Petrographic investigation of Aligudarz 's kansorkh copper deposite

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Abstract

The Kansorkh copper depposite is located in 35Km of south west Aligudarz town and geomorphologicly region is corresponded to semimuntainous regions and has mountain climate and structurally has been located in sanandej-sirjan,zone.The studied region is affected by important orogenic phases of simerian and final cretaceous and several interasive masses like Aligudarz are injected in it. These masses have penterated into shales and jurassic sand stone. The igneous rocks compositions are mainly from granodiorite to Andesite volckanic.the petrology studies show that volcanic rocks of the region are Andesite purphiry. In terms of mineralisation :
chalkupirit,Kalkusit,Burnit,Malakit,Azurit,Magnetite and Limunit minerals are the most important minerals of the region that are appeared veinley. in terms of Altration, sericitiazation,chloritization, and epidotization are dominte altrations of the region.With regard to development of altration zones in volcanik rocks and vien mineralization in these rocks
it seems that these rocks are the main host rock of mineralization in the region and mineralizer factor must be related to probably granodiritic interasives.

Key words: *Kansorkh-copper-peterology-Alteration-mineralization*

Introduction

the area under study is located in 35Km south- west Aligodarz (north-east of Lorestan province).the area is limited
to geographical latitude of 33 17' 22" N and longi tude of 49 36' 51" N in a mountain are with semi mountain geomorpho
logical view. In the contaxt of the structural subdivisions of Iran(Stocklin,1968) is a portion of sanandaj-sirjan zone.
lithological point of view , porphyritic andesite is the mainly rocks and is host rocks.in this limit there is alteration zoenes
such as sericitication,epidotization and cloloritization zone.copper mineralization as veine or alteration halos as primary
and secondary oxides and sulfides minerals have been visibled .the main dim of this paper is considering petrography,alteration,
and mineralization in vien and inner alteration halos and driuing test pit in Kansorkh ore deposit.

Discussion

General geology

The study area is located in sanandaj-sirjan zone(stocklin,1968).This zone is very extent and from North-east to sowth
west divided to three subzone (soheili and etal,1371).
sanandaj-sirjan zone is the most active zone in histiry of geologcal of Iran.cause of orogenic phases can be seen many
metamorphic and magmatic proccesses(darvishzadeh,1370) in this basis, the study area is. located in sub-mezozoic zone
their features are shales , Jurassitic sandestones and replacement of numerous magmatic bodies such as Alogodarz.
Kansorkh ore deposit (south-east of aziz abad)is located in a aglomeratic have unit.this unit,s rocks included of lavas
and pyroclastics with granodiorite to volanic andesite(in some parts with porphiritic and granular texture).
Tichness of this complex is very variety in study area (100-150 meters in south of dareh takht village to about 20 meters in North of Kansorkh village)
and can be seen more tickness in around ore deposit.upper contact of this unit is included of thin
layers till medium of calcarious beariny fossils to a little sandestone . lower contact of this unit is gradually with microsparite
calcarious bearing fossils.in some places of this area can be seen sub-marine lavas.

Structural setting :

calcarious of area under study is a portion of sanandaj-sirjan zone based on stocklin division . structural point of view, sanandaj-sirjan zone is compared with central Iran zone.
some workers bealive that sanandaj-sirjan zone is a part of central iran zone. but the others didn't have this bealive.
they have the same trend only.sanandaj-sirjan zone is used more in differents way.
Based on occurrences of later early Kimerian can be seen many different part with vareity trend which the one of it is uromieh-Hamedan trough.this sedimentary trough is fromed with North most to south east in around of Aligodarz to north of Dourod or south east of Boroujerd. Around of Hamedan to south east of uromieh lake (late Tariassic) is formed.it is difficult to say ebout structural area by two reasons. first1. little extent of area and the second 2. extent of outcrop of rocks mainly belong to jurassic.then it can't show occurrences before and after itself. with total evidences,based on studies of are and around of area,we can draw tectonical situation of the area under study.which mas influenced of late cimeran and late ceretacious orogenic phases and has been occoured Aligodarz pluton(Mohammad beigi,1376)
there is three groups of faults: A-great faults with north west to south east trend which mainly overtrusted and caused by felcic structural . this type of faults have cutted the others structural sauch as reverse
faults ,thrusts,axial folds,that is double faults in total presure sgstem in time of formed thrusts. and folds B-accessory faults.
this group of faults that exactly catted the others such as reverse faults and folds.

c-Normal faults or grabben with a qeneral trend vertical on other trends .formed by extension forces that is caused of intrusive magma such as Kansorkh intrusive body.

Petrography studies

lithologically,show that area is included of pyroclustic ,volcanic and probably intrusive rocks (granodiorite)with accessory types. the most alteration in area is sericitization,cholor tization and epidotization. metal mineralogically, in around of Kansorkh can be seen chalcopyrite , calcosite ,bornite, malakite ,Auzorite - magnetaitc and limonite minerals. malakite and calcopyrite founded in volcanic rocks (shahrokhi,1381).pyroclastic rocks included of plagioclases,colorite and andesite with prophiry texture. there is a lot of vein quartz in these rocks(fig.1-A)volcanic rocks is included of andesite ,prophirytic andesite, with plagioclase amphibole(Hornblende),serecite,cholorite and epidote minerals(Fig.1-B).

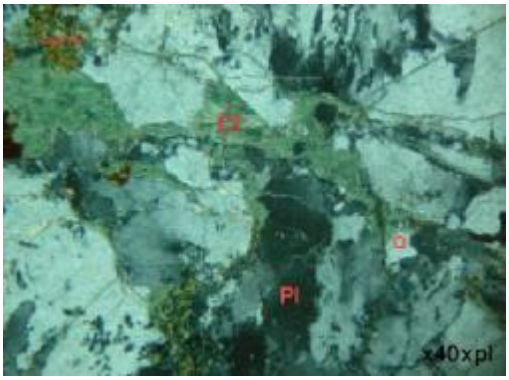
intrusive rocks is included of porphyritic granodiorite bearing quartz ,plagioclase and Biotite (cholorite)with granular.

and can be seen malakite ,iron oxide quartz veins .we can see serecitic alteration in this picture(Fig.1-c).

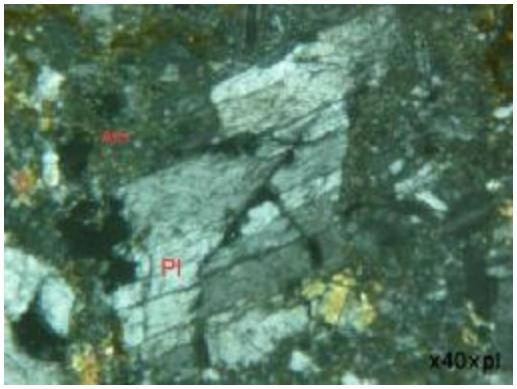
sometimes ,mafic minerale changed to cholorite and epidote in andesit rocks so observed high choloritization in

the picture (Fig1-D).in some samples crystalls of plagioclase with ploysantetic clearage and altered amphibole ,vein

of Iron with granular texture can be seen in choloritization and epidotization area (Fig.1-E).in many sections vein of



(fig.1-A): Andesite pyrophiri included of plagioclases,colorite there is a lot of vein quartz in these rocks minerals and iron oxid focus



(fig.1-B):Andesite included , plagioclase, amphibole, serecite and cholorite minerals.

Iron have been seen .that ,the vein of Irons (gotite,and limonite)with malakite veins in porphyritic andesite is occurred

these phenomenon show oxidation zone in Kansorkh ore deposite(Fig1-F) .

Conclusion

the rocks Kansorkh ore deposite ore intrusive rocks (mainly granodiorite)till volcanic (mainly andesite). the main trend of struetural Units in the area is north west- south east,similar main faults.accessory gaults is as orerthrust may be as type of double faults .the most alteration is seresitization, epidotization and choloritization .in area primary mineral formed such as calcopyrite and other minerals such as calcosite ,bornite ,malakite, Auzorite , and ... is observed . some of them is secondary and magnetite , limonite as secondary is formed.

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