Table of contents

7. Annuexures.

Sector Overview

Pakistan is endowed with significant mineral resources and emerging as a very promising area for exploration of mineral deposits. Based on available information, country's more than 6, 00, 000 sq.kms of outcrop area demonstrates varied geological potential for metallic / non-metallic mineral deposits.

Exploration by government agencies as well as by multinational mining companies and various regional geological surveys, conducted in the recent past have confirmed the great potential of Pakistan in the metallic minerals like copper, gold, silver, platinum, chromites, iron, lead and zinc. As regards industrial minerals there is a vast potential of multi- coloured granite, marble and other dimensional stones of high quality for export purposes.

Currently about 52 minerals are under exploitation although on small scale. The major production is of coal, rock salt, and other industrial and construction minerals. The value addition in the mineral sector is mainly concentrated in five principal minerals, namely, limestone, coal, gypsum, sulphur, crude oil, and natural gas.

The current contribution of mineral sector to the GDP is about 0.5% and likely to increase considerably on the development and commercial exploitation of Saindak & Reco Diq copper deposits, Duddar Zinc lead, Thar coal and Gemstone deposits

Realizing the vast potential of major reserves, there is great opportunity for the multinational companies to invest in this sector, which will be beneficial for the economy and the investors in the long run.

National Mineral Policy (NMP)

New Regulatory Regime:

- Investment in small- scale mining (capital employed less than Rs. 300 million) will be confined to Pakistani nationals.
- Corporate merger of small- scale mine operators will be encouraged.
- A Geo-data Centre of Pakistan (DGCP) will be established as an autonomous body of the Ministry of Petroleum and Natural Resources to collect, store, update and mange geo-data of the whole country.
- The Federal and Provincial Governments will provide grants to the respective corporations for the promotional tasks on priority areas.
- The Mining Concession Rules will provide for four types of minerals titles, namely; Reconnaissance License, Exploration license, Mineral Deposit Retention License and Mining lease.
- (Details at page 37 – annexure X)
- Mining and Value Added minerals processing are placed in Category A industries.

Following fiscal concessions is available to mining industry.

1. Exploration stage:

a. 0 % duty on import of machinery & equipments
b. Exemption from sale tax and other Government levies

2. Construction stage:

5% custom duty on import of machinery & equipments deferred for a period of construction

- Except for royalty, there will be no other Provincial or local levies of taxes imposed on minerals or mining operations.
- No sales tax will be levied on minerals that are exported

Royalty:

- Precious stones 10%
- Precious Metal 3%
- Base Metals 2%
- Others (other than i-ii-iii) 1%
- Coal (current rates of royalties in the Province for coal being retained)

Following rates of royalty on coal are being charged by the provinces with 15% sales tax per ton:

a) Government of Pakistan Rs. 20/- per ton
b) Government of Punjab Rs. 35/- per ton
c) Government of Sindh Rs. 60/- per ton
d) Government of NWFP Rs. 25/- per ton

Other Incentives

. Protection from Expropriation
. Repatriation of Capital & Profits allowed
. Mining operators will be allowed to insure their assets and risks with international insurance companies.

Summary of the Fiscal Regime

Taxes	Rate as per Mineral Policy, 1995
Income Tax:	
Corporate Tax:	30% for local listed companies 35% for private, non-resident companies
Minimum Corporate Tax:	0.5% of the declared turnover annually
With-Holding Tax:	0.75% with 0.25% increase on export of mineralsfrom 1st July 2000.
Non-resident Contractors:	6% of gross payment
Other Taxes:	
Sales Tax:	Nil on Export
Additional profit Tax;	Negotiable
Zakat:	Non-Muslim exempted
Concession on Imports:	
Import of machinery, equipment, material, specialized vehicles (4*4 non luxury, accessories, spares, chemicals and consumables (non manufactured) as per SRO 469(1)/2004 dated 12th June, 2004.	
Customs duty:	- Nil (during exploration phase) - Exempt in excess of 5% (during mine construction phase) and payment also would be deferred. - Exempt in excess of 5% ad-valorem (during extraction phase)
Sales tax:	- Nil (during exploration, mine construction and extraction phase)
	For locally manufactured Mining Machinery.
Custom:	10%
Sales Tax;	15%

MAJOR MINERAL RESOURCES OF PAKISTAN

	COMMODITY	NAME OF DEPOSITS	SIZE (in million tonnes)	RESERVES IN PAKISTAN (in million tonnes)	QUALITY	ANNUAL PRODUCTION (metric tonnes)	FUTURE PROSPECTS
METALLIC	**Antimony**	- Karangali Hill Salt Range - Zaimukht Hill, Kurram Valley – - Shekran, Khuzdar - Krinj Partson, Chitral - Qila Abdullah	Trivial Trivial Minor 0.060 0.026	0.090	**Low to medium grade**	35	Fair chances of finding additional deposits in NWFP and Balochistan
	Chromite	- Harichand, Dargai - Boya, N.Waziristan - Naweoba, Zhob - Muslim Bagh, Qila Saifullah - Sonaro, Khuzdar - Jijal, Bisham - Chilas - Raskoh, Chagai	0.050 - - 0.547 1.300 0.600 - 0.030	2.527	Low to medium grade	27,458	Fair to good prospects for developing known and discovering new deposits.
	Copper	- Shinkai, Boya, Waziristan - Bulashgah, Gilgit - Saindak, Chagai - Sasht-e-Kain, Chagai - Ziarat Pir Sultan, Chagai - Kabul Koh, Chagai - Missi, Chagai - Bandegan, Chagai - Reko Diq, Chagai	120 0.5 212 400 200 50 100 0.032 800	1882.5	Low to high grade	-	Chagai and Lasbela Districts are capable of becoming important copper producer of the world. Most of the production will be exported.
	Gold	- Saindak - Reko Diq	2.24 m. ounces 9.00 m. ounces	11.24 (million ounces)	Low grade	-	Chagai District is capable of becoming an important copper producer of the world. Most of the production will be exported.

	Iron ore	- Besham 6.8 - Abbottabad 2.6 - Goldanian 60.0 - Langrial 30.0 - Mazar Tang, Kohat 0.5 - Kalabagh 350 - Pezu 66 - Nizampur 100 - Dilband, Kalat 200 - Shekran, Khuzdar 10 - Dammer Nisor 6.5 - Mashkichah 0.43 - Durban Chah 1.125 - Amir Chah 1.125 - Chilghazi 23 - Chapar 0.05 - Kundi Baluchap 0.13 - Pachin Koh 45 - Bandagan 0.18	903.4	Low to high grade	24,322	Additional reserves likely to be found but export is unlikely.
	Lead Zinc	- Besham 0.5 - Gunga, Khuzdar 10 - Surmai, Khuzdar 2.93 - Duddar 10.29	23.72	Low to medium grade	-	The Lasbela-Khuzdar region holds great promise for further exploration of deposit. Export can be started from 2005.
	Manganese	Chur Gali,Abbottabad 0.180 - Lasbela 0.188 - Khuzdar 0.229	0.600	Low to medium grade	655	Additional reserves could be found which reduce the imports by steel industry of the country.
	Aluminum (Laterite/Bauxite	Muzaffarabad –AJK,Ziarat, Kalat-Balochistan,Khushab – Punjab	74.0	Low to medium grade		

NON METALLIC	BUILDING & DIMESION STONES	**Agglomerate**		Large	High grade	366	Increase in production can be achieved by introducing it to the foreign market.
		Aragonite/marble		Very Large Deposit	High grade	497,317	Increase in the export of onyx and other verities of marble can be achieved with better mining and processing. Establishment of Cutting and polishing facilities near to main producing areas may help in value addition.
		Basalt		-do-	High grade	217	Different varieties of basalt are being used as building stone. A feasibility study for manufacturing of prefabricated building material by melting it may increase its utilization.
		Building stone		-do-	Medium to high grade	16,011	Reduction in transport cost and finishing at site to achieve export.
		Conglomerate		-do-	Medium to high grade	276	Fair potential for increasing its indigenous utilization exists.
		Ebry stone		Medium	Medium to high grade	209	Fair potential for increasing its indigenous utilization exists.
		Granite		Very Large Deposits	Medium to high grade	5,676	Fair potential for increasing its indigenous utilization export exists, especially by value addition at site.

		Gravel		-do-	Medium to high grade	19,684	Fair potential for increasing its indigenous utilization exists.
NON METALLIC	BUILDING & DIMENSION STONES	**Millstone**		Small	High grade	1,257	-do-
		Onyx marble		-do-	Medium to high grade	28,780	Increase in the export of onyx and other verities of marble can be achieved with better mining and processing. Establishment of Cutting and polishing facilities near to main producing areas may help in value addition.
		Ordinary stone		-do-	Low to high grade	1,887	Fair potential for increasing its indigenous utilization exists.
		Sand / Bajri		-do-	High grade	92,670	-do-
		Sand stone		-do-	High grade	2,255	-do-
		Serpentine		-do-	Medium grade	4,204	To be explored if good color variety is found that has export potential.
		Slate stone		-do-	High grade	108,182	Fair potential for increasing its indigenous utilization exists.
	CLAYS	**Ball clay**		Small	Medium to high grade	1,371	-do-
		Bentonite		-do	Medium to high grade	19,983	-do-
		China clay		Medium Deposits	Medium to high grade	61,403	-do-

		Clays		Large	Medium to high grade	2,934,218	-do-
		Fire clay		Fairly Large Deposits	Medium to high grade	124,003	-do-
		Fuller's earth		Fairly Large Deposits	Medium to high grade	18,446	-do-
NON METALLIC	**CHEMICAL, FERTILIZER & INDUSTRIAL**	**Asbestos**		small	Medium to high grade	60	Fair potential for increasing its indigenous utilization increase in exports exist.
		Barite	- Naka Pabni 0.012 - Bakhari 0.002 - Kundi 0.014 - Gunga 1.400 - Moner Talar 12.280	13.71	Medium to high grade	26,002	Fair to good prospects for developing known and discovering new deposits.
		Brine		Medium	High grade	55,903	-do-
		Calcite		Small to Medium	High grade	15	-do-
		Celestite		Small	High grade	838	-do-
		Chalk		-do-	High grade	7,945	-do-
		Dolomite		Large	High grade	276,668	-do-
		Feldspar		Very Large Deposits	High grade	32,012	-do-
		Flint stone		-do-	High grade	73	-do-
		Fluorite		0.1	Low to medium grade	579	A cut in import bill may be achieved by proving additional resources.

		Gypsum		4,850	Medium to high grade	384,513	Additional reserves likely to be found but export is unlikely.
		Lake salt		Small	High grade	16,035	Fair potential for increasing its indigenous utilization exists.
		Limestone		Large	High grade	8,697,573	Raw limestone not exportable but cement clinker can be exported.
		Magnesite		12	Medium to high grade	4,535	Fair to good prospects for developing known and discovering new deposits. Some export can be achieved.
NON METALLIC	CHEMICAL, FERTILIZER & INDUSTRIAL	**Nephline Synite**		-do-	Low to medium grade	70	-do-
		Ochres / Red oxides		100	Low to medium grade	12,780	Fair potential for increasing its indigenous utilization exists.
		Orpiment		Small	Low to medium grade	29	-do-
		Phosphate		Large	Low to medium grade	1,074	-do-
		Pumice		-do-	Low to high grade	1,577	Fair potential for increasing its indigenous utilization and exports exists.
		Quartz		-do-	High grade	485	Low cost mineral with limited development potential.
		Quartzite		Small to medium	Medium to high grade	1,457	-do-

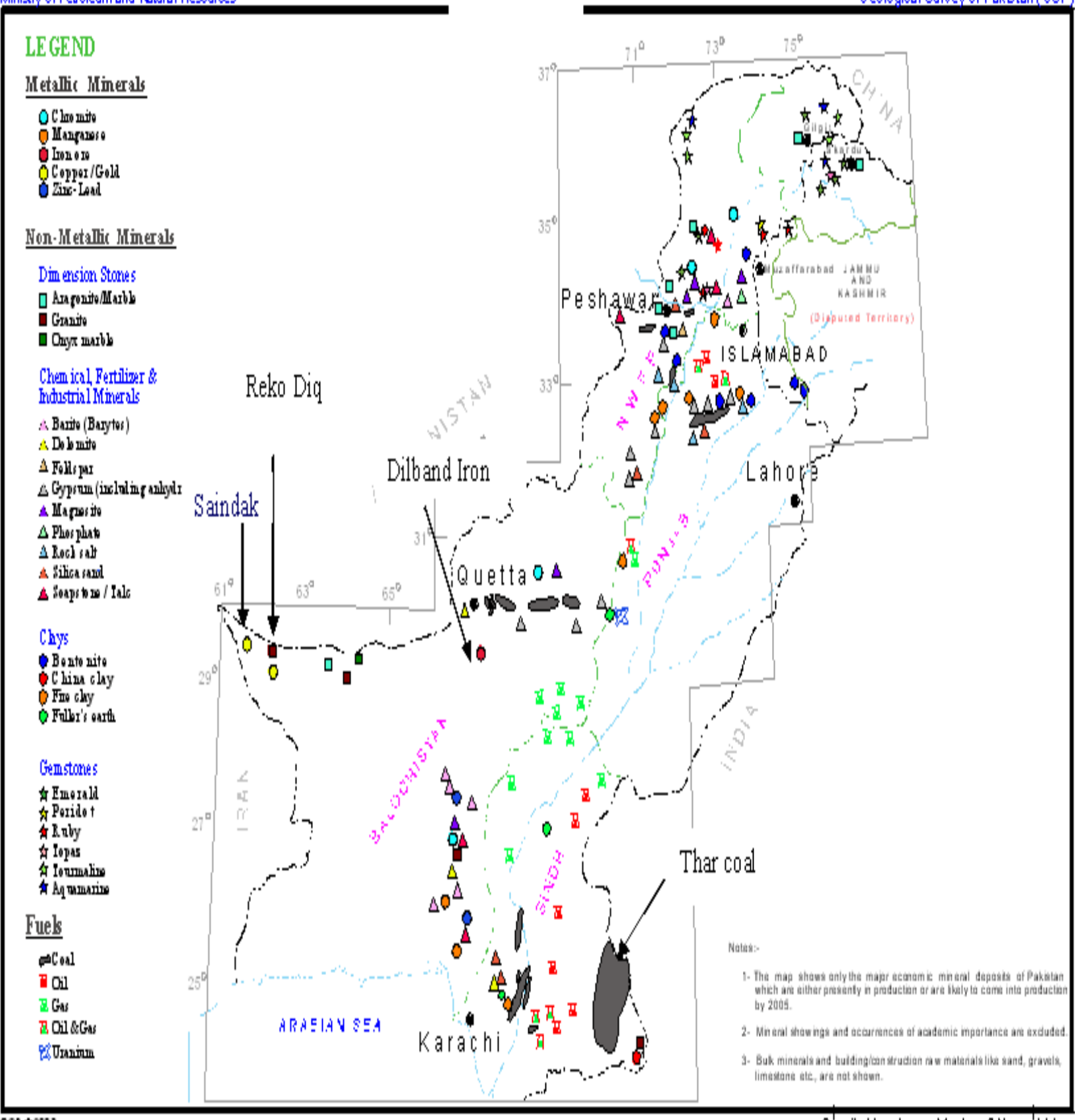
		Rock salt		Very Large Deposits	High grade	1,212,366	Fair potential for increasing its indigenous utilization especially in the chemical industry exists.
		Silica sand		Very Large Deposits	Medium to high grade	157,300	Fair potential for increasing its indigenous utilization and exports exists.
		Soap stone		Medium to large	Medium to high grade	46,486	Fair potential for increasing its indigenous utilization and exports exists.
		Sulphur		0.8	Low to medium grade	527	Export not possible due to small size and low quality.
		Talc stone		-do-	Medium to high grade	260	Fair potential for increasing its indigenous utilization and exports exists.
		Trona		-do-	Low to medium grade	3,446	-do-
ENERGY/ FUEL	**SOLID**	**Coal**		184,697	Low grade (lig-A to bit-c)	3,037,080	Additional reserves could be found but export is not possible.
	LIQUID	**Crude Oil (Million Barrels)**		765.237 (300.203)	Good Quality	23.195048	Additional reserves could be found and export is also possible.
	GAS	**Natural Gas (Trillion CFT)**		41.97889 (26.98237)	Good Quality	.923758 (Million CFT)	Additional reserves could be found and export is also possible

Source: Geological Survey of Pakistan

Note: -Figures given in parentheses for crude oil and gas indicate balance recoverable reserves.

Government of Pakistan
Ministry of Petroleum and Natural Resources

Geological Survey of Pakistan (GSP)



Notes:-

1- The map shows only the major economic mineral deposits of Pakistan which are either presently in production or are likely to come into production by 2005.

2- Mineral showings and occurrences of academic importance are excluded.

3- Bulk minerals and building/construction raw materials like sand, gravels, limestone etc., are not shown.

GSP ©2003

Compiled by: Jooser Marzban & Nazar-ul-Islam

MAJOR ECONOMIC MINERAL DEPOSITS OF PAKISTAN (2003)

TOP FIFTEEN (15) MINERALS OF PAKISTAN.

1. Aluminum Deposits (Bauxite and Laterite)

Potential Deposits

- **Reserves**: about 74 millions tons
- **Location**: Muzffarabad, Ziarat, Kalat, Khushabd

Economic Benefits of Aluminum

Import substitution
Indigenization metals and row materials available in the market
Relatively cheaper, Aluminum available for export and for use in the local market for automotive, engineering and electrical cables.

2. Iron Ore

More than 903.4 million tons of iron ores are found in Pakistan and potential ore deposits are the following:

- Kalabagh Iron Ore Deposits
- Dilband Iron Ore Deposits
- Nokkundi Iron Ore Deposits

Economic Benefits of Iron Ores

- Import substitutions.
- Indigenization of technology
- Relatively cheaper steel available for export and for use in the local market for construction, manufacturing, engineering and automobile sector.

Investment Potential:

- Iron Ores from Nokkundi and Chaghi having (+64%) of iron may be used for production of sponge iron by direct reduction process.

- A Mini Steel plant may be established for Iron Ores of Nokkundi and Chaghi

3. Copper

The significance of copper resources of Pakistan is widely known because of huge investment made in development of saindak copper deposit.

Potential Deposits

More than 1882.5 million tons of Copper reserves are found in Pakistan
i) Reko Diq Copper – Gold Deposits

Location: Distt Chaghi, Balochistan
Reserves: 837 million tons
- Copper (0.64% with 50 millions tons)
- Gold (9 million ounces)

ii) Saindak Copper – Gold Deposit Balochistan

- Location: 40 km West of Reko Diq project
- Reserves; 400 millions tons
- Production: 15810 tons – blister Copper
(Per year 1.47 tons – Gold
2.76 tons – Silver

Economic Benefits of Copper

- Import substitution
- Indigenization of technology
- Relatively cheaper copper available for export and for use in the local market for engineering and electrical cables

4. Chromite Ore.

Chromite occurrence is wide- spread yet its potential is far from being fully assessed judging from the favorable geological environment. For this reason, chromite deposits of Baluchistan and NWFP must be considered from a regional standpoint that could enable Pakistan to become a major exporter of chromite and /or ferrochrome.

Potential Deposits

i) Balochistan Chromite Deposits

- In Pakistan, Muslim Bagh chromite deposits are of the major commercial source of chromite

ii) NWFP Chromite Deposits

- In Dargai has been spectacular: estimated reserves 0.7 Mt of which 0.3 Mts are proven.
- In Heroshah, open pit reserves of around 0.1 Mt have been proved.
- Similary in Jijal-pattan and Chilas areas (Kohistan) Shunghail prospect appear to contain 0.2 Mt reserves.

Economic Benefits of Chromite Ore

- Import substitution
- Raw material for production of ferroalloys

- Production of Stainless steel.

Investment Potential

1. **Setting up Ferro-chrome industry**.

   Bright future exists in setting up ferro-chrome industry in Pakistan, utilization of refractory grade chromite with a view to substituting the presently available basic refractories and to set up chrome chemical industries.

2. **Export Potential**

   High Grade Ores (48% Cr2 O3 and above) attract high market value in export; therefore, necessary systematic technical audit of Chromite ore deposits should be initiated.

5. Zinc / Lead

More than 23.72 million tons of Zinc/Lead reserves are found in Pakistan. The Jurassic rocks of the Lasbela – Khuzdar Belt have the potential to host several WORLD CLASS' zinc – lead ore deposits. Among the four better known deposits of Surmai Gunga, Dhungei Duddar is the most advanced.

i) Duddar-Gunga-Surmai Lead-Deposits

- Detailed geo-scientific studies through mapping and drilling (46000 meters) an inferred plus indicated geological reserves of 14.31 Mt @ 80.6 % Zn and cut-off 3.2% Pb have been calculated for the Duddar Deposit using + 7% Zn Pb cut-off.

- The resources of Duddar Deposit have been estimated at about 50 Mt.

6. COAL

According to estimates prepared by the Geological Survey of Pakistan (GSP), Pakistan has total coal reserves of

185 billion tons, out of which 184 Billion tons are in Sindh – one of the biggest good quality lignite deposit in the World.

Province	Resources Million Tons
Balochistan	217
Punjab	235
Sindh	184,623
NWFP	90
Azad Kashmir	9
Total	**185,173**

PAKISTAN COAL RESERVES

Province	Resources Million Tons	Status
Baluchistan :		
Hamai	76	Dev
Sor Range-Degari	50	Dev
Duki	50	Dev
Mach-Abegum	23	Dev
Pir Ismail Ziarat	12	Dev
Bar khan – Chamalang	6	Dev
Sub-Total	**217**	
PUNJAB:		
Salt Range	213	Dev
Markawal	22	Dev
Sub-Total	**235**	
SINDH:		
Thar Coal	175,506	Non Dev
Sonda-Thatta	3,700	Non Dev
Indus East	1,777	Non Dev
Jherruck	1,823	Non Dev
Lakhra	1,328	Dev
Ongar	312	Non Dev
Meting – Jhimpir	161	Dev
Badin	16	Non Dev
Sub Total	**184,623**	
NWFP:		
Hangu / Orakzai	82	
Cherat / Gulla Khel	9	Dev
Sub Total:	90	Dev
Azad Kashmir:		
Kotli	9	
Sub Total:	9	Dev
Total	185,173	

Energy year Book, 2003-04

Production of Coal

Year	Production (Tons)
2000-1	3,094,652
2001-2	3,328,036
2002-3	3,311,586
2003-4	3,325,000
2004-05	3,367,000
2005-06(July- March)	2,081,000

Source: Economic Survey, 2006.

Province wise Coal Quality and Selling Prices

Province	Location	Quality	Prices
Sindh	Thar Lakhra	5774 BTU/Lb 4622 to 7552 BTU/Lb	Rs. 400 to Rs 600 per ton
Balochistan		9600 to 15000 BTU/Lb	Rs 1500 to 2100 per ton
Punjab		9400 to 14000 BTU /Lb	Rs 1100 to 1800 per ton
NWFP		11000 to 14000 BTU /Lb	Rs 1300 to 2000 per ton

Source: Investment Oriented study on Minerals and Minerals based Industries
April 2004 by Expert Advisory Cell.

7. Gypsum / Anhydrite

The gypsum resources in Pakistan have existence in at least three interesting areas in terms of their size, resource, quality, reserves and exploitability.

1. Salt Range of the Punjab
2. Kohat Banu Region of NWFP
3. Suleman Range of D.G. Khan, Punjab

Resources: 5-6 billion tons
Average Production: 384 metric tons per annum

Pakistan Gypsum Reserves / Resources:

Province	Deposits

Punjab	
- Rakhi-Munh	27 Mt.
-Safed Koh-Rodo area (Central Suleiman Range)	15 Mt.
-Dadukhel – Mianwali area	53 Mt .
- Khewra	25Mt.
NWFP:	
Dera Ismail khan	
-Saiduwali	20 Mt.
-Near Drazinda and Mughalkot	70 Mt.
Kohat	4,442 Mt. (above surface) 472 Mt. (down to dip of 30 meters.
Balochistan	
-Near Spintangi	5 Mt.
-Mawand – Khattan	20 Mt.
-Barkhan – Chamalang	7 Mt.

Source: Investment Oriented study on Minerals and Minerals based Industries
April 2004 by Expert Advisory Cell.

Potential Investment Opportunities.

- . Gypsum can be used as Corrector of Low Quality Tube wells water.
- Gypsum plaster sand blocks with gypsum mortar, may be considered for the construction of low cost houses.

8. Phosphates

NWFP contains Cambrian sedimentary phosphates of marine origin, mainly in the upper clayey dolomite of abbottoabad Formation (cherty phosphate) 0-0 and underlying cherty – silty – sandy beds of Hazara formation.

Reserves and Grades:

Grades of two major ore types and their reserves are as under:

i) Dolomitic ore (generally low to medium in P2 O5 & SiO2 and high in MgO).

ii) Siliceous ore (generally medium to high in P2O5 and SiO2 and low in MgO.

Type of Phosphate Rocks, Reserves and Grades.

Type of rock	Reserves	Grade %
Dolomitic	14 million tons	P2O5.23-32%SiO2 3-10%MgO:2-8%R2 O3:1.5-5%
Siliceous Ores	12 million tons	P2O5.24_35, SiO2:5-25%,MgO:0.5%R2 O3:1.5_4.5%.

Source: Investment Oriented study on Minerals and Minerals based Industries April, 2004 by Expert Advisory Cell.

Investment Potential:

Products to be produced are:

. Milled phosphate for direct application (without chemical attack), which is particularly effective on acid soils

. Milled under – acidulated phosphate (Partial chemical attack), which is as effective as chemicals fertilizer

. In addition, a complete range of composite fertilizer could be produced by adding raw materials available close to the phosphate deposits: (Limestone, Magnesite, dolomite, etc)

9. **Rock salt**

In Pakistan salt deposits occur in the salt Range (160 kms in length, east and west trending mountainous arc between Rivers Jhelum and Indus)

Rock salt is produced at Khewra, Warcha, Kalabagh, Bhadurkhel, Jatta and karak salt Mines by Pakistan Mineral Development Corporation.

Punjab Mineral Development Corporation operates Chakwsal and Khusha salt mines whereas there are about fifteen private mine lease holders who operate in Punjab and NWFP.

According to Pakistan Mineral Development Corporation, the rock salt reserves within the area of their mining operation are around 600 million tons.

10. Solar Salt

Bright prospects exist for the development of high purity solar salt facility around the coastal areas of Karachi. Solar salt so produced has export potential to the exponding southeast Asia Chemicals industries and for the growing industries established throughout.

11. Magnesite

PIDC who used to hold the lease for magnesite mines at Kumhar in District Abbottabad established around 11 million tons geological and 3 million tons mine able reserves containing acceptable 46% - 47% magnesium oxide.

Kumhar Magnesite Ore Deposit

Location	Hazara at about 35 km west of Abbottabad 14 lenticular bodies of the magnesite ore found in kumhar area
Total Resources	12.0 million tons with an average of 45% MGO content.

Investment Potential:

No basic refractory bricks manufacturing plant exists in Pakistan though quality magnesite and chromite, the principle raw materials are available in Balochistan.

12. Limestone for Lime

Pakistan is bestowed with extensive deposits of suitable quality of limestone in the provinces of NWFP, Punjab, Sindh, Balochistan, and Northern Areas.

The average annual production of limestone is 8697 Metric tons used mainly in the manufacture of cement. Road making, building construction and in the chemicals industries.

13. Kaolin (China Clay)

Presently the major production comes from shah Dheri, Swat where an elutriation plant has been established. Country's average yearly production of china clay is 61,403 metric tons.

14. Natural stones As Building Materials

Granite, Marble and Onyx

Pakistan has enormous wealth of decorative and building stones such as granites, diorite, dunite, tonalite, pyroxenite, syenites, serpenites, gobbro, onyx, marble of different shades, recrystallized limestones, fossiliferrous limestones, sand stone and magnesium sandstones etc.

i) Granite

More than 4140 million tons of Granite reserves are found in Northern Areas of Pakistan.

ii) Marble and Onyx

Onyx occurs mainly in Balochistan, Chagi district marbles of different classifications, fossiliferrous limestone, serpentine etc. occur in other provinces mainly in NWFP and Northern Areas.

Out of 160.2 million tons of marble reserves estimated in Pakistan,

- 158 million tons are in the NWFP and
- 2 million tons in Balochistan.

Reserves of Marble and Granite

Non Metallic Mineral Product	Available in colors	Export(2004-05)	Total Reserves (million Tones) Punjab	Balochistan	NWFP	Sindh	N. Areas
Granite	Black, Pink, Grey, Green, Gold, Yellow, White, Red.	2.04 (Million Rs.)	-	-	---	--	4140
Marble And Onyx	Black, Pink, Grey, Green,	15.0 (Million Rs.)	-	2.2	157.9	---	

Source: Investment Oriented study on Minerals and Minerals based Industries
April 2004 by Expert Advisory Cell
All Pakistan Marble Industry Association
Federal Bureau of Statistics.

15. Gem Stones

Pakistan ranks amongst leading gem-hosting countries. Owing to favorable geological environments, NWFP, AJ&K and Northern Areas are the major gem hosting regions of the country. The gemstones include; Emerald, Ruby, Pink Topaz, Peridot, Green Ruby deposits of Hunza and AJ&K all other gemstone deposits have not been studied scientifically and are undocumented.

Gemstone Potential

NWFP

Emerald (in Swat)	70 million carats
Pink Topaz (Mardarn)	09 million carats
Peridot (Hazara, Kohistan)	10 million carats
Aquamarine, Tourmaline (Chitral), Garnet (Bajor)	(Not assessed)

Northern Areas

Ruby	1.5 million carats
Aquamarine	0.2 million carats
Tourmaline	0.1 million carats
Topaz, Garnet and other	Not assessed

Azad Kashmir

Kashmir Ruby	125 million carats
Tourmaline pink beryl etc.	Not assessed
Spessertine garnets & aquamarine	Not assessed

Trade Statistics

Exports

S.No	Description	(000) Rupees) 2003-04	2004-05
1	**Chromite ore & Concentrate**	819239	1832133
2	**Marble**	**243623**	452607
3	**Sodium Chloride and & Common Salt**	**49725150**	176255
4	**Fuller's earth**	**27421**	35452
5	**Quartz, Mica & Feldspar**	**4395**	5500
6	**Fire & Other Clays**	**4953**	11956
7	**Dust and Powder of Diamonds**	**-**	22
8	Silica & Quartz Sands	**16240**	308
9	Granite	**11556**	8334
10	Pebble/crushed Stone.	**70373**	53668
11	Steatite, Natural Talc	**10959**	15171

Source: Federal Bureau of Statistics.

Trade Statistics

Imports

S. No	Description	(000) Rupees) 2003-04	2004-05
1	**Iron Ore & Concentrates**	**2512826**	**5821778**
2	**Kaoline and Other Kaoline clays**	**167971**	**183989**
3	**Maganese ore & conc.**	**---**	**3394**
4	**Clays**	**55140**	**61142**
5	**Bentonite**	**30000**	**76146**
6	**Graphite Natural**	**52047**	**65514**
7	**Natural Abrasives**	**7064**	**3142**
8	**Titanium Ores and Conc**	**14526**	**13453**
9	**Magnesium Oxide, Magnesia**	**26593**	**29564**
10	**Talc**	**8508**	**9750**
11	**Gypsum**	**12816**	**16177**
12	**Granite**	**2271**	**2048**
13	**Sulpher of all kinds**	**219584**	**295014**
14	**Sodium chloride Pure & Common Salt**	**9211**	**9867**
15	**Barium Sulphate**	**2852**	**2632**
16	**Silica Sands & Quartz and other natural sands**	**8675**	**14052**
17	**Marble and Building stones**	**28945**	**15057**
18	**Lead ore and Concentrate**	**12833**	**12658**
19	**Nioium Tanbtanium**	**2041**	**627**
20	**Dolomite cut into blocks**	**4104**	**7034**
21	**Quartz, Mica feldspar**	**1232**	**114**
22	**Chromium ores & Conc.**	**2385**	**3064**

Source: Federal Bureau of Statistics.

Annexure –I

Characteristics of Major Coal Fields

S.No	Name	Moisture %	Volatile Matter %	Fixed Car. %	Ash %	Sulp %	Calorific value
	BALUCHISTAN						
1	SOR-RANGE DEGARI	15.9 to 18.7	33.5 to 39.8	36.0 to 42.0	3.0 to 13.0	0.5 to 5.6	9000 to 11000
2	KHOST-SHARIGH HARNAI						
3	MACH	4.0 to 11.4	34.8 to 45.3	25.5 to 43.8	9.3 to 34.8	4.0 to 7.1	8500 to 12400
	PUNJAB	7.1 to 12.1	34.5 to 39.4	32.4 to 41.5	9.6 to 20.3	3.2 to 7.4	9200 to 10300
4	MAKERWAL	4.2 to 6.0	37.1 to 45.9	36.0 to 46.9	7.0 to 21.0	4.0 to 5.6	9500 to 11850
5	SALT RANGE	3.2 to 7.6	26.3 to 33.8	29.8 to 44.8	12.3 to 37.7	3.5 to 10.7	7100 to 11100
	SINDH						
6	LAKHRA	28.9	27.9	30	18	5	4622 to 7552
7	THAR	46.77	23.42	58.91	6.24	1.16	5772 to 10898
8	SONDA-THATA	34.73	27.9	25.2	14.7	1.38 to 2.82	6762 to 11029
9	MEETING-JHIMPIR	15.4 TO 29.8	29.8 to 39.8	31.0 to 36.6	8.2 to 14.6	3.4 to 7.4	6740 to 1100

Source: Investment Oriented study on Minerals and Minerals based Industries April 2004 by Expert Advisory Cell

Annexure –II

Coal – Potential Opportunities

1) Coal utilization in Cement industry.

- Phased conversion of cement plants from fuel oil to coal is under implementation.
- Conversion of entire cement industry would require around 2.5 million tons of coal annually.

2) Coal utilization in Sugar industry

- There are 76 sugar mills in the country producing more than 10 million tons of bagasse.
- This bagasse is used mainly for burning in the boilers for producing steam in power generation to meet the electricity requirement of the mills
- It has been estimated that the sugar mills based on coal need 4000-4500 tons of coal per day i.e. 1.0 to 1.5 million Coal per annum.

3) Manufacturing of Smokeless Coal Briquetters

- A viable project to manufacture smokeless coal both for domestic and commercial uses as its calorific value (Btu/Rs) is highest as compared to wood, kerosene oil, Charcoal etc.

4) Production of Soft Coke for Foundry industries

Coal of Orakzai Agency is suitable for production of soft coke to meet the requirements of foundry and engineering industries

5) Coal Utilization for power Generation

Can be used for power generation cement and other heat intensive industries.

6) Use of Coal in Boilers

There are more than 4000 boilers in the country that use furnace oil or natural gas.

Replacement of gas/oil with smokeless coal may be explored.

7) Gasification

Due to limited gas reserves in the country and to utilize Thar coal in best way, gasification is better-utilized option for Thar coal.

8) Coal Washing

Indigenous coal contains high Sulphur and high ash contents due to which processing industry is reluctant to utilize it. To minimize such deleterious material in indigenous coal and to make it acceptable for processing industry, establishment of coal up-gradation/washing plants is needed.

Annexure –III

Province- wise Breakup of Marble and Granite Processing Industries in Pakistan

Province	No.of Factaries	No.of Imported Gang Saw	No.of Local Gang Saw	No.of Local Vertical Machine	No.of Imported Vertical Machine
NWFP	**700**	**3**	**45**	**690**	**10**
SINDH	**130**	**40**	**60**	**70**	**60**
PUNJAB	**80**	**7**	**75**	**80**	**05**
BALOCHISTAN	**10**	**0**	**1**	**10**	**00**
Total	**920**	**50**	**181**	**850**	**75**

Source: All Pakistan Marble industry Association of Pakistan

Annexure –IV

GEMS AND PRECIOUS STONES FOUND IN PAKISTAN

S.No.	Name	S.No.	Name	S.No.	Name
1	**Actinolite**	11	**Hessonite**	21	**Rodingite**
2	**Agate**	12	**Idocrase**	22	**Rutile**
3	**Aquamarine**	13	**Jadeite**	23	**Ruby**
4	**Amazonite**	14	**Kunzite**	24	**Serpentine**
5	**Azurite**	15	**Kyanite**	25	**Spessartine (garnet)**
6	**Beryl**	16	**Marganite**	26	**Spinel**
7	**Emerald**	17	**Moonstone**	27	**Topaz**
8	**Epidote**	18	**Pargasite**	28	**Tourmaline**
9	**Garnet (alamandine)**	19	**Peridot**	29	**Turquoise**
10	**Garnet (green, grossular)**	20	**Quartz (citrin & others)**	30	**Vesuvianite**

Annexure –V

Gemstone Productive Areas

Gemstone	Productive Areas
Emerald	**Swat,Gilgit, Muhmand & Bajour Agency**
Ruby	**Hunza, Neelam Valley(Azad Kashmir) and Upper Hunza**
Pink Topaz	**Mardan**
Light Pink Topaz	**Mardan**
Peridot	**Kohistan**
Spinel	**Hunza Vally**
Aquamarine	**Eastern Part of Gilgit, Chitral**
Tourmaline	**Neelum valley-Azad Kashmir, Chitral, Bulechi-Northern Tribal area**
Feldspar	**Skardu, Gilgit, Chitral**
Quartz	**Skardu,Lasbela, Nagarparkar, Azad Kshmir, Gilgit, Chitral**
Topaz	**Shingus and Bulechi in Gilgit District, Dusso in Skardu District**
Zircon	**Chilas, Gilgit**
Agate	**Nagarparkar- Sind, Dir Kohistan**
Garnet	**Swat, Malakand Agency, Targhao-Bajaur Agency, Skardu**
Turquoise	**Chagi Hills-Balochistan**

Source : Investment Guide 2004, Expert Advisory Cell

Annexure –VI

Potential Projects

Minerals/ Rocks	Potential Projects
	and copper based chemicals. Exploitation of small copper deposit,
Copper	for production of copper concentrate and to use it for production of copper based chemicals.
	Export, stock piling, Jewellery, Recovery of gold from Indus sand and gold rocks.
Gold	
	To mine and produce concentrates for export till economy of scale permit their local production. Zinc sulphate for rice field and lead for the manufacturing of paints.
Lead and Zinc Ores	
	Beneficiated iron ores of Delband; Balochistan and Sargodha; Punjab in the blast furnace of Steel Mills to substitute imports costing billion of rupees per annum.
Iron Ores	
	Export potential of metallurgical grade chromite. Chemical grade chromite is used for chemical industries and for the production of chromates, di-chromates & chrome pigments. Refractory grade is
Chromite	used as a refractory material for the production of chrome-magnesite basic refractories.
	Thermal power generation, brick kiln, cement, sugar and other heat installation units & for the production of smokeless coal for households. Possibility of undertaking studies on coal-water, coal
Coal	oil slurries for injecting as fuel in industrial & power plants.
	As amender for saline sodic soils, correction of low quality tube wells water, building material as gypsum plaster and gypsum
Gypsum	plaster sand blocks.
	Rock Phosphate
Export potential as blister copper and cathode copper, used as alloys of brass, bronze and copper nickel	Phosphatic Fertilizers, Phosphoric acid, animal feed.

Rock-Salt	To produce iodated table salt, mineral mixture for livestock, chemicals like soda ash, caustic soda, sodium sulphide, sodium sulphate etc.
Limestone	Slaked lime, cement, steel mills in blast furnaces, building and road material etc.
Magnesite	Basic refractories-Import substitution –production of magnesium metal from magnesite.
Gemstone	Export potential value addition through cutting and polishing.
Natural Stones	Mainly Building Material.
China Clay (kaolin)	Ceramic plant for pottery and sanitary ware.
Barite	Grounded barite is used as a weighting medium in drilling of oil and gas wells. Also used in chemicals, glass and paint industries
Soapstone (Talc)	Cosmetics, paint, ceramic, paper and rubber industry
Graphite	Beneficiation of graphite to produce pencil, crucible, reactor, and electrode and foundry grade concentrates
Manganese Ore	Production of battery grade manganese dioxide form indigenous manganese ores and production of potassium permanganate

Annexure –VII

Export Potential of Mineral Products

S.No	Mineral Products	Clear Potential	Marginal Potential

1	**Barium Carbonate (high grade)**	--	Saudi Arabia
2	**Heat Insulating Bricks**	Saudi Arabia ,Indonesia, Singapore,	----
3	**Chromium Oxide (tech.grade**)	Thailand	
4	**Ferric Chloride**	-------	Malaysia
5	**Magnesite Refractories**	S.Korea, , Thailand, Singapore	Saudi Arabia, Oman, Qatar
6	**Magnesium Carbonate**	Thailand, Indonesia, Malaysia	-------
7	**Magnesium Hydroxide(high grade**)	Turkey	Japan, South Korea
8	**Magnesium Oxide**	Japan	
9	**Calcium Carbonate (Precipitated**)	S.Korea, Thailand	Malaysia
10	**Magnesium Dioxide**	S.Korea, Thailand Malaysia	-----
11	**Sodium Hydrogen Sulphate**	-------	S.Korea, Malaysia
12	**Sodium Sulphate**	-----	Singapore, Dubai,Abu Dhabi, S.Arabia Egypt. Kenya

Source: Investment Oriented Study on Minerals and Mineral based industries April, 2004 Expert Advisory Cell

Annexure –VIII

Export Potential of Minerals and Gemstones

S.No	Mineral	Clear Potential	Marginal Potential
1	**a) Gypsum Rock**	--	SriLanka, Singapore, Indonesia, Kenya,Japan
	b) Calcined Gypsum	Singapore, Malaysia	
2	**Rock Salt**	Kenya, Singapore, Malaysia	
3	**a) Refractory**	Japan, South Korea Indonesia, Singapore Malaysia, Dubai, Saudi Arabia Kenya, Egypt	
	b) Dolomite Blocks	Japan, Singapore	
4.	**Magnesite (natural/ calcined**	Japan,S.Korea,Thailand, Malaysia, Indonesia Singapore, Saudi Arabia	
5	**Blast Sand (Silica**)	Saudi Arabia, Dubai, Abu Dhabi Bahrain, Kuwait, Oman	
6.	**Fuller's Earth (activated/ natural)**	Malaysia, Singapore Indonesia	
7	**Barytes (API ground/ natural)**	Malaysia, Singapore Indonesia	Gulf countries (API) ground
8	**a) Onyx (articles/Slabs**)	Japan, S.Korea,Singapore, Malaysia, S. Arabia, Kuwait Dubai	
	b) Marble (Blocks)	-	Japan, S.Korea,Singapore, Malaysia, Saudi Arabia Dubai, Kuwait
9	**Granite (Blocks/Slabs**)	Japan,S.Korea,Malaysia Singapore, S.Arabia, Dubai Abu Dhabi	----
10	**Precious & Semi-Precious Stones(rough/ worked)**	Japan, South Korea, Singapore, Thailand, Saudi Arabia, Dubai, Abu Dhabi	----
11	**Chromite**	----	Japan

Source: Investment Oriented Study on Minerals and Mineral based industries April, 2004 Expert Advisory Cell

Annexure –IX

Country Specific Strategy

	USA	China	Japan	Greece	Belgium	Sweden
Invest Capital	**OPIC.EXIM TDA**	**Exim Bank ADB**	**JBIC,Exim Bank**	**……**	**BMI-SBI**	**Swed Fund Intl.AB**
DTA/BITs	**✓/X**	**✓/✓**	**✓/✓**	**✓/X**	**✓/✓**	**✓/✓**
Focused Sectors	**Mining**	**Mining**	**Relocation of Electronic Industry (Electrical & Home Appliances)**	**Materials, Machinery**	**Metal & Metal products Machinery & Equipment,**	**Iron & Steel Products. Electrical Goods.**
Marketing Channels	**Chambers CC/HIC(3) Embassy, OP's,Cos**	**Chambers, existing Targeted Cos, Ops, Parep, Embassy of China (Pak)**	**Chamber,existing &Targeted Cos Ops,Parep Embassy of Japan (Pak)**	**Chambers, CC Embassy, Ops,Cos**	**Chambers,CC Embassy Ops, Cos**	**Chambers CC/HIC(1) Embassy OP's/Cos**

Annexure –X

Types of Mineral Titles

S. #	Category	Area	Application Processing Time (Days)	Application Fee (Rs)	Renewal Fee(Rs)	Rent Rs/ Sq.Km	Period `
1.	**Reconnaissance License**	100 to 10,000 sq.kms.	Within 120 Days	15,000	Not Renewable		1 Year
2.	**Exploration License** **-First Renewal** **Second Renewal**	10% area of Reconnaissance license and not exceeding 1000 sq.kms.	With in 120 days	25,000		250 750	Year 1-3 Year 4
3.	**Mineral deposit Retention License**	Area in Exploration license column could be retained for 2 year with 1 year extension	With in 180 days	100,000	100,000	3,000	2+1
4.	**Mining Lease**	250 kms.	With in 120 days	100,000	100,000	3,000	30+10

Source: Ministry of Petroleum and Natural Resources

Annexure -XI

List of Ongoing Mineral Sector Projects

S.No	Project Name	Name of Foreign/ Local Company	Country	Amount of Investment
1	**Saindak Copper Gold Project, Balochistan**	MCC Resources Development Limited	China	US $ 30 million
2	**Reko Dik Copper-Gold Project**	Tethyan Copper Company Limited	Australia	US $ 130 million
3	**Thar Coal Project Sindh**	M/s Shenhua Grou Company of China	China	US $ 400 million
4	**Duddar lead-zinc Project Balochistan**	MCC Resource Development	China	US $ 72 million
5	**Dilband iron ore depost, Balochistan**		Bolan Mining Enterprise (A public sector organization a 50:50 joint venture of M/s PPL & Government of Balochistan	-----

Source: Ministry of Petroleum and Natural Resources.

Annexure -XII

Extraction of Principal Minerals

Minerals	Units of the Quantity	2003-04	2004-05	2004-05 July-March	2005-06 July-March	% Change
Coal	Million tonnes	3.3	3.3	2.4	2.5	4.2
Natural Gas	000 MMCFT	34.0	38.0	28.4	29.7	4.5
Crude Oil	Min.Barrels	22.6	24.1	18.1	18.7	3.3
Chromites	000 tonnes	29	46	34	31.7	-6.7
Dolomite	000 tonnes	297.4	199.6	166.5	167.2	0.4
Gypsum	000 tonnes	467	552	436	491	12.6
Limestone	Min.tonnes	13.1	14.8	11.1	12.2	9.9
Magnetite	000 tonnes	6.0	3.0	2.8	2.5	10.7
Rock Salt	000 tonnes	1640	1648	1214	1374	13.2
Sulphur	000 tonnes	23.8	24.1	18.4	19.4	5.4
Baryte	000 tonnes	44	42	35	39	11.4

Source: Federal Bureau of Statistics

FDI inflow in Mining and Quarrying.

Year	US $ million	% Share FDI
2000-01	84.7	26.3
2001-02	274.8	54.7
2002-03	188.2	23.6
2003-04	203.5	22.3
2004-05	194.3	12.7
2005-06	319.8	9.08

Source: State Bank of Pakistan

Annexure -XIII

INVESTMENT OPPORTUNITIES IN MINERAL SECTOR.

1. Mining and establishment of rock salt based chemical industries;

2. Mining/cutting and polishing of hard/soft dimension stone (Granite, marble, limestone);

3. Commissioning of coal washing plants for up gradation of indigenous coal for processing industry.

4. Commissioning of Fullers Earth plant from Bentonite deposit.

5. Utilization of low-grade iron ores for commissioning Steel Mill.

6. Coal based power generation projects.

7. Lapidary industry.

Annexure -XIV

List of Companies in Minerals sector

S.No	Company Name	Company Kind
1	A & M MINERAL CONCENTRATES (PVT.) LIMITED	Private Company
2	ABABIL MINERALS (PVT.) LIMITED	Private Company
3	ABI SALEH (PRIVATE) LIMITED	Private Company
4	AJMAL MINNING CORPORATION (PRIVATE) LIMITED	Private Company
5	AL-ABBAS COAL AND SALT COMPANY (PRIVATE) LIMITED.	Private Company
6	AL-ABBAS MINING (PVT.) LIMITED	Private Company
7	AL-GILLANI MARBLE INDUSTRIES (PRIVATE) LIMITED	Private Company
8	AL-HARAM (PRIVATE) LIMITED	Private Company
9	AL-JABAL INTERNATIONAL (PVT.) LIMITED	Private Company
10	AL-MADAN COAL COMPANY (PVT) LTD	Private Company
11	ALI MINING CORPORATION (PVT) LTD.	Private Company
12	AMBASSADOR ENTERPRISE (PVT)LTD	Private Company
13	ASIAN MINING (PRIVATE) LIMITED	Private Company
14	ASIF IQBAL MINING CORPORATION (PVT.) LIMITED	Private Company
15	AWAN MINES (PRIVATE) LIMITED	Private Company
16	AZIZ MINES (PRIVATE) LIMITED	Private Company
17	BALUCH COAL CO. LIMITED.	Public Unlisted Company
18	BALUCHISTAN COAL COMPANY (PRIVATE) LIMITED	Private Company
19	BALUCHISTAN ONYX DEVELOPMENT CORPORATION (PRIVATE) LIMITED	Private Company
20	BALUSHISTAN SULPHUR (PRIVATE) LIMITED	Private Company
21	BIBI FEROZE ONYX MARBLE MINES (PRIVATE) LIMITED	Private Company
22	BILAL COAL COMPANY (PRIVATE) LIMITED	Private Company
23	Bolan Minning Enterprises	Private Company
24	CHAMAL ASSOCIATES (PRIVATE) LIMITED	Private Company
25	CHAWLA RUBBER & PLASTIC INDUSTRIES (PVT.) LIMITED	Private Company
26	CHINESE MINING COMPANY (PVT.) LIMITED	Private Company
27	CHITRAL MINING & EXPLORATION (PVT.) LIMITED	Private Company
28	COAL MINING CORPORATION (PRIVATE) LIMITED	Private Company
29	CREAMEE (PVT.) LIMITED	Private Company
30	DADABHOY UNI MINERALS LIMITED	Public Unlisted Company
31	DESCON MINEX (PVT.) LIMITED	Private Company
32	EASTERN SALT RANGE MINING (PRIVATE) LIMITED	Private Company
33	EASTREN BALUCHISTAN COAL TRADING CO.(PRIVATE) LIMITED.	Private Company
34	EHSAN AND SALEEM MINING CORPORATION (PVT.) LIMITED	Private Company
35	EJAZ COAL MINES LIMITED	Public Unlisted Company
36	ELAHI CHEMICALS (PVT.) LIMITED	Private Company
37	EMERALD MINING COMPANY (PVT.) LIMITED	Private Company
38	FEROZE MINING (PVT.) LIMITED	Private Company
S.No	**Company Name**	**Company Kind**
39	FRONTIER MINING COMPANY (PVT.) LIMITED	Private Company
40	GANDHALA MINERAL COMPANY (PRIVATE) LIMITED	Private Company
41	GERMAN PAKISTAN MARBLE & GRANITE MINING COMPANY (PVT.) LIMITED	Private Company

42	GHANI CHORMITE MINES (PVT) LTD.	Private Company
43	GHANI MINES (PRIVATE) LIMITED	Private Company
44	GILANI COMPANY (PRIVATE) LIMITED	Private Company
45	GILLETTE PAKISTAN LIMITED	Public Listed Company
46	H & K COAL (PRIVATE) LIMITED	Private Company
47	H. M. IQBAL COAL MINES (PRIVATE) LIMITED	Private Company
48	H. W. NATURAL RESOURCES DEVELOPMENT COMPANY (PVT.) LIMITED	Private Company
49	HABIBULLAH LAKHRA COAL (PVT.) LIMITED	Private Company
50	HABIBULLAH MINES (PVT.) LTD	Private Company
51	HABIBULLAH SONS (PRIVATE) LIMITED	Private Company
52	HAQDAR COAL COMPANY (PRIVATE) LIMITED	Private Company
53	HAROON MINES (PVT.) LIMITED	Private Company
54	HASHMI BROTHERS (PRIVATE) LIMITED	Private Company
55	HAZARA MINING AND PROSPECTING COMPANY (PVT) LTD	Private Company
56	HUNZA MINING CORPORATION (PVT.) LIMITED	Private Company
57	HUSSAIN TURAB MINES PAKISTAN (PVT.) LIMITED	Private Company
58	INDUS COAL MINES (PRIVATE) LIMITED	Private Company
59	INDUS MINERALS (PVT.) LIMITED	Private Company
60	INTERNATIONAL COAL COMPANY (PRIVATE) LIMITED	Private Company
61	IRFAN COAL MINES (PRIVATE) LIMITED	Private Company
62	ITTEHAD COAL MINES CHAKWAL (PRIVATE) LIMITED	Private Company
63	JASAM COAL INDUSTRIES (PVT) LTD	Private Company
64	JET STAR (PRIVATE) LIMITED	Private Company
65	K. CONSULT QUARRYING AND MINING (PVT.) LIMITED	Private Company
66	K.B. AWAN COAL (PVT.) LIMITED	Private Company
67	KAKAR ENTERPRISES (PVT) LIMITED	Private Company
68	KALAT COAL COMPANY (PRIVATE) LIMITED	Private Company
69	KAMAL ENTERPRISES LIMITED	Public Unlisted Company
70	KARIM BROTHERS MINING (PRIVATE) LIMITED.	Private Company
71	KATHWAI COAL MINES (PVT) LIMITED	Private Company
72	KHAN COAL MINES (PRIVAE) LIMITED	Private Company
73	KHAN PERVAZ COAL MINES (PVT.) LIMITED	Private Company
74	KHARAN MINERALS (PRIVATE) LIMITED	Private Company
75	KHAWAGAHK (PVT.) LIMITED	Private Company
76	KHUDADAD INDUSTRIES (PRIVATE) LIMITED	Private Company
77	KISHAN MINING COMPANY (PRIVATE) LIMITED	Private Company
78	KOH-KAN (PVT) LTD	Private Company
79	KOHAT COAL MINING & TRADING COMPANY LIMITED	Public Unlisted Company
80	KOHISTAN COAL COMPANY (PVT.) LIMITED	Private Company
81	KUND MINING SYNDICATE (PRIVATE) LIMITED	Private Company
82	Klaiz PVT LTD,	Private Company
83	LAKHRA COAL DEVELOPMENT COMPANY LIMITED	Public Unlisted Company
S.No	**Company Name**	**Company Kind**
84	LEPAK MINING COMPANY (PVT.) LIMITED	Private Company
85	LUNA INDUSTRIES (PRIVATE) LIMITED	Private Company
86	LUXURY INTERNATIONAL CORP.	Foreign Company
87	M. FAZAL HAQ & COMPANY (PVT) LTD	Private Company
88	MACH MINERALS ENTERPRISES (PRIVATE) LIMITED	Private Company

89	MARBLE INDUSTRIES (PRIVATE) LIMITED	Private Company
90	MATAN COAL COMPANY (PRIVAATE) LIMITED`	Private Company
91	MCC DUDDAR MINERALS DEVELOPMENT COMPANY (PRIVATE) LIMITED	Private Company
92	MCC RESOURCES DEVELOPMENT COMPANY (PVT) LIMITED	Private Company
93	MEHMOODANI (PRIVATE) LIMITED	Private Company
94	MEHRAN MINING COMPANY (PRIVATE) LIMITED	Private Company
95	MEHRAN MINING INDUSTRIES (PRIVATE) LIMITED	Private Company
96	METMIN MINING CORPORATION (PRIVATE) LIMITED	Private Company
97	M/s BHP Minerals Internationa Exploration Inc	Foreign Company
98	MIAN MULTIPURPOSE PLASTIC INDUSTRIES (PVT.) LIMITED	Private Company
99	MIDUS MINING INDUSTRIES (PRIVATE) LIMITED	Private Company
100	MINERAL EXPLORATION AND DEVELOPMENT BALUCHISTAN (PVT) LIMITED	Private Company
101	MINING & MINERALS (PRIVATE) LIMITED	Private Company
102	MINING INDUSTRIES OF PAKISTAN (PRIVATE) LIMITED	Private Company
103	MINING INTERNATIONAL (PVT.) LIMITED	Private Company
104	MINTECH BLUE (PVT.) LIMITED	Private Company
105	MIR HAJI TAREEN COAL MINES (PRIVATE) LIMITED	Private Company
106	MIR QADIR BAKHSH & BROTHERS (PRIVATE) LIMITED	Private Company
107	MIRZA & KHAWAJA (PVT.) LIMITED	Private Company
108	M/s Shenhua Group	Foreign Company
109	MIRZA COLLARIES (PVT.) LIMITED	Private Company
110	M/s Metallurgical Construction Corporation (Group)	Foreign Company
111	MODERN MINING PROCESSING (PRIVATE) LIMITED	Private Company
112	MOHAMMAD AMIN BROS. (PRIVATE) LIMITED	Private Company
113	M/s BHP Minerals International	Foreign Company
114	M/s Tethyan Copper Company Ltd	Foreign Company
115	MOHD. JAMIL & CO (PRIVATE) LIMITED	Private Company
116	MUJADID MARBLE INDUSTRIES (PRIVATE) LIMITED	Private Company
117	NAGAR MINING INDUSTRIES (PRIVATE) LIMITED	Private Company
118	NAKSHBANDI AND COMPANY (PRIVATE) LIMITED.	Private Company
119	NAQVI COAL CORPORATION (PVT) LTD.	Private Company
120	NATIONAL MINING COMPANY (PRIVATE) LIMITED	Private Company
121	NAWAAL MUSHTAQ (PVT.) LIMITED	Private Company
122	PAK HAMALIA SALT IMPEX (PVT.) LIMITED	Private Company
123	PAK INDUSTRIAL & MINING SYNDICATE (PRIVATE) LIMITED	Private Company
S.No	**Company Name**	**Company Kind**
124	PAK NATIONAL INDUSTRY OF PAKISTAN (PRIVATE) LIMITED	Private Company
125	PAK ROCK MINING (PRIVATE) LIMITED.	Private Company
126	PAK SERPENTINE MINING & EXPLORATION (PVT.) LIMITED	Private Company
127	PAKISTAN CALCIUM CARBONATE (PVT.) LIMITED	Private Company
128	PAKISTAN CHROME MINES LIMITED	Public Unlisted Company
129	PAKISTAN MINERAL DEVELOPMENT CORPORATION (PVT.) LIMITED	Private Company

130	PAKISTAN STONE DEVELOPMENT COMPANY	Associations under section 42
131	PARACHA MINES (PRIVATE) LIMITED	Private Company
132	PREMIER MINING AND SERVICES (PVT.) LIMITED	Private Company
133	PRIME COLLIERIES (PVT.) LIMITED	Private Company
134	PUNJAB STEEL & IRON ORE MINING (PVT.) LIMITED	Private Company
135	RAMARMO (PRIVATE) LIMITED	Private Company
136	RAZVI MINING (PVT.) LIMITED	Private Company
137	REHMAN CHEMICAL INDUSTRIES (PVT.) LIMITED	Private Company
138	REHMAN COAL COMPANY (PRIVATE) LIMITED	Private Company
139	RIAZ NAWAZ AND COMPANY (PVT) LIMITED	Private Company
140	ROHTAS MINES (PVT.) LIMITED	Private Company
141	SAADAT ALI & SONS SALT MINING (PRIVATE) LIMITED	Private Company
142	SALEHEEN MARBLE (PRIVATE) LIMITED	Private Company
143	SANDAK METALS LIMITED	Public Unlisted Company
144	SANLONG MINING AND TRADING COMPANY (PRIVATE) LIMITED	Private Company
145	SARWAR & HAMID MINING CORPORATION (PRIVATE) LIMITED	Private Company
146	SAZAYS ENTERPRISES (PRIVATE) LIMITED	Private Company
147	SHAHAB COAL MINES (PVT) LTD	Private Company
148	SHIGREE COLLARIES (PVT.) LIMITED	Private Company
149	SINKONI MINING ENTERPRISES (PRIVATE) LIMITED	Private Company
150	STANDARD MINING COMPANY (PRIVATE) LIMITED	Private Company
151	STONE CRAFT INDUSTRIES LIMITED	Public Unlisted Company
152	STONYX (PRIVATE) LIMITED	Private Company
153	SURAJ ANTICO PAKISTAN (PRIVATE) LIMITED	Private Company
154	TANAWAL MINING ASSOCIATES (PVT.) LIMITED	Private Company
155	TAREEN MARBEL INDUSTRIES (PRIVATE) LIMITED	Private Company
156	THAR MINING AND PROCESSING (PRIVATE) LIMITED	Private Company
157	THE AZIZ COAL COMPANY (PRIVATE) LIMITED	Private Company
158	THE KATHA COLLIERIES (PAKISTAN) (PVT.) LIMITED	Private Company
159	TIM COALS [PVT] LTD	Private Company
160	TRANS POLYMERS LIMITED	Public Unlisted Company
161	UNITED COLLIERIES (PRIVATE) LIMITED	Private Company
162	WANHAR SALT CORPORATION LIMITED	Public Unlisted Company
163	WEST PAK MINING CORPORATION LIMITED (THATTA)	Private Company
164	ZAFAR MINING COMPANY (PRIVATE) LIMITED	Private Company
165	ZAVER MINING COMPANY (PRIVATE) LIMITED	Private Company
S.No	**Company Name**	**Company Kind**
166	ZEHRI CORPORATION (PRIVATE) LIMITED	Private Company
167	ZEHRI ENTERPRISES (PRIVATE) LIMITED	Private Company
168	ZIARAT MINING CORPORATION (PRIVATE) LIMITED.	Private Company