

## 1. Introduction

Ruby Track™ is a proprietary software that is developed by True North Gems Inc. It is designed to track rough ruby from the mine site through to the sorting phase of the operation. It will be used to track the rough as it is crushed, sorted and resorted and made into rough parcels for sale to the trade cutting houses.

Material that is cut and polished by True North Gems will then be placed into DiamondTrack software.

- The Ruby Track™ System is a data base for storing all information about corundum production from mining/processing through sales.
- The Ruby Track™ allows BMP/Greenland Government monitoring of production, inventory and sales in real time, at any time.
- Facilitates audit of TNG processes.

Ruby Track™ is a powerful security tool:

- It tracks the identity of personnel handling corundum at every stage.
- It is built to adapt biometric identification (fingerprints), making fraudulent data entry extremely difficult.
- It tracks the bar-coded security seals on packages, making tampering instantly identifiable.
- It tracks parcel weight at all production stages, facilitating tampering protocol.
- Weigh scales and scanners are connected directly to database, eliminating potential for error and fraud.

The BMP will be able to create reports showing:

- Inventory at all stages of production
- Historic prices by date, by sorting matrix category, etc.
- Virtually anything else regarding TNG Production

### Step 1: Identify Secured Trackable Container of Concentrate at Aappaluttoq

- Concentrate produced at minesite is entered into containers and sealed.
- Container identification, security seal identification (industry standard security tags are used) and container weight are stored, together with other information such as:
  - Special handling instructions
  - Identification of personnel, date
- Containers are stored in a secure area and shipped to Nuuk facility at irregular intervals.

### Step 2: Open Containers and Divide Concentrate for HF Cleaning

- When container of concentrate is opened in Nuuk, the container ID and security tag ID are scanned and weight verified. Any discrepancy will be flagged for security check.
- Concentrate is loaded into HF cleaning containers, closed and sealed.
- Cleaning container identification, security seal identification and weight are stored, together with a record of the container from which the concentrate came (the parent container).

### Step 3: Receive HF Cleaned Concentrate and Prepare for Sorting

- When HF cleaned concentrate is received back from the cleaning facility, the cleaning container ID and security tag ID are scanned and containers weighed. Any discrepancy will be flagged for security check.
- Concentrate is re-combined into containers, closed and sealed.
- Again, container identification, security seal identification and
- Container weight are stored.
- The container then waits its turn for sorting

### Step 4: Creating Parcels at the Sorting House

- In the sorting house, a container of cleaned concentrate is sorted according to the master sets and the sorting matrix.
- Appropriately sized amounts of sorted corundum are divided into parcels.

### Step 5: Placing Sorted Corundum into Secure Parcels

- Each parcel is sealed into an appropriate container or envelope. For each parcel, container identification, security seal identification, weight, sorting matrix category and other information are stored, together with a record of the container from which the parcel came (the parent container).
- The parent container identification can always be used to track the corundum back to the mining/processing stage.

### Step 6: Entering Sales Information

- When a parcel of rough is sold, the sales price for the parcel is entered into the database.
- Sales information will then be utilized to set the price matrix and will be available to the BMP to monitor how rough prices are changing over time for each sorting matrix category.
- If desirable, rough purchasers can be given a certificate stating the date that the parcel was mined/processed in Greenland, and certifying that the corundum is of Greenlandic origin and unaltered.

## **2. Other Security Features**

- URL security certificates are utilized to encrypt data being transmitted between the server and PC browser so no one can intercept the content.
- Browser session ID prevents the copying of browser/program code and data for use at a later time with changes to hack the system.
- Users have limited access based on permission assignments: for example a specific user can only access mine site screens and not those used for sales or inventory processes.
- A witness login is required for specific steps involved in high value stages.
- Fingerprint scanning to verify user authentication.
- Automated entry of data items to avoid data errors via scales, scanners and menu selections

### **3. Conclusions**

- Ruby Track™ is the basis for several critical systems
  - Security
  - Inventory
  - Certification
  - BMP monitoring and audit
- Ruby Track™ is adaptable to future growth in operations and reporting requirements
- Combined with the Diamond Track™ System TNG ensures that all measures as described above applies for all rubies and pink sapphires no matter if we are talking about the rough stones or the polished gemstones