Finhing potential in the 1:50000 sheet of kelisa kandi

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Abstract

In this study that the mainly purpose is exploration tried with systematic sampling from flood channel of kelisa kandi 's sheet and Inter pretation of have results is Introduced potential mining of unknown area in Avajigh district.
In this cases we can point to Dalkverdy and Pirahmad kandy areas .After Investigated of results of taken samples , High viscosity of elements such as Cu, Mn or Cr have been Contirmation.Based on obtained data enrichment of conpper' s viscosity in this area is reported about more than 10000 ppm.

Keywords:*Factor analyzing ,claster analysis, Factors .privileges,systematic geochemical explorations.*

Introduction

Kelisa kandi 1:50000 sheet is about 675 km^2 and is located in NW of Iran with uromieh –Dokhtar trend .The area is limited to geographical latitudes of 39°15′ to 39°30′ N and longitudes of 44°00′ to 44°15′ E.
The main units of structural in this sheet point of view of explordtion in cluded of ultramafic units and volcano –sedimentary units belong to ophiyolites complexes such as harzborgite ,lerzohite and donite , that altered to serpentine .Databases included of 1:50000 Geological map ,satellite information , economic geology datas and geochemical analysis which are used more .Because of Security problems in border lines there is no any geophysics data.

Method of study

For doing systematic geochemical exploration , firstly,based on former data , the area under study has investigated .Then sampling have been done . In the next step calculation of analysis error have done for assemblayes rocks in around.Based on this information process of data has did. Sampling of heavy minerals and drawing maps and study of rock samples so are studied.

Designing of sampling network

For distinction of realy geochemical anomalies and separate types raleted to mining deposition from other types in each area, It is needed that a constant part of flood

channel such as to -80 mesh or heavy mineral for example - 20mesh has selected for experiment.

Diameter of this firm part is dependant of weather condition,topography,and distance of origin of mineralization.

Density of sampliny from flood channel is dependant of channel density in watershed. Hence for area under study that has a cold climate and belong to mountain area there is one sample for one or some kilometers. In kelisa kandi' s sheet with attention to outcrops , 115 samples. Selected for area,each one sample only for 700 m^2.

Tried disterbution of samples in mountain area was based on watersheds gravity that will be contoroled by stratigraphy, Lithology,tectonics,Intrusive bodies and subvolcanics.

Samoeling acts

Attention to area under study show that geochemical exploration in scale of 1:50000 must be do in secondary environments. These information is based on disterbution of elements in secondary halos especially river sediments and soils . each sample of geochemical is about 100-200 grams of 80mesh flood channels.

After sieveing the dry sedimend in area put in the safe packet with numbering .

Sending samples of geochemical to laboratory:

The whole of samples have sent to laboratory of geological survey and some samples have sent to laboratories of Canada.

After providing of samples , samples selected for analysis of 30 elements. Samples analysed based on ICP method(AES,MS).Limit of sensivity for samples has been accepted that are following (quantity is based on PPm):

1

Proccess of data

In this sheet for each sample30 elements are calculated and then have been processed . in this step for a protion of data sensor did replacement amounts calculooted and have been replacement.

Replacement of sensord amounts by most kohen correctly method:

most of important statistics methods need total set of non sensor data . for estimate of amount of sensord there is some methods.In here is used of from method and that is kohensmethod. This method included of average society of normal log with use of most corrections.

The below table show the sensord estimate amunts by kohen's method correction.

2

X_0=Limit sensitive of device .

X_R=Replacement amounts for sensord data .

Separation and briefly of rock societies based on 1:50000 map of kelisa kanadi

Importance division of taken samples based on type of rock in superior area is for proccessing of data for amount of earth and limit of threshold separate for each area that depend on homogenesis group that have been Investigated.

In this way we can help to neutral phenomenen of syngenetic.

In this case effort to manifest of origin of each sample from sediments that the results are as follows.

1-Sob mono lithic System :6Samples of 3 different type roces.

2-sob dilithic System :17 Samples of 6 different type roces.

3-sob tirlithic system :5 samples of 4 different type roces.

Index enrichment

According to definition , Index enrichment of a element in a special sample is ratio of viscosity that element to average viscosity that element in each society the sample belong to its . Hence efficient factors in Index enrichment of a special element in a sample is dependant of amount of that element in sample and the same element in society too.

Index enrichment can separate geochemical data from litholoyical variation (syngentic phenomena)in the origin of area. For calculootion of Index enrichment we can use from Following formula:

$$Ei = \frac{Gj}{(cmed)^j}$$

In this formula EI is enrichment of index,Gj is amount of aboundantly of element in a specipic element and J (cmed)is amount of groundmas of the same element from society that belong to them .

Calculation of probability of occurrence each of Index enrichment

The geochemical map of flood channel sediments from point of two view is included of evaluation of potential mining of Lithological units and structural units and finally provide of metallogeny map of these units in the way of disterbution aboundantly map of elements and evaluation of anomalies that will be useful for comparative exploration activety. In these study , for doing two viewe, except of distribution geochemical elements map in the field scale , effort to calculation probability of occurrence of each amount of anomalies in the same region , more over calculation of statistics parameters of each society ,after normalization, occurrence probability of amount of each element in any sample is calculated too.

According to this , expectation area for elements such as CU, Zn,Fe,Ni,Mn,As,and Cr show first degree anomalies.

Evaluation of studies and expectation areas

Kelisa kandi s 1:50000 sheet is located in western lborz zone that including ultramafic units,ophiyolits layers with basalts , andesite and recent aluvial tracces too.

Ophiyolites leyers of this sheet is located along sanandaj-sirjan zone . oldest rocks of this area belong to upper Eocene and the youngest ones belong to recent alluvial sediments. Alteration in this zone is included,epidotization , cholori-tization , hemetitization and limonitization,especially in faulted zone regions.

In flood channel samples the elements of such as Cu,Au,Mn,Fe,Cr andZn are as anomaly.

In the centre of area , rocks belong to oceanic crust are widespread in the vertical scale .

Distingushed three anomalies that are following , pirahmad kandi, Dalkverd and markoli.Dalkverdy anomaly in some regions is included 1-2 percents of CU.pirahmad kandi anomaly is including of Cu,Au,Zn.In point of heavy mineral, Cu is reported.

Conclusion and suggestation

Neither of anomalies distingusked in this area have not been revenue befor and there is no any documents.a mong this regions Dalkverdy anomaly is very important from the point of bearing Mn and Cu rocks , we suggest a primary exploration by hammer method .

Extent of this area is 12 km^2. The other important anomaly is pirahmad kandi that has 7.6 km^2 extent . from the point of metal mineral studies such Au,Cu,Fe andMn is priority for two stage studies.

References

1-Hassany pak,Ali asghar(1376),best design exploration project , publication of yazd university.

2- Hassany pak,Ali asghar (1370),The principal of geochemical exploration , publication of Tehran University.

3- Hassany pak,Ali asghar and Sharafeddin , Mohammad(1384),analysis of exploration datas , publication of Tehran University

4- Hassany pak,Ali asghar (1380),mining sampling , publication of Tehran University.

5- Hassany pak,Ali asghar (1377), Zamin statistic, publication of Tehran university .

6-Moghaddam ,Mohammad , Mehri ,Abolghasem , Aghaei, Mostafa(1373) , Familiarity with several variable menthod , writed by menly , B,F,G.

1

PPm				%
Au=0/001	Cd=1/9	Mn=2040	Sr=125	Ti=0/45
Ag=0/5	Co=166	Mo=2	Th=20	S=0/03
As=11	Cr=1525	Ni=2280	Tl=10	Na=3/36
Ba=1000	Cu>10000	P=670	U=10	Mg=12/65
Be=0/5	Ga=10	Sb=5	V=139	K=2/49
Bi=2	La=10	Sc=26	W=10	Fe=5/91
			Zn=585	ca=7/12
				Al=7

2

Variabl	Au	Mo	Pb	Be	Bi	Sb	Zn	As
Xo	1	0.1	0.2	0.2	0.1	0.1	0.2	0.05
Xr	0.001	2	8	0.5	2	5	585	13
	PPm							