389.33 80% | INTERBEDS Medium and minor thin interbeds, of medium grained quartz wacke, fine grained quartz wacke, siltstones and mudstones. | | | | Bedding to C.A. 57° | | | | | | | | | | | |
| | | | SAME [redacted] Siltstones and mudstones carry minor disseminations and stringers of Po. Quartz wackes are predominately medium grained and have rare thin laminations and vague laminations. | | | | | | | | | | | | | | | |
| | | | SAME [redacted] Siltstones commonly contain fine grained grains of quartz. Minor scours and grading upwards. Alteration: Some qtz-chl-ser alteration associated | | | | Fractures to C.A. 0°, 29° | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N T S No. | | |
|--------------------|---------|----------------|---------------|---|---------|-----------|--|------------|-----------------------|-----------|--------|-------------|----------|-----------|-----|--|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | |
| Lot | | Elev | | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | |
| From | To | Recovery | Description | | | Structure | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | 1389.33 | SAME | with fractures in quartz to wackes. Hairline fractures with minor carbonate, quartz and Po, Py ± Cpy. Also thin stratiform stingers with clay and Po. | | | Bedding to C.A. 67° | | | | | | | | | |
| | | 100% | SAME | 1394.52 - .62m Mudstone with two 2 cm bands of thinly laminated Py rich pseudo-marker, bottom band is fault contacted | | | | | | | | | | | | |
| | | | SAME | against fault gouge. Vague greenish tinge in wacke bands. Approx. 50% is calcareous (wacke bands). | | | | | | | | | | | | |
| 1394.62 | 1401.80 | 1394.82 | SAME AS ABOVE | Fault zone. 1394.62 - .65 Fault gouge | | | Hang wall contact slickensided and @ 45% to C.A. | | | | | | | | | |
| | | 1398.47 | | 1394.71 - .75 " " | | | | | | | | | | | | |
| | | 88% | SAME | 1394.82 - 1395.71m Fault breccia with 3 thin (approx. 1 cm) seams of gouge. Fault Breccia 1394.62 - 1395.71 Angular | | | Fractures to C.A. 16°, 35° Rubbly | | | | | | | | | |
| | | 1398.47 | SAME | fragments with minor Py in matrix (1%) | | | Fractures to C.A. 25° Rubbly | | | | | | | | | |
| | | 1401.52 | | 1396.56 - 1397.45m Fault breccia calcareous in spots. | | | | | | | | | | | | |
| | | 66% | SAME | Immediately above H.W. contact pseudomarker shows 2-3mm of normal displacement across a fracture at 18° to the C.A. | | | | | | | | | | | | |
| | | 1401.52 | | | | | | | | | | | | | | |
| | | 1404.57 | | | | | | | | | | | | | | |
| | | 93% | | | | | | | | | | | | | | |

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Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N.T.S. No. | | | |
|--------------------|---------|----------------|--|-----------|---------|-----------|---------------------------------|-----------|-----------------------|-----------|-----------|--------|-------------|---------|------------|----------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | | |
| Lot | | Elev | | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | HOLE No. | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph | Est Grade | SAMPLE No | Width | ASSAYS | | | | | |
| 1401.80 | 1405.41 | | INTERBEDS Thin interbeds of mudstone-siltstone and medium grained quartz wacke. Quartz wacke predominates. Minor disseminations and stringers of Po in mudstones. | | | | Fracture at 23° and 40° to C.A. | | | | | | | | | | | |
| | | | SAME Alteration: Qtz-chl-ser-Gt related to fractures. | | | | | | | | | | | | | | | |
| 1405.41 | 1408.60 | | MUDSTONE AND SILTSTONE Thick interbed of thinly bedded mudstone and siltstone. Thinly laminated and non-laminated beds. Three thin interbeds of pseudomarker with Po dissem. (Very thinly laminated). | | | | | | | | | | | | | | | |
| | | | SAME Also common soft sediment deformation. Occasional stringers and dissem. of Py throughout. | | | | | | | | | | | | | | | |
| | | | SAME 1405.96 - 1407.06 Have convoluted bedding, medium to fine grained quartz wacke thinly interbedded with siltstone and | | | | | | | | | | | | | | | |
| | | | SAME mudstone. Have rare pebble sized mudstone clasts. | | | | Bedding to C.A. 55° | | | | | | | | | | | |
| 1408.60 | 1415.62 | | QUARTZ WACKE Medium and coarse grained medium interbeds with thin mudstone tops generally non-laminated. Minor scours. Rare medium interbed of mudstone. | | | | | | | | | | | | | | | |
| | | | SAME Alteration: Qtz-chl-ser-bt-gt Weak Hairline fractures with Qtz-carb. | | | | | | | | | | | | | | | |

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Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Collared | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No | | N.T.S No | | | | | | | |
|--------------------|----|----------------|---|-----------|--|-----------|-----------|-----------|----------|-----------------------|-----------|-----------|------------|---------|----------|----------|--|-----|--|----------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | Sheet of | | | | | | |
| Lat | | Elev | | Dip | | RECORDED | | CORRECTED | | RECORDED | | CORRECTED | | Lat | | Elev | | Dip | | HOLE No. | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph. | Est Grade | SAMPLE No | Width | ASSAYS | | | | | | | | | |
| | | | SAME | | | | | | | | | | | | | | | | | | | |
| | | | 1413.74 - 1415.62 Interbed of thinly bedded mudstone and medium grained quartz wacke. Minor Py, Po stringers and disseminations (2%) H.L.F. Po, Cpy, Zns. | | | | | | | | | | | | | | | | | | | |
| 1415.62 | | | QUARTZ ARENITE/WACKE Thick bedded, primarily coarse grained to medium grained, minor fining upwards and minor thin interbeds of non-laminated mudstones. Regular medium interbeds of slumps | | | | | | | | | | | | | | | | | | | |
| | | | SAME (mudstone to medium grained quartz wackes with convoluted bedding). Coarser beds are weakly calcareous (approx. 1/4 of unit). | | | | | | | | | | | | | | | | | | | |
| | | | SAME | | | | | | | | | | | | | | | | | | | |
| | | | 1418.03 - 1418.70 Thick mudstone slump with disseminations and stringers of Po approx. 2% grades up into a 4cm wide mud seam. | | | | | | | | | | | | | | | | | | | |
| | | | 1420 Fault contact between slump and wacke. Ranges from 1/2 cm to 2 cm wide. Also some breccia with angular, coarse, fragments | | | | | | | | | | | | | | | | | | | |
| | | | SAME Qtz. vein with minor blotches of Po, Py, Cpy. Alteration: Qtz-ser-chl. Slumps contain varying minor amounts of Po dissem. | | | | | | | | | | | | | | | | | | | |
| | | | SAME and stringers. At 1426.67 Slump, interbeds become thick bedded and predominate over the quartz wackes. | | | | | | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N.T.S. No. | |
|--------------------|---------|---------------------------|---|-----------|----------|----------------------------|-----------|------------|-----------------------|----------|-----------|-------------|----------|------------|--|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | |
| Lat | | Elev | | | RECORDED | | CORRECTED | | RECORDED | | CORRECTED | | HOLE No. | | |
| Dep | | Length | | Dip | | Bearing | | Dep | | Length | | Bearing | | | |
| From | To | Recovery | Description | | | Structure | % Sulph | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | |
| 1428.88 | 1434.54 | | <p>SAME AS ABOVE Fault zone. Crackle breccia carbonate infilling minor Py along fractures brecciation and minor fault gouge along fractures at 16° to C.A. Fractures at 60° to C.A. show normal displacement of laminae over 1-2mm. Fractures commonly have limonitic stains.</p> | | | | | | | | | | | | |
| 1434.54 | 1435.10 | | <p>SAME AS ABOVE</p> | | | | | | | | | | | | |
| 1435.10 | 1438.14 | | <p>MUDSTONE-SILTSTONE Thick beds of thinly bedded mudstone and siltstone with minor medium to very fine grained quartz wacke, very thinly interbedded (rare medium interbed). Interval shows convoluted bedding throughout (slump zone). Some silt/mudstones contain fine grained quartz grains. 1439.39 - 1439.50 Thin altered interbed with coarse grained grains of calcite.</p> | | | | | | | | | | | | |
| | | | <p>SAME (Approx. 40% calcite clasts).</p> | | | | | | | | | | | | |
| 1438.14 | 1482.35 | 1404.57 to 1451.83 90% | <p>SILTSTONE/MUDSTONE Primarily thin interbeds of thin to very thinly laminated siltstone and laminated or non-laminated mudstone. Also have range from silty mudstone to muddy siltstone and regular (about one/2m) thin limy interbeds that are medium to coarse grained calcite and reddish biotite. Fine disseminations of Po throughout also thin stringers and laminations 2-3% overall. Fine grained biotite</p> | | | Blacky Bedding to C.A. 66° | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N T S. No. | | | |
|--------------------|----|----------------|--|-----------|--|-----------|--|----------|-----------|-----------------------|------------|--------|-------------|---------|------------|----------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | Sheet of | | |
| Lot | | Elev | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lot | | Elev | | Dip | | HOLE No. | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | |
| | | | SAME (reddish) delineates the lamination. | | | | | | | | | | | | | | | |
| | | | SAME Also one thick interbed of medium grey mudstone with wisps and disseminations of Po throughout. Approx. 1-4%. Have occasional slump deposits (medium to thin bedded) throughout. | | | | Blocky Bedding to C.A. 61° | | | | | | | | | | | |
| | | | SAME At 1467.75 No longer have limy bands or slumps and appear to have an overall fining of the interval i.e. a greater proportion of mudstone. | | | | | | | | | | | | | | | |
| | | | SAME 1452.26 - 1452.34 Reddish-brown (hematitic?) thin interbed of thickly laminated, hard (cherty?) silty mudstone with lenses of siltstone, forming dark and light bands, also minor disseminations and stringers of Po (3%), also thin interbed of cobble conglomerate. | | | | | | | | | | | | | | | |
| | | | Approx. 15% clasts, underlying it. | | | | | | | | | | | | | | | |
| | | | 1454.41 - 1461.67 Silty mudstone to mudstone. Fault zone 1454.41 - 1458.98 Fractured, rubbly minor slickensides, some chlorite along fractures. Also calcite along fractures | | | | Rubbly Fractures to C.A. 0° to 15° and 31° | | | | | | | | | | | |
| | | | 1451.83 to 1458.23 89% SAME 1457.12 - 1457.44m Interbed of dark mudstone with fine to medium grained cubes of Py Approx. 15% with remnant shadows of Py | | | | Blocky | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colliard | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N T S No. | | | | | | | |
|--------------------|----|------------------------|---|-----------|--|-----------|----------------------------|-----------|---------|-----------------------|------------|-----------|-------------|----------|-----------|------|--|-----|--|----------|--|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | | | | | | |
| Lat | | Elev | | Dip | | RECORDED | | CORRECTED | | RECORDED | | CORRECTED | | Lot | | Elev | | Dip | | HOLE No. | | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | | | | | | |
| From | To | Recovery | Description | | | | Structure | | % Sulph | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | | | | | |
| | | | SAME cubes replaced by chlorite (chloritoid) approx. 25 - 35%. Approx. 1458.00 - 1461.67 Thin interbeds of non-laminated and very thinly laminated silty mudstone with Po disseminations, stringers, blebs and very thin laminations throughout, also one thin limy band. Po about 10 - 20%. | | | | Blocky | | | | | | | | | | | | | | | |
| | | 1458.20 to 1462.20 86% | | | | | | | | | | | | | | | | | | | | |
| | | 1462.20 to 1467.98 87% | SAME 1478.04 Have an increase in size and abundance of Po laminations, ranging from 2mm to 1cm with 1-2 laminations every 1cm. | | | | Blocky Bedding to C.A. 63° | | | | | | | | | | | | | | | |
| | | 1467.98 to 1479.88 99% | Also have minor occurrence of granule sized pebbles of Po and rare thin interbeds of granule conglomerate with mudstone and Po clasts. Po 10 - 15% overall. | | | | Blocky Bedding to C.A. 67° | | | | | | | | | | | | | | | |
| | | | Although grain size is silt to mud size there are beds which have a hardness of 5-6 | | | | | | | | | | | | | | | | | | | |
| | | 1482.35 | CONGLOMERATE Consists of clasts of mudstone, siltstone, and Po ± Cpy. Mudstone and siltstone clasts are rounded to subangular and vary from coarse grained to pebble size (up to 2cm). Po | | | | | | | | | | | | | | | | | | | |
| | | | SAME clasts vary from medium grained to pebble size (up to 1cm). Po clasts vary from blebs within a clast to semi-massive to massive clasts of Po. The matrix is mostly siltstone with minor areas with very fine grained sandstone matrix. | | | | | | | | | | | | | | | | | | | |
| | | | Also thin interbeds that are slumped (convoluted bedding). Approx. 5% Po clasts. | | | | | | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No | | NTS No | | | | | | | | |
|--------------------|----|----------------------------------|---|-----------|--|-----------|-----------|----------|-----------|------------|-----------------------|--------|------------|---------|--------|--|----------|--|-----|--|----------|--|--|
| FIELD CO-ORDINATES | | | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | | | Sheet of | | | | | | |
| Elev | | Dip | | Length | | | RECORDED | | CORRECTED | | RECORDED | | CORRECTED | | Lot | | Elev | | Dip | | HOLE No. | | |
| Dep | | Bearing | | Lot | | Length | | Bearing | | Dep | | Length | | Bearing | | | | | | | | | |
| From | To | Recovery | Description | | | | Structure | % Sulph. | Est Grade | SAMPLE No. | Width | ASSAYS | | | | | | | | | | | |
| | | 1479.88 | SAME | | | | | | | | | | | | | | | | | | | | |
| | | to 1486.13 96% | 1482.94m - 1485.15 Interbed of interlaminated alternating bands of siltstone and mudstone. Po disseminations and laminations (up to 3mm, about 1-2 per cm) throughout. Pb approx. 10% overall. | | | | | | | | | | | | | | | | | | | | |
| | | 1486.13 to 1487.80 103% | Also several thin interbeds of hard (cherty?), red-brown, with some thin dark bands, silty mudstone with about 15-20% disseminated Po and minor laminations. | | | | | | | | | | | | | | | | | | | | |
| | | | SAME Same as above Mudstone interval but sulfide clasts are about 10-15% overall with rare thin interbeds of silt/mudstone. Also scattered throughout are medium grained to coarse grained dark, hard clasts of quartz and possibly some tourmaline. | | | | | | | | | | | | | | | | | | | | |
| | | | 1490.06 - 1491.10 Interbed of thinly bedded siltstone and very fine grained quartz wacke with Qtz-Chl-Py associated with fractures. | | | | | | | | | | | | | | | | | | | | |
| | | | 1494.12 - 1494.38 Thin interbed of muddy siltstone with thin laminations of Po (approx. 15% overall). At about 1494.38 Have an increase in clasts from about 15-25% to 30-55%. Clasts range from coarse grained to pebble size and consist of medium grey mudstones, minor siltstones, and clasts with coarse grained clasts of Po within them, and Po clasts varying from about 15% Po to massive Po. Semi-massive to massive Po clasts consist of about 30-50% of all sulfide clasts. Sulfide clasts vary from 5-25% of | | | | | | | | | | | | | | | | | | | | |
| | | 1487.80 to 1494.21 100% | | | | | | | | | | | | | | | | | | | | | |

DRILL LOG - 81

Date _____ Logged By _____

NORANDA EXPLORATION COMPANY LTD.

| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | | PROJECT No. | | N T S No. | | |
|--------------------|---------|----------------------------|--------------------|---|--|-----------|------------------------------------|------------|------------|-----------------------|--------|--------|-------------|----------|-----------|----------|--|
| FIELD CO-ORDINATES | | | | DEPTH | | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | |
| Lat | | Elev | | Dip | | RECORDED | CORRECTED | RECORDED | CORRECTED | Lat | | Elev | | Dip | | HOLE No. | |
| Dep | | Length | | Bearing | | | | | | Dep | | Length | | Bearing | | | |
| From | To | Recovery | Description | | | Structure | % Sulph. | Est. Grade | SAMPLE No. | Width | ASSAYS | | | | | | |
| | | 1494.21 to 1500.30 100% | SAME | the conglomerate. Overall to about 10-15%. Also have minor occurrence of sulfide clasts with laminations. Also have angular to subrounded clasts of light blue-grey mudstone. | | | | | | | | | | | | | |
| | | 1500.30 to 1506.31 98% | SAME | 1504.34 - 1516.40 Minor fractures, some with slicken sides and some healed by qtz-calcite with minor Po. | | | Fractures to C.A. @ 0°, 16° 37° | | | | | | | | | | |
| | | | SAME | 1502.20 - 1520.90 Conglomerate grades down into a siltstone with rare coarse grained clasts of Po. | | | | | | | | | | | | | |
| | | | SAME | | | | | | | | | | | | | | |
| | | | SAME | | | | | | | | | | | | | | |
| 1520.90 | 1526.98 | | MUDSTONE/SILTSTONE | Medium interbeds of medium-dark grey mudstone and reddish grey muddy siltstone. Fine grained Po disseminations throughout. 5-10% overall | | | | | | | | | | | | | |
| | | 1506.31 to 1513.11 96% | SAME | Occasional thin to medium interbed with coarse grained clasts and slumps (convoluted bedding). | | | | | | | | | | | | | |
| | | 1513.11 to 1519.66 95% | SAME | 1525.76 - 1526.98 m Fine grained quartz wacke which grades up into a thinly bedded siltstone top. | | | | | | | | | | | | | |

DRILL LOG - 81

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| Date Colored | | Date Completed | | Core Size | | DIP TESTS | | | | PROPERTY | | PROJECT No. | | N.T.S. No. | | |
|--------------------|----|--------------------------------|---|-----------|----------|--|-----------|-----------|-----------------------|----------|-----------|-------------|----------|------------|-------|--|
| FIELD CO-ORDINATES | | | | DEPTH | BEARING | | ANGLE | | SURVEYED CO-ORDINATES | | | | Sheet of | | | |
| Lat | | Elev | | | RECORDED | | CORRECTED | | RECORDED | | CORRECTED | | Lat | | Elev. | |
| Dep | | Length | | Dip | | Bearing | | Dep | | Length | | Bearing | | HOLE No. | | |
| From | To | Recovery | Description | | | Structure | % Sulph. | Est Grade | SAMPLE No | Width | ASSAYS | | | | | |
| | | 519.66 to 525.91 95% | SAME | | | | | | | | | | | | | |
| 1526.98 | | | INTERBEDS Thin and very thin interbeds of fine and medium grained, reddish grey quartz wacke and laminated reddish grey or grey siltstone and mudstone. | | | Blocky Bedding to C.A. 72° | | | | | | | | | | |
| | | 525.91 to 532.01 88% | SAME Rare soft sediment deformation. Contacts are flat and even. Have some laminations of dark grey siltstone. | | | Fractures to C.A. @ 0°-10° 25°, 35° | | | | | | | | | | |
| | | 532.01 to 538.11 98% | SAME Occasional thin lamination of Po ± Cpy and rare lamination of calcite ± Po ± Cpy. Also have thin interbeds of calcareous siltstone with fine to medium grained calcite grains (approx. | | | | | | | | | | | | | |
| | | 538.11 to 544.21 91% | 30% of interval. At about 1537m bed thickness changes to medium and thin interbeds. Calcite ± Py commonly occur along fracture faces. Also have minor Qtz-chlorite altera- | | | | | | | | | | | | | |
| | | 544.21 to 550.30 100% | tion associated with fracturing. At about 1536m medium interbeds of fine to medium grained quartz wacke are altered by Qtz-chl-ser. Over the unit about 20% is calcareous and Po is disseminated throughout as fine and medium grains approx. 1% overall. | | | Bedding to C.A. 71° | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | 1550.30 m END OF HOLE | | | | | | | | | | | | | |

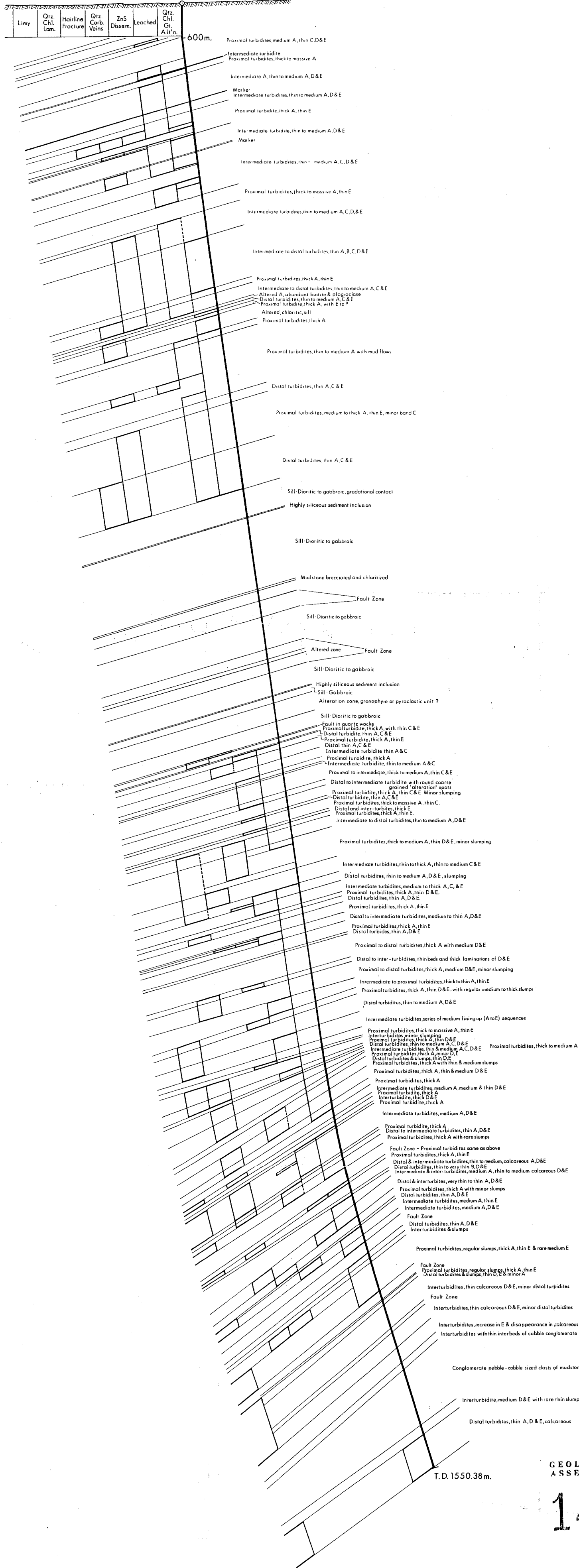
DRILL LOG - 81

Date _____ Logged By _____

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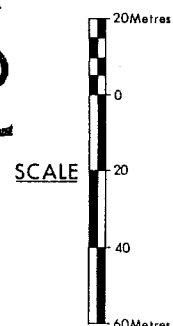
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D.D.H. C-85-1 (APPROX. ELEV. 1190m. (3900ft.))



GEOLOGICAL BRANCH ASSESSMENT REPORT

14,782



| | | | |
|----------------|---------------------|----------------|--|
| REVISED | CRANBROOK PROJECT | | |
| | D.D.H. C-85-1 | | |
| | SECTION | | |
| PROJ. No. 3140 | SURVEY BY: D. B. B. | DATE: March/85 | |
| N.T.S. | DRAWN BY: D. B. B. | SCALE: 1:1000 | |
| DWG. No. | NORANDA EXPLORATION | | |
| | OFFICE: Vancouver | | |