

# GROUNDHOG BIG ISSUE IN DEVELOPMENT THIS COUNTRY

WINNING OF PACK TRAIN WILL PERMIT OF EXPLORATION AND DEVELOPMENT WORK—WORLD NEEDS THE SMOKELESS HARD STEAM COAL

The development of the Groundhog coal measures promises in the near future to give employment to a large body of men and with the completion of the spring of the Stewart-Groundhog pack trail, bringing fields in direct connection with a tidewater port, Stewart confidentially look forward to obtaining the bulk of the coal. One of the first operators of the chief champion of the Groundhog coal areas is R. C. Campbell-Johnston, M. E. He is in charge of the exploratory work of the British Columbia Anthracite Syndicate, operating in the Biernes Creek, and speaks with authority in the following article taken from the British Columbia Magazine, on the importance of the Groundhog coal.

The salient reasons why the smokeless hard steam coals developed from the Groundhog coal fields in Northern British Columbia will play a most important part in the world's commerce in the future are partly on account of the almost inexhaustible quantity and high grade quality of their many seams. Furthermore, they have the ability to hold their own, after being primarily cleaned from foreign dirt or ash by the usual washing trommels, picking belts and washing devices in vogue everywhere when preparing for export all smokeless coals coming at mutual depots, including the superior steam coals shipped from Wales or Pennsylvania and Pocahontas. Finally, they maintain the special facilities for comparative costs of mining and delivering these coals at all common points to each of the above mentioned fuels alike along all the coasts of the entire Pacific from Alaska to Patagonia, the shores of China, Siberia and down to Hongkong, and to Australia and New Zealand for all the purposes of the shipping navies of all nations. In coal, found mechanically cleaned by the rapid currents of water and taken from the beds of the many streams intersecting the Groundhog district, demonstrates conclusively the good character of the fine article and the practicability of preparing such at any time and in order successfully to compete with the world's markets as a product low in ash, high in fixed carbon, and at the same time smokeless, equally adaptable for naval purposes as those selected from other coal fields.

The assertion that Groundhog coals disintegrate after being exposed, through exposure to the air, is absolutely absurd, for all samples already held and exhibited during the last three years and longer are still as compact and as solid today as when freshly broken. Such a mistaken suggestion can only have arisen from some foolish, unscientific error of judging a line by the condition and appearance of its dump, when this has been weathered and overrun during several winters by flooded creeks after intense cold has frozen and expanded the particles. So on the surface of the spoil-tips was left any specks of coal remaining, these heavier than similarly broken surface material is here due to blasting and the wasteful custom during initial development of throwing coal and roof rock together indiscriminately into the same pile.

In all hard coal seams, equally in other parts of the world as well as here, where this hardness is caused under severe squeezing from former immense, overlying thicknesses of glacier ice, and also from the heat generated by the surface movements, disturbances and subsidences of water upper strata, there along the outcrops of the seams occur surface niggerheads, vugs but only superficial of calcite with quartz veinlets. These show how the outside relief from high tension and pressure allowed the exuding waters on evaporating to precipitate their residue in time and silica from their heated solutions. However, these sediments are absent when the mere outcrops are penetrated and other parts are encountered unexposed to atmospheric influence. All these technical facts and details are everyday common knowledge to most experienced coal engineers and skilled managers, and the want of this practical groundwork in their professional classes any writer, whether in government employ

or otherwise, as incompetent to speak authoritatively of a new coal field.

Before giving further proof of the importance of these coal fields, another ill-advised statement, the result of undigested deductions and incomplete observations, must be nailed to the post as a warning to those in too great a hurry to pass an opinion. The basal geological floor of this coal formation, called the Skeena series, has been hastily assumed to be a certain local conglomerate, dubbed offhand of Jurassic age. This not, however, from evidence of fossils, but simply because the Rocky Mountain formations to the south happen to have a Jurassic underlying stratum. By assuming the lower conglomerates here to be the final limits in depth of the coal, and also by postulating some fearful and wonderful acrobatic feat of a supposed marvellous fold in the formation for over twenty miles in length, and turned back for a width of ten miles on itself, the geology of the Queen Charlotte Islands and also of Vancouver Island has been summarily ignored. Likewise the area of coal formation and its commercial possibilities have been thus reduced in their estimation to a bare one hundred and seventy square miles, differing from the writer's original one, given after two seasons' work, of seventy miles in length along a north and south line, namely, from the crest of the Groundhog Pass continuously to the Little Klappan, then by a line in width at least thirty miles east and west continuously from east of Doote or Pebble Creek to Panorama Mountain and the headwaters of the Naas River, comprising in all, roughly, a commercial two thousand square miles. As glacial erosion has denuded in many parts the upper strata down to these conglomerates in dispute, therefore the hasty conclusions have been put forth as insufficient proofs that erosion has destroyed for coal purposes nearly the whole of this great area mentioned, and that the various synclines above left untouched constitute alone small separated areas of coal-bearing seams. Only a minute decision is possible as to the number of seams left, and so of the tonnage to be estimated from foot-acres measured, on each individual square mile, after each has been systematically examined and contour maps completed.

However, a more careful examination of the rocks in situ will quickly show the absurdity of restricting the coal-bearing areas to these small synclines or troughs, as coal has been found actually outcropping in large seams at short intervals from north to south and from east to west over the whole of the area mentioned from Groundhog to Klappan, and from Panorama to Merry Creek, and beyond Zhanny Creek—in fact, up and down the Clua-Kaas and Clua-Tha-Tha branches of the Skeena River, and down the Stikine River to Klappan, and on its Clua-Yetse branch beyond Moccasin Creek, and good coal was brought in from Pitman River, another tributary from the east. These are hard facts that cannot be controverted, and so the theoretical government engineers from Ottawa, in their computed tables, are far too low for a correct estimation of the coal reserves existing in reality in the great Groundhog district.

At present the coal trade of British Columbia is in a transition stage, and is passing through a parlous condition for the moment, during such time as certain great financial interests and common carriers are allowed to play battledore and shuttlecock with the growing and insistent demands for a regular and cheap supply of fuel from the general community. Two of the corporations mining on Vancouver Island, for ulterior purposes of their own, have wantonly created strife with their labor, thus throwing the output of the coast coal mines into chaos from which it will find great difficulty in again even resuming its former dimensions, and much more in increasing to a still wider extent, as the wants of the country grow, this once extremely lucrative industry. The coal mines of the State of Washington, occurring in the miocene geological strata, and so carrying greatly inferior coal compared with the even somewhat mediocre, dirty, cretaceous seams on Vancouver Island, are now, during our mis-

fortunes, reopening every possible pit, and for the nonce reaping a splendid harvest. From Australia and Japan bituminous coals as a stop-gap are being hurriedly brought in by their aggressively active owners in large cargoes to fill these dislocated home markets, hoping also to become permanent shippers, and likewise to capture the Californian and other markets farther afield, but formerly won and almost exclusively supplied by Nainimo and Comox.

This importation of outside coal to replace our own, which should reach this coast rather from the interior collieries of the province, namely, from those in the Nicola Valley, Similkameen, Crow's Nest, Banff, Brazeau and other Rocky Mountain districts generally, is made possible because railway rates connecting producers and consumers have to date not been properly adjusted by the federal railway commission, for one reason that new railway routes over the Hope Mountains and by the Yellowhead Pass to the Fraser Valley are in the process of construction, which when completed will alter and maybe automatically cheapen the present tariffs charged, and which facts account for the former remark that the coal trade of this province is in a transition stage.

The several coals of the various local districts have their specific places in our commerce in accordance with their distinct qualities, the one for cheerful open fireplaces, as the lignites and semi-bituminous, another form which to produce gas or a high class coke for metallurgical purposes, as the bituminous, and yet another for smokeless fuel, as anthracite and semi-anthracite in steamers of the merchant service and the fighting navies of the world, also in base-burners and for heating purposes in towns, where for the sake of health the smoke nuisance must be peremptorily abolished. On account of these several requirements each individual field is limited to its special market.

It is to enlarge on the new found extensive Groundhog coal fields, containing smokeless coals in endless variety, perhaps the largest area known in the world of similar quantity, that this description is intended. Should large industrial enterprises along the seaboard desire immediately to start operations, the continuous connections with a coal supply are so dislocated on a possible basis that commercial energy is handicapped. This is owing to a passing lassitude in organization, for the natural wealth of coal in British Columbia is immense, and of a suitable quality to satisfy all requirements. Furthermore, the oil interests of the United States, without contradiction from capable experts, publish inspired articles broadcast in the press of the continent, perpetually dinning into the public ear that the age of coal consumption is past, and that oil alone is the fuel of today. The ordinary oil-burning steamers or land locomotives, however, leave a black cloud of pungent smoke in their wake, the air of our cities which we breathe and with which we coat our lungs reeks with unconsumed carbon from oil base-burners, and the Diesel internal smokeless combustion engine on a large scale is still an experiment. There cannot be ignored the possible short life of oil fields, with their strata punctured by new wells, and through human economy of pipe casing the admittance of destructive surface waters to the underground oil-storing zones, thus driving up the floating oils first into the anticlines of the folded formation, then later by increasing water pressure forcing the hydro-carbons further to exude through the fractured and cracked apices to waste gradually into tar sands by volatilization, having now lost their valuable qualities through sun distillation and the effects of atmospheric chemical reactions. It will not be long, too, before the owners of oil wells cannot afford further to permit the extravagant, wasteful sale of crude oil, rather than to refine the raw stuff and utilize its sundry more precious separated constituents, eagerly sought after to furnish cheap motive power, and other valuable chemicals produced from the residue. Oil stocks, too, are being boomed, and the investing public are temporarily being relieved of their surplus cash by methods similar to those in which the rubber promoters previously excelled.

It is now opportune to speak of the sizes of the seams found and already developed in the Groundhog coal field. The writer had especial charge of the exploratory work on Biernes Creek on behalf of the British Columbia Anthracite Syndicate, who are Quebec people, among the most active being Messrs. Leon Benoit and J. G. Scott. They, with their colleagues, spared no necessary expense to demonstrate thoroughly what they held in the shape of an industrial, and they obtained also a railway charter, having a government subsidy added, so to control all items on the outgoing cost sheets when marketing their coal. Their seams, corroborated by the government engineer, Mr. G. S. Malloch, Mr. James McEvoy, Mr. G. F. Monckton, besides the writer, consist of the Benoit seam (6 feet), Scott seam (9 feet), Garneau seam (4 feet), Ross seam (approximately 20 feet), Pelletier seam (6 feet), all these in the lower coal series along Biernes Creek, with others showing three miles farther up over an anticline, but not yet developed. In the upper series on Anthracite Creek, Nos. 1, 2 and 3 (a, 4 feet 9 inches; b, 3 feet; c, 5 feet 9 inches) the lower series constitute a total thickness of about 45 feet; the upper series do not cover much of this syndicate's 67 square miles, but their total tonnage otherwise places them far beyond anxiety for one hundred years. The best analyses on each seam gave as follows:

Seam	Fixed Carbon	Volatiles	Sulphur	Moisture
Benoit	84.00	4.5	1.0	5.00
Scott	81.10	4.5	0.8	10.00
Garneau	82.50	4.0	1.0	8.50
Ross	80.94	9.33	0.77	8.96
Pelletier	83.50	3.50	1.00	7.50
No. 1	71.76	13.51	0.16	14.57
No. 2	73.20	6.74	0.12	12.74
No. 3	86.74	6.98	0.15	6.15

These analyses can be corroborated, and excelled in bulk form run of mine by cleaned products from all the seams, and with some careful preparation will compare more than favorably with typical Welsh or Pennsylvania coals, whose analyses are given under:

Locality	Fixed Carbon	Volatiles	Sulphur	Moisture
Welsh—				
Albion	85.15	8.65	0.14	3.24
Cardiff	84.60	7.40	0.20	6.05
Bryn Blaen	84.60	7.40	0.20	6.05
Best Admiralty	83.40	12.20	0.70	2.80
Cardiff Dry	85.50	11.00	0.80	2.00
Best Monmouthshire	75.50	20.50	0.80	2.20
Swansea Dry	85.50	10.00	0.90	2.60
West Virginia—				
Pocahontas	80.10	13.50	0.14	5.15
Elk Cardin	80.67	11.68	0.09	0.45
Pennsylvania—				
Wilkesbarre	83.97	3.77	0.15	8.64
Lackawanna	81.71	6.79	0.35	8.01
Avg. 30 cts.	84.00	2.80	0.50	8.40
Lehigh Coal, Market Sizes—				
Lehigh Egg	88.49	3.51	0.60	5.66
Lehigh				
Stove	83.07	4.15	0.57	10.17
Lehigh Nut	80.71	4.04	0.84	12.65
Lehigh Pea	79.04	3.89	0.69	14.64
Lehigh				
Buck-wheat	76.91	4.05	0.71	16.62

The analyses of Lehigh coal, with its various sizes for market purposes (and the smaller size, the greater the ash) is a good criterion to beat.

But there can now be no doubt that the salient reasons given at the beginning of this article why Groundhog smokeless, hard steam coals will play a most important part in the world's commercial future, are fully already substantiated by carefully compiled facts and evidence.

Next concerning the costs of production and delivery in order to compete everywhere along the seaboard of the whole Pacific Ocean. It must not be forgotten that to supply the Orient and all American points, distances are greatly in favor of the Groundhog coal fields. Pennsylvania's annual output of anthracite coals is approximately 83,000,000 short tons (valued per short ton at seaboard, lump \$4.75, egg \$5.00, steam coal as pea \$3.25, for long ton \$3.54). Any of this Pennsylvania or Virginian, as well as the Welsh, will have to pass through the Panama Canal before being able to compete.

The price of Welsh coal is approximately for the year's average, 23s. 3d. (\$5.63 per long ton). Freight rates from Welsh ports to Hongkong are 15s. 3d.; Sydney, Australia, 12s. 6d.; Chili, 18s. 6d. Groundhog coal can be kept at the pit's mouth at \$4.00, or f. o. b. on Portland Canal at \$5.00.

On a daily output of 5,000 tons a yearly profit of over \$3,000,000 can be demonstrated, which is equal to ten per cent. profit on a capital on paper of \$30,000,000, or twenty per cent. on a sum of \$15,000,000.

By owning a railway to carry the coal down the Naas River to the seaboard, one hundred and fifty miles away, also a fleet of steam colliers to convey the product from there to any and all of the ports on the Pacific, where will be established depots for bunker coal to supply steamers, there will be ample sale for such a proposed output, and an immense new market developed on account of the opening of the Panama Canal.

Working capital of approximately \$9,000,000 will be advisable to purchase, develop, equip, construct the railway, terminals, own a fleet and acquire depots abroad, still leaving an attract-

## - FACT HUNGER -



As children, our first demand is for nourishment; our second for facts.

All through life we go about searching for information.

We make a new acquaintance; but before we will accept him as a friend or invite him to our home we ask for facts about him.

We visit a foreign land; and from the moment we step across its border we are asking questions—searching for facts.

We are asked to try a new food product; isn't it instinctive with us to ask at once:

"Who makes this new article?"

"How is it made? what goes into it?"

"Is it worth the price charged for it?"

Facts—we are simply hungry for them.

Strange, isn't it, that we should so often have to search for them? Odd, that some manufacturers still withhold the facts about their product. Not always because they are facts to be ashamed of—for there are many worthy articles yet unadvertised.

But it will not be so much longer. The fact-hunger of the human race is becoming keener and keener. The more facts we get, the keener our relish for more of them.

Soon it will be impossible to sell a man or a woman anything until everything has been told about the goods that can be told through Advertising.

The public has discovered that Advertising tells much-needed facts—that, in fact, Advertising satisfies fact-hunger.

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ive margin to cover promotion expenses and produce profits. All these facts and figures given and tabulated can be accurately substantiated later, when the many departments are in full swing, and from their compactness offer to the investing public one of the most attractive industrial for investment, seldom equalled for permanency and further possibility for enhanced profits. It took years to induce capital to entertain the Crow's Nest scheme of collieries and railway, but this Groundhog coal field, on account of its proximity to seaboard and the special quality and quantity of its coal, cannot long go begging, as its product has few competitors.—Portland Canal Miner.

As a large taxpayer, McClymont will advocate sane spending methods in city affairs. His interests are the ratepayers' interests. See that he is elected for Alderman. 9-10

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Looking backward from the threshold of 1914 we cannot but congratulate ourselves on the splendid increase of our out-of-town business during 1913. Therefore, on account of the staunch support and this display of confidence in our service, we must thank our many out-of-town friends for their patronage during the past year. We do not claim that our service is perfect beyond mistakes, for where so many hands are employed small errors in despatching orders are bound to occur. These, however, when brought to our notice, are rectified with the utmost haste and care, while we are particular that our customer shall suffer no loss. We trust that each of our customers will interpret this message as directed to them personally.

To all we send sincere wishes for a happy New Year.

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## DAILY NEWS

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