THE COMPLEX PROJECT OF DEVELOPMENT

of the iron ore province in Krasnoyarsk region Kuragino district on the basis of OJSC “Krasnokamensk mine”

THE GOVERNMENT OF KRASNOYARSK REGION

THE GULIDOV KRASNOYARSK NON-FERROUS METALS PLANT

THE KRASNOKAMENSK MINE

THE AGENCY FOR RESTRUCTURING OF COMMERCIAL ORGANIZATIONS

The history of Krasnoyarsk Economic Forum is closely connected with adoption of important decisions in the field of socio-economic and investment policies. In their strategic and tactical actions the government often relies on recommendations given by participants of the forum. Projects which are offered at the forum are of particular interest, what is evidenced by a significant amount of subscribed agreements for the time of the forum's existence. Thanks to the harmonious actions of the authorities and representatives of a business community, including results of the Economic Forums, the Krasnoyarsk region is becoming increasingly attractive for investment projects' implementation in this region of Russia.

According to the rating of investment attractiveness of the Russian regions published in the end of 2010, Krasnoyarsk region occupies the 8th place by investment potential, only below established regions – the traditional leaders of the rating (Moscow, St. Petersburg, Moscow and Sverdlovsk regions, Krasnodar region, Khanty-Mansi Autonomous District and the Republic of Tatarstan); at the same time a decrease of investment risks in the region can be observed.

The proposed project on development of iron ore cluster is a good example of the possibility of a complex (integrated) realization of the existing potential of Krasnoyarsk region in the field of mining and minerals processing, iron and steel industry.

The Government of Krasnoyarsk region is interested in attracting a strategic partner (investor) to implement the complex investment project on development of the iron ore province of Kuragino district in Krasnoyarsk region and is ready (within public-private partnership) to provide state support measures, including help in obtaining licenses for new deposits.

Edkham Shukrievich Akbulatov,

Krasnoyarsk region
Governor first Deputy –
Head of the Krasnoyarsk
region Government

Open Joint Stock Company "The Gulidov Krasnoyarsk Non-Ferrous Metals Plant" is the owner of OJSC "Krasnokamensk mine" (the enterprise for iron ore mining and production of iron concentrate for the steel industry), with the support of the Government of Krasnoyarsk region, has prepared and is implementing several projects for complex (integrated) development of iron ore base in the south of Krasnoyarsk region (Kuragino district).

The project includes the development of several new iron ore deposits, modernization of the existing beneficiation plant with the completion of the mine at the deposit "Odinochnoe", the creation of a plant for production of metallized pellets with Fe content 70% in Krasnoyarsk.

With the participation of Dutch company Hencon a technology of getting high-purity pig iron (which is well known abroad as Sorelmetal) by the process of melting of metallized pellets and a reducing agent in an arc furnace DC was developed. According to the terminology adopted in Russia, this type of iron can be classified as nodular pig iron.

The project for the production of metallized pellets and high-purity pig iron could be implemented on the territory of Krasnoyarsk Chemical-Metallurgical Plant with the use of the existing facilities, transport and energy infrastructure.

If you are interested in this proposal we are happy to answer any questions that you may have and provide further information.

Igor Vladimirovich Tikhov,

OJSC "The Gulidov Krasnoyarsk Non-Ferrous Metals Plant" General Director

At the present time, there is a stable tendency of growth of demand for products of ferrous metallurgy in volume and in value terms. This situation arises in connection with the recovery of the world's major economies after the financial crisis, as well as with the constant growth of consumption in China. In response to growing demand for end products, there is a heightened interest in raw materials for ferrous metallurgy. Multiple expert communities and analytical agencies predict steady growth in the steel markets in the coming years.

This situation makes favorable conditions for the development of ambitious industrial raw materials projects in the field of ferrous metallurgy, as evidenced by the strategies of large enterprises to expand their own ore bases. Krasnoyarsk region has all the prerequisites for the development of the mining industry, focused on getting of iron ore in a form of iron concentrate, as well as the products of higher metallurgical treatment - metallized pellets and pig iron.

There are 22 iron ore deposits (according to the data of 01.01.2011) recorded on the Krasnoyarsk region's iron ore balance sheet (15 of the deposits are located on the territory of Kuragino district) with overall balance reserves in categories A+B+C1 – 1,768.94 mln. tons (including 435.46 mln. tons in categories A+B), 850.32 mln. tons in category C2 and 492.11 mln. tons of out-of-balance reserves.

The existing working enterprise for extraction and beneficiation of iron ore in Kuragino district of Krasnoyarsk region - OJSC "Krasnokamensk mine" can become a catalyst for implementation of the project of development of the iron ore province. It possesses the extraction capacities, the Crushing and Washing Beneficiation Plant, the iron ore base (deposits "Mulginskoe" and "Rudny cascade" (which are developed by open pit method), and mine under construction "Odinochnaya"), and the well-developed infrastructure.

Favorable geographical location of Kuragino district – equidistance from both Russian and foreign consumers (primarily from China), and the ports of loading – are the advantages for the integrated development of the deposits.

OJSC "The Gulidov Krasnoyarsk Non-Ferrous Metals Plant", which owns 100% shares of "The Krasnokamensk mine" with the support of the Krasnoyarsk region's Government has initiated the design of a complex (integrated) project of development of the iron ore base of Krasnoyarsk region, performed with the participation of LLC "Agency for Commercial Organizations Restructuring". For the base area of the project implementation the existing production capacities of OJSC "Krasnokamensk mine" were taken.

The complex project includes several major stages of the implementation:

Modernization (technical re-equipment) of the CWBP

At the present time, profile institute OJSC "Uralmekhanobr" (Ekaterinburg city) has finished the work on designing of the project of technical re-equipment of the Crush-Washing Beneficiation Plant (further the CWBP). Modernization of the CWBP's working capacities is planned for the purpose of getting of an end product with higher iron content (58.5%). That will make it possible to broaden the existing logistics limits of the transportation and come to the Chinese market of iron ore.

Launch of "Odinochnaya" mine

Among the plans for development of the iron ore base of OJSC "Krasnokamensk mine" – one of the perspective plans is the development of "Odinochnoe" deposit, because it is characterized by high degree of readiness for industrial development, has established energy and transport infrastructures. For the exploitation of this deposit OJSC "Krasnokamensk mine" possesses a license (License TE series KRR №01898).

The total reserves which are recorded in the State balance amount to more than 55 mln. tons, with average Fe content about 45%, besides from the top (+330m) horizons to the low (+60m) the quality of the ores is increasing (Fe content rises from 43.9 to 47.2%)

Involvement in the development of "Odinochnoe" deposit will let receive a more competitive product using the existing beneficiation facilities (more than 60% iron content). Moreover, taking into account the 60-80% readiness of various objects of the mine, it can be noted that a shorter time frame and a smaller amount of necessary investment are needed to launch the mine, than to develop a similar deposit "from scratch".

Production of metallized pellets

This stage of the complex project includes further development of the iron ore cluster in the region and makes it possible to obtain the end product of higher treatment. Sufficient transportation costs (which are typical for any raw materials project) which arise due to transportation of an end product to a customer can be compensated by organization of facilities for higher treatment of the raw materials on the territory of the industrial site of OJSC "Chemical and Metallurgical Plant". For this purpose a project of organizing of the metallized pellets manufacture, using the technology of direct reduction in tubular rotary furnaces was developed. Implementation of this project will enable to obtain an end product with iron content 70% or more (while processing the incoming iron concentrate with 58.5% iron content and more) and higher added value.

Implementation of this stage of the complex project leads to an increase of commercial and territorial diversification of the product, and as a consequence, it reduces risks of the enterprise for operation in future. Also, thanks to the higher price on the market of the production of this treatment and the compensation of the transportation costs, the economic efficiency of the complex project increases.

The project is planned to be implemented on the industrial site of OJSC "CMP" ("Chemical and Metallurgical Plant"), where all the necessary industrial and infrastructural facilities are available. In particular, there is a manufacturing building which is supplied with necessary power resources, adjuvant infrastructural objects (railway, roads, check-points, REW (repair and engineering workshops)), staff of the necessary qualification and 75-80% of the equipment required by the processing chain.

By the present time the following works have been made and documents are available: a justification of a technology, a process flowsheet, a technological calculation of production balances, a feasibility study of the project implementation which confirms a positive economic effect from implementation of this project both individually and as a part of the complex project, including the modernization of the beneficiation plant.

Production of pig iron

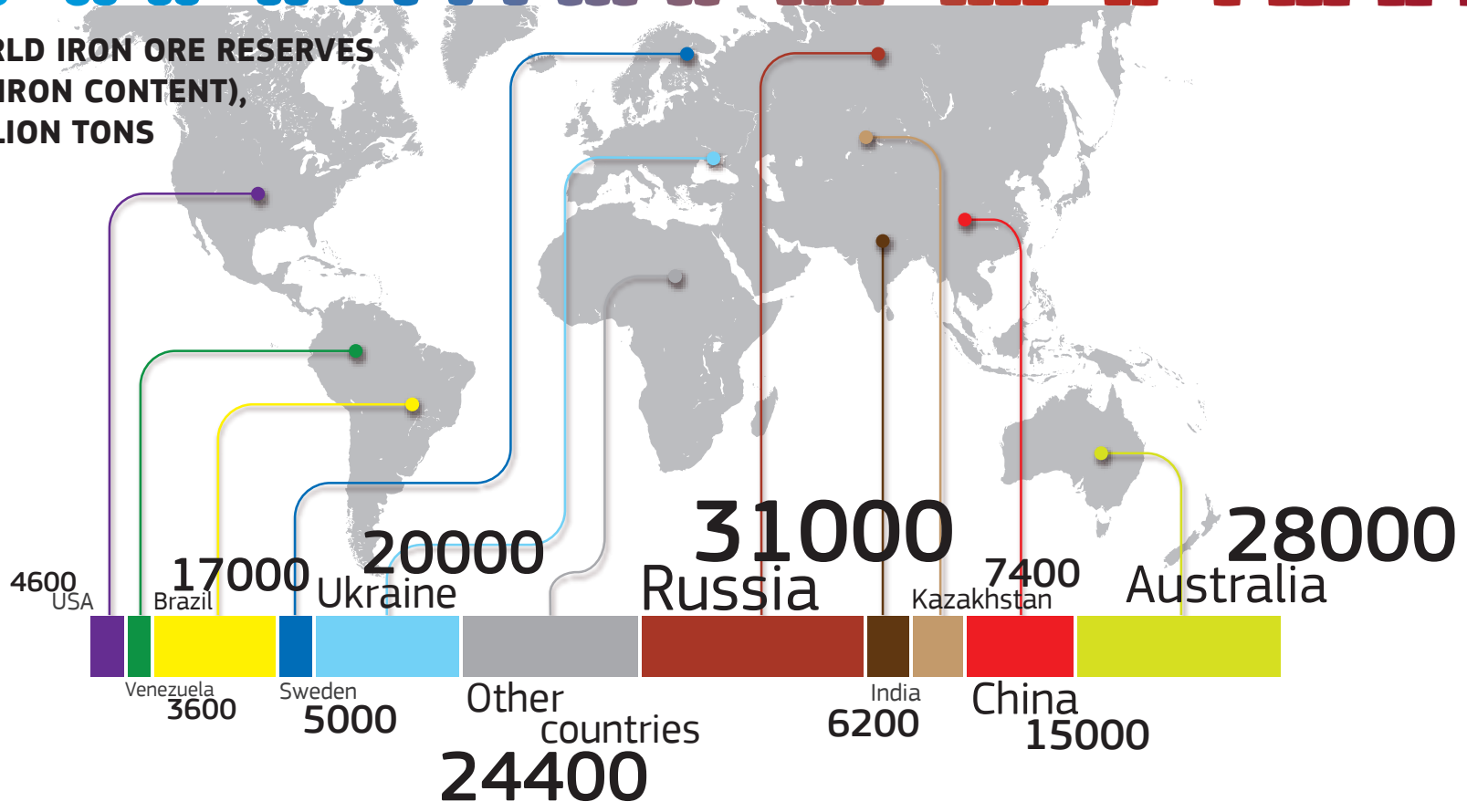
Furthermore, at the industrial site of OJSC "CMP", the organization of production of high purity pig iron is possible, using the technology of Dutch company Hencon of smelting in a DC electric arc furnace with short arc.

For metal smelting it is planned to use the metallized pellets, which are obtained from the roasting furnace at the earlier stages of the process. For pig iron smelting it is proposed to use an electric arc furnace, which will be located at the new site of company "Hencon Siberia" in Krasnoyarsk. This site is also situated on the territory of "CMP"; that eliminates the transportation costs for delivery of the pellets, and makes a single production line.

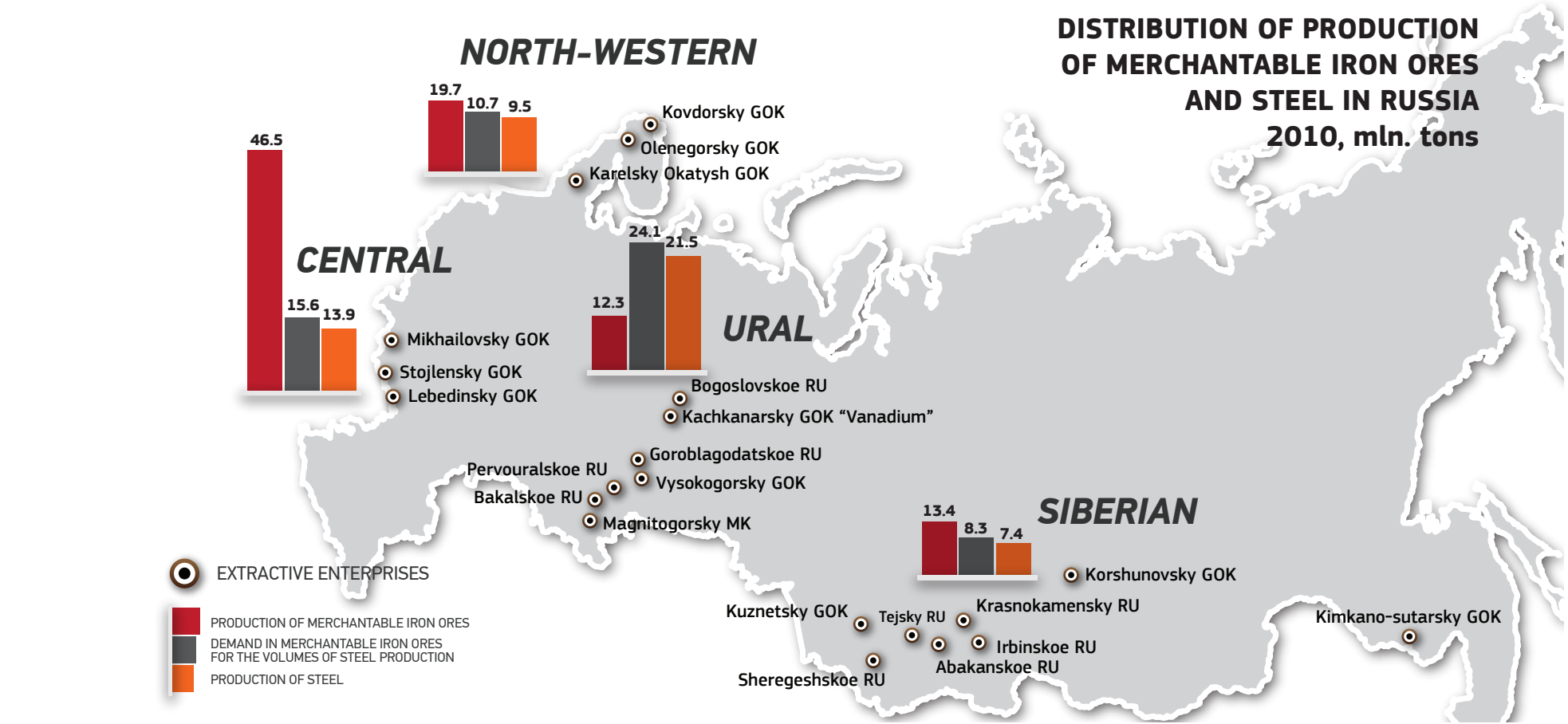
The product, obtained from the smelting – is the iron in pigs, the brand of which is well known abroad as Sorelmetal. According to a terminology adopted in Russia, such iron can be attributed to a category of nodular pig irons.

For this project the basic technological solutions, the architectural and planning decisions, the calculations of capital costs and the feasibility of the project have been worked out.

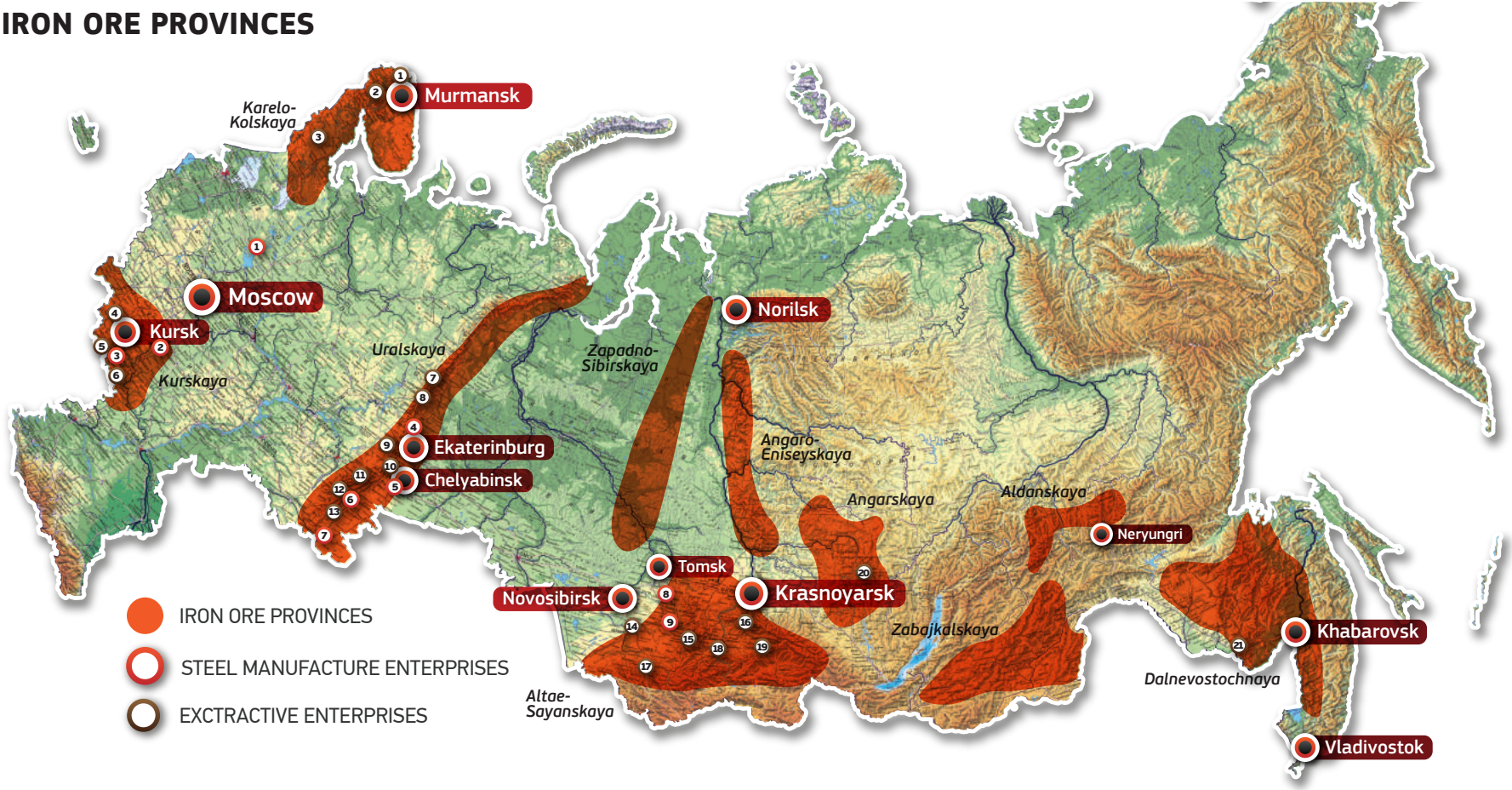
WORLD IRON ORE RESERVES (BY IRON CONTENT), MILLION TONS



DISTRIBUTION OF PRODUCTION OF MERCHANTABLE IRON ORES AND STEEL IN RUSSIA 2010, mln. tons



IRON ORE PROVINCES



EXCTRACTIVE ENTERPRISES

1 - Kovdorsky GOK
2 - Olenegorsky GOK
3 - Karelsky Okatysh GOK
4 - Mikhailovsky GOK
5 - Stojlensky GOK
6 - Lebedinsky GOK
7 - Bogoslovskoe RU
8 - Kachkanarsky GOK “Vanadium”
9 - Goroblagodatskoe RU
10 - Vysokogorsky GOK
11 - Pervouralskoe RU
12 - Bakalskoe RU
13 - Magnitogorsky MK
14 - Kuznetsky GOK
15 - Tejsky RU
16 - Krasnokamensky RU
17 - Sheregeshskoe RU
18 - Abakanskoe RU
19 - Irbinskoe RU
20 - Korshunovsky GOK
21 – Kimkano-sutarsky GOK

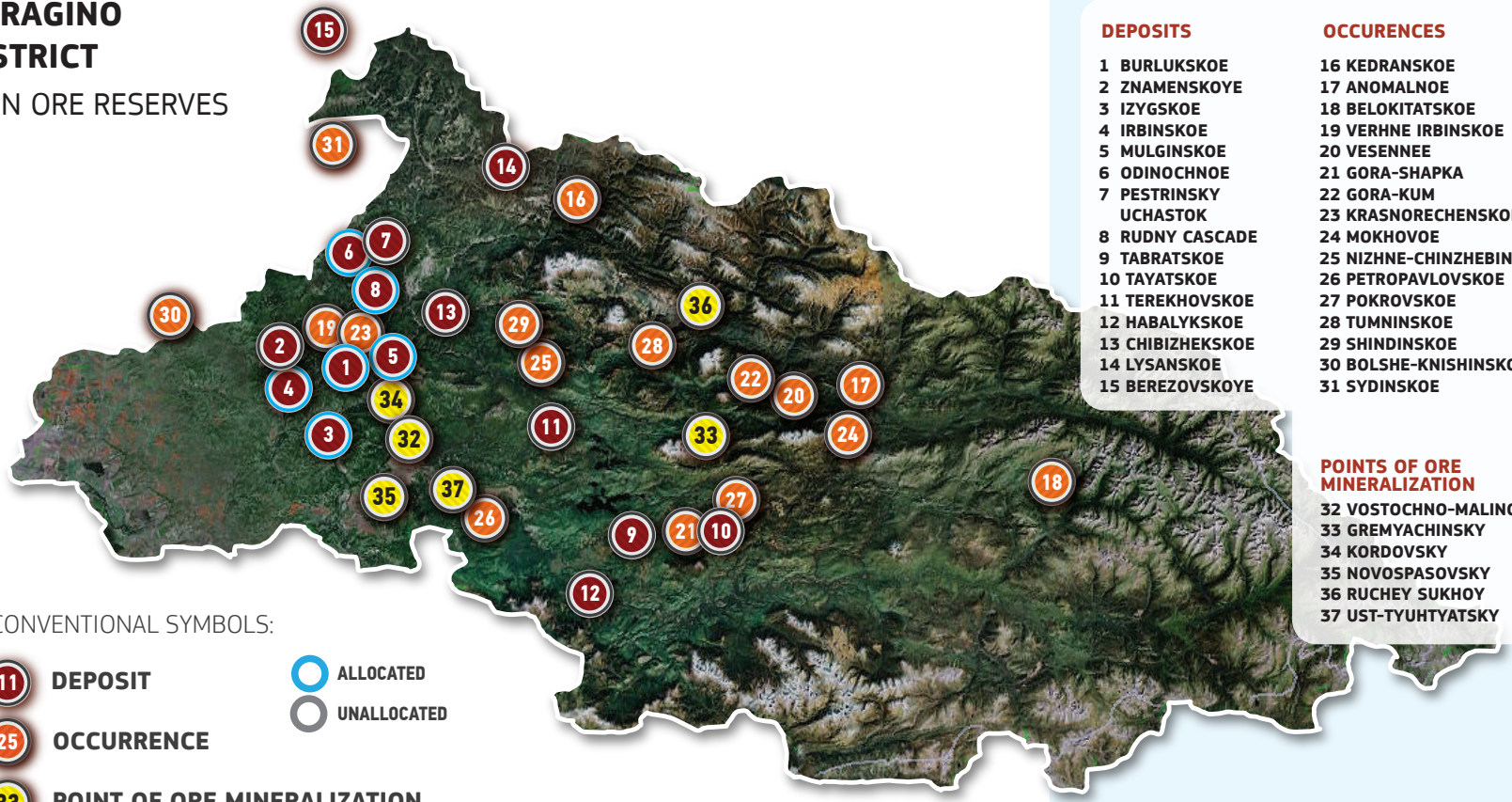
STEEL MANUFACTURE ENTERPRISES

1 - Cherepovetsky MK
2 - Novolipetsky MK
3 - Oskolsky MK
4 - Nizhnetagilsky MK
5 - Chelyabinsky MK
6 - Magnitogorsky MK
7 - Orsko-Khalilovsky MK
8 - Zapadno-Sibirsky MK
9 - Kuznetsky MK

Proven reserves of iron ore in Russia is quite enough for the needs of the domestic steel industry. The location of extractive and steel manufacturing companies is associated with the location of major iron ore provinces.

KURAGINO DISTRICT

IRON ORE RESERVES



CONVENTIONAL SYMBOLS:

- 11 DEPOSIT
- 25 OCCURRENCE
- 33 POINT OF ORE MINERALIZATION
- ALLOCATED
- UNALLOCATED

DEPOSITS

1 BURLUKSKOE
2 ZNAMENSKOYE
3 IZYGSKOE
4 IRBINSKOE
5 MULGINSKOE
6 ODINOCHNOE
7 PESTRINSKY UCHASTOK
8 RUDNY CASCADE
9 TABRATSKOE
10 TAYATSKOE
11 TEREKHOVSKOE
12 HABALYKSKOE
13 CHIBIZHEKSKOE
14 LYSANSKOE
15 BEREZOVSKOYE

OCCURENCES

16 KEDRANSKOE
17 ANOMALNOE
18 BELOKITATSKOE
19 VERHNE IRBINSKOE
20 VESENNEE
21 GORA-SHAPKA
22 GORA-KUM
23 KRASNORECHENSKOE
24 MOKHOVOE
25 NIZHNE-CHINZHEBINSKOE
26 PETROPAVLOVSKOE
27 POKROVSKOE
28 TUMNINSKOE
29 SHINDINSKOE
30 BOLSHE-KNISHINSKOE
31 SYDINSKOE

POINTS OF ORE MINERALIZATION

32 VOSTOCHNO-MALINOVSKY
33 GREMYACHINSKY
34 KORDOVSKY
35 NOVOSPASOVSKY
36 RUCHEY SUKHOY
37 UST-TYUHTYATSKY

OJSC “KRANOKAMENSK MINE” EXPLOITS THE FOLLOWING DEPOSITS:

1. “Mulginskoe” deposit, license TE series KRR №01896
2. “Rudny cascade” deposit, license TE series KRR №01987
3. “Odinochnoe” deposit, license TE series KRR №01898

DEPOSIT

Mulginskoe

5

DEGREE OF EXPLORATION: UNDER EXPLOITATION
RESERVES FUND: ALLOCATED

	CRUDE ORE:	IRON CONTENT:	CONCENTRATION:
A+B+C1	9 316.00	3 493.50	37.50%
C2	—	—	—
OUT-OF-BALANCE	8 104.00	2 534.93	31.28%
RESOURCES	—	—	—
TOTAL	17 420.00	6 028.43	34.61%

MINING METHOD: **OPEN-PIT**
MINING CONDITIONS: **EASY**
HYDROGEOLOGICAL CONDITIONS: **MEDIUM**

THE PRODUCT

IRON CONTENT: **38%**
LOSSES: **5%**
DILUTION: **14%**
STRIPPING RATIO: **2.9 m³/t**
EXTRACTION: **85%**
EXTERNAL TRANSPORT: **Railway**

Method of processing

Processing at OJSC “Krasnokamensk mine” by method of dry magnetic separation

DEPOSIT

Rudny Cascade

8

DEGREE OF EXPLORATION: UNDER EXPLOITATION
RESERVES FUND: ALLOCATED

	CRUDE ORE:	IRON CONTENT:	CONCENTRATION:
A+B+C1	19 903.00	7 085.47	35.60%
C2	4 330.00	1 990.50	45.97%
OUT-OF-BALANCE	667.00	260.13	39.00%
RESOURCES	8 900.00	3 904.43	43.87%
TOTAL	33 800.00	13 240.53	39.17%

MINING METHOD: **OPEN-PIT**
MINING CONDITIONS: **MEDIUM**
HYDROGEOLOGICAL CONDITIONS: **EASY**

THE PRODUCT

IRON CONTENT: **46%**
LOSSES: **5%**
DILUTION: **10%**
STRIPPING RATIO: **2 m³/t**
EXTRACTION: **72.6%**
EXTERNAL TRANSPORT: **Railway**

Method of processing

The following scheme is recommended: beneficiation with washing of ores, selective screening and magnetic separation of fine classes (10-0 mm)

DEPOSIT

Odinochnoe

6

DEGREE OF EXPLORATION: UNDER EXPLOITATION
RESERVES FUND: ALLOCATED

	CRUDE ORE:	IRON CONTENT:	CONCENTRATION:
A+B+C1	55 514.00	25 714.08	46.32%
C2	2 499.00	874.65	35.00%
OUT-OF-BALANCE	7 635.00	1 684.28	22.06%
RESOURCES	10 000.00	3 500.00	35.00%
TOTAL	75 648.00	31 773.02	42%

MINING METHOD: **UNDERGROUND MINING**
MINING CONDITIONS: **EASY**
HYDROGEOLOGICAL CONDITIONS: **MEDIUM**

THE PRODUCT

IRON CONTENT: **61-63%**
LOSSES: **18%**
DILUTION: **23%**
STRIPPING RATIO: **-**
EXTRACTION: **90%**
EXTERNAL TRANSPORT: **Railway**

Method of processing

Processing at OJSC “Krasnokamensk mine” by method of dry magnetic separation. Three stages scheme of magnetic separation is recommended.

THE IRON ORE PROVINCE OF KURAGINO DISTRICT

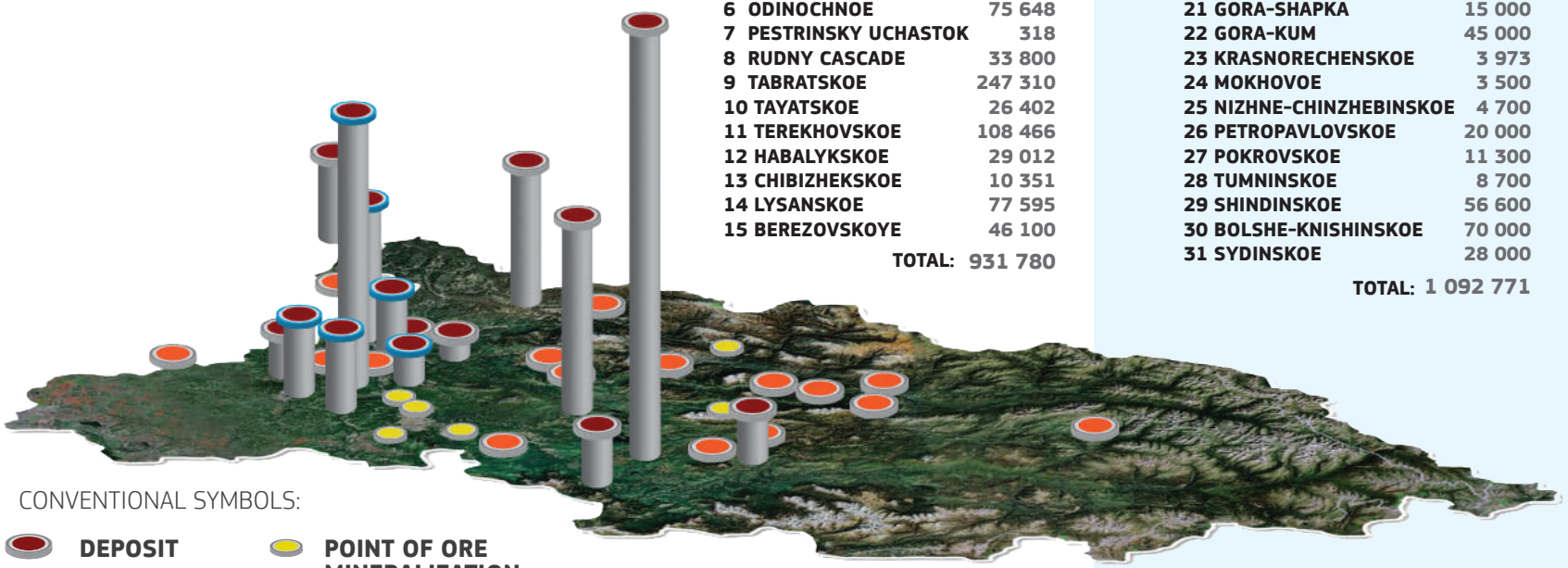
IRON ORE RESERVES

DEPOSITS

1	BURLUKSKOE	153 809
2	ZNAMENSKOYE	22 300
3	IZYGSKOE	42 469
4	IRBINSKOE	40 780
5	MULGINSKOE	17 420
6	ODINOCHNOE	75 648
7	PESTRINSKY UCHASTOK	318
8	RUDNY CASCADE	33 800
9	TABRATSKOE	247 310
10	TAYATSKOE	26 402
11	TEREKHOVSKOE	108 466
12	HABALYKSKOE	29 012
13	CHIBIZHEKSKOE	10 351
14	LYSANSKOE	77 595
15	BEREZOVSKOYE	46 100
	TOTAL:	931 780

OCCURENCES

16	KEDRANSKOE	219 445
17	ANOMALNOE	1 500
18	BELOKITATSKOE	593 000
19	VERHNE IRBINSKOE	53
20	VESENNEE	12 000
21	GORA-SHAPKA	15 000
22	GORA-KUM	45 000
23	KRASNORECHENSKOE	3 973
24	MOKHOVOE	3 500
25	NIZHNE-CHINZHEBINSKOE	4 700
26	PETROPAVLOVSKOE	20 000
27	POKROVSKOE	11 300
28	TUMNINSKOE	8 700
29	SHINDINSKOE	56 600
30	BOLSHE-KNISHINSKOE	70 000
31	SYDINSKOE	28 000
	TOTAL:	1 092 771

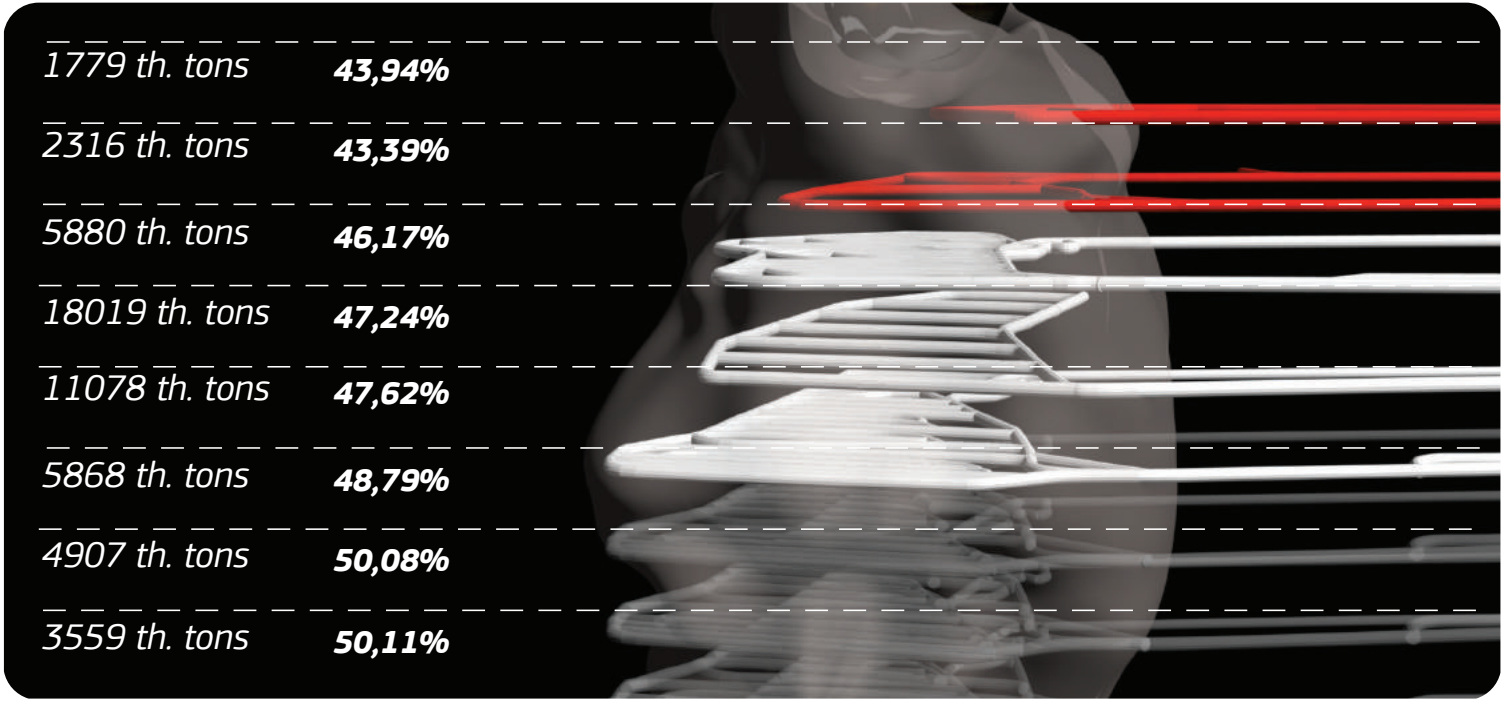


CONVENTIONAL SYMBOLS:

- DEPOSIT
- OCCURRENCE
- POINT OF ORE MINERALIZATION

MINE “ODINOCHNAYA”

RESERVES:	IRON CONTENT:	HORIZONS:
1779 th. tons	43,94%	330 m
2316 th. tons	43,39%	240 m
5880 th. tons	46,17%	150 m
18019 th. tons	47,24%	60 m
11078 th. tons	47,62%	-30 m
5868 th. tons	48,79%	-120 m
4907 th. tons	50,08%	-210 m
3559 th. tons	50,11%	-300 m



IRON ORE RESERVES OF MINE “ODINOCHNAYA”

Recorded on the State balance sheet reserves in categories A+B+C1 with 47.57% iron content comprise 55,514 th. Tons, (including martin ores with 61.58% iron content – 2,947 th. tons and martin ores with 59.4% iron content – 8,711 th. tons); there are 2,499 th. tons in category C2, out-of-balance reserves comprise 7,635 th. tons.

The deposit is represented by one main ore deposit and a number of small ore bodies. The pitch is heavy, western, at angles from 60-85° to vertical angle and on bottom levels of the south flank (southerly from exploration line XI) is to reversal eastern one. The thickness of the ore deposit fluctuates from 2 m up to 150 m, with the average of 45 m. The length along strike of the deposit determined by exploration is 1,430 m; estimated by geologic-geophysical data is 1,840 m.

At the present time, the reserves of iron ore in the edge of the open-pit “Odinochniy” have been exhausted; further development of the deposit is possible only by process of underground mining.

The chemical composition of ores conforms to black iron ores (magnetite). Petrography data registers consistency both mineral, and chemical composition of the deposit “Odinochnoe” ore. The manganese content is 0.79%, the cobalt content is up to 0.09%, and the nickel content is up to 0.03-0.05% with insignificant content of sulphur and phosphorus, what is a resource-saving factor in metallurgical process.

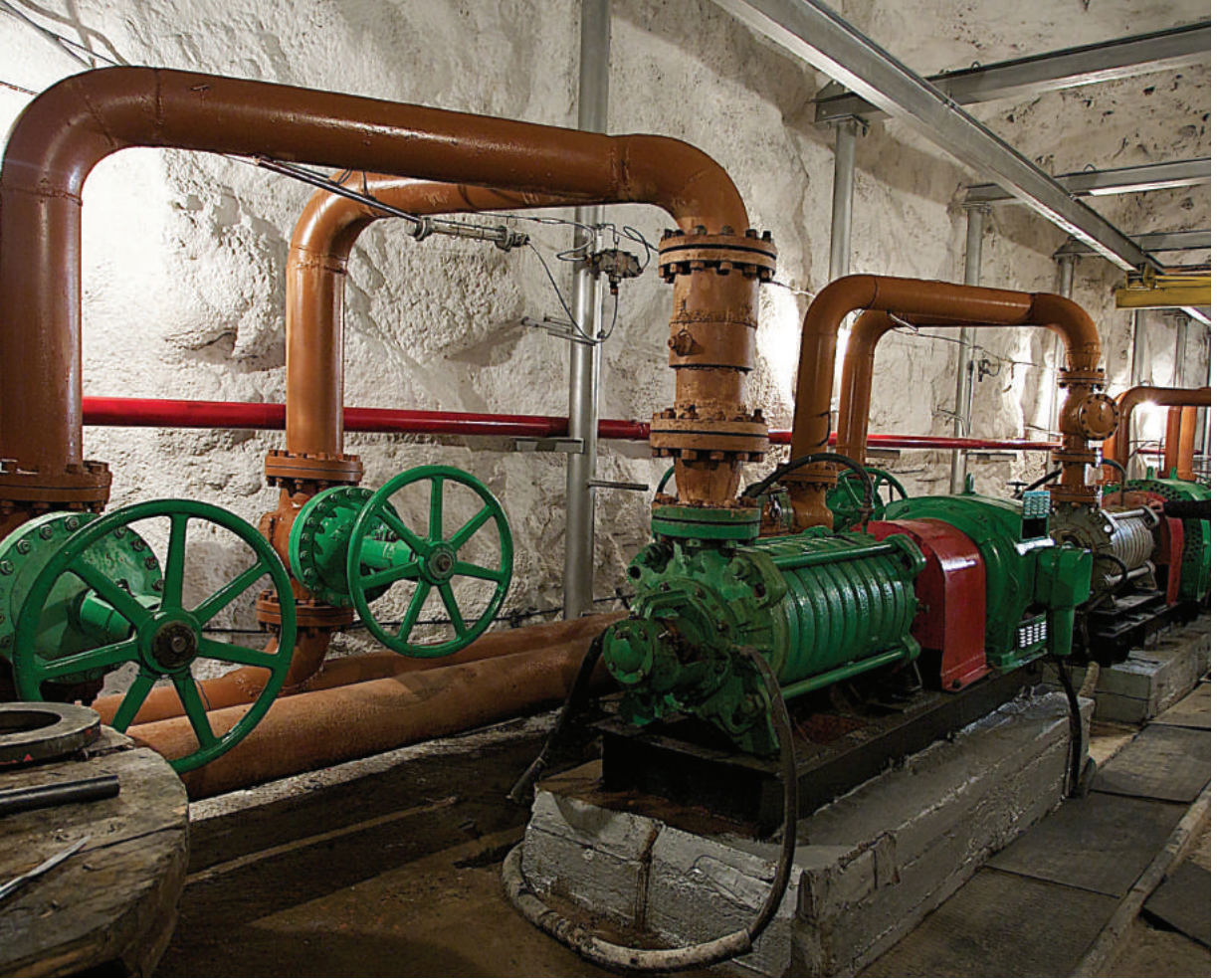
In the distribution of magnetite in the ore deposit a consistent pattern is observed - the central part of the ore body is composed of more abundant in iron content (50%) ores, which are bordered by the run-of-mine (25-50%) ores, and further poor (20-25%) ores, skarns and metasomatic rocks.

Toward the lower floors of the mine the ore body is growing, there is an increase in volumes of reserves and in the percentage of iron content in the ore.

THE CURRENT STATUS

OVER GROUND PART

1 Ventilation-air-heating device of bore “Yuzhniy”	
- construction part completed	**95%**
- mechanical part VOD-40 assembled	**90%**
- crane mounted	**100%**
2 Hoisting equipment of bore “Olimpiyskiy”	
- zero circle completed	**85%**
- including foundations under equipment in axes 2+5 and row V-KZH 7-9	
- frame of the building assembled in axes A-B, row 1-11	
- equipment procured, including: crane, machine C-14545.6/0.8	
3 Industrial heating plant	
- underground part completed	
- earthwork and foundations under columns	**100%**
- wall panels	**80%**
- floor structures	**80%**
- brickworks for walls and partitions	**20%**
- concrete works	**45%**
- external power supply	
- power line – 35 kV – 2 chains completed	**100%**
- construction work on substation 35/6 kV	**95%**
- cable bridge from substation 35/ 6 to bore “Severniy”	**90%**
- equipment assembled, adjustment is needed	**100%**
- external water and heat supply networks and buildings, sewerage	
- pipeline (diameter 150 mm) is laid from “water-treatment station” to the mine site	**100%**
- building network for “Reservoirs on 700 m³”	**80%**
- on-site utilities for “Reservoirs on 700 m³”	**80%**
- gravity flowing – pressure sewage collector	
- networks are laid from the mine site and completed	**50%**
including zero circle KNS №2	**98%**
- upper layout completed	**90%**



MINING WORK

bore “Severniy”	
- excavated to the designed depth	
- conjugation of shaft bottoms concreted not fully	**60%**
- hoisting mechanism completed, including places of wagons’ unloading at the surface	**90%**
bore “Olimpiyskiy”	
- excavated to the designed depth	
- all conjugations of shaft bottoms concreted not fully	**60%**
- dosing chamber driving not completed, working space underground to grinder; there is a tunneling system in the bore	
bore “Yuzhniy”	
- is in process of driving, conjugation with shaft bottoms +330 m, +240 m, +150 m concreted not fully	
- hoisting mechanism of bore “Yuzhniy” – completed in accordance with the design	
- hoisting machine installed in accordance with the design	
- temporary water drainage installation assembled for horizon +240 m with 4 pumps CNS-180; power substations with cables are laid along the bore	**85%**

LAUNCH OF THE MINE

Method of mining. A traditional system of block caving with height of a block 70 meters for development of the deposit is used.

The calculated maximum annual productivity of the mine is 3.0 million tons of crude ore per year.

Reaching the designed capacity of 3.0 million tons of crude ore per year involves three start-up complexes, including:

- I start-up complex, with capacity - 700 th. tons;
- II start-up complex, with capacity - 800 th. tons;
- III start-up complex, with capacity - 1500 th. tons.

The technology of ores processing of deposit "Odinochnoe" was accepted according to technological specification developed by CJSC "Impulse" and approved by NGO "Sibruda".

The technological specification development was based on researches on the beneficiation of ores of deposit "Odinochnoe", made by VostNIGRI (Eastern Research Institute of Mining), Central Laboratory of NGO Sibruda, research laboratory of plant Sibelectrostal, laboratory of Korshunovskiy GOK (Mining and Processing Plant), using analysis of technology of ore beneficiation on the existing CWBP (Crush-Washing Beneficiation Plant), taking into account the experience of advanced mining and processing enterprises of former USSR on enrichment of magnetite ores.

Ore processing is provided by existing today technological scheme of the CWBP, taking into account the modernization. According to preliminary estimates, the iron content in the concentrate obtained by the scheme of the full development of CWBP will exceed 60.0%.

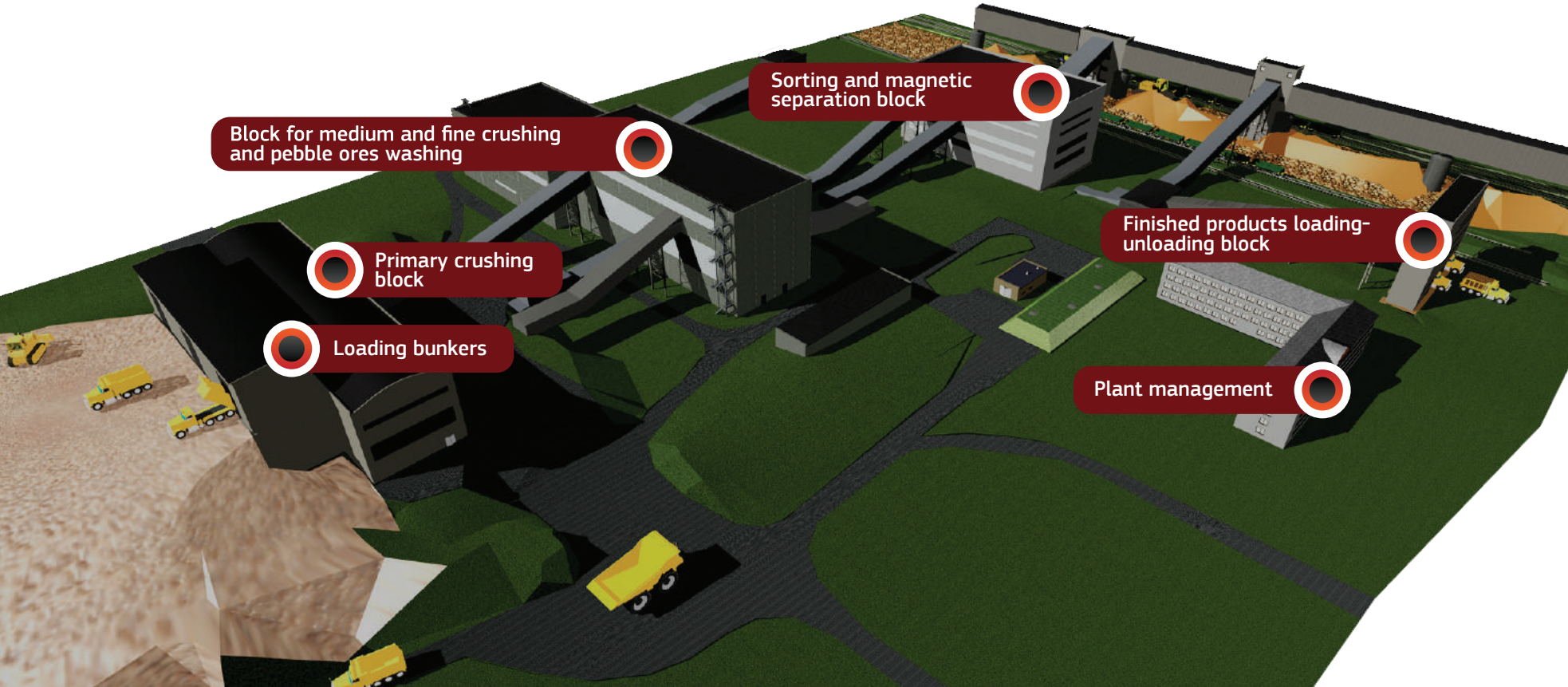
There are several designed variants of the mine development exist, including 3 variants for the construction completion for 3.0 mln. tones (crude ore) capacity, which was developed by OJSC Institute of mining industry design "SIBGIPRORUDA"; 8 variants of construction completion and ore production by years taking into account starting-up of the capacities of the mine and the CWBP, developed by "The Agency for Restructuring of Commercial Organizations" LLC together with Institute of mining, geology and geotechnology of "Siberian Federal University".

THE MINE DEVELOPMENT ACCORDING TO THE PROJECT OF OJSC "SIBGIPRORUDA", th. tons

Floors	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
330 + 400	200	700	700	220																					
150 + 330			800	1280	2300	1300	1300	1300	1300	600															
-30 + 150						1700	1700	1700	1700	2400	3000	3000	3000	3000	3000	3000	2000	1000	460						
-210 + -30																	1000	2000	2000	2000	2000	2000	2000	500	
-390 + -210																			540	1000	1000	1000	1000	1000	130
TOTAL	200	700	**1500**	**1500**	**2300**	**3000**	**3000**	**3000**	**3000**	**3000**	**3000**	**3000**	**3000**	**3000**	**3000**	**3000**	**3000**	**3000**	**3000**	**3000**	**3000**	**3000**	**3000**	**1500**	130
Fe content in crude ore, %	37,29	37,29	37,74	38	39,06	39,35	39,35	39,35	39,35	39,82	40,28	40,28	40,28	40,28	40,28	40,28	40,69	41,09	41,31	41,5	41,5	41,5	41,5	41,5	40,25

THE PROJECT OF THE CRUSH-WASHING BENEFICIATION PLANT MODERNIZATION

THE GENERAL LAYOUT OF THE CWBP OF OJSC “KRASNOKAMENSK MINE”



Initially Krasnokamensk CWBP was a part of the mining complex SIBRUDA and was focused only on primary processing of iron ore with obtaining primary concentrates (with iron content40-45%) for further enrichment on Abagurskaya beneficiation plant (Kemerovo region).

At the present time the technical re-equipment of the CWBP is carried out, which will let produce a concentrate with higher content of iron (58.5% and more, depending on the ores to be processed).

The current productivity of the CWBP is 1 mln. tons per year, that let produce 350 th. tons of concentrate with 41-43% iron content (before end of the plant's modernization). The secondary products of the production are the gravel chippings – fraction -16/+10 mm; fraction-10/+5 mm; fraction -5mm.

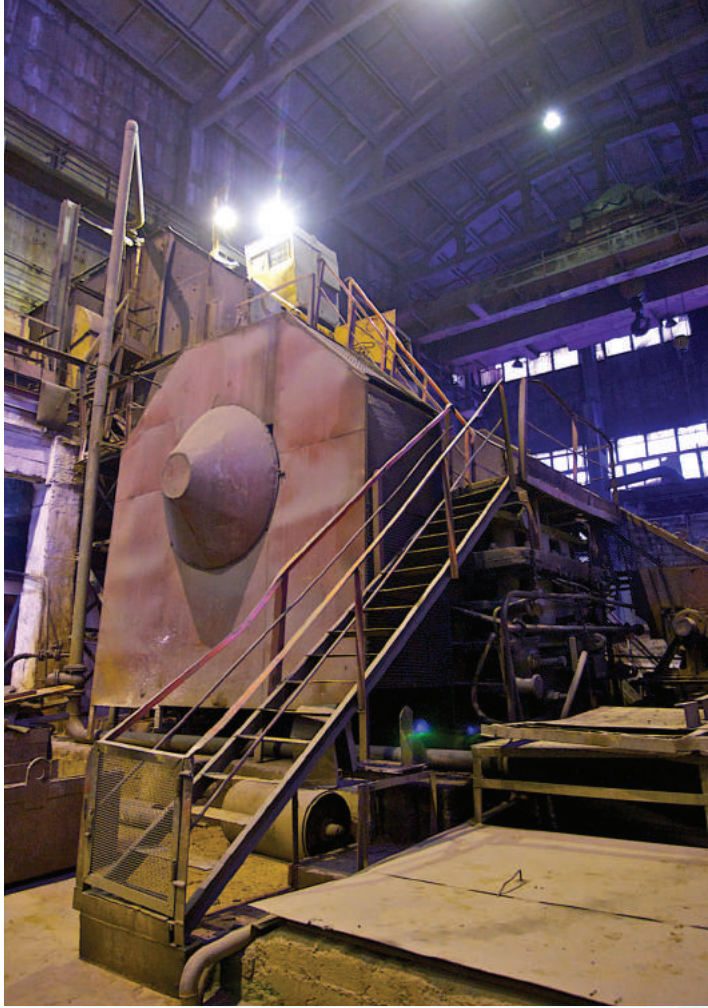
THE CURRENT STATUS

The Crush-Washing Beneficiation Plant is a part of OJSC "Krasnokamensk mine". The CWBP was constructed according to the design of the State Union Institute on engineering of metal-mining industry plants GIPRORUDA (Siberian branch) (The Ministry of Ferrous Industry of USSR CHERMETPROEKT) for processing of crude, ledge martin and pebble ores of "Rudny cascade" and "Odinochnoe" deposits in separate flows. First stage of the plant was put into operation in August of 1976.

The CWBP annual capacity for base ore, estimated by the original construction project, amounts to 2,500 thousand tons (wet weight) in both stages.

At the present time the enterprise exploits magnetite ores of "Rudny cascade" and "Mulga" deposits. Ledge and pebble ores are extracted, which are processed in two flows with different schemes of beneficiation. The total volume of ore output equal to 1,000 th. tons. (60% ledge ores, 40% pebble ores).

The Crush-Washing Beneficiation Plant produces iron-ore concentrate in the amount of 350 th. tons with average iron content 41-43%.



THE ELECTRIC POWER SUPPLY

THE ELECTRIC POWER SUBSTATIONS

1. The installed capacity of the main step-down substation 35/6 kV №1 2x10000 kVA – powers all consumers of the CWBP, the industrial area and the village.

2. The installed capacity of the main step-down substation 35/6 kV №2 mine “Odinochnaya” 2x16000 kVA – does not work at full capacity.

3. The heat transfer station 35/6 kV №3 of mine “Odinochnaya” 2x6300 kVA – powers all consumers of mine “Odinochnaya”.

HVPL-35 kV

1.The main step-down substation 35/6 kV №1 is connected with two VL-35 from traction substation 220/35/27.5 kV “Koshurnikovo” 2x40000 kVA. F5 - 2AC150 (13.9 km); F1 – AC300 (13.9 km).

2.The main step-down substation 35/6 №2 is powered by two EPL-35 by continuation of the same feeders by one circuit for each.

3.The heat transfer station 35/6 №3 is connected to one circuit VL-35 F5.

The source of electric power supply of the CWBP consumers is the existing main step-down substation with two transformers.

THE TRANSPORT INFRASTRUCTURE

The extensive network of industrial roads and driveways pass through the territory of the enterprise, it provides interplant cargo transportation by automobile transport, and also serves for economical and firefighting needs. The cargo transportations are carried out by automobile transport according to an existing track plan.

The automobile roads on the site are designed for two-way movement with a road coating width 6.0 m.

The automobile asphalted road with a length 90 km connects the object with the district center Kuragino (directed on the south-west).

There is a railway line to the plant site at the present time, which connects the site of the plant with the external railway network. Industrial station “Kanzyba” is situated directly on the territory.

THE SOCIAL SPHERE

OJSC “Krasnokamensk mine” is the local economic mainstay of Krasnokamensk village.

The social sphere of the village includes municipal institutions of education, health, culture, management, supplementary education. The social sphere can be considered as sufficiently developed.

The company is staffed by experienced employees.

THE PROSPECTS

The purpose of the technical re-equipment is to obtain fine grinded iron-ore concentrate by single-stage grinding and by wet magnetic separation with obtaining of concentrate with iron content 58.5%.

After the technical re-equipment it is planned to obtain magnetite concentrate in the amount of 284 th. tons per year (with wetness 3,5 %), and 274 th. tons per year in dry weight, with size -0,25+0 mm.

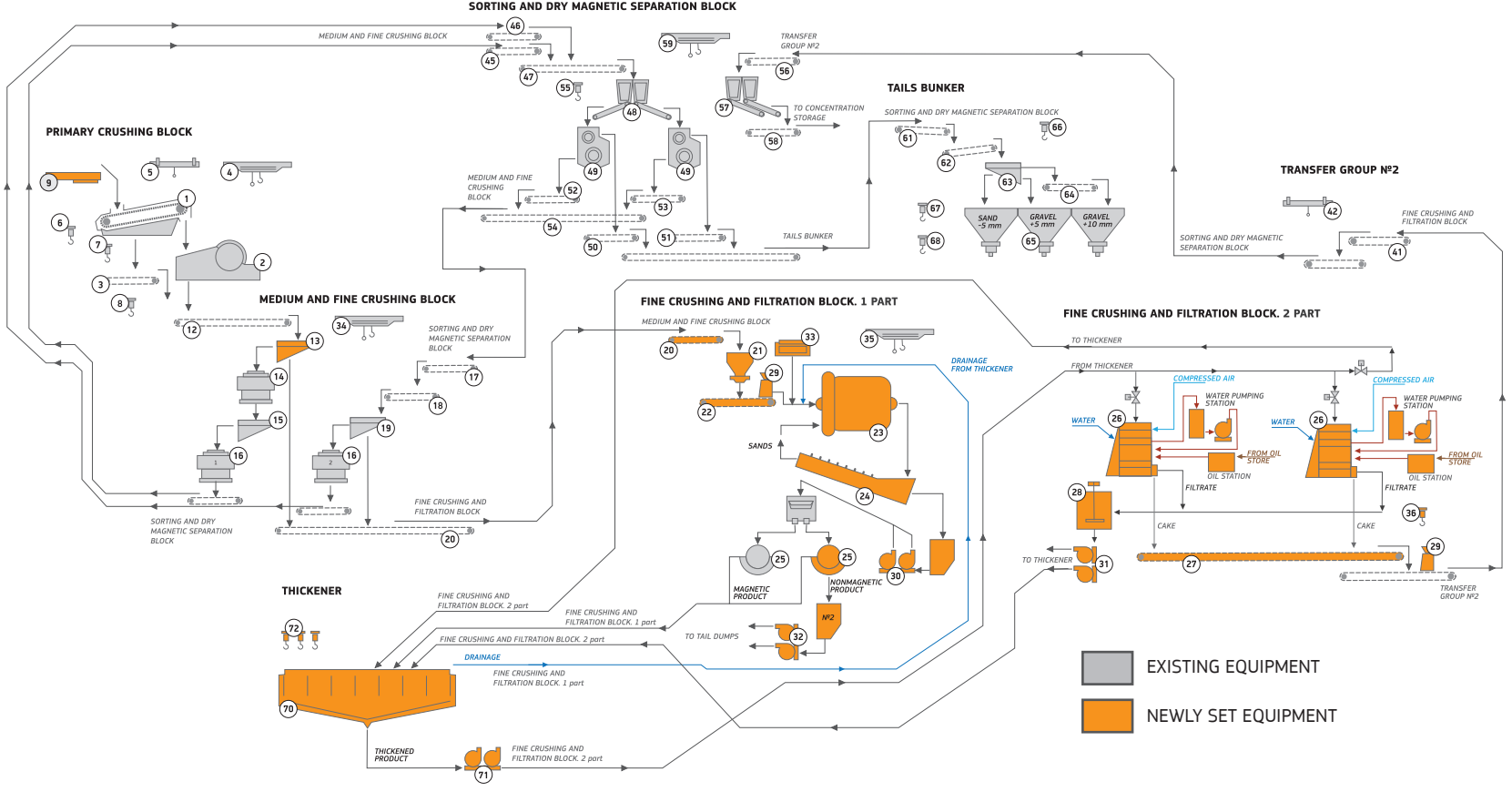
The secondary product is gravel chippings of the following classes: -16+10 mm; -10+5 mm; -5 mm, in amount of 108 th. tons per year, 107 th. tons per year and 117 th. tons per year accordingly.

The obtained concentrate is pure in regard to harmful impurities content – copper, zinc, lead, sulfur.

TIME SCHEDULE OF PREPARATION OF THE PROJECT "TECHNICAL RE-EQUIPMENT OF THE CWBP OF OJSC "KRASNOKAMENSK MINE". THE IMPLEMENTED WORKS

NAME OF A WORK	2010								2011		
	5	6	7	8	9	10	11	12	1	2	3
COMPLEX ENGINEERING SURVEY					■	■					
MICROZONING (LLC "GEOINTECH")					■	■					
DESIGN AND WORKING DOCUMENTATION DEVELOPMENT (OJSC "URALMEKHANOBR")	■	■	■	■	■	■	■	■	■	■	
INDUSTRIAL SAFETY EXPERTISE OF THE DESIGN DOCUMENTATION AND CONFIRMATION OF THE CONCLUSION IN ROSTECHNADZOR									■	■	
EXAMINATION OF BUILDINGS AND CONSTRUCTIONS, INDUSTRIAL SAFETY EXPERTISE (OJSC "NTP")	■	■	■	■	■	■	■	■	■	■	
EXAMINATION OF TECHNICAL DEVICES, INDUSTRIAL SAFETY EXPERTISE ("PROMTECHEXPERTISE")								■	■	■	

THE APPARATUS SCHEME OF THE CWBP RE-EQUIPMENT



THE PROJECT IMPLEMENATION SCHEDULE

TYPES OF WORK	TIME FOR THE CONSTRUCTION 1st year											
	1	2	3	4	5	6	7	8	9	10	11	12
PREPARATORY WORKS	■											
ORDER AND DELIVERY OF THE EQUIPMENT	■	■	■	■	■	■						
WORKS ON DISMANTLING OF THE EQUIPMENT AND FOUNDATIONS		■	■	■	■							
MAIN CONSTRUCTION OBJECTS. ASSEMBLING AND ADJUSTMENT WORKS						■	■	■	■	■	■	■
EXTERNAL WATER AND HEAT NETWORKS AND STRUCTURES, SEWERAGE	■	■										■
TRANSPORTATION FACILITIES			■									■

THE OVERALL SUMMARY ESTIMATE FOR THE TECHNICAL RE-EQUIPMENT OF THE CWBP IN PRICES OF 3RD QUARTER OF 2010

Chapter of the project	*Name*	*COST, TH. US DOLLARS*				
		CONSTRUCTION WORK	*ASSEMBLING WORK*	*EQUIPMENT, FURNITURE, INVENTORY*	*OTHER*	*TOTAL*
Chapter 1	Preparation of the construction site	4.0				4.0
Chapter 2	Main construction objects	898.9	542.2	5 334.3		6 775.4
	Block for medium and fine crushing. Block for grinding and filtration	770.8	405.2	4 889.3		6 065.2
	Thickener	128.1	5.7	229.8		363.5
	Electro technical part		131.4	215.3		346.7
Chapter 5	Transport and communication services objects	123.9				123.9
Chapter 6	External water, heat and gas networks and structures, sewerage	232.5	1.4	1.4		235.3
Chapter 7	Landscaping and gardening	5.6				5.6
Chapter 8	Temporary buildings and structures	32.4	13.9			46.3
Chapter 9	Other works and costs	73.8	29.0		190.2	293.0
Chapter 10	Expenses for construction management services (technical supervision) for the enterprise under construction				82.3	82.3
Chapter 12	Design and survey works, supervision				834.5	834.5
	Unforeseen expenses	41.1	17.6	160.1	33.2	252.0
	VAT	254.2	108.7	989.2	205.2	1 557.4
	Total	**1 666.3**	**712.9**	**6 485.1**	**1 345.5**	**10 209.8**

TECHNICAL AND ECONOMIC INDICATORS OF THE PROJECT “TECHNICAL RE-EQUIPMENT OF THE CWBP OF OJSC “Krasnokamensk mine”

Name	Price, $/t with VAT	Volume of production th. tons/year	Revenue from sale th. $/year
Iron concentrate Fe 58,5 %	48.4	274	13 260.97
Gravel, class -16+10 mm	4.94	108	534.42
Gravel, class -10+5 mm	4.94	107	529.45
Gravel, class -5 mm	4.94	118	583.90
		TOTAL:	**14 905.87**

NET ACTUAL INCOME FOR 15 YEARS,
th. $

14 734.33

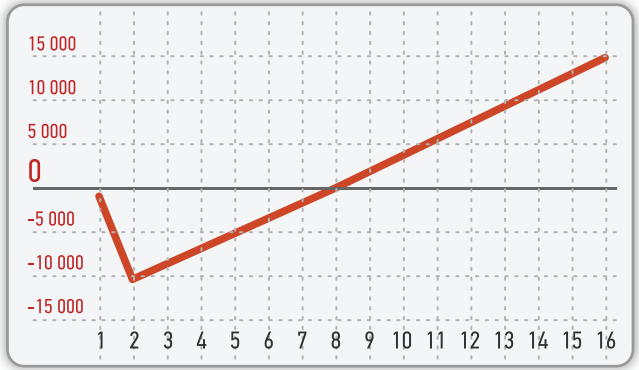
PAYBACK PERIOD

CAPITAL EXPENDITURES,
th. $ with VAT

Construction works	1666.33
Assembling works	712.9
Equipment	6485.07
Other costs	1345.47
TOTAL	**10 209.77**

In prices of 3rd quarter of 2010

PAYBACK OF THE PROJECT GRAPH



INTERNAL RATE OF RETURN

14.84%

PROFITABILITY INDEX

1.15

ADDITIONAL TAXES AFTER ATTAINMENT OF THE PROJECTED CAPACITY, th. $

CONSOLIDATED REGION'S BUDGET

505.5
per year

5 453.6
for 15 years

FEDERAL BUDGET

911.1
per year

10 948.5
for 15 years


THE PROJECT OF THE TAILS PROCESSING
Mine "Odinochnaya"
Tail dumps
Краснокаменск
Crush-Washing Beneficiation Plant
пос. Кошурниково
Кошурниково

GENERAL INFORMATION

The Project is prepared for the purpose of the tails of the Crush-Washing Beneficiation Plant processing for obtaining a competitive iron-ore concentrate with iron content over 60% and receiving additional revenues from sales.

At the present time, profile institute OJSC “Uralmekhanobr”, basing on the results of conducted researches on beneficiation of old tails of the Crush-Washing Beneficiation Plant of OJSC “Krasnokamensk mine”, has developed the Technological regulations. The development of the project documentation is at the final stage.

The developed technology of the old tails processing involves magnetic beneficiation with obtaining of magnetite concentrate of dry and wet concentration and building sands in conditions of a modular concentrating plant. The technical solutions were prepared for the production equipment, the optimal regimes of concentration, metrological support of the process, control and automation.

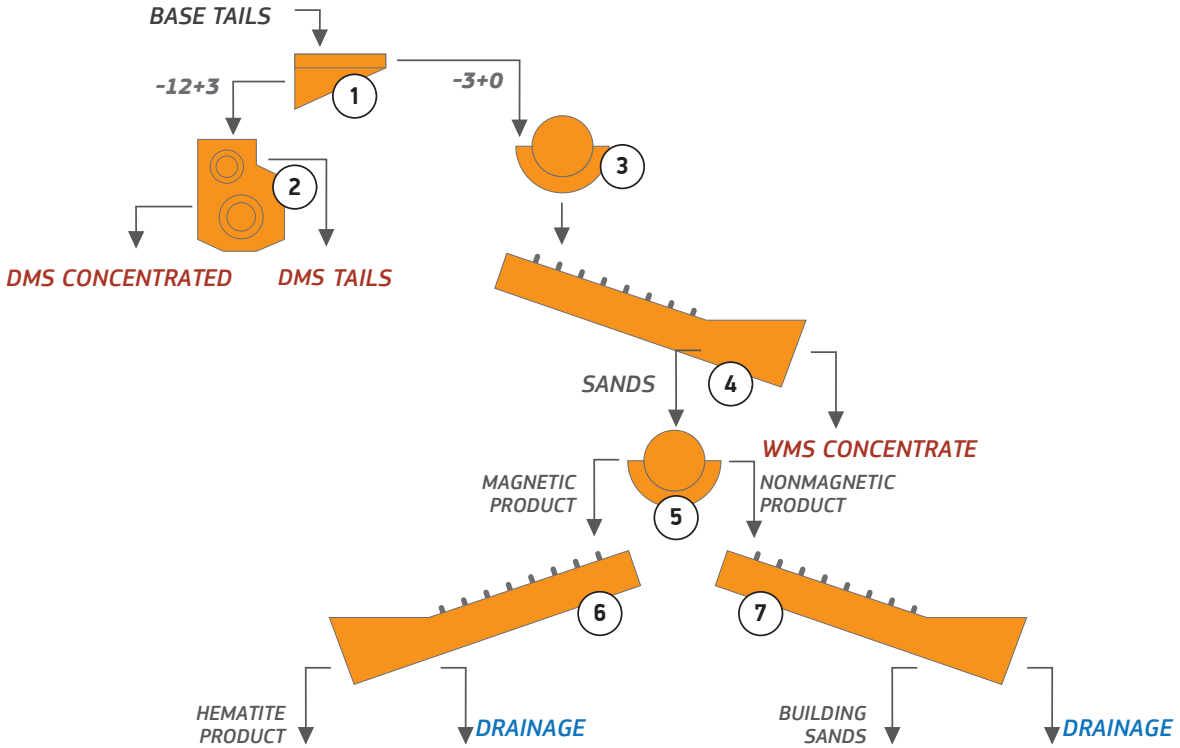
At the present time, sand reserves of the tailing dump of OJSC “Krasnokamensk mine” in solid form is 11 640 thousand tons. The iron content in the base tails (in the overflow) is 10.4%, in solid form equivalent – 19.5%.

According to the Technological regulations, developed by OJSC “Uralmekhanobr”, output capacity of tails processing is 300 th. tons per year, while the operating mode is 6 months (May-October) for concentrating processing of tails.

THE TAILS PROCESSING PRODUCTS BALANCE SHEET

№	Products of beneficiation	Obtained (dry weight)		Output, %	Iron content, %	Iron extraction, %
		t/hour	t/year			
1	DMS concentrate	3.76	15 900	5.3	55.2	15.0
2	WMS concentrate	10.05	42 450	14.15	62.0	45.0
3	***Total concentrate***	***13.81***	***58 350***	***19.45***	***60.15***	***60.0***
4	Building sand	33.79	142 800	47.6	3.5	8.54
5	DMS tails (gravel)	4.76	20 100	6.7	10.97	3.77
6	Sludges	4.26	18 000	6.0	10.0	3.08
7	Hematite product	14.38	60 750	20.25	23.7	24.61
8	**Base tails**	**71.0**	**300 000**	**100**	**19.5**	**100.0**

THE APPARATUS SCHEME OF THE TAILS PROCESSING



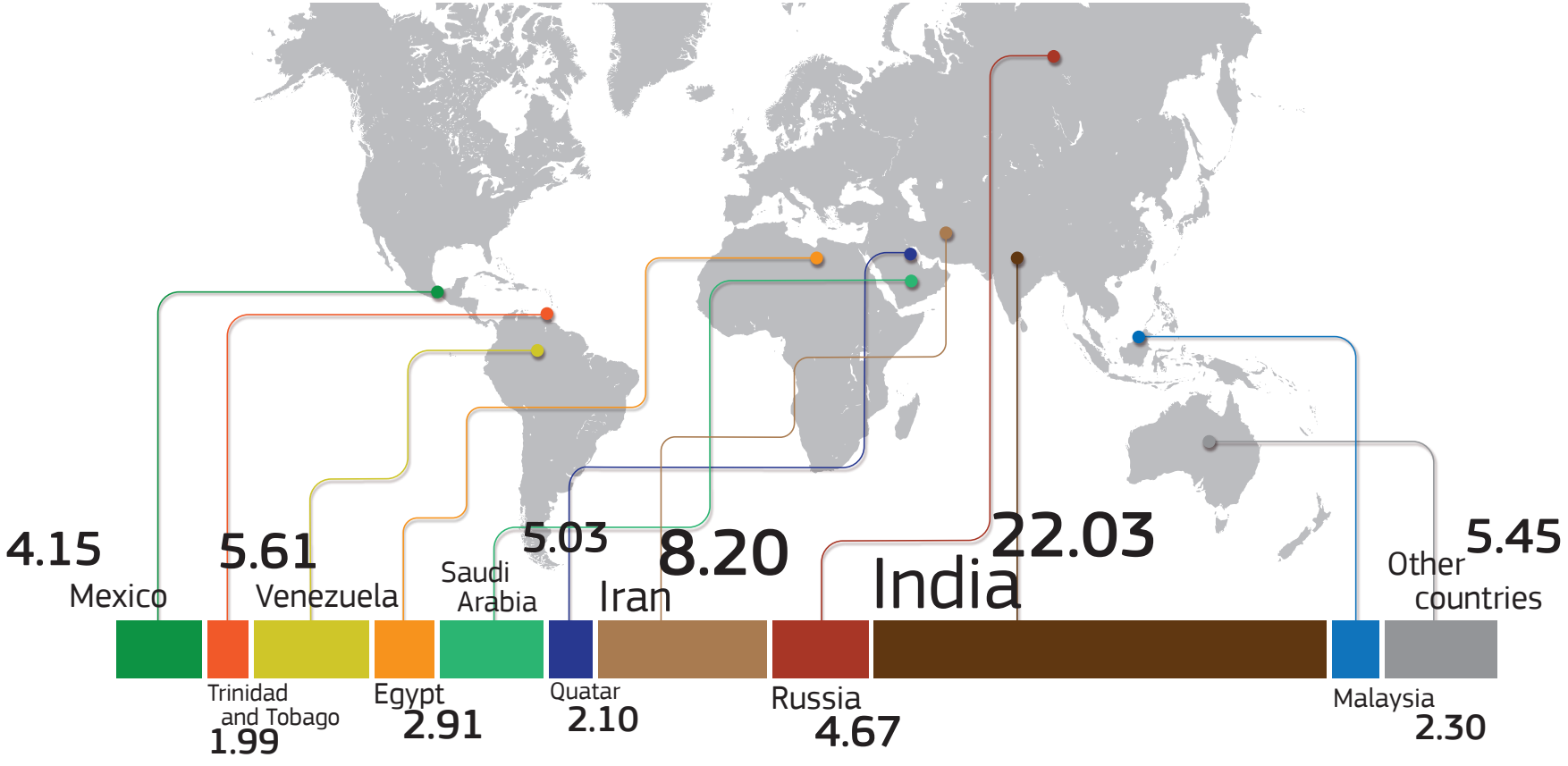
1 Screen GSL 42
2 Dry magnetic separation PBS – 60/40
3 Wet magnetic separation PBM – 90/250P
4 Dehydration – spiral classifier 1KS-10MT
5 Wet magnetic separation PBM – 90/250P
6 Dehydration – classifier 1KS-7.5x45M
7 Dehydration – spiral classifier 1KS-10MT

The proposed technological solutions correspond to the state-of-the-art technical and technological level of beneficiation and let achieve extraction of total iron from the old tails 60%, magnetite 96.5%.

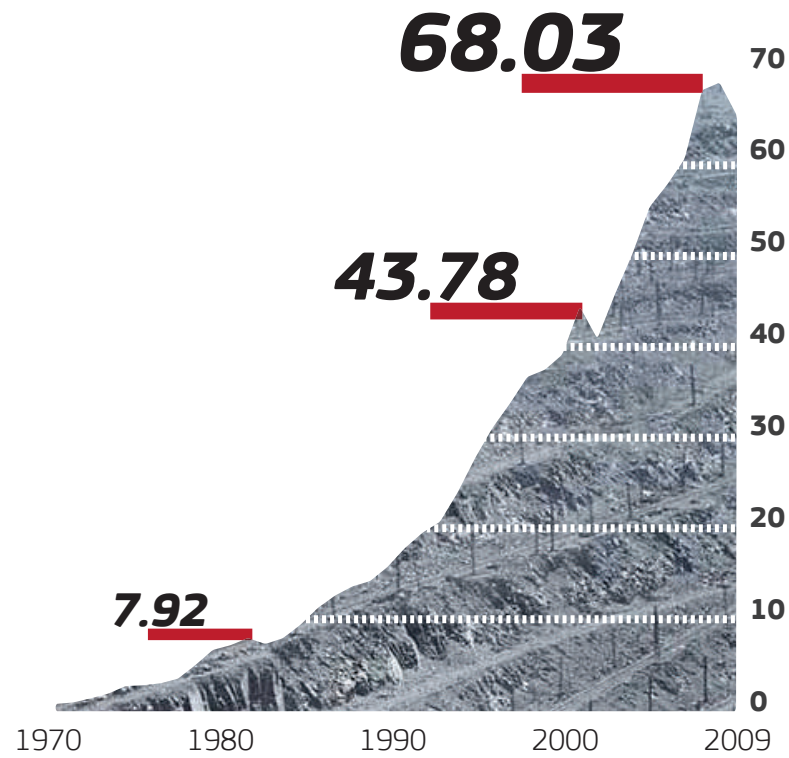
The given apparatus scheme is assumed to be realized in the form of a module beneficiation device for enrichment of the old tails.


OJSC “CHEMICAL AND METALLURGICAL PLANT”
SHOP 204
COAL PREPARATION DEPARTMENT
THE PRODUCTION OF METALLIZED PELLETS

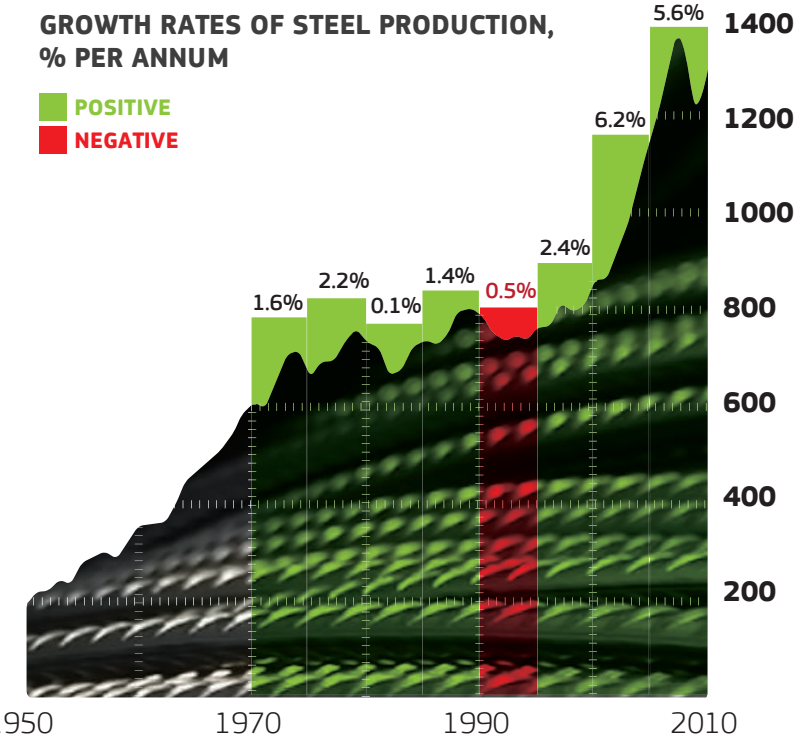
COUNTRIES – MAJOR DRI PRODUCERS, MLN. TONS



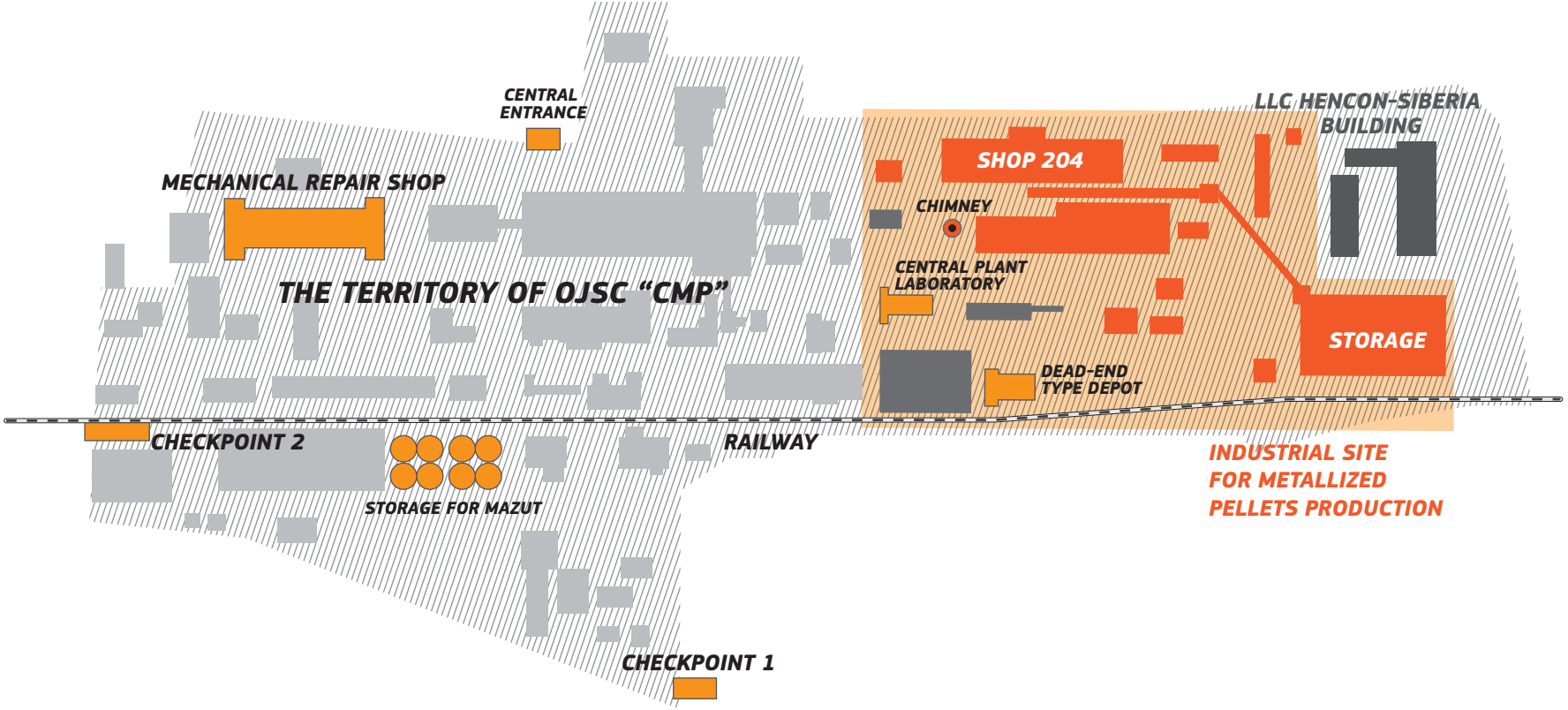
WORLD DRI PRODUCTION, MLN. TONS



WORLD STEEL PRODUCTION, MLN. TONS



OJSC “CHEMICAL AND METALLURGICAL PLANT”. GENERAL LAYOUT



GENERAL INFORMATION

The second stage of the complex (integrated) project includes organizing of the metallized pellets manufacture, using the technology of direct reduction in tubular rotary furnaces, with obtaining of finished products with a higher level of processing (metallized pellets with iron content 70%).

This leads to an increase of commercial and territorial diversification of the production, and as a consequence, it reduces risks of the enterprise for operation in future; also the economic efficiency of the complex project increases.

The project is to be implemented on production facilities of OJSC "CMP" ("Chemical-Metallurgical Plant"), which has all the necessary industrial and infrastructural facilities. In particular, there is a manufacturing building with technological equipment (75-80% of the equipment required by the processing chain), it provides necessary energy resources, it is supported by infrastructure facilities (railway, roads, check points, REW (repair and engineering workshops)), and staff which has necessary qualification.

Design institute OJSC "Sibtsvetmetniiproekt" has made justification of technology and selected the technological process, made technological calculations of production balances. A developed feasibility study of the project implementation is also available, which confirms the positive economic effect from implementation of this project both individually and as part of the complex project, including the technical re-equipment of the CWBP of "Krasnokamensk mine".

THE PROJECT IMPLEMENTATION

The project is proposed to be implemented on the basis of workshop № 204 – for production of periclase powders. The manufacturing building has all necessary areas for placement the technological equipment for pelletizing and regenerative firing department.

The available equipment: tubular rotary furnaces, refrigerators, lifting equipment, purification equipment, conveyors, transporters and receiving bunkers, which could be used in the proposed processing chain of the metallized pellets production.

An additional factor in favor of the project implementation on the territory of OJSC "CMP" is a high level of development of the necessary infrastructure, including points of loading / unloading from a railway, office buildings, guard stations, etc.

OJSC "CHEMICAL AND METALLURGICAL PLANT". THE INFRASTRUCTURE.

ELECTRIC POWER

Main step-down substation 110/6 кV with carrying capacity up to 32 MVA (2 transformers of 16 MVA).

The current actual load (with subabonents) – less than 5 MVA.

HEATING

Heat transfer station with a steam pipeline of OJSC "SibENTC" and OJSC "TGK-13" (HPS - TEC-2). The carrying capacity is up to 30 tons per hour under pressure of 12 MPa.

The current consumption is not more than 8 tons per hour.

WATER SUPPLY

2 central input units of potable water (a pipe with diameter - 300 mm).

2 systems of recycling water supply, with productivity rate of each up to 70 m^3 per hour.

Artesian wells for industrial water supply, with total capacity of up to 70 m^3 per hour.

AUTOMOBILE ROADS

There are two checkpoints for entrance-exit of automobile transportation with a junction of asphalt roads at the industrial site and access roads to all production facilities. The motor transport section with the boxes which can be used as garages for automotive vehicles.

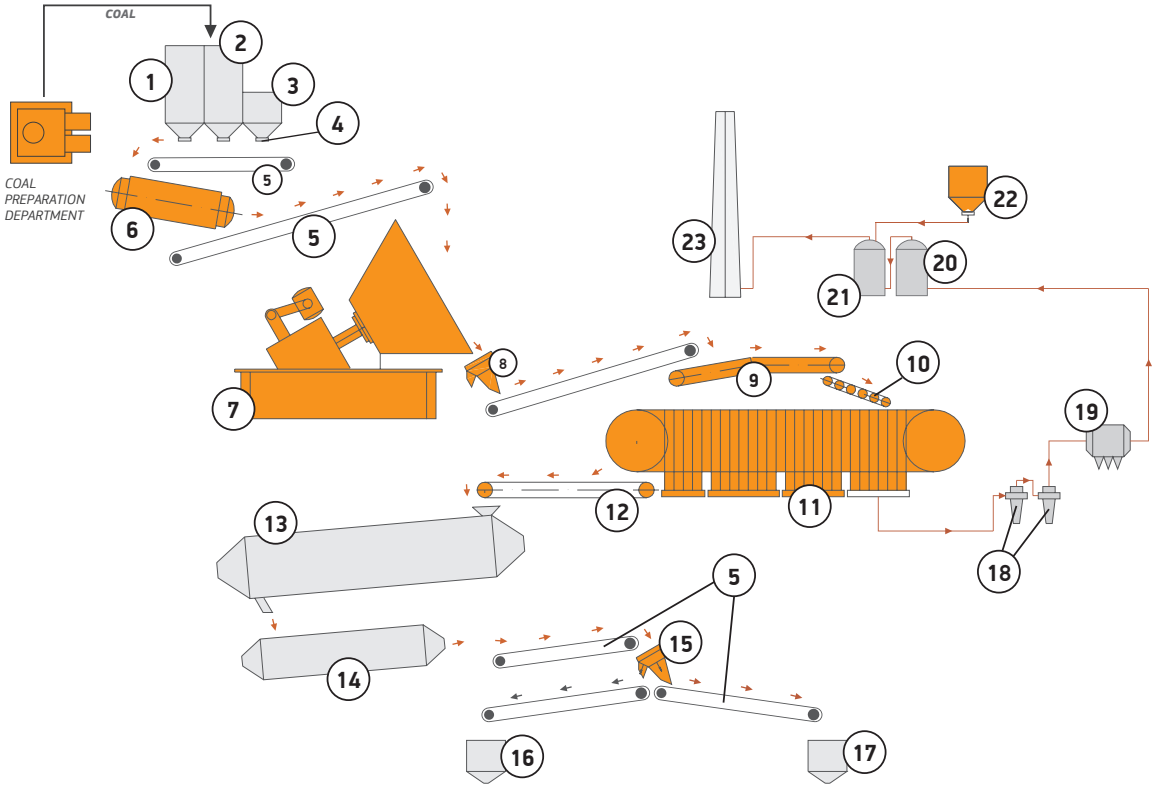
RAILWAY ROADS

There is a railroad network at the industrial site with an approach line to warehouses and production facilities. Also there are two dead-end tracks with the possibility of contemporary placement of up to 15 wagons. There are two locomotives TGM-4A; wagon placing is effected by a locomotive owned by OJSC "Russian Railways" from Zlobino station.

STORAGE FACILITIES

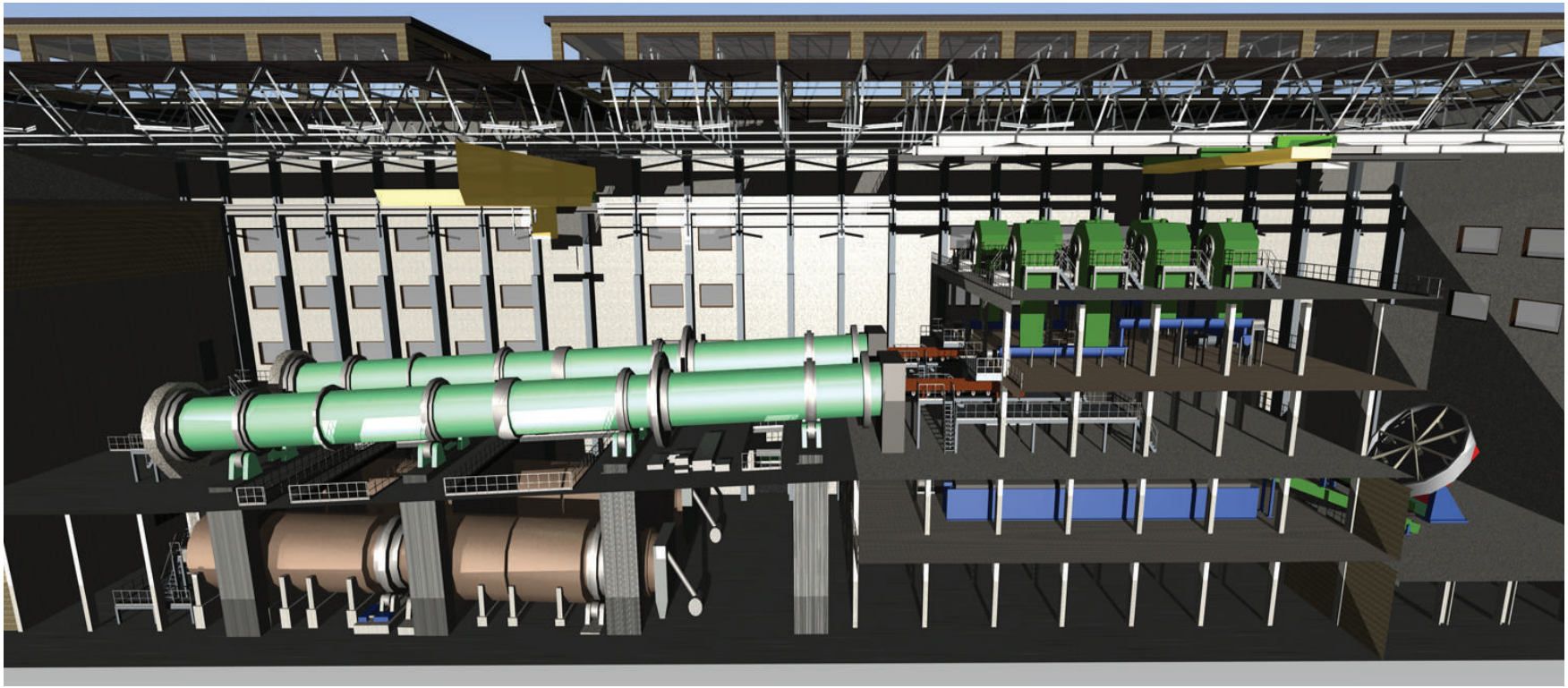
Covered storehouses for storage of commodities and materials, feed stocks and production; open areas with a possibility of loading/unloading by a gantry crane or an automatic crane. Vertical silos (8 items of 900 m^3 each) for storage of bulk products. Storage area for fuel oil is 2,325 m^2 (8 tanks).

THE APPARATUS SCHEME OF METALLIZED PELLETS PRODUCTION

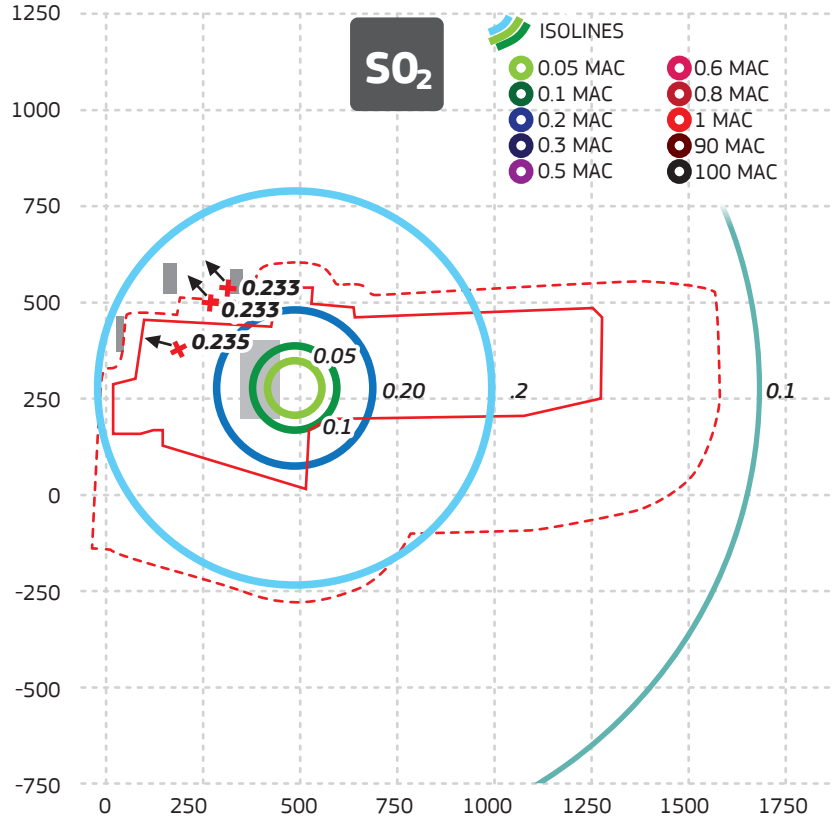


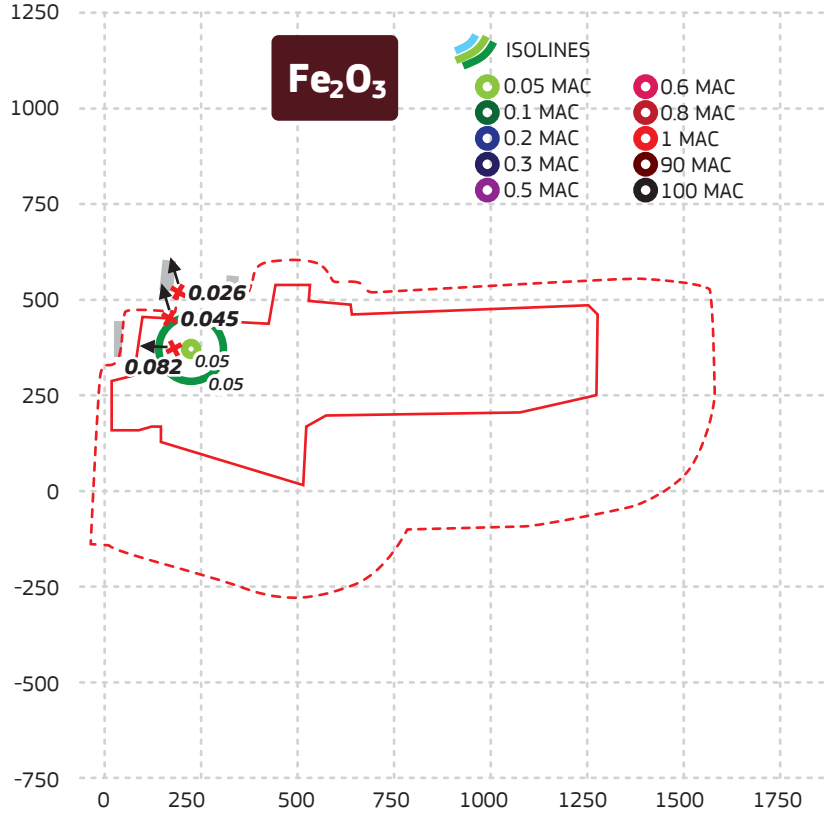
1 Magnetite supply bunker
2 Coal supply bunker
3 Bentonite supply bunker
4 Feeders
5 Belt conveyor
6 Paddle blade-type mixing machine
7 Pelletizing disk
8 Screen
9 Swinging placing machine
10 Roller feeder
11 Pellets drying and heating machine
12 Pan conveyor
13 Tubular rotary kiln
14 Drum cooler
15 Screen
16 Return bunker (dust)
17 Finished product bunker
18 Cyclone
19 Electric filter
20 Scrubber 1-st stage of clearance
21 Scrubber 2-nd stage of clearance
22 Feeding bunker
23 Chimney H-60m

SHOP 204 OJSC “CMP”. GENERAL ARRANGEMENT



ECOLOGICAL ASPECTS OF METALLIZED PELLETS PRODUCTION





COST AND TIME SCHEDULE OF THE PROJECT IMPLEMENTATION

TYPES OF WORK	MONTHS																															COST, TH. $, IN PRICES AS IF 3rd QUARTER 2010	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	including VAT	excluding VAT
Surveying of buildings and structures. Industrial safety expertise.																																84.7	71.7
Surveying of technical devices. Industrial safety expertise.																																26.5	22.5
Survey work																																38.7	32.8
Design (project and working documentation)																																473.9	401.6
Project expertise, obtaining of permission for construction																																52.0	44.0
Preparatory work																																5.0	4.2
Building and assembling works																																11 177.9	9 472.8
Commissioning of facility																																	
Equipment procurement																																12 199.3	10 338.4
Equipment assembling (5% of the cost)																																610.0	516.9
Cost of the shop at the "CMP"																																*3 293.3*	*2 791.0*
																																TOTAL **27 961.2**	**23 695.9**

TECHNICAL AND ECONOMIC INDICATORS OF THE PROJECT "TECHNICAL RE-EQUIPMENT OF THE CWBP OF OJSC "KRASNOKAMENSK MINE" AND ORGANIZATION OF METALLIZED PELLETS PRODUCTION

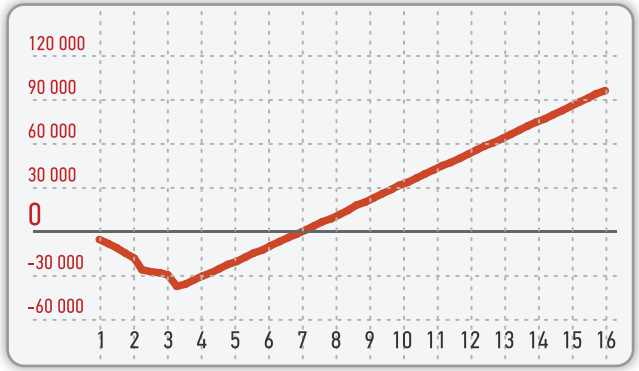
Name	Price, $/t with VAT	Volume of production th. tons/year	Revenue from sale th. $/year
Metallized pellets	140	240.406	33 656.84

CAPITAL EXPENDITURES
th. $ with VAT

All expenses for the CWBP reconstruction	10 209.77
Cost of the shop at CMP	3 293.34
Building and assembling works	11 177.89
Equipment	12 199.26
Adjuvant equipment, assembling costs, documentation design	1 290.70
TOTAL	**38 170.96**

In prices of 3rd quarter of 2010

PAYBACK OF THE PROJECT GRAPH



NET ACTUAL INCOME FOR 15 YEARS,
th. $

90 337.70

PAYBACK PERIOD

INTERNAL RATE OF RETURN

22.07%

PROFITABILITY INDEX

1.54

ADDITIONAL TAXES AFTER ATTAINMENT OF THE PROJECTED CAPACITY, th. $

CONSOLIDATED REGION'S BUDGET

2 545.7
per year

28 258.4
for 15 years

FEDERAL BUDGET

3 108.8
per year

37 361.5
for 15 years


OJSC “CHEMICAL AND METALLURGICAL PLANT”
PIG IRON PRODUCTION
SMELTING SHOP
THE PIG IRON
PRODUCTION

GENERAL INFORMATION

The implementation of this stage of the complex project involves further processing of the metallized pellets, obtained from the industrial site of OJSC “CMP”, for production of high purity pig iron in a DC electric arc furnace, the brand of which is well known abroad as Sorel metal. According to a terminology adopted in Russia, such iron can be attributed to the category of nodular pig irons.

For this purpose, at the OJSC “CMP” industrial site, on the base of the production buildings of LLC “Hencon-Siberia”, it is planned to organize an additional department with installation of metallurgical equipment. It is proposed to use the Dutch technology, which involves short arc smelting in three-electrode DC electric arc furnace with capacity of 18 kVA with three individually controllable electrodes (cathodes), developed by company Hencon Furnace Technologies.

Annual output of the metal will make (basing on the volume of the incoming pellets for the processing) 184.5 th. tons per year.

The slag (annual output 57.6 thousand tons) will be obtained as a secondary product during the manufacturing process, which may be used or sold as a separate product for building purposes.

DESCRIPTION OF THE PRODUCT

It is proposed to re-melt metallized pellets to a high-purity iron and obtain the material with the following targeted chemical composition:

Fe	C	Si	Mn	P	S	Ti
96.38	3.5	0.08	0.01	0.05	0.01	0.02

This composition corresponds to the metal, which is known abroad as Sorelmetal. The closest by its qualitative characteristics are domestic grades of conversion nodular pig irons.

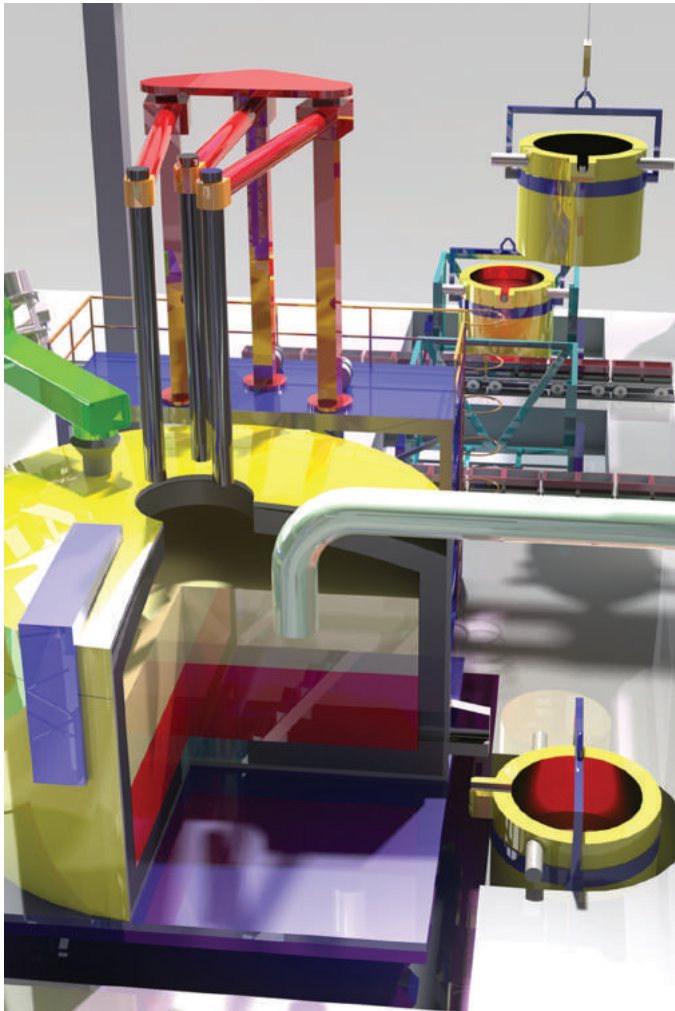
The most famous global supplier of metal of Sorel brand or nodular pig iron is company Rio Tinto Iron & Titanium. One of its plants QIT Fer et Titane Inc. is located in city Sorel, Quebec, Canada, and another - Richards Bay Minerals (RBM) in city Richards Bay, South Africa.

In Russia, well-known suppliers of nodular pig iron are the following companies: OJSC LMZ “Svobodny Sokol”, OJSC “Kosogorsky Metallurgical Plant” (KMP) and OJSC “Tulachermet”.

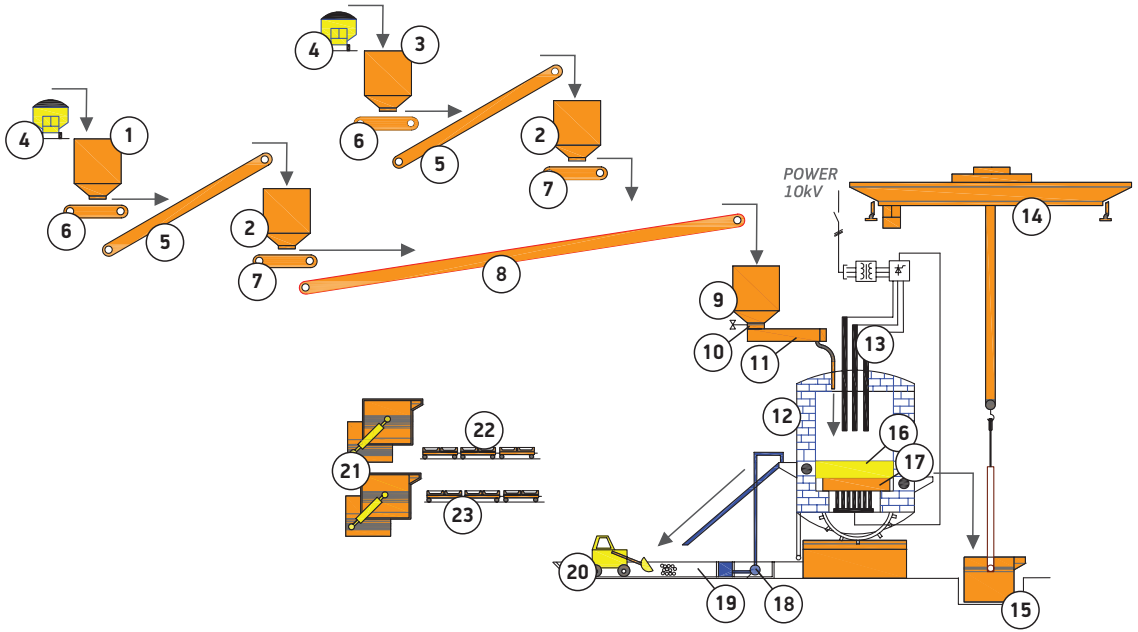
Sorelmetal or nodular pig iron is the basic component for production of alloys for critical castings. The high-purity enables to control successfully the concentration of harmful impurities in the remaining components of batch, for example in scrap.

Sorelmetal or nodular pig iron requires less energy for smelting-down. Smelting temperature is 1145˚C, what let cut the time of dissolution and smelting, and by this to improve economic indicators.

Due to its unique qualities and purity of a chemical composition, Sorelmetal or nodular pig iron meets a growing demand in various industries as a component of metal stock in metal smelting for critical purposes in which it is strictly regulated concentration of such impurities like manganese, sulfur, phosphorus, copper , titanium, nickel, molybdenum, antimony, tin and others. This metal cannot be produced by blast-furnace process.

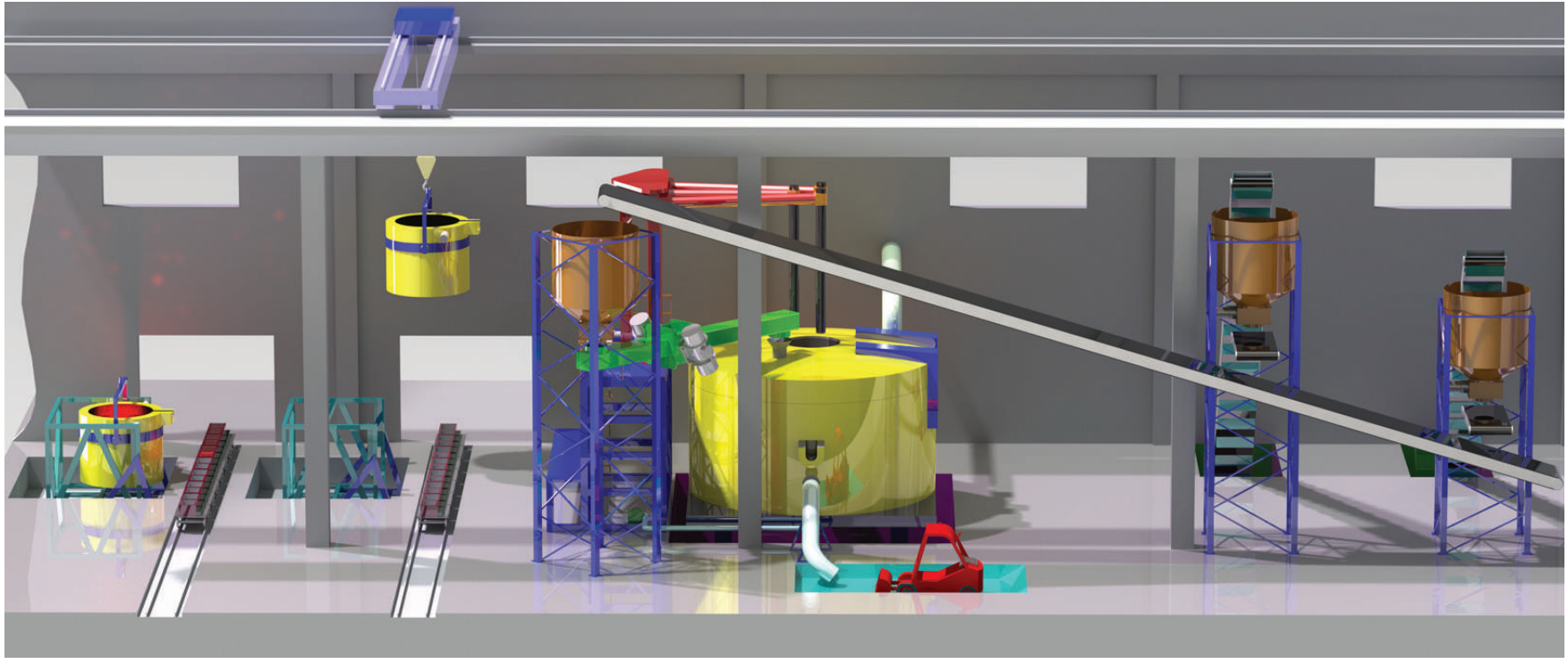


THE APPARATUS SCHEME OF THE PIG IRON PRODUCTION



1 Coke receiving bunker
2 Feed bunker
3 Pellets receiving bunker
4 Side dump car (32 t load capacity)
5 Ladle elevator
6 Belt conveyor
7 Dosing conveyor with built-in weighing scales
8 Inclined belt conveyor
9 Furnace nearby bunker
10 Volumetric feeder
11 Vibrating feeder
12 Tilting furnace D.C. 18 KVA
13 Electrodes
14 Ceiling travelling crane
15 Pouring ladle
16 Slag
17 Metal
18 Pump
19 Slag granulation basin
20 Loader
21 Ladle tilt mechanism
22 Pig casting line (185 kg) #1
23 Pig casting line (185 kg) #2

THE FRAGMENT OF THE SHOP FOR METALLIZED PELLETS SMELTING AND GETTING OF CONVERSION NODULAR PIG IRON



TECHNICAL AND ECONOMIC INDICATORS OF THE PROJECT "TECHNICAL RE-EQUIPMENT OF THE CWBP OF OJSC "KRASNOKAMENSK MINE" AND ORGANIZATION OF METALLIZED PELLETS PRODUCTION, ORGANIZATION OF NODULAR PIG IRON PRODUCTION

Name	Price, $/t with VAT	Volume of production th. tons/year	Revenue from sale th. $/year
Nodular pig iron	525	180.744	94 890

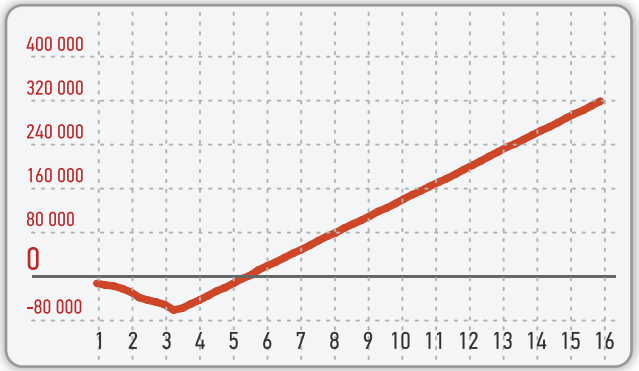
CAPITAL EXPENDITURES

th. $ with VAT

All expenses for the CWBP reconstruction	10 209.8
All expenses for the shop #204 reconstruction	27 961.2
Building and assembling works for shop #3	1 042.5
Equipment, assembling costs, documentation design (for production of pig iron in shop #3)	17 000
TOTAL	**56 213.45**

In prices of 3rd quarter of 2010

PAYBACK OF THE PROJECT GRAPH



NET ACTUAL INCOME FOR 15 YEARS,

th. $

309 301.02

PAYBACK PERIOD

INTERNAL RATE OF RETURN

42.76%

PROFITABILITY INDEX

2.88

ADDITIONAL TAXES AFTER ATTAINMENT OF THE PROJECTED CAPACITY, th. $

CONSOLIDATED REGION'S BUDGET

7 062.15

per year

81 372.61

for 15 years

FEDERAL BUDGET

8 172.01

per year

98 146.37

for 15 years

PREPARATION OF DESIGN SOLUTIONS
PROJECT FEASIBILITY STUDIES

THE AGENCY FOR
RESTRUCTURING
OF COMMERCIAL
ORGANIZATIONS

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