

Item no.	1697 Same as: 1698
No. to identify the observations received from the public	No. 110711/25.08.2006 Same as: No. 110710/25.08.2006
Proposal	<p>The questioner does not agree to the promotion of the Roşia Montană Project, making the following comments:</p> <ul style="list-style-type: none"> <li>- In EIA there are no presented all the possible risks derived from this project;</li> <li>- Total costs for closing the mine are unrealistic;</li> <li>- There isn't until now an approved Zonal Urbanism Plan for the Protected Areas;</li> <li>- The phase of public consultation and quality evaluation of the impact assessment study report begun without a valid urbanism certificate;</li> <li>- Information about the foundation which RMGC will establish and subsidize is not given. This foundation follows to assume the obligations which the mining operation can not assume;</li> <li>- The present urbanism plans of the Roşia Montană commune do not correspond with the mining project proposal described in EIA;</li> <li>- There is no liner proposed for the tailings pond;</li> <li>- The proposed waste deposits will be not constructed according to the legislation in force- No financial guarantees have been stipulated;</li> <li>- There is not a Safety Report submitted for the public consultation and evaluation by the competent authorities;</li> <li>- The EIA report does not assess the "zero alternative";</li> <li>- The Project poses a threat for protected flora and fauna;</li> <li>- The EIA report does not refer to the impact on the listed heritage buildings of noise and vibrations caused by the mining operations;</li> <li>- The public/ONGs wish to consult the contracts and agreements between Company and Romanian State;</li> <li>- The Urbanism Plan has been modified without public consultation;</li> <li>- From archeological point of view, the area proposed to be occupied by project was not legally investigated;</li> <li>- The questioner contests the protection of the architectural and spiritual monuments with the responsibility of the state institutions for the protection operation.</li> </ul>
Solution	<p>It is the nature of risk that it can be mitigated and diminished; it cannot be made to disappear. In order to put this into context, the common action of walking on the street or developing everyday activities have an accident potential. This accident potential is twice higher than within the framework of industrial activities that use hazardous substances.</p> <p>A major chapter of the EIA report was dedicated to the identification of risks for the project. In addition, this chapter provides a discussion of the mitigation measures for each risk and how they were incorporated into the project designs. It is recognized that risk identification is difficult due to the number and diversity of events that can be envisioned. The EIA report cannot assume to cover all of the potential risks associated with the project. However, it has attempted to identify and address the most relevant risks. The extent of risk assessment and the intensity of the prevention and mitigation measures should be proportional to the risk involved and therefore only the risks that have been considered important have been assessed in detail. Each is described below.</p> <p>In the larger sense, the entire EIA report is focused on the assessment of impacts and their associated mitigation. Specifically, Chapter 4 of the EIA presents that impact assessment of the project. The following discussion presents a summary of the impact discussed in the EIA.</p> <p>As far as natural and technological risks assessments are concerned, Chapter 7, "Risk Cases", from the Report on Environmental Impact Assessment, emphasizes the fact that safety and prevention measures, the implementation of the environmental management and risk systems are mitigating the consequences</p>

to acceptable levels as compared to the most restrictive norms, standards, the best practices or national and international recommendations in the field. The risk level has been established as moderate and so, socially acceptable. The extension of the risk assessment and the intensity of the prevention and mitigation measures of the consequences should be proportionate to the risk involved. Selection of a specific mitigation technique is depends on the analyzed accident scenario.

More detailed assessments are conducted for accident scenarios that, based on the qualitative assessment are found to be potentially major, of probability more than  $10^{-6}$  (reduced recovery periods of 1/1,000,000) meaning that they could have major consequences therefore, elevated associated risk, a higher risk level than 9 to 12 (on a scale of 1-25). To put this in context, simply living in southern Florida rates a 25 on the risk scale.

A global assessment of the risks associated with the Roşia Montană Project is obtained by the quick environmental and health risk assessment methodology initially developed by the Italian Ministry of the Environment and the World Health Organization. Natural hazard and risk identification and analysis presents key data and information in assessing potential technological accidents. Thus:

- In designing the Tailings Management Facility, the design parameters were chosen to fully cover the characteristic seismic risk of the area. These seismic design parameters adopted for the TMF and other facilities on the proposed site result in a safety factor much greater than the minimum accepted under the Romanian and European design standards for such facilities;

- in the sector physically impacted by the Project, the risk of floods will remain very low due to the small catchments (controlled by the Roşia and Corna Streams) the area affected by the operation, and the creation of containment, diversion and drainage hydro-technical structures for storm waters on the site, and in the Abrud catchment in general;

- risks caused by meteorological events have been reviewed and used in assessing the hazards of the affected technological processes.

From the analysis of morphometrical parameters and their correlation with other sets of information on the natural slopes on and near the site shows that the (qualitatively estimated) landslide occurrence risk is low to moderate and its consequences will not cause major impacts on the structural components of the Project.

There is no significant risk associated with resource depletion. Mining activities are planned judiciously, so as to extract only the profitable gold and silver resources and only the necessary construction rock for the Project. The management of the mining concession site will minimize reserve "sterilization" (limitation of future access to the reserves).

In assessing technological hazards and risks, the quantity of hazardous substances on the site was calculated as a total and by category, as provided by the *Notification Procedure* approved by Ministry of Agriculture, Forestry, Water and Environment (MAFWE) Order 1084/2003. Based on an evaluation of hazardous substances in stock on the Project site in relation to the relevant quantities provided by the Government Decision 95/2003 which transposes the Seveso Directive, the Project ranges between the upper and the lower limits, and therefore S.C. Roşia Montană Gold Corporation S.A. is required to prepare a Report on Environmental Impact Assessment Study to be sent to the local environmental authority and the local civilian protection authority a *Safety Report* on its operations to prevent major accident risks.

In assessing the consequences of major accidents involving dangerous substances, physical-mathematical models accepted internationally and especially at EU level, and the current version of the SLAB (Canada) software have been used, the latter for the atmospheric dispersion of denser than air gases, that may handle a multitude of situations and scenarios. Similarly, the EFFECTSGis 5.5 (Netherlands) software, developed for the analysis of the effects of industrial accidents and of consequences. Several scenarios were considered in response to the internal legislative requirements, especially related to the implementation of the Internal Emergency Plans (GD 647/2005). The conclusions of the risk assessment for major accidents were:

- The total destruction of plant facilities may only be caused by terrorist attack with classic or nuclear weapons. Simultaneous damage to the HCl tank (including containment) and to the NaCN solution tank, the tanks containing enriched solution, to one or more leaching tanks, having as a result HCN dispersion into the air. At the same time, under certain situations and weather conditions unfavorable for dispersion, people within 40 m of the emission source, surprised by the toxic cloud for

more than 1 minute without respiratory protection equipment, will most certainly die. It may also be considered that, on a radius of about 310 m, persons exposed for more than 10 minutes may suffer serious intoxications that may also lead to death. Toxic effects may occur in persons up to about 2 km downwind of the process plant;

- Operating errors and/or failures in the measurement and control devices, resulting in a lower pH in the leaching tank, thickener and/or DETOX slurry and accidental emissions of hydrocyanic acid. The area affected by concentrations of 290 ppm over a 10 min exposure time is within a circle of 36 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 157.5 m radius. The center of these circles is the middle of the CIL tanks platform;

- Accidental HCN emission from the decanter. The accident may be caused by a drop of pH in the CIL tanks combined with an overdose of flocculent solution and faulty pH monitoring systems. The area affected by concentrations of 300 ppm over a 10 min exposure time is within a circle of 65 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 104 m radius. The center of these circles is mid-distance between the two DETOX facilities;

- Accidental HCN emission from the DETOX facility. The accident may be caused by a drop of pH in the reactors generated by an overdose of metabisulfite solution and/or copper sulphate combined with faulty pH monitoring systems. The area affected by high 1900 ppm concentrations for a 1 min exposure time is located within a 10 m radius circle. The area affected by concentrations of 300 ppm over a 10 min exposure time is within a circle of 27 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 33 m radius. The center of these circles is mid-distance between the two DETOX facilities;

- Explosion of the LPG storage tank. The LPG storage tank has a 50 ton capacity and is located outdoors, near the heating plant. The simulation was conducted for the worst case scenario, considering an explosion of the full tank. Threshold I with heat 12.5 kW/m<sup>2</sup> is within a 10.5 m radius circle and Threshold II, of heat radiation 5 kW/m<sup>2</sup> is within a circle of 15 m radius;

- Damage and/or fire at the fuel tanks. Simulations were conducted for the worst case scenarios, considering ignition and combustion of all the diesel (fire in the tank, or in the containment vat, when full of diesel);

- Corna Dam break and breach development. Two credible accident scenarios were considered in simulating tailings flow out of the Tailings Management Facility, and six credible scenarios for the flow of decant water and tailings pore water, with significant effects on the terrestrial and aquatic ecosystems, in different weather conditions;

- Tailings flow may occur along Corna Valley, on a 800 m (starter dam break) or over 1600 m reach should the Corna dam break in its final stage;

- In regard to water quality impacts, cyanide concentrations in the water in the shape of a pollution plume may reach Arad, near the Romanian-Hungarian border on the Mureş River, in concentrations ranging between 0.03 and 0.5 mg/L. Due to inherent mathematical limitations in the models, these values and the accident effects are considered overestimated. Therefore, the results describe the "worst case scenario" based on extreme dam break assumptions for the Corna Dam.

A new and much more precise and realistic simulation has been subsequently established based on the INCA Mine model, that considers the dispersion, volatilization and breakdown of cyanides during the downstream movement of the pollutant flow (Whiteland et al., 2006).

The model used is the INCA model developed over the past 10 years to simulate both terrestrial and aquatic systems within the EUROLIMPACS EU research program ([www.eurolimpacs.ucl.ac.uk](http://www.eurolimpacs.ucl.ac.uk)). The model has been used to assess the impacts from future mining, and collection and treatment operations for pollution from past mining at Roşia Montană.

The modeling created for Roşia Montană simulates eight metals (cadmium, lead, zinc, mercury, arsenic, copper, chromium, manganese) as well as Cyanide, Nitrate, Ammonia and dissolved oxygen. The model has been applied to the upper catchments at Roşia Montană as well as the complete Abrud-Arieş-Mureş river system down to the Hungarian Border and on into the Tisa River. The model takes into account the dilution, mixing and physical-chemical processes affecting metals, ammonia and cyanide in the river system and gives estimates of concentrations at key locations along the river, including at the Hungarian Boarder and in the Tisa after the Mureş joins it.

Because of dilution and dispersion in the river system, and of the initial EU BAT-compliant technology adopted for the project (for example, the use of a cyanide destruct process for tailings effluent that

reduces cyanide concentration in effluent stored in the TMF to below 6 mg/l), even a large scale unprogrammed release of tailings materials (for example, following failure of the dam) into the river system would not result in transboundary pollution. The model has shown that under worse case dam failure scenario all legal limits for cyanide and heavy metals concentrations would be met in the river water before it crosses into Hungary.

The INCA model has also been used to evaluate the beneficial impacts of the existing mine water collection and treatment and it has shown that substantial improvements in water quality are achieved along the river system under normal operational conditions.

For more information, an information sheet presenting the INCA modeling work is presented under the title of the Mureş River Modeling Program and the full modeling report is presented in Annex 5.1:

- Development of HCN on the tailings pond surface. Simulated emissions of HCN from the Tailings Management Facility pond surface and of their dispersion into the ambient air show that the level of  $400\mu\text{g}/\text{m}^3$  hourly average and  $179\mu\text{g}/\text{m}^3$  8hr average will not be exceeded. These HCN concentrations are only slightly over the odor threshold (0.17ppm) and much below potentially dangerous concentrations;

- Cetate Dam break and breach development. Flood modeling was in case of a break in Cetate dam was based on the design parameters obtained from the hydrometeorological study "Assessment of rainfall intensity, frequency and runoff for the Roşia Montană Project - Radu Drobot". The breach characteristics were predicted using the BREACH model, and the maximum height of the flood wave in various flow sections was modeled using the FLDWAV software. The assumptions included a total 800000  $\text{m}^3$  discharge for one hour, when the peak of the flood hydrograph is about 4.9 m above base flow immediately below the dam and in the narrow Abrud valley 5.9-7,5 km downstream of the dam, while in the last section considered (10,5 km) water depth is about 2.3 m above base flow and the maximum flow rate 877  $\text{m}^3/\text{s}$ . Further, the broader Aries valley allows the flood wave to propagate on a significantly wider bed, which results in a highly attenuated hydrograph. These results describe the "worst case scenario" based on extreme dam break assumptions:

- Accidents during cyanide transportation. Due to the large quantities of cyanide transported (about 30t /day) the risks associated to this activity were assessed in detail using the ZHA- Zurich Hazard Analysis method. As a consequence, the optimum transport route was selected from the manufacturer to the Process Plant, e.g.;

- Cyanide transport (in solid state) will exclusively involve special SLS (Solid to Liquid System) containers, 16 tons each. The ISO compliant container will be protected by a framework with legs, which allows separation from the transport trailer for temporary storage. The wall is 5.17 mm thick, which, together with the protective framework, provides additional protection to the load in case of accident. This system is considered BAT and is currently one of the safest cyanide transportation options.

It is being mentioned the fact that the study develops the occurrence possibility of these scenarios (pages 166-171, Conclusions).

As regards the cyanides management, there is a baseline study named "Roşia Montană Golden Project, Cyanides Management Plan" prepared in compliance with the "International Management Code for the Manufacture, Transport and Use of Cyanide in the Production of Gold (International Cyanide management Institute) May 2002". S.C. Roşia Montană Gold Corporation is signatory to this code.

Bibliographical references for Chapter 7 "Risk Cases" are listed at page 173-176.

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RMGC's closure estimates, which were developed by a team of independent experts with international experience and will be reviewed by third party experts, are based on the assumption that the project can be completed according to the plan, without interruptions, bankruptcy or the like. They are engineering calculations and estimates based on the current commitments of the closure plan and are summarized in the EIA's Mine Closure and Rehabilitation Management Plan (Plan J in the EIA). Annex 1 of Plan J will be updated using a more detailed approach looking at every individual year and calculating the amount of surety, which must be set aside year by year to rehabilitate the mine before RMGC is released from all its legal obligations. Most importantly, the current estimates assume the application of international best practice, best available technology (BAT) and compliance with all Romanian and European Union laws and

regulations.

Closure and rehabilitation at Roşia Montană involves the following measures:

- Covering and vegetating the waste dumps as far as they are not backfilled into the open pits;
- Backfilling the open pits, except Cetate pit, which will be flooded to form a lake;
- Covering and vegetating the tailings pond and its dam areas;
- Dismantling of disused production facilities and revegetation of the cleaned-up areas;
- Water treatment by semi-passive systems (with conventional treatment systems as backup) until all effluents have reached the discharge standards and need no further treatment;
- Maintenance of the vegetation, erosion control, and monitoring of the entire site until it has been demonstrated by RMGC that all remediation targets have been sustainably reached.

While the aspects of closure and rehabilitation are many, we are confident in our cost estimates because the largest expense—that incurred by the earthmoving operation required to reshape the landscape—can be estimated with confidence. Using the project design, we can measure the size of the areas that must be reshaped and resurfaced. Similarly, there is a body of scientific studies and experiments that enable scientists to determine the depth of soil cover for successful re-vegetation. By multiplying the size of the areas by the necessary depth of the topsoil by the unit rate (also derived from studying similar earthmoving operations at similar sites), we can estimate the potential costs of this major facet of the rehabilitation operation. The earthmoving operation, which will total approximately US \$65 million, makes up 87% of closure and rehabilitation costs.

Also, the necessity of additional technological measures to stabilize and reshape the tailings surface will be discussed in the update of the Economical Financial Guarantee (EFG) estimate, which leads to an increase the provisions for tailings rehabilitation, especially if the TMF is closed prematurely and no optimized tailings disposal regime is applied. The exact figures depend on the details of the TMF closure strategy which can be finally determined only during production.

We believe that—far from being too low—our cost estimates are evidence of our high level of commitment to closure and rehabilitation. Just as a comparison, the world’s largest gold producer has set aside US \$683 million (as of December 31, 2006) for the rehabilitation of 27 operations, which equates to US \$25 million on average per mine. The RMGC closure cost estimates, recently revised upward from the US \$73 million reported in the EIA based on additional information, currently total US \$76 million.

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According to Law 5/2000, regarding the approval of the Territory Arrangement Plan – 3<sup>rd</sup> Section – protected areas (“Law 5/2000”) (article 5, paragraphs 2-3), local public authorities, with the support of the competent central public authorities, had the obligation to establish the boundaries of the protection areas for the cultural heritage elements stipulated in Annex III to the above-mentioned law. This measure should have been taken within 12 months from the effective date of Law 5/2000, based on specialized studies. For this purpose, the local public authorities had to prepare the town planning documentation and its related regulations, developed and approved according to the law. This documentation must comprise the necessary protection and conservation measures for the national cultural heritage elements located in this area.

Concurrently, Law 350/2001 on the territory arrangement and urbanism stipulates the right of legal or natural persons interested in arranging the territory, to initiate the development of urbanism plans.

In accordance with these legal provisions, in 2001, RMGC initiated the preparation of these specific town-planning documentations - the General Urbanism Plan and the Zonal Urbanism Plan. These plans have been developed by Romanian certified companies and followed the legal approval procedure. The permit for the establishment of the Roşia Montană Historical Centre Protected Area was issued by the Ministry of Culture and Religious Affairs in 2002 (permits no. 61/14.02.2002 and no. 178/20.06.2002) as part of the procedure for the approval of the town planning documentation. Based on these permits, the Ministry of Culture and Religious Affairs requested the company to develop a Zonal Urbanism Plan for the Historical Centre of Roşia Montană. Out of the 41 historical buildings in Roşia Montană, thirty-five (35) are located inside the protected area of the Roşia Montană Historical Centre.

As for the heritage elements located in the future industrial development area (6 historical buildings), these are discussed in the Industrial Zonal Urbanism Plan prepared by SC Proiect Alba SA. The regulations included in this document will contain measures for the protection of these monuments.

In conclusion, the town planning studies and the specialized studies conducted for the purpose of establishing the boundaries of the protection areas within the future mining operations perimeter are currently pending approval, in accordance with the legal provisions, by the competent institutions and committees. Please note that none of the historical houses located in the perimeter of the proposed project will be affected; on the contrary, all the 41 historic buildings will be included in a complex restoration and rehabilitation program (see the Management Plan). This program is mandatory, regardless of the implementation of the mining project, if we want to prevent these buildings from collapsing because of their advanced degradation.

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Your assertion regarding the failure to obtain an applicable urbanism certificate at the start up of the public debates and of the evaluation of the quality of the report to the environmental impact assessment, is not correct.

Thus, by the time when the public debate stage started up there was an applicable urbanism certificate and namely the urbanism certificate no. 78/26.04.2006 issued by Alba County Council. This certificate was obtained prior to the evaluation stage of the quality of the report to the environmental impact assessment which started up once the EIA was submitted to the Ministry of Environment and Water Management on the 15<sup>th</sup> May 2006.

For better understanding the applicable legal provisions and the facts developed within the mining project of Roșia Montană zone we would like to make several comments:

- The procedure for issuing the environmental permit for Roșia Montană project started up on the 14<sup>th</sup> December 2004 by submitting the technical memorandum and the urbanism certificate no.68/26.August 2004 (certificate applicable by that time). S.C. Roșia Montană Gold Corporation S.A. (RMGC) applied for and obtained a new urbanism certificate no.78/26.04.2006 issued by Alba County Council for the entire Roșia Montană Project applicable on the date of the EIA Report submission (15<sup>th</sup> May 2006) and prior to the public debate start up (June 2006);
- The Section 1 of the urbanism certificate no.78 of 26<sup>th</sup> 04.2006 entitled Work construction, position 10 – “Processing plant and associated constructions “ – including the tailing management facility which existence is compulsory for the processing plant running. The Tailing management facility is also specified on the layout plans which are integral part of the urbanism certificate and they were sealed by Alba County Council so that they cannot be modified;
- The Urbanism Certificate is an informative document and its goal is only to inform the applicant about the legal, economic and technical regime of the existing lands and buildings and to establish the urbanism requirements and the approvals necessary to obtain the construction permit (including the environmental permit) as per art.6 of Law 50/1991 referring to the completion of construction works, republished and art 27 paragraph 2 of the Norms for the application of Law 50/1991 – Official Journal 825 bis/13.09.2005).

As it is an informative document, it does not limit the number of certificates an applicant may obtain for the same land plot ( art. 30 of Law no. 350/2001 regarding the territorial planning and urbanism).

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Introduced as part of the Environmental Impact Assessment Report Study (EIA), the Roșia Montană Foundation is shifting in focus. The Community Sustainable Development Plan activities initially conceived as coming under the Foundation umbrella (business oriented activities: business incubator, business advisory center, micro-finance facility, as well as social oriented activities: education and training center) have been advanced independently, via partnerships and with community participation in decision-making – a preferable way to advance social and economic development programs.

Going forward, the Foundation will take shape around preservation, patrimony and cultural heritage issues, with its final form determined in consultation with the community.

In terms of the philosophy that guides the company's Sustainable Development efforts, the Roșia Montană Gold Corporation (RMGC) sees itself not as principal provider, but as a partner. Community involvement is considered the starting point; over time, as the community builds the capacity to maintain programs in its own right, the company will turn over control of currently-established programs to the community and its institutions.

For more information, please see Roșia Montană Sustainable Development and the Roșia Montană Project – annex 4.

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We underline the fact that your statement is false. The General Urbanism Plan for the Roșia Montană commune, endorsed in 2002 allows the development of Roșia Montană project, as it has been presented during the public consultations.

Concurrently, pursuant to the provisions of art. 41, paragraph 2, from the Mining Law no.85/2003, the authorities from the local administration have the liability to adjust and/or update the territory arrangement plans and the general urbanism plans, in order to allow the development of all operations necessary for the development of mining activities.

RMGC has also initiated the preparation of two zonal urbanism plans: Zonal Urbanism Plan Modification – Roșia Montană Industrial Area and Zonal Urbanism Plan – Roșia Montană Historical Area. The first urbanism plan is required by the urbanism certificate no.78/26.04.2006, which updates the Zonal Urbanism Plan for the Industrial Area approved in 2002. As far as the historical area is concerned, its Zonal Urbanism Plan is required by the General Urbanism Plan approved also in 2002. Both urbanism plans are pending approval and have been subject to public consultations.

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An engineered liner is included in the design of the Tailings Management Facility (TMF) basin. Specifically, the Roșia Montană Tailings Management Facility (TMF or “the facility”) has been designed to be compliant with the EU Groundwater Directive (80/68/EEC), transposed as Romanian GD 351/2005. The TMF is also designed for compliance with the EU Mine Waste Directive (2006/21/EC) as required by the Terms of Reference established by the MEWM in May, 2005. The following paragraphs provide a discussion of how the facility is compliant with the directives.

The TMF is composed of a series of individual components including:

- the tailings impoundment;
- the tailings dam;
- the secondary seepage collection pond;
- the secondary containment dam; and
- the groundwater monitoring wells/extraction wells located downstream of the Secondary Containment dam.

All of these components are integral parts of the facility and necessary for the facility to perform as designed.

The directives indicated above require that the TMF design be protective of groundwater. For the Roșia Montană project (RMP), this requirement is addressed by consideration of the favorable geology (low permeability shales underlying the TMF impoundment, the TMF dam and the Secondary Containment dam) and the proposed installation of a low-permeability ( $1 \times 10^{-6}$  cm/sec) recompacted soil liner beneath the TMF basin. Please see Chapter 2 of EIA Plan F, “The Tailings Facility Management Plan” for more information.

The proposed low permeability soil liner will be fully compliant with Best Available Techniques (BAT) as defined by EU Directive 96/61 (IPPC) and EU Mine Waste Directive. Additional design features that are included in the design to be protective of groundwater include:

- A low permeability ( $1 \times 10^{-6}$  cm/sec) cut off wall within the foundation of the starter dam to

control seepage;

- A low permeability ( $1 \times 10^{-6}$  cm/sec) core in the starter dam to control seepage;
- A seepage collection dam and pond below the toe of the tailings dam to collect and contain any seepage that does extend beyond the dam centerline;
- A series of monitoring wells, below the toe of the secondary containment dam, to monitor seepage and ensure compliance, before the waste facility limit.

In addition to the design components noted above specific operational requirements will be implemented to be protective of human health and the environment. In the extremely unlikely case that impacted water is detected in the monitoring wells below the secondary containment dam, they will be converted to pumping wells and will be used to extract the impacted water and pump it into the reclaim pond where it will be incorporated into the RMP processing plant water supply system, until the compliance is reestablish.

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With respect to your comments made as regards a presumptive infringement of the provisions of Government Decision No.351/2005 (“GD 351/2005”), there are several aspects to be taken into consideration. Thus:

1. Firstly, please note that, according to the provisions of art. 6 of GD 351/2005, any activity that might determine the discharge of dangerous substances into the environment is subject to the prior approval of the water management authorities and shall comply with the provisions of the water permit issued in accordance with the relevant legislation.

The GD 351/2005 provides that the water permit shall be issued only after all technical-construction measures are implemented as prevent the indirect discharge of dangerous substances into the underground waters. The maximum discharge limits are expressly provided under GD 351/2005 and compliance with such is a condition for granting and maintaining the water permit.

In accordance with the provisions of GD 351/2005, the actual discharge limits should be authorized by the relevant authority, such process being understood by the lawmaker in consideration of the complexity and variety of industrial activities, as well as the latest technological achievements.

Therefore, please note that the EIA stage is not intended to be finalized into an overall comprehensive permit, but it represents only a part of a more complex permitting process. Please note that, according with art. 3 of GD 918/2002, the data’s level of detail provided in the EIA is the one available in the feasibility stage of the project, obviously making impossible for both the titleholder and authority to exhaust all required technical data and permits granted.

The adequate protection of the ground water shall be ensured by the terms and conditions of the water permit. The issuance of the water permit shall be performed following an individual assessment of the project, considering its particular aspects and the relevant legal requirements applicable for mining activities. Until the water permit is obtained, any allegation regarding the infringement of GD 351/2005 is obviously premature mainly because the water permit shall regulate, in accordance with the relevant legal provisions, the conditions to be observed by the developer as regards the protection of the ground water;

2. Secondly, kindly note that the complexity and specificity of mining projects generated the need of a particular legal framework. Therefore, for such projects, the reading of the legal provisions of a certain enactment should be corroborated with the relevant provisions of the other regulations applicable.

In this respect, please not that the understanding of GD 351/2005 must be corroborated with the provisions of the entire relevant legislation enforceable as regards Roşia Montană Project, with a particular accent to Directive 2006/21/EC on the management of waste from the extractive industries (“Directive 21”).

The very scope of Directive 21 is to provide a specific legal framework for the extractive wastes and waste facilities related to mining projects, considering the complexity of such projects and the particular aspects of mining activities that can not always be subject to the common regulations on waste management and landfill.

From this perspective, Directive 21 provides that, an operator of a waste facility, as such is defined thereunder (please note that the TMF proposed by RMGC is considered a “waste facility” under Directive 21), must inter alia, ensure that:

- a) *“the waste facility is [...]designed so as to meet the necessary conditions for, in the short and long-term perspectives, preventing pollution of the soil, air, groundwater or surface water, taking into account especially Directives 76/464/EEC (1), 80/68/EEC (2) and 2000/60/EC, and ensuring efficient collection of contaminated water and leachate as and when required under the permit, and reducing erosion caused by water or wind as far as it is technically possible and economically viable;”*
- b) *“the waste facility is suitably constructed, managed and maintained to ensure its physical stability and to prevent pollution or contamination of soil, air, surface water or groundwater in the short and long-term perspectives as well as to minimize as far as possible damage to landscape.”*

In addition, it should be mentioned that RMGC was required by MWEM under the Terms of

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Reference, to perform the EIA considering the provisions of Directive 21 and the BAT Management of Mining Waste. The Directive 21 was intended by the EU DG of Environment to be the legislative regime applicable to sound management of mining waste throughout Europe and therefore compliance with its provisions is mandatory.

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Information regarding our Environmental Financial Guarantee (“EFG”) is fully discussed in the section of the Environmental Impact Assessment titled “Environmental and Social Management and System Plans” (Annex 1 of the subchapter titled “Mine Rehabilitation and Closure Management Plan”). The EFG is updated annually and will always reflect the costs associated with reclamation. These funds will be held in protected accounts at the Romanian state disposal.

Roşia Montană Gold Corporation (“RMGC”) has invested significant time, energy, and resources assessing the viability of a mining project in the valley of Roşia Montană. This assessment has led RMGC to conclude that Roşia Montană presents an attractive long-term development opportunity – an opinion confirmed by a variety of lending institutions, who have completed detailed reviews of the project’s design and profitability. We have every confidence that we will see the project through to the end of its projected 16-year lifespan, regardless of any fluctuations in the market price of gold.

In Romania, the creation of an EFG is required to ensure adequate funds are available from the mine operator for environmental cleanup. The EFG is governed by the Mining Law (no. 85/2003) and the National Agency for Mineral Resources instructions and Mining Law Enforcement Norms (no. 1208/2003).

Two directives issued by the European Union also impact the EFG: the Mine Waste Directive (“MWD”) and the Environmental Liability Directive (“ELD”).

The Mine Waste Directive aims to ensure that coverage is available for 1) all the obligations connected to the permit granted for the disposal of waste material resulting from mining activities and 2) all of the costs related to the rehabilitation of the land affected by a waste facility. The Environmental Liability Directive regulates the remedies, and measures to be taken by the environmental authorities, in the event of environmental damage created by mining operations, with the goal of ensuring adequate financial resources are available from the operators for environmental cleanup efforts. While these directives have yet to be transposed by the Romanian Government, the deadlines for implementing their enforcement mechanisms are 30 April 2007 (ELD) and 1 May 2008 (MWD) – thus before operations are scheduled to begin at Roşia Montană.

RMGC has already begun the process of complying with these directives, and once their implementation instruments are enacted by the Romanian Government, we will be in full compliance.

Each EFG will follow detailed guidelines generated by the World Bank and the International Council on Mining and Metals.

The current projected closure cost for Roşia Montană is US \$76 million, which is based on the mine operating for its full 16-year lifespan. The annual updates will be completed by independent experts, carried out in consultation with the NAMR, as the Governmental authority competent in mining activities field. These updates will ensure that in the unlikely event of early closure of the project, at any point in time, each EFG will always reflect the costs associated with reclamation. (These annual updates will result in an estimate that exceeds our current US \$76 million costs of closure, because some reclamation activity is incorporated into the routine operations of the mine.)

A number of different financial instruments are available to ensure that RMGC is capable of covering all of the expected closure costs. These instruments, which will be held in protected accounts at the Romanian state disposal, include:

- Cash deposit;
- Trust funds;
- Letter of credit;
- Surety bonds;

- Insurance policy.

Under the terms of this guarantee, the Romanian government will have no financial liability in connection with the rehabilitation of the Roşia Montană project.

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The Security Report has been made available for public access by being posted at the following Internet address [http://www.mmediu.ro/dep\\_mediu/rosia\\_montana\\_securitate.htm](http://www.mmediu.ro/dep_mediu/rosia_montana_securitate.htm) as well as through the printed version which could have been found at several information locations established for public hearings.

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The Report on the Environmental impact assessment study (EIA) considered all alternative developments, including the option of not proceeding with any project – an option that would generate no investment, allowing the existing pollution problems and socio-economic decline to continue (Chapter 5 – *Assessment of Alternatives*).

The report also considered alternative developments – including agriculture, grazing, meat processing, tourism, forestry and forest products, cottage industries, and flora/fauna gathering for pharmaceutical purposes – and concluded that these activities could not provide the economic, cultural and environmental benefits brought by the Roşia Montană Project (RMP).

Chapter 5 also examines alternative locations for key facilities as well as alternative technologies for mining, processing and waste management, in line with best practice and as compared against published EU best available techniques (BAT) documentation.

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The impact on protected flora and fauna will exist only locally, but this impact will not lead to the loss of any specie. The Project has been designed even from the beginning to fully comply with the requirements and norms imposed by Romanian and European environmental legislation.

The company believes the fact that the project impact on environment remains significant, especially because covers previous impacts. But, the investments required to ecologically restore/rehabilitate Roşia Montană area in order to address current complex environmental issues, are only achievable following the implementation of some economic projects that will generate and warrant implementation of some direct and responsible actions as a component of base principles of sustainable development concepts. Clean processes and technologies may be developed only in the presence of a solid economic environment fully compliant with the environment that will also resolve previous impacts of anthropic activities.

The base documents of the Project are in fact an unbiased reason of its implementation, considering the highly complex environmental commitment within Roşia Montană area.

Some of the Roşia Montană species that are under a certain protection status stand for an insignificant percentage of the scale of populations estimated at national level. The characterization of species from their habitat point of view exists in the species tables presented in the Biodiversity Chapter of the EIA Report and its annexes, although this is not a requirement imposed by the Habitats Directive. Due to their large volume of information, the annexes of chapter 4.6 Biodiversity can be found in the electronic version of the EIA disclosed by the company both in Romanian and English through approx. 6,000 DVD/CD copies, being accessible on the company website, and on the websites of Ministry of Environment and Water Management, local and regional environmental protection agencies of Alba, Sibiu, Cluj, etc.

From practical point of view, the low value of conservation of the impact area is also indirectly emphasized by the fact that there is no proposal to designate the area a SPA (aviafaunistic special protected area) and by the denial as unfounded of the proposal to designate the area as a pSCI area (sites of community importance).

Taking all these into account, we believe that the proposed Project is compliant with the provisions of EU

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Directive no. 92/43 Habitats[1], and EU Directive no. 79/409 Birds[2] respectively, especially because within Biodiversity Management Plan, Plan H, several active and responsible measures are provided to reconstruct/rehabilitate several natural habitats, pursuant to the provisions of the same documents [3].

References:

[1] art.3, 2nd paragraph, Each Member State shall contribute to the creation of Natura 2000 (network) in proportion to the representation within its territory of the natural habitat types and the habitats of species referred to in paragraph 1. To that effect each Member State shall designate, in accordance with Article 4, sites as special areas of conservation taking account of the objectives set out in paragraph 1.

art.4, 1st paragraph. On the basis of the criteria set out in Annex III (Stage 1) and relevant scientific information, each Member State shall propose a list of sites indicating which natural habitat types in Annex I and which species in Annex II that are native to its territory the sites host. For animal species ranging over wide areas these sites shall correspond to the places within the natural range of such species which present the physical or biological factors essential to their life and reproduction. For aquatic species which range over wide areas, such sites will be proposed only where there is a clearly identifiable area representing the physical and biological factors essential to their life and reproduction. Where appropriate, Member States shall propose adaptation of the list in the light of the results of the surveillance referred to in Article 11. [...]

2nd paragraph.[...] Member States whose sites hosting one or more priority natural habitat types and priority species represent more than 5 % of their national territory may, in agreement with the Commission, request that the criteria listed in Annex III (Stage 2) be applied more flexibly in selecting all the sites of Community importance in their territory.[...]

Art. 6, 4th paragraph. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Art. 16. Provided that there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range, Member States may derogate from the provisions of Articles 12, 13, 14 and 15 (a) and (b):[...]

- in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment;

[2] Art.4, 1st paragraph. The species mentioned in annex 1 shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution. [...]

Trends and variations in population levels shall be taken into account as a background for evaluations. Member states shall classify in particular the most suitable territories in number and size as special protection areas for the conservation of these species, taking into account their protection requirements in the geographical sea and land area where this directive applies.

[3] Directive 92/43 Habitats, art. 2, 2nd paragraph; Directive 79/409 Birds, art. 3, 2nd paragraph, letter c.

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This statement is ungrounded, because the environmental impact assessment (EIA) process has included preliminary cumulative estimates for stationary motorized equipment and linear (vehicular) sources were prepared in order to provide an initial understanding of the potential cumulative noise and vibration impacts from background and Roşia Montană Project sources, and to guide future monitoring and measurement activities as well as the selection of appropriate Best Management Practices/Best Available Techniques for further mitigation of the potential noise and vibration impacts from Project activities.

These preliminary estimates apply to major construction activities, as well as the operation and decommissioning/closure of the mine and process plant. They are documented as data tables and isopleth maps for major noise-generating activities in selected, representative Project years; see **Tables 4.3.8 through 4.3.16** and **Exhibits 4.3.1 through 4.3.9**. All these details related to the applied assessment methodology, the input data of the dispersion model, the modeling results and the measures established for the prevention/mitigation/elimination of the potential impact for all project stages (construction, operation, closure) are included in Chapter 4, Section 4.3 Noise and Vibrations of the EIA Report.

Project Years 0, 9, 10, 12, 14, and 19 were selected for modeling because they are considered to be representative of the most significant levels of noise-generating activity. They are also the same years used for air impact modeling purposes in Section 4.2, as air and noise impacts share many of the same sources or are otherwise closely correlated. In order to more accurately reflect potential receptor impacts, all of these exhibits integrate the background traffic estimates discussed in Section 4.3.6.1.

The Project site plan and process plant area and facility drawings were used to establish the position of the noise sources and other relevant physical characteristics of the site. Receptor locations were established using background reports and project engineering and environmental documentation provided by RMGC. With this information, the source locations and receptor locations were translated into input (x, y, and z) co-ordinates for the noise-modeling program.

**Tables 4.3.8 through 4.3.16** and **Exhibits 4.3.1 through 4.3.9** present the average maximum noise values likely to be experienced by the receptor community over all Project phases after incorporation of a variety of initial mitigation measures designed specifically to reduce the impacts associated with mobile and stationary machinery sources. The influence of non-mining related background (primarily traffic) noise is also included.

To evaluate the sound levels associated with haul trucks and other mobile sources crossing the site carrying excavated ore, waste rock, and soil, a noise analysis program based on the (U.S.) Federal Highway Administration's (FHWA) standard RD-77-108 [1] model was used to calculate reference noise emissions values for heavy trucks along the project roadways. The FHWA model predicts hourly  $L_{eq}$  values for free-flowing traffic conditions and is generally considered to be accurate within 1.5 decibels (dB).

The model is based on the standardized noise emission factors for different types and weights of vehicles (e.g., automobiles, medium trucks, and heavy trucks), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The emission levels of all three vehicle types increase as a function of the logarithm of their speed.

To evaluate the sound sources from the proposed mine processing facility and the semi-stationary material handling equipment (at the ore extraction, waste rock and soil stockpiling areas), a proprietary computerized noise prediction program was used by AAC to simulate and model the future equipment noise emissions throughout the area. The modeling program uses industry-accepted propagation algorithms based on the following American National Standards Institute (ANSI) and International Organization for Standardization (ISO) standards:

- *ANSI S1.26-1995 (R2004), Method for the Calculation of the Absorption of Sound by the Atmosphere;*
- *ISO 9613-1:1993, Acoustics -- Attenuation of sound during propagation outdoors-- Part 1: Calculation of the absorption of sound by the atmosphere;*
- *ISO 9613-2:1996, Acoustics -- Attenuation of sound during propagation outdoors -- Part 2: General method of calculation;*
- *ISO 3891:1978, Acoustics -- Procedure for describing aircraft noise heard on the ground.*

The calculations account for classical sound wave divergence (i.e., spherical spreading loss with adjustments for source directivity from point sources) plus attenuation factors due to air absorption, minimal ground effects, and barriers/shielding.

This model has been validated by AAC over a number of years via noise measurements at several operating industrial sites that had been previously modeled during the engineering design phases. The comparison of modeled predictions versus actual measurements has consistently shown close agreement; typically in the range of 1 to 3 dB (A).

References:

[1] FHWA Highway Traffic Noise Prediction Model; see Federal Highway Administration Report Number FHWA-RD-77-108, USA, Washington, D.C., 1978.

***A detailed presentation of blasting technology can be found in the annex 7.1 - Proposed blasting technology for the operational phase of Roşia Montană Project.***

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The partnership between Gabriel Resources and Regia Autonomă a Cuprului Deva (currently, CNCAF Minvest SA) has been established based on Law no. 15/1990 on the reorganization of the state owned companies as autonomous directions and trade companies, published in the Official Gazette, Section I, no. 98/08.08.1990, as subsequently amended and supplemented. Art. 35 of this law provides the possibility of the regies autonomous to enter into partnerships with legal third parties, Romanian or foreign, for the purpose of setting up new trading companies.

Roşia Montană Gold Corporation SA was set up in 1997, according to the legal provisions in force as at that time, the setting up being made by observing all the conditions imposed by Company Law no. 31/1990 and Trade Register Law no. 26/1990, in regard of the setting up of the joint stock companies with mixed capital.

We underline that the Articles of Associations of Roşia Montană Gold Corporation SA, representing the result of the parties agreement in regard of the terms and conditions under which the partnership between the Romanian state and investor takes place represents a public document, being included in the category of documents which, as per Law no. 26/1990 on the Trade Register, are published in the Romanian Official Gazette and for which the Trade Register is obliged to issue, on the expense of the persons submitting a request, certified copies.

As for the agreement concerning the setting up of the mixed company together with Gabriel Resources Ltd., this has been expressed by the Ministry of Industry and Trade, the conditions imposed by the setting up of the mixed company being the following: (i) ensuring of the jobs at the level existing upon the conclusion of the agreement concerning the setting up of the mixed company; (ii) the expenses incurred by the fulfillment of the exploration stage should be fully supported by Gabriel; (iii) the obtaining of the approval from the ANRM by the Copper Autonomous Direction Deva and (iv) the observance of all legal provisions in force concerning the setting up of the mixed companies with foreign partners. These conditions have been fully complied with as at the setting up of the company and during the development of its activity.

We also specify that the establishing of the shareholders' quotas to the benefits and losses of Roşia Montană Gold Corporation SA has been made by considering their contribution quota to the company's share capital. The current percentage of 80% for Gabriel Resources Ltd. and of 19.31% for CNCAF Minvest SA resulted from the initial contribution and the subsequent contributions of the shareholders to the company's share capital, in consideration also of Gabriel Resources Ltd. advancing all expenses and costs related to the development-exploitation and permitting of the Roşia Montană Mining Project.

The provisions of the Articles of Associations of Roşia Montană Gold Corporation SA on the necessary majority and quorum conditions for the decision-making process within the General Shareholders Meeting and the quotas to the benefits and losses of the company are taken from Law no. 31/1990, and no derogation exists in regard of this aspect.

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This claim is not true; the Urbanism Plan has been prepared with public consultation.

Roşia Montană Gold Corporation SA (RMGC) has requested and obtained from Alba County Council the Urbanism Certificate no. 78 of 26.04.2006, for the entire Roşia Montană mining project, including the tailings management facility. The Urbanism Certificate also stipulated the preparation of a Zonal Urbanism Plan, to reflect all changes made to the Roşia Montană Project, following the public

consultations and debates organized in relation to this project, and the consultations with the permitting authorities. This plan, entitled “Modification of the Zonal Urbanism Plan, Roșia Montană Industrial Area”, was prepared and subjected to public debate in June 2006 in accordance with the provisions of Order no.176/N/2000 issued by the Ministry of Public Works and Territory Development for the approval of the technical regulations “Guidelines regarding the methodology applied for the preparation and framework content of the Zonal Urbanism Plan” and, at present, it is pending approval.

Concerning the Roșia Montană General Urbanism Plan approved in 2002, such plan was prepared in parallel with the Zonal Urbanism Plan of 2002, all the provisions of the General Urbanism Plan being also included in the Zonal Urbanism Plan. Also, the approval procedure related to the two urbanism plans was carried out in parallel.

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Preventive archaeological researches within the Roșia Montană mining project area have been undertaken based on specific techniques, specifically trial trenches in all accessible areas that are suitable for human habitation, taking into account the bibliographical information and the observations recorded during the archaeological survey campaigns, the geophysical studies and the analyses of the photogrammetric flights. In addition, surface investigations were undertaken, where appropriate.

The archaeological researches at Roșia Montană covered a large surface and focused on the areas known to have archaeological potential. THEREFORE, ALL AREAS THAT HAVE BEEN ARCHAEOLOGICALLY DISCHARGED HAD BEEN PREVIOUSLY INVESTIGATED. All research programs, beginning with the 2004 campaign, have been undertaken in full compliance with the current legal requirements, i.e. Ministerial Order no. 2392 of 6 September 2004 on the establishment of the Archaeological Standards and Procedures by the Ministry of Culture and Religious Affairs.

The proposed gold mining project at Roșia Montană has raised a series of issues related to the rescue of the historical-archaeological heritage within the area, as well as issues related to its scientific development and also the enhancement of heritage within a museum. Given the complex difficulties encountered in this respect, the Ministry of Culture and Religious Affairs decided to initiate the “Alburnus Maior” National Research Program.

The company’s role was to provide the necessary financial resources for the assessment, research and enhancement of the archaeological remains, in full compliance with the Romanian current legislation. The development of the research and of the archaeological discharge works has been conducted through specific means and methodologies that have been adjusted to the realities of every site researched, in our case, Roșia Montană. They consisted in:

- Archives studies;
- Archaeological surveys; trial trenches;
- aerial reconnaissance/survey and aerial photo interpretation ; high resolution satellite images;
- mining archaeology studies; underground topography and 3D modeling;
- geophysical surveys;
- extensive archaeological investigations in the areas with an identified archaeological potential- this implied carrying out archaeological excavations;
- Interdisciplinary studies- sedimentology, archaeo-zoology, comparative palynology, archaeo-metallurgy, geology, mineralogy;
- Radiocarbon dating and dendrochronology;
- This research and its results were included in an integrated database;
- traditional and digital archaeological topography and development of the GIS project; generate a photo archive- both traditional and digital;
- restoration of artifacts;
- an inventory and a digital catalogue of the artifacts;
- studies conducted by specialists in order to enhance the research results - publication of monographs/scientific books and journals, exhibitions, websites, etc.

All the preventive archaeological researches undertaken at Roșia Montană since 2000 have been carried out as part of a complex research program; permits for preventive archaeological excavations being issued

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in compliance with the current legislation. These archaeological investigations have been undertaken by representatives of 21 specialized institutions from Romania and 3 others from abroad, under the scientific coordination of the Romanian National Museum of History. All archaeological researches have been conducted in full compliance with the existing legislation. The investigations undertaken during each archaeological research campaign have been approved by the Ministry of Culture and Religious Affairs based on the Annual Archaeological Research Plan approved by the National Commission of Archaeology.

Under the current legislation (Ministerial Order no. 2392 of 6 September 2004 on the establishment of the Archaeological Standards and Procedures by the Ministry of Culture and Religious Affairs) the archaeologists who have conducted the research may ask that an archaeological discharge certificate be granted. Based on a complex research program, the archaeologists prepare comprehensive documentation with regard to the researched area. Upon consideration of the submitted documentation, the National Commission of Archaeology makes a decision as to whether to recommend or not the granting of the archaeological discharge certificate. In the case of the research conducted in the period 2001-2006, the archaeological discharge certificate was issued directly by the Ministry of Culture and Religious Affairs or by its local agencies.

Preventive archaeological researches at Roșia Montană have allowed the research of five Roman cremation necropolis (Tău Corna, Hop-Găuri, Țarina, Jig - Piciorag and Pârâul Porcului – Tăul Secuilor), two funerary areas (Carpeni, Nanului Valley), sacred areas (Hăbad, Nanului Valley), habitation areas (Hăbad, Carpeni, Tăul Țapului, Hop), the most significant being the Roman structures on the Carpeni Hill and the circular funerary monument at Tău Găuri. In addition, for the first time in Romania, surface investigations have been paralleled by underground investigations of Cetate, Cârnic, Jig and Orlea massifs, with important discoveries in the Piatra Corbului, area, Cătălina-Monulești gallery and the Păru Carpeni mining sector.

The research consisted of aerial photo interpretation, archaeological magnetometric studies, electrical resistivity, palynology, sedimentology, geology studies, radiocarbon and dendrochronology dating. For a better management of the research units and of the archaeological findings, data bases were used, including text and photographs-among which 4 satellite images (an archive satellite image type SPOT Panchromatic (10m) from 1997; 2 satellite images LANDSAT 7 MS (30 m), dating from 2000 and 2003; a satellite image with priority programming SPOT 5 SuperMode color (2,5 m resolution-19 July 2004); all data have been included in a comprehensive GIS program, a first in the Romanian archaeological research.

In the case of archaeological monuments that are located close to industrial facilities, plans have been redesigned to ensure that the archaeological remains in question will not be affected. Where appropriate, the archaeological monument was preserved in situ and restored, i.e. the circular funerary monument at Hop-Găuri (see The "Alburnus Maior" monograph series, volume II, Bucharest, 2004). Another example in this respect is the Carpeni Hill, designated an "archaeological " reserve, and the Piatra Corbului area. In 2004, after being thoroughly investigated, these areas have been included on the List of Historic Monuments. Add to this the areas where ancient mining remains will be preserved, such as the Cătălina Monulești gallery and the mining sector Păru Carpeni, as well as the protected area Roșia Montană Historic Center, including a number of heritage assets (35 historic monument houses).

We emphasise in this respect that the identified and researched structures have been published in preliminary form in the Archaeological Research Chronicle of Romania, after every archaeological research campaign, as well as in volume 1 of the Alburnus Maior monographic series. We mention here the areas where Roman habitation structures have been identified and researched, as well as the references to be consulted for further information: Hop-Găuri, Carpeni, Tăul Țapului (CCA 2001 (2002), p. 254-257, no. 182; 261-262, nr. 185; 264-265, no. 188; 265-266, no. 189. Alburnus Maior I, 2003, p. 45-80; 81-122; 123-148; CCA 2001 (2002), 257-261; CCA 2003 (2004) ,280-283; Alburnus Maior I, 2003, p. 387-431, 433-446, 447-467).

For further details related to the applicable legal framework, the responsibilities of the Project titleholder, or for a detailed description of the preventive archaeological researches undertaken to date and of the Cultural Heritage Management Plans, please see Annex called "Information on the Cultural heritage of Roșia and Related Management Aspects". In addition, the annex includes supplementary information with regard to the result of the researches undertaken as part of the "Alburnus Maior" National Research Program between 2001 and 2006.



In conclusion, the area mentioned by the questioner has been researched in accordance with the Romanian legal requirements, as well as with European standards and practices in the field.

Note that the type of research undertaken at Roşia Montană, known as preventive/rescue archaeological research, as well as other related heritage studies, are done everywhere in the world in close connection with the economic development of certain areas. Both the costs for the research and for the enhancement and maintenance of the preserved areas are provided by investors, in a public-private partnership set up in order to protect the cultural heritage, as per the provisions of the European Convention on the Protection of the Archaeological Heritage (Malta-1992) [1].

References:

[1]The text of the Convention is available at the following address:  
<http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=143&CM=8&DF=7/6/2006&CL=ENG>

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In 2000, in the context of the proposal of a new mining project in the Roşia Montană area, the Ministry of Culture and Religious Affairs approved a series of studies to be conducted in order to research the archaeological and architectural heritage of the area. And at the end of that year, the Design Centre for National Cultural Heritage (now the National Institute for Historical Monuments) presented the preliminary results of these researches to the National Commission for Historical Monuments and of the National Commission of Archaeology. Based on these results, in 2001, the Ministry of Culture and Religious Affairs initiated the “Alburnus Maior” National Research Program (the Order no. 2504 / 07.03.2001 of the Minister of Culture and Religious Affairs) in compliance with the Law 378/2001 (as subsequently amended by Law 462/2003 and by Law 258/2006 and Law 259/2006). Thus, since 2000, the Ministry of Culture and Religious Affairs – directly or through its subordinate institutions - has fulfilled its duties with regard to the management of the issues related to Roşia Montană’s heritage.

Thus, the preventive archaeological researches have been conducted by the representatives of 21 national institutions and 3 others from abroad under the scientific coordination of the National Museum of History of Romania. They have been carried out based on the annual approval of the National Commission of Archaeology of the Ministry of Culture and Religious Affairs. In accordance with the legislation in force, this research program is carried out with the financial support provided by RMGC (the company that plans to expand and continue to mine the gold-silver deposit in Roşia Montană). Thus, large-scale preventive investigations have been conducted or are underway in the RMP impact area. A proposal will be made based on the results thereof either for the archaeological discharge of some researched perimeters from the project perimeter or the preservation *in situ* of certain representative structures and monuments, in compliance with the legislation in force. In the case of the areas proposed for conservation and the ones for which the archaeological discharge measure was applied, the decision was made based on the surveys conducted by specialists and on the analysis of the National Commission of Archaeology. In the period 2000-2005, the mining project underwent a series of modifications designed to promote the implementation of the decision regarding the conservation of the local heritage. Examples of these include: extending the duration of the field investigations on several years (e.g. Ţarina, Pârâul Porcului, Orlea) and changing the location of some elements of infrastructure in order to allow the conservation of the archaeological remains found in the Carpeni, Tău Găuri and Pietra Corbului areas.

**The architectural and town-planning surveys** have been conducted, in accordance with the legislation in force, by companies certified by the Ministry of Culture and Religious Affairs, while the town-planning documentations drafted by these companies and the restoration and conservation works undertaken so far have been approved by the National Commission for Historical Monuments. Thus, the town-planning documentations have been approved and implemented in accordance with current legislation, and the company has agreed to these decisions and modified the mine development plans accordingly:

**Extensive ethnographic research** was conducted in the Roşia Montană-Abrud-Corna area in the period 2001-2004 coordinated by a team of specialists for the Romanian Village Museum „Dimitrie Gusti” (a National Museum directly under the coordination of the Ministry of Culture and Religious Affairs). Moreover, a broad series of oral history interviews was conducted in the period 2001-2002 by the Romanian Radio Broadcasting Company through the „Gheorghe Brătianu” Oral History Centre, Bucharest

(SRR - CIO).

In compliance with the requirements of the Ministry of Environment and Waters Management and the Ministry of Culture and Religious Affairs, specific management plans have been drawn up for the management and conservation of the heritage remains from the Roşia Montană area, in the context of the implementation of the mining project. These plans have been included in the documentation prepared for the Report on the Environmental Impact Assessment Study. (see EIA Report, volume 32-33, Plan M- *Cultural Heritage Management Plan*, part I –*Management Plan for the Archaeological Heritage from Roşia Montană Area*; part II-*Management Plan for the Historical Monuments and Protected Zone from Roşia Montană*; part III- *Cultural Heritage Management Plan*).

These management plans comprise detailed presentations of the obligations and responsibilities regarding the protection and conservation of the heritage remains from the Roşia Montană area, which the company has assumed in the context of the implementation of the mining project, according to the decision of the central government. These heritage remains include: archaeological remains above and under the ground, historic buildings, protected areas, intangible heritage assets, cultural landscape items, etc. In this context, it should be noted that besides the works for the protection and preservation of the archaeological heritage, works are being carried out for the rehabilitation and conservation of the protected area Historical Centre Roşia Montană (comprising 35 historic buildings, and projects for the restoration of 11 of these buildings are currently being drafted), Tăul Mare, Tăul Brazi and Tăul Anghel as well as remains of the surface mining works from the Vaidoia area and the creation of a modern museum dedicated to the history of mining in the Apuseni Mountains area. This museum will be established in the coming years and it will include exhibitions of geology, archaeology, industrial and ethnographic heritage as well as an underground section organized around the Cătălina Monuleşti gallery.

Moreover, representatives of the Directorate for Culture, Religious Affairs and National Cultural Heritage of Alba County have visited Roşia Montană many times in order to collect information and to check the situation. The same administrative body was the intermediary for the specific stages of acquisitions of historic buildings made by RMGC. The Ministry of Culture and Religious Affairs expressed its pre-emption right regarding the acquisition of these buildings.

Note that apart from the obligations undertaken by RMGC as regards the protection and conservation of the archaeological remains and historical monuments, there are a whole series of obligations, which rest with the local public authorities from Roşia Montană and from Alba County and with the central public authorities, namely the Romanian Government.

These aspects are further detailed in the Cultural Heritage Management Plans included in the EIA Report (see EIA Report, volume 32, *Management Plan for the Archaeological Heritage from Roşia Montană Area*, pages 21-22, 47, 52-53, 66-67-Romanian version/ 22-24; 47; 55-56; 71-72 English version) and the EIA Report, volume 33- *Management Plan for the Historical Monuments and Protected Zone from Roşia Montană* pages 28-29, 48-50, 52-53, 64-65, page 98 – Annex 1- Romanian version/ 28-29; 47-50; 51-53; 65-66; 103- Annex 1- English version).

Item no. 1699

No. to identify the observations received from the public  
Nr.  
110709/  
25.08.2006

**Proposal**

The questioner opposes the proposed gold and silver mining project at Rosia Montana and makes the following observations and comments:

- The tailings pond is unlined and is a hazard for the town of Abrud, as there is the risk of a failure;
- Total costs for closing the mine are unrealistic;
- The Project poses a threat for protected flora and fauna;
- The phase of public consultation and quality evaluation of the impact assessment study report begun without a valid urbanism certificate;
- The company could not find an insurer for the mining project.
- The EIA report does not assess the "zero alternative";
- The EIA report does not include an assessment of the "cyanide rain" phenomenon.

An engineered liner is included in the design of the Tailings Management Facility (TMF) basin. Specifically, the Roşia Montană Tailings Management Facility (TMF or "the facility") has been designed to be compliant with the EU Groundwater Directive (80/68/EEC), transposed as Romanian GD 351/2005. The TMF is also designed for compliance with the EU Mine Waste Directive (2006/21/EC) as required by the Terms of Reference established by the MEWM in May, 2005. The following paragraphs provide a discussion of how the facility is compliant with the directives.

The TMF is composed of a series of individual components including:

- the tailings impoundment;
- the tailings dam;
- the secondary seepage collection pond;
- the secondary containment dam; and
- the groundwater monitoring wells/extraction wells located downstream of the Secondary Containment dam.

All of these components are integral parts of the facility and necessary for the facility to perform as designed.

**Solution**

The directives indicated above require that the TMF design be protective of groundwater. For the Roşia Montană project (RMP), this requirement is addressed by consideration of the favorable geology (low permeability shales underlying the TMF impoundment, the TMF dam and the Secondary Containment dam) and the proposed installation of a low-permeability ( $1 \times 10^{-6}$  cm/sec) recompacted soil liner beneath the TMF basin. Please see Chapter 2 of EIA Plan F, "The Tailings Facility Management Plan" for more information.

The proposed low permeability soil liner will be fully compliant with Best Available Techniques (BAT) as defined by EU Directive 96/61 (IPPC) and EU Mine Waste Directive. Additional design features that are included in the design to be protective of groundwater include:

- A low permeability ( $1 \times 10^{-6}$  cm/sec) cut off wall within the foundation of the starter dam to control seepage;
- A low permeability ( $1 \times 10^{-6}$  cm/sec) core in the starter dam to control seepage;
- A seepage collection dam and pond below the toe of the tailings dam to collect and contain any seepage that does extend beyond the dam centerline;
- A series of monitoring wells, below the toe of the secondary containment dam, to monitor seepage and ensure compliance, before the waste facility limit.

In addition to the design components noted above specific operational requirements will be implemented

to be protective of human health and the environment. In the extremely unlikely case that impacted water is detected in the monitoring wells below the secondary containment dam, they will be converted to pumping wells and will be used to extract the impacted water and pump it into the reclaim pond where it will be incorporated into the RMP processing plant water supply system, until the compliance is reestablish.

### **Proximity to Abrud**

The EIA describes how the dam will be built with rockfill materials, engineered drain and filter materials and a low permeability core to control seepage. The facility is being designed and engineered by MWH, one of the leading dam designers in the world. In addition, the feasibility level designs have been reviewed and approved by certified Romanian dam experts and by the Romanian National Committee for the Safety of Large Dams. Prior to operation, the dam must again be certified for operations by the National Commission for Dams Safety (CONSIB).

The Tailings Management Facility (TMF) dam is rigorously designed to incorporate all EU, Romanian and international criteria to reduce the risk of failure. These guidelines allow for significant rainfall events and prevent dam failure due to overtopping. Specifically, the facility has been designed to store for the run off from two Probable Maximum Precipitation (PMP) events. This is generally referred to as the Probable Maximum Flood (PMF). The design criterion for TMF includes storage for two PMF flood events, more rain than has ever been recorded in this area.

Additionally, an emergency spillway for the dam will be constructed in the unlikely event that the site rainfall exceeds two PMPs. The TMF design therefore very significantly exceeds required standards for safety. This has been done to ensure that the risks involved in using Corna valley for tailings storage are well below what is considered safe in every day life.

Section 7 of the EIA report includes an assessment and analysis of risks and includes various dam break scenarios. Specifically, the dam break scenarios were analyzed for a failure of the starter dam and for the final dam configuration. The dam break modeling indicates the extent of tailings runout for the specific conditions analyzed. Based on the two cases considered the tailings would not extend beyond the confluence of the Corna valley stream and the Abrud River.

However, the project recognizes that in the highly unlikely case of a dam failure that a Emergency Preparation and Spill Contingency Management Plan must be implemented. This plan was submitted with the EIA as Plan I, Volume 28.

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RMGC's closure estimates, which were developed by a team of independent experts with international experience and will be reviewed by third party experts, are based on the assumption that the project can be completed according to the plan, without interruptions, bankruptcy or the like. They are engineering calculations and estimates based on the current commitments of the closure plan and are summarized in the EIA's Mine Closure and Rehabilitation Management Plan (Plan J in the EIA). Annex 1 of Plan J will be updated using a more detailed approach looking at every individual year and calculating the amount of surety, which must be set aside year by year to rehabilitate the mine before RMGC is released from all its legal obligations. Most importantly, the current estimates assume the application of international best practice, best available technology (BAT) and compliance with all Romanian and European Union laws and regulations.

Closure and rehabilitation at Roșia Montană involves the following measures:

- Covering and vegetating the waste dumps as far as they are not backfilled into the open pits;
- Backfilling the open pits, except Cetate pit, which will be flooded to form a lake;
- Covering and vegetating the tailings pond and its dam areas;
- Dismantling of disused production facilities and revegetation of the cleaned-up areas;
- Water treatment by semi-passive systems (with conventional treatment systems as backup) until all effluents have reached the discharge standards and need no further treatment;
- Maintenance of the vegetation, erosion control, and monitoring of the entire site until it has been demonstrated by RMGC that all remediation targets have been sustainably reached.

While the aspects of closure and rehabilitation are many, we are confident in our cost estimates because the largest expense—that incurred by the earthmoving operation required to reshape the landscape—can be estimated with confidence. Using the project design, we can measure the size of the areas that must be reshaped and resurfaced. Similarly, there is a body of scientific studies and experiments that enable scientists to determine the depth of soil cover for successful re-vegetation. By multiplying the size of the areas by the necessary depth of the topsoil by the unit rate (also derived from studying similar earthmoving operations at similar sites), we can estimate the potential costs of this major facet of the rehabilitation operation. The earthmoving operation, which will total approximately US \$65 million, makes up 87% of closure and rehabilitation costs.

Also, the necessity of additional technological measures to stabilize and reshape the tailings surface will be discussed in the update of the Economical Financial Guarantee (EFG) estimate, which leads to an increase the provisions for tailings rehabilitation, especially if the TMF is closed prematurely and no optimized tailings disposal regime is applied. The exact figures depend on the details of the TMF closure strategy which can be finally determined only during production.

We believe that—far from being too low—our cost estimates are evidence of our high level of commitment to closure and rehabilitation. Just as a comparison, the world's largest gold producer has set aside US \$683 million (as of December 31, 2006) for the rehabilitation of 27 operations, which equates to US \$25 million on average per mine. The RMGC closure cost estimates, recently revised upward from the US \$73 million reported in the EIA based on additional information, currently total US \$76 million.

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The impact on protected flora and fauna will exist only locally, but this impact will not lead to the loss of any specie. The Project has been designed even from the beginning to fully comply with the requirements and norms imposed by Romanian and European environmental legislation.

The company believes the fact that the project impact on environment remains significant, especially because covers previous impacts. But, the investments required to ecologically restore/rehabilitate Roşia Montană area in order to address current complex environmental issues, are only achievable following the implementation of some economic projects that will generate and warrant implementation of some direct and responsible actions as a component of base principles of sustainable development concepts. Clean processes and technologies may be developed only in the presence of a solid economic environment fully compliant with the environment that will also resolve previous impacts of anthropic activities.

The base documents of the Project are in fact an unbiased reason of its implementation, considering the highly complex environmental commitment within Roşia Montană area.

Some of the Roşia Montană species that are under a certain protection status stand for an insignificant percentage of the scale of populations estimated at national level. The characterization of species from their habitat point of view exists in the species tables presented in the Biodiversity Chapter of the EIA Report and its annexes, although this is not a requirement imposed by the Habitats Directive. Due to their large volume of information, the annexes of chapter 4.6 Biodiversity can be found in the electronic version of the EIA disclosed by the company both in Romanian and English through approx. 6,000 DVD/CD copies, being accessible on the company website, and on the websites of Ministry of Environment and Water Management, local and regional environmental protection agencies of Alba, Sibiu, Cluj, etc.

From practical point of view, the low value of conservation of the impact area is also indirectly emphasized by the fact that there is no proposal to designate the area a SPA (aviafaunistic special protected area) and by the denial as unfounded of the proposal to designate the area as a pSCI area (sites of community importance).

Taking all these into account, we believe that the proposed Project is compliant with the provisions of EU Directive no. 92/43 Habitats[1], and EU Directive no. 79/409 Birds[2] respectively, especially because within Biodiversity Management Plan, Plan H, several active and responsible measures are provided to reconstruct/rehabilitate several natural habitats, pursuant to the provisions of the same documents [3].

References:

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[1] art.3, 2nd paragraph, Each Member State shall contribute to the creation of Natura 2000 (network) in proportion to the representation within its territory of the natural habitat types and the habitats of species referred to in paragraph 1. To that effect each Member State shall designate, in accordance with Article 4, sites as special areas of conservation taking account of the objectives set out in paragraph 1.

art.4, 1st paragraph. On the basis of the criteria set out in Annex III (Stage 1) and relevant scientific information, each Member State shall propose a list of sites indicating which natural habitat types in Annex I and which species in Annex II that are native to its territory the sites host. For animal species ranging over wide areas these sites shall correspond to the places within the natural range of such species which present the physical or biological factors essential to their life and reproduction. For aquatic species which range over wide areas, such sites will be proposed only where there is a clearly identifiable area representing the physical and biological factors essential to their life and reproduction. Where appropriate, Member States shall propose adaptation of the list in the light of the results of the surveillance referred to in Article 11. [...]

2nd paragraph.[...] Member States whose sites hosting one or more priority natural habitat types and priority species represent more than 5 % of their national territory may, in agreement with the Commission, request that the criteria listed in Annex III (Stage 2) be applied more flexibly in selecting all the sites of Community importance in their territory.[...]

Art. 6, 4th paragraph. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Art. 16. Provided that there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range, Member States may derogate from the provisions of Articles 12, 13, 14 and 15 (a) and (b):[...]

- in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment;

[2] Art.4, 1st paragraph. The species mentioned in annex 1 shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution. [...]

Trends and variations in population levels shall be taken into account as a background for evaluations. Member states shall classify in particular the most suitable territories in number and size as special protection areas for the conservation of these species, taking into account their protection requirements in the geographical sea and land area where this directive applies.

[3] Directive 92/43 Habitats, art. 2, 2nd paragraph; Directive 79/409 Birds, art. 3, 2nd paragraph, letter c.

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Your assertion regarding the failure to obtain an applicable urbanism certificate at the start up of the public debates and of the evaluation of the quality of the report to the environmental impact assessment, is not correct.

Thus, by the time when the public debate stage started up there was an applicable urbanism certificate and namely the urbanism certificate no. 78/26.04.2006 issued by Alba County Council. This certificate was obtained prior to the evaluation stage of the quality of the report to the environmental impact assessment which started up once the EIA was submitted to the Ministry of Environment and Water Management on the 15<sup>th</sup> May 2006.

For better understanding the applicable legal provisions and the facts developed within the mining

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project of Roşia Montană zone we would like to make several comments:

- The procedure for issuing the environmental permit for Roşia Montană project started up on the 14<sup>th</sup> December 2004 by submitting the technical memorandum and the urbanism certificate no.68/26.August 2004 (certificate applicable by that time). S.C. Roşia Montană Gold Corporation S.A. (RMGC) applied for and obtained a new urbanism certificate no.78/26.04.2006 issued by Alba County Council for the entire Roşia Montană Project applicable on the date of the EIA Report submission (15<sup>th</sup> May 2006) and prior to the public debate strat up (June 2006);
- The Section 1 of the urbanism certificate no.78 of 26<sup>th</sup> 04.2006 entitled Work construction, position 10 – “Processing plant and associated constructions “ – including the tailing management facility which existence is compulsory for the processing plant running. The Tailing management facility is also specified on the layout plans which are integral part of the urbanism certificate and they were sealed by Alba County Council so that they cannot be modified;
- The Urbanism Certificate is an informative document and its goal is only to inform the applicant about the legal, economic and technical regime of the existing lands and buildings and to establish the urbanism requirements and the approvals necessary to obtain the construction permit (including the environmental permit) as per art.6 of Law 50/1991 referring to the completion of construction works, republished and art 27 paragraph 2 of the Norms for the application of Law 50/1991 – Official Journal 825 bis/13.09.2005).

As it is an informative document, it does not limit the number of certificates an applicant may obtain for the same land plot ( art. 30 of Law no. 350/2001 regarding the territorial planning and urbanism).

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With respect to the issues indicated by you, namely the insurance of mining projects, we would like to underline the fact that the Directive no. 2004/35/CE regarding **on environmental liability with regard to the prevention and remedying of environmental damage**, which has been published in the Official Journal of the European Union no. L143/56 (“Directive no. 35/2004”) establishes the general governing framework with regard to environmental pollution.

According to the provisions stipulated by art. 1 of Directive no. 35/2004 “The purpose of this directive is to establish a framework of environmental liability based on the ‘polluter-pays’ principle, to prevent and remedy environmental damage.”

Directive no. 35/2004 states as a principle pursuant to the provisions of art. 14(1) the fact that “Member States shall take measures to encourage the development of financial security instruments and markets by the appropriate economic and financial operators, including financial mechanisms in case of insolvency, with the aim of enabling operators to use financial guarantees to cover their responsibilities under this Directive”.

Moreover, according to the provisions of art. 19(1) Directive no. 35/2004, Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 30 April 2007. We would like to underline the fact that, up to now, the Directive no. 35/2004 hasn’t been transposed into our legislation. Taking into account the previously mentioned aspects, we kindly ask you to take notice of the fact that, at this moment there are no internal legal regulations to establish the material and procedural aspects related to the establishment of such a guarantee.

However, if specific legal dispositions are going to be created with regard to the establishment of certain guarantees, RMGC is going to take all necessary measures to fulfill all mandatory legal liabilities.

Moreover, we underline the fact that RMGC has contracted one of the world’s leading insurance brokers, which is well established in Romania and has a long and distinguished record of performing risk assessments on mining operations. The broker will use the most appropriate property and machinery breakdown engineers to conduct risk analysis and loss prevention audit activities, during the construction and operations activity at Roşia Montană, to minimize hazards. The broker will then determine the appropriate coverage, and work with A-rated insurance companies to put that program in place on behalf of RMGC, for all periods of the project life from construction through operations and closure.

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RMGC is committed to maintaining the highest standards of occupational health and safety for its

employees and service providers. Our utilization of Best Available Techniques helps us to ensure this goal is achieved. No organization gains from a loss, and to that end we will work to implement engineering solutions to risk, as they are far superior to insurance solutions to risk. Up to 75% of loss risk can be removed during the design and construction phase of a project.

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The Report on the Environmental impact assessment study (EIA) considered all alternative developments, including the option of not proceeding with any project – an option that would generate no investment, allowing the existing pollution problems and socio-economic decline to continue (Chapter 5 – *Assessment of Alternatives*).

The report also considered alternative developments – including agriculture, grazing, meat processing, tourism, forestry and forest products, cottage industries, and flora/fauna gathering for pharmaceutical purposes – and concluded that these activities could not provide the economic, cultural and environmental benefits brought by the Roşia Montană Project (RMP).

Chapter 5 also examines alternative locations for key facilities as well as alternative technologies for mining, processing and waste management, in line with best practice and as compared against published EU best available techniques (BAT) documentation.

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It is stated precisely that a “cyanide rain” phenomenon will not exist. Neither was encountered in other places or situations. Moreover, the specialty literature doesn’t make any mentions related to the so-called “cyanide rains” phenomenon, but only “acidic rains” phenomenon which can’t be generated by the cyanic compounds breaking down in the atmosphere.

The reasons for making the statement that ‘cyanide rains’ phenomenon won’t occur are the followings:

- The sodium cyanide handling, from the unloading from the supplying trucks up to the processing tailings discharge onto the tailings management facility, will be carried out only in liquid form, represented by alkaline solutions of high pH value (higher than 10.5 – 11.0) having different sodium cyanide concentrations. The alkalinity of these solutions has the purpose to maintain the cyanide under the form of cyan ions (CN<sup>-</sup>) and to avoid the hydrocyanic acid formation (HCN), phenomenon that occurs only within environments of low pH;
- The cyanide volatilization from a certain solution cannot occur under the form of free cyanides, but only under the form of HCN;
- The handling and storage of the sodium cyanide solutions will take place only by means of some closed systems; the only areas/plants where the HCN can occur and volatilize into air, at low emission percentage, are the leaching tanks and slurry thickener, as well the tailings management facility for the processing tailings;
- The HCN emissions from the surface of the above mentioned tanks and from the tailings management facility surface can occur as a result of the pH decrease within the superficial layers of the solutions (that helps the HCN to form) and of the desorption (volatilization in air) of this compound;
- The cyanide concentrations within the handled solutions will decrease from 300 mg/L within the leaching tanks up to 7 mg/L (total cyanide) at the discharge point into the tailings management facility. The drastic reduction of the cyanide concentrations for discharging into the Tailings Management Facility (TMF) will be done by the detoxification system;
- The knowledge of the cyanide chemistry and on the grounds of the past experience, we estimated the following possible HCN emissions into air: 6 t/year from the leaching tanks, 13 t/year from the slurry thickener and 30 t/year (22.4 t, respectively 17 mg/h/m<sup>2</sup> during the hot season and 7.6 t, respectively 11.6 mg/h/m<sup>2</sup> during the cold season) from the tailings management facility surface, which totals 134.2 kg/day of HCN emission;
- Once released into air, the hydrocyanic acid is subject to certain chemical reactions at low pressure, resulting ammonia;
- The mathematical modeling of the HCN concentrations within the ambient air (if the HCN released in the air is not subject to chemical reactions) emphasized the highest concentrations being at the ground level, within the industrial site namely within the area of the tailings



management facility and within a certain area near the processing plant. The maximum concentration is of 382  $\mu\text{g}/\text{m}^3/\text{h}$ ;

- The highest HCN concentrations within the ambient air will be 2.6 times lower than the standard value stipulated by the national legislation for labor protection;
- The HCN concentrations within the ambient air in the populated areas close by the industrial site will be of 4 to 80  $\mu\text{g}/\text{m}^3$ , more than 250 – 12.5 times lower than standard value stipulated by the national legislation for labor protection – the national legislation and European Union (EU) legislation on the Air Quality don't stipulate standard values for the population's health protection;
- Once released in air, the evolution of the HCN implies an insignificant component resulted from the reactions while liquid (water vapors and rain drops). The reactions are due to HCN being weak water-soluble at partially low pressures (feature of the gases released in open air), and the rain not effectively reducing the concentrations in the air (Mudder, et al., 2001; Cicerone and Zellner, 1983);
- The probability that the HCN concentration value contained by rainfalls within and outside the footprint of the Project be significantly higher than the background values (0.2 ppb) is extremely low.

Details referring to the use of cyanide in the technological processes, the cyanides balance as well as the cyanide emission and impact of the cyanides on the air quality are contained in the Environmental Impact Assessment (EIA) Report, Chapter 2, Subchapter 4.1 and Subchapter 4.2 (Section 4.2.3).

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Item no. 1700

No. to identify the observations received from the public No. 110708/ 25.08.2006

Proposal

The questioner does not agree to the promotion of the Roşia Montană Project, making the following comments:

- In EIA there are no presented all the possible risks derived from this project;
- Total costs for closing the mine are unrealistic;
- There isn't until now an approved Zonal Urbanism Plan for the Protected Areas
- The phase of public consultation and quality evaluation of the impact assessment study report begun without a valid urbanism certificate;
- Information about the foundation which RMGC will establish and subsidize is not given. This foundation follows to assume the obligations which the mining operation can not assume;
- The present urbanism plans of the Roşia Montană commune do not correspond with the mining project proposal described in EIA;
- There is no liner proposed for the tailings pond;
- The proposed waste deposits will be not constructed according to the legislation in force
- No financial guarantees have been stipulated;
- There is not a Safety Report submitted for the public consultation and evaluation by the competent authorities;
- The EIA report does not assess the "zero alternative";
- The Project poses a threat for protected flora and fauna;
- The EIA report does not refer to the impact on the listed heritage buildings of noise and vibrations caused by the mining operations;
- The public/ONGs wish to consult the contracts and agreements between Company and Romanian State;
- The Urbanism Plan has been modified without public consultation;
- From archeological point of view, the area proposed to be occupied by project was not legally investigated;
- The questioner contests the protection of the architectural and spiritual monuments with the responsibility of the state institutions for the protection operation.

Solution

It is the nature of risk that it can be mitigated and diminished; it cannot be made to disappear. In order to put this into context, the common action of walking on the street or developing everyday activities have an accident potential. This accident potential is twice higher than within the framework of industrial activities that use hazardous substances.

A major chapter of the EIA report was dedicated to the identification of risks for the project. In addition, this chapter provides a discussion of the mitigation measures for each risk and how they were incorporated into the project designs. It is recognized that risk identification is difficult due to the number and diversity of events that can be envisioned. The EIA report cannot assume to cover all of the potential risks associated with the project. However, it has attempted to identify and address the most relevant risks. The extent of risk assessment and the intensity of the prevention and mitigation measures should be proportional to the risk involved and therefore only the risks that have been considered important have been assessed in detail. Each is described below.

In the larger sense, the entire EIA report is focused on the assessment of impacts and their associated mitigation. Specifically, Chapter 4 of the EIA presents that impact assessment of the project. The following discussion presents a summary of the impact discussed in the EIA.

As far as natural and technological risks assessments are concerned, Chapter 7, "Risk Cases", from the Report on Environmental Impact Assessment, emphasizes the fact that safety and prevention measures, the implementation of the environmental management and risk systems are mitigating the consequences

to acceptable levels as compared to the most restrictive norms, standards, the best practices or national and international recommendations in the field. The risk level has been established as moderate and so, socially acceptable. The extension of the risk assessment and the intensity of the prevention and mitigation measures of the consequences should be proportionate to the risk involved. Selection of a specific mitigation technique is depends on the analyzed accident scenario.

More detailed assessments are conducted for accident scenarios that, based on the qualitative assessment are found to be potentially major, of probability more than  $10^{-6}$  (reduced recovery periods of 1/1,000,000) meaning that they could have major consequences therefore, elevated associated risk, a higher risk level than 9 to 12 (on a scale of 1-25). To put this in context, simply living in southern Florida rates a 25 on the risk scale.

A global assessment of the risks associated with the Roşia Montană Project is obtained by the quick environmental and health risk assessment methodology initially developed by the Italian Ministry of the Environment and the World Health Organization. Natural hazard and risk identification and analysis presents key data and information in assessing potential technological accidents. Thus:

- In designing the Tailings Management Facility, the design parameters were chosen to fully cover the characteristic seismic risk of the area. These seismic design parameters adopted for the TMF and other facilities on the proposed site result in a safety factor much greater than the minimum accepted under the Romanian and European design standards for such facilities;

- in the sector physically impacted by the Project, the risk of floods will remain very low due to the small catchments (controlled by the Roşia and Corna Streams) the area affected by the operation, and the creation of containment, diversion and drainage hydro-technical structures for storm waters on the site, and in the Abrud catchment in general;

- risks caused by meteorological events have been reviewed and used in assessing the hazards of the affected technological processes.

From the analysis of morphometrical parameters and their correlation with other sets of information on the natural slopes on and near the site shows that the (qualitatively estimated) landslide occurrence risk is low to moderate and its consequences will not cause major impacts on the structural components of the Project.

There is no significant risk associated with resource depletion. Mining activities are planned judiciously, so as to extract only the profitable gold and silver resources and only the necessary construction rock for the Project. The management of the mining concession site will minimize reserve "sterilization" (limitation of future access to the reserves).

In assessing technological hazards and risks, the quantity of hazardous substances on the site was calculated as a total and by category, as provided by the *Notification Procedure* approved by Ministry of Agriculture, Forestry, Water and Environment (MAFWE) Order 1084/2003. Based on an evaluation of hazardous substances in stock on the Project site in relation to the relevant quantities provided by the Government Decision 95/2003 which transposes the Seveso Directive, the Project ranges between the upper and the lower limits, and therefore S.C. Roşia Montană Gold Corporation S.A. is required to prepare a Report on Environmental Impact Assessment Study to be sent to the local environmental authority and the local civilian protection authority a *Safety Report* on its operations to prevent major accident risks.

In assessing the consequences of major accidents involving dangerous substances, physical-mathematical models accepted internationally and especially at EU level, and the current version of the SLAB (Canada) software have been used, the latter for the atmospheric dispersion of denser than air gases, that may handle a multitude of situations and scenarios. Similarly, the EFFECTSGis 5.5 (Netherlands) software, developed for the analysis of the effects of industrial accidents and of consequences. Several scenarios were considered in response to the internal legislative requirements, especially related to the implementation of the Internal Emergency Plans (GD 647/2005). The conclusions of the risk assessment for major accidents were:

- The total destruction of plant facilities may only be caused by terrorist attack with classic or nuclear weapons. Simultaneous damage to the HCl tank (including containment) and to the NaCN solution tank, the tanks containing enriched solution, to one or more leaching tanks, having as a result HCN dispersion into the air. At the same time, under certain situations and weather conditions unfavorable for dispersion, people within 40 m of the emission source, surprised by the toxic cloud for

more than 1 minute without respiratory protection equipment, will most certainly die. It may also be considered that, on a radius of about 310 m, persons exposed for more than 10 minutes may suffer serious intoxications that may also lead to death. Toxic effects may occur in persons up to about 2 km downwind of the process plant;

- Operating errors and/or failures in the measurement and control devices, resulting in a lower pH in the leaching tank, thickener and/or DETOX slurry and accidental emissions of hydrocyanic acid. The area affected by concentrations of 290 ppm over a 10 min exposure time is within a circle of 36 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 157.5 m radius. The center of these circles is the middle of the CIL tanks platform;

- Accidental HCN emission from the decanter. The accident may be caused by a drop of pH in the CIL tanks combined with an overdose of flocculent solution and faulty pH monitoring systems. The area affected by concentrations of 300 ppm over a 10 min exposure time is within a circle of 65 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 104 m radius. The center of these circles is mid-distance between the two DETOX facilities;

- Accidental HCN emission from the DETOX facility. The accident may be caused by a drop of pH in the reactors generated by an overdose of metabisulfite solution and/or copper sulphate combined with faulty pH monitoring systems. The area affected by high 1900 ppm concentrations for a 1 min exposure time is located within a 10 m radius circle. The area affected by concentrations of 300 ppm over a 10 min exposure time is within a circle of 27 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 33 m radius. The center of these circles is mid-distance between the two DETOX facilities;

- Explosion of the LPG storage tank. The LPG storage tank has a 50 ton capacity and is located outdoors, near the heating plant. The simulation was conducted for the worst case scenario, considering an explosion of the full tank. Threshold I with heat 12.5 kW/m<sup>2</sup> is within a 10.5 m radius circle and Threshold II, of heat radiation 5 kW/m<sup>2</sup> is within a circle of 15 m radius;

- Damage and/or fire at the fuel tanks. Simulations were conducted for the worst case scenarios, considering ignition and combustion of all the diesel (fire in the tank, or in the containment vat, when full of diesel);

- Corna Dam break and breach development. Two credible accident scenarios were considered in simulating tailings flow out of the Tailings Management Facility, and six credible scenarios for the flow of decant water and tailings pore water, with significant effects on the terrestrial and aquatic ecosystems, in different weather conditions;

- Tailings flow may occur along Corna Valley, on a 800 m (starter dam break) or over 1600 m reach should the Corna dam break in its final stage;

- In regard to water quality impacts, cyanide concentrations in the water in the shape of a pollution plume may reach Arad, near the Romanian-Hungarian border on the Mureş River, in concentrations ranging between 0.03 and 0.5 mg/L. Due to inherent mathematical limitations in the models, these values and the accident effects are considered overestimated. Therefore, the results describe the "worst case scenario" based on extreme dam break assumptions for the Corna Dam.

A new and much more precise and realistic simulation has been subsequently established based on the INCA Mine model, that considers the dispersion, volatilization and breakdown of cyanides during the downstream movement of the pollutant flow (Whiteland et al., 2006).

The model used is the INCA model developed over the past 10 years to simulate both terrestrial and aquatic systems within the EUROLIMPACS EU research program ([www.eurolimpacs.ucl.ac.uk](http://www.eurolimpacs.ucl.ac.uk)). The model has been used to assess the impacts from future mining, and collection and treatment operations for pollution from past mining at Roşia Montană.

The modeling created for Roşia Montană simulates eight metals (cadmium, lead, zinc, mercury, arsenic, copper, chromium, manganese) as well as Cyanide, Nitrate, Ammonia and dissolved oxygen. The model has been applied to the upper catchments at Roşia Montană as well as the complete Abrud-Arieş-Mureş river system down to the Hungarian Border and on into the Tisa River. The model takes into account the dilution, mixing and physical-chemical processes affecting metals, ammonia and cyanide in the river system and gives estimates of concentrations at key locations along the river, including at the Hungarian Boarder and in the Tisa after the Mureş joins it.

Because of dilution and dispersion in the river system, and of the initial EU BAT-compliant technology adopted for the project (for example, the use of a cyanide destruct process for tailings effluent that

reduces cyanide concentration in effluent stored in the TMF to below 6 mg/l), even a large scale unprogrammed release of tailings materials (for example, following failure of the dam) into the river system would not result in transboundary pollution. The model has shown that under worse case dam failure scenario all legal limits for cyanide and heavy metals concentrations would be met in the river water before it crosses into Hungary.

The INCA model has also been used to evaluate the beneficial impacts of the existing mine water collection and treatment and it has shown that substantial improvements in water quality are achieved along the river system under normal operational conditions.

For more information, an information sheet presenting the INCA modeling work is presented under the title of the Mureş River Modeling Program and the full modeling report is presented in Annex 5.1:

- Development of HCN on the tailings pond surface. Simulated emissions of HCN from the Tailings Management Facility pond surface and of their dispersion into the ambient air show that the level of  $400\mu\text{g}/\text{m}^3$  hourly average and  $179\mu\text{g}/\text{m}^3$  8hr average will not be exceeded. These HCN concentrations are only slightly over the odor threshold (0.17ppm) and much below potentially dangerous concentrations;

- Cetate Dam break and breach development. Flood modeling was in case of a break in Cetate dam was based on the design parameters obtained from the hydrometeorological study "Assessment of rainfall intensity, frequency and runoff for the Roşia Montană Project - Radu Drobot". The breach characteristics were predicted using the BREACH model, and the maximum height of the flood wave in various flow sections was modeled using the FLDWAV software. The assumptions included a total  $800000\text{ m}^3$  discharge for one hour, when the peak of the flood hydrograph is about 4.9 m above base flow immediately below the dam and in the narrow Abrud valley 5.9-7,5 km downstream of the dam, while in the last section considered (10,5 km) water depth is about 2.3 m above base flow and the maximum flow rate  $877\text{ m}^3/\text{s}$ . Further, the broader Aries valley allows the flood wave to propagate on a significantly wider bed, which results in a highly attenuated hydrograph. These results describe the "worst case scenario" based on extreme dam break assumptions:

- Accidents during cyanide transportation. Due to the large quantities of cyanide transported (about 30t /day) the risks associated to this activity were assessed in detail using the ZHA- Zurich Hazard Analysis method. As a consequence, the optimum transport route was selected from the manufacturer to the Process Plant, e.g.;

- Cyanide transport (in solid state) will exclusively involve special SLS (Solid to Liquid System) containers, 16 tons each. The ISO compliant container will be protected by a framework with legs, which allows separation from the transport trailer for temporary storage. The wall is 5.17 mm thick, which, together with the protective framework, provides additional protection to the load in case of accident. This system is considered BAT and is currently one of the safest cyanide transportation options.

It is being mentioned the fact that the study develops the occurrence possibility of these scenarios (pages 166-171, Conclusions).

As regards the cyanides management, there is a baseline study named "Roşia Montană Golden Project, Cyanides Management Plan" prepared in compliance with the "International Management Code for the Manufacture, Transport and Use of Cyanide in the Production of Gold (International Cyanide management Institute) May 2002". S.C. Roşia Montană Gold Corporation is signatory to this code.

Bibliographical references for Chapter 7 "Risk Cases" are listed at page 173-176.

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RMGC's closure estimates, which were developed by a team of independent experts with international experience and will be reviewed by third party experts, are based on the assumption that the project can be completed according to the plan, without interruptions, bankruptcy or the like. They are engineering calculations and estimates based on the current commitments of the closure plan and are summarized in the EIA's Mine Closure and Rehabilitation Management Plan (Plan J in the EIA). Annex 1 of Plan J will be updated using a more detailed approach looking at every individual year and calculating the amount of surety, which must be set aside year by year to rehabilitate the mine before RMGC is released from all its legal obligations. Most importantly, the current estimates assume the application of international best practice, best available technology (BAT) and compliance with all Romanian and European Union laws and

regulations.

Closure and rehabilitation at Roşia Montană involves the following measures:

- Covering and vegetating the waste dumps as far as they are not backfilled into the open pits;
- Backfilling the open pits, except Cetate pit, which will be flooded to form a lake;
- Covering and vegetating the tailings pond and its dam areas;
- Dismantling of disused production facilities and revegetation of the cleaned-up areas;
- Water treatment by semi-passive systems (with conventional treatment systems as backup) until all effluents have reached the discharge standards and need no further treatment;
- Maintenance of the vegetation, erosion control, and monitoring of the entire site until it has been demonstrated by RMGC that all remediation targets have been sustainably reached.

While the aspects of closure and rehabilitation are many, we are confident in our cost estimates because the largest expense—that incurred by the earthmoving operation required to reshape the landscape—can be estimated with confidence. Using the project design, we can measure the size of the areas that must be reshaped and resurfaced. Similarly, there is a body of scientific studies and experiments that enable scientists to determine the depth of soil cover for successful re-vegetation. By multiplying the size of the areas by the necessary depth of the topsoil by the unit rate (also derived from studying similar earthmoving operations at similar sites), we can estimate the potential costs of this major facet of the rehabilitation operation. The earthmoving operation, which will total approximately US \$65 million, makes up 87% of closure and rehabilitation costs.

Also, the necessity of additional technological measures to stabilize and reshape the tailings surface will be discussed in the update of the Economical Financial Guarantee (EFG) estimate, which leads to an increase the provisions for tailings rehabilitation, especially if the TMF is closed prematurely and no optimized tailings disposal regime is applied. The exact figures depend on the details of the TMF closure strategy which can be finally determined only during production.

We believe that—far from being too low—our cost estimates are evidence of our high level of commitment to closure and rehabilitation. Just as a comparison, the world's largest gold producer has set aside US \$683 million (as of December 31, 2006) for the rehabilitation of 27 operations, which equates to US \$25 million on average per mine. The RMGC closure cost estimates, recently revised upward from the US \$73 million reported in the EIA based on additional information, currently total US \$76 million.

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According to Law 5/2000, regarding the approval of the Territory Arrangement Plan – 3<sup>rd</sup> Section – protected areas (“Law 5/2000”) (article 5, paragraphs 2-3), local public authorities, with the support of the competent central public authorities, had the obligation to establish the boundaries of the protection areas for the cultural heritage elements stipulated in Annex III to the above-mentioned law. This measure should have been taken within 12 months from the effective date of Law 5/2000, based on specialized studies. For this purpose, the local public authorities had to prepare the town planning documentation and its related regulations, developed and approved according to the law. This documentation must comprise the necessary protection and conservation measures for the national cultural heritage elements located in this area.

Concurrently, Law 350/2001 on the territory arrangement and urbanism stipulates the right of legal or natural persons interested in arranging the territory, to initiate the development of urbanism plans.

In accordance with these legal provisions, in 2001, RMGC initiated the preparation of these specific town-planning documentations - the General Urbanism Plan and the Zonal Urbanism Plan. These plans have been developed by Romanian certified companies and followed the legal approval procedure. The permit for the establishment of the Roşia Montană Historical Centre Protected Area was issued by the Ministry of Culture and Religious Affairs in 2002 (permits no. 61/14.02.2002 and no. 178/20.06.2002) as part of the procedure for the approval of the town planning documentation. Based on these permits, the Ministry of Culture and Religious Affairs requested the company to develop a Zonal Urbanism Plan for the Historical Centre of Roşia Montană. Out of the 41 historical buildings in Roşia Montană, thirty-five (35) are located inside the protected area of the Roşia Montană Historical Centre.

As for the heritage elements located in the future industrial development area (6 historical buildings), these are discussed in the Industrial Zonal Urbanism Plan prepared by SC Proiect Alba SA. The regulations included in this document will contain measures for the protection of these monuments.

In conclusion, the town planning studies and the specialized studies conducted for the purpose of establishing the boundaries of the protection areas within the future mining operations perimeter are currently pending approval, in accordance with the legal provisions, by the competent institutions and committees. Please note that none of the historical houses located in the perimeter of the proposed project will be affected; on the contrary, all the 41 historic buildings will be included in a complex restoration and rehabilitation program (see the Management Plan). This program is mandatory, regardless of the implementation of the mining project, if we want to prevent these buildings from collapsing because of their advanced degradation.

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Your assertion regarding the failure to obtain an applicable urbanism certificate at the start up of the public debates and of the evaluation of the quality of the report to the environmental impact assessment, is not correct.

Thus, by the time when the public debate stage started up there was an applicable urbanism certificate and namely the urbanism certificate no. 78/26.04.2006 issued by Alba County Council. This certificate was obtained prior to the evaluation stage of the quality of the report to the environmental impact assessment which started up once the EIA was submitted to the Ministry of Environment and Water Management on the 15<sup>th</sup> May 2006.

For better understanding the applicable legal provisions and the facts developed within the mining project of Roșia Montană zone we would like to make several comments:

- The procedure for issuing the environmental permit for Roșia Montană project started up on the 14<sup>th</sup> December 2004 by submitting the technical memorandum and the urbanism certificate no.68/26.August 2004 (certificate applicable by that time). S.C. Roșia Montană Gold Corporation S.A. (RMGC) applied for and obtained a new urbanism certificate no.78/26.04.2006 issued by Alba County Council for the entire Roșia Montană Project applicable on the date of the EIA Report submission (15<sup>th</sup> May 2006) and prior to the public debate start up (June 2006);
- The Section 1 of the urbanism certificate no.78 of 26<sup>th</sup> 04.2006 entitled Work construction, position 10 – “Processing plant and associated constructions “ – including the tailing management facility which existence is compulsory for the processing plant running. The Tailing management facility is also specified on the layout plans which are integral part of the urbanism certificate and they were sealed by Alba County Council so that they cannot be modified;
- The Urbanism Certificate is an informative document and its goal is only to inform the applicant about the legal, economic and technical regime of the existing lands and buildings and to establish the urbanism requirements and the approvals necessary to obtain the construction permit (including the environmental permit) as per art.6 of Law 50/1991 referring to the completion of construction works, republished and art 27 paragraph 2 of the Norms for the application of Law 50/1991 – Official Journal 825 bis/13.09.2005).

As it is an informative document, it does not limit the number of certificates an applicant may obtain for the same land plot ( art. 30 of Law no. 350/2001 regarding the territorial planning and urbanism).

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Introduced as part of the Environmental Impact Assessment Report Study (EIA), the Roșia Montană Foundation is shifting in focus. The Community Sustainable Development Plan activities initially conceived as coming under the Foundation umbrella (business oriented activities: business incubator, business advisory center, micro-finance facility, as well as social oriented activities: education and training center) have been advanced independently, via partnerships and with community participation in decision-making – a preferable way to advance social and economic development programs.

Going forward, the Foundation will take shape around preservation, patrimony and cultural heritage issues, with its final form determined in consultation with the community.

In terms of the philosophy that guides the company's Sustainable Development efforts, the Roşia Montană Gold Corporation (RMGC) sees itself not as principal provider, but as a partner. Community involvement is considered the starting point; over time, as the community builds the capacity to maintain programs in its own right, the company will turn over control of currently-established programs to the community and its institutions.

For more information, please see Roşia Montană Sustainable Development and the Roşia Montană Project – annex 4.

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We underline the fact that your statement is false. The General Urbanism Plan for the Roşia Montană commune, endorsed in 2002 allows the development of Roşia Montană project, as it has been presented during the public consultations.

Concurrently, pursuant to the provisions of art. 41, paragraph 2, from the Mining Law no.85/2003, the authorities from the local administration have the liability to adjust and/or update the territory arrangement plans and the general urbanism plans, in order to allow the development of all operations necessary for the development of mining activities.

RMGC has also initiated the preparation of two zonal urbanism plans: Zonal Urbanism Plan Modification – Roşia Montană Industrial Area and Zonal Urbanism Plan – Roşia Montană Historical Area. The first urbanism plan is required by the urbanism certificate no.78/26.04.2006, which updates the Zonal Urbanism Plan for the Industrial Area approved in 2002. As far as the historical area is concerned, its Zonal Urbanism Plan is required by the General Urbanism Plan approved also in 2002. Both urbanism plans are pending approval and have been subject to public consultations.

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An engineered liner is included in the design of the Tailings Management Facility (TMF) basin. Specifically, the Roşia Montană Tailings Management Facility (TMF or “the facility”) has been designed to be compliant with the EU Groundwater Directive (80/68/EEC), transposed as Romanian GD 351/2005. The TMF is also designed for compliance with the EU Mine Waste Directive (2006/21/EC) as required by the Terms of Reference established by the MEWM in May, 2005. The following paragraphs provide a discussion of how the facility is compliant with the directives.

The TMF is composed of a series of individual components including:

- the tailings impoundment;
- the tailings dam;
- the secondary seepage collection pond;
- the secondary containment dam; and
- the groundwater monitoring wells/extraction wells located downstream of the Secondary Containment dam.

All of these components are integral parts of the facility and necessary for the facility to perform as designed.

The directives indicated above require that the TMF design be protective of groundwater. For the Roşia Montană project (RMP), this requirement is addressed by consideration of the favorable geology (low permeability shales underlying the TMF impoundment, the TMF dam and the Secondary Containment dam) and the proposed installation of a low-permeability ( $1 \times 10^{-6}$  cm/sec) recompacted soil liner beneath the TMF basin. Please see Chapter 2 of EIA Plan F, “The Tailings Facility Management Plan” for more information.

The proposed low permeability soil liner will be fully compliant with Best Available Techniques (BAT) as defined by EU Directive 96/61 (IPPC) and EU Mine Waste Directive. Additional design features that are included in the design to be protective of groundwater include:

- A low permeability ( $1 \times 10^{-6}$  cm/sec) cut off wall within the foundation of the starter dam to



control seepage;

- A low permeability ( $1 \times 10^{-6}$  cm/sec) core in the starter dam to control seepage;
- A seepage collection dam and pond below the toe of the tailings dam to collect and contain any seepage that does extend beyond the dam centerline;
- A series of monitoring wells, below the toe of the secondary containment dam, to monitor seepage and ensure compliance, before the waste facility limit.

In addition to the design components noted above specific operational requirements will be implemented to be protective of human health and the environment. In the extremely unlikely case that impacted water is detected in the monitoring wells below the secondary containment dam, they will be converted to pumping wells and will be used to extract the impacted water and pump it into the reclaim pond where it will be incorporated into the RMP processing plant water supply system, until the compliance is reestablish.

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With respect to your comments made as regards a presumptive infringement of the provisions of Government Decision No.351/2005 (“GD 351/2005”), there are several aspects to be taken into consideration. Thus:

1. Firstly, please note that, according to the provisions of art. 6 of GD 351/2005, any activity that might determine the discharge of dangerous substances into the environment is subject to the prior approval of the water management authorities and shall comply with the provisions of the water permit issued in accordance with the relevant legislation.

The GD 351/2005 provides that the water permit shall be issued only after all technical-construction measures are implemented as prevent the indirect discharge of dangerous substances into the underground waters. The maximum discharge limits are expressly provided under GD 351/2005 and compliance with such is a condition for granting and maintaining the water permit.

In accordance with the provisions of GD 351/2005, the actual discharge limits should be authorized by the relevant authority, such process being understood by the lawmaker in consideration of the complexity and variety of industrial activities, as well as the latest technological achievements.

Therefore, please note that the EIA stage is not intended to be finalized into an overall comprehensive permit, but it represents only a part of a more complex permitting process. Please note that, according with art. 3 of GD 918/2002, the data’s level of detail provided in the EIA is the one available in the feasibility stage of the project, obviously making impossible for both the titleholder and authority to exhaust all required technical data and permits granted.

The adequate protection of the ground water shall be ensured by the terms and conditions of the water permit. The issuance of the water permit shall be performed following an individual assessment of the project, considering its particular aspects and the relevant legal requirements applicable for mining activities. Until the water permit is obtained, any allegation regarding the infringement of GD 351/2005 is obviously premature mainly because the water permit shall regulate, in accordance with the relevant legal provisions, the conditions to be observed by the developer as regards the protection of the ground water;

2. Secondly, kindly note that the complexity and specificity of mining projects generated the need of a particular legal framework. Therefore, for such projects, the reading of the legal provisions of a certain enactment should be corroborated with the relevant provisions of the other regulations applicable.

In this respect, please not that the understanding of GD 351/2005 must be corroborated with the provisions of the entire relevant legislation enforceable as regards Roşia Montană Project, with a particular accent to Directive 2006/21/EC on the management of waste from the extractive industries (“Directive 21”).

The very scope of Directive 21 is to provide a specific legal framework for the extractive wastes and waste facilities related to mining projects, considering the complexity of such projects and the particular aspects of mining activities that can not always be subject to the common regulations on waste management and landfill.

From this perspective, Directive 21 provides that, an operator of a waste facility, as such is defined thereunder (please note that the TMF proposed by RMGC is considered a “waste facility” under Directive 21), must inter alia, ensure that:

- a) *“the waste facility is [...]designed so as to meet the necessary conditions for, in the short and long-term perspectives, preventing pollution of the soil, air, groundwater or surface water, taking into account especially Directives 76/464/EEC (1), 80/68/EEC (2) and 2000/60/EC, and ensuring efficient collection of contaminated water and leachate as and when required under the permit, and reducing erosion caused by water or wind as far as it is technically possible and economically viable;”*
- b) *“the waste facility is suitably constructed, managed and maintained to ensure its physical stability and to prevent pollution or contamination of soil, air, surface water or groundwater in the short and long-term perspectives as well as to minimize as far as possible damage to landscape.”*

In addition, it should be mentioned that RMGC was required by MWEM under the Terms of

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Reference, to perform the EIA considering the provisions of Directive 21 and the BAT Management of Mining Waste. The Directive 21 was intended by the EU DG of Environment to be the legislative regime applicable to sound management of mining waste throughout Europe and therefore compliance with its provisions is mandatory.

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Information regarding our Environmental Financial Guarantee (“EFG”) is fully discussed in the section of the Environmental Impact Assessment titled “Environmental and Social Management and System Plans” (Annex 1 of the subchapter titled “Mine Rehabilitation and Closure Management Plan”). The EFG is updated annually and will always reflect the costs associated with reclamation. These funds will be held in protected accounts at the Romanian state disposal.

Roşia Montană Gold Corporation (“RMGC”) has invested significant time, energy, and resources assessing the viability of a mining project in the valley of Roşia Montană. This assessment has led RMGC to conclude that Roşia Montană presents an attractive long-term development opportunity – an opinion confirmed by a variety of lending institutions, who have completed detailed reviews of the project’s design and profitability. We have every confidence that we will see the project through to the end of its projected 16-year lifespan, regardless of any fluctuations in the market price of gold.

In Romania, the creation of an EFG is required to ensure adequate funds are available from the mine operator for environmental cleanup. The EFG is governed by the Mining Law (no. 85/2003) and the National Agency for Mineral Resources instructions and Mining Law Enforcement Norms (no. 1208/2003).

Two directives issued by the European Union also impact the EFG: the Mine Waste Directive (“MWD”) and the Environmental Liability Directive (“ELD”).

The Mine Waste Directive aims to ensure that coverage is available for 1) all the obligations connected to the permit granted for the disposal of waste material resulting from mining activities and 2) all of the costs related to the rehabilitation of the land affected by a waste facility. The Environmental Liability Directive regulates the remedies, and measures to be taken by the environmental authorities, in the event of environmental damage created by mining operations, with the goal of ensuring adequate financial resources are available from the operators for environmental cleanup efforts. While these directives have yet to be transposed by the Romanian Government, the deadlines for implementing their enforcement mechanisms are 30 April 2007 (ELD) and 1 May 2008 (MWD) – thus before operations are scheduled to begin at Roşia Montană.

RMGC has already begun the process of complying with these directives, and once their implementation instruments are enacted by the Romanian Government, we will be in full compliance.

Each EFG will follow detailed guidelines generated by the World Bank and the International Council on Mining and Metals.

The current projected closure cost for Roşia Montană is US \$76 million, which is based on the mine operating for its full 16-year lifespan. The annual updates will be completed by independent experts, carried out in consultation with the NAMR, as the Governmental authority competent in mining activities field. These updates will ensure that in the unlikely event of early closure of the project, at any point in time, each EFG will always reflect the costs associated with reclamation. (These annual updates will result in an estimate that exceeds our current US \$76 million costs of closure, because some reclamation activity is incorporated into the routine operations of the mine.)

A number of different financial instruments are available to ensure that RMGC is capable of covering all of the expected closure costs. These instruments, which will be held in protected accounts at the Romanian state disposal, include:

- Cash deposit;
- Trust funds;
- Letter of credit;
- Surety bonds;

- Insurance policy.

Under the terms of this guarantee, the Romanian government will have no financial liability in connection with the rehabilitation of the Roşia Montană project.

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The Security Report has been made available for public access by being posted at the following Internet address [http://www.mmediu.ro/dep\\_mediu/rosia\\_montana\\_securitate.htm](http://www.mmediu.ro/dep_mediu/rosia_montana_securitate.htm) as well as through the printed version which could have been found at several information locations established for public hearings.

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The Report on the Environmental impact assessment study (EIA) considered all alternative developments, including the option of not proceeding with any project – an option that would generate no investment, allowing the existing pollution problems and socio-economic decline to continue (Chapter 5 – *Assessment of Alternatives*).

The report also considered alternative developments – including agriculture, grazing, meat processing, tourism, forestry and forest products, cottage industries, and flora/fauna gathering for pharmaceutical purposes – and concluded that these activities could not provide the economic, cultural and environmental benefits brought by the Roşia Montană Project (RMP).

Chapter 5 also examines alternative locations for key facilities as well as alternative technologies for mining, processing and waste management, in line with best practice and as compared against published EU best available techniques (BAT) documentation.

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The impact on protected flora and fauna will exist only locally, but this impact will not lead to the loss of any specie. The Project has been designed even from the beginning to fully comply with the requirements and norms imposed by Romanian and European environmental legislation.

The company believes the fact that the project impact on environment remains significant, especially because covers previous impacts. But, the investments required to ecologically restore/rehabilitate Roşia Montană area in order to address current complex environmental issues, are only achievable following the implementation of some economic projects that will generate and warrant implementation of some direct and responsible actions as a component of base principles of sustainable development concepts. Clean processes and technologies may be developed only in the presence of a solid economic environment fully compliant with the environment that will also resolve previous impacts of anthropic activities.

The base documents of the Project are in fact an unbiased reason of its implementation, considering the highly complex environmental commitment within Roşia Montană area.

Some of the Roşia Montană species that are under a certain protection status stand for an insignificant percentage of the scale of populations estimated at national level. The characterization of species from their habitat point of view exists in the species tables presented in the Biodiversity Chapter of the EIA Report and its annexes, although this is not a requirement imposed by the Habitats Directive. Due to their large volume of information, the annexes of chapter 4.6 Biodiversity can be found in the electronic version of the EIA disclosed by the company both in Romanian and English through approx. 6,000 DVD/CD copies, being accessible on the company website, and on the websites of Ministry of Environment and Water Management, local and regional environmental protection agencies of Alba, Sibiu, Cluj, etc.

From practical point of view, the low value of conservation of the impact area is also indirectly emphasized by the fact that there is no proposal to designate the area a SPA (aviafaunistic special protected area) and by the denial as unfounded of the proposal to designate the area as a pSCI area (sites of community importance).

Taking all these into account, we believe that the proposed Project is compliant with the provisions of EU

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Directive no. 92/43 Habitats[1], and EU Directive no. 79/409 Birds[2] respectively, especially because within Biodiversity Management Plan, Plan H, several active and responsible measures are provided to reconstruct/rehabilitate several natural habitats, pursuant to the provisions of the same documents [3].

References:

[1] art.3, 2nd paragraph, Each Member State shall contribute to the creation of Natura 2000 (network) in proportion to the representation within its territory of the natural habitat types and the habitats of species referred to in paragraph 1. To that effect each Member State shall designate, in accordance with Article 4, sites as special areas of conservation taking account of the objectives set out in paragraph 1.

art.4, 1st paragraph. On the basis of the criteria set out in Annex III (Stage 1) and relevant scientific information, each Member State shall propose a list of sites indicating which natural habitat types in Annex I and which species in Annex II that are native to its territory the sites host. For animal species ranging over wide areas these sites shall correspond to the places within the natural range of such species which present the physical or biological factors essential to their life and reproduction. For aquatic species which range over wide areas, such sites will be proposed only where there is a clearly identifiable area representing the physical and biological factors essential to their life and reproduction. Where appropriate, Member States shall propose adaptation of the list in the light of the results of the surveillance referred to in Article 11. [...]

2nd paragraph.[...] Member States whose sites hosting one or more priority natural habitat types and priority species represent more than 5 % of their national territory may, in agreement with the Commission, request that the criteria listed in Annex III (Stage 2) be applied more flexibly in selecting all the sites of Community importance in their territory.[...]

Art. 6, 4th paragraph. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Art. 16. Provided that there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range, Member States may derogate from the provisions of Articles 12, 13, 14 and 15 (a) and (b):[...]

- in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment;

[2] Art.4, 1st paragraph. The species mentioned in annex 1 shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution. [...]

Trends and variations in population levels shall be taken into account as a background for evaluations. Member states shall classify in particular the most suitable territories in number and size as special protection areas for the conservation of these species, taking into account their protection requirements in the geographical sea and land area where this directive applies.

[3] Directive 92/43 Habitats, art. 2, 2nd paragraph; Directive 79/409 Birds, art. 3, 2nd paragraph, letter c.

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This statement is ungrounded, because the environmental impact assessment (EIA) process has included preliminary cumulative estimates for stationary motorized equipment and linear (vehicular) sources were prepared in order to provide an initial understanding of the potential cumulative noise and vibration impacts from background and Roşia Montană Project sources, and to guide future monitoring and measurement activities as well as the selection of appropriate Best Management Practices/Best Available Techniques for further mitigation of the potential noise and vibration impacts from Project activities.

These preliminary estimates apply to major construction activities, as well as the operation and decommissioning/closure of the mine and process plant. They are documented as data tables and isopleth maps for major noise-generating activities in selected, representative Project years; see **Tables 4.3.8 through 4.3.16** and **Exhibits 4.3.1 through 4.3.9**. All these details related to the applied assessment methodology, the input data of the dispersion model, the modeling results and the measures established for the prevention/mitigation/elimination of the potential impact for all project stages (construction, operation, closure) are included in Chapter 4, Section 4.3 Noise and Vibrations of the EIA Report.

Project Years 0, 9, 10, 12, 14, and 19 were selected for modeling because they are considered to be representative of the most significant levels of noise-generating activity. They are also the same years used for air impact modeling purposes in Section 4.2, as air and noise impacts share many of the same sources or are otherwise closely correlated. In order to more accurately reflect potential receptor impacts, all of these exhibits integrate the background traffic estimates discussed in Section 4.3.6.1.

The Project site plan and process plant area and facility drawings were used to establish the position of the noise sources and other relevant physical characteristics of the site. Receptor locations were established using background reports and project engineering and environmental documentation provided by RMGC. With this information, the source locations and receptor locations were translated into input (x, y, and z) co-ordinates for the noise-modeling program.

**Tables 4.3.8 through 4.3.16** and **Exhibits 4.3.1 through 4.3.9** present the average maximum noise values likely to be experienced by the receptor community over all Project phases after incorporation of a variety of initial mitigation measures designed specifically to reduce the impacts associated with mobile and stationary machinery sources. The influence of non-mining related background (primarily traffic) noise is also included.

To evaluate the sound levels associated with haul trucks and other mobile sources crossing the site carrying excavated ore, waste rock, and soil, a noise analysis program based on the (U.S.) Federal Highway Administration's (FHWA) standard RD-77-108 [1] model was used to calculate reference noise emissions values for heavy trucks along the project roadways. The FHWA model predicts hourly  $L_{eq}$  values for free-flowing traffic conditions and is generally considered to be accurate within 1.5 decibels (dB).

The model is based on the standardized noise emission factors for different types and weights of vehicles (e.g., automobiles, medium trucks, and heavy trucks), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The emission levels of all three vehicle types increase as a function of the logarithm of their speed.

To evaluate the sound sources from the proposed mine processing facility and the semi-stationary material handling equipment (at the ore extraction, waste rock and soil stockpiling areas), a proprietary computerized noise prediction program was used by AAC to simulate and model the future equipment noise emissions throughout the area. The modeling program uses industry-accepted propagation algorithms based on the following American National Standards Institute (ANSI) and International Organization for Standardization (ISO) standards:

- *ANSI S1.26-1995 (R2004), Method for the Calculation of the Absorption of Sound by the Atmosphere;*
- *ISO 9613-1:1993, Acoustics -- Attenuation of sound during propagation outdoors-- Part 1: Calculation of the absorption of sound by the atmosphere;*
- *ISO 9613-2:1996, Acoustics -- Attenuation of sound during propagation outdoors -- Part 2: General method of calculation;*
- *ISO 3891:1978, Acoustics -- Procedure for describing aircraft noise heard on the ground.*

The calculations account for classical sound wave divergence (i.e., spherical spreading loss with adjustments for source directivity from point sources) plus attenuation factors due to air absorption, minimal ground effects, and barriers/shielding.

This model has been validated by AAC over a number of years via noise measurements at several operating industrial sites that had been previously modeled during the engineering design phases. The comparison of modeled predictions versus actual measurements has consistently shown close agreement; typically in the range of 1 to 3 dB (A).

References:

[1] FHWA Highway Traffic Noise Prediction Model; see Federal Highway Administration Report Number FHWA-RD-77-108, USA, Washington, D.C., 1978.

***A detailed presentation of blasting technology can be found in the annex 7.1 - Proposed blasting technology for the operational phase of Roşia Montană Project.***

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The partnership between Gabriel Resources and Regia Autonomă a Cuprului Deva (currently, CNCAF Minvest SA) has been established based on Law no. 15/1990 on the reorganization of the state owned companies as autonomous directions and trade companies, published in the Official Gazette, Section I, no. 98/08.08.1990, as subsequently amended and supplemented. Art. 35 of this law provides the possibility of the regies autonomous to enter into partnerships with legal third parties, Romanian or foreign, for the purpose of setting up new trading companies.

Roşia Montană Gold Corporation SA was set up in 1997, according to the legal provisions in force as at that time, the setting up being made by observing all the conditions imposed by Company Law no. 31/1990 and Trade Register Law no. 26/1990, in regard of the setting up of the joint stock companies with mixed capital.

We underline that the Articles of Associations of Roşia Montană Gold Corporation SA, representing the result of the parties agreement in regard of the terms and conditions under which the partnership between the Romanian state and investor takes place represents a public document, being included in the category of documents which, as per Law no. 26/1990 on the Trade Register, are published in the Romanian Official Gazette and for which the Trade Register is obliged to issue, on the expense of the persons submitting a request, certified copies.

As for the agreement concerning the setting up of the mixed company together with Gabriel Resources Ltd., this has been expressed by the Ministry of Industry and Trade, the conditions imposed by the setting up of the mixed company being the following: (i) ensuring of the jobs at the level existing upon the conclusion of the agreement concerning the setting up of the mixed company; (ii) the expenses incurred by the fulfillment of the exploration stage should be fully supported by Gabriel; (iii) the obtaining of the approval from the ANRM by the Copper Autonomous Direction Deva and (iv) the observance of all legal provisions in force concerning the setting up of the mixed companies with foreign partners. These conditions have been fully complied with as at the setting up of the company and during the development of its activity.

We also specify that the establishing of the shareholders' quotas to the benefits and losses of Roşia Montană Gold Corporation SA has been made by considering their contribution quota to the company's share capital. The current percentage of 80% for Gabriel Resources Ltd. and of 19.31% for CNCAF Minvest SA resulted from the initial contribution and the subsequent contributions of the shareholders to the company's share capital, in consideration also of Gabriel Resources Ltd. advancing all expenses and costs related to the development-exploitation and permitting of the Roşia Montană Mining Project.

The provisions of the Articles of Associations of Roşia Montană Gold Corporation SA on the necessary majority and quorum conditions for the decision-making process within the General Shareholders Meeting and the quotas to the benefits and losses of the company are taken from Law no. 31/1990, and no derogation exists in regard of this aspect.

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This claim is not true; the Urbanism Plan has been prepared with public consultation.

Roşia Montană Gold Corporation SA (RMGC) has requested and obtained from Alba County Council the Urbanism Certificate no. 78 of 26.04.2006, for the entire Roşia Montană mining project, including the tailings management facility. The Urbanism Certificate also stipulated the preparation of a Zonal Urbanism Plan, to reflect all changes made to the Roşia Montană Project, following the public

consultations and debates organized in relation to this project, and the consultations with the permitting authorities. This plan, entitled “Modification of the Zonal Urbanism Plan, Roșia Montană Industrial Area”, was prepared and subjected to public debate in June 2006 in accordance with the provisions of Order no.176/N/2000 issued by the Ministry of Public Works and Territory Development for the approval of the technical regulations “Guidelines regarding the methodology applied for the preparation and framework content of the Zonal Urbanism Plan” and, at present, it is pending approval.

Concerning the Roșia Montană General Urbanism Plan approved in 2002, such plan was prepared in parallel with the Zonal Urbanism Plan of 2002, all the provisions of the General Urbanism Plan being also included in the Zonal Urbanism Plan. Also, the approval procedure related to the two urbanism plans was carried out in parallel.

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Preventive archaeological researches within the Roșia Montană mining project area have been undertaken based on specific techniques, specifically trial trenches in all accessible areas that are suitable for human habitation, taking into account the bibliographical information and the observations recorded during the archaeological survey campaigns, the geophysical studies and the analyses of the photogrammetric flights. In addition, surface investigations were undertaken, where appropriate.

The archaeological researches at Roșia Montană covered a large surface and focused on the areas known to have archaeological potential. THEREFORE, ALL AREAS THAT HAVE BEEN ARCHAEOLOGICALLY DISCHARGED HAD BEEN PREVIOUSLY INVESTIGATED. All research programs, beginning with the 2004 campaign, have been undertaken in full compliance with the current legal requirements, i.e. Ministerial Order no. 2392 of 6 September 2004 on the establishment of the Archaeological Standards and Procedures by the Ministry of Culture and Religious Affairs.

The proposed gold mining project at Roșia Montană has raised a series of issues related to the rescue of the historical-archaeological heritage within the area, as well as issues related to its scientific development and also the enhancement of heritage within a museum. Given the complex difficulties encountered in this respect, the Ministry of Culture and Religious Affairs decided to initiate the “Alburnus Maior” National Research Program.

The company’s role was to provide the necessary financial resources for the assessment, research and enhancement of the archaeological remains, in full compliance with the Romanian current legislation. The development of the research and of the archaeological discharge works has been conducted through specific means and methodologies that have been adjusted to the realities of every site researched, in our case, Roșia Montană. They consisted in:

- Archives studies;
- Archaeological surveys; trial trenches;
- aerial reconnaissance/survey and aerial photo interpretation ; high resolution satellite images;
- mining archaeology studies; underground topography and 3D modeling;
- geophysical surveys;
- extensive archaeological investigations in the areas with an identified archaeological potential- this implied carrying out archaeological excavations;
- Interdisciplinary studies- sedimentology, archaeo-zoology, comparative palynology, archaeo-metallurgy, geology, mineralogy;
- Radiocarbon dating and dendrochronology;
- This research and its results were included in an integrated database;
- traditional and digital archaeological topography and development of the GIS project; generate a photo archive- both traditional and digital;
- restoration of artifacts;
- an inventory and a digital catalogue of the artifacts;
- studies conducted by specialists in order to enhance the research results - publication of monographs/scientific books and journals, exhibitions, websites, etc.

All the preventive archaeological researches undertaken at Roșia Montană since 2000 have been carried out as part of a complex research program; permits for preventive archaeological excavations being issued

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in compliance with the current legislation. These archaeological investigations have been undertaken by representatives of 21 specialized institutions from Romania and 3 others from abroad, under the scientific coordination of the Romanian National Museum of History. All archaeological researches have been conducted in full compliance with the existing legislation. The investigations undertaken during each archaeological research campaign have been approved by the Ministry of Culture and Religious Affairs based on the Annual Archaeological Research Plan approved by the National Commission of Archaeology.

Under the current legislation (Ministerial Order no. 2392 of 6 September 2004 on the establishment of the Archaeological Standards and Procedures by the Ministry of Culture and Religious Affairs) the archaeologists who have conducted the research may ask that an archaeological discharge certificate be granted. Based on a complex research program, the archaeologists prepare comprehensive documentation with regard to the researched area. Upon consideration of the submitted documentation, the National Commission of Archaeology makes a decision as to whether to recommend or not the granting of the archaeological discharge certificate. In the case of the research conducted in the period 2001-2006, the archaeological discharge certificate was issued directly by the Ministry of Culture and Religious Affairs or by its local agencies.

Preventive archaeological researches at Roșia Montană have allowed the research of five Roman cremation necropolis (Tău Corna, Hop-Găuri, Țarina, Jig - Piciorag and Pârâul Porcului – Tăul Secuilor), two funerary areas (Carpeni, Nanului Valley), sacred areas (Hăbad, Nanului Valley), habitation areas (Hăbad, Carpeni, Tăul Țapului, Hop), the most significant being the Roman structures on the Carpeni Hill and the circular funerary monument at Tău Găuri. In addition, for the first time in Romania, surface investigations have been paralleled by underground investigations of Cetate, Cârnic, Jig and Orlea massifs, with important discoveries in the Piatra Corbului, area, Cătălina-Monulești gallery and the Păru Carpeni mining sector.

The research consisted of aerial photo interpretation, archaeological magnetometric studies, electrical resistivity, palynology, sedimentology, geology studies, radiocarbon and dendrochronology dating. For a better management of the research units and of the archaeological findings, data bases were used, including text and photographs-among which 4 satellite images (an archive satellite image type SPOT Panchromatic (10m) from 1997; 2 satellite images LANDSAT 7 MS (30 m), dating from 2000 and 2003; a satellite image with priority programming SPOT 5 SuperMode color (2,5 m resolution-19 July 2004); all data have been included in a comprehensive GIS program, a first in the Romanian archaeological research.

In the case of archaeological monuments that are located close to industrial facilities, plans have been redesigned to ensure that the archaeological remains in question will not be affected. Where appropriate, the archaeological monument was preserved in situ and restored, i.e. the circular funerary monument at Hop-Găuri (see The "Alburnus Maior" monograph series, volume II, Bucharest, 2004). Another example in this respect is the Carpeni Hill, designated an "archaeological " reserve, and the Piatra Corbului area. In 2004, after being thoroughly investigated, these areas have been included on the List of Historic Monuments. Add to this the areas where ancient mining remains will be preserved, such as the Cătălina Monulești gallery and the mining sector Păru Carpeni, as well as the protected area Roșia Montană Historic Center, including a number of heritage assets (35 historic monument houses).

We emphasise in this respect that the identified and researched structures have been published in preliminary form in the Archaeological Research Chronicle of Romania, after every archaeological research campaign, as well as in volume 1 of the Alburnus Maior monographic series. We mention here the areas where Roman habitation structures have been identified and researched, as well as the references to be consulted for further information: Hop-Găuri, Carpeni, Tăul Țapului (CCA 2001 (2002), p. 254-257, no. 182; 261-262, nr. 185; 264-265, no. 188; 265-266, no. 189. Alburnus Maior I, 2003, p. 45-80; 81-122; 123-148; CCA 2001 (2002), 257-261; CCA 2003 (2004) ,280-283; Alburnus Maior I, 2003, p. 387-431, 433-446, 447-467).

For further details related to the applicable legal framework, the responsibilities of the Project titleholder, or for a detailed description of the preventive archaeological researches undertaken to date and of the Cultural Heritage Management Plans, please see Annex called "Information on the Cultural heritage of Roșia and Related Management Aspects". In addition, the annex includes supplementary information with regard to the result of the researches undertaken as part of the "Alburnus Maior" National Research Program between 2001 and 2006.

In conclusion, the area mentioned by the questioner has been researched in accordance with the Romanian legal requirements, as well as with European standards and practices in the field.

Note that the type of research undertaken at Roşia Montană, known as preventive/rescue archaeological research, as well as other related heritage studies, are done everywhere in the world in close connection with the economic development of certain areas. Both the costs for the research and for the enhancement and maintenance of the preserved areas are provided by investors, in a public-private partnership set up in order to protect the cultural heritage, as per the provisions of the European Convention on the Protection of the Archaeological Heritage (Malta-1992) [1].

References:

[1]The text of the Convention is available at the following address:  
<http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=143&CM=8&DF=7/6/2006&CL=ENG>

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In 2000, in the context of the proposal of a new mining project in the Roşia Montană area, the Ministry of Culture and Religious Affairs approved a series of studies to be conducted in order to research the archaeological and architectural heritage of the area. And at the end of that year, the Design Centre for National Cultural Heritage (now the National Institute for Historical Monuments) presented the preliminary results of these researches to the National Commission for Historical Monuments and of the National Commission of Archaeology. Based on these results, in 2001, the Ministry of Culture and Religious Affairs initiated the “Alburnus Maior” National Research Program (the Order no. 2504 / 07.03.2001 of the Minister of Culture and Religious Affairs) in compliance with the Law 378/2001 (as subsequently amended by Law 462/2003 and by Law 258/2006 and Law 259/2006). Thus, since 2000, the Ministry of Culture and Religious Affairs – directly or through its subordinate institutions - has fulfilled its duties with regard to the management of the issues related to Roşia Montană’s heritage.

Thus, the preventive archaeological researches have been conducted by the representatives of 21 national institutions and 3 others from abroad under the scientific coordination of the National Museum of History of Romania. They have been carried out based on the annual approval of the National Commission of Archaeology of the Ministry of Culture and Religious Affairs. In accordance with the legislation in force, this research program is carried out with the financial support provided by RMGC (the company that plans to expand and continue to mine the gold-silver deposit in Roşia Montană). Thus, large-scale preventive investigations have been conducted or are underway in the RMP impact area. A proposal will be made based on the results thereof either for the archaeological discharge of some researched perimeters from the project perimeter or the preservation *in situ* of certain representative structures and monuments, in compliance with the legislation in force. In the case of the areas proposed for conservation and the ones for which the archaeological discharge measure was applied, the decision was made based on the surveys conducted by specialists and on the analysis of the National Commission of Archaeology. In the period 2000-2005, the mining project underwent a series of modifications designed to promote the implementation of the decision regarding the conservation of the local heritage. Examples of these include: extending the duration of the field investigations on several years (e.g. Ţarina, Pârâul Porcului, Orlea) and changing the location of some elements of infrastructure in order to allow the conservation of the archaeological remains found in the Carpeni, Tău Găuri and Pietra Corbului areas.

**The architectural and town-planning surveys** have been conducted, in accordance with the legislation in force, by companies certified by the Ministry of Culture and Religious Affairs, while the town-planning documentations drafted by these companies and the restoration and conservation works undertaken so far have been approved by the National Commission for Historical Monuments. Thus, the town-planning documentations have been approved and implemented in accordance with current legislation, and the company has agreed to these decisions and modified the mine development plans accordingly:

**Extensive ethnographic research** was conducted in the Roşia Montană-Abrud-Corna area in the period 2001-2004 coordinated by a team of specialists for the Romanian Village Museum „Dimitrie Gusti” (a National Museum directly under the coordination of the Ministry of Culture and Religious Affairs). Moreover, a broad series of oral history interviews was conducted in the period 2001-2002 by the Romanian Radio Broadcasting Company through the „Gheorghe Brătianu” Oral History Centre, Bucharest

(SRR - CIO).

In compliance with the requirements of the Ministry of Environment and Waters Management and the Ministry of Culture and Religious Affairs, specific management plans have been drawn up for the management and conservation of the heritage remains from the Roşia Montană area, in the context of the implementation of the mining project. These plans have been included in the documentation prepared for the Report on the Environmental Impact Assessment Study. (see EIA Report, volume 32-33, Plan M- *Cultural Heritage Management Plan*, part I –*Management Plan for the Archaeological Heritage from Roşia Montană Area*; part II-*Management Plan for the Historical Monuments and Protected Zone from Roşia Montană*; part III- *Cultural Heritage Management Plan*).

These management plans comprise detailed presentations of the obligations and responsibilities regarding the protection and conservation of the heritage remains from the Roşia Montană area, which the company has assumed in the context of the implementation of the mining project, according to the decision of the central government. These heritage remains include: archaeological remains above and under the ground, historic buildings, protected areas, intangible heritage assets, cultural landscape items, etc. In this context, it should be noted that besides the works for the protection and preservation of the archaeological heritage, works are being carried out for the rehabilitation and conservation of the protected area Historical Centre Roşia Montană (comprising 35 historic buildings, and projects for the restoration of 11 of these buildings are currently being drafted), Tăul Mare, Tăul Brazi and Tăul Anghel as well as remains of the surface mining works from the Vaidoia area and the creation of a modern museum dedicated to the history of mining in the Apuseni Mountains area. This museum will be established in the coming years and it will include exhibitions of geology, archaeology, industrial and ethnographic heritage as well as an underground section organized around the Cătălina Monuleşti gallery.

Moreover, representatives of the Directorate for Culture, Religious Affairs and National Cultural Heritage of Alba County have visited Roşia Montană many times in order to collect information and to check the situation. The same administrative body was the intermediary for the specific stages of acquisitions of historic buildings made by RMGC. The Ministry of Culture and Religious Affairs expressed its pre-emption right regarding the acquisition of these buildings.

Note that apart from the obligations undertaken by RMGC as regards the protection and conservation of the archaeological remains and historical monuments, there are a whole series of obligations, which rest with the local public authorities from Roşia Montană and from Alba County and with the central public authorities, namely the Romanian Government.

These aspects are further detailed in the Cultural Heritage Management Plans included in the EIA Report (see EIA Report, volume 32, *Management Plan for the Archaeological Heritage from Roşia Montană Area*, pages 21-22, 47, 52-53, 66-67-Romanian version/ 22-24; 47; 55-56; 71-72 English version) and the EIA Report, volume 33- *Management Plan for the Historical Monuments and Protected Zone from Roşia Montană* pages 28-29, 48-50, 52-53, 64-65, page 98 – Annex 1- Romanian version/ 28-29; 47-50; 51-53; 65-66; 103- Annex 1- English version).

Item no.

1701

No. to identify the observations received from the public

Nr.  
110706/  
25.08.2006

Proposal

The Complainer addressed comments and observations as follows:

- The overall costs for mine closure are not realistic.
- The financial guarantees have not been established;
- There is no liner proposed for the tailings pond;
- The EIA report does not stipulate financial guarantees destined to secure the waste rock deposit.
- There is not a Safety Report submitted for the public consultation and evaluation by the competent authorities;
- The EIA report does not assess the "zero alternative";
- The Project poses a threat for the protected flora and fauna;
- S.C. Roşia Montană Gold corporation S.A. does not comply with the provisions of the art.11 from the Mining Law 85/2003.
- The EIA report does not contain an impact assessment of the phenomenon "cyanide rain" caused by the cyanide evaporation from the tailings management facility and a description of the trans-boundary impact in case of accident on some natural important areas such as Koros Maros National park from Hungary located along the Mures valley

SEE THE CONTENT OF TYPE 3 CONTESTATION

Solution

The overall costs for mine closure are realistic. RMGC's closure estimates, which were developed by a team of independent experts with international experience and will be reviewed by third party experts, are based on the assumption that the project can be completed according to the plan, without interruptions, bankruptcy or the like. They are engineering calculations and estimates based on the current commitments of the closure plan and are summarized in the EIA's Mine Closure and Rehabilitation Management Plan (Plan J in the EIA). Annex 1 of Plan J will be updated using a more detailed approach looking at every individual year and calculating the amount of surety, which must be set aside year by year to rehabilitate the mine before RMGC is released from all its legal obligations. Most importantly, the current estimates assume the application of international best practice, best available technology (BAT) and compliance with all Romanian and European Union laws and regulations.

Closure and rehabilitation at Roşia Montană involves the following measures:

- Covering and vegetating the waste dumps as far as they are not backfilled into the open pits;
- Backfilling the open pits, except Cetate pit, which will be flooded to form a lake;
- Covering and vegetating the tailings pond and its dam areas;
- Dismantling of disused production facilities and re-vegetation of the cleaned-up areas;
- Water treatment by semi-passive systems (with conventional treatment systems as backup) until all effluents have reached the discharge standards and need no further treatment;
- Maintenance of the vegetation, erosion control, and monitoring of the entire site until it has been demonstrated by RMGC that all remediation targets have been sustainably reached.

While the aspects of closure and rehabilitation are many, we are confident in our cost estimates because the largest expense—that incurred by the earthmoving operation required to reshape the landscape—can be estimated with confidence. Using the project design, we can measure the size of the areas that must be reshaped and resurfaced. Similarly, there is a body of scientific studies and experiments that enable scientists to determine the depth of soil cover for successful re-vegetation. By multiplying the size of the areas by the necessary depth of the topsoil by the unit rate (also derived from studying similar earthmoving operations at similar sites), we can estimate the potential costs of this major facet of the rehabilitation operation. The earthmoving operation, which will total approximately US \$65 million, makes up 87% of closure and rehabilitation costs.

Also, the necessity of additional technological measures to stabilize and reshape the tailings surface will be

discussed in the update of the Economical Financial Guarantee (EFG) estimate, which leads to an increase the provisions for tailings rehabilitation, especially if the TMF is closed prematurely and no optimized tailings disposal regime is applied. The exact figures depend on the details of the TMF closure strategy which can be finally determined only during production.

We believe that—far from not being realistic—our cost estimates are evidence of our high level of commitment to closure and rehabilitation. Just as a comparison, the world’s largest gold producer has set aside US \$683 million (as of December 31, 2006) for the rehabilitation of 27 operations, which equates to US \$25 million on average per mine. The RMGC closure cost estimates, recently revised upward from the US \$73 million reported in the EIA based on additional information, currently total US \$76 million.

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Information regarding our Environmental Financial Guarantee (“EFG”) is fully discussed in the section of the Environmental Impact Assessment titled “Environmental and Social Management and System Plans” (Annex 1 of the subchapter titled “Mine Rehabilitation and Closure Management Plan”). The EFG is updated annually and will always reflect the costs associated with reclamation. These funds will be held in protected accounts at the Romanian state disposal.

In Romania, the creation of an EFG is required to ensure adequate funds are available from the mine operator for environmental cleanup. The EFG is governed by the Mining Law (no. 85/2003) and the National Agency for Mineral Resources instructions and Mining Law Enforcement Norms (no. 1208/2003).

Two directives issued by the European Union also impact the EFG: the Mine Waste Directive (“MWD”) and the Environmental Liability Directive (“ELD”).

The Mine Waste Directive aims to ensure that coverage is available for 1) all the obligations connected to the permit granted for the disposal of waste material resulting from mining activities and 2) all of the costs related to the rehabilitation of the land affected by a waste facility. The Environmental Liability Directive regulates the remedies, and measures to be taken by the environmental authorities, in the event of environmental damage created by mining operations, with the goal of ensuring adequate financial resources are available from the operators for environmental cleanup efforts. While these directives have yet to be transposed by the Romanian Government, the deadlines for implementing their enforcement mechanisms are 30 April 2007 (ELD) and 1 May 2008 (MWD) – thus before operations are scheduled to begin at Roşia Montană.

RMGC has already begun the process of complying with these directives, and once their implementation instruments are enacted by the Romanian Government, we will be in full compliance.

Each EFG will follow detailed guidelines generated by the World Bank and the International Council on Mining and Metals.

The current projected closure cost for Roşia Montană is US \$76 million, which is based on the mine operating for its full 16-year lifespan. The annual updates will be completed by independent experts, carried out in consultation with the NAMR, as the Governmental authority competent in mining activities field. These updates will ensure that in the unlikely event of early closure of the project, at any point in time, each EFG will always reflect the costs associated with reclamation. (These annual updates will result in an estimate that exceeds our current US \$76 million costs of closure, because some reclamation activity is incorporated into the routine operations of the mine.)

A number of different financial instruments are available to ensure that RMGC is capable of covering all of the expected closure costs. These instruments, which will be held in protected accounts at the Romanian state disposal, include:

- Cash deposit;
- Trust funds;
- Letter of credit;
- Surety bonds;
- Insurance policy.

Under the terms of this guarantee, the Romanian government will have no financial liability in connection with the rehabilitation of the Roșia Montană project.

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An engineered liner is included in the design of the Tailings Management Facility (TMF) basin to be protective of groundwater. Specifically, the Roșia Montană Tailings Management Facility (TMF or “the facility”) has been designed to be compliant with the EU Groundwater Directive (80/68/EEC), transposed as Romanian GD 351/2005. The TMF is also designed for compliance with the EU Mine Waste Directive (2006/21/EC) as required by the Terms of Reference established by the MEWM in May, 2005. The following paragraphs provide a discussion of how the facility is compliant with the directives.

The TMF is composed of a series of individual components including:

- the tailings impoundment;
- the tailings dam;
- the secondary seepage collection pond;
- the secondary containment dam; and
- the groundwater monitoring wells/extraction wells located downstream of the Secondary Containment dam.

All of these components are integral parts of the facility and necessary for the facility to perform as designed.

The directives indicated above require that the TMF design be protective of groundwater. For the Roșia Montană project (RMP), this requirement is addressed by consideration of the favorable geology (low permeability shales underlying the TMF impoundment, the TMF dam, and the Secondary Containment dam) and the proposed installation of a low-permeability ( $1 \times 10^{-6}$  cm/sec) recompacted soil liner beneath the TMF basin. Please see Chapter 2 of EIA Plan F, “The Tailings Facility Management Plan” for more information.

The proposed low permeability soil liner will be fully compliant with Best Available Techniques (BAT) as defined by EU Directive 96/61 (IPPC) and EU Mine Waste Directive. Additional design features that are included in the design to be protective of groundwater include:

- A low permeability ( $1 \times 10^{-6}$  cm/sec) cut off wall within the foundation of the starter dam to control seepage;
- A low permeability ( $1 \times 10^{-6}$  cm/sec) core in the starter dam to control seepage;
- A seepage collection dam and pond below the toe of the tailings dam to collect and contain any seepage that does extend beyond the dam centerline,
- A series of monitoring wells, below the toe of the secondary containment dam; to monitor seepage and ensure compliance, before the waste facility limit.

In addition to the design components noted above specific operational requirements will be implemented to be protective of human health and the environment. In the extremely unlikely case that impacted water is detected in the monitoring wells below the secondary containment dam, they will be converted to pumping wells and will be used to extract the impacted water and pump it into the reclaim pond where it will be incorporated into the RMP processing plant water supply system, until the compliance is reestablish.

\*

Information regarding our Environmental Financial Guarantee (“EFG”) is fully discussed in the section of the Environmental Impact Assessment titled “Environmental and Social Management and System Plans” (Annex 1 of the subchapter titled “Mine Rehabilitation and Closure Management Plan”). The EFG is updated annually and will always reflect the costs associated with reclamation. These funds will be held in protected accounts at the Romanian state disposal.

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In Romania, the creation of an EFG is required to ensure adequate funds are available from the mine

operator for environmental cleanup. The EFG is governed by the Mining Law (no. 85/2003) and the National Agency for Mineral Resources instructions and Mining Law Enforcement Norms (no. 1208/2003).

Two directives issued by the European Union also impact the EFG: the Mine Waste Directive (“MWD”) and the Environmental Liability Directive (“ELD”).

The Mine Waste Directive aims to ensure that coverage is available for 1) all the obligations connected to the permit granted for the disposal of waste material resulting from mining activities and 2) all of the costs related to the rehabilitation of the land affected by a waste facility. The Environmental Liability Directive regulates the remedies, and measures to be taken by the environmental authorities, in the event of environmental damage created by mining operations, with the goal of ensuring adequate financial resources are available from the operators for environmental cleanup efforts. While these directives have yet to be transposed by the Romanian Government, the deadlines for implementing their enforcement mechanisms are 30 April 2007 (ELD) and 1 May 2008 (MWD) – thus before operations are scheduled to begin at Roşia Montană.

RMGC has already begun the process of complying with these directives, and once their implementation instruments are enacted by the Romanian Government, we will be in full compliance.

Each EFG will follow detailed guidelines generated by the World Bank and the International Council on Mining and Metals.

The current projected closure cost for Roşia Montană is US \$76 million, which is based on the mine operating for its full 16-year lifespan. The annual updates will be completed by independent experts, carried out in consultation with the NAMR, as the Governmental authority competent in mining activities field. These updates will ensure that in the unlikely event of early closure of the project, at any point in time, each EFG will always reflect the costs associated with reclamation. (These annual updates will result in an estimate that exceeds our current US \$76 million costs of closure, because some reclamation activity is incorporated into the routine operations of the mine.)

A number of different financial instruments are available to ensure that RMGC is capable of covering all of the expected closure costs. These instruments, which will be held in protected accounts at the Romanian state disposal, include:

- Cash deposit;
- Trust funds;
- Letter of credit;
- Surety bonds;
- Insurance policy.

Under the terms of this guarantee, the Romanian government will have no financial liability in connection with the rehabilitation of the Roşia Montană project.

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The Security Report has been made available for public access by being posted at the following Internet address [http://www.mmediu.ro/dep\\_mediu/rosia\\_montana\\_securitate.htm](http://www.mmediu.ro/dep_mediu/rosia_montana_securitate.htm) as well as through the printed version which could have been found at several information locations established for public hearings.

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The EIA Report considered all alternative developments, including the option of not proceeding with any project – an option that would generate no investment, allowing the existing pollution problems and socio-economic decline to continue. (Chapter 5 – Assessment of Alternatives)

The report also considered alternative developments – including agriculture, grazing, meat processing, tourism, forestry and forest products, cottage industries, and flora/fauna gathering for pharmaceutical purposes – and concluded that these activities could not provide the economic, cultural and environmental benefits brought by the Roşia Montană Project.

Chapter 5 also examines alternative locations for key facilities as well as alternative technologies for mining, processing and waste management, in line with best practice and as compared against published EU best available techniques (BAT) documentation.

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The impact on the protected flora and fauna will be obvious only at local level, and it will not lead to the disappearance of any species. The mining project was conceived from the onset so as to comply with the conditions and standards stipulated by the Romanian and European legislation in the field of environmental protection.

The company believes that the environmental impact generated by proposed project remains significant the more so as it will cover the pre-existing ones. But the required investments for the ecological restoration/rehabilitation of the Roșia Montană area meant to solve complex environmental issues existing at present can be developed only after the implementation of economic projects able to generate and ensure that direct and responsible measures are taken, as part of the principles that represent the basis for the sustainable development concepts. The presence of a strong economic system is the key for the implementation of clean economic processes and technologies, in full respect of the environment, which are able to remove the previous effects generated by anthropic activities.

The documentation drafted to support this mining project represents an objective justification for its implementation given that the company assumed the environmental responsibility, which is extremely complex in the Roșia Montană area.

Some of species existing at Roșia Montană that are under a certain protection status represent an insignificant percentage from populations estimated at national level. The characterization of species from their habitat point of view exists in the species tables presented in the Biodiversity Chapter of the EIA Report and its annexes, although this is not a requirement imposed by the Habitats Directive. Given the large amount of information contained, these tables are available in the electronic format of the EIA. 6000 DVD/CDs comprising the EIA Report have been made available to the public both in English and in Romanian. Moreover, the EIA is also available on RMGC's website as well as on the websites of the Ministry of Environment and Waters Management and of the Local and Regional Environment Protection Agencies of Alba County, Cluj County and Sibiu County, etc.

From practical point of view, the low value of conservation of the impact area is also indirectly emphasized by the fact that there is no proposal to designate the area a SPA (aviafaunistic special protected area) and by the denial as unfounded of the proposal to designate the area as a pSCI area (sites of community importance).

Taking all these into account, we believe that the proposed Project is compliant with the provisions of EU Directive no. 92/43 Habitats[1], and EU Directive no. 79/409 Birds[2] respectively, especially because within Biodiversity Management Plan, Plan H, several active and responsible measures are provided to restore/rehabilitate several natural habitats, pursuant to the provisions of the same documents [3].

References:

[1] art.3, 2nd paragraph, Each Member State shall contribute to the creation of Natura 2000 (network) in proportion to the representation within its territory of the natural habitat types and the habitats of species referred to in paragraph 1. To that effect each Member State shall designate, in accordance with Article 4, sites as special areas of conservation taking account of the objectives set out in paragraph 1.

art.4, 1st paragraph. On the basis of the criteria set out in Annex III (Stage 1) and relevant scientific information, each Member State shall propose a list of sites indicating which natural habitat types in Annex I and which species in Annex II that are native to its territory the sites host. For animal species ranging over wide areas these sites shall correspond to the places within the natural range of such species which present the physical or biological factors essential to their life and reproduction. For aquatic species which range over wide areas, such sites will be proposed only where there is a clearly identifiable area representing the physical and biological factors essential to their life and reproduction. Where appropriate,



Member States shall propose adaptation of the list in the light of the results of the surveillance referred to in Article 11. [...]

2nd paragraph.[...] Member States whose sites hosting one or more priority natural habitat types and priority species represent more than 5 % of their national territory may, in agreement with the Commission, request that the criteria listed in Annex III (Stage 2) be applied more flexibly in selecting all the sites of Community importance in their territory. [...]

Art. 6. 4th paragraph. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Art. 16. Provided that there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species concerned at a favorable conservation status in their natural range, Member States may derogate from the provisions of Articles 12, 13, 14 and 15 (a) and (b):[...]

- in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment;

[2] Art.4, 1st paragraph. The species mentioned in annex 1 shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution. [...]

Trends and variations in population levels shall be taken into account as a background for evaluations. Member states shall classify in particular the most suitable territories in number and size as special protection areas for the conservation of these species, taking into account their protection requirements in the geographical sea and land area where this directive applies.

[3] Directive 92/43 Habitats, art. 2, 2nd paragraph; Directive 79/409 Birds, art. 3, 2nd paragraph, letter c.

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The possibility for a “cyanide rain” phenomenon to occur doesn’t exist. Moreover, the specialty literature does not indicate a phenomenon called “cyanide rain”; it is known and researched only the “acid rains” phenomenon that has no connection with the behavior of the cyanide compounds in the atmosphere.

The reasons for stating that no “cyanide rains” phenomenon will ever occur are the followings:

- The sodium cyanide handling, from the unloading from the supplying trucks up to the processing tailings discharge onto the tailings management facility, will be carried out only in liquid form, represented by alkaline solutions of high pH value (higher than 10.5 – 11.0) having different sodium cyanide concentrations. The alkalinity of these solutions has the purpose to maintain the cyanide under the form of cyan ions (CN<sup>-</sup>) and to avoid the hydrocyanic acid formation (HCN), phenomenon that occurs only within environments of low pH;
- The cyanide volatilization from a certain solution can not occur under the form of free cyanides, but only under the form of HCN;
- The handling and storage of the sodium cyanide solutions will take place only by means of some closed systems; the only areas/plants where the HCN can occur and volatilize into air, at low emission percentage, are the leaching tanks and slurry thickener, as well the tailings management facility for the processing tailings;
- The HCN emissions from the surface of the above mentioned tanks and from the tailings management facility surface can occur as a result of the pH decrease within the superficial layers of the solutions (that helps the HCN to form) and of the desorption (volatilization in air) of this compound;
- The cyanide concentrations within the handled solutions will decrease from 300 mg/l within the leaching tanks up to 7 mg/l (total cyanide) at the discharge point into the tailings management

- facility; the drastic reduction of the cyanide concentrations for discharging into the Tailings Management Facility (TMF) will be done by the detoxification system;
- The knowledge of cyanide chemistry and on the grounds of past experiences, we estimated the following possible HCN emissions into air: 6 t/year from the leaching tanks, 13 t/year from the slurry thickener and 30 t/year (22.4 t, respectively 17 mg/h/m<sup>2</sup> during the hot season and 7.6 t, respectively 11.6 mg/h/m<sup>2</sup> during the cold season) from the tailings management facility surface, which totals 134.2 kg/day of HCN emission;
  - Once released, the hydrocyanic acid is subject to certain chemical reactions at low pressure, resulting ammonia;
  - The mathematical modeling of the HCN concentrations within the ambient air (if the HCN released in the air is not subject to chemical reactions) emphasized the highest concentrations being at the ground level, within the industrial site namely within the area of the tailings management facility and within a certain area near the processing plant; the maximum concentration being of 382 µg/m<sup>3</sup>/h;
  - The highest HCN concentrations within the ambient air will be 2.6 times lower than the limit value stipulated by the national legislation for labor protection;
  - The HCN concentrations within the ambient air from the areas situated up to 2 km towards the north-eastern vicinity of the industrial site will be of 4 to 80 µg/m<sup>3</sup>/h, more than 250 – 12.5 times lower than limit value stipulated by the national legislation for labor protection;
  - Once released in the air, the evolution of the HCN implies an insignificant component resulted from the reactions while liquid (water vapors and rain drops). HCN is weak water-soluble at partial, low pressures (feature of the gases released in open air), and the rain will not effectively reduce the concentrations in the air (Mudder, et al., 2001, Cicerone and Zellner, 1983);
  - The probability that the HCN concentration value contained by rainfalls within and outside the footprint of the Project to be higher than the background values (0.2 ppb) is extremely low.

**On the basis of the above presented information, it is very clear that HCN emissions may have a certain local impact on atmosphere quality, restricted to well within legislated limits as described above, but their implication within a possible trans-boundary impact on air quality is excluded.**

Also, the specialty literature doesn't comprise information related to the effects of a potential exposure of the vegetation or ecosystems to HCN and neither the effects of the fauna health as a result of inhaling the HCN polluted air.

For details referring to the use of cyanide in the technological processes, the cyanides balance as well as the cyanide emission and impact of the cyanides on the air quality, please see the Environmental Impact Assessment (EIA) Report, Chapter 2, Chapter 4.1 and Chapter 4.2.

The EIA Report (Chapter 10, Transboundary Impacts) assesses the proposed project with regard to potential for significant river basin and transboundary impacts downstream which could, for example, affect the Mures and Tisa river basins in Hungary. Chapter concludes that under normal operating conditions, there would be no significant impact for downstream river basins/transboundary conditions.

The issue of a possible accidental large-scale release of tailings to the river system was recognized to be an important issue during the public meetings when stakeholders conveyed their concern in this regard. As a result, further work has been undertaken to provide additional detail to that provided in the EIA Report on impacts on water quality downstream of the project and into Hungary. This work includes modelling of water quality under a range of possible operational and accident scenarios and for various flow conditions.

The model used is the INCA model developed over the past 10 years to simulate both terrestrial and aquatic systems within the EUROLIMPACS EU research program ([www.eurolimpacs.ucl.ac.uk](http://www.eurolimpacs.ucl.ac.uk)). The model has been used to assess the impacts from future mining, and collection and treatment operations for pollution from past mining at Roşia Montană.

The modelling created for Roşia Montană simulates eight metals (cadmium, lead, zinc, mercury, arsenic, copper, chromium, manganese) as well as Cyanide, Nitrate, Ammonia and dissolved oxygen. The model has been applied to the upper catchments at Roşia Montană as well as the complete Abrud-Arieş-Mureş river system down to the Hungarian Border and on into the Tisa River. The model takes into account the

dilution, mixing and physico-chemical processes affecting metals, ammonia and cyanide in the river system and gives estimates of concentrations at key locations along the river, including at the Hungarian Boarder and in the Tisa after the Mureş joins it.

Because of dilution and dispersion in the river system, and of the initial EU BAT-compliant technology adopted for the project (for example, the use of a cyanide destruct process for tailings effluent that reduces cyanide concentration in effluent stored in the TMF to below 6 mg/l), even a large scale unprogrammed release of tailings materials (for example, following failure of the dam) into the river system would not result in transboundary pollution. The model has shown that under worse case dam failure scenario all legal limits for cyanide and heavy metals concentrations would be met in the river water before it crosses into Hungary.

The INCA model has also been used to evaluate the beneficial impacts of the existing mine water collection and treatment and it has shown that substantial improvements in water quality are achieved along the river system under normal operational conditions.

For more information, an information sheet presenting the INCA modelling work is presented under the title of the Mureş River Modelling Program and the full modelling report is presented as Annex 5.1.

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Item no.	1702 Same as: 1703
No. to identify the observations received from the public	No. 110706/25.08.2006 Same as: No. 110703/25.08.2006
Proposal	<p>The questioner opposes the proposed gold and silver mining project at Roşia Montană and makes the following observations and comments:</p> <ul style="list-style-type: none"> <li>- The tailings pond is unlined and is a hazard for the town of Abrud, as there is the risk of a failure;</li> <li>- Total costs for closing the mine are unrealistic;</li> <li>- The Project poses a threat for protected flora and fauna;</li> <li>- The phase of public consultation and quality evaluation of the impact assessment study report begun without a valid urbanism certificate;</li> <li>- The company could not find an insurer for the mining project.</li> <li>- The EIA report does not assess the "zero alternative";</li> <li>- The EIA report does not include an assessment of the "cyanide rain" phenomenon.</li> </ul>
Solution	<p>An engineered liner is included in the design of the Tailings Management Facility (TMF) basin. Specifically, the Roşia Montană Tailings Management Facility (TMF or "the facility") has been designed to be compliant with the EU Groundwater Directive (80/68/EEC), transposed as Romanian GD 351/2005. The TMF is also designed for compliance with the EU Mine Waste Directive (2006/21/EC) as required by the Terms of Reference established by the MEWM in May, 2005. The following paragraphs provide a discussion of how the facility is compliant with the directives.</p> <p>The TMF is composed of a series of individual components including:</p> <ul style="list-style-type: none"> <li>• the tailings impoundment;</li> <li>• the tailings dam;</li> <li>• the secondary seepage collection pond;</li> <li>• the secondary containment dam; and</li> <li>• the groundwater monitoring wells/extraction wells located downstream of the Secondary Containment dam.</li> </ul> <p>All of these components are integral parts of the facility and necessary for the facility to perform as designed.</p> <p>The directives indicated above require that the TMF design be protective of groundwater. For the Roşia Montană project (RMP), this requirement is addressed by consideration of the favorable geology (low permeability shales underlying the TMF impoundment, the TMF dam and the Secondary Containment dam) and the proposed installation of a low-permeability (<math>1 \times 10^{-6}</math> cm/sec) recompacted soil liner beneath the TMF basin. Please see Chapter 2 of EIA Plan F, "The Tailings Facility Management Plan" for more information.</p> <p>The proposed low permeability soil liner will be fully compliant with Best Available Techniques (BAT) as defined by EU Directive 96/61 (IPPC) and EU Mine Waste Directive. Additional design features that are included in the design to be protective of groundwater include:</p> <ul style="list-style-type: none"> <li>• A low permeability (<math>1 \times 10^{-6}</math> cm/sec) cut off wall within the foundation of the starter dam to control seepage;</li> <li>• A low permeability (<math>1 \times 10^{-6}</math> cm/sec) core in the starter dam to control seepage;</li> <li>• A seepage collection dam and pond below the toe of the tailings dam to collect and contain any seepage that does extend beyond the dam centerline;</li> <li>• A series of monitoring wells, below the toe of the secondary containment dam, to monitor seepage and ensure compliance, before the waste facility limit.</li> </ul> <p>In addition to the design components noted above specific operational requirements will be implemented</p>

to be protective of human health and the environment. In the extremely unlikely case that impacted water is detected in the monitoring wells below the secondary containment dam, they will be converted to pumping wells and will be used to extract the impacted water and pump it into the reclaim pond where it will be incorporated into the RMP processing plant water supply system, until the compliance is reestablish.

### **Proximity to Abrud**

The EIA describes how the dam will be built with rockfill materials, engineered drain and filter materials and a low permeability core to control seepage. The facility is being designed and engineered by MWH, one of the leading dam designers in the world. In addition, the feasibility level designs have been reviewed and approved by certified Romanian dam experts and by the Romanian National Committee for the Safety of Large Dams. Prior to operation, the dam must again be certified for operations by the National Commission for Dams Safety (CONSIB).

The Tailings Management Facility (TMF) dam is rigorously designed to incorporate all EU, Romanian and international criteria to reduce the risk of failure. These guidelines allow for significant rainfall events and prevent dam failure due to overtopping. Specifically, the facility has been designed to store for the run off from two Probable Maximum Precipitation (PMP) events. This is generally referred to as the Probable Maximum Flood (PMF). The design criterion for TMF includes storage for two PMF flood events, more rain than has ever been recorded in this area.

Additionally, an emergency spillway for the dam will be constructed in the unlikely event that the site rainfall exceeds two PMPs. The TMF design therefore very significantly exceeds required standards for safety. This has been done to ensure that the risks involved in using Corna valley for tailings storage are well below what is considered safe in every day life.

Section 7 of the EIA report includes an assessment and analysis of risks and includes various dam break scenarios. Specifically, the dam break scenarios were analyzed for a failure of the starter dam and for the final dam configuration. The dam break modeling indicates the extent of tailings runout for the specific conditions analyzed. Based on the two cases considered the tailings would not extend beyond the confluence of the Corna valley stream and the Abrud River.

However, the project recognizes that in the highly unlikely case of a dam failure that a Emergency Preparation and Spill Contingency Management Plan must be implemented. This plan was submitted with the EIA as Plan I, Volume 28.

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RMGC's closure estimates, which were developed by a team of independent experts with international experience and will be reviewed by third party experts, are based on the assumption that the project can be completed according to the plan, without interruptions, bankruptcy or the like. They are engineering calculations and estimates based on the current commitments of the closure plan and are summarized in the EIA's Mine Closure and Rehabilitation Management Plan (Plan J in the EIA). Annex 1 of Plan J will be updated using a more detailed approach looking at every individual year and calculating the amount of surety, which must be set aside year by year to rehabilitate the mine before RMGC is released from all its legal obligations. Most importantly, the current estimates assume the application of international best practice, best available technology (BAT) and compliance with all Romanian and European Union laws and regulations.

Closure and rehabilitation at Roșia Montană involves the following measures:

- Covering and vegetating the waste dumps as far as they are not backfilled into the open pits;
- Backfilling the open pits, except Cetate pit, which will be flooded to form a lake;
- Covering and vegetating the tailings pond and its dam areas;
- Dismantling of disused production facilities and revegetation of the cleaned-up areas;
- Water treatment by semi-passive systems (with conventional treatment systems as backup) until all effluents have reached the discharge standards and need no further treatment;
- Maintenance of the vegetation, erosion control, and monitoring of the entire site until it has been demonstrated by RMGC that all remediation targets have been sustainably reached.

While the aspects of closure and rehabilitation are many, we are confident in our cost estimates because the largest expense—that incurred by the earthmoving operation required to reshape the landscape—can be estimated with confidence. Using the project design, we can measure the size of the areas that must be reshaped and resurfaced. Similarly, there is a body of scientific studies and experiments that enable scientists to determine the depth of soil cover for successful re-vegetation. By multiplying the size of the areas by the necessary depth of the topsoil by the unit rate (also derived from studying similar earthmoving operations at similar sites), we can estimate the potential costs of this major facet of the rehabilitation operation. The earthmoving operation, which will total approximately US \$65 million, makes up 87% of closure and rehabilitation costs.

Also, the necessity of additional technological measures to stabilize and reshape the tailings surface will be discussed in the update of the Economical Financial Guarantee (EFG) estimate, which leads to an increase the provisions for tailings rehabilitation, especially if the TMF is closed prematurely and no optimized tailings disposal regime is applied. The exact figures depend on the details of the TMF closure strategy which can be finally determined only during production.

We believe that—far from being too low—our cost estimates are evidence of our high level of commitment to closure and rehabilitation. Just as a comparison, the world's largest gold producer has set aside US \$683 million (as of December 31, 2006) for the rehabilitation of 27 operations, which equates to US \$25 million on average per mine. The RMGC closure cost estimates, recently revised upward from the US \$73 million reported in the EIA based on additional information, currently total US \$76 million.

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The impact on protected flora and fauna will exist only locally, but this impact will not lead to the loss of any specie. The Project has been designed even from the beginning to fully comply with the requirements and norms imposed by Romanian and European environmental legislation.

The company believes the fact that the project impact on environment remains significant, especially because covers previous impacts. But, the investments required to ecologically restore/rehabilitate Roşia Montană area in order to address current complex environmental issues, are only achievable following the implementation of some economic projects that will generate and warrant implementation of some direct and responsible actions as a component of base principles of sustainable development concepts. Clean processes and technologies may be developed only in the presence of a solid economic environment fully compliant with the environment that will also resolve previous impacts of anthropic activities.

The base documents of the Project are in fact an unbiased reason of its implementation, considering the highly complex environmental commitment within Roşia Montană area.

Some of the Roşia Montană species that are under a certain protection status stand for an insignificant percentage of the scale of populations estimated at national level. The characterization of species from their habitat point of view exists in the species tables presented in the Biodiversity Chapter of the EIA Report and its annexes, although this is not a requirement imposed by the Habitats Directive. Due to their large volume of information, the annexes of chapter 4.6 Biodiversity can be found in the electronic version of the EIA disclosed by the company both in Romanian and English through approx. 6,000 DVD/CD copies, being accessible on the company website, and on the websites of Ministry of Environment and Water Management, local and regional environmental protection agencies of Alba, Sibiu, Cluj, etc.

From practical point of view, the low value of conservation of the impact area is also indirectly emphasized by the fact that there is no proposal to designate the area a SPA (aviafaunistic special protected area) and by the denial as unfounded of the proposal to designate the area as a pSCI area (sites of community importance).

Taking all these into account, we believe that the proposed Project is compliant with the provisions of EU Directive no. 92/43 Habitats[1], and EU Directive no. 79/409 Birds[2] respectively, especially because within Biodiversity Management Plan, Plan H, several active and responsible measures are provided to reconstruct/rehabilitate several natural habitats, pursuant to the provisions of the same documents [3].

References:

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[1] art.3, 2nd paragraph, Each Member State shall contribute to the creation of Natura 2000 (network) in proportion to the representation within its territory of the natural habitat types and the habitats of species referred to in paragraph 1. To that effect each Member State shall designate, in accordance with Article 4, sites as special areas of conservation taking account of the objectives set out in paragraph 1.

art.4, 1st paragraph. On the basis of the criteria set out in Annex III (Stage 1) and relevant scientific information, each Member State shall propose a list of sites indicating which natural habitat types in Annex I and which species in Annex II that are native to its territory the sites host. For animal species ranging over wide areas these sites shall correspond to the places within the natural range of such species which present the physical or biological factors essential to their life and reproduction. For aquatic species which range over wide areas, such sites will be proposed only where there is a clearly identifiable area representing the physical and biological factors essential to their life and reproduction. Where appropriate, Member States shall propose adaptation of the list in the light of the results of the surveillance referred to in Article 11. [...]

2nd paragraph.[...] Member States whose sites hosting one or more priority natural habitat types and priority species represent more than 5 % of their national territory may, in agreement with the Commission, request that the criteria listed in Annex III (Stage 2) be applied more flexibly in selecting all the sites of Community importance in their territory.[...]

Art. 6, 4th paragraph. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Art. 16. Provided that there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range, Member States may derogate from the provisions of Articles 12, 13, 14 and 15 (a) and (b):[...]

- in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment;

[2] Art.4, 1st paragraph. The species mentioned in annex 1 shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution. [...]

Trends and variations in population levels shall be taken into account as a background for evaluations. Member states shall classify in particular the most suitable territories in number and size as special protection areas for the conservation of these species, taking into account their protection requirements in the geographical sea and land area where this directive applies.

[3] Directive 92/43 Habitats, art. 2, 2nd paragraph; Directive 79/409 Birds, art. 3, 2nd paragraph, letter c.

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Your assertion regarding the failure to obtain an applicable urbanism certificate at the start up of the public debates and of the evaluation of the quality of the report to the environmental impact assessment, is not correct.

Thus, by the time when the public debate stage started up there was an applicable urbanism certificate and namely the urbanism certificate no. 78/26.04.2006 issued by Alba County Council. This certificate was obtained prior to the evaluation stage of the quality of the report to the environmental impact assessment which started up once the EIA was submitted to the Ministry of Environment and Water Management on the 15<sup>th</sup> May 2006.

For better understanding the applicable legal provisions and the facts developed within the mining

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project of Roşia Montană zone we would like to make several comments:

- The procedure for issuing the environmental permit for Roşia Montană project started up on the 14<sup>th</sup> December 2004 by submitting the technical memorandum and the urbanism certificate no.68/26.August 2004 (certificate applicable by that time). S.C. Roşia Montană Gold Corporation S.A. (RMGC) applied for and obtained a new urbanism certificate no.78/26.04.2006 issued by Alba County Council for the entire Roşia Montană Project applicable on the date of the EIA Report submission (15<sup>th</sup> May 2006) and prior to the public debate strat up (June 2006);
- The Section 1 of the urbanism certificate no.78 of 26<sup>th</sup> 04.2006 entitled Work construction, position 10 – “Processing plant and associated constructions “ – including the tailing management facility which existence is compulsory for the processing plant running. The Tailing management facility is also specified on the layout plans which are integral part of the urbanism certificate and they were sealed by Alba County Council so that they cannot be modified;
- The Urbanism Certificate is an informative document and its goal is only to inform the applicant about the legal, economic and technical regime of the existing lands and buildings and to establish the urbanism requirements and the approvals necessary to obtain the construction permit (including the environmental permit) as per art.6 of Law 50/1991 referring to the completion of construction works, republished and art 27 paragraph 2 of the Norms for the application of Law 50/1991 – Official Journal 825 bis/13.09.2005).

As it is an informative document, it does not limit the number of certificates an applicant may obtain for the same land plot ( art. 30 of Law no. 350/2001 regarding the territorial planning and urbanism).

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With respect to the issues indicated by you, namely the insurance of mining projects, we would like to underline the fact that the Directive no. 2004/35/CE regarding **on environmental liability with regard to the prevention and remedying of environmental damage**, which has been published in the Official Journal of the European Union no. L143/56 (“Directive no. 35/2004”) establishes the general governing framework with regard to environmental pollution.

According to the provisions stipulated by art. 1 of Directive no. 35/2004 “The purpose of this directive is to establish a framework of environmental liability based on the ‘polluter-pays’ principle, to prevent and remedy environmental damage.”

Directive no. 35/2004 states as a principle pursuant to the provisions of art. 14(1) the fact that “Member States shall take measures to encourage the development of financial security instruments and markets by the appropriate economic and financial operators, including financial mechanisms in case of insolvency, with the aim of enabling operators to use financial guarantees to cover their responsibilities under this Directive”.

Moreover, according to the provisions of art. 19(1) Directive no. 35/2004, Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 30 April 2007. We would like to underline the fact that, up to now, the Directive no. 35/2004 hasn’t been transposed into our legislation. Taking into account the previously mentioned aspects, we kindly ask you to take notice of the fact that, at this moment there are no internal legal regulations to establish the material and procedural aspects related to the establishment of such a guarantee.

However, if specific legal dispositions are going to be created with regard to the establishment of certain guarantees, RMGC is going to take all necessary measures to fulfill all mandatory legal liabilities.

Moreover, we underline the fact that RMGC has contracted one of the world’s leading insurance brokers, which is well established in Romania and has a long and distinguished record of performing risk assessments on mining operations. The broker will use the most appropriate property and machinery breakdown engineers to conduct risk analysis and loss prevention audit activities, during the construction and operations activity at Roşia Montană, to minimize hazards. The broker will then determine the appropriate coverage, and work with A-rated insurance companies to put that program in place on behalf of RMGC, for all periods of the project life from construction through operations and closure.

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RMGC is committed to maintaining the highest standards of occupational health and safety for its



employees and service providers. Our utilization of Best Available Techniques helps us to ensure this goal is achieved. No organization gains from a loss, and to that end we will work to implement engineering solutions to risk, as they are far superior to insurance solutions to risk. Up to 75% of loss risk can be removed during the design and construction phase of a project.

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The Report on the Environmental impact assessment study (EIA) considered all alternative developments, including the option of not proceeding with any project – an option that would generate no investment, allowing the existing pollution problems and socio-economic decline to continue (Chapter 5 – *Assessment of Alternatives*).

The report also considered alternative developments – including agriculture, grazing, meat processing, tourism, forestry and forest products, cottage industries, and flora/fauna gathering for pharmaceutical purposes – and concluded that these activities could not provide the economic, cultural and environmental benefits brought by the Roşia Montană Project (RMP).

Chapter 5 also examines alternative locations for key facilities as well as alternative technologies for mining, processing and waste management, in line with best practice and as compared against published EU best available techniques (BAT) documentation.

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It is stated precisely that a “cyanide rain” phenomenon will not exist. Neither was encountered in other places or situations. Moreover, the specialty literature doesn’t make any mentions related to the so-called “cyanide rains” phenomenon, but only “acidic rains” phenomenon which can’t be generated by the cyanic compounds breaking down in the atmosphere.

The reasons for making the statement that ‘cyanide rains’ phenomenon won’t occur are the followings:

- The sodium cyanide handling, from the unloading from the supplying trucks up to the processing tailings discharge onto the tailings management facility, will be carried out only in liquid form, represented by alkaline solutions of high pH value (higher than 10.5 – 11.0) having different sodium cyanide concentrations. The alkalinity of these solutions has the purpose to maintain the cyanide under the form of cyan ions (CN<sup>-</sup>) and to avoid the hydrocyanic acid formation (HCN), phenomenon that occurs only within environments of low pH;
- The cyanide volatilization from a certain solution cannot occur under the form of free cyanides, but only under the form of HCN;
- The handling and storage of the sodium cyanide solutions will take place only by means of some closed systems; the only areas/plants where the HCN can occur and volatilize into air, at low emission percentage, are the leaching tanks and slurry thickener, as well the tailings management facility for the processing tailings;
- The HCN emissions from the surface of the above mentioned tanks and from the tailings management facility surface can occur as a result of the pH decrease within the superficial layers of the solutions (that helps the HCN to form) and of the desorption (volatilization in air) of this compound;
- The cyanide concentrations within the handled solutions will decrease from 300 mg/L within the leaching tanks up to 7 mg/L (total cyanide) at the discharge point into the tailings management facility. The drastic reduction of the cyanide concentrations for discharging into the Tailings Management Facility (TMF) will be done by the detoxification system;
- The knowledge of the cyanide chemistry and on the grounds of the past experience, we estimated the following possible HCN emissions into air: 6 t/year from the leaching tanks, 13 t/year from the slurry thickener and 30 t/year (22.4 t, respectively 17 mg/h/m<sup>2</sup> during the hot season and 7.6 t, respectively 11.6 mg/h/m<sup>2</sup> during the cold season) from the tailings management facility surface, which totals 134.2 kg/day of HCN emission;
- Once released into air, the hydrocyanic acid is subject to certain chemical reactions at low pressure, resulting ammonia;
- The mathematical modeling of the HCN concentrations within the ambient air (if the HCN released in the air is not subject to chemical reactions) emphasized the highest concentrations being at the ground level, within the industrial site namely within the area of the tailings

management facility and within a certain area near the processing plant. The maximum concentration is of 382  $\mu\text{g}/\text{m}^3/\text{h}$ ;

- The highest HCN concentrations within the ambient air will be 2.6 times lower than the standard value stipulated by the national legislation for labor protection;
- The HCN concentrations within the ambient air in the populated areas close by the industrial site will be of 4 to 80  $\mu\text{g}/\text{m}^3$ , more than 250 – 12.5 times lower than standard value stipulated by the national legislation for labor protection – the national legislation and European Union (EU) legislation on the Air Quality don't stipulate standard values for the population's health protection;
- Once released in air, the evolution of the HCN implies an insignificant component resulted from the reactions while liquid (water vapors and rain drops). The reactions are due to HCN being weak water-soluble at partially low pressures (feature of the gases released in open air), and the rain not effectively reducing the concentrations in the air (Mudder, et al., 2001; Cicerone and Zellner, 1983);
- The probability that the HCN concentration value contained by rainfalls within and outside the footprint of the Project be significantly higher than the background values (0.2 ppb) is extremely low.

Details referring to the use of cyanide in the technological processes, the cyanides balance as well as the cyanide emission and impact of the cyanides on the air quality are contained in the Environmental Impact Assessment (EIA) Report, Chapter 2, Subchapter 4.1 and Subchapter 4.2 (Section 4.2.3).

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Item no. 1704

No. to identify the observations received from the public  
No.  
110704/  
25.08.2006

The questioner does not agree to the promotion of the Roşia Montană Project, making the following comments:

- In EIA there are no presented all the possible risks derived from this project;
- Total costs for closing the mine are unrealistic;
- There isn't until now an approved Zonal Urbanism Plan for the Protected Areas
- The phase of public consultation and quality evaluation of the impact assessment study report begun without a valid urbanism certificate;
- Information about the foundation which RMGC will establish and subsidize is not given. This foundation follows to assume the obligations which the mining operation can not assume;
- The present urbanism plans of the Roşia Montană commune do not correspond with the mining project proposal described in EIA;
- There is no liner proposed for the tailings pond;
- The proposed waste deposits will be not constructed according to the legislation in force
- No financial guarantees have been stipulated;
- There is not a Safety Report submitted for the public consultation and evaluation by the competent authorities;
- The EIA report does not assess the "zero alternative";
- The Project poses a threat for protected flora and fauna;
- The EIA report does not refer to the impact on the listed heritage buildings of noise and vibrations caused by the mining operations;
- The public/ONGs wish to consult the contracts and agreements between Company and Romanian State;
- The Urbanism Plan has been modified without public consultation;
- From archeological point of view, the area proposed to be occupied by project was not legally investigated. Also, the questioner sends a letter and two points of view of some independent specialists
- The questioner contests the protection of the architectural and spiritual monuments with the responsibility of the state institutions for the protection operation.

SEE THE CONTENT OF TYPE 1 CONTESTATION

It is the nature of risk that it can be mitigated and diminished; it cannot be made to disappear. In order to put this into context, the common action of walking on the street or developing everyday activities have an accident potential. This accident potential is twice higher than within the framework of industrial activities that use hazardous substances.

A major chapter of the EIA report was dedicated to the identification of risks for the project. In addition, this chapter provides a discussion of the mitigation measures for each risk and how they were incorporated into the project designs. It is recognized that risk identification is difficult due to the number and diversity of events that can be envisioned. The EIA report cannot assume to cover all of the potential risks associated with the project. However, it has attempted to identify and address the most relevant risks. The extent of risk assessment and the intensity of the prevention and mitigation measures should be proportional to the risk involved and therefore only the risks that have been considered important have been assessed in detail. Each is described below.

In the larger sense, the entire EIA report is focused on the assessment of impacts and their associated mitigation. Specifically, Chapter 4 of the EIA presents that impact assessment of the project. The following discussion presents a summary of the impact discussed in the EIA.

As far as natural and technological risks assessments are concerned, Chapter 7, "Risk Cases", from the Report on Environmental Impact Assessment, emphasizes the fact that safety and prevention measures, the implementation of the environmental management and risk systems are mitigating the consequences

to acceptable levels as compared to the most restrictive norms, standards, the best practices or national and international recommendations in the field. The risk level has been established as moderate and so, socially acceptable. The extension of the risk assessment and the intensity of the prevention and mitigation measures of the consequences should be proportionate to the risk involved. Selection of a specific mitigation technique is depends on the analyzed accident scenario.

More detailed assessments are conducted for accident scenarios that, based on the qualitative assessment are found to be potentially major, of probability more than  $10^{-6}$  (reduced recovery periods of 1/1,000,000) meaning that they could have major consequences therefore, elevated associated risk, a higher risk level than 9 to 12 (on a scale of 1-25). To put this in context, simply living in southern Florida rates a 25 on the risk scale.

A global assessment of the risks associated with the Roşia Montană Project is obtained by the quick environmental and health risk assessment methodology initially developed by the Italian Ministry of the Environment and the World Health Organization. Natural hazard and risk identification and analysis presents key data and information in assessing potential technological accidents. Thus:

- In designing the Tailings Management Facility, the design parameters were chosen to fully cover the characteristic seismic risk of the area. These seismic design parameters adopted for the TMF and other facilities on the proposed site result in a safety factor much greater than the minimum accepted under the Romanian and European design standards for such facilities;

- in the sector physically impacted by the Project, the risk of floods will remain very low due to the small catchments (controlled by the Roşia and Corna Streams) the area affected by the operation, and the creation of containment, diversion and drainage hydro-technical structures for storm waters on the site, and in the Abrud catchment in general;

- risks caused by meteorological events have been reviewed and used in assessing the hazards of the affected technological processes.

From the analysis of morphometrical parameters and their correlation with other sets of information on the natural slopes on and near the site shows that the (qualitatively estimated) landslide occurrence risk is low to moderate and its consequences will not cause major impacts on the structural components of the Project.

There is no significant risk associated with resource depletion. Mining activities are planned judiciously, so as to extract only the profitable gold and silver resources and only the necessary construction rock for the Project. The management of the mining concession site will minimize reserve "sterilization" (limitation of future access to the reserves).

In assessing technological hazards and risks, the quantity of hazardous substances on the site was calculated as a total and by category, as provided by the *Notification Procedure* approved by Ministry of Agriculture, Forestry, Water and Environment (MAFWE) Order 1084/2003. Based on an evaluation of hazardous substances in stock on the Project site in relation to the relevant quantities provided by the Government Decision 95/2003 which transposes the Seveso Directive, the Project ranges between the upper and the lower limits, and therefore S.C. Roşia Montană Gold Corporation S.A. is required to prepare a Report on Environmental Impact Assessment Study to be sent to the local environmental authority and the local civilian protection authority a *Safety Report* on its operations to prevent major accident risks.

In assessing the consequences of major accidents involving dangerous substances, physical-mathematical models accepted internationally and especially at EU level, and the current version of the SLAB (Canada) software have been used, the latter for the atmospheric dispersion of denser than air gases, that may handle a multitude of situations and scenarios. Similarly, the EFFECTSGis 5.5 (Netherlands) software, developed for the analysis of the effects of industrial accidents and of consequences. Several scenarios were considered in response to the internal legislative requirements, especially related to the implementation of the Internal Emergency Plans (GD 647/2005). The conclusions of the risk assessment for major accidents were:

- The total destruction of plant facilities may only be caused by terrorist attack with classic or nuclear weapons. Simultaneous damage to the HCl tank (including containment) and to the NaCN solution tank, the tanks containing enriched solution, to one or more leaching tanks, having as a result HCN dispersion into the air. At the same time, under certain situations and weather conditions unfavorable for dispersion, people within 40 m of the emission source, surprised by the toxic cloud for

more than 1 minute without respiratory protection equipment, will most certainly die. It may also be considered that, on a radius of about 310 m, persons exposed for more than 10 minutes may suffer serious intoxications that may also lead to death. Toxic effects may occur in persons up to about 2 km downwind of the process plant;

- Operating errors and/or failures in the measurement and control devices, resulting in a lower pH in the leaching tank, thickener and/or DETOX slurry and accidental emissions of hydrocyanic acid. The area affected by concentrations of 290 ppm over a 10 min exposure time is within a circle of 36 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 157.5 m radius. The center of these circles is the middle of the CIL tanks platform;

- Accidental HCN emission from the decanter. The accident may be caused by a drop of pH in the CIL tanks combined with an overdose of flocculent solution and faulty pH monitoring systems. The area affected by concentrations of 300 ppm over a 10 min exposure time is within a circle of 65 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 104 m radius. The center of these circles is mid-distance between the two DETOX facilities;

- Accidental HCN emission from the DETOX facility. The accident may be caused by a drop of pH in the reactors generated by an overdose of metabisulfite solution and/or copper sulphate combined with faulty pH monitoring systems. The area affected by high 1900 ppm concentrations for a 1 min exposure time is located within a 10 m radius circle. The area affected by concentrations of 300 ppm over a 10 min exposure time is within a circle of 27 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 33 m radius. The center of these circles is mid-distance between the two DETOX facilities;

- Explosion of the LPG storage tank. The LPG storage tank has a 50 ton capacity and is located outdoors, near the heating plant. The simulation was conducted for the worst case scenario, considering an explosion of the full tank. Threshold I with heat 12.5 kW/m<sup>2</sup> is within a 10.5 m radius circle and Threshold II, of heat radiation 5 kW/m<sup>2</sup> is within a circle of 15 m radius;

- Damage and/or fire at the fuel tanks. Simulations were conducted for the worst case scenarios, considering ignition and combustion of all the diesel (fire in the tank, or in the containment vat, when full of diesel);

- Corna Dam break and breach development. Two credible accident scenarios were considered in simulating tailings flow out of the Tailings Management Facility, and six credible scenarios for the flow of decant water and tailings pore water, with significant effects on the terrestrial and aquatic ecosystems, in different weather conditions;

- Tailings flow may occur along Corna Valley, on a 800 m (starter dam break) or over 1600 m reach should the Corna dam break in its final stage;

- In regard to water quality impacts, cyanide concentrations in the water in the shape of a pollution plume may reach Arad, near the Romanian-Hungarian border on the Mureş River, in concentrations ranging between 0.03 and 0.5 mg/L. Due to inherent mathematical limitations in the models, these values and the accident effects are considered overestimated. Therefore, the results describe the "worst case scenario" based on extreme dam break assumptions for the Corna Dam.

A new and much more precise and realistic simulation has been subsequently established based on the INCA Mine model, that considers the dispersion, volatilization and breakdown of cyanides during the downstream movement of the pollutant flow (Whiteland et al., 2006).

The model used is the INCA model developed over the past 10 years to simulate both terrestrial and aquatic systems within the EUROLIMPACS EU research program ([www.eurolimpacs.ucl.ac.uk](http://www.eurolimpacs.ucl.ac.uk)). The model has been used to assess the impacts from future mining, and collection and treatment operations for pollution from past mining at Roşia Montană.

The modeling created for Roşia Montană simulates eight metals (cadmium, lead, zinc, mercury, arsenic, copper, chromium, manganese) as well as Cyanide, Nitrate, Ammonia and dissolved oxygen. The model has been applied to the upper catchments at Roşia Montană as well as the complete Abrud-Arieş-Mureş river system down to the Hungarian Border and on into the Tisa River. The model takes into account the dilution, mixing and physical-chemical processes affecting metals, ammonia and cyanide in the river system and gives estimates of concentrations at key locations along the river, including at the Hungarian Boarder and in the Tisa after the Mureş joins it.

Because of dilution and dispersion in the river system, and of the initial EU BAT-compliant technology adopted for the project (for example, the use of a cyanide destruct process for tailings effluent that

reduces cyanide concentration in effluent stored in the TMF to below 6 mg/l), even a large scale unprogrammed release of tailings materials (for example, following failure of the dam) into the river system would not result in transboundary pollution. The model has shown that under worse case dam failure scenario all legal limits for cyanide and heavy metals concentrations would be met in the river water before it crosses into Hungary.

The INCA model has also been used to evaluate the beneficial impacts of the existing mine water collection and treatment and it has shown that substantial improvements in water quality are achieved along the river system under normal operational conditions.

For more information, an information sheet presenting the INCA modeling work is presented under the title of the Mureş River Modeling Program and the full modeling report is presented in Annex 5.1:

- Development of HCN on the tailings pond surface. Simulated emissions of HCN from the Tailings Management Facility pond surface and of their dispersion into the ambient air show that the level of  $400\mu\text{g}/\text{m}^3$  hourly average and  $179\mu\text{g}/\text{m}^3$  8hr average will not be exceeded. These HCN concentrations are only slightly over the odor threshold (0.17ppm) and much below potentially dangerous concentrations;

- Cetate Dam break and breach development. Flood modeling was in case of a break in Cetate dam was based on the design parameters obtained from the hydrometeorological study "Assessment of rainfall intensity, frequency and runoff for the Roşia Montană Project - Radu Drobot". The breach characteristics were predicted using the BREACH model, and the maximum height of the flood wave in various flow sections was modeled using the FLDWAV software. The assumptions included a total 800000  $\text{m}^3$  discharge for one hour, when the peak of the flood hydrograph is about 4.9 m above base flow immediately below the dam and in the narrow Abrud valley 5.9-7,5 km downstream of the dam, while in the last section considered (10,5 km) water depth is about 2.3 m above base flow and the maximum flow rate 877  $\text{m}^3/\text{s}$ . Further, the broader Aries valley allows the flood wave to propagate on a significantly wider bed, which results in a highly attenuated hydrograph. These results describe the "worst case scenario" based on extreme dam break assumptions:

- Accidents during cyanide transportation. Due to the large quantities of cyanide transported (about 30t /day) the risks associated to this activity were assessed in detail using the ZHA- Zurich Hazard Analysis method. As a consequence, the optimum transport route was selected from the manufacturer to the Process Plant, e.g.;

- Cyanide transport (in solid state) will exclusively involve special SLS (Solid to Liquid System) containers, 16 tons each. The ISO compliant container will be protected by a framework with legs, which allows separation from the transport trailer for temporary storage. The wall is 5.17 mm thick, which, together with the protective framework, provides additional protection to the load in case of accident. This system is considered BAT and is currently one of the safest cyanide transportation options.

It is being mentioned the fact that the study develops the occurrence possibility of these scenarios (pages 166-171, Conclusions).

As regards the cyanides management, there is a baseline study named "Roşia Montană Golden Project, Cyanides Management Plan" prepared in compliance with the "International Management Code for the Manufacture, Transport and Use of Cyanide in the Production of Gold (International Cyanide management Institute) May 2002". S.C. Roşia Montană Gold Corporation is signatory to this code.

Bibliographical references for Chapter 7 "Risk Cases" are listed at page 173-176.

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RMGC's closure estimates, which were developed by a team of independent experts with international experience and will be reviewed by third party experts, are based on the assumption that the project can be completed according to the plan, without interruptions, bankruptcy or the like. They are engineering calculations and estimates based on the current commitments of the closure plan and are summarized in the EIA's Mine Closure and Rehabilitation Management Plan (Plan J in the EIA). Annex 1 of Plan J will be updated using a more detailed approach looking at every individual year and calculating the amount of surety, which must be set aside year by year to rehabilitate the mine before RMGC is released from all its legal obligations. Most importantly, the current estimates assume the application of international best practice, best available technology (BAT) and compliance with all Romanian and European Union laws and

regulations.

Closure and rehabilitation at Roşia Montană involves the following measures:

- Covering and vegetating the waste dumps as far as they are not backfilled into the open pits;
- Backfilling the open pits, except Cetate pit, which will be flooded to form a lake;
- Covering and vegetating the tailings pond and its dam areas;
- Dismantling of disused production facilities and revegetation of the cleaned-up areas;
- Water treatment by semi-passive systems (with conventional treatment systems as backup) until all effluents have reached the discharge standards and need no further treatment;
- Maintenance of the vegetation, erosion control, and monitoring of the entire site until it has been demonstrated by RMGC that all remediation targets have been sustainably reached.

While the aspects of closure and rehabilitation are many, we are confident in our cost estimates because the largest expense—that incurred by the earthmoving operation required to reshape the landscape—can be estimated with confidence. Using the project design, we can measure the size of the areas that must be reshaped and resurfaced. Similarly, there is a body of scientific studies and experiments that enable scientists to determine the depth of soil cover for successful re-vegetation. By multiplying the size of the areas by the necessary depth of the topsoil by the unit rate (also derived from studying similar earthmoving operations at similar sites), we can estimate the potential costs of this major facet of the rehabilitation operation. The earthmoving operation, which will total approximately US \$65 million, makes up 87% of closure and rehabilitation costs.

Also, the necessity of additional technological measures to stabilize and reshape the tailings surface will be discussed in the update of the Economical Financial Guarantee (EFG) estimate, which leads to an increase the provisions for tailings rehabilitation, especially if the TMF is closed prematurely and no optimized tailings disposal regime is applied. The exact figures depend on the details of the TMF closure strategy which can be finally determined only during production.

We believe that—far from being too low—our cost estimates are evidence of our high level of commitment to closure and rehabilitation. Just as a comparison, the world's largest gold producer has set aside US \$683 million (as of December 31, 2006) for the rehabilitation of 27 operations, which equates to US \$25 million on average per mine. The RMGC closure cost estimates, recently revised upward from the US \$73 million reported in the EIA based on additional information, currently total US \$76 million.

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According to Law 5/2000, regarding the approval of the Territory Arrangement Plan – 3<sup>rd</sup> Section – protected areas (“Law 5/2000”) (article 5, paragraphs 2-3), local public authorities, with the support of the competent central public authorities, had the obligation to establish the boundaries of the protection areas for the cultural heritage elements stipulated in Annex III to the above-mentioned law. This measure should have been taken within 12 months from the effective date of Law 5/2000, based on specialized studies. For this purpose, the local public authorities had to prepare the town planning documentation and its related regulations, developed and approved according to the law. This documentation must comprise the necessary protection and conservation measures for the national cultural heritage elements located in this area.

Concurrently, Law 350/2001 on the territory arrangement and urbanism stipulates the right of legal or natural persons interested in arranging the territory, to initiate the development of urbanism plans.

In accordance with these legal provisions, in 2001, RMGC initiated the preparation of these specific town-planning documentations - the General Urbanism Plan and the Zonal Urbanism Plan. These plans have been developed by Romanian certified companies and followed the legal approval procedure. The permit for the establishment of the Roşia Montană Historical Centre Protected Area was issued by the Ministry of Culture and Religious Affairs in 2002 (permits no. 61/14.02.2002 and no. 178/20.06.2002) as part of the procedure for the approval of the town planning documentation. Based on these permits, the Ministry of Culture and Religious Affairs requested the company to develop a Zonal Urbanism Plan for the Historical Centre of Roşia Montană. Out of the 41 historical buildings in Roşia Montană, thirty-five (35) are located inside the protected area of the Roşia Montană Historical Centre.

As for the heritage elements located in the future industrial development area (6 historical buildings), these are discussed in the Industrial Zonal Urbanism Plan prepared by SC Proiect Alba SA. The regulations included in this document will contain measures for the protection of these monuments.

In conclusion, the town planning studies and the specialized studies conducted for the purpose of establishing the boundaries of the protection areas within the future mining operations perimeter are currently pending approval, in accordance with the legal provisions, by the competent institutions and committees. Please note that none of the historical houses located in the perimeter of the proposed project will be affected; on the contrary, all the 41 historic buildings will be included in a complex restoration and rehabilitation program (see the Management Plan). This program is mandatory, regardless of the implementation of the mining project, if we want to prevent these buildings from collapsing because of their advanced degradation.

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Your assertion regarding the failure to obtain an applicable urbanism certificate at the start up of the public debates and of the evaluation of the quality of the report to the environmental impact assessment, is not correct.

Thus, by the time when the public debate stage started up there was an applicable urbanism certificate and namely the urbanism certificate no. 78/26.04.2006 issued by Alba County Council. This certificate was obtained prior to the evaluation stage of the quality of the report to the environmental impact assessment which started up once the EIA was submitted to the Ministry of Environment and Water Management on the 15<sup>th</sup> May 2006.

For better understanding the applicable legal provisions and the facts developed within the mining project of Roşia Montană zone we would like to make several comments:

- The procedure for issuing the environmental permit for Roşia Montană project started up on the 14<sup>th</sup> December 2004 by submitting the technical memorandum and the urbanism certificate no.68/26.August 2004 (certificate applicable by that time). S.C. Roşia Montană Gold Corporation S.A. (RMGC) applied for and obtained a new urbanism certificate no.78/26.04.2006 issued by Alba County Council for the entire Roşia Montană Project applicable on the date of the EIA Report submission (15<sup>th</sup> May 2006) and prior to the public debate start up (June 2006);
- The Section 1 of the urbanism certificate no.78 of 26<sup>th</sup> 04.2006 entitled Work construction, position 10 – “Processing plant and associated constructions “ – including the tailing management facility which existence is compulsory for the processing plant running. The Tailing management facility is also specified on the layout plans which are integral part of the urbanism certificate and they were sealed by Alba County Council so that they cannot be modified;
- The Urbanism Certificate is an informative document and its goal is only to inform the applicant about the legal, economic and technical regime of the existing lands and buildings and to establish the urbanism requirements and the approvals necessary to obtain the construction permit (including the environmental permit) as per art.6 of Law 50/1991 referring to the completion of construction works, republished and art 27 paragraph 2 of the Norms for the application of Law 50/1991 – Official Journal 825 bis/13.09.2005).

As it is an informative document, it does not limit the number of certificates an applicant may obtain for the same land plot ( art. 30 of Law no. 350/2001 regarding the territorial planning and urbanism).

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Introduced as part of the Environmental Impact Assessment Report Study (EIA), the Roşia Montană Foundation is shifting in focus. The Community Sustainable Development Plan activities initially conceived as coming under the Foundation umbrella (business oriented activities: business incubator, business advisory center, micro-finance facility, as well as social oriented activities: education and training center) have been advanced independently, via partnerships and with community participation in decision-making – a preferable way to advance social and economic development programs.

Going forward, the Foundation will take shape around preservation, patrimony and cultural heritage issues, with its final form determined in consultation with the community.



In terms of the philosophy that guides the company's Sustainable Development efforts, the Roșia Montană Gold Corporation (RMGC) sees itself not as principal provider, but as a partner. Community involvement is considered the starting point; over time, as the community builds the capacity to maintain programs in its own right, the company will turn over control of currently-established programs to the community and its institutions.

For more information, please see Roșia Montană Sustainable Development and the Roșia Montană Project – annex 4.

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We underline the fact that your statement is false. The General Urbanism Plan for the Roșia Montană commune, endorsed in 2002 allows the development of Roșia Montană project, as it has been presented during the public consultations.

Concurrently, pursuant to the provisions of art. 41, paragraph 2, from the Mining Law no.85/2003, the authorities from the local administration have the liability to adjust and/or update the territory arrangement plans and the general urbanism plans, in order to allow the development of all operations necessary for the development of mining activities.

RMGC has also initiated the preparation of two zonal urbanism plans: Zonal Urbanism Plan Modification – Roșia Montană Industrial Area and Zonal Urbanism Plan – Roșia Montană Historical Area. The first urbanism plan is required by the urbanism certificate no.78/26.04.2006, which updates the Zonal Urbanism Plan for the Industrial Area approved in 2002. As far as the historical area is concerned, its Zonal Urbanism Plan is required by the General Urbanism Plan approved also in 2002. Both urbanism plans are pending approval and have been subject to public consultations.

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An engineered liner is included in the design of the Tailings Management Facility (TMF) basin. Specifically, the Roșia Montană Tailings Management Facility (TMF or “the facility”) has been designed to be compliant with the EU Groundwater Directive (80/68/EEC), transposed as Romanian GD 351/2005. The TMF is also designed for compliance with the EU Mine Waste Directive (2006/21/EC) as required by the Terms of Reference established by the MEWM in May, 2005. The following paragraphs provide a discussion of how the facility is compliant with the directives.

The TMF is composed of a series of individual components including:

- the tailings impoundment;
- the tailings dam;
- the secondary seepage collection pond;
- the secondary containment dam; and
- the groundwater monitoring wells/extraction wells located downstream of the Secondary Containment dam.

All of these components are integral parts of the facility and necessary for the facility to perform as designed.

The directives indicated above require that the TMF design be protective of groundwater. For the Roșia Montană project (RMP), this requirement is addressed by consideration of the favorable geology (low permeability shales underlying the TMF impoundment, the TMF dam and the Secondary Containment dam) and the proposed installation of a low-permeability ( $1 \times 10^{-6}$  cm/sec) recompacted soil liner beneath the TMF basin. Please see Chapter 2 of EIA Plan F, “The Tailings Facility Management Plan” for more information.

The proposed low permeability soil liner will be fully compliant with Best Available Techniques (BAT) as defined by EU Directive 96/61 (IPPC) and EU Mine Waste Directive. Additional design features that are included in the design to be protective of groundwater include:

- A low permeability ( $1 \times 10^{-6}$  cm/sec) cut off wall within the foundation of the starter dam to

control seepage;

- A low permeability ( $1 \times 10^{-6}$  cm/sec) core in the starter dam to control seepage;
- A seepage collection dam and pond below the toe of the tailings dam to collect and contain any seepage that does extend beyond the dam centerline;
- A series of monitoring wells, below the toe of the secondary containment dam, to monitor seepage and ensure compliance, before the waste facility limit.

In addition to the design components noted above specific operational requirements will be implemented to be protective of human health and the environment. In the extremely unlikely case that impacted water is detected in the monitoring wells below the secondary containment dam, they will be converted to pumping wells and will be used to extract the impacted water and pump it into the reclaim pond where it will be incorporated into the RMP processing plant water supply system, until the compliance is reestablish.

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An engineered liner is included in the design of the Tailings Management Facility (TMF) basin to be protective of groundwater. Specifically, the Roşia Montană Tailings Management Facility (TMF or “the facility”) has been designed to be compliant with the EU Groundwater Directive (80/68/EEC), transposed as Romanian GD 351/2005. The TMF is also designed for compliance with the EU Mine Waste Directive (2006/21/EC) as required by the Terms of Reference established by the MEWM in May, 2005. The following paragraphs provide a discussion of how the facility is compliant with the directives.

The TMF is composed of a series of individual components including:

- the tailings impoundment;
- the tailings dam;
- the secondary seepage collection pond;
- the secondary containment dam; and
- the groundwater monitoring wells/extraction wells located downstream of the Secondary Containment dam.

All of these components are integral parts of the facility and necessary for the facility to perform as designed.

The directives indicated above require that the TMF design be protective of groundwater. For the Roşia Montană project (RMP), this requirement is addressed by consideration of the favorable geology (low permeability shales underlying the TMF impoundment, the TMF dam, and the Secondary Containment dam) and the proposed installation of a low-permeability ( $1 \times 10^{-6}$  cm/sec) recompacted soil liner beneath the TMF basin. Please see Chapter 2 of EIA Plan F, “The Tailings Facility Management Plan” for more information.

The proposed low permeability soil liner will be fully compliant with Best Available Techniques (BAT) as defined by EU Directive 96/61 (IPPC) and EU Mine Waste Directive. Additional design features that are included in the design to be protective of groundwater include:

- A low permeability ( $1 \times 10^{-6}$  cm/sec) cut off wall within the foundation of the starter dam to control seepage;
- A low permeability ( $1 \times 10^{-6}$  cm/sec) core in the starter dam to control seepage;
- A seepage collection dam and pond below the toe of the tailings dam to collect and contain any seepage that does extend beyond the dam centerline;
- A series of monitoring wells, below the toe of the secondary containment dam; to monitor seepage and ensure compliance, before the waste facility limit.

In addition to the design components noted above specific operational requirements will be implemented to be protective of human health and the environment. In the extremely unlikely case that impacted water is detected in the monitoring wells below the secondary containment dam, they will be converted to pumping wells and will be used to extract the impacted water and pump it into the reclaim pond where it will be incorporated into the RMP processing plant water supply system, until the compliance is reestablish.

With respect to your comments made as regards a presumptive infringement of the provisions of Government Decision No.351/2005 (“GD 351/2005”), there are several aspects to be taken into consideration. Thus:

1. Firstly, please note that, according to the provisions of art. 6 of GD 351/2005, any activity that might determine the discharge of dangerous substances into the environment is subject to the prior approval of the water management authorities and shall comply with the provisions of the water permit issued in accordance with the relevant legislation.

The GD 351/2005 provides that the water permit shall be issued only after all technical-construction measures are implemented as prevent the indirect discharge of dangerous substances into the underground waters. The maximum discharge limits are expressly provided under GD 351/2005 and compliance with such is a condition for granting and maintaining the water permit.

In accordance with the provisions of GD 351/2005, the actual discharge limits should be authorized by the relevant authority, such process being understood by the lawmaker in consideration of the complexity and variety of industrial activities, as well as the latest technological achievements.

Therefore, please note that the EIA stage is not intended to be finalized into an overall comprehensive permit, but it represents only a part of a more complex permitting process. Please note that, according with art. 3 of GD 918/2002, the data’s level of detail provided in the EIA is the one available in the feasibility stage of the project, obviously making impossible for both the titleholder and authority to exhaust all required technical data and permits granted.

The adequate protection of the ground water shall be ensured by the terms and conditions of the water permit. The issuance of the water permit shall be performed following an individual assessment of the project, considering its particular aspects and the relevant legal requirements applicable for mining activities. Until the water permit is obtained, any allegation regarding the infringement of GD 351/2005 is obviously premature mainly because the water permit shall regulate, in accordance with the relevant legal provisions, the conditions to be observed by the developer as regards the protection of the ground water;

2. Secondly, kindly note that the complexity and specificity of mining projects generated the need of a particular legal framework. Therefore, for such projects, the reading of the legal provisions of a certain enactment should be corroborated with the relevant provisions of the other regulations applicable.

In this respect, please not that the understanding of GD 351/2005 must be corroborated with the provisions of the entire relevant legislation enforceable as regards Roşia Montană Project, with a particular accent to Directive 2006/21/EC on the management of waste from the extractive industries (“Directive 21”).

The very scope of Directive 21 is to provide a specific legal framework for the extractive wastes and waste facilities related to mining projects, considering the complexity of such projects and the particular aspects of mining activities that can not always be subject to the common regulations on waste management and landfill.

From this perspective, Directive 21 provides that, an operator of a waste facility, as such is defined thereunder (please note that the TMF proposed by RMGC is considered a “waste facility” under Directive 21), must inter alia, ensure that:

- a) *“the waste facility is [...]designed so as to meet the necessary conditions for, in the short and long-term perspectives, preventing pollution of the soil, air, groundwater or surface water, taking into account especially Directives 76/464/EEC (1), 80/68/EEC (2) and 2000/60/EC, and ensuring efficient collection of contaminated water and leachate as and when required under the permit, and reducing erosion caused by water or wind as far as it is technically possible and economically viable;”*
- b) *“the waste facility is suitably constructed, managed and maintained to ensure its physical stability and to prevent pollution or contamination of soil, air, surface water or groundwater in the short and long-term perspectives as well as to minimize as far as possible damage to landscape.”*

In addition, it should be mentioned that RMGC was required by MWEM under the Terms of

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Reference, to perform the EIA considering the provisions of Directive 21 and the BAT Management of Mining Waste. The Directive 21 was intended by the EU DG of Environment to be the legislative regime applicable to sound management of mining waste throughout Europe and therefore compliance with its provisions is mandatory.

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Information regarding our Environmental Financial Guarantee (“EFG”) is fully discussed in the section of the Environmental Impact Assessment titled “Environmental and Social Management and System Plans” (Annex 1 of the subchapter titled “Mine Rehabilitation and Closure Management Plan”). The EFG is updated annually and will always reflect the costs associated with reclamation. These funds will be held in protected accounts at the Romanian state disposal.

Roşia Montană Gold Corporation (“RMGC”) has invested significant time, energy, and resources assessing the viability of a mining project in the valley of Roşia Montană. This assessment has led RMGC to conclude that Roşia Montană presents an attractive long-term development opportunity – an opinion confirmed by a variety of lending institutions, who have completed detailed reviews of the project’s design and profitability. We have every confidence that we will see the project through to the end of its projected 16-year lifespan, regardless of any fluctuations in the market price of gold.

In Romania, the creation of an EFG is required to ensure adequate funds are available from the mine operator for environmental cleanup. The EFG is governed by the Mining Law (no. 85/2003) and the National Agency for Mineral Resources instructions and Mining Law Enforcement Norms (no. 1208/2003).

Two directives issued by the European Union also impact the EFG: the Mine Waste Directive (“MWD”) and the Environmental Liability Directive (“ELD”).

The Mine Waste Directive aims to ensure that coverage is available for 1) all the obligations connected to the permit granted for the disposal of waste material resulting from mining activities and 2) all of the costs related to the rehabilitation of the land affected by a waste facility. The Environmental Liability Directive regulates the remedies, and measures to be taken by the environmental authorities, in the event of environmental damage created by mining operations, with the goal of ensuring adequate financial resources are available from the operators for environmental cleanup efforts. While these directives have yet to be transposed by the Romanian Government, the deadlines for implementing their enforcement mechanisms are 30 April 2007 (ELD) and 1 May 2008 (MWD) – thus before operations are scheduled to begin at Roşia Montană.

RMGC has already begun the process of complying with these directives, and once their implementation instruments are enacted by the Romanian Government, we will be in full compliance.

Each EFG will follow detailed guidelines generated by the World Bank and the International Council on Mining and Metals.

The current projected closure cost for Roşia Montană is US \$76 million, which is based on the mine operating for its full 16-year lifespan. The annual updates will be completed by independent experts, carried out in consultation with the NAMR, as the Governmental authority competent in mining activities field. These updates will ensure that in the unlikely event of early closure of the project, at any point in time, each EFG will always reflect the costs associated with reclamation. (These annual updates will result in an estimate that exceeds our current US \$76 million costs of closure, because some reclamation activity is incorporated into the routine operations of the mine.)

A number of different financial instruments are available to ensure that RMGC is capable of covering all of the expected closure costs. These instruments, which will be held in protected accounts at the Romanian state disposal, include:

- Cash deposit;
- Trust funds;
- Letter of credit;
- Surety bonds;

- Insurance policy.

Under the terms of this guarantee, the Romanian government will have no financial liability in connection with the rehabilitation of the Roşia Montană project.

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The Security Report has been made available for public access by being posted at the following Internet address [http://www.mmediu.ro/dep\\_mediu/rosia\\_montana\\_securitate.htm](http://www.mmediu.ro/dep_mediu/rosia_montana_securitate.htm) as well as through the printed version which could have been found at several information locations established for public hearings.

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The Report on the Environmental impact assessment study (EIA) considered all alternative developments, including the option of not proceeding with any project – an option that would generate no investment, allowing the existing pollution problems and socio-economic decline to continue (Chapter 5 – *Assessment of Alternatives*).

The report also considered alternative developments – including agriculture, grazing, meat processing, tourism, forestry and forest products, cottage industries, and flora/fauna gathering for pharmaceutical purposes – and concluded that these activities could not provide the economic, cultural and environmental benefits brought by the Roşia Montană Project (RMP).

Chapter 5 also examines alternative locations for key facilities as well as alternative technologies for mining, processing and waste management, in line with best practice and as compared against published EU best available techniques (BAT) documentation.

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The impact on protected flora and fauna will exist only locally, but this impact will not lead to the loss of any specie. The Project has been designed even from the beginning to fully comply with the requirements and norms imposed by Romanian and European environmental legislation.

The company believes the fact that the project impact on environment remains significant, especially because covers previous impacts. But, the investments required to ecologically restore/rehabilitate Roşia Montană area in order to address current complex environmental issues, are only achievable following the implementation of some economic projects that will generate and warrant implementation of some direct and responsible actions as a component of base principles of sustainable development concepts. Clean processes and technologies may be developed only in the presence of a solid economic environment fully compliant with the environment that will also resolve previous impacts of anthropic activities.

The base documents of the Project are in fact an unbiased reason of its implementation, considering the highly complex environmental commitment within Roşia Montană area.

Some of the Roşia Montană species that are under a certain protection status stand for an insignificant percentage of the scale of populations estimated at national level. The characterization of species from their habitat point of view exists in the species tables presented in the Biodiversity Chapter of the EIA Report and its annexes, although this is not a requirement imposed by the Habitats Directive. Due to their large volume of information, the annexes of chapter 4.6 Biodiversity can be found in the electronic version of the EIA disclosed by the company both in Romanian and English through approx. 6,000 DVD/CD copies, being accessible on the company website, and on the websites of Ministry of Environment and Water Management, local and regional environmental protection agencies of Alba, Sibiu, Cluj, etc.

From practical point of view, the low value of conservation of the impact area is also indirectly emphasized by the fact that there is no proposal to designate the area a SPA (aviafaunistic special protected area) and by the denial as unfounded of the proposal to designate the area as a pSCI area (sites of community importance).

Taking all these into account, we believe that the proposed Project is compliant with the provisions of EU

Directive no. 92/43 Habitats[1], and EU Directive no. 79/409 Birds[2] respectively, especially because within Biodiversity Management Plan, Plan H, several active and responsible measures are provided to reconstruct/rehabilitate several natural habitats, pursuant to the provisions of the same documents [3].

References:

[1] art.3, 2nd paragraph, Each Member State shall contribute to the creation of Natura 2000 (network) in proportion to the representation within its territory of the natural habitat types and the habitats of species referred to in paragraph 1. To that effect each Member State shall designate, in accordance with Article 4, sites as special areas of conservation taking account of the objectives set out in paragraph 1.

art.4, 1st paragraph. On the basis of the criteria set out in Annex III (Stage 1) and relevant scientific information, each Member State shall propose a list of sites indicating which natural habitat types in Annex I and which species in Annex II that are native to its territory the sites host. For animal species ranging over wide areas these sites shall correspond to the places within the natural range of such species which present the physical or biological factors essential to their life and reproduction. For aquatic species which range over wide areas, such sites will be proposed only where there is a clearly identifiable area representing the physical and biological factors essential to their life and reproduction. Where appropriate, Member States shall propose adaptation of the list in the light of the results of the surveillance referred to in Article 11. [...]

2nd paragraph.[...] Member States whose sites hosting one or more priority natural habitat types and priority species represent more than 5 % of their national territory may, in agreement with the Commission, request that the criteria listed in Annex III (Stage 2) be applied more flexibly in selecting all the sites of Community importance in their territory.[...]

Art. 6, 4th paragraph. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Art. 16. Provided that there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range, Member States may derogate from the provisions of Articles 12, 13, 14 and 15 (a) and (b):[...]

- in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment;

[2] Art.4, 1st paragraph. The species mentioned in annex 1 shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution. [...]

Trends and variations in population levels shall be taken into account as a background for evaluations. Member states shall classify in particular the most suitable territories in number and size as special protection areas for the conservation of these species, taking into account their protection requirements in the geographical sea and land area where this directive applies.

[3] Directive 92/43 Habitats, art. 2, 2nd paragraph; Directive 79/409 Birds, art. 3, 2nd paragraph, letter c.

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This statement is ungrounded, because the environmental impact assessment (EIA) process has included preliminary cumulative estimates for stationary motorized equipment and linear (vehicular) sources were prepared in order to provide an initial understanding of the potential cumulative noise and vibration impacts from background and Roşia Montană Project sources, and to guide future monitoring and measurement activities as well as the selection of appropriate Best Management Practices/Best Available Techniques for further mitigation of the potential noise and vibration impacts from Project activities.

These preliminary estimates apply to major construction activities, as well as the operation and decommissioning/closure of the mine and process plant. They are documented as data tables and isopleth maps for major noise-generating activities in selected, representative Project years; see **Tables 4.3.8 through 4.3.16** and **Exhibits 4.3.1 through 4.3.9**. All these details related to the applied assessment methodology, the input data of the dispersion model, the modeling results and the measures established for the prevention/mitigation/elimination of the potential impact for all project stages (construction, operation, closure) are included in Chapter 4, Section 4.3 Noise and Vibrations of the EIA Report.

Project Years 0, 9, 10, 12, 14, and 19 were selected for modeling because they are considered to be representative of the most significant levels of noise-generating activity. They are also the same years used for air impact modeling purposes in Section 4.2, as air and noise impacts share many of the same sources or are otherwise closely correlated. In order to more accurately reflect potential receptor impacts, all of these exhibits integrate the background traffic estimates discussed in Section 4.3.6.1.

The Project site plan and process plant area and facility drawings were used to establish the position of the noise sources and other relevant physical characteristics of the site. Receptor locations were established using background reports and project engineering and environmental documentation provided by RMGC. With this information, the source locations and receptor locations were translated into input (x, y, and z) co-ordinates for the noise-modeling program.

**Tables 4.3.8 through 4.3.16** and **Exhibits 4.3.1 through 4.3.9** present the average maximum noise values likely to be experienced by the receptor community over all Project phases after incorporation of a variety of initial mitigation measures designed specifically to reduce the impacts associated with mobile and stationary machinery sources. The influence of non-mining related background (primarily traffic) noise is also included.

To evaluate the sound levels associated with haul trucks and other mobile sources crossing the site carrying excavated ore, waste rock, and soil, a noise analysis program based on the (U.S.) Federal Highway Administration's (FHWA) standard RD-77-108 [1] model was used to calculate reference noise emissions values for heavy trucks along the project roadways. The FHWA model predicts hourly  $L_{eq}$  values for free-flowing traffic conditions and is generally considered to be accurate within 1.5 decibels (dB).

The model is based on the standardized noise emission factors for different types and weights of vehicles (e.g., automobiles, medium trucks, and heavy trucks), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The emission levels of all three vehicle types increase as a function of the logarithm of their speed.

To evaluate the sound sources from the proposed mine processing facility and the semi-stationary material handling equipment (at the ore extraction, waste rock and soil stockpiling areas), a proprietary computerized noise prediction program was used by AAC to simulate and model the future equipment noise emissions throughout the area. The modeling program uses industry-accepted propagation algorithms based on the following American National Standards Institute (ANSI) and International Organization for Standardization (ISO) standards:

- *ANSI S1.26-1995 (R2004), Method for the Calculation of the Absorption of Sound by the Atmosphere;*
- *ISO 9613-1:1993, Acoustics -- Attenuation of sound during propagation outdoors-- Part 1: Calculation of the absorption of sound by the atmosphere;*
- *ISO 9613-2:1996, Acoustics -- Attenuation of sound during propagation outdoors -- Part 2: General method of calculation;*
- *ISO 3891:1978, Acoustics -- Procedure for describing aircraft noise heard on the ground.*

The calculations account for classical sound wave divergence (i.e., spherical spreading loss with adjustments for source directivity from point sources) plus attenuation factors due to air absorption, minimal ground effects, and barriers/shielding.

This model has been validated by AAC over a number of years via noise measurements at several operating industrial sites that had been previously modeled during the engineering design phases. The comparison of modeled predictions versus actual measurements has consistently shown close agreement; typically in the range of 1 to 3 dB (A).

References:

[1] FHWA Highway Traffic Noise Prediction Model; see Federal Highway Administration Report Number FHWA-RD-77-108, USA, Washington, D.C., 1978.

***A detailed presentation of blasting technology can be found in the annex 7.1 - Proposed blasting technology for the operational phase of Roşia Montană Project.***

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The partnership between Gabriel Resources and Regia Autonomă a Cuprului Deva (currently, CNCAF Minvest SA) has been established based on Law no. 15/1990 on the reorganization of the state owned companies as autonomous directions and trade companies, published in the Official Gazette, Section I, no. 98/08.08.1990, as subsequently amended and supplemented. Art. 35 of this law provides the possibility of the regies autonomous to enter into partnerships with legal third parties, Romanian or foreign, for the purpose of setting up new trading companies.

Roşia Montană Gold Corporation SA was set up in 1997, according to the legal provisions in force as at that time, the setting up being made by observing all the conditions imposed by Company Law no. 31/1990 and Trade Register Law no. 26/1990, in regard of the setting up of the joint stock companies with mixed capital.

We underline that the Articles of Associations of Roşia Montană Gold Corporation SA, representing the result of the parties agreement in regard of the terms and conditions under which the partnership between the Romanian state and investor takes place represents a public document, being included in the category of documents which, as per Law no. 26/1990 on the Trade Register, are published in the Romanian Official Gazette and for which the Trade Register is obliged to issue, on the expense of the persons submitting a request, certified copies.

As for the agreement concerning the setting up of the mixed company together with Gabriel Resources Ltd., this has been expressed by the Ministry of Industry and Trade, the conditions imposed by the setting up of the mixed company being the following: (i) ensuring of the jobs at the level existing upon the conclusion of the agreement concerning the setting up of the mixed company; (ii) the expenses incurred by the fulfillment of the exploration stage should be fully supported by Gabriel; (iii) the obtaining of the approval from the ANRM by the Copper Autonomous Direction Deva and (iv) the observance of all legal provisions in force concerning the setting up of the mixed companies with foreign partners. These conditions have been fully complied with as at the setting up of the company and during the development of its activity.

We also specify that the establishing of the shareholders' quotas to the benefits and losses of Roşia Montană Gold Corporation SA has been made by considering their contribution quota to the company's share capital. The current percentage of 80% for Gabriel Resources Ltd. and of 19.31% for CNCAF Minvest SA resulted from the initial contribution and the subsequent contributions of the shareholders to the company's share capital, in consideration also of Gabriel Resources Ltd. advancing all expenses and costs related to the development-exploitation and permitting of the Roşia Montană Mining Project.

The provisions of the Articles of Associations of Roşia Montană Gold Corporation SA on the necessary majority and quorum conditions for the decision-making process within the General Shareholders Meeting and the quotas to the benefits and losses of the company are taken from Law no. 31/1990, and no derogation exists in regard of this aspect.

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This claim is not true; the Urbanism Plan has been prepared with public consultation.

Roşia Montană Gold Corporation SA (RMGC) has requested and obtained from Alba County Council the Urbanism Certificate no. 78 of 26.04.2006, for the entire Roşia Montană mining project, including the tailings management facility. The Urbanism Certificate also stipulated the preparation of a Zonal Urbanism Plan, to reflect all changes made to the Roşia Montană Project, following the public



consultations and debates organized in relation to this project, and the consultations with the permitting authorities. This plan, entitled “Modification of the Zonal Urbanism Plan, Roșia Montană Industrial Area”, was prepared and subjected to public debate in June 2006 in accordance with the provisions of Order no.176/N/2000 issued by the Ministry of Public Works and Territory Development for the approval of the technical regulations “Guidelines regarding the methodology applied for the preparation and framework content of the Zonal Urbanism Plan” and, at present, it is pending approval.

Concerning the Roșia Montană General Urbanism Plan approved in 2002, such plan was prepared in parallel with the Zonal Urbanism Plan of 2002, all the provisions of the General Urbanism Plan being also included in the Zonal Urbanism Plan. Also, the approval procedure related to the two urbanism plans was carried out in parallel.

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Preventive archaeological researches within the Roșia Montană mining project area have been undertaken based on specific techniques, specifically trial trenches in all accessible areas that are suitable for human habitation, taking into account the bibliographical information and the observations recorded during the archaeological survey campaigns, the geophysical studies and the analyses of the photogrammetric flights. In addition, surface investigations were undertaken, where appropriate.

The archaeological researches at Roșia Montană covered a large surface and focused on the areas known to have archaeological potential. THEREFORE, ALL AREAS THAT HAVE BEEN ARCHAEOLOGICALLY DISCHARGED HAD BEEN PREVIOUSLY INVESTIGATED. All research programs, beginning with the 2004 campaign, have been undertaken in full compliance with the current legal requirements, i.e. Ministerial Order no. 2392 of 6 September 2004 on the establishment of the Archaeological Standards and Procedures by the Ministry of Culture and Religious Affairs.

The proposed gold mining project at Roșia Montană has raised a series of issues related to the rescue of the historical-archaeological heritage within the area, as well as issues related to its scientific development and also the enhancement of heritage within a museum. Given the complex difficulties encountered in this respect, the Ministry of Culture and Religious Affairs decided to initiate the “Alburnus Maior” National Research Program.

The company’s role was to provide the necessary financial resources for the assessment, research and enhancement of the archaeological remains, in full compliance with the Romanian current legislation. The development of the research and of the archaeological discharge works has been conducted through specific means and methodologies that have been adjusted to the realities of every site researched, in our case, Roșia Montană. They consisted in:

- Archives studies;
- Archaeological surveys; trial trenches;
- aerial reconnaissance/survey and aerial photo interpretation ; high resolution satellite images;
- mining archaeology studies; underground topography and 3D modeling;
- geophysical surveys;
- extensive archaeological investigations in the areas with an identified archaeological potential- this implied carrying out archaeological excavations;
- Interdisciplinary studies- sedimentology, archaeo-zoology, comparative palynology, archaeo-metallurgy, geology, mineralogy;
- Radiocarbon dating and dendrochronology;
- This research and its results were included in an integrated database;
- traditional and digital archaeological topography and development of the GIS project; generate a photo archive- both traditional and digital;
- restoration of artifacts;
- an inventory and a digital catalogue of the artifacts;
- studies conducted by specialists in order to enhance the research results - publication of monographs/scientific books and journals, exhibitions, websites, etc.

All the preventive archaeological researches undertaken at Roșia Montană since 2000 have been carried out as part of a complex research program; permits for preventive archaeological excavations being issued

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in compliance with the current legislation. These archaeological investigations have been undertaken by representatives of 21 specialized institutions from Romania and 3 others from abroad, under the scientific coordination of the Romanian National Museum of History. All archaeological researches have been conducted in full compliance with the existing legislation. The investigations undertaken during each archaeological research campaign have been approved by the Ministry of Culture and Religious Affairs based on the Annual Archaeological Research Plan approved by the National Commission of Archaeology.

Under the current legislation (Ministerial Order no. 2392 of 6 September 2004 on the establishment of the Archaeological Standards and Procedures by the Ministry of Culture and Religious Affairs) the archaeologists who have conducted the research may ask that an archaeological discharge certificate be granted. Based on a complex research program, the archaeologists prepare comprehensive documentation with regard to the researched area. Upon consideration of the submitted documentation, the National Commission of Archaeology makes a decision as to whether to recommend or not the granting of the archaeological discharge certificate. In the case of the research conducted in the period 2001-2006, the archaeological discharge certificate was issued directly by the Ministry of Culture and Religious Affairs or by its local agencies.

Preventive archaeological researches at Roșia Montană have allowed the research of five Roman cremation necropolis (Tău Corna, Hop-Găuri, Țarina, Jig - Piciorag and Pârâul Porcului – Tăul Secuilor), two funerary areas (Carpeni, Nanului Valley), sacred areas (Hăbad, Nanului Valley), habitation areas (Hăbad, Carpeni, Tăul Țapului, Hop), the most significant being the Roman structures on the Carpeni Hill and the circular funerary monument at Tău Găuri. In addition, for the first time in Romania, surface investigations have been paralleled by underground investigations of Cetate, Cârnic, Jig and Orlea massifs, with important discoveries in the Piatra Corbului, area, Cătălina-Monulești gallery and the Păru Carpeni mining sector.

The research consisted of aerial photo interpretation, archaeological magnetometric studies, electrical resistivity, palynology, sedimentology, geology studies, radiocarbon and dendrochronology dating. For a better management of the research units and of the archaeological findings, data bases were used, including text and photographs-among which 4 satellite images (an archive satellite image type SPOT Panchromatic (10m) from 1997; 2 satellite images LANDSAT 7 MS (30 m), dating from 2000 and 2003; a satellite image with priority programming SPOT 5 SuperMode color (2,5 m resolution-19 July 2004); all data have been included in a comprehensive GIS program, a first in the Romanian archaeological research.

In the case of archaeological monuments that are located close to industrial facilities, plans have been redesigned to ensure that the archaeological remains in question will not be affected. Where appropriate, the archaeological monument was preserved in situ and restored, i.e. the circular funerary monument at Hop-Găuri (see The “Alburnus Maior” monograph series, volume II, Bucharest, 2004). Another example in this respect is the Carpeni Hill, designated an “archaeological “ reserve, and the Piatra Corbului area. In 2004, after being thoroughly investigated, these areas have been included on the List of Historic Monuments. Add to this the areas where ancient mining remains will be preserved, such as the Cătălina Monulești gallery and the mining sector Păru Carpeni, as well as the protected area Roșia Montană Historic Center, including a number of heritage assets (35 historic monument houses).

We emphasise in this respect that the identified and researched structures have been published in preliminary form in the Archaeological Research Chronicle of Romania, after every archaeological research campaign, as well as in volume 1 of the Alburnus Maior monographic series. We mention here the areas where Roman habitation structures have been identified and researched, as well as the references to be consulted for further information: Hop-Găuri, Carpeni, Tăul Țapului (CCA 2001 (2002), p. 254-257, no. 182; 261-262, nr. 185; 264-265, no. 188; 265-266, no. 189. Alburnus Maior I, 2003, p. 45-80; 81-122; 123-148; CCA 2001 (2002), 257-261; CCA 2003 (2004) ,280-283; Alburnus Maior I, 2003, p. 387-431, 433-446, 447-467).

For further details related to the applicable legal framework, the responsibilities of the Project titleholder, or for a detailed description of the preventive archaeological researches undertaken to date and of the Cultural Heritage Management Plans, please see Annex called “Information on the Cultural heritage of Roșia and Related Management Aspects”. In addition, the annex includes supplementary information with regard to the result of the researches undertaken as part of the “Alburnus Maior” National Research Program between 2001 and 2006.

In conclusion, the area mentioned by the questioner has been researched in accordance with the Romanian legal requirements, as well as with European standards and practices in the field.

Note that the type of research undertaken at Roşia Montană, known as preventive/rescue archaeological research, as well as other related heritage studies, are done everywhere in the world in close connection with the economic development of certain areas. Both the costs for the research and for the enhancement and maintenance of the preserved areas are provided by investors, in a public-private partnership set up in order to protect the cultural heritage, as per the provisions of the European Convention on the Protection of the Archaeological Heritage (Malta-1992) [1].

References:

[1]The text of the Convention is available at the following address:  
<http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=143&CM=8&DF=7/6/2006&CL=ENG>

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In 2000, in the context of the proposal of a new mining project in the Roşia Montană area, the Ministry of Culture and Religious Affairs approved a series of studies to be conducted in order to research the archaeological and architectural heritage of the area. And at the end of that year, the Design Centre for National Cultural Heritage (now the National Institute for Historical Monuments) presented the preliminary results of these researches to the National Commission for Historical Monuments and of the National Commission of Archaeology. Based on these results, in 2001, the Ministry of Culture and Religious Affairs initiated the “Alburnus Maior” National Research Program (the Order no. 2504 / 07.03.2001 of the Minister of Culture and Religious Affairs) in compliance with the Law 378/2001 (as subsequently amended by Law 462/2003 and by Law 258/2006 and Law 259/2006). Thus, since 2000, the Ministry of Culture and Religious Affairs – directly or through its subordinate institutions - has fulfilled its duties with regard to the management of the issues related to Roşia Montană’s heritage.

Thus, the preventive archaeological researches have been conducted by the representatives of 21 national institutions and 3 others from abroad under the scientific coordination of the National Museum of History of Romania. They have been carried out based on the annual approval of the National Commission of Archaeology of the Ministry of Culture and Religious Affairs. In accordance with the legislation in force, this research program is carried out with the financial support provided by RMGC (the company that plans to expand and continue to mine the gold-silver deposit in Roşia Montană). Thus, large-scale preventive investigations have been conducted or are underway in the RMP impact area. A proposal will be made based on the results thereof either for the archaeological discharge of some researched perimeters from the project perimeter or the preservation *in situ* of certain representative structures and monuments, in compliance with the legislation in force. In the case of the areas proposed for conservation and the ones for which the archaeological discharge measure was applied, the decision was made based on the surveys conducted by specialists and on the analysis of the National Commission of Archaeology. In the period 2000-2005, the mining project underwent a series of modifications designed to promote the implementation of the decision regarding the conservation of the local heritage. Examples of these include: extending the duration of the field investigations on several years (e.g. Ţarina, Pârâul Porcului, Orlea) and changing the location of some elements of infrastructure in order to allow the conservation of the archaeological remains found in the Carpeni, Tău Găuri and Pietra Corbului areas.

**The architectural and town-planning surveys** have been conducted, in accordance with the legislation in force, by companies certified by the Ministry of Culture and Religious Affairs, while the town-planning documentations drafted by these companies and the restoration and conservation works undertaken so far have been approved by the National Commission for Historical Monuments. Thus, the town-planning documentations have been approved and implemented in accordance with current legislation, and the company has agreed to these decisions and modified the mine development plans accordingly:

**Extensive ethnographic research** was conducted in the Roşia Montană-Abrud-Corna area in the period 2001-2004 coordinated by a team of specialists for the Romanian Village Museum „Dimitrie Gusti” (a National Museum directly under the coordination of the Ministry of Culture and Religious Affairs). Moreover, a broad series of oral history interviews was conducted in the period 2001-2002 by the Romanian Radio Broadcasting Company through the „Gheorghe Brătianu” Oral History Centre, Bucharest

(SRR - CIO).

In compliance with the requirements of the Ministry of Environment and Waters Management and the Ministry of Culture and Religious Affairs, specific management plans have been drawn up for the management and conservation of the heritage remains from the Roşia Montană area, in the context of the implementation of the mining project. These plans have been included in the documentation prepared for the Report on the Environmental Impact Assessment Study. (see EIA Report, volume 32-33, Plan M- *Cultural Heritage Management Plan*, part I –*Management Plan for the Archaeological Heritage from Roşia Montană Area*; part II-*Management Plan for the Historical Monuments and Protected Zone from Roşia Montană*; part III- *Cultural Heritage Management Plan*).

These management plans comprise detailed presentations of the obligations and responsibilities regarding the protection and conservation of the heritage remains from the Roşia Montană area, which the company has assumed in the context of the implementation of the mining project, according to the decision of the central government. These heritage remains include: archaeological remains above and under the ground, historic buildings, protected areas, intangible heritage assets, cultural landscape items, etc. In this context, it should be noted that besides the works for the protection and preservation of the archaeological heritage, works are being carried out for the rehabilitation and conservation of the protected area Historical Centre Roşia Montană (comprising 35 historic buildings, and projects for the restoration of 11 of these buildings are currently being drafted), Tăul Mare, Tăul Brazi and Tăul Anghel as well as remains of the surface mining works from the Vaidoia area and the creation of a modern museum dedicated to the history of mining in the Apuseni Mountains area. This museum will be established in the coming years and it will include exhibitions of geology, archaeology, industrial and ethnographic heritage as well as an underground section organized around the Cătălina Monuleşti gallery.

Moreover, representatives of the Directorate for Culture, Religious Affairs and National Cultural Heritage of Alba County have visited Roşia Montană many times in order to collect information and to check the situation. The same administrative body was the intermediary for the specific stages of acquisitions of historic buildings made by RMGC. The Ministry of Culture and Religious Affairs expressed its pre-emption right regarding the acquisition of these buildings.

Note that apart from the obligations undertaken by RMGC as regards the protection and conservation of the archaeological remains and historical monuments, there are a whole series of obligations, which rest with the local public authorities from Roşia Montană and from Alba County and with the central public authorities, namely the Romanian Government.

These aspects are further detailed in the Cultural Heritage Management Plans included in the EIA Report (see EIA Report, volume 32, *Management Plan for the Archaeological Heritage from Roşia Montană Area*, pages 21-22, 47, 52-53, 66-67-Romanian version/ 22-24; 47; 55-56; 71-72 English version) and the EIA Report, volume 33- *Management Plan for the Historical Monuments and Protected Zone from Roşia Montană* pages 28-29, 48-50, 52-53, 64-65, page 98 – Annex 1- Romanian version/ 28-29; 47-50; 51-53; 65-66; 103- Annex 1- English version).

Item no. 1705

No. to identify the observations received from the public  
No.  
110703/  
25.08.2006

**Proposal**

The questioner opposes the proposed gold and silver mining project at Roşia Montană and makes the following observations and comments:

- The tailings pond is unlined and is a hazard for the town of Abrud, as there is the risk of a failure;
- Total costs for closing the mine are unrealistic;
- The Project poses a threat for protected flora and fauna;
- The phase of public consultation and quality evaluation of the impact assessment study report begun without a valid urbanism certificate;
- The company could not find an insurer for the mining project.
- The EIA report does not assess the "zero alternative";
- The EIA report does not include an assessment of the "cyanide rain" phenomenon.

SEE THE CONTENT OF TYPE 2 CONTESTATION

An engineered liner is included in the design of the Tailings Management Facility (TMF) basin. Specifically, the Roşia Montană Tailings Management Facility (TMF or "the facility") has been designed to be compliant with the EU Groundwater Directive (80/68/EEC), transposed as Romanian GD 351/2005. The TMF is also designed for compliance with the EU Mine Waste Directive (2006/21/EC) as required by the Terms of Reference established by the MEWM in May, 2005. The following paragraphs provide a discussion of how the facility is compliant with the directives.

The TMF is composed of a series of individual components including:

- the tailings impoundment;
- the tailings dam;
- the secondary seepage collection pond;
- the secondary containment dam; and
- the groundwater monitoring wells/extraction wells located downstream of the Secondary Containment dam.

All of these components are integral parts of the facility and necessary for the facility to perform as designed.

**Solution**

The directives indicated above require that the TMF design be protective of groundwater. For the Roşia Montană project (RMP), this requirement is addressed by consideration of the favorable geology (low permeability shales underlying the TMF impoundment, the TMF dam and the Secondary Containment dam) and the proposed installation of a low-permeability ( $1 \times 10^{-6}$  cm/sec) recompacted soil liner beneath the TMF basin. Please see Chapter 2 of EIA Plan F, "The Tailings Facility Management Plan" for more information.

The proposed low permeability soil liner will be fully compliant with Best Available Techniques (BAT) as defined by EU Directive 96/61 (IPPC) and EU Mine Waste Directive. Additional design features that are included in the design to be protective of groundwater include:

- A low permeability ( $1 \times 10^{-6}$  cm/sec) cut off wall within the foundation of the starter dam to control seepage;
- A low permeability ( $1 \times 10^{-6}$  cm/sec) core in the starter dam to control seepage;
- A seepage collection dam and pond below the toe of the tailings dam to collect and contain any seepage that does extend beyond the dam centerline;
- A series of monitoring wells, below the toe of the secondary containment dam, to monitor seepage and ensure compliance, before the waste facility limit.

In addition to the design components noted above specific operational requirements will be implemented

to be protective of human health and the environment. In the extremely unlikely case that impacted water is detected in the monitoring wells below the secondary containment dam, they will be converted to pumping wells and will be used to extract the impacted water and pump it into the reclaim pond where it will be incorporated into the RMP processing plant water supply system, until the compliance is reestablish.

### **Proximity to Abrud**

The EIA describes how the dam will be built with rockfill materials, engineered drain and filter materials and a low permeability core to control seepage. The facility is being designed and engineered by MWH, one of the leading dam designers in the world. In addition, the feasibility level designs have been reviewed and approved by certified Romanian dam experts and by the Romanian National Committee for the Safety of Large Dams. Prior to operation, the dam must again be certified for operations by the National Commission for Dams Safety (CONSIB).

The Tailings Management Facility (TMF) dam is rigorously designed to incorporate all EU, Romanian and international criteria to reduce the risk of failure. These guidelines allow for significant rainfall events and prevent dam failure due to overtopping. Specifically, the facility has been designed to store for the run off from two Probable Maximum Precipitation (PMP) events. This is generally referred to as the Probable Maximum Flood (PMF). The design criterion for TMF includes storage for two PMF flood events, more rain than has ever been recorded in this area.

Additionally, an emergency spillway for the dam will be constructed in the unlikely event that the site rainfall exceeds two PMPs. The TMF design therefore very significantly exceeds required standards for safety. This has been done to ensure that the risks involved in using Corna valley for tailings storage are well below what is considered safe in every day life.

Section 7 of the EIA report includes an assessment and analysis of risks and includes various dam break scenarios. Specifically, the dam break scenarios were analyzed for a failure of the starter dam and for the final dam configuration. The dam break modeling indicates the extent of tailings runout for the specific conditions analyzed. Based on the two cases considered the tailings would not extend beyond the confluence of the Corna valley stream and the Abrud River.

However, the project recognizes that in the highly unlikely case of a dam failure that a Emergency Preparation and Spill Contingency Management Plan must be implemented. This plan was submitted with the EIA as Plan I, Volume 28.

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RMGC's closure estimates, which were developed by a team of independent experts with international experience and will be reviewed by third party experts, are based on the assumption that the project can be completed according to the plan, without interruptions, bankruptcy or the like. They are engineering calculations and estimates based on the current commitments of the closure plan and are summarized in the EIA's Mine Closure and Rehabilitation Management Plan (Plan J in the EIA). Annex 1 of Plan J will be updated using a more detailed approach looking at every individual year and calculating the amount of surety, which must be set aside year by year to rehabilitate the mine before RMGC is released from all its legal obligations. Most importantly, the current estimates assume the application of international best practice, best available technology (BAT) and compliance with all Romanian and European Union laws and regulations.

Closure and rehabilitation at Roşia Montană involves the following measures:

- Covering and vegetating the waste dumps as far as they are not backfilled into the open pits;
- Backfilling the open pits, except Cetate pit, which will be flooded to form a lake;
- Covering and vegetating the tailings pond and its dam areas;
- Dismantling of disused production facilities and revegetation of the cleaned-up areas;
- Water treatment by semi-passive systems (with conventional treatment systems as backup) until all effluents have reached the discharge standards and need no further treatment;
- Maintenance of the vegetation, erosion control, and monitoring of the entire site until it has been demonstrated by RMGC that all remediation targets have been sustainably reached.

While the aspects of closure and rehabilitation are many, we are confident in our cost estimates because the largest expense—that incurred by the earthmoving operation required to reshape the landscape—can be estimated with confidence. Using the project design, we can measure the size of the areas that must be reshaped and resurfaced. Similarly, there is a body of scientific studies and experiments that enable scientists to determine the depth of soil cover for successful re-vegetation. By multiplying the size of the areas by the necessary depth of the topsoil by the unit rate (also derived from studying similar earthmoving operations at similar sites), we can estimate the potential costs of this major facet of the rehabilitation operation. The earthmoving operation, which will total approximately US \$65 million, makes up 87% of closure and rehabilitation costs.

Also, the necessity of additional technological measures to stabilize and reshape the tailings surface will be discussed in the update of the Economical Financial Guarantee (EFG) estimate, which leads to an increase the provisions for tailings rehabilitation, especially if the TMF is closed prematurely and no optimized tailings disposal regime is applied. The exact figures depend on the details of the TMF closure strategy which can be finally determined only during production.

We believe that—far from being too low—our cost estimates are evidence of our high level of commitment to closure and rehabilitation. Just as a comparison, the world's largest gold producer has set aside US \$683 million (as of December 31, 2006) for the rehabilitation of 27 operations, which equates to US \$25 million on average per mine. The RMGC closure cost estimates, recently revised upward from the US \$73 million reported in the EIA based on additional information, currently total US \$76 million.

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The impact on protected flora and fauna will exist only locally, but this impact will not lead to the loss of any specie. The Project has been designed even from the beginning to fully comply with the requirements and norms imposed by Romanian and European environmental legislation.

The company believes the fact that the project impact on environment remains significant, especially because covers previous impacts. But, the investments required to ecologically restore/rehabilitate Roşia Montană area in order to address current complex environmental issues, are only achievable following the implementation of some economic projects that will generate and warrant implementation of some direct and responsible actions as a component of base principles of sustainable development concepts. Clean processes and technologies may be developed only in the presence of a solid economic environment fully compliant with the environment that will also resolve previous impacts of anthropic activities.

The base documents of the Project are in fact an unbiased reason of its implementation, considering the highly complex environmental commitment within Roşia Montană area.

Some of the Roşia Montană species that are under a certain protection status stand for an insignificant percentage of the scale of populations estimated at national level. The characterization of species from their habitat point of view exists in the species tables presented in the Biodiversity Chapter of the EIA Report and its annexes, although this is not a requirement imposed by the Habitats Directive. Due to their large volume of information, the annexes of chapter 4.6 Biodiversity can be found in the electronic version of the EIA disclosed by the company both in Romanian and English through approx. 6,000 DVD/CD copies, being accessible on the company website, and on the websites of Ministry of Environment and Water Management, local and regional environmental protection agencies of Alba, Sibiu, Cluj, etc.

From practical point of view, the low value of conservation of the impact area is also indirectly emphasized by the fact that there is no proposal to designate the area a SPA (aviafaunistic special protected area) and by the denial as unfounded of the proposal to designate the area as a pSCI area (sites of community importance).

Taking all these into account, we believe that the proposed Project is compliant with the provisions of EU Directive no. 92/43 Habitats[1], and EU Directive no. 79/409 Birds[2] respectively, especially because within Biodiversity Management Plan, Plan H, several active and responsible measures are provided to reconstruct/rehabilitate several natural habitats, pursuant to the provisions of the same documents [3].

References:

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[1] art.3, 2nd paragraph, Each Member State shall contribute to the creation of Natura 2000 (network) in proportion to the representation within its territory of the natural habitat types and the habitats of species referred to in paragraph 1. To that effect each Member State shall designate, in accordance with Article 4, sites as special areas of conservation taking account of the objectives set out in paragraph 1.

art.4, 1st paragraph. On the basis of the criteria set out in Annex III (Stage 1) and relevant scientific information, each Member State shall propose a list of sites indicating which natural habitat types in Annex I and which species in Annex II that are native to its territory the sites host. For animal species ranging over wide areas these sites shall correspond to the places within the natural range of such species which present the physical or biological factors essential to their life and reproduction. For aquatic species which range over wide areas, such sites will be proposed only where there is a clearly identifiable area representing the physical and biological factors essential to their life and reproduction. Where appropriate, Member States shall propose adaptation of the list in the light of the results of the surveillance referred to in Article 11. [...]

2nd paragraph.[...] Member States whose sites hosting one or more priority natural habitat types and priority species represent more than 5 % of their national territory may, in agreement with the Commission, request that the criteria listed in Annex III (Stage 2) be applied more flexibly in selecting all the sites of Community importance in their territory.[...]

Art. 6, 4th paragraph. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Art. 16. Provided that there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range, Member States may derogate from the provisions of Articles 12, 13, 14 and 15 (a) and (b):[...]

- in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment;

[2] Art.4, 1st paragraph. The species mentioned in annex 1 shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution. [...]

Trends and variations in population levels shall be taken into account as a background for evaluations. Member states shall classify in particular the most suitable territories in number and size as special protection areas for the conservation of these species, taking into account their protection requirements in the geographical sea and land area where this directive applies.

[3] Directive 92/43 Habitats, art. 2, 2nd paragraph; Directive 79/409 Birds, art. 3, 2nd paragraph, letter c.

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Your assertion regarding the failure to obtain an applicable urbanism certificate at the start up of the public debates and of the evaluation of the quality of the report to the environmental impact assessment, is not correct.

Thus, by the time when the public debate stage started up there was an applicable urbanism certificate and namely the urbanism certificate no. 78/26.04.2006 issued by Alba County Council. This certificate was obtained prior to the evaluation stage of the quality of the report to the environmental impact assessment which started up once the EIA was submitted to the Ministry of Environment and Water Management on the 15<sup>th</sup> May 2006.

For better understanding the applicable legal provisions and the facts developed within the mining

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project of Roşia Montană zone we would like to make several comments:

- The procedure for issuing the environmental permit for Roşia Montană project started up on the 14<sup>th</sup> December 2004 by submitting the technical memorandum and the urbanism certificate no.68/26.August 2004 (certificate applicable by that time). S.C. Roşia Montană Gold Corporation S.A. (RMGC) applied for and obtained a new urbanism certificate no.78/26.04.2006 issued by Alba County Council for the entire Roşia Montană Project applicable on the date of the EIA Report submission (15<sup>th</sup> May 2006) and prior to the public debate strat up (June 2006);
- The Section 1 of the urbanism certificate no.78 of 26<sup>th</sup> 04.2006 entitled Work construction, position 10 – “Processing plant and associated constructions “ – including the tailing management facility which existence is compulsory for the processing plant running. The Tailing management facility is also specified on the layout plans which are integral part of the urbanism certificate and they were sealed by Alba County Council so that they cannot be modified;
- The Urbanism Certificate is an informative document and its goal is only to inform the applicant about the legal, economic and technical regime of the existing lands and buildings and to establish the urbanism requirements and the approvals necessary to obtain the construction permit (including the environmental permit) as per art.6 of Law 50/1991 referring to the completion of construction works, republished and art 27 paragraph 2 of the Norms for the application of Law 50/1991 – Official Journal 825 bis/13.09.2005).

As it is an informative document, it does not limit the number of certificates an applicant may obtain for the same land plot ( art. 30 of Law no. 350/2001 regarding the territorial planning and urbanism).

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With respect to the issues indicated by you, namely the insurance of mining projects, we would like to underline the fact that the Directive no. 2004/35/CE regarding **on environmental liability with regard to the prevention and remedying of environmental damage**, which has been published in the Official Journal of the European Union no. L143/56 (“Directive no. 35/2004”) establishes the general governing framework with regard to environmental pollution.

According to the provisions stipulated by art. 1 of Directive no. 35/2004 “The purpose of this directive is to establish a framework of environmental liability based on the ‘polluter-pays’ principle, to prevent and remedy environmental damage.”

Directive no. 35/2004 states as a principle pursuant to the provisions of art. 14(1) the fact that “Member States shall take measures to encourage the development of financial security instruments and markets by the appropriate economic and financial operators, including financial mechanisms in case of insolvency, with the aim of enabling operators to use financial guarantees to cover their responsibilities under this Directive”.

Moreover, according to the provisions of art. 19(1) Directive no. 35/2004, Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 30 April 2007. We would like to underline the fact that, up to now, the Directive no. 35/2004 hasn’t been transposed into our legislation. Taking into account the previously mentioned aspects, we kindly ask you to take notice of the fact that, at this moment there are no internal legal regulations to establish the material and procedural aspects related to the establishment of such a guarantee.

However, if specific legal dispositions are going to be created with regard to the establishment of certain guarantees, RMGC is going to take all necessary measures to fulfill all mandatory legal liabilities.

Moreover, we underline the fact that RMGC has contracted one of the world’s leading insurance brokers, which is well established in Romania and has a long and distinguished record of performing risk assessments on mining operations. The broker will use the most appropriate property and machinery breakdown engineers to conduct risk analysis and loss prevention audit activities, during the construction and operations activity at Roşia Montană, to minimize hazards. The broker will then determine the appropriate coverage, and work with A-rated insurance companies to put that program in place on behalf of RMGC, for all periods of the project life from construction through operations and closure.

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RMGC is committed to maintaining the highest standards of occupational health and safety for its

employees and service providers. Our utilization of Best Available Techniques helps us to ensure this goal is achieved. No organization gains from a loss, and to that end we will work to implement engineering solutions to risk, as they are far superior to insurance solutions to risk. Up to 75% of loss risk can be removed during the design and construction phase of a project.

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The Report on the Environmental impact assessment study (EIA) considered all alternative developments, including the option of not proceeding with any project – an option that would generate no investment, allowing the existing pollution problems and socio-economic decline to continue (Chapter 5 – *Assessment of Alternatives*).

The report also considered alternative developments – including agriculture, grazing, meat processing, tourism, forestry and forest products, cottage industries, and flora/fauna gathering for pharmaceutical purposes – and concluded that these activities could not provide the economic, cultural and environmental benefits brought by the Roşia Montană Project (RMP).

Chapter 5 also examines alternative locations for key facilities as well as alternative technologies for mining, processing and waste management, in line with best practice and as compared against published EU best available techniques (BAT) documentation.

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It is stated precisely that a “cyanide rain” phenomenon will not exist. Neither was encountered in other places or situations. Moreover, the specialty literature doesn’t make any mentions related to the so-called “cyanide rains” phenomenon, but only “acidic rains” phenomenon which can’t be generated by the cyanic compounds breaking down in the atmosphere.

The reasons for making the statement that ‘cyanide rains’ phenomenon won’t occur are the followings:

- The sodium cyanide handling, from the unloading from the supplying trucks up to the processing tailings discharge onto the tailings management facility, will be carried out only in liquid form, represented by alkaline solutions of high pH value (higher than 10.5 – 11.0) having different sodium cyanide concentrations. The alkalinity of these solutions has the purpose to maintain the cyanide under the form of cyan ions ( $CN^-$ ) and to avoid the hydrocyanic acid formation (HCN), phenomenon that occurs only within environments of low pH;
- The cyanide volatilization from a certain solution cannot occur under the form of free cyanides, but only under the form of HCN;
- The handling and storage of the sodium cyanide solutions will take place only by means of some closed systems; the only areas/plants where the HCN can occur and volatilize into air, at low emission percentage, are the leaching tanks and slurry thickener, as well the tailings management facility for the processing tailings;
- The HCN emissions from the surface of the above mentioned tanks and from the tailings management facility surface can occur as a result of the pH decrease within the superficial layers of the solutions (that helps the HCN to form) and of the desorption (volatilization in air) of this compound;
- The cyanide concentrations within the handled solutions will decrease from 300 mg/L within the leaching tanks up to 7 mg/L (total cyanide) at the discharge point into the tailings management facility. The drastic reduction of the cyanide concentrations for discharging into the Tailings Management Facility (TMF) will be done by the detoxification system;
- The knowledge of the cyanide chemistry and on the grounds of the past experience, we estimated the following possible HCN emissions into air: 6 t/year from the leaching tanks, 13 t/year from the slurry thickener and 30 t/year (22.4 t, respectively 17 mg/h/m<sup>2</sup> during the hot season and 7.6 t, respectively 11.6 mg/h/m<sup>2</sup> during the cold season) from the tailings management facility surface, which totals 134.2 kg/day of HCN emission;
- Once released into air, the hydrocyanic acid is subject to certain chemical reactions at low pressure, resulting ammonia;
- The mathematical modeling of the HCN concentrations within the ambient air (if the HCN released in the air is not subject to chemical reactions) emphasized the highest concentrations being at the ground level, within the industrial site namely within the area of the tailings

management facility and within a certain area near the processing plant. The maximum concentration is of 382  $\mu\text{g}/\text{m}^3/\text{h}$ ;

- The highest HCN concentrations within the ambient air will be 2.6 times lower than the standard value stipulated by the national legislation for labor protection;
- The HCN concentrations within the ambient air in the populated areas close by the industrial site will be of 4 to 80  $\mu\text{g}/\text{m}^3$ , more than 250 – 12.5 times lower than standard value stipulated by the national legislation for labor protection – the national legislation and European Union (EU) legislation on the Air Quality don't stipulate standard values for the population's health protection;
- Once released in air, the evolution of the HCN implies an insignificant component resulted from the reactions while liquid (water vapors and rain drops). The reactions are due to HCN being weak water-soluble at partially low pressures (feature of the gases released in open air), and the rain not effectively reducing the concentrations in the air (Mudder, et al., 2001; Cicerone and Zellner, 1983);
- The probability that the HCN concentration value contained by rainfalls within and outside the footprint of the Project be significantly higher than the background values (0.2 ppb) is extremely low.

Details referring to the use of cyanide in the technological processes, the cyanides balance as well as the cyanide emission and impact of the cyanides on the air quality are contained in the Environmental Impact Assessment (EIA) Report, Chapter 2, Subchapter 4.1 and Subchapter 4.2 (Section 4.2.3).

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Item no.	1706 Same as: 1707
No. to identify the observations received from the public	No. 110702/25.08.2006 Same as: No. 110701/25.08.2006
Proposal	<p>The questioner does not agree to the promotion of the Roşia Montană Project, making the following comments:</p> <ul style="list-style-type: none"> <li>- In EIA there are no presented all the possible risks derived from this project;</li> <li>- Total costs for closing the mine are unrealistic;</li> <li>- There isn't until now an approved Zonal Urbanism Plan for the Protected Areas;</li> <li>- The phase of public consultation and quality evaluation of the impact assessment study report begun without a valid urbanism certificate;</li> <li>- Information about the foundation which RMGC will establish and subsidize is not given. This foundation follows to assume the obligations which the mining operation can not assume;</li> <li>- The present urbanism plans of the Roşia Montană commune do not correspond with the mining project proposal described in EIA;</li> <li>- There is no liner proposed for the tailings pond;</li> <li>- The proposed waste deposits will be not constructed according to the legislation in force; Also, the questioner sends within the letter two points of view of some independent specialists</li> <li>- No financial guarantees have been stipulated;</li> <li>- There is not a Safety Report submitted for the public consultation and evaluation by the competent authorities;</li> <li>- The EIA report does not assess the "zero alternative";</li> <li>- The Project poses a threat for protected flora and fauna;</li> <li>- The EIA report does not refer to the impact on the listed heritage buildings of noise and vibrations caused by the mining operations;</li> <li>- The public/ONGs wish to consult the contracts and agreements between Company and Romanian State;</li> <li>- The Urbanism Plan has been modified without public consultation;</li> <li>- From archeological point of view, the area proposed to be occupied by project was not legally investigated;</li> <li>- The questioner contests the protection of the architectural and spiritual monuments with the responsibility of the state institutions for the protection operation.</li> </ul> <p>SEE THE CONTENT OF TYPE 1 CONTESTATION</p>
Solution	<p>It is the nature of risk that it can be mitigated and diminished; it cannot be made to disappear. In order to put this into context, the common action of walking on the street or developing everyday activities have an accident potential. This accident potential is twice higher than within the framework of industrial activities that use hazardous substances.</p> <p>A major chapter of the EIA report was dedicated to the identification of risks for the project. In addition, this chapter provides a discussion of the mitigation measures for each risk and how they were incorporated into the project designs. It is recognized that risk identification is difficult due to the number and diversity of events that can be envisioned. The EIA report cannot assume to cover all of he potential risks associated with the project. However, it has attempted to identify and address the most relevant risks. The extent of risk assessment and the intensity of the prevention and mitigation measures should be proportional to the risk involved and therefore only the risks that have been considered important have been assessed in detail. Each is described below.</p> <p>In the larger sense, the entire EIA report is focused on the assessment of impacts and their associated mitigation. Specifically, Chapter 4 of the EIA presents that impact assessment of the project. The following discussion presents a summary of the impact discussed in the EIA.</p> <p>As far as natural and technological risks assessments are concerned, Chapter 7, "Risk Cases", from the Report on Environmental Impact Assessment, emphasizes the fact that safety and prevention measures,</p>

the implementation of the environmental management and risk systems are mitigating the consequences to acceptable levels as compared to the most restrictive norms, standards, the best practices or national and international recommendations in the field. The risk level has been established as moderate and so, socially acceptable. The extension of the risk assessment and the intensity of the prevention and mitigation measures of the consequences should be proportionate to the risk involved. Selection of a specific mitigation technique is depends on the analyzed accident scenario.

More detailed assessments are conducted for accident scenarios that, based on the qualitative assessment are found to be potentially major, of probability more than  $10^{-6}$  (reduced recovery periods of 1/1,000,000) meaning that they could have major consequences therefore, elevated associated risk, a higher risk level than 9 to 12 (on a scale of 1-25). To put this in context, simply living in southern Florida rates a 25 on the risk scale.

A global assessment of the risks associated with the Roşia Montană Project is obtained by the quick environmental and health risk assessment methodology initially developed by the Italian Ministry of the Environment and the World Health Organization. Natural hazard and risk identification and analysis presents key data and information in assessing potential technological accidents. Thus:

- In designing the Tailings Management Facility, the design parameters were chosen to fully cover the characteristic seismic risk of the area. These seismic design parameters adopted for the TMF and other facilities on the proposed site result in a safety factor much greater than the minimum accepted under the Romanian and European design standards for such facilities;

- in the sector physically impacted by the Project, the risk of floods will remain very low due to the small catchments (controlled by the Roşia and Corna Streams) the area affected by the operation, and the creation of containment, diversion and drainage hydro-technical structures for storm waters on the site, and in the Abrud catchment in general;

- risks caused by meteorological events have been reviewed and used in assessing the hazards of the affected technological processes.

From the analysis of morphometrical parameters and their correlation with other sets of information on the natural slopes on and near the site shows that the (qualitatively estimated) landslide occurrence risk is low to moderate and its consequences will not cause major impacts on the structural components of the Project.

There is no significant risk associated with resource depletion. Mining activities are planned judiciously, so as to extract only the profitable gold and silver resources and only the necessary construction rock for the Project. The management of the mining concession site will minimize reserve "sterilization" (limitation of future access to the reserves).

In assessing technological hazards and risks, the quantity of hazardous substances on the site was calculated as a total and by category, as provided by the *Notification Procedure* approved by Ministry of Agriculture, Forestry, Water and Environment (MAFWE) Order 1084/2003. Based on an evaluation of hazardous substances in stock on the Project site in relation to the relevant quantities provided by the Government Decision 95/2003 which transposes the Seveso Directive, the Project ranges between the upper and the lower limits, and therefore S.C. Roşia Montană Gold Corporation S.A. is required to prepare a Report on Environmental Impact Assessment Study to be sent to the local environmental authority and the local civilian protection authority a *Safety Report* on its operations to prevent major accident risks.

In assessing the consequences of major accidents involving dangerous substances, physical-mathematical models accepted internationally and especially at EU level, and the current version of the SLAB (Canada) software have been used, the latter for the atmospheric dispersion of denser than air gases, that may handle a multitude of situations and scenarios. Similarly, the EFFECTSGis 5.5 (Netherlands) software, developed for the analysis of the effects of industrial accidents and of consequences. Several scenarios were considered in response to the internal legislative requirements, especially related to the implementation of the Internal Emergency Plans (GD 647/2005). The conclusions of the risk assessment for major accidents were:

- The total destruction of plant facilities may only be caused by terrorist attack with classic or nuclear weapons. Simultaneous damage to the HCl tank (including containment) and to the NaCN solution tank, the tanks containing enriched solution, to one or more leaching tanks, having as a result HCN dispersion into the air. At the same time, under certain situations and weather conditions

unfavorable for dispersion, people within 40 m of the emission source, surprised by the toxic cloud for more than 1 minute without respiratory protection equipment, will most certainly die. It may also be considered that, on a radius of about 310 m, persons exposed for more than 10 minutes may suffer serious intoxications that may also lead to death. Toxic effects may occur in persons up to about 2 km downwind of the process plant;

- Operating errors and/or failures in the measurement and control devices, resulting in a lower pH in the leaching tank, thickener and/or DETOX slurry and accidental emissions of hydrocyanic acid. The area affected by concentrations of 290 ppm over a 10 min exposure time is within a circle of 36 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 157.5 m radius. The center of these circles is the middle of the CIL tanks platform;

- Accidental HCN emission from the decanter. The accident may be caused by a drop of pH in the CIL tanks combined with an overdose of flocculent solution and faulty pH monitoring systems. The area affected by concentrations of 300 ppm over a 10 min exposure time is within a circle of 65 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 104 m radius. The center of these circles is mid-distance between the two DETOX facilities;

- Accidental HCN emission from the DETOX facility. The accident may be caused by a drop of pH in the reactors generated by an overdose of metabisulfite solution and/or copper sulphate combined with faulty pH monitoring systems. The area affected by high 1900 ppm concentrations for a 1 min exposure time is located within a 10 m radius circle. The area affected by concentrations of 300 ppm over a 10 min exposure time is within a circle of 27 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 33 m radius. The center of these circles is mid-distance between the two DETOX facilities;

- Explosion of the LPG storage tank. The LPG storage tank has a 50 ton capacity and is located outdoors, near the heating plant. The simulation was conducted for the worst case scenario, considering an explosion of the full tank. Threshold I with heat 12.5 kW/m<sup>2</sup> is within a 10.5 m radius circle and Threshold II, of heat radiation 5 kW/m<sup>2</sup> is within a circle of 15 m radius;

- Damage and/or fire at the fuel tanks. Simulations were conducted for the worst case scenarios, considering ignition and combustion of all the diesel (fire in the tank, or in the containment vat, when full of diesel);

- Corna Dam break and breach development. Two credible accident scenarios were considered in simulating tailings flow out of the Tailings Management Facility, and six credible scenarios for the flow of decant water and tailings pore water, with significant effects on the terrestrial and aquatic ecosystems, in different weather conditions;

- Tailings flow may occur along Corna Valley, on a 800 m (starter dam break) or over 1600 m reach should the Corna dam break in its final stage;

- In regard to water quality impacts, cyanide concentrations in the water in the shape of a pollution plume may reach Arad, near the Romanian-Hungarian border on the Mureş River, in concentrations ranging between 0.03 and 0.5 mg/L. Due to inherent mathematical limitations in the models, these values and the accident effects are considered overestimated. Therefore, the results describe the "worst case scenario" based on extreme dam break assumptions for the Corna Dam.

A new and much more precise and realistic simulation has been subsequently established based on the INCA Mine model, that considers the dispersion, volatilization and breakdown of cyanides during the downstream movement of the pollutant flow (Whiteland et al., 2006).

The model used is the INCA model developed over the past 10 years to simulate both terrestrial and aquatic systems within the EUROLIMPACS EU research program ([www.eurolimpacs.ucl.ac.uk](http://www.eurolimpacs.ucl.ac.uk)). The model has been used to assess the impacts from future mining, and collection and treatment operations for pollution from past mining at Roşia Montană.

The modeling created for Roşia Montană simulates eight metals (cadmium, lead, zinc, mercury, arsenic, copper, chromium, manganese) as well as Cyanide, Nitrate, Ammonia and dissolved oxygen. The model has been applied to the upper catchments at Roşia Montană as well as the complete Abrud-Arieş-Mureş river system down to the Hungarian Border and on into the Tisa River. The model takes into account the dilution, mixing and physical-chemical processes affecting metals, ammonia and cyanide in the river system and gives estimates of concentrations at key locations along the river, including at the Hungarian Boarder and in the Tisa after the Mureş joins it.

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Because of dilution and dispersion in the river system, and of the initial EU BAT-compliant technology

adopted for the project (for example, the use of a cyanide destruct process for tailings effluent that reduces cyanide concentration in effluent stored in the TMF to below 6 mg/l), even a large scale unprogrammed release of tailings materials (for example, following failure of the dam) into the river system would not result in transboundary pollution. The model has shown that under worse case dam failure scenario all legal limits for cyanide and heavy metals concentrations would be met in the river water before it crosses into Hungary.

The INCA model has also been used to evaluate the beneficial impacts of the existing mine water collection and treatment and it has shown that substantial improvements in water quality are achieved along the river system under normal operational conditions.

For more information, an information sheet presenting the INCA modeling work is presented under the title of the Mureş River Modeling Program and the full modeling report is presented in Annex 5.1:

- Development of HCN on the tailings pond surface. Simulated emissions of HCN from the Tailings Management Facility pond surface and of their dispersion into the ambient air show that the level of  $400\mu\text{ g/m}^3$  hourly average and  $179\mu\text{ g/m}^3$  8hr average will not be exceeded. These HCN concentrations are only slightly over the odor threshold (0.17ppm) and much below potentially dangerous concentrations;

- Cetate Dam break and breach development. Flood modeling was in case of a break in Cetate dam was based on the design parameters obtained from the hydrometeorological study "Assessment of rainfall intensity, frequency and runoff for the Roşia Montană Project - Radu Drobot". The breach characteristics were predicted using the BREACH model, and the maximum height of the flood wave in various flow sections was modeled using the FLDWAV software. The assumptions included a total 800000  $\text{m}^3$  discharge for one hour, when the peak of the flood hydrograph is about 4.9 m above base flow immediately below the dam and in the narrow Abrud valley 5.9-7,5 km downstream of the dam, while in the last section considered (10,5 km) water depth is about 2.3 m above base flow and the maximum flow rate 877  $\text{m}^3/\text{s}$ . Further, the broader Aries valley allows the flood wave to propagate on a significantly wider bed, which results in a highly attenuated hydrograph. These results describe the "worst case scenario" based on extreme dam break assumptions:

- Accidents during cyanide transportation. Due to the large quantities of cyanide transported (about 30t /day) the risks associated to this activity were assessed in detail using the ZHA- Zurich Hazard Analysis method. As a consequence, the optimum transport route was selected from the manufacturer to the Process Plant, e.g.;

- Cyanide transport (in solid state) will exclusively involve special SLS (Solid to Liquid System) containers, 16 tons each. The ISO compliant container will be protected by a framework with legs, which allows separation from the transport trailer for temporary storage. The wall is 5.17 mm thick, which, together with the protective framework, provides additional protection to the load in case of accident. This system is considered BAT and is currently one of the safest cyanide transportation options.

It is being mentioned the fact that the study develops the occurrence possibility of these scenarios (pages 166-171, Conclusions).

As regards the cyanides management, there is a baseline study named "Roşia Montană Golden Project, Cyanides Management Plan" prepared in compliance with the "International Management Code for the Manufacture, Transport and Use of Cyanide in the Production of Gold (International Cyanide management Institute) May 2002". S.C. Roşia Montană Gold Corporation is signatory to this code.

Bibliographical references for Chapter 7 "Risk Cases" are listed at page 173-176.

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RMGC's closure estimates, which were developed by a team of independent experts with international experience and will be reviewed by third party experts, are based on the assumption that the project can be completed according to the plan, without interruptions, bankruptcy or the like. They are engineering calculations and estimates based on the current commitments of the closure plan and are summarized in the EIA's Mine Closure and Rehabilitation Management Plan (Plan J in the EIA). Annex 1 of Plan J will be updated using a more detailed approach looking at every individual year and calculating the amount of surety, which must be set aside year by year to rehabilitate the mine before RMGC is released from all its legal obligations. Most importantly, the current estimates assume the application of international best

practice, best available technology (BAT) and compliance with all Romanian and European Union laws and regulations.

Closure and rehabilitation at Roşia Montană involves the following measures:

- Covering and vegetating the waste dumps as far as they are not backfilled into the open pits;
- Backfilling the open pits, except Cetate pit, which will be flooded to form a lake;
- Covering and vegetating the tailings pond and its dam areas;
- Dismantling of disused production facilities and revegetation of the cleaned-up areas;
- Water treatment by semi-passive systems (with conventional treatment systems as backup) until all effluents have reached the discharge standards and need no further treatment;
- Maintenance of the vegetation, erosion control, and monitoring of the entire site until it has been demonstrated by RMGC that all remediation targets have been sustainably reached.

While the aspects of closure and rehabilitation are many, we are confident in our cost estimates because the largest expense—that incurred by the earthmoving operation required to reshape the landscape—can be estimated with confidence. Using the project design, we can measure the size of the areas that must be reshaped and resurfaced. Similarly, there is a body of scientific studies and experiments that enable scientists to determine the depth of soil cover for successful re-vegetation. By multiplying the size of the areas by the necessary depth of the topsoil by the unit rate (also derived from studying similar earthmoving operations at similar sites), we can estimate the potential costs of this major facet of the rehabilitation operation. The earthmoving operation, which will total approximately US \$65 million, makes up 87% of closure and rehabilitation costs.

Also, the necessity of additional technological measures to stabilize and reshape the tailings surface will be discussed in the update of the Economical Financial Guarantee (EFG) estimate, which leads to an increase the provisions for tailings rehabilitation, especially if the TMF is closed prematurely and no optimized tailings disposal regime is applied. The exact figures depend on the details of the TMF closure strategy which can be finally determined only during production.

We believe that—far from being too low—our cost estimates are evidence of our high level of commitment to closure and rehabilitation. Just as a comparison, the world's largest gold producer has set aside US \$683 million (as of December 31, 2006) for the rehabilitation of 27 operations, which equates to US \$25 million on average per mine. The RMGC closure cost estimates, recently revised upward from the US \$73 million reported in the EIA based on additional information, currently total US \$76 million.

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According to Law 5/2000, regarding the approval of the Territory Arrangement Plan – 3<sup>rd</sup> Section – protected areas (“Law 5/2000”) (article 5, paragraphs 2-3), local public authorities, with the support of the competent central public authorities, had the obligation to establish the boundaries of the protection areas for the cultural heritage elements stipulated in Annex III to the above-mentioned law. This measure should have been taken within 12 months from the effective date of Law 5/2000, based on specialized studies. For this purpose, the local public authorities had to prepare the town planning documentation and its related regulations, developed and approved according to the law. This documentation must comprise the necessary protection and conservation measures for the national cultural heritage elements located in this area.

Concurrently, Law 350/2001 on the territory arrangement and urbanism stipulates the right of legal or natural persons interested in arranging the territory, to initiate the development of urbanism plans.

In accordance with these legal provisions, in 2001, RMGC initiated the preparation of these specific town-planning documentations - the General Urbanism Plan and the Zonal Urbanism Plan. These plans have been developed by Romanian certified companies and followed the legal approval procedure. The permit for the establishment of the Roşia Montană Historical Centre Protected Area was issued by the Ministry of Culture and Religious Affairs in 2002 (permits no. 61/14.02.2002 and no. 178/20.06.2002) as part of the procedure for the approval of the town planning documentation. Based on these permits, the Ministry of Culture and Religious Affairs requested the company to develop a Zonal Urbanism Plan for the Historical Centre of Roşia Montană. Out of the 41 historical buildings in Roşia Montană, thirty-five (35) are located inside the protected area of the Roşia Montană Historical Centre.



As for the heritage elements located in the future industrial development area (6 historical buildings), these are discussed in the Industrial Zonal Urbanism Plan prepared by SC Proiect Alba SA. The regulations included in this document will contain measures for the protection of these monuments.

In conclusion, the town planning studies and the specialized studies conducted for the purpose of establishing the boundaries of the protection areas within the future mining operations perimeter are currently pending approval, in accordance with the legal provisions, by the competent institutions and committees. Please note that none of the historical houses located in the perimeter of the proposed project will be affected; on the contrary, all the 41 historic buildings will be included in a complex restoration and rehabilitation program (see the Management Plan). This program is mandatory, regardless of the implementation of the mining project, if we want to prevent these buildings from collapsing because of their advanced degradation.

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Your assertion regarding the failure to obtain an applicable urbanism certificate at the start up of the public debates and of the evaluation of the quality of the report to the environmental impact assessment, is not correct.

Thus, by the time when the public debate stage started up there was an applicable urbanism certificate and namely the urbanism certificate no. 78/26.04.2006 issued by Alba County Council. This certificate was obtained prior to the evaluation stage of the quality of the report to the environmental impact assessment which started up once the EIA was submitted to the Ministry of Environment and Water Management on the 15<sup>th</sup> May 2006.

For better understanding the applicable legal provisions and the facts developed within the mining project of Roşia Montană zone we would like to make several comments:

- The procedure for issuing the environmental permit for Roşia Montană project started up on the 14<sup>th</sup> December 2004 by submitting the technical memorandum and the urbanism certificate no.68/26.August 2004 (certificate applicable by that time). S.C. Roşia Montană Gold Corporation S.A. (RMGC) applied for and obtained a new urbanism certificate no.78/26.04.2006 issued by Alba County Council for the entire Roşia Montană Project applicable on the date of the EIA Report submission (15<sup>th</sup> May 2006) and prior to the public debate start up (June 2006);
- The Section 1 of the urbanism certificate no.78 of 26<sup>th</sup> 04.2006 entitled Work construction, position 10 – “Processing plant and associated constructions “ – including the tailing management facility which existence is compulsory for the processing plant running. The Tailing management facility is also specified on the layout plans which are integral part of the urbanism certificate and they were sealed by Alba County Council so that they cannot be modified;
- The Urbanism Certificate is an informative document and its goal is only to inform the applicant about the legal, economic and technical regime of the existing lands and buildings and to establish the urbanism requirements and the approvals necessary to obtain the construction permit (including the environmental permit) as per art.6 of Law 50/1991 referring to the completion of construction works, republished and art 27 paragraph 2 of the Norms for the application of Law 50/1991 – Official Journal 825 bis/13.09.2005).

As it is an informative document, it does not limit the number of certificates an applicant may obtain for the same land plot ( art. 30 of Law no. 350/2001 regarding the territorial planning and urbanism).

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Introduced as part of the Environmental Impact Assessment Report Study (EIA), the Roşia Montană Foundation is shifting in focus. The Community Sustainable Development Plan activities initially conceived as coming under the Foundation umbrella (business oriented activities: business incubator, business advisory center, micro-finance facility, as well as social oriented activities: education and training center) have been advanced independently, via partnerships and with community participation in decision-making – a preferable way to advance social and economic development programs.

Going forward, the Foundation will take shape around preservation, patrimony and cultural heritage

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issues, with its final form determined in consultation with the community.

In terms of the philosophy that guides the company's Sustainable Development efforts, the Roșia Montană Gold Corporation (RMGC) sees itself not as principal provider, but as a partner. Community involvement is considered the starting point; over time, as the community builds the capacity to maintain programs in its own right, the company will turn over control of currently-established programs to the community and its institutions.

For more information, please see Roșia Montană Sustainable Development and the Roșia Montană Project – annex 4.

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We underline the fact that your statement is false. The General Urbanism Plan for the Roșia Montană commune, endorsed in 2002 allows the development of Roșia Montană project, as it has been presented during the public consultations.

Concurrently, pursuant to the provisions of art. 41, paragraph 2, from the Mining Law no.85/2003, the authorities from the local administration have the liability to adjust and/or update the territory arrangement plans and the general urbanism plans, in order to allow the development of all operations necessary for the development of mining activities.

RMGC has also initiated the preparation of two zonal urbanism plans: Zonal Urbanism Plan Modification – Roșia Montană Industrial Area and Zonal Urbanism Plan – Roșia Montană Historical Area. The first urbanism plan is required by the urbanism certificate no.78/26.04.2006, which updates the Zonal Urbanism Plan for the Industrial Area approved in 2002. As far as the historical area is concerned, its Zonal Urbanism Plan is required by the General Urbanism Plan approved also in 2002. Both urbanism plans are pending approval and have been subject to public consultations.

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An engineered liner is included in the design of the Tailings Management Facility (TMF) basin. Specifically, the Roșia Montană Tailings Management Facility (TMF or “the facility”) has been designed to be compliant with the EU Groundwater Directive (80/68/EEC), transposed as Romanian GD 351/2005. The TMF is also designed for compliance with the EU Mine Waste Directive (2006/21/EC) as required by the Terms of Reference established by the MEWM in May, 2005. The following paragraphs provide a discussion of how the facility is compliant with the directives.

The TMF is composed of a series of individual components including:

- the tailings impoundment;
- the tailings dam;
- the secondary seepage collection pond;
- the secondary containment dam; and
- the groundwater monitoring wells/extraction wells located downstream of the Secondary Containment dam.

All of these components are integral parts of the facility and necessary for the facility to perform as designed.

The directives indicated above require that the TMF design be protective of groundwater. For the Roșia Montană project (RMP), this requirement is addressed by consideration of the favorable geology (low permeability shales underlying the TMF impoundment, the TMF dam and the Secondary Containment dam) and the proposed installation of a low-permeability ( $1 \times 10^{-6}$  cm/sec) recompacted soil liner beneath the TMF basin. Please see Chapter 2 of EIA Plan F, “The Tailings Facility Management Plan” for more information.

The proposed low permeability soil liner will be fully compliant with Best Available Techniques (BAT) as defined by EU Directive 96/61 (IPPC) and EU Mine Waste Directive. Additional design features that are included in the design to be protective of groundwater include:

- A low permeability ( $1 \times 10^{-6}$  cm/sec) cut off wall within the foundation of the starter dam to control seepage;
- A low permeability ( $1 \times 10^{-6}$  cm/sec) core in the starter dam to control seepage;
- A seepage collection dam and pond below the toe of the tailings dam to collect and contain any seepage that does extend beyond the dam centerline;
- A series of monitoring wells, below the toe of the secondary containment dam, to monitor seepage and ensure compliance, before the waste facility limit.

In addition to the design components noted above specific operational requirements will be implemented to be protective of human health and the environment. In the extremely unlikely case that impacted water is detected in the monitoring wells below the secondary containment dam, they will be converted to pumping wells and will be used to extract the impacted water and pump it into the reclaim pond where it will be incorporated into the RMP processing plant water supply system, until the compliance is reestablish.

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reestablish.

With respect to your comments made as regards a presumptive infringement of the provisions of Government Decision No.351/2005 (“GD 351/2005”), there are several aspects to be taken into consideration. Thus:

1. Firstly, please note that, according to the provisions of art. 6 of GD 351/2005, any activity that might determine the discharge of dangerous substances into the environment is subject to the prior approval of the water management authorities and shall comply with the provisions of the water permit issued in accordance with the relevant legislation.

The GD 351/2005 provides that the water permit shall be issued only after all technical-construction measures are implemented as prevent the indirect discharge of dangerous substances into the underground waters. The maximum discharge limits are expressly provided under GD 351/2005 and compliance with such is a condition for granting and maintaining the water permit.

In accordance with the provisions of GD 351/2005, the actual discharge limits should be authorized by the relevant authority, such process being understood by the lawmaker in consideration of the complexity and variety of industrial activities, as well as the latest technological achievements.

Therefore, please note that the EIA stage is not intended to be finalized into an overall comprehensive permit, but it represents only a part of a more complex permitting process. Please note that, according with art. 3 of GD 918/2002, the data`s level of detail provided in the EIA is the one available in the feasibility stage of the project, obviously making impossible for both the titleholder and authority to exhaust all required technical data and permits granted.

The adequate protection of the ground water shall be ensured by the terms and conditions of the water permit. The issuance of the water permit shall be performed following an individual assessment of the project, considering its particular aspects and the relevant legal requirements applicable for mining activities. Until the water permit is obtained, any allegation regarding the infringement of GD 351/2005 is obviously premature mainly because the water permit shall regulate, in accordance with the relevant legal provisions, the conditions to be observed by the developer as regards the protection of the ground water;

2. Secondly, kindly note that the complexity and specificity of mining projects generated the need of a particular legal framework. Therefore, for such projects, the reading of the legal provisions of a certain enactment should be corroborated with the relevant provisions of the other regulations applicable.

In this respect, please not that the understanding of GD 351/2005 must be corroborated with the provisions of the entire relevant legislation enforceable as regards Roşia Montană Project, with a particular accent to Directive 2006/21/EC on the management of waste from the extractive industries (“Directive 21”).

The very scope of Directive 21 is to provide a specific legal framework for the extractive wastes and waste facilities related to mining projects, considering the complexity of such projects and the particular aspects of mining activities that can not always be subject to the common regulations on waste management and landfill.

From this perspective, Directive 21 provides that, an operator of a waste facility, as such is defined thereunder (please note that the TMF proposed by RMGC is considered a “waste facility” under Directive 21), must inter alia, ensure that:

- a) *“the waste facility is [.....]designed so as to meet the necessary conditions for, in the short and long-term perspectives, preventing pollution of the soil, air, groundwater or surface water, taking into account especially Directives 76/464/EEC (1), 80/68/EEC (2) and 2000/60/EC, and ensuring efficient collection of contaminated water and leachate as and when required under the permit, and reducing erosion caused by water or wind as far as it is technically possible and economically viable;”*
- b) *“the waste facility is suitably constructed, managed and maintained to ensure its physical stability and to prevent pollution or contamination of soil, air, surface water or groundwater in the short and long-term perspectives as well as to minimize as far as possible damage to landscape.”*

In addition, it should be mentioned that RMGC was required by MWEM under the Terms of Reference, to perform the EIA considering the provisions of Directive 21 and the BAT Management of Mining Waste. The Directive 21 was intended by the EU DG of Environment to be the legislative regime applicable to sound management of mining waste throughout Europe and therefore compliance with its provisions is mandatory.

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Information regarding our Environmental Financial Guarantee (“EFG”) is fully discussed in the section of the Environmental Impact Assessment titled “Environmental and Social Management and System Plans” (Annex 1 of the subchapter titled “Mine Rehabilitation and Closure Management Plan”). The EFG is updated annually and will always reflect the costs associated with reclamation. These funds will be held in protected accounts at the Romanian state disposal.

Roşia Montană Gold Corporation (“RMGC”) has invested significant time, energy, and resources assessing the viability of a mining project in the valley of Roşia Montană. This assessment has led RMGC to conclude that Roşia Montană presents an attractive long-term development opportunity – an opinion confirmed by a variety of lending institutions, who have completed detailed reviews of the project’s design and profitability. We have every confidence that we will see the project through to the end of its projected 16-year lifespan, regardless of any fluctuations in the market price of gold.

In Romania, the creation of an EFG is required to ensure adequate funds are available from the mine operator for environmental cleanup. The EFG is governed by the Mining Law (no. 85/2003) and the National Agency for Mineral Resources instructions and Mining Law Enforcement Norms (no. 1208/2003).

Two directives issued by the European Union also impact the EFG: the Mine Waste Directive (“MWD”) and the Environmental Liability Directive (“ELD”).

The Mine Waste Directive aims to ensure that coverage is available for 1) all the obligations connected to the permit granted for the disposal of waste material resulting from mining activities and 2) all of the costs related to the rehabilitation of the land affected by a waste facility. The Environmental Liability Directive regulates the remedies, and measures to be taken by the environmental authorities, in the event of environmental damage created by mining operations, with the goal of ensuring adequate financial resources are available from the operators for environmental cleanup efforts. While these directives have yet to be transposed by the Romanian Government, the deadlines for implementing their enforcement mechanisms are 30 April 2007 (ELD) and 1 May 2008 (MWD) – thus before operations are scheduled to begin at Roşia Montană.

RMGC has already begun the process of complying with these directives, and once their implementation instruments are enacted by the Romanian Government, we will be in full compliance.

Each EFG will follow detailed guidelines generated by the World Bank and the International Council on Mining and Metals.

The current projected closure cost for Roşia Montană is US \$76 million, which is based on the mine operating for its full 16-year lifespan. The annual updates will be completed by independent experts, carried out in consultation with the NAMR, as the Governmental authority competent in mining activities field. These updates will ensure that in the unlikely event of early closure of the project, at any point in time, each EFG will always reflect the costs associated with reclamation. (These annual updates will result in an estimate that exceeds our current US \$76 million costs of closure, because some reclamation activity is incorporated into the routine operations of the mine.)

A number of different financial instruments are available to ensure that RMGC is capable of covering all of the expected closure costs. These instruments, which will be held in protected accounts at the Romanian state disposal, include:

- Cash deposit;
- Trust funds;
- Letter of credit;

- Surety bonds;
- Insurance policy.

Under the terms of this guarantee, the Romanian government will have no financial liability in connection with the rehabilitation of the Roşia Montană project.

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The Security Report has been made available for public access by being posted at the following Internet address [http://www.mmediu.ro/dep\\_mediu/rosia\\_montana\\_securitate.htm](http://www.mmediu.ro/dep_mediu/rosia_montana_securitate.htm) as well as through the printed version which could have been found at several information locations established for public hearings.

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The Report on the Environmental impact assessment study (EIA) considered all alternative developments, including the option of not proceeding with any project – an option that would generate no investment, allowing the existing pollution problems and socio-economic decline to continue (Chapter 5 – *Assessment of Alternatives*).

The report also considered alternative developments – including agriculture, grazing, meat processing, tourism, forestry and forest products, cottage industries, and flora/fauna gathering for pharmaceutical purposes – and concluded that these activities could not provide the economic, cultural and environmental benefits brought by the Roşia Montană Project (RMP).

Chapter 5 also examines alternative locations for key facilities as well as alternative technologies for mining, processing and waste management, in line with best practice and as compared against published EU best available techniques (BAT) documentation.

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The impact on protected flora and fauna will exist only locally, but this impact will not lead to the loss of any specie. The Project has been designed even from the beginning to fully comply with the requirements and norms imposed by Romanian and European environmental legislation.

The company believes the fact that the project impact on environment remains significant, especially because covers previous impacts. But, the investments required to ecologically restore/rehabilitate Roşia Montană area in order to address current complex environmental issues, are only achievable following the implementation of some economic projects that will generate and warrant implementation of some direct and responsible actions as a component of base principles of sustainable development concepts. Clean processes and technologies may be developed only in the presence of a solid economic environment fully compliant with the environment that will also resolve previous impacts of anthropic activities.

The base documents of the Project are in fact an unbiased reason of its implementation, considering the highly complex environmental commitment within Roşia Montană area.

Some of the Roşia Montană species that are under a certain protection status stand for an insignificant percentage of the scale of populations estimated at national level. The characterization of species from their habitat point of view exists in the species tables presented in the Biodiversity Chapter of the EIA Report and its annexes, although this is not a requirement imposed by the Habitats Directive. Due to their large volume of information, the annexes of chapter 4.6 Biodiversity can be found in the electronic version of the EIA disclosed by the company both in Romanian and English through approx. 6,000 DVD/CD copies, being accessible on the company website, and on the websites of Ministry of Environment and Water Management, local and regional environmental protection agencies of Alba, Sibiu, Cluj, etc.

From practical point of view, the low value of conservation of the impact area is also indirectly emphasized by the fact that there is no proposal to designate the area a SPA (aviafaunistic special protected area) and by the denial as unfounded of the proposal to designate the area as a pSCI area (sites of community importance).

Taking all these into account, we believe that the proposed Project is compliant with the provisions of EU Directive no. 92/43 Habitats[1], and EU Directive no. 79/409 Birds[2] respectively, especially because within Biodiversity Management Plan, Plan H, several active and responsible measures are provided to reconstruct/rehabilitate several natural habitats, pursuant to the provisions of the same documents [3].

References:

[1] art.3, 2nd paragraph, Each Member State shall contribute to the creation of Natura 2000 (network) in proportion to the representation within its territory of the natural habitat types and the habitats of species referred to in paragraph 1. To that effect each Member State shall designate, in accordance with Article 4, sites as special areas of conservation taking account of the objectives set out in paragraph 1.

art.4, 1st paragraph. On the basis of the criteria set out in Annex III (Stage 1) and relevant scientific information, each Member State shall propose a list of sites indicating which natural habitat types in Annex I and which species in Annex II that are native to its territory the sites host. For animal species ranging over wide areas these sites shall correspond to the places within the natural range of such species which present the physical or biological factors essential to their life and reproduction. For aquatic species which range over wide areas, such sites will be proposed only where there is a clearly identifiable area representing the physical and biological factors essential to their life and reproduction. Where appropriate, Member States shall propose adaptation of the list in the light of the results of the surveillance referred to in Article 11. [...]

2nd paragraph.[...] Member States whose sites hosting one or more priority natural habitat types and priority species represent more than 5 % of their national territory may, in agreement with the Commission, request that the criteria listed in Annex III (Stage 2) be applied more flexibly in selecting all the sites of Community importance in their territory.[...]

Art. 6, 4th paragraph. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Art. 16. Provided that there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range, Member States may derogate from the provisions of Articles 12, 13, 14 and 15 (a) and (b):[...]

- in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment;

[2] Art.4, 1st paragraph. The species mentioned in annex 1 shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution. [...]

Trends and variations in population levels shall be taken into account as a background for evaluations. Member states shall classify in particular the most suitable territories in number and size as special protection areas for the conservation of these species, taking into account their protection requirements in the geographical sea and land area where this directive applies.

[3] Directive 92/43 Habitats, art. 2, 2nd paragraph; Directive 79/409 Birds, art. 3, 2nd paragraph, letter c.

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This statement is ungrounded, because the environmental impact assessment (EIA) process has included preliminary cumulative estimates for stationary motorized equipment and linear (vehicular) sources were prepared in order to provide an initial understanding of the potential cumulative noise and vibration impacts from background and Roşia Montană Project sources, and to guide future monitoring and measurement activities as well as the selection of appropriate Best Management Practices/Best Available

Techniques for further mitigation of the potential noise and vibration impacts from Project activities. These preliminary estimates apply to major construction activities, as well as the operation and decommissioning/closure of the mine and process plant. They are documented as data tables and isopleth maps for major noise-generating activities in selected, representative Project years; see **Tables 4.3.8 through 4.3.16** and **Exhibits 4.3.1 through 4.3.9**. All these details related to the applied assessment methodology, the input data of the dispersion model, the modeling results and the measures established for the prevention/mitigation/elimination of the potential impact for all project stages (construction, operation, closure) are included in Chapter 4, Section 4.3 Noise and Vibrations of the EIA Report.

Project Years 0, 9, 10, 12, 14, and 19 were selected for modeling because they are considered to be representative of the most significant levels of noise-generating activity. They are also the same years used for air impact modeling purposes in Section 4.2, as air and noise impacts share many of the same sources or are otherwise closely correlated. In order to more accurately reflect potential receptor impacts, all of these exhibits integrate the background traffic estimates discussed in Section 4.3.6.1.

The Project site plan and process plant area and facility drawings were used to establish the position of the noise sources and other relevant physical characteristics of the site. Receptor locations were established using background reports and project engineering and environmental documentation provided by RMGC. With this information, the source locations and receptor locations were translated into input (x, y, and z) co-ordinates for the noise-modeling program.

**Tables 4.3.8 through 4.3.16** and **Exhibits 4.3.1 through 4.3.9** present the average maximum noise values likely to be experienced by the receptor community over all Project phases after incorporation of a variety of initial mitigation measures designed specifically to reduce the impacts associated with mobile and stationary machinery sources. The influence of non-mining related background (primarily traffic) noise is also included.

To evaluate the sound levels associated with haul trucks and other mobile sources crossing the site carrying excavated ore, waste rock, and soil, a noise analysis program based on the (U.S.) Federal Highway Administration's (FHWA) standard RD-77-108 [1] model was used to calculate reference noise emissions values for heavy trucks along the project roadways. The FHWA model predicts hourly  $L_{eq}$  values for free-flowing traffic conditions and is generally considered to be accurate within 1.5 decibels (dB).

The model is based on the standardized noise emission factors for different types and weights of vehicles (e.g., automobiles, medium trucks, and heavy trucks), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The emission levels of all three vehicle types increase as a function of the logarithm of their speed.

To evaluate the sound sources from the proposed mine processing facility and the semi-stationary material handling equipment (at the ore extraction, waste rock and soil stockpiling areas), a proprietary computerized noise prediction program was used by AAC to simulate and model the future equipment noise emissions throughout the area. The modeling program uses industry-accepted propagation algorithms based on the following American National Standards Institute (ANSI) and International Organization for Standardization (ISO) standards:

- *ANSI S1.26-1995 (R2004), Method for the Calculation of the Absorption of Sound by the Atmosphere;*
- *ISO 9613-1:1993, Acoustics -- Attenuation of sound during propagation outdoors-- Part 1: Calculation of the absorption of sound by the atmosphere;*
- *ISO 9613-2:1996, Acoustics -- Attenuation of sound during propagation outdoors -- Part 2: General method of calculation;*
- *ISO 3891:1978, Acoustics -- Procedure for describing aircraft noise heard on the ground.*

The calculations account for classical sound wave divergence (i.e., spherical spreading loss with adjustments for source directivity from point sources) plus attenuation factors due to air absorption, minimal ground effects, and barriers/shielding.

This model has been validated by AAC over a number of years via noise measurements at several operating industrial sites that had been previously modeled during the engineering design phases. The comparison of modeled predictions versus actual measurements has consistently shown close agreement; typically in



the range of 1 to 3 dB (A).

References:

[1] FHWA Highway Traffic Noise Prediction Model; see Federal Highway Administration Report Number FHWA-RD-77-108, USA, Washington, D.C., 1978.

***A detailed presentation of blasting technology can be found in the annex 7.1 - Proposed blasting technology for the operational phase of Roşia Montană Project.***

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The partnership between Gabriel Resources and Regia Autonomă a Cuprului Deva (currently, CNCAF Minvest SA) has been established based on Law no. 15/1990 on the reorganization of the state owned companies as autonomous directions and trade companies, published in the Official Gazette, Section I, no. 98/08.08.1990, as subsequently amended and supplemented. Art. 35 of this law provides the possibility of the regies autonomous to enter into partnerships with legal third parties, Romanian or foreign, for the purpose of setting up new trading companies.

Roşia Montană Gold Corporation SA was set up in 1997, according to the legal provisions in force as at that time, the setting up being made by observing all the conditions imposed by Company Law no. 31/1990 and Trade Register Law no. 26/1990, in regard of the setting up of the joint stock companies with mixed capital.

We underline that the Articles of Associations of Roşia Montană Gold Corporation SA, representing the result of the parties agreement in regard of the terms and conditions under which the partnership between the Romanian state and investor takes place represents a public document, being included in the category of documents which, as per Law no. 26/1990 on the Trade Register, are published in the Romanian Official Gazette and for which the Trade Register is obliged to issue, on the expense of the persons submitting a request, certified copies.

As for the agreement concerning the setting up of the mixed company together with Gabriel Resources Ltd., this has been expressed by the Ministry of Industry and Trade, the conditions imposed by the setting up of the mixed company being the following: (i) ensuring of the jobs at the level existing upon the conclusion of the agreement concerning the setting up of the mixed company; (ii) the expenses incurred by the fulfillment of the exploration stage should be fully supported by Gabriel; (iii) the obtaining of the approval from the ANRM by the Copper Autonomous Direction Deva and (iv) the observance of all legal provisions in force concerning the setting up of the mixed companies with foreign partners. These conditions have been fully complied with as at the setting up of the company and during the development of its activity.

We also specify that the establishing of the shareholders' quotas to the benefits and losses of Roşia Montană Gold Corporation SA has been made by considering their contribution quota to the company's share capital. The current percentage of 80% for Gabriel Resources Ltd. and of 19.31% for CNCAF Minvest SA resulted from the initial contribution and the subsequent contributions of the shareholders to the company's share capital, in consideration also of Gabriel Resources Ltd. advancing all expenses and costs related to the development-exploitation and permitting of the Roşia Montană Mining Project.

The provisions of the Articles of Associations of Roşia Montană Gold Corporation SA on the necessary majority and quorum conditions for the decision-making process within the General Shareholders Meeting and the quotas to the benefits and losses of the company are taken from Law no. 31/1990, and no derogation exists in regard of this aspect.

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This claim is not true; the Urbanism Plan has been prepared with public consultation.

Roşia Montană Gold Corporation SA (RMGC) has requested and obtained from Alba County Council the Urbanism Certificate no. 78 of 26.04.2006, for the entire Roşia Montană mining project, including the tailings management facility. The Urbanism Certificate also stipulated the preparation of a Zonal

Urbanism Plan, to reflect all changes made to the Roşia Montană Project, following the public consultations and debates organized in relation to this project, and the consultations with the permitting authorities. This plan, entitled “Modification of the Zonal Urbanism Plan, Roşia Montană Industrial Area”, was prepared and subjected to public debate in June 2006 in accordance with the provisions of Order no.176/N/2000 issued by the Ministry of Public Works and Territory Development for the approval of the technical regulations “Guidelines regarding the methodology applied for the preparation and framework content of the Zonal Urbanism Plan” and, at present, it is pending approval.

Concerning the Roşia Montană General Urbanism Plan approved in 2002, such plan was prepared in parallel with the Zonal Urbanism Plan of 2002, all the provisions of the General Urbanism Plan being also included in the Zonal Urbanism Plan. Also, the approval procedure related to the two urbanism plans was carried out in parallel.

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Preventive archaeological researches within the Roşia Montană mining project area have been undertaken based on specific techniques, specifically trial trenches in all accessible areas that are suitable for human habitation, taking into account the bibliographical information and the observations recorded during the archaeological survey campaigns, the geophysical studies and the analyses of the photogrammetric flights. In addition, surface investigations were undertaken, where appropriate.

The archaeological researches at Roşia Montană covered a large surface and focused on the areas known to have archaeological potential. THEREFORE, ALL AREAS THAT HAVE BEEN ARCHAEOLOGICALLY DISCHARGED HAD BEEN PREVIOUSLY INVESTIGATED. All research programs, beginning with the 2004 campaign, have been undertaken in full compliance with the current legal requirements, i.e. Ministerial Order no. 2392 of 6 September 2004 on the establishment of the Archaeological Standards and Procedures by the Ministry of Culture and Religious Affairs.

The proposed gold mining project at Roşia Montană has raised a series of issues related to the rescue of the historical-archaeological heritage within the area, as well as issues related to its scientific development and also the enhancement of heritage within a museum. Given the complex difficulties encountered in this respect, the Ministry of Culture and Religious Affairs decided to initiate the “Alburnus Maior” National Research Program.

The company’s role was to provide the necessary financial resources for the assessment, research and enhancement of the archaeological remains, in full compliance with the Romanian current legislation. The development of the research and of the archaeological discharge works has been conducted through specific means and methodologies that have been adjusted to the realities of every site researched, in our case, Roşia Montană. They consisted in:

- Archives studies;
- Archaeological surveys; trial trenches;
- aerial reconnaissance/survey and aerial photo interpretation ; high resolution satellite images;
- mining archaeology studies; underground topography and 3D modeling;
- geophysical surveys;
- extensive archaeological investigations in the areas with an identified archaeological potential- this implied carrying out archaeological excavations;
- Interdisciplinary studies- sedimentology, archaeo-zoology, comparative palynology, archaeo-metallurgy, geology, mineralogy;
- Radiocarbon dating and dendrochronology;
- This research and its results were included in an integrated database;
- traditional and digital archaeological topography and development of the GIS project; generate a photo archive- both traditional and digital;
- restoration of artifacts;
- an inventory and a digital catalogue of the artifacts;
- studies conducted by specialists in order to enhance the research results - publication of monographs/scientific books and journals, exhibitions, websites, etc.

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All the preventive archaeological researches undertaken at Roşia Montană since 2000 have been carried

out as part of a complex research program; permits for preventive archaeological excavations being issued in compliance with the current legislation. These archaeological investigations have been undertaken by representatives of 21 specialized institutions from Romania and 3 others from abroad, under the scientific coordination of the Romanian National Museum of History. All archaeological researches have been conducted in full compliance with the existing legislation. The investigations undertaken during each archaeological research campaign have been approved by the Ministry of Culture and Religious Affairs based on the Annual Archaeological Research Plan approved by the National Commission of Archaeology.

Under the current legislation (Ministerial Order no. 2392 of 6 September 2004 on the establishment of the Archaeological Standards and Procedures by the Ministry of Culture and Religious Affairs) the archaeologists who have conducted the research may ask that an archaeological discharge certificate be granted. Based on a complex research program, the archaeologists prepare comprehensive documentation with regard to the researched area. Upon consideration of the submitted documentation, the National Commission of Archaeology makes a decision as to whether to recommend or not the granting of the archaeological discharge certificate. In the case of the research conducted in the period 2001-2006, the archaeological discharge certificate was issued directly by the Ministry of Culture and Religious Affairs or by its local agencies.

Preventive archaeological researches at Roșia Montană have allowed the research of five Roman cremation necropolis (Tău Corna, Hop-Găuri, Țarina, Jig - Piciorag and Pârâul Porcului – Tăul Secuilor), two funerary areas (Carpeni, Nanului Valley), sacred areas (Hăbad, Nanului Valley), habitation areas (Hăbad, Carpeni, Tăul Țapului, Hop), the most significant being the Roman structures on the Carpeni Hill and the circular funerary monument at Tău Găuri. In addition, for the first time in Romania, surface investigations have been paralleled by underground investigations of Cetate, Cârnic, Jig and Orlea massifs, with important discoveries in the Piatra Corbului, area, Cătălina-Monulești gallery and the Păru Carpeni mining sector.

The research consisted of aerial photo interpretation, archaeological magnetometric studies, electrical resistivity, palynology, sedimentology, geology studies, radiocarbon and dendrochronology dating. For a better management of the research units and of the archaeological findings, data bases were used, including text and photographs-among which 4 satellite images (an archive satellite image type SPOT Panchromatic (10m) from 1997; 2 satellite images LANDSAT 7 MS (30 m), dating from 2000 and 2003; a satellite image with priority programming SPOT 5 SuperMode color (2,5 m resolution-19 July 2004); all data have been included in a comprehensive GIS program, a first in the Romanian archaeological research.

In the case of archaeological monuments that are located close to industrial facilities, plans have been redesigned to ensure that the archaeological remains in question will not be affected. Where appropriate, the archaeological monument was preserved in situ and restored, i.e. the circular funerary monument at Hop-Găuri (see The "Alburnus Maior" monograph series, volume II, Bucharest, 2004). Another example in this respect is the Carpeni Hill, designated an "archaeological " reserve, and the Piatra Corbului area. In 2004, after being thoroughly investigated, these areas have been included on the List of Historic Monuments. Add to this the areas where ancient mining remains will be preserved, such as the Cătălina Monulești gallery and the mining sector Păru Carpeni, as well as the protected area Roșia Montană Historic Center, including a number of heritage assets (35 historic monument houses).

We emphasise in this respect that the identified and researched structures have been published in preliminary form in the Archaeological Research Chronicle of Romania, after every archaeological research campaign, as well as in volume 1 of the Alburnus Maior monographic series. We mention here the areas where Roman habitation structures have been identified and researched, as well as the references to be consulted for further information: Hop-Găuri, Carpeni, Tăul Țapului (CCA 2001 (2002), p. 254-257, no. 182; 261-262, nr. 185; 264-265, no. 188; 265-266, no. 189. Alburnus Maior I, 2003, p. 45-80; 81-122; 123-148; CCA 2001 (2002), 257-261; CCA 2003 (2004) ,280-283; Alburnus Maior I, 2003, p. 387-431, 433-446, 447-467).

For further details related to the applicable legal framework, the responsibilities of the Project titleholder, or for a detailed description of the preventive archaeological researches undertaken to date and of the Cultural Heritage Management Plans, please see Annex called "Information on the Cultural heritage of Roșia and Related Management Aspects". In addition, the annex includes supplementary information with regard to the result of the researches undertaken as part of the "Alburnus Maior" National Research Program between 2001 and 2006.

In conclusion, the area mentioned by the questioner has been researched in accordance with the Romanian legal requirements, as well as with European standards and practices in the field.

Note that the type of research undertaken at Roșia Montană, known as preventive/rescue archaeological research, as well as other related heritage studies, are done everywhere in the world in close connection with the economic development of certain areas. Both the costs for the research and for the enhancement and maintenance of the preserved areas are provided by investors, in a public-private partnership set up in order to protect the cultural heritage, as per the provisions of the European Convention on the Protection of the Archaeological Heritage (Malta-1992) [1].

References:

[1]The text of the Convention is available at the following address:  
<http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=143&CM=8&DF=7/6/2006&CL=ENG>

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In 2000, in the context of the proposal of a new mining project in the Roșia Montană area, the Ministry of Culture and Religious Affairs approved a series of studies to be conducted in order to research the archaeological and architectural heritage of the area. And at the end of that year, the Design Centre for National Cultural Heritage (now the National Institute for Historical Monuments) presented the preliminary results of these researches to the National Commission for Historical Monuments and of the National Commission of Archaeology. Based on these results, in 2001, the Ministry of Culture and Religious Affairs initiated the “Alburnus Maior” National Research Program (the Order no. 2504 / 07.03.2001 of the Minister of Culture and Religious Affairs) in compliance with the Law 378/2001 (as subsequently amended by Law 462/2003 and by Law 258/2006 and Law 259/2006). Thus, since 2000, the Ministry of Culture and Religious Affairs – directly or through its subordinate institutions - has fulfilled its duties with regard to the management of the issues related to Roșia Montană’s heritage.

Thus, the preventive archaeological researches have been conducted by the representatives of 21 national institutions and 3 others from abroad under the scientific coordination of the National Museum of History of Romania. They have been carried out based on the annual approval of the National Commission of Archaeology of the Ministry of Culture and Religious Affairs. In accordance with the legislation in force, this research program is carried out with the financial support provided by RMGC (the company that plans to expand and continue to mine the gold-silver deposit in Roșia Montană). Thus, large-scale preventive investigations have been conducted or are underway in the RMP impact area. A proposal will be made based on the results thereof either for the archaeological discharge of some researched perimeters from the project perimeter or the preservation *in situ* of certain representative structures and monuments, in compliance with the legislation in force. In the case of the areas proposed for conservation and the ones for which the archaeological discharge measure was applied, the decision was made based on the surveys conducted by specialists and on the analysis of the National Commission of Archaeology. In the period 2000-2005, the mining project underwent a series of modifications designed to promote the implementation of the decision regarding the conservation of the local heritage. Examples of these include: extending the duration of the field investigations on several years (e.g. Țarina, Pârâul Porcului, Orlea) and changing the location of some elements of infrastructure in order to allow the conservation of the archaeological remains found in the Carpeni, Tău Găuri and Pietra Corbului areas.

**The architectural and town-planning surveys** have been conducted, in accordance with the legislation in force, by companies certified by the Ministry of Culture and Religious Affairs, while the town-planning documentations drafted by these companies and the restoration and conservation works undertaken so far have been approved by the National Commission for Historical Monuments. Thus, the town-planning documentations have been approved and implemented in accordance with current legislation, and the company has agreed to these decisions and modified the mine development plans accordingly:

**Extensive ethnographic research** was conducted in the Roșia Montană-Abrud-Corna area in the period 2001-2004 coordinated by a team of specialists for the Romanian Village Museum „Dimitrie Gusti” (a National Museum directly under the coordination of the Ministry of Culture and Religious Affairs). Moreover, a broad series of oral history interviews was conducted in the period 2001-2002 by the

Romanian Radio Broadcasting Company through the „Gheorghe Brătianu” Oral History Centre, Bucharest (SRR - CIO).

In compliance with the requirements of the Ministry of Environment and Waters Management and the Ministry of Culture and Religious Affairs, specific management plans have been drawn up for the management and conservation of the heritage remains from the Roşia Montană area, in the context of the implementation of the mining project. These plans have been included in the documentation prepared for the Report on the Environmental Impact Assessment Study. (see EIA Report, volume 32-33, Plan M- *Cultural Heritage Management Plan*, part I –*Management Plan for the Archaeological Heritage from Roşia Montană Area*; part II-*Management Plan for the Historical Monuments and Protected Zone from Roşia Montană*; part III- *Cultural Heritage Management Plan*).

These management plans comprise detailed presentations of the obligations and responsibilities regarding the protection and conservation of the heritage remains from the Roşia Montană area, which the company has assumed in the context of the implementation of the mining project, according to the decision of the central government. These heritage remains include: archaeological remains above and under the ground, historic buildings, protected areas, intangible heritage assets, cultural landscape items, etc. In this context, it should be noted that besides the works for the protection and preservation of the archaeological heritage, works are being carried out for the rehabilitation and conservation of the protected area Historical Centre Roşia Montană (comprising 35 historic buildings, and projects for the restoration of 11 of these buildings are currently being drafted), Tăul Mare, Tăul Brazi and Tăul Anghel as well as remains of the surface mining works from the Vaidoia area and the creation of a modern museum dedicated to the history of mining in the Apuseni Mountains area. This museum will be established in the coming years and it will include exhibitions of geology, archaeology, industrial and ethnographic heritage as well as an underground section organized around the Cătălina Monuleşti gallery.

Moreover, representatives of the Directorate for Culture, Religious Affairs and National Cultural Heritage of Alba County have visited Roşia Montană many times in order to collect information and to check the situation. The same administrative body was the intermediary for the specific stages of acquisitions of historic buildings made by RMGC. The Ministry of Culture and Religious Affairs expressed its pre-emption right regarding the acquisition of these buildings.

Note that apart from the obligations undertaken by RMGC as regards the protection and conservation of the archaeological remains and historical monuments, there are a whole series of obligations, which rest with the local public authorities from Roşia Montană and from Alba County and with the central public authorities, namely the Romanian Government.

These aspects are further detailed in the Cultural Heritage Management Plans included in the EIA Report (see EIA Report, volume 32, *Management Plan for the Archaeological Heritage from Roşia Montană Area*, pages 21-22, 47, 52-53, 66-67-Romanian version/ 22-24; 47; 55-56; 71-72 English version) and the EIA Report, volume 33- *Management Plan for the Historical Monuments and Protected Zone from Roşia Montană* pages 28-29, 48-50, 52-53, 64-65, page 98 – Annex 1- Romanian version/ 28-29; 47-50; 51-53; 65-66; 103- Annex 1- English version).

Item no. 1708 Same as: 1709

No. to identify the observations received from the public No. 110700/25.08.2006 Same as: No. 110699/25.08.2006

**Proposal**

The questioner opposes the proposed gold and silver mining project at Roşia Montană and makes the following observations and comments:

- The tailings pond is unlined and is a hazard for the town of Abrud, as there is the risk of a failure;
- Total costs for closing the mine are unrealistic;
- The Project poses a threat for protected flora and fauna;
- The phase of public consultation and quality evaluation of the impact assessment study report begun without a valid urbanism certificate;
- The company could not find an insurer for the mining project.
- The EIA report does not assess the "zero alternative";
- The EIA report does not include an assessment of the "cyanide rain" phenomenon.

An engineered liner is included in the design of the Tailings Management Facility (TMF) basin. Specifically, the Roşia Montană Tailings Management Facility (TMF or "the facility") has been designed to be compliant with the EU Groundwater Directive (80/68/EEC), transposed as Romanian GD 351/2005. The TMF is also designed for compliance with the EU Mine Waste Directive (2006/21/EC) as required by the Terms of Reference established by the MEWM in May, 2005. The following paragraphs provide a discussion of how the facility is compliant with the directives.

The TMF is composed of a series of individual components including:

- the tailings impoundment;
- the tailings dam;
- the secondary seepage collection pond;
- the secondary containment dam; and
- the groundwater monitoring wells/extraction wells located downstream of the Secondary Containment dam.

All of these components are integral parts of the facility and necessary for the facility to perform as designed.

**Solution**

The directives indicated above require that the TMF design be protective of groundwater. For the Roşia Montană project (RMP), this requirement is addressed by consideration of the favorable geology (low permeability shales underlying the TMF impoundment, the TMF dam and the Secondary Containment dam) and the proposed installation of a low-permeability ( $1 \times 10^{-6}$  cm/sec) recompacted soil liner beneath the TMF basin. Please see Chapter 2 of EIA Plan F, "The Tailings Facility Management Plan" for more information.

The proposed low permeability soil liner will be fully compliant with Best Available Techniques (BAT) as defined by EU Directive 96/61 (IPPC) and EU Mine Waste Directive. Additional design features that are included in the design to be protective of groundwater include:

- A low permeability ( $1 \times 10^{-6}$  cm/sec) cut off wall within the foundation of the starter dam to control seepage;
- A low permeability ( $1 \times 10^{-6}$  cm/sec) core in the starter dam to control seepage;
- A seepage collection dam and pond below the toe of the tailings dam to collect and contain any seepage that does extend beyond the dam centerline;
- A series of monitoring wells, below the toe of the secondary containment dam, to monitor seepage and ensure compliance, before the waste facility limit.

In addition to the design components noted above specific operational requirements will be implemented

to be protective of human health and the environment. In the extremely unlikely case that impacted water is detected in the monitoring wells below the secondary containment dam, they will be converted to pumping wells and will be used to extract the impacted water and pump it into the reclaim pond where it will be incorporated into the RMP processing plant water supply system, until the compliance is reestablish.

### **Proximity to Abrud**

The EIA describes how the dam will be built with rockfill materials, engineered drain and filter materials and a low permeability core to control seepage. The facility is being designed and engineered by MWH, one of the leading dam designers in the world. In addition, the feasibility level designs have been reviewed and approved by certified Romanian dam experts and by the Romanian National Committee for the Safety of Large Dams. Prior to operation, the dam must again be certified for operations by the National Commission for Dams Safety (CONSIB).

The Tailings Management Facility (TMF) dam is rigorously designed to incorporate all EU, Romanian and international criteria to reduce the risk of failure. These guidelines allow for significant rainfall events and prevent dam failure due to overtopping. Specifically, the facility has been designed to store for the run off from two Probable Maximum Precipitation (PMP) events. This is generally referred to as the Probable Maximum Flood (PMF). The design criterion for TMF includes storage for two PMF flood events, more rain than has ever been recorded in this area.

Additionally, an emergency spillway for the dam will be constructed in the unlikely event that the site rainfall exceeds two PMPs. The TMF design therefore very significantly exceeds required standards for safety. This has been done to ensure that the risks involved in using Corna valley for tailings storage are well below what is considered safe in every day life.

Section 7 of the EIA report includes an assessment and analysis of risks and includes various dam break scenarios. Specifically, the dam break scenarios were analyzed for a failure of the starter dam and for the final dam configuration. The dam break modeling indicates the extent of tailings runout for the specific conditions analyzed. Based on the two cases considered the tailings would not extend beyond the confluence of the Corna valley stream and the Abrud River.

However, the project recognizes that in the highly unlikely case of a dam failure that a Emergency Preparation and Spill Contingency Management Plan must be implemented. This plan was submitted with the EIA as Plan I, Volume 28.

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RMGC's closure estimates, which were developed by a team of independent experts with international experience and will be reviewed by third party experts, are based on the assumption that the project can be completed according to the plan, without interruptions, bankruptcy or the like. They are engineering calculations and estimates based on the current commitments of the closure plan and are summarized in the EIA's Mine Closure and Rehabilitation Management Plan (Plan J in the EIA). Annex 1 of Plan J will be updated using a more detailed approach looking at every individual year and calculating the amount of surety, which must be set aside year by year to rehabilitate the mine before RMGC is released from all its legal obligations. Most importantly, the current estimates assume the application of international best practice, best available technology (BAT) and compliance with all Romanian and European Union laws and regulations.

Closure and rehabilitation at Roșia Montană involves the following measures:

- Covering and vegetating the waste dumps as far as they are not backfilled into the open pits;
- Backfilling the open pits, except Cetate pit, which will be flooded to form a lake;
- Covering and vegetating the tailings pond and its dam areas;
- Dismantling of disused production facilities and revegetation of the cleaned-up areas;
- Water treatment by semi-passive systems (with conventional treatment systems as backup) until all effluents have reached the discharge standards and need no further treatment;
- Maintenance of the vegetation, erosion control, and monitoring of the entire site until it has been demonstrated by RMGC that all remediation targets have been sustainably reached.

While the aspects of closure and rehabilitation are many, we are confident in our cost estimates because the largest expense—that incurred by the earthmoving operation required to reshape the landscape—can be estimated with confidence. Using the project design, we can measure the size of the areas that must be reshaped and resurfaced. Similarly, there is a body of scientific studies and experiments that enable scientists to determine the depth of soil cover for successful re-vegetation. By multiplying the size of the areas by the necessary depth of the topsoil by the unit rate (also derived from studying similar earthmoving operations at similar sites), we can estimate the potential costs of this major facet of the rehabilitation operation. The earthmoving operation, which will total approximately US \$65 million, makes up 87% of closure and rehabilitation costs.

Also, the necessity of additional technological measures to stabilize and reshape the tailings surface will be discussed in the update of the Economical Financial Guarantee (EFG) estimate, which leads to an increase the provisions for tailings rehabilitation, especially if the TMF is closed prematurely and no optimized tailings disposal regime is applied. The exact figures depend on the details of the TMF closure strategy which can be finally determined only during production.

We believe that—far from being too low—our cost estimates are evidence of our high level of commitment to closure and rehabilitation. Just as a comparison, the world's largest gold producer has set aside US \$683 million (as of December 31, 2006) for the rehabilitation of 27 operations, which equates to US \$25 million on average per mine. The RMGC closure cost estimates, recently revised upward from the US \$73 million reported in the EIA based on additional information, currently total US \$76 million.

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The impact on protected flora and fauna will exist only locally, but this impact will not lead to the loss of any specie. The Project has been designed even from the beginning to fully comply with the requirements and norms imposed by Romanian and European environmental legislation.

The company believes the fact that the project impact on environment remains significant, especially because covers previous impacts. But, the investments required to ecologically restore/rehabilitate Roşia Montană area in order to address current complex environmental issues, are only achievable following the implementation of some economic projects that will generate and warrant implementation of some direct and responsible actions as a component of base principles of sustainable development concepts. Clean processes and technologies may be developed only in the presence of a solid economic environment fully compliant with the environment that will also resolve previous impacts of anthropic activities.

The base documents of the Project are in fact an unbiased reason of its implementation, considering the highly complex environmental commitment within Roşia Montană area.

Some of the Roşia Montană species that are under a certain protection status stand for an insignificant percentage of the scale of populations estimated at national level. The characterization of species from their habitat point of view exists in the species tables presented in the Biodiversity Chapter of the EIA Report and its annexes, although this is not a requirement imposed by the Habitats Directive. Due to their large volume of information, the annexes of chapter 4.6 Biodiversity can be found in the electronic version of the EIA disclosed by the company both in Romanian and English through approx. 6,000 DVD/CD copies, being accessible on the company website, and on the websites of Ministry of Environment and Water Management, local and regional environmental protection agencies of Alba, Sibiu, Cluj, etc.

From practical point of view, the low value of conservation of the impact area is also indirectly emphasized by the fact that there is no proposal to designate the area a SPA (aviafaunistic special protected area) and by the denial as unfounded of the proposal to designate the area as a pSCI area (sites of community importance).

Taking all these into account, we believe that the proposed Project is compliant with the provisions of EU Directive no. 92/43 Habitats[1], and EU Directive no. 79/409 Birds[2] respectively, especially because within Biodiversity Management Plan, Plan H, several active and responsible measures are provided to reconstruct/rehabilitate several natural habitats, pursuant to the provisions of the same documents [3].

References:

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[1] art.3, 2nd paragraph, Each Member State shall contribute to the creation of Natura 2000 (network) in proportion to the representation within its territory of the natural habitat types and the habitats of species referred to in paragraph 1. To that effect each Member State shall designate, in accordance with Article 4, sites as special areas of conservation taking account of the objectives set out in paragraph 1.

art.4, 1st paragraph. On the basis of the criteria set out in Annex III (Stage 1) and relevant scientific information, each Member State shall propose a list of sites indicating which natural habitat types in Annex I and which species in Annex II that are native to its territory the sites host. For animal species ranging over wide areas these sites shall correspond to the places within the natural range of such species which present the physical or biological factors essential to their life and reproduction. For aquatic species which range over wide areas, such sites will be proposed only where there is a clearly identifiable area representing the physical and biological factors essential to their life and reproduction. Where appropriate, Member States shall propose adaptation of the list in the light of the results of the surveillance referred to in Article 11. [...]

2nd paragraph.[...] Member States whose sites hosting one or more priority natural habitat types and priority species represent more than 5 % of their national territory may, in agreement with the Commission, request that the criteria listed in Annex III (Stage 2) be applied more flexibly in selecting all the sites of Community importance in their territory.[...]

Art. 6, 4th paragraph. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Art. 16. Provided that there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range, Member States may derogate from the provisions of Articles 12, 13, 14 and 15 (a) and (b):[...]

- in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment;

[2] Art.4, 1st paragraph. The species mentioned in annex 1 shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution. [...]

Trends and variations in population levels shall be taken into account as a background for evaluations. Member states shall classify in particular the most suitable territories in number and size as special protection areas for the conservation of these species, taking into account their protection requirements in the geographical sea and land area where this directive applies.

[3] Directive 92/43 Habitats, art. 2, 2nd paragraph; Directive 79/409 Birds, art. 3, 2nd paragraph, letter c.

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Your assertion regarding the failure to obtain an applicable urbanism certificate at the start up of the public debates and of the evaluation of the quality of the report to the environmental impact assessment, is not correct.

Thus, by the time when the public debate stage started up there was an applicable urbanism certificate and namely the urbanism certificate no. 78/26.04.2006 issued by Alba County Council. This certificate was obtained prior to the evaluation stage of the quality of the report to the environmental impact assessment which started up once the EIA was submitted to the Ministry of Environment and Water Management on the 15<sup>th</sup> May 2006.

For better understanding the applicable legal provisions and the facts developed within the mining

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project of Roşia Montană zone we would like to make several comments:

- The procedure for issuing the environmental permit for Roşia Montană project started up on the 14<sup>th</sup> December 2004 by submitting the technical memorandum and the urbanism certificate no.68/26.August 2004 (certificate applicable by that time). S.C. Roşia Montană Gold Corporation S.A. (RMGC) applied for and obtained a new urbanism certificate no.78/26.04.2006 issued by Alba County Council for the entire Roşia Montană Project applicable on the date of the EIA Report submission (15<sup>th</sup> May 2006) and prior to the public debate strat up (June 2006);
- The Section 1 of the urbanism certificate no.78 of 26<sup>th</sup> 04.2006 entitled Work construction, position 10 – “Processing plant and associated constructions “ – including the tailing management facility which existence is compulsory for the processing plant running. The Tailing management facility is also specified on the layout plans which are integral part of the urbanism certificate and they were sealed by Alba County Council so that they cannot be modified;
- The Urbanism Certificate is an informative document and its goal is only to inform the applicant about the legal, economic and technical regime of the existing lands and buildings and to establish the urbanism requirements and the approvals necessary to obtain the construction permit (including the environmental permit) as per art.6 of Law 50/1991 referring to the completion of construction works, republished and art 27 paragraph 2 of the Norms for the application of Law 50/1991 – Official Journal 825 bis/13.09.2005).

As it is an informative document, it does not limit the number of certificates an applicant may obtain for the same land plot ( art. 30 of Law no. 350/2001 regarding the territorial planning and urbanism).

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With respect to the issues indicated by you, namely the insurance of mining projects, we would like to underline the fact that the Directive no. 2004/35/CE regarding **on environmental liability with regard to the prevention and remedying of environmental damage**, which has been published in the Official Journal of the European Union no. L143/56 (“Directive no. 35/2004”) establishes the general governing framework with regard to environmental pollution.

According to the provisions stipulated by art. 1 of Directive no. 35/2004 “The purpose of this directive is to establish a framework of environmental liability based on the ‘polluter-pays’ principle, to prevent and remedy environmental damage.”

Directive no. 35/2004 states as a principle pursuant to the provisions of art. 14(1) the fact that “Member States shall take measures to encourage the development of financial security instruments and markets by the appropriate economic and financial operators, including financial mechanisms in case of insolvency, with the aim of enabling operators to use financial guarantees to cover their responsibilities under this Directive”.

Moreover, according to the provisions of art. 19(1) Directive no. 35/2004, Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 30 April 2007. We would like to underline the fact that, up to now, the Directive no. 35/2004 hasn’t been transposed into our legislation. Taking into account the previously mentioned aspects, we kindly ask you to take notice of the fact that, at this moment there are no internal legal regulations to establish the material and procedural aspects related to the establishment of such a guarantee.

However, if specific legal dispositions are going to be created with regard to the establishment of certain guarantees, RMGC is going to take all necessary measures to fulfill all mandatory legal liabilities.

Moreover, we underline the fact that RMGC has contracted one of the world’s leading insurance brokers, which is well established in Romania and has a long and distinguished record of performing risk assessments on mining operations. The broker will use the most appropriate property and machinery breakdown engineers to conduct risk analysis and loss prevention audit activities, during the construction and operations activity at Roşia Montană, to minimize hazards. The broker will then determine the appropriate coverage, and work with A-rated insurance companies to put that program in place on behalf of RMGC, for all periods of the project life from construction through operations and closure.

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RMGC is committed to maintaining the highest standards of occupational health and safety for its

employees and service providers. Our utilization of Best Available Techniques helps us to ensure this goal is achieved. No organization gains from a loss, and to that end we will work to implement engineering solutions to risk, as they are far superior to insurance solutions to risk. Up to 75% of loss risk can be removed during the design and construction phase of a project.

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The Report on the Environmental impact assessment study (EIA) considered all alternative developments, including the option of not proceeding with any project – an option that would generate no investment, allowing the existing pollution problems and socio-economic decline to continue (Chapter 5 – *Assessment of Alternatives*).

The report also considered alternative developments – including agriculture, grazing, meat processing, tourism, forestry and forest products, cottage industries, and flora/fauna gathering for pharmaceutical purposes – and concluded that these activities could not provide the economic, cultural and environmental benefits brought by the Roşia Montană Project (RMP).

Chapter 5 also examines alternative locations for key facilities as well as alternative technologies for mining, processing and waste management, in line with best practice and as compared against published EU best available techniques (BAT) documentation.

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It is stated precisely that a “cyanide rain” phenomenon will not exist. Neither was encountered in other places or situations. Moreover, the specialty literature doesn’t make any mentions related to the so-called “cyanide rains” phenomenon, but only “acidic rains” phenomenon which can’t be generated by the cyanic compounds breaking down in the atmosphere.

The reasons for making the statement that ‘cyanide rains’ phenomenon won’t occur are the followings:

- The sodium cyanide handling, from the unloading from the supplying trucks up to the processing tailings discharge onto the tailings management facility, will be carried out only in liquid form, represented by alkaline solutions of high pH value (higher than 10.5 – 11.0) having different sodium cyanide concentrations. The alkalinity of these solutions has the purpose to maintain the cyanide under the form of cyan ions (CN<sup>-</sup>) and to avoid the hydrocyanic acid formation (HCN), phenomenon that occurs only within environments of low pH;
- The cyanide volatilization from a certain solution cannot occur under the form of free cyanides, but only under the form of HCN;
- The handling and storage of the sodium cyanide solutions will take place only by means of some closed systems; the only areas/plants where the HCN can occur and volatilize into air, at low emission percentage, are the leaching tanks and slurry thickener, as well the tailings management facility for the processing tailings;
- The HCN emissions from the surface of the above mentioned tanks and from the tailings management facility surface can occur as a result of the pH decrease within the superficial layers of the solutions (that helps the HCN to form) and of the desorption (volatilization in air) of this compound;
- The cyanide concentrations within the handled solutions will decrease from 300 mg/L within the leaching tanks up to 7 mg/L (total cyanide) at the discharge point into the tailings management facility. The drastic reduction of the cyanide concentrations for discharging into the Tailings Management Facility (TMF) will be done by the detoxification system;
- The knowledge of the cyanide chemistry and on the grounds of the past experience, we estimated the following possible HCN emissions into air: 6 t/year from the leaching tanks, 13 t/year from the slurry thickener and 30 t/year (22.4 t, respectively 17 mg/h/m<sup>2</sup> during the hot season and 7.6 t, respectively 11.6 mg/h/m<sup>2</sup> during the cold season) from the tailings management facility surface, which totals 134.2 kg/day of HCN emission;
- Once released into air, the hydrocyanic acid is subject to certain chemical reactions at low pressure, resulting ammonia;
- The mathematical modeling of the HCN concentrations within the ambient air (if the HCN released in the air is not subject to chemical reactions) emphasized the highest concentrations being at the ground level, within the industrial site namely within the area of the tailings

management facility and within a certain area near the processing plant. The maximum concentration is of 382  $\mu\text{g}/\text{m}^3/\text{h}$ ;

- The highest HCN concentrations within the ambient air will be 2.6 times lower than the standard value stipulated by the national legislation for labor protection;
- The HCN concentrations within the ambient air in the populated areas close by the industrial site will be of 4 to 80  $\mu\text{g}/\text{m}^3$ , more than 250 – 12.5 times lower than standard value stipulated by the national legislation for labor protection – the national legislation and European Union (EU) legislation on the Air Quality don't stipulate standard values for the population's health protection;
- Once released in air, the evolution of the HCN implies an insignificant component resulted from the reactions while liquid (water vapors and rain drops). The reactions are due to HCN being weak water-soluble at partially low pressures (feature of the gases released in open air), and the rain not effectively reducing the concentrations in the air (Mudder, et al., 2001; Cicerone and Zellner, 1983);
- The probability that the HCN concentration value contained by rainfalls within and outside the footprint of the Project be significantly higher than the background values (0.2 ppb) is extremely low.

Details referring to the use of cyanide in the technological processes, the cyanides balance as well as the cyanide emission and impact of the cyanides on the air quality are contained in the Environmental Impact Assessment (EIA) Report, Chapter 2, Subchapter 4.1 and Subchapter 4.2 (Section 4.2.3).

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Item no. 1710

No. to identify the observations received from the public No. 110783/25.08.2006

Proposal

The questioner opposes the promotion of the Roşia Montană Project.

Solution

Regarding your allegation, we mention that art. 44 (3) of the Minister of Waters and Environment Protection Order no. 860/2002 on the environmental impact assessment and the issuance of environmental agreements Procedures ("Order no. 860/2002") provides that "*based on the results of the public debate, the relevant authority for the environmental protection evaluates the grounded proposals/comments of the public and requests the titleholder the supplementation of the report on the environmental impact assessment study with an appendix comprising solutions for the solving of the indicated issues*".

Consequently, considering the fact that your proposal is just an allegation which does not indicate possible problems, nor provide additional information, we mention that the decision on the issuance or refusal of the environmental approval cannot be made only by considering a simple proposal, but according to certain objective criteria provided by the wording of art. 45 of the Order no. 860/2002 and only after examining

- (i) the report on the environmental impact assessment study;
- (ii) the conclusions of the parties involved in the assessment;
- (iii) the possibilities to implement the project;
- (iv) the titleholder answers to the grounded proposals/comments of the public.

Item no.	1711 Same as: 1712, 1712BIS, 1713, 1713BIS, 1714, 1715, 1716, 1717	
No. to identify the observations received from the public	No. 110815/25.08.2006	Same as: No. 110816/25.08.2006, No. 110781/25.08.2006, No. 110817/25.08.2006, No. 110780/25.08.2006, No. 110818/25.08.2006, No. 110819/25.08.2006, No. 110820/25.08.2006, No. 110821/25.08.2006
Proposal	<p>The questioner does not agree to the promotion of the Roşia Montană Project, making the following comments:</p> <ul style="list-style-type: none"> <li>- In EIA there are no presented all the possible risks derived from this project;</li> <li>- Total costs for closing the mine are unrealistic;</li> <li>- There isn't until now an approved Zonal Urbanism Plan for the Protected Areas;</li> <li>- The phase of public consultation and quality evaluation of the impact assessment study report begun without a valid urbanism certificate;</li> <li>- Information about the foundation which RMGC will establish and subsidize is not given. This foundation follows to assume the obligations which the mining operation can not assume;</li> <li>- The present urbanism plans of the Roşia Montană commune do not correspond with the mining project proposal described in EIA;</li> <li>- There is no liner proposed for the tailings pond;</li> <li>- The proposed waste deposits will be not constructed according to the legislation in force;</li> <li>- No financial guarantees have been stipulated;</li> <li>- There is not a Safety Report submitted for the public consultation and evaluation by the competent authorities;</li> <li>- The EIA report does not assess the "zero alternative";</li> <li>- The Project poses a threat for protected flora and fauna;</li> <li>- The EIA report does not refer to the impact on the listed heritage buildings of noise and vibrations caused by the mining operations;</li> <li>- The public/ONGs wish to consult the contracts and agreements between Company and Romanian State;</li> <li>- The Urbanism Plan has been modified without public consultation;</li> <li>- From archeological point of view, the area proposed to be occupied by project was not legally investigated;</li> <li>- The questioner contests the protection of the architectural and spiritual monuments with the responsibility of the state institutions for the protection operation.</li> </ul> <p>SEE THE CONTENT OF TYPE 1 CONTESTATION</p>	
Solution	<p>It is the nature of risk that it can be mitigated and diminished; it cannot be made to disappear. In order to put this into context, the common action of walking on the street or developing everyday activities have an accident potential. This accident potential is twice higher than within the framework of industrial activities that use hazardous substances.</p> <p>A major chapter of the EIA report was dedicated to the identification of risks for the project. In addition, this chapter provides a discussion of the mitigation measures for each risk and how they were incorporated into the project designs. It is recognized that risk identification is difficult due to the number and diversity of events that can be envisioned. The EIA report cannot assume to cover all of the potential risks associated with the project. However, it has attempted to identify and address the most relevant risks. The extent of risk assessment and the intensity of the prevention and mitigation measures should be proportional to the risk involved and therefore only the risks that have been considered important have been assessed in detail. Each is described below.</p> <p>In the larger sense, the entire EIA report is focused on the assessment of impacts and their associated mitigation. Specifically, Chapter 4 of the EIA presents that impact assessment of the project. The following discussion presents a summary of the impact discussed in the EIA.</p> <p>As far as natural and technological risks assessments are concerned, Chapter 7, "Risk Cases", from the Report on Environmental Impact Assessment, emphasizes the fact that safety and prevention measures, the implementation of the environmental management and risk systems are mitigating the consequences</p>	

to acceptable levels as compared to the most restrictive norms, standards, the best practices or national and international recommendations in the field. The risk level has been established as moderate and so, socially acceptable. The extension of the risk assessment and the intensity of the prevention and mitigation measures of the consequences should be proportionate to the risk involved. Selection of a specific mitigation technique is depends on the analyzed accident scenario.

More detailed assessments are conducted for accident scenarios that, based on the qualitative assessment are found to be potentially major, of probability more than  $10^{-6}$  (reduced recovery periods of 1/1,000,000) meaning that they could have major consequences therefore, elevated associated risk, a higher risk level than 9 to 12 (on a scale of 1-25). To put this in context, simply living in southern Florida rates a 25 on the risk scale.

A global assessment of the risks associated with the Roşia Montană Project is obtained by the quick environmental and health risk assessment methodology initially developed by the Italian Ministry of the Environment and the World Health Organization. Natural hazard and risk identification and analysis presents key data and information in assessing potential technological accidents. Thus:

- In designing the Tailings Management Facility, the design parameters were chosen to fully cover the characteristic seismic risk of the area. These seismic design parameters adopted for the TMF and other facilities on the proposed site result in a safety factor much greater than the minimum accepted under the Romanian and European design standards for such facilities;

- in the sector physically impacted by the Project, the risk of floods will remain very low due to the small catchments (controlled by the Roşia and Corna Streams) the area affected by the operation, and the creation of containment, diversion and drainage hydro-technical structures for storm waters on the site, and in the Abrud catchment in general;

- risks caused by meteorological events have been reviewed and used in assessing the hazards of the affected technological processes.

From the analysis of morphometrical parameters and their correlation with other sets of information on the natural slopes on and near the site shows that the (qualitatively estimated) landslide occurrence risk is low to moderate and its consequences will not cause major impacts on the structural components of the Project.

There is no significant risk associated with resource depletion. Mining activities are planned judiciously, so as to extract only the profitable gold and silver resources and only the necessary construction rock for the Project. The management of the mining concession site will minimize reserve "sterilization" (limitation of future access to the reserves).

In assessing technological hazards and risks, the quantity of hazardous substances on the site was calculated as a total and by category, as provided by the *Notification Procedure* approved by Ministry of Agriculture, Forestry, Water and Environment (MAFWE) Order 1084/2003. Based on an evaluation of hazardous substances in stock on the Project site in relation to the relevant quantities provided by the Government Decision 95/2003 which transposes the Seveso Directive, the Project ranges between the upper and the lower limits, and therefore S.C. Roşia Montană Gold Corporation S.A. is required to prepare a Report on Environmental Impact Assessment Study to be sent to the local environmental authority and the local civilian protection authority a *Safety Report* on its operations to prevent major accident risks.

In assessing the consequences of major accidents involving dangerous substances, physical-mathematical models accepted internationally and especially at EU level, and the current version of the SLAB (Canada) software have been used, the latter for the atmospheric dispersion of denser than air gases, that may handle a multitude of situations and scenarios. Similarly, the EFFECTSGis 5.5 (Netherlands) software, developed for the analysis of the effects of industrial accidents and of consequences. Several scenarios were considered in response to the internal legislative requirements, especially related to the implementation of the Internal Emergency Plans (GD 647/2005). The conclusions of the risk assessment for major accidents were:

- The total destruction of plant facilities may only be caused by terrorist attack with classic or nuclear weapons. Simultaneous damage to the HCl tank (including containment) and to the NaCN solution tank, the tanks containing enriched solution, to one or more leaching tanks, having as a result HCN dispersion into the air. At the same time, under certain situations and weather conditions unfavorable for dispersion, people within 40 m of the emission source, surprised by the toxic cloud for

more than 1 minute without respiratory protection equipment, will most certainly die. It may also be considered that, on a radius of about 310 m, persons exposed for more than 10 minutes may suffer serious intoxications that may also lead to death. Toxic effects may occur in persons up to about 2 km downwind of the process plant;

- Operating errors and/or failures in the measurement and control devices, resulting in a lower pH in the leaching tank, thickener and/or DETOX slurry and accidental emissions of hydrocyanic acid. The area affected by concentrations of 290 ppm over a 10 min exposure time is within a circle of 36 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 157.5 m radius. The center of these circles is the middle of the CIL tanks platform;

- Accidental HCN emission from the decanter. The accident may be caused by a drop of pH in the CIL tanks combined with an overdose of flocculent solution and faulty pH monitoring systems. The area affected by concentrations of 300 ppm over a 10 min exposure time is within a circle of 65 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 104 m radius. The center of these circles is mid-distance between the two DETOX facilities;

- Accidental HCN emission from the DETOX facility. The accident may be caused by a drop of pH in the reactors generated by an overdose of metabisulfite solution and/or copper sulphate combined with faulty pH monitoring systems. The area affected by high 1900 ppm concentrations for a 1 min exposure time is located within a 10 m radius circle. The area affected by concentrations of 300 ppm over a 10 min exposure time is within a circle of 27 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 33 m radius. The center of these circles is mid-distance between the two DETOX facilities;

- Explosion of the LPG storage tank. The LPG storage tank has a 50 ton capacity and is located outdoors, near the heating plant. The simulation was conducted for the worst case scenario, considering an explosion of the full tank. Threshold I with heat 12.5 kW/m<sup>2</sup> is within a 10.5 m radius circle and Threshold II, of heat radiation 5 kW/m<sup>2</sup> is within a circle of 15 m radius;

- Damage and/or fire at the fuel tanks. Simulations were conducted for the worst case scenarios, considering ignition and combustion of all the diesel (fire in the tank, or in the containment vat, when full of diesel);

- Corna Dam break and breach development. Two credible accident scenarios were considered in simulating tailings flow out of the Tailings Management Facility, and six credible scenarios for the flow of decant water and tailings pore water, with significant effects on the terrestrial and aquatic ecosystems, in different weather conditions;

- Tailings flow may occur along Corna Valley, on a 800 m (starter dam break) or over 1600 m reach should the Corna dam break in its final stage;

- In regard to water quality impacts, cyanide concentrations in the water in the shape of a pollution plume may reach Arad, near the Romanian-Hungarian border on the Mureş River, in concentrations ranging between 0.03 and 0.5 mg/L. Due to inherent mathematical limitations in the models, these values and the accident effects are considered overestimated. Therefore, the results describe the "worst case scenario" based on extreme dam break assumptions for the Corna Dam.

A new and much more precise and realistic simulation has been subsequently established based on the INCA Mine model, that considers the dispersion, volatilization and breakdown of cyanides during the downstream movement of the pollutant flow (Whiteland et al., 2006).

The model used is the INCA model developed over the past 10 years to simulate both terrestrial and aquatic systems within the EUROLIMPACS EU research program ([www.eurolimpacs.ucl.ac.uk](http://www.eurolimpacs.ucl.ac.uk)). The model has been used to assess the impacts from future mining, and collection and treatment operations for pollution from past mining at Roşia Montană.

The modeling created for Roşia Montană simulates eight metals (cadmium, lead, zinc, mercury, arsenic, copper, chromium, manganese) as well as Cyanide, Nitrate, Ammonia and dissolved oxygen. The model has been applied to the upper catchments at Roşia Montană as well as the complete Abrud-Arieş-Mureş river system down to the Hungarian Border and on into the Tisa River. The model takes into account the dilution, mixing and physical-chemical processes affecting metals, ammonia and cyanide in the river system and gives estimates of concentrations at key locations along the river, including at the Hungarian Boarder and in the Tisa after the Mureş joins it.

Because of dilution and dispersion in the river system, and of the initial EU BAT-compliant technology adopted for the project (for example, the use of a cyanide destruct process for tailings effluent that



reduces cyanide concentration in effluent stored in the TMF to below 6 mg/l), even a large scale unprogrammed release of tailings materials (for example, following failure of the dam) into the river system would not result in transboundary pollution. The model has shown that under worse case dam failure scenario all legal limits for cyanide and heavy metals concentrations would be met in the river water before it crosses into Hungary.

The INCA model has also been used to evaluate the beneficial impacts of the existing mine water collection and treatment and it has shown that substantial improvements in water quality are achieved along the river system under normal operational conditions.

For more information, an information sheet presenting the INCA modeling work is presented under the title of the Mureş River Modeling Program and the full modeling report is presented in Annex 5.1:

- Development of HCN on the tailings pond surface. Simulated emissions of HCN from the Tailings Management Facility pond surface and of their dispersion into the ambient air show that the level of  $400\mu\text{g}/\text{m}^3$  hourly average and  $179\mu\text{g}/\text{m}^3$  8hr average will not be exceeded. These HCN concentrations are only slightly over the odor threshold (0.17ppm) and much below potentially dangerous concentrations;

- Cetate Dam break and breach development. Flood modeling was in case of a break in Cetate dam was based on the design parameters obtained from the hydrometeorological study "Assessment of rainfall intensity, frequency and runoff for the Roşia Montană Project - Radu Drobot". The breach characteristics were predicted using the BREACH model, and the maximum height of the flood wave in various flow sections was modeled using the FLDWAV software. The assumptions included a total 800000  $\text{m}^3$  discharge for one hour, when the peak of the flood hydrograph is about 4.9 m above base flow immediately below the dam and in the narrow Abrud valley 5.9-7,5 km downstream of the dam, while in the last section considered (10,5 km) water depth is about 2.3 m above base flow and the maximum flow rate 877  $\text{m}^3/\text{s}$ . Further, the broader Aries valley allows the flood wave to propagate on a significantly wider bed, which results in a highly attenuated hydrograph. These results describe the "worst case scenario" based on extreme dam break assumptions:

- Accidents during cyanide transportation. Due to the large quantities of cyanide transported (about 30t /day) the risks associated to this activity were assessed in detail using the ZHA- Zurich Hazard Analysis method. As a consequence, the optimum transport route was selected from the manufacturer to the Process Plant, e.g.;

- Cyanide transport (in solid state) will exclusively involve special SLS (Solid to Liquid System) containers, 16 tons each. The ISO compliant container will be protected by a framework with legs, which allows separation from the transport trailer for temporary storage. The wall is 5.17 mm thick, which, together with the protective framework, provides additional protection to the load in case of accident. This system is considered BAT and is currently one of the safest cyanide transportation options.

It is being mentioned the fact that the study develops the occurrence possibility of these scenarios (pages 166-171, Conclusions).

As regards the cyanides management, there is a baseline study named "Roşia Montană Golden Project, Cyanides Management Plan" prepared in compliance with the "International Management Code for the Manufacture, Transport and Use of Cyanide in the Production of Gold (International Cyanide management Institute) May 2002". S.C. Roşia Montană Gold Corporation is signatory to this code.

Bibliographical references for Chapter 7 "Risk Cases" are listed at page 173-176.

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RMGC's closure estimates, which were developed by a team of independent experts with international experience and will be reviewed by third party experts, are based on the assumption that the project can be completed according to the plan, without interruptions, bankruptcy or the like. They are engineering calculations and estimates based on the current commitments of the closure plan and are summarized in the EIA's Mine Closure and Rehabilitation Management Plan (Plan J in the EIA). Annex 1 of Plan J will be updated using a more detailed approach looking at every individual year and calculating the amount of surety, which must be set aside year by year to rehabilitate the mine before RMGC is released from all its legal obligations. Most importantly, the current estimates assume the application of international best practice, best available technology (BAT) and compliance with all Romanian and European Union laws and

regulations.

Closure and rehabilitation at Roşia Montană involves the following measures:

- Covering and vegetating the waste dumps as far as they are not backfilled into the open pits;
- Backfilling the open pits, except Cetate pit, which will be flooded to form a lake;
- Covering and vegetating the tailings pond and its dam areas;
- Dismantling of disused production facilities and revegetation of the cleaned-up areas;
- Water treatment by semi-passive systems (with conventional treatment systems as backup) until all effluents have reached the discharge standards and need no further treatment;
- Maintenance of the vegetation, erosion control, and monitoring of the entire site until it has been demonstrated by RMGC that all remediation targets have been sustainably reached.

While the aspects of closure and rehabilitation are many, we are confident in our cost estimates because the largest expense—that incurred by the earthmoving operation required to reshape the landscape—can be estimated with confidence. Using the project design, we can measure the size of the areas that must be reshaped and resurfaced. Similarly, there is a body of scientific studies and experiments that enable scientists to determine the depth of soil cover for successful re-vegetation. By multiplying the size of the areas by the necessary depth of the topsoil by the unit rate (also derived from studying similar earthmoving operations at similar sites), we can estimate the potential costs of this major facet of the rehabilitation operation. The earthmoving operation, which will total approximately US \$65 million, makes up 87% of closure and rehabilitation costs.

Also, the necessity of additional technological measures to stabilize and reshape the tailings surface will be discussed in the update of the Economical Financial Guarantee (EFG) estimate, which leads to an increase the provisions for tailings rehabilitation, especially if the TMF is closed prematurely and no optimized tailings disposal regime is applied. The exact figures depend on the details of the TMF closure strategy which can be finally determined only during production.

We believe that—far from being too low—our cost estimates are evidence of our high level of commitment to closure and rehabilitation. Just as a comparison, the world's largest gold producer has set aside US \$683 million (as of December 31, 2006) for the rehabilitation of 27 operations, which equates to US \$25 million on average per mine. The RMGC closure cost estimates, recently revised upward from the US \$73 million reported in the EIA based on additional information, currently total US \$76 million.

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According to Law 5/2000, regarding the approval of the Territory Arrangement Plan – 3<sup>rd</sup> Section – protected areas (“Law 5/2000”) (article 5, paragraphs 2-3), local public authorities, with the support of the competent central public authorities, had the obligation to establish the boundaries of the protection areas for the cultural heritage elements stipulated in Annex III to the above-mentioned law. This measure should have been taken within 12 months from the effective date of Law 5/2000, based on specialized studies. For this purpose, the local public authorities had to prepare the town planning documentation and its related regulations, developed and approved according to the law. This documentation must comprise the necessary protection and conservation measures for the national cultural heritage elements located in this area.

Concurrently, Law 350/2001 on the territory arrangement and urbanism stipulates the right of legal or natural persons interested in arranging the territory, to initiate the development of urbanism plans.

In accordance with these legal provisions, in 2001, RMGC initiated the preparation of these specific town-planning documentations - the General Urbanism Plan and the Zonal Urbanism Plan. These plans have been developed by Romanian certified companies and followed the legal approval procedure. The permit for the establishment of the Roşia Montană Historical Centre Protected Area was issued by the Ministry of Culture and Religious Affairs in 2002 (permits no. 61/14.02.2002 and no. 178/20.06.2002) as part of the procedure for the approval of the town planning documentation. Based on these permits, the Ministry of Culture and Religious Affairs requested the company to develop a Zonal Urbanism Plan for the Historical Centre of Roşia Montană. Out of the 41 historical buildings in Roşia Montană, thirty-five (35) are located inside the protected area of the Roşia Montană Historical Centre.

As for the heritage elements located in the future industrial development area (6 historical buildings), these are discussed in the Industrial Zonal Urbanism Plan prepared by SC Proiect Alba SA. The regulations included in this document will contain measures for the protection of these monuments.

In conclusion, the town planning studies and the specialized studies conducted for the purpose of establishing the boundaries of the protection areas within the future mining operations perimeter are currently pending approval, in accordance with the legal provisions, by the competent institutions and committees. Please note that none of the historical houses located in the perimeter of the proposed project will be affected; on the contrary, all the 41 historic buildings will be included in a complex restoration and rehabilitation program (see the Management Plan). This program is mandatory, regardless of the implementation of the mining project, if we want to prevent these buildings from collapsing because of their advanced degradation.

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Your assertion regarding the failure to obtain an applicable urbanism certificate at the start up of the public debates and of the evaluation of the quality of the report to the environmental impact assessment, is not correct.

Thus, by the time when the public debate stage started up there was an applicable urbanism certificate and namely the urbanism certificate no. 78/26.04.2006 issued by Alba County Council. This certificate was obtained prior to the evaluation stage of the quality of the report to the environmental impact assessment which started up once the EIA was submitted to the Ministry of Environment and Water Management on the 15<sup>th</sup> May 2006.

For better understanding the applicable legal provisions and the facts developed within the mining project of Roșia Montană zone we would like to make several comments:

- The procedure for issuing the environmental permit for Roșia Montană project started up on the 14<sup>th</sup> December 2004 by submitting the technical memorandum and the urbanism certificate no.68/26.August 2004 (certificate applicable by that time). S.C. Roșia Montană Gold Corporation S.A. (RMGC) applied for and obtained a new urbanism certificate no.78/26.04.2006 issued by Alba County Council for the entire Roșia Montană Project applicable on the date of the EIA Report submission (15<sup>th</sup> May 2006) and prior to the public debate start up (June 2006);
- The Section 1 of the urbanism certificate no.78 of 26<sup>th</sup> 04.2006 entitled Work construction, position 10 – “Processing plant and associated constructions “ – including the tailing management facility which existence is compulsory for the processing plant running. The Tailing management facility is also specified on the layout plans which are integral part of the urbanism certificate and they were sealed by Alba County Council so that they cannot be modified;
- The Urbanism Certificate is an informative document and its goal is only to inform the applicant about the legal, economic and technical regime of the existing lands and buildings and to establish the urbanism requirements and the approvals necessary to obtain the construction permit (including the environmental permit) as per art.6 of Law 50/1991 referring to the completion of construction works, republished and art 27 paragraph 2 of the Norms for the application of Law 50/1991 – Official Journal 825 bis/13.09.2005).

As it is an informative document, it does not limit the number of certificates an applicant may obtain for the same land plot ( art. 30 of Law no. 350/2001 regarding the territorial planning and urbanism).

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Introduced as part of the Environmental Impact Assessment Report Study (EIA), the Roșia Montană Foundation is shifting in focus. The Community Sustainable Development Plan activities initially conceived as coming under the Foundation umbrella (business oriented activities: business incubator, business advisory center, micro-finance facility, as well as social oriented activities: education and training center) have been advanced independently, via partnerships and with community participation in decision-making – a preferable way to advance social and economic development programs.

Going forward, the Foundation will take shape around preservation, patrimony and cultural heritage issues, with its final form determined in consultation with the community.

In terms of the philosophy that guides the company's Sustainable Development efforts, the Roșia Montană Gold Corporation (RMGC) sees itself not as principal provider, but as a partner. Community involvement is considered the starting point; over time, as the community builds the capacity to maintain programs in its own right, the company will turn over control of currently-established programs to the community and its institutions.

For more information, please see Roșia Montană Sustainable Development and the Roșia Montană Project – annex 4.

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We underline the fact that your statement is false. The General Urbanism Plan for the Roșia Montană commune, endorsed in 2002 allows the development of Roșia Montană project, as it has been presented during the public consultations.

Concurrently, pursuant to the provisions of art. 41, paragraph 2, from the Mining Law no.85/2003, the authorities from the local administration have the liability to adjust and/or update the territory arrangement plans and the general urbanism plans, in order to allow the development of all operations necessary for the development of mining activities.

RMGC has also initiated the preparation of two zonal urbanism plans: Zonal Urbanism Plan Modification – Roșia Montană Industrial Area and Zonal Urbanism Plan – Roșia Montană Historical Area. The first urbanism plan is required by the urbanism certificate no.78/26.04.2006, which updates the Zonal Urbanism Plan for the Industrial Area approved in 2002. As far as the historical area is concerned, its Zonal Urbanism Plan is required by the General Urbanism Plan approved also in 2002. Both urbanism plans are pending approval and have been subject to public consultations.

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An engineered liner is included in the design of the Tailings Management Facility (TMF) basin. Specifically, the Roșia Montană Tailings Management Facility (TMF or “the facility”) has been designed to be compliant with the EU Groundwater Directive (80/68/EEC), transposed as Romanian GD 351/2005. The TMF is also designed for compliance with the EU Mine Waste Directive (2006/21/EC) as required by the Terms of Reference established by the MEWM in May, 2005. The following paragraphs provide a discussion of how the facility is compliant with the directives.

The TMF is composed of a series of individual components including:

- the tailings impoundment;
- the tailings dam;
- the secondary seepage collection pond;
- the secondary containment dam; and
- the groundwater monitoring wells/extraction wells located downstream of the Secondary Containment dam.

All of these components are integral parts of the facility and necessary for the facility to perform as designed.

The directives indicated above require that the TMF design be protective of groundwater. For the Roșia Montană project (RMP), this requirement is addressed by consideration of the favorable geology (low permeability shales underlying the TMF impoundment, the TMF dam and the Secondary Containment dam) and the proposed installation of a low-permeability ( $1 \times 10^{-6}$  cm/sec) recompacted soil liner beneath the TMF basin. Please see Chapter 2 of EIA Plan F, “The Tailings Facility Management Plan” for more information.

The proposed low permeability soil liner will be fully compliant with Best Available Techniques (BAT) as defined by EU Directive 96/61 (IPPC) and EU Mine Waste Directive. Additional design features that are included in the design to be protective of groundwater include:

- A low permeability ( $1 \times 10^{-6}$  cm/sec) cut off wall within the foundation of the starter dam to

control seepage;

- A low permeability ( $1 \times 10^{-6}$  cm/sec) core in the starter dam to control seepage;
- A seepage collection dam and pond below the toe of the tailings dam to collect and contain any seepage that does extend beyond the dam centerline;
- A series of monitoring wells, below the toe of the secondary containment dam, to monitor seepage and ensure compliance, before the waste facility limit.

In addition to the design components noted above specific operational requirements will be implemented to be protective of human health and the environment. In the extremely unlikely case that impacted water is detected in the monitoring wells below the secondary containment dam, they will be converted to pumping wells and will be used to extract the impacted water and pump it into the reclaim pond where it will be incorporated into the RMP processing plant water supply system, until the compliance is reestablish.

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With respect to your comments made as regards a presumptive infringement of the provisions of Government Decision No.351/2005 (“GD 351/2005”), there are several aspects to be taken into consideration. Thus:

1. Firstly, please note that, according to the provisions of art. 6 of GD 351/2005, any activity that might determine the discharge of dangerous substances into the environment is subject to the prior approval of the water management authorities and shall comply with the provisions of the water permit issued in accordance with the relevant legislation.

The GD 351/2005 provides that the water permit shall be issued only after all technical-construction measures are implemented as prevent the indirect discharge of dangerous substances into the underground waters. The maximum discharge limits are expressly provided under GD 351/2005 and compliance with such is a condition for granting and maintaining the water permit.

In accordance with the provisions of GD 351/2005, the actual discharge limits should be authorized by the relevant authority, such process being understood by the lawmaker in consideration of the complexity and variety of industrial activities, as well as the latest technological achievements.

Therefore, please note that the EIA stage is not intended to be finalized into an overall comprehensive permit, but it represents only a part of a more complex permitting process. Please note that, according with art. 3 of GD 918/2002, the data’s level of detail provided in the EIA is the one available in the feasibility stage of the project, obviously making impossible for both the titleholder and authority to exhaust all required technical data and permits granted.

The adequate protection of the ground water shall be ensured by the terms and conditions of the water permit. The issuance of the water permit shall be performed following an individual assessment of the project, considering its particular aspects and the relevant legal requirements applicable for mining activities. Until the water permit is obtained, any allegation regarding the infringement of GD 351/2005 is obviously premature mainly because the water permit shall regulate, in accordance with the relevant legal provisions, the conditions to be observed by the developer as regards the protection of the ground water;

2. Secondly, kindly note that the complexity and specificity of mining projects generated the need of a particular legal framework. Therefore, for such projects, the reading of the legal provisions of a certain enactment should be corroborated with the relevant provisions of the other regulations applicable.

In this respect, please not that the understanding of GD 351/2005 must be corroborated with the provisions of the entire relevant legislation enforceable as regards Roşia Montană Project, with a particular accent to Directive 2006/21/EC on the management of waste from the extractive industries (“Directive 21”).

The very scope of Directive 21 is to provide a specific legal framework for the extractive wastes and waste facilities related to mining projects, considering the complexity of such projects and the particular aspects of mining activities that can not always be subject to the common regulations on waste management and landfill.

From this perspective, Directive 21 provides that, an operator of a waste facility, as such is defined thereunder (please note that the TMF proposed by RMGC is considered a “waste facility” under Directive 21), must inter alia, ensure that:

- a) *“the waste facility is [...]designed so as to meet the necessary conditions for, in the short and long-term perspectives, preventing pollution of the soil, air, groundwater or surface water, taking into account especially Directives 76/464/EEC (1), 80/68/EEC (2) and 2000/60/EC, and ensuring efficient collection of contaminated water and leachate as and when required under the permit, and reducing erosion caused by water or wind as far as it is technically possible and economically viable;”*
- b) *“the waste facility is suitably constructed, managed and maintained to ensure its physical stability and to prevent pollution or contamination of soil, air, surface water or groundwater in the short and long-term perspectives as well as to minimize as far as possible damage to landscape.”*

In addition, it should be mentioned that RMGC was required by MWEM under the Terms of

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Reference, to perform the EIA considering the provisions of Directive 21 and the BAT Management of Mining Waste. The Directive 21 was intended by the EU DG of Environment to be the legislative regime applicable to sound management of mining waste throughout Europe and therefore compliance with its provisions is mandatory.

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Information regarding our Environmental Financial Guarantee (“EFG”) is fully discussed in the section of the Environmental Impact Assessment titled “Environmental and Social Management and System Plans” (Annex 1 of the subchapter titled “Mine Rehabilitation and Closure Management Plan”). The EFG is updated annually and will always reflect the costs associated with reclamation. These funds will be held in protected accounts at the Romanian state disposal.

Roşia Montană Gold Corporation (“RMGC”) has invested significant time, energy, and resources assessing the viability of a mining project in the valley of Roşia Montană. This assessment has led RMGC to conclude that Roşia Montană presents an attractive long-term development opportunity – an opinion confirmed by a variety of lending institutions, who have completed detailed reviews of the project’s design and profitability. We have every confidence that we will see the project through to the end of its projected 16-year lifespan, regardless of any fluctuations in the market price of gold.

In Romania, the creation of an EFG is required to ensure adequate funds are available from the mine operator for environmental cleanup. The EFG is governed by the Mining Law (no. 85/2003) and the National Agency for Mineral Resources instructions and Mining Law Enforcement Norms (no. 1208/2003).

Two directives issued by the European Union also impact the EFG: the Mine Waste Directive (“MWD”) and the Environmental Liability Directive (“ELD”).

The Mine Waste Directive aims to ensure that coverage is available for 1) all the obligations connected to the permit granted for the disposal of waste material resulting from mining activities and 2) all of the costs related to the rehabilitation of the land affected by a waste facility. The Environmental Liability Directive regulates the remedies, and measures to be taken by the environmental authorities, in the event of environmental damage created by mining operations, with the goal of ensuring adequate financial resources are available from the operators for environmental cleanup efforts. While these directives have yet to be transposed by the Romanian Government, the deadlines for implementing their enforcement mechanisms are 30 April 2007 (ELD) and 1 May 2008 (MWD) – thus before operations are scheduled to begin at Roşia Montană.

RMGC has already begun the process of complying with these directives, and once their implementation instruments are enacted by the Romanian Government, we will be in full compliance.

Each EFG will follow detailed guidelines generated by the World Bank and the International Council on Mining and Metals.

The current projected closure cost for Roşia Montană is US \$76 million, which is based on the mine operating for its full 16-year lifespan. The annual updates will be completed by independent experts, carried out in consultation with the NAMR, as the Governmental authority competent in mining activities field. These updates will ensure that in the unlikely event of early closure of the project, at any point in time, each EFG will always reflect the costs associated with reclamation. (These annual updates will result in an estimate that exceeds our current US \$76 million costs of closure, because some reclamation activity is incorporated into the routine operations of the mine.)

A number of different financial instruments are available to ensure that RMGC is capable of covering all of the expected closure costs. These instruments, which will be held in protected accounts at the Romanian state disposal, include:

- Cash deposit;
- Trust funds;
- Letter of credit;
- Surety bonds;

- Insurance policy.

Under the terms of this guarantee, the Romanian government will have no financial liability in connection with the rehabilitation of the Roşia Montană project.

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The Security Report has been made available for public access by being posted at the following Internet address [http://www.mmediu.ro/dep\\_mediu/rosia\\_montana\\_securitate.htm](http://www.mmediu.ro/dep_mediu/rosia_montana_securitate.htm) as well as through the printed version which could have been found at several information locations established for public hearings.

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The Report on the Environmental impact assessment study (EIA) considered all alternative developments, including the option of not proceeding with any project – an option that would generate no investment, allowing the existing pollution problems and socio-economic decline to continue (Chapter 5 – *Assessment of Alternatives*).

The report also considered alternative developments – including agriculture, grazing, meat processing, tourism, forestry and forest products, cottage industries, and flora/fauna gathering for pharmaceutical purposes – and concluded that these activities could not provide the economic, cultural and environmental benefits brought by the Roşia Montană Project (RMP).

Chapter 5 also examines alternative locations for key facilities as well as alternative technologies for mining, processing and waste management, in line with best practice and as compared against published EU best available techniques (BAT) documentation.

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The impact on protected flora and fauna will exist only locally, but this impact will not lead to the loss of any specie. The Project has been designed even from the beginning to fully comply with the requirements and norms imposed by Romanian and European environmental legislation.

The company believes the fact that the project impact on environment remains significant, especially because covers previous impacts. But, the investments required to ecologically restore/rehabilitate Roşia Montană area in order to address current complex environmental issues, are only achievable following the implementation of some economic projects that will generate and warrant implementation of some direct and responsible actions as a component of base principles of sustainable development concepts. Clean processes and technologies may be developed only in the presence of a solid economic environment fully compliant with the environment that will also resolve previous impacts of anthropic activities.

The base documents of the Project are in fact an unbiased reason of its implementation, considering the highly complex environmental commitment within Roşia Montană area.

Some of the Roşia Montană species that are under a certain protection status stand for an insignificant percentage of the scale of populations estimated at national level. The characterization of species from their habitat point of view exists in the species tables presented in the Biodiversity Chapter of the EIA Report and its annexes, although this is not a requirement imposed by the Habitats Directive. Due to their large volume of information, the annexes of chapter 4.6 Biodiversity can be found in the electronic version of the EIA disclosed by the company both in Romanian and English through approx. 6,000 DVD/CD copies, being accessible on the company website, and on the websites of Ministry of Environment and Water Management, local and regional environmental protection agencies of Alba, Sibiu, Cluj, etc.

From practical point of view, the low value of conservation of the impact area is also indirectly emphasized by the fact that there is no proposal to designate the area a SPA (aviafaunistic special protected area) and by the denial as unfounded of the proposal to designate the area as a pSCI area (sites of community importance).

Taking all these into account, we believe that the proposed Project is compliant with the provisions of EU

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Directive no. 92/43 Habitats[1], and EU Directive no. 79/409 Birds[2] respectively, especially because within Biodiversity Management Plan, Plan H, several active and responsible measures are provided to reconstruct/rehabilitate several natural habitats, pursuant to the provisions of the same documents [3].

References:

[1] art.3, 2nd paragraph, Each Member State shall contribute to the creation of Natura 2000 (network) in proportion to the representation within its territory of the natural habitat types and the habitats of species referred to in paragraph 1. To that effect each Member State shall designate, in accordance with Article 4, sites as special areas of conservation taking account of the objectives set out in paragraph 1.

art.4, 1st paragraph. On the basis of the criteria set out in Annex III (Stage 1) and relevant scientific information, each Member State shall propose a list of sites indicating which natural habitat types in Annex I and which species in Annex II that are native to its territory the sites host. For animal species ranging over wide areas these sites shall correspond to the places within the natural range of such species which present the physical or biological factors essential to their life and reproduction. For aquatic species which range over wide areas, such sites will be proposed only where there is a clearly identifiable area representing the physical and biological factors essential to their life and reproduction. Where appropriate, Member States shall propose adaptation of the list in the light of the results of the surveillance referred to in Article 11. [...]

2nd paragraph.[...] Member States whose sites hosting one or more priority natural habitat types and priority species represent more than 5 % of their national territory may, in agreement with the Commission, request that the criteria listed in Annex III (Stage 2) be applied more flexibly in selecting all the sites of Community importance in their territory.[...]

Art. 6, 4th paragraph. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Art. 16. Provided that there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range, Member States may derogate from the provisions of Articles 12, 13, 14 and 15 (a) and (b):[...]

- in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment;

[2] Art.4, 1st paragraph. The species mentioned in annex 1 shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution. [...]

Trends and variations in population levels shall be taken into account as a background for evaluations. Member states shall classify in particular the most suitable territories in number and size as special protection areas for the conservation of these species, taking into account their protection requirements in the geographical sea and land area where this directive applies.

[3] Directive 92/43 Habitats, art. 2, 2nd paragraph; Directive 79/409 Birds, art. 3, 2nd paragraph, letter c.

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This statement is ungrounded, because the environmental impact assessment (EIA) process has included preliminary cumulative estimates for stationary motorized equipment and linear (vehicular) sources were prepared in order to provide an initial understanding of the potential cumulative noise and vibration impacts from background and Roşia Montană Project sources, and to guide future monitoring and measurement activities as well as the selection of appropriate Best Management Practices/Best Available Techniques for further mitigation of the potential noise and vibration impacts from Project activities.

These preliminary estimates apply to major construction activities, as well as the operation and decommissioning/closure of the mine and process plant. They are documented as data tables and isopleth maps for major noise-generating activities in selected, representative Project years; see **Tables 4.3.8 through 4.3.16** and **Exhibits 4.3.1 through 4.3.9**. All these details related to the applied assessment methodology, the input data of the dispersion model, the modeling results and the measures established for the prevention/mitigation/elimination of the potential impact for all project stages (construction, operation, closure) are included in Chapter 4, Section 4.3 Noise and Vibrations of the EIA Report.

Project Years 0, 9, 10, 12, 14, and 19 were selected for modeling because they are considered to be representative of the most significant levels of noise-generating activity. They are also the same years used for air impact modeling purposes in Section 4.2, as air and noise impacts share many of the same sources or are otherwise closely correlated. In order to more accurately reflect potential receptor impacts, all of these exhibits integrate the background traffic estimates discussed in Section 4.3.6.1.

The Project site plan and process plant area and facility drawings were used to establish the position of the noise sources and other relevant physical characteristics of the site. Receptor locations were established using background reports and project engineering and environmental documentation provided by RMGC. With this information, the source locations and receptor locations were translated into input (x, y, and z) co-ordinates for the noise-modeling program.

**Tables 4.3.8 through 4.3.16** and **Exhibits 4.3.1 through 4.3.9** present the average maximum noise values likely to be experienced by the receptor community over all Project phases after incorporation of a variety of initial mitigation measures designed specifically to reduce the impacts associated with mobile and stationary machinery sources. The influence of non-mining related background (primarily traffic) noise is also included.

To evaluate the sound levels associated with haul trucks and other mobile sources crossing the site carrying excavated ore, waste rock, and soil, a noise analysis program based on the (U.S.) Federal Highway Administration's (FHWA) standard RD-77-108 [1] model was used to calculate reference noise emissions values for heavy trucks along the project roadways. The FHWA model predicts hourly  $L_{eq}$  values for free-flowing traffic conditions and is generally considered to be accurate within 1.5 decibels (dB).

The model is based on the standardized noise emission factors for different types and weights of vehicles (e.g., automobiles, medium trucks, and heavy trucks), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The emission levels of all three vehicle types increase as a function of the logarithm of their speed.

To evaluate the sound sources from the proposed mine processing facility and the semi-stationary material handling equipment (at the ore extraction, waste rock and soil stockpiling areas), a proprietary computerized noise prediction program was used by AAC to simulate and model the future equipment noise emissions throughout the area. The modeling program uses industry-accepted propagation algorithms based on the following American National Standards Institute (ANSI) and International Organization for Standardization (ISO) standards:

- *ANSI S1.26-1995 (R2004), Method for the Calculation of the Absorption of Sound by the Atmosphere;*
- *ISO 9613-1:1993, Acoustics -- Attenuation of sound during propagation outdoors-- Part 1: Calculation of the absorption of sound by the atmosphere;*
- *ISO 9613-2:1996, Acoustics -- Attenuation of sound during propagation outdoors -- Part 2: General method of calculation;*
- *ISO 3891:1978, Acoustics -- Procedure for describing aircraft noise heard on the ground.*

The calculations account for classical sound wave divergence (i.e., spherical spreading loss with adjustments for source directivity from point sources) plus attenuation factors due to air absorption, minimal ground effects, and barriers/shielding.

This model has been validated by AAC over a number of years via noise measurements at several operating industrial sites that had been previously modeled during the engineering design phases. The comparison of modeled predictions versus actual measurements has consistently shown close agreement; typically in the range of 1 to 3 dB (A).

References:

[1] FHWA Highway Traffic Noise Prediction Model; see Federal Highway Administration Report Number FHWA-RD-77-108, USA, Washington, D.C., 1978.

***A detailed presentation of blasting technology can be found in the annex 7.1 - Proposed blasting technology for the operational phase of Roşia Montană Project.***

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The partnership between Gabriel Resources and Regia Autonomă a Cuprului Deva (currently, CNCAF Minvest SA) has been established based on Law no. 15/1990 on the reorganization of the state owned companies as autonomous directions and trade companies, published in the Official Gazette, Section I, no. 98/08.08.1990, as subsequently amended and supplemented. Art. 35 of this law provides the possibility of the regies autonomous to enter into partnerships with legal third parties, Romanian or foreign, for the purpose of setting up new trading companies.

Roşia Montană Gold Corporation SA was set up in 1997, according to the legal provisions in force as at that time, the setting up being made by observing all the conditions imposed by Company Law no. 31/1990 and Trade Register Law no. 26/1990, in regard of the setting up of the joint stock companies with mixed capital.

We underline that the Articles of Associations of Roşia Montană Gold Corporation SA, representing the result of the parties agreement in regard of the terms and conditions under which the partnership between the Romanian state and investor takes place represents a public document, being included in the category of documents which, as per Law no. 26/1990 on the Trade Register, are published in the Romanian Official Gazette and for which the Trade Register is obliged to issue, on the expense of the persons submitting a request, certified copies.

As for the agreement concerning the setting up of the mixed company together with Gabriel Resources Ltd., this has been expressed by the Ministry of Industry and Trade, the conditions imposed by the setting up of the mixed company being the following: (i) ensuring of the jobs at the level existing upon the conclusion of the agreement concerning the setting up of the mixed company; (ii) the expenses incurred by the fulfillment of the exploration stage should be fully supported by Gabriel; (iii) the obtaining of the approval from the ANRM by the Copper Autonomous Direction Deva and (iv) the observance of all legal provisions in force concerning the setting up of the mixed companies with foreign partners. These conditions have been fully complied with as at the setting up of the company and during the development of its activity.

We also specify that the establishing of the shareholders' quotas to the benefits and losses of Roşia Montană Gold Corporation SA has been made by considering their contribution quota to the company's share capital. The current percentage of 80% for Gabriel Resources Ltd. and of 19.31% for CNCAF Minvest SA resulted from the initial contribution and the subsequent contributions of the shareholders to the company's share capital, in consideration also of Gabriel Resources Ltd. advancing all expenses and costs related to the development-exploitation and permitting of the Roşia Montană Mining Project.

The provisions of the Articles of Associations of Roşia Montană Gold Corporation SA on the necessary majority and quorum conditions for the decision-making process within the General Shareholders Meeting and the quotas to the benefits and losses of the company are taken from Law no. 31/1990, and no derogation exists in regard of this aspect.

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This claim is not true; the Urbanism Plan has been prepared with public consultation.

Roşia Montană Gold Corporation SA (RMGC) has requested and obtained from Alba County Council the Urbanism Certificate no. 78 of 26.04.2006, for the entire Roşia Montană mining project, including the tailings management facility. The Urbanism Certificate also stipulated the preparation of a Zonal Urbanism Plan, to reflect all changes made to the Roşia Montană Project, following the public

consultations and debates organized in relation to this project, and the consultations with the permitting authorities. This plan, entitled “Modification of the Zonal Urbanism Plan, Roșia Montană Industrial Area”, was prepared and subjected to public debate in June 2006 in accordance with the provisions of Order no.176/N/2000 issued by the Ministry of Public Works and Territory Development for the approval of the technical regulations “Guidelines regarding the methodology applied for the preparation and framework content of the Zonal Urbanism Plan” and, at present, it is pending approval.

Concerning the Roșia Montană General Urbanism Plan approved in 2002, such plan was prepared in parallel with the Zonal Urbanism Plan of 2002, all the provisions of the General Urbanism Plan being also included in the Zonal Urbanism Plan. Also, the approval procedure related to the two urbanism plans was carried out in parallel.

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Preventive archaeological researches within the Roșia Montană mining project area have been undertaken based on specific techniques, specifically trial trenches in all accessible areas that are suitable for human habitation, taking into account the bibliographical information and the observations recorded during the archaeological survey campaigns, the geophysical studies and the analyses of the photogrammetric flights. In addition, surface investigations were undertaken, where appropriate.

The archaeological researches at Roșia Montană covered a large surface and focused on the areas known to have archaeological potential. THEREFORE, ALL AREAS THAT HAVE BEEN ARCHAEOLOGICALLY DISCHARGED HAD BEEN PREVIOUSLY INVESTIGATED. All research programs, beginning with the 2004 campaign, have been undertaken in full compliance with the current legal requirements, i.e. Ministerial Order no. 2392 of 6 September 2004 on the establishment of the Archaeological Standards and Procedures by the Ministry of Culture and Religious Affairs.

The proposed gold mining project at Roșia Montană has raised a series of issues related to the rescue of the historical-archaeological heritage within the area, as well as issues related to its scientific development and also the enhancement of heritage within a museum. Given the complex difficulties encountered in this respect, the Ministry of Culture and Religious Affairs decided to initiate the “Alburnus Maior” National Research Program.

The company’s role was to provide the necessary financial resources for the assessment, research and enhancement of the archaeological remains, in full compliance with the Romanian current legislation. The development of the research and of the archaeological discharge works has been conducted through specific means and methodologies that have been adjusted to the realities of every site researched, in our case, Roșia Montană. They consisted in:

- Archives studies;
- Archaeological surveys; trial trenches;
- aerial reconnaissance/survey and aerial photo interpretation ; high resolution satellite images;
- mining archaeology studies; underground topography and 3D modeling;
- geophysical surveys;
- extensive archaeological investigations in the areas with an identified archaeological potential- this implied carrying out archaeological excavations;
- Interdisciplinary studies- sedimentology, archaeo-zoology, comparative palynology, archaeo-metallurgy, geology, mineralogy;
- Radiocarbon dating and dendrochronology;
- This research and its results were included in an integrated database;
- traditional and digital archaeological topography and development of the GIS project; generate a photo archive- both traditional and digital;
- restoration of artifacts;
- an inventory and a digital catalogue of the artifacts;
- studies conducted by specialists in order to enhance the research results - publication of monographs/scientific books and journals, exhibitions, websites, etc.

All the preventive archaeological researches undertaken at Roșia Montană since 2000 have been carried out as part of a complex research program; permits for preventive archaeological excavations being issued

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in compliance with the current legislation. These archaeological investigations have been undertaken by representatives of 21 specialized institutions from Romania and 3 others from abroad, under the scientific coordination of the Romanian National Museum of History. All archaeological researches have been conducted in full compliance with the existing legislation. The investigations undertaken during each archaeological research campaign have been approved by the Ministry of Culture and Religious Affairs based on the Annual Archaeological Research Plan approved by the National Commission of Archaeology.

Under the current legislation (Ministerial Order no. 2392 of 6 September 2004 on the establishment of the Archaeological Standards and Procedures by the Ministry of Culture and Religious Affairs) the archaeologists who have conducted the research may ask that an archaeological discharge certificate be granted. Based on a complex research program, the archaeologists prepare comprehensive documentation with regard to the researched area. Upon consideration of the submitted documentation, the National Commission of Archaeology makes a decision as to whether to recommend or not the granting of the archaeological discharge certificate. In the case of the research conducted in the period 2001-2006, the archaeological discharge certificate was issued directly by the Ministry of Culture and Religious Affairs or by its local agencies.

Preventive archaeological researches at Roșia Montană have allowed the research of five Roman cremation necropolis (Tău Corna, Hop-Găuri, Țarina, Jig - Piciorag and Pârâul Porcului – Tăul Secuilor), two funerary areas (Carpeni, Nanului Valley), sacred areas (Hăbad, Nanului Valley), habitation areas (Hăbad, Carpeni, Tăul Țapului, Hop), the most significant being the Roman structures on the Carpeni Hill and the circular funerary monument at Tău Găuri. In addition, for the first time in Romania, surface investigations have been paralleled by underground investigations of Cetate, Cârnic, Jig and Orlea massifs, with important discoveries in the Piatra Corbului, area, Cătălina-Monulești gallery and the Păru Carpeni mining sector.

The research consisted of aerial photo interpretation, archaeological magnetometric studies, electrical resistivity, palynology, sedimentology, geology studies, radiocarbon and dendrochronology dating. For a better management of the research units and of the archaeological findings, data bases were used, including text and photographs-among which 4 satellite images (an archive satellite image type SPOT Panchromatic (10m) from 1997; 2 satellite images LANDSAT 7 MS (30 m), dating from 2000 and 2003; a satellite image with priority programming SPOT 5 SuperMode color (2,5 m resolution-19 July 2004); all data have been included in a comprehensive GIS program, a first in the Romanian archaeological research.

In the case of archaeological monuments that are located close to industrial facilities, plans have been redesigned to ensure that the archaeological remains in question will not be affected. Where appropriate, the archaeological monument was preserved in situ and restored, i.e. the circular funerary monument at Hop-Găuri (see The “Alburnus Maior” monograph series, volume II, Bucharest, 2004). Another example in this respect is the Carpeni Hill, designated an “archaeological “ reserve, and the Piatra Corbului area. In 2004, after being thoroughly investigated, these areas have been included on the List of Historic Monuments. Add to this the areas where ancient mining remains will be preserved, such as the Cătălina Monulești gallery and the mining sector Păru Carpeni, as well as the protected area Roșia Montană Historic Center, including a number of heritage assets (35 historic monument houses).

We emphasise in this respect that the identified and researched structures have been published in preliminary form in the Archaeological Research Chronicle of Romania, after every archaeological research campaign, as well as in volume 1 of the Alburnus Maior monographic series. We mention here the areas where Roman habitation structures have been identified and researched, as well as the references to be consulted for further information: Hop-Găuri, Carpeni, Tăul Țapului (CCA 2001 (2002), p. 254-257, no. 182; 261-262, nr. 185; 264-265, no. 188; 265-266, no. 189. Alburnus Maior I, 2003, p. 45-80; 81-122; 123-148; CCA 2001 (2002), 257-261; CCA 2003 (2004) ,280-283; Alburnus Maior I, 2003, p. 387-431, 433-446, 447-467).

For further details related to the applicable legal framework, the responsibilities of the Project titleholder, or for a detailed description of the preventive archaeological researches undertaken to date and of the Cultural Heritage Management Plans, please see Annex called “Information on the Cultural heritage of Roșia and Related Management Aspects”. In addition, the annex includes supplementary information with regard to the result of the researches undertaken as part of the “Alburnus Maior” National Research Program between 2001 and 2006.

In conclusion, the area mentioned by the questioner has been researched in accordance with the Romanian legal requirements, as well as with European standards and practices in the field.

Note that the type of research undertaken at Roşia Montană, known as preventive/rescue archaeological research, as well as other related heritage studies, are done everywhere in the world in close connection with the economic development of certain areas. Both the costs for the research and for the enhancement and maintenance of the preserved areas are provided by investors, in a public-private partnership set up in order to protect the cultural heritage, as per the provisions of the European Convention on the Protection of the Archaeological Heritage (Malta-1992) [1].

References:

[1]The text of the Convention is available at the following address:  
<http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=143&CM=8&DF=7/6/2006&CL=EN>

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In 2000, in the context of the proposal of a new mining project in the Roşia Montană area, the Ministry of Culture and Religious Affairs approved a series of studies to be conducted in order to research the archaeological and architectural heritage of the area. And at the end of that year, the Design Centre for National Cultural Heritage (now the National Institute for Historical Monuments) presented the preliminary results of these researches to the National Commission for Historical Monuments and of the National Commission of Archaeology. Based on these results, in 2001, the Ministry of Culture and Religious Affairs initiated the “Alburnus Maior” National Research Program (the Order no. 2504 / 07.03.2001 of the Minister of Culture and Religious Affairs) in compliance with the Law 378/2001 (as subsequently amended by Law 462/2003 and by Law 258/2006 and Law 259/2006). Thus, since 2000, the Ministry of Culture and Religious Affairs – directly or through its subordinate institutions - has fulfilled its duties with regard to the management of the issues related to Roşia Montană’s heritage.

Thus, the preventive archaeological researches have been conducted by the representatives of 21 national institutions and 3 others from abroad under the scientific coordination of the National Museum of History of Romania. They have been carried out based on the annual approval of the National Commission of Archaeology of the Ministry of Culture and Religious Affairs. In accordance with the legislation in force, this research program is carried out with the financial support provided by RMGC (the company that plans to expand and continue to mine the gold-silver deposit in Roşia Montană). Thus, large-scale preventive investigations have been conducted or are underway in the RMP impact area. A proposal will be made based on the results thereof either for the archaeological discharge of some researched perimeters from the project perimeter or the preservation *in situ* of certain representative structures and monuments, in compliance with the legislation in force. In the case of the areas proposed for conservation and the ones for which the archaeological discharge measure was applied, the decision was made based on the surveys conducted by specialists and on the analysis of the National Commission of Archaeology. In the period 2000-2005, the mining project underwent a series of modifications designed to promote the implementation of the decision regarding the conservation of the local heritage. Examples of these include: extending the duration of the field investigations on several years (e.g. Ţarina, Pârâul Porcului, Orlea) and changing the location of some elements of infrastructure in order to allow the conservation of the archaeological remains found in the Carpeni, Tău Găuri and Pietra Corbului areas.

**The architectural and town-planning surveys** have been conducted, in accordance with the legislation in force, by companies certified by the Ministry of Culture and Religious Affairs, while the town-planning documentations drafted by these companies and the restoration and conservation works undertaken so far have been approved by the National Commission for Historical Monuments. Thus, the town-planning documentations have been approved and implemented in accordance with current legislation, and the company has agreed to these decisions and modified the mine development plans accordingly:

**Extensive ethnographic research** was conducted in the Roşia Montană-Abrud-Corna area in the period 2001-2004 coordinated by a team of specialists for the Romanian Village Museum „Dimitrie Gusti” (a National Museum directly under the coordination of the Ministry of Culture and Religious Affairs). Moreover, a broad series of oral history interviews was conducted in the period 2001-2002 by the Romanian Radio Broadcasting Company through the „Gheorghe Brătianu” Oral History Centre, Bucharest

(SRR - CIO).

In compliance with the requirements of the Ministry of Environment and Waters Management and the Ministry of Culture and Religious Affairs, specific management plans have been drawn up for the management and conservation of the heritage remains from the Roşia Montană area, in the context of the implementation of the mining project. These plans have been included in the documentation prepared for the Report on the Environmental Impact Assessment Study. (see EIA Report, volume 32-33, Plan M- *Cultural Heritage Management Plan*, part I –*Management Plan for the Archaeological Heritage from Roşia Montană Area*; part II-*Management Plan for the Historical Monuments and Protected Zone from Roşia Montană*; part III- *Cultural Heritage Management Plan*).

These management plans comprise detailed presentations of the obligations and responsibilities regarding the protection and conservation of the heritage remains from the Roşia Montană area, which the company has assumed in the context of the implementation of the mining project, according to the decision of the central government. These heritage remains include: archaeological remains above and under the ground, historic buildings, protected areas, intangible heritage assets, cultural landscape items, etc. In this context, it should be noted that besides the works for the protection and preservation of the archaeological heritage, works are being carried out for the rehabilitation and conservation of the protected area Historical Centre Roşia Montană (comprising 35 historic buildings, and projects for the restoration of 11 of these buildings are currently being drafted), Tăul Mare, Tăul Brazi and Tăul Anghel as well as remains of the surface mining works from the Vaidoia area and the creation of a modern museum dedicated to the history of mining in the Apuseni Mountains area. This museum will be established in the coming years and it will include exhibitions of geology, archaeology, industrial and ethnographic heritage as well as an underground section organized around the Cătălina Monuleşti gallery.

Moreover, representatives of the Directorate for Culture, Religious Affairs and National Cultural Heritage of Alba County have visited Roşia Montană many times in order to collect information and to check the situation. The same administrative body was the intermediary for the specific stages of acquisitions of historic buildings made by RMGC. The Ministry of Culture and Religious Affairs expressed its pre-emption right regarding the acquisition of these buildings.

Note that apart from the obligations undertaken by RMGC as regards the protection and conservation of the archaeological remains and historical monuments, there are a whole series of obligations, which rest with the local public authorities from Roşia Montană and from Alba County and with the central public authorities, namely the Romanian Government.

These aspects are further detailed in the Cultural Heritage Management Plans included in the EIA Report (see EIA Report, volume 32, *Management Plan for the Archaeological Heritage from Roşia Montană Area*, pages 21-22, 47, 52-53, 66-67-Romanian version/ 22-24; 47; 55-56; 71-72 English version) and the EIA Report, volume 33- *Management Plan for the Historical Monuments and Protected Zone from Roşia Montană* pages 28-29, 48-50, 52-53, 64-65, page 98 – Annex 1- Romanian version/ 28-29; 47-50; 51-53; 65-66; 103- Annex 1- English version).

Item no. 1718 Same as: 1719, 1720, 1721

No. to identify the observations received from the public No. 113005/25.08.2006 Same as: No. 112971/25.08.2006, No. 112972/25.08.2006, No. 112973/25.08.2006

**Proposal**

The questioner opposes the proposed gold and silver mining project at Roşia Montană and makes the following observations and comments:

- The tailings pond is unlined and is a hazard for the town of Abrud, as there is the risk of a failure;
- Total costs for closing the mine are unrealistic;
- The Project poses a threat for protected flora and fauna;
- The phase of public consultation and quality evaluation of the impact assessment study report begun without a valid urbanism certificate;
- The company could not find an insurer for the mining project.
- The EIA report does not assess the "zero alternative";
- The EIA report does not include an assessment of the "cyanide rain" phenomenon.

SEE THE CONTENT OF TYPE 2 CONTESTATION

An engineered liner is included in the design of the Tailings Management Facility (TMF) basin. Specifically, the Roşia Montană Tailings Management Facility (TMF or "the facility") has been designed to be compliant with the EU Groundwater Directive (80/68/EEC), transposed as Romanian GD 351/2005. The TMF is also designed for compliance with the EU Mine Waste Directive (2006/21/EC) as required by the Terms of Reference established by the MEWM in May, 2005. The following paragraphs provide a discussion of how the facility is compliant with the directives.

The TMF is composed of a series of individual components including:

- the tailings impoundment;
- the tailings dam;
- the secondary seepage collection pond;
- the secondary containment dam; and
- the groundwater monitoring wells/extraction wells located downstream of the Secondary Containment dam.

All of these components are integral parts of the facility and necessary for the facility to perform as designed.

**Solution**

The directives indicated above require that the TMF design be protective of groundwater. For the Roşia Montană project (RMP), this requirement is addressed by consideration of the favorable geology (low permeability shales underlying the TMF impoundment, the TMF dam and the Secondary Containment dam) and the proposed installation of a low-permeability ( $1 \times 10^{-6}$  cm/sec) recompacted soil liner beneath the TMF basin. Please see Chapter 2 of EIA Plan F, "The Tailings Facility Management Plan" for more information.

The proposed low permeability soil liner will be fully compliant with Best Available Techniques (BAT) as defined by EU Directive 96/61 (IPPC) and EU Mine Waste Directive. Additional design features that are included in the design to be protective of groundwater include:

- A low permeability ( $1 \times 10^{-6}$  cm/sec) cut off wall within the foundation of the starter dam to control seepage;
- A low permeability ( $1 \times 10^{-6}$  cm/sec) core in the starter dam to control seepage;
- A seepage collection dam and pond below the toe of the tailings dam to collect and contain any seepage that does extend beyond the dam centerline;
- A series of monitoring wells, below the toe of the secondary containment dam, to monitor seepage and ensure compliance, before the waste facility limit.

In addition to the design components noted above specific operational requirements will be implemented



to be protective of human health and the environment. In the extremely unlikely case that impacted water is detected in the monitoring wells below the secondary containment dam, they will be converted to pumping wells and will be used to extract the impacted water and pump it into the reclaim pond where it will be incorporated into the RMP processing plant water supply system, until the compliance is reestablish.

### **Proximity to Abrud**

The EIA describes how the dam will be built with rockfill materials, engineered drain and filter materials and a low permeability core to control seepage. The facility is being designed and engineered by MWH, one of the leading dam designers in the world. In addition, the feasibility level designs have been reviewed and approved by certified Romanian dam experts and by the Romanian National Committee for the Safety of Large Dams. Prior to operation, the dam must again be certified for operations by the National Commission for Dams Safety (CONSIB).

The Tailings Management Facility (TMF) dam is rigorously designed to incorporate all EU, Romanian and international criteria to reduce the risk of failure. These guidelines allow for significant rainfall events and prevent dam failure due to overtopping. Specifically, the facility has been designed to store for the run off from two Probable Maximum Precipitation (PMP) events. This is generally referred to as the Probable Maximum Flood (PMF). The design criterion for TMF includes storage for two PMF flood events, more rain than has ever been recorded in this area.

Additionally, an emergency spillway for the dam will be constructed in the unlikely event that the site rainfall exceeds two PMPs. The TMF design therefore very significantly exceeds required standards for safety. This has been done to ensure that the risks involved in using Corna valley for tailings storage are well below what is considered safe in every day life.

Section 7 of the EIA report includes an assessment and analysis of risks and includes various dam break scenarios. Specifically, the dam break scenarios were analyzed for a failure of the starter dam and for the final dam configuration. The dam break modeling indicates the extent of tailings runout for the specific conditions analyzed. Based on the two cases considered the tailings would not extend beyond the confluence of the Corna valley stream and the Abrud River.

However, the project recognizes that in the highly unlikely case of a dam failure that a Emergency Preparation and Spill Contingency Management Plan must be implemented. This plan was submitted with the EIA as Plan I, Volume 28.

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RMGC's closure estimates, which were developed by a team of independent experts with international experience and will be reviewed by third party experts, are based on the assumption that the project can be completed according to the plan, without interruptions, bankruptcy or the like. They are engineering calculations and estimates based on the current commitments of the closure plan and are summarized in the EIA's Mine Closure and Rehabilitation Management Plan (Plan J in the EIA). Annex 1 of Plan J will be updated using a more detailed approach looking at every individual year and calculating the amount of surety, which must be set aside year by year to rehabilitate the mine before RMGC is released from all its legal obligations. Most importantly, the current estimates assume the application of international best practice, best available technology (BAT) and compliance with all Romanian and European Union laws and regulations.

Closure and rehabilitation at Roșia Montană involves the following measures:

- Covering and vegetating the waste dumps as far as they are not backfilled into the open pits;
- Backfilling the open pits, except Cetate pit, which will be flooded to form a lake;
- Covering and vegetating the tailings pond and its dam areas;
- Dismantling of disused production facilities and revegetation of the cleaned-up areas;
- Water treatment by semi-passive systems (with conventional treatment systems as backup) until all effluents have reached the discharge standards and need no further treatment;
- Maintenance of the vegetation, erosion control, and monitoring of the entire site until it has been demonstrated by RMGC that all remediation targets have been sustainably reached.

While the aspects of closure and rehabilitation are many, we are confident in our cost estimates because the largest expense—that incurred by the earthmoving operation required to reshape the landscape—can be estimated with confidence. Using the project design, we can measure the size of the areas that must be reshaped and resurfaced. Similarly, there is a body of scientific studies and experiments that enable scientists to determine the depth of soil cover for successful re-vegetation. By multiplying the size of the areas by the necessary depth of the topsoil by the unit rate (also derived from studying similar earthmoving operations at similar sites), we can estimate the potential costs of this major facet of the rehabilitation operation. The earthmoving operation, which will total approximately US \$65 million, makes up 87% of closure and rehabilitation costs.

Also, the necessity of additional technological measures to stabilize and reshape the tailings surface will be discussed in the update of the Economical Financial Guarantee (EFG) estimate, which leads to an increase the provisions for tailings rehabilitation, especially if the TMF is closed prematurely and no optimized tailings disposal regime is applied. The exact figures depend on the details of the TMF closure strategy which can be finally determined only during production.

We believe that—far from being too low—our cost estimates are evidence of our high level of commitment to closure and rehabilitation. Just as a comparison, the world's largest gold producer has set aside US \$683 million (as of December 31, 2006) for the rehabilitation of 27 operations, which equates to US \$25 million on average per mine. The RMGC closure cost estimates, recently revised upward from the US \$73 million reported in the EIA based on additional information, currently total US \$76 million.

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The impact on protected flora and fauna will exist only locally, but this impact will not lead to the loss of any specie. The Project has been designed even from the beginning to fully comply with the requirements and norms imposed by Romanian and European environmental legislation.

The company believes the fact that the project impact on environment remains significant, especially because covers previous impacts. But, the investments required to ecologically restore/rehabilitate Roşia Montană area in order to address current complex environmental issues, are only achievable following the implementation of some economic projects that will generate and warrant implementation of some direct and responsible actions as a component of base principles of sustainable development concepts. Clean processes and technologies may be developed only in the presence of a solid economic environment fully compliant with the environment that will also resolve previous impacts of anthropic activities.

The base documents of the Project are in fact an unbiased reason of its implementation, considering the highly complex environmental commitment within Roşia Montană area.

Some of the Roşia Montană species that are under a certain protection status stand for an insignificant percentage of the scale of populations estimated at national level. The characterization of species from their habitat point of view exists in the species tables presented in the Biodiversity Chapter of the EIA Report and its annexes, although this is not a requirement imposed by the Habitats Directive. Due to their large volume of information, the annexes of chapter 4.6 Biodiversity can be found in the electronic version of the EIA disclosed by the company both in Romanian and English through approx. 6,000 DVD/CD copies, being accessible on the company website, and on the websites of Ministry of Environment and Water Management, local and regional environmental protection agencies of Alba, Sibiu, Cluj, etc.

From practical point of view, the low value of conservation of the impact area is also indirectly emphasized by the fact that there is no proposal to designate the area a SPA (aviafaunistic special protected area) and by the denial as unfounded of the proposal to designate the area as a pSCI area (sites of community importance).

Taking all these into account, we believe that the proposed Project is compliant with the provisions of EU Directive no. 92/43 Habitats[1], and EU Directive no. 79/409 Birds[2] respectively, especially because within Biodiversity Management Plan, Plan H, several active and responsible measures are provided to reconstruct/rehabilitate several natural habitats, pursuant to the provisions of the same documents [3].

References:

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[1] art.3, 2nd paragraph, Each Member State shall contribute to the creation of Natura 2000 (network) in proportion to the representation within its territory of the natural habitat types and the habitats of species referred to in paragraph 1. To that effect each Member State shall designate, in accordance with Article 4, sites as special areas of conservation taking account of the objectives set out in paragraph 1.

art.4, 1st paragraph. On the basis of the criteria set out in Annex III (Stage 1) and relevant scientific information, each Member State shall propose a list of sites indicating which natural habitat types in Annex I and which species in Annex II that are native to its territory the sites host. For animal species ranging over wide areas these sites shall correspond to the places within the natural range of such species which present the physical or biological factors essential to their life and reproduction. For aquatic species which range over wide areas, such sites will be proposed only where there is a clearly identifiable area representing the physical and biological factors essential to their life and reproduction. Where appropriate, Member States shall propose adaptation of the list in the light of the results of the surveillance referred to in Article 11. [...]

2nd paragraph.[...] Member States whose sites hosting one or more priority natural habitat types and priority species represent more than 5 % of their national territory may, in agreement with the Commission, request that the criteria listed in Annex III (Stage 2) be applied more flexibly in selecting all the sites of Community importance in their territory.[...]

Art. 6, 4th paragraph. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Art. 16. Provided that there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range, Member States may derogate from the provisions of Articles 12, 13, 14 and 15 (a) and (b):[...]

- in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment;

[2] Art.4, 1st paragraph. The species mentioned in annex 1 shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution. [...]

Trends and variations in population levels shall be taken into account as a background for evaluations. Member states shall classify in particular the most suitable territories in number and size as special protection areas for the conservation of these species, taking into account their protection requirements in the geographical sea and land area where this directive applies.

[3] Directive 92/43 Habitats, art. 2, 2nd paragraph; Directive 79/409 Birds, art. 3, 2nd paragraph, letter c.

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Your assertion regarding the failure to obtain an applicable urbanism certificate at the start up of the public debates and of the evaluation of the quality of the report to the environmental impact assessment, is not correct.

Thus, by the time when the public debate stage started up there was an applicable urbanism certificate and namely the urbanism certificate no. 78/26.04.2006 issued by Alba County Council. This certificate was obtained prior to the evaluation stage of the quality of the report to the environmental impact assessment which started up once the EIA was submitted to the Ministry of Environment and Water Management on the 15<sup>th</sup> May 2006.

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For better understanding the applicable legal provisions and the facts developed within the mining

project of Roşia Montană zone we would like to make several comments:

- The procedure for issuing the environmental permit for Roşia Montană project started up on the 14<sup>th</sup> December 2004 by submitting the technical memorandum and the urbanism certificate no.68/26.August 2004 (certificate applicable by that time). S.C. Roşia Montană Gold Corporation S.A. (RMGC) applied for and obtained a new urbanism certificate no.78/26.04.2006 issued by Alba County Council for the entire Roşia Montană Project applicable on the date of the EIA Report submission (15<sup>th</sup> May 2006) and prior to the public debate strat up (June 2006);
- The Section 1 of the urbanism certificate no.78 of 26<sup>th</sup> 04.2006 entitled Work construction, position 10 – “Processing plant and associated constructions “ – including the tailing management facility which existence is compulsory for the processing plant running. The Tailing management facility is also specified on the layout plans which are integral part of the urbanism certificate and they were sealed by Alba County Council so that they cannot be modified;
- The Urbanism Certificate is an informative document and its goal is only to inform the applicant about the legal, economic and technical regime of the existing lands and buildings and to establish the urbanism requirements and the approvals necessary to obtain the construction permit (including the environmental permit) as per art.6 of Law 50/1991 referring to the completion of construction works, republished and art 27 paragraph 2 of the Norms for the application of Law 50/1991 – Official Journal 825 bis/13.09.2005).

As it is an informative document, it does not limit the number of certificates an applicant may obtain for the same land plot ( art. 30 of Law no. 350/2001 regarding the territorial planning and urbanism).

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With respect to the issues indicated by you, namely the insurance of mining projects, we would like to underline the fact that the Directive no. 2004/35/CE regarding **on environmental liability with regard to the prevention and remedying of environmental damage**, which has been published in the Official Journal of the European Union no. L143/56 (“Directive no. 35/2004”) establishes the general governing framework with regard to environmental pollution.

According to the provisions stipulated by art. 1 of Directive no. 35/2004 “The purpose of this directive is to establish a framework of environmental liability based on the ‘polluter-pays’ principle, to prevent and remedy environmental damage.”

Directive no. 35/2004 states as a principle pursuant to the provisions of art. 14(1) the fact that “Member States shall take measures to encourage the development of financial security instruments and markets by the appropriate economic and financial operators, including financial mechanisms in case of insolvency, with the aim of enabling operators to use financial guarantees to cover their responsibilities under this Directive”.

Moreover, according to the provisions of art. 19(1) Directive no. 35/2004, Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 30 April 2007. We would like to underline the fact that, up to now, the Directive no. 35/2004 hasn’t been transposed into our legislation. Taking into account the previously mentioned aspects, we kindly ask you to take notice of the fact that, at this moment there are no internal legal regulations to establish the material and procedural aspects related to the establishment of such a guarantee.

However, if specific legal dispositions are going to be created with regard to the establishment of certain guarantees, RMGC is going to take all necessary measures to fulfill all mandatory legal liabilities.

Moreover, we underline the fact that RMGC has contracted one of the world’s leading insurance brokers, which is well established in Romania and has a long and distinguished record of performing risk assessments on mining operations. The broker will use the most appropriate property and machinery breakdown engineers to conduct risk analysis and loss prevention audit activities, during the construction and operations activity at Roşia Montană, to minimize hazards. The broker will then determine the appropriate coverage, and work with A-rated insurance companies to put that program in place on behalf of RMGC, for all periods of the project life from construction through operations and closure.

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RMGC is committed to maintaining the highest standards of occupational health and safety for its

employees and service providers. Our utilization of Best Available Techniques helps us to ensure this goal is achieved. No organization gains from a loss, and to that end we will work to implement engineering solutions to risk, as they are far superior to insurance solutions to risk. Up to 75% of loss risk can be removed during the design and construction phase of a project.

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The Report on the Environmental impact assessment study (EIA) considered all alternative developments, including the option of not proceeding with any project – an option that would generate no investment, allowing the existing pollution problems and socio-economic decline to continue (Chapter 5 – *Assessment of Alternatives*).

The report also considered alternative developments – including agriculture, grazing, meat processing, tourism, forestry and forest products, cottage industries, and flora/fauna gathering for pharmaceutical purposes – and concluded that these activities could not provide the economic, cultural and environmental benefits brought by the Roşia Montană Project (RMP).

Chapter 5 also examines alternative locations for key facilities as well as alternative technologies for mining, processing and waste management, in line with best practice and as compared against published EU best available techniques (BAT) documentation.

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It is stated precisely that a “cyanide rain” phenomenon will not exist. Neither was encountered in other places or situations. Moreover, the specialty literature doesn’t make any mentions related to the so-called “cyanide rains” phenomenon, but only “acidic rains” phenomenon which can’t be generated by the cyanic compounds breaking down in the atmosphere.

The reasons for making the statement that ‘cyanide rains’ phenomenon won’t occur are the followings:

- The sodium cyanide handling, from the unloading from the supplying trucks up to the processing tailings discharge onto the tailings management facility, will be carried out only in liquid form, represented by alkaline solutions of high pH value (higher than 10.5 – 11.0) having different sodium cyanide concentrations. The alkalinity of these solutions has the purpose to maintain the cyanide under the form of cyan ions ( $\text{CN}^-$ ) and to avoid the hydrocyanic acid formation (HCN), phenomenon that occurs only within environments of low pH;
- The cyanide volatilization from a certain solution cannot occur under the form of free cyanides, but only under the form of HCN;
- The handling and storage of the sodium cyanide solutions will take place only by means of some closed systems; the only areas/plants where the HCN can occur and volatilize into air, at low emission percentage, are the leaching tanks and slurry thickener, as well the tailings management facility for the processing tailings;
- The HCN emissions from the surface of the above mentioned tanks and from the tailings management facility surface can occur as a result of the pH decrease within the superficial layers of the solutions (that helps the HCN to form) and of the desorption (volatilization in air) of this compound;
- The cyanide concentrations within the handled solutions will decrease from 300 mg/L within the leaching tanks up to 7 mg/L (total cyanide) at the discharge point into the tailings management facility. The drastic reduction of the cyanide concentrations for discharging into the Tailings Management Facility (TMF) will be done by the detoxification system;
- The knowledge of the cyanide chemistry and on the grounds of the past experience, we estimated the following possible HCN emissions into air: 6 t/year from the leaching tanks, 13 t/year from the slurry thickener and 30 t/year (22.4 t, respectively 17 mg/h/m<sup>2</sup> during the hot season and 7.6 t, respectively 11.6 mg/h/m<sup>2</sup> during the cold season) from the tailings management facility surface, which totals 134.2 kg/day of HCN emission;
- Once released into air, the hydrocyanic acid is subject to certain chemical reactions at low pressure, resulting ammonia;
- The mathematical modeling of the HCN concentrations within the ambient air (if the HCN released in the air is not subject to chemical reactions) emphasized the highest concentrations being at the ground level, within the industrial site namely within the area of the tailings

management facility and within a certain area near the processing plant. The maximum concentration is of 382  $\mu\text{g}/\text{m}^3/\text{h}$ ;

- The highest HCN concentrations within the ambient air will be 2.6 times lower than the standard value stipulated by the national legislation for labor protection;
- The HCN concentrations within the ambient air in the populated areas close by the industrial site will be of 4 to 80  $\mu\text{g}/\text{m}^3$ , more than 250 – 12.5 times lower than standard value stipulated by the national legislation for labor protection – the national legislation and European Union (EU) legislation on the Air Quality don't stipulate standard values for the population's health protection;
- Once released in air, the evolution of the HCN implies an insignificant component resulted from the reactions while liquid (water vapors and rain drops). The reactions are due to HCN being weak water-soluble at partially low pressures (feature of the gases released in open air), and the rain not effectively reducing the concentrations in the air (Mudder, et al., 2001; Cicerone and Zellner, 1983);
- The probability that the HCN concentration value contained by rainfalls within and outside the footprint of the Project be significantly higher than the background values (0.2 ppb) is extremely low.

Details referring to the use of cyanide in the technological processes, the cyanides balance as well as the cyanide emission and impact of the cyanides on the air quality are contained in the Environmental Impact Assessment (EIA) Report, Chapter 2, Subchapter 4.1 and Subchapter 4.2 (Section 4.2.3).

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Item no. 1722

No. to identify the observations received from the public No. 110697/ 25.08.2006

Proposal

The questioner does not agree to the promotion of the Roşia Montană Project, making the following comments:

- In EIA there are no presented all the possible risks derived from this project;
- Total costs for closing the mine are unrealistic;
- There isn't until now an approved Zonal Urbanism Plan for the Protected Areas;
- The phase of public consultation and quality evaluation of the impact assessment study report begun without a valid urbanism certificate;
- Information about the foundation which RMGC will establish and subsidize is not given. This foundation follows to assume the obligations which the mining operation can not assume;
- The present urbanism plans of the Roşia Montană commune do not correspond with the mining project proposal described in EIA;
- There is no liner proposed for the tailings pond;
- The proposed waste deposits will be not constructed according to the legislation in force; Also, the questioner sends within the letter two points of view of some independent specialists
- No financial guarantees have been stipulated;
- There is not a Safety Report submitted for the public consultation and evaluation by the competent authorities;
- The EIA report does not assess the "zero alternative";
- The Project poses a threat for protected flora and fauna;
- The EIA report does not refer to the impact on the listed heritage buildings of noise and vibrations caused by the mining operations;
- The public/ONGs wish to consult the contracts and agreements between Company and Romanian State;
- The Urbanism Plan has been modified without public consultation;
- From archeological point of view, the area proposed to be occupied by project was not legally investigated;
- The questioner contests the protection of the architectural and spiritual monuments with the responsibility of the state institutions for the protection operation.

Solution

It is the nature of risk that it can be mitigated and diminished; it cannot be made to disappear. In order to put this into context, the common action of walking on the street or developing everyday activities have an accident potential. This accident potential is twice higher than within the framework of industrial activities that use hazardous substances.

A major chapter of the EIA report was dedicated to the identification of risks for the project. In addition, this chapter provides a discussion of the mitigation measures for each risk and how they were incorporated into the project designs. It is recognized that risk identification is difficult due to the number and diversity of events that can be envisioned. The EIA report cannot assume to cover all of the potential risks associated with the project. However, it has attempted to identify and address the most relevant risks. The extent of risk assessment and the intensity of the prevention and mitigation measures should be proportional to the risk involved and therefore only the risks that have been considered important have been assessed in detail. Each is described below.

In the larger sense, the entire EIA report is focused on the assessment of impacts and their associated mitigation. Specifically, Chapter 4 of the EIA presents that impact assessment of the project. The following discussion presents a summary of the impact discussed in the EIA.

As far as natural and technological risks assessments are concerned, Chapter 7, "Risk Cases", from the Report on Environmental Impact Assessment, emphasizes the fact that safety and prevention measures,

the implementation of the environmental management and risk systems are mitigating the consequences to acceptable levels as compared to the most restrictive norms, standards, the best practices or national and international recommendations in the field. The risk level has been established as moderate and so, socially acceptable. The extension of the risk assessment and the intensity of the prevention and mitigation measures of the consequences should be proportionate to the risk involved. Selection of a specific mitigation technique is depends on the analyzed accident scenario.

More detailed assessments are conducted for accident scenarios that, based on the qualitative assessment are found to be potentially major, of probability more than  $10^{-6}$  (reduced recovery periods of 1/1,000,000) meaning that they could have major consequences therefore, elevated associated risk, a higher risk level than 9 to 12 (on a scale of 1-25). To put this in context, simply living in southern Florida rates a 25 on the risk scale.

A global assessment of the risks associated with the Roşia Montană Project is obtained by the quick environmental and health risk assessment methodology initially developed by the Italian Ministry of the Environment and the World Health Organization. Natural hazard and risk identification and analysis presents key data and information in assessing potential technological accidents. Thus:

- In designing the Tailings Management Facility, the design parameters were chosen to fully cover the characteristic seismic risk of the area. These seismic design parameters adopted for the TMF and other facilities on the proposed site result in a safety factor much greater than the minimum accepted under the Romanian and European design standards for such facilities;

- in the sector physically impacted by the Project, the risk of floods will remain very low due to the small catchments (controlled by the Roşia and Corna Streams) the area affected by the operation, and the creation of containment, diversion and drainage hydro-technical structures for storm waters on the site, and in the Abrud catchment in general;

- risks caused by meteorological events have been reviewed and used in assessing the hazards of the affected technological processes.

From the analysis of morphometrical parameters and their correlation with other sets of information on the natural slopes on and near the site shows that the (qualitatively estimated) landslide occurrence risk is low to moderate and its consequences will not cause major impacts on the structural components of the Project.

There is no significant risk associated with resource depletion. Mining activities are planned judiciously, so as to extract only the profitable gold and silver resources and only the necessary construction rock for the Project. The management of the mining concession site will minimize reserve "sterilization" (limitation of future access to the reserves).

In assessing technological hazards and risks, the quantity of hazardous substances on the site was calculated as a total and by category, as provided by the *Notification Procedure* approved by Ministry of Agriculture, Forestry, Water and Environment (MAFWE) Order 1084/2003. Based on an evaluation of hazardous substances in stock on the Project site in relation to the relevant quantities provided by the Government Decision 95/2003 which transposes the Seveso Directive, the Project ranges between the upper and the lower limits, and therefore S.C. Roşia Montană Gold Corporation S.A. is required to prepare a Report on Environmental Impact Assessment Study to be sent to the local environmental authority and the local civilian protection authority a *Safety Report* on its operations to prevent major accident risks.

In assessing the consequences of major accidents involving dangerous substances, physical-mathematical models accepted internationally and especially at EU level, and the current version of the SLAB (Canada) software have been used, the latter for the atmospheric dispersion of denser than air gases, that may handle a multitude of situations and scenarios. Similarly, the EFFECTSGis 5.5 (Netherlands) software, developed for the analysis of the effects of industrial accidents and of consequences. Several scenarios were considered in response to the internal legislative requirements, especially related to the implementation of the Internal Emergency Plans (GD 647/2005). The conclusions of the risk assessment for major accidents were:

- The total destruction of plant facilities may only be caused by terrorist attack with classic or nuclear weapons. Simultaneous damage to the HCl tank (including containment) and to the NaCN solution tank, the tanks containing enriched solution, to one or more leaching tanks, having as a result HCN dispersion into the air. At the same time, under certain situations and weather conditions



unfavorable for dispersion, people within 40 m of the emission source, surprised by the toxic cloud for more than 1 minute without respiratory protection equipment, will most certainly die. It may also be considered that, on a radius of about 310 m, persons exposed for more than 10 minutes may suffer serious intoxications that may also lead to death. Toxic effects may occur in persons up to about 2 km downwind of the process plant;

- Operating errors and/or failures in the measurement and control devices, resulting in a lower pH in the leaching tank, thickener and/or DETOX slurry and accidental emissions of hydrocyanic acid. The area affected by concentrations of 290 ppm over a 10 min exposure time is within a circle of 36 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 157.5 m radius. The center of these circles is the middle of the CIL tanks platform;

- Accidental HCN emission from the decanter. The accident may be caused by a drop of pH in the CIL tanks combined with an overdose of flocculent solution and faulty pH monitoring systems. The area affected by concentrations of 300 ppm over a 10 min exposure time is within a circle of 65 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 104 m radius. The center of these circles is mid-distance between the two DETOX facilities;

- Accidental HCN emission from the DETOX facility. The accident may be caused by a drop of pH in the reactors generated by an overdose of metabisulfite solution and/or copper sulphate combined with faulty pH monitoring systems. The area affected by high 1900 ppm concentrations for a 1 min exposure time is located within a 10 m radius circle. The area affected by concentrations of 300 ppm over a 10 min exposure time is within a circle of 27 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 33 m radius. The center of these circles is mid-distance between the two DETOX facilities;

- Explosion of the LPG storage tank. The LPG storage tank has a 50 ton capacity and is located outdoors, near the heating plant. The simulation was conducted for the worst case scenario, considering an explosion of the full tank. Threshold I with heat 12.5 kW/m<sup>2</sup> is within a 10.5 m radius circle and Threshold II, of heat radiation 5 kW/m<sup>2</sup> is within a circle of 15 m radius;

- Damage and/or fire at the fuel tanks. Simulations were conducted for the worst case scenarios, considering ignition and combustion of all the diesel (fire in the tank, or in the containment vat, when full of diesel);

- Corna Dam break and breach development. Two credible accident scenarios were considered in simulating tailings flow out of the Tailings Management Facility, and six credible scenarios for the flow of decant water and tailings pore water, with significant effects on the terrestrial and aquatic ecosystems, in different weather conditions;

- Tailings flow may occur along Corna Valley, on a 800 m (starter dam break) or over 1600 m reach should the Corna dam break in its final stage;

- In regard to water quality impacts, cyanide concentrations in the water in the shape of a pollution plume may reach Arad, near the Romanian-Hungarian border on the Mureş River, in concentrations ranging between 0.03 and 0.5 mg/L. Due to inherent mathematical limitations in the models, these values and the accident effects are considered overestimated. Therefore, the results describe the "worst case scenario" based on extreme dam break assumptions for the Corna Dam.

A new and much more precise and realistic simulation has been subsequently established based on the INCA Mine model, that considers the dispersion, volatilization and breakdown of cyanides during the downstream movement of the pollutant flow (Whiteland et al., 2006).

The model used is the INCA model developed over the past 10 years to simulate both terrestrial and aquatic systems within the EUROLIMPACS EU research program ([www.eurolimpacs.ucl.ac.uk](http://www.eurolimpacs.ucl.ac.uk)). The model has been used to assess the impacts from future mining, and collection and treatment operations for pollution from past mining at Roşia Montană.

The modeling created for Roşia Montană simulates eight metals (cadmium, lead, zinc, mercury, arsenic, copper, chromium, manganese) as well as Cyanide, Nitrate, Ammonia and dissolved oxygen. The model has been applied to the upper catchments at Roşia Montană as well as the complete Abrud-Arieş-Mureş river system down to the Hungarian Border and on into the Tisa River. The model takes into account the dilution, mixing and physical-chemical processes affecting metals, ammonia and cyanide in the river system and gives estimates of concentrations at key locations along the river, including at the Hungarian Boarder and in the Tisa after the Mureş joins it.

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Because of dilution and dispersion in the river system, and of the initial EU BAT-compliant technology

adopted for the project (for example, the use of a cyanide destruct process for tailings effluent that reduces cyanide concentration in effluent stored in the TMF to below 6 mg/l), even a large scale unprogrammed release of tailings materials (for example, following failure of the dam) into the river system would not result in transboundary pollution. The model has shown that under worse case dam failure scenario all legal limits for cyanide and heavy metals concentrations would be met in the river water before it crosses into Hungary.

The INCA model has also been used to evaluate the beneficial impacts of the existing mine water collection and treatment and it has shown that substantial improvements in water quality are achieved along the river system under normal operational conditions.

For more information, an information sheet presenting the INCA modeling work is presented under the title of the Mureş River Modeling Program and the full modeling report is presented in Annex 5.1:

- Development of HCN on the tailings pond surface. Simulated emissions of HCN from the Tailings Management Facility pond surface and of their dispersion into the ambient air show that the level of  $400\mu\text{ g/m}^3$  hourly average and  $179\mu\text{ g/m}^3$  8hr average will not be exceeded. These HCN concentrations are only slightly over the odor threshold (0.17ppm) and much below potentially dangerous concentrations;

- Cetate Dam break and breach development. Flood modeling was in case of a break in Cetate dam was based on the design parameters obtained from the hydrometeorological study "Assessment of rainfall intensity, frequency and runoff for the Roşia Montană Project - Radu Drobot". The breach characteristics were predicted using the BREACH model, and the maximum height of the flood wave in various flow sections was modeled using the FLDWAV software. The assumptions included a total  $800000\text{ m}^3$  discharge for one hour, when the peak of the flood hydrograph is about 4.9 m above base flow immediately below the dam and in the narrow Abrud valley 5.9-7,5 km downstream of the dam, while in the last section considered (10,5 km) water depth is about 2.3 m above base flow and the maximum flow rate  $877\text{ m}^3/\text{s}$ . Further, the broader Aries valley allows the flood wave to propagate on a significantly wider bed, which results in a highly attenuated hydrograph. These results describe the "worst case scenario" based on extreme dam break assumptions:

- Accidents during cyanide transportation. Due to the large quantities of cyanide transported (about 30t /day) the risks associated to this activity were assessed in detail using the ZHA- Zurich Hazard Analysis method. As a consequence, the optimum transport route was selected from the manufacturer to the Process Plant, e.g.;

- Cyanide transport (in solid state) will exclusively involve special SLS (Solid to Liquid System) containers, 16 tons each. The ISO compliant container will be protected by a framework with legs, which allows separation from the transport trailer for temporary storage. The wall is 5.17 mm thick, which, together with the protective framework, provides additional protection to the load in case of accident. This system is considered BAT and is currently one of the safest cyanide transportation options.

It is being mentioned the fact that the study develops the occurrence possibility of these scenarios (pages 166-171, Conclusions).

As regards the cyanides management, there is a baseline study named "Roşia Montană Golden Project, Cyanides Management Plan" prepared in compliance with the "International Management Code for the Manufacture, Transport and Use of Cyanide in the Production of Gold (International Cyanide management Institute) May 2002". S.C. Roşia Montană Gold Corporation is signatory to this code.

Bibliographical references for Chapter 7 "Risk Cases" are listed at page 173-176.

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RMGC's closure estimates, which were developed by a team of independent experts with international experience and will be reviewed by third party experts, are based on the assumption that the project can be completed according to the plan, without interruptions, bankruptcy or the like. They are engineering calculations and estimates based on the current commitments of the closure plan and are summarized in the EIA's Mine Closure and Rehabilitation Management Plan (Plan J in the EIA). Annex 1 of Plan J will be updated using a more detailed approach looking at every individual year and calculating the amount of surety, which must be set aside year by year to rehabilitate the mine before RMGC is released from all its legal obligations. Most importantly, the current estimates assume the application of international best

practice, best available technology (BAT) and compliance with all Romanian and European Union laws and regulations.

Closure and rehabilitation at Roşia Montană involves the following measures:

- Covering and vegetating the waste dumps as far as they are not backfilled into the open pits;
- Backfilling the open pits, except Cetate pit, which will be flooded to form a lake;
- Covering and vegetating the tailings pond and its dam areas;
- Dismantling of disused production facilities and revegetation of the cleaned-up areas;
- Water treatment by semi-passive systems (with conventional treatment systems as backup) until all effluents have reached the discharge standards and need no further treatment;
- Maintenance of the vegetation, erosion control, and monitoring of the entire site until it has been demonstrated by RMGC that all remediation targets have been sustainably reached.

While the aspects of closure and rehabilitation are many, we are confident in our cost estimates because the largest expense—that incurred by the earthmoving operation required to reshape the landscape—can be estimated with confidence. Using the project design, we can measure the size of the areas that must be reshaped and resurfaced. Similarly, there is a body of scientific studies and experiments that enable scientists to determine the depth of soil cover for successful re-vegetation. By multiplying the size of the areas by the necessary depth of the topsoil by the unit rate (also derived from studying similar earthmoving operations at similar sites), we can estimate the potential costs of this major facet of the rehabilitation operation. The earthmoving operation, which will total approximately US \$65 million, makes up 87% of closure and rehabilitation costs.

Also, the necessity of additional technological measures to stabilize and reshape the tailings surface will be discussed in the update of the Economical Financial Guarantee (EFG) estimate, which leads to an increase the provisions for tailings rehabilitation, especially if the TMF is closed prematurely and no optimized tailings disposal regime is applied. The exact figures depend on the details of the TMF closure strategy which can be finally determined only during production.

We believe that—far from being too low—our cost estimates are evidence of our high level of commitment to closure and rehabilitation. Just as a comparison, the world's largest gold producer has set aside US \$683 million (as of December 31, 2006) for the rehabilitation of 27 operations, which equates to US \$25 million on average per mine. The RMGC closure cost estimates, recently revised upward from the US \$73 million reported in the EIA based on additional information, currently total US \$76 million.

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According to Law 5/2000, regarding the approval of the Territory Arrangement Plan – 3<sup>rd</sup> Section – protected areas (“Law 5/2000”) (article 5, paragraphs 2-3), local public authorities, with the support of the competent central public authorities, had the obligation to establish the boundaries of the protection areas for the cultural heritage elements stipulated in Annex III to the above-mentioned law. This measure should have been taken within 12 months from the effective date of Law 5/2000, based on specialized studies. For this purpose, the local public authorities had to prepare the town planning documentation and its related regulations, developed and approved according to the law. This documentation must comprise the necessary protection and conservation measures for the national cultural heritage elements located in this area.

Concurrently, Law 350/2001 on the territory arrangement and urbanism stipulates the right of legal or natural persons interested in arranging the territory, to initiate the development of urbanism plans.

In accordance with these legal provisions, in 2001, RMGC initiated the preparation of these specific town-planning documentations - the General Urbanism Plan and the Zonal Urbanism Plan. These plans have been developed by Romanian certified companies and followed the legal approval procedure. The permit for the establishment of the Roşia Montană Historical Centre Protected Area was issued by the Ministry of Culture and Religious Affairs in 2002 (permits no. 61/14.02.2002 and no. 178/20.06.2002) as part of the procedure for the approval of the town planning documentation. Based on these permits, the Ministry of Culture and Religious Affairs requested the company to develop a Zonal Urbanism Plan for the Historical Centre of Roşia Montană. Out of the 41 historical buildings in Roşia Montană, thirty-five (35) are located inside the protected area of the Roşia Montană Historical Centre.

As for the heritage elements located in the future industrial development area (6 historical buildings), these are discussed in the Industrial Zonal Urbanism Plan prepared by SC Proiect Alba SA. The regulations included in this document will contain measures for the protection of these monuments.

In conclusion, the town planning studies and the specialized studies conducted for the purpose of establishing the boundaries of the protection areas within the future mining operations perimeter are currently pending approval, in accordance with the legal provisions, by the competent institutions and committees. Please note that none of the historical houses located in the perimeter of the proposed project will be affected; on the contrary, all the 41 historic buildings will be included in a complex restoration and rehabilitation program (see the Management Plan). This program is mandatory, regardless of the implementation of the mining project, if we want to prevent these buildings from collapsing because of their advanced degradation.

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Your assertion regarding the failure to obtain an applicable urbanism certificate at the start up of the public debates and of the evaluation of the quality of the report to the environmental impact assessment, is not correct.

Thus, by the time when the public debate stage started up there was an applicable urbanism certificate and namely the urbanism certificate no. 78/26.04.2006 issued by Alba County Council. This certificate was obtained prior to the evaluation stage of the quality of the report to the environmental impact assessment which started up once the EIA was submitted to the Ministry of Environment and Water Management on the 15<sup>th</sup> May 2006.

For better understanding the applicable legal provisions and the facts developed within the mining project of Roşia Montană zone we would like to make several comments:

- The procedure for issuing the environmental permit for Roşia Montană project started up on the 14<sup>th</sup> December 2004 by submitting the technical memorandum and the urbanism certificate no.68/26.August 2004 (certificate applicable by that time). S.C. Roşia Montană Gold Corporation S.A. (RMGC) applied for and obtained a new urbanism certificate no.78/26.04.2006 issued by Alba County Council for the entire Roşia Montană Project applicable on the date of the EIA Report submission (15<sup>th</sup> May 2006) and prior to the public debate start up (June 2006);
- The Section 1 of the urbanism certificate no.78 of 26<sup>th</sup> 04.2006 entitled Work construction, position 10 – “Processing plant and associated constructions “ – including the tailing management facility which existence is compulsory for the processing plant running. The Tailing management facility is also specified on the layout plans which are integral part of the urbanism certificate and they were sealed by Alba County Council so that they cannot be modified;
- The Urbanism Certificate is an informative document and its goal is only to inform the applicant about the legal, economic and technical regime of the existing lands and buildings and to establish the urbanism requirements and the approvals necessary to obtain the construction permit (including the environmental permit) as per art.6 of Law 50/1991 referring to the completion of construction works, republished and art 27 paragraph 2 of the Norms for the application of Law 50/1991 – Official Journal 825 bis/13.09.2005).

As it is an informative document, it does not limit the number of certificates an applicant may obtain for the same land plot ( art. 30 of Law no. 350/2001 regarding the territorial planning and urbanism).

\*

Introduced as part of the Environmental Impact Assessment Report Study (EIA), the Roşia Montană Foundation is shifting in focus. The Community Sustainable Development Plan activities initially conceived as coming under the Foundation umbrella (business oriented activities: business incubator, business advisory center, micro-finance facility, as well as social oriented activities: education and training center) have been advanced independently, via partnerships and with community participation in decision-making – a preferable way to advance social and economic development programs.

Going forward, the Foundation will take shape around preservation, patrimony and cultural heritage

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issues, with its final form determined in consultation with the community.

In terms of the philosophy that guides the company's Sustainable Development efforts, the Roșia Montană Gold Corporation (RMGC) sees itself not as principal provider, but as a partner. Community involvement is considered the starting point; over time, as the community builds the capacity to maintain programs in its own right, the company will turn over control of currently-established programs to the community and its institutions.

For more information, please see Roșia Montană Sustainable Development and the Roșia Montană Project – annex 4.

\*

We underline the fact that your statement is false. The General Urbanism Plan for the Roșia Montană commune, endorsed in 2002 allows the development of Roșia Montană project, as it has been presented during the public consultations.

Concurrently, pursuant to the provisions of art. 41, paragraph 2, from the Mining Law no.85/2003, the authorities from the local administration have the liability to adjust and/or update the territory arrangement plans and the general urbanism plans, in order to allow the development of all operations necessary for the development of mining activities.

RMGC has also initiated the preparation of two zonal urbanism plans: Zonal Urbanism Plan Modification – Roșia Montană Industrial Area and Zonal Urbanism Plan – Roșia Montană Historical Area. The first urbanism plan is required by the urbanism certificate no.78/26.04.2006, which updates the Zonal Urbanism Plan for the Industrial Area approved in 2002. As far as the historical area is concerned, its Zonal Urbanism Plan is required by the General Urbanism Plan approved also in 2002. Both urbanism plans are pending approval and have been subject to public consultations.

\*

An engineered liner is included in the design of the Tailings Management Facility (TMF) basin. Specifically, the Roșia Montană Tailings Management Facility (TMF or “the facility”) has been designed to be compliant with the EU Groundwater Directive (80/68/EEC), transposed as Romanian GD 351/2005. The TMF is also designed for compliance with the EU Mine Waste Directive (2006/21/EC) as required by the Terms of Reference established by the MEWM in May, 2005. The following paragraphs provide a discussion of how the facility is compliant with the directives.

The TMF is composed of a series of individual components including:

- the tailings impoundment;
- the tailings dam;
- the secondary seepage collection pond;
- the secondary containment dam; and
- the groundwater monitoring wells/extraction wells located downstream of the Secondary Containment dam.

All of these components are integral parts of the facility and necessary for the facility to perform as designed.

The directives indicated above require that the TMF design be protective of groundwater. For the Roșia Montană project (RMP), this requirement is addressed by consideration of the favorable geology (low permeability shales underlying the TMF impoundment, the TMF dam and the Secondary Containment dam) and the proposed installation of a low-permeability ( $1 \times 10^{-6}$  cm/sec) recompacted soil liner beneath the TMF basin. Please see Chapter 2 of EIA Plan F, “The Tailings Facility Management Plan” for more information.

The proposed low permeability soil liner will be fully compliant with Best Available Techniques (BAT) as defined by EU Directive 96/61 (IPPC) and EU Mine Waste Directive. Additional design features that are included in the design to be protective of groundwater include:

- A low permeability ( $1 \times 10^{-6}$  cm/sec) cut off wall within the foundation of the starter dam to control seepage;
- A low permeability ( $1 \times 10^{-6}$  cm/sec) core in the starter dam to control seepage;
- A seepage collection dam and pond below the toe of the tailings dam to collect and contain any seepage that does extend beyond the dam centerline;
- A series of monitoring wells, below the toe of the secondary containment dam, to monitor seepage and ensure compliance, before the waste facility limit.

In addition to the design components noted above specific operational requirements will be implemented to be protective of human health and the environment. In the extremely unlikely case that impacted water is detected in the monitoring wells below the secondary containment dam, they will be converted to pumping wells and will be used to extract the impacted water and pump it into the reclaim pond where it will be incorporated into the RMP processing plant water supply system, until the compliance is reestablish.

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reestablish.

With respect to your comments made as regards a presumptive infringement of the provisions of Government Decision No.351/2005 (“GD 351/2005”), there are several aspects to be taken into consideration. Thus:

1. Firstly, please note that, according to the provisions of art. 6 of GD 351/2005, any activity that might determine the discharge of dangerous substances into the environment is subject to the prior approval of the water management authorities and shall comply with the provisions of the water permit issued in accordance with the relevant legislation.

The GD 351/2005 provides that the water permit shall be issued only after all technical-construction measures are implemented as prevent the indirect discharge of dangerous substances into the underground waters. The maximum discharge limits are expressly provided under GD 351/2005 and compliance with such is a condition for granting and maintaining the water permit.

In accordance with the provisions of GD 351/2005, the actual discharge limits should be authorized by the relevant authority, such process being understood by the lawmaker in consideration of the complexity and variety of industrial activities, as well as the latest technological achievements.

Therefore, please note that the EIA stage is not intended to be finalized into an overall comprehensive permit, but it represents only a part of a more complex permitting process. Please note that, according with art. 3 of GD 918/2002, the data’s level of detail provided in the EIA is the one available in the feasibility stage of the project, obviously making impossible for both the titleholder and authority to exhaust all required technical data and permits granted.

The adequate protection of the ground water shall be ensured by the terms and conditions of the water permit. The issuance of the water permit shall be performed following an individual assessment of the project, considering its particular aspects and the relevant legal requirements applicable for mining activities. Until the water permit is obtained, any allegation regarding the infringement of GD 351/2005 is obviously premature mainly because the water permit shall regulate, in accordance with the relevant legal provisions, the conditions to be observed by the developer as regards the protection of the ground water;

2. Secondly, kindly note that the complexity and specificity of mining projects generated the need of a particular legal framework. Therefore, for such projects, the reading of the legal provisions of a certain enactment should be corroborated with the relevant provisions of the other regulations applicable.

In this respect, please not that the understanding of GD 351/2005 must be corroborated with the provisions of the entire relevant legislation enforceable as regards Roşia Montană Project, with a particular accent to Directive 2006/21/EC on the management of waste from the extractive industries (“Directive 21”).

The very scope of Directive 21 is to provide a specific legal framework for the extractive wastes and waste facilities related to mining projects, considering the complexity of such projects and the particular aspects of mining activities that can not always be subject to the common regulations on waste management and landfill.

From this perspective, Directive 21 provides that, an operator of a waste facility, as such is defined thereunder (please note that the TMF proposed by RMGC is considered a “waste facility” under Directive 21), must inter alia, ensure that:

- a) *“the waste facility is [.....]designed so as to meet the necessary conditions for, in the short and long-term perspectives, preventing pollution of the soil, air, groundwater or surface water, taking into account especially Directives 76/464/EEC (1), 80/68/EEC (2) and 2000/60/EC, and ensuring efficient collection of contaminated water and leachate as and when required under the permit, and reducing erosion caused by water or wind as far as it is technically possible and economically viable;”*
- b) *“the waste facility is suitably constructed, managed and maintained to ensure its physical stability and to prevent pollution or contamination of soil, air, surface water or groundwater in the short and long-term perspectives as well as to minimize as far as possible damage to landscape.”*

In addition, it should be mentioned that RMGC was required by MWEM under the Terms of Reference, to perform the EIA considering the provisions of Directive 21 and the BAT Management of Mining Waste. The Directive 21 was intended by the EU DG of Environment to be the legislative regime applicable to sound management of mining waste throughout Europe and therefore compliance with its provisions is mandatory.

\*

Information regarding our Environmental Financial Guarantee (“EFG”) is fully discussed in the section of the Environmental Impact Assessment titled “Environmental and Social Management and System Plans” (Annex 1 of the subchapter titled “Mine Rehabilitation and Closure Management Plan”). The EFG is updated annually and will always reflect the costs associated with reclamation. These funds will be held in protected accounts at the Romanian state disposal.

Roşia Montană Gold Corporation (“RMGC”) has invested significant time, energy, and resources assessing the viability of a mining project in the valley of Roşia Montană. This assessment has led RMGC to conclude that Roşia Montană presents an attractive long-term development opportunity – an opinion confirmed by a variety of lending institutions, who have completed detailed reviews of the project’s design and profitability. We have every confidence that we will see the project through to the end of its projected 16-year lifespan, regardless of any fluctuations in the market price of gold.

In Romania, the creation of an EFG is required to ensure adequate funds are available from the mine operator for environmental cleanup. The EFG is governed by the Mining Law (no. 85/2003) and the National Agency for Mineral Resources instructions and Mining Law Enforcement Norms (no. 1208/2003).

Two directives issued by the European Union also impact the EFG: the Mine Waste Directive (“MWD”) and the Environmental Liability Directive (“ELD”).

The Mine Waste Directive aims to ensure that coverage is available for 1) all the obligations connected to the permit granted for the disposal of waste material resulting from mining activities and 2) all of the costs related to the rehabilitation of the land affected by a waste facility. The Environmental Liability Directive regulates the remedies, and measures to be taken by the environmental authorities, in the event of environmental damage created by mining operations, with the goal of ensuring adequate financial resources are available from the operators for environmental cleanup efforts. While these directives have yet to be transposed by the Romanian Government, the deadlines for implementing their enforcement mechanisms are 30 April 2007 (ELD) and 1 May 2008 (MWD) – thus before operations are scheduled to begin at Roşia Montană.

RMGC has already begun the process of complying with these directives, and once their implementation instruments are enacted by the Romanian Government, we will be in full compliance.

Each EFG will follow detailed guidelines generated by the World Bank and the International Council on Mining and Metals.

The current projected closure cost for Roşia Montană is US \$76 million, which is based on the mine operating for its full 16-year lifespan. The annual updates will be completed by independent experts, carried out in consultation with the NAMR, as the Governmental authority competent in mining activities field. These updates will ensure that in the unlikely event of early closure of the project, at any point in time, each EFG will always reflect the costs associated with reclamation. (These annual updates will result in an estimate that exceeds our current US \$76 million costs of closure, because some reclamation activity is incorporated into the routine operations of the mine.)

A number of different financial instruments are available to ensure that RMGC is capable of covering all of the expected closure costs. These instruments, which will be held in protected accounts at the Romanian state disposal, include:

- Cash deposit;
- Trust funds;
- Letter of credit;



- Surety bonds;
- Insurance policy.

Under the terms of this guarantee, the Romanian government will have no financial liability in connection with the rehabilitation of the Roşia Montană project.

\*

The Security Report has been made available for public access by being posted at the following Internet address [http://www.mmediu.ro/dep\\_mediu/rosia\\_montana\\_securitate.htm](http://www.mmediu.ro/dep_mediu/rosia_montana_securitate.htm) as well as through the printed version which could have been found at several information locations established for public hearings.

\*

The Report on the Environmental impact assessment study (EIA) considered all alternative developments, including the option of not proceeding with any project – an option that would generate no investment, allowing the existing pollution problems and socio-economic decline to continue (Chapter 5 – *Assessment of Alternatives*).

The report also considered alternative developments – including agriculture, grazing, meat processing, tourism, forestry and forest products, cottage industries, and flora/fauna gathering for pharmaceutical purposes – and concluded that these activities could not provide the economic, cultural and environmental benefits brought by the Roşia Montană Project (RMP).

Chapter 5 also examines alternative locations for key facilities as well as alternative technologies for mining, processing and waste management, in line with best practice and as compared against published EU best available techniques (BAT) documentation.

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The impact on protected flora and fauna will exist only locally, but this impact will not lead to the loss of any specie. The Project has been designed even from the beginning to fully comply with the requirements and norms imposed by Romanian and European environmental legislation.

The company believes the fact that the project impact on environment remains significant, especially because covers previous impacts. But, the investments required to ecologically restore/rehabilitate Roşia Montană area in order to address current complex environmental issues, are only achievable following the implementation of some economic projects that will generate and warrant implementation of some direct and responsible actions as a component of base principles of sustainable development concepts. Clean processes and technologies may be developed only in the presence of a solid economic environment fully compliant with the environment that will also resolve previous impacts of anthropic activities.

The base documents of the Project are in fact an unbiased reason of its implementation, considering the highly complex environmental commitment within Roşia Montană area.

Some of the Roşia Montană species that are under a certain protection status stand for an insignificant percentage of the scale of populations estimated at national level. The characterization of species from their habitat point of view exists in the species tables presented in the Biodiversity Chapter of the EIA Report and its annexes, although this is not a requirement imposed by the Habitats Directive. Due to their large volume of information, the annexes of chapter 4.6 Biodiversity can be found in the electronic version of the EIA disclosed by the company both in Romanian and English through approx. 6,000 DVD/CD copies, being accessible on the company website, and on the websites of Ministry of Environment and Water Management, local and regional environmental protection agencies of Alba, Sibiu, Cluj, etc.

From practical point of view, the low value of conservation of the impact area is also indirectly emphasized by the fact that there is no proposal to designate the area a SPA (aviafaunistic special protected area) and by the denial as unfounded of the proposal to designate the area as a pSCI area (sites of community importance).

Taking all these into account, we believe that the proposed Project is compliant with the provisions of EU Directive no. 92/43 Habitats[1], and EU Directive no. 79/409 Birds[2] respectively, especially because within Biodiversity Management Plan, Plan H, several active and responsible measures are provided to reconstruct/rehabilitate several natural habitats, pursuant to the provisions of the same documents [3].

References:

[1] art.3, 2nd paragraph, Each Member State shall contribute to the creation of Natura 2000 (network) in proportion to the representation within its territory of the natural habitat types and the habitats of species referred to in paragraph 1. To that effect each Member State shall designate, in accordance with Article 4, sites as special areas of conservation taking account of the objectives set out in paragraph 1.

art.4, 1st paragraph. On the basis of the criteria set out in Annex III (Stage 1) and relevant scientific information, each Member State shall propose a list of sites indicating which natural habitat types in Annex I and which species in Annex II that are native to its territory the sites host. For animal species ranging over wide areas these sites shall correspond to the places within the natural range of such species which present the physical or biological factors essential to their life and reproduction. For aquatic species which range over wide areas, such sites will be proposed only where there is a clearly identifiable area representing the physical and biological factors essential to their life and reproduction. Where appropriate, Member States shall propose adaptation of the list in the light of the results of the surveillance referred to in Article 11. [...]

2nd paragraph.[...] Member States whose sites hosting one or more priority natural habitat types and priority species represent more than 5 % of their national territory may, in agreement with the Commission, request that the criteria listed in Annex III (Stage 2) be applied more flexibly in selecting all the sites of Community importance in their territory.[...]

Art. 6, 4th paragraph. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Art. 16. Provided that there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range, Member States may derogate from the provisions of Articles 12, 13, 14 and 15 (a) and (b):[...]

- in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment;

[2] Art.4, 1st paragraph. The species mentioned in annex 1 shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution. [...]

Trends and variations in population levels shall be taken into account as a background for evaluations. Member states shall classify in particular the most suitable territories in number and size as special protection areas for the conservation of these species, taking into account their protection requirements in the geographical sea and land area where this directive applies.

[3] Directive 92/43 Habitats, art. 2, 2nd paragraph; Directive 79/409 Birds, art. 3, 2nd paragraph, letter c.

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This statement is ungrounded, because the environmental impact assessment (EIA) process has included preliminary cumulative estimates for stationary motorized equipment and linear (vehicular) sources were prepared in order to provide an initial understanding of the potential cumulative noise and vibration impacts from background and Roşia Montană Project sources, and to guide future monitoring and measurement activities as well as the selection of appropriate Best Management Practices/Best Available

Techniques for further mitigation of the potential noise and vibration impacts from Project activities. These preliminary estimates apply to major construction activities, as well as the operation and decommissioning/closure of the mine and process plant. They are documented as data tables and isopleth maps for major noise-generating activities in selected, representative Project years; see **Tables 4.3.8 through 4.3.16** and **Exhibits 4.3.1 through 4.3.9**. All these details related to the applied assessment methodology, the input data of the dispersion model, the modeling results and the measures established for the prevention/mitigation/elimination of the potential impact for all project stages (construction, operation, closure) are included in Chapter 4, Section 4.3 Noise and Vibrations of the EIA Report.

Project Years 0, 9, 10, 12, 14, and 19 were selected for modeling because they are considered to be representative of the most significant levels of noise-generating activity. They are also the same years used for air impact modeling purposes in Section 4.2, as air and noise impacts share many of the same sources or are otherwise closely correlated. In order to more accurately reflect potential receptor impacts, all of these exhibits integrate the background traffic estimates discussed in Section 4.3.6.1.

The Project site plan and process plant area and facility drawings were used to establish the position of the noise sources and other relevant physical characteristics of the site. Receptor locations were established using background reports and project engineering and environmental documentation provided by RMGC. With this information, the source locations and receptor locations were translated into input (x, y, and z) co-ordinates for the noise-modeling program.

**Tables 4.3.8 through 4.3.16** and **Exhibits 4.3.1 through 4.3.9** present the average maximum noise values likely to be experienced by the receptor community over all Project phases after incorporation of a variety of initial mitigation measures designed specifically to reduce the impacts associated with mobile and stationary machinery sources. The influence of non-mining related background (primarily traffic) noise is also included.

To evaluate the sound levels associated with haul trucks and other mobile sources crossing the site carrying excavated ore, waste rock, and soil, a noise analysis program based on the (U.S.) Federal Highway Administration's (FHWA) standard RD-77-108 [1] model was used to calculate reference noise emissions values for heavy trucks along the project roadways. The FHWA model predicts hourly  $L_{eq}$  values for free-flowing traffic conditions and is generally considered to be accurate within 1.5 decibels (dB).

The model is based on the standardized noise emission factors for different types and weights of vehicles (e.g., automobiles, medium trucks, and heavy trucks), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The emission levels of all three vehicle types increase as a function of the logarithm of their speed.

To evaluate the sound sources from the proposed mine processing facility and the semi-stationary material handling equipment (at the ore extraction, waste rock and soil stockpiling areas), a proprietary computerized noise prediction program was used by AAC to simulate and model the future equipment noise emissions throughout the area. The modeling program uses industry-accepted propagation algorithms based on the following American National Standards Institute (ANSI) and International Organization for Standardization (ISO) standards:

- *ANSI S1.26-1995 (R2004), Method for the Calculation of the Absorption of Sound by the Atmosphere;*
- *ISO 9613-1:1993, Acoustics -- Attenuation of sound during propagation outdoors-- Part 1: Calculation of the absorption of sound by the atmosphere;*
- *ISO 9613-2:1996, Acoustics -- Attenuation of sound during propagation outdoors -- Part 2: General method of calculation;*
- *ISO 3891:1978, Acoustics -- Procedure for describing aircraft noise heard on the ground.*

The calculations account for classical sound wave divergence (i.e., spherical spreading loss with adjustments for source directivity from point sources) plus attenuation factors due to air absorption, minimal ground effects, and barriers/shielding.

This model has been validated by AAC over a number of years via noise measurements at several operating industrial sites that had been previously modeled during the engineering design phases. The comparison of modeled predictions versus actual measurements has consistently shown close agreement; typically in

the range of 1 to 3 dB (A).

References:

[1] FHWA Highway Traffic Noise Prediction Model; see Federal Highway Administration Report Number FHWA-RD-77-108, USA, Washington, D.C., 1978.

***A detailed presentation of blasting technology can be found in the annex 7.1 - Proposed blasting technology for the operational phase of Roşia Montană Project.***

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The partnership between Gabriel Resources and Regia Autonomă a Cuprului Deva (currently, CNCAF Minvest SA) has been established based on Law no. 15/1990 on the reorganization of the state owned companies as autonomous directions and trade companies, published in the Official Gazette, Section I, no. 98/08.08.1990, as subsequently amended and supplemented. Art. 35 of this law provides the possibility of the regies autonomous to enter into partnerships with legal third parties, Romanian or foreign, for the purpose of setting up new trading companies.

Roşia Montană Gold Corporation SA was set up in 1997, according to the legal provisions in force as at that time, the setting up being made by observing all the conditions imposed by Company Law no. 31/1990 and Trade Register Law no. 26/1990, in regard of the setting up of the joint stock companies with mixed capital.

We underline that the Articles of Associations of Roşia Montană Gold Corporation SA, representing the result of the parties agreement in regard of the terms and conditions under which the partnership between the Romanian state and investor takes place represents a public document, being included in the category of documents which, as per Law no. 26/1990 on the Trade Register, are published in the Romanian Official Gazette and for which the Trade Register is obliged to issue, on the expense of the persons submitting a request, certified copies.

As for the agreement concerning the setting up of the mixed company together with Gabriel Resources Ltd., this has been expressed by the Ministry of Industry and Trade, the conditions imposed by the setting up of the mixed company being the following: (i) ensuring of the jobs at the level existing upon the conclusion of the agreement concerning the setting up of the mixed company; (ii) the expenses incurred by the fulfillment of the exploration stage should be fully supported by Gabriel; (iii) the obtaining of the approval from the ANRM by the Copper Autonomous Direction Deva and (iv) the observance of all legal provisions in force concerning the setting up of the mixed companies with foreign partners. These conditions have been fully complied with as at the setting up of the company and during the development of its activity.

We also specify that the establishing of the shareholders' quotas to the benefits and losses of Roşia Montană Gold Corporation SA has been made by considering their contribution quota to the company's share capital. The current percentage of 80% for Gabriel Resources Ltd. and of 19.31% for CNCAF Minvest SA resulted from the initial contribution and the subsequent contributions of the shareholders to the company's share capital, in consideration also of Gabriel Resources Ltd. advancing all expenses and costs related to the development-exploitation and permitting of the Roşia Montană Mining Project.

The provisions of the Articles of Associations of Roşia Montană Gold Corporation SA on the necessary majority and quorum conditions for the decision-making process within the General Shareholders Meeting and the quotas to the benefits and losses of the company are taken from Law no. 31/1990, and no derogation exists in regard of this aspect.

\*

This claim is not true; the Urbanism Plan has been prepared with public consultation.

Roşia Montană Gold Corporation SA (RMGC) has requested and obtained from Alba County Council the Urbanism Certificate no. 78 of 26.04.2006, for the entire Roşia Montană mining project, including the tailings management facility. The Urbanism Certificate also stipulated the preparation of a Zonal

Urbanism Plan, to reflect all changes made to the Roşia Montană Project, following the public consultations and debates organized in relation to this project, and the consultations with the permitting authorities. This plan, entitled “Modification of the Zonal Urbanism Plan, Roşia Montană Industrial Area”, was prepared and subjected to public debate in June 2006 in accordance with the provisions of Order no.176/N/2000 issued by the Ministry of Public Works and Territory Development for the approval of the technical regulations “Guidelines regarding the methodology applied for the preparation and framework content of the Zonal Urbanism Plan” and, at present, it is pending approval.

Concerning the Roşia Montană General Urbanism Plan approved in 2002, such plan was prepared in parallel with the Zonal Urbanism Plan of 2002, all the provisions of the General Urbanism Plan being also included in the Zonal Urbanism Plan. Also, the approval procedure related to the two urbanism plans was carried out in parallel.

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Preventive archaeological researches within the Roşia Montană mining project area have been undertaken based on specific techniques, specifically trial trenches in all accessible areas that are suitable for human habitation, taking into account the bibliographical information and the observations recorded during the archaeological survey campaigns, the geophysical studies and the analyses of the photogrammetric flights. In addition, surface investigations were undertaken, where appropriate.

The archaeological researches at Roşia Montană covered a large surface and focused on the areas known to have archaeological potential. THEREFORE, ALL AREAS THAT HAVE BEEN ARCHAEOLOGICALLY DISCHARGED HAD BEEN PREVIOUSLY INVESTIGATED. All research programs, beginning with the 2004 campaign, have been undertaken in full compliance with the current legal requirements, i.e. Ministerial Order no. 2392 of 6 September 2004 on the establishment of the Archaeological Standards and Procedures by the Ministry of Culture and Religious Affairs.

The proposed gold mining project at Roşia Montană has raised a series of issues related to the rescue of the historical-archaeological heritage within the area, as well as issues related to its scientific development and also the enhancement of heritage within a museum. Given the complex difficulties encountered in this respect, the Ministry of Culture and Religious Affairs decided to initiate the “Alburnus Maior” National Research Program.

The company’s role was to provide the necessary financial resources for the assessment, research and enhancement of the archaeological remains, in full compliance with the Romanian current legislation. The development of the research and of the archaeological discharge works has been conducted through specific means and methodologies that have been adjusted to the realities of every site researched, in our case, Roşia Montană. They consisted in:

- Archives studies;
- Archaeological surveys; trial trenches;
- aerial reconnaissance/survey and aerial photo interpretation ; high resolution satellite images;
- mining archaeology studies; underground topography and 3D modeling;
- geophysical surveys;
- extensive archaeological investigations in the areas with an identified archaeological potential- this implied carrying out archaeological excavations;
- Interdisciplinary studies- sedimentology, archaeo-zoology, comparative palynology, archaeo-metallurgy, geology, mineralogy;
- Radiocarbon dating and dendrochronology;
- This research and its results were included in an integrated database;
- traditional and digital archaeological topography and development of the GIS project; generate a photo archive- both traditional and digital;
- restoration of artifacts;
- an inventory and a digital catalogue of the artifacts;
- studies conducted by specialists in order to enhance the research results - publication of monographs/scientific books and journals, exhibitions, websites, etc.

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All the preventive archaeological researches undertaken at Roşia Montană since 2000 have been carried

out as part of a complex research program; permits for preventive archaeological excavations being issued in compliance with the current legislation. These archaeological investigations have been undertaken by representatives of 21 specialized institutions from Romania and 3 others from abroad, under the scientific coordination of the Romanian National Museum of History. All archaeological researches have been conducted in full compliance with the existing legislation. The investigations undertaken during each archaeological research campaign have been approved by the Ministry of Culture and Religious Affairs based on the Annual Archaeological Research Plan approved by the National Commission of Archaeology.

Under the current legislation (Ministerial Order no. 2392 of 6 September 2004 on the establishment of the Archaeological Standards and Procedures by the Ministry of Culture and Religious Affairs) the archaeologists who have conducted the research may ask that an archaeological discharge certificate be granted. Based on a complex research program, the archaeologists prepare comprehensive documentation with regard to the researched area. Upon consideration of the submitted documentation, the National Commission of Archaeology makes a decision as to whether to recommend or not the granting of the archaeological discharge certificate. In the case of the research conducted in the period 2001-2006, the archaeological discharge certificate was issued directly by the Ministry of Culture and Religious Affairs or by its local agencies.

Preventive archaeological researches at Roșia Montană have allowed the research of five Roman cremation necropolis (Tău Corna, Hop-Găuri, Țarina, Jig - Piciorag and Pârâul Porcului – Tăul Secuilor), two funerary areas (Carpeni, Nanului Valley), sacred areas (Hăbad, Nanului Valley), habitation areas (Hăbad, Carpeni, Tăul Țapului, Hop), the most significant being the Roman structures on the Carpeni Hill and the circular funerary monument at Tău Găuri. In addition, for the first time in Romania, surface investigations have been paralleled by underground investigations of Cetate, Cârnic, Jig and Orlea massifs, with important discoveries in the Piatra Corbului, area, Cătălina-Monulești gallery and the Păru Carpeni mining sector.

The research consisted of aerial photo interpretation, archaeological magnetometric studies, electrical resistivity, palynology, sedimentology, geology studies, radiocarbon and dendrochronology dating. For a better management of the research units and of the archaeological findings, data bases were used, including text and photographs-among which 4 satellite images (an archive satellite image type SPOT Panchromatic (10m) from 1997; 2 satellite images LANDSAT 7 MS (30 m), dating from 2000 and 2003; a satellite image with priority programming SPOT 5 SuperMode color (2,5 m resolution-19 July 2004); all data have been included in a comprehensive GIS program, a first in the Romanian archaeological research.

In the case of archaeological monuments that are located close to industrial facilities, plans have been redesigned to ensure that the archaeological remains in question will not be affected. Where appropriate, the archaeological monument was preserved in situ and restored, i.e. the circular funerary monument at Hop-Găuri (see The "Alburnus Maior" monograph series, volume II, Bucharest, 2004). Another example in this respect is the Carpeni Hill, designated an "archaeological " reserve, and the Piatra Corbului area. In 2004, after being thoroughly investigated, these areas have been included on the List of Historic Monuments. Add to this the areas where ancient mining remains will be preserved, such as the Cătălina Monulești gallery and the mining sector Păru Carpeni, as well as the protected area Roșia Montană Historic Center, including a number of heritage assets (35 historic monument houses).

We emphasise in this respect that the identified and researched structures have been published in preliminary form in the Archaeological Research Chronicle of Romania, after every archaeological research campaign, as well as in volume 1 of the Alburnus Maior monographic series. We mention here the areas where Roman habitation structures have been identified and researched, as well as the references to be consulted for further information: Hop-Găuri, Carpeni, Tăul Țapului (CCA 2001 (2002), p. 254-257, no. 182; 261-262, nr. 185; 264-265, no. 188; 265-266, no. 189. Alburnus Maior I, 2003, p. 45-80; 81-122; 123-148; CCA 2001 (2002), 257-261; CCA 2003 (2004) ,280-283; Alburnus Maior I, 2003, p. 387-431, 433-446, 447-467).

For further details related to the applicable legal framework, the responsibilities of the Project titleholder, or for a detailed description of the preventive archaeological researches undertaken to date and of the Cultural Heritage Management Plans, please see Annex called "Information on the Cultural heritage of Roșia and Related Management Aspects". In addition, the annex includes supplementary information with regard to the result of the researches undertaken as part of the "Alburnus Maior" National Research Program between 2001 and 2006.

In conclusion, the area mentioned by the questioner has been researched in accordance with the Romanian legal requirements, as well as with European standards and practices in the field.

Note that the type of research undertaken at Roșia Montană, known as preventive/rescue archaeological research, as well as other related heritage studies, are done everywhere in the world in close connection with the economic development of certain areas. Both the costs for the research and for the enhancement and maintenance of the preserved areas are provided by investors, in a public-private partnership set up in order to protect the cultural heritage, as per the provisions of the European Convention on the Protection of the Archaeological Heritage (Malta-1992) [1].

References:

[1]The text of the Convention is available at the following address:  
<http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=143&CM=8&DF=7/6/2006&CL=ENG>

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In 2000, in the context of the proposal of a new mining project in the Roșia Montană area, the Ministry of Culture and Religious Affairs approved a series of studies to be conducted in order to research the archaeological and architectural heritage of the area. And at the end of that year, the Design Centre for National Cultural Heritage (now the National Institute for Historical Monuments) presented the preliminary results of these researches to the National Commission for Historical Monuments and of the National Commission of Archaeology. Based on these results, in 2001, the Ministry of Culture and Religious Affairs initiated the “Alburnus Maior” National Research Program (the Order no. 2504 / 07.03.2001 of the Minister of Culture and Religious Affairs) in compliance with the Law 378/2001 (as subsequently amended by Law 462/2003 and by Law 258/2006 and Law 259/2006). Thus, since 2000, the Ministry of Culture and Religious Affairs – directly or through its subordinate institutions - has fulfilled its duties with regard to the management of the issues related to Roșia Montană’s heritage.

Thus, the preventive archaeological researches have been conducted by the representatives of 21 national institutions and 3 others from abroad under the scientific coordination of the National Museum of History of Romania. They have been carried out based on the annual approval of the National Commission of Archaeology of the Ministry of Culture and Religious Affairs. In accordance with the legislation in force, this research program is carried out with the financial support provided by RMGC (the company that plans to expand and continue to mine the gold-silver deposit in Roșia Montană). Thus, large-scale preventive investigations have been conducted or are underway in the RMP impact area. A proposal will be made based on the results thereof either for the archaeological discharge of some researched perimeters from the project perimeter or the preservation *in situ* of certain representative structures and monuments, in compliance with the legislation in force. In the case of the areas proposed for conservation and the ones for which the archaeological discharge measure was applied, the decision was made based on the surveys conducted by specialists and on the analysis of the National Commission of Archaeology. In the period 2000-2005, the mining project underwent a series of modifications designed to promote the implementation of the decision regarding the conservation of the local heritage. Examples of these include: extending the duration of the field investigations on several years (e.g. Țarina, Pârâul Porcului, Orlea) and changing the location of some elements of infrastructure in order to allow the conservation of the archaeological remains found in the Carpeni, Tău Găuri and Pietra Corbului areas.

**The architectural and town-planning surveys** have been conducted, in accordance with the legislation in force, by companies certified by the Ministry of Culture and Religious Affairs, while the town-planning documentations drafted by these companies and the restoration and conservation works undertaken so far have been approved by the National Commission for Historical Monuments. Thus, the town-planning documentations have been approved and implemented in accordance with current legislation, and the company has agreed to these decisions and modified the mine development plans accordingly:

**Extensive ethnographic research** was conducted in the Roșia Montană-Abrud-Corna area in the period 2001-2004 coordinated by a team of specialists for the Romanian Village Museum „Dimitrie Gusti” (a National Museum directly under the coordination of the Ministry of Culture and Religious Affairs). Moreover, a broad series of oral history interviews was conducted in the period 2001-2002 by the

Romanian Radio Broadcasting Company through the „Gheorghe Brătianu” Oral History Centre, Bucharest (SRR - CIO).

In compliance with the requirements of the Ministry of Environment and Waters Management and the Ministry of Culture and Religious Affairs, specific management plans have been drawn up for the management and conservation of the heritage remains from the Roşia Montană area, in the context of the implementation of the mining project. These plans have been included in the documentation prepared for the Report on the Environmental Impact Assessment Study. (see EIA Report, volume 32-33, Plan M- *Cultural Heritage Management Plan*, part I –*Management Plan for the Archaeological Heritage from Roşia Montană Area*; part II-*Management Plan for the Historical Monuments and Protected Zone from Roşia Montană*; part III- *Cultural Heritage Management Plan*).

These management plans comprise detailed presentations of the obligations and responsibilities regarding the protection and conservation of the heritage remains from the Roşia Montană area, which the company has assumed in the context of the implementation of the mining project, according to the decision of the central government. These heritage remains include: archaeological remains above and under the ground, historic buildings, protected areas, intangible heritage assets, cultural landscape items, etc. In this context, it should be noted that besides the works for the protection and preservation of the archaeological heritage, works are being carried out for the rehabilitation and conservation of the protected area Historical Centre Roşia Montană (comprising 35 historic buildings, and projects for the restoration of 11 of these buildings are currently being drafted), Tăul Mare, Tăul Brazi and Tăul Anghel as well as remains of the surface mining works from the Vaidoia area and the creation of a modern museum dedicated to the history of mining in the Apuseni Mountains area. This museum will be established in the coming years and it will include exhibitions of geology, archaeology, industrial and ethnographic heritage as well as an underground section organized around the Cătălina Monuleşti gallery.

Moreover, representatives of the Directorate for Culture, Religious Affairs and National Cultural Heritage of Alba County have visited Roşia Montană many times in order to collect information and to check the situation. The same administrative body was the intermediary for the specific stages of acquisitions of historic buildings made by RMGC. The Ministry of Culture and Religious Affairs expressed its pre-emption right regarding the acquisition of these buildings.

Note that apart from the obligations undertaken by RMGC as regards the protection and conservation of the archaeological remains and historical monuments, there are a whole series of obligations, which rest with the local public authorities from Roşia Montană and from Alba County and with the central public authorities, namely the Romanian Government.

These aspects are further detailed in the Cultural Heritage Management Plans included in the EIA Report (see EIA Report, volume 32, *Management Plan for the Archaeological Heritage from Roşia Montană Area*, pages 21-22, 47, 52-53, 66-67-Romanian version/ 22-24; 47; 55-56; 71-72 English version) and the EIA Report, volume 33- *Management Plan for the Historical Monuments and Protected Zone from Roşia Montană* pages 28-29, 48-50, 52-53, 64-65, page 98 – Annex 1- Romanian version/ 28-29; 47-50; 51-53; 65-66; 103- Annex 1- English version).

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Item no. 1723

No. to identify the observations received from the public  
No.  
110779/  
25.08.2006

**Proposal**

The questioner requests the MMGA not to issue the environment permit for the Roşia Montană mining project arguing as follows:

- The processing with cyanides would compromise the tourist potential from area;
- 80 % of the precious metals extracted will go to RMGC;
- The massive resettlement of the population, churches and cemeteries is intolerable;
- The lack of information and transparency on the part of the Ministry for Environment and Waters Management is intolerable;
- The simplistic argument that the Project will generate new jobs.

SEE THE CONTENT OF TYPE 4 CONTESTATION

The development of Roşia Montană's tourism potential can be done in parallel with active mining operations. Chapter 5 of the Environmental Impact Assessment Study Report (EIA) identifies and assesses project alternatives, including tourism. Importantly, the EIA concludes that the project does not preclude the development of other industries such as tourism. On the contrary, the mining project would remove some of the existing significant impediments to establishment of other industries, such as pollution, poor access and other problems that have arisen through lack of inward investment. As described in Volume 14, 4.8 Social and Economical Environment, and in Volume 31, Community Sustainable Development Management Plans, there are currently some tourism activities in Roşia Montană. However the tourism industry is not at present a significant economic driver.

As the Roşia Montană Project (RMP) project affects only 4 of Roşia Montană's 16 sub-comuna, Roşia Montană could continue to develop its tourism potential. There are initiatives to do so, such as "Tourism development model and its contribution to sustainable development in Zlatna, Bucium, Roşia Montană and Baia de Arieş as alternative to mono-industrial mining activities" prepared by the National Institute for Research and Development in Tourism (INCDT) published in April 2006, just as the EIA report was being submitted to the Ministry of Environment and Water Management.

Roşia Montană Gold Corporation (RMGC) has also commissioned a study which sets out how the potential tourism markets and how these might best be approached in an integrated project:

**Solution**

"From experience, tourism will be possible and profitable only when there is something to offer to tourists in terms of clean environment, proper infrastructure (good roads, accommodation, restaurants, running water, proper sewage system, waste disposal facilities, etc.), attractions (museums, other things to see such as historical monuments, etc). A mining project such as the one proposed by RMGC will provide, through taxes, and the development of service industries, the necessary funds to improve the infrastructure. Through the RMP and its heritage management plans, US\$25 million will be invested by the company in the protection of cultural heritage in such a way to support tourism. A training program will provide the necessary skills to develop tourist activities and the Roşia Montană Micro Credit will support people in starting pensions, restaurants, etc., all needed for attracting tourists. At the end of the project, there will be a new village, plus the restored old centre of Roşia Montană with a museum, hotels, restaurants and modernized infrastructure, plus restored mining galleries (e.g. Cătălina Monuleşti) and preserved monuments such as the one from Tău Găuri - all of which would serve as tourist attractions. Further to this, it is understood that the government will be acting locally to encourage economic growth. (see Roşia Montană Initial Tourism Proposals Gifford Report 13658.R01).

There are good examples where tourism and mining has been carried on side by side. The examples of the Martha Gold Mine, Waihi in New Zealand and the Rio Narcea Gold Mine in Spain have been cited, and the latter is documented in the EU "Best Reference" document for management of mining wastes. This is because these mines are operated efficiently, safely and with care of the environment. Because these mines are located in districts with a long history of mining, visitors can be shown mining technology old

and new. Roşia Montană is in a good position to take similar advantage of its mining history and RMGC proposes to manage its operations in line with this best practice. Other related examples have been discussed in Roşia Montană Initial Tourism Proposals.

While cyanide is a highly toxic substance and its manufacture, supply, use and disposal must be carefully managed, RMGC is a signatory to the International Cyanide Management Code that requires the adoption of best practice for cyanide management. RMGC will obtain cyanide from a manufacturer who will also be a signatory to the Code.

As cyanide is quite commonly used in gold extraction, the European Union recently issued a Directive on the management of wastes from the extractive industry [1]. This Directive has been used as a point of reference in designing the RMP and, in particular, the management of cyanide. In line with the requirements of the Directive, cyanide will *not* be discharged in waste products (process “tailings”) to the tailings pond at levels that are toxic for humans, mammals and birds, i.e. above 10 parts per million (ppm). In order to achieve this, most of the cyanide will be recovered from the process circuits for re-use and residual cyanide levels will be reduced to below 10 ppm using a patented chemical process (cyanide destruction circuit).

A simplified description of the ore processing system and the use and management of cyanide is provided in the Non-Technical Summary. Cyanide solution is used to dissolve the microscopic particles of gold and silver from the ore after it has been crushed and ground to a fine powder (ore leaching). Carbon is used to remove the metals from the cyanide solution (adsorption) and the gold and silver is then separated from the carbon using an electric current (electrowinning). The cyanide solution and carbon are then re-used to minimize waste discharges.

#### References:

[1] Directive 2006/21/EC of the European Parliament and of the Council on the management of waste from the extractive industries

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According to art. 38 letter c) of the Mining Law no. 85/2003, “*the titleholder of the license/permit has the following rights: to dispose of the quantities of mining products achieved*”. Therefore, this is a legal right of all mining licenses titleholders, irrespective of the mineral resources/reserves for which mining activities are granted into concession.

Mining activities are developed by titleholders on their own risk and using their own financial resources for scoping of resources/reserves and for projects permitting and operation. Apart from the exploration/exploitation tax, which is a fix amount to be paid for each perimeter irrespective of the activities developed, the titleholders are bound to pay to the state the mining royalty. The mining royalty is set up by art. 45 of the Mining Law no. 85/2003 as a quota from the value of the mining production achieved.

The Romanian State has the legal right to purchase precious metals through the National Bank of Romania (NBR). The NBR purchases precious metals when it deems necessary and as per the legal provisions in force, being also the only one able to decide the volume of the gold reserves of the Romanian state. In this respect, art. 30 and 31 let. a) of the Law no. 312/2004 for the NBR Statute approval provide: “*The NBR, observing the general rules regarding liquidity and external assets specific risk, establishes and maintains international reserves, so as to be able to determine at any moment their size. Such reserve is cumulatively or selectively composed of: gold within state thesaurus or deposited abroad; [...]. The National Bank of Romania monitors the maintaining of the gold reserve at a level it deems as being appropriate for the external transactions of the state*” respectively “*the NBR is authorized, under the conditions it establishes and modifies from time to time, to perform the following operations: to sell, buy and perform any other transactions with gold ingots and coins and other precious metals*”.

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The company has considered social impact mitigation as the central element of the resettlement and relocation strategy. For the actual impact of the RMP in this respect, please refer also to the EIA Report,

At the individual level, the resettlement and relocation were turned into individual development opportunities through:

- small business compensation and financial support;
- professional training and career development;
- properties replacement values compensation, including land restoring cost and eventual crop lost;
- scholarship;
- relocation / resettlement assistance for properties search, registration formalities, health care support, jobs search and training, small savings and investment assistance.

At the community level, resettlement sites in both rural area ( Piatra Albă – Roșia Montană ) and an urban one ( Furcilor Hill- Alba Iulia ) offering higher living standards.

The idea animating this project may not be deemed as antichristian, as long as its main principle is that of responsible mining. We believe that resources development is not an act against God, if it is performed in a responsible manner. This project provides to future generations not only jobs, but also a cleaner environment, personal development opportunities, small enterprise support, and support provided for the development of one of the most underdeveloped areas of Romania.

All reburials will be done at the request of the families, and the expense of RMGC. The process will follow to the letter Romanian law on reburials [1], with the company's commitment to act with respect and reverence. Abandoned graves will be relocated, also with full respect and reverence, to Piatra Albă's new cemetery.

Currently, the most powerful driver of negative social effects is Roșia Montană's 70% unemployment and the region's declining economic conditions. Without the RMGC mining project, unemployment in Roșia Montană would exceed 90%. These economic circumstances make the long term survival of the village—in the absence of the RMGC mining project—doubtful.

Two churches and two prayer houses out of a total of 10 places of worship located within the project's footprint must be relocated or restored under the mine plan. Those churches will be moved in accordance with the wishes of the congregation, at the expense of RMGC. Churches construction is a central element in the new community of Piatra Albă being built by the company.

References:

[1] the relocation of graves and cemeteries is governed by the following regulatory acts:

- (i) Law no. 489/2006 on the freedom of religion and the general regime of religious affairs, published in the Romanian Official Gazette, Section I, no. 11/08.01.2007;
- (ii) Law no. 98/1994 establishing and sanctioning breaches of the hygiene and public health rules, published in the Romanian Official Gazette, Section I, no. 317/16.11.1994, as subsequently amended and supplemented ("Law no. 98/1994");
- (iii) The hygiene norms and recommendations concerning the population's life environment, published in the Romanian Official Gazette, Section I, no. 140/03.07.1997, as subsequently amended and supplemented ("Order 536/1997");
- (iv) GD no. 955/2004 on the approval of the framework Rules for the organization and operation of the public services for the administration of the public and private domain of local interest, published in the Romanian Official Gazette, Section I, no. 660/22.07.2004;
- (v) Order no. 261/1982 on the approval of the standard Rules for the administration of graveyards and the crematories of the localities, published in the Official Gazette no. 67/11.03.1983;
- (vi) Rules for the organization and operation of the parish and monastery graveyards within the eparchies of the Romanian Orthodox Church, approved by Decision of the Religious Affairs Department no. 16.285/31.12.1981.

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Public consultation and information during the environmental impact assessment procedure, including the publication of the Environmental Impact Assessment (EIA) Report documentation for consultation

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purposes, have been made in compliance with the provisions of (i) Articles 11 (2), 12 and 15 of Government Decision no. 918/2002 regarding the Environmental Impact Assessment Framework Procedure and the Approval of the List of Public or Private Projects Forming the Object of This Procedure ("Government Decision no. 918/2002")[1], (ii) Chapter 3 regarding the public information and participation in the environmental impact assessment procedure of Order no. 860/2002 of the Minister of Waters and Environmental Protection Regarding the Environmental Impact Assessment and Environmental Permitting Procedure ("Order no. 860/2002"), and of the principles established by the Aarhus Convention on access to information, public participation in decision-making and access to justice in environmental matters[2], and also of the provisions of Directive 85/337/EEC on Environmental Impact Assessment of the Effects of Certain Public and Private Projects on the Environment.

The hardcopy of the EIA Report was available at 48 locations – town halls, environmental protection agencies, libraries, ministries, information centers of the Roşia Montană Project: Zlatna Town Hall, Deva Environmental Protection Agency, Arad Environmental Protection Agency, Arad Town Hall, Petroşani University Library, Turda Town Hall, Abrud Town Hall, Abrud Information Center, Câmpeni Town Hall, Lupşa Town Hall, Roşia Montană Information Center, Bucium Information Center, Arad Town Hall, Deva Town Hall, Deva County Library, Brad Town Hall, Roşia Montană Town Hall, Bistra Town Hall, Baia de Arieş Town Hall, Alba Iulia Town Hall, Alba Iulia Environmental Protection Agency, Alba County Prefecture, Alba County Council, Alba Iulia '1 Decembrie 1918' University Library, Baia Mare North University Library, Romanian Academy Library, Baia Mare 'Petre Dulfu' County Library, Sibiu 'Lucian Blaga' University Library, Alba Iulia Information Center, Cluj Environmental Protection Local Agency, Cluj Environmental Protection Regional Agency, Cluj Town Hall, Cluj Technical University Library, Arad County Library, Cluj County Prefecture, Cluj 'Babes Bolyai' University Library, Bucharest Information Center, Bucharest Economic Studies Academy Library, Bucharest Central University Library, Bucharest National Library, Timișoara County Library, Bucharest Town Hall, Timișoara Western University Library, Petroşani University Library, Bucharest Ministry of Environment and Water Management, Arad 'Vasile Goldiș' University, Arad 'Aurel Vlaicu' University, Bucharest Environmental Protection National Agency, Sibiu Environmental Protection Agency, Roşia Montană Environmental Information Center. According to the law, public institutions had the obligation to allow public access to this documentation during the working hours.

Also, the electronic copy of this study was made available on several web pages, such as: the web page of the Ministry of Environment and Water Management - [www.mmediu.ro](http://www.mmediu.ro); Sibiu Regional Environmental Protection Agency - [www.ipmsb.ro](http://www.ipmsb.ro); Alba Environmental Protection Agency - [www.apm-alba.ro](http://www.apm-alba.ro); the web pages of Roşia Montană Gold Corporation S.A (RMGC). and Gabriel Resources - [www.gabrielresources.com](http://www.gabrielresources.com); [www.povesteadevarata.ro](http://www.povesteadevarata.ro) and the Environmental Partnership for Mining - [www.epmining.org](http://www.epmining.org).

Also, we have distributed more than 6,000 CDs and DVDs with the English and Romanian versions of the EIA Report.

#### References:

[1] Please note that Government Decision no. 918/2002 was abrogated by Government Decision no. 1213/2006 Regarding the Environmental Impact Assessment Framework Procedure for Certain Public and Private Projects, published in the *Official Gazette*, Part 1, no. 802 of 25/09/2006 ("Government Decision no. 1213/2006").

However, considering the provisions of Article 29 of Government Decision no. 1213/2006, stipulating that "The projects transmitted to a competent environmental protection authority for the issuance of the environmental permit and forming the object of the environmental impact assessment, prior to the coming into force hereof, shall be subject to the environmental impact assessment procedure in force at the time of application", please note that the provisions of Government Decision no. 918/2002 are still applicable to RMGC's project.

[2] The Aarhus Convention was ratified in Romania by Law no. 86/2000 for the Ratification of the Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters, signed at Aarhus on June 25, 1998.

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It is true that Roşia Montană Project (RMP) will create an average of 1,200 jobs during the 2 year

construction period. It is expected that the majority of these positions will be sourced locally, from the project impacted area.

During the 16 years of operations the RMP will require 634 jobs (direct employment including contracted employment for cleaning, security, transportation, and other). It is expected that most of these jobs will be sourced locally, from the project impacted area [1] But this is not the only benefit of the project.

With the mining project as the economic catalyst, Roşia Montană Gold Corporation (RMGC) is committed to working proactively to create an enabling business environment promoting local sustainable development with all manner of non-mining enterprises. This will be developed during the life of the project and designed to operate independently following mine closure.

For more information, please see Roşia Montană Sustainable Development and the Roşia Montană Project – annex 4.

References:

[1] Roşia Montană Project, Environmental Impact Assessment Study Report (EIA), Non Technical Summary, vol.19, pp.7. With inclusion of additional hiring for contracted employment for cleaning, security, transportation, and other, direct employment is 634

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Item no.	1724	Same as: 1725, 1726, 1727, 1728, 1729, 1730, 1731, 1732, 1733, 1734, 1735, 1736, 1737, 1738, 1739, 1740, 1741, 1742, 1743, 1744, 1745, 1746
No. to identify the observations received from the public	No. 110778/ 25.08.2006	Same as: No. 110777/25.08.2006, No. 110776/25.08.2006, No. 110775/25.08.2006, No. 110774/25.08.2006, No. 110773/25.08.2006, No. 110772/25.08.2006, No. 110771/25.08.2006, No. 110770/25.08.2006, No. 110769/25.08.2006, No. 110768/25.08.2006, No. 110767/25.08.2006, No. 110766/25.08.2006, No. 110765/25.08.2006, No. 110764/25.08.2006, No. 110763/25.08.2006, No. 110762/25.08.2006, No. 110761/25.08.2006, No. 110760/25.08.2006, No. 110759/25.08.2006, No. 110758/25.08.2006, No. 110757/25.08.2006, No. 110756/25.08.2006
Proposal		<p>The questioner does not agree to the promotion of the Roşia Montană Project, making the following comments:</p> <ul style="list-style-type: none"> <li>- In EIA there are no presented all the possible risks derived from this project;</li> <li>- Total costs for closing the mine are unrealistic;</li> <li>- There isn't until now an approved Zonal Urbanism Plan for the Protected Areas;</li> <li>- The phase of public consultation and quality evaluation of the impact assessment study report begun without a valid urbanism certificate;</li> <li>- Information about the foundation which RMGC will establish and subsidize is not given. This foundation follows to assume the obligations which the mining operation can not assume;</li> <li>- The present urbanism plans of the Roşia Montană commune do not correspond with the mining project proposal described in EIA;</li> <li>- There is no liner proposed for the tailings pond;</li> <li>- The proposed waste deposits will be not constructed according to the legislation in force;</li> <li>- No financial guarantees have been stipulated;</li> <li>- There is not a Safety Report submitted for the public consultation and evaluation by the competent authorities;</li> <li>- The EIA report does not assess the "zero alternative";</li> <li>- The Project poses a threat for protected flora and fauna;</li> <li>- The EIA report does not refer to the impact on the listed heritage buildings of noise and vibrations caused by the mining operations;</li> <li>- The public/ONGs wish to consult the contracts and agreements between Company and Romanian State;</li> <li>- The Urbanism Plan has been modified without public consultation;</li> <li>- From archeological point of view, the area proposed to be occupied by project was not legally investigated;</li> <li>- The questioner contests the protection of the architectural and spiritual monuments with the responsibility of the state institutions for the protection operation.</li> </ul> <p>SEE THE CONTENT OF TYPE 1 CONTESTATION</p>
Solution		<p>It is the nature of risk that it can be mitigated and diminished; it cannot be made to disappear. In order to put this into context, the common action of walking on the street or developing everyday activities have an accident potential. This accident potential is twice higher than within the framework of industrial activities that use hazardous substances.</p> <p>A major chapter of the EIA report was dedicated to the identification of risks for the project. In addition, this chapter provides a discussion of the mitigation measures for each risk and how they were incorporated into the project designs. It is recognized that risk identification is difficult due to the number and diversity of events that can be envisioned. The EIA report cannot assume to cover all of the potential risks associated with the project. However, it has attempted to identify and address the most relevant risks. The extent of risk assessment and the intensity of the prevention and mitigation measures should be proportional to the risk involved and therefore only the risks that have been considered important have been assessed in detail. Each is described below.</p> <p>In the larger sense, the entire EIA report is focused on the assessment of impacts and their associated mitigation. Specifically, Chapter 4 of the EIA presents that impact assessment of the project. The following discussion presents a summary of the impact discussed in the EIA.</p>

As far as natural and technological risks assessments are concerned, Chapter 7, "Risk Cases", from the Report on Environmental Impact Assessment, emphasizes the fact that safety and prevention measures, the implementation of the environmental management and risk systems are mitigating the consequences to acceptable levels as compared to the most restrictive norms, standards, the best practices or national and international recommendations in the field. The risk level has been established as moderate and so, socially acceptable. The extension of the risk assessment and the intensity of the prevention and mitigation measures of the consequences should be proportionate to the risk involved. Selection of a specific mitigation technique is depends on the analyzed accident scenario.

More detailed assessments are conducted for accident scenarios that, based on the qualitative assessment are found to be potentially major, of probability more than  $10^{-6}$  (reduced recovery periods of 1/1,000,000) meaning that they could have major consequences therefore, elevated associated risk, a higher risk level than 9 to 12 (on a scale of 1-25). To put this in context, simply living in southern Florida rates a 25 on the risk scale.

A global assessment of the risks associated with the Roşia Montană Project is obtained by the quick environmental and health risk assessment methodology initially developed by the Italian Ministry of the Environment and the World Health Organization. Natural hazard and risk identification and analysis presents key data and information in assessing potential technological accidents. Thus:

- In designing the Tailings Management Facility, the design parameters were chosen to fully cover the characteristic seismic risk of the area. These seismic design parameters adopted for the TMF and other facilities on the proposed site result in a safety factor much greater than the minimum accepted under the Romanian and European design standards for such facilities;
- in the sector physically impacted by the Project, the risk of floods will remain very low due to the small catchments (controlled by the Roşia and Corna Streams) the area affected by the operation, and the creation of containment, diversion and drainage hydro-technical structures for storm waters on the site, and in the Abrud catchment in general;
- risks caused by meteorological events have been reviewed and used in assessing the hazards of the affected technological processes.

From the analysis of morphometrical parameters and their correlation with other sets of information on the natural slopes on and near the site shows that the (qualitatively estimated) landslide occurrence risk is low to moderate and its consequences will not cause major impacts on the structural components of the Project.

There is no significant risk associated with resource depletion. Mining activities are planned judiciously, so as to extract only the profitable gold and silver resources and only the necessary construction rock for the Project. The management of the mining concession site will minimize reserve "sterilization" (limitation of future access to the reserves).

In assessing technological hazards and risks, the quantity of hazardous substances on the site was calculated as a total and by category, as provided by the *Notification Procedure* approved by Ministry of Agriculture, Forestry, Water and Environment (MAFWE) Order 1084/2003. Based on an evaluation of hazardous substances in stock on the Project site in relation to the relevant quantities provided by the Government Decision 95/2003 which transposes the Seveso Directive, the Project ranges between the upper and the lower limits, and therefore S.C. Roşia Montană Gold Corporation S.A. is required to prepare a Report on Environmental Impact Assessment Study to be sent to the local environmental authority and the local civilian protection authority a *Safety Report* on its operations to prevent major accident risks.

In assessing the consequences of major accidents involving dangerous substances, physical-mathematical models accepted internationally and especially at EU level, and the current version of the SLAB (Canada) software have been used, the latter for the atmospheric dispersion of denser than air gases, that may handle a multitude of situations and scenarios. Similarly, the EFFECTSGis 5.5 (Netherlands) software, developed for the analysis of the effects of industrial accidents and of consequences. Several scenarios were considered in response to the internal legislative requirements, especially related to the implementation of the Internal Emergency Plans (GD 647/2005). The conclusions of the risk assessment for major accidents were:

- The total destruction of plant facilities may only be caused by terrorist attack with classic or nuclear weapons. Simultaneous damage to the HCl tank (including containment) and to the NaCN

solution tank, the tanks containing enriched solution, to one or more leaching tanks, having as a result HCN dispersion into the air. At the same time, under certain situations and weather conditions unfavorable for dispersion, people within 40 m of the emission source, surprised by the toxic cloud for more than 1 minute without respiratory protection equipment, will most certainly die. It may also be considered that, on a radius of about 310 m, persons exposed for more than 10 minutes may suffer serious intoxications that may also lead to death. Toxic effects may occur in persons up to about 2 km downwind of the process plant;

- Operating errors and/or failures in the measurement and control devices, resulting in a lower pH in the leaching tank, thickener and/or DETOX slurry and accidental emissions of hydrocyanic acid. The area affected by concentrations of 290 ppm over a 10 min exposure time is within a circle of 36 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 157.5 m radius. The center of these circles is the middle of the CIL tanks platform;

- Accidental HCN emission from the decanter. The accident may be caused by a drop of pH in the CIL tanks combined with an overdose of flocculent solution and faulty pH monitoring systems. The area affected by concentrations of 300 ppm over a 10 min exposure time is within a circle of 65 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 104 m radius. The center of these circles is mid-distance between the two DETOX facilities;

- Accidental HCN emission from the DETOX facility. The accident may be caused by a drop of pH in the reactors generated by an overdose of metabisulfite solution and/or copper sulphate combined with faulty pH monitoring systems. The area affected by high 1900 ppm concentrations for a 1 min exposure time is located within a 10 m radius circle. The area affected by concentrations of 300 ppm over a 10 min exposure time is within a circle of 27 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 33 m radius. The center of these circles is mid-distance between the two DETOX facilities;

- Explosion of the LPG storage tank. The LPG storage tank has a 50 ton capacity and is located outdoors, near the heating plant. The simulation was conducted for the worst case scenario, considering an explosion of the full tank. Threshold I with heat 12.5 kW/m<sup>2</sup> is within a 10.5 m radius circle and Threshold II, of heat radiation 5 kW/m<sup>2</sup> is within a circle of 15 m radius;

- Damage and/or fire at the fuel tanks. Simulations were conducted for the worst case scenarios, considering ignition and combustion of all the diesel (fire in the tank, or in the containment vat, when full of diesel);

- Corna Dam break and breach development. Two credible accident scenarios were considered in simulating tailings flow out of the Tailings Management Facility, and six credible scenarios for the flow of decant water and tailings pore water, with significant effects on the terrestrial and aquatic ecosystems, in different weather conditions;

- Tailings flow may occur along Corna Valley, on a 800 m (starter dam break) or over 1600 m reach should the Corna dam break in its final stage;

- In regard to water quality impacts, cyanide concentrations in the water in the shape of a pollution plume may reach Arad, near the Romanian-Hungarian border on the Mureş River, in concentrations ranging between 0.03 and 0.5 mg/L. Due to inherent mathematical limitations in the models, these values and the accident effects are considered overestimated. Therefore, the results describe the "worst case scenario" based on extreme dam break assumptions for the Corna Dam.

A new and much more precise and realistic simulation has been subsequently established based on the INCA Mine model, that considers the dispersion, volatilization and breakdown of cyanides during the downstream movement of the pollutant flow (Whiteland et al., 2006).

The model used is the INCA model developed over the past 10 years to simulate both terrestrial and aquatic systems within the EUROLIMPACS EU research program ([www.eurolimpacs.ucl.ac.uk](http://www.eurolimpacs.ucl.ac.uk)). The model has been used to assess the impacts from future mining, and collection and treatment operations for pollution from past mining at Roşia Montană.

The modeling created for Roşia Montană simulates eight metals (cadmium, lead, zinc, mercury, arsenic, copper, chromium, manganese) as well as Cyanide, Nitrate, Ammonia and dissolved oxygen. The model has been applied to the upper catchments at Roşia Montană as well as the complete Abrud-Arieş-Mureş river system down to the Hungarian Border and on into the Tisa River. The model takes into account the dilution, mixing and physical-chemical processes affecting metals, ammonia and cyanide in the river system and gives estimates of concentrations at key locations along the river, including at the Hungarian Boarder and in the Tisa after the Mureş joins it.



Because of dilution and dispersion in the river system, and of the initial EU BAT-compliant technology adopted for the project (for example, the use of a cyanide destruct process for tailings effluent that reduces cyanide concentration in effluent stored in the TMF to below 6 mg/l), even a large scale unprogrammed release of tailings materials (for example, following failure of the dam) into the river system would not result in transboundary pollution. The model has shown that under worse case dam failure scenario all legal limits for cyanide and heavy metals concentrations would be met in the river water before it crosses into Hungary.

The INCA model has also been used to evaluate the beneficial impacts of the existing mine water collection and treatment and it has shown that substantial improvements in water quality are achieved along the river system under normal operational conditions.

For more information, an information sheet presenting the INCA modeling work is presented under the title of the Mureş River Modeling Program and the full modeling report is presented in Annex 5.1:

- Development of HCN on the tailings pond surface. Simulated emissions of HCN from the Tailings Management Facility pond surface and of their dispersion into the ambient air show that the level of 400µ g/m<sup>3</sup> hourly average and 179µ g/m<sup>3</sup> 8hr average will not be exceeded. These HCN concentrations are only slightly over the odor threshold (0.17ppm) and much below potentially dangerous concentrations;

- Cetate Dam break and breach development. Flood modeling was in case of a break in Cetate dam was based on the design parameters obtained from the hydrometeorological study "Assessment of rainfall intensity, frequency and runoff for the Roşia Montană Project - Radu Drobot". The breach characteristics were predicted using the BREACH model, and the maximum height of the flood wave in various flow sections was modeled using the FLDWAV software. The assumptions included a total 800000 m<sup>3</sup> discharge for one hour, when the peak of the flood hydrograph is about 4.9 m above base flow immediately below the dam and in the narrow Abrud valley 5.9-7,5 km downstream of the dam, while in the last section considered (10,5 km) water depth is about 2.3 m above base flow and the maximum flow rate 877 m<sup>3</sup>/s. Further, the broader Aries valley allows the flood wave to propagate on a significantly wider bed, which results in a highly attenuated hydrograph. These results describe the "worst case scenario" based on extreme dam break assumptions:

- Accidents during cyanide transportation. Due to the large quantities of cyanide transported (about 30t /day) the risks associated to this activity were assessed in detail using the ZHA- Zurich Hazard Analysis method. As a consequence, the optimum transport route was selected from the manufacturer to the Process Plant, e.g.;

- Cyanide transport (in solid state) will exclusively involve special SLS (Solid to Liquid System) containers, 16 tons each. The ISO compliant container will be protected by a framework with legs, which allows separation from the transport trailer for temporary storage. The wall is 5.17 mm thick, which, together with the protective framework, provides additional protection to the load in case of accident. This system is considered BAT and is currently one of the safest cyanide transportation options.

It is being mentioned the fact that the study develops the occurrence possibility of these scenarios (pages 166-171, Conclusions).

As regards the cyanides management, there is a baseline study named "Roşia Montană Golden Project, Cyanides Management Plan" prepared in compliance with the "International Management Code for the Manufacture, Transport and Use of Cyanide in the Production of Gold (International Cyanide management Institute) May 2002". S.C. Roşia Montană Gold Corporation is signatory to this code.

Bibliographical references for Chapter 7 "Risk Cases" are listed at page173-176.

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RMGC's closure estimates, which were developed by a team of independent experts with international experience and will be reviewed by third party experts, are based on the assumption that the project can be completed according to the plan, without interruptions, bankruptcy or the like They are engineering calculations and estimates based on the current commitments of the closure plan and are summarized in the EIA's Mine Closure and Rehabilitation Management Plan (Plan J in the EIA). Annex 1 of Plan J will be updated using a more detailed approach looking at every individual year and calculating the amount of

surety, which must be set aside year by year to rehabilitate the mine before RMGC is released from all its legal obligations. Most importantly, the current estimates assume the application of international best practice, best available technology (BAT) and compliance with all Romanian and European Union laws and regulations.

Closure and rehabilitation at Roşia Montană involves the following measures:

- Covering and vegetating the waste dumps as far as they are not backfilled into the open pits;
- Backfilling the open pits, except Cetate pit, which will be flooded to form a lake;
- Covering and vegetating the tailings pond and its dam areas;
- Dismantling of disused production facilities and revegetation of the cleaned-up areas;
- Water treatment by semi-passive systems (with conventional treatment systems as backup) until all effluents have reached the discharge standards and need no further treatment;
- Maintenance of the vegetation, erosion control, and monitoring of the entire site until it has been demonstrated by RMGC that all remediation targets have been sustainably reached.

While the aspects of closure and rehabilitation are many, we are confident in our cost estimates because the largest expense—that incurred by the earthmoving operation required to reshape the landscape—can be estimated with confidence. Using the project design, we can measure the size of the areas that must be reshaped and resurfaced. Similarly, there is a body of scientific studies and experiments that enable scientists to determine the depth of soil cover for successful re-vegetation. By multiplying the size of the areas by the necessary depth of the topsoil by the unit rate (also derived from studying similar earthmoving operations at similar sites), we can estimate the potential costs of this major facet of the rehabilitation operation. The earthmoving operation, which will total approximately US \$65 million, makes up 87% of closure and rehabilitation costs.

Also, the necessity of additional technological measures to stabilize and reshape the tailings surface will be discussed in the update of the Economical Financial Guarantee (EFG) estimate, which leads to an increase the provisions for tailings rehabilitation, especially if the TMF is closed prematurely and no optimized tailings disposal regime is applied. The exact figures depend on the details of the TMF closure strategy which can be finally determined only during production.

We believe that—far from being too low—our cost estimates are evidence of our high level of commitment to closure and rehabilitation. Just as a comparison, the world's largest gold producer has set aside US \$683 million (as of December 31, 2006) for the rehabilitation of 27 operations, which equates to US \$25 million on average per mine. The RMGC closure cost estimates, recently revised upward from the US \$73 million reported in the EIA based on additional information, currently total US \$76 million.

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According to Law 5/2000, regarding the approval of the Territory Arrangement Plan – 3<sup>rd</sup> Section – protected areas (“Law 5/2000”) (article 5, paragraphs 2-3), local public authorities, with the support of the competent central public authorities, had the obligation to establish the boundaries of the protection areas for the cultural heritage elements stipulated in Annex III to the above-mentioned law. This measure should have been taken within 12 months from the effective date of Law 5/2000, based on specialized studies. For this purpose, the local public authorities had to prepare the town planning documentation and its related regulations, developed and approved according to the law. This documentation must comprise the necessary protection and conservation measures for the national cultural heritage elements located in this area.

Concurrently, Law 350/2001 on the territory arrangement and urbanism stipulates the right of legal or natural persons interested in arranging the territory, to initiate the development of urbanism plans.

In accordance with these legal provisions, in 2001, RMGC initiated the preparation of these specific town-planning documentations - the General Urbanism Plan and the Zonal Urbanism Plan. These plans have been developed by Romanian certified companies and followed the legal approval procedure. The permit for the establishment of the Roşia Montană Historical Centre Protected Area was issued by the Ministry of Culture and Religious Affairs in 2002 (permits no. 61/14.02.2002 and no. 178/20.06.2002) as part of the procedure for the approval of the town planning documentation. Based on these permits, the Ministry of Culture and Religious Affairs requested the company to develop a Zonal Urbanism Plan for the

Historical Centre of Roşia Montană. Out of the 41 historical buildings in Roşia Montană, thirty-five (35) are located inside the protected area of the Roşia Montană Historical Centre.

As for the heritage elements located in the future industrial development area (6 historical buildings), these are discussed in the Industrial Zonal Urbanism Plan prepared by SC Proiect Alba SA. The regulations included in this document will contain measures for the protection of these monuments.

In conclusion, the town planning studies and the specialized studies conducted for the purpose of establishing the boundaries of the protection areas within the future mining operations perimeter are currently pending approval, in accordance with the legal provisions, by the competent institutions and committees. Please note that none of the historical houses located in the perimeter of the proposed project will be affected; on the contrary, all the 41 historic buildings will be included in a complex restoration and rehabilitation program (see the Management Plan). This program is mandatory, regardless of the implementation of the mining project, if we want to prevent these buildings from collapsing because of their advanced degradation.

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Your assertion regarding the failure to obtain an applicable urbanism certificate at the start up of the public debates and of the evaluation of the quality of the report to the environmental impact assessment, is not correct.

Thus, by the time when the public debate stage started up there was an applicable urbanism certificate and namely the urbanism certificate no. 78/26.04.2006 issued by Alba County Council. This certificate was obtained prior to the evaluation stage of the quality of the report to the environmental impact assessment which started up once the EIA was submitted to the Ministry of Environment and Water Management on the 15<sup>th</sup> May 2006.

For better understanding the applicable legal provisions and the facts developed within the mining project of Roşia Montană zone we would like to make several comments:

- The procedure for issuing the environmental permit for Roşia Montană project started up on the 14<sup>th</sup> December 2004 by submitting the technical memorandum and the urbanism certificate no.68/26.August 2004 (certificate applicable by that time). S.C. Roşia Montană Gold Corporation S.A. (RMGC) applied for and obtained a new urbanism certificate no.78/26.04.2006 issued by Alba County Council for the entire Roşia Montană Project applicable on the date of the EIA Report submission (15<sup>th</sup> May 2006) and prior to the public debate start up (June 2006);
- The Section 1 of the urbanism certificate no.78 of 26<sup>th</sup> 04.2006 entitled Work construction, position 10 – “Processing plant and associated constructions “ – including the tailing management facility which existence is compulsory for the processing plant running. The Tailing management facility is also specified on the layout plans which are integral part of the urbanism certificate and they were sealed by Alba County Council so that they cannot be modified;
- The Urbanism Certificate is an informative document and its goal is only to inform the applicant about the legal, economic and technical regime of the existing lands and buildings and to establish the urbanism requirements and the approvals necessary to obtain the construction permit (including the environmental permit) as per art.6 of Law 50/1991 referring to the completion of construction works, republished and art 27 paragraph 2 of the Norms for the application of Law 50/1991 – Official Journal 825 bis/13.09.2005).

As it is an informative document, it does not limit the number of certificates an applicant may obtain for the same land plot ( art. 30 of Law no. 350/2001 regarding the territorial planning and urbanism).

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Introduced as part of the Environmental Impact Assessment Report Study (EIA), the Roşia Montană Foundation is shifting in focus. The Community Sustainable Development Plan activities initially conceived as coming under the Foundation umbrella (business oriented activities: business incubator, business advisory center, micro-finance facility, as well as social oriented activities: education and training center) have been advanced independently, via partnerships and with community participation in decision-making – a preferable way to advance social and economic development programs.

Going forward, the Foundation will take shape around preservation, patrimony and cultural heritage issues, with its final form determined in consultation with the community.

In terms of the philosophy that guides the company's Sustainable Development efforts, the Roșia Montană Gold Corporation (RMGC) sees itself not as principal provider, but as a partner. Community involvement is considered the starting point; over time, as the community builds the capacity to maintain programs in its own right, the company will turn over control of currently-established programs to the community and its institutions.

For more information, please see Roșia Montană Sustainable Development and the Roșia Montană Project – annex 4.

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We underline the fact that your statement is false. The General Urbanism Plan for the Roșia Montană commune, endorsed in 2002 allows the development of Roșia Montană project, as it has been presented during the public consultations.

Concurrently, pursuant to the provisions of art. 41, paragraph 2, from the Mining Law no.85/2003, the authorities from the local administration have the liability to adjust and/or update the territory arrangement plans and the general urbanism plans, in order to allow the development of all operations necessary for the development of mining activities.

RMGC has also initiated the preparation of two zonal urbanism plans: Zonal Urbanism Plan Modification – Roșia Montană Industrial Area and Zonal Urbanism Plan – Roșia Montană Historical Area. The first urbanism plan is required by the urbanism certificate no.78/26.04.2006, which updates the Zonal Urbanism Plan for the Industrial Area approved in 2002. As far as the historical area is concerned, its Zonal Urbanism Plan is required by the General Urbanism Plan approved also in 2002. Both urbanism plans are pending approval and have been subject to public consultations.

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An engineered liner is included in the design of the Tailings Management Facility (TMF) basin. Specifically, the Roșia Montană Tailings Management Facility (TMF or “the facility”) has been designed to be compliant with the EU Groundwater Directive (80/68/EEC), transposed as Romanian GD 351/2005. The TMF is also designed for compliance with the EU Mine Waste Directive (2006/21/EC) as required by the Terms of Reference established by the MEWM in May, 2005. The following paragraphs provide a discussion of how the facility is compliant with the directives.

The TMF is composed of a series of individual components including:

- the tailings impoundment;
- the tailings dam;
- the secondary seepage collection pond;
- the secondary containment dam; and
- the groundwater monitoring wells/extraction wells located downstream of the Secondary Containment dam.

All of these components are integral parts of the facility and necessary for the facility to perform as designed.

The directives indicated above require that the TMF design be protective of groundwater. For the Roșia Montană project (RMP), this requirement is addressed by consideration of the favorable geology (low permeability shales underlying the TMF impoundment, the TMF dam and the Secondary Containment dam) and the proposed installation of a low-permeability ( $1 \times 10^{-6}$  cm/sec) recompacted soil liner beneath the TMF basin. Please see Chapter 2 of EIA Plan F, “The Tailings Facility Management Plan” for more information.

The proposed low permeability soil liner will be fully compliant with Best Available Techniques (BAT) as

defined by EU Directive 96/61 (IPPC) and EU Mine Waste Directive. Additional design features that are included in the design to be protective of groundwater include:

- A low permeability ( $1 \times 10^{-6}$  cm/sec) cut off wall within the foundation of the starter dam to control seepage;
- A low permeability ( $1 \times 10^{-6}$  cm/sec) core in the starter dam to control seepage;
- A seepage collection dam and pond below the toe of the tailings dam to collect and contain any seepage that does extend beyond the dam centerline;
- A series of monitoring wells, below the toe of the secondary containment dam, to monitor seepage and ensure compliance, before the waste facility limit.

In addition to the design components noted above specific operational requirements will be implemented to be protective of human health and the environment. In the extremely unlikely case that impacted water is detected in the monitoring wells below the secondary containment dam, they will be converted to pumping wells and will be used to extract the impacted water and pump it into the reclaim pond where it will be incorporated into the RMP processing plant water supply system, until the compliance is reestablish.

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- the tailings dam;
- the secondary seepage collection pond;
- the secondary containment dam; and
- the groundwater monitoring wells/extraction wells located downstream of the Secondary Containment dam.

All of these components are integral parts of the facility and necessary for the facility to perform as designed.

The directives indicated above require that the TMF design be protective of groundwater. For the Roşia Montană project (RMP), this requirement is addressed by consideration of the favorable geology (low permeability shales underlying the TMF impoundment, the TMF dam, and the Secondary Containment dam) and the proposed installation of a low-permeability ( $1 \times 10^{-6}$  cm/sec) recompacted soil liner beneath the TMF basin. Please see Chapter 2 of EIA Plan F, “The Tailings Facility Management Plan” for more information.

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- A low permeability ( $1 \times 10^{-6}$  cm/sec) cut off wall within the foundation of the starter dam to control seepage;
- A low permeability ( $1 \times 10^{-6}$  cm/sec) core in the starter dam to control seepage;
- A seepage collection dam and pond below the toe of the tailings dam to collect and contain any seepage that does extend beyond the dam centerline;
- A series of monitoring wells, below the toe of the secondary containment dam; to monitor seepage and ensure compliance, before the waste facility limit.

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pumping wells and will be used to extract the impacted water and pump it into the reclaim pond where it will be incorporated into the RMP processing plant water supply system, until the compliance is reestablish.

With respect to your comments made as regards a presumptive infringement of the provisions of Government Decision No.351/2005 (“GD 351/2005”), there are several aspects to be taken into consideration. Thus:

1. Firstly, please note that, according to the provisions of art. 6 of GD 351/2005, any activity that might determine the discharge of dangerous substances into the environment is subject to the prior approval of the water management authorities and shall comply with the provisions of the water permit issued in accordance with the relevant legislation.

The GD 351/2005 provides that the water permit shall be issued only after all technical-construction measures are implemented as prevent the indirect discharge of dangerous substances into the underground waters. The maximum discharge limits are expressly provided under GD 351/2005 and compliance with such is a condition for granting and maintaining the water permit.

In accordance with the provisions of GD 351/2005, the actual discharge limits should be authorized by the relevant authority, such process being understood by the lawmaker in consideration of the complexity and variety of industrial activities, as well as the latest technological achievements.

Therefore, please note that the EIA stage is not intended to be finalized into an overall comprehensive permit, but it represents only a part of a more complex permitting process. Please note that, according with art. 3 of GD 918/2002, the data’s level of detail provided in the EIA is the one available in the feasibility stage of the project, obviously making impossible for both the titleholder and authority to exhaust all required technical data and permits granted.

The adequate protection of the ground water shall be ensured by the terms and conditions of the water permit. The issuance of the water permit shall be performed following an individual assessment of the project, considering its particular aspects and the relevant legal requirements applicable for mining activities. Until the water permit is obtained, any allegation regarding the infringement of GD 351/2005 is obviously premature mainly because the water permit shall regulate, in accordance with the relevant legal provisions, the conditions to be observed by the developer as regards the protection of the ground water;

2. Secondly, kindly note that the complexity and specificity of mining projects generated the need of a particular legal framework. Therefore, for such projects, the reading of the legal provisions of a certain enactment should be corroborated with the relevant provisions of the other regulations applicable.

In this respect, please not that the understanding of GD 351/2005 must be corroborated with the provisions of the entire relevant legislation enforceable as regards Roşia Montană Project, with a particular accent to Directive 2006/21/EC on the management of waste from the extractive industries (“Directive 21”).

The very scope of Directive 21 is to provide a specific legal framework for the extractive wastes and waste facilities related to mining projects, considering the complexity of such projects and the particular aspects of mining activities that can not always be subject to the common regulations on waste management and landfill.

From this perspective, Directive 21 provides that, an operator of a waste facility, as such is defined thereunder (please note that the TMF proposed by RMGC is considered a “waste facility” under Directive 21), must inter alia, ensure that:

- a) *“the waste facility is [...]designed so as to meet the necessary conditions for, in the short and long-term perspectives, preventing pollution of the soil, air, groundwater or surface water, taking into account especially Directives 76/464/EEC (1), 80/68/EEC (2) and 2000/60/EC, and ensuring efficient collection of contaminated water and leachate as and when required under the permit, and reducing erosion caused by water or wind as far as it is technically possible and economically viable;”*
- b) *“the waste facility is suitably constructed, managed and maintained to ensure its physical stability and to prevent pollution or contamination of soil, air, surface water or groundwater in the short and long-term*

*perspectives as well as to minimize as far as possible damage to landscape.”*

In addition, it should be mentioned that RMGC was required by MWEM under the Terms of Reference, to perform the EIA considering the provisions of Directive 21 and the BAT Management of Mining Waste. The Directive 21 was intended by the EU DG of Environment to be the legislative regime applicable to sound management of mining waste throughout Europe and therefore compliance with its provisions is mandatory.

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Information regarding our Environmental Financial Guarantee (“EFG”) is fully discussed in the section of the Environmental Impact Assessment titled “Environmental and Social Management and System Plans” (Annex 1 of the subchapter titled “Mine Rehabilitation and Closure Management Plan”). The EFG is updated annually and will always reflect the costs associated with reclamation. These funds will be held in protected accounts at the Romanian state disposal.

Roşia Montană Gold Corporation (“RMGC”) has invested significant time, energy, and resources assessing the viability of a mining project in the valley of Roşia Montană. This assessment has led RMGC to conclude that Roşia Montană presents an attractive long-term development opportunity – an opinion confirmed by a variety of lending institutions, who have completed detailed reviews of the project’s design and profitability. We have every confidence that we will see the project through to the end of its projected 16-year lifespan, regardless of any fluctuations in the market price of gold.

In Romania, the creation of an EFG is required to ensure adequate funds are available from the mine operator for environmental cleanup. The EFG is governed by the Mining Law (no. 85/2003) and the National Agency for Mineral Resources instructions and Mining Law Enforcement Norms (no. 1208/2003).

Two directives issued by the European Union also impact the EFG: the Mine Waste Directive (“MWD”) and the Environmental Liability Directive (“ELD”).

The Mine Waste Directive aims to ensure that coverage is available for 1) all the obligations connected to the permit granted for the disposal of waste material resulting from mining activities and 2) all of the costs related to the rehabilitation of the land affected by a waste facility. The Environmental Liability Directive regulates the remedies, and measures to be taken by the environmental authorities, in the event of environmental damage created by mining operations, with the goal of ensuring adequate financial resources are available from the operators for environmental cleanup efforts. While these directives have yet to be transposed by the Romanian Government, the deadlines for implementing their enforcement mechanisms are 30 April 2007 (ELD) and 1 May 2008 (MWD) – thus before operations are scheduled to begin at Roşia Montană.

RMGC has already begun the process of complying with these directives, and once their implementation instruments are enacted by the Romanian Government, we will be in full compliance.

Each EFG will follow detailed guidelines generated by the World Bank and the International Council on Mining and Metals.

The current projected closure cost for Roşia Montană is US \$76 million, which is based on the mine operating for its full 16-year lifespan. The annual updates will be completed by independent experts, carried out in consultation with the NAMR, as the Governmental authority competent in mining activities field. These updates will ensure that in the unlikely event of early closure of the project, at any point in time, each EFG will always reflect the costs associated with reclamation. (These annual updates will result in an estimate that exceeds our current US \$76 million costs of closure, because some reclamation activity is incorporated into the routine operations of the mine.)

A number of different financial instruments are available to ensure that RMGC is capable of covering all of the expected closure costs. These instruments, which will be held in protected accounts at the Romanian state disposal, include:

- Cash deposit;

- Trust funds;
- Letter of credit;
- Surety bonds;
- Insurance policy.

Under the terms of this guarantee, the Romanian government will have no financial liability in connection with the rehabilitation of the Roşia Montană project.

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The Security Report has been made available for public access by being posted at the following Internet address [http://www.mmediu.ro/dep\\_mediu/rosia\\_montana\\_securitate.htm](http://www.mmediu.ro/dep_mediu/rosia_montana_securitate.htm) as well as through the printed version which could have been found at several information locations established for public hearings.

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The Report on the Environmental impact assessment study (EIA) considered all alternative developments, including the option of not proceeding with any project – an option that would generate no investment, allowing the existing pollution problems and socio-economic decline to continue (Chapter 5 – *Assessment of Alternatives*).

The report also considered alternative developments – including agriculture, grazing, meat processing, tourism, forestry and forest products, cottage industries, and flora/fauna gathering for pharmaceutical purposes – and concluded that these activities could not provide the economic, cultural and environmental benefits brought by the Roşia Montană Project (RMP).

Chapter 5 also examines alternative locations for key facilities as well as alternative technologies for mining, processing and waste management, in line with best practice and as compared against published EU best available techniques (BAT) documentation.

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The impact on protected flora and fauna will exist only locally, but this impact will not lead to the loss of any specie. The Project has been designed even from the beginning to fully comply with the requirements and norms imposed by Romanian and European environmental legislation.

The company believes the fact that the project impact on environment remains significant, especially because covers previous impacts. But, the investments required to ecologically restore/rehabilitate Roşia Montană area in order to address current complex environmental issues, are only achievable following the implementation of some economic projects that will generate and warrant implementation of some direct and responsible actions as a component of base principles of sustainable development concepts. Clean processes and technologies may be developed only in the presence of a solid economic environment fully compliant with the environment that will also resolve previous impacts of anthropic activities.

The base documents of the Project are in fact an unbiased reason of its implementation, considering the highly complex environmental commitment within Roşia Montană area.

Some of the Roşia Montană species that are under a certain protection status stand for an insignificant percentage of the scale of populations estimated at national level. The characterization of species from their habitat point of view exists in the species tables presented in the Biodiversity Chapter of the EIA Report and its annexes, although this is not a requirement imposed by the Habitats Directive. Due to their large volume of information, the annexes of chapter 4.6 Biodiversity can be found in the electronic version of the EIA disclosed by the company both in Romanian and English through approx. 6,000 DVD/CD copies, being accessible on the company website, and on the websites of Ministry of Environment and Water Management, local and regional environmental protection agencies of Alba, Sibiu, Cluj, etc.

From practical point of view, the low value of conservation of the impact area is also indirectly emphasized by the fact that there is no proposal to designate the area a SPA (aviafaunistic special protected area) and by the denial as unfounded of the proposal to designate the area as a pSCI area (sites of community



importance).

Taking all these into account, we believe that the proposed Project is compliant with the provisions of EU Directive no. 92/43 Habitats[1], and EU Directive no. 79/409 Birds[2] respectively, especially because within Biodiversity Management Plan, Plan H, several active and responsible measures are provided to reconstruct/rehabilitate several natural habitats, pursuant to the provisions of the same documents [3].

References:

[1] art.3, 2nd paragraph, Each Member State shall contribute to the creation of Natura 2000 (network) in proportion to the representation within its territory of the natural habitat types and the habitats of species referred to in paragraph 1. To that effect each Member State shall designate, in accordance with Article 4, sites as special areas of conservation taking account of the objectives set out in paragraph 1.

art.4, 1st paragraph. On the basis of the criteria set out in Annex III (Stage 1) and relevant scientific information, each Member State shall propose a list of sites indicating which natural habitat types in Annex I and which species in Annex II that are native to its territory the sites host. For animal species ranging over wide areas these sites shall correspond to the places within the natural range of such species which present the physical or biological factors essential to their life and reproduction. For aquatic species which range over wide areas, such sites will be proposed only where there is a clearly identifiable area representing the physical and biological factors essential to their life and reproduction. Where appropriate, Member States shall propose adaptation of the list in the light of the results of the surveillance referred to in Article 11. [...]

2nd paragraph.[...] Member States whose sites hosting one or more priority natural habitat types and priority species represent more than 5 % of their national territory may, in agreement with the Commission, request that the criteria listed in Annex III (Stage 2) be applied more flexibly in selecting all the sites of Community importance in their territory.[...]

Art. 6, 4th paragraph. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Art. 16. Provided that there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range, Member States may derogate from the provisions of Articles 12, 13, 14 and 15 (a) and (b):[...]

- in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment;

[2] Art.4, 1st paragraph. The species mentioned in annex 1 shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution. [...]

Trends and variations in population levels shall be taken into account as a background for evaluations. Member states shall classify in particular the most suitable territories in number and size as special protection areas for the conservation of these species, taking into account their protection requirements in the geographical sea and land area where this directive applies.

[3] Directive 92/43 Habitats, art. 2, 2nd paragraph; Directive 79/409 Birds, art. 3, 2nd paragraph, letter c.

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This statement is ungrounded, because the environmental impact assessment (EIA) process has included preliminary cumulative estimates for stationary motorized equipment and linear (vehicular) sources were prepared in order to provide an initial understanding of the potential cumulative noise and vibration

impacts from background and Roşia Montană Project sources, and to guide future monitoring and measurement activities as well as the selection of appropriate Best Management Practices/Best Available Techniques for further mitigation of the potential noise and vibration impacts from Project activities. These preliminary estimates apply to major construction activities, as well as the operation and decommissioning/closure of the mine and process plant. They are documented as data tables and isopleth maps for major noise-generating activities in selected, representative Project years; see **Tables 4.3.8 through 4.3.16** and **Exhibits 4.3.1 through 4.3.9**. All these details related to the applied assessment methodology, the input data of the dispersion model, the modeling results and the measures established for the prevention/mitigation/elimination of the potential impact for all project stages (construction, operation, closure) are included in Chapter 4, Section 4.3 Noise and Vibrations of the EIA Report.

Project Years 0, 9, 10, 12, 14, and 19 were selected for modeling because they are considered to be representative of the most significant levels of noise-generating activity. They are also the same years used for air impact modeling purposes in Section 4.2, as air and noise impacts share many of the same sources or are otherwise closely correlated. In order to more accurately reflect potential receptor impacts, all of these exhibits integrate the background traffic estimates discussed in Section 4.3.6.1.

The Project site plan and process plant area and facility drawings were used to establish the position of the noise sources and other relevant physical characteristics of the site. Receptor locations were established using background reports and project engineering and environmental documentation provided by RMGC. With this information, the source locations and receptor locations were translated into input (x, y, and z) co-ordinates for the noise-modeling program.

**Tables 4.3.8 through 4.3.16** and **Exhibits 4.3.1 through 4.3.9** present the average maximum noise values likely to be experienced by the receptor community over all Project phases after incorporation of a variety of initial mitigation measures designed specifically to reduce the impacts associated with mobile and stationary machinery sources. The influence of non-mining related background (primarily traffic) noise is also included.

To evaluate the sound levels associated with haul trucks and other mobile sources crossing the site carrying excavated ore, waste rock, and soil, a noise analysis program based on the (U.S.) Federal Highway Administration's (FHWA) standard RD-77-108 [1] model was used to calculate reference noise emissions values for heavy trucks along the project roadways. The FHWA model predicts hourly  $L_{eq}$  values for free-flowing traffic conditions and is generally considered to be accurate within 1.5 decibels (dB).

The model is based on the standardized noise emission factors for different types and weights of vehicles (e.g., automobiles, medium trucks, and heavy trucks), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The emission levels of all three vehicle types increase as a function of the logarithm of their speed.

To evaluate the sound sources from the proposed mine processing facility and the semi-stationary material handling equipment (at the ore extraction, waste rock and soil stockpiling areas), a proprietary computerized noise prediction program was used by AAC to simulate and model the future equipment noise emissions throughout the area. The modeling program uses industry-accepted propagation algorithms based on the following American National Standards Institute (ANSI) and International Organization for Standardization (ISO) standards:

- *ANSI S1.26-1995 (R2004), Method for the Calculation of the Absorption of Sound by the Atmosphere;*
- *ISO 9613-1:1993, Acoustics -- Attenuation of sound during propagation outdoors-- Part 1: Calculation of the absorption of sound by the atmosphere;*
- *ISO 9613-2:1996, Acoustics -- Attenuation of sound during propagation outdoors -- Part 2: General method of calculation;*
- *ISO 3891:1978, Acoustics -- Procedure for describing aircraft noise heard on the ground.*

The calculations account for classical sound wave divergence (i.e., spherical spreading loss with adjustments for source directivity from point sources) plus attenuation factors due to air absorption, minimal ground effects, and barriers/shielding.

This model has been validated by AAC over a number of years via noise measurements at several operating

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industrial sites that had been previously modeled during the engineering design phases. The comparison of modeled predictions versus actual measurements has consistently shown close agreement; typically in the range of 1 to 3 dB (A).

References:

[1] FHWA Highway Traffic Noise Prediction Model; see Federal Highway Administration Report Number FHWA-RD-77-108, USA, Washington, D.C., 1978.

***A detailed presentation of blasting technology can be found in the annex 7.1 - Proposed blasting technology for the operational phase of Roșia Montană Project.***

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The partnership between Gabriel Resources and Regia Autonomă a Cuprului Deva (currently, CNCAF Minvest SA) has been established based on Law no. 15/1990 on the reorganization of the state owned companies as autonomous directions and trade companies, published in the Official Gazette, Section I, no. 98/08.08.1990, as subsequently amended and supplemented. Art. 35 of this law provides the possibility of the regies autonomous to enter into partnerships with legal third parties, Romanian or foreign, for the purpose of setting up new trading companies.

Roșia Montană Gold Corporation SA was set up in 1997, according to the legal provisions in force as at that time, the setting up being made by observing all the conditions imposed by Company Law no. 31/1990 and Trade Register Law no. 26/1990, in regard of the setting up of the joint stock companies with mixed capital.

We underline that the Articles of Associations of Roșia Montană Gold Corporation SA, representing the result of the parties agreement in regard of the terms and conditions under which the partnership between the Romanian state and investor takes place represents a public document, being included in the category of documents which, as per Law no. 26/1990 on the Trade Register, are published in the Romanian Official Gazette and for which the Trade Register is obliged to issue, on the expense of the persons submitting a request, certified copies.

As for the agreement concerning the setting up of the mixed company together with Gabriel Resources Ltd., this has been expressed by the Ministry of Industry and Trade, the conditions imposed by the setting up of the mixed company being the following: (i) ensuring of the jobs at the level existing upon the conclusion of the agreement concerning the setting up of the mixed company; (ii) the expenses incurred by the fulfillment of the exploration stage should be fully supported by Gabriel; (iii) the obtaining of the approval from the ANRM by the Copper Autonomous Direction Deva and (iv) the observance of all legal provisions in force concerning the setting up of the mixed companies with foreign partners. These conditions have been fully complied withy as at the setting up of the company and during the development of its activity.

We also specify that the establishing of the shareholders' quotas to the benefits and losses of Roșia Montană Gold Corporation SA has been made by considering their contribution quota to the company's share capital. The current percentage of 80% for Gabriel Resources Ltd. and of 19.31% for CNCAF Minvest SA resulted from the initial contribution and the subsequent contributions of the shareholders to the company's share capital, in consideration also of Gabriel Resources Ltd. advancing all expenses and costs related to the development-exploitation and permitting of the Roșia Montană Mining Project.

The provisions of the Articles of Associations of Roșia Montană Gold Corporation SA on the necessary majority and quorum conditions for the decision-making process within the General Shareholders Meeting and the quotas to the benefits and losses of the company are taken from Law no. 31/1990, and no derogation exists in regard of this aspect.

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This claim is not true; the Urbanism Plan has been prepared with public consultation.

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Roșia Montană Gold Corporation SA (RMGC) has requested and obtained from Alba County Council the

Urbanism Certificate no. 78 of 26.04.2006, for the entire Roşia Montană mining project, including the tailings management facility. The Urbanism Certificate also stipulated the preparation of a Zonal Urbanism Plan, to reflect all changes made to the Roşia Montană Project, following the public consultations and debates organized in relation to this project, and the consultations with the permitting authorities. This plan, entitled “Modification of the Zonal Urbanism Plan, Roşia Montană Industrial Area”, was prepared and subjected to public debate in June 2006 in accordance with the provisions of Order no.176/N/2000 issued by the Ministry of Public Works and Territory Development for the approval of the technical regulations “Guidelines regarding the methodology applied for the preparation and framework content of the Zonal Urbanism Plan” and, at present, it is pending approval.

Concerning the Roşia Montană General Urbanism Plan approved in 2002, such plan was prepared in parallel with the Zonal Urbanism Plan of 2002, all the provisions of the General Urbanism Plan being also included in the Zonal Urbanism Plan. Also, the approval procedure related to the two urbanism plans was carried out in parallel.

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Preventive archaeological researches within the Roşia Montană mining project area have been undertaken based on specific techniques, specifically trial trenches in all accessible areas that are suitable for human habitation, taking into account the bibliographical information and the observations recorded during the archaeological survey campaigns, the geophysical studies and the analyses of the photogrammetric flights. In addition, surface investigations were undertaken, where appropriate.

The archaeological researches at Roşia Montană covered a large surface and focused on the areas known to have archaeological potential. THEREFORE, ALL AREAS THAT HAVE BEEN ARCHAEOLOGICALLY DISCHARGED HAD BEEN PREVIOUSLY INVESTIGATED. All research programs, beginning with the 2004 campaign, have been undertaken in full compliance with the current legal requirements, i.e. Ministerial Order no. 2392 of 6 September 2004 on the establishment of the Archaeological Standards and Procedures by the Ministry of Culture and Religious Affairs.

The proposed gold mining project at Roşia Montană has raised a series of issues related to the rescue of the historical-archaeological heritage within the area, as well as issues related to its scientific development and also the enhancement of heritage within a museum. Given the complex difficulties encountered in this respect, the Ministry of Culture and Religious Affairs decided to initiate the “Alburnus Maior” National Research Program.

The company’s role was to provide the necessary financial resources for the assessment, research and enhancement of the archaeological remains, in full compliance with the Romanian current legislation. The development of the research and of the archaeological discharge works has been conducted through specific means and methodologies that have been adjusted to the realities of every site researched, in our case, Roşia Montană. They consisted in:

- Archives studies;
- Archaeological surveys; trial trenches;
- aerial reconnaissance/survey and aerial photo interpretation ; high resolution satellite images;
- mining archaeology studies; underground topography and 3D modeling;
- geophysical surveys;
- extensive archaeological investigations in the areas with an identified archaeological potential- this implied carrying out archaeological excavations;
- Interdisciplinary studies- sedimentology, archaeo-zoology, comparative palynology, archaeo-metallurgy, geology, mineralogy;
- Radiocarbon dating and dendrochronology;
- This research and its results were included in an integrated database;
- traditional and digital archaeological topography and development of the GIS project; generate a photo archive- both traditional and digital;
- restoration of artifacts;
- an inventory and a digital catalogue of the artifacts;
- studies conducted by specialists in order to enhance the research results - publication of monographs/scientific books and journals, exhibitions, websites, etc.

All the preventive archaeological researches undertaken at Roşia Montană since 2000 have been carried out as part of a complex research program; permits for preventive archaeological excavations being issued in compliance with the current legislation. These archaeological investigations have been undertaken by representatives of 21 specialized institutions from Romania and 3 others from abroad, under the scientific coordination of the Romanian National Museum of History. All archaeological researches have been conducted in full compliance with the existing legislation. The investigations undertaken during each archaeological research campaign have been approved by the Ministry of Culture and Religious Affairs based on the Annual Archaeological Research Plan approved by the National Commission of Archaeology.

Under the current legislation (Ministerial Order no. 2392 of 6 September 2004 on the establishment of the Archaeological Standards and Procedures by the Ministry of Culture and Religious Affairs) the archaeologists who have conducted the research may ask that an archaeological discharge certificate be granted. Based on a complex research program, the archaeologists prepare comprehensive documentation with regard to the researched area. Upon consideration of the submitted documentation, the National Commission of Archaeology makes a decision as to whether to recommend or not the granting of the archaeological discharge certificate. In the case of the research conducted in the period 2001-2006, the archaeological discharge certificate was issued directly by the Ministry of Culture and Religious Affairs or by its local agencies.

Preventive archaeological researches at Roşia Montană have allowed the research of five Roman cremation necropolis (Tău Corna, Hop-Găuri, Țarina, Jig - Piciorag and Pârâul Porcului – Tăul Secuilor), two funerary areas (Carpeni, Nanului Valley), sacred areas (Hăbad, Nanului Valley), habitation areas (Hăbad, Carpeni, Tăul Țapului, Hop), the most significant being the Roman structures on the Carpeni Hill and the circular funerary monument at Tău Găuri. In addition, for the first time in Romania, surface investigations have been paralleled by underground investigations of Cetate, Cârnic, Jig and Orlea massifs, with important discoveries in the Piatra Corbului, area, Cătălina-Monulești gallery and the Păru Carpeni mining sector.

The research consisted of aerial photo interpretation, archaeological magnetometric studies, electrical resistivity, palynology, sedimentology, geology studies, radiocarbon and dendrochronology dating. For a better management of the research units and of the archaeological findings, data bases were used, including text and photographs-among which 4 satellite images (an archive satellite image type SPOT Panchromatic (10m) from 1997; 2 satellite images LANDSAT 7 MS (30 m), dating from 2000 and 2003; a satellite image with priority programming SPOT 5 SuperMode color (2,5 m resolution-19 July 2004); all data have been included in a comprehensive GIS program, a first in the Romanian archaeological research.

In the case of archaeological monuments that are located close to industrial facilities, plans have been redesigned to ensure that the archaeological remains in question will not be affected. Where appropriate, the archaeological monument was preserved in situ and restored, i.e. the circular funerary monument at Hop-Găuri (see The "Alburnus Maior" monograph series, volume II, Bucharest, 2004). Another example in this respect is the Carpeni Hill, designated an "archaeological " reserve, and the Piatra Corbului area. In 2004, after being thoroughly investigated, these areas have been included on the List of Historic Monuments. Add to this the areas where ancient mining remains will be preserved, such as the Cătălina Monulești gallery and the mining sector Păru Carpeni, as well as the protected area Roşia Montană Historic Center, including a number of heritage assets (35 historic monument houses).

We emphasise in this respect that the identified and researched structures have been published in preliminary form in the Archaeological Research Chronicle of Romania, after every archaeological research campaign, as well as in volume 1 of the Alburnus Maior monographic series. We mention here the areas where Roman habitation structures have been identified and researched, as well as the references to be consulted for further information: Hop-Găuri, Carpeni, Tăul Țapului (CCA 2001 (2002), p. 254-257, no. 182; 261-262, nr. 185; 264-265, no. 188; 265-266, no. 189. Alburnus Maior I, 2003, p. 45-80; 81-122; 123-148; CCA 2001 (2002), 257-261; CCA 2003 (2004) ,280-283; Alburnus Maior I, 2003, p. 387-431, 433-446, 447-467).

For further details related to the applicable legal framework, the responsibilities of the Project titleholder, or for a detailed description of the preventive archaeological researches undertaken to date and of the Cultural Heritage Management Plans, please see Annex called "Information on the Cultural heritage of Roşia and Related Management Aspects". In addition, the annex includes supplementary information with

regard to the result of the researches undertaken as part of the “Alburnus Maior” National Research Program between 2001 and 2006.

In conclusion, the area mentioned by the questioner has been researched in accordance with the Romanian legal requirements, as well as with European standards and practices in the field.

Note that the type of research undertaken at Roşia Montană, known as preventive/rescue archaeological research, as well as other related heritage studies, are done everywhere in the world in close connection with the economic development of certain areas. Both the costs for the research and for the enhancement and maintenance of the preserved areas are provided by investors, in a public-private partnership set up in order to protect the cultural heritage, as per the provisions of the European Convention on the Protection of the Archaeological Heritage (Malta-1992) [1].

References:

[1]The text of the Convention is available at the following address:  
<http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=143&CM=8&DF=7/6/2006&CL=EN>

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In 2000, in the context of the proposal of a new mining project in the Roşia Montană area, the Ministry of Culture and Religious Affairs approved a series of studies to be conducted in order to research the archaeological and architectural heritage of the area. And at the end of that year, the Design Centre for National Cultural Heritage (now the National Institute for Historical Monuments) presented the preliminary results of these researches to the National Commission for Historical Monuments and of the National Commission of Archaeology. Based on these results, in 2001, the Ministry of Culture and Religious Affairs initiated the “Alburnus Maior” National Research Program (the Order no. 2504 / 07.03.2001 of the Minister of Culture and Religious Affairs) in compliance with the Law 378/2001 (as subsequently amended by Law 462/2003 and by Law 258/2006 and Law 259/2006). Thus, since 2000, the Ministry of Culture and Religious Affairs – directly or through its subordinate institutions - has fulfilled its duties with regard to the management of the issues related to Roşia Montană’s heritage.

Thus, the preventive archaeological researches have been conducted by the representatives of 21 national institutions and 3 others from abroad under the scientific coordination of the National Museum of History of Romania. They have been carried out based on the annual approval of the National Commission of Archaeology of the Ministry of Culture and Religious Affairs. In accordance with the legislation in force, this research program is carried out with the financial support provided by RMGC (the company that plans to expand and continue to mine the gold-silver deposit in Roşia Montană). Thus, large-scale preventive investigations have been conducted or are underway in the RMP impact area. A proposal will be made based on the results thereof either for the archaeological discharge of some researched perimeters from the project perimeter or the preservation *in situ* of certain representative structures and monuments, in compliance with the legislation in force. In the case of the areas proposed for conservation and the ones for which the archaeological discharge measure was applied, the decision was made based on the surveys conducted by specialists and on the analysis of the National Commission of Archaeology. In the period 2000-2005, the mining project underwent a series of modifications designed to promote the implementation of the decision regarding the conservation of the local heritage. Examples of these include: extending the duration of the field investigations on several years (e.g. Ţarina, Pârâul Porcului, Orlea) and changing the location of some elements of infrastructure in order to allow the conservation of the archaeological remains found in the Carpeni, Tău Găuri and Pietra Corbului areas.

**The architectural and town-planning surveys** have been conducted, in accordance with the legislation in force, by companies certified by the Ministry of Culture and Religious Affairs, while the town-planning documentations drafted by these companies and the restoration and conservation works undertaken so far have been approved by the National Commission for Historical Monuments. Thus, the town-planning documentations have been approved and implemented in accordance with current legislation, and the company has agreed to these decisions and modified the mine development plans accordingly:

**Extensive ethnographic research** was conducted in the Roşia Montană-Abrud-Corna area in the period 2001-2004 coordinated by a team of specialists for the Romanian Village Museum „Dimitrie Gusti” (a

National Museum directly under the coordination of the Ministry of Culture and Religious Affairs). Moreover, a broad series of oral history interviews was conducted in the period 2001-2002 by the Romanian Radio Broadcasting Company through the „Gheorghe Brătianu” Oral History Centre, Bucharest (SRR - CIO).

In compliance with the requirements of the Ministry of Environment and Waters Management and the Ministry of Culture and Religious Affairs, specific management plans have been drawn up for the management and conservation of the heritage remains from the Roșia Montană area, in the context of the implementation of the mining project. These plans have been included in the documentation prepared for the Report on the Environmental Impact Assessment Study. (see EIA Report, volume 32-33, *Plan M-Cultural Heritage Management Plan*, part I –*Management Plan for the Archaeological Heritage from Roșia Montană Area*; part II-*Management Plan for the Historical Monuments and Protected Zone from Roșia Montană*; part III- *Cultural Heritage Management Plan*).

These management plans comprise detailed presentations of the obligations and responsibilities regarding the protection and conservation of the heritage remains from the Roșia Montană area, which the company has assumed in the context of the implementation of the mining project, according to the decision of the central government. These heritage remains include: archaeological remains above and under the ground, historic buildings, protected areas, intangible heritage assets, cultural landscape items, etc. In this context, it should be noted that besides the works for the protection and preservation of the archaeological heritage, works are being carried out for the rehabilitation and conservation of the protected area Historical Centre Roșia Montană (comprising 35 historic buildings, and projects for the restoration of 11 of these buildings are currently being drafted), Tăul Mare, Tăul Brazi and Tăul Anghel as well as remains of the surface mining works from the Vaidoiaia area and the creation of a modern museum dedicated to the history of mining in the Apuseni Mountains area. This museum will be established in the coming years and it will include exhibitions of geology, archaeology, industrial and ethnographic heritage as well as an underground section organized around the Cătălina Monulești gallery.

Moreover, representatives of the Directorate for Culture, Religious Affairs and National Cultural Heritage of Alba County have visited Roșia Montană many times in order to collect information and to check the situation. The same administrative body was the intermediary for the specific stages of acquisitions of historic buildings made by RMGC. The Ministry of Culture and Religious Affairs expressed its pre-emption right regarding the acquisition of these buildings.

Note that apart from the obligations undertaken by RMGC as regards the protection and conservation of the archaeological remains and historical monuments, there are a whole series of obligations, which rest with the local public authorities from Roșia Montană and from Alba County and with the central public authorities, namely the Romanian Government.

These aspects are further detailed in the Cultural Heritage Management Plans included in the EIA Report (see EIA Report, volume 32, *Management Plan for the Archaeological Heritage from Roșia Montană Area*, pages 21-22, 47, 52-53, 66-67-Romanian version/ 22-24; 47; 55-56; 71-72 English version) and the EIA Report, volume 33- *Management Plan for the Historical Monuments and Protected Zone from Roșia Montană* pages 28-29, 48-50, 52-53, 64-65, page 98 – Annex 1- Romanian version/ 28-29; 47-50; 51-53; 65-66; 103- Annex 1- English version).

Item no. 1747

No. to identify the observations received from the public  
No.  
110755/  
25.08.2006

**Proposal**

The questioner opposes the proposed gold and silver mining project at Roşia Montană and makes the following observations and comments:

- The tailings pond is unlined and is a hazard for the town of Abrud, as there is the risk of a failure;
- Total costs for closing the mine are unrealistic;
- The Project poses a threat for protected flora and fauna;
- The phase of public consultation and quality evaluation of the impact assessment study report begun without a valid urbanism certificate;
- The company could not find an insurer for the mining project.
- The EIA report does not assess the "zero alternative";
- The EIA report does not include an assessment of the "cyanide rain" phenomenon.

An engineered liner is included in the design of the Tailings Management Facility (TMF) basin. Specifically, the Roşia Montană Tailings Management Facility (TMF or "the facility") has been designed to be compliant with the EU Groundwater Directive (80/68/EEC), transposed as Romanian GD 351/2005. The TMF is also designed for compliance with the EU Mine Waste Directive (2006/21/EC) as required by the Terms of Reference established by the MEWM in May, 2005. The following paragraphs provide a discussion of how the facility is compliant with the directives.

The TMF is composed of a series of individual components including:

- the tailings impoundment;
- the tailings dam;
- the secondary seepage collection pond;
- the secondary containment dam; and
- the groundwater monitoring wells/extraction wells located downstream of the Secondary Containment dam.

All of these components are integral parts of the facility and necessary for the facility to perform as designed.

**Solution**

The directives indicated above require that the TMF design be protective of groundwater. For the Roşia Montană project (RMP), this requirement is addressed by consideration of the favorable geology (low permeability shales underlying the TMF impoundment, the TMF dam and the Secondary Containment dam) and the proposed installation of a low-permeability ( $1 \times 10^{-6}$  cm/sec) recompacted soil liner beneath the TMF basin. Please see Chapter 2 of EIA Plan F, "The Tailings Facility Management Plan" for more information.

The proposed low permeability soil liner will be fully compliant with Best Available Techniques (BAT) as defined by EU Directive 96/61 (IPPC) and EU Mine Waste Directive. Additional design features that are included in the design to be protective of groundwater include:

- A low permeability ( $1 \times 10^{-6}$  cm/sec) cut off wall within the foundation of the starter dam to control seepage;
- A low permeability ( $1 \times 10^{-6}$  cm/sec) core in the starter dam to control seepage;
- A seepage collection dam and pond below the toe of the tailings dam to collect and contain any seepage that does extend beyond the dam centerline;
- A series of monitoring wells, below the toe of the secondary containment dam, to monitor seepage and ensure compliance, before the waste facility limit.

In addition to the design components noted above specific operational requirements will be implemented



to be protective of human health and the environment. In the extremely unlikely case that impacted water is detected in the monitoring wells below the secondary containment dam, they will be converted to pumping wells and will be used to extract the impacted water and pump it into the reclaim pond where it will be incorporated into the RMP processing plant water supply system, until the compliance is reestablish.

### **Proximity to Abrud**

The EIA describes how the dam will be built with rockfill materials, engineered drain and filter materials and a low permeability core to control seepage. The facility is being designed and engineered by MWH, one of the leading dam designers in the world. In addition, the feasibility level designs have been reviewed and approved by certified Romanian dam experts and by the Romanian National Committee for the Safety of Large Dams. Prior to operation, the dam must again be certified for operations by the National Commission for Dams Safety (CONSIB).

The Tailings Management Facility (TMF) dam is rigorously designed to incorporate all EU, Romanian and international criteria to reduce the risk of failure. These guidelines allow for significant rainfall events and prevent dam failure due to overtopping. Specifically, the facility has been designed to store for the run off from two Probable Maximum Precipitation (PMP) events. This is generally referred to as the Probable Maximum Flood (PMF). The design criterion for TMF includes storage for two PMF flood events, more rain than has ever been recorded in this area.

Additionally, an emergency spillway for the dam will be constructed in the unlikely event that the site rainfall exceeds two PMPs. The TMF design therefore very significantly exceeds required standards for safety. This has been done to ensure that the risks involved in using Corna valley for tailings storage are well below what is considered safe in every day life.

Section 7 of the EIA report includes an assessment and analysis of risks and includes various dam break scenarios. Specifically, the dam break scenarios were analyzed for a failure of the starter dam and for the final dam configuration. The dam break modeling indicates the extent of tailings runout for the specific conditions analyzed. Based on the two cases considered the tailings would not extend beyond the confluence of the Corna valley stream and the Abrud River.

However, the project recognizes that in the highly unlikely case of a dam failure that a Emergency Preparation and Spill Contingency Management Plan must be implemented. This plan was submitted with the EIA as Plan I, Volume 28.

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RMGC's closure estimates, which were developed by a team of independent experts with international experience and will be reviewed by third party experts, are based on the assumption that the project can be completed according to the plan, without interruptions, bankruptcy or the like. They are engineering calculations and estimates based on the current commitments of the closure plan and are summarized in the EIA's Mine Closure and Rehabilitation Management Plan (Plan J in the EIA). Annex 1 of Plan J will be updated using a more detailed approach looking at every individual year and calculating the amount of surety, which must be set aside year by year to rehabilitate the mine before RMGC is released from all its legal obligations. Most importantly, the current estimates assume the application of international best practice, best available technology (BAT) and compliance with all Romanian and European Union laws and regulations.

Closure and rehabilitation at Roșia Montană involves the following measures:

- Covering and vegetating the waste dumps as far as they are not backfilled into the open pits;
- Backfilling the open pits, except Cetate pit, which will be flooded to form a lake;
- Covering and vegetating the tailings pond and its dam areas;
- Dismantling of disused production facilities and revegetation of the cleaned-up areas;
- Water treatment by semi-passive systems (with conventional treatment systems as backup) until all effluents have reached the discharge standards and need no further treatment;
- Maintenance of the vegetation, erosion control, and monitoring of the entire site until it has been demonstrated by RMGC that all remediation targets have been sustainably reached.

While the aspects of closure and rehabilitation are many, we are confident in our cost estimates because the largest expense—that incurred by the earthmoving operation required to reshape the landscape—can be estimated with confidence. Using the project design, we can measure the size of the areas that must be reshaped and resurfaced. Similarly, there is a body of scientific studies and experiments that enable scientists to determine the depth of soil cover for successful re-vegetation. By multiplying the size of the areas by the necessary depth of the topsoil by the unit rate (also derived from studying similar earthmoving operations at similar sites), we can estimate the potential costs of this major facet of the rehabilitation operation. The earthmoving operation, which will total approximately US \$65 million, makes up 87% of closure and rehabilitation costs.

Also, the necessity of additional technological measures to stabilize and reshape the tailings surface will be discussed in the update of the Economical Financial Guarantee (EFG) estimate, which leads to an increase the provisions for tailings rehabilitation, especially if the TMF is closed prematurely and no optimized tailings disposal regime is applied. The exact figures depend on the details of the TMF closure strategy which can be finally determined only during production.

We believe that—far from being too low—our cost estimates are evidence of our high level of commitment to closure and rehabilitation. Just as a comparison, the world's largest gold producer has set aside US \$683 million (as of December 31, 2006) for the rehabilitation of 27 operations, which equates to US \$25 million on average per mine. The RMGC closure cost estimates, recently revised upward from the US \$73 million reported in the EIA based on additional information, currently total US \$76 million.

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The impact on protected flora and fauna will exist only locally, but this impact will not lead to the loss of any specie. The Project has been designed even from the beginning to fully comply with the requirements and norms imposed by Romanian and European environmental legislation.

The company believes the fact that the project impact on environment remains significant, especially because covers previous impacts. But, the investments required to ecologically restore/rehabilitate Roşia Montană area in order to address current complex environmental issues, are only achievable following the implementation of some economic projects that will generate and warrant implementation of some direct and responsible actions as a component of base principles of sustainable development concepts. Clean processes and technologies may be developed only in the presence of a solid economic environment fully compliant with the environment that will also resolve previous impacts of anthropic activities.

The base documents of the Project are in fact an unbiased reason of its implementation, considering the highly complex environmental commitment within Roşia Montană area.

Some of the Roşia Montană species that are under a certain protection status stand for an insignificant percentage of the scale of populations estimated at national level. The characterization of species from their habitat point of view exists in the species tables presented in the Biodiversity Chapter of the EIA Report and its annexes, although this is not a requirement imposed by the Habitats Directive. Due to their large volume of information, the annexes of chapter 4.6 Biodiversity can be found in the electronic version of the EIA disclosed by the company both in Romanian and English through approx. 6,000 DVD/CD copies, being accessible on the company website, and on the websites of Ministry of Environment and Water Management, local and regional environmental protection agencies of Alba, Sibiu, Cluj, etc.

From practical point of view, the low value of conservation of the impact area is also indirectly emphasized by the fact that there is no proposal to designate the area a SPA (aviafaunistic special protected area) and by the denial as unfounded of the proposal to designate the area as a pSCI area (sites of community importance).

Taking all these into account, we believe that the proposed Project is compliant with the provisions of EU Directive no. 92/43 Habitats[1], and EU Directive no. 79/409 Birds[2] respectively, especially because within Biodiversity Management Plan, Plan H, several active and responsible measures are provided to reconstruct/rehabilitate several natural habitats, pursuant to the provisions of the same documents [3].

References:

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[1] art.3, 2nd paragraph, Each Member State shall contribute to the creation of Natura 2000 (network) in proportion to the representation within its territory of the natural habitat types and the habitats of species referred to in paragraph 1. To that effect each Member State shall designate, in accordance with Article 4, sites as special areas of conservation taking account of the objectives set out in paragraph 1.

art.4, 1st paragraph. On the basis of the criteria set out in Annex III (Stage 1) and relevant scientific information, each Member State shall propose a list of sites indicating which natural habitat types in Annex I and which species in Annex II that are native to its territory the sites host. For animal species ranging over wide areas these sites shall correspond to the places within the natural range of such species which present the physical or biological factors essential to their life and reproduction. For aquatic species which range over wide areas, such sites will be proposed only where there is a clearly identifiable area representing the physical and biological factors essential to their life and reproduction. Where appropriate, Member States shall propose adaptation of the list in the light of the results of the surveillance referred to in Article 11. [...]

2nd paragraph.[...] Member States whose sites hosting one or more priority natural habitat types and priority species represent more than 5 % of their national territory may, in agreement with the Commission, request that the criteria listed in Annex III (Stage 2) be applied more flexibly in selecting all the sites of Community importance in their territory.[...]

Art. 6, 4th paragraph. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Art. 16. Provided that there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range, Member States may derogate from the provisions of Articles 12, 13, 14 and 15 (a) and (b):[...]

- in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment;

[2] Art.4, 1st paragraph. The species mentioned in annex 1 shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution. [...]

Trends and variations in population levels shall be taken into account as a background for evaluations. Member states shall classify in particular the most suitable territories in number and size as special protection areas for the conservation of these species, taking into account their protection requirements in the geographical sea and land area where this directive applies.

[3] Directive 92/43 Habitats, art. 2, 2nd paragraph; Directive 79/409 Birds, art. 3, 2nd paragraph, letter c.

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Your assertion regarding the failure to obtain an applicable urbanism certificate at the start up of the public debates and of the evaluation of the quality of the report to the environmental impact assessment, is not correct.

Thus, by the time when the public debate stage started up there was an applicable urbanism certificate and namely the urbanism certificate no. 78/26.04.2006 issued by Alba County Council. This certificate was obtained prior to the evaluation stage of the quality of the report to the environmental impact assessment which started up once the EIA was submitted to the Ministry of Environment and Water Management on the 15<sup>th</sup> May 2006.

For better understanding the applicable legal provisions and the facts developed within the mining

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project of Roşia Montană zone we would like to make several comments:

- The procedure for issuing the environmental permit for Roşia Montană project started up on the 14<sup>th</sup> December 2004 by submitting the technical memorandum and the urbanism certificate no.68/26.August 2004 (certificate applicable by that time). S.C. Roşia Montană Gold Corporation S.A. (RMGC) applied for and obtained a new urbanism certificate no.78/26.04.2006 issued by Alba County Council for the entire Roşia Montană Project applicable on the date of the EIA Report submission (15<sup>th</sup> May 2006) and prior to the public debate strat up (June 2006);
- The Section 1 of the urbanism certificate no.78 of 26<sup>th</sup> 04.2006 entitled Work construction, position 10 – “Processing plant and associated constructions “ – including the tailing management facility which existence is compulsory for the processing plant running. The Tailing management facility is also specified on the layout plans which are integral part of the urbanism certificate and they were sealed by Alba County Council so that they cannot be modified;
- The Urbanism Certificate is an informative document and its goal is only to inform the applicant about the legal, economic and technical regime of the existing lands and buildings and to establish the urbanism requirements and the approvals necessary to obtain the construction permit (including the environmental permit) as per art.6 of Law 50/1991 referring to the completion of construction works, republished and art 27 paragraph 2 of the Norms for the application of Law 50/1991 – Official Journal 825 bis/13.09.2005).

As it is an informative document, it does not limit the number of certificates an applicant may obtain for the same land plot ( art. 30 of Law no. 350/2001 regarding the territorial planning and urbanism).

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With respect to the issues indicated by you, namely the insurance of mining projects, we would like to underline the fact that the Directive no. 2004/35/CE regarding **on environmental liability with regard to the prevention and remedying of environmental damage**, which has been published in the Official Journal of the European Union no. L143/56 (“Directive no. 35/2004”) establishes the general governing framework with regard to environmental pollution.

According to the provisions stipulated by art. 1 of Directive no. 35/2004 “The purpose of this directive is to establish a framework of environmental liability based on the ‘polluter-pays’ principle, to prevent and remedy environmental damage.”

Directive no. 35/2004 states as a principle pursuant to the provisions of art. 14(1) the fact that “Member States shall take measures to encourage the development of financial security instruments and markets by the appropriate economic and financial operators, including financial mechanisms in case of insolvency, with the aim of enabling operators to use financial guarantees to cover their responsibilities under this Directive”.

Moreover, according to the provisions of art. 19(1) Directive no. 35/2004, Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 30 April 2007. We would like to underline the fact that, up to now, the Directive no. 35/2004 hasn’t been transposed into our legislation. Taking into account the previously mentioned aspects, we kindly ask you to take notice of the fact that, at this moment there are no internal legal regulations to establish the material and procedural aspects related to the establishment of such a guarantee.

However, if specific legal dispositions are going to be created with regard to the establishment of certain guarantees, RMGC is going to take all necessary measures to fulfill all mandatory legal liabilities.

Moreover, we underline the fact that RMGC has contracted one of the world’s leading insurance brokers, which is well established in Romania and has a long and distinguished record of performing risk assessments on mining operations. The broker will use the most appropriate property and machinery breakdown engineers to conduct risk analysis and loss prevention audit activities, during the construction and operations activity at Roşia Montană, to minimize hazards. The broker will then determine the appropriate coverage, and work with A-rated insurance companies to put that program in place on behalf of RMGC, for all periods of the project life from construction through operations and closure.

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RMGC is committed to maintaining the highest standards of occupational health and safety for its

employees and service providers. Our utilization of Best Available Techniques helps us to ensure this goal is achieved. No organization gains from a loss, and to that end we will work to implement engineering solutions to risk, as they are far superior to insurance solutions to risk. Up to 75% of loss risk can be removed during the design and construction phase of a project.

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The Report on the Environmental impact assessment study (EIA) considered all alternative developments, including the option of not proceeding with any project – an option that would generate no investment, allowing the existing pollution problems and socio-economic decline to continue (Chapter 5 – *Assessment of Alternatives*).

The report also considered alternative developments – including agriculture, grazing, meat processing, tourism, forestry and forest products, cottage industries, and flora/fauna gathering for pharmaceutical purposes – and concluded that these activities could not provide the economic, cultural and environmental benefits brought by the Roşia Montană Project (RMP).

Chapter 5 also examines alternative locations for key facilities as well as alternative technologies for mining, processing and waste management, in line with best practice and as compared against published EU best available techniques (BAT) documentation.

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It is stated precisely that a “cyanide rain” phenomenon will not exist. Neither was encountered in other places or situations. Moreover, the specialty literature doesn’t make any mentions related to the so-called “cyanide rains” phenomenon, but only “acidic rains” phenomenon which can’t be generated by the cyanic compounds breaking down in the atmosphere.

The reasons for making the statement that ‘cyanide rains’ phenomenon won’t occur are the followings:

- The sodium cyanide handling, from the unloading from the supplying trucks up to the processing tailings discharge onto the tailings management facility, will be carried out only in liquid form, represented by alkaline solutions of high pH value (higher than 10.5 – 11.0) having different sodium cyanide concentrations. The alkalinity of these solutions has the purpose to maintain the cyanide under the form of cyan ions (CN<sup>-</sup>) and to avoid the hydrocyanic acid formation (HCN), phenomenon that occurs only within environments of low pH;
- The cyanide volatilization from a certain solution cannot occur under the form of free cyanides, but only under the form of HCN;
- The handling and storage of the sodium cyanide solutions will take place only by means of some closed systems; the only areas/plants where the HCN can occur and volatilize into air, at low emission percentage, are the leaching tanks and slurry thickener, as well the tailings management facility for the processing tailings;
- The HCN emissions from the surface of the above mentioned tanks and from the tailings management facility surface can occur as a result of the pH decrease within the superficial layers of the solutions (that helps the HCN to form) and of the desorption (volatilization in air) of this compound;
- The cyanide concentrations within the handled solutions will decrease from 300 mg/L within the leaching tanks up to 7 mg/L (total cyanide) at the discharge point into the tailings management facility. The drastic reduction of the cyanide concentrations for discharging into the Tailings Management Facility (TMF) will be done by the detoxification system;
- The knowledge of the cyanide chemistry and on the grounds of the past experience, we estimated the following possible HCN emissions into air: 6 t/year from the leaching tanks, 13 t/year from the slurry thickener and 30 t/year (22.4 t, respectively 17 mg/h/m<sup>2</sup> during the hot season and 7.6 t, respectively 11.6 mg/h/m<sup>2</sup> during the cold season) from the tailings management facility surface, which totals 134.2 kg/day of HCN emission;
- Once released into air, the hydrocyanic acid is subject to certain chemical reactions at low pressure, resulting ammonia;
- The mathematical modeling of the HCN concentrations within the ambient air (if the HCN released in the air is not subject to chemical reactions) emphasized the highest concentrations being at the ground level, within the industrial site namely within the area of the tailings

management facility and within a certain area near the processing plant. The maximum concentration is of 382  $\mu\text{g}/\text{m}^3/\text{h}$ ;

- The highest HCN concentrations within the ambient air will be 2.6 times lower than the standard value stipulated by the national legislation for labor protection;
- The HCN concentrations within the ambient air in the populated areas close by the industrial site will be of 4 to 80  $\mu\text{g}/\text{m}^3$ , more than 250 – 12.5 times lower than standard value stipulated by the national legislation for labor protection – the national legislation and European Union (EU) legislation on the Air Quality don't stipulate standard values for the population's health protection;
- Once released in air, the evolution of the HCN implies an insignificant component resulted from the reactions while liquid (water vapors and rain drops). The reactions are due to HCN being weak water-soluble at partially low pressures (feature of the gases released in open air), and the rain not effectively reducing the concentrations in the air (Mudder, et al., 2001; Cicerone and Zellner, 1983);
- The probability that the HCN concentration value contained by rainfalls within and outside the footprint of the Project be significantly higher than the background values (0.2 ppb) is extremely low.

Details referring to the use of cyanide in the technological processes, the cyanides balance as well as the cyanide emission and impact of the cyanides on the air quality are contained in the Environmental Impact Assessment (EIA) Report, Chapter 2, Subchapter 4.1 and Subchapter 4.2 (Section 4.2.3).

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Item no.	1748	Same as: 1749, 1750, 1751, 1752, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1761, 1762, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1770, 1771, 1772, 1773, 1774, 1775, 1776, 1777
No. to identify the observations received from the public	No. 110822/25.08.2006	Same as: No. 110823/25.08.2006, No. 110824/25.08.2006, No. 110825/25.08.2006, No. 110826/25.08.2006, No. 110827/25.08.2006, No. 110828/25.08.2006, No. 110829/25.08.2006, No. 110830/25.08.2006, No. 110831/25.08.2006, No. 110832/25.08.2006, No. 110333/25.08.2006, No. 110834/25.08.2006, No. 110835/25.08.2006, No. 110836/25.08.2006, No. 110837/25.08.2006, No. 110838/25.08.2006, No. 110839/25.08.2006, No. 110840/25.08.2006, No. 110841/25.08.2006, No. 110842/25.08.2006, No. 110843/25.08.2006, No. 110844/25.08.2006, No. 110845/25.08.2006, No. 110846/25.08.2006, No. 110847/25.08.2006, No. 110848/25.08.2006, No. 110849/25.08.2006, No. 110850/25.08.2006, No. 110851/25.08.2006
Proposal		<p>The questioner does not agree to the promotion of the Roşia Montană Project, making the following comments:</p> <ul style="list-style-type: none"> <li>- In EIA there are no presented all the possible risks derived from this project;</li> <li>- Total costs for closing the mine are unrealistic;</li> <li>- There isn't until now an approved Zonal Urbanism Plan for the Protected Areas;</li> <li>- The phase of public consultation and quality evaluation of the impact assessment study report begun without a valid urbanism certificate;</li> <li>- Information about the foundation which RMGC will establish and subsidize is not given. This foundation follows to assume the obligations which the mining operation can not assume;</li> <li>- The present urbanism plans of the Roşia Montană commune do not correspond with the mining project proposal described in EIA;</li> <li>- There is no liner proposed for the tailings pond;</li> <li>- The proposed waste deposits will be not constructed according to the legislation in force</li> <li>- No financial guarantees have been stipulated;</li> <li>- There is not a Safety Report submitted for the public consultation and evaluation by the competent authorities;</li> <li>- The EIA report does not assess the "zero alternative";</li> <li>- The Project poses a threat for protected flora and fauna;</li> <li>- The EIA report does not refer to the impact on the listed heritage buildings of noise and vibrations caused by the mining operations;</li> <li>- The public/ONGs wish to consult the contracts and agreements between Company and Romanian State;</li> <li>- The Urbanism Plan has been modified without public consultation;</li> <li>- From archeological point of view, the area proposed to be occupied by project was not legally investigated;</li> <li>- The questioner contests the protection of the architectural and spiritual monuments with the responsibility of the state institutions for the protection operation.</li> </ul> <p>SEE THE CONTENT OF TYPE 2 CONTESTATION</p>
Solution		<p>It is the nature of risk that it can be mitigated and diminished; it cannot be made to disappear. In order to put this into context, the common action of walking on the street or developing everyday activities have an accident potential. This accident potential is twice higher than within the framework of industrial activities that use hazardous substances.</p> <p>A major chapter of the EIA report was dedicated to the identification of risks for the project. In addition, this chapter provides a discussion of the mitigation measures for each risk and how they were incorporated into the project designs. It is recognized that risk identification is difficult due to the number and diversity of events that can be envisioned. The EIA report cannot assume to cover all of the potential risks associated with the project. However, it has attempted to identify and address the most relevant risks. The extent of risk assessment and the intensity of the prevention and mitigation measures should be proportional to the risk involved and therefore only the risks that have been considered important have been assessed in detail. Each is described below.</p> <p>In the larger sense, the entire EIA report is focused on the assessment of impacts and their associated mitigation. Specifically, Chapter 4 of the EIA presents that impact assessment of the project. The following</p>

discussion presents a summary of the impact discussed in the EIA.

As far as natural and technological risks assessments are concerned, Chapter 7, "Risk Cases", from the Report on Environmental Impact Assessment, emphasizes the fact that safety and prevention measures, the implementation of the environmental management and risk systems are mitigating the consequences to acceptable levels as compared to the most restrictive norms, standards, the best practices or national and international recommendations in the field. The risk level has been established as moderate and so, socially acceptable. The extension of the risk assessment and the intensity of the prevention and mitigation measures of the consequences should be proportionate to the risk involved. Selection of a specific mitigation technique is depends on the analyzed accident scenario.

More detailed assessments are conducted for accident scenarios that, based on the qualitative assessment are found to be potentially major, of probability more than  $10^{-6}$  (reduced recovery periods of 1/1,000,000) meaning that they could have major consequences therefore, elevated associated risk, a higher risk level than 9 to 12 (on a scale of 1-25). To put this in context, simply living in southern Florida rates a 25 on the risk scale.

A global assessment of the risks associated with the Roşia Montană Project is obtained by the quick environmental and health risk assessment methodology initially developed by the Italian Ministry of the Environment and the World Health Organization. Natural hazard and risk identification and analysis presents key data and information in assessing potential technological accidents. Thus:

- In designing the Tailings Management Facility, the design parameters were chosen to fully cover the characteristic seismic risk of the area. These seismic design parameters adopted for the TMF and other facilities on the proposed site result in a safety factor much greater than the minimum accepted under the Romanian and European design standards for such facilities;

- in the sector physically impacted by the Project, the risk of floods will remain very low due to the small catchments (controlled by the Roşia and Corna Streams) the area affected by the operation, and the creation of containment, diversion and drainage hydro-technical structures for storm waters on the site, and in the Abrud catchment in general;

- risks caused by meteorological events have been reviewed and used in assessing the hazards of the affected technological processes.

From the analysis of morphometrical parameters and their correlation with other sets of information on the natural slopes on and near the site shows that the (qualitatively estimated) landslide occurrence risk is low to moderate and its consequences will not cause major impacts on the structural components of the Project.

There is no significant risk associated with resource depletion. Mining activities are planned judiciously, so as to extract only the profitable gold and silver resources and only the necessary construction rock for the Project. The management of the mining concession site will minimize reserve "sterilization" (limitation of future access to the reserves).

In assessing technological hazards and risks, the quantity of hazardous substances on the site was calculated as a total and by category, as provided by the *Notification Procedure* approved by Ministry of Agriculture, Forestry, Water and Environment (MAFWE) Order 1084/2003. Based on an evaluation of hazardous substances in stock on the Project site in relation to the relevant quantities provided by the Government Decision 95/2003 which transposes the Seveso Directive, the Project ranges between the upper and the lower limits, and therefore S.C. Roşia Montană Gold Corporation S.A. is required to prepare a Report on Environmental Impact Assessment Study to be sent to the local environmental authority and the local civilian protection authority a *Safety Report* on its operations to prevent major accident risks.

In assessing the consequences of major accidents involving dangerous substances, physical-mathematical models accepted internationally and especially at EU level, and the current version of the SLAB (Canada) software have been used, the latter for the atmospheric dispersion of denser than air gases, that may handle a multitude of situations and scenarios. Similarly, the EFFECTSGis 5.5 (Netherlands) software, developed for the analysis of the effects of industrial accidents and of consequences. Several scenarios were considered in response to the internal legislative requirements, especially related to the implementation of the Internal Emergency Plans (GD 647/2005). The conclusions of the risk assessment for major accidents were:



- The total destruction of plant facilities may only be caused by terrorist attack with classic or nuclear weapons. Simultaneous damage to the HCl tank (including containment) and to the NaCN solution tank, the tanks containing enriched solution, to one or more leaching tanks, having as a result HCN dispersion into the air. At the same time, under certain situations and weather conditions unfavorable for dispersion, people within 40 m of the emission source, surprised by the toxic cloud for more than 1 minute without respiratory protection equipment, will most certainly die. It may also be considered that, on a radius of about 310 m, persons exposed for more than 10 minutes may suffer serious intoxications that may also lead to death. Toxic effects may occur in persons up to about 2 km downwind of the process plant;

- Operating errors and/or failures in the measurement and control devices, resulting in a lower pH in the leaching tank, thickener and/or DETOX slurry and accidental emissions of hydrocyanic acid. The area affected by concentrations of 290 ppm over a 10 min exposure time is within a circle of 36 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 157.5 m radius. The center of these circles is the middle of the CIL tanks platform;

- Accidental HCN emission from the decanter. The accident may be caused by a drop of pH in the CIL tanks combined with an overdose of flocculent solution and faulty pH monitoring systems. The area affected by concentrations of 300 ppm over a 10 min exposure time is within a circle of 65 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 104 m radius. The center of these circles is mid-distance between the two DETOX facilities;

- Accidental HCN emission from the DETOX facility. The accident may be caused by a drop of pH in the reactors generated by an overdose of metabisulfite solution and/or copper sulphate combined with faulty pH monitoring systems. The area affected by high 1900 ppm concentrations for a 1 min exposure time is located within a 10 m radius circle. The area affected by concentrations of 300 ppm over a 10 min exposure time is within a circle of 27 m radius and the 50 ppm IDLH threshold for 30 min exposure will be reached over an area of 33 m radius. The center of these circles is mid-distance between the two DETOX facilities;

- Explosion of the LPG storage tank. The LPG storage tank has a 50 ton capacity and is located outdoors, near the heating plant. The simulation was conducted for the worst case scenario, considering an explosion of the full tank. Threshold I with heat 12.5 kW/m<sup>2</sup> is within a 10.5 m radius circle and Threshold II, of heat radiation 5 kW/m<sup>2</sup> is within a circle of 15 m radius;

- Damage and/or fire at the fuel tanks. Simulations were conducted for the worst case scenarios, considering ignition and combustion of all the diesel (fire in the tank, or in the containment vat, when full of diesel);

- Corna Dam break and breach development. Two credible accident scenarios were considered in simulating tailings flow out of the Tailings Management Facility, and six credible scenarios for the flow of decant water and tailings pore water, with significant effects on the terrestrial and aquatic ecosystems, in different weather conditions;

- Tailings flow may occur along Corna Valley, on a 800 m (starter dam break) or over 1600 m reach should the Corna dam break in its final stage;

- In regard to water quality impacts, cyanide concentrations in the water in the shape of a pollution plume may reach Arad, near the Romanian-Hungarian border on the Mureş River, in concentrations ranging between 0.03 and 0.5 mg/L. Due to inherent mathematical limitations in the models, these values and the accident effects are considered overestimated. Therefore, the results describe the "worst case scenario" based on extreme dam break assumptions for the Corna Dam.

A new and much more precise and realistic simulation has been subsequently established based on the INCA Mine model, that considers the dispersion, volatilization and breakdown of cyanides during the downstream movement of the pollutant flow (Whiteland et al., 2006).

The model used is the INCA model developed over the past 10 years to simulate both terrestrial and aquatic systems within the EUROLIMPACS EU research program ([www.eurolimpacs.ucl.ac.uk](http://www.eurolimpacs.ucl.ac.uk)). The model has been used to assess the impacts from future mining, and collection and treatment operations for pollution from past mining at Roşia Montană.

The modeling created for Roşia Montană simulates eight metals (cadmium, lead, zinc, mercury, arsenic, copper, chromium, manganese) as well as Cyanide, Nitrate, Ammonia and dissolved oxygen. The model has been applied to the upper catchments at Roşia Montană as well as the complete Abrud-Arieş-Mureş river system down to the Hungarian Border and on into the Tisa River. The model takes into account the dilution, mixing and physical-chemical processes affecting metals, ammonia and cyanide in the river

system and gives estimates of concentrations at key locations along the river, including at the Hungarian Boarder and in the Tisa after the Mureş joins it.

Because of dilution and dispersion in the river system, and of the initial EU BAT-compliant technology adopted for the project (for example, the use of a cyanide destruct process for tailings effluent that reduces cyanide concentration in effluent stored in the TMF to below 6 mg/l), even a large scale unprogrammed release of tailings materials (for example, following failure of the dam) into the river system would not result in transboundary pollution. The model has shown that under worse case dam failure scenario all legal limits for cyanide and heavy metals concentrations would be met in the river water before it crosses into Hungary.

The INCA model has also been used to evaluate the beneficial impacts of the existing mine water collection and treatment and it has shown that substantial improvements in water quality are achieved along the river system under normal operational conditions.

For more information, an information sheet presenting the INCA modeling work is presented under the title of the Mureş River Modeling Program and the full modeling report is presented in Annex 5.1:

- Development of HCN on the tailings pond surface. Simulated emissions of HCN from the Tailings Management Facility pond surface and of their dispersion into the ambient air show that the level of 400µ g/m<sup>3</sup> hourly average and 179µ g/m<sup>3</sup> 8hr average will not be exceeded. These HCN concentrations are only slightly over the odor threshold (0.17ppm) and much below potentially dangerous concentrations;

- Cetate Dam break and breach development. Flood modeling was in case of a break in Cetate dam was based on the design parameters obtained from the hydrometeorological study "Assessment of rainfall intensity, frequency and runoff for the Roşia Montană Project - Radu Drobot". The breach characteristics were predicted using the BREACH model, and the maximum height of the flood wave in various flow sections was modeled using the FLDWAV software. The assumptions included a total 800000 m<sup>3</sup> discharge for one hour, when the peak of the flood hydrograph is about 4.9 m above base flow immediately below the dam and in the narrow Abrud valley 5.9-7,5 km downstream of the dam, while in the last section considered (10,5 km) water depth is about 2.3 m above base flow and the maximum flow rate 877 m<sup>3</sup>/s. Further, the broader Aries valley allows the flood wave to propagate on a significantly wider bed, which results in a highly attenuated hydrograph. These results describe the "worst case scenario" based on extreme dam break assumptions:

- Accidents during cyanide transportation. Due to the large quantities of cyanide transported (about 30t /day) the risks associated to this activity were assessed in detail using the ZHA- Zurich Hazard Analysis method. As a consequence, the optimum transport route was selected from the manufacturer to the Process Plant, e.g.;

- Cyanide transport (in solid state) will exclusively involve special SLS (Solid to Liquid System) containers, 16 tons each. The ISO compliant container will be protected by a framework with legs, which allows separation from the transport trailer for temporary storage. The wall is 5.17 mm thick, which, together with the protective framework, provides additional protection to the load in case of accident. This system is considered BAT and is currently one of the safest cyanide transportation options.

It is being mentioned the fact that the study develops the occurrence possibility of these scenarios (pages 166-171, Conclusions).

As regards the cyanides management, there is a baseline study named "Roşia Montană Golden Project, Cyanides Management Plan" prepared in compliance with the "International Management Code for the Manufacture, Transport and Use of Cyanide in the Production of Gold (International Cyanide management Institute) May 2002". S.C. Roşia Montană Gold Corporation is signatory to this code.

Bibliographical references for Chapter 7 "Risk Cases" are listed at page 173-176.

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RMGC's closure estimates, which were developed by a team of independent experts with international experience and will be reviewed by third party experts, are based on the assumption that the project can be completed according to the plan, without interruptions, bankruptcy or the like. They are engineering calculations and estimates based on the current commitments of the closure plan and are summarized in

the EIA's Mine Closure and Rehabilitation Management Plan (Plan J in the EIA). Annex 1 of Plan J will be updated using a more detailed approach looking at every individual year and calculating the amount of surety, which must be set aside year by year to rehabilitate the mine before RMGC is released from all its legal obligations. Most importantly, the current estimates assume the application of international best practice, best available technology (BAT) and compliance with all Romanian and European Union laws and regulations.

Closure and rehabilitation at Roşia Montană involves the following measures:

- Covering and vegetating the waste dumps as far as they are not backfilled into the open pits;
- Backfilling the open pits, except Cetate pit, which will be flooded to form a lake;
- Covering and vegetating the tailings pond and its dam areas;
- Dismantling of disused production facilities and revegetation of the cleaned-up areas;
- Water treatment by semi-passive systems (with conventional treatment systems as backup) until all effluents have reached the discharge standards and need no further treatment;
- Maintenance of the vegetation, erosion control, and monitoring of the entire site until it has been demonstrated by RMGC that all remediation targets have been sustainably reached.

While the aspects of closure and rehabilitation are many, we are confident in our cost estimates because the largest expense—that incurred by the earthmoving operation required to reshape the landscape—can be estimated with confidence. Using the project design, we can measure the size of the areas that must be reshaped and resurfaced. Similarly, there is a body of scientific studies and experiments that enable scientists to determine the depth of soil cover for successful re-vegetation. By multiplying the size of the areas by the necessary depth of the topsoil by the unit rate (also derived from studying similar earthmoving operations at similar sites), we can estimate the potential costs of this major facet of the rehabilitation operation. The earthmoving operation, which will total approximately US \$65 million, makes up 87% of closure and rehabilitation costs.

Also, the necessity of additional technological measures to stabilize and reshape the tailings surface will be discussed in the update of the Economical Financial Guarantee (EFG) estimate, which leads to an increase the provisions for tailings rehabilitation, especially if the TMF is closed prematurely and no optimized tailings disposal regime is applied. The exact figures depend on the details of the TMF closure strategy which can be finally determined only during production.

We believe that—far from being too low—our cost estimates are evidence of our high level of commitment to closure and rehabilitation. Just as a comparison, the world's largest gold producer has set aside US \$683 million (as of December 31, 2006) for the rehabilitation of 27 operations, which equates to US \$25 million on average per mine. The RMGC closure cost estimates, recently revised upward from the US \$73 million reported in the EIA based on additional information, currently total US \$76 million.

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According to Law 5/2000, regarding the approval of the Territory Arrangement Plan – 3<sup>rd</sup> Section – protected areas (“Law 5/2000”) (article 5, paragraphs 2-3), local public authorities, with the support of the competent central public authorities, had the obligation to establish the boundaries of the protection areas for the cultural heritage elements stipulated in Annex III to the above-mentioned law. This measure should have been taken within 12 months from the effective date of Law 5/2000, based on specialized studies. For this purpose, the local public authorities had to prepare the town planning documentation and its related regulations, developed and approved according to the law. This documentation must comprise the necessary protection and conservation measures for the national cultural heritage elements located in this area.

Concurrently, Law 350/2001 on the territory arrangement and urbanism stipulates the right of legal or natural persons interested in arranging the territory, to initiate the development of urbanism plans.

In accordance with these legal provisions, in 2001, RMGC initiated the preparation of these specific town-planning documentations - the General Urbanism Plan and the Zonal Urbanism Plan. These plans have been developed by Romanian certified companies and followed the legal approval procedure. The permit for the establishment of the Roşia Montană Historical Centre Protected Area was issued by the Ministry of Culture and Religious Affairs in 2002 (permits no. 61/14.02.2002 and no. 178/20.06.2002) as part of

the procedure for the approval of the town planning documentation. Based on these permits, the Ministry of Culture and Religious Affairs requested the company to develop a Zonal Urbanism Plan for the Historical Centre of Roşia Montană. Out of the 41 historical buildings in Roşia Montană, thirty-five (35) are located inside the protected area of the Roşia Montană Historical Centre.

As for the heritage elements located in the future industrial development area (6 historical buildings), these are discussed in the Industrial Zonal Urbanism Plan prepared by SC Proiect Alba SA. The regulations included in this document will contain measures for the protection of these monuments.

In conclusion, the town planning studies and the specialized studies conducted for the purpose of establishing the boundaries of the protection areas within the future mining operations perimeter are currently pending approval, in accordance with the legal provisions, by the competent institutions and committees. Please note that none of the historical houses located in the perimeter of the proposed project will be affected; on the contrary, all the 41 historic buildings will be included in a complex restoration and rehabilitation program (see the Management Plan). This program is mandatory, regardless of the implementation of the mining project, if we want to prevent these buildings from collapsing because of their advanced degradation.

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Your assertion regarding the failure to obtain an applicable urbanism certificate at the start up of the public debates and of the evaluation of the quality of the report to the environmental impact assessment, is not correct.

Thus, by the time when the public debate stage started up there was an applicable urbanism certificate and namely the urbanism certificate no. 78/26.04.2006 issued by Alba County Council. This certificate was obtained prior to the evaluation stage of the quality of the report to the environmental impact assessment which started up once the EIA was submitted to the Ministry of Environment and Water Management on the 15<sup>th</sup> May 2006.

For better understanding the applicable legal provisions and the facts developed within the mining project of Roşia Montană zone we would like to make several comments:

- The procedure for issuing the environmental permit for Roşia Montană project started up on the 14<sup>th</sup> December 2004 by submitting the technical memorandum and the urbanism certificate no.68/26.August 2004 (certificate applicable by that time). S.C. Roşia Montană Gold Corporation S.A. (RMGC) applied for and obtained a new urbanism certificate no.78/26.04.2006 issued by Alba County Council for the entire Roşia Montană Project applicable on the date of the EIA Report submission (15<sup>th</sup> May 2006) and prior to the public debate start up (June 2006);
- The Section 1 of the urbanism certificate no.78 of 26<sup>th</sup> 04.2006 entitled Work construction, position 10 – “Processing plant and associated constructions “ – including the tailing management facility which existence is compulsory for the processing plant running. The Tailing management facility is also specified on the layout plans which are integral part of the urbanism certificate and they were sealed by Alba County Council so that they cannot be modified;
- The Urbanism Certificate is an informative document and its goal is only to inform the applicant about the legal, economic and technical regime of the existing lands and buildings and to establish the urbanism requirements and the approvals necessary to obtain the construction permit (including the environmental permit) as per art.6 of Law 50/1991 referring to the completion of construction works, republished and art 27 paragraph 2 of the Norms for the application of Law 50/1991 – Official Journal 825 bis/13.09.2005).

As it is an informative document, it does not limit the number of certificates an applicant may obtain for the same land plot ( art. 30 of Law no. 350/2001 regarding the territorial planning and urbanism).

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Introduced as part of the Environmental Impact Assessment Report Study (EIA), the Roşia Montană Foundation is shifting in focus. The Community Sustainable Development Plan activities initially conceived as coming under the Foundation umbrella (business oriented activities: business incubator, business advisory center, micro-finance facility, as well as social oriented activities: education and training

center) have been advanced independently, via partnerships and with community participation in decision-making – a preferable way to advance social and economic development programs.

Going forward, the Foundation will take shape around preservation, patrimony and cultural heritage issues, with its final form determined in consultation with the community.

In terms of the philosophy that guides the company's Sustainable Development efforts, the Roșia Montană Gold Corporation (RMGC) sees itself not as principal provider, but as a partner. Community involvement is considered the starting point; over time, as the community builds the capacity to maintain programs in its own right, the company will turn over control of currently-established programs to the community and its institutions.

For more information, please see Roșia Montană Sustainable Development and the Roșia Montană Project – annex 4.

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We underline the fact that your statement is false. The General Urbanism Plan for the Roșia Montană commune, endorsed in 2002 allows the development of Roșia Montană project, as it has been presented during the public consultations.

Concurrently, pursuant to the provisions of art. 41, paragraph 2, from the Mining Law no.85/2003, the authorities from the local administration have the liability to adjust and/or update the territory arrangement plans and the general urbanism plans, in order to allow the development of all operations necessary for the development of mining activities.

RMGC has also initiated the preparation of two zonal urbanism plans: Zonal Urbanism Plan Modification – Roșia Montană Industrial Area and Zonal Urbanism Plan – Roșia Montană Historical Area. The first urbanism plan is required by the urbanism certificate no.78/26.04.2006, which updates the Zonal Urbanism Plan for the Industrial Area approved in 2002. As far as the historical area is concerned, its Zonal Urbanism Plan is required by the General Urbanism Plan approved also in 2002. Both urbanism plans are pending approval and have been subject to public consultations.

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An engineered liner is included in the design of the Tailings Management Facility (TMF) basin. Specifically, the Roșia Montană Tailings Management Facility (TMF or “the facility”) has been designed to be compliant with the EU Groundwater Directive (80/68/EEC), transposed as Romanian GD 351/2005. The TMF is also designed for compliance with the EU Mine Waste Directive (2006/21/EC) as required by the Terms of Reference established by the MEWM in May, 2005. The following paragraphs provide a discussion of how the facility is compliant with the directives.

The TMF is composed of a series of individual components including:

- the tailings impoundment;
- the tailings dam;
- the secondary seepage collection pond;
- the secondary containment dam; and
- the groundwater monitoring wells/extraction wells located downstream of the Secondary Containment dam.

All of these components are integral parts of the facility and necessary for the facility to perform as designed.

The directives indicated above require that the TMF design be protective of groundwater. For the Roșia Montană project (RMP), this requirement is addressed by consideration of the favorable geology (low permeability shales underlying the TMF impoundment, the TMF dam and the Secondary Containment dam) and the proposed installation of a low-permeability ( $1 \times 10^{-6}$  cm/sec) recompacted soil liner beneath the TMF basin. Please see Chapter 2 of EIA Plan F, “The Tailings Facility Management Plan” for more information.

The proposed low permeability soil liner will be fully compliant with Best Available Techniques (BAT) as defined by EU Directive 96/61 (IPPC) and EU Mine Waste Directive. Additional design features that are included in the design to be protective of groundwater include:

- A low permeability ( $1 \times 10^{-6}$  cm/sec) cut off wall within the foundation of the starter dam to control seepage;
- A low permeability ( $1 \times 10^{-6}$  cm/sec) core in the starter dam to control seepage;
- A seepage collection dam and pond below the toe of the tailings dam to collect and contain any seepage that does extend beyond the dam centerline;
- A series of monitoring wells, below the toe of the secondary containment dam, to monitor seepage and ensure compliance, before the waste facility limit.

In addition to the design components noted above specific operational requirements will be implemented to be protective of human health and the environment. In the extremely unlikely case that impacted water is detected in the monitoring wells below the secondary containment dam, they will be converted to pumping wells and will be used to extract the impacted water and pump it into the reclaim pond where it will be incorporated into the RMP processing plant water supply system, until the compliance is reestablish.

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With respect to your comments made as regards a presumptive infringement of the provisions of Government Decision No.351/2005 ("GD 351/2005"), there are several aspects to be taken into consideration. Thus:

1. Firstly, please note that, according to the provisions of art. 6 of GD 351/2005, any activity that might determine the discharge of dangerous substances into the environment is subject to the prior approval of the water management authorities and shall comply with the provisions of the water permit issued in accordance with the relevant legislation.

The GD 351/2005 provides that the water permit shall be issued only after all technical-construction measures are implemented as prevent the indirect discharge of dangerous substances into the underground waters. The maximum discharge limits are expressly provided under GD 351/2005 and compliance with such is a condition for granting and maintaining the water permit.

In accordance with the provisions of GD 351/2005, the actual discharge limits should be authorized by the relevant authority, such process being understood by the lawmaker in consideration of the complexity and variety of industrial activities, as well as the latest technological achievements.

Therefore, please note that the EIA stage is not intended to be finalized into an overall comprehensive permit, but it represents only a part of a more complex permitting process. Please note that, according with art. 3 of GD 918/2002, the data's level of detail provided in the EIA is the one available in the feasibility stage of the project, obviously making impossible for both the titleholder and authority to exhaust all required technical data and permits granted.

The adequate protection of the ground water shall be ensured by the terms and conditions of the water permit. The issuance of the water permit shall be performed following an individual assessment of the project, considering its particular aspects and the relevant legal requirements applicable for mining activities. Until the water permit is obtained, any allegation regarding the infringement of GD 351/2005 is obviously premature mainly because the water permit shall regulate, in accordance with the relevant legal provisions, the conditions to be observed by the developer as regards the protection of the ground water;

2. Secondly, kindly note that the complexity and specificity of mining projects generated the need of a particular legal framework. Therefore, for such projects, the reading of the legal provisions of a certain enactment should be corroborated with the relevant provisions of the other regulations applicable.

In this respect, please note that the understanding of GD 351/2005 must be corroborated with the provisions of the entire relevant legislation enforceable as regards Roşia Montană Project, with a particular accent to Directive 2006/21/EC on the management of waste from the extractive industries ("Directive 21").

The very scope of Directive 21 is to provide a specific legal framework for the extractive wastes and waste facilities related to mining projects, considering the complexity of such projects and the particular aspects of mining activities that can not always be subject to the common regulations on waste management and landfill.

From this perspective, Directive 21 provides that, an operator of a waste facility, as such is defined thereunder (please note that the TMF proposed by RMGC is considered a "waste facility" under Directive 21), must inter alia, ensure that:

- a) *"the waste facility is [...]designed so as to meet the necessary conditions for, in the short and long-term perspectives, preventing pollution of the soil, air, groundwater or surface water, taking into account especially Directives 76/464/EEC (1), 80/68/EEC (2) and 2000/60/EC, and ensuring efficient collection of contaminated water and leachate as and when required under the permit, and reducing erosion caused by water or wind as far as it is technically possible and economically viable;"*

- b) *“the waste facility is suitably constructed, managed and maintained to ensure its physical stability and to prevent pollution or contamination of soil, air, surface water or groundwater in the short and long-term perspectives as well as to minimize as far as possible damage to landscape.”*

In addition, it should be mentioned that RMGC was required by MWEM under the Terms of Reference, to perform the EIA considering the provisions of Directive 21 and the BAT Management of Mining Waste. The Directive 21 was intended by the EU DG of Environment to be the legislative regime applicable to sound management of mining waste throughout Europe and therefore compliance with its provisions is mandatory.

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Information regarding our Environmental Financial Guarantee (“EFG”) is fully discussed in the section of the Environmental Impact Assessment titled “Environmental and Social Management and System Plans” (Annex 1 of the subchapter titled “Mine Rehabilitation and Closure Management Plan”). The EFG is updated annually and will always reflect the costs associated with reclamation. These funds will be held in protected accounts at the Romanian state disposal.

Roşia Montană Gold Corporation (“RMGC”) has invested significant time, energy, and resources assessing the viability of a mining project in the valley of Roşia Montană. This assessment has led RMGC to conclude that Roşia Montană presents an attractive long-term development opportunity – an opinion confirmed by a variety of lending institutions, who have completed detailed reviews of the project’s design and profitability. We have every confidence that we will see the project through to the end of its projected 16-year lifespan, regardless of any fluctuations in the market price of gold.

In Romania, the creation of an EFG is required to ensure adequate funds are available from the mine operator for environmental cleanup. The EFG is governed by the Mining Law (no. 85/2003) and the National Agency for Mineral Resources instructions and Mining Law Enforcement Norms (no. 1208/2003).

Two directives issued by the European Union also impact the EFG: the Mine Waste Directive (“MWD”) and the Environmental Liability Directive (“ELD”).

The Mine Waste Directive aims to ensure that coverage is available for 1) all the obligations connected to the permit granted for the disposal of waste material resulting from mining activities and 2) all of the costs related to the rehabilitation of the land affected by a waste facility. The Environmental Liability Directive regulates the remedies, and measures to be taken by the environmental authorities, in the event of environmental damage created by mining operations, with the goal of ensuring adequate financial resources are available from the operators for environmental cleanup efforts. While these directives have yet to be transposed by the Romanian Government, the deadlines for implementing their enforcement mechanisms are 30 April 2007 (ELD) and 1 May 2008 (MWD) – thus before operations are scheduled to begin at Roşia Montană.

RMGC has already begun the process of complying with these directives, and once their implementation instruments are enacted by the Romanian Government, we will be in full compliance.

Each EFG will follow detailed guidelines generated by the World Bank and the International Council on Mining and Metals.

The current projected closure cost for Roşia Montană is US \$76 million, which is based on the mine operating for its full 16-year lifespan. The annual updates will be completed by independent experts, carried out in consultation with the NAMR, as the Governmental authority competent in mining activities field. These updates will ensure that in the unlikely event of early closure of the project, at any point in time, each EFG will always reflect the costs associated with reclamation. (These annual updates will result in an estimate that exceeds our current US \$76 million costs of closure, because some reclamation activity is incorporated into the routine operations of the mine.)

A number of different financial instruments are available to ensure that RMGC is capable of covering all of the expected closure costs. These instruments, which will be held in protected accounts at the Romanian

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state disposal, include:

- Cash deposit;
- Trust funds;
- Letter of credit;
- Surety bonds;
- Insurance policy.

Under the terms of this guarantee, the Romanian government will have no financial liability in connection with the rehabilitation of the Roşia Montană project.

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The Security Report has been made available for public access by being posted at the following Internet address [http://www.mmediu.ro/dep\\_mediu/rosia\\_montana\\_securitate.htm](http://www.mmediu.ro/dep_mediu/rosia_montana_securitate.htm) as well as through the printed version which could have been found at several information locations established for public hearings.

\*

The Report on the Environmental impact assessment study (EIA) considered all alternative developments, including the option of not proceeding with any project – an option that would generate no investment, allowing the existing pollution problems and socio-economic decline to continue (Chapter 5 – *Assessment of Alternatives*).

The report also considered alternative developments – including agriculture, grazing, meat processing, tourism, forestry and forest products, cottage industries, and flora/fauna gathering for pharmaceutical purposes – and concluded that these activities could not provide the economic, cultural and environmental benefits brought by the Roşia Montană Project (RMP).

Chapter 5 also examines alternative locations for key facilities as well as alternative technologies for mining, processing and waste management, in line with best practice and as compared against published EU best available techniques (BAT) documentation.

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The impact on protected flora and fauna will exist only locally, but this impact will not lead to the loss of any specie. The Project has been designed even from the beginning to fully comply with the requirements and norms imposed by Romanian and European environmental legislation.

The company believes the fact that the project impact on environment remains significant, especially because covers previous impacts. But, the investments required to ecologically restore/rehabilitate Roşia Montană area in order to address current complex environmental issues, are only achievable following the implementation of some economic projects that will generate and warrant implementation of some direct and responsible actions as a component of base principles of sustainable development concepts. Clean processes and technologies may be developed only in the presence of a solid economic environment fully compliant with the environment that will also resolve previous impacts of anthropic activities.

The base documents of the Project are in fact an unbiased reason of its implementation, considering the highly complex environmental commitment within Roşia Montană area.

Some of the Roşia Montană species that are under a certain protection status stand for an insignificant percentage of the scale of populations estimated at national level. The characterization of species from their habitat point of view exists in the species tables presented in the Biodiversity Chapter of the EIA Report and its annexes, although this is not a requirement imposed by the Habitats Directive. Due to their large volume of information, the annexes of chapter 4.6 Biodiversity can be found in the electronic version of the EIA disclosed by the company both in Romanian and English through approx. 6,000 DVD/CD copies, being accessible on the company website, and on the websites of Ministry of Environment and Water Management, local and regional environmental protection agencies of Alba, Sibiu, Cluj, etc.

From practical point of view, the low value of conservation of the impact area is also indirectly emphasized

by the fact that there is no proposal to designate the area a SPA (aviafaunistic special protected area) and by the denial as unfounded of the proposal to designate the area as a pSCI area (sites of community importance).

Taking all these into account, we believe that the proposed Project is compliant with the provisions of EU Directive no. 92/43 Habitats[1], and EU Directive no. 79/409 Birds[2] respectively, especially because within Biodiversity Management Plan, Plan H, several active and responsible measures are provided to reconstruct/rehabilitate several natural habitats, pursuant to the provisions of the same documents [3].

References:

[1] art.3, 2nd paragraph, Each Member State shall contribute to the creation of Natura 2000 (network) in proportion to the representation within its territory of the natural habitat types and the habitats of species referred to in paragraph 1. To that effect each Member State shall designate, in accordance with Article 4, sites as special areas of conservation taking account of the objectives set out in paragraph 1.

art.4, 1st paragraph. On the basis of the criteria set out in Annex III (Stage 1) and relevant scientific information, each Member State shall propose a list of sites indicating which natural habitat types in Annex I and which species in Annex II that are native to its territory the sites host. For animal species ranging over wide areas these sites shall correspond to the places within the natural range of such species which present the physical or biological factors essential to their life and reproduction. For aquatic species which range over wide areas, such sites will be proposed only where there is a clearly identifiable area representing the physical and biological factors essential to their life and reproduction. Where appropriate, Member States shall propose adaptation of the list in the light of the results of the surveillance referred to in Article 11. [...]

2nd paragraph.[...] Member States whose sites hosting one or more priority natural habitat types and priority species represent more than 5 % of their national territory may, in agreement with the Commission, request that the criteria listed in Annex III (Stage 2) be applied more flexibly in selecting all the sites of Community importance in their territory.[...]

Art. 6, 4th paragraph. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Art. 16. Provided that there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range, Member States may derogate from the provisions of Articles 12, 13, 14 and 15 (a) and (b):[...]

- in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment;

[2] Art.4, 1st paragraph. The species mentioned in annex 1 shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution. [...]

Trends and variations in population levels shall be taken into account as a background for evaluations. Member states shall classify in particular the most suitable territories in number and size as special protection areas for the conservation of these species, taking into account their protection requirements in the geographical sea and land area where this directive applies.

[3] Directive 92/43 Habitats, art. 2, 2nd paragraph; Directive 79/409 Birds, art. 3, 2nd paragraph, letter c.

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This statement is ungrounded, because the environmental impact assessment (EIA) process has included

preliminary cumulative estimates for stationary motorized equipment and linear (vehicular) sources were prepared in order to provide an initial understanding of the potential cumulative noise and vibration impacts from background and Roşia Montană Project sources, and to guide future monitoring and measurement activities as well as the selection of appropriate Best Management Practices/Best Available Techniques for further mitigation of the potential noise and vibration impacts from Project activities. These preliminary estimates apply to major construction activities, as well as the operation and decommissioning/closure of the mine and process plant. They are documented as data tables and isopleth maps for major noise-generating activities in selected, representative Project years; see **Tables 4.3.8** through **4.3.16** and **Exhibits 4.3.1** through **4.3.9**. All these details related to the applied assessment methodology, the input data of the dispersion model, the modeling results and the measures established for the prevention/mitigation/elimination of the potential impact for all project stages (construction, operation, closure) are included in Chapter 4, Section 4.3 Noise and Vibrations of the EIA Report.

Project Years 0, 9, 10, 12, 14, and 19 were selected for modeling because they are considered to be representative of the most significant levels of noise-generating activity. They are also the same years used for air impact modeling purposes in Section 4.2, as air and noise impacts share many of the same sources or are otherwise closely correlated. In order to more accurately reflect potential receptor impacts, all of these exhibits integrate the background traffic estimates discussed in Section 4.3.6.1.

The Project site plan and process plant area and facility drawings were used to establish the position of the noise sources and other relevant physical characteristics of the site. Receptor locations were established using background reports and project engineering and environmental documentation provided by RMGC. With this information, the source locations and receptor locations were translated into input (x, y, and z) co-ordinates for the noise-modeling program.

**Tables 4.3.8 through 4.3.16** and **Exhibits 4.3.1 through 4.3.9** present the average maximum noise values likely to be experienced by the receptor community over all Project phases after incorporation of a variety of initial mitigation measures designed specifically to reduce the impacts associated with mobile and stationary machinery sources. The influence of non-mining related background (primarily traffic) noise is also included.

To evaluate the sound levels associated with haul trucks and other mobile sources crossing the site carrying excavated ore, waste rock, and soil, a noise analysis program based on the (U.S.) Federal Highway Administration's (FHWA) standard RD-77-108 [1] model was used to calculate reference noise emissions values for heavy trucks along the project roadways. The FHWA model predicts hourly  $L_{eq}$  values for free-flowing traffic conditions and is generally considered to be accurate within 1.5 decibels (dB).

The model is based on the standardized noise emission factors for different types and weights of vehicles (e.g., automobiles, medium trucks, and heavy trucks), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The emission levels of all three vehicle types increase as a function of the logarithm of their speed.

To evaluate the sound sources from the proposed mine processing facility and the semi-stationary material handling equipment (at the ore extraction, waste rock and soil stockpiling areas), a proprietary computerized noise prediction program was used by AAC to simulate and model the future equipment noise emissions throughout the area. The modeling program uses industry-accepted propagation algorithms based on the following American National Standards Institute (ANSI) and International Organization for Standardization (ISO) standards:

- *ANSI S1.26-1995 (R2004), Method for the Calculation of the Absorption of Sound by the Atmosphere;*
- *ISO 9613-1:1993, Acoustics -- Attenuation of sound during propagation outdoors-- Part 1: Calculation of the absorption of sound by the atmosphere;*
- *ISO 9613-2:1996, Acoustics -- Attenuation of sound during propagation outdoors -- Part 2: General method of calculation;*
- *ISO 3891:1978, Acoustics -- Procedure for describing aircraft noise heard on the ground.*

The calculations account for classical sound wave divergence (i.e., spherical spreading loss with adjustments for source directivity from point sources) plus attenuation factors due to air absorption, minimal ground effects, and barriers/shielding.

This model has been validated by AAC over a number of years via noise measurements at several operating industrial sites that had been previously modeled during the engineering design phases. The comparison of modeled predictions versus actual measurements has consistently shown close agreement; typically in the range of 1 to 3 dB (A).

References:

[1] FHWA Highway Traffic Noise Prediction Model; see Federal Highway Administration Report Number FHWA-RD-77-108, USA, Washington, D.C., 1978.

***A detailed presentation of blasting technology can be found in the annex 7.1 - Proposed blasting technology for the operational phase of Roşia Montană Project.***

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The partnership between Gabriel Resources and Regia Autonomă a Cuprului Deva (currently, CNCAF Minvest SA) has been established based on Law no. 15/1990 on the reorganization of the state owned companies as autonomous directions and trade companies, published in the Official Gazette, Section I, no. 98/08.08.1990, as subsequently amended and supplemented. Art. 35 of this law provides the possibility of the regies autonomous to enter into partnerships with legal third parties, Romanian or foreign, for the purpose of setting up new trading companies.

Roşia Montană Gold Corporation SA was set up in 1997, according to the legal provisions in force as at that time, the setting up being made by observing all the conditions imposed by Company Law no. 31/1990 and Trade Register Law no. 26/1990, in regard of the setting up of the joint stock companies with mixed capital.

We underline that the Articles of Associations of Roşia Montană Gold Corporation SA, representing the result of the parties agreement in regard of the terms and conditions under which the partnership between the Romanian state and investor takes place represents a public document, being included in the category of documents which, as per Law no. 26/1990 on the Trade Register, are published in the Romanian Official Gazette and for which the Trade Register is obliged to issue, on the expense of the persons submitting a request, certified copies.

As for the agreement concerning the setting up of the mixed company together with Gabriel Resources Ltd., this has been expressed by the Ministry of Industry and Trade, the conditions imposed by the setting up of the mixed company being the following: (i) ensuring of the jobs at the level existing upon the conclusion of the agreement concerning the setting up of the mixed company; (ii) the expenses incurred by the fulfillment of the exploration stage should be fully supported by Gabriel; (iii) the obtaining of the approval from the ANRM by the Copper Autonomous Direction Deva and (iv) the observance of all legal provisions in force concerning the setting up of the mixed companies with foreign partners. These conditions have been fully complied with as at the setting up of the company and during the development of its activity.

We also specify that the establishing of the shareholders' quotas to the benefits and losses of Roşia Montană Gold Corporation SA has been made by considering their contribution quota to the company's share capital. The current percentage of 80% for Gabriel Resources Ltd. and of 19.31% for CNCAF Minvest SA resulted from the initial contribution and the subsequent contributions of the shareholders to the company's share capital, in consideration also of Gabriel Resources Ltd. advancing all expenses and costs related to the development-exploitation and permitting of the Roşia Montană Mining Project.

The provisions of the Articles of Associations of Roşia Montană Gold Corporation SA on the necessary majority and quorum conditions for the decision-making process within the General Shareholders Meeting and the quotas to the benefits and losses of the company are taken from Law no. 31/1990, and no derogation exists in regard of this aspect.

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This claim is not true; the Urbanism Plan has been prepared with public consultation.

Roşia Montană Gold Corporation SA (RMGC) has requested and obtained from Alba County Council the Urbanism Certificate no. 78 of 26.04.2006, for the entire Roşia Montană mining project, including the tailings management facility. The Urbanism Certificate also stipulated the preparation of a Zonal Urbanism Plan, to reflect all changes made to the Roşia Montană Project, following the public consultations and debates organized in relation to this project, and the consultations with the permitting authorities. This plan, entitled "Modification of the Zonal Urbanism Plan, Roşia Montană Industrial Area", was prepared and subjected to public debate in June 2006 in accordance with the provisions of Order no.176/N/2000 issued by the Ministry of Public Works and Territory Development for the approval of the technical regulations "Guidelines regarding the methodology applied for the preparation and framework content of the Zonal Urbanism Plan" and, at present, it is pending approval.

Concerning the Roşia Montană General Urbanism Plan approved in 2002, such plan was prepared in parallel with the Zonal Urbanism Plan of 2002, all the provisions of the General Urbanism Plan being also included in the Zonal Urbanism Plan. Also, the approval procedure related to the two urbanism plans was carried out in parallel.

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Preventive archaeological researches within the Roşia Montană mining project area have been undertaken based on specific techniques, specifically trial trenches in all accessible areas that are suitable for human habitation, taking into account the bibliographical information and the observations recorded during the archaeological survey campaigns, the geophysical studies and the analyses of the photogrammetric flights. In addition, surface investigations were undertaken, where appropriate.

The archaeological researches at Roşia Montană covered a large surface and focused on the areas known to have archaeological potential. THEREFORE, ALL AREAS THAT HAVE BEEN ARCHAEOLOGICALLY DISCHARGED HAD BEEN PREVIOUSLY INVESTIGATED. All research programs, beginning with the 2004 campaign, have been undertaken in full compliance with the current legal requirements, i.e. Ministerial Order no. 2392 of 6 September 2004 on the establishment of the Archaeological Standards and Procedures by the Ministry of Culture and Religious Affairs.

The proposed gold mining project at Roşia Montană has raised a series of issues related to the rescue of the historical-archaeological heritage within the area, as well as issues related to its scientific development and also the enhancement of heritage within a museum. Given the complex difficulties encountered in this respect, the Ministry of Culture and Religious Affairs decided to initiate the "Alburnus Maior" National Research Program.

The company's role was to provide the necessary financial resources for the assessment, research and enhancement of the archaeological remains, in full compliance with the Romanian current legislation. The development of the research and of the archaeological discharge works has been conducted through specific means and methodologies that have been adjusted to the realities of every site researched, in our case, Roşia Montană. They consisted in:

- Archives studies;
  - Archaeological surveys; trial trenches;
  - aerial reconnaissance/survey and aerial photo interpretation ; high resolution satellite images;
  - mining archaeology studies; underground topography and 3D modeling;
  - geophysical surveys;
  - extensive archaeological investigations in the areas with an identified archaeological potential- this implied carrying out archaeological excavations;
  - Interdisciplinary studies- sedimentology, archaeo-zoology, comparative palynology, archaeo-metallurgy, geology, mineralogy;
  - Radiocarbon dating and dendrochronology;
  - This research and its results were included in an integrated database;
  - traditional and digital archaeological topography and development of the GIS project; generate a photo archive- both traditional and digital;
  - restoration of artifacts;
  - an inventory and a digital catalogue of the artifacts;
-

- studies conducted by specialists in order to enhance the research results - publication of monographs/scientific books and journals, exhibitions, websites, etc.

All the preventive archaeological researches undertaken at Roşia Montană since 2000 have been carried out as part of a complex research program; permits for preventive archaeological excavations being issued in compliance with the current legislation. These archaeological investigations have been undertaken by representatives of 21 specialized institutions from Romania and 3 others from abroad, under the scientific coordination of the Romanian National Museum of History. All archaeological researches have been conducted in full compliance with the existing legislation. The investigations undertaken during each archaeological research campaign have been approved by the Ministry of Culture and Religious Affairs based on the Annual Archaeological Research Plan approved by the National Commission of Archaeology.

Under the current legislation (Ministerial Order no. 2392 of 6 September 2004 on the establishment of the Archaeological Standards and Procedures by the Ministry of Culture and Religious Affairs) the archaeologists who have conducted the research may ask that an archaeological discharge certificate be granted. Based on a complex research program, the archaeologists prepare comprehensive documentation with regard to the researched area. Upon consideration of the submitted documentation, the National Commission of Archaeology makes a decision as to whether to recommend or not the granting of the archaeological discharge certificate. In the case of the research conducted in the period 2001-2006, the archaeological discharge certificate was issued directly by the Ministry of Culture and Religious Affairs or by its local agencies.

Preventive archaeological researches at Roşia Montană have allowed the research of five Roman cremation necropolis (Tău Corna, Hop-Găuri, Țarina, Jig - Piciorag and Pârâul Porcului – Tăul Secuilor), two funerary areas (Carpeni, Nanului Valley), sacred areas (Hăbad, Nanului Valley), habitation areas (Hăbad, Carpeni, Tăul Țapului, Hop), the most significant being the Roman structures on the Carpeni Hill and the circular funerary monument at Tău Găuri. In addition, for the first time in Romania, surface investigations have been paralleled by underground investigations of Cetate, Cârnic, Jig and Orlea massifs, with important discoveries in the Piatra Corbului, area, Cătălina-Monuleşti gallery and the Păru Carpeni mining sector.

The research consisted of aerial photo interpretation, archaeological magnetometric studies, electrical resistivity, palynology, sedimentology, geology studies, radiocarbon and dendrochronology dating. For a better management of the research units and of the archaeological findings, data bases were used, including text and photographs-among which 4 satellite images (an archive satellite image type SPOT Panchromatic (10m) from 1997; 2 satellite images LANDSAT 7 MS (30 m), dating from 2000 and 2003; a satellite image with priority programming SPOT 5 SuperMode color (2,5 m resolution-19 July 2004); all data have been included in a comprehensive GIS program, a first in the Romanian archaeological research.

In the case of archaeological monuments that are located close to industrial facilities, plans have been redesigned to ensure that the archaeological remains in question will not be affected. Where appropriate, the archaeological monument was preserved in situ and restored, i.e. the circular funerary monument at Hop-Găuri (see The "Alburnus Maior" monograph series, volume II, Bucharest, 2004). Another example in this respect is the Carpeni Hill, designated an "archaeological " reserve, and the Piatra Corbului area. In 2004, after being thoroughly investigated, these areas have been included on the List of Historic Monuments. Add to this the areas where ancient mining remains will be preserved, such as the Cătălina Monuleşti gallery and the mining sector Păru Carpeni, as well as the protected area Roşia Montană Historic Center, including a number of heritage assets (35 historic monument houses).

We emphasise in this respect that the identified and researched structures have been published in preliminary form in the Archaeological Research Chronicle of Romania, after every archaeological research campaign, as well as in volume 1 of the Alburnus Maior monographic series. We mention here the areas where Roman habitation structures have been identified and researched, as well as the references to be consulted for further information: Hop-Găuri, Carpeni, Tăul Țapului (CCA 2001 (2002), p. 254-257, no. 182; 261-262, nr. 185; 264-265, no. 188; 265-266, no. 189. Alburnus Maior I, 2003, p. 45-80; 81-122; 123-148; CCA 2001 (2002), 257-261; CCA 2003 (2004) ,280-283; Alburnus Maior I, 2003, p. 387-431, 433-446, 447-467).

For further details related to the applicable legal framework, the responsibilities of the Project titleholder, or for a detailed description of the preventive archaeological researches undertaken to date and of the

Cultural Heritage Management Plans, please see Annex called “Information on the Cultural heritage of Roşia and Related Management Aspects”. In addition, the annex includes supplementary information with regard to the result of the researches undertaken as part of the “Alburnus Maior” National Research Program between 2001 and 2006.

In conclusion, the area mentioned by the questioner has been researched in accordance with the Romanian legal requirements, as well as with European standards and practices in the field.

Note that the type of research undertaken at Roşia Montană, known as preventive/rescue archaeological research, as well as other related heritage studies, are done everywhere in the world in close connection with the economic development of certain areas. Both the costs for the research and for the enhancement and maintenance of the preserved areas are provided by investors, in a public-private partnership set up in order to protect the cultural heritage, as per the provisions of the European Convention on the Protection of the Archaeological Heritage (Malta-1992) [1].

References:

[1]The text of the Convention is available at the following address:  
<http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=143&CM=8&DF=7/6/2006&CL=ENG>

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In 2000, in the context of the proposal of a new mining project in the Roşia Montană area, the Ministry of Culture and Religious Affairs approved a series of studies to be conducted in order to research the archaeological and architectural heritage of the area. And at the end of that year, the Design Centre for National Cultural Heritage (now the National Institute for Historical Monuments) presented the preliminary results of these researches to the National Commission for Historical Monuments and of the National Commission of Archaeology. Based on these results, in 2001, the Ministry of Culture and Religious Affairs initiated the “Alburnus Maior” National Research Program (the Order no. 2504 / 07.03.2001 of the Minister of Culture and Religious Affairs) in compliance with the Law 378/2001 (as subsequently amended by Law 462/2003 and by Law 258/2006 and Law 259/2006). Thus, since 2000, the Ministry of Culture and Religious Affairs – directly or through its subordinate institutions - has fulfilled its duties with regard to the management of the issues related to Roşia Montană’s heritage.

Thus, the preventive archaeological researches have been conducted by the representatives of 21 national institutions and 3 others from abroad under the scientific coordination of the National Museum of History of Romania. They have been carried out based on the annual approval of the National Commission of Archaeology of the Ministry of Culture and Religious Affairs. In accordance with the legislation in force, this research program is carried out with the financial support provided by RMGC (the company that plans to expand and continue to mine the gold-silver deposit in Roşia Montană). Thus, large-scale preventive investigations have been conducted or are underway in the RMP impact area. A proposal will be made based on the results thereof either for the archaeological discharge of some researched perimeters from the project perimeter or the preservation *in situ* of certain representative structures and monuments, in compliance with the legislation in force. In the case of the areas proposed for conservation and the ones for which the archaeological discharge measure was applied, the decision was made based on the surveys conducted by specialists and on the analysis of the National Commission of Archaeology. In the period 2000-2005, the mining project underwent a series of modifications designed to promote the implementation of the decision regarding the conservation of the local heritage. Examples of these include: extending the duration of the field investigations on several years (e.g. Țarina, Pârâul Porcului, Orlea) and changing the location of some elements of infrastructure in order to allow the conservation of the archaeological remains found in the Carpeni, Tău Găuri and Pietra Corbului areas.

**The architectural and town-planning surveys** have been conducted, in accordance with the legislation in force, by companies certified by the Ministry of Culture and Religious Affairs, while the town-planning documentations drafted by these companies and the restoration and conservation works undertaken so far have been approved by the National Commission for Historical Monuments. Thus, the town-planning documentations have been approved and implemented in accordance with current legislation, and the company has agreed to these decisions and modified the mine development plans accordingly:

**Extensive ethnographic research** was conducted in the Roşia Montană-Abrud-Corna area in the period 2001-2004 coordinated by a team of specialists for the Romanian Village Museum „Dimitrie Gusti” (a National Museum directly under the coordination of the Ministry of Culture and Religious Affairs). Moreover, a broad series of oral history interviews was conducted in the period 2001-2002 by the Romanian Radio Broadcasting Company through the „Gheorghe Brătianu” Oral History Centre, Bucharest (SRR - CIO).

In compliance with the requirements of the Ministry of Environment and Waters Management and the Ministry of Culture and Religious Affairs, specific management plans have been drawn up for the management and conservation of the heritage remains from the Roşia Montană area, in the context of the implementation of the mining project. These plans have been included in the documentation prepared for the Report on the Environmental Impact Assessment Study. (see EIA Report, volume 32-33, *Plan M-Cultural Heritage Management Plan*, part I –*Management Plan for the Archaeological Heritage from Roşia Montană Area*; part II-*Management Plan for the Historical Monuments and Protected Zone from Roşia Montană*; part III- *Cultural Heritage Management Plan*).

These management plans comprise detailed presentations of the obligations and responsibilities regarding the protection and conservation of the heritage remains from the Roşia Montană area, which the company has assumed in the context of the implementation of the mining project, according to the decision of the central government. These heritage remains include: archaeological remains above and under the ground, historic buildings, protected areas, intangible heritage assets, cultural landscape items, etc. In this context, it should be noted that besides the works for the protection and preservation of the archaeological heritage, works are being carried out for the rehabilitation and conservation of the protected area Historical Centre Roşia Montană (comprising 35 historic buildings, and projects for the restoration of 11 of these buildings are currently being drafted), Tăul Mare, Tăul Brazi and Tăul Anghel as well as remains of the surface mining works from the Vaidoia area and the creation of a modern museum dedicated to the history of mining in the Apuseni Mountains area. This museum will be established in the coming years and it will include exhibitions of geology, archaeology, industrial and ethnographic heritage as well as an underground section organized around the Cătălina Monuleşti gallery.

Moreover, representatives of the Directorate for Culture, Religious Affairs and National Cultural Heritage of Alba County have visited Roşia Montană many times in order to collect information and to check the situation. The same administrative body was the intermediary for the specific stages of acquisitions of historic buildings made by RMGC. The Ministry of Culture and Religious Affairs expressed its pre-emption right regarding the acquisition of these buildings.

Note that apart from the obligations undertaken by RMGC as regards the protection and conservation of the archaeological remains and historical monuments, there are a whole series of obligations, which rest with the local public authorities from Roşia Montană and from Alba County and with the central public authorities, namely the Romanian Government.

These aspects are further detailed in the Cultural Heritage Management Plans included in the EIA Report (see EIA Report, volume 32, *Management Plan for the Archaeological Heritage from Roşia Montană Area*, pages 21-22, 47, 52-53, 66-67-Romanian version/ 22-24; 47; 55-56; 71-72 English version) and the EIA Report, volume 33- *Management Plan for the Historical Monuments and Protected Zone from Roşia Montană* pages 28-29, 48-50, 52-53, 64-65, page 98 – Annex 1- Romanian version/ 28-29; 47-50; 51-53; 65-66; 103- Annex 1- English version).