TABLE

IN POCKET

SCINTILLOMETER MAP (Scale: 200 feet to 1 inch)

TABLE

IN POCKET

SCINTILLOMETER MAP (Scale: 200 feet to 1 inch)

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Te RAymond 2-3771

Leonard Germain

B.A. A.R.C.S. (ENGLAND)

CONSULTING ENGINEER

MINING & CHEMICAL

MEMBER OF THE CORPORATION OF PROFESSIONAL ENGINEERS OF QUEBEC

MEMBER OF THE C.I.M.M. AND A.A.A.S.

Montreal, CANADA

October 12th, 1954.

To the Directors,
Blue Rock Cerium Mines Limited,
T O R O N T O,
Ont.

Sirs:-

The present report is intended to draw your attention to some distinctly outstanding results obtained in recent exploration at your property in Monmouth township, Haliburton County. These results, combined with the potentially economic importance of certain additional elements found during our search for uranium, would seem to justify, in our opinion, the expenditure of some $250,000 in preliminary exploration alone with a strong possibility of developing this property into a profitable mine.

I consider this property as one of the outstanding prospects of the Wilberforce-Bancroft area and my reasons for this opinion could be summarized as follows.

S U M M A R Y

It should, first, be clearly understood that the property is a uranium prospect still at an early stage of explo-

Blue Rock Cerium Mines Ltd. (Cont'd)

ration. Consequently, no ore reserves have yet been indicated and, no truly representative grade of ore has yet been established. However,

1.- A careful ground scintillometer survey of the entire property, with two sets of observations taken at each station: one set at hip level and, the other close to the ground, has indicated no less than 25 radioactive anomalies of average strength exceeding at least 5 times background, and, giving a total combined length of 35,000 linear feet of radioactivity. Except where otherwise indicated on the accompanying map, this footage represents assumed continuity between the survey lines spaced 300 feet apart. Of course, this assumption remains to be proven for each individual anomaly but, it is believed that a careful study of the map will show the reasonableness of this assumption in the present cases.

2.- All these anomalies form a strikingly consistent structural pattern within the paragneisses underlying the property area and, with the exception of a few oblique trends, they roughly conform to a general strike of N-43°-E.(astronomic). Some of them give indications of being flat, others seem to split up at their extremities but, a large percentage indicates a vertical attitude.

3.- Some of these anomalies exhibit exceptional dimensions and strengths. - For instance, CI has an indicated length of 1,435 ft., a width of over 75 ft., and an average strength exceeding 20 times background. Anomaly A-3, following the south-east shore of a small lake, has a length of 600 ft., a width of about 50 ft., and an average strength of 22 times background. Anomaly C-3 has a length of 2,665 ft., and an average strength exceeding 20 times background for its entire length. The longest anomaly, F-1, has been traced for a distance of about 5,840 ft. across the property and, has yielded an average strength of 9 times background for that length.

The foregoing geophysical results are decidedly very impressive. It is quite possible that some of this radioactivity may be mostly residual with no commercial deposit underlying the anomalous area. However, considering the large number of anomalies, their widespread distribution, their respective dimensions and strength, there is every reason to believe that adequate ex-

Blue Rock Cerium Mines Ltd. (Cont'd)

ploration will bring to light some important radioactive deposit, and possibly more than one. This belief is further confirmed by the character of the mineralization that has been encountered in surface trenching and sampling.

Trenching, rock blasting and shallow drilling followed by sampling are in progress at the present time. This work, however, is seriously hampered by the depth of overburden covering the radioactive zones. As a result, to date only very short sections of only two or three anomalies have been probed. However, some of the results are considered very significant, namely:

1.- High-grade uranothorite in several strong fissure veins was uncovered in a rock trench blasted near the southwestern extremity of anomaly AI-C. A bulk sample of the material exposed in the trench gave, on chemical analysis:

Uranium oxide (U_3O_8).....	0.38%
Thorium oxide (ThO_2).....	9.45%

It should be noted that anomaly AI-C has an indicated length of about 1,300 feet and that only a short section mentioned above has been explored to date. A glance at the map will also show that higher scintillometer readings were obtained at other points along this anomaly.

2.- Trenching and reconnaissance mapping are presently in progress towards the N.E. end of anomaly C2 and between C2 and C3 where the following results have been obtained to date:

(a) An average of 0.11% of U_3O_8 (by chemical analysis) across 20 feet together with the following percentages in other elements: these being obtained across a width of 5 feet:

Uranium Oxide	(U_3O_8).....	0.19%
Thorium Oxide	(ThO_2).....	0.11
Zirconium Oxide	(ZrO_2).....	0.65
Columbium Oxide	(Cb_2O_5).....	0.30
Hafnium Oxide	(HfO_2).....	0.02

Blue Rock Cerium Mines Ltd. (Cont'd)

These values have been obtained at point marked T-2 on the accompanying map.

(b) At point T-3, sampling yielded 0.06% U_3O_8 across 20 ft. or 0.09% across 10 feet.

ECONOMIC CONSIDERATIONS

Certain considerations would seem warranted in connection with the economic possibilities of the radioactive elements and other elements such as zirconium, columbium and hafnium found associated with the former at the property. It is, of course, too early to appraise the value of these "finds" but, the following consideration might emphasize the importance of a close search for these rare metals.

(a) URANIUM

A tremendous potential demand for uranium is being created throughout the Free-World by the present research work on the applications of atomic energy both for military uses and industrial developments such as ship propulsion, electric power, etc. Present production goes exclusively to defence requirements and consumption figures are not available.

However, Jesse C. Johnson, Director of the Division of Raw Materials of the U.S. Atomic Energy Commission, has recently estimated a world commercial market for uranium of about 14,000 tons per year by 1980. (1) This is equivalent to 16,500 tons of U_3O_8, or, on the basis of 0.10% U_3O_8 per ton, to 16,500,000 tons of ore per year.

It is commonly known that the United States are presently dependent upon imports for at least 70% of their present requirements, most of them coming from the Belgian Congo. Although an improvement will be probably experienced shortly in their supply situation on account of intense prospecting and production on the Colorado Plateau, it would seem

(1) Financial Post - October 2nd, 1954 - Page 34

highly doubtful that this additional production could even take care of the increased demand. It is, therefore, apparent that United States' dependency on outside sources is expected to remain about the same as it is at the present time thereby affording a large and ready market for Canadian production for a long time to come.

(b) THORIUM

The market for thorium and its oxide is clouded with much uncertainty at the present time owing to a lack of a definite Government policy in this respect. Thorium is a "prescribed substance" within the meaning of the Atomic Energy Control Act but, whereas certain guaranteed prices have been established for uranium ores and concentrates, thorium is being left on its own. In July, the price of thorium metal was quoted by Dominion Magnesium Ltd. at $13.50 per lb. for vacuum sintered pellets, 98% pure, in 500-lb. lots f.o.b. Haley, Ont. (1) No mention has been seen in the trade journals of a price for the oxide.

However, there is every reason to believe that present research work might eventually create a market for thorium oxide commensurate in size to uranium on account of its peculiar qualities as a "breeder". The use of thorium as a possible source of energy depends on the fact that when thorium-232, the naturally occurring isotope of the element, is subjected to bombardment by newtrons, it is converted into fissionable uranium-233 in a quantity exceeding the original quantity of uranium-233, uranium-235 or plutonium-239 consumed in providing the necessary stream of neutrons. This operation of creating an excess of nuclear fuel is known as "breeding".

That a market for thorium is being created at the present time is evidenced by the following report from the U.S. Bureau of Mines to the Malone Committee on Strategic and Critical Materials: (2)

> "It would seem reasonable to assume that thorium will, in due course, be an outstanding source of energy and that the current importance attached to it as a possible source of fissionable material is well warranted."

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(1) The Northern Miner; July 29th, 1954 - Page 19
(2) "Hearings before the Special Subcommittee on Minerals, Materials and Fuels Economics of the Committee on Interior and Insular Affairs" - U.S. Senate, Pt.1; Page 216

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The possibility of there being eventually a use for thorium as a source of atomic energy has prompted all countries to place an embargo on exports of any substance containing this element.

(c) ZIRCONIUM AND HAFNIUM

In paragraph 2(a), page 3, an appreciable percentage of zirconium oxide with low value in hafnium oxide was reported from a 5-foot channel sample weighing about 15 lbs., indicating the possibility that these two oxides might occur at other points on the property and in greater concentrations. Therefore, their market possibilities should be indicated, in our opinion.

Both metals are won from the same mineral: zircon, which contains about 50% zirconium and 1 to 2% hafnium. They are both newcomers in the industrial field and demand for both of them is expected to increase concurrently with the development of nuclear reactors.

Zirconium has no substitute in the construction of nuclear reactor powerplants on account of its physical properties, resistance to heat and corrosion, and low thermal neutron absorption cross section. It is also very much in demand as a metal that can withstand the high temperatures in the combustion chambers of jet engines.

According to the U.S. Bureau of Mines (op.cit.), as a structural metal zirconium has tremendous potentialities.

No price is quoted for zircon but, the Northern Miner of July 29th has quoted a price of $5.75 per lb. for zirconium, vacuum sintered cake 97% pure in 500-lb. lots f.o.b. Dominion Magnesium Ltd.'s plant at Haley, Ont. - The U.S. are presently producing about 50% of their consumption but, they could become self-sufficient with time.

Hafnium, which is closely tied in with the extractive processes, is also an essential metal for any atomic energy program but, no commercial quotations have been seen either for the metal or its oxide.

(d) COLUMBIUM

Columbium oxide also appears in appreciable quantity in the assay result reported in para. 2(a) of page 3.

The most important use for columbium is in the manufacture of high-temperature steels and alloys used in jet aircraft engines. Other uses include electronic tubes and

low voltage rectifiers, electrodes for welding stainless steel, and as an oxide in ceramics.

The United States is entirely dependent on foreign supply for this metal and, over 97% comes from Eastern Hemisphere sources, largely Africa.

Columbium ores and concentrates are quoted at $2.80 per lb. of contained columbium pentoxide (Cb_2O_5) when content is not less than 35% Cb_2O_5 - The U.S. Bureau of Mines (op.cit.) reports present U.S. production of combined columbium and tantalum at about 2,500 lbs. per annum but the consumption figures are confidential, but according to the Bureau, many, many times greater, in their own terms.

C O N C L U S I O N S

It is obvious that the occurrence together of such metals as uranium, thorium, zirconium, columbium and hafnium could be expected to present serious difficulties of beneficiation and extraction accompanied by appreciable losses. It is too early yet to initiate a program of metallurgical research and this should not be considered before making sure that thoroughly representative samples of at least indicated ore reserves are available.

On the other hand, considering the widespread and strong radioactivity indicated on your property, the tremendous potential market for uranium and possibly thorium together with the added possibility of producing some by-product zirconium, columbium and hafnium, it is our opinion that funds, to the extent of say $250,000 should be raised to carry out an exploration program adequate to probe in a satisfactory manner the numerous zones of radioactivity that have been indicated in preliminary reconnaissance work.

Blue Rock Cerium Mines Ltd. (Cont'd)

PROPERTY

The property consists of a group of 18 mining claims bearing Nos. E.O.4961 to 4973 incl.; E.O.5448 and E.O.9430 to 9433 inclusive, of approximately 50 acres each, and forming a single rectangular block located in Concessions V and VI of Monmouth township, Haliburton County, Southeastern Ontario Mining Division. - The total area is approximately 900 acres.

All statutory information with respect to these claims will be found on Table No. 1 on the following page.

According to recent reports from the Ontario Department of Mines all claims are presently in good standing, and are all registered in the Company's name in the books of the Department.

ACCESSIBILITY

The property can be reached by an all-weather road which branches off the main Haliburton-Bancroft highway at Tory Hill, some 16 miles east of Haliburton.

SERVICES

Light, electric power and rail transportation are available at Tory Hill, some four miles to the north of the property.

PRESENT DEVELOPMENT IN THE AREA

Cardiff Uranium Mines Limited, located about five miles East of Blue Rock, is in the final stages of mine preparation and mill construction, while Rare Earth Mining Corporation, which adjoins Blue Rock on the North, have established three potential ore zones of radioactive material.

Centre Lake Mine, located 11 miles East of Blue Rock, in Cardiff township, is the senior operator in the area. It is presently drifting at the 225-foot level on two dykes which have indicated 2,700 tons per vertical foot in diamond drilling grading 0.08% U_3O_8 per ton across 12 to 15 feet in width. The potential ore zone is reported to have a length of 17,000 feet of which some 4,000 feet has partially been explored to date.

Croft Uranium has also gone underground in the development of a structure which is common with Centre Lake. A total of 40,000 feet of diamond drilling and 1,000 feet of adit

TABLE No. I :- STATUTORY INFORMATION

ABSTRACT No.	Date	Claim No.	AREA (acres)	Name of STAKER	LOCALITY IN Monmouth Township	Date of Staking	Date of Recording	Total Work Recorded (days)	REMARKS
4065	Oct. 1/54	E.O.4961	50	R.M. Crichton	S½ lot 20 - Con.VI	18/IV/50	18/V/50	160	Transferred to B.R.C.M. Ltd: 25/II/52
4066	"	E.O.4962	50	"	N½ lot 20 - Con.VI	18/IV/50	18/V/50	160	- ditto -
4067	"	E.O.4963	50	"	S½ lot 21 - Con.VI	18/IV/50	18/V/50	160	- ditto -
4068	"	E.O.4964	50	"	N½ lot 21 - Con.VI	18/IV/50	18/V/50	160	- ditto -
4069	"	E.O.4965	50	Alb. Hurst	N½ lot 17 - Con.VI	17/IV/50	18/V/50	265	- ditto -
4070	"	E.O.4966	50	"	S½ lot 17 - Con.VI	18/IV/50	18/V/50	265	- ditto -
4071	"	E.O.4967	50	"	N½ lot 18 - Con.VI	17/IV/50	18/V/50	265	- ditto -
4072	"	E.O.4968	50	"	S½ lot 18 - Con.VI	18/IV/50	18/V/50	265	- ditto -
4073	"	E.O.4969	50	"	N½ lot 19 - Con.VI	17/IV/50	18/V/50	265	- ditto -
4074	"	E.O.4970	50	"	S½ lot 19 - Con.VI	18/IV/50	18/V/50	180.9	- ditto -
4075	"	E.O.4971	50	"	N½ lot 18 - Con.V	19/IV/50	18/V/50	225	- ditto -
4076	"	E.O.4972	50	"	S½ lot 18 - Con.V	19/IV/50	18/V/50	225	- ditto -
4077	"	E.O.4973	50	"	N½ lot 19 - Con.V	19/IV/50	18/V/50	225	- ditto -
4078	"	E.O.5448	50	Reg. W. Doubt	S½ lot 19 - Con.V	24/V/51	22/VI/51	207	- ditto -
4079	"	E.O.5449	50	"	N½ lot 20 - Con.V	23/V/51	22/VI/51	40	Cancelled 28/I/54 - Section 88 (c)
4080	"	E.O.5450	50	"	S½ lot 20 - Con.V	23/V/51	22/VI/51	40	- ditto -
4081	"	E.O.5451	50	"	N½ lot 21 - Con.V	23/V/51	22/VI/51	40	- ditto -
4082	"	E.O.5452	50	"	S½ lot 21 - Con.V	24/V/51	22/VI/51	40	- ditto -
4168	Oct. 7/54	E.O.9430	50	H. Petite	N½ lot 20 - Con.V	16/I/54	12/II/54	None	Transferred to B.R.C.M. Ltd: 28/IX/54
4169	"	E.O.9431	50	"	S½ lot 20 - Con.V	16/I/54	12/II/54	None	- ditto -
4170	"	E.O.9432	50	"	N½ lot 21 - Con.V	16/I/54	12/II/54	None	- ditto -
4171	"	E.O.9433	50	"	S½ lot 21 - Con.V	16/I/54	12/II/54	None	- ditto -

Blue Rock Cerium Mines Ltd. (Cont'd)

drifting have indicated 1 million tons of ore down to 650 ft. grading 0.08 to 0.09% uranium oxide.

Dyno Mines, in Cardiff township and 7 miles due East of Blue Rock, has 500,000 tons of 0.085% U_3O_8 indicated by diamond drilling in 2 tiers of holes 75 feet apart on the B-zone.

Faraday Uranium has completed 30,000 ft. of diamond drilling at Bow Lake in Faraday township with indications of 4,000 tons per vertical foot grading 0.08% uranium oxide in shoots totalling 4,700 ft. in length.

The foregoing properties are in the most advanced stage of development in the area. Mention should also be made of the Fission Mine, in Cardiff township, where the first discovery of radioactive ore was made and, which is preparing for resumption of operations with a sizeable tonnage of fluorite-uranium ore.

GENERAL GEOLOGY

The Haliburton-Bancroft area lies entirely within the Grenville sub-province of the Pre-Cambrian Shield, and until recently was better known for the industrial minerals extracted therefrom.

The Pre-Cambrian rocks consist of basic volcanics now altered to hornblende or chlorite schists, paragneisses and crystalline limestone or dolomite with a lesser amount of conglomerate, occurring in large arcuate bands forming roof pendants in a large area underlain by granite and hybrid gneiss. Small masses of diorite, gabbro, anorthosite, peridotite and extrusive basalt intrude both the volcanics and sediments. In turn, granite and pegmatite intrude all the above groups with the formation of hybrid rocks from some of the sediments. Hybrid gneisses and granite underlie much of the area. Nepheline-rich syenite (gneiss) and nepheline-rich pegmatite were formed still later and are intruded in turn by alkali syenite and by dykes and masses of pink granite.

An overlapping band of Paleozoic sediments, consisting largely of limestone with lesser amounts of shale, quartzite or arkose, occurs along the south edge of the Pre-Cambrian rocks.

Pleistocene deposits of boulders, gravel, sand, silt and clay of glacial or glaciofluvial origin constitute the overburden.(1)

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(1) Ont. Dept. of Mines: Vol.LII, Part II, 1943: "Mineral Occurrences in the Haliburton Area" by J. Satterly.

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As shown by Satterly on Map 52a of the Haliburton Area, the Blue Rock property is largely underlain by acidic rocks (granite, syenite and pegmatites) with bands of altered sediments which strike across the property in a northeasterly direction.

WORK AND RESULTS

GEOPHYSICAL SURVEY

A scintillometer survey, based on a 300' x 100' grid, has been completed over the entire property early this summer. Headings were taken both at hip level and close to the ground, at each station and radioactive anomalies were outlined by taking only the readings which exceeded 5 times background the latter being taken at 15 counts per second (c.p.s.)

An exceptional number of anomalies was thereby indicated exhibiting a very striking trend of roughly N-43°-E. No less than 25 anomalies have appeared in this manner giving the following corresponding average strengths in c.p.s.

ZONE	ANOMALY	LENGTH (Ft.)	AVER. STRENGTH	x BACKGR'D
	0	100'	80 c.p.s.	5.3
"A"	AI-W	925'	83 "	5.5
	AI-C	1,271'	204 "	13.6
	AI-E	1,271'	151 "	10.1
	A2-W	308'	200 "	13.3
	A2-C	759'	127 "	8.4
	A2-E	1,530'	92 "	6.1
	A3	600'	330 "	22.0
"B"	BI	410'	125 "	8.3
	B2	717'	108 "	7.2
"C"	CI-O	205'	288 "	19.2
	CI	1,435'	327 "	21.8
	C2	2,993'	300 "	20.0
	C3	2,665	370 "	24.6
	CI-IW	717'	350 "	23.3
	CI-2W	410'	262 "	17.4
	C3-1	369'	215 "	14.3
"D"	D	1,948'	151 "	10.0
"E"	E1	2,152'	344 "	23.0
	E2	923'	80 "	5.3

Blue Rock Cerium Mines Ltd. (Cont'd)

ZONE	ANOMALY	LENGTH (Ft.)	AVER. STRENGTH	x BACKGR'D
"F"	F1	5,840'	130 c.p.s.	8.7
	F1-1	922'	222 "	14.1
	F1-2	718'	100 "	6.6
	F1-3	246'	660 "	44.0
	F2	1,169'	129 "	8.6
	F3	2,009'	152 "	10.1
	F4	759'	261 "	17.4
	F4-W	287'	238 "	15.8

giving a total combined length of over 33,000 feet of radioactivity.

In connection with the above computation, it should be remarked that the more representative strengths are associated with the longest radioactive zones because a larger number of sections were used, whereas the lengths and average strengths of anomalies shorter than 300 feet should be considered very much unreliable. Closer grids are being used at the present time to obtain more reliable data throughout.

Nevertheless, the foregoing computation and a glance at the attached map cannot fail to impress on account of the widespread radioactivity and its strength at numerous points.

ZONE "A"

Early work was initiated by the discovery of a radioactive occurrence in syenite pegmatite on Claim 4968. A limited amount of trenching and six drill holes showed the syenite pegmatite to occur at scattered intervals over a zone length of 1,500 ft. This drilling, however, returned only small scattered sections of radioactive material. More recent work has shown that the radioactivity on this showing is almost entirely due to deposition of uranothorite in and along fractures or fissures and that very little impregnation of the main mass has occurred.

Brick-red discoloration invariable follows any appreciable deposition of the radioactive material. Variable amounts of up to 10% fluorite occur at scattered intervals in the syenite mass. Low to negligible amounts of molybdenite have been noted.

The main granite mass appears to occur in an anticlinal structure and has included bands of what appears to be recrystallized pyroxenic limestone. The pyroxene occurs as angular to sub-angular aggregates varying from one quarter to six inches and may constitute 40% of the rock.

The syenite pegmatite, which appears to be a series of disconnected masses usually occurs as the contact phase of the granite and "pyroxenite" as sheet-like bodies.

Blue Rock Cerium Mines Ltd. (Cont'd)

In late 1953, a reconnaissance (300' x 100' grid) survey of the North 1/3rd part of the property was completed.

Work was resumed in March 1954 after a brief halt and was first concentrated on the S.W. end of this zone (A1-C). A detailed (100 x 25' grid) scintillometer survey was carried out (see attached map) in April '54 followed by stripping and rock-trenching. Altogether 5,000 square feet of trenching in overburden and 3,000 cu. ft. of rock blasting were executed within a limited area along this zone. In May '54, seven short test holes, totalling 201 feet, were drilled with a Pack-Sack drill to test the economic worth of the indicated anomalies on the syenite pegmatite. Only 2 holes Nos. 1A and 2A returned encouraging results as follows:

HOLE	FOOTAGE	CORE LENGTH	RADIOMETRIC % U_3O_8 Equivalent
1A	3.8' - 13.5'	9.7'	0.058%
2A	0.0' - 13.0'	13.0'	0.055

It should be added that several sections in the above core lengths, varying from a few inches to a foot, contained high radioactivity and brought the average up. - A weighted composite sample of the above footages returned a chemical assay of 0.02% U_3O_8 and 0.50% thorium oxide. - Holes 1A and 2A were located close to an outcropping fissure vein at 0 + 30 N. and 0 + 25 E. with reference to the base line. The fissure at this location has a length of 30 feet and disappears under heavy overburden and overlying granite and "pyroxenite". The strike is locally roughly N.W. with a 70-degree dip. Subsequent trenching has shown that the vertical fissure is fed by a series of "flats" radiating from the North and East. Impregnation into the wall rock varies giving a vein-like thickness from a few inches to over a foot.

A bulk sample of this high-grade vein material assayed:

0.38% U_3O_8 and 9.45% ThO_2.

Whether or not the fissures will produce a commercial amount of vein material has yet to be determined. It is to be noted that this anomaly has an indicated length of over 1,200 feet and that only a very small section of it has been prospected yet. A glance at the map will show that stronger radioactivity is indicated towards the N.E. end of the zone which has not been touched yet.

ZONE "B" (Otter Creek Extension)

Rare Earth Mining Corporation, which adjoins Blue Rock on the North, are obtaining very encouraging results from two zones (Otter Creek and Cliff) along the Blue Rock North boundary. The Otter Creek zone consists of fractured grey and pink granite

Blue Rock Cerium Mines Ltd. (Cont'd)

pegmatite dykes occuring in a band of altered sediments to the West of a large granite mass. The strike of this zone is N.-20°-E. and the dip is to the East.

The Cliff zone is a parallel zone of pegmatites occurring several hundred feet East, in the large granite mass.

To date, the only work testing the extension of the above two zones into Blue Rock has been a reconnaissance survey and one joint drill hole with Rare Earth along the boundary. This hole (No.7) intersected two pegmatite dykes but assay results were low (0.04% U_3O_8) to negligible. These two zones correspond to B-1 and B-2 of Blue Rock but yielded relatively weak indications in the scintillometer survey on the latter property.

ZONE "C"

A study of the accompanying scintillometer map will show that this zone can be expected to yield better results under exploration. Anomaly CI has an indicated length of 1,435 ft., a width of over 75 feet and an average strength exceeding 20 times background.

Trenching and reconnaissance mapping are now in progress on the N.E. end of this zone between C2 and C3. The trenching at 100-foot intervals now covers a length of 600 feet and shows a persistence of radioactivity in all trenches. Gummite, a hydrous silico-uranate of lead, etc., which contains 40 to 80% U_3O_8 has been identified and sample returns to date show the following results:

	Width	U_3O_8	ThO_2
At point T-1 (see map).....	4.0'	0.08%	0.064%
	8.0'	0.07%	0.046%
" T-2 (").....	20.0'	0.11%	
" T-3 (").....	10.0'	0.09%	

the foregoing being obtained from channel sampling of fresh surface exposures. In addition to the above, at point T-2 a 5-foot channel sample returned the following unexpected values, across the width given:

Uranium oxide	(U_3O_8)	0.19%
Thorium oxide	(ThO_2)	0.11
Zirconium oxide	(ZrO_2)	0.65
Hafnium oxide	(HfO_2)	0.02
Columbium oxide	(CbO_5)	0.30

It is too early yet to appraise the importance of this new find but, as it occurs just off and along one of the strongest and longest anomalies detected in scintillometer work, there is

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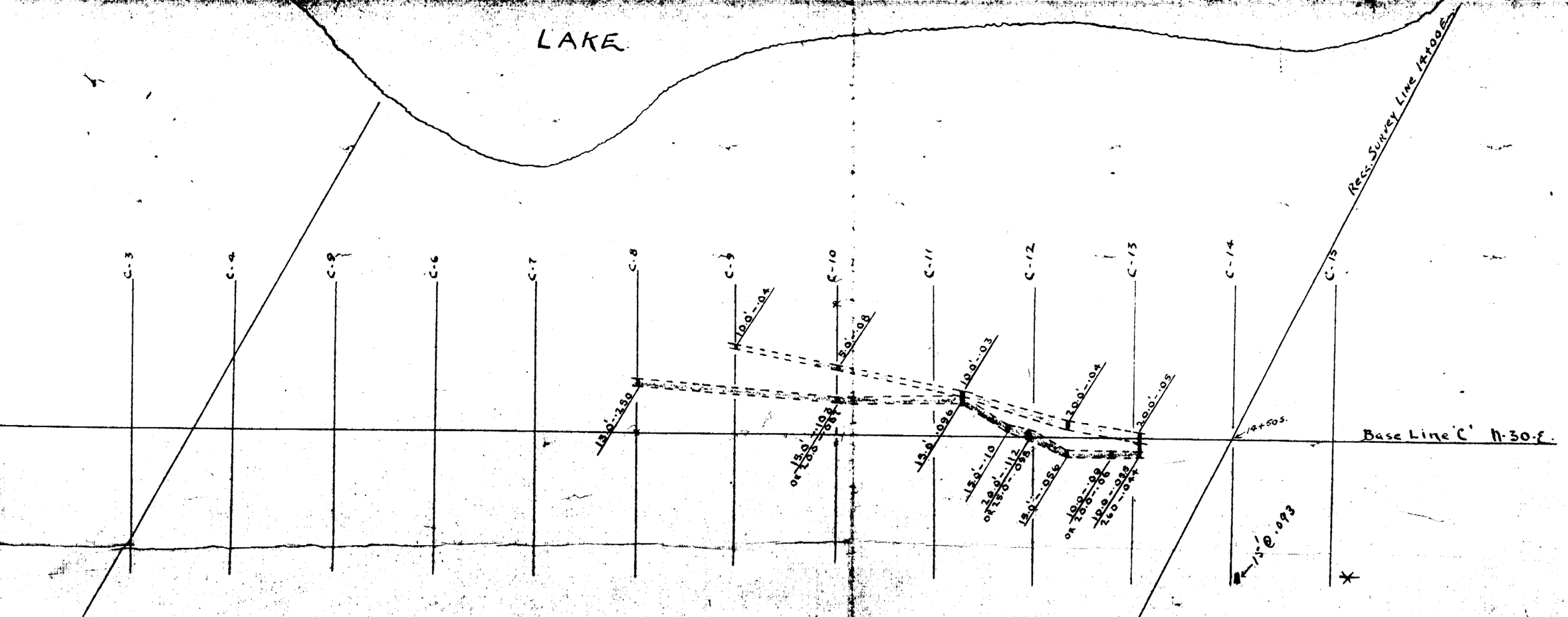
reason to believe that work at the property has entered a new and probably highly interesting stage. Surface work and shallow diamond drilling had preceded completion of the scintillometer survey, and this could possibly explain some of the indifferent results obtained at inception. With the geophysical data available now, and increasing familiarity with geology, structure and habits of the mineralization, it is our opinion that you are fully justified in the expectation of highly encouraging results from additional work.

L. Germain, P.Eng.

October 12th, 1954.



SHOOT A POTENTIAL

13.0' - 0.25% : 3.250
15.0 - 0.103 : 1.545
15.0 - 0.096 : 1.440
15.0 - 0.100 : 1.500
20.0 - 0.112 : 2.240

LENGTH 800 FEET

AV. WIDTH 15.5' - AV. GRADE 0.127%

OR 2.54 LBS/TON @ $11.25 = $28.50 @ $7.25 = $18.40

15.0 - 0.056 : 0.840
10.0 - 0.055 : 0.550

LENGTH 1000 FEET

AV. WIDTH 14.7' - AV. GRADE 0.110%

OR 2.2 LBS./TON @ $11.25 = $24.75 @ $7.25 = $15.95

SHOOTS STILL OPEN AT BOTH ENDS /* IMPT. RESULTS 400' SE. INDIC.
ALL ASSAY RESULTS % U3 O8 CHEMICAL / SAMPLES CHIP

BLUE ROCK CERIUM MINES LTD.
SURFACE ASSAY PLAN/ZONE C
SCALE 1" = 200'
NOVEMBER 11,1954
D. E. CAMERON

D.E. Cameron
Geologist

1. BLUE ROCK CERIUM MINES LIMITED (No Personal Liability) Head Office - Room 810, 372 Bay Street, Toronto 1, Ontario (hereinafter referred to as the "Company").

2. Incorporated by Letters Patent dated the 11th day of January, A.D. 1952, issued pursuant to the Ontario Companies Act, R.S.O. 1950, Chapter 59, Part XI thereof.

3.

President and Director	- Reginald William Doubt, Prospector, Lakefield, Ontario.
Vice-President and Director	- Albert Hurst, Prospector, Lakefield, Ontario.
Director	- Jenkin Evans, Broker, 344 Linsmore Crescent, Toronto, Ontario.
Director	- Horace Gerald White, Importer and Exporter, 112 Hamburquo Avenue, Mexico City, Mexico.
Director and Secretary-Treasurer	- Robert McIllwraith Crichton, Prospector, 244 Islington Avenue, Toronto 18, Ontario.

4.

Auditors	- Messrs. Hilborn & Company, Chartered Accountants, 219 Bay Street, Toronto, Ontario.

5.

Registrar and Transfer Agents	- Crown Trust Company, 302 Bay Street, Toronto, Ontario.

6. The authorized share capital of the company consists of 3,000,000 shares of the par value of $1.00 each of which 1,039,505 shares are issued and paid up.

7. No bonds or debentures are outstanding or at this time proposed to be issued.

8. Six Hundred and Seventy-five thousand (675,000) shares out of seven hundred and fifty thousand (750,000) shares issued for properties as hereinafter set out, are held in escrow by the Crown Trust Company, 302 Bay Street, Toronto, subject to release only on the written consent of the Ontario Securities Commission and the company, (the company being required to give its consent at such time as one million (1,000,000) shares of the capital stock of the company have been sold for cash) and subject to transfer, hypothecation or other alienation only on the written consent of the Ontario Securities Commission.

9. (a) Shares in the capital stock of the company sold for cash to date total 289,505 shares sold at the following prices:

5 shares	at $1.00 per share	- $	5.00
289,500 shares	at .20 per share	-	57,900.00

(b) The total cash received for the said shares was $57,905.00.

(c) No Commissions were paid on the sale of the above-mentioned shares.

10. No securities of the company other than shares have been sold for cash to date.

11. No shares have been issued nor are to be issued, nor has any cash been paid, nor is it to be paid to any promoter.

12. (a) The official designation and location of all of the company's properties are the mining rights, title and interest in the following:

Eighteen (18) unpatented mining claims in the township of Monmouth, County of Haliburton, Eastern Ontario Mining Division, Ontario, which said claims comprise respectively the North and South halves of Lots 18 to 21 inclusive, in Concession V in the said Township and respectively the North and South halves of Lots 17 to 21 inclusive, in Concession VI in the said Township and are more particularly described as claims numbers EO 4961 to EO 4973 both inclusive, and claim number EO 5448 and claims numbers EO 9430 to EO 9433 both inclusive.

(b) The mining claims above referred to were acquired by the company pursuant to an agreement dated the 14th day of February, 1952, made between the company and Robert McIllwraith Crichton, one of the directors of the company, hereinbefore referred to, pursuant to which 750,000 fully paid and non-assessable shares of the capital stock of the company were issued as the full consideration for the said properties. The following persons received a greater than five per cent. (5%) interest in the said 750,000 shares, namely:

Horace Gerald White
Reginald William Doubt
Albert Hurst
Robert McIllwraith Crichton

all of the said persons being directors of the company.

(c) (i) The mining lands referred to in Paragraph 12(a) hereof are located approximately sixteen (16) miles east of the Town of Haliburton, Ontario, and are accessible by an all-weather road which branches off the Haliburton-Bancroft Highway. Light, electric power and rail transportation are available from the Village of Tory Hill about four (4) miles to the north of the property.

(ii) There has been some diamond drilling done but apart from this there has been no underground exploration or development nor is there any underground plant or equipment as yet.

(iii) A scintillometer survey, trenching and rock blasting have been done on the surface but there is no surface plant or equipment of any importance. The reference in the balance sheet of the company dated the 17th December, 1954, which forms part of this Prospectus, to equipment and buildings to the value of $1,692.06 is all temporary buildings used during surface operations and to some equipment purchased at the same time.

(iv) All underground and surface exploration, development and work done on the property under the direction of the present management is described together with full particulars of the property and its geology, in the report of Leonard Germain, B.A., A.R.C.S. (Eng.), P.Eng., dated the 2nd day of December, 1954, which said report accompanies and forms part of this Prospectus.

13. (a) The company has pursuant to an underwriting and option agreement dated the 1st day of December, 1954, agreed to sell to Stratmat Ltd., 620 Cathcart Street, Montreal, Quebec, 200,000 shares of the capital stock of the company at the price of 50¢ per share, all of which said shares shall be taken up and paid for on the effective date of this Prospectus, namely the 17th day of January, 1955. Stratmat Ltd. is acting in this matter on its own behalf.

(b) In consideration of the purchase of the said 200,000 shares referred to in Paragraph 13(a) hereof, the company has granted to the said Stratmat Ltd. an option to purchase from the company 200,000 shares at the price of $1.25 per share, such shares to be taken up and paid for on or before the 1st day of March, 1955.

(c) There are no sub-option agreements or sub-underwriting agreements outstanding nor proposed to be given nor assignments of the said agreement of the 1st of December, 1954. In the event of default an amending statement will be filed within twenty (20) days from the date of such default.

13. (d) In the event that Stratmat Ltd. elects to dispose of all or any part of the shares underwritten and optioned, Stratmat Ltd. has advised the company that it proposes to do so either by

(i) selling the said shares to registered security dealers as principals at a mark-up not in excess of 1/2¢ per share; or

(ii) offering the said shares through registered security dealers as agents on the basis that such registered security dealers are entitled to receive their costs of distribution and commission at rates not exceeding those authorized by the Toronto Stock Exchange for mining shares; or

(iii) offering the said shares through registered security dealers as agents on the basis that such registered security dealers are entitled to receive a maximum commission of 25%.

(e) Stratmat Ltd. is a wholly owned subsidiary of Strategic Materials Corporation, a New York corporation having its head office at 1330 Marine Trust Building, Buffalo, N. Y.

(f) The company proposes to expend the proceeds of the sale of the said block of 200,000 shares in carrying out the recommendations of Leonard Germain, B.A., A.R.C.S. (Eng.), P.Eng., as contained in his report hereinbefore mentioned insofar as such funds are required. A portion of the funds will be expended in meeting the current liabilities of the company as disclosed in the balance sheet dated the 17th day of December, 1954. In the event that the above mentioned option is exercised, the proceeds of the sale of the optioned block of 200,000 shares will be paid into the treasury of the company as working capital available for future development or the acquisition of additional mining properties as the company may be advised.

14. The company has no indebtedness to be created or assumed which is not shown in the balance sheet which accompanies this Prospectus except the expenses which will be subsequently incurred in carrying out the program referred to above. The balance sheet is dated the 17th day of December, 1954.

15. All of the above named directors and officers of the company had a personal interest in the properties of the company as disclosed in the sale agreement with respect to the said properties above referred to and dated the 14th day of February, 1952. The interest of the said directors and officers as indicated by their respective receipt of vendor shares as referred to in paragraph 12(b) of this Prospectus was as follows:

Jenkin Evans	4.36%
Horace Gerald White	8.93%
Reginald William Doubt	25 %
Albert Hurst	25 %
Robert McIllwraith Crichton	25 %

No further property is contemplated to be acquired at the present time but if further property can be purchased advantageously the company will do so.

16. No remuneration has been paid or is at this time proposed to be paid to the directors or officers of the company as such.

At the present time no person or company is in a position to elect a majority of the board of directors, but upon completion of present financing plans, Stratmat Ltd. above named will be in a position to do so.

17. The following are the particulars of the principal business in which each director and officer has been engaged during the past three years:

President and Director,
Reginald William Doubt, Lakefield, Ontario, self-employed as a prospector.

Vice-President and Director,
Albert Hurst, Lakefield, Ontario, self-employed as a prospector.

Secretary-Treasurer and Director,
Robert McIllwraith Crichton, Toronto, during the years 1952 and 1953 as a registered salesman for Messrs. Jenkin Evans & Co., members of the Toronto Stock Exchange, and in 1954 as a prospector.

Director,
Horace Gerald White, Mexico City, Mexico, until 1954 as an executive and comptroller by The American Donut Corporation, New York City, and in 1954 to the present time independently as an importer and exporter in Mexico City.

18. The undersigned have no knowledge of any arrangement (if any exists) with respect to the sale or option of vendors shares. Vendors shares and shares previously sold for cash may be sold, but the proceeds will not accrue to the treasury of the company.

19. The foregoing constitutes full, true and plain disclosure of all material facts in respect to the offering of securities referred to as above as required under Section 38 of the Securities Act (Ontario) and there is no further material information applicable other than in the financial statements or reports where required.

DATED this 20th day of December, 1954.

"Reg. W. Doubt"

"A. Hurst"
by his Attorney Jenkin Evans

"H. G. White"
by his Attorney Robert M. Crichton

"Jenkin Evans"

"Robert M. Crichton"

DIRECTORS.

20. To the best of our knowledge, information and belief, the foregoing constitutes full, true and plain disclosure of all material facts in respect of the offering of securities referred to above as required by Section 38 of the Securities Act (Ontario) and there is no further material information applicable other than in the financial statements or reports where required. In respect of matters which are not within our knowledge, we have relied upon the accuracy and adequacy of the foregoing.

Dated this 13th day of December, A.D. 1954.

STRATMAT LIMITED,
per:

"John C. Udd"
Director

"R. W. Weldon"
Secretary

(SEAL)

Montreal, Canada
December 2nd, 1954

To the Directors,
Blue Rock Cerium Mines Limited
TORONTO, Ont.

Sirs:-

The present report is intended to draw your attention to some distinctly outstanding results obtained recently in the surface exploration of your property in Monmouth township, Haliburton County, Ont. These results, combined with the potentially economic importance of certain additional elements found during our search for uranium, would seem to justify, in our opinion, the expenditure of some $250,000 in preliminary exploration alone with a strong possibility of developing this property into a profitable mine.

I consider this property as one of the outstanding prospects of the Wilberforce-Bancroft area and my reasons for this opinion could be summarized as follows.

SUMMARY

It should, first, be clearly understood that the property is a uranium prospect still at an early stage of exploration. Consequently, no ore reserves have yet been proven or indicated and, no truly representative ore grade has yet been established. However,

1.- A careful ground scintillometer survey of the entire property has indicated no less than 25 radioactive anomalies of average strength exceeding at least 5 times background, and, giving a total combined length of 35,000 linear feet of radioactivity.

2.- Some of these anomalies exhibit exceptional dimensions and strengths. - For instance, C-1 has an indicated length of 1,435 ft., a width of over 75 feet and an average strength exceeding 20 times background. Anomaly A-3, following the S.E. shore of a small lake, has a length of 600 ft., a width of about 50 ft., and an average strength of 22 times background. Anomaly C-3 has a length of 2,665 ft., and an average strength exceeding 20 times background. The longest anomaly, F-1, has been traced for a distance of about 5,840 feet across the property and, has yielded an average strength of 9 times background over that length.

3.- High-grade uranothorite in several strong fissure veins was uncovered in a rock trench blasted near the S.W.extremity of anomaly AI-C where a bulk sample gave by chemical analysis:

Uranium oxide(U_3O_8)..... 0.38%
Thorium oxide(ThO_2)..... 9.45%

4.- Preliminary sampling of rock exposures near the N.E. end of anomaly C-2 and, between C-2 and C-3 indicated the presence of important values in columbium and zirconium oxides in addition to uranium and thorium. Chip sampling at these points gave the following results by chemical analysis:

(a) 0.11% uranium oxide(U_3O_8) across 20 feet;

(b) and, across a width of 5 feet:

Uranium oxide(U_3O_8)..... 0.19%
Thorium oxide(ThO_2)..... 0.11
Zirconium oxide(ZrO_2)..... 0.65
Columbium oxide(Cb_2O_5)..... 0.30
Hafnium oxide(HfO_2)..... 0.02

5.- A very important ore-shoot has been partially exposed by bull-dozing and chip sampling along anomaly C-2. The full length of this shoot is not yet known and work is still progressing on the extensions at both ends but, the following results have been obtained to date:

Length.....		800 feet;
Average width.....		15.5 ft.
Average grade(U_3O_8).....		0.127%
	or:	2.54 lbs/ton

By increasing the length, the following results obtain:

Length.....		1,000 ft.
Average width.....		14.7 ft.
Average grade (U_3O_8).....		0.110%
	or:	2.2 lbs/ton

the foregoing results being by chemical analysis.

Considerable significance is attached to the fact that the highest sampling result was obtained at the extreme West end of the present exposure, and, that high Geiger readings were recorded at a point some 400 feet East of the present East end of the exposure. - There is, therefore, every reason to believe that this ore-shoot is of large dimensions and of a grade appreciably higher than the average for the camp as a whole. Moreover, on account of indications mentioned in previous paragraphs, it is expected that this zone will contain appreciable values in columbium and zirconium oxides.

6.- A study of the attached map will show that the above-described ore-zone is flanked to the North and, at a very short distance, by the strongest radioactive anomaly discovered to date at the property. No work has been done yet on this anomaly but, it is quite possible that exploration of this indicated zone will add materially to the gratifying results mentioned above.

C O N C L U S I O N S

Considering the widespread and strong radioactivity indicated on your property, the partially indicated existence of a large commercial ore-body, the possibility of uncovering additional radioactive deposits of similar size and grade, the tremendous potential market for uranium and possibly thorium, together with the added possibility of producing some by-product zirconium, columbium and hafnium, it is our opinion that funds, say to the extent of $250,000 should be raised to carry out an exploration program adequate to probe in a satisfactory manner the numerous zones of radioactivity that have been indicated in preliminary reconnaissance work.

D E T A I L S

PROPERTY

The property consists of a group of 18 mining claims bearing Nos. E.0.4961 to 4973 incl.; E.0.5448 and, E.0.9430 to 9433 inclusive, of approximately 50 acres each, and forming a single rectangular block located in Concessions V and VI of Monmouth township, Haliburton County, Southeastern Ontario Mining Division. - The total area is approximately 900 acres.

According to recent reports from the Ontario Department of Mines, all claims are presently in good standing, and, are registered in the Company's name in the books of the Department.

ACCESSIBILITY

The property can be reached by an all-weather road which branches off the main Haliburton-Bancroft highway at Tory Hill, some 16 miles East of Haliburton.

SERVICES

Light, electric power and rail transportation are available at Tory Hill, some four miles to the North of the property.

GENERAL GEOLOGY

The Haliburton-Bancroft area has recently been mapped by the Ontario Department of Mines(1). It lies entirely within the Grenville Sub-province of the Pre-Cambrian Shield and, until recently, was better known for the industrial minerals extracted therefrom.

Satterly(op.cit.) describes the regional geology as follows. - The Pre-Cambrian rocks consist of basic volcanics now altered to hornblende or chlorite schists, paragneisses and crystalline limestone or dolomite with a lesser amount of conglomerate, occurring in large arcuate bands forming pendants in a large area underlain by granite and hybrid gneiss. Small masses of diorite, gabbro, anorthosite, peridotite and extrusive basalt intrude both the volcanics and sediments. In turn, granite and pegmatite intrude all the above groups with the formation of hybrid rocks from some of the sediments. Hybrid gneisses and granite underlie much of the area. Nepheline-rich syenite(gneiss) and nepheline-rich pegmatite were formed still later and are intruded in turn by alkali syenite and by dykes and masses of pink granite.

An overlapping band of Paleozoic sediments, consisting largely of limestone with lesser amounts of shale, quartzite or arkose, occurs along the south edge of the Pre-Cambrian rocks.

Pleistocene deposits of boulders, gravel, sand, silt and clay of glacial or glaciofluvial origin constitute the overburden.

Satterly(op.cit.) shows the Blue Rock property as largely underlain by acidic rocks(granite, syenite and pegmatites) with bands of altered sediments which strike across the property in a northeasterly direction.

WORK AND RESULTS

GEOPHYSICAL SURVEY

A scintillometer survey, based on a 300' x 100' grid has outlined the following radiometric anomalies with average strength exceeding 5 times background:

ZONE	ANOMALY	LENGTH(Ft.)	AVER.STRENGTH	x BACKGR'D
"A"	0	100'	80 c.p.s.	5.3
	AI-W	925	83 "	5.5
	AI-C	1,271	204 "	13.6
	AI-E	1,271	151 "	10.1
	A2-W	308	200 "	13.3
	A2-C	759	127 "	8.4
	A2-E	1,530	92 "	6.1
	A-3	600	330 "	22.0
"B"	B-1	410	125 "	8.3
	B-2	717	108 "	7.2
"C"	C1-0	205	288 "	19.2
	C-1	1,435	327 "	21.8
	C-2	2,993	300 "	20.0
	C-3	2,665	370 "	24.6
	C1-1W	717	350 "	23.3
	C2-2W	410	262 "	17.4
	C3-1	369	215 "	14.3
"D"	D	1,948	151 "	10.0
"E"	E-1	2,152	344 "	23.0
	E-2	923	80 "	5.3
"F"	F-1	5,840	130 "	8.7
	F1-1	922	222 "	14.1
	F1-2	718	100 "	6.6
	F1-3	246	660 "	44.0
	F-2	1,169	129 "	8.6
	F-3	2,009	152 "	10.1
	F-4	759	261 "	17.4
	F4-W	287	238 "	15.8

(1) Ont. Dept. of Mines: Vol.LII, Part II, 1943: "Mineral Occurrences in the Haliburton Area" by J. Satterly.

giving a total combined length of over 33,000 feet of radioactivity.

ZONE "A"

Early work was initiated by the discovery of a radioactive occurrence in syenite pegmatite on Claim 4968. A limited amount of trenching and six diamond drill holes showed the syenite pegmatite to occur at scattered intervals over a zone length of 1,500 feet. This drilling, however, returned only small scattered sections of radioactive material.

In April of this year, 5,000 sq.ft. of trenching in overburden and 3,000 cu. ft. of rock blasting were executed within a limited area along this zone. In May, seven short test holes were drilled with a Pack-Sack drill and, two holes yielded the following results:

HOLE	FOOTAGE	CORE LENGTH	RADIOMETRIC % U_3O_8 EQUIVALENT
1-A	3.8' - 13.5'	9.7'	0.058%
2-A	0.0' - 13.0'	13.0	0.055%

A bulk sample of high-grade vein material taken from a rock trench yielded the following results in uranium and thorium:

Uranium oxide..... 0.38%
Thorium oxide..... 9.45%

This anomaly has an indicated length of over 1,200 feet and, up-to-date only a very small section of it has been prospected. A glance at the map will show that stronger radioactivity is indicated towards the N.E. end of the zone where no work has been done yet.

ZONE "B"

Rare Earth Mining Corporation, which adjoins Blue Rock on the North, are obtaining very encouraging results on two zones designated as the Otter Creek and Cliff. These two zones are parallel, spaced a few hundred feet apart and strike S.W. in the direction of Blue Rock.

To date, only a reconnaissance scintillometer survey and one joint drill hole with Rare Earth along the common boundary have been done to test these two zones designated as B-1 and B-2 on Blue Rock. Assay results have been low in the diamond drill hole, the best one being 0.04% U_3O_8. However, a glance at the accompanying map will show that anomaly B-2 was not cut in this hole.

ZONE "C"

This zone is made up of a number of very strong, parallel and long radiometric anomalies which it will take quite some time and considerable work to probe thoroughly.

Up-to-date, work has been concentrated on anomaly C-2 and has consisted in cross-trenching at intervals of about 100 feet followed by chip sampling of the mineralization exposed thereby. Radioactive mineralization is remarkably persistent in all the trenches opened up, widths vary between 10 and 20 feet and the uranium oxide content indicates a grade of over 0.11% or better than 2.2 lbs per ton. No diamond drilling has been done yet on this anomaly but, from present indications, there is reason to believe that a very substantial tonnage of commercial uranium ore could be developed in this ore-shoot alone. Results of chip sampling have been given in paragraphs 4 and 5, on pages 2 and 3 of the present report indicating a grade in excess of 0.10% U_3O_8 by chemical analysis for a length of 1,000 ft. and average width of 14.7 ft. with strong indications that the ore-zone may be much longer than presently opened up.

With geophysical data to guide future exploration, and, increasing familiarity with geology, structure and habits of the mineralization, it is our opinion that you are fully justified in the expectation of highly gratifying results from additional work at this property.

Respectfully submitted,

"L. Germain"
L. Germain, P.Eng. (SEAL)

Otter Creek Zone → ← Cliff Zone

Rare Earths Mining Co.

Con. VII
Con. VI

Con. VI
Con. V

Con. V
Con. IV

LOT 17

LOT 18

LOT 19

LOT 20

LOT 21

Base Line

LAKE

EO-4965 EO-4967 EO-4969 EO-4962 EO-4964 EO-4966 EO-4968 EO-4970 EO-4961 EO-4963 EO-5449 EO-5451 EO-4971 EO-4973 EO-4972 EO-5448 EO-5450 EO-5452

"A" "B" "C" "D" "E" "F"

A1-W A1-C A1-E A2-W A2-C A2-E AC-1 AC-2 AC-3 C1-1W C1-2W C1-3 C1-4 C2 E1 E2 F1 F2 F3 F4 FF1 FF2

LEGEND

- Leucogranite Pegmatite - includes small amounts of Syenite Peg
- Syenite Gneiss
- Meta-gabbro = pyroxene-plagioclase skarn, hornblende plagioclase gneiss & hornblendite
- Limestone
- Meta-sediments = biotite-quartz-feldspar gneiss, biotite schist calcareous or limy gneiss
- Strike and dip of foliation
- Outcrops
- Contacts assumed, confirmed

Geology by D.E. Cameron

Traced by C.A.M., Nov 29, 1954

LEGEND

- Property Outlines
- Claim Lines
- "C" Radio-active Zone
- C2 Anomaly
- D.D. Holes (1954)
- D.D. Holes (1952)
- Scintillometer readings in counts per seconds
  - West side of line at hip level
  - East side of line on ground level

Detail Sketch Zone "X"

Scale in feet

Index Map

Bancroft
Blue Rock Cerium Mines Ltd
Ottawa
Madoc
Belleville
Kingston

Scale in miles

Scale in feet

L. Gerpain

STRATMAT LTD. - PROJECT O-10

BLUE ROCK CERIUM MINES LTD.

Monmouth Twp. - Haliburton Co. Ontario

RADIOMETRIC SURVEY

DATE: September 8th, 1954

BLUE ROCK CERIUM MINES LIMITED

BALANCE SHEET
December 17,1954

ASSETS

Cash on hand	$ 5.00
Mining properties acquired for 750,000 shares of the Company's capital stock	75,000.00
Equipment and buildings, at cost	1,692.06
Exploration, development and administration charges, per accompanying schedule	57,837.78
Incorporation and organization expenses	1,750.00
	$136,284.84

LIABILITIES

Current Liabilities			
Accounts payable and accrued expenses		$ 3,030.73	
Due Company officer		349.11	3,379.84
Capital Stock			
Authorized			
3,000,000 shares of par value of $1.00 each		$3,000,000.00	
Issued and fully paid			
For properties			
750,000 shares	$750,000.00		
Less: Discount on shares	675,000.00	$ 75,000.00	
For cash			
289,505 shares	$289,505.00		
Less: Discount on shares	231,600.00	57,905.00	132,905.00
			$136,284.84

Note: Details of an underwriting and option agreement for the sale of the Company's capital stock are set out in the accompanying schedule.

Approved on behalf of the board

"R. M. Crichton"
Director

"Jenkin Evans"
Director

AUDITORS' REPORT

We have examined the Balance Sheet of Blue Rock Cerium Mines Limited as at December 17, 1954 and the schedule of Exploration, Development and Administration Charges for the period from January 11, 1952 to December 17, 1954. Our examination included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as we considered necessary in the circumstances.

We have not verified the titles to the Company's properties and subject thereto, we report that in our opinion the above Balance Sheet and accompanying schedule of Exploration, Development and Administration Charges are properly drawn up so as to exhibit a true and correct view of the state of the affairs of the Company as at December 17, 1954 and the expenditures for the period ended on that date, according to the best of our information and the explanations given to us and as shown by the books of the Company.

"Hilborn & Company"
Chartered Accountants.

Toronto, Ontario
December 17, 1954.

BLUE ROCK CERIUM MINES LIMITED

EXPLORATION DEVELOPMENT AND ADMINISTRATION CHARGES

For the period from the Inception of the Company

January 11, 1952 to December 17, 1954

Exploration and Development		
Diamond drilling	$ 5,550.95	
Field Wages	23,754.35	
Engineers' salaries and supervision	12,614.39	$41,919.69
General Expenses at the Property		
Assaying, Maps and Surveys	$ 2,024.30	
Consultant's fees	1,800.00	
Field supplies and expense	3,430.03	
Equipment rental and maintenance	1,791.05	
Roads	2,219.00	
Licenses and fees	170.00	
Board	824.10	
Transportation	694.42	
Miscellaneous expenses	253.51	13,206.41
Head Office and Administration		
Share issue expense	$ 880.94	
Legal fees	1,250.00	
Audit and accounting fees	550.00	
Bank charges	30.74	2,711.68
		$57,837.78

BLUE ROCK CERIUM MINES LIMITED

SCHEDULE OF UNDERWRITING COMMITMENT AND OPTION OUTSTANDING

December 17, 1954

200,000	Shares at 50¢ per share pursuant to an agreement with Stratmat Ltd. dated December 1, 1954 payable on the date the Company's prospectus is approved for filing by the Ontario Securities Commission.
200,000	Shares at $1.25 per share payable on or before March 1, 1955.

December 5th, 1953.

BLUE ROCK

The Blue Rock Property consists of a solid block of 18 claims in the middle of the south half of Monmouth township. It takes in lots 17, 18, 19, 20, 21 in concession VI and lots 18, 19, 20, 21 in concession V.

Considerable work was done on this property during the winter of 1951-52 by the Blue Rock Cerium Mines Ltd., and a comprehensive report on it was written by Mr. Hugh S. Spence in July, 1952. The writer therefore draws attention to the following facts given in that report.

The main showing lies on the S ½ of lot 18, concession VI, extending along the base line from zero footage on the Base Line (BL00-00) from 1550 feet eastwards, to (BL15-50E). The chief commercial mineral present is Uranothorite, which occurs in fine crystalline form, disseminated evenly in the pyroxene crystals which constitute 15-60% of the syenite pegmatite. This syenite pegmatite occurs in parallel bands in granitic pegmatite and is considered to be a result of magmatic segregation of the pegmatites.

The occurrence of the syenite pegmatite, is therefore, held to be closely linked with the petrographic considerations rather than structural as is the case when crustal deformations are a deciding factor. Mr. H. Spence therefore concludes that occurrence of Uranothorite in significant concentrations is very unlikely.

The exploration work carried out by the Blue Rock Cerium Mines, Ltd. consisted of stripping, rock-trenching and diamond drilling. No systematic sampling was done, and no data on ore grade is given in this report. Mr. H.S. Spence, the author of the Report, holds that this main showing, some 1550 feet in length and 80 feet in average zone width, constitutes an important amount of potential ore rock. His report strongly recommended systematic sampling of this ore zone to determine its economic worth if any. Only after this had been done did he advise further exploration for possible extension of the main showings or location of other occurrences of radio-active minerals.

Radio-activity survey on the Blue Rock Property was undertaken by Stratmat Limited during the latter part of September, 1953. A crew consisting of two men was used, a scintillometer operator (Eugene Broughton), and an experienced prospector, (Emil Perron) who was to follow up any positive indications of increased radioactivity as picked up by the scintillometer operator. Mr. Emil Perron probed the property for only three days, when he was called by Mr. J.J. Harris to proceed to the Blind River area. This left only the scintillometer operator (Eugene Broughton) to carry out the survey.

This scintillometer survey failed to indicate any significant concentrations of radioactive minerals on the Blue Rock Property. The moderately high readings were obtained over outcroppings of pegmatites mostly. One of the zones of increased radio-activity, as indicated by the contoured map, was visited by A. Gaudet and P. Presunka on November 24th, 1953. This zone extends roughly parallel with the base line, from line 1200 E to line 2400 E and twelve hundred feet north of the base line. The activity was found to be entirely due to an outcrop of a granite pegmatite ridge.

Since the general radio-activity survey was not followed up systematically by an experienced prospector as originally intended, it cannot be safely concluded that the property deserves no further attention.

The writer believes that the work done on the property to date does not promise to extend the main showing to any appreciable degree, nor did it succeed in locating other important zones.

It is difficult to disagree with the recommendation made by Mr. Hugh S. Spence in his report on the main Blue Rock showing, that it is most imperative to undertake a systematic sampling of the main showing so far uncovered in order to determine its economic worth. Only then should extensions or additional showings be sought. This would necessitate an undertaking of major proportions, which the Stratmat staff at Wilberforce did not favour. There were other properties holding much more promise and were therefore considered more deserving of the effort than the Blue Rock. The writer therefore concurred with the opinion of Mr. J.J. Harris that further work on the Blue Rock be discontinued.

The writer however held that the property deserved at least a quick field examination before making any specific recommendations. Due to the continuous preoccupation with the field work on the Creighton, Hogan, McLean and Allanite properties, it was not possible to devote any time to examine it. The main showing was examined by Mr. A. Gaudet, Mr. C. Ouchie, Mr. E. Perron and the writer on September 10th, just before the scintillometer survey was begun. Then again, on November 24th, after compilation of the survey, what was considered to be the most important radio-active zone uncovered by the survey was visited by Mr. A. Gaudet and the writer. No further examination of the property was made to date. This lack of time needed to examine the property dissuaded the writer from sending in a report on the property at an earlier date.

The work done on the property may be broken down in the following manner:

Line cutting.....	6/	man-days
Scintillometer survey.....	12	" "
Prospecting.....	4	" "
Examination by Geologist, geophysicists	5	" "

Line-cutting was done under the direction of Mr. Stewart who gave the time in man-days consumed in the operation.

Respectfully submitted,

Signed- "P. Presunka"

P. Presunka, P.E.

December 5th, 1953.

63.450

Otter Creek Zone

Cliff Zone

Rare Earth Mining Co.

EO-4965

EO-4967

EO-4969

EO-4962

EO-4966

EO-4968

EO-4970

EO-4961

LAKE

EO-4971

EO-4973

EO-5449

EO-4972

EO-5448

EO-5450

"A"

"B"

"C"

"D"

"E"

"F"

See below

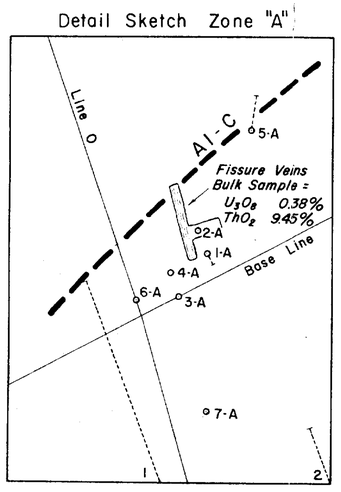
LOT 17

LOT 18

LOT 19

LOT 20

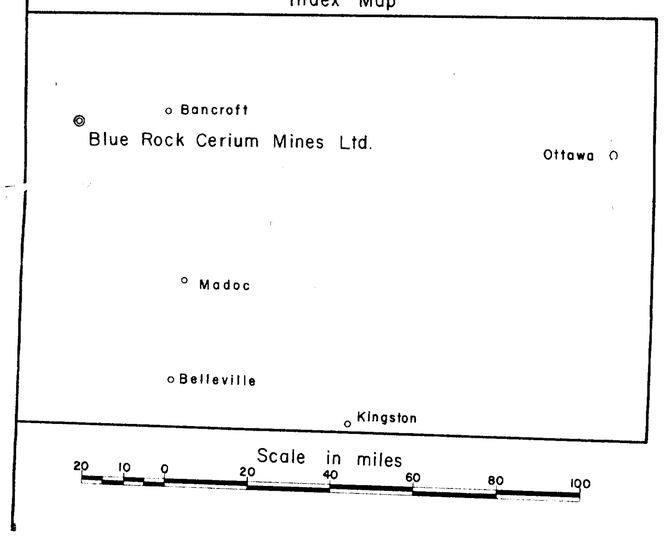
Detail Sketch Zone "A"



Scale in feet

50 0 50 100 150 200

Index Map



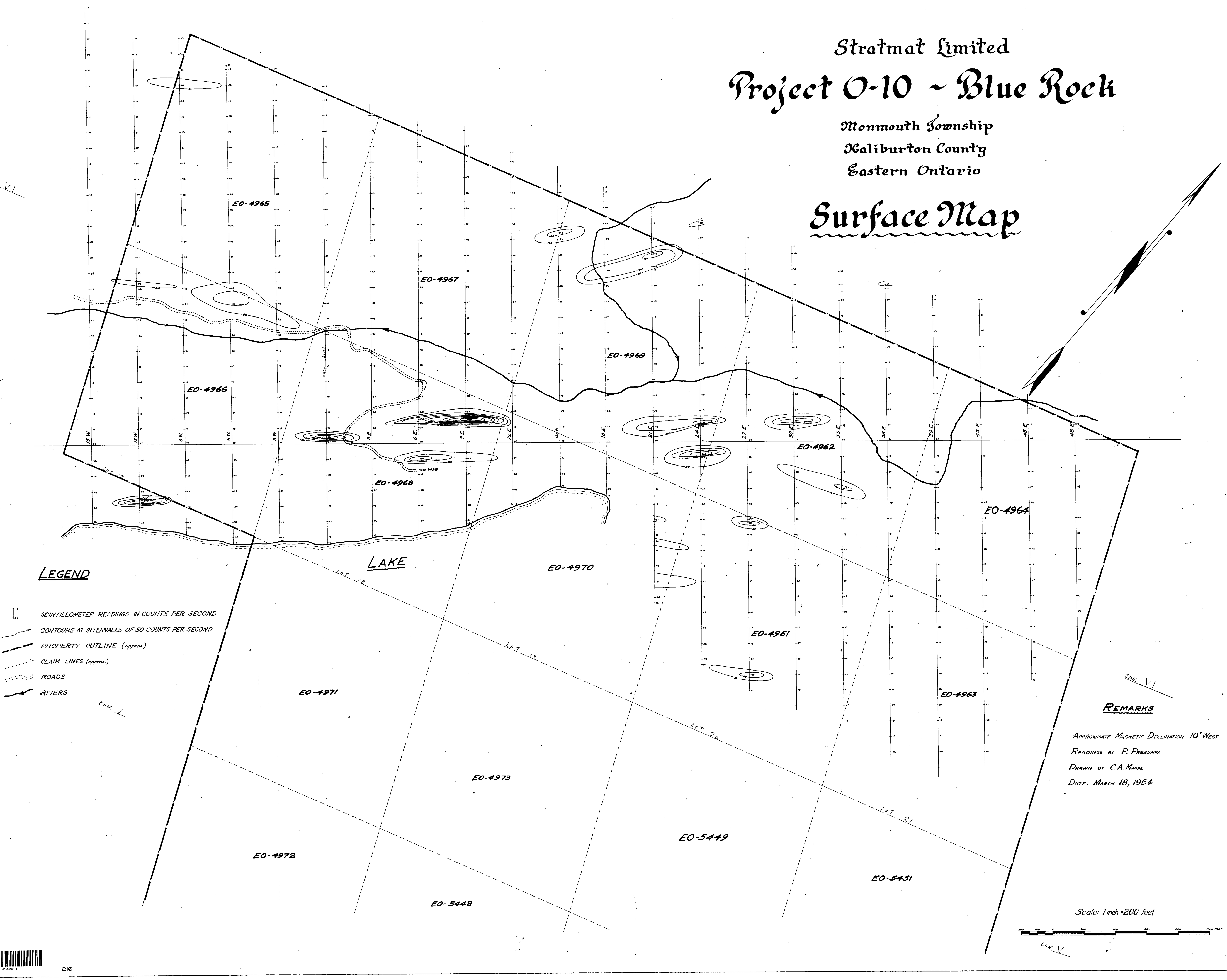
Scale in miles

20 10 0 20 40 60 80 100

Scale in feet

200 100 0 200 400 600 800 1000 1200 1400 1600 1800 2000

200

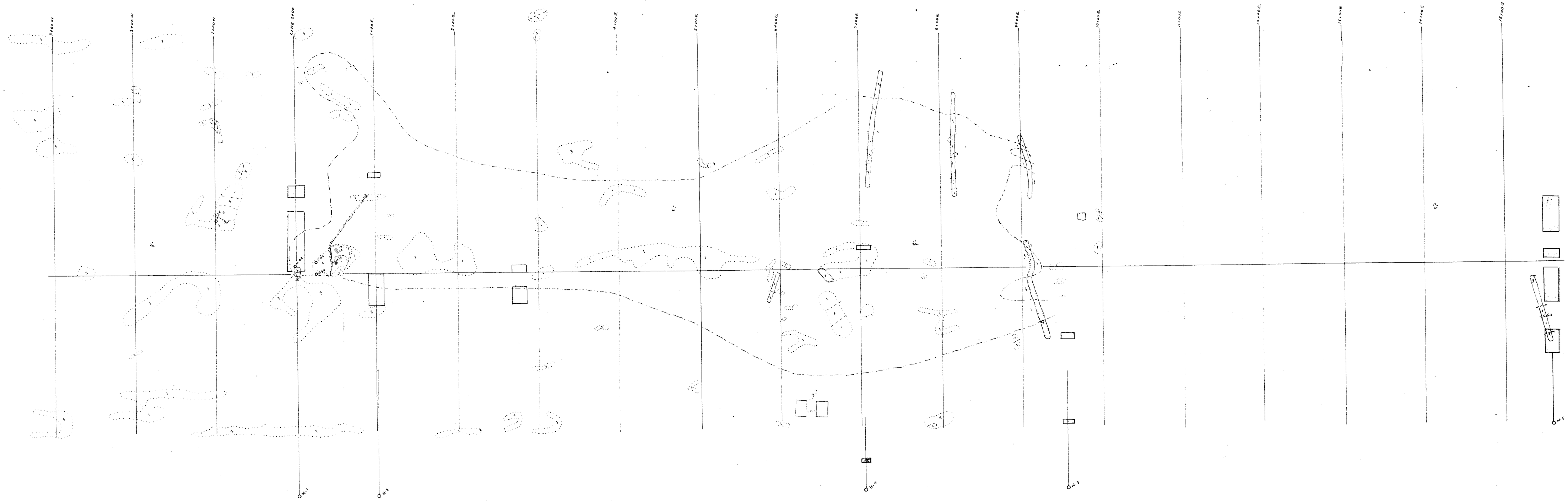


Stratmat Limited
Project O-10 ~ Blue Rock
Monmouth Township
Haliburton County
Eastern Ontario
Surface Map
LEGEND
SCINTILLOMETER READINGS IN COUNTS PER SECOND
CONTOURS AT INTERVALES OF 50 COUNTS PER SECOND
PROPERTY OUTLINE (approx.)
CLAIM LINES (approx.)
ROADS
RIVERS
REMARKS
APPROXIMATE MAGNETIC DECLINATION 10° WEST
READINGS BY P. PRESUNKA
DRAWN BY C.A. MASSE
DATE: MARCH 18, 1954
Scale: 1 inch = 200 feet
CON. VI
CON. V
LAKE
LOT 17
LOT 18
LOT 19
LOT 20
LOT 21
EO-4965
EO-4966
EO-4967
EO-4968
EO-4969
EO-4970
EO-4971
EO-4972
EO-4973
EO-4961
EO-4962
EO-4963
EO-4964
EO-5448
EO-5449
EO-5451
15W
12W
9W
6W
3W
3E
6E
9E
12E
15E
18E
21E
24E
27E
30E
33E
36E
39E
42E
45E
48E

63.420

210

63+40
(4)



Legend

- 1 Granite Pegmatite
- 2 Syenite Pegmatite (Fluorite-Pyroxene-Scapolite Skarn)
- 3 Meta Gabbro (Pyroxene-plagioclase skarn)
- Outcrop
- Geological Contacts (confirmed & assumed)
- Trench (overburden / rock)
- Drill Hole
- Drill intersections of (2) projected to surface on assumed dip of 30 degrees

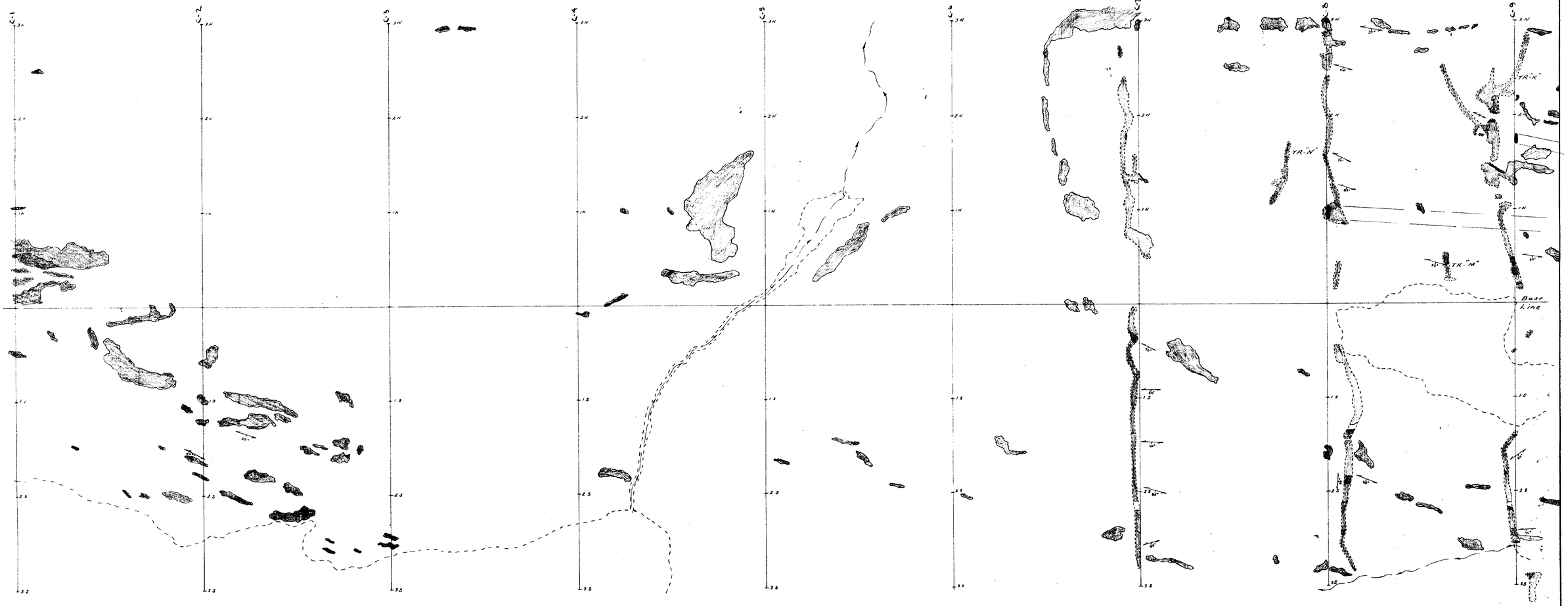
(4)

Blue Rock Cerium Mines Ltd

Geological Plan of Zone-A
Claim 20-4968

Scale 1"=50' Date:

D.E. Clemens Geologist



North ↑

Legend

- Leuco-granite Pegmatite
- Syenite Gneiss - Hornblende S.G.
- Metagabbro & pyroxene-plagioclase gneiss
- Strike & dip of foliation
- Outcrop
- Swamp & low ground

(2)

D.E. Dawson, Geologist.

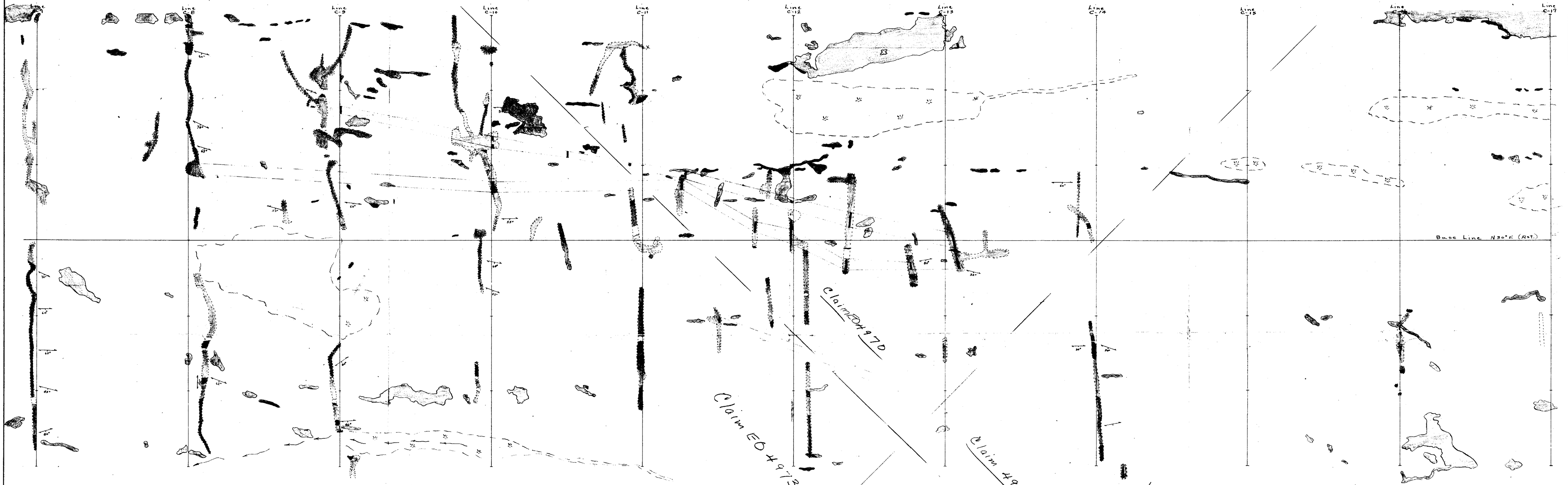
Blue Rock Cerium Mines Ltd.

Geological Surface Plan

Zone 'E' Lines C-1 to C-9

Scale 1"=50'

Date: Dec 1974



Legend

- Leucogranite Pegmatite
- Syenite Gneiss
- Metagabbro (includes Pyroxene-Plagioclase gneiss
- Hornblendite - some biotite schist
- Strike & dip of foliation
- Outcrop
- Stripping & rock trenching
- Swamp & low ground

(3)

D.E. Dawson Geologist

Blue Rock Cerium Mines Ltd.

Geological Surface Plan

Zone 'C' Lines C-7 to C-17

Scale 1"=50'

Date: Dec. 8/70

Otter Creek Zone → ← Cliff Zone

Rare Earth Mining Co.

Con. VII
Con. VI

Base Line

48 E. 45 E. 42 E. 39 E. 36 E. 33 E. 30 E. 27 E. 24 E. 21 E. 18 E. 15 E. 12 E.

"B" B1 B2 A1-E A2-E A1-C A2-C A3 AC-1 AC-2 AC-3 C1 C2 C3 C3-1 "C" "D" D-E E1 E "E" E1-E E2 F1 F2 F3 F4-W "F" F1-1 F1-3 T1 T3 T4

EO-4969 EO-4962 EO-4964 EO-4970 EO-4961 EO-4963 EO-4973 EO-5449 EO-5451 EO-5448 EO-5450 EO-5452

Con. VI
Con. V
Con. IV

LOT 19 LOT 20 LOT 21

LEGEND

5 — Leucogranite Pegmatite – includes small amounts of Syenite Peg.

4 — Syenite Gneiss

3 — Meta-gabbro = pyroxene-plagioclase skarn ; hornblende plagioclase gneiss & hornblendite

2 — Limestone

1. — Meta-sediments = biotite-quartz-feldspar gneiss ; biotite schist calcarceous or limy gneiss

50° — Strike and dip of foliation

Outcrops

Contacts : assumed , confirmed .

Geology by : D. E. Cameron

Traced by C.A.M., Nov. 29., 1954

LEGEND

Property Outlines

Claim Lines

"C" — Radio-active Zone

C2 — Anomaly

D. D. Holes (1954)

D. D. Holes (1952)

Scintillometer readings in counts per seconds
West side of line at hip level
East side of line on ground level

Scale in feet

200 100 0 200 400 600 800 1000 1200 1400 1600 1800 2000

STRATMAT LTD. – PROJECT 0-10

BLUE ROCK CERIUM MINES LTD.

Monmouth Twp. - Haliburton Co.
Ontario

RADIOMETRIC SURVEY

DATE : September 8th., 1954
DRAWN BY : C. A. Massé

MAP No. 0-10-2