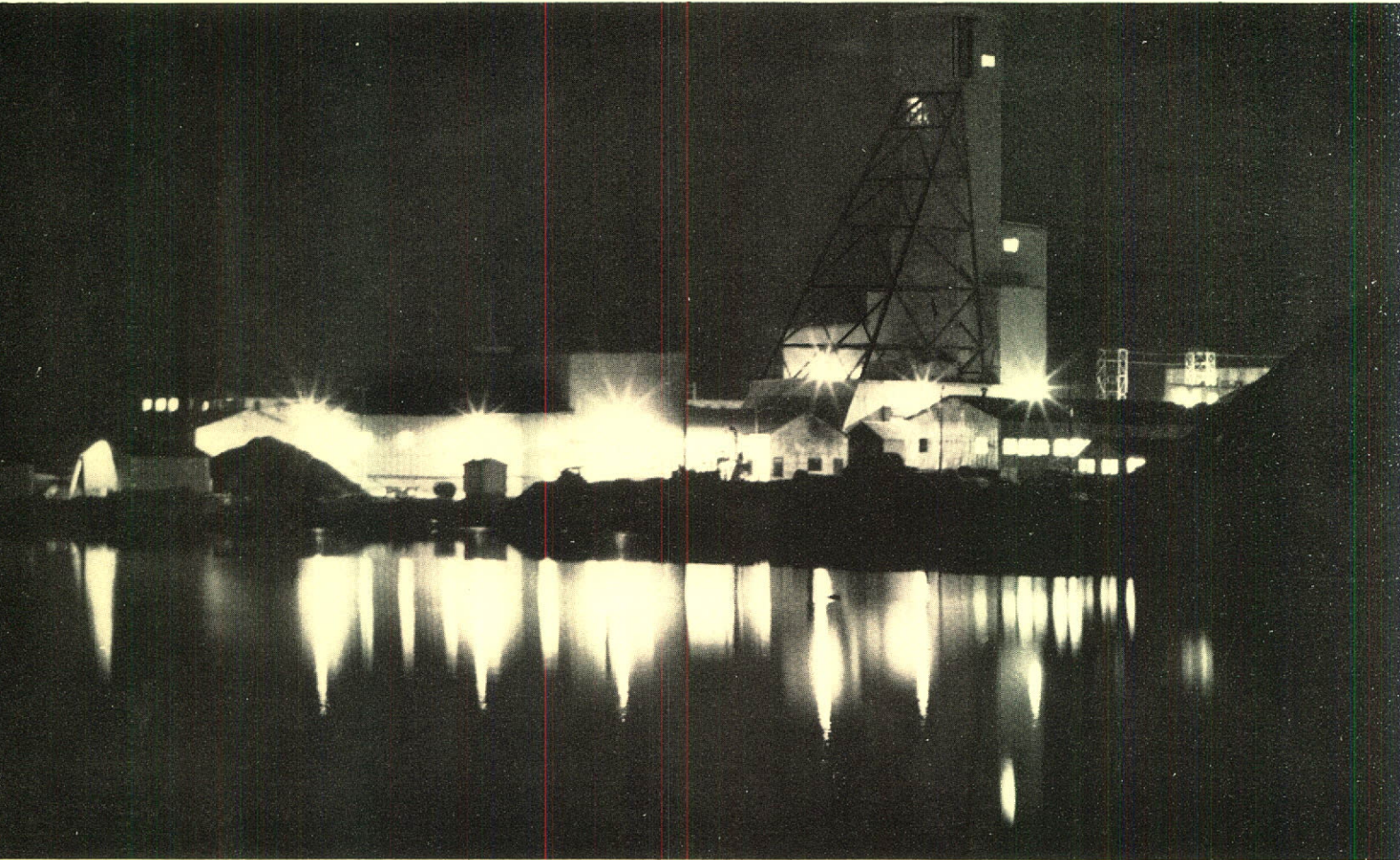


# **DOMINION GRINDING MILLS**



*Campbell Chibougamau Mines Ltd.*



**FRONT COVER PHOTO:**

*Taken in a Dominion erection shop, showing several ball mills in various stages of assembly. The picture was awarded a prize at the Engineering Institute of Canada, Annual Photo Competition.*

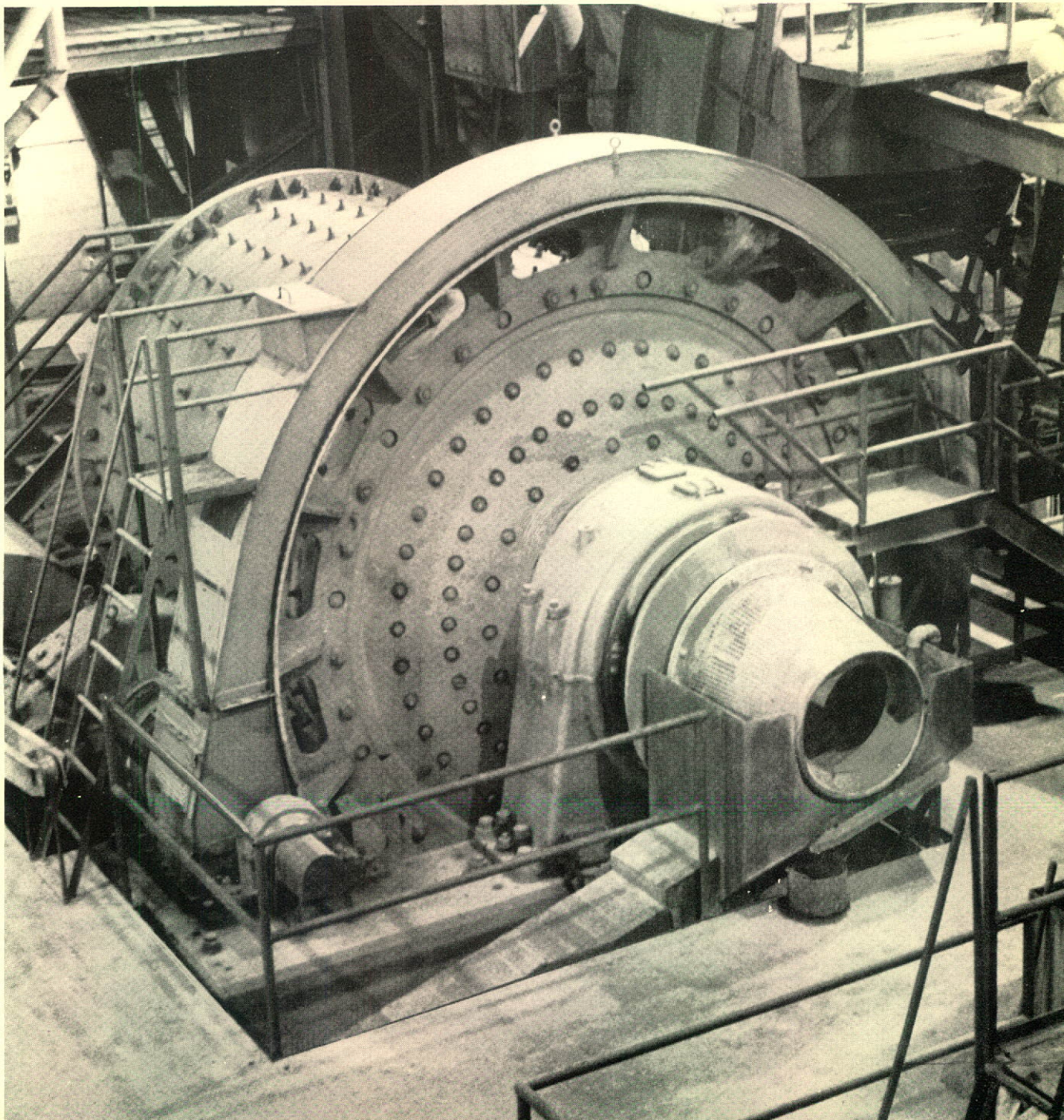


# DOMINION BALL AND ROD MILLS

Dominion's complete facilities cover the entire process of mill manufacture. From the initial design, through casting, machining, gear manufacture and assembly the work is under our control.

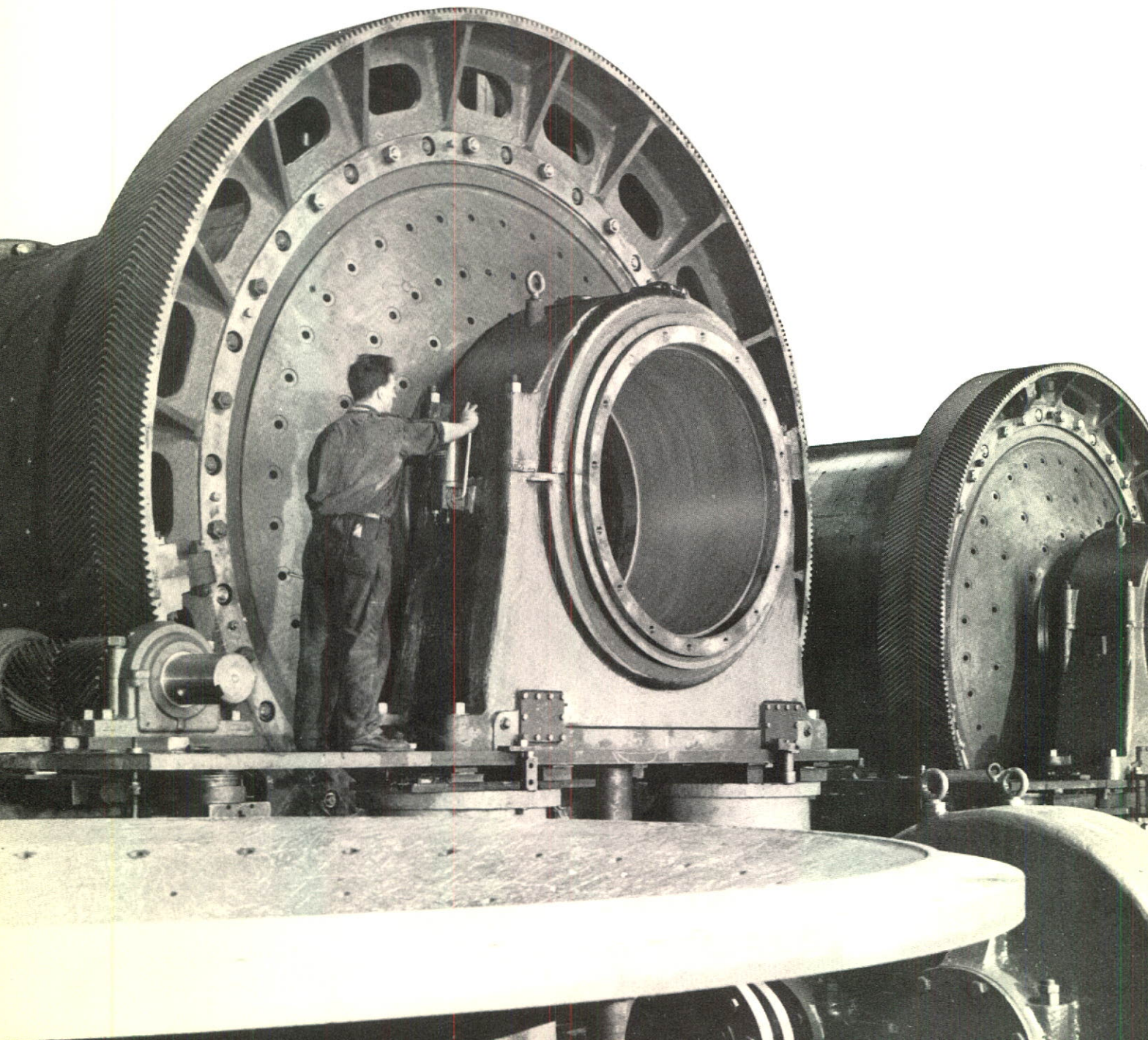
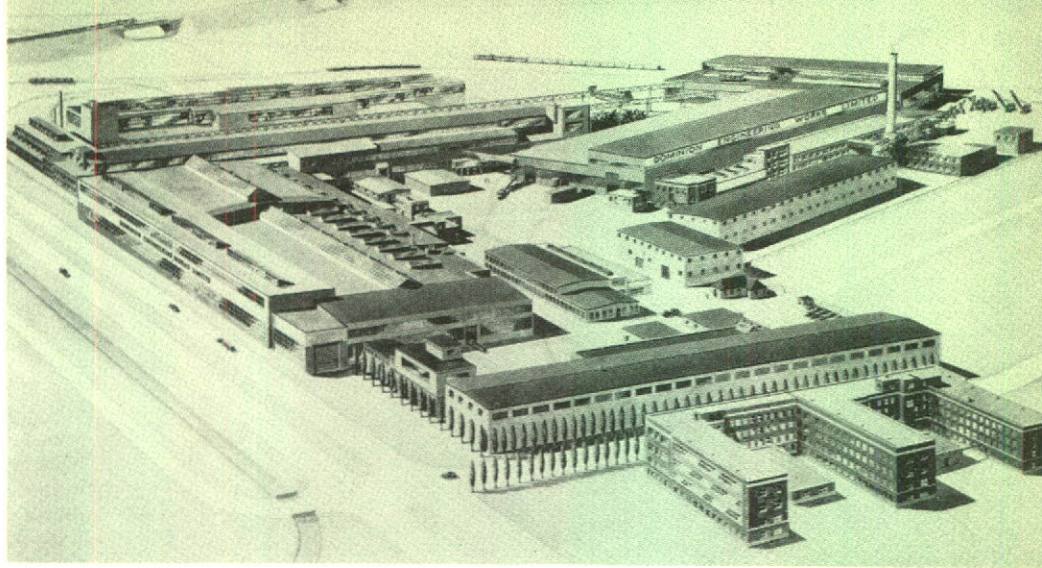
Co-ordinated Design—One responsibility

*One of six 11' x 13'9" rod and ball mills at Gaspé Copper Mines Ltd. Co-ordination of gear, gear reducer and mill design at Dominion provide an extremely compact arrangement.*





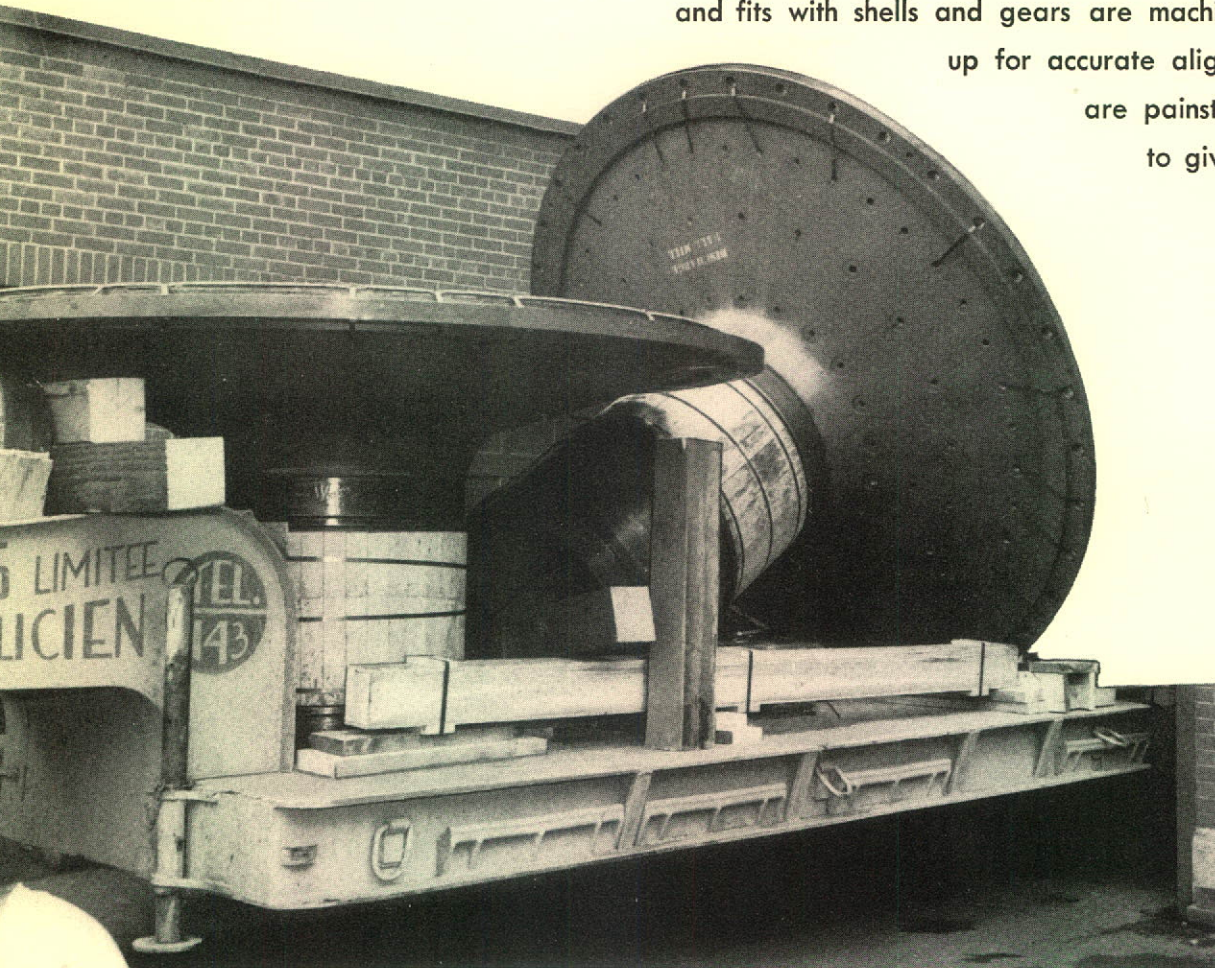
Factory, Head Office  
and Engineering Offices of  
Dominion Engineering Co. Ltd.,  
Lachine, Quebec





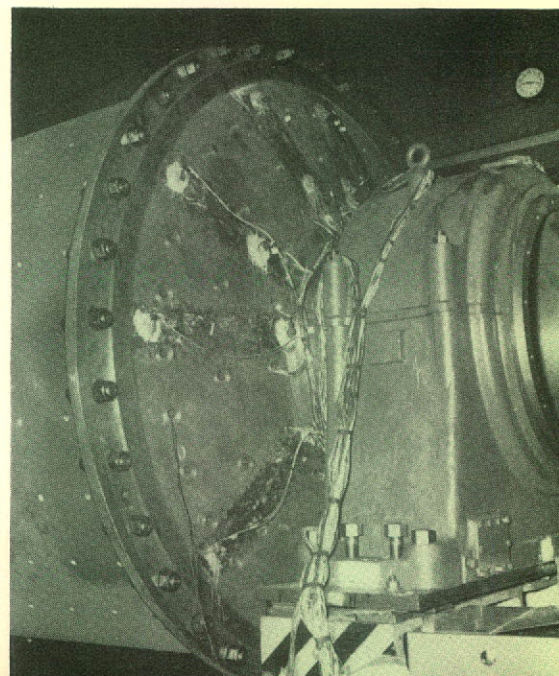
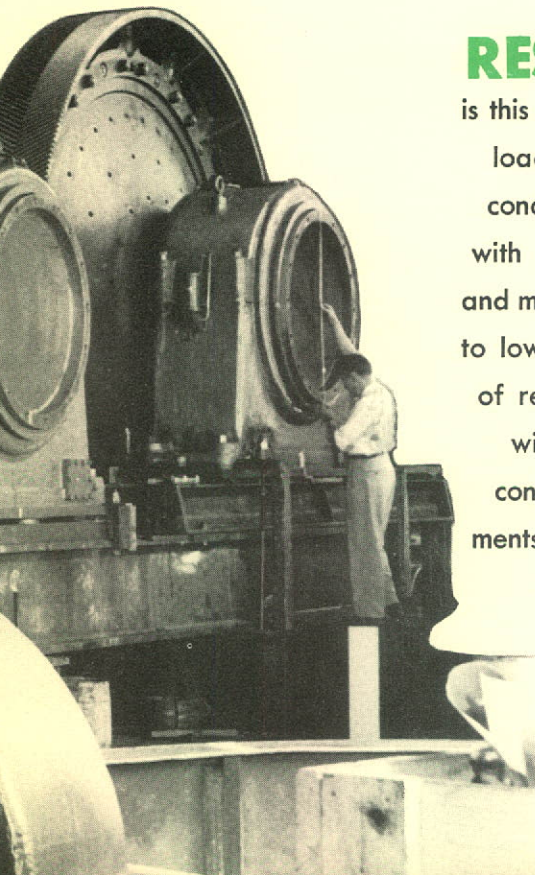
## HEADS . . .

Cast in our own foundry from Meehanite, Dominion grinding mill heads have integral trunnions. Bearing surfaces and fits with shells and gears are machined at one set-up for accurate alignment. Journals are painstakingly polished to give a high quality bearing surface.



## RESEARCH . . .

Typical of Dominion's continuous research is this strain gauge test being conducted on the head of a large rod mill, loaded in our shops to simulate field conditions. Tests such as this coupled with constant investigation of design and manufacturing techniques, have led to low cost operation with a minimum of replacements. By working closely with operators, our engineers are constantly on the alert for improvements in design which facilitate production and keep pace with the requirements of the industry.

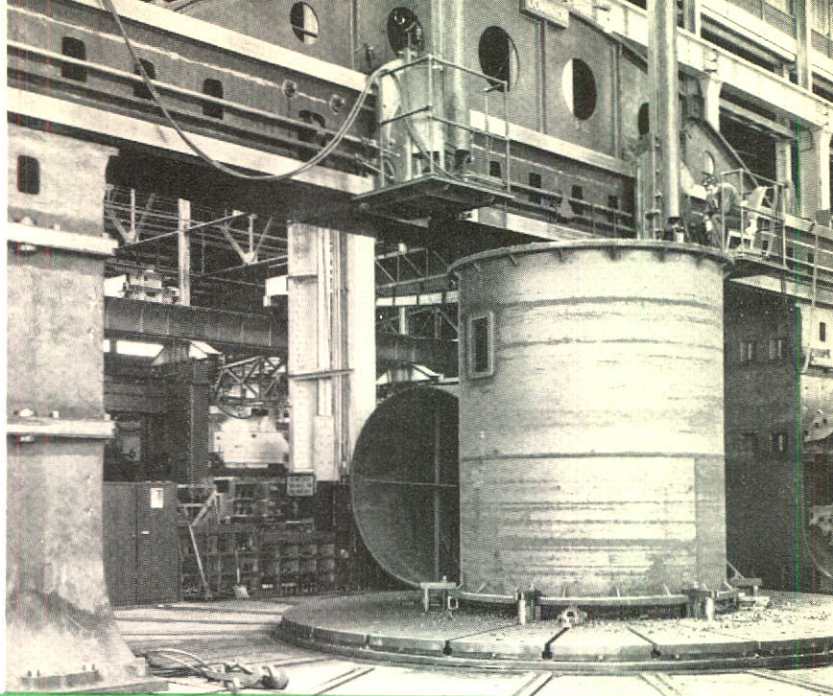




## SHELLS

Dominion mill shells are rolled from best quality mild steel plate of ample thickness to control deflection.

All welds are full depth and are produced by the automatic submerged arc welding process.



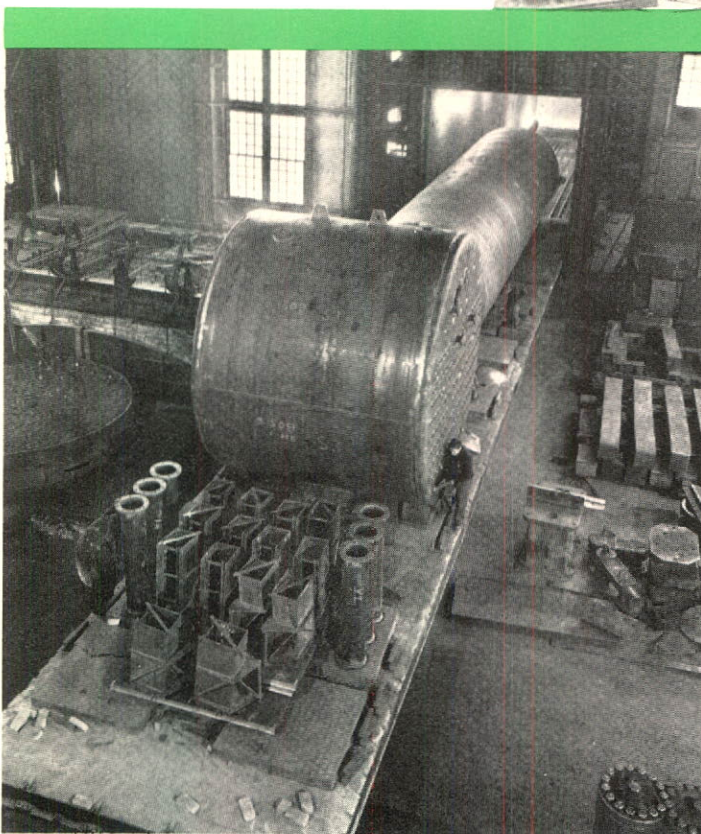
All Dominion shells, regardless of size or shape are stress relieved, before machining, to ensure permanent alignment.

Liner bolt holes are drilled after fabrication to guarantee exact location and circular shape.

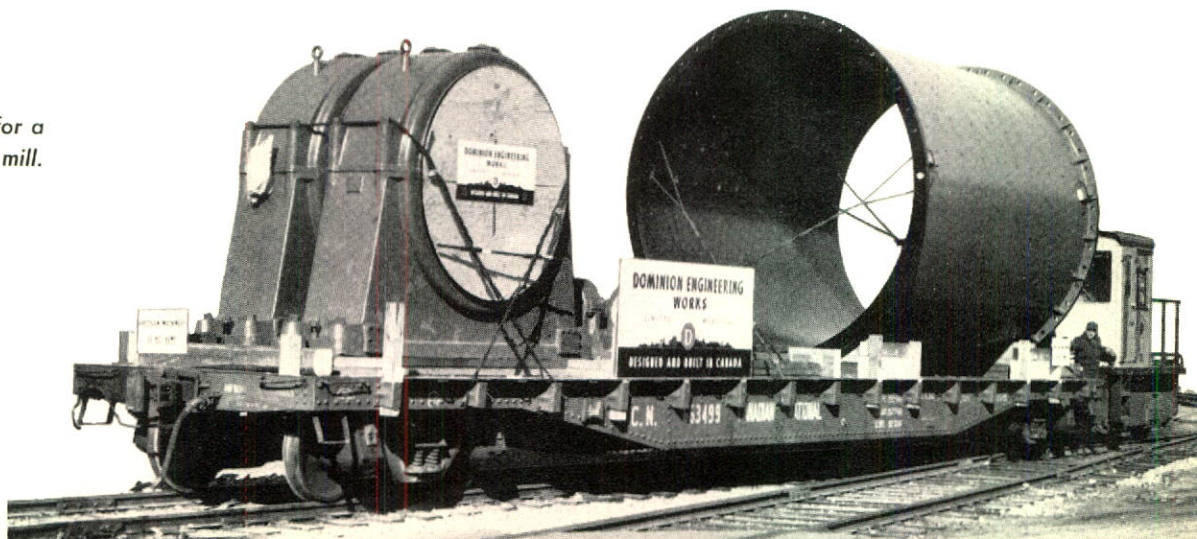
Machined fits for the heads are parallel and concentric within narrow limits.

Shown above is a large mill shell being machined on a 42'/52' boring mill.

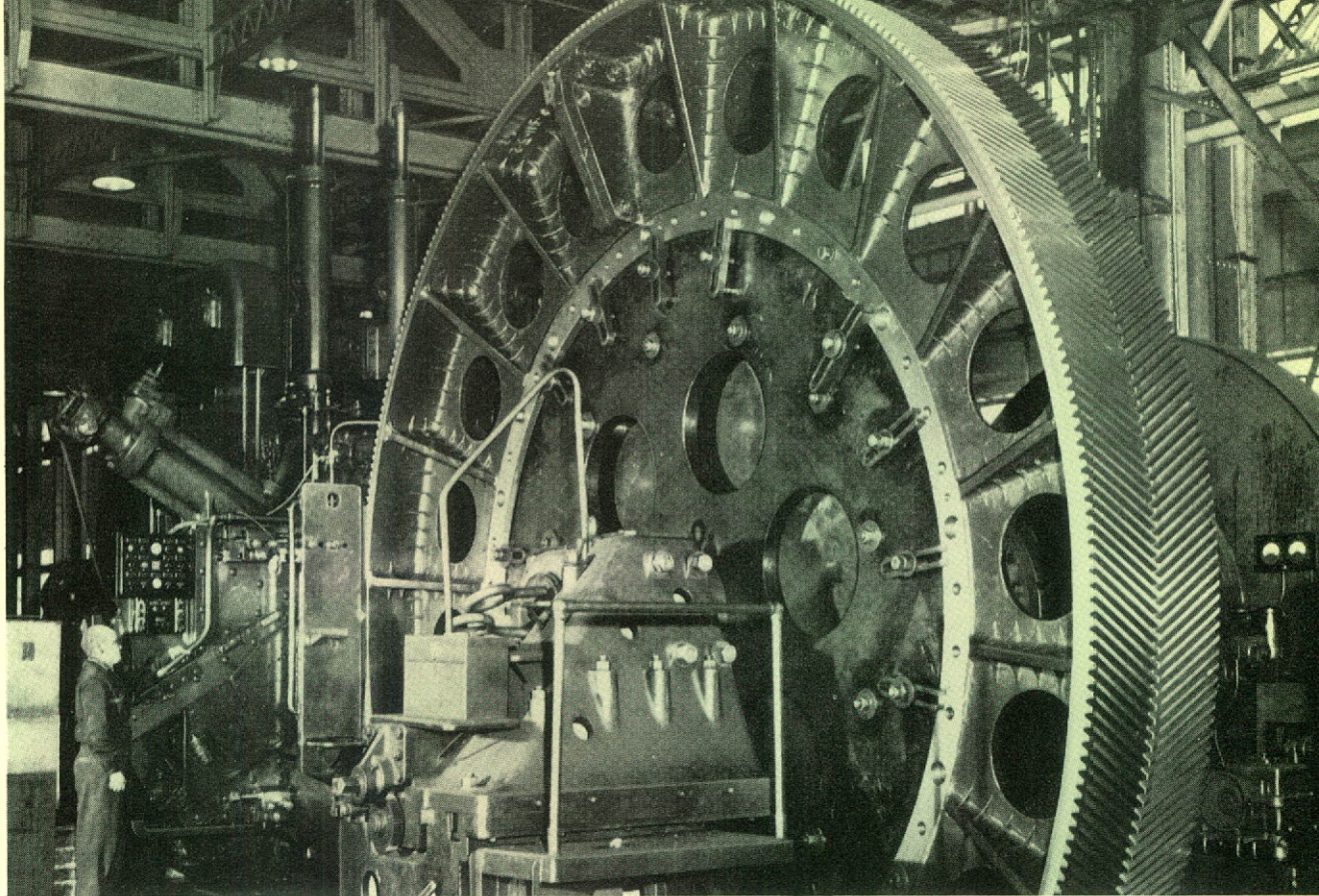
Shown at left is a typical batch of welded machine parts entering the stress relieving furnace.



*Bearing housings and shell for a  
12' 6" x 16' ball mill.*





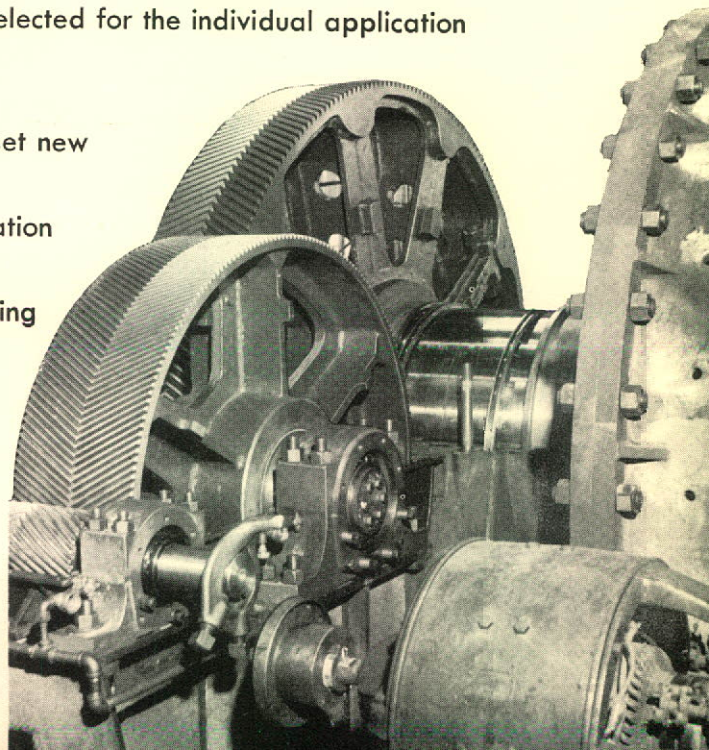


## GEARS tailored to the mill

Dominion's background as a foremost designer and manufacturer of gears and gear reducers of all kinds makes possible integrated gear-mill design.

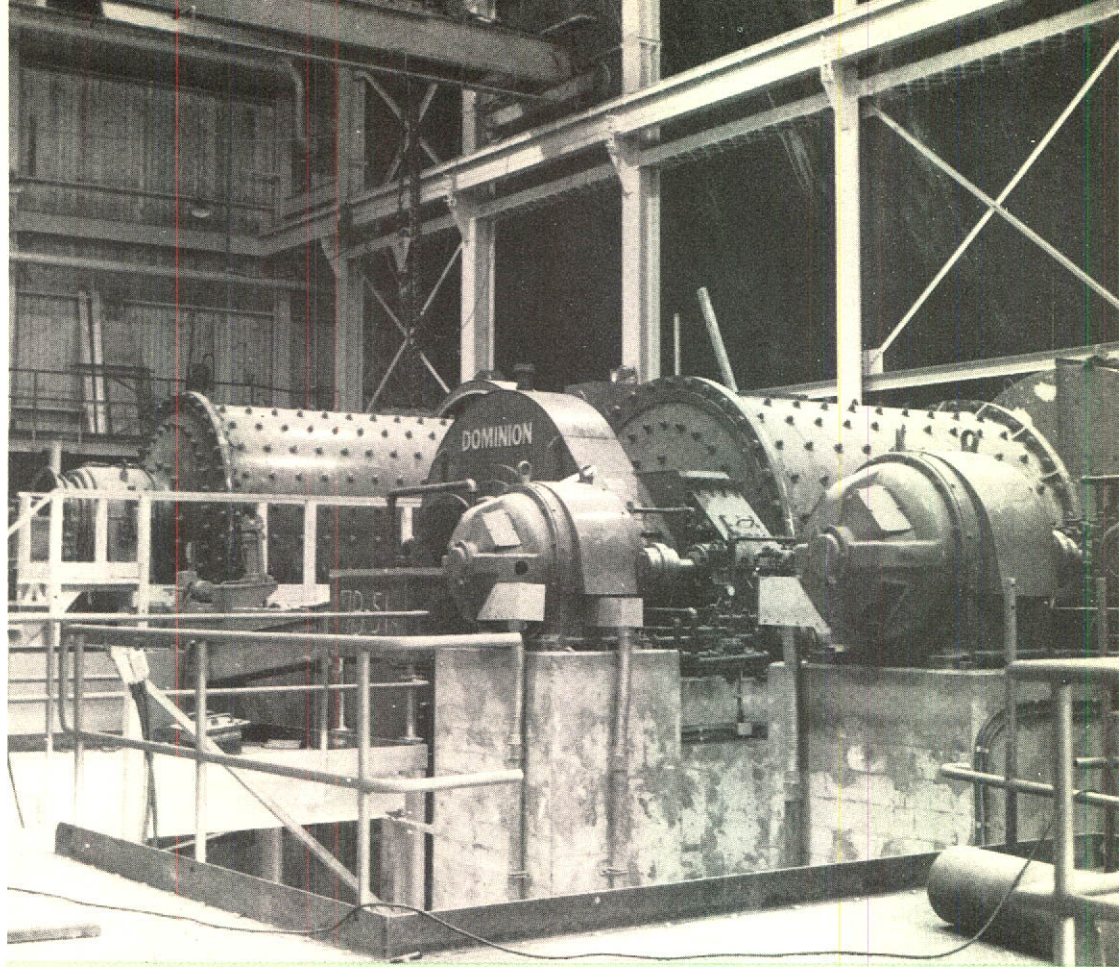
Dominion ring gear drive mills with two piece, cast steel herringbone gears give dependable, low cost, smooth operation. Cut on our own hydraulically operated Dominion gear cutter, each gear or pinion is selected for the individual application in accordance with A.G.M.A. specifications.

The Dominion enclosed drive grinding mill has set new standards of efficiency. Complete enclosure provides maximum protection against contamination and damage, and permits the use of filtered oil pumped to all gears and bearings. Mounting of anti-friction pinion shaft bearings outside the gear case and providing inspection doors and removable gear case covers facilitate examination and minimize down time.



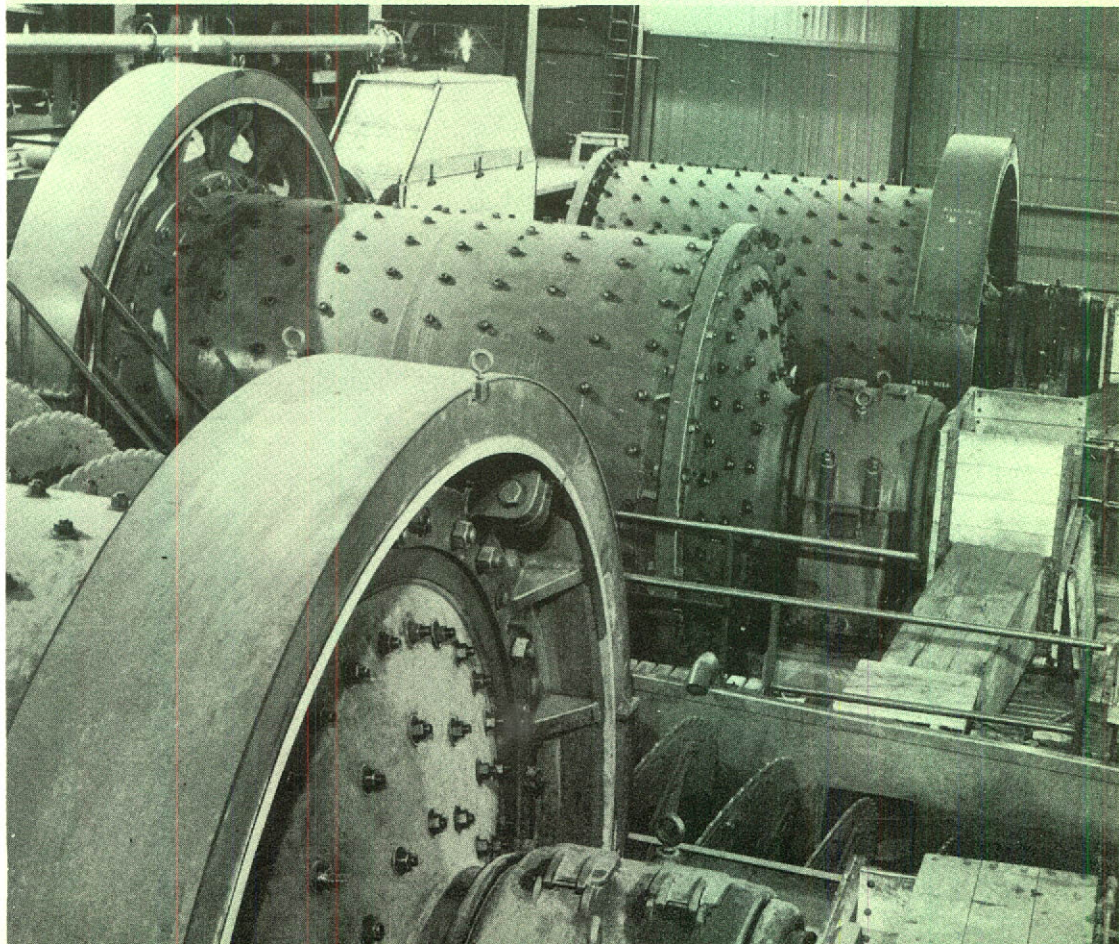


One of four 8' x 12' ring gear drive rod mills and one of eight 9' x 10' enclosed drive ball mills at Algom Uranium Mines Ltd.

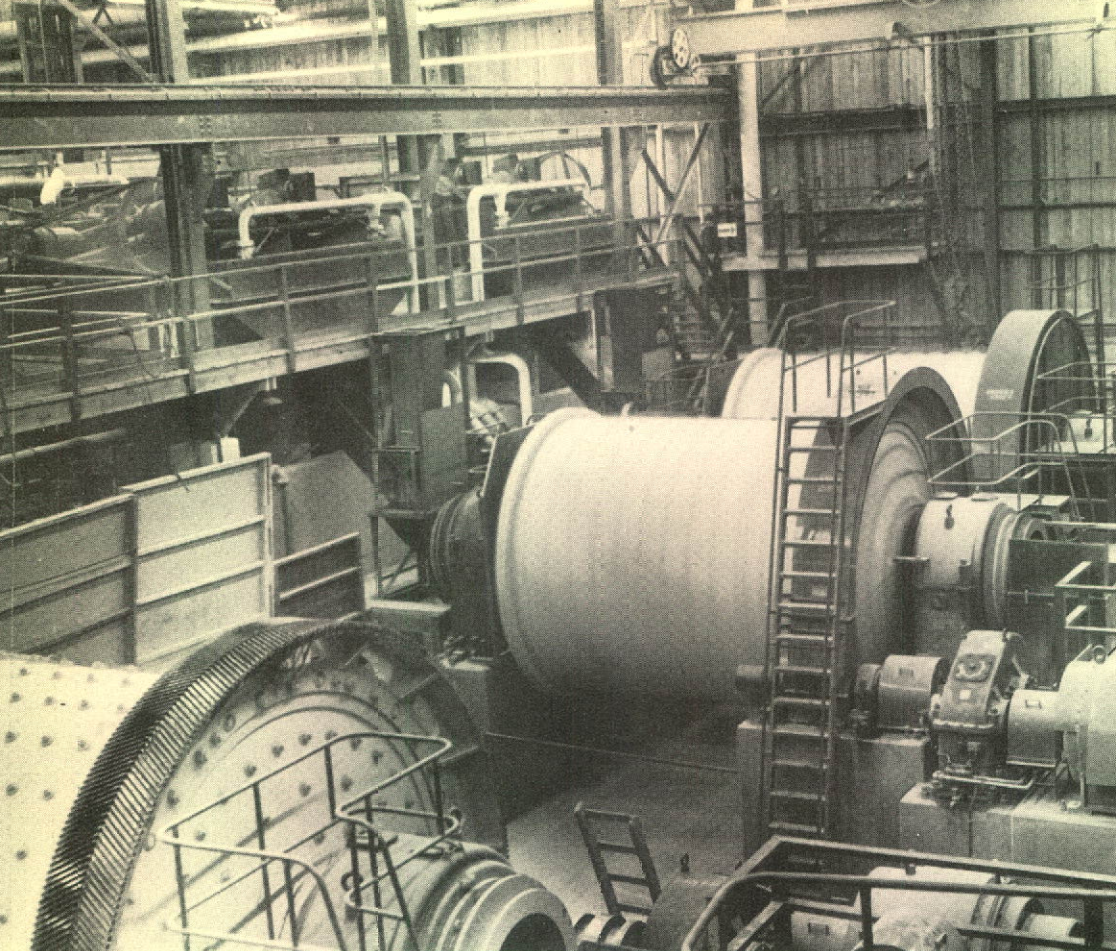


## WIDE ACCEPTANCE Y

One 9'6" x 12' rod mill flanked by two 9'6" x 12' ball mills at Falconbridge Nickel Mines Ltd. Hardy Mine.



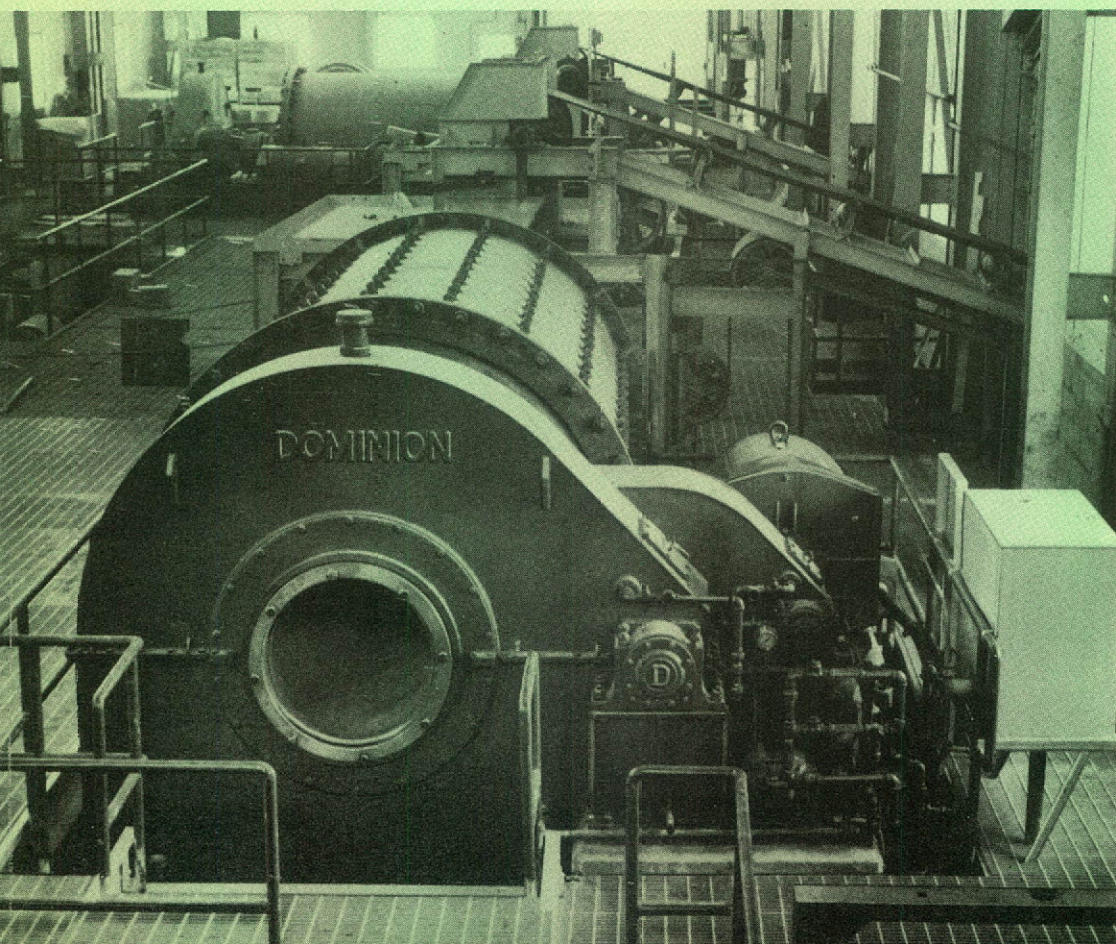




*Three of four 10'6" x 13' ball mills at Consolidated Dennison Mines Ltd.*

*Not shown:  
Two 10'6" x 14' rod mills.*

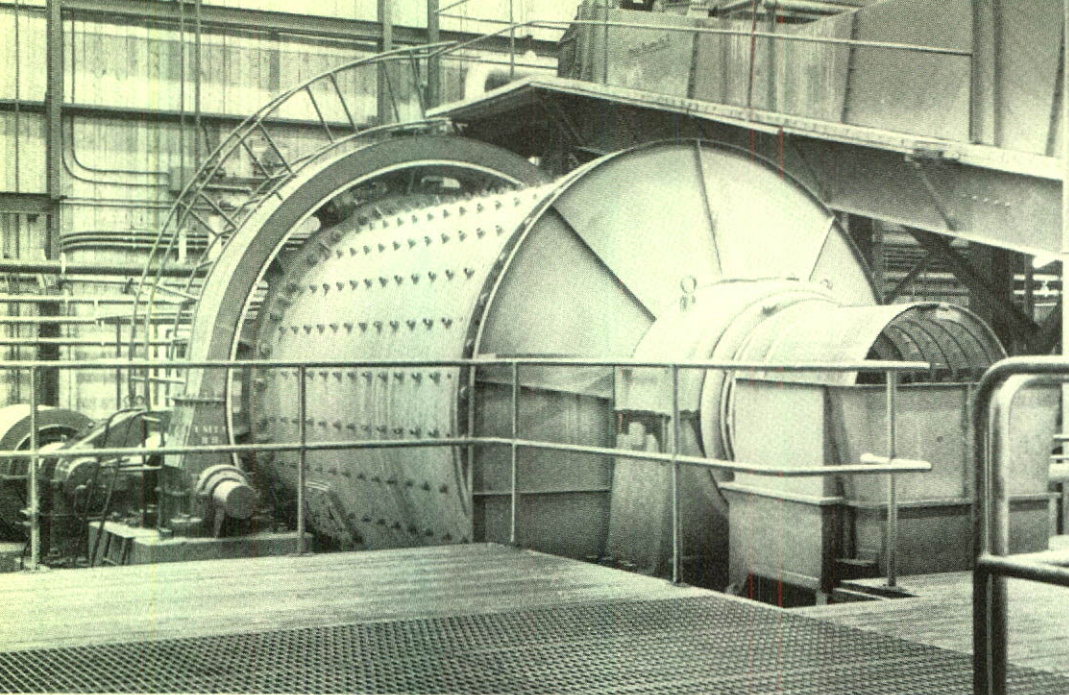
## OUR BEST ASSURANCE



*Foreground—One of two 8' x 12' enclosed drive rod mills.*

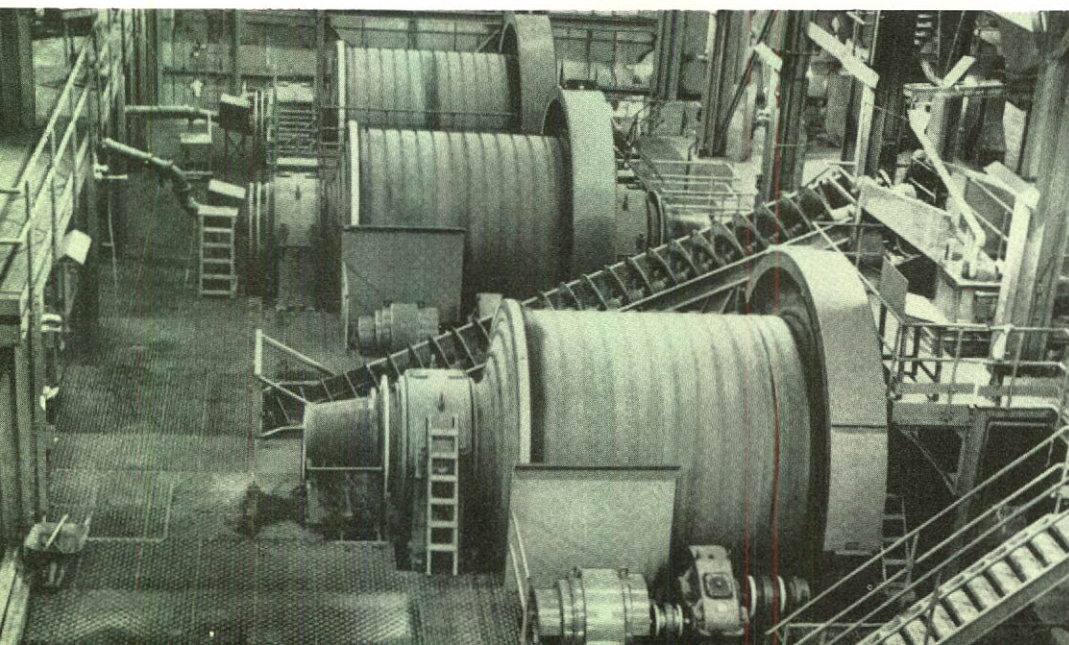
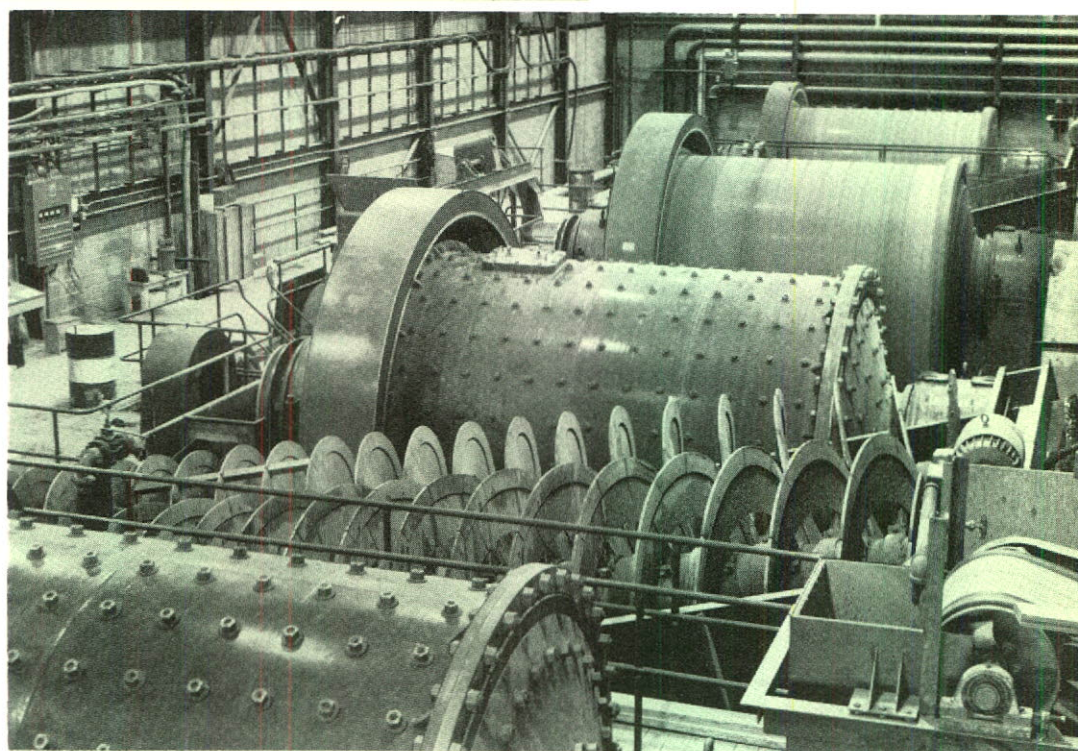
*Background—One of two 10'6" x 10' enclosed drive ball mills at Marmaton Mining Co. Ltd.*





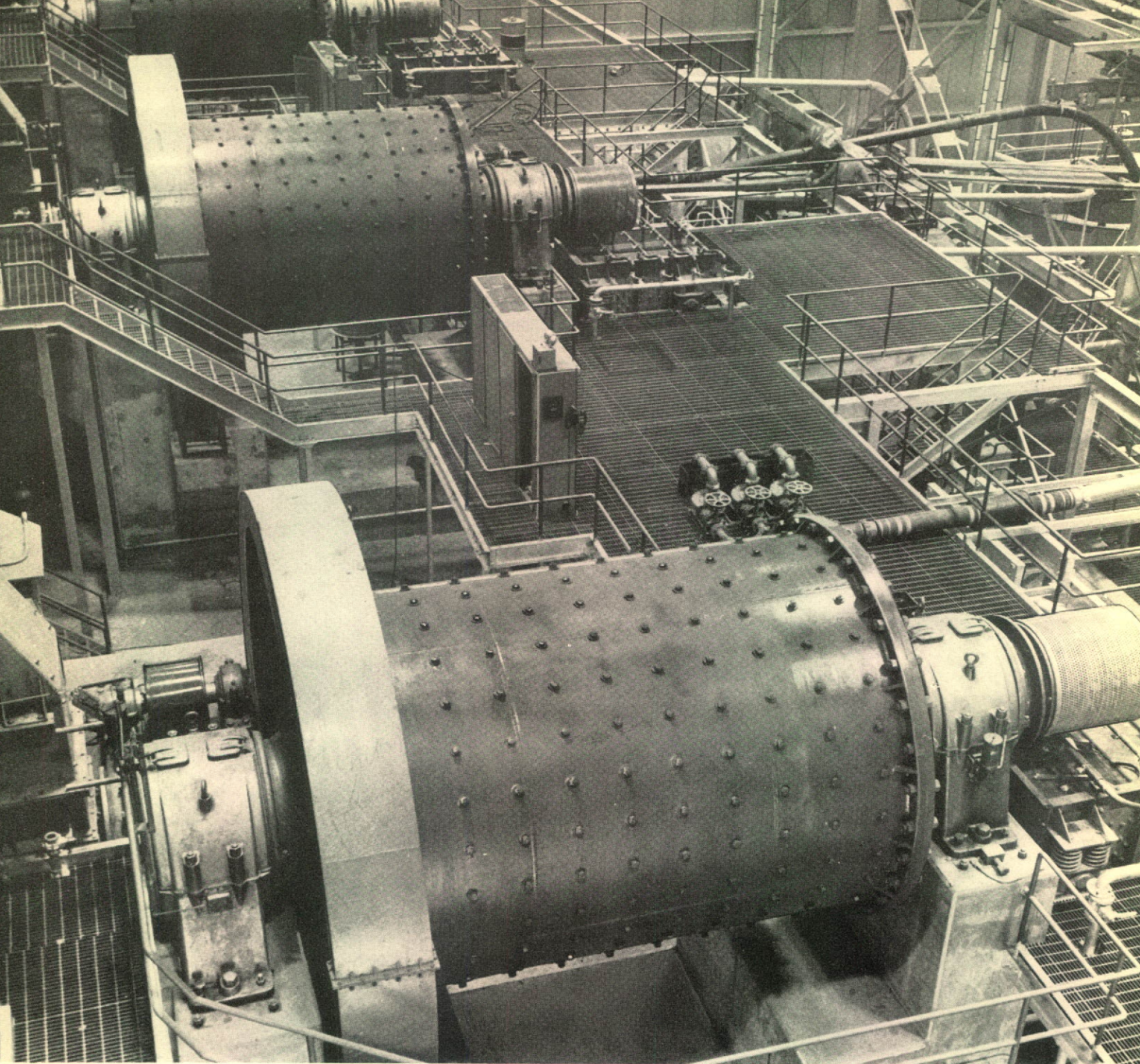
10'6" x 14' rod mill at Can Met Exploration Ltd.

Two 8' x 12' rod mills and two 10½' x 13' ball mills at Milliken Lake Uranium Mines Ltd.



One 12' x 14' rod mill and two 12' x 14' ball mills at Geco Mines Ltd.

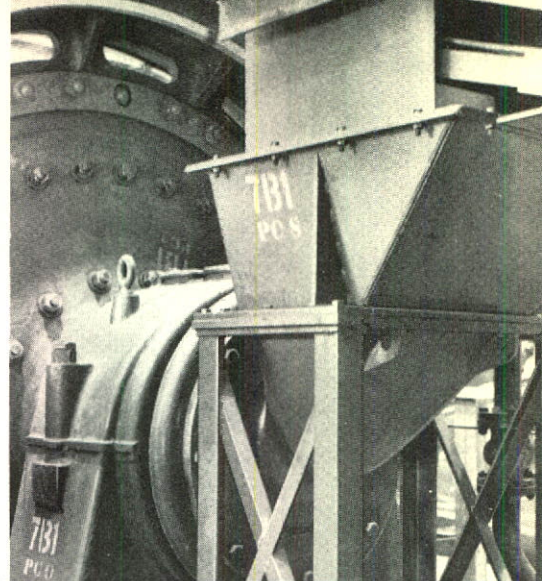
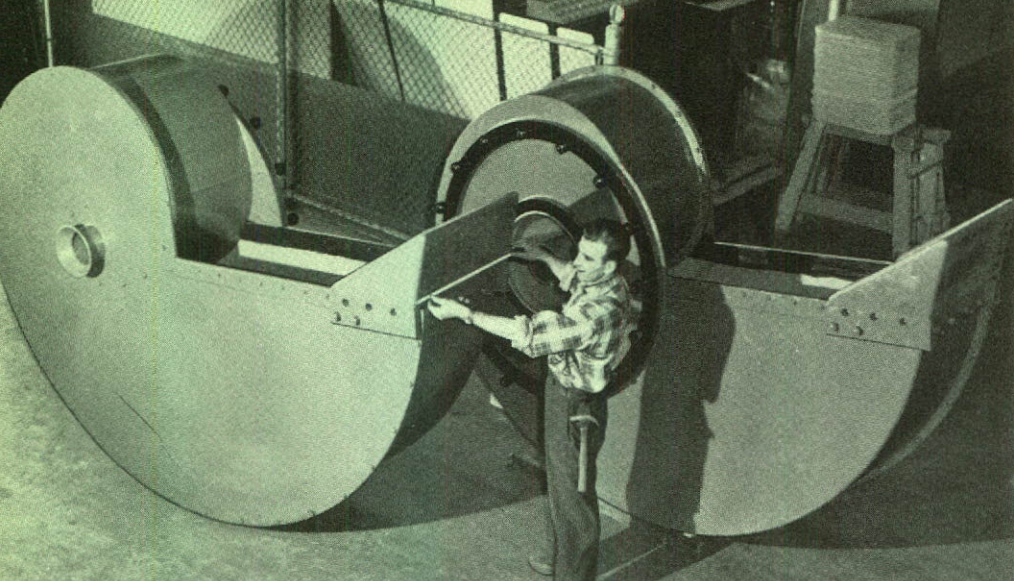




*Three 9'6" x 12' rod mills installed at Lowphos Ore Limited, Moose Mountain Plant, Capreol, Ontario.  
Not shown: Three 12' x 14' ball mills.*

## THE WORKHORSE OF THE CONCENTRATOR





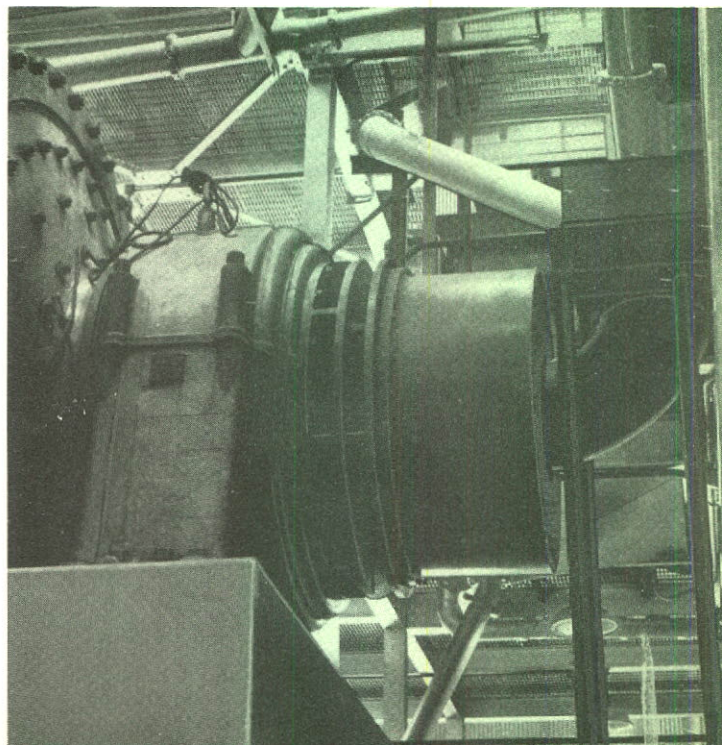
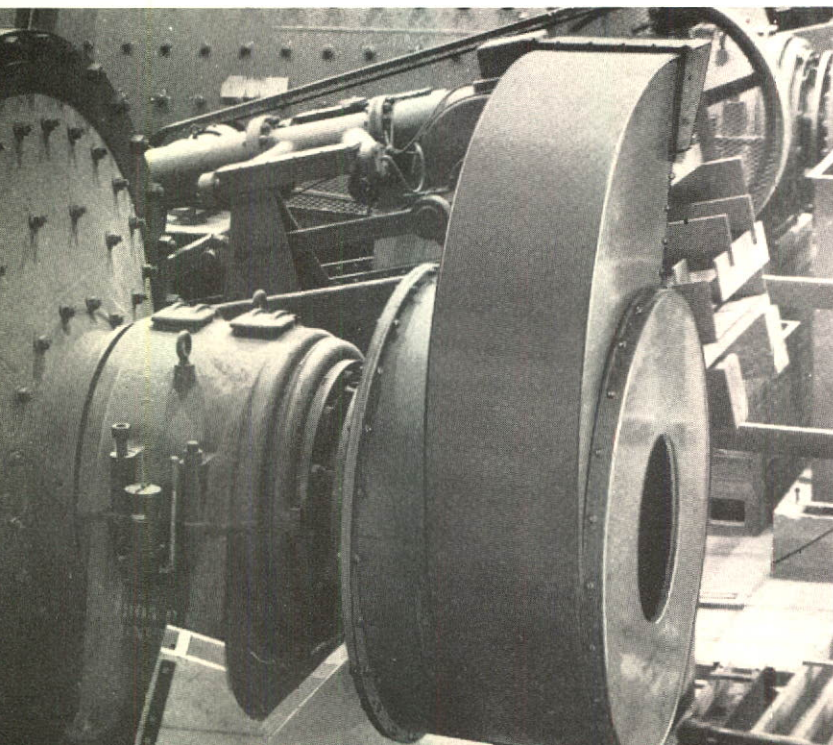
## FEEDERS (All Types)

Where all the feed to the mill is from classified returns, the Dominion Linatex lined fabricated steel, scoop feeder provides the necessary elevating action with low maintenance cost. (Upper Left)

Designed to overcome the problem of spill-back, common with spout feeders, the Dominion chute feeder provides a throat profiled to make maximum use of feed velocity. Ni-Hard lined hopper with floor mounting, for feed from any direction simplifies plant layout. (Upper Right)

Designed to handle initial feed and classifier returns, the Dominion combination drum and scoop type feeder combines the features of both. (Lower Left)

If preferred to the chute feeder a Dominion Linatex lined, fabricated steel drum feeder gives positive transfer of all types of feed. An easily replaceable hard iron central casting keeps downtime and replacement cost at a minimum. (Lower Right)





# TRUNNION BEARINGS

Pioneered by Dominion, our oil lubricated trunnion bearings have set new standards of efficiency and dependability. Power savings of 10% or more have been realized.

## SPHERICAL SEATS

Simplify erection and assure initial bearing alignment.

## BABBITTED CAST IRON SHELLS

Accurately machined, carefully fitted, give efficient, trouble free operation.

## OILING RINGS

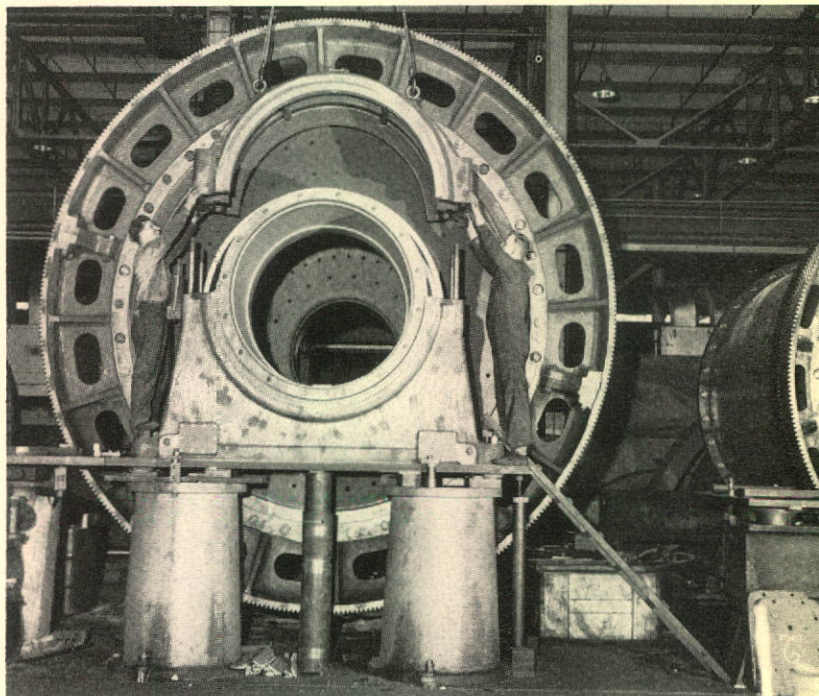
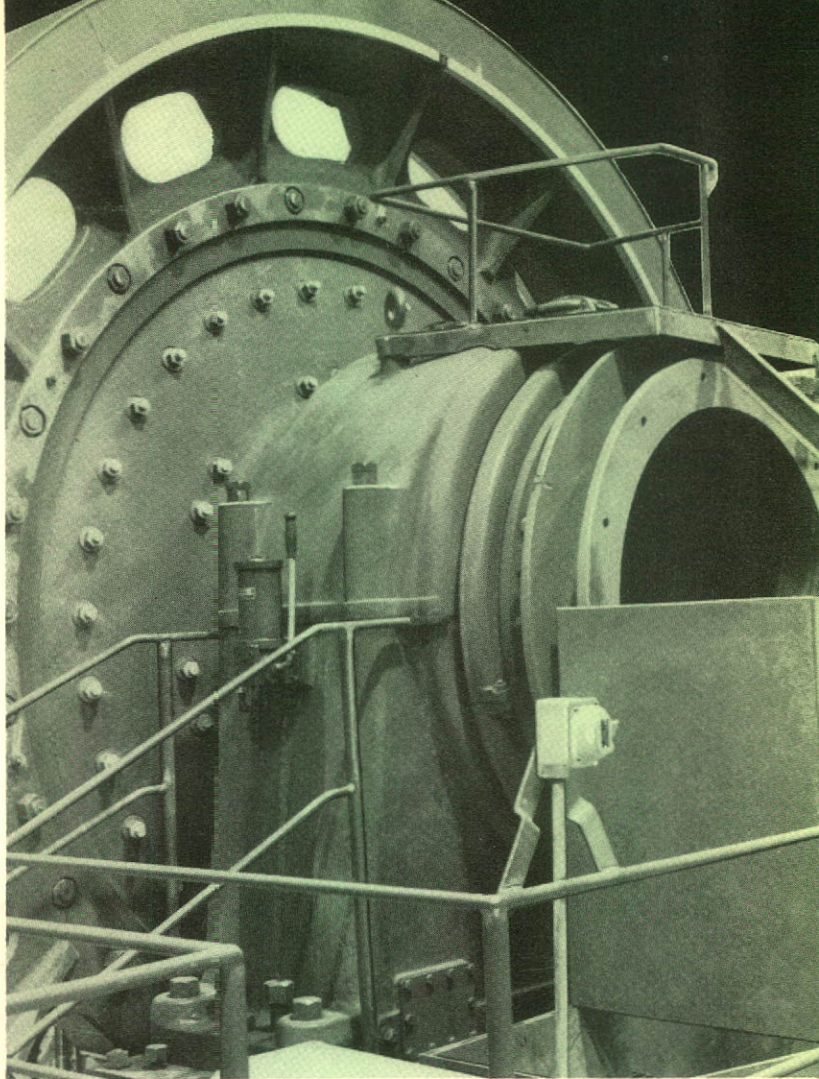
Give positive delivery of lubricant in the right amount in the right place. No pump to fail—no lines to leak.

## SEALS

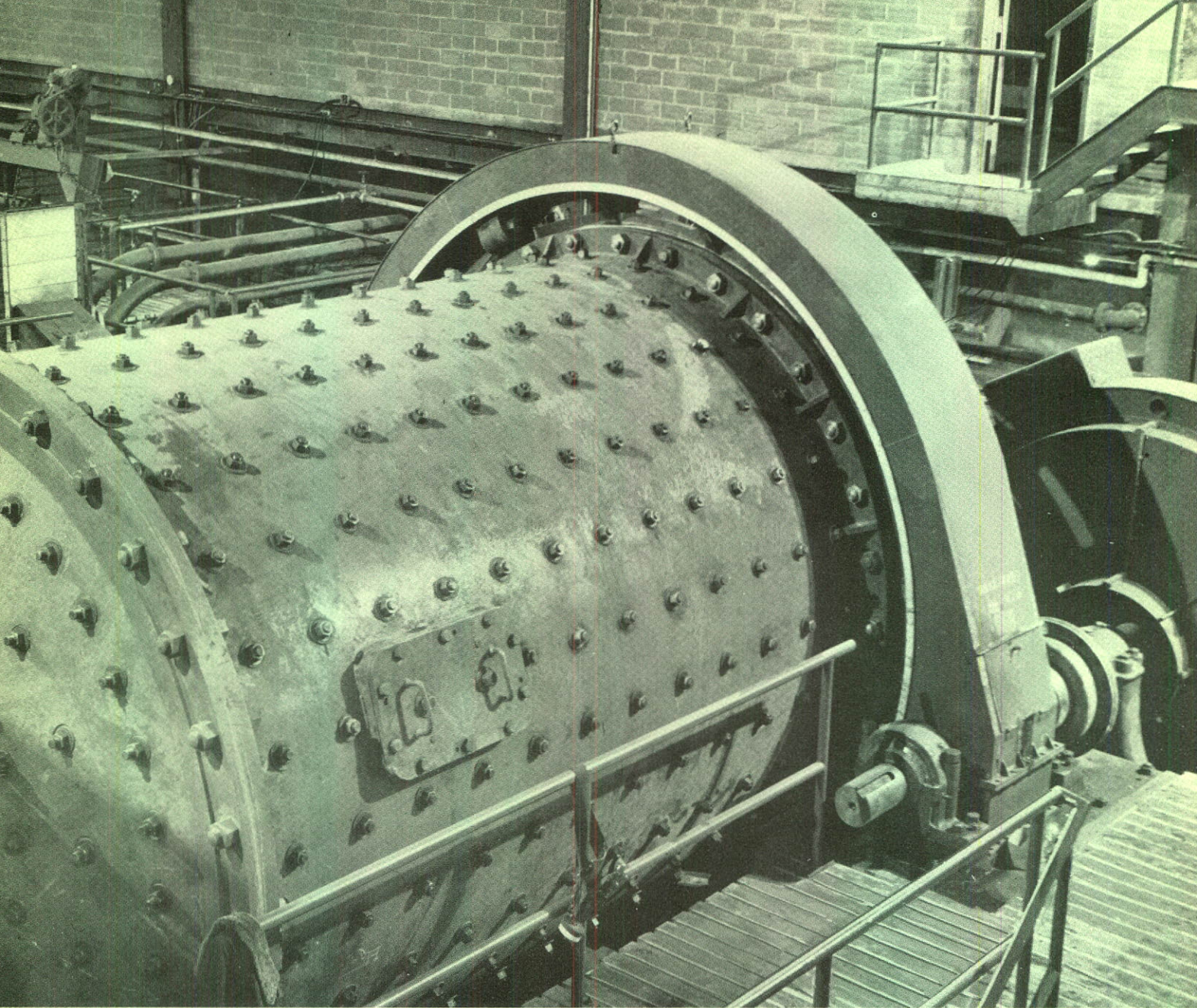
Labyrinth seals give maximum protection from dust and moisture. No wearing parts to replace.

## HAND OPERATED OIL PUMPS

One for each bearing, allow "floating" the mill at start-up to reduce power peaks and bearing wear.





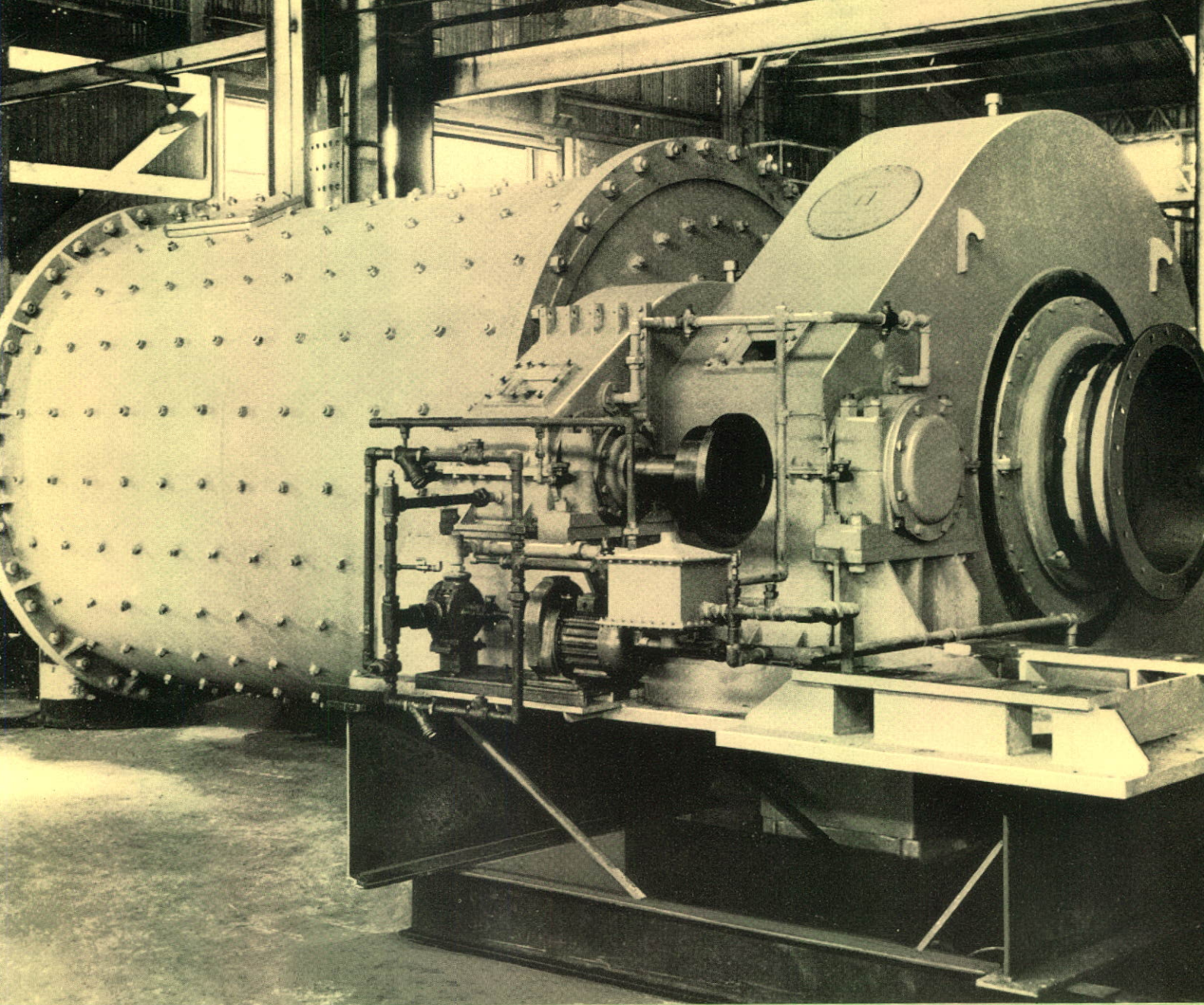


## GEAR GUARDS

Dominion triple channel grinding mill gear guards are designed for the particular problems involved in gear protection in this drive application.

- keep dirt out
- keep lubricant in
- no wearing parts
- strongly built for rigidity and protection
- designed for easy inspection





*One of Three Dominion 8 1/2' x 12' enclosed drive ball mills supplied to Mount Isa Mines Ltd., Queensland, Australia. These were manufactured under license by A. Goninan & Co. Ltd., Newcastle, N.S.W., Australia.*

## CRAFTSMANSHIP

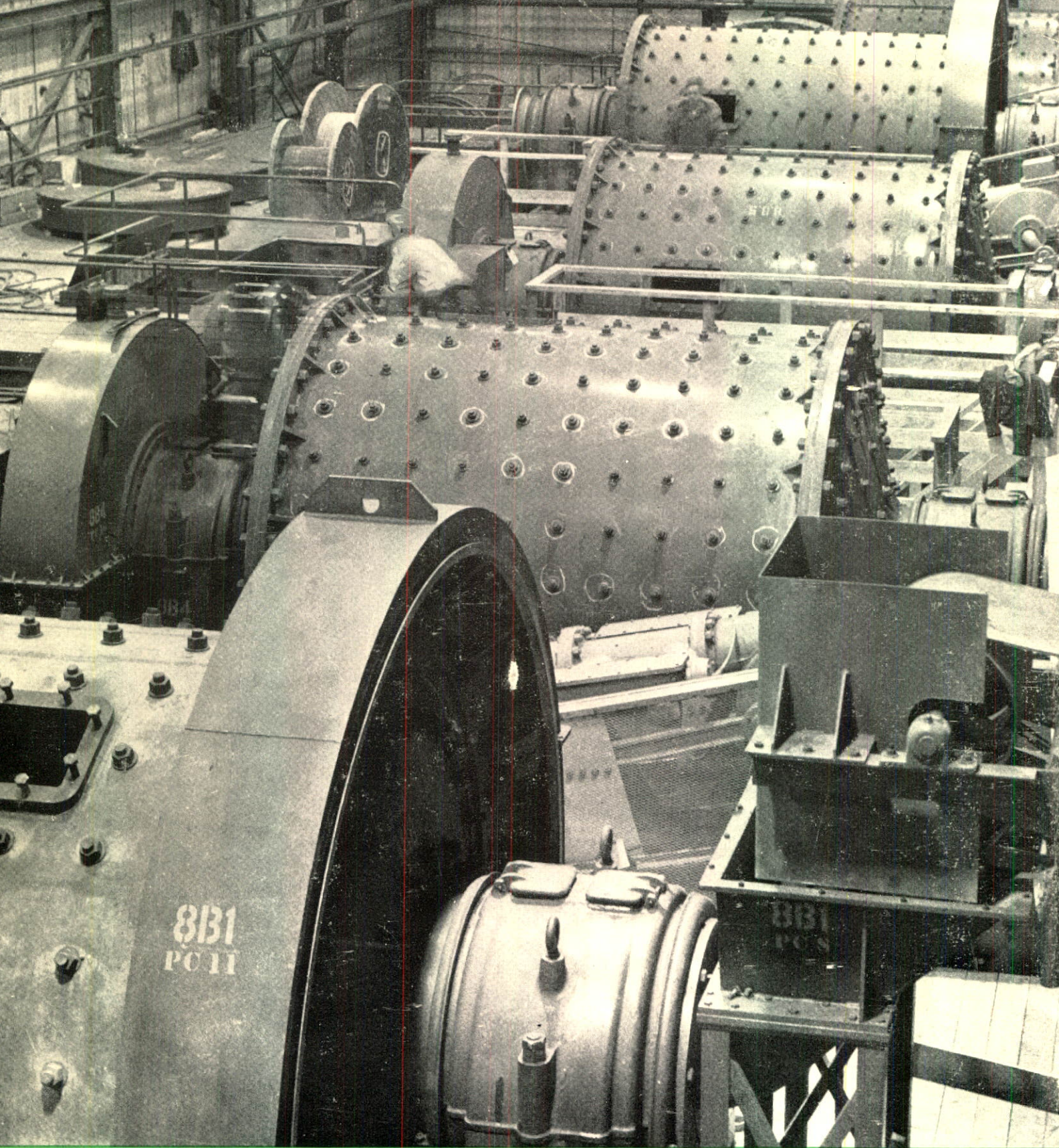
The features shown on the preceding pages are but a few of many.

The production of a Dominion Grinding Mill makes use of an efficient team of highly trained engineers and skilled artisans.

From the initial design to the final erection, from pattern making to casting, machining and gear cutting the entire operation is carried out in Dominion's modern plant at Lachine, Quebec.

One Source—One Responsibility





**Industrial Division**

**DOMINION ENGINEERING  
COMPANY LIMITED**

MONTREAL • TORONTO • VANCOUVER