PAPERS

RELATING TO ARTESIAN WELL BORING.

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TO CONTRACTORS.

Sealed proposals will be received by the Honourable Chief Commissioner of Lands and Works up to noon of Wednesday, 10th July next, from persons experienced in well drilling who may be desirous of undertaking contracts from the Government for sinking one or more experimental artesian wells in Yale District, B. C., with a view to determining their value for purposes of irrigation.

Proposals must state clearly all conditions and terms, state the kind of apparatus proposed to be used, and give the names of two responsible residents of the Province who are willing to enter into a bond to secure the faithful carrying out of any contract which may be entered into.

Such information as may be in possession of the Lands and Works Department will be furnished on application to parties proposing to contract.

(Signed) W. S. GORE,
Surveyor-General.

Lands and Works Department,
Victoria, B. C., 10th June, 1889.

NOTE.—Copies of this notice were sent to several firms in the east, but no bid was received from any of them. W. S. G.

VANCOUVER, B. C., June 17th, 1889.

DEAR SIR,—Noticing that you are calling for tenders for well boring, we beg to call your attention to the fact that we have a machine capable of boring to a depth of 2,500 feet, but we are not in a position to tender for the work. We would, however, be willing to rent the machine to the Government, and also furnish them with an experienced man capable of doing the work. We have a modern machine capable of going 2,500 feet deep, and have a thoroughly competent man capable of taking charge of the same.

We have an opportunity to let this machine go to other parties, but if we could come to some arrangement quickly, that is, within three of four days, we would prefer letting the Government have it.

Our proposition would be to let the Government bear the exact cost, we furnishing the machine and receive a rent for our capital invested.

If this meets with your approval will you kindly let us know by return mail.

(Signed) RAND BROS.

W. S. Gore, Esq.,
Surveyor-General, Victoria, B. C.

VICTORIA, B. C., June 21st, 1889.

GENTLEMEN,—I have the honour to acknowledge the receipt of your letter of the 17th inst., offering to rent to the Government your boring apparatus upon certain conditions, and in reply the Honourable Chief Commissioner of Lands and Works desires me to say that a definite answer cannot be given until after the date for receiving proposals has expired (10th July next).

I have, &c.,

(Signed) W. S. GORE,
Surveyor-General.

Messrs. Rand Bros., Vancouver, B. C.

OWEN SOUND, June 29th, 1889.

Hon. Chief Commissioner of Lands and Works,
Victoria, B. C.

HON. SIR,—I have to-day received from W. H. Ladner, M.P.P., notice that you have advertised for proposals from practical artesian well drillers to drill one or more wells in British Columbia for irrigating purposes.

I went to Victoria last June, 1888, for the purpose of trying to make a contract to do the work then contemplated. Mr. McKay had made his report, and I was shown the tools that they proposed to do the work with. I told them that the work could not be done with the tools, and that the money would be wasted. I am 44 years of age, and have followed deep well drilling for oil, gas, salt, coal and water for twenty-five years in the United States and Canada; have drilled 75,000 feet of holes, no wells less than 500 feet, and as deep as 2,700 feet. I drilled the first three salt wells in Canada (1,100 feet deep) twenty-two years ago, and out of eighty wells have never failed to complete any undertaking and give satisfaction. I have drilled several flowing artesian wells, four fine ones in Canada, flowing from 10,000 to 50,000 barrels of pure water per day. I am a practical steam engineer, driller and tool dresser, and understand the erection and handling of all kinds of drilling tools, also machinery. (Am in comfortable circumstances.) I am known to several gentlemen in British Columbia, among them W. H. Ladner and brother, Laidlaw & Ewing, Innes brothers. Several in Victoria will remember my being there last year on the well business. It will be a difficult task to say just what it is worth to sink a well in British Columbia until one has been put down, for the following reasons: Your country, where any soil or surface exists, is covered with glacier drift to unknown depth, and the lower parts, near bed-rock, is usually covered with boulders, sand and gravel. Those are the most difficult to force a hole through and get the drive pipe and casing deep enough in the rock to shut them off. Then the bed-rock is for the most part hard granite and trap rocks to drill, and special tools and machinery are necessary, and if any one makes you an offer to drill 500, 1,000, 2,000, 3,000 feet and find everything, knowing kinds of surface and rock, they will ask more than the work will cost twice over. What I would suggest is for the Government to purchase a complete modern outfit and engage a practical man to run them. You would then get your work done for just what it would cost, and have your outfit to go on with more work or to sell. And let me say here, that one or two wells would not be a fair test of country. You could get a practical man to run and look after the work for $75 per month and expenses, also two others to assist for about $75 per month and expenses. This would be about $450 per month. We generally manage a 1,000 ft. well here in about twenty to sixty days; it would take longer in British Columbia. I could find myself and two other hands sufficient to run the tools ten hours a day for about $14 per day, and board and expenses. I have been manager and driller for the Huron Salt Well Co. here for the past four years, and enclose you recommendation from Isaac Carling, ex-M.P., brother of the Hon. John Carling, through whom you could make enquiries as to my ability. W. H. Ladner, Ladner's Landing, B. C., will be able to speak for me. As for getting bondsmen, I am not well enough acquainted in British Columbia, and if I were would not ask for it, but would let you retain any share of my wages you would think fair until such time as I satisfy you I am what I represent. You will find enclosed copy of recommendation from my late employers, also copy of tender for a set, complete, of drilling tools, engine, boiler and rig irons, everything needed for a 2,000 foot well. The timber for rig can be got there. By getting a couple of framers we can build it in a few days, and make it so that it can be taken down and set up in any place in a day or two.

It would cost, all ready set up and ready to start in British Columbia, about $3,000, and will take thirty days to get it on board of cars here—one car load. After you are through with them I would be willing to buy them at a fair price.

The costs would be in the neighbourhood of the following :—

Drilling tools, rig irons, engine and boiler, say	$2,000 00
Casing, travelling expenses and freight, say	600 00
Putting machinery on ground and building rig	400 00
Fuel, about half cord per day.	
Wages, per day, for three men	14 00
Board, ,, ,,	3 00

If you conclude to engage me I would come out at once and enter into an agreement and see where you propose to drill, give instructions to get timbers ready and return for tools. By so doing, I could save the cost of trip. I would expect my return fare and expenses, $2 per day, till tools were shipped.

If you have any information to give about the kinds of surface and rock to be drilled through, or wish any from me, address

Your obedient servant,
(Signed) WM. MORRISON,
Artesian Well Driller,
Owen Sound, Ont., Canada.

EXETER, May 16th, 1888.

To whom it may concern.

This is to certify that Mr. Wm. Morrison has been in our employ, and we have always found him to be honest, industrious, and in every way satisfactory. He is a thoroughly competent driller or manager of any oil, salt or gas works, and we have great pleasure in recommending him to any person or company who may require a reliable person to manage affairs.

Yours, etc.,
(Signed) GEO. SAMWELL,
President Exeter Salt Works.

EXETER, May 12th, 1888.

To whom it may concern.

This is to certify that I have known the bearer, Mr. Wm. Morrison, for two or three years. He has been Manager of our salt well since July, '85. When he came to us the works were broken down and in a very bad condition—in fact, useless—and to make matters worse, we were badly in debt. We tried two or three other men, but they were of no use; could do nothing. Mr. Morrison took works in hand, and to-day they are in first-class working order and have been up to present time. Trade good, debts paid and money in the treasury. Since '85 has been the dullest in salt history of Canada. Mr. Morrison is upright, straightforward, and a gentleman in every respect. To conclude, I would say that any work he undertakes will be carried out in first class order.

Yours respectfully,
(Signed) ISAAC CARLING.

The following is a list of parts and prices of the best prospecting artesian tools, rig irons manufactured in America, and the same as are shipped to Europe, Asia, Egypt and Australia, and include everything except lumber, timber, nails, &c., &c., which can be got on the ground cheaper than shipped. It will take thirty days after receiving order to make and put on board of car (one car will carry all) :—

1 3½ drill sinker, complete, 30 feet long	$60 00
1 3¼ ,, ,, 30 ,,	45 00
1 2¾ ,, best straightened shafting	40 00
1 2¼ duchman sinker for fishing	16 00
1 pair of 1¼ jars, pin and box, Lowmoore iron	28 00
2 set of 1⅛ jars	49 00

1 set of 1 jars (fishing)	$ 14 00
1 10-inch mud bit, 30 lbs. steel	15 00
3 5-inch bits for rock, 35 lbs. steel in each	45 00
3 4½-inch drill bits, 30 lbs in each	41 00
1 8-inch rimmer, 40 lbs steel	18 00
1 7-inch „ 40 „	18 00
1 6-inch „ 35 „	14 00
1 4½-inch round rimmer for lumps	16 00
1 fork rimmer	20 00
2 Dutch subs, with drill pin and box	16 00
1 extra drill pin and box for break down	15 00
1 4-inch sand pump, 34 feet long	24 00
1 3½-inch „ „	21 00
1 slipperout with cast wheel	15 00
1 drill snivel with chain attached	15 00
2 heavy draw snivels for poles, steel washers	16 00
2 tool wrenches, extra heavy	9 00
1 catch and 1 knock wrench for poles	4 00
45 pair pole tool joints and centre straps, same as used in Huron salt wells, 5 poles, $4 per pair	180 00
4 pair pole tool pins and boxes, no straps extra	6 00
1 Pennsylvania wing sub. for rimming and straightening hole above rimmer	75 00
1 lever and 2 chains attached	2 50
1 sand pump hanger and chain	2 50
1 clamp, chisel and punch for making poles	4 00
1 pair blacksmith's tongs	1 00
1 light spud	6 00
1 long spear	30 00
1 spring pole bolt and stirrup bolt plates	4 00
2 1½-inch clamp bolts turned in lathe	6 00
1 anvil and bellows	30 00
1 pole holder	2 00
1 weight and 2 clevises for rope	3 50
1 cast-iron spring pole jacket	6 00
1 1-inch leg valve socket for fishing	5 00
1 2-inch „ „	12 00
1 horn socket with clevis	6 00
1 heavy chain for casing, 12 feet long, ring and hook	10 00
1 1½-inch and 1⅜ inch chain for tools	4 00
100 lbs, of ¼ Lowmoore riveting iron	8 00
1 11-inch augur for surface	18 00
1 8-inch mud pump, steel shell	14 00
100 feet of 2½-inch boring stems, complete	38 00
1 stone hook, with drill pin	10 00
2,000 feet of 2⅛-inch ash drill poles, 4c. per foot	80 00
Boxing and packing tools are extra	8 00

LIST OF MAIN SHAFTING AND RIG IRON.

1 3½-inch shaft, with flanges and crank, rist pin, collar and bolt, 1 saddle for beam, stirrup bolt and plate, 2 pair pitman, straps, gibs and keys, and all other bolts for rig, 2 shives for derrick	65 00
1 driving wheel, 12-inch face	11 00
1 draw wheel, „	11 00
1 spool complete, with shaft through it	15 00
Maple boxing for rig	3 50
36 feet 12-inch 5-ply rubber driving belt, @ $1.10	39 60
30 feet 12-inch leather belting, oak tan, @ 95c	28 50
Best lace leather, $1 per lb.	5 00
2 1½-inch Manilla draw ropes	20 00

2 1½ shive blocks for pulling casing ..... $ 10 00
Price of engine and boiler on board cars, ready for the fire—no wheels, wheels extra.
It will burn wood or coal:—
1 15 horse engine, 9x12 bore 300 00
1 15 horse power boiler, smoke-stack and grates and all fittings to connect engine and boiler 380 00
This engine and boiler will drill well 2,500 feet.

As you will likely bore where there is more or less drift deposit, it will be necessary to have sufficient heavy drive pipe to work through it and reach solid bed-rock, as no flowing wells of any account can be got on the surface. I would recommend from $300 to $500 worth. If rock can be got on the immediate surface so much piping would not be necessary.

(Signed) WM. MORRISON,
Artesian Well Driller,
Owen Sound, Ont., Canada.

OWEN SOUND, July 1st, 1889.

Hon. Commissioner of Lands and Works,
Victoria, B. C.

SIR,—In my proposals for artesian works, mailed you June 29th, I overlooked the probability of there being not sufficient water (about one barrel per hour) to supply a 15 horse boiler, in the immediate vicinity where you propose to bore. I may say here, that an artesian hole cannot be drilled without water in small quantities.

Water might be teamed, horse or hand power employed, until a depth of 50, 150 or 300 feet was reached, when we would likely find sufficient water to supply boiler that we could pump up into a tank or reservoir on ground; one day's pumping would be enough for 15 or 20 days' work, and the well carried down until flowing water is reached or the drilling stopped. Or everything could be ready and do the drilling during the wet season or while snow could be had to melt down by exhaust steam. (I don't recommend hand power; it is next to useless, and the results are generally unsatisfactory.) I have proposals out now for two local jobs here of 1,000 feet, and will delay closing with them until you have sufficient time to let me know your intentions.

In case you decide to engage me, it would be advisable that I see the territory you propose to bore in, before ordering the tools and machinery, and thereby have everything the most suitable for the success of the undertaking.

I would give your work the preference, for, if it is successful, more will follow.

Yours respectfully,
(Signed) WM. MORRISON.

P. S.—Be kind enough to let me know results as soon as possible.

VANCOUVER, July 9th, 1889.

SIR,—We, the undersigned, hereby propose to drill, or sink, an artesian test well on or near G. B. Martin's ranch, South Thompson, to the depth of five hundred (500) feet, and furnish all necessary plant and machinery for the same, for the sum of three thousand dollars ($3,000).

Should we strike what you would consider a sufficient supply of water at a lesser depth than five hundred feet, the contract price to remain the same, viz.: three thousand dollars.

If it should be found necessary to go deeper, we will drill an additional two hundred and fifty (250) feet, or any part thereof, at the rate of six dollars ($6) per foot.

Should this proposal be acceptable we will require, when our machinery arrives at the nearest railway shipping point, a sufficient advance payment to defray freight charges.

The hole will be not over six (6) inches in diameter, and not under five (5), unless we find it necessary to put in a second string of casing (which is not likely), in which case it will be four (4) inches in diameter below the second tubing.

Respectfully submitted,
(Signed) MCGILLIVRAY & WHALEY,
Vancouver, B. C.

W. S. Gore, Esq.,
Surveyor-General.

VANCOUVER, July 9th, 1889.

SIR,—We, the undersigned, hereby propose to drill or sink an artesian test well on or near G. B. Martin's ranch, South Thompson, to the depth of five hundred (500) feet for the sum of one thousand ($1,000) dollars, you to supply us, on the ground, with a twelve horse power (12) boiler and engine, a Petrolea drilling rig complete, and all necessary tubing suitable for casing deep wells; also, fuel and water for steam purposes.

We will do all the framing and set up the machinery.

Should we strike what you would consider a sufficient supply of water at a lesser depth than five hundred (500) feet, the contract price to remain the same, viz.: one thousand dollars ($1,000).

If it should be found necessary to go deeper we will drill an additional two hundred and fifty (250) feet, or any part thereof, at the rate of three dollars and fifty cents ($3.50) per foot.

Respectfully submitted.

(Signed) MCGILLIVRAY & WHALEY,
Vancouver, B. C.

VICTORIA, B. C., July 10th, 1889.

ARTESIAN WELLS.

SIR,—I will sink you a well (4½) four and a half-inch hole any given depth for three dollars per foot, the Government to furnish the necessary machinery. I will sink five hundred feet every sixty days or no pay. I will furnish all the labour and incidental expenses.

(Signed) H. Ross & Co.,
Mt. Lehman, B. C.

I will supply wood and water for twenty-five cents additional to the above price.

To the Honourable the
Chief Commissioner of Lands and Works.

NOTE.—This tender was accepted, and a contract entered into with Mr. Ross in accordance therewith.

VICTORIA, July 10th, 1889.

SIR,—We, the undersigned, will sink an artesian well (4½) four and a half-inch hole five hundred feet for five dollars per foot; after five hundred feet we will charge fifty cents per foot for each additional hundred feet for any given depth, not to exceed three thousand feet, the Government to pay two dollars per foot for each hundred feet as the work progresses, and to retain two dollars and fifty cents till the work is completed, and will give the Government a guarantee of one thousand dollars to sink five hundred feet every sixty days.

(Signed) HUGH ROSS & Co.,
Mount Lehman, B. C., Fraser River.

To the Honourable the
Chief Commissioner of Lands and Works.

VICTORIA, B. C., July 19th, 1889.

GENTLEMEN,—The Government is disposed to accept your tender for boring artesian wells, and with that view desire me to request you to come to Victoria as soon as possible for the purpose of arranging about the purchase of the necessary plant by the Government.

I have, &c.,

(Signed) W. S. GORE,
Surveyor-General.

Messrs. H. Ross & Co.,
Mount Lehman, New Westminster District, B. C.

PETROLEA, ONT., July 23rd, 1889.

W. S. Gore, Esq., Victoria, B. C.:

DEAR SIR,—In reply to your telegram, we submit you our prices for drill tools.

* * * * * * *

We can supply the whole or part of the drill tools at prices given, and shall be pleased to receive your order, which shall receive our earliest attention. Our drill tools have been shipped to Germany, Austria, Australia, India, and other foreign countries, and have given great satisfaction wherever they have been used.

Awaiting your reply, We are, &c.,

(Signed) McKEE & MARWICK.

VICTORIA, B. C., August 1st, 1889.

GENTLEMEN,—In reply to your letter of 23rd July, I have wired to-day as follows:—"Please ship a complete drilling rig, including engine and boiler, as per your letter of 23rd ultimo., addressed to the Government of British Columbia, Duck's Station, C. P. R., near Kamloops. Letter by mail."

The above is, I think, sufficiently explicit, and from it you will perceive that the drilling plant is for the Government.

Please make the best contract you can with the railway company regarding freight charges and quickness of delivery. Advise me when the tools are shipped, and send me shipping receipt and your account. I have, &c.,

(Signed) W. S. GORE,

Surveyor-General.

Messrs. McKee & Marwick,
Petrolea, Ontario.

VICTORIA, August 2nd, 1889.

GENTLEMEN,—I am in receipt of a letter from Petrolea, giving a list of boring plant, with prices, a copy of which I send you. In reply, I telegraphed McKee & Marwick to ship the complete rig in accordance with their letter, including engine and boiler, to Duck's Station. If you think anything of importance has been omitted, please let me know at once, so that I may order it before the plant is shipped.

I will write you again as soon as I am informed that the tools are on the way.

I have, &c.,

(Signed) W. S. GORE,

Surveyor-General.

Messrs. Hugh Ross & Co.,
Mount Lehman, New Westminster District, B. C.

MOUNT LEHMAN, August 7th, 1889.

W. S. Gore, Esq.:

DEAR SIR,—In reply to yours of the 2nd, I beg to call your attention to some important plant—a pitman to connect counter-shaft with walking-beam; also two wheels for counter-shaft. They can be got much cheaper and quicker from Petrolea; also saddle and boxings for walking-beam. Respecfully yours,

(Signed) H. ROSS & CO.

VICTORIA, B. C., August 10th, 1889.

GENTLEMEN,—I am advised by the man who has been engaged by the Government to operate the drilling machinery that the following articles, which were not included in your list, will also be required, viz.:—

A pitman to connect counter-shaft with walking-beam;
Saddle and boxings for walking-beam;
And two wheels for counter-shaft.

Please include these items in your shipment.

Ash poles cannot be obtained in this Province, and if your list does not include them, they will also be required, say sufficient to sink 500 feet.

I have, &c.,

(Signed) W. S. GORE,

Surveyor-General.

Messrs. McKee & Marwick,
Petrolea, Ontario.

PETROLEA, ONT., August 21st, 1889.

To Messrs. the Lands and Works Department,
Victoria, B. C.

DEAR SIRS,—In answer to yours of the 10th inst., we will send you a complete set of tools and all machinery required for a good drilling outfit, including ash poles, wheels for shaft, viz., driving wheel, draw wheel, and spool for top; also, tightener, and pitman for connecting beam and shaft, and beam irons, set of pipe dies for making steam and water connections, including pipes. Will all go forward in a few days.

Yours truly,
(Signed) McKEE & MARWICK.

W. S. Gore, Esq., Surveyor-General,
Lands and Works Department, Victoria, B. C.

PETROLEA, ONT., Sept. 7th, 1889.

DEAR SIR,—We enclose invoice, shipping bill, and a complete list of tools shipped, which we trust will arrive in good order. We took the liberty of sending you pipe dies and vice for cutting and threading all sizes of pipe, from 2-inch down to $\frac{1}{4}$-inch, so as to enable you to change connections at your convenience; also a few extra fittings. We made rate from here per G. T. R. @ $1.33 per 100 lbs. We can supply you with $4\frac{5}{8}$ casing, such as is used in wells here, @ 45c. per foot, F. O. B. Petrolea.

Trusting to receive any future orders you may have, and that tools will give entire satisfaction,

We are, etc.,
(Signed) McKEE & MARWICK.

COMPLETE LIST OF TOOLS SHIPPED.

1 engine and boiler, 1 crank shaft, 1 smoke-stack, 2 shafts, 1 fly-wheel, 1 iron pulley, 1 heater, 6 pieces sinker, 3 pieces sand pump, 5 boring stems, 3 bundles poles, 2 wooden wheels, 1 spool, 5 boxing in boiler, 3 bars iron in boiler, 1 ball for safety valve in boiler, 3 grate bars in boiler, 2 shive pulleys in boiler, 1 wooden pulley in boiler, 11 pieces flanges for draw-wheel in boiler, 1 bundle pipe (4 pieces), 1 bundle pipe (2 pieces), 1 bundle rivetting iron (14 pieces), spring pole jacket, 5 boxes.

LIST OF TOOLS IN BOXES.

No. 1.—1 mud pump augur, 1 set $1\frac{1}{8}$ jars, 1 cold chisel, 1 punch, 2 bolts, clevises, 1 small joint for fishing tools, 2 hand wrenches, 1 pole clamp, 4 iron pins, 1 noddle pin, 3 cranks, 1 slipperout, 1 weight for draw rope, 2 stirrup bolts for walking beam, 1 plate for wrench block, 1 chain lever, 4 pieces chain, 2 small bolts, 1 beam (iron), 3 large bolts, 1 horn socket, 1 pair pole joints.

No. 2.—1 mud pump, 1 piece sand pump, 2 pieces tightener irons, 1 drill chain and swivel, 2 fishing tools, 1 stone hook, 1 pole clamp, 1 set jar, 7 pairs joints.

No. 3.—2 pairs pitman straps, with bolts, gibs, key and brass boxes; 4 drill bits, $4\frac{1}{2}$; 1 mud bit, $10\frac{1}{2}$; 2 rimmers, 5 and 7-inch; 3 pairs of pole joints, 1 spring pole clevis, 1 swivel, 2 hammers.

No. 4.—9 pairs of joints, 1 large wrench, 4 pieces tightener frame, 1 piece engine, 17 pairs centre straps, 1 monkey wrench.

No. 5.—2 sets pipe die stocks, from 2-inch down to $\frac{1}{4}$-inch; 1 bolt, 1 pipe vice, 1 Jenkin's globe valve, 1 monkey wrench, 2 $\frac{3}{4}$ check valves, 1 lubricator for engine, 4 drain bocks for engine, 2 oilers for connecting rod, 2 keys for engine shaft, 1 cold chisel, 1 2-inch stop-cock, 1 combination for blow-off and feed water, $1\frac{1}{4}$ iron and $\frac{3}{4}$ brass cocks, 1 ball and lever for engine governor, 2 pieces of pipe, pump connections to heater, 1 steam gauge, 4 bundles fittings, extra.

VICTORIA, B. C., September 9th, 1889.

GENTLEMEN,—I have the honour to inform you that I have been advised by Messrs. McKee & Marwick, of Petrolea, that the boring plant was loaded on the car for shipment on the 31st ultimo.

The tools will be shipped to Duck's Station, on the Canadian Pacific Railway, East of Kamloops, from which point you must make the best arrangement you can to have them forwarded to the site of the unfinished well which was sunk by Mr. McKay last year, near Mr. Martin's ranch. I am directed to instruct you to commence operations where Mr. McKay left off.

You can proceed to the scene of your operations at once and prepare the timbers you require for setting up the plant.

I have, etc.,
(Signed) W. S. GORE,
Surveyor-General.

Messrs. Hugh Ross & Co.,
Mt. Lehman, B. C.

VICTORIA, B. C., September 16th, 1889.

GENTLEMEN,—I have the honour to acknowledge the receipt of your letter of the 7th inst., enclosing invoice and shipping bill of complete list of tools for artesian well boring.

Enclosed I send you a voucher for the amount of your account, which you will please receipt and return to me. I will then forward you a draft for the amount.

I have, etc.,
(Signed) W. S. GORE,
Surveyor-General.

Messrs. McKee & Marwick,
Petrolea, Ontario.

VICTORIA, B. C., September 16th, 1889.

SIR,—Enclosed I send you a list of tools and invoice of same, which were shipped by Messrs. McKee & Marwick on the 6th instant by G. T. R., car 19226, addressed to the Government of British Columbia, Duck's Station.

A contract for freight was made with the Railway Company at $1.33 per 100 lbs. You will please give the Railway Company a voucher for the amount of the freight at the above rate.

Check the goods received with the list I enclose, and let me know if they were delivered correctly and in good order.

I have, etc.,
(Signed) W. S. GORE,
Surveyor-General.

Hugh Ross, Esq.,
Artesian Well Contractor, Duck's P. O., B. C.

MARTIN'S RANCH, September 26th, 1889.

W. S. Gore, Esq.:

DEAR SIR,—The well-boring plant arrived in good shape, with the exception of the fly-wheel. It is broken beyond repair. I gave a voucher for the amount due for freight—$266. I unloaded it at Duck's Station. The delay in replacing the fly-wheel and getting timber to set up a stationary engine. We cannot work in cold weather in an unclosed derrick and engine-house, which will require 4,000 feet of lumber. Owing to the shortness of the season, we will have to suspend operations till spring. We have to draw water over half a mile up a grade of 112 feet, which is almost impossible in cold weather. Mr. Martin is in Chilcoten. He will be absent for a month. His son is also absent. Mr. Batchelor, at Duck's Station, is branding stock. I can't get a team here for love or money to haul the plant to the well.

I have, &c.,
(Signed) HUGH ROSS.

VICTORIA, B. C., October 3rd, 1889.

SIR,—I have the honour to acknowledge the receipt of your letter of 26th ultimo advising me of the arrival of the boring machinery at Duck's Station, and stating that owing to the lateness of the season boring operations would have to be suspended until the spring.

If you are convinced that the season is too late to commence work, all that you can do will be to see that the machinery is safely stored where it cannot be damaged during the winter.

If you will send me particulars regarding the broken fly-wheel, so that the manufacturers will understand what is wanted, I will order another one from Petrolea.

I have, &c.,

(Signed) W. S. GORE,

Surveyor-General.

Hugh Ross, Esq.,
Artesian Well Contractor, Duck's P. O., B. C.

VICTORIA, B. C., November 4th, 1889.

SIR,—I am desired by the Honourable Chief Commissioner of Lands and Works to request you to report what arrangements you have made for the safe storing of the boring tools which you received at Duck's Station from the Railway Company. Also to inform me whether you think it would be advisable to send the stationary engine and boiler back to Petrolea and to get a portable engine in exchange for it.

About what time do you expect to commence work in the spring?

I have, etc.,

(Signed) W. S. GORE,

Surveyor-General.

Mr. Hugh Ross,
Mt. Lehman, B. C.

VICTORIA, B. C., January 8th, 1890.

SIR,—On 4th November last I wrote to you asking you to report what arrangements you had made for the safe storage of the boring tools for the winter, and desiring to be informed whether you considered it advisable to exchange the stationary engine and boiler for a portable one. As I have not had a reply from you, I must suppose that you did not receive my letter.

As it is the desire of the Government to commence operations with the boring machinery immediately the season opens in the spring, say about 1st April, it is necessary to decide at once what had better be done about the engine and boiler. I must therefore request you to give your opinion on the matter without any delay.

I have, etc.,

(Signed) W. S. GORE,

Surveyor-General.

Mr. Hugh Ross,
Mt. Lehman, B. C.

REVELSTOKE, January 28th, 1890.

DEAR SIR,—In reply to your letter, I have stored in the freight house at Duck's Station the wooden wheels and pulleys that would be injured by dampness. The rest of the machinery is on the platform at said station. In regard to the engine, you are aware the Government agreed to furnish a mounted engine. They have not fulfilled their agreement with me. There is no use of me trying to work against impossibilities. I consider I am entitled to compensation for lost time and disappointment. If the Government desire, I will set up the machinery and sink the well at Mr. Martin's ranch if they will replace the broken fly-wheel. I will sharpen the bits, and take the same interest in the work as if I was doing it by contract, for five dollars per day, but on no other considerations, as there will be too much lost time in setting and resetting that stationary engine. The Waterous Engine Works, in Brantford, makes a first-class mounted engine, sixteen horse-power, that will be delivered three weeks after ordering it, at any point on the C. P. R. in British Columbia. They have an agent in Vancouver named George Kane.

I have, &c.,

(Signed) HUGH ROSS.

Please address Revelstoke.

W. S. Gore, Esq.

VICTORIA, B.C., February 1st, 1890.

SIR,—In reply to your letter of 28th ultimo I have to remind you that the boring plant which was purchased by the Government, including engine and boiler, was ordered from a list that was approved of by you, and that you made no mention of a portable engine until after the machinery had been shipped from Petrolea.

The plant was ordered by your advice, and so far from you having any ground for complaint, it is, on the other hand, the Government who have cause to complain of the loss, both of time and money, through your failure to specify the kind of engine required at the time you were consulted about the purchase of the requisite plant.

It is the intention of the Government to procure a portable engine at once, so that work may be proceeded with as soon as the weather will permit.

You will be held strictly to your contract, and will be required to commence work when directed to do so, as provided by the terms of your agreement.

Please acknowledge receipt of this letter, and inform me what your post office address will be in future.

I have, &c.,
(Signed) W. S. GORE,
Surveyor-General.

Hugh Ross, Esq.,
Revelstoke, B.C.

REVELSTOKE, February 10th, 1890.

DEAR SIR,—In reply to yours of the 1st instant, I have to remind you that Mr. Vernon agreed, in your presence, to furnish a portable or mounted engine, and remarked that the Government could utilize it for other purposes after testing the artesian wells. Therefore, I did not consider it necessary to make mention of the engine in the list I approved of.

I have, &c.,
(Signed) HUGH ROSS.

Please address Revelstoke, B.C.

W. S. Gore, Esq.

VICTORIA, B.C., January 28th, 1890.

GENTLEMEN,—Will you kindly inform me upon what terms the Government can obtain from you a portable engine of suitable horse power to operate the boring rig you supplied last Autumn. Considerable disappointment was felt when it was discovered that the engine and boiler you sent was a stationary affair, difficult of transportation. Will you make an exchange?

As our boring operations may extend over a large extent of country, a portable engine which can be hauled by two or more horses will probably be required.

I may say that, owing to the lateness of the season when the machinery was received, nothing has yet been done, and the plant has been stored ever since its arrival. One of the large fly-wheels of the engine was received from the railway company broken and useless.

I will be pleased to hear from you on the subject of the proposed exchange at your earliest convenience.

I have, &c.,
(Signed) W. S. GORE,
Surveyor-General.

Messrs. McKee & Marwick,
Petrolea, Ontario.

PETROLEA, ONT., Feb. 8th, 1890.

Messrs. the Lands and Works Department,
Victoria, B. C.

DEAR SIR,—In reply to yours of the 20th ult., we beg to say that we can furnish you a 16-h. p. engine and boiler, portable on wheels, for the sum of nine hundred dollars ($900), F. O. B., here. We might say the wheels are made of iron, cast hub and rim, with light double-wrought spokes, and 3½ wrought-iron tire. We do not think to exchange would be profitable

owing to the freight charge. You could easily dispose of engine and boiler there, as it is well adapted for small saw-mill or any other work not requiring more than 18 or 20-h. p. We did not understand your order to call for portable engine and boiler, as we, here engaged in drilling, have discarded them long ago for the stationary. We cannot understand how fly-wheel got broke, as we procured the services of experts to load and pack machinery on board. They must certainly have received rough handling in transit. Hoping to hear from you soon,

Yours truly,

(Signed) McKEE & MARWICK.

P.S.—Two (2) good horses can handle this rig on fairly good ground.

VICTORIA, B. C., February 19th, 1890.

GENTLEMEN,—Your letter of 8th inst. was duly received. I have the honour to request that you will kindly ship a 16-h. p. engine and boiler, portable on wheels, all complete, addressed to the "Government of British Columbia, Duck's Station, B. C.," at the earliest possible date. Also send at the same time a fly-wheel to replace the broken one sent last fall. I am advised that the size of this fly-wheel is as follows:—4 feet 6 inches diameter from outside, ring for axle $3\frac{1}{4}$ inches in diameter.

Please make contract for freight and quick delivery. Kindly wire acknowledgement of receipt of this order.

I have, &c.,

(Signed) W. S. GORE,

Surveyor-General.

Messrs. McKee & Marwick,
Petrolea, Ont.

VICTORIA, B. C., February 19th, 1890.

SIR,—I beg to inform you that I have ordered a portable 16-h. p. engine on wheels, complete, to be shipped to Duck's as soon as possible.

I have, etc.,

(Signed) W. S. GORE,

Surveyor-General.

Mr. Hugh Ross,
Revelstoke, B. C.

[TELEGRAM.]

PETROLEA, ONT., March 1st, 1890.

To W. S. Gore:

Order for portable received.

(Signed) McKEE & MARWICK.

VICTORIA, B. C.:
Printed by RICHARD WOLFENDEN, Printer to the Queen's Most Excellent Majesty.