

controlled as follows:

The New North West Corporation, Limited,	-	297	claims.
The Dominion Mining Company, Limited,	-	259	do
The Big Creek Mining Company, Limited,	-	155	do
The Calder Mining Company, Limited,	-	53	do
The Sulphur Mining Company, Limited,	-	<u>141</u>	do
Total,			905 claims.

Of the above, two claims controlled by The New North West Corporation, Limited, Nos. 7 and 33A on Gold Run, are not in the grouping.

WORK ACCOMPLISHED, CONDITIONS, ETC.

The field work performed by the Company in 1923 was made up of: The care of the water distributing system of the Company interests; The operation of Dredge North West No. 1 and its affiliated works for The Dominion Mining Company, Limited; the operation of Dredge North West No. 2 and its affiliated works for The Big Creek Mining Company, Limited; the operation of the North Fork Power Plant; and the removal of the excavator machinery from the White Pass dock to a Custom's storage yard.

The labor conditions throughout the 1923 season were fair, although there was never an excess over requirements and at times barely enough to carry on.

The number of men employed on all operations of the Company from May 1st to October 31st averaged 77. The wage scale remains the same.

59,488 meals were served at the Company camps at a cost of

\$2.06 per day of three meals. This compares with the 42,666 meals at \$1.94 per day of three meals served in 1922.

The temperature conditions of 1923 were good both in winter and summer. The rainfall was light but water conditions were better than the average for water thawing. At Upper Dominion we have to depend on pumping for our supply of water for the points, but at Granville the ditch furnished a plentiful supply until the month of August, when it was necessary to reduce the number of points.

THE WATER DISTRIBUTING SYSTEM

The Caribou Ditch was used for supplying the water points on Upper Dominion until July 26th when all the pumps were started. After this date the water supplied by the ditch was negligible. Included in the water thawing charges is \$652.69 for patrolling and maintenance of this ditch.

The Dominion-Granville Ditch was used for supplying the water points at Granville. On August 18th a break occurred in the ditch near Washington Creek. This was quickly repaired at a cost of \$135.00. Included in the water thawing costs is \$2,376.95 for patrolling and maintenance of this ditch.

The Sulphur-Granville Ditch was not used this season.

The Burnham-Jensen Ditch was used for conveying water from Cache Creek to Jensen Creek for the Dominion-Granville ditch. There was no expense incurred.

The Calder Ditch was not used during the season. The only expense incurred was a charge of \$20.00 in October for the repair of a

culvert across the ditch.

EXCAVATOR MACHINERY

Under the terms of the agreement with the White Pass and Yukon Route, it was necessary to remove the excavator machinery stored on their dock to another storage point, not later than the month of March. As we did not want to pay the duty on this shipment, arrangements were made with the Canadian Customs to have this stored in a Customs Storage Yard. The first load was delivered on March 13th and the last on March 19th. The total expense incurred in this connection amounted to \$1,947.95, which included the rental of a derrick from the Yukon Gold Company, its setting up and removal, and the cost of building a fence around the Storage Yard.

THE DOMINION MINING COMPANY OPERATIONS

(1) Camp Construction:

The camp at 17 below was opened on March 27th. Prior to the commencement of regular spring operations, the camp was moved to a new site opposite 8 below. An old building at this point was purchased for the sum of \$75 and put in shape for a bunk house. One building from the old camp was moved and set up for a mess house. The warehouse building was also moved and a small stable for four horses set up. This camp is estimated to do for the 1924 season after which it will again be necessary to make a new camp.

(2) Steam Thawing:

Early in April the steam thawing equipment was set up and steam

thawing started on April 31st. 12,298 square yards were thawed at a cost of \$16,837.15 or \$1.37 per square yard and 21.8 cents per cubic yard dredged. This work consisted of thawing the frozen ground immediately ahead of the dredge and besides insuring an early start for the dredge, makes the season of reasonable length for the men. Steam thawing was concluded on May 19th.

(3) Water Thawing:

Water Thawing operations were started on May 21st using water from the Caribou Ditch. As the water supply from this source decreased pumps were started. By July 26th the entire supply was being furnished by pumping. Owing to the scarcity of water during the dry months it is necessary each season to place a dam across the creek below the operations and impound the water so that it can be handled over and over. 43,688 square yards were thawed with water at a cost of \$25,671.07 or 59 cents per square yard and 9.3 cents per cubic yard dredged. Operations were discontinued on September 6th owing to the low temperature of the water. Schedule No. 4 attached hereto shows detail of thawing costs.

(4) Prospecting for frost:

As soon as men could be spared from the points a few were put to work prospecting for frost with bars. This work was continued until September 30th and the area for two seasons dredging prospected and staked out.

(5) Drilling:

Prospecting with a Keystone drill was started on August 9th and continued to the end of September. The ground for approximately one and

one half years dredging was prospected in this way. These holes are used principally as a guide to the width of the dredge cut and to limit the areas of costly thawing where the values indicated by the drilling do not warrant the expense. Sixty seven holes were drilled totalling 1884 feet at a cost of \$2,953.83 or \$1.60 per foot.

(6) Dredging:

Shortly after the camp was opened, the regular operating crew was put to work making the usual spring repairs. Inspection revealed that the spud was badly cracked so this was removed and repaired. Digging for the season was started at 9:00 A.M. on May 24th and continued without serious interruption until October 30th. 409.35 hours were lost due to various causes, making the running time 89.3% of the possible. Practically all ground was dug which had been thawed. 2,155 square yards which had not been entirely thawed were left over for the 1924 season. The camp was closed on November 2nd.

During the 1923 season Dredge North West No. 1 handled 608,177 cubic yards of material yielding \$187,666.97, at a cost including overhead of \$116,110.08, leaving a net profit of \$71,556.89. The dredge started the season on the upper end of Claim 11 below Lower Discovery (old number) and made an advance upstream of about 3500 feet, completing the season on the upper end of Claim 5 below Lower Discovery (old number). Fifty seven percent of the ground dug was classed as frozen and thawed by artificial means. Schedule No. 2 attached hereto shows the dredging costs for the season in detail.

The average depth of the area dredged as given by the drill holes

was 25.5 feet. The average depth as dug by the dredge was 19.5 feet, showing a shrinkage of 6.0 feet due to thawing. The thawing results were very satisfactory, practically no frost being encountered by the dredge during the entire season.

Excluding one abnormally high value drill hole, the average value for the season's dredging as indicated by the prospecting was 20.6 cents per cubic yard. The average value per cubic yard recovered by the dredge was 30.9 cents per cubic yard. Taking into consideration the fact that the dredge yardage was figured after the ground had shrunk six feet due to thawing and the drill values were figured before shrinkage, we find the dredge recovered approximately 115% of the drill values.

With the present size of water thawing plant it is not possible to efficiently thaw the frozen ground and have any reserve left on hand for the following season. Comparing the 373,064 cubic yards dug in 1922 with the 608,177 cubic yards dug in 1923 shows what this boat can do when digging ground properly prepared. It is my recommendation that a Capital Expenditure of \$3500 be made to further increase this thawing plant.

THE BIG CREEK MINING COMPANY OPERATIONS

The camp at Granville was opened on April 11th to take care of the men employed on the Spring dredge repairs and thawing plant operation.

(1) Steam Thawing:

Steam Thawing was started on April 25th and was completed on May 7th. This work consisted of sweating the winter's frost in the area

immediately ahead of the dredge, so that an early start could be had and the progress of the dredge not impeded. An expenditure of \$3,016.05 was made of which amount \$1,917.00 was for wood. This wood is already on hand and will shortly be unfit for use if not consumed and some value derived from it.

(2) Water Thawing:

Water Thawing operations were started on May 7th and continued without material interruption until September 6th, when the plant was closed down for the season on account of the low temperature of the water. We operated as high as 1100 points but during the time of low water were down as low as 500 points. At the time of low water coincides with the time when the water is at its maximum temperature we have ordered a 10 x 20 centrifugal pump for this plant, to be placed in Dominion Creek, and this will be used to augment the supply from the Dominion-Granville ditch. As the size of the present plant is not sufficient to gain on the dredge when it is digging well prepared ground, I recommend that it be further increased by the expenditure of \$7500, which includes the purchase of 1000 feet of twenty inch hydraulic pipe at a cost of about \$3860. Thawing operations for the next two years will be on the opposite side of the Dominion Flat from the ditch line and with our present pipe line the friction loss is too high.

85,209 square yards of ground were thawed at a cost of 23.5 cents per square yard, and 3.05 cents per cubic yard dredged. There is no covering blanket of muck at this place which accounts for the extremely low cost we are able to get. Schedule No. 5 attached

hereto shows thawing costs in detail.

(3) Prospecting for frost:

We have done no prospecting for frost as this ground is all classed as frozen. There is considerable surface thaw but as the bedrock is all frozen and the points have to be driven to thaw this, we take credit for thawing the entire area.

(4) Drilling:

There being a considerable area ahead of this dredge which had not been previously drilled and as it was difficult for the thawing plant foreman to tell when his points had reached bedrock, it was decided to put down a few holes both for values and depth. Accordingly drilling was started on 30th of May and completed on 11th June. Twelve holes were drilled at a total cost of \$542.15, or 247 lineal feet at \$2.20 per foot. The average depth as determined by drilling checks the average depth as given by the dredge, showing that there is very little, if any shrinkage of ground after the muck has been removed. The average value indicated by the drilling was about 34.9 cents, and the recovery of the dredge in this area about 30.4 cents, showing that the dredge recovered about 87% of the indicated value.

(5) Dredging:

Immediately on the opening of the camp, the regular operating crew was put to work on the usual spring repairs. In addition to the ordinary work of replacing wearing plates and liners, and general overhauling of the machinery, it was necessary to put in an entirely

new set of manganese screen plates and to extend the digging ladder six feet, as with the old length of ladder it was difficult for the dredge to properly clean the bedrock and make satisfactory yardage.

Digging commenced at 7:30 A.M. on May 20th and was completed at 7:00 A.M. on November 7th. All ground thawed was not dredged but cold weather made it impractical to continue operations for a longer period.

On July 17th the lower screen tread gave out completely and it was necessary to close down and install a new tread. This was done and operations started again on July 24th. This was the only serious interruption during the season.

A total of 649.00 hours were lost due to various causes making the dredge operating time 84.2% of the possible.

688,614 cubic yards of material were handled yielding \$196,687.71 at a cost, including overhead, of \$108,242.25, leaving a net profit of \$88,445.46.

All the ground dredged was classed as frozen and thawed by means of water points. Digging conditions were good throughout the season and no serious frost was encountered. The camp was closed and the men laid off on November 14th.

Schedule No. 3 attached hereto shows the dredging costs for the season in detail.

THE CALDER MINING COMPANY OPERATIONS

No work was performed for the account of The Calder Mining Company, Limited. The Company's mining claims are included in the

New North West grouping and work performed at Upper Dominion and Granville served as representation work to keep the titles in good standing.

THE SULPHUR MINING COMPANY OPERATIONS

No work was performed for the account of The Sulphur Mining Company, Limited. The Company's mining claims are included in the New North West grouping and work performed at Upper Dominion and Granville served as representation work to keep the titles in good standing.

NORTH FORK POWER PLANT

The North Fork Power Plant operated almost continuously throughout the year. Power was supplied to two seventeen foot dredges, Canadian Nos. 2 and 4; two seven foot dredges, North West Nos. 1 and 2; the machine shops at Bear Creek; the Hunker Pumping Plant; the thawing plant pump equipment at Upper Dominion; all requirements of The Dawson Electric Light and Power Company, Limited, and during the summer months, the requirements of The Dawson City Water and Power Company, Limited, for pumping water for the City of Dawson.

11,315,600 K.W.H. were generated of which amount 9,671,945 K.W.H. were delivered, showing a line loss of 1,643,655 K.W.H. or 14.5%.

The cost of generation and transmission amounted to \$28,531.74 or \$0.00295 per K.W.H. delivered.

Schedule No. 6 attached hereto gives details of the Power Plant operation Costs, and comparison of costs and revenue with the preceding years.

The power delivered to the Hunker Pumping Plant, which is

owned by Burrall and Baird, Limited, is furnished under an agreement whereby the Power Company derives fifty percent of the revenue after deducting labor and operating expenses. The revenue from this source amounted to \$3,829.79. A better income is expected for next season.

The installation of the new stator for Generator No. 1 was begun on January 16th and completed and the machine put in service on February 2nd. The new installation has given good satisfaction and will be duplicated for Generator No. 2 during 1924.

Generator No. 2 burned out in two places at 8:10 A.M. on July 11th. The core was slightly damaged by arcing. Twenty four bars of the new winding were replaced, and two end connections and 3 phase-connectors were used. Repairs were completed 8:10 P.M. on the 13th and the generator started up but let go again in about 15 minutes when the voltage was raised to 1500. The second burnout occurred at a point in the winding remote from the first burnout. The machine was repaired and started up again at 6:30 P.M. on the 14th. Further burnouts were prevented by frequent repairs during the balance of the season, but each inspection revealed the fact that the usefulness of this machine is rapidly approaching an end.

During August and September repairs to the ditch were made with a team and small crew of men. A gravel bar which had built up at the Intake just in front of the gates was removed by means of an electric hoist and scraper. The repairs to the ditch consisted of raising and widening the low and narrow spots in the Bank.

Owing to the protracted mild spell in the Fall, some trouble was had with the slush ice before the final freezeup, but this was



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