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Elemental quantification of airborne particulate matter at Nong kung tao, Thasongkhorn Sub-ditrict, Muang district, Mahasarakham Province, by x-ray fluorescence technique

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The research as study to elemental quantity in particulate matter (PM10) at community where near factory as source found analysis of PM10. Which PM10 smaller sizes than of 10 μm from soil, rock, ash from leaf and ash from bagasse, respectively. PM10 were collected from around area and were pumped into filter paper by personal pump machines. PM10 were weighted by four point digital balance as calculate the concentration of PM10. PM10 was analyzed by x-ray fluorescence.
Results found that the elemental quantity of soil, rock, ash from leaf consists several silicon (Si) and calcium (Ca) which matching with the PM10 into filter paper by personal pump. PM10 from ash bagasse consists several Potassium (K) and sulfur (S) which non matching with the PM10 into filter paper. Moreover, the 4 day of standard exceeds concentration on 19, 29 February 2017 and on 6, 13 March 2017 which the concentration values of 0.163, 0.204, 1.1029, 0.163 mg/m3, respectively due to factors of vehicular traffic, burn waste and road construction. Hence, elemental quantity in PM10 at Nong kung tao, Thasongkhorn Sub-ditrict, Muang district, Mahasarakham Province can't found from bagasse but sources of elemental was found from soil, rock and ash from leaf.

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