

## FOREWORD

Based on Contract No. 513 signed on 21 November 2006 in the Vientiane by the Mining Unit, Ministry of National Defense of the Lao PDR and the Viet Lao Minerals JSC. to carry out gold prospecting, exploration, mining and processing activities in the 250km<sup>2</sup> area, Attapeu province, licensed for investigation of mineral resources by the Laos Government;

Based on Decision No. 285/NL of the Ministry of Energy and Mines signed by Deputy Minister of Energy and Mines on 13 March 2008 allowing the Mining Unit, Ministry of National Defense of the Lao PDR to continue prospecting for gold over the 226 km<sup>2</sup> area in Vang Tat Nay, Sanxay district, Attapeu province;

Based on the contract of prospecting for, exploration, mining and processing of gold and associated minerals in the Vang Tat area, Sanxay district, Attapeu province, the Lao PDR dated 21 November 2012 between the Committee of Managing Funds of Party and National Defense – Security, and the Viet Lao Minerals JSC. dated 21 December 2012;

Based on the Registration of Transfer No. 004-13/KD.DT.4 dated 22 January 2013 of the Ministry of Planning and Investment of the Lao PDR allowing the Viet Lao Minerals JSC. to prospect for, explore, mine and process gold and associated minerals in Vang Tat area, Sanxay district, Attapeu province, the Lao PDR;

Based on Decisions No. 4759/BTNMT dated 24 July 2013 and No. 4799/BTNMT dated 26 July 2013 of the Minister of Natural Resources and Environment of the Lao PDR concerning the prospecting for gold and associated minerals and Licenses No. 1074/BTNMT and No. 1075/BTNMT signed on 30 July 2013 by the Director of the Department of Geology and Minerals of Lao PDR allowing Mr Bui Anh Duc, 43 years old, Vietnamese as General Director of the Viet Lao PDR to carry out prospecting activities of gold and associated minerals contained in the 32.5 km<sup>2</sup> area, Vang Tat village, Sanxay district, Attapeu province and in the 166.6 km<sup>2</sup> area, Dak Tu village, Dak Trung district, Se Koong province, totaling 199.1 km<sup>2</sup>.

Based on Contract No. 01/2014/VLSK of “*Prospecting for minerals at the 1:25,000 scale over the 199.1 km<sup>2</sup> area, northern and northeastern Vang Tat, Sanxay district, Attapeu province and Dak Chung district, Se Koong province of the Lao People’s Democratic Republic*” dated 9 March 2014 between the Viet Lao Minerals JSC. and the Minerals Association under the Vietnam General Association of Geology;

Based on the legal basis stipulating the mineral prospecting scaled 1:25,000; the investigation, evaluation of mineral resources was completed over the 199.1km<sup>2</sup> area from April 2014 to April 2015 in order to collect and

summarize documents and analyze related samples for the evaluation of mineral potential in accordance with the following objectives and tasks:

***Objectives:***

- + Prospect – investigate metallic minerals occurred within the licensed area;
- + Initially determine major forms of minerals and related potentials;
- + Select prospects to further invest in detailed prospecting for a number of key minerals.

***Tasks:***

- + Conduct geological surveys – minerals prospecting at the 1:25,000 over the northern, northeastern Vang Tat, Sanxay, Attapeu, Dak Chung district, Se Koong province.
- + Collect various samples for analysis to preliminarily evaluate minerals potential.
- + Summarize, complete a report on preliminary prospecting of minerals – selection of related areas and minerals for determination of following investment.

In order to complete the report, the authors have conducted two-stage investigation – evaluation of mineral resources from preliminary to detailed scale over a number of areas typical for the mineralization of the 199.1 km<sup>2</sup> area from April to July 2014 and from March to May 2015 respectively.

Based on the available documents of minerals investigation and prospecting at the 1:25,000 scale in accordance with prevailing regulations applied to mapping and minerals prospecting, together with hydrological networks and geological – minerals sections, totaling over 860 survey points; the work completed includes 228 heavy mineral samples (analysed by the Minerals Association) and 163 sedimentary geochemical samples (analyzed at the Institute of Environmental Technologies – Department of Analyzing Environmental Quality (Vilas 366, using ICP – MS method (SMEWW 3125 : 2012 and EPA 3051 : 1996)) taken from the areas subject to preliminary investigation, and 90 heavy mineral samples and 78 sediment geochemical samples taken from the areas with mineralization occurrences subject to detailed investigation (analyzed by the Analytical and Experimental Centre for Geology under the General Department of Geology and Minerals of Vietnam, using AAS and ICP – AES methods and Plasma Emission Spectrometer (DV 7300)). Analyzed 100 thin-section samples typical of rocks and alteration zones associated with mineralization; prepared and analyzed 16 pan samples to study mineral composition of ore occurrences; together with 131 AAS analytical results on Au-Ag ore completed by the Centre for Analysis and Experiment under the Southern Division of Geological Mapping using AA – 6501 S device (Vilas 095) with analytical sensitivity showing Au, Ag – 0.1 ppm.

The mineral investigation over the 199.1 km<sup>2</sup> area delineated a number of areas with occurrences of mineralization of gold, copper, tin, tungsten, chrome, cobalt, nickel and others developing within different geological formations.

This report was completed with participation of authors including Dr. Do Quoc Binh, MSc. Nguyen Huu Tue, Eng. Pham Kiem, Eng. Nguyen Huu Hung, Eng. Le Quang Tung and other technical experts. There is also contribution in analysis of remote sensing images from Pham Viet Ha, Director of the Institute of Geosciences and Minerals. The report is finalized under the guidances and directives of Dr Do Quoc Binh, Minerals Association, Vietnam General Department of Geology.

During preparation of the Report on “*Minerals prospecting scaled 1:25,000 over the 199.1 km<sup>2</sup> property in the north, north east of Vang Tat, Sanxay, Attapeu, Dak Chung district, Se Koong province of the Lao People’s Democratic Republic*”, the authors has received supports and assistances from the Department of Geology and Minerals under the Ministry of Natural Resources and Environment, Mining Unit under the Ministry of National Defense, leadership of the Ministry of National Defense of the Lao PDR.

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