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Rexspar Uranium & Metals Mining Co. Ltd.

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PROSPECTING

Prospecting on the Rexspar property was carried out by a full time prospector, Mr. A. Hay, from May 28th to September 14th. An assistant, Mr. R. Gibbs, helped him from July 3rd. The geiger survey made on the 'A' zone knoll was conducted by Mr. W. Elliott. A minor amount of prospecting was done by Mr. R. Johnson. Two prospectors, Mr. G. Young and Mr. W. Severns were employed for a short time at the end of the season. These men arrived on November 27th, Young leaving on December 7th and Severns on December 17th.

Hay and Gibbs spent a large portion of the time west of the Foghorn Creek, eventually concentrating on an area west of the Black Diamond adit. This area was given the designation 'F' zone. For part of the time a camp was set up on a site later to become very near the first X-ray drill hole. From this camp much of the high ground to the west was prospected.

Some time was spent about a quarter of a mile south of the Black Diamond zone in an area where radioactivity and a few small ore type occurrences seemed to warrant a zone designation. This is the locale of the 'C' zone.

The 'D' zone, a quarter of a mile south east of the camp, was found by Johnson and some work in the way of small pits were put down by Hay and Gibbs.

The 'G' zone, about 3000 feet east of camp, was picked up by by Johnson.

The general results of the season's prospecting can best be summed up as inconclusive. Numerous areas with high background counts and many small occurrences of radioactivity rocks were found but no new mineral zones comparable to the 'A' or 'BD' zones were discovered. In part this might have been anticipated, for the effort of the former operators was quite extensive and any easily found pyrite zones could scarcely have escaped their attention. In places prospecting is very difficult owing to terrain and

overburden, but in others it can be done effectively. Good exposure along the 'C' zone and west of the Fogborn occur along prominent cliffs. However, critical areas seem to be always covered. This was the main difficulty in the 'F' zone prospecting. Exposures were generally small, badly weathered and fractured and the possibility existed that some or many were in fact large boulders or slump blocks from some higher elevation. The material indicating a mineral zone cropped out along the hillside between 3400 and 3500 feet elevation. The prospectors used explosives to blow small pits in an attempt to reveal fresh rock for sampling. This work was time-consuming and not very rewarding. Scintillometer readings of 1000 were obtained from many of the pits but samples of usual size gave only low ratios and few samples were submitted for assay. The material had the appearance of the ore type of the 'BD' zone and it was thought likely that the zone could best be tested by drilling; consequently further work in this area was suspended.

The 'C' zone yielded a few narrow bands of ore type material but no appreciable continuity was found. A sample taken from a one band gave an assay of .046% U_3O_8. Another, from a sheared contact gave .005%. Both of the samples gave high scintillometer ratios (22:1, 15:1).

The proximity of the 'D' zone to the main road allowed the use of a D-7 bull-dozer in stripping overburden from the flanks of the outcrop in which the mineralization occurred. This work served only to show that the outcrop was flanked by a rapidly increasing thickness of overburden. The general appearance of the mineralization here is similar to that of the 'B' and 'H' zones, the type characterized by very large biotite crystals and low U_3O_8 values. The 'D' gave appreciable geiger counts but a sample taken from a 5 foot thick band assayed only .011% U_3O_8.

The 'G' zone rocks are trachtye fragmental types but are not typical of the 'A' and 'BD' type. The alteration is much less intense and the porphyritic phases are marked by phenocrysts up to three-eighths of an inch

long. The radioactivity was discovered along the banks of Holt Creek but was not picked up in the drill holes.

The work of Young and Severns consisted of a few reconnaissance trips up some of the creeks east of the Deer Horn property. In addition, Severns spent a day east of Birch Island prospecting some rock cuts on the Canadian National Railway. Winter conditions soon curtailed prospecting activity. Nothing of any significance was found during the short time spent prospecting. For the balance of their time these men were engaged in staking claims along the north side of the Rexspar and Deerhorn properties.

DIAMOND DRILLING

Diamond drilling during 1953 involved four machines, two recovering AX core, one X-ray core and an underground machine. In all 10260 feet of drilling was done on 53 holes. 118 samples were taken for U_3O_8 assay. The results of the drilling are set down in tabulated form in the appendix to this report.

One drill was left set up on the site of hole 72 at the close of the 1952 season. This machine was started up on June 1st, 1953 and was used until November 21st. The second AX machine was used from July 1st to November 17th. The X-ray program was continued from September 5th to 25th, when this work was suspended owing to the unsatisfactory performance of this light machine. Underground work was undertaken as soon as the adit was sufficiently advanced. Two holes were drilled in December.

Summary and Results

'A' ZONE

Two holes, 75 and 76, as well as the deepening of hole 50 were expended on this zone. In all, 591 feet were drilled for 5.6% of the total footage. Hole 75 was collared about 120 feet north of hole 79, the most northerly of the holes drilled in the 'A' zone in the 1952 season. Although ore grade material stops somewhat south of hole 49 there are indications that the ore

structure persists northerly for some 1200 feet to a long trench put down by former operators and from which low values have been obtained. For this reason holes 75 and 76 were drilled. Neither of them intersected the typical ore type mineralisation. The deepening of hole 50 did not intersect the downward extension of the zone as projected from holes 45 and 46. A narrow band averaging .017% U_3O_8 was intersected but was not the typical ore structure.

'B' ZONE

This zone lies about 700 feet north of the 'BD' zone and 1200 feet northwest of the 'A' zone. Here, some rather typical-looking ore type material crops out along the surface and is exposed in pits and trenches put down by previous owners. Scintillometer counts of 2000 were obtained in one of these pits. This, and the general aspect seemed to give hope for further tonnage. Six holes were put down in an attempt to delimit an ore zone but the results were generally disappointing.

Hole 80: This was the best hole but the highest assay was only .08% U_3O_8 over 4.1 feet. The whole section averaged .036% over 39 feet.

Hole 81: This hole gave an average of .04% over 27 feet. The core was quite solid, unoxidised and lacking in any features which might suggest that leaching played any part in the low values now obtained.

Hole 82: This hole contained scattered pyrite-mica mineralization from 12 to 88 feet. The total amount was small and the radioactivity negligible. The core was not assayed.

Hole 83: This hole was drilled in badly broken ground where oxidation was extensive. Core recovery was very low. A few inches of pyrite-mica ore type was found scattered between 13 and 46 feet. The core was not assayed.

Hole 84: No pyrite mica material was intersected in this hole.

Hole 85: This hole was collared over a pit in which some pyrite-mica material was seen but none was intersected in the core.

BLACK DIAMOND ZONE (BD ZONE)

For part of the season two machines were used on this zone. In all, 22 holes were drilled, requiring 4487 feet for 43.7% of the total footage. 76 samples were taken for assay.

The early holes rapidly confirmed the suspicion that this zone was one of major importance. The drilling in 1952 established the up-dip limit in the southern part of the zone. The 1953 program was designed to extend the limits north along the strike and westerly down the dip. This latter was accomplished by holes BD-22 and BD-25 in which typical ore structure was absent. Northerly along strike increasing thicknesses of quartz-sericite schist overlying the ore zone made diamond drilling very slow and costly and fewer holes were put down than was required to completely delimit the zone in this direction. These schists are badly broken and had to be cased to the bottom. In the last hole this amounted to 200 feet. Further north, increasing depths were anticipated. From hole BD-24 north, a few hundred feet of potential ground exists but beyond this conditions point to a fault block which holds the 'B' zone pyrite-mica material at a higher elevation.

Portal preparations for the BD adit and hole BD-34 have opened up the possibility of further ore down the strike in a southwest direction and down the dip from this point. BD-34 returned a value of .073% U_3O_8 over 19 feet, while the average for the total sampled section was .045% over 64 feet.

Summary of Holes

BD-16: The sampled section in this hole extended from 109.0 to 181.9 feet. Of this, 47.7 feet were used in calculating the average value .105%. A narrow border of low grade material accompanies the main band.

BD-17: The ore zone here begins and ends rather abruptly. The best assay lies in the middle of the zone which averages only .046% U_3O_8.

BD-19: The zone here was very lean, averaging .03%. Typical ore type material made up a small part of the sampled section. The assay for this material was

.058% over 7 feet.

BD-20: The ore intersections here were separated by a lean band. The upper zone averaged .114% over 26 feet, while the lower averaged .110% over 16 feet.

BD-21: The sampled section here included 60 feet of material averaging .10% and was composed of two thirty-foot sections, the upper of which was typical ore material but the lower section was mixed trachytic fragments and ore type generally giving a lower grade but here contributing more than we anticipated.

BD-22: This hole was spotted about 100 feet down strike from BD-20 and 50 feet down the dip. Typical ore material was entirely absent. Section 251 shows the zone to have pinched out.

BD-23: This hole was drilled about 100 feet down the dip of the ore structure from BD-21. Some weak radioactivity was detected but the typical ore material was absent. (See section 249) The fact that the considerable thickness of ore in BD-21 did not extend to this hole suggests a fault between these two holes.

BD-24: The ore intersection here came in the usual place just under the hanging wall schists but the thickness was only 6 feet and the U_3O_8 content .049%. This hole was on the longest strike direction in a northeast direction.

BD-25: The ore here lies close to the surfact where it has been oxidized and partly eroded. The hole had to be cased to the bottom of the ore zone. A four foot sample returned .11% U_3O_8.

BD-26: This hole was drilled about 100 feet up-dip from hole BD-19. The ore zone was represented by about 2.5 feet of typical ore material but with slight scintillometer readings. The core was not assayed.

BD-27: This hole was collared about 50 feet down dip from the old 'BD' adit. Much of the ore zone is eroded and what is left is badly oxidized and fractured so that only a few pieces of core were recovered.

BD-28, 30, 32 & 36: These were cross-section holes in a direction S 60 E

from hole BD-14. This section was designed to check the up-dip extension of the BD zone and as a check against the recurrence of the 'A' zone in a southerly direction. None of these holes intersected any ore type mineralization. The rocks were the usual grey trachytic fragmental types with minor pyrite and fluorite.

BD-29: This hole was drilled under and a little south of the old BD adit. The average value was .05% over 94 feet. The remarkable thing was the regularity of the values which ranged from .03 to .07.

BD-31: This was another hole drilled along the southern and eastern edge of the BD zone. Typical-looking material extended from 9.5 to 37 feet but scintillometer counts were very low. Two samples were cut for a check but assay returns were insignificant.

BD-33: This was the most southern hole intersecting ore type material. About 20 feet of trachyte with interbanded black pyritic ore material was intersected but the scintillometer counts were too low to justify sampling.

'F' ZONE

This designation was applied in anticipation to a rather large area west of Foghorn Creek where typical altered trachytes, pyrite-mica types ore material and some radioactivity was known to occur and which offered promise of finding further ore deposits.

The initial diamond drilling consisted of eight X-ray drill holes spotted to intersect occurrences of pyrite-mica ore type mineralization. This program was suspended after it became evident that these holes would require much more casing than the X-ray meter could turn. Moreover the small size of this core is not conducive to good ore recovery in this badly fractured and oxidized ground. The results of this drilling did not eliminate the possibilities in the ground tested. In most cases the holes had to be abandonned before any great depth had been reached. The core recovery in every hole was the type of

fragmental trachyte characteristic of the footwall of the BD zone; the weak pyrite-mica zones on surface were not found in the core.

This program used 376 feet of drilling or 3.5% of the total footage. Further work on the zone was thought warranted and an access road was made by a D-7 bulldozer from the Lydia trail south across the Foghorn and then northerly along the west side to the vicinity of the last X-ray drill hole. A heavy drill and camp was brought in over this road and a program of four holes recovering AX core started. These holes required 823 feet for 8% of the total footage.

Summary of Holes

F-1: This hole was collared near X-1. A few feet of typical-looking ore material was recovered but was non-radioactive. The hole had to be cased as far as drilled. In places the rods dropped 10 feet without pressure. The core recovery was consequently very low.

F-2: This hole also cored very badly; no ore type material was intersected and the hole ended in sericite schist.

F-3: This hole confirmed the sericite schist in F-2 and was continued through to argillite.

F-4: It now became probable that these first holes were collared too low since by analogy with the BD zone the sericite schist and argillite indicate a horizon well below the ore zone. Consequently F-4 was drilled at a higher elevation as the first of a cross-section line to establish the position of the hanging wall schists. This hole started in trachyte still badly broken and oxidized so core recovery was very poor.

Drilling was suspended on the completion of this hole. This was in part due to weather, but also the discouraging drilling conditions and results influenced the decision. A hole at a much higher elevation would have been of interest but at the time it was felt that the further drilling would not be warranted until topographic and geologic surveying would enable holes

to be spotted to more advantage.

'G' ZONE

Towards the northeast part of the property trachytic rocks crop out along Holt Creek. Appreciable radioactivity was found in a few places in mineral claim Lil No. 8. This is referred to as the 'G' zone. In view of recent developments in the area it was not thought expedient to allow any claims now held to lapse. The simplest way to hold them is by means of a few drill holes to take care of the necessary expenditures applicable to assessment. This was fairly easily done on this zone as the main road is not far away. Consequently three holes, G-1, 2 & 3 were put down, more by way of assessment work than to sample an ore zone. The radioactivity found along the creek bank does not extend to any depth as none was found in the core. The rocks are porphyritic trachyte fragmental types, somewhat different in aspect from those associated with the ore zones. At present no particular interest is attached to this zone. 487 feet of drilling was done on the zone for 4.7 % of the total footage.

'H' ZONE

Just north of the fluorite zone a long trench exposes considerable pyrite mica ore material from which low values have been obtained. The sections show this zone to lie generally just over the fluorite zone proper and was intersected in the fluorite zone drilling. Several holes have been drilled in this area specifically for U_3O_8 and it seems preferable to separate these from the fluorite holes. The designation 'H' zone is applied to these holes.

In 1952 three holes were drilled on this zone with rather discouraging results. The showings were considered attractive enough for a further limited amount of work. Consequently the holes 72, 73 & 74 were drilled in the spring of 1953. Weak intersections occurr in all three holes but none average over .015% U_3O_8. No further drilling is contemplated.

Cross-section Drilling

Two cross-section lines were drilled (1) between BD-12 on the Black Diamond zone and hole 63 on the A zone, and (2) from hole 84 on the B zone N30E (not actually a cross-section). In addition the BD holes 28, 30, 32 & 36 already mentioned were cross-section holes.

Cross-section No. 1 Three holes were drilled along a line running S75W between the 'A' and 'BD' zones, in an attempt to correlate the two zones.

Hole 77 fits the 'A' zone picture fairly well. The rocks were mostly altered trachytes with a few short sections of ore type material. A sample from 181.5 to 187.5 returned .042% U_3O_8. The 'A' zone thrust was picked up in this hole. A chloritic schist probably the horizon just above the argillite was picked up at the bottom of the hole.

Hole 78 intersected trachyte and passed into the footwall schists at 102 feet. This marks a major discontinuity between holes 77 and 78. A few narrow oretype bands were intersected in the trachytic horizon but the scintillometer counts were very low and the core was not sampled.

Hole 79 showed a sequence of trachyte schist and argillite indicative of repetition of beds by faulting, with consequent complications not yet solvable.

Cross-section No. 2 Although tabulated under cross-sectional drilling, these holes run in the strike direction and provide some of the information shown on the longitudinal section made along a line 210 feet east of the section reference line. They were designed to test the pyrite-mica zones found in the fluorite and H zones about 600 to 800 feet from the apex.

Summary of Holes

Hole 86 intersected 75 feet of the ore type material but was essentially non-radioactive. In a few short sections small scintillometer ratios were obtained. Hole 87 intersected two narrow bands of pyrite-mica ore material but these were essentially non-radioactive. Hole 88 also intersected two narrow bands of non-radioactive pyrite-mic. material.

GEOLOGY

A recent re-study of the geological conditions existing on the Rexspar property suggests certain aspects not previously realized. This is mainly the result of the compilation of existing data on plans and sections, copies of which are included in the report.

The rocks characterized by trachytic fragments in an argillaceous matrix referred to as the ore type, is a much more extensive body than was previously realized. It extends as a sheet up to a hundred feet thick striking about N 30° E and dipping N W about 25°. This sheet is interrupted by some major faults as that between the 'B' and 'BD' zones (See section 600 feet east of section reference line) and between the 'A' and 'BD' zones (See section 250) as well as by numerous faults with smaller offset. No doubt more complexities will be established when the adit is sufficiently advanced to permit examination of the details.

Up dip the sheet is limited by topography. This would apply along the north east strike direction as well but there are indications that the trachytic horizon has been lowered by faulting. The 'G' and 'D' zones lie at elevations considerably lower than can be reconciled with a 25 degree dip. Down the dip the sheet should extend to the Foghorn and possibly across it in some different attitude. Along the southwest strike direction the formation should extend to the Foghorn and possibly across it there. This involves the problem of the 'F' zone. Diamond drill holes and outcrops establish the continuity of the horizon within the 'A' zone knoll. However, radioactivity in this portion is either low or essentially absent and there seems to be enough evidence to discourage any hope of finding any ore bodies within it.

Structural control of the ore bodies is not evident at this time. One aspect of the petrography of the host rock seems to have some significance on the genesis. This is the presence of large (up to ¾ inch) crystals of mica in the argillaceous matrix of the relatively non-radioactive portions. These

mica crystals also occur in the ore zones in second generation of fine-grained sericite and biotite but are not developed to the same extent. In those portions of the BD zone where large biotite crystals were observed, corresponding low U_3O_8 values were obtained. There seems to be some mineralogical significance in the inverse relationship between the amount of pyrite and the size of the mica crystals. This seemed to be particularly noticeable where the mica crystals were very large.

The extent of the pyrite mineralization is not a factor in the non-radioactive zones. Some bands of essentially massive pyrite were no more radioactive than leaner portions. In the ore zones there does seem to be some relation between the amount of pyrite and the U_3O_8 content, although laboratory tests show that only about 10% of the radioactivity is associated with the pyrite.

Surface leaching was at one time thought to be of some significance in the low values. However, several of the 'B' zone holes intersected strong, unfractured and unoxidized rocks in which little evidence that anything of this nature could be invoked to explain the low values.

Major Faulting

The diamond drill results show major discontinuities between the 'B' and 'BD' zones (See longitudinal sections). 'A' and 'BD' zones (See Section 250), together with numerous smaller offsets. The 'BD' adit reveals the complexity of faults and fractures which has affected the rocks. Faults and fractures have three general trends north, northeast and north-northeast. Dips are 50 to 80 to the west and north. A few very flat dips were recorded on north striking fracture or faults planes. Most of the faults fall into the category of normal faults although in a few cases slickensided walls indicating a nearly horizontal movement place these in the class of strike or transcurrent faults. The very low angle faults must be considered thrusts; the most significant, or at least the best known, is that which underlies the

'A' zone.

A possible explanation for the occurrence of the mineral zones lies in the proximity to major faults. On the west side of the property, the valley of the Foghorn is almost certainly a fault with the 'BD' zone occurring where the ore type trachyte is intersected by this fault. Similarly, the 'A' zone might be the south end of a zone which originated at the intersection of the Holt Creek fault and the ore type trachyte. Alternatively, both these zones might be related to a fault running easterly from the Foghorn past the 'BD' adit and the south end of the 'A' zone. Since this fault runs off the Foghorn it can be postulated as the mineralizing channel.

Presence of faults probably are important in introducing mineralizing solutions to the replaced host rock, but in such deposits the prime requisite is a host rock capable of being replaced. In this connection the noticeable difference in the ore type trachytes in different portions of the sheet-like mass, viz. the coarse biotite phases must bear some relationship to the replaceability. Since faulting and fracturing is very extensive everywhere in the ore-type rocks, channelways must exist in the weakly radioactive zones to the same degree as in the ore zones. The fact that low values can be attained is evidence that this is so. Consequently the problem is related to the metamorphism of the area with more intense recrystallization progressing in a general easterly direction with a resulting decline in replacability of of the ore type trachyte. The present location of the 'A' zone belies this theory but post-ore faulting could be invoked to escape this difficulty. A second feature of some significance is the thickening of the trachytic series in a quadrant from southeast through east to northeast. This acted as a buffer between the stress conditions on the east and the thinner portions of the series along the Foghorn. With a resulting lower grade of metamorphism the biotite failed to grow to a large size and in addition permeability was not limited to the same extent as farther east; consequently replacement

could go on to a greater degree.

FOLDING

Folding on a small scale is indicated by the changing core angles of pyrite banding and shearing in the sericitic parts of the trachytic rocks. It is also marked by the dip of the bedding which may still be seen in the quartz sericite schist in outcrops. The folding is not extensive on the east side of the Foghorn and is probably related to some larger regional feature. More complex folds, overturned beds and unusual dips are seen on the west side of Foghorn Creek in the sericite schist there but not enough detail is at hand to attempt to warrant an interpretation of this phase of the structural geology.

Factors Involved in Ore Genesis

The origin of the trachytic tuffs seems best explained by the theory of contemporaneous volcanic activity (eruptions and flows) erosion and sedimentation. The sedimentation began after the deposition of the silty rocks (argillites) but before they were consolidated to any great extent. The intricate crumpling and small scale faulting is suggestive of a shearing stress developed in a more or less plastic mass. The volcanic action included some rather violent explosive action whereby fragments of porphyritic trachyte and feldspar crystals where ejected to fall into shallow basins of argillaceous sediment. These now constitute the trachytic tuffs with argillaceous matrix, the host rock for the Rexspar ore bodies. The trachytic fragments are not amenable to replacement but the argillaceous matrix is. Consequently those sections with a high percentage of fragments fall below ore grade.

In listing the factors associated with ore zones it is necessary to include certain negative aspects:

1. Argillaceous material
2. Absence of large biotite crystals
3. Abundance of pyrite
4. Thickness of trachytic series

5. Fluorite concentration
6. Schist cover
7. Channelways.

1. The argillaceous matrix is the replaceable body; trachytic rocks and fragments do not make ore.

2. Presence of large biotite crystals are indicative of low grade or non-radioactivity.

3. Abundance of pyrite correlates with U_3O_8 concentrations only in ore zones.

4. Ore occurs in thinner parts of trachytic series, but note apparent exception in 'A' zone.

5. On the fluorite and 'H' zones the pyrite mica horizon is thick but all indications show values are low or wanting. (Note also presence of large biotite here.) No sampling for fluorite has been done on the 'BD' zone but visual inspection does not suggest any ore grade concentration of fluorite there. The fluorite in the ore zones is of unknown but presumably small percentage. The 'A' zone contains considerable fluorite of a dark purple variety, which is apparently a result of radioactivity. The fluorite on the fluorite zone proper is light bluish green or white and suggests no great amount of radioactivity in the vicinity.

6. The ore on the 'BD' zone occurs just below the quartz-sericite schist (where it has not been eroded). In the Fluorite zone the ore type is well within the trachytic rocks and in a situation which points to doubt whether any overlying schist was ever present.

7. Channelways for the introduction of the mineralizing solutions exist in the many faults and fractures that now cut the general area of the property. Note that segregation into post ore and pre-ore faults has not been done. Many of the faults are definitely post-ore and it is possible that during the migration of the mineralizing solutions

far fewer channelways were present.

Mineralogy

The last information on the mineralogy lists the assemblage thorite-uranothorite and thorianite as the principle radioactive minerals. They are not present in a constant percentage and this is reflected in the discrepancies between radiometric and chemical assays. Consequently chemical assays must be made on all samples used in calculating ore grades.

No further work has been done on the fluorite or rare-earth minerals.

Recapitulation

1. The limits of the 'BD' zone were fairly well established except along the south west strike direction and down dip from drill hole BD-9, where indications point to a further considerable tonnage of low grade material. The BD zone remains the most important deposit.

2. All holes drilled north of the 'BD' and 'A' zones failed to find any ore grade material although the ore bearing structure persists over an area of at least 2,000,000 square feet over the top of the 'A' zone knoll.

3. Prospecting is difficult due to deep overburden in critical places and landslides along the steep valley sides, etc. but further searching is warranted.

4. No drill program, except for a few holes on the 'BD' zone, can be laid out at present.

Recommendations

1. There is room and reason for a few more holes on the 'BD' zone from surface drill-sites. Along section 249 a hole 100 feet west of BD-23 should be drilled to the argillite to check for possible faulting. This would require about 300 feet. Should ore intersections be obtained here, two more holes at 100 foot centres should be drilled. It should be noted that Hole BD-23 was rather unsatisfactory as no core was recovered in the

first 77 feet. Part of this footage must be allotted to some quartz-sericite schist not recovered owing to the use of a blast hole bit in an attempt to solve the difficulty in penetrating this formation. Some of the footage might represent badly weathered and broken tracyte or ore type but there is no possibility that any solid rock, ore or waste was removed by this method of drilling. A future underground hole will be drilled to check this ground and should resolve the present uncertainty. If this underground hole confirms the projected position of the schist as shown on section 249, then the reason for drilling the proposed hole 100 feet west of BD-23 disappears. If a fault is suggested or proven the extent of the vertical component will determine the possibility of finding ore in a position corresponding to the missing section of BD-23.

2. A program of careful geological mapping along surveyed profile lines at 100 foot intervals should be carried out on the 'BD' zone from section 240 to 260 from coordinate line 23,500 east to the Foghorn Creek and across the latter for a few hundred feet.

No further holes should be drilled on any pyrite-mica showings which might be found without first having obtained good assays from freshly blasted rock over reasonable widths. The pyrite-mica bands characterized by coarse biotite crystals particularly should be investigated by the cheapest method. Experience has shown that comparatively shallow pits can yield significant assay results. The leaching effects are not considered to be particularly extensive. Prospecting should accompany the geological mapping especially along the Foghorn west of the 'BD' adit where the services of a prospector in stripping and trenching as directed by the geologist in charge should yield additional information.

The valley of the Foghorn should be carefully traced to establish the contact of the quartz-sericite schist which lies over the 'BD' ore body, and to search along this contact for a repetition of 'BD' zone conditions.

3. Prospecting and surface mapping of that area west of the Foghorn on mineral claims Jane No. 10 Fraction and No. 11 Fraction, Rex No. 27 and Spar No. 21 should be given careful attention. The footwall argillites occur there and effort should be made to find the upper schists. This will serve to limit the amount of favorable ground within which a repetition of 'BD' zone conditions could occur.

Further prospecting south and east of the 'C' zone is warranted. Radioactivity was traced some distance in this direction and while no ore zones of any importance were found the ground was not covered intensively enough to eliminate the possibility.

Some prospecting in the vicinity of the Rexspar property should be authorised. There are several varieties of deposit within a comparatively short distance of Birch Island which warrant attention. These include the copper occurrences around Adams Lake, placer platinum at Clearwater, tantalite near Blue River. There are also numerous small argentiferous galena and sphalerite deposits in the North Thompson valley. In addition, contacts with local residents and prospectors suggest that mineralisation of diverse kinds are wide spread. A base camp in the centre of this area offers an opportunity to learn something of the possibilities, to see and examine the ground which has produced one or two small mines and presents a variety of geological conditions and mineral occurrences.

4. Except for a few drill holes in the 'BD' zone no program of diamond drilling can be outlined until restudy of the geology can be undertaken. At the present time the most favorable ground is considered to be along the Foghorn north of the present 'BD' zone. The reasons for this involve some theoretical concepts based on an apparent thickening of the trachytic series in a direction away from the Foghorn, a possible relationship between the coarse biotite crystals and consequent low values and the distance from the Foghorn, assumption that the Foghorn is the feeder channel for the

mineralising solutions. These reasons are based on no very solid grounds. Therefore it is hoped that with a specific search, proof, or at least indications of supporting evidence, will be found in the Foghorn valley. This is essential before drilling can be recommended. The preferred ground is rapidly covered by a considerable thickness of sericite schist. This was the source of difficulty in the 'BD' zone drilling on holes BD-16 north, where about 200 feet of this material made drilling slow and costly. The indicated thickness in the favored ground is estimated to be two or three times this. A single drill hole might cost $ 5,000 to reach the objective here. The extent of our knowledge does not justify a program of several holes costing such a sum.

5. There is an urgent need for a good geological map of the property. It is of prime importance that good horizontal and vertical control be established. Stadia surveys tying into the land surveyors corners would provide ample accuracy. The most important features are the trachyte-argillite contact, the quartz-sericite schist-trachyte contact, topographical features which may indicate faults, major faults themselves when recognizable, the dip and strike of schistosity and bedding. This phase of the work should be done as soon as possible in the spring. Little time should be spent on details until these features are mapped and plotted. The ore horizon in the 'BD' zone is well established and should be used as a guide to further exploration, especially in the area west of the Foghorn. The contact and structure map recommended above will be of considerable help in directing exploration.

TOTALS & PERCENTAGES

Holes Drilled 52
Holes Deepened 1
Total Footage 10,260

Zone	No. Holes	Footage	%Total
A	3	591	5.7
B	6	884	8.6
BD	22	4,335	43.2
F	12	1,199	11.7
G	3	497	4.7
H	3	537	5.2
X-Section	6	2,075	20.2
	53	10,260	99.3
X-Ray	8	376	1.6
U/G	2	152	3.5