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**Lightning talk: *Technical Art History and Material Analysis: An investigation into the relationship between metal saponification and delamination present in Michael Taylor's landscape paintings***

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**ABSTRACT**

The oeuvre of Canberra artist Michael Taylor (b. 1933) consists of vivid and textural abstract expressionist landscapes. Taylor's landscapes walk the fragile line between complete abstraction and loose definition, in turn, awarding him the mantle of, "Australia's Jackson Pollock". His works from 1977-1982 are particularly textured with layers of impasto and a strong colour composition. Recently, some of his works produced in this period with a distinct orange ground have been displaying irregular delamination between the ground layer and the surface layer. This has been resulting in cracking, curled flaking and severe areas of loss. Developments in the characterization of Zinc and Lead soaps have suggested similar accelerated deterioration traits. However, these characterizations are often examined without regard to external factors. Using *Limestone Plains* (1980) as a case study and in collaboration with Art and Archival, this project determined the cause of the delamination and established a treatment strategy by applying a strong scientific and technical art history methodology.

This project began with a strong art historical framework to determine the significance of Taylor and *Limestone Plains* through discussing his relationship with the Canberra art scene and Australian Abstract Expressionism. Following this was a series of invasive and non-invasive tests to determine the presence of heavy metals in the pigment particles. Digital Compound Microscope confirmed that the layering system employed by Taylor developed an inherent weakness at the interface of the ground and preparatory layers. SEM-EDS analysis confirmed the presence of Zinc and Lead based pigments in the painting and confirmed that there were metal soaps embedded between the preparatory and surface paint layers. Identifying metal soap aggregates in the samples confirmed that the process of saponification had begun. This confirmation paired with the inherent weaknesses

of the paint layers established severe delamination as the most likely trait of deterioration. As a result of this research, the restoration of *Limestone Plains* is currently underway at Art and Archival aimed at providing stability to the medium as well repairing the extensive losses. By examining *Limestone Plains* through a strong scientific and technical art history framework a well-rounded holistic understand can be formed as to what has caused the accelerated deterioration and why further research in this field is necessary.

## **BIOGRAPHIES**

Alysha Redston completed a Bachelor in Art History and Curatorial Studies with Honours from The Australian National University, specialising in modern American mixed media art. Completing Masters of Cultural Materials Conservation student with the Grimwade Centre for Cultural Materials Conservation specialising in paintings.

Celia Cramer is a painting Conservator at Art & Archival, Canberra. Graduate of Bachelor in Cultural Heritage Conservation, University of Canberra and Bachelor of Arts (Archaeology), University of Sydney.