

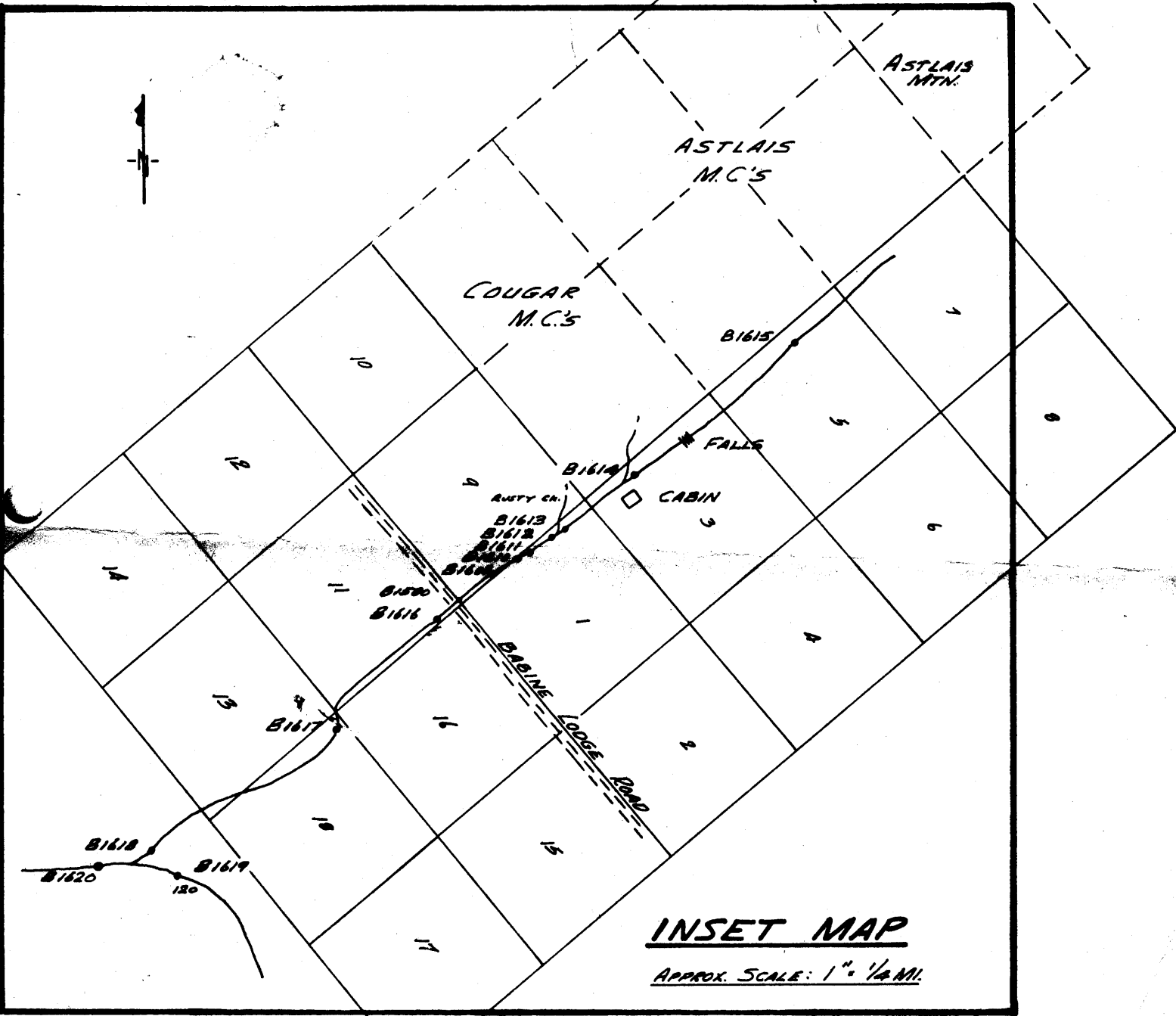
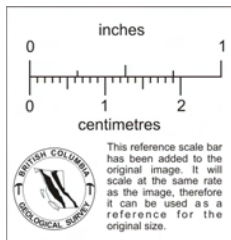
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BIG ONION PROSPECT

Report on Norandas 1963 program

R. A. RUTHERFORD

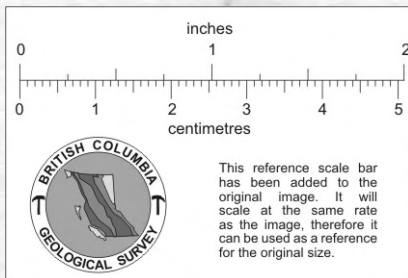
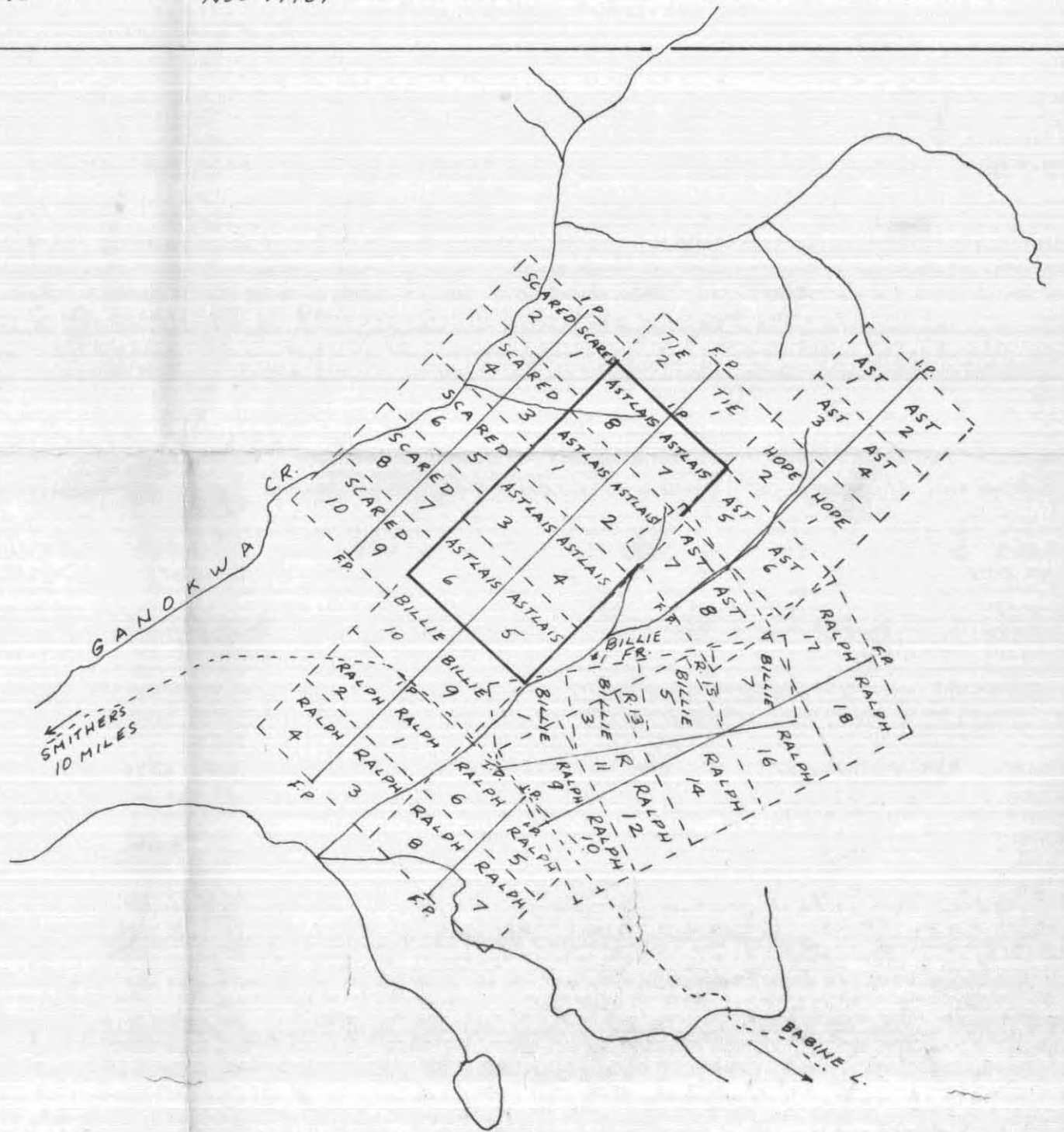
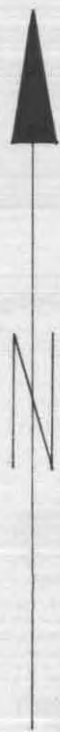
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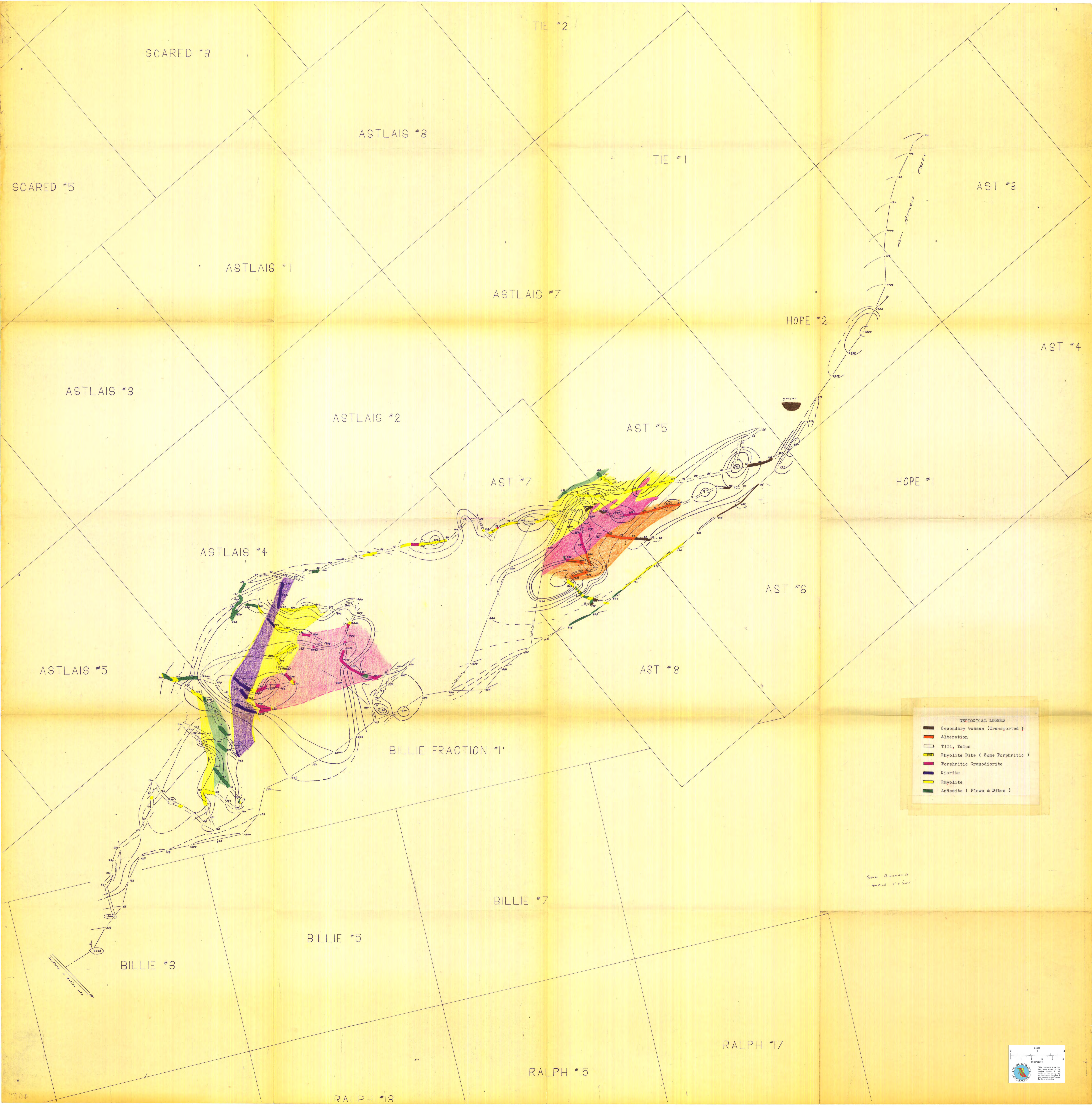
INSET MAP
 APPROX. SCALE: 1" = 1/4 MI.

| | | |
|----------------|----------------------------|----------------|
| Astlais M.C.'s | 7 th March 1961 | J. Hemelspeck |
| Cougar M.C.'s | 26 th June 1962 | H. T. Carswell |
| BILLIE M.C.'s | 8 th Sept 1962 | R. Woolverton |

| CLAIM | LOCATOR | DATE OF RECORD | RECORD NO. | EXPIRY DATE | |
|---------------|-----------------|----------------|------------|-------------|----------------------------------|
| ASTLAIS 1-4 | J. HEMELSPECK | MARCH 9/61 | 13496-99 | MARCH 9/64 | } OPTION |
| ASTLAIS 5,6 | " | JULY 2/63 | 22106-107 | JULY 2/64 | |
| ASTLAIS 7,8 | " | NOV. 14/63 | 23118-19 | NOV. 14/64 | |
| AST 1-8 | D.A. LDWRIE | MARCH 11/63 | 18585-92 | MARCH 11/64 | |
| HOPE 1,2 | R. WOOLVERTON | SEPT. 17/63 | 21731-32 | SEPT. 17/64 | |
| SCARED 1-10 | " | SEPT. 17/63 | 21733-42 | SEPT 17/64 | |
| BILLIE #1 FR. | " | SEPT. 17/63 | 21730 | SEPT 17/64 | |
| BILLIE 1 | " | SEPT 19/62 | 16233 | SEPT. 19/64 | } PAID IN LIEU OF WORK 1 YEAR |
| 3 | " | " | 16235 | " | |
| 5 | " | " | 16237 | " | |
| 7 | " | " | 16239 | " | |
| 9 | " | " | 16241 | " | |
| 10 | " | " | 16242 | " | |
| RALPH 1-8 | R.A. RUTHERFORD | OCT 25/63 | 22657-64 | OCT 25/64 | |
| RALPH 9-18 | " | NOV. 14/63 | 23120-29 | NOV. 14/64 | |
| TIE 1-2 | " | NOV. 14/63 | 23116-17 | NOV. 14/64 | |

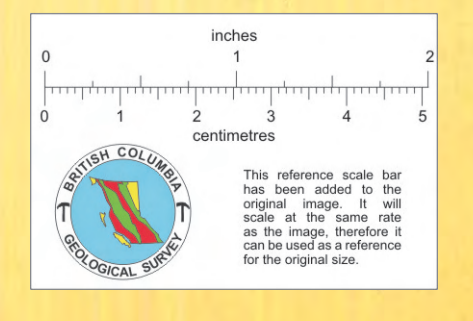


SKETCH SHOWING
CLAIMS
ASTLAIS PROPERTY
SMITHERS, B.C.
OMINECA M.D.
SCALE: 1 INCH = 1/2 MILE
D.A.L. DEC. '63



GEOLOGICAL LEGEND

- Secondary Gossan (transported)
- Alteration
- Till, Talus
- Rhyolite Dike (Some Porphyritic)
- Porphyritic Granodiorite
- Diorite
- Rhyolite
- Andesite (Flows & Dikes)



PROGRESS REPORT ASTLAIS MINERAL PROPERTY

Oninca Mining Division

1963

SMITHERS, BRITISH COLUMBIA

NORANDA EXPLORATION COMPANY, LIMITED (NPL)

(NORPEX DIVISION)

January 1964
Vancouver B.C.

R.A.Rutherford,
(Geologist Norpex)

NORANDA EXPLORATION COMPANY, LIMITED (NFL)

(Norpex Division)

January, 1964

TO: D.A.Lowrie

FROM: R.A.Rutherford

SUBJECT:

A brief chronological and technical discussion of the events that led to the acquisition of the Astlals property by Norpex Explorations and the work carried out on the property to date. Geological, geochemical and geophysical studies carried out are summarized and discussed with an eye to using the study as a guide for future work in the area.

INFORMATION SOURCES:

The writer used all sources of information available to compile this report. Maps and reports published by the Geological Survey of Canada, the B.C. Department of Mines, and personnel employed by Norpex were freely drawn upon. Special acknowledgement is in order for the use of reports and maps compiled by Mr. D.A. Lowrie, Mr. R.W. Woolverton and Mr. G.E. Diron. Field notes of the writer and technical data findings from the laboratories of Noranda Mines, Limited, Vancouver constitute the balance of information sources.

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| EXHIBIT I | (Geophysical Section Astlais Creek) |
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| EXHIBIT III | (1963 Cost Analysis) |
| EXHIBIT IV | (Assessment Work-Cost Figures) |
| EXHIBIT V | (1963 Expenditures in man days) |
| EXHIBIT VI | (Pro-forma 1964 Budget Estimates) |
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MAP POCKET

A. Map I (Map Assemblage)

- Map A Claim groups under study
- Map B Structural interpretation of claim area
- Map C Regional topography
- Map D Regional geology
- Map E Geographic locality

B. Map II (Map diagram assemblage)

- Map A Claim Groups under study
- Diagram X - Sample horizons
- Map C Soil sampling and anomalies for copper values
- Map D Proposed 1964 grid outline
- Map E Magnetometer readings in the Pad area

C. Map III (Soil sampling and anomalies for molybdenum values)

RECOMMENDATIONS AND CONCLUSIONS

1. Geochemical studies should be continued in order to clearly define the anomalous areas. All samples should be "survey-grid controlled" and taken at regular intervals to ensure proper closure. Background soil sampling traverses should be taken at regular intervals out from the claim area in order to ascertain the true validity of the anomalous areas outlined and provide added points to be used for anomaly contouring.
2. Further geophysical work should be carried out. A perusal of the junior electromagnetic study (or other geophysical means) taken on the same grid pattern as the geochemical work might help interpretation of the soil sampling results and perhaps better define mineralized

ABSTRACT

The Astlais group of 55 contiguous claims located some 15 miles from the modern, fully serviced, town of Smithers, B.C. on the steep south slope of Astlais Mountain have been examined by Norpex personnel over the past two years for their mineral potential. Geochemical, geophysical, geological and mechanical tools were utilized to study the claim group. Geochemistry through the medium of soil sampling indicated anomalous mineralized zones, carrying copper and molybdenite values are present within the 55 claim group. Geophysics helped to substantiate the geochemical hypothesis and geological work has shown that host type formations and control factors are present within the claim boundaries. There is a granodiorite stock-work intruding rhyolitic formations exhibiting favourable structural tendencies for mineral enrichment.

Further work along geochemical, geophysical, geological and/or other lines such as diamond drilling needs to be done before the full merits or demerits of the indicated anomalies can be appreciated. A well organized seasons work expending a sum in the neighbourhood of \$25,000.00 should be undertaken to provide all the necessary information upon which a reasonable decision as to what the property constitutes and what should be done with it is made.

THE ASTLAIS PROPERTY - SMITHERS, B.C.

The property under consideration herein consists of 55 claims situated in west central British Columbia's Omineca Mining Division relatively close to all modern conveniences including rail transport which renders it favourable when judged from a non-technical economic point of view.

Work carried out to date on the property indicates that host rocks (rhyolites) mineralized with encouraging base metal values among granitic intrusives producing desirable structural control are present and may be readily outlined by the use of geochemical and/or geophysical aids. Anomalous areas on the Astlais claim group have been superficially outlined and examined and the results thus far obtained are believed to be adequate enough to justify further expenditures. An attempt to clearly define the anomalous areas through intensified geochemical and geophysical surveys seems in order. Diamond drill probes into the areas exhibiting the most promising geophysical and geological patterns as a follow-up program should show the merits of continuing an even more extensive exploration program on the property.

LOCATION AND ACCESSIBILITY

The Astlais mineral claim group comprising 54 contiguous full claims and 1 fraction, is located approximately 15 miles N80°E of the town of Smithers B.C. on the south slope of Astlais Mountain. Map 1 paste-up shows the geographic location of the claims both regionally and locally.

Smithers and the surrounding district is subject to heavy rains during the summer season and corresponding deep snows (up to 10 feet) in the winter months. The main showing found at an elevation of approximately 5000 feet is covered with snow for 8 months of the year and supports moderately heavy forest growth (spruce, hemlock, balsam, poplar etc.) on slopes which may run up to 50° from the horizontal. The drainage from the claim group is generally rapid during the summer months leaving streams and soils in the area "fresh" for sampling programs.

The outcrop overburden ratio for the majority of claims, i.e. all those below 3,500 feet or the tree line, is less than 3 percent presenting

difficulties in geological and/or prospecting endeavours almost dictating the use of geochemical and geophysical exploration techniques.

During the summer months the main showing on claim Ast 7, the "pad area" (see Map II and III in pocket), can be reached via a switch-back road built by Norpex from the Smithers-Babine Lake highway in a four-wheel-drive vehicle. The road from the highway to the property, which is about 2 miles long and rises about 2000 feet, could be kept open during the winter months using a bulldozer. Currently at the time of this writing the property is readily accessible either by snow shoe or helicopter.

The town of Smithers is located on the main C.N.R. line running from Prince George to Prince Rupert - see Map E Inset on Map I. The town is a modern rapidly growing one of about 2,500 inhabitants with all the amenities necessary for comfortable living such as a local radio and C.B.C. television station - "ready made for a mine in the area".

PAST HISTORY OF AREA PRIOR to 1963

In order to give the reader a brief readable chronological history of the Astials property and area in general as it affects Norpex the writer lists the events which transpired prior to the 1963 field season in point form.

1924 - 27

1. Copper showings in "pad area" (Ast 7) and Billie Fraction #1 staked by Mr. Haig in 1924.
2. Copper showings re-staked in 1927 by Mr. Elmstead - the Cimbra Group.
3. Three adits driven by either Elmstead or Haig, one 400 feet into rhyolites in "pad" area and two adits, one 250 feet in, the other 50 feet on Billie Fraction #1.
4. Adits were apparently driven to explore a grano-diorite porphyry contact with andesites exposing base metal mineralization.

The work is described in the B.C. Minister of Mines 1927 Annual Report. The workings are presently caved and filled with limonite sludge but might be rehabilitated for further study and/or exploration without incurring too much expense and trouble.

1962

1. In 1962 Dr. Bell of Noranda Mines, Limited suggested the Newman Peninsula on Babine Lake, B.C. warranted regional geological investigation.
2. Mr. Burdett staked some claims as a result of the preliminary study.
3. In August 1962 Norpex under the direction of D.A. Lowrie became interested in the Newman property and area in general. A regional geochemical survey following structural linears exposed by the drainage pattern in the area interpreted from aerial photographs was inaugurated. Hypothetical axial structures such as one indicated on the Northwest arm of Babine Lake and their intersection with interpolated structural linears dictated the silt sampling program of 1962.
4. Silt sampling under the guidance of R. Woolverton uncovered the Astlais anomaly late in 1962. A Rubianic test of Astlais Creek indicated it to be anomalous at the junction of the creek with the Smithers-Babine Lake highway. Geochemical silt profiles of Astlais Creek suggested that there was an anomalous area running 7000 feet up-stream from the road junction.
5. Investigation at the Mining Records office and inquiries among local residents in Smithers in 1962 revealed that Mr. J. Hemelspeck held four claims in the anomalous area (Astlais #1 - 4 inclusive) which were under option to South West Potash Corporation Ltd. Claims were restakings of the old Halg and Elmstead Cimbra group. South West Potash had a man (Mr. H. Carswell) in the area taking soil samples during the season on the Astlais #1-4 claims and also four claims (Cougar 1 - 4) staked by Carswell on the north and south ends of the Hemelspeck group.

6. Norpex staked 18 claims (the Billie group) adjacent to the Astlals #1-4 and Cougar #1-4 claims.

Subsequently as is outlined later in this report under the heading "Exploration 1963 Field Season" the various claim groups mentioned above were secured by Norpex under varied arrangements and are hereinafter referred to as the Astlals Group - 54 full claims 1 fraction as shown on Map A of Map 1 composite "paste-up".

GEOLOGY

REGIONAL

The formations in the Astlals Mountain area according to Hanson (G.S.C. Summary Report 1909 pg. 63) are Jurassic and Cretaceous in age. They are grouped together to form the Hazelton Group and underlie the Skeena Series - see Map D, Map 1 Composite.

HAZELTON GROUP

| | |
|---------------------|---|
| Upper Volcanics | Rhyolyte flows and Intrusives conformity |
| Middle Sediments | Argillites and argillaceous quartzites - folded and sheared conformity |
| Lower Volcanics | Green andesites and related Red Tuffs |

The above section can be recognized and divided into it's relative component parts with adequate accuracy at certain points in the Babine Mountain range above-tree line (above 6,000 feet).

The area in general has been subjected to East-South-East shearing forces (see Map B, Map I composite) and forms part of a Northerly plunging syncline.

LOCAL

On the south slope of Astlals Mountain in the claim area a large stock of granodiorite intrudes the Hazelton sediments and volcanics - see Map D, Map I composite. The stock-work is believed to be Upper Cretaceous in age.

A network of rhyolyte dykes and sills cut the Astlals claims with some minor diorite intrusive. The dyke complex is likely related to the coast range batholith and is post-Jurassic or younger in age.

A detailed geological discussion of the claim area proper appears later in this report under the heading of Exploration Program 1963. (Geological, Page 9).

EXPLORATION 1963 FIELD SEASON

The exploration program conducted by Norpex during 1963 was founded upon regional information gathered during 1962's field season. A course of action which included the securing of legal rights to the property displaying anomalous highs along Astlals Creek was undertaken. Norpex now enjoys as a result of 1963's staking program and option negotiations (see Economic Section of report) complete "ground protection" of the area - see Map A, Map I composite.

Further geochemical, geophysical and/or other forms of primary exploration work was carried out in 1963 to localize anomalous areas indicated from the results obtained during 1962's geochemical program. Extensive overburden, radical relief and lack of a surveyed control grid hampered investigation but anomalous areas were determined and localized as a result of the program - See Map II and Map III for interpretation of results. More detailed work utilizing a surveyed grid system to work from areas of low value into the anomalous high areas, with an eye to establishing possible trenching and/or drilling locations seems in order for 1964 and should receive primary consideration. A grid system properly cut and surveyed along claim

base line boundaries for instance could facilitate geological, geochemical and/or other work such as geophysical surveys and at the same time ensure the claims are properly tied in and no fractions remain. Work progress and accomplishments during the 1963 field season are broken down into the various functional captions and set out as follows:

GEOCHEMICAL

The geochemical work attempted during 1963 can be divided into two main categories:

1. Silt and soil sampling along Astlais Creek and it's tributaries.
2. Soil sampling along road cuts, in trenches and soil outcrop areas both in leached and/or oxidized strata and "fresh" zones.

Mr. G.E. Diron conducted the detailed soil and silt sampling program along Astlais Creek and it's branches. The values obtained from his study are set forth on Maps II and III and used for contour interpretation - see pocket. The writer soil sampled along road cuts and/or other areas within the claim boundaries selecting two basic sample types (see diagram X, Inset, Map II). B Samples were obtained from the oxidized leached zone underlying the humus cap and C samples from the fresh "non-altered" soil underlying the "B" zone. It is recognized that sample sources on Map II and Map III vary, but it is hoped that the difference will not prejudice an attempt at correlation contouring. The contouring attempted on Map's II and III uses only values from the "B" zone and values from the soil profile along Astlais Creek and tributaries. An inadequate number of "C" samples have been collected to date because of inclement weather, excessive overburden, lack of time and a cut out grid. It is hoped that during 1964 sufficient "C" zone samples can be gathered and analyzed as it is felt that a more accurate anomalous map can be constructed from these values and pinpoint regions to examine more extensively by other means more accurately.

Soil samples taken by the writer were analyzed for total copper and molybdenum content. Map II is contoured for copper values and Map III for molybdenum. Molybdenum has a short geochemical train allowing rapid localization in soils. Copper on the other hand has a relatively

long geochemical train. It is hoped that a correlation between Mo and Cu values exists in the anomalous areas to the extent that accurate contouring and comparison will show up the relationship and help outline an ore body. Contouring on Map II and Map III (see in map pocket) indicates that there is a relationship but more values taken from a surveyed grid control are required before any conclusive opinion on a correlation is in order. Values obtained range from 0 to 300 ppm for Mo and from 0 to 10,000 ppm for Cu. Map D, inset on Map II, shows a suggested grid pattern allowing for accurate control centers at minimum cost and achieving a claim boundary survey simultaneously.

GEOPHYSICAL

The only geophysical work accomplished during the 1963 field season was conducted by Mr. G.E. Dirca. Mr. Dirca ran a Junior Electromagnetic (J.E.M.) survey from the saddle of Astlais Mountain to the Snithers-Babine Lake road. Exhibit I shows a profile section incorporating the results of the electromagnetic open traverse. These results taken by themselves indicate little else other than highs exist but re-done and used in conjunction with readings taken from the proposed 1964 grid and properly adjusted could contribute appreciably to the problem of defining anomalies and/or geologic contacts within the Astlais claim group. A few Askania magnetometer readings were taken in the "Helicopter Pad" area and in the trenches - enough readings to suggest porphyry contacts may be outlined if further studies using a surveyed control are conducted.

GEOLOGICAL

The limited outcrop exposure in the Astlais claim group area dictates that much theoretical "guess work" is in order if a geological map is to be produced. An attempt has been made to tie in and correlate the geological data observed in the claim area and is set-out on Maps II and III - see map pocket.

Basically the granodiorite porphyry plug controls the structure and mineralization in the country rocks it intrudes. Biotites and amphiboles observed in the stock works suggest that it is deep-seated.

Mineralization occurs in the host rocks within the Hazelton series exhibiting favorable physical characteristics such as shearing along cleavage planes and/or joint fracturing along the granodiorite contact. Points of localization of the mineralization forces will likely be found in areas of intense alteration. Intensely altered, highly fractured contact metamorphic rhyolite (kaolinized, sorted in outcrop) material appears to be the favourable host in the Astleis claim area. The rhyolitic rocks do not exhibit any marked flow characteristics and have been leached to depths from 50 to 100 feet on the contact. Microscopic examination of "fresh" material away from the contact should reveal more precisely the nature of the Hazelton country rock in the immediate claim area.

Diorites observed in the map area may represent dykes of post mineralization age or fillers in a major fault system created by the granitic intrusive and may themselves be directly responsible for the mineralization in the area. Further detailed work is necessary before any concrete conclusions may be reached.

Structurally on a regional scale (i.e. discounting local fractures and the granite contact itself) it is possible that where the rhyolites pinch out and/or folding has occurred among the conformable Hazelton rocks, zones of enriched mineralization may occur within the "friendly flows". It appears that there may be an oftodahl rhyolytic pinch-out on a fold axis occurring in the map area - see Map II in pocket. Map B, inset Map I, presents the writers regional structural interpretation taken from aerial photographs of the area. Moreover the regional topographical features such as monadnock porphyry nobs suggests that Astleis Mountain is part of a deep-seated regional magmatic intrusion which left islands of potentially prolific host rocks.

The gossan zone in the "pad" area is likely the result of superficial waters leaching out ferruginous materials from the surrounding andesites.

In summation the geological picture is far from complete but with further geophysical work to outline granitic contacts, line cutting to establish a grid control for technical surveys and consequently the possible discovery of additional outcrops in place more of the story should unfold.

In the future any trenching or diamond drilling done will greatly add to the picture and help with interpretation of the geologic and genetic relationships. Underground mapping of three old adits (once they are cleaned out) in the claim area should also add to the general geological knowledge of the property. Limonite sludge "hip-high" in the old tunnels indicates that the people responsible for digging them found favourable mineralization in the Hazelton rocks at or near a granodiorite contact - perhaps either fracture fissure filling or replacement lode filling.

TECHNICAL - LABORATORY

Soil and silt samples taken throughout the course of the 1963 field season were processed and analyzed at Noranda Exploration Company, Limited's laboratory in Vancouver. Results are tabulated in parts per million and are recorded on Maps II and III and listed in Appendix I.

PROSPECTING

The prospecting work conducted during the 1963 season was mainly confined to geochemical and geophysical methods as has previously been discussed. Limited outcrop exposure below tree line hampers and all but nullifies any traverse attempt to locate mineralized rocks. Regional prospecting above tree line to the north and northeast of the south slope of Astla's Mountain along linears indicated from photo-geologic study (see Map B, Map I inset) might prove rewarding. However it seems for the most part, for reasons mentioned above, future prospecting done in the area will need to utilize geochemical and geophysical aids.

PHYSICAL - MECHANICAL

A. TRENCHING - STRIPPING

Approximately 5 miles of trenching stripping and road access work was accomplished in 1963 and exposed almost all the geological information gathered in the overburden area - i.e. the vicinity of Astla's Creek. A D8 bulldozer removed limonite capping in part of the gossan area around the "Pad" and exposed fresh leached surfaces for study. The relative steep topography, up to 55°, was a serious limiting factor

when areas to strip were picked. A considerable number of cubic yards of material was taken from the trenches and stripped as overburden (up to 5 feet in places) from areas of interest. Exhibit II shows a plan of the trenches on the "pad" on claim Ast #7.

The relatively high relief in the claim area might lend itself to hydraulic stripping in selected areas especially in the spring of the year when there is an ample water supply. The use of a pack sack diamond drill should also be considered when a mineralized contact zone is to be examined or a gossan probed. It would be wise to schedule pack sack drilling work for the spring of the year as many anomalous areas could be quickly tested to depths ranging from 15 to 25 feet without the fear of inadequate water supplies.

The writer has found from previous experience that a couple of pack horses can move light drill equipment very readily and add immeasurably to the flexibility of an exploration program of this nature.

B. SAMPLING - ASSAYS

Samples for assaying are extremely difficult to take in the Astla's claim group. Extensive leaching and decomposition in the rocks taken for assay failed to provide a true value assay picture. A Unimog compressor unit used to drill shot holes in areas where samples were sought proved to be quite successful from an operational point of view, but, unfortunately, the probes did not reach unleached rock horizons. Diamond drilling appears to be the most logical solution to the problem of securing proper samples for assaying.

Exhibit II presents a record of the assay results taken from the trenched area on claim Ast #7.

It should be noted that assay values are from leached rhyolytic rock - the trenches never reached non-leached sections.

ADITS

The old adits in the claim area were never adequately explored during the 1963 field season although attempts to examine them were made. The timbers are in bad shape and the tunnels are half filled with loose

limonite. It is reported by local Smithers residents that the adit in the "pad" area runs in 400 feet and intersected a porphyry- andesite contact. These old workings should be opened up in 1964 if the cost is not prohibitive (bad air, water seepage, etc. may hamper the work) as valuable geological information might be obtained and, perhaps, some good samples.

LINE CUTTING

Approximately 6,000 feet of line were cut during 1963 from a base line bearing $N58^{\circ}30'$ E running parallel to Astlals Creek. See Map D, Map II inset, for the line cutting plan both present and proposed. Background soil samples semi-accurately located by pace traverse should be taken well back from the grid area in order that credence may be given to the present values assumed to be anomalous which were obtained close to Astlals Creek. The grid system should be based on the claim lines as it serves to indicate if there are any fractions left in the staking and concentrates work directly in the area of interest - see Map D, Map II inset, for explanation.

The 1963 field program on the Astlals claim group has provided an adequate incentive from a geological geochemical and geophysical point of view for the writer to recommend that further work be done along similar lines in 1964. In view of the fact that more precise data as to the nature and extent of the mineralized anomalous areas must be obtained in order to assess the potential of the prospect it is recommended that some diamond drilling (at least some short hole pack sack work) be conducted.

ECONOMIC CONSIDERATIONS

Prospecting and development work on the Astlals claim group is relatively inexpensive when compared to costs incurred examining other more remote projects in the mining business. The accessibility factor and proximity of the property to the town of Smithers B.C., makes the property attractive from a transport expenditure point of view.

Diamond drilling is expensive no matter where it is done and singularly appears to be the only relatively expensive item to be considered here.

A full breakdown of the expenses incurred for the 1963 season appears in Exhibit III - rounding out the total approximately \$10,000.00 was spent in 1963. Exhibit V breaks the 1963 expenditure down into man days and should help cost estimating for the 1964 field season.

Exhibit IV outlines the manner in which monies expended will be broken down for claim assessment purposes.

Exhibit VI presents the writers proforma budget estimate for an assumed program to be conducted on the Astlais mineral claims during 1964.

CONCLUSIONS AND COURSE OF ACTION

It is concluded that 1963's field exploration program on the Astlais group of claims has pointed up sufficient encouraging results to recommend further examination during 1964. The conclusions reached by the writer covering various phases of the program and a follow-up course of action based on the conclusions are as follows:

1. The Astlais property is favorably located close to a settlement serviced by modern conveniences. Exploration endeavours should be directed towards determining as soon as possible the economic merits of the property with an eye to an expanded program if promising results are encountered - the property could be brought into production quickly because of the services at hand.
2. Geochemical and geophysical surveys suggest that anomalous areas are present but insufficient data has been assembled in an organized way to substantiate this opinion. There should be some background traverses made away from the claim area working into the claim area to establish how valid the current results really are. A grid pattern spaced at regular intervals should be cut out (see plan Map D, Map II composite) and 100 foot control intervals established in the parts of the grid area to be studied in detail. The grid would serve for geophysical and geochemical studies as well as for geological endeavours. The

grid should use the common claim line along Astlais Creek for a base line and corresponding claim boundaries used as part of the grid system - any fractions left out while staking would be discovered.

3. Heavy rains in the area have caused extensive leaching and "fresh" samples for assaying seem to be unattainable unless diamond drilling or underground probes are made. Adequate water supplies, especially in the spring of the year or the fall rain period could be useful in a pack sack diamond drill program to probe anomalous and gossan zones. Horses could be used to move the drill and add flexibility to the program keeping in mind the primary objective, to find out as soon as possible, at the most reasonable cost, the potential of the property.
4. Many of the more academic geological problems such as whether the intrusive is deep seated or not or if the rhyolites are flows could probably be answered by thin section studies in a petrologist's laboratory. Proper analysis of these academic aspects could help delineate areas in which to concentrate work effort. Fresh samples, especially those in hypothetical flow pinch-out zones could be sent from the area for petrological analysis.
5. Once it is established that the anomalous areas are clearly definable and that they carry encouraging mineral values efforts should be made to clear out the old adit workings (it is the writer's experience that this type of work is often fruitless and expensive and sometimes a few short inexpensive pack sack drill holes will reveal the same information sought in the tunnels) as they may be useful for geological studies and/or points from which to conduct diamond drilling.
6. The high relief of the area dictates that all efforts should be aimed at locating the best possible target area to probe before a large diamond drill is brought to the property. In all likelihood, because of the radical topography, it will be difficult to move the drill any great distance or on to many set-ups without encountering heavy expenditures. Any drill program of this nature should come towards the end of the exploration year when more knowledge of the area is available.

Exhibit VI presents the writer's 1964 proforma budget estimate. The total sum, which allows for diamond drilling and all the other projects mentioned in the course of action outlined above, amounts to \$25,000.00. Twenty-five thousand dollars is believed to be a reasonable amount to spend on the Astlais prospect when one considers the potential prize.

Respectfully submitted,

R.A.Rutherford, B.Sc
Geologist

EXHIBIT III

1963 COST ANALYSIS

1963 EXPENDITURES

| | |
|---|--------------------------|
| Wages | \$2,655.00 |
| Room and Board (177 man days @ \$5/day) | 875.00 |
| Bulldozer rental (159½ hrs @ \$18/hr & \$45.transportation) | 2,916.00 |
| Unimog-Compressor rental (22 hours @ \$4/hr) | 88.00 |
| Powersaw rental (11 days @ \$5/day) | 55.00 |
| Planjar repairs | 15.00 |
| Fuel & Oil (2 x 10 diesel fuel) | 4.00 |
| Dynamite and supplies | 136.18 |
| Drill steel maintenance | 8.50 |
| Lumber (timbers) | 14.12 |
| Helicopter rental | 698.75 |
| Camp supplies (food etc.) | 73.84 |
| Tools | 6.00 |
| Stationery | 5.00 |
| Claim and adjustment recording fees | 127.50 |
| Option Payment | 50.00 |
| Consultants Fees (10 man days @ \$15/day) | 150.00 |
| Silt sample analysis (60 @ \$1.25 each) | 75.00 |
| Soil sample analysis (874 @ \$1.25 each) | 1,092.50 |
| Rock sample assays (98 @ \$2/det.) | 196.00 |
| Claim assessment fees (6 claims @ \$100.00 each) | <u>600.00</u> |
| TOTAL | <u>\$9,841.39</u> |

EXHIBIT IV
ASSESSMENT APPLICATIONS

\$5,000.00 of assessment work can be applied to the property as follows:

ROAD CONSTRUCTION

| | |
|------------------------------------|--------|
| (A) Man days (4 @ \$20/day) | 80.00 |
| (B) Bulldozer (3 days @ \$180/day) | 540.00 |

STRIPPING

| | |
|---|----------|
| (A) Supervision (13 man days @ \$20/day) | 260.00 |
| (B) Bulldozer (129½ hrs @ \$18/hr & \$45 transportation) | 2,376.00 |

TRENCHING AND SAMPLING

| | |
|---|--------|
| (A) Man days (25 @ \$20/day) | 500.00 |
| (B) Equipment rental (Unimog 22 hrs @ \$4/hr) | 88.00 |
| (C) Dynamite, caps and fuse | 136.00 |
| (D) Rock samples assays (98 @ \$2/det) | 196.00 |

PORTAL REPAIR

| | |
|------------------------------|--------|
| (A) Man days (10 @ \$20/day) | 200.00 |
| (B) Timbers | 14.00 |

LINE CUTTING ACCESS TRAILS

| | |
|---|--------|
| (A) Man days (11 @ \$20/day) | 220.00 |
| (B) Equipment rental (8 days @ \$5/day) | 40.00 |

CONSULTANTS FEES

| | |
|------------------------------|---------------|
| (a) Man days (10 @ \$35/day) | <u>350.00</u> |
|------------------------------|---------------|

TOTAL \$5,000.00

There are 50 claims grouped into 3 groups, 2 groups of 20 claims and 1 group of 10 claims upon which \$5,000.00 of assessment equitably distributed will hold for 1 year each.

EXHIBIT V
1963 EXPENDITURES

| <u>TYPE OF WORK</u> | <u>MAN DAYS</u> |
|------------------------|-------------------|
| Expediting | 12 |
| Staking | 20 |
| Prospecting | 28 |
| Trenching and sampling | 25 |
| Road Construction | 4 |
| Surveying | 12 |
| Soil Sampling | 7 |
| Mapping | 6 |
| Adit timbering | 10 |
| Geophysics | 3 |
| Drafting | 2 |
| Line Cutting | 18 |
| Report writing | <u>30</u> |
| TOTAL | <u>177</u> |

At \$15.00 per man day

\$2,655.00

EXHIBIT VI

PRO-FORMA 1964 BUDGET ESTIMATE

The expenditure estimates are based on an assumed exploration program and the actual cost figures are derived from costs incurred during the 1963 exploration period wherever possible.

| | <u>1963</u> | <u>1964</u> |
|--|-----------------|--------------------|
| Geochemical work | \$1,300.00 | \$ 2,000.00 |
| Geophysical work (60 man days \$15/man) | 200.00 | 1,000.00 |
| Geological work | 1,500.00 | 1,500.00 |
| Prospecting | 500.00 | 1,000.00 |
| Physical (Bulldozing, trenching, line cutting etc.) | 4,000.00 | 6,000.00 |
| Diamond Drilling | - | 6,000.00 † |
| Administrative | <u>1,000.00</u> | <u>1,000.00</u> |
| | \$8,500.00 | \$18,500.00 |
| Add 20% 1964 contingency | | <u>3,700.00</u> |
| Total 1964 expenditure estimate | | \$22,200.00 |
| Add in option payment | | <u>3,000.00</u> * |
| Total cost Astials project for 1964 | | <u>\$25,200.00</u> |

*J. Hemelspeck Option Payments

\$ 3,000.00 payable on or before July 2nd, 1964

\$ 7,000.00 payable on or before July 2nd, 1965

\$10,000.00 payable on or before July 2nd, 1966

\$20,000.00 plus 100,000 shares of a company when it is formed.

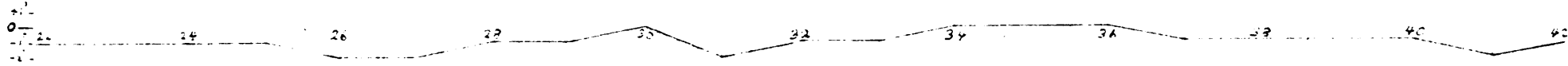
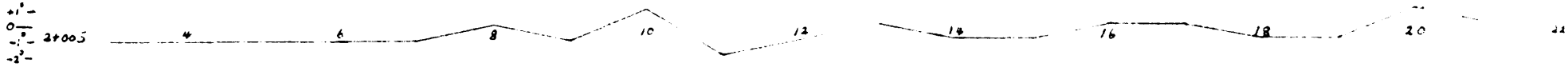


EXHIBIT I
Geophysical Section Astoria Creek
Junior Electromagnetic Method
Scale: 1" = 200'

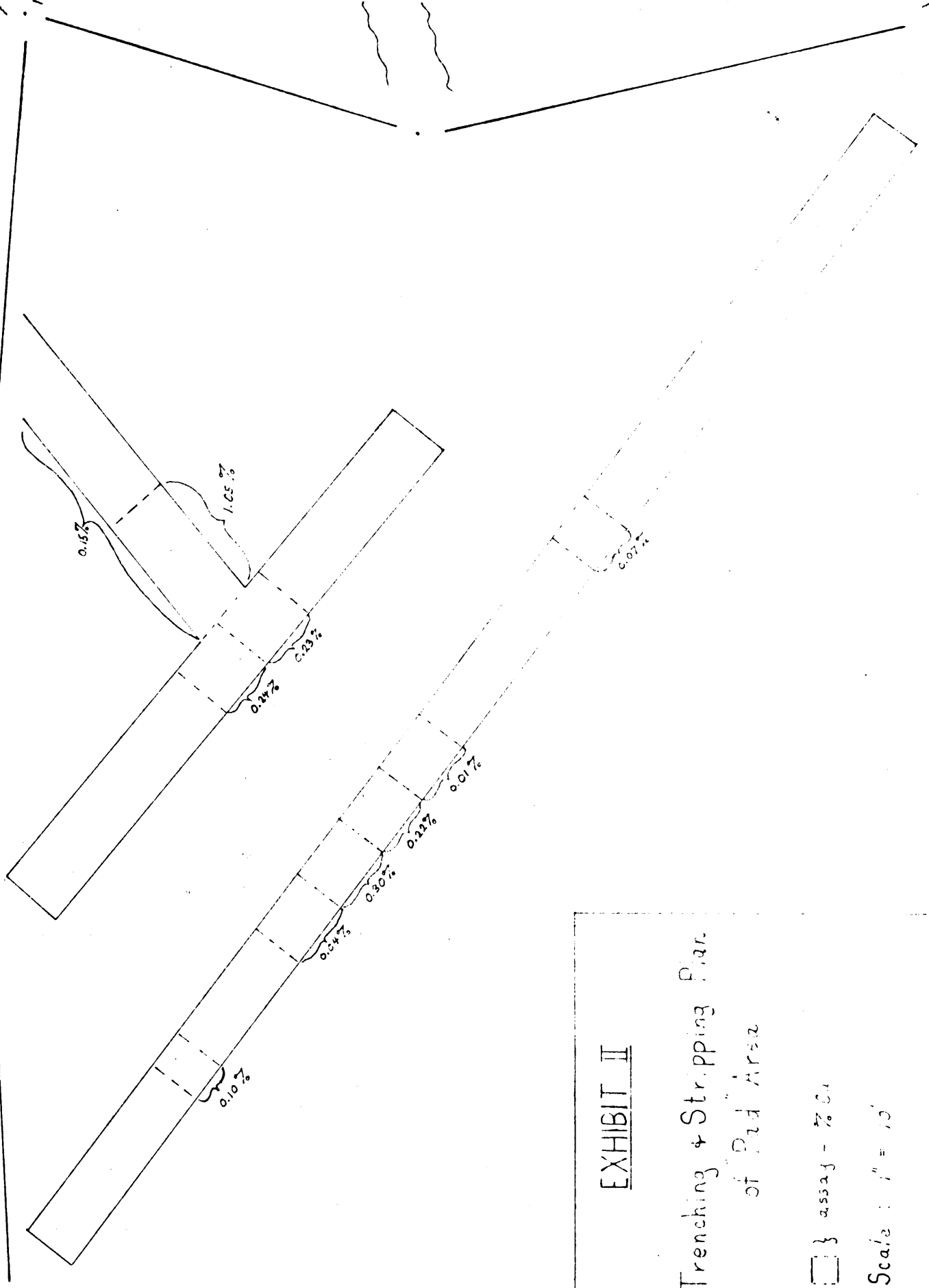
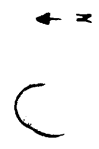


EXHIBIT II

Trenching & Stripping Plan
of Pad Airsta

□ } assay - 7% Cu

Scale : 1" = 10'

APPENDIX 1

(Soil Sampling results with corresponding station numbers)

NORANDA EXPLORATION CO. LTD.

MP

Location Astlais Property

Project Astlais

Sheet 1

Material Soil " B " Zone

Sample Nos. _____

Collector AR Date Oct. / / 63

Analyst BJ Date Nov. / / 63

Remarks Total Cu

KH So₄ Cu 0.1g / 10 ml / 2 ml

| T.T. No. | Sample No. | 1 ml BQ | 2 | 3 ppm | 4 | 5 Location | 6 | 7 | 8 | 9 | 10 |
|----------|------------|---------|------|-------|---|------------|---|---|---|---|----|
| 51 | B6791 | 2 | 3.5 | 175 | | A 41 | | | | | |
| 52 | 92 | 2 | 10.0 | 500 | | A 42 | | | | | |
| 53 | 93 | 2 | 5.0 | 250 | | A 43 | | | | | |
| 54 | 94 | 2 | 4.0 | 200 | | A 44 | | | | | |
| 55 | 95 | 2 | 6.0 | 300 | | A 45 | | | | | |
| 56 | 96 | 2 | 2.0 | 100 | | A 46 | | | | | |
| 57 | 97 | 2 | 7.0 | 350 | | A 47 | | | | | |
| 58 | 98 | 14 | 14.0 | 4900 | | A 48 | | | | | |
| 59 | 99 | 2 | 12.0 | 600 | | A 49 | | | | | |
| 60 | B6800 | 2 | 2.0 | 100 | | A 50 | | | | | |
| 61 | 01 | 2 | 13.0 | 650 | | A 51 | | | | | |
| 62 | 02 | 8 | 14.0 | 2800 | | A 52 | | | | | |
| 63 | 03 | 8 | 10.0 | 2000 | | A 53 | | | | | |
| 1 | CH #4 | 2 | 1.0 | 50 | | | | | | | |
| 2 | D5676 | 2 | 1.3 | 65 | | A 151 | | | | | |
| 3 | 77 | 2 | 1.5 | 75 | | A 150 | | | | | |
| 4 | 78 | 2 | 0.6 | 30 | | A 149 | | | | | |
| 5 | 79 | 2 | 3.0 | 150 | | A 148 | | | | | |
| 6 | 80 | 2 | 1.0 | 50 | | A 147 | | | | | |
| 7 | 81 | 2 | 0.8 | 40 | | A 142 | | | | | |
| 8 | 82 | 2 | 1.5 | 75 | | A 143 | | | | | |
| 9 | 83 | 2 | 3.0 | 150 | | A 144 | | | | | |
| 10 | 84 | 2 | 4.0 | 200 | | A 145 | | | | | |
| 11 | 85 | 2 | 5.0 | 250 | | A 146 | | | | | |
| 12 | 86 | 2 | 2.0 | 100 | | A 144 | | | | | |
| 13 | 87 | 2 | 1.7 | 85 | | A 140 | | | | | |
| 14 | 88 | 2 | 1.7 | 85 | | A 139 | | | | | |

NORANDA EXPLORATION CO. LTD.

.MP

Location Astlais Property

Project Astlais

Sheet 2

Material Soil " B " Zone

Sample Nos. _____

Collector AR Date Oct. / / 63

Analyst BJ Date Nov. / / 63

Remarks Total Cu

KH SO₄ Cu 0.1g / 10 ml / 2 ml

| T.T. NO. | Sample No. | 1 ml BQ | 2 γ | 3 ppm | 4 | 5 Location | 6 | 7 | 8 | 9 | 10 |
|----------|------------|---------|------------|-------|---|------------|---|---|---|---|----|
| 15 | D5689 | 2 | 1.5 | 75 | | A 138 | | | | | |
| 16 | 90 | 2 | 2.0 | 100 | | A 137 | | | | | |
| 17 | 91 | 2 | 1.3 | 65 | | A 136 | | | | | |
| 18 | 92 | 2 | 1.5 | 75 | | A 135 | | | | | |
| 19 | 93 | 2 | 1.0 | 50 | | A 134 | | | | | |
| 20 | 94 | 2 | 1.5 | 75 | | A 133 | | | | | |
| 21 | 95 | 2 | 3.0 | 150 | | A 152 | | | | | |
| 22 | 96 | 2 | 3.5 | 175 | | A 153 | | | | | |
| 23 | 97 | 2 | 3.5 | 175 | | A 154 | | | | | |
| 24 | 98 | 2 | 1.5 | 75 | | A 132 | | | | | |
| 25 | CH #2 | 2 | 1.5 | 75 | | | | | | | |
| 26 | 99 | 2 | 10.0 | 500 | | A 131 | | | | | |
| 27 | D5700 | 2 | 5.0 | 250 | | A 130 | | | | | |
| 28 | 01 | 2 | 5.0 | 250 | | A 129 | | | | | |
| 29 | 02 | 2 | 1.5 | 75 | | A 128 | | | | | |
| 30 | 03 | 2 | 4.0 | 200 | | A 127 | | | | | |
| 31 | 04 | 8 | 9.0 | 1800 | | A 126 | | | | | |
| 32 | 05 | 2 | 5.0 | 250 | | A 112 | | | | | |
| 33 | 06 | 2 | 5.0 | 250 | | A 113 | | | | | |
| 34 | 07 | 2 | 6.0 | 300 | | A 114 | | | | | |
| 35 | 08 | 2 | 14.0 | 700 | | A 115 | | | | | |
| 36 | 09 | 2 | 11.0 | 550 | | A 116 | | | | | |
| 37 | 10 | 2 | 2.0 | 100 | | A 117 | | | | | |
| 38 | 11 | 2 | 1.5 | 75 | | A 118 | | | | | |
| 39 | 12 | 2 | 7.0 | 350 | | A 119 | | | | | |
| 40 | 13 | 2 | 6.0 | 300 | | A 120 | | | | | |
| 41 | 14 | 2 | 0.2 | 10 | | A 121 | | | | | |

NORANDA EXPLORATION CO. LTD.

MP

Location Astlais Property

Project Astlais

Sheet 4

Material Soil " B " Zone

Sample Nos. _____

Collector AR Date Oct. / / 63

Analyst BJ Date Nov. / / 63

Remarks Total Cu

KH SO₄ Cu 0.1g / 10 ml / 2 ml

4

| T.T. No. | Sample No. | 1 ml BQ | 2 γ | 3 ppm | 4 | 5 Location | 6 | 7 | 8 | 9 | 10 |
|----------|------------|---------|------------|-------|---|------------|---|---|---|---|----|
| 69 | D5741 | 2 | 14.0 | 700 | | A 176 | | | | | |
| 70 | 42 | 2 | 20.0 | 1000 | | A 110 | | | | | |
| 71 | 43 | 2 | 1.5 | 75 | | A 109 | | | | | |
| 72 | 44 | 2 | 1.7 | 85 | | A 108 | | | | | |
| 73 | 45 | 2 | 2.0 | 100 | | A 107 | | | | | |
| 74 | 46 | 2 | 2.0 | 100 | | A 106 | | | | | |
| 75 | CH #7 | 2 | 3.5 | 175 | | | | | | | |
| 76 | 47 | 2 | 1.5 | 75 | | A 105 | | | | | |
| 77 | 48 | 2 | 1.5 | 75 | | A 104 | | | | | |
| 78 | 49 | 2 | 2.0 | 100 | | A 103 | | | | | |
| 79 | 50 | 2 | 2.0 | 100 | | A 102 | | | | | |
| 80 | 51 | 2 | 1.0 | 50 | | A 101 | | | | | |
| 81 | 52 | 2 | 2.0 | 100 | | A 100 | | | | | |
| 82 | 53 | 2 | 0.8 | 40 | | A 99 | | | | | |
| 83 | 54 | 2 | 12.0 | 600 | | A 98 | | | | | |
| 84 | 55 | 2 | 3.0 | 150 | | A 97 | | | | | |
| 85 | 56 | 2 | 1.5 | 75 | | A 96 | | | | | |
| 86 | 57 | | | | | A 95 | | | | | |
| 87 | 58 | 2 | 2.0 | 100 | | A 94 | | | | | |
| 88 | 59 | 2 | 0.8 | 40 | | A 93 | | | | | |
| 89 | 60 | 2 | 1.5 | 75 | | A 92 | | | | | |
| 90 | 61 | 2 | 0.8 | 40 | | A 91 | | | | | |
| 91 | 62 | 2 | 1.0 | 50 | | A 90 | | | | | |
| 92 | 63 | 2 | 1.0 | 50 | | A 89 | | | | | |
| 93 | 64 | 2 | 3.0 | 150 | | A 88 | | | | | |
| 94 | 65 | 2 | 4.0 | 200 | | A 87 | | | | | |
| 95 | 66 | 2 | 20.0 | 1000 | | A 177 | | | | | |

NORANDA EXPLORATION CO. LTD.

MP

Location Astlais Property

Project Astlais

Sheet 6

Material Soil " B " Zone

Sample Nos. _____

Collector AR Date Oct. / / 63

Analyst BJ Date Nov. / / 63

Remarks Total Cu
KH SO₄ Cu 0.1g / 10 ml / 2 ml

| T.T. No. | Sample No. | 1 ml BQ | 2 γ | 3 ppm | 4 | 5 Location | 6 | 7 Re aliquot | 8 | 9 | 10 |
|----------|------------|---------|------------|-------|---|------------|---|--------------|---|---|----|
| 23 | L5792 | 2 | 1.0 | 50 | | A 203 | | | | | |
| 24 | 93 | 2 | 0.8 | 40 | | A 86 | | | | | |
| 25 | CH #2 | 2 | 1.5 | 75 | | | | | | | |
| 26 | 94 | 2 | 0.8 | 40 | | A 85 | | | | | |
| 27 | 95 | 2 | 2.0 | 100 | | A 84 | | | | | |
| 28 | 96 | 2 | 3.5 | 175 | | A 83 | | | | | |
| 29 | 97 | 2 | 8.0 | 400 | | A 82 | | | | | |
| 30 | 98 | 2 | 5.0 | 350 | | A 81 | | | | | |
| 31 | 99 | 2 | 18.0 | 900 | | A 80 | | | | | |
| 32 | D5800 | 6 | 12.0 | 1800 | | A 79 | | | | | |
| 33 | 01 | 2 | 7.0 | 350 | | A 78 | | | | | |
| 34 | 02 | 2 | 4.0 | 200 | | A 77 | | | | | |
| 35 | 03 | 2 | 8.0 | 400 | | A 76 | | | | | |
| 36 | 04 | 2 | 8.0 | 400 | | A 75 | | | | | |
| 37 | 05 | 2 | 7.0 | 350 | | A 74 | | | | | |
| 38 | 06 | 2 | 9.0 | 450 | | A 73 | | | | | |
| 39 | 07 | 2 | 8.0 | 400 | | A 72 | | | | | |
| 40 | 08 | 4 | 14.0 | 1400 | | A 71 | | | | | |
| 41 | 09 | 8 | 12.0 | 2400 | | A 70 | | | | | |
| 42 | 10 | 2 | 14.0 | 700 | | A 69 | | | | | |
| 43 | 11 | 2 | 6.0 | 300 | | A 68 | | | | | |
| 44 | 12 | 8 | 14.0 | 2800 | | A 67 | | | | | |
| 45 | 13 | 2 | 6.0 | 300 | | A 66 | | | | | |
| 46 | 14 | 8 | 12.0 | 9600 | | A 65 | | .5ml | | | |
| 47 | 15 | 2 | 14.0 | 700 | | A 64 | | | | | |
| 48 | 16 | 2 | 12.0 | 600 | | A 63 | | | | | |
| 49 | 17 | 2 | 9.0 | 450 | | A 62 | | | | | |
| 50 | CH #1 | 2 | 1.7 | 85 | | | | | | | |

NORANDA EXPLORATION CO. LTD.

MP

Location Astlais Property

Project Astlais

Sheet 7

Material Soil " B " Zone

Sample Nos. _____

Collector _____ Date ____/____/____

Analyst AR Date Oct. / ____ / 83

Remarks BJ Nov. 83

Total Cu
KH 30₄ Cu 0.1g / 10 ml / 2 ml

| T.T. No. | Sample No. | 1 ml B ₂ | 2 γ | 3 ppm | 4 | 5 Location | 6 | 7 | 8 | 9 | 10 |
|----------|------------|---------------------|------|-------|---|------------|---|---|---|---|----|
| 51 | 55818 | 8 | 10.0 | 2000 | | A 61 | | | | | |
| 52 | 19 | 2 | 15.0 | 900 | | A 60 | | | | | |
| 53 | 20 | 2 | 18.0 | 900 | | A 59 | | | | | |
| 54 | 21 | 2 | 12.0 | 600 | | A 58 | | | | | |
| 55 | 22 | 2 | 6.0 | 300 | | A 57 | | | | | |
| 56 | 23 | 4 | 16.0 | 1600 | | A 56 | | | | | |
| 57 | 24 | 2 | 8.0 | 400 | | A 55 | | | | | |
| 58 | 25 | 2 | 12.0 | 600 | | A 54 | | | | | |
| 59 | 26 | 2 | 20.0 | 1000 | | A 1 | | | | | |
| 60 | 27 | 2 | 1.0 | 50 | | A 2 | | | | | |
| 61 | 28 | 2 | 14.0 | 700 | | A 3 | | | | | |
| 62 | 29 | 2 | 5.0 | 250 | | A 4 | | | | | |
| 63 | 30 | 2 | 4.0 | 200 | | A 5 | | | | | |
| 64 | 31 | | | | | A 6 | | | | | |
| 65 | 32 | 2 | 3.0 | 150 | | A 7 | | | | | |
| 66 | 33 | 2 | 1.5 | 75 | | A 8 | | | | | |
| 67 | 34 | 2 | 1.5 | 75 | | A 9 | | | | | |
| 68 | 35 | 2 | 1.7 | 85 | | A 10 | | | | | |
| 69 | 36 | 2 | 3.0 | 150 | | A 11 | | | | | |
| 70 | 37 | 2 | 2.0 | 100 | | A 12 | | | | | |
| 71 | 38 | 2 | 1.0 | 50 | | A 13 | | | | | |
| 72 | 39 | 2 | 1.7 | 85 | | A 14 | | | | | |
| 73 | 40 | 2 | 1.5 | 75 | | A 15 | | | | | |
| 74 | 41 | 2 | 3.0 | 150 | | A 16 | | | | | |
| 75 | CH 37 | 2 | 3.5 | 175 | | | | | | | |
| 76 | 42 | 2 | 3.0 | 150 | | A 17 | | | | | |
| 77 | 43 | 2 | 3.0 | 150 | | A 18 | | | | | |

NORANDA EXPLORATION CO. LTD.

MP

Location Astlais Property

Project Astlais

Sheet 1

Material Soil " B " Zone

Sample Nos. _____

Collector GD Date Aug. / / 63

Analyst RC Date Sept. / / 63

Remarks Total Cu

HCL O₄ Cu 0.1g / 10 ml / 2ml

| T.T. NO. | Sample No. | ml DC | 2 | 3 ppm | 4 | 5 Location | 6 | 7 Realiquot | 8 | 9 | 10 |
|----------|------------|-------|------|-------|---|------------|---|-------------|---|---|----|
| 1 | CH #4 | 2.0 | 1.0 | 50 | | | | | | | |
| 2 | G6816 | 2 | 11.0 | 550 | | 60- S.W. | | | | | |
| 3 | 17 | 2 | 5.5 | 275 | | 60- S.E. | | | | | |
| 4 | 18 | 2 | 16.0 | 800 | | 62- S.W. | | | | | |
| 5 | 19 | 2 | 3.0 | 150 | | 62- S.E. | | | | | |
| 6 | 20 | 2 | 3.5 | 175 | | 64- S.W. | | | | | |
| 7 | 21 | 2 | 9.0 | 450 | | 64- S.E. | | | | | |
| 8 | 22 | 2 | 10.0 | 2000 | | 66- S.W. | | 0.5 | | | |
| 9 | 23 | 2 | 5.0 | 250 | | 66- S.E. | | | | | |
| 10 | 24 | 2 | 14.0 | 2800 | | 68- S.W. | | 0.5 | | | |
| 11 | 25 | 2 | 8.5 | 425 | | 68- S.E. | | | | | |
| 12 | 26 | 2 | 15.0 | 750 | | 70- S.W. | | | | | |
| 13 | 27 | 2 | 14.0 | 700 | | 70- S.E. | | | | | |
| 14 | 28 | 2 | 9.0 | 1800 | | 72- S.W. | | 0.5 | | | |
| 15 | 29 | 4 | 14.0 | 1400 | | 72- S.E. | | | | | |
| 16 | 30 | 2 | 15.0 | 750 | | 74- S.W. | | | | | |
| 17 | 31 | 2 | 11.0 | 550 | | 74- S.E. | | | | | |
| 18 | 32 | 2 | 2.5 | 125 | | 76- S.W. | | | | | |
| 19 | 33 | 2 | 7.5 | 375 | | 76- S.E. | | | | | |
| 20 | 34 | 4 | 12.0 | 1200 | | 78- S.W. | | | | | |
| 21 | 35 | 2 | 16.0 | 800 | | 78- S.E. | | | | | |
| 22 | 36 | 2 | 12.0 | 600 | | 80- S.W. | | | | | |
| 23 | 37 | 2 | 2.5 | 125 | | 80- S.E. | | | | | |
| 24 | 38 | 4 | 12.0 | 1200 | | 82- S.W. | | | | | |
| 25 | CH #2 | 2 | 1.5 | 75 | | | | | | | |
| 26 | G6839 | 4 | 11.0 | 1100 | | 82- S.E. | | | | | |
| 27 | 40 | 2 | 2.5 | 125 | | 84- S.W. | | | | | |

NORANDA EXPLORATION CO. LTD.

MP

Location Astlais Property

Project Astlais

Sheet 2

Material Soil " B " Zone

Sample Nos. _____

Collector GD

Date Aug. / / 63

Analyst RC

Date Sept. / / 63

Remarks Total Cu

HCL 0₄ Cu 0.1g / 10 ml / 2ml

| T.T. NO. | Sample No. | ml ¹ D ₄ | 2 γ | 3 ppm | 4 | 5 Location | 6 | 7 Realiq ^{uot} | 8 | 9 | 10 |
|----------|------------|-----------------------------------|--------|----------|-----------------|-----------------------------|-----|----------------------------|---|---|----|
| 28 | G6841 | 2 | 6.0 | 500 | | 84- S.E. | | | | | |
| 29 | 42 | 2 | 2.5 | 125 | | 86- S.W. of St | | | | | |
| 30 | 43 | 2 | 3.5 | 175 | | 86- S.E. | | | | | |
| 31 | 44 | 2 | 2.5 | 125 | | 88- S.W. | | | | | |
| 32 | 45 | 2 | 8.0 | 400 | | 88- S.E. | | | | | |
| 33 | 46 | 2 | 1.3 | 65 | | 90- S.W. | | | | | |
| 34 | 47 | 2 | 7.5 | 575 | | 92- S.W. | | | | | |
| 35 | 48 | 2 | 8.0 | 400 | | 92- S.E. | | | | | |
| | 49 | 2 | 10.0 | 2000 | | 94- S.W. | 0.5 | | | | |
| 37 | 50 | 2 | 15.0 | 750 | | 94- S.E. | | | | | |
| 38 | 51 | 2 | 3.0 | 150 | 1. Trib. 0- | S.W. of St. | | | | | |
| 39 | 52 | 2 | 2.0 | 100 | St. | 0- S.E. | | | | | |
| 40 | 53 | 2 | 11.0 | 550 | | 4- S.W. | | | | | |
| 41 | 54 | 2 | 5.0 | 250 | | 4- S.E. | | | | | |
| 42 | 55 | 2 | 8.5 | 425 | | 8- S.W. | | | | | |
| 43 | 56 | 2 | 20.0 | 1000 | | 8- S.E. (contamination from | | | | | |
| 44 | 57 | 2 | 3.0 | 150 | Traverse M- 0 | acid drain) | | | | | |
| 45 | 58 | 2 | 3.0 | 150 | from no. 54 pit | | | | | | |
| 46 | 59 | 4 | 14.0 | 1400 | " | " M- 4 | | | | | |
| 47 | 60 | 2 | 3.0 | 150 | " | " M- 6 | | | | | |
| 48 | 61 | 2 | 9.0 | 450 | " | " M- 8 | | | | | |
| 49 | 62 | 2 | 14.0 | 2800 | " | " M- 10 | 0.5 | | | | |
| 50 | CH #1 | 2 | 1.7 | 85 | | | | | | | |
| 51 | G6863 | 2 | 5.0 | 250 | " | " M- 12 | | | | | |
| | 64 | 2 | 17.0 | 850 | 2. Trib. 0- | S.W. of St. | | | | | |
| | 65 | 2 | 7.0 | 350 | St. | 0- S.E. | | | | | |
| 54 | 66 | 2 | 5.0 | 250 | | 4- S.W. | | | | | |

NORANDA EXPLORATION CO. LTD.

MP

Location Astlais Property

Project Astlais

Sheet 3

Material Soil " B " Zone

Sample Nos. _____

Collector GD Date Aug. / / 63

Analyst RC Date Sept. / / 63

Remarks Total Cu

HCL 0 Cu 0.1g / 10 ml / 2ml
4

| T.T. No. | Sample No. | 1 ml D ₂ | 2 ✓ | 3 ppm | 4 | 5 Location | 6 | 7 Realiqout | 8 | 9 | 10 |
|----------|------------|---------------------|--------|-------|--------------|--------------------------|-------|-------------|---|---|----|
| 55 | G6867 | 2 | 5.0 | 250 | 2. Trib. 4- | S.E. of St. | | | | | |
| 56 | 68 | 2 | 12.0 | 600 | St. | 8- S.W. | | | | | |
| 57 | 69 | 2 | 12.0 | 600 | | 8- S.E. | | | | | |
| 58 | 70 | 4 | 14.0 | 1400 | | 12- S. at Station | | | | | |
| 59 | 71 | 4 | 15.0 | 1500 | 3. Trib. 14- | S.W. of St. | | | | | |
| 60 | 72 | 4 | 12.0 | 1200 | St. | 14- S.E. | | | | | |
| 1 | CH #4 | 2 | 1.0 | 50 | | | | | | | |
| 2 | G6753 | 2 | 0.4 | 20 | St. | 0- S.E. of St. | | | | | |
| 3 | 54 | 2 | 0.4 | 20 | | 0- S.W. | | | | | |
| 4 | 55 | 2 | 0.3 | 15 | | 1+25- S. Trib. from East | | | | | |
| 5 | 56 | 2 | 0.9 | 45 | | 2- S.W. of St. | | | | | |
| 6 | 57 | 2 | 0.7 | 35 | | 2- S.E. | | | | | |
| 7 | 58 | 2 | 1.0 | 50 | | 4- S.W. | | | | | |
| 8 | 59 | 2 | 0.8 | 40 | | 4- S.E. | | | | | |
| 9 | 60 | 2 | 3.0 | 150 | | 6- S.W. | | | | | |
| 10 | 61 | 2 | 10.0 | 500 | | 6- S.E. | | | | | |
| 11 | 62 | 2 | 20.0 | 1000 | | 8- S.W. | | | | | |
| 12 | 63 | 2 | 15.0 | 750 | | 8- S.E. | | | | | |
| 13 | 64 | 2 | 3.0 | 150 | | 10- S.W. | | | | | |
| 14 | 65 | 4 | 13.0 | 1300 | | 10- S.E. | | | | | |
| 15 | 66 | 4 | 17.0 | 1700 | | 12- S.W. | | | | | |
| 16 | 67 | 4 | 13.0 | 1300 | | 12- S.E. | | | | | |
| 17 | 68 | 2 | 2.5 | 125 | | 14- S.W. | | | | | |
| 18 | 69 | 2 | 20.0 | 1000 | | 14- S.E. | | | | | |
| 9 | 70 | 8 | 9.5 | 1900 | | 14- S.W. | | | | | |
| 20 | 71 | 8 | 19.5 | 3900 | | 14- S.E. | | | | | |
| 21 | 72 | 4 | 17.5 | 7000 | | 16- S.W. | 0.5ml | | | | |

NORANDA EXPLORATION CO. LTD.

MP

Location Astlais Property

Project Astlais

Sheet 4

Material Soil " B " Zone

Sample Nos. _____

Collector GD Date Aug. / / 63

Analyst RC Date Sept. / / 63

Remarks Total Cu
HCL 0 Cu 0.1g / 10 ml / 2ml

| T.T. No. | Sample No. | 1 ml DC | 2 | 3 ppm | 4 | 5 Location | 6 | 7 Realiquot | 8 | 9 | 10 |
|----------|------------|---------|------|-------|-----|------------|------|-------------|---|---|----|
| 22 | G6773 | 2 | 7.0 | 350 | St. | 16- | S.E. | of St. | | | |
| 23 | 74 | 8 | 12.0 | 2400 | | 18- | S.W. | | | | |
| 24 | 75 | 8 | 10.5 | 2100 | | 18- | S.E. | | | | |
| 25 | CH #2 | 2 | 1.5 | 75 | | | | | | | |
| 26 | 76 | 4 | 20.0 | 2000 | | 20- | S.W. | | | | |
| 27 | 77 | 8 | 10.0 | 2000 | | 20- | S.E. | | | | |
| 28 | 78 | 2 | 5.5 | 275 | | 22- | S.W. | | | | |
| 29 | 79 | 2 | 14.0 | 700 | | 22- | S.E. | | | | |
| 30 | 80 | 2 | 11.0 | 550 | | 24- | S.W. | | | | |
| 31 | 81 | 2 | 10.5 | 525 | | 24- | S.E. | | | | |
| 32 | 82 | 2 | 19.0 | 950 | | 26- | S.W. | | | | |
| 33 | 83 | 2 | 20.0 | 1000 | | 26- | S.E. | | | | |
| 34 | 84 | 2 | 14.0 | 700 | | 28- | S.W. | | | | |
| 35 | 85 | 2 | 14.5 | 725 | | 28- | S.E. | | | | |
| 36 | 86 | 2 | 2.5 | 125 | | 30- | S.W. | | | | |
| 37 | 87 | 2 | 17.0 | 850 | | 30- | S.E. | | | | |
| 38 | 88 | 2 | 13.0 | 650 | | 32- | S.W. | | | | |
| 39 | 89 | 2 | 20.0 | 1000 | | 32- | S.E. | | | | |
| 40 | 90 | 2 | 4.5 | 225 | | 34- | S.W. | | | | |
| 41 | 91 | 2 | 9.0 | 450 | | 34- | S.E. | | | | |
| 42 | 92 | 2 | 4.5 | 225 | | 36- | S.W. | | | | |
| 43 | 93 | 2 | 4.0 | 200 | | 36- | S.E. | | | | |
| 44 | 94 | 2 | 4.0 | 200 | | 38- | S.W. | | | | |
| 45 | 95 | 2 | 1.5 | 75 | | 38- | S.E. | | | | |
| 46 | 96 | 2 | 5.5 | 275 | | 40- | S.W. | | | | |
| 47 | 97 | 2 | 2.5 | 125 | | 40- | S.E. | | | | |
| 48 | 98 | 2 | 3.5 | 175 | | 42- | S.W. | | | | |

NORANDA EXPLORATION CO. LTD.

MP

Location Astlais Property

Project Astlais

Sheet 2

Material Soil "B" Zone

Sample Nos. _____

Collector AR Date Oct. / / 63

Analyst BJ Date Dec / 20 / 63

Remarks Mo - Fusion

Mo 0.1g /10 ml /2 ml

| T.T. No. | Sample No. | 1 ml Zn DITH | 2 <i>8</i> | 3 ppm | 4 | 5 Location | 6 | 7 | 8 | 9 | 10 |
|----------|------------|-----------------------|---------------|----------|---|---------------|---|---|---|---|----|
| 28 | D5700 | .5 | 0.6 | 30 | | A 130 | | | | | |
| 29 | 5701 | .5 | 1.0 | 50 | | A 129 | | | | | |
| 30 | 5702 | .5 | 0 | 0 | | A 128 | | | | | |
| 31 | 5703 | .5 | 0.2 | 10 | | A 127 | | | | | |
| 32 | 5704 | .5 | 4.0 | 200 | | A 126 | | | | | |
| 33 | 5705 | .5 | 0.2 | 10 | | A 112 | | | | | |
| 34 | 5706 | .5 | 0.6 | 30 | | A 113 | | | | | |
| 35 | 5707 | .5 | 0.4 | 20 | | A 114 | | | | | |
| 36 | 5708 | .5 | 0.8 | 40 | | A 115 | | | | | |
| 37 | CH #4 | .5 | 3.0 | 150 | | | | | | | |
| 38 | 5709 | .5 | 2.0 | 100 | | A 116 | | | | | |
| 39 | 5710 | .5 | 0.2 | 10 | | A 117 | | | | | |
| 40 | 5711 | .5 | 0.6 | 30 | | A 118 | | | | | |
| 41 | 5712 | .5 | 0.4 | 20 | | A 119 | | | | | |
| 42 | 5713 | .5 | 1.0 | 50 | | A 120 | | | | | |
| 43 | 5714 | .5 | 0 | 0 | | A 121 | | | | | |
| 44 | 5715 | .5 | 0.1 | 5 | | A 122 | | | | | |
| 45 | 5716 | .5 | 0 | 0 | | A 123 | | | | | |
| 46 | 5717 | .5 | 0.1 | 5 | | A 124 | | | | | |
| 47 | 5718 | .5 | 0.2 | 10 | | A 125 | | | | | |
| 48 | 5719 | .5 | 0.1 | 5 | | A 111 | | | | | |
| 49 | CH #5 | .5 | 4.0 | 200 | | | | | | | |
| 50 | 5720 | .5 | 0.4 | 20 | | A 163 | | | | | |
| 51 | 5721 | .5 | 0.2 | 10 | | A 155 | | | | | |
| 52 | 5722 | .5 | 0.2 | 10 | | A 156 | | | | | |
| 53 | 5723 | .5 | 0.4 | 20 | | A 157 | | | | | |
| 54 | 5724 | .5 | 0.2 | 10 | | A 158 | | | | | |
| 55 | 5725 | .5 | 0.2 | 10 | | A 159 | | | | | |

NORANDA EXPLORATION CO. LTD.

MP

Location Astlais Property

Project Astlais

Sheet 1

Material Soil "B" Zone

Sample Nos. _____

Collector AR Date Oct. / / 63

Analyst BJ Date Dec. / 21 / 63

Remarks Mo - Fusion

Mo 0.1g / 10 ml / 2 ml

| T.T. NO. | Sample No. | 1 ml ⁷⁰ DITH | 2 <i>γ</i> | 3 ppm | 4 | 5 Location | 6 | 7 | 8 | 9 | 10 |
|----------|------------|-------------------------|---------------|-------|---|------------|---|---|---|---|----|
| 1 | CH #1 | .5 | 0.2 | 10 | | | | | | | |
| 2 | D5731 | .5 | 0.6 | 30 | | A 166 | | | | | |
| 3 | 5732 | .5 | 1.0 | 50 | | A 167 | | | | | |
| 4 | 5733 | .5 | 4.0 | 200 | | A 168 | | | | | |
| 5 | 5734 | .5 | 1.5 | 75 | | A 169 | | | | | |
| 6 | 5735 | .5 | 2.0 | 100 | | A 170 | | | | | |
| 7 | 5736 | .5 | 0.8 | 40 | | A 171 | | | | | |
| 8 | 5737 | .5 | 1.5 | 75 | | A 172 | | | | | |
| 9 | 5738 | .5 | 0.4 | 20 | | A 173 | | | | | |
| 10 | 5739 | .5 | 0.2 | 10 | | A 174 | | | | | |
| 11 | 5740 | .5 | 0.2 | 10 | | A 175 | | | | | |
| 12 | 5741 | .5 | 0.2 | 10 | | A 176 | | | | | |
| 13 | CH #2 | .5 | 1.0 | 50 | | | | | | | |
| 14 | 5742 | .5 | 0.8 | 40 | | A 110 | | | | | |
| 15 | 5743 | .5 | 0.6 | 30 | | A 109 | | | | | |
| 16 | 5744 | .5 | 0.6 | 30 | | A 108 | | | | | |
| 17 | 5745 | .5 | 0.4 | 20 | | A 107 | | | | | |
| 18 | 5746 | .5 | 0.6 | 30 | | A 106 | | | | | |
| 19 | 5747 | .5 | 1.5 | 75 | | A 105 | | | | | |
| 20 | 5748 | .5 | 0.6 | 30 | | A 104 | | | | | |
| 21 | 5749 | .5 | 0.1 | 5 | | A 103 | | | | | |
| 22 | 5750 | .5 | 0.2 | 10 | | A 102 | | | | | |
| 23 | 5751 | .5 | 0 | 0 | | A 101 | | | | | |
| 24 | 5752 | .5 | 0.1 | 5 | | A 100 | | | | | |
| 25 | CH #3 | .5 | 3.0 | 150 | | | | | | | |
| 26 | 5753 | .5 | 0.1 | 5 | | A 99 | | | | | |
| 27 | 5754 | .5 | 1.0 | 50 | | A 98 | | | | | |
| 28 | 5755 | .5 | 0.2 | 10 | | A 97 | | | | | |

NORANDA EXPLORATION CO. LTD.

MP

Location Astlais Property

Project Astlais

Sheet 2

Material Soil "B" Zone

Sample Nos. _____

Collector AR Date Oct. / / 63

Analyst BJ Date Dec. / 21 / 63

Remarks Mo - Fusion

Mo 0.1g /10 ml /2 ml

| T.T. No. | Sample No. | mD Zn DITH | 2 γ | 3 ppm | 4 | 5 Location | 6 | 7 | 8 | 9 | 10 |
|----------|------------|------------|------------|-------|---|------------|---|---|---|---|----|
| 29 | D5756 | .5 | 0.3 | 15 | | A 96 | | | | | |
| 30 | 5757 | .5 | 0.2 | 10 | | A 95 | | | | | |
| 31 | 5758 | .5 | 0.4 | 20 | | A 94 | | | | | |
| 32 | 5759 | .5 | 0.1 | 5 | | A 93 | | | | | |
| 33 | 5760 | .5 | 0.2 | 10 | | A 92 | | | | | |
| 34 | 5761 | .5 | 0.1 | 5 | | A 91 | | | | | |
| 35 | 5762 | .5 | 0.2 | 10 | | A 90 | | | | | |
| 36 | 5763 | .5 | 0.2 | 10 | | A 89 | | | | | |
| 37 | CH #4 | .5 | 3.0 | 150 | | | | | | | |
| 38 | 5764 | .5 | 0.4 | 20 | | A 88 | | | | | |
| 39 | 5765 | .5 | 0.8 | 40 | | A 87 | | | | | |
| 40 | 5766 | .5 | 0.8 | 40 | | A 177 | | | | | |
| 41 | 5767 | .5 | 0.4 | 20 | | A 178 | | | | | |
| 42 | 5768 | .5 | 0.6 | 30 | | A 179 | | | | | |
| 43 | 5769 | .5 | 6.0 | 300 | | A 180 | | | | | |
| 44 | 5770 | .5 | 3.0 | 150 | | A 181 | | | | | |
| 45 | 5771 | .5 | 0.8 | 40 | | A 182 | | | | | |
| 46 | 5772 | .5 | 0.6 | 30 | | A 183 | | | | | |
| 47 | 5773 | .5 | 0.2 | 10 | | A 184 | | | | | |
| 48 | 5774 | .5 | 0.2 | 10 | | A 185 | | | | | |
| 49 | CH #5 | .5 | 4.0 | 200 | | | | | | | |
| 50 | 5775 | .5 | 0.6 | 30 | | A 186 | | | | | |
| 51 | 5776 | .5 | 0.4 | 20 | | A 187 | | | | | |
| 52 | 5777 | .5 | 0.4 | 20 | | A 188 | | | | | |
| 53 | 5778 | .5 | 0.4 | 20 | | A 189 | | | | | |
| 54 | 5779 | .5 | 3.0 | 150 | | A 190 | | | | | |
| 55 | 5780 | .5 | 1.0 | 50 | | A 191 | | | | | |
| 56 | 5781 | .5 | 0.4 | 20 | | A 192 | | | | | |

NORANDA EXPLORATION CO. LTD.

MP

| | | |
|----------------------------------|------------------------|---|
| Location <u>Astlais Property</u> | Project <u>Astlais</u> | Sheet <u>2</u> |
| Material <u>Soil "B" Zone</u> | Sample Nos. _____ | Collector <u>AR</u> Date <u>Oct. / / 63</u> |
| Remarks <u>Mo - Fusion</u> | Analyst <u>BJ</u> | Date <u>Dec. / 23 / 63</u> |
| Mo 0.1g /10 ml /2 ml | | |

| T.T. No. | Sample No. | 1 m Zn DITH | 2 γ | 3 ppm | 4 | 5 Location | 6 | 7 | 8 | 9 | 10 |
|----------|------------|----------------------|---------------|----------|---|---------------|---|---|---|---|----|
| 17 | D5800 | .5 | 0.8 | 40 | | A 79 | | | | | |
| 18 | 5801 | .5 | 0.6 | 30 | | A 78 | | | | | |
| 19 | 5802 | .5 | 0.4 | 20 | | A 77 | | | | | |
| 20 | 5803 | .5 | 0.2 | 10 | | A 76 | | | | | |
| 21 | 5804 | .5 | 4.0 | 200 | | A 75 | | | | | |
| 22 | 5805 | .5 | 3.0 | 150 | | A 74 | | | | | |
| 23 | 5806 | .5 | 0.6 | 30 | | A 73 | | | | | |
| 24 | 5807 | .5 | 0.4 | 20 | | A 72 | | | | | |
| 25 | CH #3 | .5 | 3.0 | 150 | | | | | | | |
| 26 | 5808 | .5 | 0.2 | 10 | | A 71 | | | | | |
| 27 | 5809 | .5 | 0.2 | 10 | | A 70 | | | | | |
| 28 | 5810 | .5 | 0.8 | 40 | | A 69 | | | | | |
| 29 | 5811 | .5 | 1.5 | 75 | | A 68 | | | | | |
| 30 | 5812 | .5 | 1.0 | 50 | | A 67 | | | | | |
| 31 | 5813 | .5 | 1.0 | 50 | | A 66 | | | | | |
| 32 | 5814 | .5 | 1.0 | 50 | | A 65 | | | | | |
| 33 | 5815 | .5 | 0.4 | 20 | | A 64 | | | | | |
| 34 | 5816 | .5 | 0.4 | 20 | | A 63 | | | | | |
| 35 | 5817 | .5 | 0.4 | 20 | | A 62 | | | | | |
| 36 | 5818 | .5 | 0.8 | 40 | | A 61 | | | | | |
| 37 | CH #4 | .5 | 3.0 | 150 | | | | | | | |
| 38 | 5819 | .5 | 0.6 | 30 | | A 60 | | | | | |
| 39 | 5820 | .5 | 0.4 | 20 | | A 59 | | | | | |
| 40 | 5821 | .5 | 0.4 | 20 | | A 58 | | | | | |
| 41 | 5822 | .5 | 0.2 | 10 | | A 57 | | | | | |
| 42 | 5823 | .5 | 0.8 | 40 | | A 56 | | | | | |
| 43 | 5824 | .5 | 0.2 | 10 | | A 55 | | | | | |
| 44 | 5825 | .5 | 0.8 | 40 | | A 54 | | | | | |

NORANDA EXPLORATION CO. LTD.

MP

Location Astlais Property

Project Astlais

Sheet 1

Material Soil "B" zone

Sample Nos. _____

Collector GD Date Aug / / 63

Analyst PR Date Jan / 23 / 64

Remarks Total Mo

Mo 0.1g /10 ml /2 ml

| T.T. No. | Sample No. | 1 ml Zn DITH | 2 γ | 3 ppm | 4 | 5 Location (Astlais Creek) | 6 | 7 | 8 | 9 | 10 |
|----------|------------|--------------|------------|-------|---|----------------------------|---|---|---|---|----|
| 16 | 66754 | 0.5 | 0.0 | 0 | | St. 0 - S.W. of St. | | | | | |
| 17 | 6755 | 0.5 | 0.3 | 15 | | 1+25 S. Trib. from East | | | | | |
| 18 | 6756 | 0.5 | 0.1 | 5 | | 2 - S.W. of St. | | | | | |
| 19 | 6758 | 0.5 | 0.4 | 20 | | 4 - S.W. | | | | | |
| 20 | 6760 | 0.5 | 0.2 | 10 | | 6 - S.W. | | | | | |
| 21 | 6762 | 0.5 | 0.2 | 10 | | 8 - S.W. | | | | | |
| 22 | 6764 | 0.5 | 0.1 | 5 | | 10 - S.W. | | | | | |
| 23 | 6766 | 0.5 | 0.1 | 5 | | 12 - S.W. | | | | | |
| 24 | 6768 | 0.5 | 0.1 | 5 | | 14 - S.W. | | | | | |
| 25 | CH #3 | 0.5 | 2.0 | 100 | | | | | | | |
| 26 | 6770 | 0.5 | 0.8 | 40 | | 14 - S.W. of Trib. | | | | | |
| 27 | 6772 | 0.5 | 0.3 | 15 | | 16 - S.W. of St. | | | | | |
| 28 | 6774 | 0.5 | 0.8 | 40 | | 18 - S.W. | | | | | |
| 29 | 6776 | 0.5 | 0.4 | 20 | | 20 - S.W. | | | | | |
| 30 | 6778 | 0.5 | 0.3 | 15 | | 22 - S.W. | | | | | |
| 31 | 6780 | 0.5 | 0.6 | 30 | | 24 - S.W. | | | | | |
| 32 | 6782 | 0.5 | 0.4 | 20 | | 26 - S.W. | | | | | |
| 33 | 6784 | 0.5 | 0.4 | 20 | | 28 - S.W. | | | | | |
| 34 | 6786 | 0.5 | 0.2 | 10 | | 30 - S.W. | | | | | |
| 35 | 6788 | 0.5 | 0.3 | 15 | | 32 - S.W. | | | | | |
| 36 | 6790 | 0.5 | 0.2 | 10 | | 34 - S.W. | | | | | |
| 37 | CH #4 | 0.5 | 3.0 | 150 | | | | | | | |
| 38 | 6792 | 0.5 | 0.2 | 10 | | 36 - S.W. | | | | | |
| 39 | 6794 | 0.5 | 0.2 | 10 | | 38 - S.W. | | | | | |
| 40 | 6796 | 0.5 | 0.3 | 15 | | 40 - S.W. | | | | | |
| 41 | 6798 | 0.5 | 0.2 | 10 | | 42 - S.W. | | | | | |
| 42 | 6800 | 0.5 | 0.2 | 10 | | 44 - S.W. | | | | | |
| 43 | 6802 | 0.5 | 0.2 | 10 | | 46 - S.W. | | | | | |

NORANDA EXPLORATION CO. LTD.

MP

Location Astlais Property

Project Astlais

Sheet 2

Material Soil "B" Zone

Sample Nos. _____

Collector GD Date Aug. / / 63

Analyst PR Date Jan. 23 / 64

Remarks Total Mo
Mo 0.1g /10 ml /2 ml

| T.T. NO. | Sample No. | 1 ml Zn DITH | 2 γ | 3 ppm | 4 | 5 Location (Astlais Creek) | 6 | 7 | 8 | 9 | 10 |
|----------|------------|--------------|------------|-------|---|------------------------------|---|---|---|---|----|
| 44 | G6804 | 0.5 | 0.1 | 5 | | 48 W. of Creek | | | | | |
| 45 | 6806 | 0.5 | 0.4 | 20 | | 50 W. | | | | | |
| 46 | 6808 | 0.5 | 0.2 | 10 | | 52 W. | | | | | |
| 47 | 6810 | 0.5 | 0.4 | 20 | | 54 W. | | | | | |
| 48 | 6812 | 0.5 | 0.1 | 5 | | 56 W. | | | | | |
| 49 | CH #5 | 0.5 | 4.0 | 200 | | | | | | | |
| 50 | 6814 | 0.5 | 0.1 | 5 | | 58 W. | | | | | |
| 51 | 6816 | 0.5 | 0.6 | 30 | | 60 W. | | | | | |
| 52 | 6818 | 0.5 | 0.4 | 20 | | 62 W. | | | | | |
| 53 | 6820 | 0.5 | 0.2 | 10 | | 64 W. | | | | | |
| 54 | 6822 | 0.5 | 0.3 | 15 | | 66 W. | | | | | |
| 55 | 6824 | 0.5 | 1.0 | 50 | | 68 W. | | | | | |
| 56 | 6826 | 0.5 | 0.4 | 20 | | 70 W. | | | | | |
| 57 | 6828 | 0.5 | 0.4 | 20 | | 72 W. | | | | | |
| 58 | 6830 | 0.5 | 0.2 | 10 | | 74 W. | | | | | |
| 59 | 6832 | 0.5 | 0 | 0 | | 76 W. | | | | | |
| 60 | 6834 | 0.5 | 0.2 | 10 | | 78 W. | | | | | |
| 61 | CH #1 | 0.5 | 0.3 | 15 | | | | | | | |
| 62 | 6836 | 0.5 | 0.4 | 20 | | 80 W. | | | | | |
| 63 | 6838 | 0.5 | 0.3 | 15 | | 82 W. | | | | | |
| 64 | 6840 | 0.5 | 0.1 | 5 | | 84 W. | | | | | |
| 65 | 6842 | 0.5 | 0.2 | 10 | | 86 W. | | | | | |
| 66 | 6844 | 0.5 | 0.2 | 10 | | 88 W. | | | | | |
| 67 | 6846 | 0.5 | 0.1 | 5 | | 90 W. | | | | | |
| 68 | 6847 | 0.5 | 0.2 | 10 | | 92 W. | | | | | |
| 69 | 6849 | 0.5 | 0.3 | 15 | | Traverse from MoS. Pits M-4 | | | | | |
| 70 | 6851 | 0.5 | 0.4 | 20 | | 1. Trib. St. 0 - S.W. of St. | | | | | |
| 71 | 6852 | 0.5 | 0.2 | 10 | | 0 - S.E. of St. | | | | | |

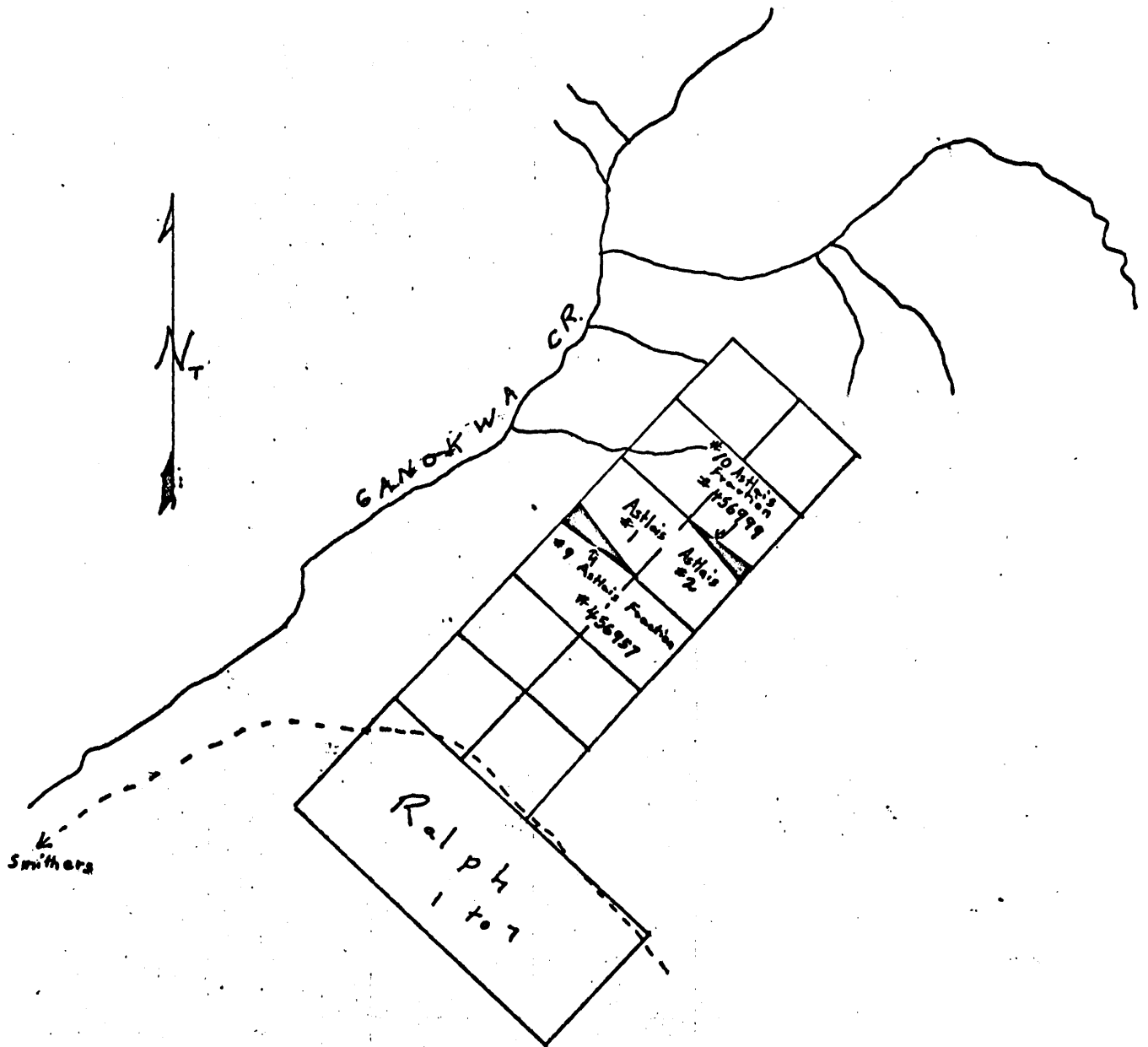
NORANDA EXPLORATION CO. LTD.

MP

| | | |
|----------------------------------|--|---|
| Location <u>Astlais Property</u> | Project <u>Astlais</u> | Sheet <u>3</u> |
| Material <u>Soil "B" Zone</u> | Sample Nos. _____ | Collector <u>GD</u> Date <u>Aug. / / 63</u> |
| Remarks <u>Total Mo</u> | Analyst <u>PR</u> Date <u>Jan. / 23 / 64</u> | |
| Mo - 0.1g /10 ml /2 ml | | |

| T.T. No. | Sample No. | 1 ml Zn DITH | 2 γ | 3 ppm | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|----------|------------|--------------|-------------------------|-------|---|-------------------------------|----------------------------|---|------|---|----|
| | | | | | | Location (Astlais Creek) | | | | | |
| 72 | G6853 | 0.5 | 0.6 | 30 | | 1. Trib. St. 4 - S.W. of St. | | | | | |
| 73 | CH #2 | 0.5 | 1.0 | 50 | | | | | | | |
| 74 | 6854 | 0.5 | 0.6 | 30 | | | 4 - S.E. of St. | | | | |
| 75 | 6855 | 0.5 | 0.2 | 10 | | | 8 - W. | | | | |
| 76 | 6856 | 0.5 | 0.3 | 15 | | | 8 - E. (Contam. from Adit) | | | | |
| 77 | 6857 | 0.5 | 1.0 | 50 | | Traverse from MoS. Pits 0 - | | | | | |
| 78 | 6858 | 0.5 | 0.8 | 40 | | | | | 2 - | | |
| 79 | 6859 | 0.5 | 0.4 | 20 | | | | | 4 - | | |
| 80 | 6860 | 0.5 | 0.2 | 10 | | | | | 6 - | | |
| 81 | 6861 | 0.5 | 4.0 | 200 | | | | | 8 - | | |
| 82 | 6862 | 0.5 | 1.0 | 50 | | | | | 10 - | | |
| 83 | 6863 | | No Reading (Off Colour) | | | | | | 12 - | | |
| 84 | 6864 | 0.5 | 0.6 | 30 | | 2. Trib. St. 0 - S.W. of St. | | | | | |
| 85 | CH #3 | 0.5 | 2.0 | 100 | | | | | | | |
| 86 | 6865 | 0.5 | 0.6 | 35 | | " | 0 - S.E. | | | | |
| 87 | 6866 | 0.5 | 0.4 | 25 | | " | 4 - S.W. | | | | |
| 88 | 6867 | 0.5 | 0.4 | 25 | | " | 4 - S.E. | | | | |
| 89 | 6868 | 0.5 | 0.6 | 35 | | " | 8 - S.W. | | | | |
| 90 | 6869 | 0.5 | 0.6 | 35 | | " | 8 - S.E. | | | | |
| 91 | 6870 | 0.5 | 0.4 | 25 | | 2. Trib. St. 12 - S. at St. | | | | | |
| 92 | 6871 | 0.5 | 0.6 | 35 | | 3. Trib. St. 14 - S.W. of St. | | | | | |
| 93 | 6874 | 0.5 | 0.2 | 10 | | 3. Trib. St. 14 - S.E. of St. | | | | | |
| 94 | 6875 | 0.5 | 0.1 | 5 | | | | | | | |
| 95 | 6876 | 0.5 | 0.4 | 20 | | | | | | | |
| 96 | 6877 | 0.5 | 0.4 | 20 | | | | | | | |
| 97 | CH #4 | 0.5 | 3.0 | 150 | | | | | | | |
| 98 | 6878 | 0.5 | 0.4 | 20 | | | | | | | |
| 99 | 6879 | 0.5 | 1.0 | 50 | | | | | | | |

wt. = 80 mg.



SKETCH SHOWING

Astla's # 9 Fraction - Staked 14 July 6

Astla's #10 Fraction - Staked 14 July 6

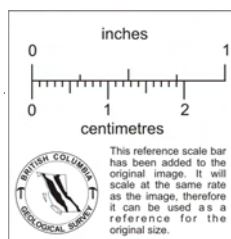
OMINECA M.D

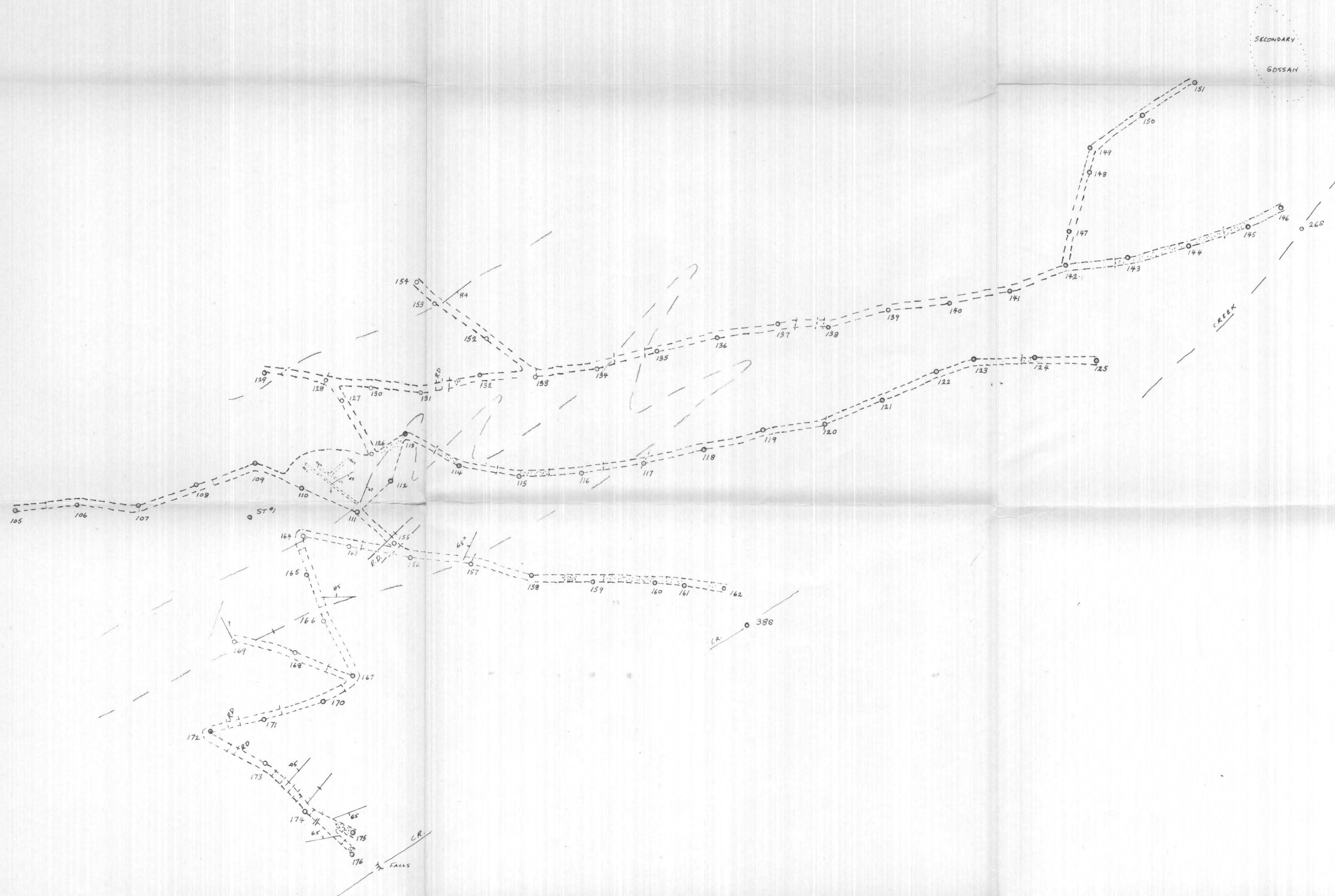
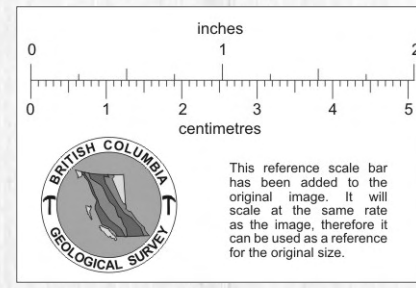
SCALE. 1" = 1/2 mile

A. Rutherford

Agent For Novanda Exploration Co. Inc.

Recorded 15 July 1964





SYMBOLS

ATTITUDE OF CONTACT

SWAMP

STATION-COMPASS-CHAIN SURVEY

LEGEND

SECONDARY GOSSAN (TRANSPORTED)

ALTERATION

FILL, TALUS

RHYOLITE DIKE (SOME PORPHYRITIC)

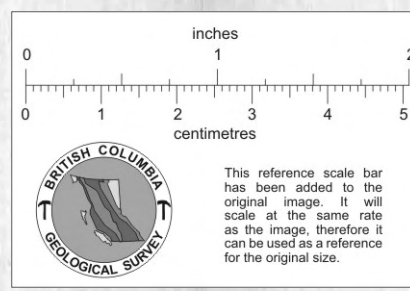
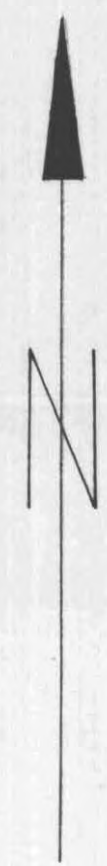
PORPHYRITIC GRANODIORITE

DIORITE

RHYOLITE

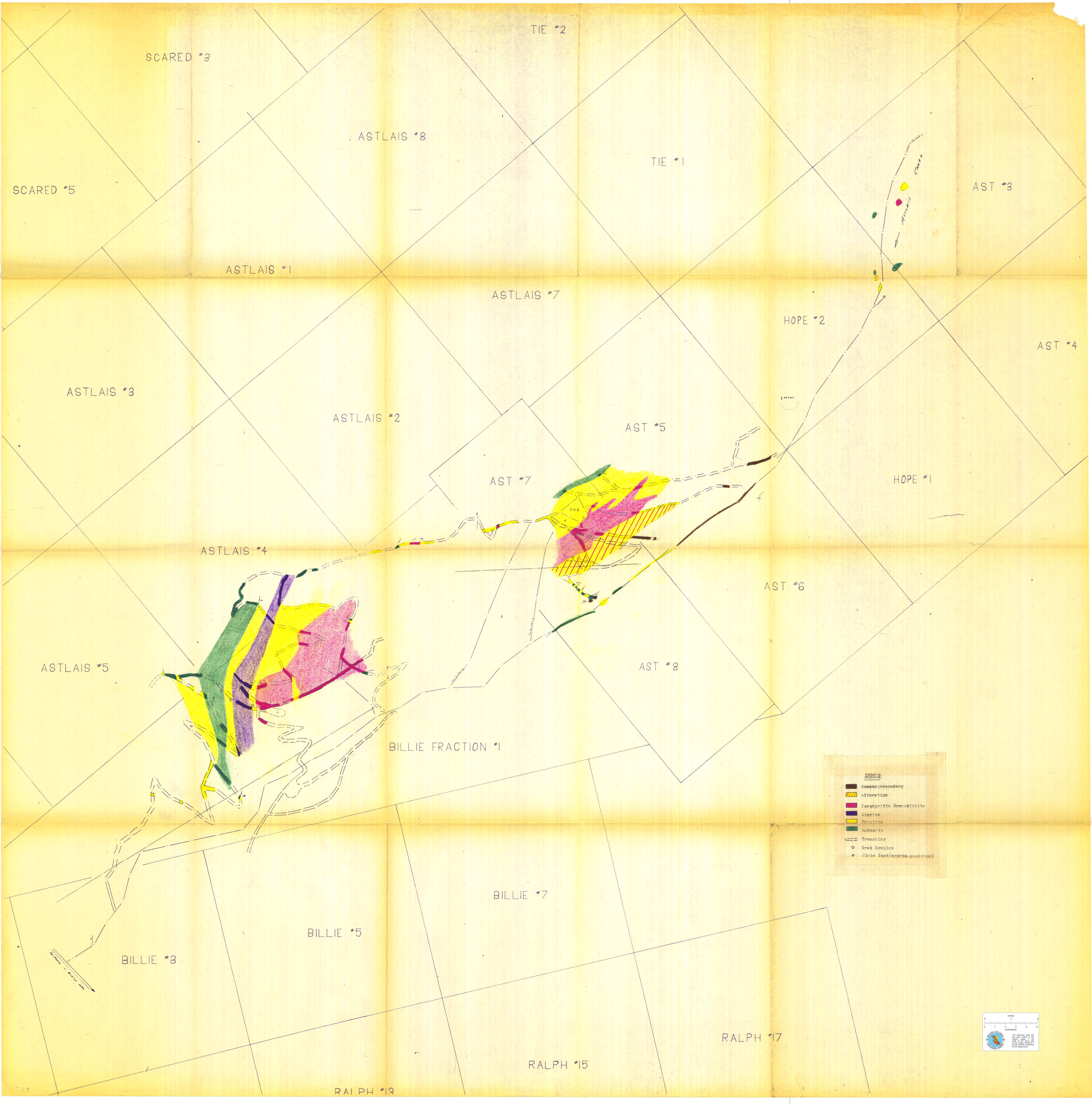
ANDESITE (FLOWS & DIKES)

NORPEX
 ASTLAIS PROPERTY
 PLAN SHOWING
 ROAD CUTS AND GEOLOGY
 EAST SHEET
 SCALE: 1 INCH = 100 FEET
 A.R. DAL
 OCT '63



| SYMBOLS | | LEGEND | |
|---------|-------------------------------------|--------|----------------------------------|
| | ATTITUDE OF CONTACT | | SECONDARY GOSSAN (TRANSPORTED) |
| | SWAMP | | RHYOLITE DIKE (SAME PORPHYRITIC) |
| | 1650 STATION - COMPASS-CHAIN SURVEY | | ALTERATION |
| | | | TILL, TALUS |
| | | | RHYOLITE DIKE (SAME PORPHYRITIC) |
| | | | PORPHYRITIC GRANDIORITE |
| | | | RHYOLITE |
| | | | ANDESITE (FLOWS & DIKES) |

NORPAX
ASTLAIS PROPERTY
PLAN SHOWING
ROAD CUTS AND GEOLOGY
WEST SHEET
SCALE: 1 INCH = 100 FEET
AR, DAL OCT. '63



LEGEND

- Gosses/secondary
- Alteration
- Porphyritic Granodiorite
- Diorite
- Phylite
- Andesite
- - - Trenching
- Grab Samples
- Claim Toes (approx. position)

