



SEG 2017 Field Trip Itinerary

FTo5 - Jiaodong Gold Deposits

Date: September 13-16, 2017

Location: Departing from and returning to the *Beijing Airport*

Leaders: Hongrui Fan, Kunfeng Qiu, Zhaokun Wang

Flights/Airfare: Included in cost of trip

Accommodation, Food, Local Ground Transport: Included



The Jiaodong gold province on the eastern margin of the North China block is China's largest gold producer and responsible for about 20 percent of China's annual gold production. The pre-mining resource in Jiaodong is enormous, with an estimate of more than 4000 t of contained gold. Gold is now recovered from at least 159 mining operations with a combined annual production in excess of 70 t Au per year.

More than 95% of the Jiaodong gold resource is hosted by Mesozoic granitoids that intruded into high-grade Precambrian metamorphic basement rocks. The most important part of the resource is located to the west in the Zhao-Lai belt, which contains about 85% of the overall resource. The deposits occur along regional NNE-trending fault zones. Main orebodies are present as quartz vein systems (e.g., Linglong-style) and as stockwork veinlets and disseminated mineralization (Jiaojia-style). In many places, these two mineralization styles are transitional and thus are present within the same gold deposit.

This four-day field trip will introduce participants to the geology and mineralization that characterizes the world-class Jiaodong gold province. It will include site visits to giant gold deposits (Sanshandao, Jiaojia, and Linglong), exposures of the ca. 130-126 Ma suite of Guojialing intrusions, ore-controlling structures, and drillcore review.

This field excursion starts with a visit to the outcrop of mineralizing veins and structures at the Sanshandao mine, which holds over 6 million ounces Au at an average grade of 4 g/t Au. Sanshandao, one of the largest deposits in the Jiaodong gold province, is defined as a Jiaojia-style deposit and is roughly the equivalent of orogenic gold deposits. Ore is disseminated and in stockworks within granitic intrusions. Participants will observe the fresh ca. 130-126 Ma suite of Guojialing intrusions and ore-controlling structures on the first afternoon. A systematic section profile showing the temporal-spatial relationship between structure, alteration, and mineralization will also be examined during the next half-day underground visit. The project offers the opportunity to examine drill core samples of the deep drilling.

Sanshandao will be followed by a visit to the Jiaojia gold mine, with a proven reserve of >200 t gold. It is located in the northwestern part of the Jiaobei Uplift, and hosted by ca. 160 Ma quartz monzonites and monzogranites. Ore zones are structurally controlled by the NE-trending and NW-dipping Jiaojia Fault and subsidiary faults, and are mainly restricted to the footwall of the fault. Participants will observe the dominant disseminated- and stockwork style ores, and sericitization, silicification, sulfidation, and K-feldspathization.

The trip will end with a visit to the Linglong gold mine where participants will have the opportunity to review the "Linglong-style" lode gold mineralization that is characterized by massive auriferous quartz veins with narrow alteration halos and usually occurs in subsidiary second- or third-order faults in exposure and underground. The Linglong gold deposit is located in the western part of the northern tip of the Zhaoping fault belt, in the north-central Jiaodong Peninsula. The gold ore is generally hosted by Linglong granitoids, but occasionally in the Guojialing porphyritic granodiorites (in the Jiuqu area). Ores at Linglong are different than the "Jiaojia-style" disseminated and stockwork gold mineralization that is usually surrounded by broad alteration zones and generally develops along major first-order regional faults.

Day 1 - Wednesday, September 13, 2017

AM: Beijing → Yantai → Sanshandao Mine

PM: Visit the exposure of orebodies and structures at the Sanshandao Mine

- Prior to 08:00: All participants must check-in individually and register with trip leader Kunfeng Qiu before boarding
- 08:25: Board flight
- 10:20: Arrive to Yantai Penglai International Airport
- 11:00: Take bus from the airport to Sanshandao Mine (approximately 2 hours)
- 13:00: Quick lunch with a brief welcome and logistics meeting at the Sanshandao Mine
- 13:00 - 17:30: Visit the exposure of mineralizing veins, structures, and wallrock granitoids at the Sanshandao gold mine
- 19:00: Dinner and evening discussion at the Xinyue Hotel

Accommodation

Xinyue Hotel, Laizhou City | 莱州市新悦大酒店
www.xinyuehotel.cn

No. 539, North Laizhou Road, Laizhou City, Shandong, 261400, China | 山东省烟台市莱州市莱州北路539号

Day 2 - Thursday, September 14, 2017

AM: Underground visit at the Sanshandao Mine

PM: Visit the Guojialing intrusions and/or drill core samples of the deep drilling at Sanshandao

- 07:30: Drive from the hotel to the Sanshandao Mine
- 08:00 - 08:30: Logistics preparation for underground work
- 08:30 - 11:30: Underground visit at the Sanshandao Mine
- 12:00 - 13:30: Round-table lunch at the Sanshandao Mine
- 13:30 - 18:00: Visit Guojialing intrusions outcrop and/or drillcore review
- 18:00: Return to the hotel for local seafood dinner and evening discussion

Accommodation

Xinyue Hotel, Laizhou City | 莱州市新悦大酒店
www.xinyuehotel.cn

No. 539, North Laizhou Road, Laizhou City, Shandong, 261400, China | 山东省烟台市莱州市莱州北路539号

Day 3 - Friday, September 15, 2017

AM: Sanshandao Mine to Jiaojia Mine (25km, 30 minutes) | Underground visit at the Jiaojia Mine

PM: Visit the exposure of structures and intrusions at Jiaojia | Jiaojia Mine to Linglong Mine (40~45km, 50 minutes)

- 07:30: Check out of the Xinyue Hotel and take the bus to the Jiaojia Mine
- 08:00 - 08:30: Logistics preparation for underground work
- 08:30 - 11:30: Underground visit at the Jiaojia Mine
- 12:00 - 13:30: Round-table lunch at the Jiaojia Mine
- 13:30 - 17:00: Visit the exposure of structures and intrusions around Jiaojia
- 17:00: Drive to the Zhaojin Shunhe International Hotel
- 18:30 - 20:30: Dinner and beer at the hotel

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Day 3 - Friday, September 15, 2017 (cont.)

Accommodation

Zhaojin Shunhe International Hotel | 招金舜和国际酒店

+86 535-8068899

Luoshan Road, Linglong Town, Zhaoyuan City, Shandong Province, 265400, China

Day 3 - Saturday, September 16, 2017

AM: Underground or outcrop visit at the Linglong Mine

PM: Linglong Mine → Yantai (75-105km, 1.5 hours) → Beijing

- 07:30 - 08:00: Check out of the hotel and drive to the Linglong Mine
- 08:00 - 08:30: Logistics preparation for underground work
- 08:30 - 12:00: Underground visit at the Linglong Mine
- 12:00 - 13:30: Round-table lunch at the Linglong Mine
- 13:30 - 14:00: Drive stop visit at granitoid exposure to the north of Linglong Mine
- 14:00: Drive to Yantai Penglai International Airport
- 16:55: Board flight back to Beijing
- 18:15: Land in Beijing and dismiss. Participants have the option to take a subway, airport bus, or taxi home.

Flight Information

Domestic flights between Beijing and Yantai for the field trip are included and participants are not required to book their own flights. All flight times are current as of June 15, 2017. Flights are subject to change and outside of our control.

Beijing → Yantai

- Flight CA 1545 (Type: Airbus A319; Star Alliance Member)
- Wednesday, September 13, 2017, at 08:55: Depart from Beijing Capital International Airport
- Wednesday, September 13, 2017, at 10:20 : Arrive to Yantai Penglai International Airport

Yantai → Beijing

- Flight SC 4853 (Type: Boeing 737-800; Star Alliance Member)
- Saturday, September 16, 2017, at 16:55: Depart from Yantai Penglai International Airport
- Saturday, September 16, 2017 at 18:15 : Arrive to Beijing Capital International Airport

Leaders

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