

# Jobs in the Diamond Manufacturing Industry

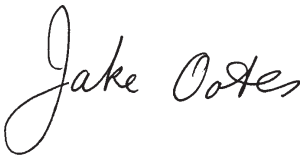




This booklet has been produced by the Departments of Education, Culture and Employment and Resources, Wildlife and Economic Development to assist northerners making career decisions. It is one in a series of booklets promoting education and career opportunities within various economic sectors in the Northwest Territories.

With the discovery of diamonds in the Northwest Territories, new jobs have been created in the mining industry. The production of diamonds has also created new types of businesses such as diamond sorting and polishing. Together diamond production and manufacturing are making the NWT a “diamond centre”. Government is committed to working with industry to provide training and to ensure that northerners can take advantage of this new and growing industry.

This information booklet can be a valuable resource for exploring and researching your career options. We encourage you to consider a career in diamond manufacturing.



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## INTRODUCTION

The diamond is nature's hardest substance. It has been recognized as a precious stone throughout history. Diamonds are thought to be magical, fiery gems, admired with curiosity, awe and envy. There is a world demand for diamonds driven by fast growing jewellery markets.



The discovery of diamonds in the Northwest Territories is focusing attention on the North. With the Ekati Mine open for production and others on the way, the NWT can offer the world a unique, precious export. The NWT is now one of a small number of diamond producing regions in the world. Within the next ten years, the NWT could be supplying 10% of the world's diamonds.

Some of these diamonds will be sold on the open market in London and Antwerp, but more importantly, a portion of the diamonds will remain in the North. As well as jobs in the mines; sorting, valuation, cutting, polishing and jewellery making will provide new jobs for Northerners and make up what is called the secondary diamond industry or diamond manufacturing industry.

You are invited to consider a job in the diamond manufacturing industry and help start yourself on the road to a brilliant new career.



## **WHAT IS THE DIAMOND MANUFACTURING INDUSTRY?**

The diamond manufacturing industry includes all the steps that happen between the time rough diamonds are taken out of the ground and the time they are sold. The value of gem quality diamonds increases significantly when they are polished and made into jewellery. Rough diamonds that are not gem quality are also sold and made into industrial parts such as drill bits or surgical instruments. The high quality of diamonds found in the NWT makes them well suited for use in jewellery.

The value of a rough diamond may increase as much as two and a half times from the time it is taken from the ground to the time it is sold as jewellery. Value is added to diamonds when they are sorted; cut and polished; made into jewellery or industrial parts; and sold. Adding value to rough diamonds means that more people and businesses can benefit from diamond mining.



## Sorting and Valuation

Diamonds are sorted a number of times for different reasons. Diamonds are sorted into different categories of size, shape and quality. Valuation is the process used to determine how much the diamonds are worth for taxation purposes.

Diamonds are sorted by the mine to determine the value of the mine's production. Sorting for valuation is required by the Canadian government for tax and royalty purposes. The Canada Mining Regulations offer tax advantages for mining companies to establish sorting and valuation facilities in the NWT. The first diamond sorting and valuation facility opened in Yellowknife in early 1999.



People working in sorting and valuation include rough diamond sorters and rough diamond valuers.

## Marketing Rough Diamonds

Eighty per cent of the world's gem-quality diamonds are sold by diamond mines to the Central Selling Organization (CSO) in London, England. In turn, the CSO sells the diamonds to traders and manufacturers. About 20% of the world's gem-quality diamonds are sold by mines directly to diamond traders and manufacturers, including some businesses in the NWT. Direct sales is becoming a growing trend.

People who work in the marketing of diamonds include diamond traders, manufacturers and marketing experts who work for diamond mines.

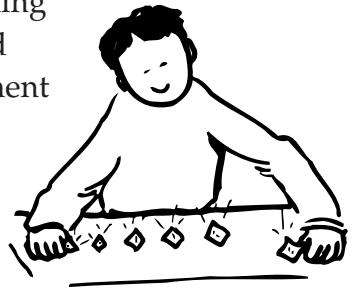


## Cutting and Polishing

A diamond is cut and polished to make it sparkle as much as possible. First the rough diamond is examined to identify any imperfections and to determine how the biggest or best shape can be achieved. The diamond is marked with india ink to show where the first division will be made. The sawyer cuts the diamond using a special saw. The next step is bruting, where two diamonds are rubbed together, either on a lathe-type machine or an automatic bruting machine, to create a girdle around the circumference. Finally, all of the facets are polished and finished. It is a long and exact process requiring patience and precision. Cutters and polishers must check their work continuously.

Cutting and polishing businesses may be small, two or three person businesses or large mechanized factories with many workers. Improved technology has reduced the amount of time and labour it takes for a diamond manufacturer to produce a polished diamond. In 1999, a Canadian diamond manufacturer established the first diamond cutting and polishing business in the NWT. Two additional facilities will open in 2000.

People who work in cutting and polishing include: markers, bruters, sawyers, and diamond polishers. With the development of new technologies, opportunities for computer programmers and laser operators are increasing.



## **Jewellery Making**

Diamond jewellery manufacturing in Canada is done by about 20 companies and most of these are located in Toronto, Montreal and Winnipeg. Some cutting and polishing businesses also incorporate jewellery making in their operations. Although diamond jewellery making is not well established in the NWT, some Northern jewelers and artisans do set diamonds in jewellery. This could increase with new diamond mines and more manufacturing taking place in the NWT.

## **WILL THERE BE JOBS IN DIAMOND MANUFACTURING?**

Diamond manufacturing is a new and growing industry in the Northwest Territories. The world demand for diamonds and the high quality of the stones found in the NWT means exploration and mining will continue. One mine is currently in operation and others will follow shortly. The Government is committed to making sure that some of the diamonds stay in the North for processing and manufacturing. As more rough stones come out of the ground there will be more jobs created in the diamond manufacturing industry.



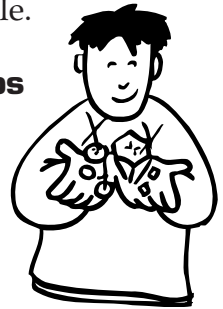
# WHAT JOBS WILL THERE BE IN DIAMOND MANUFACTURING?

There will be many different kinds of jobs as the diamond manufacturing industry develops. Getting a job in this industry requires training, motivation, dedication and experience. The more training and experience you have, the higher the level of job you can get. Diamond manufacturing jobs are mainly technical and professional, but there are some entry level, administrative and skilled jobs that are less specialized. You must be “bondable” for most jobs in diamond manufacturing. This means that you are able to pass an RCMP security check. Because diamonds are so valuable, companies must take out insurance against accident, loss or theft by employees or other people.

## Entry Level and General Administrative Jobs

Most entry level jobs require that you have Grade 10 or high school graduation, basic math, good reading and writing skills. These jobs may require little or no previous experience.

Administrative jobs require you to have some familiarity with computerized systems and previous training or experience in office procedures. Examples of entry level and general administrative jobs are:



Job	Description
Boiler	Cleans rough diamonds in acid bath at end of manufacturing process.
Materials Clerk	Coordinates handling and shipping of inventory. Deals with the public.
Office Clerk	Keeps records and time sheets for the business.



## Technical and Skilled Jobs

Technical jobs require you have a Grade 10 or high school education, good communication skills and eyesight, and a basic knowledge of math, physics, and computers. Technical expertise is gained through experience in the industry. Occupational certification may be available for diamond polishing occupations such as a blocker or brillianteer.

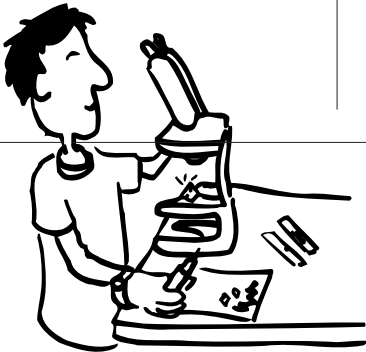
<b>Job</b>	<b>Description</b>
Sawyer	Cuts diamonds using a specialized saw.
Bruter	Rubs two diamonds together to create a diamond girdle (circumference of shape) of desired circumference, either by traditional method or using robotics.
Diamond Polisher	Forms shape of diamond by creating main facets on diamond.
Laser Operator	Operates laser machine used in automatic sawing, cleaving, and bruting activities.
Rough Diamond Sorter	Sorts rough diamonds by size, colour, shape, clarity and economic considerations.
Polished Diamond Grader	Grades polished diamonds by cut, clarity, colour, and carat.
Scaife/Polishing Wheel Maintainer	Maintains and prepares polishing wheel used in diamond processing.
Automatic Polishing Machine Operator	Operates automatic polishing machines (robotics).
Automatic Machine Setter	Sets diamonds in containers in preparation for automatic polishing.
Jewellery and Metal Worker	Designs and makes custom jewellery from metals and other materials including diamonds.



## Supervisory and Professional Jobs

Supervisors oversee people working in technical, skilled, administrative and entry level positions. Supervisors are experienced in the technical and management aspects of diamond manufacturing. They likely have worked in various jobs in the industry for 10 or more years. They are guided by industry standards, have technical or professional training, and good supervisory skills. Professional jobs in the diamond industry require many years of experience. Professional training may be at a university degree or community college certificate program.

Job	Description
Marker/Planner	Studies and marks rough diamond to determine how diamond should be cut to get the best value. Considered the “architect” of the diamond.
Gemologist	Examines and grades diamonds and is a gem expert.
Government Valuator	Values rough diamonds for taxation or royalty purposes.
Supervisor/Foreman	Responsible for production, finished grade and security of diamonds; provides linkages between the various manufacturing stages.



## **OTHER OPPORTUNITIES RELATED TO DIAMOND MANUFACTURING**

The diamond manufacturing industry purchases or contracts for goods and services from other economic sectors. This can create new jobs in other businesses. The demand for goods and services in the diamond manufacturing industry is creating more jobs for Northerners, for example as:

- Couriers and Expeditors
- Janitors and Cleaners
- Accountants and Tax Advisors
- Trainers
- Financial Advisors and Bankers
- Security Workers
- Machinery and Equipment Retailers
- Brokers
- Machinery and Equipment Repairers
- Insurance Agents
- Office Administrators and Bookkeepers
- Jewellers



## **WORKING CONDITIONS**

Most jobs in the NWT's diamond manufacturing industry are located in Yellowknife. The work place is usually within a secure facility in a commercial area within the community. A few diamond sorters and valuers may be employed by mines and work at remote sites. Jobs in diamond jewellery-making may be located in your own home, a studio associated with a retail jewellery store or jewellery manufacturing facility.

People who work in the diamond manufacturing industry must have excellent eyesight and sense of colour, high levels of manual dexterity, concentration and motivation. Jobs in the industry may also require completion of a certification training program and regular participation in skills upgrading courses. Diamond polishers must be patient artisans, and must be comfortable sitting for long periods of time.

To be eligible for employment, you will likely be required to complete a security check for bonding purposes. You may also have to agree to security and safety procedures that the company has set down for the work place.

Work in the industry is available year round. Employees are likely to work a regular eight hour day, Monday through Friday. Wages and employment are competitive with other manufacturing businesses. There are many opportunities in the industry to advance and earn better wages when you gain experience and increase your skill competency.



## WHERE TO GET TRAINING

Government and industry recognize that a properly trained work force is key to developing and maintaining the diamond manufacturing industry in the Northwest Territories. There are many ways to get training for the jobs in the industry.

### **Aurora College**

Aurora College has a wide variety of administrative and management training courses which could help prepare you for office jobs in the diamond manufacturing industry. Courses such as bookkeeping and accounting, business administration, marketing, secretarial and office administration are available at most campuses and some community learning centres in the NWT. Industry specific courses offered by Aurora College include:



#### **Pre-employment Training Program – Diamond Production and Manufacturing Industry**

Aurora College offers a pre-employment program which enables graduates to get entry level jobs in the diamond production and manufacturing industry. The 16-week program is available at Yellowknife Campus and may also be available in your community. This program has been developed by the College and diamond manufacturing industry experts.

#### **Jewellery and Metal Work Program**

Aurora College offers a jewellery and metal work program. Students completing the one year program are certified jewellery makers while those completing two years receive a fine arts diploma.



## **Training on the Job**

Training on the job is a combination of learning while working and completing short classroom courses.

Northern manufacturers recognize that training employees on the job is one way to ensure a high quality diamond manufacturing industry.



Training on the job may lead to occupational certification. This means that you have been trained to meet industry performance standards and you have achieved a level of competency. Your ability to find employment within the industry and make more money is greatly improved when you are certified. Aurora College, government and industry are working together to provide occupational certification for diamond cutters and polishers.

## **Southern Colleges**

Southern Canadian colleges offer a variety of programs that provide the appropriate education and training required for jobs in the diamond manufacturing industry. Some of these programs include jewellery design and production, fine arts, gemology, bookkeeping and accounting, business administration, marketing, secretarial and office administration.



## University Programs

Professional jobs in the diamond manufacturing industry may require graduation from a recognized university program. These programs include geology, economics, commerce, business administration, marketing and computer science. Regional Career Centres have a wide selection of university calendars that may help you to choose a university and a program of study.

## Other Training Opportunities

There are several diamond cutting schools around the world. Courses in gemology, diamond sorting, and grading are offered by the Canadian Gemological Association, the Gemological Institute of America (GIA) and others. Some courses are available by correspondance.

In Yellowknife, SECURECheck offers a seven-day rough diamond sorting course in association with the International Gemological Institute (I.G.I) of Belgium. Successful participants receive the I.G.I Rough Diamond Diploma. Hoge Raad Voor Diamant (HRD) also delivers training in Yellowknife in partnership with Aurora College.



# HOW TO APPLY FOR A JOB IN THE DIAMOND MANUFACTURING INDUSTRY

If you are interested in a career in the diamond manufacturing industry you should talk to people who are working in the field to find out more information. Send your resume and a cover letter to personnel officers and directors of companies and businesses where you would like to work. Make sure you indicate which job or jobs you are interested in and why you think you are qualified for those jobs. Career Centres can help you prepare for your job search.

The following web sites post jobs available in various NWT communities:

North WorkinfoNet (NorthWIN) –

<http://www.workinfo.net.ca/northwin>

NWT Association of Municipalities –

<http://www.nwtam.com>

School of Community Government – <http://www.sofcg.org>



## CAREER PLANNING

It is important to plan your career. Career planning is an ongoing process throughout life. In this process you try to make the best decisions based on your skills and strengths; the training and education you have and want; and the opportunities available. By finding the fit between your interests, skills and values, and available jobs, you will have more control over your life. You will have more success doing the things you want to do.

For assistance with career planning and decision making, contact your local *Career Centre* or *Community Learning Centre*.



## FOR MORE INFORMATION

If you are interested in a job in the service sector, or in finding out about training courses and programs, there are many sources of information. Your regional Career Centre will be able to help you learn:

- where to find information;
- how to apply for jobs;
- how to write resumes;
- how to do a job search;
- how to do a job interview; and
- how to do your own career planning.



The NWT Career Centres are located at:

Fort Smith – Sweetgrass Building .....	(867) 872-7217
Hay River – Courthouse Building .....	(867) 874-9210
Fort Simpson – Deh Cho Hall .....	(867) 695-7335
Yellowknife – Joe Tobie Building .....	(867) 766-5100
Inuvik – 5 Berger Steet .....	(867) 777-7323
Norman Wells – Shihta Regional Council.....	(867) 587-2566



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