

Comparison between two different Thermal-release mercurometric surveys of soil and Ore-Search Prediction in Jielagepu Gold Deposit, Longzi Country, Tibet

CHAOJIE ZHENG ^{1*}, XIANRONG LUO ¹,

MEILAN WEN ¹, YANGFEI OU ¹, PANFENG LIU ¹

¹ GUILIN UNIVERSITY OF TECHNOLOGY, 12 Jiangan
Road Guilin, Guangxi, China, (*zcj19931118@163.com,
972475619@qq.com, meilanwen112@126.com,
ouyf@glut.edu.cn, 1056763179@qq.com)

Thermal-release mercurometric survey of soil is an effective method to detect hidden deposits and infer latent structures. Conventional Rhg survey by measuring the total content of soil mercury in each phase, identified as ore-bearing anomalies for prospecting prognosis, while ignoring the Non-mineral abnormalities. Based on the study of conventional soil adsorption phase mercury measurement, we proposed a "ladder Rhg measurement method". In order to further study the difference between two methods, we choose the 0 line profile of Au-deposit in Jielagepu Mining Area, Tibet for comparative experiments. Through the data of soil sample analysis, determined the best mercury detection time and release upper-limit temperature of the experiment. Comparing the mercury release curves of different upper-limit temperatures with two methods on 0 line profile, the ladder Rhg measurement method at 150°C (Hg₀), 280°C (HgCl) and 650°C (HgSO₄) mercury curve presents the most notable mineral abnormalities and even distinguishes the Non-mineral abnormalities. Combined with the geology of the survey area and ladder Rhg measurement method (150°C、280°C、650°C), three ore-prospective targets are delineated for the survey area.