

SEG 2017 Field Trip Itinerary

FTo8 - Jinchuan Ni-Cu Field Trip

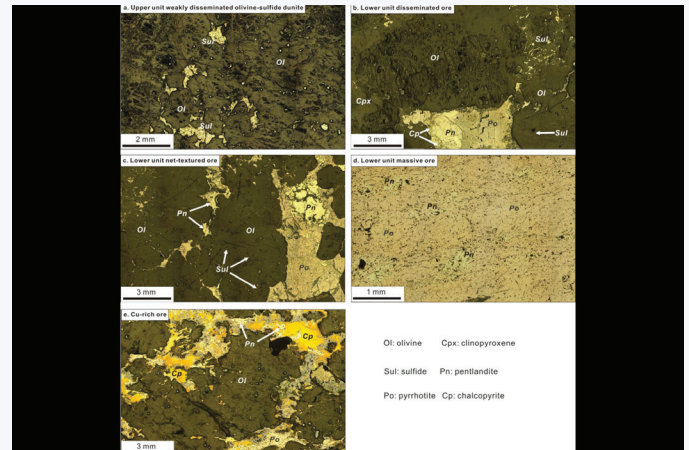
Date: September 22-25, 2017

Location: Departing from and returning to *Beijing, China*

Leaders: Xie-Yan Song, Jian-Gang Jiao, Wen-De Suo,
Yong-Cai Wang

Flights/Airfare: Included in cost of trip (domestic only)

Accommodation, Food, Local Ground Transport: Included



Jinchuan is one of the largest Ni-Cu-(PGE) deposits in the world.

It is in Gansu Province, NW China. The Jinchuan deposit contains

>500 million metric tons (Mt) of sulfide ores with average grades of 1.1 wt % Ni and 0.7 wt % Cu. About 85% metal reserves of the Jinchuan deposit are contained in three huge ore bodies, namely No. 1, No. 2, and No. 24. All of the three ore bodies are mined underground now. The Jinchuan intrusion comprises mainly Iherzolite and dunite and is divided into four segments (Segment III, I, II, and IV from the west to the east, respectively) by striking faults, including F_8 , F_{16-17} , and F_{23} . Recent U-Pb SHRIMP dating of zircon and baddelyeite indicate that the Jinchuan intrusion formed at ~830 Ma (Li et al. 2005; Zhang et al. 2010).

The huge lens-shaped No. 1 ore body is situated in Segment II and occurs at depths between 200 to >1100 m in segment II. It is 1500 m long and up to 120 m wide and comprises of disseminated and net-textured sulfides. It contains ~50% of the total Ni, Cu, and PGE reserves of the Jinchuan deposit. No. 2 ore body, the second largest ore body, is 1300 m long and ~120 m wide and occurs at the base of east part of segment II. It contains disseminated and net-textured sulfides. Small massive sulfide veins are present in places in the lower margin of No. 2 ore body and in its surrounding country rocks. Some of the massive sulfide veins contain xenoliths of ultramafic rocks and metamorphosed country rocks. No. 24 ore body, which occurs in the Lower unit of segment I, is the third largest ore body of the Jinchuan deposit. It is a tabular-shaped body of 1500 m long and 100-200 m wide. The thickest part of the ore body is also the thickest part of the Lower unit. Sulfides tend to concentrate in the base of the thickest part of the ore body. In the overlying sulfide-poor Upper unit, sparsely disseminated sulfides (3-8 model% total sulfides) are present in its lower contacts in places.

All participants will need to abide by the occupational health and safety requirement of the operation while on site.

Day 1 - Friday, September 22, 2017

AM: Beijing Nanyuan airport → Jinchuan airport

PM: Jinchuan Science and Technology Museum and introduction by field trip leaders

- Prior to 06:40: All participants finish check-in on your own and register with leader Jian-Gang Jiao before boarding at 07:15. It takes ~60 minutes to get from the Chinese University of Geosciences to the Nanyuan airport by taxi, participants should take a taxi before 05:40 that morning.
- 07:45: Beijing Nanyuan airport 北京南苑机场 (China United Airlines, flight KN5655) → Jinchuan airport (arrive at 10:05)
- 11:00: Take bus from Jinchuan airport to Longshoushanzhuang Hotel in Jinchang city (~30 minutes) and check-in to the hotel
- 12:00 - 13:00: Quick lunch at the hotel
- 14:00 - 17:30: Visit the Jinchuan Science and Technology Museum and a simple introduction by field trip leaders
- 19:00: Dinner at the hotel

(continued on next page)

Day 1 - Friday, September 22, 2017 (cont.)

Accommodation

Longshoushanzhuang Hotel, Jinchang City 龙首山庄

No. 16, Jinchangxi Road, Jinchang City, Gansu Province, China 金昌市, 金川西路 16号

Day 2 - Saturday, September 23, 2017

AM: Underground visit at the Mine of Orebody No. 1 of the Jinchuan Ni-Cu deposit

PM: Visit the surface of Segment II of the Jinchuan ultramafic intrusion

- 07:00am: Breakfast at the hotel
- 07:30: Leave the hotel and drive to the Mine of the Orebody No. 1
- 08:00 - 08:30: Logistics preparation for underground work
- 08:30 - 11:30: Underground visit at the mine
- 12:00 - 13:30: Lunch at the hotel
- 14:30 - 17:30: Visit surface of Segment II of the Jinchuan ultramafic intrusion
- 19:00: Dinner at the hotel

Accommodation

Longshoushanzhuang Hotel, Jinchang City 龙首山庄

No. 16, Jinchangxi Road, Jinchang City, Gansu Province, China 金昌市, 金川西路 16号

Day 3 - Sunday, September 24, 2017

AM: Underground visit at the Mine of Orebody No. 24 of the Jinchuan Ni-Cu deposit (only low grade ores left after extensive mining since 2010)

PM: Investigation of the faults in the surface. The faults belong to a huge thrust fault system resulting the Jinchuan intrusion exposed to the surface

- 07:00: Breakfast at the hotel
- 07:30: Leave the hotel and drive to the Mine of the Orebody No. 24
- 08:00 - 08:30: Logistics preparation for underground work
- 08:30 - 11:30: Underground visit at the mine
- 12:00 - 13:30: Lunch at the hotel
- 14:30 - 17:30: Visit the faults and the relationship with the intrusions
- 19:00: Dinner at the hotel

Accommodation

Longshoushanzhuang Hotel, Jinchang City 龙首山庄

No. 16, Jinchangxi Road, Jinchang City, Gansu Province, China 金昌市, 金川西路 16号

Day 4 - Monday, September 25, 2017

AM: Tour of Jinchang city or have a talk with the Jinchuan geologists

PM: Jinchuan airport → Beijing Nanyuan airport

- 07:00: Breakfast at the hotel
- 08:30 - 11:00: Tour of Jinchang city or have a talk with the Jinchuan geologists
- 11:30 - 12:30: Lunch at the hotel
- 13:00 - 13:30: Check-out of the hotel
- 14:00: Drive and check-in at the Jinchuan airport
- 15:00: Jinchuan airport (Flight KN5656) → Beijing Nanyuan airport 北京南苑机场
- 17:10: Arrive at the Beijing Nanyuan airport and trip ends

Note: Participants could take a taxi from the Beijing Nanyuan airport to the hotels you booked yourself. There is a Hilton and other hotels just outside the international terminal at the main Beijing airport terminal.

Flight Information

Flights between Beijing and Jinchuan are only offered on Monday, Wednesday, Friday, and Sunday every week. So, we will fly from Beijing to Jinchuan the morning of Friday, September 22, and return from Jinchuan to Beijing the afternoon of Monday, September 25.

All participants are responsible for booking their own international flights to/from Beijing. Your domestic flights between Beijing and Jinchang are included in the cost of this field trip.

Nanyuan → Beijing

- Flight KN5655 (China United Airlines)
- Friday, September 22, 2017, at 07:45: Depart from Beijing Nanyuan airport 北京南苑机场
- Friday, September 22, 2017, at 10:05: Arrive to Jinchang airport

Beijing → Nanyuan

- Flight KN5656 (China United Airlines)
- Monday, September 25, 2017, at 15:00: Depart from Jinchang airport
- Monday, September 25, 2017 at 17:10: Arrive to Beijing Nanyuan airport

Leaders

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