

**PREPARATION OF THE FEASIBILITY STUDY FOR THE DEVELOPMENT OF THE STANARI LIGNITE MINE IN THE REPUBLIC OF SRPSKA, BOSNIA AND HERZEGOVINA**

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**Objective:** At the request of Energy financing Team Ltd (EFT), C&E Consulting and Engineering has carried out a Feasibility Study of the Stanari Opencast Lignite Mine in the Republic of Srpska, Bosnia-Herzegovina.  
The EFT GROUP- Lignite Mine Stanari Company, Bosnia and Herzegovina, requires a Feasibility Study for the output of 3,2 Million tons of coal.  
The existing mine has a planned output for the annual year of 800.000 tons and it is planned to increase the annual output to 3.200.000 tons of coal from the year 2010, due to the construction of the new lignite fired power plant at the Stanari location.

1)

**Location:** Stanari, Bosnia and Herzegovina

**Client:** Energy financing Team Ltd (EFT)

**Beneficiary:** EFTGroup - Rudnik lignita Stanari d.o.o

**Duration:** 2006-2008

**Budget:** 55.000 €



**Initial Situation:**

The overburden in the Raskovac open pit is removed by a continuous excavation system consisting of a bucket wheel excavator, belt conveyor, spreader and dragline as well as a discontinuous system consisting of hydraulic shovel excavators and dumper trucks. Lignite is mined by truck and shovel operation. The current output of the mine is about 600.000 tons lignite per year by an annual overburden production of 3,6 million cubic meters.  
Analysis: The monthly production figures show that a steady and remarkable increase of mining production rates have been achieved since EFT took over the mine in May 2005. However, different results in timely utilisation and production rates of the main mining equipment have been found out.

**Scope of services:**

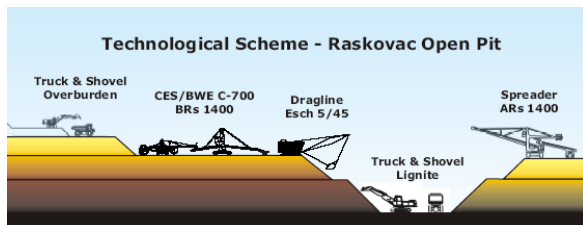
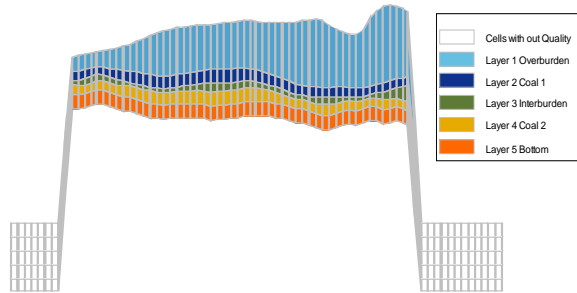
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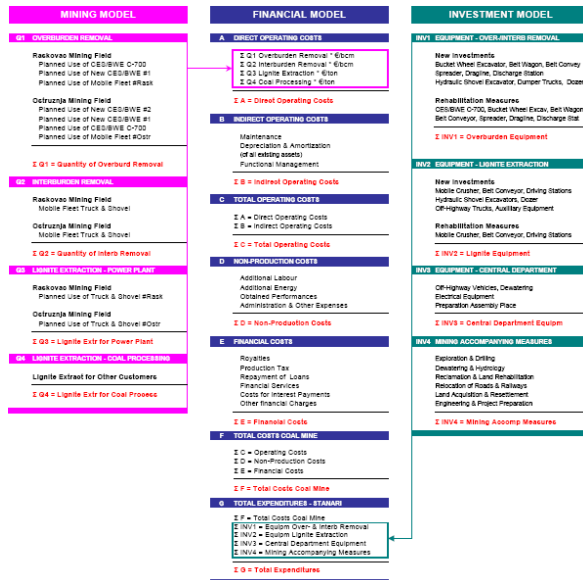
**Geological Modeling** - Based on original investigation data of the former investigation periods analyses of the existing coal resources were done. The borehole / geological data were transformed to a three dimensional geological model. This model was used for the calculation of the total mass balance of the lignite deposit Stanari. As a result of this calculations it can be stated, that the lignite reserves are sufficient to feed the TPP Stanari with fuel during the expected lifetime. The quality of the coal in total is excellent.



**Mining Model** – Additionally to eft groups basic mine plan detailed mine planning schemes have been designed for mining alternatives #1 and #2. The schemes illustrate the use of main mining equipment and planned annual production figures for the whole period of consideration.

**Investment Model** – Based on the mine planning schemes the required new investments for overburden equipment, lignite equipment and mining accompanying measures, i.e. dewatering, land use, resettlement, relocation of infrastructure and reclamation have been calculated. Moreover, financial expenditures for rehabilitation measures and follow-up investments have been considered for the time period 2006 to 2035.

**Financial Model** – Output data of the mine model and the investment model have been integrated into a financial model to calculate direct and indirect operating costs, production and non-production costs as well as total expenditures for the various mining alternatives.



**Recommendations for further Investigations** – As a result of C&E’s study a number of further investigations will be proposed: (1) Environmental Impact Assessment Study (2) Operational Improvement Study (3) Detailed Mine Development Plan (4) Project Implementation Unit (5) Dewatering Project (6) Water Monitoring.