Appendix C

HAZARD MANAGEMENT – SAFE OPERATING PROCEDURE (SOP)

Only to be completed where required as a control measure under a Risk Assessment

NAME OF THE TASK/ACTIVITY	RESOLUTION 193NM EXCIMER LASER	DATE: 17/02/2020
LOCATION	ADELAIDE MICROSCOPY, ISOTOPE LABORATORY, HELEN MAYO NORTH, NB45	Insert photo (Optional)
RISK ASSESSMENT (RA) NAME	RESOlution 193nm Excimer Laser	
Residual risk rating on the RA	☒ Low ☐ Medium ☐ High ☐ Very High	
Hazards identified on the RA	Contact with electricity or potential for electric shock Exposure of eyes to the laser beam. Exposure to non-ionising radiation (UV light) Exposure to toxic gas (ArF, Ozone)	

DESCRIBE, IN SEQUENCE, STEPS TO COMPLETE THE ACTIVITY SAFELY

Pre-operational checks

YOU MUST NOT USE THIS MACHINE UNTIL YOU HAVE HAD APPROPRIATE TRAINING BY TRAINED ADELAIDE MICROSOCPY STAFF. Unauthorised use may result in damage to the instrument.

Operational checks/steps to complete the activity from start to finish (including transport and waste disposal where relevant)

General

The RESOlution 193nm Excimer Laser is a laser ablation instrument used as a sampling device for ICP-MS analysis.

The instrument contains a Class4 193nm ArF excimer laser.

The instrument uses ArF gas to generate the laser. The instrument uses argon, helium and nitrogen gases.

Only trained Adelaide Microscopy staff are to adjust or replace gas supplies in accordance with the appropriate SOP.

Hazards

Potential for electric shock if a user were to remove panels from the microscope.

Exposure of eyes to the Laser beam can cause blindness.

Exposure of eyes to UV light can cause eye damage.

Exposure to toxic gas can cause respiratory and organ damage.

Risk Control Measures

Engineering controls:

The user operable parts on the RESOlution 193nm Excimer Laser are all accessible from the front of the instrument, and include the sample chamber, scanner and the computer (mouse and keyboard). There is no risk involved in the operation of these parts. However, misuse of these parts can result in damage to the instrument. Users of the instrument should not remove any fixture or panel from the microscope or access the rear of the instrument.

The laser beam path is entirely enclosed within the paneling of the instrument. Under normal operating conditions with panels and safety interlocks in place, the instrument is a Class1 laser.

Procedural controls:

Only trained users to operate the instrument. All new users are to be given practical training in instrument operation by a member or Adelaide Microscopy staff. Users must also follow guidelines in the manual and safe operating procedures for operation of the laser ablation instrument.

General Procedures:

Users should operate the instrument in accordance with the manufacturer supplied operating instructions under the instruction of a member of Adelaide Microscopy staff.

On completion of work – steps to make safe (including clean up, any waste disposal & service/maintenance requirements) Follow the shutdown procedure in the manual.
Emergency and Spill Procedures, Transport or storage requirements (where relevant), First aid/Medical In the event of an injury, please advise an Adelaide Microscopy staff member and first aid officer for treatment and the local HSW representative to report the incident.

Prepared by			
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Person authorising the SOP	Name:	Angus Netting	Signature 
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This SOP must be reviewed after any incident/injury associated with this activity or when a Risk assessment is reviewed.			