



ESPEER Mining Services Abstract Resume



Banking & Credit Investment Consultant Center
(ESPEER Membership No: 749)



Quality Management Certificate
(ESPEER ISO 9001:2008)

2017

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Section 1

Company Profile

1-1- Overview

ESPEER founded in 2006, to provide a wide range of various Geological, Mining (exploration, mine designing and mineral Processing), Geotechnical and Environmental services, also research and development on geosciences.

ESPEER is a multi-disciplined organization of competent geologists, mine & mineral processing engineers, field and laboratory technicians, who combine their technical capabilities, past experience, dedication, and enthusiasm to offer the premium service through integrated team effort.

We established a subsidiary company under the name of PIONEERS in Tajikistan for developing of our presences in CIS countries in field of natural resources (minerals, mining and hydrocarbon) investment and technical services.

Now ESPEER has 12 full time and 23 part time experts, in various type of expertise. Supervisory stuff and manpower organization is in such ways that help to easily hiring local and international high level proficient experts, based on each individual project requirements. We have built a reputation for excellence in consultancy engineering and customer service.

1-2- ESPEER board of directors

- **Mohammad Zarghami; Chairman and Managing Director**
BSc, MSc, MAAPG, MIMEO

Over 20 years of experience in mining sector, particularly exploration and project management of metallic and non-metallic minerals. Mohammad has worked as principal geologist of ARMC and Kani Kavan before join to ESPEER. He has advisory role in mining holding company of OPIC in Iran and Salosa and Petromineral in Tajikistan.

He is member of American Association of Petroleum Geologists and a registered geologist of Iranian Mining Engineer Organization.

- **Farzin Talebi Rad; Director**
BSc, MSc, MIMEO

A senior geologist, with vast experience as an exploration and mine geologist in precious, base metals and industrial mineral deposits in Iran and neighbor countries. Farzin worked as a manager of mining - geology department in Sungun copper mine (NICICO), the second biggest copper porphyry open cut in Iran.

He has conducted a joint project with SRK, Rio Tinto, Persian Gold and Clontarf Energy; also he has a supervisory role in national exploration projects with IMIDRO and IMRACOMPANY He is qualified geologist under guild line of Iranian Mining Engineer Organization.

- **Bahman Rashidi; Director**
BSc, MSc, MAIG, MIMEO

Economic geologist with 16 years' experience in the geosciences and mining exploration industry in senior roles with a number of companies, including ESTRI, Normandy-Karand, Pars Kani, Persian Gold, Clontarf Energy, Satrap Resources and Golden Cross in Iran, CIS countries, and Australia. Bahman, have been involved in several advisory/consultancy positions for state agencies include: MICO, IMRACO and IMECCOMPANY

He is a registered geologist of Iranian Mining Engineer Organization, member of the Australian Institute of Geoscientists and a Competent Person as defined in the JORC Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves.

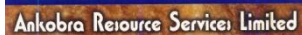
1-3- Our team

- ✓ **Mohammad Zarghami; Chairman & Managing Director**
BSc, MSc, MAAPG, MIMEO
- ✓ **Farzin Talebi Rad; Director**
BSc, MSc, MIMEO
- ✓ **Bahman Rashidi; Director**
BSc, MSc, MAIG, MIMEO
- ✓ **Ahmad Jalilzadeh , Senior Advisor**
BEng, MIMEO
- ✓ **Mozhgan Saeidi, Geologist**
BSc, MA, MIMEO
- ✓ **Shirin Jahromi, Hydrogeologist**
BSc, MSc, MIMEO
- ✓ **Mozhgan Elahi, Economic Geologist**
BSc, MSc, MAIG, MIMEO
- ✓ **Ehsan Ghazi, Mineral Exploration Engineer**
BEng, MEng, MIMEO
- ✓ **Majid Baghernejhad, Tectonic Geologist**
BSc, MSc, MIMEO
- ✓ **Fatemeh Zeinali, Tectonic Geologist**
BSc, MSc, MIMEO
- ✓ **Amir Hemati, Mining Engineer**
BSc, MIMEO
- ✓ **Ali Saberian, Mining Engineer**
BSc, MSc
- ✓ **Hamid Chaghari, Mining Engineer**
BSc, MSc

- ✓ **Hamed Bahram, Sedimentology**
BSc, MSc
- ✓ **Roya Yoosefi, library & Information sciences**
BA. MILISA
- ✓ **Hossien Seifzadeh, Accountant**
BA.

1-4- Partners

- Ankobra Resource Services Limited, UK
- Khyber Resources limited, UK
- Vichem ,France
- Azerbaijan National Academy of Science
- 8 Wells Group, France
- Promeca , Swiss
- Salasa ,Tajikistan
- Petro-Mineral Tajikistan

Ankobra Resource Services Limited

1-5- Contact us

3rd Unit; No 6; Kohestan Blvd.; Ketab Square, Saadat Abad; Tehran. Iran. P.C:1981686353,

Tel: (+98) 21 22064785-6

Fax: (+98)21 22066204

Web Site: www.espeer.ir, e-mail: info@espeer.ir

Section 2

Technical Capabilities

2-1- Field of activities

“ESPEER” is an independent company and offers its services to private sectors and state/governmental clients, banking/financial institutions, consultants and general contractors.

Services offered by our company include:

- ✓ Consultancy in mining projects
- ✓ Providing technical consultancy to the investors in mining and mining industries
- ✓ Planning and executing exploration, mine design and exploitation projects.
- ✓ Planning and executing mineral processing plant
- ✓ Applied geological investigations.
- ✓ Environmental assessments and water-waste treatments
- ✓ Geotechnical studies and laboratory-field tests.

2-2- Services

- **Mining services (exploration, exploitation & mineral processing)**
 - ✓ Providing consultancy to the investors in mining and mining industries.
 - ✓ Exploration and reserve data validation
 - ✓ Geology mapping (pure and applied)
 - ✓ Mineral exploration geology
 - ✓ Exploration drilling and sampling
 - ✓ Structural geology studies
 - ✓ Design & management of surface exploration programs
 - ✓ Geology/reserve/grade 3D models generating.
 - ✓ Mine & dump slop stability analyses
 - ✓ Mining geotechnical design
 - ✓ Slope monitoring & control management
 - ✓ Resource confidence classification
 - ✓ Resources and reserve audits
 - ✓ GIS database design and development

- **Geotechnical engineering and engineering geology**
 - ✓ Laboratory testing
 - ✓ In situ testing
 - ✓ Slope stability analysis
 - ✓ Numerical modeling and analysis
 - ✓ Back analysis
 - ✓ Landslide analysis

- **Environmental services**
 - ✓ Environmental impact assessment of industrial and mining development projects
 - ✓ Management of municipal, industrial and mining solid wastes and hazardous wastes
 - ✓ Design of tailing dams

- **Mining industries (PFS, FS & BFS)**
 - ✓ Market studies
 - ✓ PFS and FS studies, for mining projects and mining industries.
 - ✓ Techno-Economic studies and preparing economic models

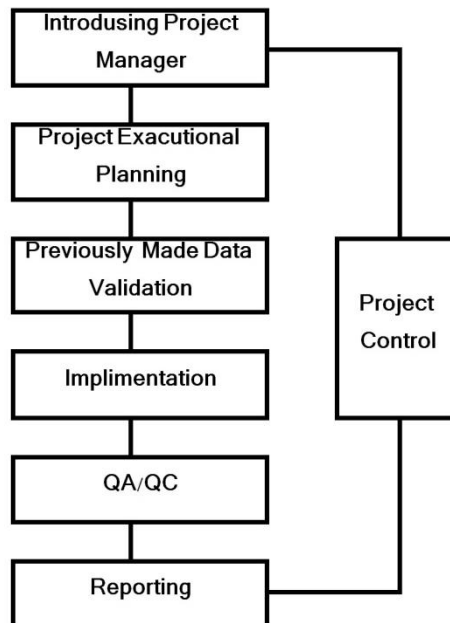
- ✓ Bankable reports preparation, for mining sector based on "banking & credit investment consultant center"

Section 3

Execution Process

3-1- Projects Execution Flow Diagram

“ESPEER”'s manner in projects implementation is shown in following flow Diagram:



Flow Diagram “ESPEER” Manner in Projects implementation

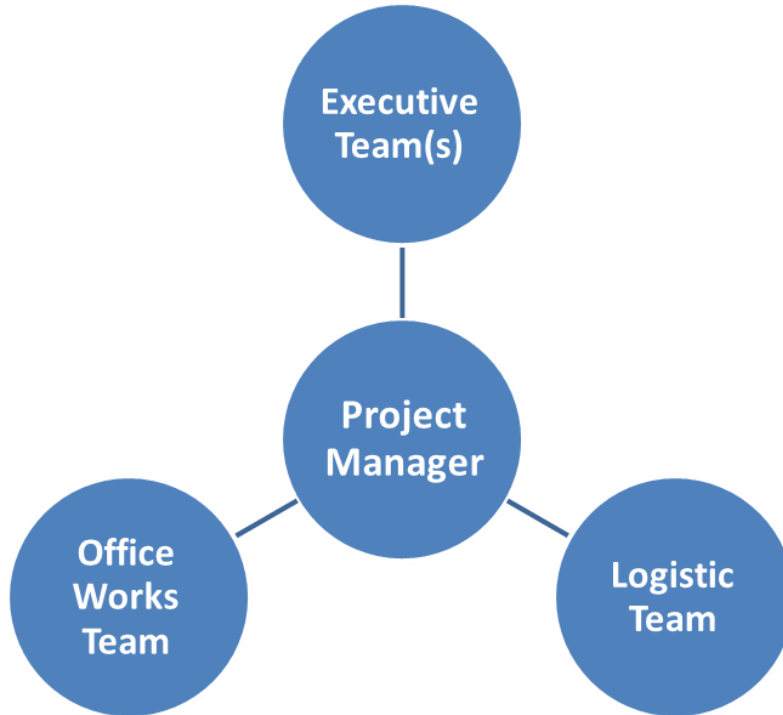
- Project manager, is selected based on each individual project’s requirements, and in relation with technical-managerial experiments of each person.
- Projects Executive Planning, carried out Contract obligations and requirements, Goals, and Arial Conditions-limitations, and Client advises. Main Items are:
 - Work Teams Arrangement, caring out from ESPEER’s full time or part time experts or partner companies. Experts are organized for each technical item in some categories (Planning Expert, Supervisor and field experts). To more professionalizing the office work, ESPEER provide a central team in stuff.
 - Designing customized organo-gram for each individual project.
 - Detailed items of project.
 - Project time scheduling.
 - Reporting milestones.
- Previously made Data Validations, as a strategic issue, carried out for all ESPEER’s Projects.

- QA/QC of the operation procedures regarding individual project will be developed prior the project commencement, and pay more attention to Data Processing and Reporting Standards.
- Project Control unit, supervising all procedures in all levels.

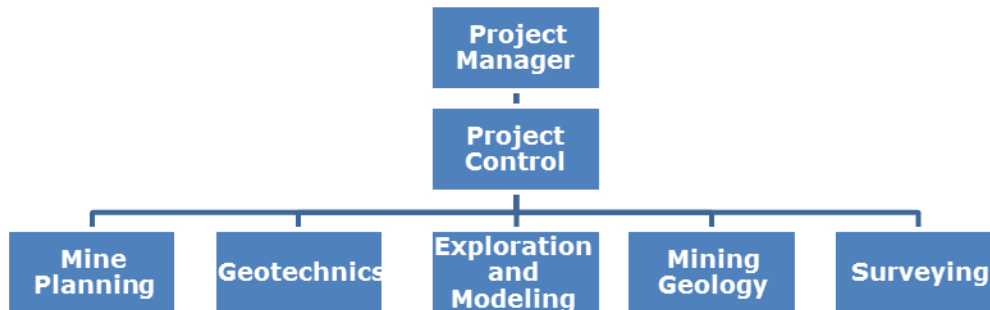
3-2- Projects Organ gram

(Given Case: a mining project)

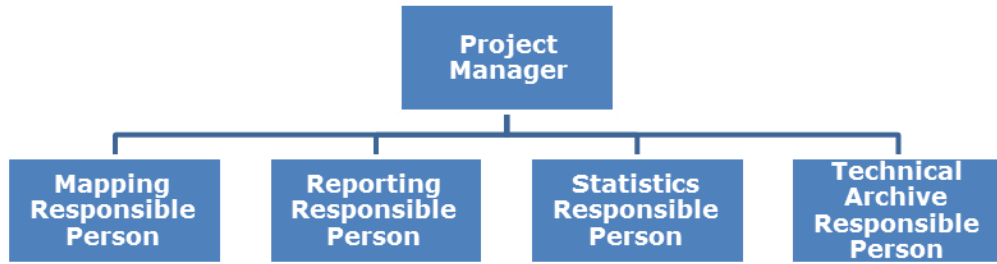
To implementation of mining project, ESPEER uses following organograms, that use for responsibility distribution and reporting levels.



Project Executives Organization



Executive Team Organization
(In a mining project, as a given case)



Office Work Team Organization
(In a mining project, as a given case)



Logistic Team Organization
(In a mining project, as a given case)

3-3- Recent Works

Since the start of the company in 2006, ESPEER has successfully completed some projects in various fields of activities.

❖ **Exploration and Mining:**

1. Mining consultancy for :

- ✓ Country Exploration Services Company (CESCO)
- ✓ Opal Kani Pars
- ✓ Minakan
- ✓ Semnan Soda ash
- ✓ Sahand Industrial Group
- ✓ Aria Jonoob Iranian
- ✓ Faraz Zamin Parsian Shargh
- ✓ S. M. Dey Yazd
- ✓ Dena Kavosh Jam
- ✓ Koomeh Madan Pars
- ✓ Kani Navid Pars
- ✓ Sadr Jahan Mine Development
- ✓ Pey Sang

2. Providing technical consultancy in Exploration, Mining and Mining Investment to:

- ✓ Parsian Investment Company
- ✓ Negin Ehia Madan company, Mining Holding of “Ehiaye-Sepahan” Mining and Industries Complex

3. Semi-Detailed Exploration of “Baroot Aghaji” Poly-metallic prospect (1/20K scale), Zanzan province, Iran. Client: Mr. Akbari(Project Code: PMZ)

4. Exploration of “Khoinary” Porphyry Cu-Au deposit (1/20K, 1/5K scales), East Azerbaijan province, Iran. Client: Khoinary Base Metal Company (Project Code: KHO).

5. Data gathering, Data Organization and Data Validation on “Kharvana” Gold Field, East Azerbaijan province, Iran. Client: Regional mining company of Azerbaijan; MCA (Project Code: KHA).

6. Exploration of “Aland” Poly-metallic prospect (1/20K scale), West Azerbaijan province, Iran. Client: Mr. Amini (Project Code: PMA).

7. Complementary Exploration, Mine designing and of “Ajabshir-Bonab” Silica Deposits (1/1000 Scale), East Azerbaijan province, Iran. Client: Sahand Jam Company (Project Code: SJT).
8. Exploration of “Chombol” Vein Pb-Zn Deposit, (1/20K scale), Gilan province, Iran. Client: Loshan Zinc Industries Company (Project Code: CHB).
9. Complementary Exploration (1/1000) Scale of “Mooteh Gold Mine “Expansion Project, Esfahan province, Iran. Client: SIMCO (Project Code: MOT).
10. Drilling Supervisory management of “Mooteh Gold Mine “Expansion Project, Esfahan province, Iran. Client: SIMCO (Project Code: MDR).
11. Logging Program Managing of “Mooteh Gold Mine “Expansion Project, Esfahan province, Iran. Client: IMPASO (Project Code: MLG).
12. Reconnaissance Study and Prospecting of Metallic Ore Deposit in “Goshk”, “Vakil Abad “ and “Motaa”, Kerman Province, Iran. Client: Zemin-o-Samin Company (Project Code: KHO).
13. Chapar 1,2,3,4 and 5 areas exploration. Client: Opal Kani Pars Company (Project Code: OPK-C).
14. Topo/Geo Mapping project of “Sheitoor & Zaghia” Iron Deposits (1/5K Scale), Yazd Province, Iran. Client: SIMCO (Project Code: SHE).
15. Exploration of “Yengeje” Gold Deposit, East Azerbaijan province, Iran. (Project Code: YNG).
16. Detailed Evaluation on Gold Exploration Projects, for Project Development, Iran. Client: PICO (Project Code: SGP-G).
17. Detailed Evaluating on Bentonite Exploration Projects (Drilling Grade), for Project Development, Iran. Client: PICO (Project Code: SGP-G).
18. Metallic Ore Deposits Prospecting in “Bardaskan” Area, Based on Remote Sensing Studies and field Anomalous Areas Checking northern Khorasan province, Iran. Client: SIMCO (Project Code: BAR).
19. Metallic Ore Deposits Prospecting 8 potential Area, Based on Remote Sensing Studies and field Anomalous Areas Checking, in Ardabil, East Azerbaijan and Mazandaran Province, Iran. Client: SIMCO (Project Code: ACH).
20. Supervising to “Bostan Abad” Metallic Ore Deposits Exploration Project, East Azerbaijan province, Iran. Client: East Azerbaijan Industries and Mines Organization (Project Code: EAZ).
21. “Koohe-Dom” Gold field Exploration Project (1/5K, 1/1000 scales), Esfahan province, Iran. Client: IMEECO (Project Code: DOM).

22. “Issi su” Kaolin Mine Complementary exploration Project,”Gara-Aghaj”, East Azerbaijan, Iran. Client: IMRACO (Project Code: KAO).
23. Cu Deposit Preliminary Exploration in “Koshkooieh, Rafsanjan”, Kerman province, Iran. Client: Mr. Abedini (Project Code: RCU).
24. Data gathering, Data Organization and Data Validation on “Torood” abandon PB-Zn Mines, Semnan province, Iran. Client: IMRACO (Project Code: SEM).
25. Complementary Exploration and Mine Planning of “Sangan” Placer Iron Ore Deposit, Khorasane-Razavi province, Iran. Client: Ehiaye Sepahan Iron Ore Mines Company (Project Code: NEG-F).
26. Complementary Exploration and Mine Planning of “Sefo” Mn Deposit, Maku, West Azerbaijan province, Iran. Client: Chaldoran Manganese Maku Company (Project Code: NEG-M).
27. Complementary Exploration and Mine Planning of “Abadeh” Refractory Deposit, Fars province, Iran. Client: Baztabe-Abadeh Company (Project Code: NEG-N).
28. Data Validation on “Morvarid” Iron Ore Deposit, Zanjan province, Iran. Client: Mojrianeh Tooseeye Maadene Asia Company (Project Code: AMZ).
29. Preliminary Exploration of Au Deposit in “Khash”, Sistan-o-Baluchestan Province, Iran. (Project Code: KSH).
30. Iron Ore Deposit prospecting in “Takab”. West Azerbaijan Province, Iran. (Project Code: TAK).
31. Data gathering, Data Organization and Data Validation on “Shahkooh” Sn Exploration Project. Client: IMRACO (Project Code: SHH).
32. Preliminary Exploration Project of “Biroon” Silica-Dolomite deposit, Mianeh, East Azerbaijan. Client: Sahand Silis Co (Project Code: SJT-B).
33. Preliminary Exploration Project of “Chrزه Khoon”Kaolinit Prospect, Bostan Abad, East Azerbaijan. Client: Mr. Baseghi (Project Code: CHZ).
34. Exploratory Data Validation Project of “Bavanat” Iron Ore Deposit, Neiriz, Fars Province; Client: Mr. Asadifar (Project Code: BEF).
35. Potash Exploration Project on “Chapar”, Mahneshan, Zanjan Province; Client: Delta Kimia Co (Project Code: CHP).
36. Detailed Exploration Project on “Shadan”, Birjand, S. Khorasan Province; (Project Code: SHA).
37. “Sarcheshmeh” Porphyry Open-Pit Mine Bench Mapping Project; Kerman Province; (Project Code: SRC).

38. Jiroft polymetal exploration and extra exploration. Client: Fekr Company (Project Code: JRF).
39. Qaleh Zari mine exploitation and around area. Client: Minakan Company (Project Code: QGE).
40. Qaleh Zari mine mineral processing. Client: Minakan Company (Project Code: QTP).
41. Remote Sensing exploration studies for Iran kuh Mines. Client: Bama Company (Project Code: BAM).
42. Validation and reserve 3D modeling of Meskani Mine. Client: Mes Behabad Parsian Company (Project Code: MES).
43. Supervision of drilling exploratory boreholes and reserve 3D modeling of Meskani Mine. Client: Mes Behabad Parsian Company (Project Code: MES-S).
- ✓ Data gathering, Data Organization and Data Validation of Aria Jonoob Iranian iron ore and compile report. Client: Aria Jonoob Iranian (Project Code: AFE).
- ✓ Hadid iron ore exploration. Client: Aria Jonoob Iranian (Project Code: HFE).
44. Gold exploration in Kahdalan area. Client: Iran Minerals Production and Supply Company (Project Code: MKD).
45. Anjerd Copper exploration project. Client: Faraz Zamin Parsian Shargh Company (Project Code: FZP-A).
46. Eskandian Iron exploration project. Client: Faraz Zamin Parsian Shargh Company (Project Code: FZP-E).
47. Asbkhan exploration project. Client: Azarin Khak Heris Company (Project Code: AXH).
48. Heneshk Iron ore exploration project. Client: Heneshk Iron Ore Company (Project Code: HEN).
49. Complimentary exploration studies on Chah Zard deposit. Client: S. M. Dey Yazd Company (Project Code: DEY).
50. Régional reconnaissance on Saravan block, Client : IMIDRO (Project Code : SRV)
51. Supervision on exploration projects (Iron ore, Magnesium and Bentonite) in Marvast area, Client: Fekr (Project Code: MAR)
52. Complementary exploration of Sonajil Porphyry, Client: Oghab Talaye Arasbaran (Project Code: SIE)
53. Régional reconnaissance on Tarom block, Client : IMIDRO (Project Code : PTZ)

❖ Environment:

54. Environmental Impact Assessment of Melting Unit of Azerbaijan Steel Company, East Azerbaijan, Iran. Client: National Iranian Steel Company, Azerbaijan Steel Company (Project Code: FOL).
55. Environmental Impact Assessment of Steel Making Project of Miyaneh, East Azerbaijan, Iran. Client: National Iranian Steel Company, Azerbaijan Steel Company (Project Code: FOL).
56. Environmental Impact Assessment of Petrochemical Plant (Propylene from Propane, (PDH), Asalooyeh, Booshehr, Iran. Client: Mehr Petro Kimia Company (Project Code: MPC-E).
57. Environmental Impact Assessment of Petrochemical Plant (ASBER), Asalooyeh, Booshehr, Iran. Client: Sadafe Asalooyeh Company (Project Code: SAD-E).
58. Environmental Impact Assessment of Produce propylene from propane (PDH) capacity of 455 thousand in a year, Asalooyeh. Client: Mehr petro Kimia Company (Project Code: MPC-E).
59. Environmental Impact Assessment of Boanb steel industry complex. Client: Boanb Steel Industry Complex. (Project Code: FBE).
60. Environmental Impact Assessment of Khezrloo steel industry complex. Client: Khezrloo Steel Industry Complex. (Project Code: FKE).
61. Environmental Impact Assessment of Tikme-Dash Kaveh steel industry complex. Client: Tikme-Dash Kave Steel Industry Complex. (Project Code: FKT-E).
62. Pre-feasibility Studies for sanitary wastewater. Client: Tikme-Dash Kave Steel Industry Complex. (Project Code: FKT-W).
63. Environmental Impact Assessment of The refinery's gasoline production capacity of 250 thousand barrels of crude oil. Client: Latif Mahan Palayesh. (Project Code: LMP).
64. Environmental Impact Assessment of GTL project with 2 million cubic meters feed capacity. Client: Petro Palayesh Sabz. (Project Code: PPS-G).
65. Environmental Impact Assessment of The refinery's gasoline production capacity of 220 thousand barrels of crude oil. Client: Petro Palayesh Sabz. (Project Code: PPS-B).
66. Environmental Impact Assessment of construction of the heap leach project of Sungun copper complex. Client: National Iranian Copper Industries Company (Project Code: SEA).

❖ Geotechnical and Engineering geology:

67. Participation in geotechnical studies and Strength of materials Asalooyeh with Tunnel Rod Company (Project Code: GTT).
68. Supervision in geotechnical studies and Strength of materials Asalooyeh- Phase 2-with Tunnel Rod Company (Project Code: GTT-II).
69. Engineering geological assessment of natural hazards of Taq-e Bostan. Client: Cultural Heritage, Handcrafts and Tourism Organization of Kermanshah Province. (Project Code: TBK).
70. Geophysical studies with Geo-Radar method for locating subterranean in Tourism Bank construction site. Client: Tourism Bank. (Project Code: GRG).
71. Studies for Safaris (soil and water resources and provide corrective solutions). Client: ATEC Consultants Company (Project Code: SAF).
72. Geotechnical studies in Saragunay gold mine site. Client: Country's Exploration Services Company (Project Code: SGG).
73. Hydrology and hydrogeology studies Sungun mine. Client: Pars Olang .Co (Project Code: SUN).

❖ Feasibility Studies:

74. Pre-feasibility Studies for Bentonite Processing Plant (Drilling Mud Grade) Establishment in Iran.
75. Pre-feasibility Studies for Gold Processing Plant Establishment in Iran.
76. Market studies on gold, potash, lithium, phosphate and coal. Client: Opal Kani Pars Company (Project Code: OPK-M).
77. Market studies on Perlite. Client: Gohar Kavosh Company (Project Code: PER).
78. Market studies on oxide and sulphate Manganese. Client: Madan Fonon Maku Company (Project Code: MFM).
79. Technical and economic evaluation of chromium and manganese areas in Razavi Khorasan province. Client: Opal Kani Pars Company (Project Code: OPK).
80. Market studies on gold, copper, iron, phosphate. Client: Opal Kani Pars Company (Project Code: OPK-BP).
81. Pre-feasibility Studies for expandable polystyrene production. Client: Kimia Sanaye Dalahoo Company (Project Code: DFS).

Section 4
Professional Qualifications
&
Memberships

4-1- Certification to Establishment of Technical-Engineering Company (MIM)

“ESPEER” Permission to establishing Technical-Company in Geo –Science field has been certified by Ministry of Industries and Mines (MIM). (Certificate No. 105/31042).

4-2- Certification to Technical-Engineering researches (MIM)

“ESPEER” Professionally to implementation Technical-Engineering Projects in Geo–Science field has been certified by Ministry of Industries and Mines (MIM). (Certificate No. 108/38597).

4 -3- Iran Mining Engineer Organization (IMEO)

“ESPEER” registered as a member of Iranian Mining Engineer Organizations (IMEO), and it’s professionally to implementation Consultancy in Geology and Mining field has been certified IMEO (Certificate No. 070029, Membership No: 29)

4-5- ISO9001:2008 Certificate

Quality Management Certificate is received by the ABICert institution, Italy.

4-6- Banking and Credit Investment Consultant Center (BCICC)

“ESPEER” registered as a Consultant in by Banking and Credit Investment Consultant Center (BCICC) and has qualification in industry -mining & metals and it’s Professionally to Planning and implementation feasibility studies and supervision of mining and mining Industries projects has been certified. (Certificate No. 396073, Membership No: 749)

4-7- Iran Management Consultants Association (IMCA)

“ESPEER” registered as a Consultant by Iran Management Consultants Association (IMCA). (Certificate No. 9010645)

4-8- Iran Project Management Association (IPMA)

“ESPEER” registered as a Member by Iran Project Management Association (IPMA).

4-9- Society of the Iranian Industries and Mines Research & Development

“ESPEER” registered as a Member in by Society of the Iranian Industries and Mines Research and Development, membership No. 2960.

4-10- Iranian Tunneling Association (ITA)

“ESPEER” registered as a Member by Iranian Tunneling Association (ITA).

4-11- Bank Saderat Iran (BSI)

“ESPEER” registered as a Consultant With grade B in Industrial and Mining category By Bank Saderat Iran (BSI).

4-12- International Consultants Association of Iran (ICCA)

“ESPEER” registered as a Member in by International Consultants Association of Iran (ICCA). (Membership No: 30).