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April 4th, 1957.

Mr. F. McCallum,
3651 15th Avenue,
Vancouver, B. C.

Dear Mac:

Regarding the Chrome property, I regret that we are not further interested. The price is too stiff for the type of deposit involved.

No further word on McFinley or Kenora Nickel, although Harry Buckles advised last week that Dr. Bishop regards the property highly. He thought they would not have complete results of the first level until about July.

Jack Hunt is feeling better and is back on the job.

Best regards,

Yours very truly,

PROSPECTORS AIRWAYS COMPANY LIMITED

EOC/ss

E. O. Chisholm,
Chief Geologist.

See Archie Bell

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3651 W. 15th Ave.,
Vancouver, B.C.

March 4, 1957

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Mr. E.O. Chisholm,
Geologist,
Prospectors Airways Co. Ltd.
Ste. 1616
44 King St. W.
TORONTO, Ont. 1

Dear Ted:

Thanks for your letter and since receiving it I have been in touch with the owners of the Chrome property and I find that you are right that this man McArthur has some 26 claims around the original group and seems to have this one fractional claim in the group.

When they submitted the property to me they said there was 6 original and title claims and that they had staked another 6 claims, making 12 in a solid block in the group, so there is how we can get fooled until we investigate these properties.

However, are your people - or would they be still interested in raising the price to \$150,000. as the original parties feel they can make a deal with McArthur for \$50,000. and that would also cover a 10% commission coming to me from both of the parties.

So let us know, Ted, what you have got in mind and there might be a chance of taking in the whole property which would be a much better deal for a big company. As I understand this low grade body of chrome can be traced for 3 or 4,000 feet in length, and Mr. Crossland the engineer that told me about the deposit in the last war, said that it was possible to trace it for a width of 4 to 500 feet, and also told me that it had been reported that this chrome carried about 1/2 percent nickel. However, let me know what you have in mind, and I will keep in touch here with the parties until I hear from you.

Yours respectfully,

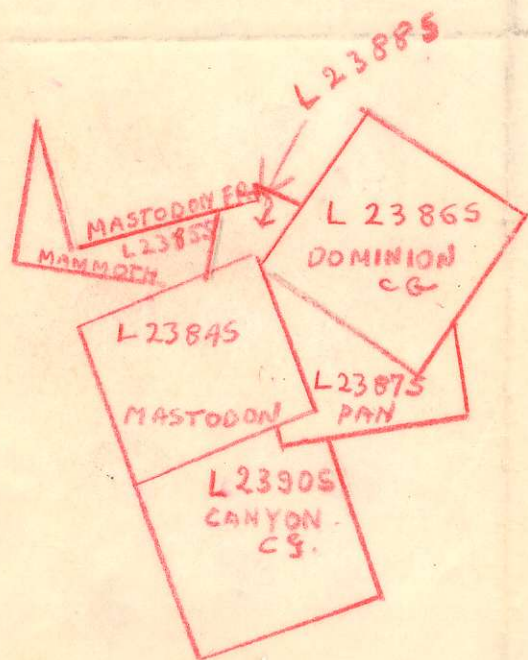
F. McCallum

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Chrome
Castle Mountain

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February 26th, 1957.

Mr. F. Callum,
3651 West 15th Ave.,
Vancouver, B. C.

Dear Fin:

Thank you for the recent data on the chrome property at Castle Mountain, B. C. The more I look into it the worse it appears. The property, as it stands, is badly split up and the original patented claims are surrounded by the recent stakings of a man called McArthur, who has 30 claims, including one fraction that juts across the main showing. It would not be possible to get a solid group without dealing with McArthur and this kind of a proposition would require a solid block for thorough investigation. The original claims on which you are dealing represent more of a nuisance value to a deal, now that McArthur holds the larger part of the recent staking.

I phoned Len Smith of N. A. Timmins, who own Chromex Corporation smelter at Spokane, and he tells me his engineers have examined the property several years ago and found the grade and size of the deposits disappointing. Apparently the low grade portions on the Castle Mountain show may be lower than is indicated by the reports you sent on, although the iron ratio is all right. Chromex buys most of their present chrome ore from the Phillipines and find it cheaper to import higher grade ores than it mine domestic ore; although they still treat some U. S. domestic stuff from Montana or Colorado that is subsidized at \$100.00 per ton by the U. S. Government. This is not too disturbing as there is an apparent shortage of chrome ore and an expanding market. However, the local situation in the claims is the "stumbling block". In a chrome situation like this, the company would probably have to manufacture their own ferrochrome and be assured of a supply of ore. This would entail beneficiation of the

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low grade material to insure an adequate tonnage. This in turn would require a thorough investigation of the property by trenching, drilling, metallurgical tests etc., and would take considerable time. You would want a large solid block of potential ground to make it worthwhile.

In the case of the Castle Mountain group the price asked is too high for the patchy nature of the property. On top of your deal, the company would still have to deal with this McArthur who owns the rest of the favourable ground.

I certainly appreciate your bringing it to my attention, but am outlining the pitfalls that I see at present. If you see any way around them, please let me know as soon as possible, as the long term economics of chrome seem very attractive if a suitable property can be obtained.

Best regards for now. Beth and I enjoyed your poem of Red Lake. I certainly hope your pioneering there pays off in a big way in the next few months.

Sincerely,



E. O. Chisholm.

EOC/ss

P.S.

Bill:

Talked this situation over with Archie Bell & they are behind the McArthur staking. The Callum group represents a nuisance value to Nevada in this deal and they can go ahead on preliminary exploration without Mr. Callum claiming any way. They hope to obtain them at a more reasonable figure as no one else can deal with the Callum group now. If Archie goes ahead with the Elson deal he says

he will offer us a piece of it if we
are interested &

EEB

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✓	✓
✓	
✓	

January 28th, 1957.

Mr. F. McCallum,
3651 West 15th Ave.,
Vancouver, B. C.

Dear Finley:

Thank you for your letter of January 18th. I'll go into the sulphur proposition more fully with Archie Bell now that I have the material on hand. It is also possible that we could be interested in chrome property and I will look into this matter also.

You'll be sorry to hear that Jack Hunt has been seriously ill during the last week, although he is now out of the hospital, but apparently he is suffering from a stomach cancer which was more serious than they expected.

If I don't see you before hand, I'll certainly look forward to seeing you at the Prospectors Convention.

Best regards to you and yours,

EOC/ss

E. O. Chisholm.

(Copy of Original)

CASTLE MOUNTAIN CHROMITE

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A preliminary report by N.W. Hendry, M.Sc.

Location

This property is on the southwest slope of Castle Mountain and adjoins the Cascade road from Greenwood to Rossland. It is four miles by road from Christina Lake.

No. of Claims

12 mineral claims held by location.

Owner

Ralph Wolverton and partner, Greenwood, B.C.

Recording Office

Greenwood, B.C.

Transportation

The Cascade Highway, from Greenwood to Rossland, passes through the property and no part of the property is more than $1\frac{1}{2}$ miles from this road. A rough road about a $\frac{1}{2}$ mile in length connects the workings from which ore was shipped in 1918.

Geology

The area, of which the property is a part, is occupied by a series of igneous rocks, consisting in the main, of serpentine and dunite, with minor amounts of talc and magnesite. The belt of serpentine is reported to be several miles in length and over a mile wide. It trends roughly north and south, and extends across the International Boundary.

The serpentine is mineralized with chromite along two distinct zones, both of which trend nearly north and south. The west zone has been traced for a length of approximately 1500 feet, and has a width of some 300 feet. In this zone the chromite occurs as disseminations, occupies fractures, and forms massive bodies or lenses in the serpentine and dunite. The dunite appears to have been especially susceptible to replacement by the mineralizing solutions. Several lenses of high - grade

chromite from near the south end of this zone were mined in 1918. However, there has been insufficient work done, to date, to determine whether or not there is any definite system to these lenses. No work has been done at the north end of the zone.

The east zone can be traced for at least 3000 feet and is some 300-400 feet wide. Again the chromite occurs as disseminations and occupies fractures in the serpentine and especially in the dunite. No lenses of high-grade chromite have been revealed in this zone, but this is doubtless the result of the small amount of development work and not due to the absence of such lenses. The only work done on this zone consists of a few scattered open-cuts.

Chromite is the only visible metallic mineral present in the serpentine and dunite. Thus, even though the general grade of mineralization is quite low, it would be amenable to concentration. A very large tonnage of this low-grade material is readily available.

Castle Mountain Chrome

Results of preliminary assays were as follows:-

	<u>Cr₂O₃</u>	<u>FeO</u>	<u>Fe</u>	<u>ratio Chrome/Iron</u>
A	<u>45.3</u>	14.8	11.5	2.7 - 1
B	<u>17.5</u>	11.7	9.1	1.30 - 1

(.683 -Cr₂ in Cr₂O₃)

Sample "A" was a lump of the massive chrome ore such as has previously been shipped.

Sample "B" was a sample of the low-grade mine runs, disseminated chromite, of which an enormous amount is available.

Conclusions and Recommendations:

The greater part of the mineralization is quite low grade, but high-grade bodies of chromite ore are present and have been mined and the ore shipped, though the demand was greater and the price higher at that time. Nevertheless, the deposit warrants a more detailed investigation

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if it is at all possible to deal with the parties concerned in the ownership.

Respectfully submitted,

September 7th, 1939.

(Sgd) N.W. Hendry.

Note:

Mr. N.W. Hendry is at present one of the chief geologists at Thetford Asbestos Mines. Previously he held important positions in mines around Kirkland Lake after leaving Freeport Sulphur Co. This examination and report was made while he was chief geologist for Canadian Exploration Ltd.

CASTLE MOUNTAIN CHROMITE

The Castle Mountain Chromite group is composed of eight claims, the Blacktail, Serpentine, Grandview, Midnight, Big Cave and the Chromite Fractions No. 1, 2 and 3.

These claims are in good standing and are at present held by location, and the registered owner is B.N. Murphy, 535 Hoxer Street, Vancouver, B.C.

The claims are adjacent to the main Southern Trans Canada Highway at Castle Mountain, five miles East of Christina Lake between Trail and Grand Forks. The lower claims are at an elevation of 2500 feet, while Christina Lake is at an elevation of 1400 feet. The West Kootenay Power and Light transmission line crosses the southern tip of the property, therefore, power is readily available.

There are two occurrences of Chromite ore on this property, one being the heavy massive high grade chromite which is found erratically within the second occurrence, which is disseminated chromite of low grade. The high grade chromite has been assayed with the results of 45.3% Cr_2O_3 and a chrome iron ratio of 2.7-1. The low grade chromite has given various assays and the lowest yet obtained was 5% chromic-oxide with a chrome iron ratio of 1 - 1.

The showings are quite large namely, 1500 feet long by 300 feet wide in the Western zone and the Eastern zone is approximately 3000 feet long by 300 feet wide. The chromite occurs as disseminations and fractures in the Serpentine and Dunite and is the only ore occurring therein. Depths of at least 30 feet have been revealed by a tunnel and also by an incline shaft where previously mining was done under government auspices during the first world war when a considerable quantity (80,000 dollars worth) was mined and shipped to Pittsburg for use as ferro-chrome.

In view of the great distance from this property to the Eastern seaboard, it has never been economic to ship high grade chromite for use as ferro-chrome because the high freight rates almost equal the price of imported chromite in Eastern seaboard ports. However, as there are two railroads within six miles of the property and several highways stemming from the property, leading to Western ports, there is no doubt this material can be placed on board ship in Pacific ports quite profitably. The disseminated low grade chromite can be readily treated with a concentrator as it is the only material present in the ore and is most amenable to concentration, either by the wet gravity method or through magnetic separation.

In the writer's opinion the real value of the property would lie in a three-fold operation whereby open pit mining would yield a fair tonnage of high grade chromite and the low grade disseminated chromite can be concentrated. The beneficiated low grade ore can possibly be shipped as ferro-chrome or used for the manufacture of chromite refractories. In addition, a chromate salts plant to take a portion of the concentrator product would be extremely profitable.

Chromate salts vary between ten and fifty cents per pound and have always been in short supply in Canada. To the best of the writer's knowledge, there are only five small plants operating on the Eastern United States seaboard and their production has been almost entirely taken by the United States Government. These salts are used, of course, in the manufacture of chrome based paints for war and other industries and the tanning processes on a basis of a twenty ton per day plant have been calculated at approximately seven to eight cents per pound. One ton of chrome ore with one ton of

Limestone and a few hundred pounds of soda-ash will produce one ton of chromate salts.

The writer has a complete flow sheet and process for the manufacture of chromate salts. This will be made available to the buyer upon the purchase of the property.

Costs of the entire operation would be approximately as follows:

Mining Plant and Equipment	\$ 75,000.00
Concentrator	100,000.00
Salt Plant.....	250,000.00
Laboratory and Machine Shop.....	35,000.00
Working Capital	100,000.00
Sales and Marketing.....	15,000.00
Contingencies.....	50,000.00
TOTAL	<u>\$625,000.00</u>

"B.N. Murphy"

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MASTODON GROUP

Copy of Minister of Mines Report - 1918. (British Columbia)

Grand Forks Mining Division - Cascade Section.

MASTODON GROUP. This group, including the Mastodon, Black Tail Fraction, Pan, Dominion, Canyon, and Mammoth, is situated on Castle Mountain at an elevation of 3,500 ft above sea-level and approximately 4,000 ft from the Canadian Pacific Railway bridge which crosses the Kettle River at Cascade. The outcrops of chromite were first discovered many years ago, but the low price of the mineral prohibited operations at that time. In 1917 the Stewart-Calvert Company of Oroville, Wash., obtained a lease and bond for \$5,000.00 on the property from Angus Cameron et al, of Laurier, Wash., and commenced development by stripping and sinking shallow shafts on the Mastodon claim, with the result that small lenses of chromite were uncovered, carrying 30 to 50 per cent CR_2O_3 . In 1918 the Stewart-Calvert Company graded half a mile of road from the claims to the end of a branch of the Deep Creek wagon road, and commenced hauling chromite with teams to the Canadian Pacific Railway at Cascade, a distance of eight miles. From thence the ore was shipped to the Central States. The haulage costs were \$7.00 per ton and railway freight approximately \$17.00 per ton, with an excavation cost of \$4.25 per ton. A total of 670 tons of chromite was shipped, averaging 38.5 per cent CR_2O_3 .

The smallness of the lenses of ore encountered added considerably to the expense of the excavation, necessitating a lot of development work. However, the amount of work done has not proved the size of the lenses or the fact, conclusively, that they are all of a small tonnage variety. The ore bodies have a general strike to the North-west and South-east and dip nearly perpendicularly, having an average width of about 6 feet at the thickest part, and varying in length from 10 to 20 feet and in height 10 feet. The rocks constituting Castle Mountain are broadly classed by E. A. Daly, Geological Survey, Ottawa, as being part of the Rossland volcanic formation, constituting flows and pyroclastic deposits of latites, andesites and basalt, with small inclusions of dunite. Closer observation has shown the dunite rocks to be far more extensive than hitherto supposed, and constitute the greater part of the southern and western slope of Castle Mountain. The serpentine appears in a number of places, but is nowhere of great areal extent, the largest mass lying near the summit of the southern peak of the mountain. These masses vary from olive-green to a light greenish-grey in colour. The slickensided surfaces are much lighter, green colour, and generally highly polished. The serpentine has resulted from the alteration of a pure dunite. The alteration from olivine to serpentine entails a considerable increase in volume, which probably accounts for the shattered, sheared, and slickensided serpentine. Although specks and very small lenses of chromite appeared in the serpentinized area, yet no commercial amounts of chromite was found. The pure dunite masses outcrop chiefly at the southern end of Castle Mountain, and in these masses are found commercial lenses of chromite, Only a slight serpentinization has taken place. The ideal location of these claims, close to railway transportation, and electric power, made them worthy of consideration, and should the demand for chromite again arise, the cost of mining these deposits could be greatly lessened by the construction of an aerial tramway approximately 4,000 feet long from the claims to the railroad.

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MEMORANDUM:

February 20th, 1957.

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E.L.D.	
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Re: Conversation With Leonard G. Smith, N. A. Timmins Corp.,
EM 6-6504 - On Chromite Possibilities

Len Smith advised that Chromex have operated a chromium smelter on lease from the United States Government at Spokane, Washington for the past 10 years, on U.S. domestic ores from Colorado and Montana and recently from Philippine ores. It is cheaper to bring in higher grade ores from abroad than to mine lower domestic grade. The preferred ratio of chrome to iron is 3 to 1, but they were taking ores down to 2.5 to 1 and a grade as low as 25% CR₂O₃. He knew nothing of a new smelter planned at Seattle.

He stated their engineers had examined the Castle Mountain occurrence several years ago and turned it down as being too small or erratic. They had also investigated several other deposits in B. C. and found them rather "tricky" as to iron ratio and erratic occurrence.

The American Government subsidizes home production of Chromite at \$100.00 per ton for better grade, against a foreign price schedule of \$50.00 per ton. This encourages some small lessor operations in Montana and Colorado to high grade small accessible domestic lenses. They have provided 3,000 to 4,000 tons per year from this type of operation and make money on a small scale operation. However, most of their deposits appear to be running out.

I doubt whether a similar price schedule could be obtained in Canada from the U. S., which would probably classify our ore as foreign. However, if the plant was located in the U. S. near the border, perhaps special pricing could be obtained from the U. S. Government, or (even) the Canadian Government. In any event, deposits located in Canada would have to be somewhat larger and higher grade to compete with foreign ores.

If a new smelter is starting on the west coast as McCallum indicates, they may also be interested in a nearby source of chrome ore.

EOC/ss

E. O. Chisholm

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February 20, 1957.

MEMORANDUM:

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Re: Castle Mountain Chromite Deposit

The attached three reports and letter from McCallum outline a reasonably priced deal on an old chromite discovery, favourably situated on road, rail and power, near Trail, B. C.

The three reports on the property vary in their outlook and recommendations depending on the writer, and may be summarized as follows:

B. N. Murphy Report (Former Owner) Not Dated - Promotional in nature - not reliable.

N. W. Hendry - Now geologist with John Manville at Asbestos, Quebec - report dated September 7, 1939 - reliable man - states very little work done on property and recommends detailed exploration if favourable terms can be arranged.

B. C. Mines Branch Report - 1918 - Reliable report - states that it has not been proven that the chromite occurs only in small high grade lenses - indicates more detailed work required.

McCallum - the prospector that brought this property to my attention is on the promotional end although I have found him reliable in the past

Conclusions

The terms of purchase are reasonable and the property is of interest in the light of rising prices for chromite ore. As Noranda is investigating a chromite deposit near Penticton, B. C. this summer. I suggest we check with Archie Bell further on this one and if he knows nothing, then we should have Macrae examine the property early this spring and advise McCallum we are interested.

EOC/ss

E. O. Chisholm.

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3651 W. 15th Ave.,
Vancouver, B.C.

February 18, 1957.

Mr. E.O. Chisholm,
Prospectors Airways Co., Ltd.
Suite 1616,
44 King St. W.
TORONTO 1, Ont.

WSB

Dear Ted:

Received your letter of January 28th. '57, and note what you have to say about the Minaki Property and also the about the Chrome property. Since receiving your letter I have been able to get a copy of the report from the Owners which I am enclosing to you now and I trust you will be able to understand it all and if possible try and get your company or some good company interested, as soon as possible, because there is a large company I believe now considering building a Chrome Smelter in Seattle, and if this is right there will soon be no doubt some mining companies taking up the development of this property, and selling the Chrome output to these people building the Smelter, as it is only 200 mile rail haul from the property to Seattle.

Then I just discovered that the Hollinger Mines which you know own the Chrome Smelter at Seult St. Marie, Ont. has bought out a Chrome smelter in Spokane, Wash. which is less than 100 miles distance from this property and the railroad runs right from the property to Spokane, so you will understand that the Hollinger Mines will likely know sooner or later about this deposit of good ~~hard~~ grade Chrome, and which you will notice in the Assays and in the Report that the Chrome content is just as good or even better than the Chrome shipped here from Turkey. As you will notice it has less than 1/2 of the iron content to the amount of chrome, and I have never heard of another deposit on this continent with so little iron content.

So step on the gas Ted and see if we can put a deal over on this property, and I think it would be a very good investment for your company or Dr. Bell probably would be interested in having Noranda look into this property. It can be optioned for \$150,000. running over 2 or 2 1/2 years, with \$1,000. when the Option is taken up with the balance in small payments over the first year or 18 months, and a 5% stock interest to the owner.

Yours sincerely,


F. McCallum

FMCC/cs