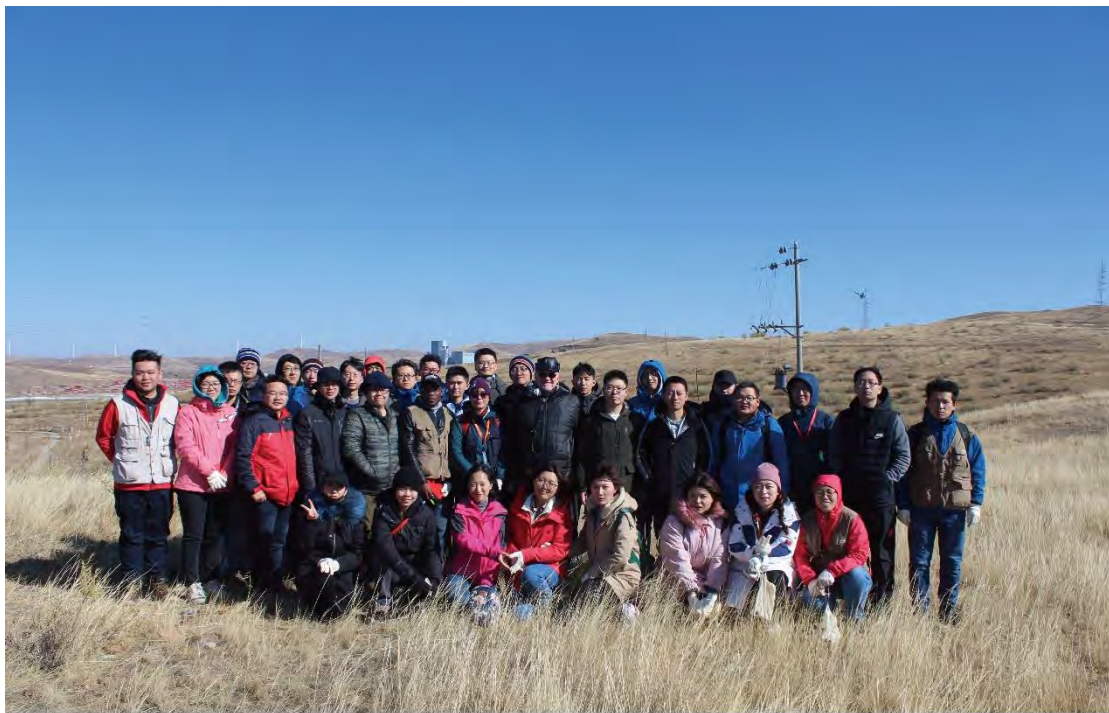


USTB SEG Student Chapter

# Dabaiyang Gold Deposit, Caijiaying and Baijiantan Area Field Trip, 2019

## Field Trip Report



Students and Advisors from USTB, HFUT and CAGS in Caijiaying Area



北京科技大学  
University of Science and Technology Beijing



合肥工业大学  
HEFEI UNIVERSITY OF TECHNOLOGY



中国地质科学院地质研究所  
The Institute of Geology, Chinese Academy of Geological Sciences



中国黄金  
China Gold

**Time:** October 23<sup>rd</sup> to October 27<sup>th</sup>, 2019

**Location:** Zhangjiakou City, Hebei Province, North China

**Members:** SEG Student Chapters of USTB, HFUT and CAGS

**Supervisors:** Yuling Xie (USTB) and Noel White (HFUT)

The SEG field trip to Dabaiyang gold deposit, Caijiaying and Baijiantan area are was organized by USTB SEG student chapter and lasted four days. Five teachers and 30 students set off from USTB to Zhangjiakou City in the afternoon of October 23<sup>rd</sup>. The field trip began with a visit to Dabaiyang gold deposit on October 24<sup>th</sup>, and ended on the 27<sup>th</sup> in Baijiantan area. It was aimed to improve the students' field skills and the understanding of ore-forming processes.

### October 24<sup>th</sup> & 25<sup>th</sup> Dabaiyang gold deposit

On October 24<sup>th</sup> and 25<sup>th</sup>, we visited the Dabaiyang gold deposit which is about 40 Km east to the Zhangjiakou City. Tectonically, it belongs to the middle part of the northern margin of North China Carton (NCC). It is a hydrothermal gold deposit hosted in Archaean metamorphic rock. The exploration and mining activity of this deposit started from the 1960s. By the end of 2018, the Dabaiyang has a reserve of more than 4 tons of gold with an average grade of 3.5 g/t.



**Photo:** SEG field trip participants at Dabaiyang mine camp

The Dabaiyang gold deposit is a typical case of metamorphic rock-hosted gold deposit. With the guidance by the local technician, we visited the open pit and underground work and observed the geological characters of this deposit. The host rocks are mainly dioritic and granitic gneiss and were strongly deformed. Ore bodies are mainly controlled by low angle extensional faults and gold mineralization is related to silicification and hematitization alterations. The wall rocks show pinkish color due to the presence of hematite, which formed during syn-ore alteration. After field observation, the professors, local technicians and students discussed the tactics from mineral prospecting. We also visited the Great Wall ruins of Ming Dynasty which was situated on the hill top of the mining district. We can see wrecked wall and beacon tower along the range as well as the full view of the mining district.



**Photo: Quartz vein filling extensional fractures and orebody in deformed metamorphic rocks**



**Photo: Visiting Dabaiyang gold mine**



**Photo: Visiting the wrecked wall and beacon tower of Great Wall ruins**

## October 26<sup>th</sup> & 27<sup>th</sup> Caijiaying & Baijiantan area

On the October 26<sup>th</sup> and 27<sup>th</sup>, we visited Caijiaying and Baijiantan area, about 130 Km northeast to Zhangjiakou City, to study epithermal system.

Andesitic and felsic volcanic rocks are exposed in this area, and epithermal veins are developed within of these volcanic rocks. Typical epithermal textures and minerals are well developed, including comb quartz, lattice texture in banded alteration veins. Professor Noel White introduced the characteristics, prospecting and ore forming process of epithermal deposits. We had a happy time collecting beautiful samples of the epithermal system.



Photo: Discussion with professor Noel White

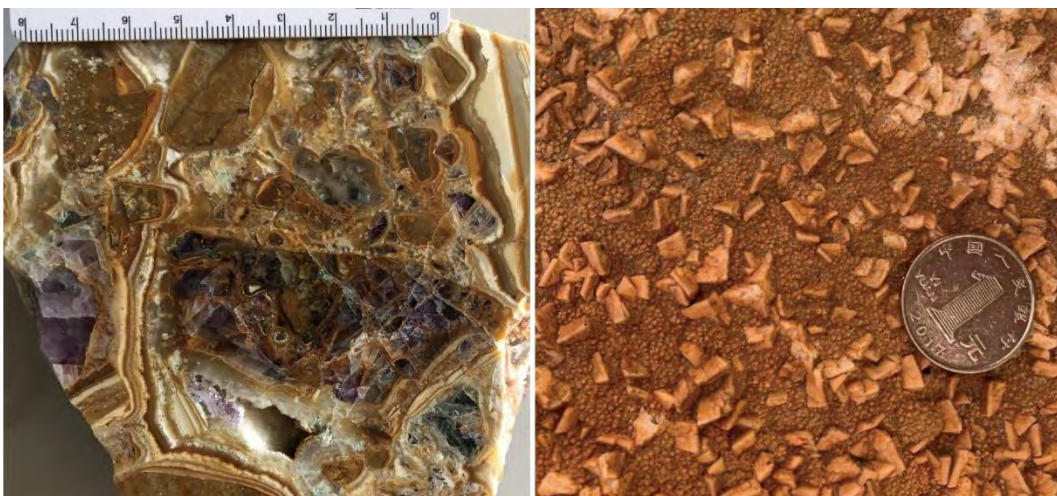


Photo: Epithermal veins in volcanic rock and a typical epithermal mineral, adularia



Photo: Sample collecting in Baijiantan area

## Summary

All participants have learned much from this field trip, and we acknowledge the support from the SEG Student Field Trip Program. It's an excellent opportunity to study the geology of the gold deposit hosted in metamorphic rocks and the low-sulfidation epithermal system. Professors Noel White and Yuling Xie are thanked for giving professional guidance in this trip. And we also appreciated the supports from China Gold Group Resources Co. Ltd..

## Founds and expenses

This field trip cost 6,514 USD totally including accommodations, caterings and Transportation. 1,250 USD of them was founded by SEG Student Field Trip Program, 2,857 USD was supported by China Gold Group Resources Co. Ltd. and the rest of the expenses was provided by Prof. Xie.

Expenses (USD)		Founds (USD)	
Accommodation	3100	SEG Student Field Trip Program	1250
Catering	1771	China Gold Group Resources Co. Ltd.	2857
Transport	1643	Prof. Xie	2407
Total	6514	Total	6514

\* expense in CNY with exchange rate 1 USD  $\approx$  7 CNY