



Zamin Physic Pouya (ZPhP)

Consulting Engineering

IRAN 2021

***The goal of our activities is to keep the earth safe and,
protecting the planet for future generations.***

About Us

Based on the needs of the development plan in Iran, and the necessity for developing the consultant company capacity using academic finding and developed equipment for earth engineering and construction management, we decided to establish a consulting company in the field of engineering geology, geotechnics, and geophysical as well. Zamin Physics Pouya Consulting Engineering Company (ZPhP) was established in 2009. The goal of ZPhP is to hire high experts with special training for fieldwork using high technology scientific and engineering equipment. At the first period of ZPhP activities, Sazehpardazi Iran Consulting Co. (SPI) with over a quarter-century of experience, was the legal Shareholder of Zamin Physics Pouya Consulting Engineering Company up to 2020.



Up to now, ZPhP has performed more than 150 projects in various fields of Engineering Geology, Geotechnical, Geophysical, Earthquake Risk Analysis, Geology, Mining Explorations, Geochemical Explorations, and Environmental Geology in the governmental and private sectors. Also, the company has implemented some projects in neighboring countries as well that have been completed. Implementation and cooperation in various and wide fields of project and activities, such as Oil industries and its relative downstream industries, mining industries, spatially geotechnical and geophysical works, and cooperation in other countries projects, made the ZPhP one of the largest and best-known companies in the countries and region.

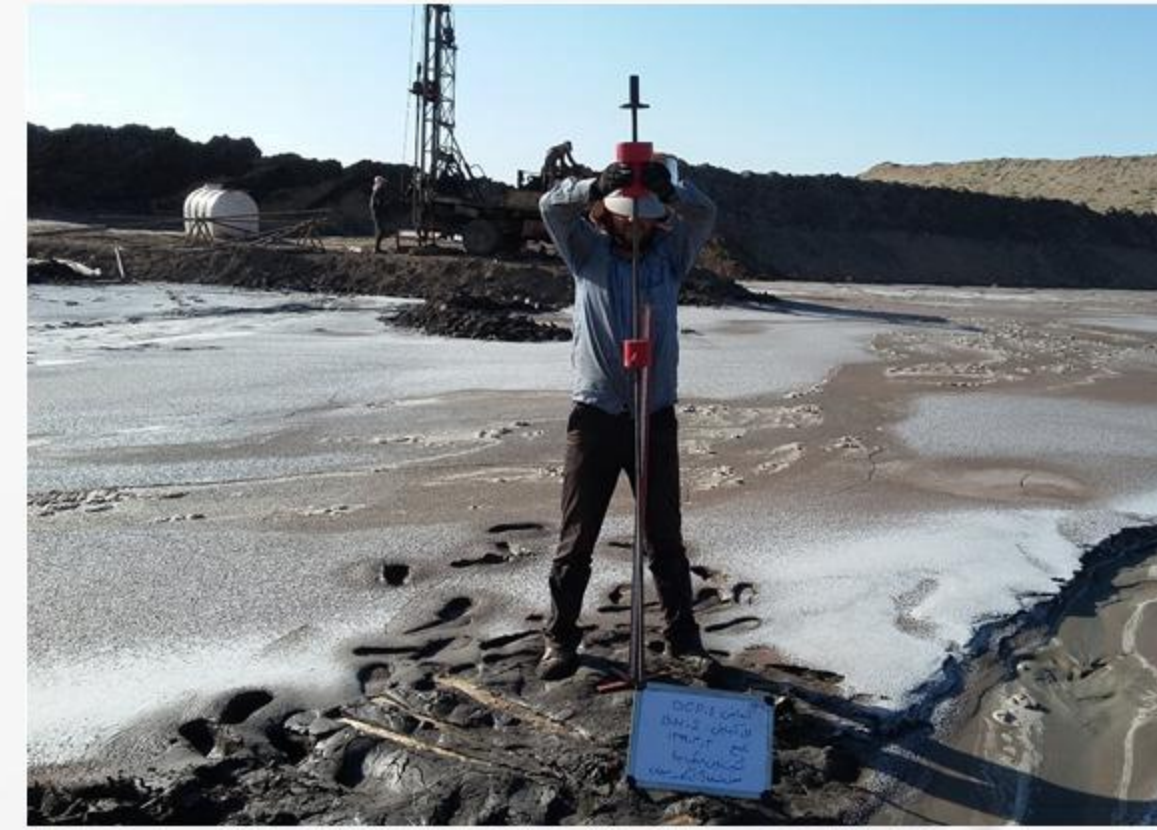
Geotechnical Engineering

Due to the importance of subsurface identifying of large projects, and from the perspective of modern technology, always geotechnical operations in international standards, including drilling, field and laboratory tests has been a major concern of consultants.

In addition, specific geotechnical studies including offshore drilling, spatial sampling, and field trials, sometimes placed in the category of top technology that needs high technical, equipment, and financial power. So the company has tried to share with the high-rank geotechnical company to cover an international standard and provides itself for a particular geotechnical service via obtaining the highest rank.

Department of Geotechnics of ZPhP provides services in geotechnical and land improvements such studies seek to identify and prepare foundations of technical buildings, site investigation, Laboratory services, providing methods and implementation of land improvements, the establishment of laboratory units, and conducting complex and geotechnical projects. The outlines of this section are:

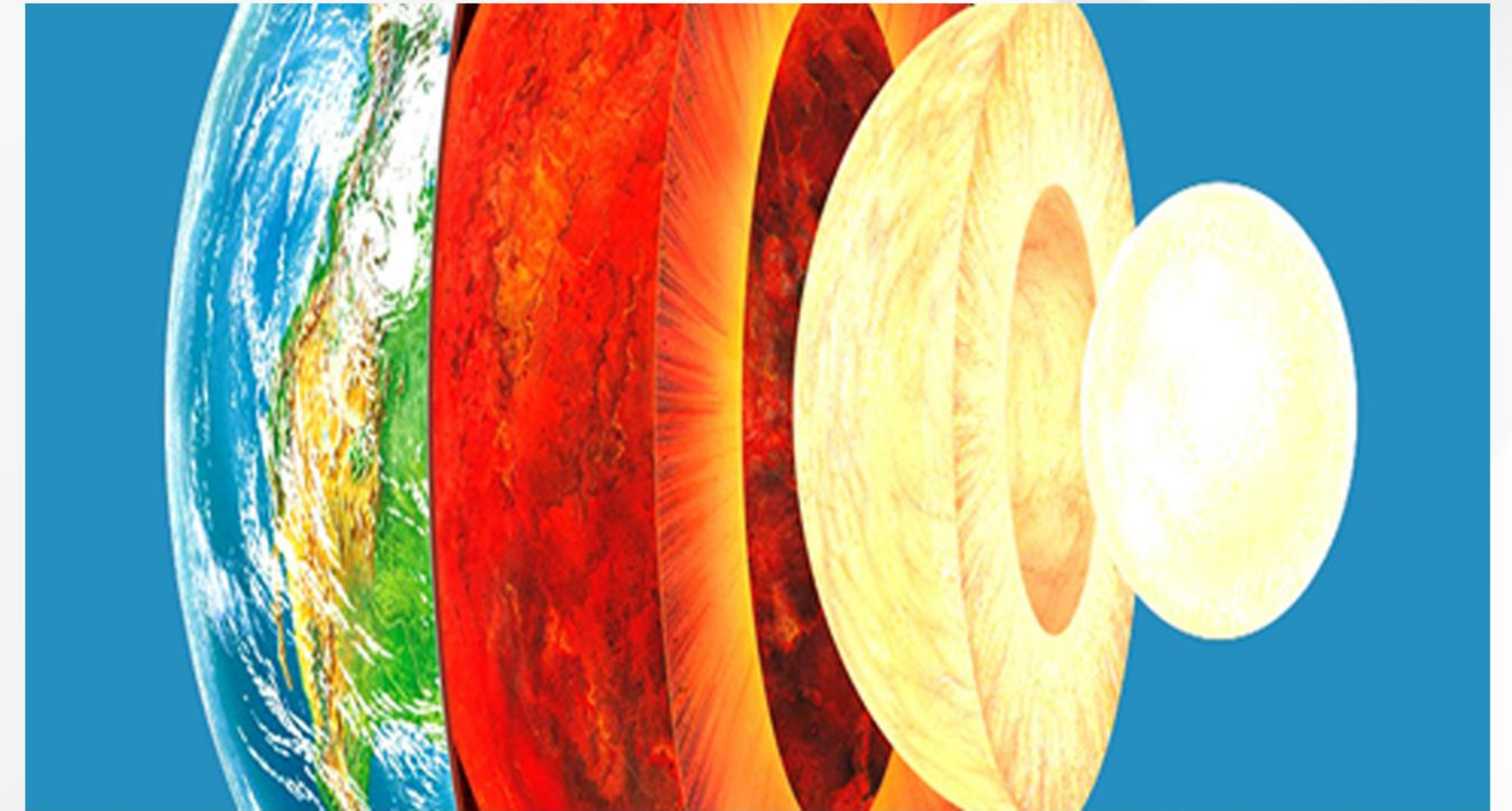
- Study and Identification of onshore and offshore foundations of structures and buildings
- Site Investigation (exploration boreholes drilling and in situ tests)
- Laboratory soil & rock mechanics, cement and asphalt services
- Field laboratory units and quality control of operations
- Design and implementation of retaining structures
- Study and design of special complex geotechnical projects



Engineering Geology and Environmental Geology

Engineering geology is an interdisciplinary field of earth engineering that establishes the relationship between geology and geotechnics. For this reason, engineering geology has a great variety of activities. Experts in engineering geology must have sufficient mastery of various earth engineering sciences in order to establish this relationship. In the engineering geology group of ZPhP, several items covering the activities of this group such as:

- Engineering geological studies of development projects,
- Preparation of engineering geological and environmental maps,
- Preparation of soil pollution maps,
- Quantitative and qualitative studies of surface and groundwater resources,
- Selection the route of life lines such as transmission lines of electric, gas, oil and road,
- Urban engineering geology and site selection for urban development,
- Exploration of underground anomalies such as cavities and burial of canals,
- Environmental studies, preparation of seismic micro-zonation maps,
- Earthquake risk assessment,
- Evaluation of site impact on construction and natural hazard assessment (faulting, liquefaction, landslides, problem soils, etc.,
- Preparation of soil contamination maps
- Evaluation of geological hazards
- Selection of sites for site for waste landfill

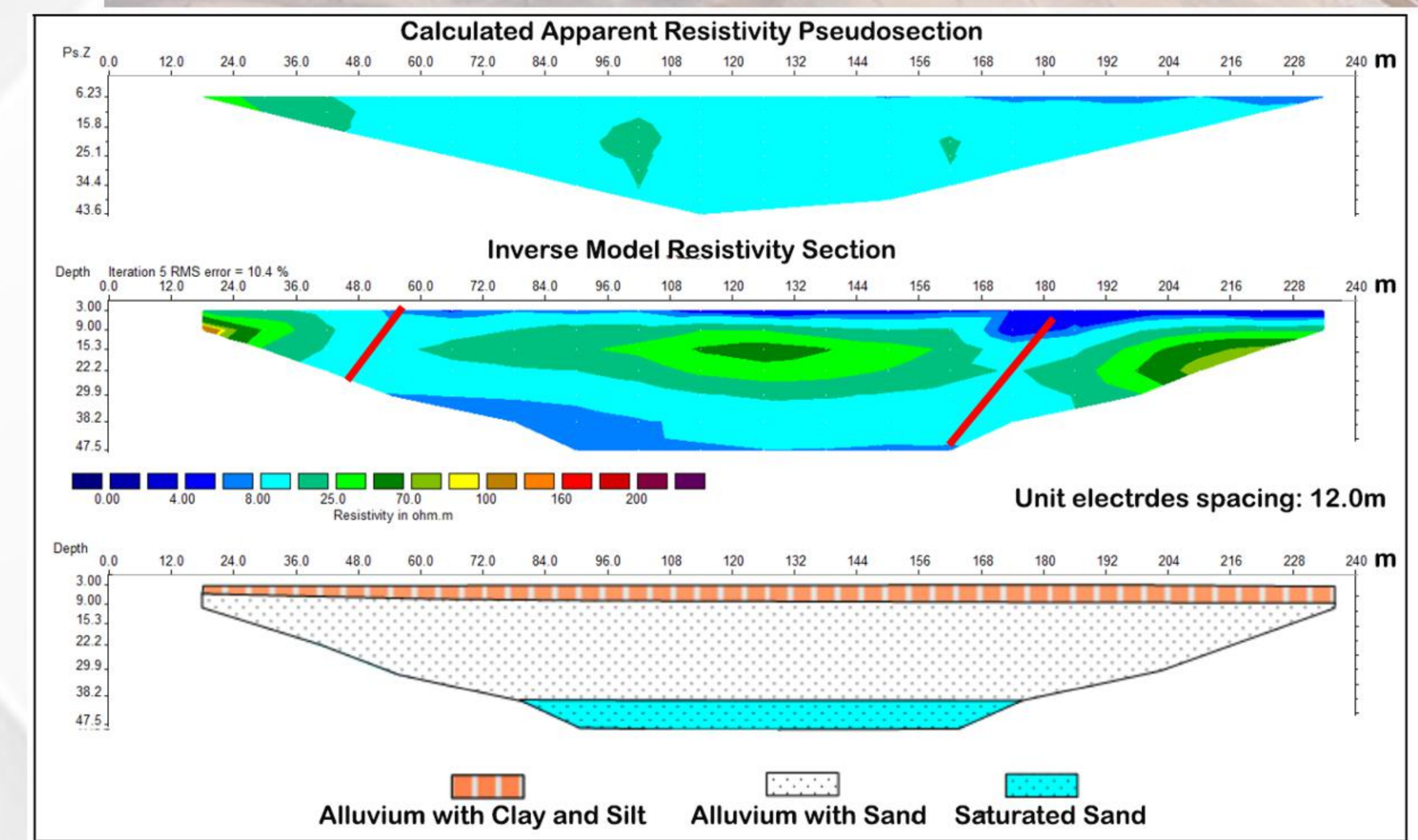


Geophysical Engineering

Due to the advantages of geophysical methods as non-destructive, rapid, and relatively low-cost methods, for subsurface exploration, the demand for using the geophysical method for earth improvement and earth engineering has rapidly increased. Development in devices technology as well as the efficiency of their finding puts these methods as the priority in the oil and gas industry as well as and mining and gradually were dominant in the earth engineering works. Therefore, ZPhP established a powerful group of geophysical methods for earth exploration and earth engineering. This group has developed its activities by employing conventional and modern devices and equipment as well as experienced professionals, advanced software and experienced field operators.

The Geophysics Group aimed and facilitated for some basic activities including:

- Surface, deep geo-electric studies for groundwater exploration,
- Evaluate the subsurface,
- Evaluation of mining, mineral exploration geophysics studies (IP, RS, magnetic, and gravity surveying),
- Detection of faults and subsurface studies in urban areas
- Geo-radar (GPR) studies to identify cavities, karst areas, channels, pipes, and buried archaeological studies, etc.
- Seismic studies in different methods of the downhole, cross-hole, tomography, deep seismic, etc. Micro-seismic studies (Micro-tremor) to identify the dynamic characteristics of alluvial and structures
- Geophysical studies of specific projects, including studies, processing, and interpretation of 2D and 3D seismic projects in oil and gas exploration and marine geophysical studies



Mining

Iran has one of the richest mineral countries in the world with **37** billion tons of proven mineral reserves. In accordance with the economic, social, prosperity of Iran's developing plan, Zamin Phhysic Pouya Company has established its Mining Group with the collective efforts of mining experts. This group has aimed to perform rapid and scientific exploration work and providing services in this field. The approach of this group is to use modern software methods as well as to perform accurate and fast exploration work. During its activity, the company has been able to carry out successful mining projects with the help of a group of experienced experts in this field. Economic geological studies and estimation and evaluation of mines, preparation of geological maps, preparation of alteration maps and determination of mineral indices, conducting exploratory remote sensing studies, preparation and studies of thin and polished sections, performing and analyzing chemical and instrumental analyzes Design and implementation of mining processing projects, conducting mining economic consulting, preparing a business plan, participation in investment and exploitation of mines are some activities of the mining group of ZPhP. Some of the main titles of the Mining Group are as follows:

- Assessment of economic geology
- Geological mapping
- Determination of index of mineral alteration
- Remote sensing exploration
- Implementation of mineral processing
- Monitoring and early warning system of mine and waste
- Preparation of business plan proposal
- Participation in investment and operation of mines



TOP PROJECTS of ZAMIN PHYSIC POUYA

GEOTECHNICS

- Geotechnical Study of Darkhoein Power plant
- Comprehensive geotechnical studies of Shahid Alimoham madi Site
- Geotechnical studies of Asalooye offsite Phase 2 project (Southern Pars)
- Geotechnical Seismic micro-zonation studies in Mashhad
- Geotechnical Services of Nahre-Ghasr Port
- Supervision of geotechnical operation of Aledge dam and irrigatio network
- Geotechnical Seismic micro-zonation studies in Sistan and Baluchestan
- Preparation of Standard and guideline for design and implementation of consolidation and sustainability of low-density lands using dynamic compaction method
- Settlement modification Plan of Emam Khomeini Special Economic Zone
- Settlement modification Plan of Fajr Petrochemical Power Station located in Emam Khomeini Special Economic Zone
- Geotechnical studies of Commercial – Residential Complex of Azarakhsh (Kelarabad)
- Geotechnical studies of Gilan huge refinery
- Geotechnical studies of Noshahr port silos
- Geotechnical of Hali rud treatment plan(Kerman-Jiroft)
- Engineering Services of Laboratories of Iranian oil terminal Co. at Kharg Island

ENGINEERING GEOLOGY

- Seismic Microzonation of Mashhad and Babol cities and Sistan and Baluchistan Province
- Slope unstability study of Zarshuran gold mine
- Geological studies and seismic risk analysis of Choman dam
- Preparation of Soil Pollution Atlas of Golestan Province
- Site location of Special waste landfill in Northern Khorasan
- Routing, geology and agrology of Anar, Jozan Dahaj and Rubber–Hanza gas pipelines
- Engineering geology, Seismicity, Borrow material and hydrogeological studies of different development Projects
- Borrow Rock Material Studies (core, filter and armor) of different breakwater project

TOP PROJECTS of ZAMIN PHYSIC POUYA

GEOPHYSICS

- Geophysical studies lifesaving plan of Bell Spring
- Geophysical studies of line 7 subway Tehran and Line 2 subway Mashhad
- Geophysical studies of Golbahar New Town in Mashhad
- Seismic tomography of Seymare Great Dam
- Seismic tomography of Tohid tunnel (Tehran)
- Geophysical studies of underground water resources in TIS-cement company (Chabahar)
- Geophysical studies to identify and scan sour gas pipelines and other underground facilities in Mahshahr
- Geophysical studies of Commercial – Residential Complex of Azarakhsh (Kelarabad)
- Geophysical studies of Gilan huge refinery
- Geophysical studies of Noshahr port silos

MINING

- Chadormalu Iron Mine exploration studies
- Saghez Iron Mine exploration studies
- Studies of geology, geochemistry, and mapping of Abarkooh Iron Mine
- Geological studies of Torbat Heydariyeh Manganese Mine
- Preliminary and detailed studies of Kalateh Gook copper mine
- Exploratory studies of Bahariyeh copper mine
- Telemetry geochemistry and economic geology studies of Southern Khorasan Mines
- Exploratory studies on Bajestan copper mine by IP-RS method
- Economical consulting, investment, and operation of different mining projects in the country
- Study and investment of waste mineral processing and industrial plants

INTERNATIONAL TOP PROJECTS

- Geological and geophysical studies in Khyvta Dam (Kurdistan region, Iraq)
- Geological and geophysical studies in Chq Dam (Kurdistan region, Iraq)
- Geophysical surveys using geo-radar and Microtermor in the holy shrine of Imam Hussein (Iraq)
- Geotechnical and foundation engineering studies of surface water and wastewater networks in Alhndyh (Iraq)
- Seismic and surveys resistance studies of the mosque of Kufa (Iraq)
- Geotechnical studies of flood control dams in Salalah Free Zone (Oman)



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