

The deposit is located 110 km to the South-West of Donetsk and 20 km to the West from Mariupol.

Geologic structure is characterized by:

- metamorphic rocks of Archean age;
- crystalline schist, migmatized biotite and garnet-biotite gneiss, feldspar quartzite, calciphyre, marble, pyroxene-magnetite quartzite, intrusive and vein formations of Proterozoic age;
- loose rocks of Mesozoic and Cenozoic age 25-40 metres thick (34 m in average).

The deposit includes 6 plots of iron ore location, three of them being of interest for the development (the distance between these plots is 3-3.5 km). The ore bodies are from 700 to 2700 m long and 145 m thick; they are traced to the depth of 600 m. Ore beds are inclined steeply (**70–80°**), excluding the lowest horizons of two plots, where the angle of inclination is 25-30°.

The internal structure of ore bodies is complicated by a great number of non-ore layers of quartzites, gneisses and crystalline schists, the thickness of which varies from 1-2 to 10 metres.

The iron ore is represented by pyroxene-magnetite and magnetite-pyroxene quartzites with 25.8 – 31.8% general iron content, **20.9–26.5%** magnetite-associated iron content, 0.16% sulphur and 0.07 % phosphorus contents.

Iron quartzite reserves (calculated to the depth of 560 m) total 262.7 million tons (measured reserves) and 14.8 million tons (nominal ones).

Technological testing has proved the possibility of:

- comminution of 75% ores up to the 0.074 m size particles;
- output of 32 -39% concentrate that contain **67–69%** of iron. The iron extraction to the concentrate ranges from 72 to 83%;
- getting superconcentrates with average 71.5% iron and 0.22-0.27 A silica for manufacturing of iron powder and **pellets with metallization extent of 80-90 %.**

Among the accompanying minerals are the rocks of crystalline overburden, gneiss, crystalline schist, quartzite, amphibolite, marble, granodiorite that are characterized by high mechanical strength and are suitable for production of building crushed stone. Measured reserves total 254.3 million cubic metres. Raw material satisfy the requirements for radioactive safety.

Engineering feasibility studies and economic evaluation have proved:

- advisability of exploitation of two plots by way of open mining; in this case the mining complex could produce 7 million tons of crude ore and 2.5 million tons of concentrates per year; if 3 plots being developed (quarries and mines), the complex could give annually up to 10 million tons of crude ore;

- advisability of dressing technology that include dry magnetic separation and two-stage wet magnetic separation;
- possibility of crushed stone production totaling 8 million cubic metres per year (when developing of overburden).

Alternative versions of exploitation and processing may also be considered.

Hydrogeological and mining-engineering conditions are favourable. Expected maximum water inflow at different plots vary from 300 to 900 cubic metres per hour.

The nearest railway station and sea port are located 20 km to the East from the deposit; there is a well **developed** motorway network, including hard covering roads.

Underground water or a water storage basin located 20 km from the deposit can be used as sources for drinking water. Water of rivers with Azov sea water added may be used for technical purposes. For energy supply 2 high-voltage lines that cross the territory of the deposit can be used.

A construction of beneficiation enterprise and crushed stone mill is envisaged as well as a construction of related **facilities, social** and cultural objects, residential districts.

The **labour** employment problem is easily solved on the spot. Potential value of iron ores as assessed on the basis of world market actual sales prices may amount to 2365 million US Dollars, investments will recoup in 10 years, reserves guarantee the 40 years' exploitation.

Unique quality of iron ores, easiness of dressing, simple way of deposit's development, favourable geographic conditions, close location to the important consumers guarantee the success of Joint Venture!

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