

## Image Map of Abarkouh mines

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### Abstract

*Image map both is a minimized image of zone and topography map used to present the specific topology. This is the most influential method to display and to train the topology.*

*Cartographers use the integrated satellite images, various maps, and ground information. Displaying topography such as Abarkouh mines in the form of image map is the best method to specify the place of mines, its dispersion, topography condition, and road network. A problem of exploitation and investing in mine reservoir in Iran related to lack of general public and capitalist awareness about importance and profitability in mine section, In addition, the technical experts, noticeably, are not aware about the modern method and technology to find place of mine reservoir and new mines. Geographical information system (GIS) and using satellite images caused that experts achieved valuable mines without any difficulty and high cost to insure whether it is economical. GIS can discover the mineral area and it can distinguish the volume of reservoir and amount of material concentration into a specific area with aid of traditional surveying, desert operation and using GPS.*

*Another problem to design extracting the mines at Iran is ambiguity in volume of mines reservoir, because geology of area was not considered precisely and traditional method used for discovering the mines. Therefore information about the volume of mine reservoir as a national wealth helps the economical decision makers. It is obvious that the best solution to achieving this proposes is geographical information system and images and information received from satellite. The statistic and information should be processed in the field of geology, mineralogy, soli science and final results should be supplied to users and designers in the form of scientific, information, maps, and image maps.*

**Keywords:** *Image map, mine, Abarkouh.*

### Introduction

The image map is overlaid aerial image or a satellite image with a map of specific topography. It displays the actual natural range and a map with conventional and symbolic signs. Image map is uses variously. It can be used as a guide for artificial structure to display different part of structure and it can display the earth with all dispersed components.

Image map can be used as a guide for clients at the office, industrial, scientific, and artistic zone and even a factory which can be separable with satellite images. Also, image maps with bigger scale can show the position of natural, industrial, and artificial phenomenon.

Almost the developed country, there is big map over a wall which it consist of detailed information about place and important center such as airport and railways used as a guide map. These images are not formal pictures or aerial images, but they are satellite images. Such images which contain information of important centers are called image map. It is not actually a map changed to image, but it is an image changed to map. Therefore, using

information technology, we can replace image map with formal map for public places. Image map means that information necessary for general public was added to satellite images or aerial images using software techniques. The final images publish as electronic material or hard copy.

### **Material and method of research**

Studied area is located at north latitude  $31^{\circ} 8'$  and east longitude  $53^{\circ} 17'$  at Abarkouh, Yazd. The road to arrive mines passed Yazd, Taft, Dehshir, and Abarkouh. In this research, after collecting information about mines of Abarkouh, road network, height and layers of mines were prepared using Arcview and Excel software. Using RS and GIS software, image map was provided.

### **Conclusion and result**

One of most important task of cartography is displaying the place and space of points and place over the earth with statistic and detailed information. A cartographer exports the data after analyzing numbers and digit traditionally or using modern method in GIS. Cartography expert activities result to different maps, diagrams, photomap tables, and image maps.

This device displays a huge of information and statistic with at least volume and simple method and it has the most mental and visual effect on user. An expert simply achieved a lot of information about area when he/she see a map, diagram, or image map. It is not necessary to collecting information, spend time, or surveying the area.

At this project, we provide an image map from Abarkou mines. This image map involves useful information for geologist, petrologist, mine experts, and researcher of mine.

Concentration petrol ore in north and west north demonstrated the big geology reformation resulted to huge reservoir of marble stone and travertine.

With inspecting this images, a geologist can distinguishes the past geology reformation, material and composition of stone and soil, climate resulted to this material, ages of mines reservoir, and even volume of reservoir. Marble and travertine stone with sediment origin demonstrate the sedimental bed of this area. Probably there was a wide sea at the remote past. Marble as limy stone, designated the most important of area, and marble as metaphoric sediment stone shows heat and relative pressure in quarter period on sea sediments and sediments resulted from limy maker springs. Travertine stone demonstrated the warm spring at the past.

Paleontologists can distinguish ages of sediments and method of constituting them. In addition, it is possible to recognize the climate, morphology, and topography of area.

Displaying topography of image map cause to comparison simultaneously the topography and maps displaying the topography and earth phenomenon. Therefore using this method recommended to experts to display topography and earth phenomenon.

Based on efficiency and aesthetic aspect, using image map to display topography predominate on other method of cartography.

Because the mines and earth reservoir as national wealth play an important role in economic, introducing them to community can be effective in exploiting and investing.

Hereby, we use the modern method of cartography. Image map which resulted from various map and statistic data with satellite images can introduce Abarkouh mines dispersionally and concentrationally. Subsequently it can be supplied to user effectively.



Figure 1: Image Map of Abarkouh mines

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