ROYAL GEORGE URANIUM

514002

CONTENTS

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SUMMARY

The radiometric contouring of the Royal George area indicates three pockets of ore in the Royal George Open Cut.

The contouring would indicate about 24,000 square feet of ore when projected to a horizontal plane. However it must be recognised that more than half this area is over rubble on the floor of the open cut which has presumably fallen from the sides in the mining operations.

The indicated tonnage would be about 2,200 tons per vertical foot. It is not a valid assessment to equate scintillometer readings to U_3O_8 content but for purposes of this initial appraisal it would indicate the approximate average of the material at about £4 per ton. At best £9,000 per vertical foot.

It should be recognised that the ore bodies have already been mined for tin to about 200 ft.

Other than the three pockets of ore indicated in the Royal George open cut no significant bodies of ore have been discovered on the leases. However, there are many sporadic occurrences of radioactivity in the surrounding granite. Small greisen lodes and veins contain cassiterite and are moderately radioactive in places.

The leases under offer cover a large area surrounding the Royal George open cut but two 40 acre leases over the open cut itself is in dispute. Ringwood and party pending litigation with regard to the disputed leases have diamond drilled to intersect below the largest radioactive anomaly in the Royal George open cut.

The deposit does not appear to warrant substantial testing expenditure unless the agreement with the vendors is on favourable terms.

CONCLUSIONS

1. A drill intersection would be necessary to assess the continuance of the uranium values and the width at depth. It is essential because the "area" indicated at the surface could in reality be a dispersion of radio-active material by mining, rock movement, and leaching from disjointed veins and pockets of uraniferous greisen. The concentrations of platy torbernite on the cleavage planes are possibly enrichment.

2. Whilst it is unlikely that a substantial target of uranium ore is present it is not precluded by the radiometric survey of the Royal George. It is difficult to appraise this type of deposit fully by assembling only geological data.

3. Other than in the Royal George open cut no significant body of ore has been discovered on the Pitulij leases although there are several occurrences of radioactivity.

4. Although the mine has been worked previously for tin a recent reassessment indicates that it would be uneconomic to reopen the mine for this metal at present.

However the tin production would contribute substantially to a mining operation on the Royal George lode.

RECOMMENDATION

Drilling has already been undertaken by Ringwood and party and none should be contemplated by Mineral Ventures N.L. with the present insecure tenure.

GENERAL GEOLOGY:

The Royal George mine area is on a tongue of Devonian granite extending into the floor of the St.Pauls River valley.

Several such areas of granite outcrop on the floor and lower slopes of the valley where they are exposed beneath the unconformably overlying Permian - Triassic sediments and the sills of Jurassic dolerite.

Most of the granite outcropping in the valley is radioactive and ten anomalies were recorded in this area by the airborne scintillometer. The aerial anomalies are due to the radioactivity of the granite mass but many localised pockets of radioactivity of higher order than the general rock mass can be found.

The Royal George Area

The former Royal George workings mined a wide greisen lode trending north-west south-east on the low granite hill about half a mile south of the Royal George village. From the size of the open cut it would seem that this greisen zone was about 65 ft. wide in the centre and tapered out each way over the stoped distance of 1050 feet.

The mine was worked on two levels below the open cut which were reached by an inclined shaft. The stoping extended to a depth of 200 feet below the surface but the lower workings are now inaccessable.

The radioactive mineral found in the open cut is torbernite occurring as bright green platy crystals studded in the weathered granite and especially on joint and cleavage planes.

The parallel cleavages on a shear which dips south-west at 85 degrees on the south-west wall of the open cut at its widest part, contain the highest concentrations of torbernite observed. The highest count obtained from this material just reached 2,000 C.P.S. on the C.A.E. 965 scintillometer.

However the counts are rather erratic and the area contoured on the radiometric gives what is thought to be a false impression of a mass of radioactive rock. Certainly on the floor of the open cut the radioactivity is dispersed by mining, rock movement and leaching.

It seems that the nature of the deposit would more probably be an erratically distributed series of pockets or veins of perhaps high grade radioactive material disseminated in the greisen lode. Alternatively the concentrations of torbernite could be formed by leaching from lower grade primary urnanium minerals uniformly dispersed through the entire greisen lode. It is not possible to determine at the surface the nature of the primary uranium mineralisation.

Recognizing the unreliability of the "areas" the three pockets of ore indicated in the open cut have a total area of 24,000 square feet enclosed within the 200 C.P.S. contour.

It is felt that this cannot be validly related to volume of ore until the nature and grade of the primary mineralisation is known.

Faheys Hill Area

The vendors had contended that this area was of equal significance to the Royal George open cut. Accordingly it was included in the radiation survey.

The area is 1500 ft. S.E. of the open cut but contains no significant radioactive body. Dispersed boulders round a shaft dump opening two small radioactive greisen veins had given an impression of radioactive ore potential.

The contouring shows normal slightly high background due to "hot granite."

The Freehold Area

A further area about 300 ft. east of the Royal George open cut showed sporadic radioactivity. Counts to 500 C.P.S. on the scintillometer were obtained on one small greisen vein but it was not considered worthwhile extending the geophysical grid to the area.

Mining & Prospecting Services Pty. Ltd. Melbourne. 18/11/1955

APPENDIX "A"

The following samples taken by the vendor from the places indicated on the plan are stated by them to have the following assays:-

Sample	Weight of Sample	Tin Content	U_3O_8 Content
1	3 cwts.	0.59%	0.16%
2	1 cwt.	2.91%	0.12%
3	20 lbs.	1.45%	1.09%

APPENDIX "B"

The following petrological report has been obtained on a sample of granite from the Royal George granite mass about 2800 ft. S.S.W. of the open cut. In the field the rock gives a count about three times background (120 C.P.S. with the C.A.E. 965).

PETROLOGICAL LABORATORY REPORT NO. 28/55.

S.R. 26/2A/16

SAMPLE U4/13624.

The material submitted by Mining and Prospecting Services Pty. Ltd., consists of quartz-felspar porphyry dyke rock. Its radioactivity is practically negligible and may be attributed to small amounts of zircon and apatite present in the rock as accessories.

A.W.G. WHITTLE,

18.2.1955. PETROLOGIST.

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REPORT ON THE ROYAL GEORGE URANIUM - TIN MINE, AVOCA. TASMANIA

By: A.E. Ringwood, M.Sc.

1. Introduction:

The Royal George Mine is situated alongside the Avoca-Swansea Road, about 10 miles east of Avoca. Avoca is 50 miles by road and rail from Launceston. A fairly comprehensive report on the mine has been prepared by A.M. Reid and Q.J. Henderson of the Tasmanian Geological Survey, and is published in Bulletin No. 40 pp. 106-122.

The mine was worked principally between the years 1911-1922 during which period 900 tons of concentrate were prepared from ore - averaging .5% tin. Operations became marginal and ceased in 1922.

Failure of the mine was due to inability to work the available reserves economically, largely because of the methods of mining adopted and the small scale of operations. Contributory factors were the inefficient treatment plant described by Reid and Henderson, in which tin losses during dressing averaged 25-40% and the fall in the price of tin after the first World War. That failure was not caused by depletion of ore reserves, is made clear in the report of Reid and Henderson and the same conclusion was reached by the author after his examination.

In January, 1955, uranium mineralisation was discovered in the old workings and consequently re-assessment of the potentialities appears highly desirable. Since January, a single hole has been diamond drilled to test the deposit at depth, and the results are described herein.

2. The Mine and its Geological Environment.

Workings:

(a) Surface workings consist of an open cut along the outcrop of the lode formation. This is 850 feet long with a maximum depth of 60 feet and maximum width of 100 feet, both dimensions decreasing towards the extremities. Trenches trace the northern continuation of the lode for a further 300 feet. The southern extension is also exposed for some distance by trenches. Forty feet below the bottom of the open cut, an adit (No. 1 level) has been driven for about 700 feet. A second level has been driven from the bottom of an inclined shaft for about 600 feet along the ore body. This level is 60 feet below No. 1 level. Below No. 2 level ore has been stoped out along most of the length, over a width of 10-54 feet. No attempt has been made to carry out any deeper exploration or exploitation. The underground workings are at present inaccessible.

Geology:

The mineralised zone occurs in an extensive shear, which is localised in and around the margins of a quartz porphyry dyke instrusive into a granite stock. There is a suggestion that the dyke has been intruded along the junction of two phases of this stock - a coarse red granite and a fine grained tourmaline granite. However, insufficient detailed geological work has been carried out as yet to settle this point.

The granite and quartz porphyry dyke have been extensively sheared and fractured along a N.W. strike giving rise to a most complex system of parallel and, sub-parallel tin bearing veins of quartz and greisen separated by residual bands of altered granite. The dominant dip of the shear zone is about 80 degrees to the SW. The system of veins and intervening tin bearing granite together constitute a continuous ore body which has been mined in bulk both by open cut and underground methods. The whole of the ore thus extracted has been milled.

Mineralisation.

There are two distinct types of mineralization present and interesting transitions between the two are sometimes observed. The earliest phase was greisenization - alteration of the quartz porphyry by mineralising solutions which ascended the shear planes producing hundreds of veins ranging from a fraction of an inch, to several feet wide of mica greisen, often rich in tourmaline.

In places these carry rich tin as the assay values of Reid and Henderson show. However, tin distribution appears to be erratic. These veins are surrounded by a halo of kaolinised country rock.

The second phase of mineralisation by introduction of quartz and sulphides, together with tin and uranium. Economically, this is by far the most important phase. The mineralisation is of the normal hypogene high temperature replacement type, the sulphides present being chiefly pyrite, together with chalcopyrite, galena, sphalerite and a little arsenopyrite. The sulphides are later than the quartz and have been introduced into fractures. Tin occurs free, as fine grained cassiterite. The primary uranium mineral has not yet been identified, however, in view of the nature of the deposit and comparison with similar epigenetic deposits elsewhere in the world it is probably pitchblende.

The quartz-sulphide veins vary considerably in size. In most of the small greisen veinlets, close inspection reveals a small core of sulphide and quartz. However, most production has come from two large veins of quartz in the centre of the shear zone. These are 8 fee t wide and 10 feet wide near the northern part of the workings but they merge and form a body 54 feet wide near the centre of the open cut. These have been worked along a strike length of 850 feet in the open cut and for 700 feet in the underground workings. They are uniformly tin bearing over the whole of their length and comprehensive sampling and production records indicate that they average .75% tin. (See Reid and Henderson's report). Similar values were obtained in the diamond drill hole which cut these veins. (See drill log.) The lower overall .5% tin values obtained from production records for the whole mine are due to inclusion of much lower grade wall rock from open cut mining.

Interest has recently been shown in this mine because of the discovery of secondary uranium minerals (torbernite) in the open cut. The torbernite occurs chiefly near the centre of the cut over a length of 200 feet and width of 80-100 feet. Within this area it is widely distributed. Scattered occurrences are found elsewhere in the cut. The best showings are in the kaolinized quartz porphyry on the hanging wall. Counts along here range up to 60 times background on an Austronic ratemeter. Predominant concentration of torbernite along joint planes indicates that it has migrated to some extent from its source.

It seemed probable that the original source was the primary tin ore body - consequently a diamond drill hole was drilled with the object of intersecting primary ore. The hole was 370 feet deep and was declined at 45½ degrees. The log is set out in the appendix. Logging was carried out by the author and T. Hughes of the Tasmanian Mines Department. Bore hole logging with a Geiger Probe was done by D. Rowsden of the Bureau of Mineral Resources, whilst radiometic assays were carried out by the B.M.R., and tin assays by Mr. Manson of the Mines Department Laboratory, Launceston. Tests by the B.M.R., indicated that the ore was in equilibrium.

The full report has not yet been made by the B.M.R., but the author has been in communication, and has been given the results. Correlation between bore hole logging with the geiger probe and assays was of a high order, with one exception (see appendix.)

Principal conclusions from the drilling are as follows:

1. The significant tin values are confined to the central quartz vein. Adjacent greisen and kaolinized quartz porphyry carry only low tin values. Chief values obtained were -

296' - 302'	.67% tin	Quartz and sulphides
302' - 307'	.64%	" " "
307' - 315'	Trace	Kaolinized quartz porphyry
315' - 316'	.89%	Quartz and sulphides
316' - 323'	1.00%	" " "

2. Low grade primary uranium mineralization was found. A close correlation with tin values was also found. It may be concluded that the uranium is genetically associated with the mineralization.

3. At 296' - 302' - two feet of ore were penetrated by the geiger probe, which gave 12,000 counts per minute.

   Background was 300. Mr Daly of the B.M.R. estimates that this result indicates the presence of ore with a value of .2% U_3O_8 or greater over the width. The sludges over 10' at this point assayed .058% U_3O_8.

4. From 280' to 340' sludges range between .012% U_3O_8 and .058 U_3O_8 indicating widespread low grade uranium mineralization. Average is .033% over 70!

5. The cores are not as radioactive as the sludges, they range over this width from .007% U_3O_8 - .018% U_3O_8. These lower values may be due to incomplete recoveries. (Average recovery 50%.)

6. Oxidation has occurred as far as the probe penetrated, although the water table is less than 100 feet.

<u>Oxidation and its Significance</u>.

Ground water level occurs at a depth of 100 feet or less. Above this level sulphides have been completely oxidised and uranium occurs as torbernite. Below 100 feet sulphides are found in situ. However, examination of the core below 100 feet indicates that oxidation is still present down to 370 feet. Although primary sulphides are present they have invariably leached to some extent. Widespread presence of hydrated iron oxides is also indicative of oxidation. Apparently there has been some circulation of ground water along the shear zone

which has resulted in oxygen bearing water from above the ground water level, being carried to deeper levels. This has created leaching and oxidizing conditions along the shear zone.

The presence of this deep oxidation is of the greatest significance in considering uranium prospects. Under oxidizing conditions in the presence of sulphides, uranium is very liable to leaching and transport from its original source - accordingly then is a substantial possibility that the primary low grade ore struck in the drill hole has been leached of a considerable portion of its original uranium.

Examination of the drill core assays indicates that leaching and dispersion has actually occurred. The assays show that uranium is genetically associated with tin - the highest uranium assays always occur in the quartz - sulphide bodies, to which tin is virtually restricted. However, the barren regions next to and between these quartz bodies also carry uranium in amount not much lower sometimes than the quartz sulphide bodies themselves. It is very probable that the uranium values in these zones are due to leaching from the primary quartz sulphide bodies and redeposition. It follows that the quartz sulphide veins originally carried higher uranium contents than are now present. It is therefore obvious that deeper drilling is necessary in ord er to assess the uranium content in an unoxidised environment.

5. Summary and Conclusion.

1. Result of surface and subsurface investigation of the Royal George Tin Mine reveal the presence of an extensive tin bearing vein system. It has been worked along a strike length of 850 feet and trenching indicates continuance for at least 300 feet toward the NW and an unknown distance towards the SE. The width of the two veins (which unite in places) ranges from 18 - 54 feet. The veins occupy a major shear zone and on structural grounds can be expected to possess substantial depth continuance.

2. The quartz veins are normal hypogene high temperature replacement bodies carrying sulphide, cassiterite and uranium. The average tin content of the sections which were worked is .75% tin. This value is supported by the diamond drill assays.

3. Primary uranium mineralization occurs genetically associated with the tin. The best value revealed by drilling was .2% U_3O_8 over two feet and .058% U_3O_8 over 10 feet. A large width of low grade material exists ranging between .01 and 03% U_3O_8.

4. Some leaching and redeposition of uranium has taken place due to oxidation below the water table. Original U_3O_8 values in the quartz veins may have been higher.

5. In view of the known tin values it is clear that U_3O_8 values of the order of .05% U_3O_8 would be of considerable economic significance. Under these conditions uranium could become a valuable by-product of tin mining. The fact that the first diamond drill hole has disclosed a substantial width of primary ore of this grade besides a smaller width of higher grade ore is highly encouraging. This occurrence is of greater significance when it is considered that the hole was of relatively shallow depth and penetrated a partly oxidised zone in which leaching of uranium had occurred. In view of the above considerations the writer believes that a vigorous programme of deeper drilling is amply warranted.

The author wishes to state that he is a member of the syndicate controlling the mine. He has, however, endeavoured to furnish an objective account of same. Plan of the mine and drill cores are available for inspection upon request.

Appendix. Royal George No. 1 Hole - Log.

Depth Feet	Description	Core U_3O_8	Core Sn %	Depth	Sludge U_3O_8%	Sn %
0	Tourmaline granite and	.004	0		.004	0
240	kaolinized quartz porphyry	.0012	trace		.0012	trace
243½	Quartz porphyry, some tourmaline. Felspars					
249	kaolinized; Oxidised, sheared	.0043	nil.			
249						
255	"	.0057	nil.	250	.004	trace
255	(same as above) Oxidised					
260	Strongly sheared	.012	nil.			
260	(same as above) Oxidised					
265	Strongly sheared	.0049	nil.	260	.007	trace
265	Strongly sheared and altered. Kaolinised					
267½	silicified	.0058	nil.			
267½	Quartz with abundant galena and pyrite.					
269	Both have been oxidised and leached to some extent	.019	.55			
269	Kaolinised aplitic granite with minor					
275	greisen and sulphides	.014	nil.	270	.006	trace
275	Quartz porphyry, altered. Greisen and					
279	minor sulphides	.0093	nil.			
279	Quartz and sulphides some leaching.. Some					
284	kaolinized granite	.010	trace	280	.027	.11

Depth Feet	Description	Core U_3O_8	Core Sn %	Depth	Sludge U_3O_8%	Sn %
284 289½	Mica greisen oxidised	.007	nil.			
289½ 296	Quartz & sulphides	.0061	.11	290	.015	.10
296 302	Quartz & sulphides	.011	.67	300	.058	.72
302 307	Quartz & sulphides still leached	.004	.64			
307 313	Kaolinized porphyry with minor greisen 1' quartz & sulphides	.013	trace	3.0	.013	.35
313 316	Quartz & sulphides	.0175	.89			
316 323	Quartz & sulphides	.0076	1.00	320	.014	.31
323 328	Granite with zones of kaolinisation and greisenization, oxidised and altered	.013	trace	330	.020	.58
328 332½	Granite with zones of kaolinisation and greisenization, oxidised and altered	.018	nil.			
332½ 337½	Granite, often fresh. A few greisen veinlets	.0077	nil.			
337½	Mica greisen with minor sulphides. Well oxidised	.015	.16	340	.012	trace
342½ 350	Granite with minor greisen veinlets	.0086	.25			
350 354	Altered granite	.005	nil	350	.024	trace
354 356	Greisen rubble	.008	nil			
356 370	Granite	.005	trace	360	.013	trace

014

Notes

(1) Sludges taken over very 10 feet. Assay values refer to 10 feet preceding the depth specified.

(2) Sn = tin.

(3) According to Mr. D. Urquhart of the B.M.R., excellent correlation was obtained between the probe results and radiometric assays except at 296-302 feet. Here the probe gave 12,000 counts per minute = .2% + U_3O_8 over two feet.

The sludges were high at this point, and assayed .058% U_3O_8 from 290-300 feet. However, the core recovered only assayed .011% U_3O_8.

There are two possibilities here:-

(a) The rich section of the core was not received, and the values entered the sludge.

(b) Part of the core was stolen.

Unfortunately, despite strict instructions to the contrary, the drillers did not always lock the core up when they were not on the site. Mr. T. Hughes, the Tasmanian Mines Department Geologist, located a small piece of core in the possession of an outsider several miles away and informed the author, suggesting he take steps to have it returned. This piece was recovered but it was later found that several pieces of core were circulating at Storeys Creek. According to reliable reports one of these pieces was capable of recording counts on a geiger counter.

Hence it seems clear that some sections of the core were sourvenired. The non-occurrence of high grade core where indicated on other grounds may be due to this cause. There can be no doubt of the existence of the high grade ore over two feet based upon geiger probe results and sludge assays.

(4) Average core recovery in the mineralised zone were about 50%.

MINING & PROSPECTING SERVICES PTY. LTD.

REPORT ON ROYAL GEORGE RADIOACTIVE DEPOSIT

AVOCA - TASMANIA

FOR

MINERAL VENTURES N. L.

MELBOURNE 18th NOVEMBER, 1955

Launceston. 514018

31st January, 1956.

W. Pitulej,
Managing Director of
BEN LOMOND MINING CO. LTD.

R E P O R T.

Remarks to report of (a) "Report on Royal George Radioactive Deposit" by Mining and Prospecting Services Pty. Ltd.

(b) "Report on the Royal George Unranium - tin mine Avoca" by A.E. Ringwood. -

G E N E R A L R E M A R K S.

After careful study of Report on Royal George Radioactive Deposit by Mining and Prospecting Services Pty. Ltd., as well as the Report on the Royal George Uranium - tin mine Avoca by A.E. Ringwood M.Sc, and comparing those two with my own observations and studies, I allow myself to make following remarks.

(1) The works conducted on the site area by Mining and Prospecting Services Pty. Ltd. have not been by far adequate to justify the opinion expressed in the above mentioned report.

(2) The here mentioned works were not performed in co-operation with me. In our agreement with Mineral Ventures N.L. such co-operation is stipulated and in case of disappointment in opinion, the Tasmanian Department of Mines as arbitrator has the deciding voice. The disregard shown to my knowledge of the area resulting in action without co-operation, qualifies the said report as subjective.

(3) The report by Mr. A.E. Ringwood limited to the area of Royal George only, has been based on reports of geologists, Reid and Henderson and the results of rather unfortunate drilling located in the area of, "hot granite" intersected only sparely by thin veinlets of greisan. Anyhow this report seems to be an objectibe one. Its is a pity Mr. Ringwood could not continue with his drilling programme in the greisan part of the open cut under the workings level. In my opinion he would have discovered there quite interesting datas. Wrongly erected drilling has proved nothing.

M Y O P I N I O N.

The uranium mineralisation in Royal George is connected closely with circulation of ascending waters carrying solutions of copper minerals.
The affinity of the two minerals is so obvious in all the area that it must be perceived by an expert.

In all the area I haven't found a place showing notable radioactivity except places showing minerals of copper in every form, including copper mica.

In my opinion the first task of search work should be the location and establishment of presence and run of grey tourmaline greisen carrying copper and uranium minerals. These greisen rocks in ocidised zone have no copper and uranium and the presence of copper with uranium was observed under water level sometimes 30' under surface. The here mentioned greisen carries too, a pyrites material containing rich arsenic tin pyrites but not cassiterite are here of subordinate importance in contrary to greisen in oxidised zone, where tin has been oxidised to cassiterite and copper and uranium dissolved and washed out.

The valuable greisen containing pyrites and primogenetic uranium minerals lies in and below the horison of water circulation. Considering that this horison is situated in this area 30' below surface, we should not pay toomuch attention to the heterogenetic changes occuring in the zone of oxidation (open cut). In that zone such changes occured along cracks and small crevices as well as around nodules of tourmatine.

Nodules of tourmaline from fist to human head size, surrounded by cristals of torbenite, located in prophyro granites of the Royal open cut as well as the recristalisation of torbenite on the walls of it can not constitute a base for valuation of deposit for uranium. Radiometric test of such place must be erratic in results and often indicating large pockets or veinlets of above described tourmaline only.

Only a layman could think that my opinion expressed above diminishes the value of the deposit as such. My discriminating opinion as in regard to the said occurences of torbemite is caused by objectivism which permits me to find answer to the problem and see the total position in right light.

Diverting now our attention to the area surrounding the Royal George open cut we note that about 60% of it contains uncorroded massive granite forming small hills and island between total corrodet pegmatites.

This granite is radioactive and often the radiometric count is very high. The said granite is intersected by numbers of small cravices filled in with metamorphic material carrying tin and very small amount of uranium.

In spite of some noted by airborne stentilograf anomalies, this area of massive granites is not of interest to the miner for uranium. It is due to commasation of radioactive solid granites.

The remaining 40% of the area around Royal George open cut is situated between the groups of solid granites and porfiro-granites represent valleys and synchines filled in by total erroded material coming from errosion of greisen and pegmatites. Along the edges of such bowls without traces of radioactivity upon surface gravel the coverage is from 3-7'. The deposit places should be between 20' - 30'. The said places do not contain material resulting from decomposition of granite, as the kaolinised clays typical for such are missing. The erroded material contains large cristals of pegmatite and fragments of tourmaline rock with quartz.

In all old workings for tin situated along the contact zone between massive granite and gravel synclines we can see around fragments of grey greisened rock with insaminated primogenetic uranium minerals.

The uranium minerals contained here differ in appearance from the metamorfic torbenite and metatorbenite of the Royal George open cut.

Anyhow, such areas which are very important in my opinion as discribed do not show traces of radioactivity on the surface as 20' - 30' of gravel and the water eliminate it totally. Therefore I consider the type of work which has been conducted on the said area in form of diggings from 2' - 3' deep is entirely unsatisfactory and misleading for such area. Mostly all of the important greisen areas covered by gravel have remained undetected in spite of evidence of existence of described greisen rock.

In my opinion, before any radiometric survey would commence a geologist of Mineral Ventures N.L. and geologist of Department of Mines in my presume should determine and mark out possible greisen area and methods of radiometric work for this specific area. My General remark here is that any rediometric work conducted without trenches to bottom of gravel can not shown any results and radiometric survey in the vicinity of a metamorphic torbemite occurance is highly misleading.

Besides it should be remembered that such torbemite, a product of cristalisation from ascending and evaporated waters orginates from places far away. In Royal George country the primary constant source of

uranium seems to be water and greisen carrying ores of copper in every form, from mica to pyrites. The greatest concentration of such minerals is to be found below the horison of waters. The radiometric test should be then limited to areas showing greisen below the horison of water.

C O N C L U S I O N.

My intention as a vendor was to find a partner who will invest some capital for the purpose of prooving the value of the deposit under my suggestions.

Mineral Ventures has agreed to carry out this work for 25% of rights to uranium deposit and float a company.

I am very sorry to state that in my opinion the works conducted by the Mining and Prospecting Services Pty. Ltd. were inadequate and results obtained misleading. The survey did not disclose anything interesting out of known dates.

The mentioned 4 pockets of ore in open cut and 1 pocket 300 yards out of open cut can not give any clear picture of situation and can not constitute a base for valuation of the deposit.

In my opinion, the heterogenetic 5 pockets mentioned above formed by ascending waters can easily lead to misconception in estimation.

Nothing was done in direction of greisen occurence. The open cut at Royal George has contained a portion of greisen which has been removed by mining for him. The proof for it is to be found in the tailing sediments, which shows under 4' - 6' sand a grey layer of sediment 1½' - 4' thick with copper and uranium in water sulphate solution. Copper contents is very high and a steady count of 500 (Astr. countermeter) cover the tailing area of aproximately 70 acres surface.

This fact has been entirely omitted. Once more I would like to put stress on my opinion that tourmaline greisen which carries copper and uranium and hasnot been leashed, situated in synclines between granites whould be the only subject for attention!

Later observation made on other uranium field at Mt. Agnew, has confirmed my observation made at Royal George. Uranium ores are detected at Mt. Agnew in pipe formations filled with pyrite greisen rich in copper and zink pyrites. Such places in oxidised zone upon surface gives near ferruginous clay steady 800 radiometric count.

It is possible that in Royal George such pipe formations are existing too, especially as Royal George deposit is situated on the line of a big fault.

I am really disappointed that the works of Mining and Prospecting Services has been conducted without planning and experience. Further-more I can not understand the insistance on Mineral Ventures side, that the open cut area is of value only. In my opinion the open cut area without the surrounding greisen accompanied by pegmatite area does not represent any value for commercial mining and has only museum value. I think that a personal visit of Dr. Garretty to the site as well as discussion of the mentioned problems whould bring much light to the situation.

Without the revision of outlooks the agreement between the vendor and Mineral Ventures seems to be unsubstantial and it would be better for the sides to abandon it.

The fact of the existence of a 60' wide 300' long band of already explored greisen, running across the 40 acres of the disputed area, can not be seriously considered representing large scale commercial value and the occurence of torbenite can not be treated seriously by anybody considering a serious action.

I expect that Dr. Garretty, a well know mining expert after-

re-inspection and discussion will totally change his opinion which is now influenced by the misleading report of Mining and Prospecting Services.

The opinion of the Royal George deposit by Atomic Energy commission and Department of Mines in January, 1955 was: Interesting deposit but not sufficient work done.

In January, 1956 after 9 months of agreement signed the situation is similar: Not sufficient work done.

I attach to this report a sample of greisen containing copper and uranium ores, which I consider as the only source of commercial ore in the discussed deposit.

Studying the said sample under a microscope, the solution is given to the steady appearance of uranium as constituent of rock in contrary to secondary enrichments in cracks.

W. PITULEJ.