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COAL AND IRON MINES, LIMITED

CAPITAL - \$3,000,000

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Assistant Manager

DIAMOND VALE,

Coutlee, B.C.16th. April.....1907...

T. J. SMITH, ESQ.,

Managing Director,

Diamond Vale Coal and Iron Mines, Limited,

Vancouver, B.C.

Dear Sir:

Since writing my report of March 1st, enclosed herewith, we have commenced sinking and expect to make headway at the rate of about 100 ft. per month, and cut the upper seam of coal at a depth of 200 ft. On this work we are using the 50 H.P. Locomotive Type Boiler and Small Hoist while the larger plant is being installed. A 300 H.P. Water Tube Boiler is now bricked in and ready for use.

The Compressor, the Air Drill, Sinking Pumps, Shaft Timbers and all the other equipment and material for the Shaft is on the ground, except the Large Hoist, which is now overdue and should be received very soon.

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Two gangs of carpenters are working on the buildings for housing machinery, and miners are working three eight hour shifts in the shaft so that no time may be lost in commencing the output of coal.

Respectfully submitted,

B.P. LITTLE,

Engineer.

With regard to Nicola Valley Basin.

This basin lies at the confluence of the Nicola and Coldwater Rivers, and is probably two miles wide in an East and West direction, and three miles North and South, or about 3800 acres, although future prospecting may prove an extension of the field. Up to this time, however, all the work done outside this area has proved the absence of coal, or the existence of very small seams of poor quality.

Within the above area is a very large tonnage of high grade coking coal, and in my opinion the most valuable portion of this field is that portion lying immediately north of Coldwater River.

The railroad was under construction through the property at the time of my examinations, and it was very evident that this field could be opened up, coal shipped, and a market built up long before we would be afforded transportation at Diamond Vale.

In the light of these facts you decided to secure, if possible, sufficient acreage in the Coldwater District to make it profitable to open on a large scale, and to hold the trade while waiting transportation facilities from the original property.

In this you were exceedingly fortunate, securing two properties (coal rights only), of 424, and 1643 acres respectively, giving you 2067 acres in the very heart of the coal basin, and by far the most valuable portion of it, paying therefor, \$85,400 or a little over \$42.50 per acre, including exclusive surface rights on 42 acres.

This property is situated about ten miles westerly of Diamond Vale, in an air line, and about 22 miles by the surveyed line of the proposed railroad.

These transactions were closed on the 15th and 18th of September, and by the 8th of October we had transferred all our drilling plant from Diamond Vale to the Coldwater property and started drilling.

Previous to our advent, two bores had been put down in 1892-93 on this property, and good coal encountered, viz.: Bore No. 1.

This was bored on the North bank of the Coldwater, coring through 5 ft. of coal at 190 ft.

Bore No. 2--This was put down on the South bank of the Nicola River, about one and one-fourth miles North-easterly of No. 1, and cut 5 ft. of coal at 137 ft.

Coal outcrops immediately across the Coldwater from your property, opposite Bore No. 1, and at several other points, and shows a dip of about 27° toward and under your property. It also outcrops about three-quarters of a mile further South and to the West in Coal Gully, where there is an exposure of an 18 ft. seam, and several smaller ones. These are best described in Dr. Ell's report for the Dominion Geological Survey Department.

Previous to our borings, it seems to have been the general opinion, in which I concurred, that the seams discovered in the above-mentioned No. 1 and No. 2 Bores were one and the same, and that the dip of the seam flattened below the outcrop, and that between the bores it was practically horizontal, but our bores Nos. 7 and 8 completely contradict this assumption, viz.:

Bore No. 7--This was started October 8th, 1906, and completed to a depth of 778 ft. on November 23rd. Bedrock was reached at a depth of 150 ft. from the surface, the overburden being sand and gravel wash. The bedrock cores show a dip of about 27° or practically the same as the outcrops on the South side of the River, and 1900 ft. from the site of the Bore.

Coal was found as follows:-

At 535 ft. from surface 44 in. clean bright coal.

At 764 ft. from surface 49 in. mostly clean and bright.

The upper seam was hitherto unknown, and must outcrop under the wash between No. 7 Bore and the old No. 1 Bore. This is better illustrated in the sectional drawing attached. The lower seam is the Rat Hole seam, discovered in old No. 1 Bore, and outcropping on the hillside South of the River.

Bore No. 8--This was located close to the Coldwater River, and about 1800 ft. from Bore No. 7. Bedrock was reached at a depth of 21 ft.

Coal was encountered as follows:-

At 70 ft. 39 in. coal, mostly hard and clean.

At 222 ft. 38 in. coal, clean and Hard.

At 293 ft. from the surface the "Rat Hole" seam was cut, but proved rather dirty at this point, and shows only 18 in. of clean hard coal.

Altogether the Rat Hole seam has been discovered in two open cuts, one tunnel, and three bore holes, and at all points except the last it shows a thickness of 5 ft. to 8 ft., so it is probable that No. 8 Bore encountered it at a local pinch or "want".

The seam cut at 76 ft. appears to be the one found at 535 ft. in No. 7 Bore, while the seam at 222 ft. is a "stray" one that we have not yet been able to co-relate at other points.

The cores taken from the Bores Nos. 7 and 8 were handed to Mr. J. O'Sullivan, F.C.S., of Vancouver, and show the following analysis:-

Upper Seam, Bore No. 7--535 ft. Deep.

Moisture	2.5	per cent.
Volatile Combustible Matter	36.4	"
Fixed Carbon	50.2	"
Ash	10.5	"
Sulphur4	"
	<u>100.0</u>	

Coke 60.9 per cent.--Character of Coke, Hard and Coherent.

Rat Hole Seam, Bore No. 7--764 ft. deep.

Moisture	2.0	per cent.
Volatile Combustible Matter	37.7	"
Fixed Carbon	54.8	"
Ash	5.2	"
Sulphur3	"
	<u>100.0</u>	

Coke 59 per cent.--Character Hard and Coherent.

70 ft. Hole in No. 8 Bore, Mixed Sample.

Moisture	2.3	per cent.
Volatile Combustible Matter	38.6	"
Fixed Carbon	50.3	"
Ash	8.5	"
Sulphur3	"
	<u>100.0</u>	

Coke 58.8 per cent.--Character of Coke Hard and Coherent.

222 ft. Seam, Bore No. 8.

Moisture	2.1	per cent.
Volatile Combustible Matter ,...	37.3	"
Fixed Carbon	54.4	"
Ash	6.0	"
Sulphur2	"
	<u>100.0</u>	

Coke 60.5 per cent.--Character of Coke, Hard and Coherent.

Mr. O'Sullivan writes you as follows:

Vancouver, B.C., Feb. 20th, 1907.

DIAMOND VALE COAL AND IRON MINES, LIMITED.

Gentlemen:

Please find my analysis reports on the four samples of coal submitted to me by your Mr. T. J. Smith.

I have pleasure in stating for your information that the coal is bituminous, of excellent quality, and compares favourably with the best Vancouver Island and British Columbia Mainland product. It is a good coking coal and is therefore very suitable for metallurgical as well as for steaming and domestic purposes.

(Signed) J. O'Sullivan, F.C.S.

The Bore No. 8 was completed December 15th, and the drilling suspended for the winter season. Advantage has been taken of the Shut-down to completely over-haul the drilling machinery and to put it in a state of the highest efficiency for the season of 1907, when we hope drilling will be vigorously continued.

During the month of December the management of the Nicola Valley Coal and Coke Company, whose property adjoins yours on the south beyond the Coldwater River, began development of the Coal Gully seam (the 18 ft. or "Jewel" seam), and a heading has been driven down the dip towards your property. The results of their work to this date leads me to believe that the "Jewel" seam continues unbroken beneath your property, but at greater depth than had been penetrated with a drill.

I might say in this connection that the above Company owns the only property having any fair indications of payable coal seams, besides your own, and it is probable that they will be the only competitors you will have in this portion of the province. The drilling above described proves the coal underlying something over 30 acres, containing approximately 700,000 tons of coal, of which 60 per cent. or 420,000 tons should be recovered.

We expressed the opinion that this was sufficient to warrant a shaft being sunk and meanwhile the drilling would be continued and additional ground proved up.

On the 17th of December we received your instructions to begin the necessary construction work for installation of sinking plant in accordance with the plans and estimates previously estimated. This involved the erection of boarding houses, office buildings, shops, store house, sawmill, engine and boiler house, etc., etc., before sinking could be undertaken, as the vicinity does not offer any accommodation for employees, nor are there stores of machine shops within easy reach. The work was started January 1st, 1907, but owing to severe weather very little progress was made until about the 20th of January, since which time good progress has been made, and it is expected that actual sinking can be begun before the middle of March.

The railroad has been in operation for some months past and we have experienced no serious trouble in getting our freight delivered, considering the general tie-up of all railroads throughout the country. About one-half of your machinery is now delivered, and the remainder nearing its destination.

A detailed statement of the work undertaken is as follows:

Shaft No. 1--This is to be a two-compartment shaft, 7 ft. 8 in. by 12 ft. in the clear, and is located midway on the line between Bores Nos. 7 and 8.

The Coal Mines Act of British Columbia requires that shaft mines shall be connected to the surface by two openings, and your No. 1 Shaft is planned to be used temporarily as a hoisting shaft, but later, a larger shaft will be put down further back on the dip. The No. 1 Shaft will be used for ventilating exclusively. A gallows frame 60 ft. in height is practically completed over the site of this shaft.

WAREHOUSE.--As no mining supplies, etc., are carried by any stores in this valley, it was necessary for us to put up a building and lay in a complete stock of the goods most required. This is a frame building 20 ft. by 30 ft., with corrugated iron roof and now stocked with about \$2500 worth of goods.

BLACKSMITH'S SHOP.--This is a temporary building 16 ft. by 20 ft. and will meet immediate needs but will have to be enlarged later.

ENGINE ROOM.--This will be a frame building with corrugated iron roof, 28 ft. by 40 ft., and will contain:

One 12 x 18 Hoisting Engine of about 4 tons capacity.

One 14 x 18 Air Compressor of 350 cubic ft. capacity.

One 6 Kilowatt Electric Light Dynamo and Engine, switch-board, etc.

One 300 H. P. Feedwater Heater.

One Boiler Feed Pump. One Tank Service Pump.

One Draft Fan and Engine.

BOILER HOUSE.--This is a frame building 28 x 40 with iron roof and will contain:

One 300 H. P. Water Tube Boiler.

One 50 H. P. Locomotive Type Boiler.

SUPERINTENDENT'S OFFICE.--This is a frame building 16 x 16 ft. located conveniently near to the shaft.

SAW MILL.--This will contain circular saw, wedge saw, planer, edger and swing cut off saw, and will have a capacity of 20 to 25 thousand feet per day.

It is reasonably expected that there will be a brisk demand for lumber locally as well as for shipment, besides your own requirements, and that the saw mill will be very profitable.

To provide logs, two tracts of excellent pine and fir timber have been secured, aggregating about 3,800 acres, within a few miles of the Mining Property, and logging is now well started.

BUNK HOUSE.--One wing (26 x 32 ft.) of rooming house has been completed and is now occupied. It provides sleeping accommodation for 30 Men.

BOARDING HOUSE.-- A kitchen, dining room and pantry enclosed in a building 30 x 36 ft. is under construction.

GENERAL OFFICE.--This, a building 28 x 36 ft. and two stories high, is under construction. The upper floor is divided into sleeping rooms and will be occupied by the office staff and superintendent.

TIPPLE AND FAN HOUSE.--When the shaft reaches the coal and mining is begun, a tippie for screening the coal will be erected in front of the shaft, and a ventilating fan installed.

RAILROAD.--A spur to the railroad, about 4,000 ft. across the level field, will be constructed when shipping tams approaches.

TOWNSITE.--The writer asks permission to lay before you, formally, the proposition of securing the surface of the land contiguous to your works and laying out and disposing of town lots.

This land lies at the natural gate-way to the Nicola Valley, and the rich mineral country to the south of it, and a town of considerable importance will surely build up at this point, irrespective of your enterprise, and with the employees of the coal mines; and the business they will bring, the population will grow very fast.

If purchased now some 600 acres can be secured for ,100 per acre, and will be the natural location of a town, and on ground exceptionally well suited for it.

The ultimate profit on the transaction should be sufficient to pay the entire cost of purchasing and opening the coal. The writer strongly urges that you give this matter consideration. If you decide to undertake the enterprise I would recommend the erection of a hotel and a number of cottages as a nucleus.

At this time the holdings of your Company are as follows:

At Diamond Vale in Quilchena Valley:

Coal Leases containing	19,840 acres.
5 Timber Limits containing	3,200 "

In the Coldwater Basin:

Coal Rights containing	2,067 acres
Surface Rights containing	40 "
Timber Limits containing	<u>3,840</u> "
	<u>28,987</u> "

WATER RIGHTS.-- The following rights on Coldwater River have been secured:

500 inches for power purposes	
500 " " domestic and irrigation purposes	
500 " " power and manufacturing purposes	
<u>500</u> " " domestic, irrigation and power purposes.	

2,000 inches, and practically gives you all the water available during the summer seasons.

In closing, I would say that as far as local matters are concerned, your Company now occupies a nearly impregnable position and should soon be in a position to actually control the coal trade on the Mainland Coast of British Columbia and Puget Sound waters, with all the new undeveloped resources of the rich mining country 50 to 100 miles south of your property only waiting cheap coal and coke to become active.

Respectfully submitted,

B.P. LITTLE,

Engineer.

Diamond Vale,

Coutlee, B.C.,

March 1st, 1907.