



Friday, 10 February 2017

**Report on Visit To Alice Springs Core Library
Ooratippra Core
24th to 25th January 2017
Prepared for CKA**

This report has been compiled in the absence of drill logs for Hole CKAD001. The author is not familiar with the stratigraphy of the region. Hence the report does not include re-logging and reference to some units may be at variance to the original core logs.

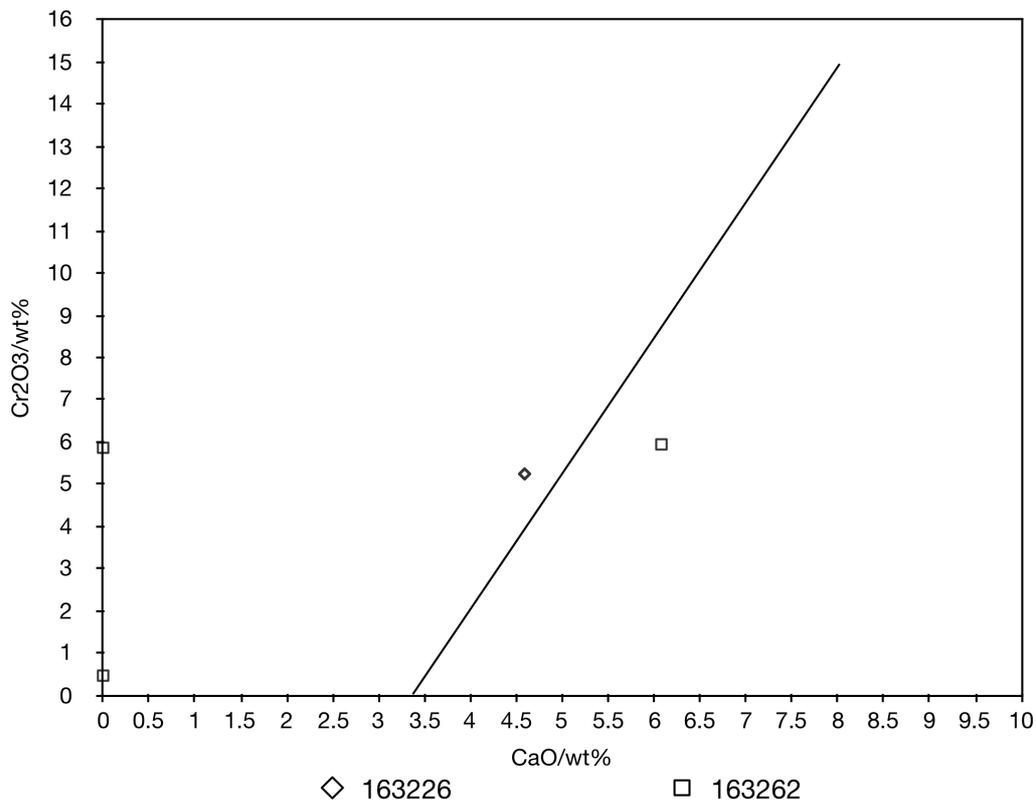
Hole CKAD001:

The presence of G10 and G9 garnet in samples from sections of this hole confirm the presence of kimberlite with a high probability of economic diamond grade. The probe plots for these grains is shown below.

Probe Number:1766,1773

10/02/2017

Garnet Plot 1



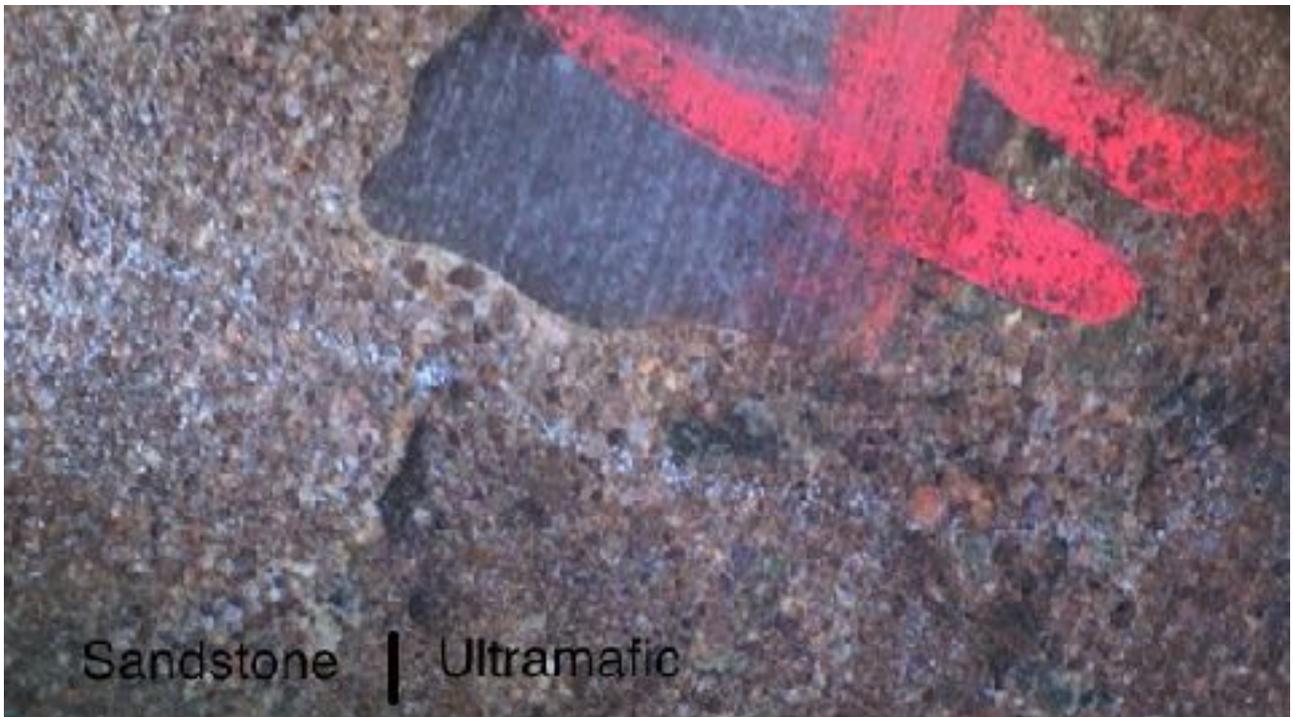
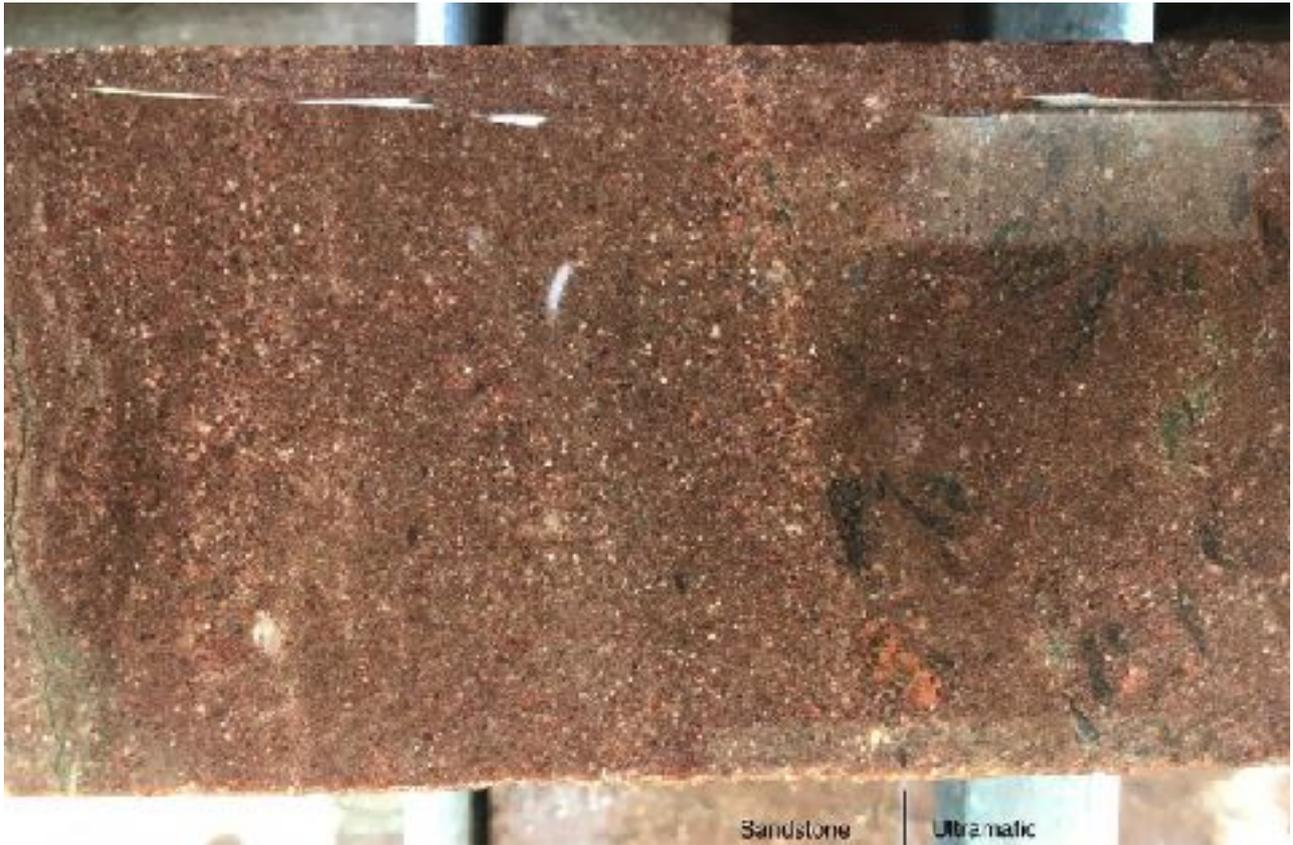
Observation of the core proved a striking contact between sediments and an intrusive breccia of kimberlitic texture at 603.4m. The breccia was highly oxidised which is common for near surface ultramafic and was probably caused by prolonged contact with the host sediments and ground water. Below the upper contact brecciated granite which is present deeper in the hole is contained in a carbonate veined micaceous matrix as shown below.



CKAD001 above at 615.1m, F.O.V. approximately 1cm, Below at 616m



The sub-horizontal upper contact is against a sandstone and mixing of the sand with the intrusive is present over about 2cm as shown below. Also, a chert cobble has been pushed into the sandstone.



CKAD001 contact 613.4m

The lower contact at 605.5m tails off into erratic veins in dolerite with reaction rims. It is safe to assume this is a thin sill of kimberlite. More fingers of similar breccia occur as erratic sub horizontal veins intruded into the dolerite at intervals down to 624.6m.

Given the mode of emplacement it appears that the kimberlite intruded a semi consolidated sedimentary sequence and that CKAD001 is near the termination of the injection. From the author's experience this can be up to 300m from a diatreme or hypabyssal kimberlite.

Hole CKAF0001:

None of this material has been analysed for diamond indicator minerals.

The sedimentary sequence is broken by what appears to be conglomerate layers at 554m, 570.5m and 604m (upper contacts listed) which contain blebs of green clay. These layers probably represent parts of the sedimentary sequence and are unlikely to be the basal unit of crater infill. If so, indicators recovered from these layers indicate kimberlite intrusion activity contemporaneous with the sedimentation which is now half a kilometre below surface.



CKAF0001 604m

Recommendations:

Prior to further field work some laboratory analysis for diamond indicators may help progress the project. The initial samples from CKAD001 were 12kg total weight and liberation of indicator minerals was not complete due to the treatment method. Sample 163226 was a combination of three separate intervals. Further recovery of indicator minerals would help corroborate the surmised existence of a proximal, potentially economic kimberlite.

Assuming the author is correct in that the coarse layers in CKAF0001 are conglomerate, the treatment of this material from CKAF0001 may help develop a picture of the regional conditions of deposition with the absence of indicator minerals being a positive sign.

Air photography studies and close spaced low level magnetics (say 50m line spacing and 100ft altitude) or ground magnetics within a 600m radius of CKAD001 are a priority. Surface loaming in the area for indicator minerals may prove to be productive. Surface geochemistry is unlikely to return useful results in this terrain.