

Fort À La Corne Project - Rio Tinto Project Evaluation: Achievements And Confirmations

27.05.2024 | [CNW](#)

SASKATOON, May 27, 2024 - [Star Diamond Corp.](#) ("[Star Diamond](#)") is pleased to provide a review of the work completed by Rio Tinto Exploration Canada Inc. ("RTEC") on the Fort à la Corne Project ("FaC Project"). From June 2017 until June 2022, RTEC pursued extensive exploration and evaluation analysis on two fronts at the FaC Project:

- The successful completion and calibration of a trench cutter bulk sampling and macrodiamond recovery program on Star Kimberlite, with a view to expand this program to the Orion South Kimberlite; and
- A separate team of RTEC geologists conducted the Orbit exploration program, with the aim of prioritizing the diamond prospectivity of all the other kimberlites that make up the FaC Project.

RTEC also conducted detailed mining studies for the future development of diamond mines on the Star, Orion South and Orion North Kimberlites. Many of the conclusions of these mining studies confirm work previously completed by [Star Diamond](#).

Highlights of RTEC's studies suggest:

- The continuous and sequential mining of diamonds from Orion South, Star and Orion North over a period of seventy years;
- The ability to maintain stable pit slopes in the Fort à la Corne Kimberlites through the use of wall buttressing and dewatering;
- Analysis produced by RTEC estimates that, based on the currently available size frequency distribution ("SFD") for the EJV kimberlite within the Star Kimberlite, a 222,000 tonne sample of the EJV is likely to yield 101 Specials (+10.8 carats) and one Exceptional diamond (+100 carats); and
- RTEC confirmed that the TC EJV diamond parcel contained a significant proportion of Type IIa diamonds (29% Type IIa +9 DTC).

Star Trench Cutter Bulk Sampling and Diamond Recovery

RTEC contracted Bauer Maschinen GmbH ("Bauer") to adapt a Bauer BC 50 Cutter to sample kimberlite at depths of up to 250 meters below surface. The trench cutter ("TC") has a rectangular profile of 3.250 metres by 1.575 metres (3.200 by 1.525 metres drill tool plus 25 millimetres all round overbreak). The trenches were excavated using the custom Bauer BC 50 Cutter mounted on a Bauer MC 128 Duty-cycle Crane. Kimberlite excavated by the cutter bit was pumped to the surface in a slurry, and kimberlite fragments between +1.0 and 80.0mm were recovered from the slurry by the Kimberlite Separation Unit. These kimberlite fragments were collected in cubic metre bulk bags and kept in an on-site storage area by RTEC until such time that they could be processed through the newly constructed Consulmet Bulk Sampling Plant ("BSP"). The BSP included a modern diamond recovery flowsheet with a TOMRA XRT sorter to recover diamonds between 6.0 and 25.0mm and a narrow range Dense Media Separator ("DMS") to recover the small diamonds between 1.0 and 6.0mm. The BSP also included High Pressure Grinding Rolls ("HPGR") to ensure liberation of +1.0mm diamonds from the +6.0-25.0mm waste from the XRT sorter.

RTEC successfully drilled ten TC holes in the Star Kimberlite and produced the total Early Joli Fou ("EJV") diamond parcel listed in the table below in comparison with EJV parcels produced from the previous Star Kimberlite Underground and Large Diameter Drill ("LDD") programs:

Diamond Parcels for Star Kimberlite EJV: TC, LDD and Underground

| Star EJF Kimberlite | Kimberlite Tonnes | Carats (+1 DTC) | Grade (+1 DTC) | Stones (+1 DTC) | Stones per tonne (+1 DTC) |
|------------------------|----------------------|--------------------|-------------------|--------------------|------------------------------|
| Trench Cutter | 8,964.71 | 1,428.89 | 15.94 | 24,900 | 2.78 |
| LDD Inner | 8,440.57 | 979.39 | 11.60 | 10,238 | 1.21 |
| Underground | 43,372.18 | 7,425.42 | 17.12 | 56,007 | 1.29 |

The TC EJF diamond parcel shows improved diamond grade over the LDD program and the TC grade is close to that for the Underground. The significant increase in stones per tonne for the TC diamond parcel is a function of the improved small diamond recovery by the modern flowsheet of the BSP. RTEC specifically designed this BSP for the effective liberation of small stones by the HPGR and their efficient recovery as a result of the narrow range (1.0-6.0mm) of the DMS. The small diamonds (+1DTC, +3DTC & +5DTC) of Star and Orion South are of a high quality and colour and, consequently, have significant value: US\$30 to US\$50 per carat and opposed to the usual US\$5 to US\$10 per carat. This efficient recovery of these small stones significantly improves the diamond SFD and will add to the overall diamond grade for Star and Orion South in the pending revised Mineral Resource estimate.

The TC EJF diamond parcel included 12 high value stones ranging from 4.08 carats valued at US\$5,100.00 to 16.96 carats valued at US\$110,240.00. RTEC confirmed that the TC EJF diamond parcel contained a significant proportion of Type IIa diamonds (29% Type IIa +9 DTC) and nine of the twelve most valuable stones are Type IIa. The details of the high value TC diamonds and their Type IIa statistics were reported in News Release May 31, 2022

RTEC have documented that only Karowe Diamond Mine in Botswana and Letseng Diamond Mine in Lesotho have similar coarse diamond SFD's and proportions of Type IIa diamonds as that of the Star and Orion South Kimberlites. The majority of +100 carat Exceptional diamonds mined globally are Type IIa and only two mines, namely Karowe and Letseng, produce +100 carat Exceptional diamonds on a monthly basis. Two other diamond mines, Cullinan in South Africa and Mothae in Lesotho, produce +100 carats Exceptional diamonds on an annual basis. This poorly understood sub-population of Type IIa diamonds represents only 2 percent of global production, yet dominates the largest, highest value diamonds in the world. These diamonds have a unique niche in the luxury goods market, which is usually not impacted by global uncertainty and certainly not by synthetics. Specials, greater than 10.8 carats, and Exceptionals, with values in excess of US\$10 million fill this attractive niche, and the Star and Orion South Kimberlites, like Karowe and Letseng, can provide these unique stones. Careful analysis produced by RTEC estimates that, based on the currently available SFD for the EJF kimberlite within the Star Kimberlite, a 222,000 tonne sample of the EJF is likely to yield 101 Specials (+10.8 carats) and one Exceptional diamond (+100 carats). Remembering that the PEA anticipates an ore processing rate of 45,000 tonnes of kimberlite per day and, consequently, Specials should be recovered on a daily basis and Exceptional diamonds on a weekly basis.

Orbit Exploration Program FalC Project

The results of the Orbit exploration program highlighted the kimberlites of Orion North (K120, K147, K148) as having significant potential to add to the future Mineral Resources of the FalC Project. See recent Orion North diamond valuation and Type IIa proportion News Release May 16, 2024. Orion Centre (K145), Taurus (K150, K118, K122) and K119 stand out in the field as having a number of the attributes sought but require further work to completely evaluate. The methodology and conclusions of this work have already been published as News Release April 13, 2022.

Mining Studies Completed by RTEC

RTEC developed a conceptual 74 year schedule for the sequential mining of Orion South, Star and Orion North, assuming that the run-of-mine ore capacity was limited to 14 million tonnes per annum, and they anticipated 70 continuous years of kimberlite ore processing and diamond production. [Star Diamond](#) believes this work is not necessarily compliant with NI 43-101.

Mining studies provided to [Star Diamond](#) by RTEC demonstrated the ability to maintain stable pit slopes in the Fort à la Corne Kimberlites. In addition, it was determined that the use of a mixed mining fleet improves efficiency and brings forward time to first ore, specifically: the use of Bucket Wheel Excavators ("BWE") in the overburden along with in-pit crush and convey systems ("IPCC") for delivery of ore to the processing plant, combined with conventional truck and shovel in the ore zones. The use of BWE's and IPCC has the potential to lower the operating costs, along with a small mixed trucking fleet for buttressing which also allows for operational flexibility. Correct scheduling allows longwall mining benches to be exploited within the confines of a circular pit. BWE or IPCC (or combination) for overburden stripping and mining methods are electrically powered and coupled with the accessible provincial grid power, present a greener mining opportunity. Ultra-class battery electric haul trucks are in development and can be integrated with BWE and IPCC.

RTEC mining studies confirmed that pit walls in the Lower Colorado Shale need to be minimized by leaving some kimberlite in the pit wall, as this has a positive effect on stabilizing the pit slope. Buttressing is considered to be a viable method of pit slope stabilization particularly within weak units in the pit walls, such as the Lower Colorado Shale and paleo-channel units contained within some overburden areas. Dewatering of the Mannville Group sediments is critical and has been proven as feasible and resolves stability in the base of the pits. Depressurization of the Colorado Shale is key to achieving an acceptable Factor of Safety ("FoS"). Based on the conceptual studies a FoS can be demonstrated at 1.3 for a pit with a pore pressure decrease of 50% above and beyond unloading release. Once excavation begins and wall stability can be assessed at a bench scale, performance-based design or observational mining has potential to further increase slope design angles. Observational mining and performance-based design have been proven to successfully increase slope angles against design in the Canadian oil sands.

George Read, Senior Vice President Corporate Development of [Star Diamond](#) said: "RTEC's successful development and execution of the TC sampling program and diamond recovery in the modern Consulmet BSP, generated a diamond parcel that can be integrated with diamond parcels from previous underground bulk sampling and LDD programs. The TC diamond parcel will improve the overall diamond grade and SFD used by [Star Diamond](#) to estimate the revised Mineral Resource. RTEC's Orbit exploration program has successfully highlighted the Orion North kimberlite as a huge volume kimberlite containing a unique diamond population with a coarse SFD and uniquely high proportion of Type IIa diamonds. RTEC's mining studies suggest the continuous mining of diamonds from the sequential mining of Orion South, Star and Orion North over a period of seventy years."

All technical information in this press release has been prepared under the supervision of George Read, Senior Vice President Corporate Development, a registered Professional Geoscientist in the Provinces of Saskatchewan and British Columbia and Mark Shimell, Vice President Exploration, a registered Professional Geoscientist in the Provinces of Saskatchewan and Alberta, who are [Star Diamond](#)'s "Qualified Persons" under the definition of NI 43-101.

About [Star Diamond](#) Corporation

[Star Diamond](#) is a Canadian-based corporation engaged in the acquisition, exploration and development of mineral properties. Shares of [Star Diamond](#) trade on the Toronto Stock Exchange under the trading symbol "DIAM". [Star Diamond](#)'s most significant asset is its 100% interest in the Fort à la Corne Project in central Saskatchewan. These kimberlites are located in close proximity to established infrastructure, including paved highways and the electrical power grid, which provide significant advantages for future mine development.

Website www.stardiamondcorp.com

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Contact

Phone: (306) 664-2202, Email: stardiamondcorp@stardiamondcorp.com, www.stardiamondcorp.com

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