

The Calder Ditch was not in service in 1921. The only expenditure on it was for the care of its waste gates and flumes during the spring freshets, amounting to \$26.00.

These ditches are the property of the various Subsidiary Companies using them. The total expenditure on them in 1921 was \$4,258.23.

THE DOMINION MINING COMPANY OPERATIONS.

Dredge North West No. 1 started the 1921 season June 4th at the center of Creek Claim No. 19 (old number) Below Lower Discovery on Dominion Creek and after operating 151 days closed down November 2nd for the winter at the center of Creek Claim No. 16 (old number) Below Lower Discovery, headed up the creek, having travelled a lineal distance of 2,300 feet upstream. During the season it handled 393,701 cubic yards of material at a dredging cost of 8.01 cents per cubic yard. The thawing of the frozen ground cost 17.54 cents per cubic yard and the export tax mint and express charges on the gold amounted to 0.81 cents per cubic yard, making a total operating cost of 26.36 cents per cubic yard. The details of this cost are given in Schedule No. 2 attached hereto.

Ninety seven per cent of the ground worked was classed as frozen ground and had to be thawed by artificial means before being dredged. To insure uninterrupted operation at the start before the summer temperatures were high enough for efficient water thawing, the first 174,455 cubic yards were thawed with steam at a cost of 21.5 cents per cubic yard. The water thawing process was applied to the remainder

of the ground, but did not thaw it sufficiently and steam had to be applied to frozen blocks. This increased the water thawing costs by about \$8,000.00, making the thawing of this portion of the ground cost 14.9 cents per cubic yard as compared with a corresponding cost of 10.83 cents per cubic yard in 1920.

The gold recovered in 1921 amounted to 5,806.45 ounces and was sold for \$107,791.20, equivalent to 27.38 cents per cubic yard of material handled. The profit of the dredge operation was thus 1.02 cents per cubic yard, or \$4,015.24 for the year. The Dominion Mining Company overhead and company management for the year amounted to \$9,516.73, thus leaving a deficit of \$5,503.49 for this Company's operations for the year.

The 1920 results had shown that the ground downstream from this dredge was too low grade to be worked with the present methods, therefore the first move in 1921 was to swing the dredge about preparatory to working it upstream as rapidly as possible. An unexpected ice barrier caused the spring freshet to wash sand into the dredge pond and the boat had considerable difficulty in getting freed from it. This reduced the June yardage and forced the dredge, in making the turn, to leave undredged several thousand cubic yards of thawed ground, the costs of which were charged to June operations. The yardage for July, 115,252 cubic yards, was near the average expected. The last of July the dredge entered the ground to which the method of thawing with cold water had been applied. During the 1920 season the success of this process had been demonstrated when 46,690 cubic yards that had been so thawed was dredged without

difficulty. Consequently there was no expectation of trouble because of it. However, more experience in applying it to this Upper Dominion type of ground proved necessary. Many frozen blocks were encountered by the dredge and the yardage accordingly fell far below the estimated average. The water points were hurried back to the frozen spots and the steam thawing plant was put into operation. This helped the situation but it stopped the advance thawing work and so reduced the amount of ground thawed in 1921 that at the end of the dredging season there was no thawed reserve for the 1922 season as had been planned. The size of the water plant will be doubled the beginning of the 1922 season and the method of applying the water will be modified. These changes it is believed will remedy this thawing difficulty.

The average monthly values recovered per cubic yard in 1921 show a variation. In July the dredge encountered a particularly bad lot of old workings and had to cut through old tailings to get to ground that was supposed to be less worked. From July the monthly average showed a steady increase in value, 36 cents per cubic yard being the October-November recovery.

The prospecting work that resulted in this dredge being built too far downstream has been discarded as unreliable. As a guide for the 1922 operations, five lines of drill holes were put down in 1921 covering 2,400 feet along the creek immediately ahead of the dredge. These indicate 500,000 cubic yards of material averaging 49 cents gross per cubic yard. Some were in worked ground, with very low values. These

were averaged with the virgin ground results to get the above average value.

Much more experience in dredging this creek must be had before a reliable estimate can be made of the percentage of drill hole results which will actually be recovered in working the ground and particularly because there is no feasible way of determining beforehand how much of the ground is virgin and how much has been already worked over. In making up the dredge estimates for the 1922 season, a recovery of 80% was assumed. For the 500,000 cubic yards which this dredge should easily handle in 1922, with costs at 27.5 cents per cubic yard, the above figures will result in a dredging profit of \$58,500.00.

THE BIG CREEK MINING COMPANY OPERATIONS.

A Marion Elevator Type Gold Dredge, No. 1750, was purchased from Yukon Gold Company and dismantled at No. 63 Below Discovery on Hunker Creek during the autumn of 1920. It was hauled to Granville in February and March 1921. Its reconstruction began the first week in April, it was floated July 8th, and on July 21st began digging itself free from the pit in which it was re-built.

The installation of this dredge, with its water process thawing plant, electrical sub-station, primary power line from Nevada Gulch, and fuel and repairs for its first year, cost \$332,972.03. The estimate covering this which was submitted in 1919 was \$320,000.00. The ratio of expenditure to the estimate was 103.69%. The increase was due chiefly to shortage of labor, increased rates of exchange, and greater

machinery and iron work repairs than had been contemplated. Schedule No. 3 attached hereto gives the segregated cost of the reconstruction.

The dredge began digging into bedrock on July 28th on Creek Claim No. 247 (new number) Below Lower Discovery and after dredging across the adjacent Creek Claim No. 249 and into Creek Claim No. 250, was closed down for the winter October 31st, near the center line of Creek Claim No. 249 about 550 feet north of the base line, headed upstream. During the 95 days of operation it handled 342,930 cubic yards at a dredging cost of \$21,386.91 or 6.24 cents per cubic yard. The thawing of the frozen ground cost \$17,179.82, an average of 5.01 cents per cubic yard dredged, and the export tax, mint and express charges were \$1,579.62 or 0.46 cents per cubic yard, making the total operating cost of 11.71 cents per cubic yard. Schedule No. 4 attached hereto gives the details of these costs.

Sixty eight percent of the ground dredged was classed as frozen and was thawed by the cold water method at a cost of 7.36 cents per cubic yard treated. Considerable experimenting was necessary at the beginning to adapt this new thawing process to the Granville gravels. The difficulties were overcome and the method proved a success, no frozen ground having been encountered in dredging the 233,192 cubic yards to which it was applied. This ground being free from the muck overburden, it is easier to thaw by this process than the ground handled by Dredge North West No. 1 on Upper Dominion Creek. The cost of the 1921 experiments was charged to 1921 thawing, therefore it seems reasonable to expect that the 1922 thawing costs will be lower. The thawing plant

will be increased in size before the 1922 season begins because from now on all of the ground will be classed as frozen and it is advisable that a reserve of ground be kept ahead of the dredge.

The gold recovered by this dredge in 1921 amounted to 2,806.37 ounces and was sold for \$54,259.39, an average of 15.82 cents per cubic yard dredged. The dredging profit was \$14,092.97, or 4.11 cents per cubic yard. A drill prospecting charge of \$3,507.04 is debited against this operation and the Company management and overhead amounted to \$9,727.37, thus leaving a gain of \$858.56 for this Company's operations for the year.

The stripping charges against the area worked in 1921, taken from the books of The North West Corporation, Limited, amount to \$9,622.80, or 2.81 cents per cubic yard actually dredged. Part of the area covered by this charge was found too low grade to be dredged. This charge has not been included in the above costs of operation because the dredging estimates, with which the "new money" was concerned, were based upon working ground already stripped.

The dredge was started in what had been a lake in the early days of the camp. It was in the center of the original Granville paystreak adjacent to the richest claim on the Flat and being thawed ground it was still virgin. It proved to be troublesome for dredging and much lower grade than was expected. It contained much sand and silt and was underlain by a sticky clay-like bedrock. This sort of material is easy to dig but is very difficult to wash free of gold and gives

trouble by tending to sand in the stern of the boat. After the first few days operation it was apparent that more water was needed for the gold tables, and another pump was installed on the dredge as quickly as possible. This helped the situation but did not entirely overcome the difficulty because of the constant temptation to "make yardage" at the expense of clean washing. It is believed that these troubles have been remedied, particularly as the work in the old lake bed is about completed.

After the construction of the dredge had begun, 23 drill holes were put down immediately ahead of it. They indicated 350,000 cubic yards averaging 35 cents gross per cubic yard. The area first dredged, before the additional pump was installed on the dredge, had gross drill results of 49 cents per cubic yard. The remainder of the ground dredged in 1921 showed drill results averaging 22 cents and the average of the drill results for the whole 342,930 cubic yards dredged was 29 cents per cubic yard. The total recovery for that yardage averaged 15.6 cents per cubic yard, only 54% of the gross drill values. However, it includes all of the difficult period of starting a new dredge, getting it adjusted and in addition, treating materials of the unfavorable character found in the old lake. Therefore it is believed that this should not be considered as representative of the future performance of this dredge.

At the end of the 1921 season three lines of prospecting holes covering a lineal distance of 1500 feet were drilled immediately ahead of this dredge. They indicate 254,000 cubic yards averaging 38 cents gross

per cubic yard. In making up the 1922 dredge estimates, it was assumed that 500,000 cubic yards of such ground would be handled; that 80% of the gross drill averages would be recovered; and that 17 cents per cubic yard would cover all costs other than the stripping charges. This would result in a profit of \$67,000.00 for the year.

Stripping of overburden was carried on at Granville during the summer to utilize such water from the Dominion-Granville ditch as was not needed for thawing. Because of the extremely dry season, the water available was variable and usually scarce. The shortage of labor also hampered the work. A total of 94,105 cubic yards of overburden was removed at a cost of \$6,094.55, or 6.5 cents per cubic yard.

THE CALDER MINING COMPANY OPERATIONS.

The only work for the account of The Calder Mining Company, Limited, in 1921, was the care of the waste gates and flumes during the spring freshets, at a cost of \$26.00. As the Company's mining claims are included in the New North West grouping, work performed at Upper Dominion and Granville by the North West dredges served as representation work to keep the titles in good standing.

THE SULPHUR MINING COMPANY OPERATIONS.

There was no work for the account of The Sulphur Mining Company, Limited, during 1921. The Company's mining claims are included in the New North West Grouping therefore work of the North West Dredges Nos. 1 and 2 was used to keep the titles in good standing.

THE DOMINION MINING COMPANY OPERATIONS.

Approximately 1500 cords of wood were hauled to Upper Dominion for the operation of the steam thawing plant. This cost \$24,214.64 or \$16.41 per cord. The hauling of this was completed on 19th February. A steam boiler, 150 H.P., was purchased from the Yukon Gold Company for \$1,750.00, the hauling and installing amounted to \$1,131.91, making a total cost of \$2,881.91 set up ready for operation. The mess house was opened and preparations for steam thawing commenced on 5th April. On 17th April the first steam points were started and an average of 170 steam points and sweaters were in continuous operation until 17th June when this branch of the thawing was closed down. 15,406 square yards were thawed by this process at a cost of \$29,575.85 or \$1.91 per square yard. Schedule No. 3 attached hereto gives segregated costs of this work.

One 12 inch centrifugal pump, an addition to the water thawing plant, was purchased for \$250.00. The hauling and repairing cost \$789.02, making a total of \$1,039.02 when ready for operation. On 27th May water thawing commenced and from that date until 29th August an average of 850 water points and sweaters were in use. 54,266 square yards were thawed in this manner at a cost of \$30,704.39 or 90 cents per square yard. Schedule No. 4 attached hereto gives the details of this work.

On 27th May Dredge North West No. 1 commenced digging about the center of Creek Claim No. 13-A (new number) below Lower Discovery on Dominion Creek. It operated 164 days and closed down on 8th November about 175 feet upstream from the lower line of Creek Claim No. 11-A (new number) below Lower Discovery, having travelled a distance of 1800 lineal

feet upstream. The total lost time by this dredge on account of replacements, cleamps and power interruptions amounted to 402 hours. This dredge handled 373,064 cubic yards during the season, the operating cost being \$122,753.50 or 32.9 cents per cubic yard. The value of the gold recovered was \$103,028.10, an average of 27.6 cents per cubic yard. Schedule No. 5 attached hereto gives full details of the operations. Ninety per cent of the ground dredged was frozen and had to be thawed with steam or water.

Creek Claim No. 18 below Lower Discovery, which is the property of the B. A. T. & T. Company was dredged under an agreement, the terms of which allowed The Dominion Mining Company 29.2 cents for all material handled plus the gold handling charges, the surplus being equally divided between the owner and the operating company. 92,083.16 cubic yards were dredged on this claim at an expenditure of \$27,836.61. The gold recovered netted \$52,287.22, leaving a surplus of \$4,400.61 for division. A schedule, No. 6, giving the data in this connection is attached hereto.

On 3rd August prospecting with a Keystone drill ahead of the dredge was commenced in order to determine the line of operation for 1923. This work was concluded on 6th October. 55 drill holes were put down aggregating 1460 feet at a cost of \$2,577.03 or \$1.79 per foot. Schedule No. 7 attached hereto shows the segregated costs of this work. A plan accompanying this summary shows the location of the holes and the values obtained.

THE BIG CREEK MINING COMPANY OPERATIONS.

On 1st May the mess house was opened and work was begun putting the thawing plant in readiness for the season's work. On the 15th May the first thawing points were started and the work was carried on without interruption from that date until 29th August when it was closed down temporarily on account of a sudden spell of cold weather. The number of points used averaged 400. 75,904 square yards were thawed at a cost of \$24,635.84 or 32.33 cents per square yard. The water for thawing was supplied from the Dominion-Granville Ditch which gave an uninterrupted and satisfactory service. Operations were discontinued on 23rd September. Schedule No. 8 attached hereto gives all data in connection with this work.

On 3rd June Dredge North West No. 2 commenced digging on Creek Claim No. 247 (new number) below Lower Discovery on Dominion Creek. It operated 159 days and closed down on 7th November on Creek Claim No. 243 (new number) having travelled a distance of 2550 feet upstream. This dredge handled 582,296 cubic yards of material, the operating cost being \$84,461.16 or 14.5 cents per cubic yard. The value of the gold recovered was \$114,542.98 or 19.67 cents per cubic yard. The total lost time of this dredge on account of replacements, cleanups, and power interruptions amounted to 424 hours. All of the ground worked was frozen and had to be thawed with the water points. 17,422 square yards which were thawed during the season remain undredged and will be available for the 1923 operations. Schedule No. 9 attached hereto gives all data in connection with this work.

From the area dredged in 1922 overburden to the extent of 247,306 cubic yards had been stripped in previous years. The cost of this was 6.6 cents per cubic yard and represented an expenditure of \$16,322.20.

THE CALDER MINING COMPANY OPERATIONS

The field work of The Calder Mining Company, Limited, consisted of the care of the Calder Ditch during the spring freshet and the repairing of some flumes and bridges appurtenant to the ditch.

THE SULPHUR MINING COMPANY.

No field work was done for The Sulphur Mining Company, Limited, during 1922.

POWER PLANT

The final order of foreclosure on the assets of the Canadian Klondyke Mining Company, Limited, was handed down on the 27th March and the entire assets were transferred to the Trustee for the Bondholders. He in turn transferred them to The New North West Corporation, Limited, the transfer being made subject to the execution of an agreement between The New North West Corporation and Burrall and Baird, Limited, covering the sale of power to the latter Company. The New North West Corporation took possession of these assets on the 1st April, 1922.

The Power Plant operated almost continuously during the year. On the 30th June there was a loss of two hours on account of lightning; on the 9th August a loss of nine hours while some replacements were being installed on Generator No. 2, the only unit then available; on 10th August there was a loss of fifteen minutes while lightning arresters were being replaced; and on 27th October fifteen minutes were lost on account of ice trouble in the ditch.



Library and Archives  
Canada

395 Wellington Street  
Ottawa, ON K1A 0N4

Bibliothèque et Archives  
Canada

395, rue Wellington  
Ottawa, ON K1A 0N4

For material still subject to legislative, contractual or institutional obligations, users warrant that they will respect those obligations and not use LAC collections in a manner that would infringe the rights of others. Liability that may arise in the use of a copy is assumed in full by the user. LAC accepts no responsibility for unauthorized use of collection material by users.

To ensure proper citation and to facilitate relocation of an item, the source of the material and its reference number should always accompany the copy.

Pour les documents faisant encore l'objet d'obligations législatives, contractuelles ou institutionnelles, les usagers s'engagent à respecter ces obligations et à ne pas utiliser les documents des collections de BAC de façon à nuire aux droits d'autrui. Ils doivent assumer entièrement toute responsabilité qui pourrait découler de l'utilisation d'une reproduction de document. BAC décline toute responsabilité quant à l'utilisation non autorisée de documents provenant de ses collections.

Afin de citer un document avec exactitude et d'en faciliter le repérage, sa source et son numéro de référence doivent toujours accompagner la reproduction.

TITLE/TITRE \_\_\_\_\_  
RG \_\_\_\_\_ MG 28 R- \_\_\_\_\_ SERIES/SÉRIE III, 43  
ACCESSION \_\_\_\_\_ VOL 5 PAGE(S) 12  
BOX/BOÎTE \_\_\_\_\_ REEL/BOBINE \_\_\_\_\_  
FILE/DOSSIER New North West Co. LTD. Reports. 1921-22  
DATE March, 2014