

# Margaret Lake Diamonds Announces Arctic Star Sequoia Kimberlite Complex's Indicator Mineral Chemistry Points to Large Diamonds, Diagrass Project, NWT

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VANCOUVER, September 9, 2021 - [Margaret Lake Diamonds Inc.](#) ("MLD" or the "Company") (TSXV:DIA)(FKT:M85)(OTC PINK:DDIAF) is pleased to announce that Arctic Star has received diamond indicator mineral results and an interpretation of these from Chuck Fipke for the first hole into the Sequoia Kimberlite complex. The results demonstrate the existence of a number of indicator types that occur with diamonds and strongly suggest the presence of diamonds. Furthermore, indicator minerals of identical multi-element chemistry to those found as inclusions in large >50-carat diamonds worldwide are abundant. The indicators from different kimberlite types are starkly different. These observations are in agreement with the caustic diamond results, which show the different kimberlite types have different stone/kg counts and also hints at a coarse diamond distribution. Ultimately a bulk sample will be required to confirm the diamond distribution and this is the normal path of progress for diamond exploration. Prior to this, a drill program defining the volumes of the different kimberlite types and their caustic fusion diamond distribution is planned for spring 2022.

Samples of kimberlite core were sent to C.F. Mineral Research Ltd. in Kelowna, B.C. for indicator mineral analysis. C.F. Minerals is a global-leading kimberlite and diamond analytical research facility lead by Chuck Fipke - one of the founders of the Ekati diamond mine. At the lab, the samples were lightly crushed with heavy minerals separated by dense media gravity methods. Oxides and silicates are split using magnetic separation. Candidate diamond indicator minerals are selected by a mineralogist, mounted and scanned for chemical composition using a scanning electron microscope (SEM). Mineral grains that "light up" under different element scans are mapped and then assayed by electron microprobe. The microprobe results are presented here.

Mineral grains that grow concurrently while touching or within diamonds have distinct chemistry and are diagnostic of the presence diamonds and also of the rock type that host the diamonds at great depths. Readers should note the following deep mantle, high-pressure rock types associated with diamond mineralization that are noted in this release.

Lherzolite: Garnet, Clinopyroxene and Olivine (Certain types host >50carat diamonds).

Harzburgite: Garnet (low calcium, high chrome), Orthopyroxene and Olivine (Source of the desirable "G10" garnets and 'P' type diamonds). Chromite: Harzburgite: A garnet poor, Chromite rich variety of above. Eclogite: Garnet and Pyroxene (Source of 'E' Type diamonds).

The samples analyzed thus far are from the Sequoia kimberlite, hole DG-2021-04 located in the geographical center of the complex. One sample from the interval 51m to 89m (5.1kg) from the Coherent Kimberlite ("CK"), another sample from the interval 105m to 136m (5.1kg) logged as Volcanoclastic Kimberlite transitional ("VKt") into Coherent Kimberlite and a sample from the interval 136m to 150m (5.3kg) logged as Volcanoclastic Kimberlite ("VK").

Chuck Fipke reports: "The two Volcanoclastic samples are dominated by diamond inclusion minerals (high calcium G10 garnets (classifying as G10-2 and G10-3) found in Lherzolite, (G11) garnets and diamond inclusions (CP5) clinopyroxenes that have been found as inclusions in big diamonds ranging from 52 to 102 carat from the Ekati diamond mine (coined "Di\$") as well as chromite rich harzburgite containing diamond inclusion chromites and orthopyroxenes. Current research suggests these larger diamonds come from great depths >400km.

The diamond inclusion minerals from Lherzolite (Di\$, CP5 G9/G11 indicators mentioned above) found in

Sequoia is identical to those present in Letseng (In Lesotho), Victor (In Canada), and Lucara's Karowe Mine (Botswana). These kimberlites are typically lower grade but contain very large high-quality diamonds routinely recovered during run-of-mine operations. This is based on analysis of inclusions from over 335 diamonds from these sources as well as Ekati's large stones. The classification scheme relies on the multi-element analysis of the Sequoia indicator minerals having the same chemical composition as the indicators from known large diamond sources.

As well as passing through and sampling of Iherzolite, the Sequoia kimberlite has sampled diamond bearing chromite harzburgite as evidence by the abundant 99 diamond inclusion composition chromites and 45 diamond inclusion orthopyroxenes present. These additional mineralogies could account for any smaller diamonds recovered. The two Volcanoclastic samples have relatively few eclogitic type garnets, which can also be associated with diamond mineralization.

In contrast to the VK samples, the CK sample from 51 to 89 meters has abundant Group1 eclogitic garnets where the SEM shows 51 diamond inclusion eclogite grains. This sample also has the large diamond inclusion Iherzolite minerals and the subordinate diamond bearing (low calcium-high chrome G10-7 and G10-9) pyrope garnet bearing harzburgite not present in the VK as well as chromite harzburgite present in the VK. A total of 80 diamond inclusion composition chromites and 10 diamond inclusion olivines were recovered from the chromite harzburgite.

It is also worthy to note that the overall abundance of the Iherzolite (DI\$, CP5 G9/G11 indicators) large diamond inclusion minerals recovered from the three Sequoia DG 2021-04 drill hole samples exceeds, per sample weight, that of any of the diamond bearing (Iherzolitic) kimberlites in the C.F. Minerals database. These results indicate that large diamonds should be present if sufficiently large tonnages of this kimberlite are processed by methodology that recovers large diamonds. The presence of abundant diamond inclusion chromites and orthopyroxenes, as well as abundant diamond inclusion Group 1 eclogitic garnets, and subordinate low calcium-high chrome G10 garnets and diamond inclusion olivines indicate smaller potentially commercial diamonds may also be present."

Table 1 - Caustic Fusion Results, Sequoia Kimberlite, Arctic Star

Drill hole	0.105mm	0.15mm	0.212mm	0.3mm	0.425mm	0.6mm	0.85mm	Weight Kg	Total stones	Stones/100kg
Sequoia Total	146	54	11	7	4	2	0	292.60	224	76

Table 2 - Historic Caustic fusion Results, Jack Pine Kimberlite, Drilled by De Beers 1990s

Drill hole	0.105mm	0.15mm	0.212mm	0.3mm	0.425mm	0.6mm	0.85mm	Weight Kg	Total stones	Stones/100kg
Jack Pine	257	112	37	10	2	0	0	796.01	418	52

Figure 1 - Size Frequency plot: Diamond size distribution. Note Sequoia is Orange and Jack Pine in Green. The Sequoia samples appear to have two populations of diamonds and clearly have a higher frequency of larger diamonds than the Jack Pine sample. Figure 1 also depicts possible trajectories for the Sequoia diamond distribution. For this small sample of less than 300kg, the spread of trajectories is large. Further caustic fusion samples would narrow down this spread. It is desirable to have several commercial size stones from caustic fusion before predicting grade and size distribution with great accuracy.

Table 3 below shows the geology of drill hole DG 2021 04 and each individual rock type and Caustic fusion diamond count for stones over 105 microns, illustrating the diamond count differences, which will be reflected in the commercial grade. The next round of work will outline the distribution of these rock types while continuing to make a more robust size frequency curve.

From	To	Interval	Geology	Diamond count
0m	28m	28m	Overburden	Not assayed

28m	51.29m	51.29m RVK	68/100 kg
51.29m	89.38m	37.95m CK	132/100kg
89.38m	101.26m	11.88m VKt	45/100kg
101.26	105.25m	3.99m CK	150/100kg
105.25m	123.49m	18.34m VKt	46/100kg
123.49m	154m	30.51m VK	56/100kg

The table demonstrates different kimberlite types have variable diamond counts. Volcanoclastic rock types have significantly less diamonds than the coherent kimberlite rock type (Results are from Caustic fusion SRC laboratories and an independent laboratory - see news release dated July 6<sup>th</sup> 2021 for details).

Analysis of mineral indicator minerals from the other kimberlites is awaited. The rest of the caustic fusion diamond results from the other kimberlite discoveries are expected before the end of this week. The second round of Sequoia results where Arctic Star has sampled the other half of drill holes DG 2021 04 and 05 should also be in, within the next few weeks.

#### Qualified Person

The Qualified Person for this news release is Buddy Doyle, AUSIMM, a Geologist that is employed by and works for Arctic Star with over 35 years' experience in diamond exploration, discovery, and evaluation. A Qualified Person under the provisions of National Instrument 43-101.

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#### Forward-Looking Statements

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