MINING IN THE NORTH

- 1962 -

RESOURCES DIVISION

NORTHERN ADMINISTRATION BRANCH

DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES

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Issued under the authority of the
Honourable Arthur Laing, P.C., M.P.,
Minister of Northern Affairs & National Resources

FOREWORD

This report is designed to cover all mining activity in northern Canada. Most of the information has been supplied by resident geologists of the Department of Mines and Technical Surveys and mining inspectors, mining recorders, and other officers of the Resources Division of the Northern Administration Branch, Department of Northern Affairs and National Resources.

It is published to disseminate information on recent mining developments in the Yukon and Northwest Territories in some detail. The opinions expressed are not necessarily the policy of the Government of Canada.

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MINING IN THE NORTH - 1962

Introduction

During the year 1962, mining exploration increased considerably over the preceding year as is evidenced by a total of 3891 mineral claims recorded in both territories during the calendar year of 1961, while during the same period in 1962, a total of 7004 mineral claims were recorded.

Probably the most significant exploration areas were centred around the Contwoyto Lake area in the Northwest Territories, where gold was found, and in the Yukon the major activity was in the Snake River area where Crest Exploration Limited staked iron claims on a jasper-hematite occurrence. Late in the season, a promising deposit of high-grade magnetite was found in the vicinity of the Mary River in northern Baffin Island in the Northwest Territories and a deposit of silver-lead-zinc was found about 35 miles north of Watson Lake in the Yukon, along the Watson Lake-Ross River development road.

Advanced mining development was conducted on Keno Hill where underground exploration warranted construction of a permanent campsite by United Keno Hill Mines Limited. A new adit was commenced at Ormsby Mines Limited (the former Laforma property) where underground exploration was commenced to develop known gold occurrences. An adit was driven during the winter of 1961-62 at Peso Silver Mines to explore

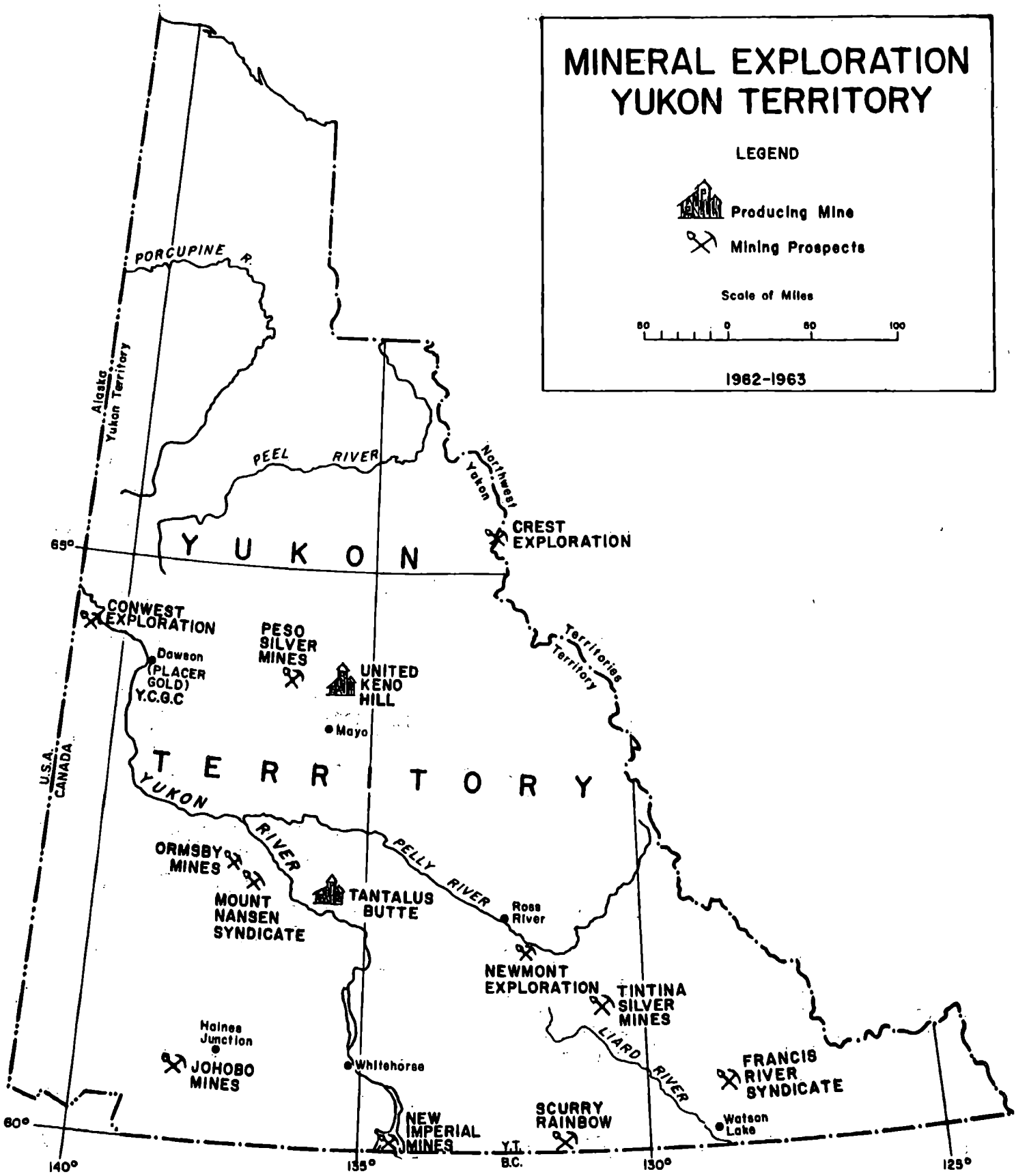
a silver-lead-zinc showing at depth and on Montana Mountain their adit was continued to explore the underground extension of a highgrade gold showing. At Tintina Silver Mines in the St. Cyr Mountains, an adit driven underground indicated that the highgrade silver-lead-zinc deposits found on surface did not continue to any depth and underground operations were discontinued early in the season of 1962. At Johobo Mines Limited, where Dominion Explorers had an option on this property and ore was mined underground exploration was discontinued about mid-summer.

In the Northwest Territories, the open-pit operations were commenced at Canada Tungsten. A complete concentrating plant was built and equipped, and residences for the employees were constructed. Underground exploration was continued at Taurcanis Mines and, as a result of the underground work, the management decided that the mine should go into production by March, 1964. The old Camlaren Mine was unwatered and about 14,000 tons of ore stock-piled for shipment by truck to the Consolidated Discovery Mine for treatment during the winter of 1962-63. Details of all exploration, advanced development, and producing mines are covered later on in this report.

MINING IN THE YUKON TERRITORY

1. Dawson Mining District

In the Dawson area, all of the mineral production for many years has been from placer gold. The gold is recovered by dredging and,


MINERAL EXPLORATION
YUKON TERRITORY
LEGEND
Producing Mine
Mining Prospects
Scale of Miles
80 0 80 100
1962-1963
PORCUPINE R.
Alaska
Yukon Territory
PEEL RIVER
Northwest
Yukon
Territories
Territory
CREST EXPLORATION
65°
Y U K O N
CONWEST EXPLORATION
PESO SILVER MINES
UNITED KENO HILL
Dawson
(PLACER GOLD)
Y.C.G.C
Mayo
T E R R I T O R Y
U.S.A.
CANADA
YUKON RIVER
PELLY RIVER
ORMSBY MINES
MOUNT NANSEN SYNDICATE
TANTALUS BUTTE
Ross River
NEWMONT EXPLORATION
TINTINA SILVER MINES
LIARD RIVER
Haines Junction
JOHOBO MINES
Whitehorse
FRANCIS RIVER SYNDICATE
Watson Lake
NEW IMPERIAL MINES
SCURRY RAINBOW
Y.T.
B.C.
60°
140°
135°
130°
125°

in recent years, bulldozers have been working in conjunction with sluice boxes and, in some cases, high pressure pumps, or simply by using water impounded by dams for use during the latter part of the season. Placer gold has been recovered by individuals or small mining companies, using the latter means, materially increasing the gold production of the Yukon Territory.

A few years ago, asbestos was found in the Clinton and Cassiar Creeks area, west of Dawson City and there are known occurrences of silver-lead-zinc in the Sixty Mile and Twelve Mile River areas.

Years ago, an adit was driven to explore for gold on King Solomon's Dome but results were disappointing and underground operations ceased. There has been a revival of interest in the occurrence of gold in hardrock and one company has been doing exploratory work in an effort to trace the source of the rich gold deposits along Bonanza and Eldorado Creeks. However, there has been no production to date from any of the hardrock mineral occurrences in the Dawson Mining District.

(a) Producing Placer Properties

The largest single gold-producing placer company in the Dawson Mining District is Yukon Consolidated Gold Corporation Limited. Dredges commenced operations later last summer than in previous years due to the late spring. However, water during the summer was plentiful and operations continued on the dredges late into the fall because of mild weather. Five dredges and one bulldozer operation were active during

the year with an average of 170 men being employed. Total production for the year was 42,800 fine ounces of gold produced from 4,683,017 cubic yards of gravel treated in the dredges and sluices. At the height of the season, 310 men were employed with 56 employed on a year-round basis.

Exploration for further reserves of pay-gravel was continued in an effort to extend the life expectancy of their dredging operations. During the 1963 season, it is proposed that six dredges, one bulldozer, and three stripping and thawing operations will be conducted. Prospect drilling will be continued to outline further reserves of gravel.

In the Eureka Creek area, Northern Yukon Services operated a dragline and bulldozer on their placer gold property. They employed six men on a seasonal basis with a 1½ yard dragline and three caterpillar tractors. The material that is being mined required a great deal of handling due to the great depth of gravel encountered and diesel pumps are required to supply water for the operation. It has been reported that 630.15 ounces of gold were mined during the summer of 1962.

At Kirkman Creek, a tributary of the Yukon River, Kirkman Creek Placers have been in production for six years. Plenty of water was available throughout the season and the owner hired one man during the year. Production figures are not available but a considerable amount of thawing and stripping was done on the ground to be mined during the 1963 season.

At Miller and Glacier Creeks in the 60-Mile River area, Miller Creek Placers, operated by Ole Medby, mined placer gold with hydraulic and bulldozer equipment. It is reported that he recovered approximately 150 ounces of gold and will be continuing operations in 1963.

On Clear Creek, a tributary of the Stewart River, Heitman and Netzel, have been using two D-6 Cat. tractors with sluices, employing 7 men with a reported production of 500 ounces of gold.

At Bonanza Creek, A.T. Fry has been using hydraulic-bulldozer equipment and it is reported that 196 ounces of gold were produced during the year. He expects to continue operations in 1963.

At All Gold Creek, K and S Placers, using one cat. and sluice boxes, are reported to have produced 374.99 ounces of gold during the season and have stripped additional ground for mining in 1963. The miners are M. Kinakin and W.J. Scott.

On Gold Run Creek, Gold Run Placers produced 162 ounces of gold and prepared ground for production in 1963. The miners are Lamontagne and Schink.

Boutillier Brothers. The Boutillier family were born in the Yukon and have been conducting placer mining operations most of their lives. They jointly operated a bulldozer and hydraulic operation on Adams Creek, Adams Gulch, and Bonanza Creek. It is reported that during the year of 1962, their production amounted to 195.7 ounces of gold, using one bulldozer with pumps and sluicing equipment. Last year, they stripped and thawed additional ground on which they will be working during the season of 1963.

Ernest Schink has a small hydraulic operation, as well as an interest in the operations of Joe Lamontagne on Gold Run Creek. It is reported that with his hydraulic operation on Paradise Hill, due to the scarcity of water during 1962, his production was limited to 31 ounces of gold.

Cle Lunde worked placer claims on Gold Bottom Creek with a D-6 cat. It is reported that he has encountered frozen muck and tailings from previous underground operations where old-timers tunnelled underground along the bedrock to recover the gold. This material has to be thawed before he can strip the gravel down to bedrock which will be opened up in 1963. During 1962, 165 ounces of gold was recovered. Lunde operates under the name of Dominion Placers.

Gus Bergelman operates under the name of Caribou Placers on Caribou Creek. Working alone last season with a D-6 cat., he recovered 165 ounces of gold and stripped some ground in preparation for the 1963 season.

Eugene Lesaux and Francois Perret. For years, these two men have been operating on Henderson Creek but, during 1961, they commenced stripping and thawing operations on Victoria Gulch, a tributary of Bonanza Creek, so that they could commence placer mining during 1962. However, during the spring run-off period in May, an old dam on Bonanza Creek burst with the pressure of water and ice and completely flooded the equipment which was to be used by the two men. They had two cats, which were completely covered by gravel, and lost all their equipment including their living

quarters and personal effects. The people of Dawson were quick to establish a fund to assist these placer miners who have been working in the Yukon since 1936 and they were able to later commence placer mining operations at their new location. They intend to mine on Bonanza Creek in 1963.

Ballarat Mines Limited. This company has two operations; one on Dominion Creek and one on Eldorado Creek. They have been in production since 1951 using four D-8 bulldozers and five men on Dominion Creek and three men on Eldorado Creek. Production figures are not available but this is the largest bulldozer operation in the Dawson Mining District.

John Bremner and Son have been working on Dago Hill recovering placer gold by hydraulic means. It is reported that they were short of water during the season but produced 210 ounces of gold.

Anthony and Corene Lindsay commenced stripping and thawing operations on prospecting leases on Goring Creek. They have been preparing ground for operations in 1963 and during the short time they were in operation in 1962, 18.72 ounces of gold were recovered.

Sestak Placers Limited operated on prospecting leases on the Sixty Mile, Ten Mile and Matson Creeks. During 1962, they only produced 11 ounces of gold but their leases were prospected in an effort to evaluate the ground.

John A. Gould's father has been operating Nugget Hill Placers for the past 59 years and is now retired, leaving his son to continue

hydraulic operations. A shortage of water during 1962 resulted in the recovery of only 6 ounces of gold, although for many years this was a highly successful placer operation.

Jim Werbiski has a one-mile prospecting lease on Germaine Creek. During the 1962 season, he stripped and prepared a lot of ground for placer mining in 1963. It is reported that his production was 233 ounces of gold.

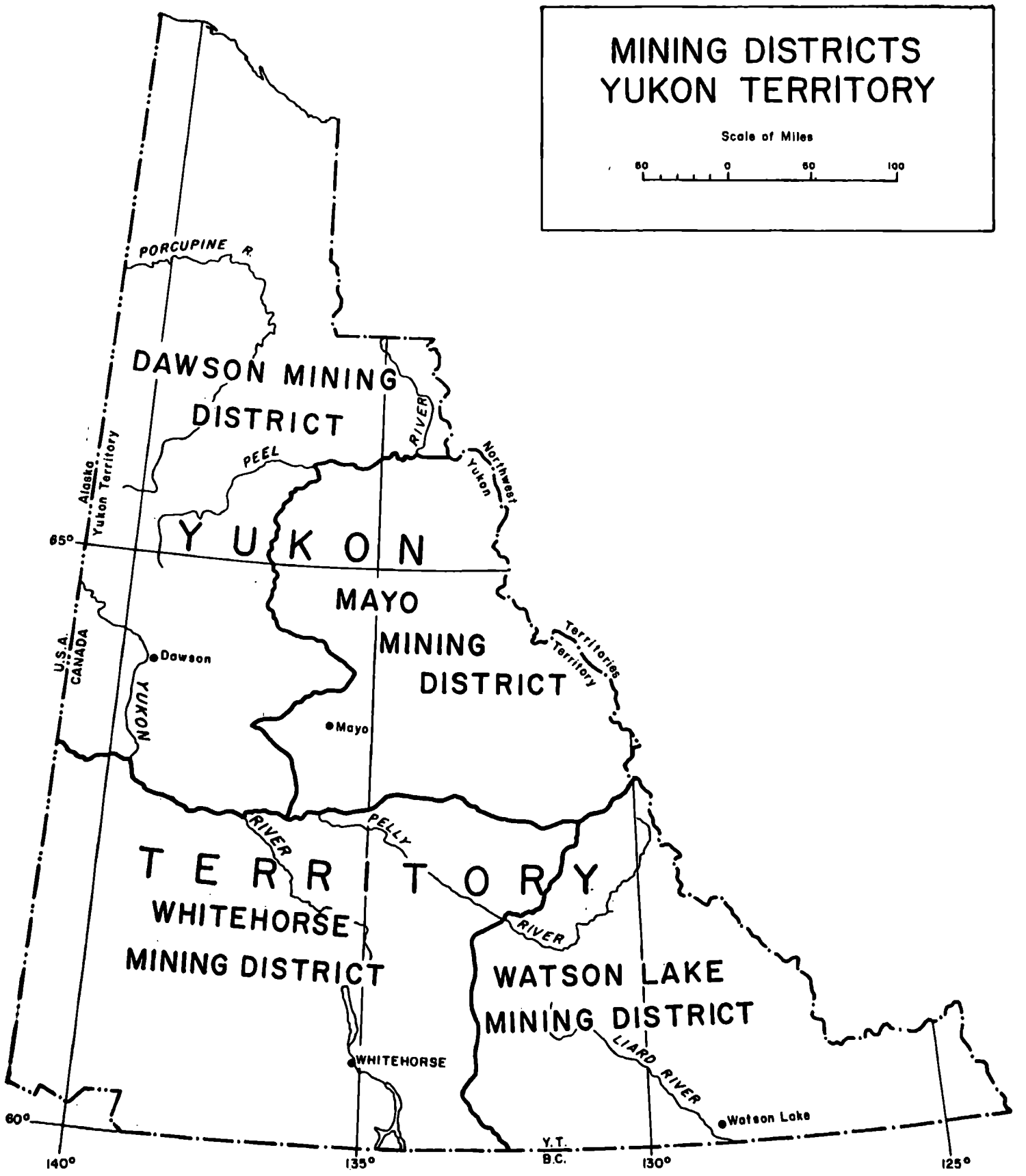
Eureka Placers Limited. Due to the depth of overburden, a great deal of gravel had to be removed before reaching bedrock but, for the past four years, this Company operating on the left fork of Eureka Creek has been recovering gold. It is reported that during 1962, they produced in the neighbourhood of 700 ounces of gold (exact production figures are not known). It is expected that they will operate with a D-7 and D-8 cat. during 1963.

Cripple Hill Mining Company Limited. This Company employed six men on the right limit of Bonanza Creek, commencing operations on June 2nd and working until October 7, 1962. They used a D-6 bulldozer in conjunction with hydraulic and sluicing equipment. Water was pumped from Bonanza Creek by an electrically driven pump, purchasing power from the Yukon Consolidated Gold Corporation Limited. Production is reported to have amounted to 720 ounces of gold. During 1962, they experimented with a novel type of "Dude Mine" for the benefit of tourists where, for a nominal admission fee, visitors could pan for gold. It is reported that 500 people came to see the mining operation during the season and panned for gold.

Bonanza "B" Mine. This was a tourist attraction set up by one of the local merchants in Dawson City. It is reported that 2,300 customers paid an admission fee to pan for gold and see the exhibit of mining equipment on display. A complete blacksmith's shop was set up with large hand bellows used during the gold rush days and with a lot of manufactured and hand-made tools that were made locally. Equipment used in the past and on display consisted of a hand windlass and buckets, a steam self-dumping outfit, monitors, steam thawing equipment, and an ingenious pump that was used for pumping water from the shafts sunk through gravel to bedrock. The self-dumping bucket is a very clever arrangement whereby one man working from the bottom of the shaft can fill the bucket, have it hoisted to surface, run out to a dump-pile, dumped and then returned to the bottom of the shaft. In this way, one man was able to mine all winter and treat the gravel in the stockpile in a sluice box as soon as water was available in the spring. At one time, there were many of these types of self-dumping apparatus in use along the creeks in the Dawson Mining District but this is the only one in use today, as a tourist attraction. It is reported that this is one of the most interesting exhibits of mining equipment from previous days now in existence. Tourists were provided with gold pans and water in tubs while they spent many hours using the reliable gold pan on this operation at Lovett Gulch, a tributary of Bonanza Creek.

(b) Exploration

Several creeks were prospected during the season for placer gold possibilities. Klondike Lode Gold Mines Limited conducted the only


MINING DISTRICTS
YUKON TERRITORY
Scale of Miles
60 0 60 100
PORCUPINE R.
DAWSON MINING
DISTRICT
PEEL
RIVER
Alaska
Yukon Territory
Northwest
Yukon
Territories
Territory
YUKON
65°
MAYO
MINING
DISTRICT
U.S.A.
CANADA
Dawson
YUKON
Mayo
RIVER
PELLY
RIVER
TERRITORY
WHITEHORSE
MINING DISTRICT
WATSON LAKE
MINING DISTRICT
WHITEHORSE
LIARD RIVER
Watson Lake
60°
140°
135°
Y.T.
B.C.
130°
125°

active hardrock exploratory work in this District during the summer of 1962. However, during the late fall and winter of 1962-63, an adit was commenced on the Eureka claim near Silver City, about 25 miles north of Dawson on the Yukon River. Silver-lead occurrences have been known to exist in the area for many years and the underground work was started in an effort to explore the downward extension of outcrops noted on surface. By the end of March, 1963, the adit was 258 feet in length and it was reported that highgrade silver veinlets were found in the form of steel galena. The exploratory work performed on this property, with encouraging results, precipitated a minor staking rush to the area during the winter of 1962-63.

It has been reported that some work will be done on the asbestos deposits at Cassiar and Clinton Creeks during 1963 to further explore known anomalies on the ground held by Conwest Exploration Limited.

2. Mayo Mining District

The most significant development in this Mining District during 1962 was the acquisition of iron claims by Crest Exploration Limited in the Snake River area. The jasper-hematite iron deposit straddles the Yukon-Northwest Territories border, trending in an easterly direction and is exposed over a length of about 30 miles. It is estimated to contain 20 billion tons of iron ore. Section 17 of the Yukon Quartz Mining Act permits the staking of 160-acre claims, whereas in the Northwest Territories, there is no special provision for acquiring iron claims and they are staked the normal size (1500' on each side, comprising 51.65 acres).

The deposits range from a few feet in thickness to 300' and over, and it has been reported that the grade runs about 50% contained iron. A feasibility study on potential markets, transportation, communication, and beneficiation, as well as mining methods to develop the property has been conducted by a consulting firm. Drilling and sampling will be performed during the 1963 season to further evaluate the property. The claims are being surveyed and will probably be leased under the provisions of the Yukon Quartz Mining Act. If the property goes into production within the next few years, a railway will be required to tide-water, which will have a tremendous impact on the whole economy of the Yukon.

Placer gold has been produced for many years on various creeks in the District and it was while exploring for gold that silver values were encountered in the Keno Hill area, leading to the discovery of good grade silver-lead-zinc deposits. Jasper-hematite iron was found as early as 1896 as float material in the Mayo Mining District and it had always been presumed that the source was in the Bonnet Plume area, or somewhere in the Mackenzie Mountains.

During the 1920's, the highgrade silver discoveries on Galena and Keno Hills were developed and, in 1947, United Keno Hill Mines Limited came into existence and is now the largest single silver producer in Canada. The ore is treated at the Elsa mill and concentrates shipped by truck, railway, boat and rail to the refinery at Trail, B.C. Other minerals such as copper, tungsten, antimony and coal are known to occur in this District but to date, the only hardrock producing mine is that of United Keno Hill Mines Limited. A small amount of coal is produced annually at Carmacks in

the Whitehorse Mining District for use by United Keno Hill Mines.

(a) Producing Properties - Hardrock

United Keno Hill Mines Limited. In 1962, this Company produced 12,698 tons of silver-lead concentrates, 11,290 tons of zinc concentrates, and 48 tons of silver precipitates. A higher price was received for the silver but was partially offset by the reduction in lead and zinc prices. Cadmium was produced as a by-product when 184,364 pounds were recovered up to September 30, 1962. An average of 504.4 tons of ore were treated daily. About 540 men were employed at the mine during the year. Production came from the Hector, Calumet, and Elsa Mines and some development ore was mined at the Keno, Silver King and Galkeno Mines. The Keno property on Keno Hill, in addition to being developed underground, was provided with complete facilities for bringing the mine into production. These included building and equipping a shop and boiler house, compressor building, accommodation for employees, cookhouse and change house. The Transport Division hauls the concentrates and precipitates from the Elsa mill to Whitehorse with a return haul of freight, including coal from Carmacks and during 1962, 41,194 tons of freight were moved by the Transport Division.

During the season of 1963, the company is budgeting for an extensive underground exploration program estimated at $1,000,000 on their various properties in the Mayo Mining District. The Company has many small mines which have not been fully explored underground and additional properties have been optioned for development.

(b) Producing Properties - Placer Gold

Individual placer miners operated with cats. and sluice boxes, as well as a combination of hydraulic means, to recover placer gold in the Highet Creek, Dublin Gulch and Johnson Creek areas. At Haggart Creek, Waddco Placers Limited and Spruce Creek Placers Limited had a very successful season on the Barker property. Water conditions were good during the entire season and placer mining continued, due to the mild weather, until late in October.

Waddco Placers Limited produced 889 ounces of gold on the ground they leased from the Barker Estate. J. Acheson, who is in charge of the placer mining operations, indicated that they would be active during the 1963 season.

Double S Placers Limited only produced 116 ounces of gold on the Dublin Gulch property. George Smashnuk worked the ground alone using a small cat.

E.C. Bleiler worked his placer ground on Highet Creek but did not report his production.

Bardusan Placers working on Johnson Creek lost the pay streak during the early season but were able to locate pay gravel during the latter part of the summer and produced a total of 1,411 ounces of gold.

Total production of placer gold from the Mayo Mining District amounted to 3,354 ounces (not including the amount shipped by E.C. Bleiler through Whitehorse).

(c) Exploration

For the past two years, there has been a trend towards the formation of syndicates backed by major mining companies active in various areas throughout the north. The Mayo Mining District has long been known as a potential silver area and with the increased price of silver, many exploration companies and syndicates have been actively prospecting, staking ground, and exploring for new deposits of silver-lead-zinc. Individual prospectors who hold mineral claims re-staked old showings and prospected their claims.

Peso Silver Mines Limited, Rio Plata Silver Mines, Mayo Silver Mines, Silver Titan, United Keno Hill Mines Limited and Dualco Explorations were active in the exploration field during the season of 1962. Adits to explore underground extensions of surface outcrops were driven at Peso Silver Mines, Silver Titan, and on the Vanguard Mineral Claim.

Crest Exploration Limited moved in equipment and supplies for their Snake River operation, by winter-cat. train. The route to the property was along the Amerada Road to its junction with the DEW line trail, along this trail to the Snake River, thence southerly along the Snake River to the jasper-hematite iron ore deposit. A winter and a summer airstrip were being built and it was reported that 85,000 gallons of diesel fuel and 25,000 gallons of aviation gas, along with diamond drilling equipment and supplies were flown to the site, using two C-46 aircraft, last winter.

3. Whitehorse Mining District

The Whitehorse Mining District was reduced in size by the formation of the Watson Lake Mining District on April 1st, 1962. Plans were made to establish a Central Records Office at Whitehorse to be effective April 1st, 1963, so that eventually the status of all mineral claims in the mining districts of the Yukon can be ascertained at this office by the mining fraternity. Copies of all geological, geophysical, geochemical and engineering evaluation studies, credited as representation work on mineral claims, will be retained on a confidential basis for a period of three years, from the date of approval, in the Central Records Office. Eventually, summary reports will be prepared in Resources Division in Ottawa and, after the confidential period, copies of the detailed reports will be available for examination in the Central Records Office.

An important mineral discovery was made during the year by the Mount Nansen Syndicate backed by Newmont, Kerr-Addison, Rio Tinto, Conwest, Central Patricia and Faraday Uranium Mines. This is a gold-silver showing and more than 340 mineral claims were staked. A three-foot vein structure was uncovered, extending over 1,400 feet in length and preliminary sampling indicated values of 1 ounce gold and about 20 ounces silver. Plans were being made at the end of March, 1963, to conduct a

diamond drilling program and it is expected that a "tote trail" will probably be built from the Ormsby Mine road to the property during 1963.

(a) Producing Properties

During the year, Johobo Mines Limited shipped 1,117 tons of copper grading about 23% to the refinery at Tacoma, Washington. The mine ceased operations about mid-summer and it has been reported that the option with Dominion Explorers has been terminated. Engineers are of the opinion that there may be further undeveloped ore in the mine and adjoining mineral claims.

The Tantalus Butte Coal Mine operated by the Yukon Coal Company produced 7,777 tons of coal (preliminary figures). A very limited amount of this coal is sold locally and the balance, as previously mentioned is trucked to United Keno Hill Mines Limited where it is used for heating purposes only.

(b) Producing Placer Mines

Export tax was collected on 2,122.25 ounces of gold at the Mining Recorder's office for the year 1962.

Burwash Mining, as well as P and G Placers, operated on Burwash Creek west of Kluane Lake and there was a limited production from Nansen Creek and Revenue Creek in the Mount Freegold area.

(c) Exploration

Prospectors were active in the White River area along a potential copper belt where this mineralization is known to exist. A magnetometer survey was conducted along a portion of the Whitehorse

Copper Belt but no diamond drilling was done last season following the results of the survey.

In the Carmacks-Mount Freegold area, the gold-silver discovery near Brown-McDade Gold Mines, sparked a minor staking rush.

Ormsby Mines Limited commenced underground exploration on the Laforma Gold property. A cross-cut was driven to intersect the PAL vein and about 100' of drifting was conducted on this shear zone before the property closed down for the winter. Over 4,000 feet of underground lateral development was driven during the year. The "tote trail" from Carmacks was improved and a complete mining plant installed prior to commencement of underground operations.

In the Carcross area, New Imperial Mines Limited continued underground development on the JEAN mineral claim where a vein on surface under a talus slide is reported to carry up to 8 ounces of gold over a two-foot width. When the weather forced cessation of the operations for the winter, the vein had not been intersected and it is expected that underground development will continue during the 1963 season. Other major exploration companies were active in the area examining old showings known to exist. Some prospecting was carried out in the Quiet Lake area but no new discoveries of any significance were found.

4. Watson Lake Mining District

This new Mining District, established April 1st, 1962, is bounded on the west by Teslin Lake and the Canol Road and comprises the extreme southeasterly portion of the Yukon Territory. Mining companies and prospectors made representations to the Government of Canada requesting that a Mining Recorder's office be set up at Watson Lake to expedite the administration of mining lands. Temporary office quarters were made available and all original mining records for this area were transferred from Whitehorse to Watson Lake.

During the summer, Tintina Silver Mines ceased underground operations when the downward extension of the highgrade surface outcrops were not intersected and the vein structures exposed on surface did not appear to have any continuity in depth. Geologists examining the property are now of the opinion that the minerals occur as replacement deposits along the bedding planes near the limestone contacts. Due to the discouraging results of the underground exploration and this new theory of mineral deposition, a proposed deep diamond drilling program was not commenced. Equipment and supplies at the property were removed during the winter.

Mineralization has been found in many localities on both sides of the Tintina Fault and it would appear that this major tectonic structure influences mineral deposition throughout the area extending from Watson Lake to Ross River. Frances River Syndicate discovered deposits of silver-lead-zinc about 32 miles northwest of Watson Lake.

Only preliminary sampling has been undertaken but the structure seems to be quite strong and it is proposed that further exploration will be followed by diamond drilling during the season of 1963. A 15-mile access road from the Watson Lake-Ross River Development Road was built last year.

There was a minor flurry of staking at Liard Canyon on the British Columbia-Yukon border and prospecting will be required before the characteristics of the discovery are known. Silver-lead-zinc were found in the area north of Rancheria on the Alaska Highway, Scurry-Rainbow performed some diamond drilling and exploration companies, as well as individual prospectors were working on previously known silver-lead-zinc showings. Giant Exploration, Dualco and Conwest were active in the Ketza River area. It has been reported that a showing of molybdenite was found east of Quiet Lake and tungsten was found along the Canol Road near MacMillan Pass. It has recently been reported that Newmont Explorations have staked a large group of claims about 20 miles east of Ross River, straddling the Watson Lake-Ross River Development Road.

Table I summarizes the mineral claims recorded in the Yukon and it may be seen that during the first year the Watson Lake Mining District was in operation, there was a fair proportion of activity in the area. The iron and mica claims staked in the Yukon Territory by Crest Exploration Limited account for the increase in claim staking in the Mayo Mining District.

YUKON AND NORTHWEST TERRITORIES
Roads, Trails, Airports & Airstrips

SCALE OF MILES

100 50 0 100 200

LEGEND

- Primary Roads
- Development Roads
- Winter & Tote Trails
- Mine Access Road
- Airports
- Airstrips

BEAUFORT SEA

Banks Island

Victoria Island

NORTHWEST TERRITORIES

YUKON TERRITORY

Inuvik

MACKENZIE RIVER

Alaska

Dawson

Norman Wells

GREAT BEAR LAKE

(Abandoned) Canol Road

Carmacks

Ross River

WHITEHORSE

Watson Lake

Yellowknife

GREAT SLAVE LAKE

FORT SMITH

Baker Lake

Rankin Inlet

150° 140° 130° 120° 110° 100° 90°

70° 65° 60°

5. Proposed Amendments to the Yukon Quartz Mining Act.

On November 20th, 1962, an open meeting was called by the President of the Yukon Chamber of Mines to discuss amendments proposed the previous year. The local Member of Parliament and the Chief, Resources Division, were in attendance and the general feeling of the meeting seemed to be that the Act should not be changed at that time and that any proposed changes should be directed through the Yukon Chamber of Mines. A further meeting on this issue was held on December 4 - 7, 1962, with representatives of the British Columbia and Yukon Chamber of Mines. A preliminary draft of proposed amendments was made available through both Chambers of Mines and circulated for study by the mining industry and Government officials. A Joint Committee of the Yukon Chamber of Mines and the British Columbia and Yukon Chamber of Mines prepared a final draft, after holding meetings at Whitehorse January 22 - 25, 1963, which was submitted to the Minister of Northern Affairs and National Resources. An Act of Parliament would be required to introduce any amendments to the Yukon Quartz Mining Act and, at the time of writing this report, the final draft was under consideration.

6. Roads and Airstrips

A paper entitled "Territorial Roads Policy" was presented to the Inter-Departmental Committee on Federal-Territorial Financial Relations. It was recommended that the road classifications, as outlined in the Territorial Roads Policy, be adopted. Each road category was defined and a new classification "tote trail" was introduced.

A total annual allotment of $50,000.00 is to be provided to the Territorial Government for the construction of roads to resources exploiting projects. Companies may make application to the Territorial Government and, if in the opinion of the Commissioner, justification is shown, then funds may be made available to pay at least one-half the cost of the road construction.

Up to March 31st, 1963, a total of $45,071.64 was allotted from this fund to assist ten mining operations, one timber and one agricultural project. This fund should do much to develop the mineral resource potential of the Yukon Territory.

Work was continued on the Watson Lake-Ross River road and the Nahanni Range road extending from about Mile 67 on the former road, a distance of 80 miles to the Little Hyland River, was completed during the year. A 50-mile "mine access" road was built by Canada Tungsten on a cost-sharing basis, from the Little Hyland River to their property in the Northwest Territories. During the winter, one span of the Bailey Bridge over the Little Hyland River collapsed. It was reported that the bridge failure was due to faulty welding of the cross members and the span was replaced prior to the break-up season. The road was maintained throughout the winter and was used not only by Canada Tungsten Corporation but by other mining companies who hauled equipment and supplies to the Flat River Valley, from where they will be flown to summer camp locations.

Crest Exploration Limited is reported to have taken in a cat.-train over the former Amerada winter road from Hanson Lakes to the intersection of this road with the DEW Line trail, to their property on the Snake River. Due to the extremely mild winter, the winter airstrip could not be used for any length of time and the Company commenced construction of an all-weather airstrip in the Snake River Valley during April, 1963.

The sum of $20,000.00 from Federal funds may be expended on assistance to resource developing companies planning on building airstrips in the Yukon Territory. A Committee of officers of Resources Division, Engineering Division, and Territorial Division in Ottawa, to examine submissions and make recommendations to Treasury Board on the amount of assistance that may be given (not to exceed 50% of the total cost). During the year 1962-63, $4,500.00 was allotted to assist in the construction of the airstrip at Tintina Silver Mines, $5,650.00 was spent on the California Standard Company airstrip in the Beaver River area, and the balance of the funds available ($14,350.00) was allotted for the airstrip and access road at Blackstone, Yukon, but expenditure statements were not received by March 31st, 1963, and the funds lapsed. Requests for additional funds were made in 1962 but could not be granted as there was no money left in the Vote.

7. Prospectors' Assistance Program

The sum of $30,000.00 from Federal Estimates was voted for the Prospectors' Assistance Program in the Yukon Territory for the season of 1962. A pamphlet was prepared explaining the Program, which is based on "earned assistance", that is, in return for information on potentially

mineralized areas, a two-man prospecting party could receive up to a maximum of $2,000.00, depending on the zone in which they are working and if the information is considered to be of value. For this purpose, northern Canada has been divided into four cost zone areas from a minimum of $1,000.00 to a maximum of $2,000.00.

A Screening Board was established at Whitehorse, the Chairman being the Mining Recorder for that District and the members comprising the Resident Geologist, the Resident Mining Inspector and a member of the Yukon Chamber of Mines. Applications were reviewed and, although the number of parties was to be limited in each territory to 20, because the total of $30,000.00 would not be exceeded, there were 23 successful applicants participating in the Program at the beginning of the year. By the end of the field season, 12 applicants had dropped out for various reasons and 11 applications were considered by the Review Board at Whitehorse. After a final review was made by the Geological Evaluation and Inspection Services Unit of the Mining Section, Resources Division in Ottawa, recommendations were made to make payments to 7 eligible prospecting parties.

Some difficulties were experienced by the field supervisors of the Program who found that, in some instances, the prospecting parties could not be located and the supervisors were unable to assist them in the compilation of their field data. This forms the basis of the amount of assistance that may be given to each prospecting party. One of the main reasons for the expenditure of public funds on assistance to prospectors in northern Canada is that some valuable information will

be returned to the Crown and, at the same time, mineral exploration should be accelerated and new prospectors will be trained.

The calibre of information returned to the Crown, the Statements of Expenditures, completion of Field Diaries and final reports left much to be desired in some cases, although a few of the parties turned in excellent material for which they were given full credit. It should be emphasized that the Review Board may pay up to a maximum of 50% of the costs incurred (not exceeding the total cost for the cost zone in which the prospectors are working) and if the material required to be submitted at the end of the field season is not suitable then the percentage of assistance given to the prospecting party may not come up to the 50% available.

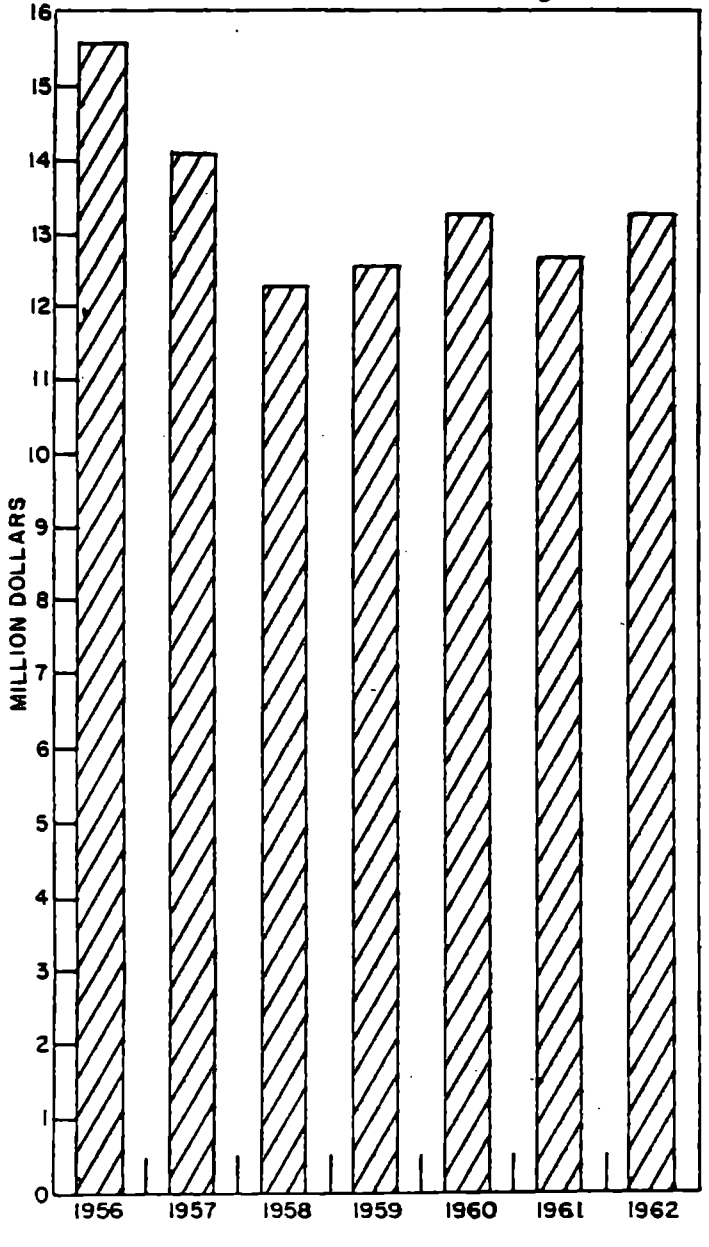
Many helpful suggestions were made by the administrators of the Program and, as a result of some of the problems encountered, it was deemed advisable to revise the pamphlet in order to answer most of the queries. Additional information was provided in the Questions and Answers section of the pamphlet and, because some of the cost zones did not grade from the minimum to the maximum, the cost zone map was also revised.

Since it was required that 60 days be spent in the field on prospecting activities, it was found that some applicants could not qualify for assistance at the end of the field season. The maximum time spent in the field by any one party in the Yukon was 86 days and most parties receiving assistance averaged about 75 days.

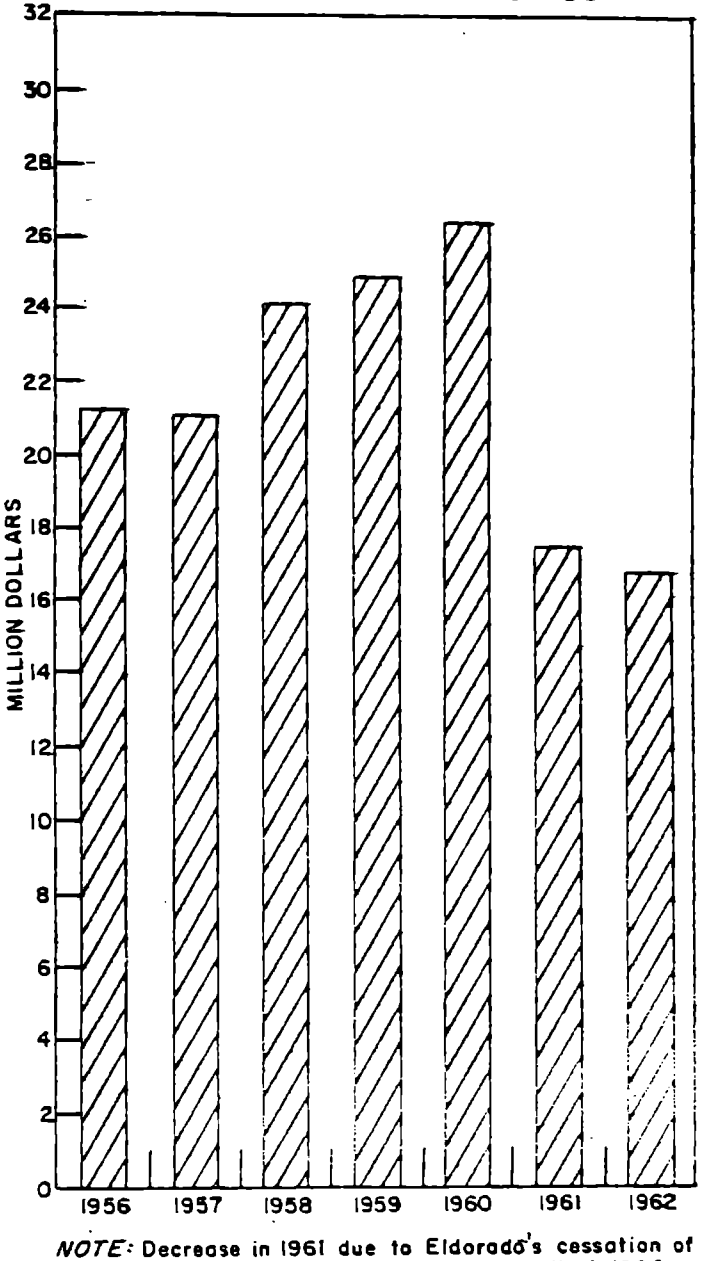
During the year, Distress Flare Signal Kits were issued to each prospecting party and during the 1963 season, one Kit will be supplied to each prospector participating in the Program. A Blowpipe Analysis Kit

TOTAL VALUE OF MINERAL PRODUCTION

Yukon Territory



Northwest Territories



NOTE: Decrease in 1961 due to Eldorado's cessation of operations at Great Bear Lake in fall of 1960.
1962 - Preliminary Figures

will also be supplied (one to each party) for those prospectors qualified to identify minerals by this method.

Anyone interested in the Prospectors' Assistance Program may procure a revised pamphlet from any Mining Recorder's office in the Yukon, the Yukon Chamber of Mines at Whitehorse, the British Columbia and Yukon Chamber of Mines in Vancouver, and the Alberta and Northwest Chamber of Mines and Resources in Edmonton.

8. Mining Safety

In addition to his Federal duties, the Mining Inspector at Whitehorse administers the Mining Safety Ordinance for the Territorial Government.

During 1962, for the first time, Yukon Territorial funds were made available for the purchase of Mine Rescue equipment. Most of this equipment is stored at United Keno Hill Mines' Mine Rescue Station. The Mining Inspector gave courses in the use of this equipment and during the Dawson Festival in August, 1962, two teams demonstrated the use of self-contained-oxygen-breathing-apparatus.

During the winter of 1962-63, arrangements were made to have the Mine Rescue Station Superintendent from Yellowknife visit the mines in the Yukon Territory to provide a Mine Rescue and First Aid Training Course.

During the year, an assistant was engaged for the Mining Inspector to perform mineral claim inspections and assist with inspections of industries other than mining. The Mining Inspector conducted nineteen safety inspections at mining properties and, in addition, several safety inspections of oil well drilling rigs were carried out, as well as inspections

of aerial tramways. Equipment was purchased for conducting dust and ventilation surveys and during the year, the Mining Inspector and his assistant completed an underground survey at United Keno Hill Mines. It is anticipated that at least two of these underground surveys will be carried out yearly. The equipment is available for all dust surveys that may be required in other industries.

A complete report of accidents and safety in the mining industry in the Yukon was prepared by the Chief Mining Inspector, Resources Division and is available upon request. During the year, there were 35 compensable mining accidents, 47 disabling accidents and one fatality. These resulted in 667 days lost on compensable accidents and 688 days lost on disabling accidents. A total of 770 men were employed in the mining industry in the Yukon during the year.

TABLE I

MINERAL CLAIMS RECORDED DURING THE YEAR ENDED DECEMBER 31, 1962

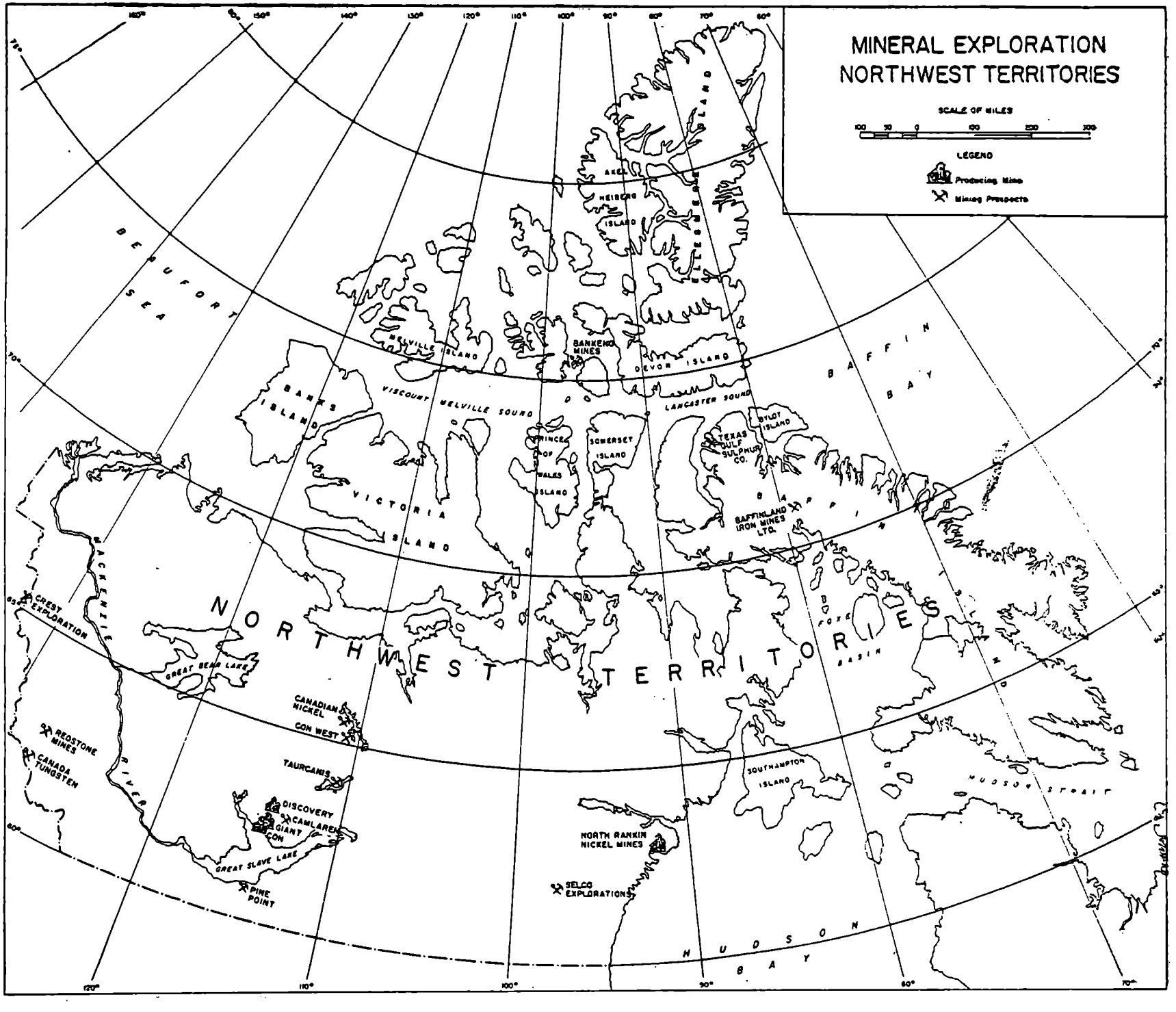
YUKON TERRITORY

	Quartz	Placer	Total 1962	Total 1961
Whitehorse	909	3	912	1642
Mayo	1211	19	1230	618
Dawson	137	13	150	202
Watson Lake	722	Nil	722	---
	2979	35	3014	2462

TABLE II

QUANTITY OF MINERALS PRODUCED - YUKON TERRITORY

	1956	1957	1958	1959	1960	1961	1962
Gold	72,001 ozs.	73,962 ozs.	67,745 ozs.	66,960 ozs.	78,115 ozs.	66,878 ozs.	54,086 ozs.
Silver	6,192,706 ozs.	6,484,185 ozs.	6,415,560 ozs.	7,054,632 ozs.	7,217,361 ozs.	6,937,086 ozs.	6,581,615 ozs.
Lead	25,604,220 lbs.	24,985,839 lbs.	21,566,194 lbs.	21,592,456 lbs.	20,286,871 lbs.	16,769,815 lbs.	16,252,650 lbs.
Copper	Nil	Nil	Nil	Nil	Nil	880,773 lbs.	458,170 lbs.
Zinc	21,052,518 lbs.	17,119,445 lbs.	15,522,159 lbs.	13,246,532 lbs.	13,402,899 lbs.	12,137,418 lbs.	12,509,000 lbs.
Cadmium	244,628 lbs.	185,754 lbs.	160,739 lbs.	141,750 lbs.	145,496 lbs.	142,685 lbs.	140,000 lbs.
Coal	9,372 tons	7,731 tons	4,344 tons	3,879 tons	6,470 tons	7,703 tons	7,777 tons


MINERAL EXPLORATION
NORTHWEST TERRITORIES
SCALE OF MILES
100 50 0 100 200 300
LEGEND
Producing Mine
Mining Prospects
BEAUFORT SEA
AXEL HEIBERG ISLAND
EUREKA SOUND
MELVILLE ISLAND
BANKENO MINES
DEVON ISLAND
BAFFIN BAY
BANKS ISLAND
VISCOUNT MELVILLE SOUND
LANCASTER SOUND
PRINCE OF WALES ISLAND
SOMERSET ISLAND
BYLOT ISLAND
TEXAS GULF SULPHUR CO.
BAFFINLAND IRON MINES LTD.
VICTORIA ISLAND
MACKENZIE RIVER
CREST EXPLORATION
NORTHWEST TERRITORIES
FOXE BASIN
GREAT BEAR LAKE
CANADIAN NICKEL
CON WEST
REDSTONE MINES
CANADA TUNGSTEN
TAURCANIS
DISCOVERY
CAMLAREN
GIANT
CON
GREAT SLAVE LAKE
PINE POINT
SOUTHAMPTON ISLAND
HUDSON STRAIT
NORTH RANKIN NICKEL MINES
SELCO EXPLORATIONS
HUDSON BAY

B. MINING IN THE NORTHWEST TERRITORIES

1. Mackenzie Mining District

On April 1st, 1962, the former Yellowknife Mining District and the Mackenzie Mining District were combined to form the Mackenzie Mining District with the office of the Mining Recorder at Yellowknife. At the same time, the Nahanni Mining District was established with the Mining Recorder's office situated at Watson Lake, since this is the center of communication for the area.

(a) Exploration

The highlight of exploration activity during the season centered around Contwoyto Lake. In 1961, Canadian Nickel Company staked mineral claims on a gold showing which sparked a major staking rush to the area by mining companies and individuals during 1962. Exploration companies active in the Contwoyto Lake and Itchen Lake areas included Canadian Nickel Company, Falconbridge Nickel Company, Conwest Exploration, Consolidated Discovery Yellowknife, Consolidated Northland Mines, North Goldcrest, New Athona Mines, Prospectors Airways, Giant Yellowknife Mines Limited, and several individuals including some Eskimos.

It is reported that the gold showings in the Contwoyto Lake area are associated with amphibolite and some of the arsenopyrite-bearing specimens are reported to have assayed as high as 0.7 ounces of gold per ton. Most companies active in the area during 1962, geologically mapped their mineral claims, followed by some diamond drilling

on favourable zones. In addition to geological work, Canadian Nickel Company performed a geophysical survey followed by diamond drilling and had a camp established at their property prior to break-up in the spring of 1962.

Late in the season, a considerable amount of staking was performed in the Itchen Lake area where it was reported that the mineral claims are underlain by the same type of gold occurrences as are found at Contwoyto Lake about 35 miles to the east. Staking in the Contwoyto Lake area also extended in a south easterly direction and during the summer mineral claims were staked in the Vicinity of Regan Lake.

During the year, Crest Exploration Limited (described in the Yukon Section of this report) staked mineral claims on an iron showing in the Cranswick River area straddling the Yukon-Northwest Territories border. Prospectors were active in the extreme north westerly section of the Mackenzie Mountain district but no mineral claims were recorded. It has been reported that tungsten, molybdenum and copper have been found in the area and it would appear that the section along the Northwest Territories-Yukon border, extending from the Richardson Mountains in the north, to the Redstone Valley of the Mackenzie Mountains, is one of the last unexplored areas for mineralization in the Mackenzie Mining District. Stories of copper occurrences having been noted in the early days make this section interesting for exploration.

(b) Producing Mines

Con Rycon Mine. The average daily tonnage of ore milled is 535 tons with millheads running about 0.56 ounces of gold per ton. An average of 181 men were employed at the mine during the calendar year 1962. Plans were being made in March 1963 to set up a sinking hoist on the 3,300' level to deepen the mine to the 3,900' level.

Giant Yellowknife Mine Limited. During the calendar year, 375,820 tons of ore were milled with an average daily amount of 1,025 tons of ore treated and a working force of 333 men. 244,365 ounces of gold and 25,647 ounces of silver were recovered. The average millheads were around 0.8 ounces of gold per ton. During the year, the roaster operated most efficiently when practically all of the arsenic in the ore was removed and stored in permafrost chambers excavated underground, this in turn, reduced the arsenic being discharged into the atmosphere to an almost negligible amount.

Consolidated Discovery Yellowknife Mines. Production at Discovery remained at about 145 tons per day with millheads running slightly under one ounce per ton. A total of 53,858 tons were milled during the calendar year with a recovery of 43,014 ounces of gold and 4,553 ounces of silver. The average number of employees at the mine was 133 during the year. At Camlaren Mines about 15,000 tons of gold ore was mined and stockpiled on the surface. During the winter, this stockpiled ore was trucked over a winter road from Camlaren to the Discovery Mine where it will be blended with the Discovery ore.

(c) Preliminary Development

Taurcanis Mine is probably the next gold producer in the Northwest Territories. This property, formerly known as the Bulldog Yellowknife Gold Mine, was staked by the late Jack Matthews and taken over by the Byrne interests in 1956. Since then, over $1,175,000 has been spent by the Company on buildings, machinery and equipment, and over $3,000,000 has been expended on underground exploration and development. Ore reserves have been outlined for approximately five years' operation and it is now expected that the mine will commence production about March, 1964. The property is located about 150 air miles northeast of Yellowknife in the Northwest Territories and it has been reported that the name Taurcanis will soon become Tundra Gold Mines Limited. Special attention has been given to the construction and installation of permanent-type buildings. Temperatures of 60° and more below zero are not uncommon, which requires special insulation not normally found in most buildings throughout the other parts of Canada. Transportation is the most costly problem but this has been reduced by using trucks over a winter road to bring in the necessary equipment and supplies.

2. Nahanni Mining District

(a) Exploration

In addition to the construction work at the Canada Tungsten property, this Company had exploration parties active during the season of 1962 following up other tungsten mineral occurrences in the Flat River Valley and surrounding area. Additional geological information was obtained concerning the structures favourable for the deposition of tungsten and by applying some of the conclusions reached from their geological observations, it may be

possible that further diamond drilling near the present orebody will reveal additional tonnages of tungsten in sulphide skarn zones, thereby increasing tungsten reserves.

Dualco Explorations, a subsidiary of Canada Tungsten Mining Corporation Limited, had field parties throughout many areas in the Nahanni Mining District, as well as in the Yukon.

Redstone Mines Limited, who hold three prospecting permits in the Redstone River area, obtained very encouraging results in its exploration program during the season of 1962. Copper mineralization was traced along the east slope of Plateau Lake Mountain for a distance of about 13,000 feet. Preliminary sampling returned very interesting copper values and it is planned to diamond drill the copper zones during the season of 1963. Geochemical soil tests have indicated the presence of copper at irregular intervals for about three miles in a southerly direction and on strike with the Plateau Lake Mountain structure. Float rock, suggesting some relationship between the copper deposits on Plateau Lake Mountain was found as far south as Mount Cleo, a distance of some eight miles. About 17 miles north of Plateau Lake, high silver and copper values were found in a strong geological structure and in an area about 28 miles north of Plateau Lake Mountain, the Johnson vein was traced a distance of about 1,500 feet. A new discovery of silver-copper was made about 32 miles north of Plateau Lake Mountain where a grab-sample of mineralized float returned an assay of 88 ounces of silver per ton, 0.02 ounces of gold, and 31% copper.

Over 80 tons of supplies were flown in from the Canada Tungsten airstrip to Plateau Lake (sometimes referred to as Little Dall Lake) where the base camp for the 1963 operations will be situated.

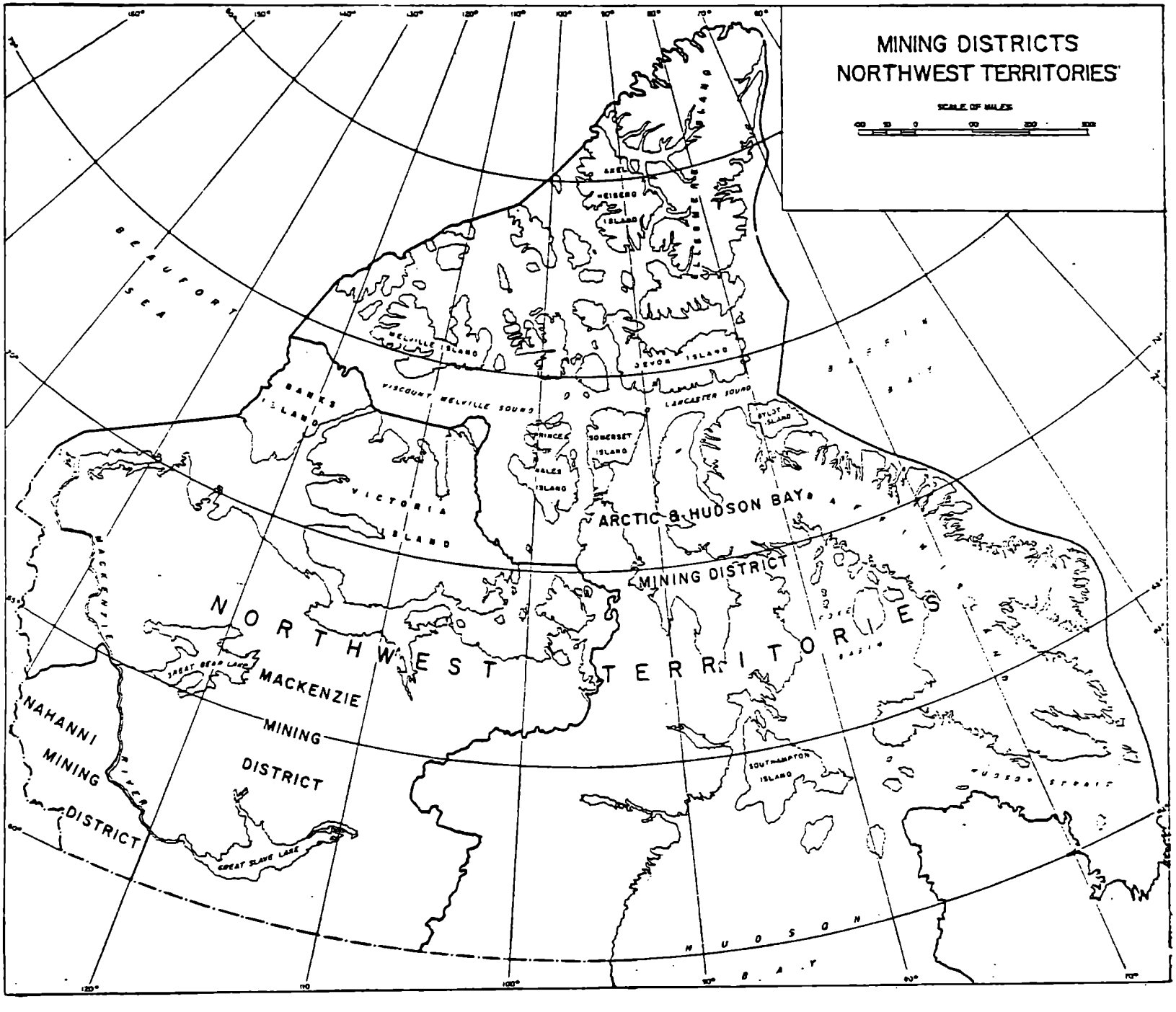
Interesting showings of molybdenum were reported to have been discovered northwest of the Canol Road late in the season of 1962 in the Backbone Range of the Mackenzie Mountains which extends southerly to the headwaters of the north Redstone River in the Nahanni Mining District. This section of the District is virtually unexplored and with the known occurrences of tungsten, copper, silver and molybdenum, it would be surprising if further exploration would not reveal additional new mineral deposits.

(b) Preliminary Development

During 1962, a complete mining plant was established at the Canada Tungsten property known as the town of "Tungsten". A mill with a rated capacity of 300 tons per day was erected, a Diesel electric generating plant with a total of 1500 kilowatt capacity was installed and placed in operation during mid-summer. Other construction included a modern assay office, a machine shop, a combined office-warehouse, a small store and bunkhouse and cookhouse facilities for 70 men. Twenty-one residences were built for the staff, a two-room school was built by the Company with the teacher being provided by the Department of Northern Affairs and National Resources. A curling rink with two sheets of ice was built for recreational purposes. All construction work was virtually completed by the end of October, 1962. During the summer, over 92,000 tons of ore was mined in the open-pit and hauled to the crusher where it was stockpiled for the winter. Milling started early in November for a trial break-in period which will take about six to eight months before full capacity of 300 tons per day is attained.

Only gravity concentrate was first produced to test the markets and due to metallurgical and mechanical difficulties, it is not expected that a flotation concentrate will be produced until mid-summer of 1963. Changes have had to be made in the grinding, classification and flotation circuits to effect a higher grade of concentrate recovery and to minimize impurities.

The road to the property from Watson Lake, about 177 miles, was completed during the year and a bi-weekly bus service was inaugurated by Roy Lambert from Watson Lake to Tungsten. This road branches off the Watson Lake-Ross River Road about Mile 67 and is called the Nahanni Range Road for a distance of 80 miles to the Little Hyland River. From that point, to the property (a distance of 50 miles) a "mine access" road was built with the Federal government paying two-thirds of the cost of the road and the Company paying one-third of the total cost. This road system should materially assist mining exploration companies in both the Yukon and Northwest Territories as it will now be possible by an all-weather road, for mining companies to transport equipment and supplies to any point along the road by truck to where the equipment will be used on exploration work. During this past winter, Redstone Mines Limited hauled about 80 tons of supplies over the road and flew them to their property on Plateau Lake. Plans were made for an "emergency" landing strip to be built along the development road which could also be utilized by exploration aircraft. No doubt, this road will be used by tourists during the season of 1963 and in future years, as it has been reported that the fishing is excellent at many places along the new road (hearsay only).


MINING DISTRICTS
NORTHWEST TERRITORIES
SCALE OF MILES
BEAUFORT SEA
BANKS ISLAND
VICTORIA ISLAND
PRINCE OF WALES ISLAND
SOMERSET ISLAND
BYLOT ISLAND
DEVON ISLAND
AXEL HEIBERG ISLAND
ELLESMERE ISLAND
VISCOUNT MELVILLE SOUND
LANCASTER SOUND
ARCTIC & HUDSON BAY MINING DISTRICT
NORTHWEST TERRITORIES
MACKENZIE MINING DISTRICT
NAHANNI MINING DISTRICT
MACKENZIE RIVER
GREAT BEAR LAKE
GREAT SLAVE LAKE
SOUTHAMPTON ISLAND
HUDSON STRAIT
HUDSON BAY

3. Arctic and Hudson Bay Mining District

The Mining Recorder's office for this District is located in the Resources Division in Ottawa. It is the largest Mining District in the Northwest Territories and mineral deposits have been discovered as far north as Little Cornwallis Island. Due to the District comprising areas on the mainland, as well as the northern islands, it has not been found practical to establish a Mining Recorder's office within the District. Dependent upon mining activity, eventually a Mining Recorder's office will probably be situated at some point on the mainland, or at Frobisher Bay on Baffin Island, or both.

(a) Exploration

Selco Explorations Limited was active on its prospecting permits about 150 miles west of Eskimo Point. North Rankin Nickel Mines explored an extensive acreage without locating any new mineralization. Giant Yellowknife Mines Limited continued exploration activities on its prospecting permits southwest of Rankin Inlet.

At Strathcona Sound on northern Baffin Island, the lead-zinc deposits discovered in 1957 by Texas Gulf Sulphur were tested with a major diamond drilling program in 1962. It is reported that diamond drilling revealed that the deposits were more extensive than was originally estimated. Further diamond drilling will be required to completely delineate the ore zones and plans are being made to complete this Program during the 1963 season.

Baffinland Iron Mines Limited was formed early in 1963 as a subsidiary company to British Ungava Explorations Limited, to explore and develop deposits of highgrade iron found in the vicinity of Mary River about 45 miles southeast of Milne Inlet on northern Baffin Island. Initial sampling is reported to reveal iron grading 68% with less than 1% silicon content. The Company expects to be able to ship at least one million tons of ore annually if markets can be found and the deposit stands up to testing. The Company plans to spend over one-quarter million dollars on development during the 1963 season and because the ore would not be too difficult to extract by open pit methods, the mining costs of this direct-shipping ore should make it competitive on world markets. Of course, plans for future development cannot be made until after the results of the 1963 program are obtained.

(b) Producing Mines

North Rankin Nickel Mines Limited. This property was staked by Cyril Knight in 1928 and eventually came into production in July, 1957, with an estimated 460,000 tons of ore grading about 3.3% nickel and 0.8% copper. By 1961, after unsuccessful attempts to locate additional ore reserves, the mine was placed on a salvage basis. The depletion of the known profitable ore occurrence forced the mine to close down in September, 1962. During the last nine months of operation, 2,046,592 pounds of nickel and 739,766 pounds of copper were recovered. During the latter months of the life of the mine, all mining operations were carried on with a crew composed entirely of Eskimos. After the mine closed down, the major portion of the ancillary buildings, equipment, services and stores were sold to the Department of Northern Affairs and National Resources for use in the rehabilitation of Eskimos.

4. Roads and Airstrips

In previous sections the "mine access" road to Canada Tungsten and the airstrip at Taurcanis mine has briefly been described. However, it should be mentioned that there is a provision in the Northwest Territories for "tote trails" whereby the Territorial Government is to be allotted $50,000 annually from a Federal fund. To date, road construction under this category has mainly consisted of building winter roads for mining development projects such as the Discovery-Camlaren-Taurcanis winter truck road. A "tote trail" extending 4½ miles from the Canada Tungsten road to the Flat Lakes was built in 1962 on a 50% government cost-sharing basis, with a total estimated cost of $10,000.00. Although Canada Tungsten provided the remaining 50%, other exploration companies, as well as the Geological Survey of Canada, used this road which presently connects with not only the Canada Tungsten Mine access road but the airstrip to Flat Lakes, where pontoon-equipped aircraft may land. Early in 1963, an application was received from Redstone Mines Limited to obtain assistance under the Tote Trail fund whereby they would undertake to expend approximately $7,000 on reconstruction of this tote trail. There would then be a direct link from Watson Lake to the Flat Lakes, reducing transportation costs for supplies which have to be flown into Redstone Mines by float-equipped aircraft during the summer of 1963. Other companies have indicated an interest in this road and it would be surprising indeed if tourists do not take advantage of this road since it is known that wildlife abounds in the Flat River Valley.

The Department of Northern Affairs and National Resources has contributed annually to the cost of a winter road under the "tote trail" program, as well as assisting in the construction of an airstrip, at Taurcanis Mines, which has seen a great deal of use during the past year by exploration aircraft active in the Contwoyto Lake area lying about 125 miles to the north.

Inquiries were received early in the year from Baffinland Iron Mines Limited on the "tote trail" program but at the time of writing this report, no applications had been received from this Company who expect to build a road from their iron locations to Milne Bay on northern Baffin Island.

Notices were placed in publications in the Northwest Territories advising that, in accordance with Sessional Paper #13, 1961 (Second Session), applications for tote trail assistance in connection with the development of any natural resources projects in the Northwest Territories for the fiscal year commencing April 1, 1963, would be received by the Commissioner for the Northwest Territories up to July 1st, 1963, for summer construction and up to December 1st, 1963, for winter construction. It was stressed that applications for assistance must be made before commencing work and should be submitted on formal application forms which might be obtained from any of the Mining Recorders in the Northwest Territories, or from the Commissioner for the Northwest Territories, Langevin Block, Ottawa.

A total of $80,000 annually is available for airstrip construction in the Northwest Territories. Before any assistance can be given, there must be sufficient justification for the government to pay one-half the total cost of the construction of the airstrip. During 1962-63, the sum of $3,617.00 was paid on the Canada Tungsten Mining Corporation airstrip in the Flat River valley. The government's share on the construction of this airstrip

since 1960-61 has amounted to a total of $85,867.00. On Melville Island, an airstrip and access road were built near Winter Harbour. During the season of 1962-63, the federal government had contributed $22,563.75. At Taurcanis Mines Limited, no additional government funds were expended to assist in extending the length of the runway. However, to date a total of $37,500.00 has been spent by the federal government on the airstrip and $16,000.00 on the access road from the airstrip to the mine site. It might be advantageous to mention that any company contemplating airstrip construction should submit all expenditure statements for approval by the end of the fiscal year, otherwise, the monies voted for this purpose will lapse and funds available for the ensuing year will be decreased. There were two instances during 1962-63 where expenditure statements were not received by the end of the fiscal year and this now decreases the funds available for the 1963 season.

5. Prospectors' Assistance Program

During the first year of the Prospectors' Assistance Program in the Northwest Territories, the sum of $30,000.00 was made available from federal government funds to assist prospectors during the field season of 1962. The complete program was outlined in a pamphlet circulated to the mining industry through various organizations.

The Screening Board at Yellowknife approved a total of 12 two-man parties applying for assistance under the program but at the end of the season there were only six parties qualified to receive assistance and only a total of $7,463.75 was expended out of the $30,000.00 available for the program. Although there were fewer parties in the Northwest Territories receiving assistance than in the Yukon, prospectors were working in the more remote areas (higher cost zones). One party spent 140 days in the field which is more than twice the maximum number of days required under the program.

The same difficulties as occurred in the Yukon were experienced by supervisors of the Program in not being able to locate the parties in the field. In the Northwest Territories, the field season commenced rather late and most individual prospectors had been hired by mining companies by the time the ice broke up in the more remote areas.

The Review Board consisting of the Resident Geologist and Resident Mining Inspector at Yellowknife made their recommendations to the Chief, Resources Division, Ottawa, but there was some criticism that there was too much delay from the time the applications for assistance were received until the time the payments were finally made. This time lapse should be improved during the 1963 season because by that time, and with the new revised pamphlet, prospectors participating in the Program should know the procedures involved in preparing their expenditure statements. Revised Prospectors' Assistance Program pamphlets explaining the details of the Program may be obtained from the Mining Recorder's office at Yellowknife and Watson Lake, or from the Chief, Resources Division, Ottawa.

6. Canada Mining Regulations

The Canada Mining Regulations, passed on March 3rd, 1961, were amended on July 11th, 1962, after it had been found that several sections required clarification. Early in 1963, an Office Consolidation of the Canada Mining Regulations was printed in handbook form. This handbook is indexed and is in a convenient form for use in the field. However, the Canada Mining Regulations, passed in 1961, should be consulted, with the 1962 amendments, if any legal questions arise concerning these regulations.

7. Prospecting Permits

In accordance with the provisions of the Canada Mining Regulations, promulgated in March, 1961, a prospecting permit covering the area of a mineral claim staking sheet and numbered in accordance with the National Topographic System of Canada may be granted in remote areas to individuals or companies who guarantee that they will explore and develop the area granted to them. The prospecting permit replaces the former "concession" in the Northwest Territories which has proven so unpopular with the prospecting fraternity. However, to encourage exploration and development, prospecting permits appear to be a means of exploring undeveloped areas where the company does not have to worry about finding a mineral showing and having a competitive company stake mineral claims adjoining the original discovery before the first company has had an opportunity to evaluate the potential of the area. Under the terms of the permit, the exclusive rights are given for a period of three years and the permit holder must make expenditures at the rate of 10¢ per acre the first year; 20¢ per acre the second year; and 40¢ per acre the third year. After the end of the first year, one-quarter of the permit area must be dropped and another one-quarter by the end of the second year. Mineral claims may be staked at any time during the life of the permit and excess expenditures made on the permit may be applied towards the mineral claims if the company decides to relinquish its rights. For the benefit of individual prospectors, any area within easy reach of Yellowknife (the main mining centre) is reserved from issuance of prospecting permits, that is, no permits will be issued in these areas whereby any one company could obtain the exclusive right to explore for and develop minerals.

Following is a list of the prospecting permits granted in accordance with the National Topographic System to various companies, since the new regulations came into force:

(i) Prospecting permits issued in 1961	Area Numbers
Giant Yellowknife Mines Limited	55-L-1, 4, 5, 6, 7 and 8; 55-K-3, 4; 55-F-13; 55-E-13, 14; 65-I-1; and 65-H-16.
Bankeno Mines Limited	68-H-8 and 9.
Canada Tungsten Mining Corporation	95-E-13; 105-H-16; 105-I-1 and 2.
Selco Explorations Limited	65-G-2; 65-H-10 and 11.
Fort Reliance Minerals Limited	95-L-7.
North Rankin Nickel Mines	55-K-6 and 7.
(ii) Prospecting Permits issued in 1962	
Selco Explorations Limited	65-G-7
Canadian Nickel Company	76-E-10, 12 and 15.
Redstone Mines Limited	95-L-10 and 15; 95-M-2.
Canada Tungsten Mining Corporation	95-E-12.

8. Mining Safety

A report on accidents and safety in the mining industry in the Northwest Territories for 1962 is available from the Chief Mining Inspector, Resources Division in Ottawa. During 1962, there were three fatal accidents but the winner of the 1962 Regional Ryan Safety Trophy for the Prairie Provinces and Northwest Territories was the Con-Rycon Mine at Yellowknife.

Mine rescue training was continued at the Yellowknife Mine Rescue Station by Leo Comeau, the Station Superintendent. During the year, there were ten trained mine rescue teams. The Annual Mine Rescue Competition was held in Yellowknife on September 8, 1962, with teams entered from the mines near Yellowknife, as well as from the vicinity of Uranium City in northern Saskatchewan. The winner of the competition was the team from Giant Yellowknife Mines Limited.

First Aid training was given to teams from each of the mines by the safety officers with assistance from the Mine Rescue Station Superintendent. A dust and ventilation survey was commenced in the Northwest Territories in an effort to determine the health hazard and it is expected that the Mining Inspector at Yellowknife will conduct at least one dust survey per year in the future.

Methane gas continues to be a hazard at mines in the Yellowknife area and this gas was responsible for one fatal accident in 1962.

The Territories Mines Accident Prevention Association conducted a survey of techniques employed in the medical examination of potential employees in the mining industry. Recommendations were made to the Workmen's Compensation Board in Alberta with whom territorial officials in the Northwest Territories consult concerning accidents in the Northwest Territories.

Mine inspections were made at all of the operating mines and the Mining Inspector also conducted safety inspections on oil and gas drilling rigs. A mineral claims inspector worked under the supervision of the Mining Inspector on a seasonal basis last summer and most of his work was in connection with the recent stakings in the vicinity of Contwoyto Lake.

Spot-checks were made on many groups of mineral claims in other areas of the Mackenzie Mining District. All mine and claim inspections for the Nahanni Mining District in the Northwest Territories are conducted by the Mining Inspector for the Yukon Territory, working out of Watson Lake in the Yukon where the Mining Recorder's office for this District is located.

TABLE III

MINERAL CLAIMS RECORDED - NORTHWEST TERRITORIES

Mining District	Quartz	
	1962	1961
(a) Mackenzie	3749	380
(b) Nahanni	36	922 (c)
Arctic and Hudson Bay	205	127
Total	3990	1429

(a) Expanded in April, 1962, to include most of the Yellowknife Mining District.

(b) New Mining District comprised of portions of former Yellowknife and Mackenzie Mining Districts.

(c) Former Yellowknife Mining District.

TABLE IV

QUANTITY OF MINERALS PRODUCED - NORTHWEST TERRITORIES

	1956	1957	1958	1959	1960	1961	1962
Gold	352,669 ozs.	340,018 ozs.	343,838 ozs.	405,922 ozs.	418,104 ozs.	407,474 ozs.	393,433 ozs.
Silver	69,916 ozs.	69,104 ozs.	72,779 ozs.	70,560 ozs.	79,473 ozs.	77,890 ozs.	72, 610 ozs.
Copper	Nil	330,472 lbs.	868,403 lbs.	986,682 lbs.	1,040,000 lbs.	926,480 lbs.	609,448 lbs.
Nickel	Nil	1,056,341 lbs.	3,866,479 lbs.	3,841,770 lbs.	3,813,778 lbs.	3,409,410 lbs.	2,145,267 lbs.
Pitchblende	873,912 lbs.	838,264 lbs.	910,843 lbs.	919,333 lbs.	1,077,211 lbs.	---	----

TABLE V

MINERAL CLAIMS RECORDED 1956-1962

NORTHWEST TERRITORIES

	Year	Quartz
	1956	8983
	1957	7849
	1958	2205
	1959	4484
	1960	1862 *
	1961	1429
**	1962	3990

* 11 placer claims also recorded
** Preliminary

YUKON TERRITORY

		Quartz	Placer
	1956	1643	50
	1957	801	66
	1958	913	30
	1959	586	91
	1960	1291	46
	1961	2345	117
**	1962		

** Preliminary