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K **:** Bioremediation; Lake Albert; Petroleum hydrocarbons;

B

A sample of petroleum hydrocarbon contaminated water (10 ml), was quantitatively placed in a 250 ml flask containing a nutrient broth (100 ml). An aliquot of *Pseudomonas aeruginosa* starter culture (100 µl) whose turbidity absorbance was 0.04 at 600 nm was introduced. The resulting mixture was shaken at a speed of 180 r/min for 1, 3, 4, 5, 6 and 7 days at room temperature using a shaker model THZ-82. The bacterial activity was temporary stopped by reducing the temperature of the mixture to about 2°C to 8°C after every 24 hours.

P

Petroleum hydrocarbons were extracted from water with n-hexane following a method described by AUNEP/IOC/IAEA 1992 method for PHs. Gas Chromatography-Mass Spectroscopy following unresolved complex mixtures approach was used quanti cation of the removal e ciency.

S

An Agilent 6890N gas chromatograph (GC), joined with Mass Selection detector (5975) on a fused silica capillary column coated with HP-5 MS 5% Phenyl methyl siloxane (30 m length and 0.25 mm ID 0.25 µm lm thickness) was set. Injection of a 1.0 µL aliquot of the extract as the injector port is held at150°C and operated in split mode and Helium carrier used to detect PHs at a split ratio of 1:20. Temperature-programme was as follows: Initial temperature at 95°C for

Using polynomial model to establish a relationship between bioremediation and time, the model revealed that the maximum amount of PHs removed from water by *Pseudomonas aeruginosa* was