

**DESCRIPTION OF MINE AND PREVIOUS ACTIVITY**

- Main activity of Racos Put Mine & Briqueting Plant was: Extraction of lignite by underground methods and lignite briqueting plant. It extends on a surface of 26.3 Hectares including mine curtilages, waste tips and other ancillary activities. The activity ceased in 1999.
- Associated with former mining operations there are 1 waste tips, containing 6 000 cubic meters of mine waste. There are not tailing storage facilities.
- The nearest community is Baraolt Town situated at 3 000 m from mine, having 15 000 inhabitants and surface waters are River Baraolt, and a lake with a surface of 3 Ha situated at 2 000 m from mine boundary.
- The mine water does not reach the surface.
- The mine site has three separate areas around the same community.

**CULTURAL PROPERTY**

It is not anticipated to be applicable. However, if there is an accidental find of something valuable, the Engineer of the Contract will stop any physical operations until competent authority (County Commission for Historical Monuments or Ministry of Culture and Religious Affairs) provides permission to continue.

**PROPOSED WORKS**

The mine closure and environmental remediation proposals:

- General site clearance, removal of scrap metal and demolition of 41 buildings and structures, having a total volume of 28000 cubic meters of demolition materials (concrete and bricks) which will be processed and disposed off at waste tips.
- Collection of contaminants and contaminated materials and disposal to a special constructed landfill. The location and size of landfill should be decided by the Engineer of the Contract based on quantity of unaccepted material identified on site. Three isolation layers shall be placed onto the compacted surface: a bentonite mattress 2.5 cm depth, a geomembrane layer of 2.5 mm and a geotextile layer of 5 mm. On completion of the final layer of unacceptable material the surface shall be domed to assist water run off. A gas ventilation pipe shall be placed at the highest point.
- Filling and capping of 4 shafts. Filling and sealing of 2 adits. Closing of raises, boreholes or other minor mine workings connected to the surface.
- Excavation and removal of 76 000 mc. of material from waste tips, curtilages, benches and slopes.
- Reshape of all mine waste dumps to slope angles below 1/3. Construction of erosion fences and gabion walling to ensure long term stability and erosion control.
- Top soiling, cultivation and grassing of 26 Ha.
- Protection of rehabilitated surfaces and affluent river by guard ditches and drainage systems in total length of 1000 m.

**KEY ENVIRONMENTAL ISSUES DURING THE CONSTRUCTION WORKS**

Based on works, equipment and methods used for execution of works the following environmental issues might occur:

- Noise, dust and mud generated by earthmoving equipment;
- Noise, dust, smoke and vibrations generated by blasting operations;
- Potential land pollution by fuel, oil or lubricants because spillage from earthmoving equipment or lorries;
- Potential water pollution by fuel and oil because spillage from equipment while working above, adjacent or in watercourses;
- Potential soil or water pollution by used waters generated by site activities in offices, workshops and messes;
- Potential underground water pollution by contaminated material used for filling of underground workings;
- Damage of existing vegetation from or adjacent of site because of negligent driving of equipment or site operations;
- Damage of public roads because of traffic, equipment or site operations;

**COMMUNITY CONSULTATION (See annex “Consultarea comunitatilor – Obiective scanate”)**

**ANNEX 1 – MITIGATION PLAN  
RACOS PUT MINE**

Phase/Operation	Issue Mitigation Measure	Cost	Institutional Responsibility / Approval and inspection
<b>1 CONSTRUCTION</b>			
<b>A Demolition Works</b>			<b>Contractor</b>
<b>(a) Blasting of buildings and structures</b>	<ul style="list-style-type: none"> <li><b>i. Noise:</b> <ul style="list-style-type: none"> <li>- Restriction of blasting program to 8:00 – 18:00 o'clock, Monday to Saturday;</li> <li>- Informing of the affected community BARAOLT town about blasting program;</li> </ul> </li> <li><b>ii. Vibration:</b> <ul style="list-style-type: none"> <li>- Restriction of the explosive quantity for each charge – 0.5Kg/blasting hole, minimum 1 second delay each other;</li> </ul> </li> <li><b>iii. Dust and smoke:</b> <ul style="list-style-type: none"> <li>- Dust suppression measures (wet blasting)</li> <li>- Restriction of blasting when wind drive dust and smoke over the BARAOLT town area;</li> </ul> </li> </ul>	Contract	Engineer of Contract
<b>(b) Processing of demolition materials</b>	<ul style="list-style-type: none"> <li><b>i. Dust:</b> <ul style="list-style-type: none"> <li>- Dust suppressors (wet processing)</li> </ul> </li> <li><b>ii. Noise:</b> <ul style="list-style-type: none"> <li>- Location of the processing facilities not less than 1Km far from BARAOLT town;</li> <li>- Noise screens around of processing equipment if necessary;</li> </ul> </li> <li><b>iii. Pollutants on or in demolition materials:</b> <ul style="list-style-type: none"> <li>- Selection of the contaminants from demolition materials before being processed. Contaminated materials will be disposed off separately at landfill;</li> </ul> </li> </ul>		Engineer of Contract
<b>(c) Haulage/deposition of demolition materials</b>	<ul style="list-style-type: none"> <li><b>i. Mud</b> <ul style="list-style-type: none"> <li>- Keeping the lorries clean while working on or outside of the site area;</li> </ul> </li> <li><b>ii. Dust</b></li> </ul>	Contract	Engineer of Contract



Phase/Operation	Issue Mitigation Measure	Cost	Institutional Responsibility / Approval and inspection
<p><b>in watercourses</b></p> <p><b>(b) Cultivating re-vegetation and curing of existing vegetation</b></p> <p><b>(c) Operation of site offices, workshops</b></p>	<ul style="list-style-type: none"> <li>- Working with equipment free of any pollutant in vicinity of river Baraolt</li> <li>- Fencing or erecting of barriers near Baraolt river</li> <li><b>ii. Rainfall control</b></li> <li>- Construction of guard ditches to control runoff and to protect lakes or rivers</li> <li><b>iii. Underground water pollution</b></li> <li>- Interdiction to use filling material for underground workings which contains deleterious materials</li> <li><b>i. Pollution with unacceptable pesticides</b></li> <li>- Using only fertilizer approved by the engineer of contract;</li> <li>- topsoil, subsoil or natural fertilizer will be tested by laboratory analyses to be free of pesticides heavy metals or any other unaccepted materials;</li> <li><b>ii. Damage of existing vegetation</b></li> <li>- The Engineer will keep the necessary records of number of trees and existing natural grassed areas. The contractor will restore on his own cost any damage on vegetation.</li> <li><b>i. Pollution of the area adjacent of offices, workshops and storage facilities</b></li> <li>- construction of site facilities on approved by the engineer of contract areas, having all necessary facilities to deal with domestic and industrial waste;</li> <li>- industrial and domestic waste should be disposed of daily at site landfill;</li> </ul>	<p>Contract</p> <p>Contract</p> <p>Contract</p>	<p>Contract</p> <p>Engineer of Contract</p> <p>Engineer of Contract</p>
<b>E Hazardous materials</b>			<b>Contractor</b>
<p><b>(a) Storage, handling/ using of explosives</b></p> <p><b>(b) Storage using distributing of fuel and lubricants</b></p>	<ul style="list-style-type: none"> <li><b>i. Accidents involving explosives</b></li> <li>- Using of proper storage facilities (existing explosive storage facilities);</li> <li>- Using containers and lorries approved by the Engineer of the Contract</li> <li>- Security of storage, authorizes access only</li> <li><b>i Spill of lubricants and/or fuel</b></li> <li>- Using of spillage collection vessels in storage facilities. Cleaning of the storage area every day disposing off any contaminated material.</li> <li><b>ii. Fuel/oil spillage during refilling operations</b></li> <li>- construction and operate of fuel/oil repository;</li> <li>- using only filling pump installed on refilling tank to refill equipment on site;</li> </ul>		<p>Engineer of Contract</p> <p>Engineer of Contract</p>

Phase/Operation	Issue Mitigation Measure	Cost	Institutional Responsibility / Approval and inspection
	<b>iii. Fire on storage facilities</b> - construction of fuel storage facilities on location and according an approved by the engineer method of construction; - fire extinguishing equipment as regulation for fire fighting and control asks <sup>2</sup>		

**ANNEX 2 – MONITORING PLAN  
RACOS PUT MINE**

Issue	Where is parameter to be monitored	How is parameter to be monitored	Frequency of measurement	Responsible for the measurement
<b>A. CONSTRUCTION</b>				
i. <b>Noise</b> generated by: <ul style="list-style-type: none"> <li>• Blasting;</li> <li>• heavy machinery</li> <li>• lorries</li> </ul>	On site and inhabited area	Noise measurement equipment (dB-meter <sup>1</sup> )	Daily	The Engineer of the Contract
ii. <b>Vibration</b> generated by: <ul style="list-style-type: none"> <li>• Blasting;</li> <li>• heavy machinery</li> <li>• lorries</li> </ul>	near sensitive buildings	Vibrometer	A measurement should be performed to establish level of blasting and transport along the inhabited area	The Engineer of the Contract
iii. <b>Dust</b> generated by: <ul style="list-style-type: none"> <li>• blasting</li> <li>• traffic and equipment and lorry's</li> </ul>	On site and inhabited area	Visual	Daily	The Engineer of the Contract
iv. <b>Smoke</b> generated by: <ul style="list-style-type: none"> <li>• blasting</li> <li>• equipment and lorry's engines</li> </ul>	On site and inhabited area	Visual for blasting; Specialised equipment for engines;	Monthly and when a new equipment is bring on site	The Engineer of the Contract
v. <b>Mud</b> generated by <ul style="list-style-type: none"> <li>• traffic on site and public roads</li> </ul>	On site and inhabited area	Visual	Daily	The Engineer of the Contract
vi. <b>Soil pollution</b> by fuel oil <ul style="list-style-type: none"> <li>• Fuel and lubricants (tank leaks, engines leaks, other operations involving fuel and lubricants)</li> <li>• Cement or concrete</li> </ul>	<ul style="list-style-type: none"> <li>• Where fuel and lubricants are stored;</li> <li>• Where equipment is refilled;</li> <li>• Where equipment is maintained</li> <li>• Where fuel/lubricants are used;</li> </ul>	Visual	Daily	The Engineer of the Contract

Issue	Where is parameter to be monitored	How is parameter to be monitored	Frequency of measurement	Responsible for the measurement
	<ul style="list-style-type: none"> <li>Where concrete is prepared, transported or used</li> </ul>			
<b>vii. Water pollution</b> <ul style="list-style-type: none"> <li>Fuel and lubricants</li> <li>Suspensions carried out by rain fall</li> </ul>	Where working near or in local waters Effluent waters; Monitoring points on receptor stream Baraolt River	Laboratory	Monthly during the works or as specified in monitoring program	The Engineer of the Contract
<b>B. POST CLOSURE</b>				
<b>i. vegetation</b> <ul style="list-style-type: none"> <li>vegetation density;</li> <li>vegetation growth;</li> </ul>	Cultivated and planted surfaces on curtilages and waste tips	Visual	Yearly	Conversmin
<b>ii. stability of waste tips or impoundments</b> <ul style="list-style-type: none"> <li>settlement of material</li> <li>erosion of slopes</li> </ul>	Stabilised or deposition areas	Visual and topographic survey	Yearly	Conversmin