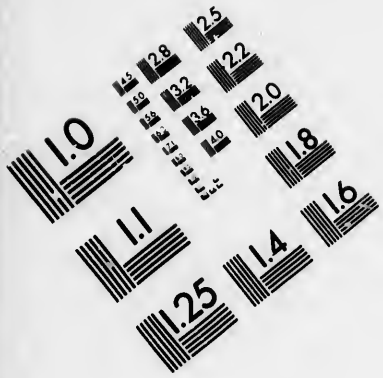

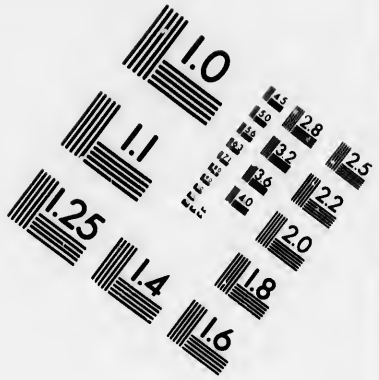

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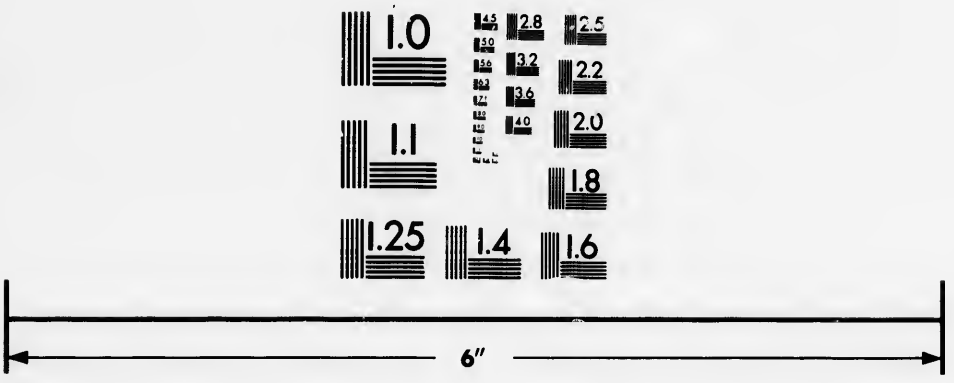

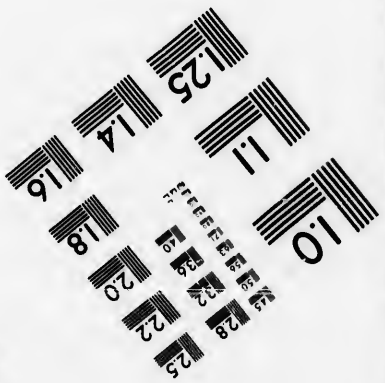

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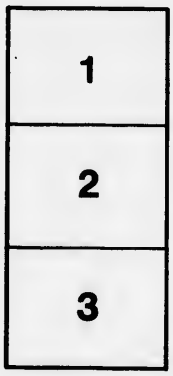

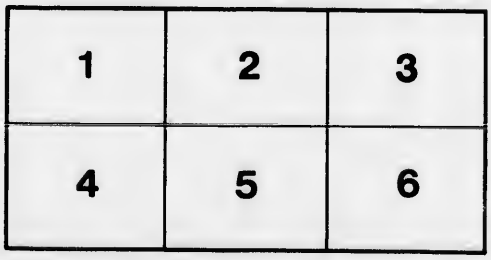

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REPORTS

ON THE PROPERTY OF THE

Canada Gold Mining Co.,

COMPRISING

SIX HUNDRED ACRES OF LAND,

SITUATED ON THE

RIVER DU LOUP,

A TRIBUTARY OF THE

CHAUDIERE RIVER,

CANADA EAST.

1863
(39)

CANADA GOLD MINING COMPANY.

INTRODUCTORY.

The Gold Fields of the Chaudière in Canada East are deservedly attracting much attention, and will undoubtedly yield a rich harvest to those who shall be the first to enter upon their regular development. Multitudes of experienced Californian Gold miners have already visited the locality, and pronounce the prospects equally favorable with those at the scene of their former labors; while its comparative accessibility, the cheapness of provisions, and proximity to the comforts of civilized life, combine to render it greatly more eligible as a field of operations.

The Township of Marlow, lying between the Chaudière and its principal tributary, the River du Loup, has recently been discovered to be among the most promising parts of this gold region; and, accordingly, the present Company have selected this as the most fitting site on which to commence operations. For this purpose they have acquired in fee-simple a block consisting of six hundred acres of land, bordering on the River du Loup, and having a frontage of four miles on that river; the property is also traversed by a smaller tributary of the River du Loup. The alluvial flats are all found to be highly auriferous; while the veins of gold-bearing quartz are expected to become profitably available.

The accompanying Reports, by Sir William Logan, the provincial geologist, and others, will fully establish the mineral wealth of the place; and it should be remarked that more recent discoveries have proved that the results therein detailed have been greatly exceeded.

EXTRACTS

FROM THE OFFICIAL REPORT OF SIR WILLIAM LOGAN,

PROVINCIAL GEOLOGIST,

ON THE

CHAUDIERE GOLD MINES.

In the Report of Progress preceding this, mention is made of a partial examination of the gold-bearing drift of the Chaudière. This examination was last season continued, and the facts resulting from it constitute the only additional topic to which I have to invite your Excellency's attention. The auriferous district was found to spread over an area probably comprising between 3000 and 4000 square miles. It appears to occupy nearly the whole of that part of the Province which lies on the south-east side of the prolongation of the Green Mountains into Canada, and extends to the boundary between the Colony and the United States. Two general lines of exploration were followed, one of them up the Chaudière and Rivière du Loup from the seigniory of St. Mary to the Province Line, and the other from Lake Etchemin to Sherbrooke on the St. Francis. The former, running transverse to the rock ranges, measured about forty-five miles, and the latter with them about ninety miles. The transverse line was more closely examined than the other, and traces of the precious metal were met with at moderate intervals throughout the whole distance. They were not confined to the channels of the main streams merely, but those of various tributaries furnished indications sometimes for a considerable distance up.

The lowest point in the valley of the Chaudière, at which the drift yielded traces of gold, was on a small

stream, falling in on the left side of the river, not far within the south-eastern boundary of the seigniory of St. Mary. They were found to occur on four tributaries, in the seigniory of St. Joseph, for distances of one and two miles from their mouths. One of these joins the main stream, on the left bank, about a quarter of a mile below the parish church, and the other three are on the right. The lowest of them is about two miles below the church, the next about the same distance above it, and the fourth is the Rivière des Plantes, about half a mile farther up, and near the south-eastern boundary of the seigniory. In Vaudreuil Beauce they were discovered on the Guillaume, much farther up than previously stated, and on the Bras opposite to it; on this and some of its tributaries the metal was traced to the centre of the township of Tring, a distance of about twelve miles. Three other streams which yield it in Vaudreuil Beauce, have heretofore been mentioned; they are the Ruisseau Lessard, Ruisseau du Moulin, and the Touffe des Pins, on which it was first discovered. In Aubert de l'Isle it was found on the Famine, and traced to Harbottle's settlement, and beyond the seigniory into Watford, a distance altogether of about ten miles. Some particles were obtained on the Ruisseau d'Ardoise, about a mile above the Famine, and it was followed about three miles up the brook commonly called Pozer's stream, in Aubert Gallion. On the Rivière du Loup, in addition to its occurrence in a multitude of spots, in fact almost continuously from its mouth across Jersey and Marlow, it was found in nearly all its tributary brooks, such as the Ladyfair, the Grande Coude, the Metgermet for four miles up, the Traveller's Rest, the Portage, Kempt's Stream, Oliver's Stream for four miles up, and another stream between it and the boundary of the Province. Above the Loup, on the Chaudière, it occurred at successive intervals in twenty places in sixteen miles, as far as the south-western boundary of Dorset township.

The localities of its observed presence on the other line of exploration were on Lake Etchemin and along the Famine in Aubert d'Isle, and Pozer's Stream in Aubert Gallion, towards Tring, and again on the St. Francis, in Dudswell, in Westbury,

and near the joint corners of Westbury, Stoke, Eaton, and Ascott, as well as in this last township near Sherbrooke.

It is not supposed that the limits of the auriferous district have been ascertained, but that it very probably extends much farther to the north-east, and attains the valley of the river St. John, while to the south-west it is known to reach Vermont, and to be traceable at intervals through the United States, even, it is said, as far as Mexico. In its breadth, however, it does not appear to cross the range of mountains with which it runs parallel, and no traces of it have been met with on their north-western flank. The deposit in which the gold occurs is part of an ancient drift, probably marine, and supposed to be of higher antiquity than that which, from the extent to which it occupies the valley of the St. Lawrence and some of its tributaries, Mr. Désor, who has recently bestowed much attention on the detrital deposits of North America, is disposed to give the name of Lawrencian. In this, alluded to in various Reports as tertiary and post-tertiary, the remains of whales, seals, and two species of fish, the capeling and the lump-sucker, and many marine shells of those species still inhabiting the Gulf of St. Lawrence, are found. These shells on the Mountain of Montreal attain a height of about 470 feet above the tide level in Lake St. Peter, which is the greatest altitude known to me; none of the remains have yet been found in the Canadian gold drift, and as this appears in its lowest undisturbed parts to be at a height of about 500 feet above the sea, it is probable what is now exposed of it, had emerged from the ocean before the Lawrencian drift was placed, while in lower levels it would be covered up by it.

In the localities in which the gold occurs, the coarser materials of the drift are made up in a large degree of the debris of rocks similar to the clay slates and interstratified grey sandstones on which it rests, but these are accompanied by fragments and pebbles of fine conglomerate, talcose slate, and serpentine, which with magnetic, specular, chromic and titaniferous iron (none of them absent when the gold is present) are derived from the mountain range, bounding it on the north-west;

pebbles and fragments of white quartz are abundant, which may be derived from the veins of the mineral prevailing in the mountain range or from others on the south-east of it. With these materials there occasionally occur in the valley of the Chaudière and its tributaries large boulders of limestone conglomerate, similar to the beds of the St. Giles and St. Mary, and more rarely boulders of gneiss identical in character with known kinds of the rock on the north side of the St. Lawrence. Not only is the gold absent from the drift on the north-west flank of the mountain range, but so also are the chromic iron and the serpentine, notwithstanding that the two have been traced in association 135 miles, constituting a marked band accompanying the range from Potton to Cranbourne. On the north-west flank, however, boulders of northern gneiss are frequent, and a few of limestone have been met with even pretty high up on the hills, showing by their fossils their derivation from the Trenton limestone, the nearest exposures of which are on the north side of the St. Lawrence. In fact, in respect to the drift of the whole country, it may be said, that on southern formations are found resting the ruins of northern, but no northern rocks are met with overlaid, to any extent, by debris derivable exclusively from southern. The auriferous drift shows no exception to this, and there is little doubt that causes connected with northern currents, when the rocks were beneath the surface of an ocean, have placed the whole. Ever since the surface, however, has risen from beneath this ocean, causes similar to those now in operation in the district have been working in a contrary course. The rivers of the district emptying into the St. Lawrence, flow north; in so far, therefore, as their forces modify the distribution of the drift, the materials of which it is composed are carried in that direction. This, no doubt, has some effect on the finer and lighter materials, and occasionally, with the assistance of ice and great freshets, on some of the coarser and heavier; but the streams washing away the former in larger proportions than the latter, concentrate these in the valleys and channels. The gold being the heaviest substance is moved the least. It may occasion-

ally be pushed along the bottom when this is smooth, but it seeks every hole and crevice in its course, and when it has once obtained shelter there, it remains protected. Where the edges of the slates come to the surface, the plates have all been moved by superficial forces, and they, therefore, lie more or less loosely on one another, and the fine particles of gold gradually work themselves down between them, reaching sometimes so deep as three feet.

Although it is probable the whole of the drift on the south-east of the mountain range, both that in high and that in low places, may be auriferous, it appears certain that the metal will be most concentrated in the valleys and the channels of streams, and the larger the stream, the more frequently it has broken down its banks, the oftener and more extensively it has changed its course, the more important the auriferous deposit is likely to be.

From the combination of the materials associated with the gold in the drift, there appears a strong probability that the metal is derived, through the agency of some southward-moving causes, from quartz veins situated in the mountain range; and even if traces were found north of this range in the channels of the main streams, such as the Chaudière and the St. Francis, the circumstance would not militate against the supposition, as traces in such positions may be expected from the fluviatile remodification of the drift.

The object of this examination has not been so much to ascertain quantity as distribution, but an effective experiment being now in operation on the Rivière du Loup, under a letter of license from the Government, one condition of the lease being that a correct return shall be made of the quantity obtained, I am in hopes by the end of the present season to have a few such facts as will afford some criterion to determine whether there is reasonable ground for supposing the deposit in that vicinity can be worked advantageously.

REPORT

OF EXPERIMENTAL OPERATIONS

ON THE RIVER DU LOUP.

BY MR. RICHARD OATEY, MINING AGENT.

Although the presence of gold in the drift of Canada has been known for iderable time, it is only lately that attempts have been made . ertain whether the quantity in any locality is sufficient to promise a profitable return. The great area over which the auriferous deposit in the Province is now known to extend, makes it reasonable to suppose that the quantity may be so in many places; but to one of these in particular it is, that on the present occasion, I am to confine attention, streaming for gold on it having been prosecuted for the last two years under my superintendence.

Indications of an encouraging nature having been met with on the Fief St. Charles in the Seigniory of Aubert de l'Isle, an application was made to the Provincial Government for permission to collect the precious metal on a strip of about five miles on the Rivers du Loup and Chaudière at their junction, an arrangement having in the first instance been made with one of the *censitaires* on whose lots the indications were obtained. License to commence mining the ground was obtained from the Government on the 26th April, 1851, on the conditions of which a copy is hereto appended, and the area to be worked having been fixed as five miles and fifteen chains on the Rivers by a breadth of a quarter of a mile on each side, streaming operations were begun towards the end of May.

The system adopted for obtaining the gold was that practised in Cornwall in streaming for tin. By this a fall of water is required, and a small stream called Creig's Creek, near the position where

the first indications were met with, was considered available for the purpose. Immediately that the water was applied to a sufficient quantity of gravel in a *streak*, a number of large and small pieces of gold were obtained, and it was soon perceived that the distribution of the metal in the part experimented upon was pretty uniform, and the quantity sufficient to encourage farther perseverance.

The streaming, however, had not been continued many days before it was perceived that the water in the creek diminished very much, and it so far dried up that only one streak and one tye could be kept in operation. Although the experimental facts ascertained by these were sufficient to authorise the opinion that, provided the rest of the location were like this part, there was gold enough on it to render the enterprise of mining it profitable, it was very evident that success would depend on obtaining water from some other source in sufficient quantity to work a much larger number of streaks and tyes.

As the summer advanced the dry weather continued, and the water in the creek failing altogether, streaming had to be suspended. Advantage, however, was taken of the time to extend exploration to other parts of the location in order to ascertain more fully the distribution of the gold over it. The result of this was so far satisfactory that wherever a trial was made, such indications were obtained as to authorise the opinion that it is about equally abundant throughout, not only in the beds of the main streams but in parts extending up to ten feet above their level, and particularly in a flat of about twelve acres at this height over the River du Loup, a lease of which for mining purposes was subsequently obtained from the *censitaire*.

The interval of dry weather was also used for the purpose of collecting from the bed of the river and placing on the bank, a quantity of gravel for future washing, and before the expiration of the drought, an attempt was made to construct a wooden dam across the River du Loup, with a view of getting a head of water to work an effective number of streaks and tyes. Before, however, the dam could be finished and secured, a freshet which occurred carried the structure completely away, causing a loss of $500, but towards the end of the season, wet weather once more permitted the creek to

yield a temporary supply of water sufficient to wash the grave which had been collected, and a small additional quantity not previously moved.

The area worked over during the season, the thickness of the gravel being on the average about two feet, was, by actual measurement, found to be about three-eighths of an acre, and the quantity of gold collected from this (including a small portion derived from the general exploration) was 1947 dwts. 11 grs., among which were several pieces weighing from 1 to 1¼ oz.; and besides this, there was a quantity of iron sand (about a ton) resulting from the last process in washing the gravel, which by experiment was found to contain about 160 dwts. of gold.

On comparing the value of the gold thus obtained with the wages expended in collecting it, (exclusive, however, of all charges for superintendence), the result is as follows:—

	dwts. grs.		
Clean gold obtained.....	1947.11		
Gold in one ton of iron sand...	160.00		
	2107.11	*at* 86¾ cents—	$1826.46
Amount expended for labor in mining, washing and cleaning from 25th April to 8th November ..			1644.33
Leaving a balance of.....			$ 182.15

In the wages, however, is included the expense of constructing the dam carried away, and as this accident had nothing to do with the facts required to elucidate the general probable returns of the mineral location, the value of the gold over the wages may be considered as exceeding $680, or about 42 per cent.

In 1852, mining operations were resumed in the end of May, and warned by the early drying up of the water in the creek the previous season, it was deemed prudent, while one party was occupied in streaming by aid of the creek, to employ another in constructing across the River du Loup a break-water, or dam of stones, brush and turf, with a view of raising and having ready such a head of water, as would keep streaks and tyes going when the creek should

fail. From the commencement, however, the creek gave but a poor supply, and after expending a good deal of labor on the dam it proved to be unserviceable, as while the interstices among the stones used for a foundation on an uneven bottom were such as could not be stopped, they were found to be sufficient to permit the escape of all the water. The dam, therefore, had to be abandoned without any remuneration resulting from it.

This expedient failing, it was conceived that a continued supply of water for regular work might be obtained by procuring at a distance of about 900 feet up the river, and conducting it in launders to join the creek, which by this time was nearly dry, but still gave a small amount that by saving, was made available at intervals. Launders with a breadth of ten inches were consequently constructed, but by the time they were placed, the water in the river had fallen so much that it was found necessary to construct a head-way still a little farther up, to get the water into them, with a sufficient current to carry it the whole distance.

While the launders were in the course of construction and adjustment, which occupied nearly six weeks, and the dry weather continued, a party was employed to raise gravel from the bed of the river, and place it on the bank for future use. This was a judicious precaution; for though the gravel on the banks may hold nearly as much gold, yet it is proper to clean up the river first, as the working of the bank gravel must necessarily send the refuse resulting from it into the river, where it would obstruct the attainment of the river gravel, were not this washed first. The river gravel is only attainable during the dry weather, and it might have been again covered by the water, by the time the launders were completed; yet if the launders had been ready, this gravel might have been at once carried to the streaks and tyes, and one movement of it could thus have been saved.

The launders came into operation in the end of July, and though it was found they had scarcely enough fall to give at all times the quantity of water required, yet from that period to the termination of the season, concluding in the end of October, the work became pretty regular.

The area worked over during the season, was about five-eighths

of an acre. The quantity of gold obtained was 2573 dwts. 7 grs., in which were included the following nuggets:—

		dwts.	grs.
June	7	126	19
July	30	83	21
August	25	10	20
"	25	38	21
September	7	98	21
"	24	55	2
"	30	23	20
October	2	16	22
"	9	13	2

In addition to this, was the gold contained in the iron sand resulting from the copper bottoms in the last process of cleaning. This, however, was mixed up with that of the previous season, and the average of the two, tried by a sample of 25 lbs., is equal to 233 dwts. 18 grs. of gold per ton of sand. The quantity of this iron sand now on hand is about two tons, and deducting from the gold in it, 160 dwts. for the ton of 1851, there would remain 307 dwts. 12 grs. as the quantity in the ton of 1852.

Comparing as before, the value of the gold and the labor, exclusive of superintendence, the result is as follows:—

	dwts.	grs.	
Clean gold collected	2573.	7	
Gold in one ton of iron sand	307.	12	
	2880.19	*at* 86¾ cents	$2496.69
Amount expended for labor from the 24th May to 30th October			1888 35
Leaving a balance of			$608.34

In the labor is included the time expended in making the launders but as these might be serviceable for several years, in justice to the experiment, the expense of making them should be distributed over these years, and it is therefore considered that an allowance of 50 cents for each of them should be made. The number of them, includ

ing those required for streaks and tyes, is 150, and the value of the gold over the wages would thus be about $683 or about 36 per cent.

If, however, a comparison is made between the gold and the wages, from the time the launders came into operation until the end of the season, the result would be as follows:—

	dwts.		
Clean gold collected.....	2036		
Gold in proportion of iron sand....	242		
	2278	*at* 86¾ cents—	$1974.35
Amount expended for labor for the week ending 31st July to the 30th Oct..			1130.55
Leaving.....			$843.71

From this, however, is to be deducted an allowance for the superior facility with which the gravel collected, while the launders were making, could be taken from the bank instead of from the river; this gravel gave about two weeks' work to the streaks and tyes, and the difference is about $44, making the value of the gold over wages $800, or about 70 per cent.

From the exploration and experiments that have thus been made on the location, it appears quite evident that it must contain a large quantity of gold. The superficial area of ground is about 2,000 acres, and from one of these acres there has already been obtained upwards of $4,000 worth of metal. But it is also evident that to work the location effectually, operations must be carried on on a much larger scale. This would require some outlay. The only natural difficulties in the way are those connected with a supply of water. The supply by the present launders is insufficient; their breadth is too small, and while their fall is scarcely great enough, the height they gain above the river is not sufficient to carry them above the reach of freshets; so that while they stand in some danger of being injured by such freshets as may occur during the working season, they must be removed whenever the winter sets in, and replaced in the spring. The slope of the river is much quicker above the present launders, and a quantity of water large enough

to work any required number of streaks and tyes, would be procured by conveying it along side of the River du Loup, from the highest point to which the location extends on this stream, by launders of six feet wide. The distance is about a mile, and the fall is sufficient to permit the launders to be carried for the chief part above the level of freshets. Such an arrangement would command the whole bed of the river, and nearly emptying it during dry weather, would give the opportunity of operating on the gravel at so many points at once, as would rapidly exhaust of their gold the bed (averaging 20 yards), the banks and flats in the whole distance down to the Chaudière, at the junction with which there is a wider flat than elsewhere, the produce of which it is expected will considerably surpass the average of the ground in other parts.

The Chaudière is fully double the width of the du Loup, and at the highest part of the location and within it on that stream there is a considerable cascade, called the Upper Falls of the Chaudière, from which any supply of water might be obtained for operations on the banks, either at the same time or subsequently to washing on the du Loup.

Your most obedient servant,

RICHARD OATEY.

GOLD IN LOWER CANADA.

(From the Commercial Advertiser.)

We have been favored by a friend, a practical gold-miner, who spent some years in the placers of California engaged in gold-mining, with an account of his exploration of the Chaudière gold district, during the present summer. Our informant spent two months in prospecting the country from the junction of the Du Loup and Chaudière rivers, where the Montreal Company is now working, to the Maine and New Brunswick boundary lines. The season has been one of the worst ever known for prospecting, the water in the rivers and brooks being at flood height, and the ground saturated with moisture by the constant rain. He was therefore prevented from examining the beds of the streams, and from sinking trial shafts to the necessary distance to obtain an accurate knowledge of the nature and extent of the distribution of the precious metal. But with these unfavorable circumstances his general exploration was highly successful. He found gold in the banks of every stream examined, in the ditches by the road-side, in the gravel beds adjoining water-courses, on the tops of the hills far removed from water, and in other localities which cannot have been submerged for many ages. The general character of the gold, of which we have many specimens now before us, is of great purity and exceeding coarseness; some of it is much water-worn, and other specimens appear to have been only recently dislodged from the quartz matrix. The country generally exhibits broad exposures of slate, traversed by numerous quartz veins, and resembles in every respect the gold region of California, with the exception of the absence of volcanic evidences. We have now to announce the discovery of a large quartz vein in the Chaudière district carrying an usually large amount of gold in prills and nuggets, many of them weighing several ounces; and the discovery of other leads showing similar indication of the precious metal, and proving conclusively that these quartz veins may be worked in Canada, as in Australia and California, with a prospect of very large returns. One mass of quartz taken from the large vein was thickly set with nuggets of gold from an ounce up to six ounces in weight, carrying the gold not in

regular strings, but in isolated lumps throughout its substance; a quantity of quartz estimated at five hundred weight having yielded to the discoverer seven hundred dollars worth of gold by the simple process of breaking out the large pieces with a hammer; and still containing a large amount of finer gold only to be obtained by crushing.

Our informant states that he saw nothing equal to this mass in the most productive quartz leads of California, and if the remainder of the vein from which it was taken is at all like it, its value is incalculable. It was discovered last year by some habitants of the district, who kept its locality a secret. It was from this vein that the large nuggets sold in Quebec last November were taken. We have before us some specimens, showing its exceeding richness.

The gold in the different streams varies much in character; in some it is exceedingly fine, as fine indeed as that of Fraser's River; in others, and some of the smallest, it is coarser than that found in California, the fine gold being apparently the result of the decomposition of auriferous pyrites, and the product of quartz veins.

Hitherto the streams alone have been worked, and the operations on them were conducted with so little skill, that our informant is surprised that any gold was obtained; as it was, the whole of the fine gold was washed away.

Yet, in one instance, 15,000 dwts. were taken from little more than half-an-acre of a bar; in another, nine pounds weight were got from a single hole, and more recently $2,000 were obtained in two days, after damming a considerable stream, nearly all being coarse gold.

Our informant is of opinion, and as a thoroughly practical man his opinion is entitled to the highest consideration, that the dry diggings in the Chaudière district will be found more productive than the streams. He says that on the whole the California streams have not repaid the expense of working them. He believes that the streams contain no more gold than has been displaced by the water from the rocks traversing them; and that the whole country in their vicinity would be found as rich, and in many cases much richer, if mined in the same manner as similar lands are in California and Australia, by sinking shafts through the gravel down to

the rock or clay beds beneath. He says that in no part of California could he obtain the same quantity of gold by the same means as he obtained upon the Chaudière and its tributary streams; that the surface prospects, in spite of the unfavorable season, were superior to any he had ever found before; and that with ordinary skill, by simply panning on the river banks, large wages can be made with certainty.

CHAUDIERE RIVER GOLD FIELDS.

(To the Editor of the Montreal Witness.)

SIR,—After a residence of many years in Australia, and having seen the Gold-workings on all the principal fields, and been in the continuous habit of testing alluvial gold, I find myself in Canada, and have had submitted to me the produce of about 5 tons of soil, taken from the neighborhood of Chaudière river—the amount is *nearly 2 oz. of almost pure gold!* and, with the exception of Ballarat gold, as fine as any now found in either Australia or New Zealand. Having no interest in this country or in those fields, I submit this disinterested opinion:—that were any Australian miners to see such a result from so small a working, thousands of thoroughly experienced men would soon develop these hidden riches. I have no hesitation in saying that a country that can show such samples has untold riches yet to be produced. The gold of British Columbia is not to be compared with the Chaudière samples I have seen—containing nuggets as large as small beans.

Montreal, Sept. 16, 1863. AN AUSTRALIAN.