Erligou Gold Deposit is located in the territory of Kangding County, Ganzi Prefecture. According to the previous record, Erligou Gold Deposit from the private exploitation of small tunnel to tunnel construction the more formal, exploration and mining objects are auriferous quartz vein type gold deposit. After the discovery of altered siliceous type gold deposit in the mining area, confirmed that the gold deposits are three types of gold deposit consists of quartz vein type, altered rock type and two mixed type.

1 The Metallogenic Geological Background

The tectonic position is reset in the composite parts between Sichuan Yunnan northsouth tectonic and Jintang northwest arc type structure.

1.1 Strata
The mining area is only exposed the first group of lower Devonian Weiguan group: black, dark gray, light gray carbonaceous slate and siliceous slate with mottled slate, sericite phyllite with silty slate and siltstone, medium-coarse quartz sandstone, grey bioclastic limestone, crystalline limestone and marble.

1.2 Structure
The head of Sichuan Yunnan north-south structure, with the Jintang arc tectonic intersection compound in the north-east. The most favorable structure for ore control and ore conducting is the north-south fault structure. Followed by the North West, North East trending structure is mineral deposition. Especially with the arc tectonic superposition is the most favorable position for mineralization.

1.3 Magmatic activities
There are magmatite in the zone. The magmatite mainly are Hercynian basic rock and they appears mostly in the form of rock group. In addition, intermediate-basic dikes and quartz veins are developed. Exposed many basic intrusive rock in the mining area. From observation of rock outcrop and hand specimen. The gabbro at the foot of the hill and the northwest side of the mountainside are relatively fresh without metal mineralized rocks which were probably formed by the same period of basic magma activity. A lot of euhedral subhedral magnetite uniformly distributed in diabase of the mouth of No. 2 tunnel. The diabase are very fresh, almost no alteration. The gabbro at the mountainside south east contain a lot of uniform distribution of pyrite, and pyrite has undergone strong ferritization, which shows that the mining area has experienced at least three different basic magmatism.

2 Geological Characteristics of The Deposit

Erligou Gold Deposit are made out of gold bearing quartz veins in the carbonaceous slate. A basic rock veins were small or large area intruded in Weiguan group in see within the mining area, the mafic dikes from field geological phenomena and hand specimens were observed for multi period mafic magmatism formed, and the rock and gold bearing quartz veins are closely related. Gold bearing quartz veins are distributed in carbonaceous slate rock contact areas, orebody near bedding production in the carbonaceous slate stratum level, to the North West South East, northwest trend, a large thickness difference, changes from 15cm to 2.5m.

The mouth of No. 2 tunnel exposed more fresh diabase and they did not occur significantly alteration. There are euhedral subhedral magnetite in the diabase. No. 2 tunnel appears three veins, which were named Ia, Ib, Ic. Ia vein is located in the bottom layer of No. 1 orebody. The vein may be affected by groundwater are relatively strong and have haven a strong ferritization. A tentative inference on
This result is that Ia vein is formed by siliceous hydrothermal activity once again after mineralization. The Ib vein contains a large number of pyrite closely associated with quartz veins. The pyrite veins are interspersed in bedded carbonaceous slate. There are a large number of cloddy pyrite. The veins consist of the pyrite and quartz is alternated by the later pure quartz veins which is about 2-4 mm. Ic is an oxidation vein which has strong ferritization. In the carbonaceous slate which are located the top and bottom of the ore vein were found pyrite closely associated with quartz veins.

Erligou Gold Deposit is a gold bearing quartz vein type gold deposits, gold bearing altered rock type and mixed type three types of gold deposits. Ore minerals are pyrite and gold, with very few galena, chalcopyrite and oxidized limonite and malachite.

3 Deposit Genesis And Metallogenic Model

Ore bearing rock deposits of Devonian Weiguan group carbonaceous slate, carbonaceous slate show toughness, in compression shear stress from different directions only deformation, or the formation of interlayer slip zone, without the formation of fracture zone. Within the mining area has experienced the basic magma activity many times, because of these basic magma activities originated from deep crust or mantle, so in the end will have every magmatism, hydrothermal fluid activity scale. Gold bearing hydrothermal fluid migration to the carbonaceous slate's position, because the carbonaceous slate poor permeability, has a good shielding effect of hydrothermal fluid, so the force bearing hydrothermal fluids along the carbonaceous slate bedding surfaces, especially the interlayer gliding belt for lateral migration. And carbonaceous slate rich in organic matter, organic matter evolution product of CH₄ under the condition of low temperature can be used as reducing agent in the form of TSR will restore SO₄²⁻ ion for S²⁻. The gold bearing hydrothermal fluid, the iron transport in carbonaceous slate in the process, the combination of Fe²⁺ and S²⁻ and the formation of pyrite, and Au with pyrite crystals occurs in pyrite crystal lattice. After the

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