

Environmental Remediation at Paddock Tailings Area, Gracanica, Kosovo

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and Economic Cooperation**

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Sida Evaluation 04/32

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Executive Summary

Introduction

The Gracanica tailings area is situated close to the village of Gracanica in southern Kosovo. The site is approximately 40 ha and it rises some 20 meters above the natural ground level. The tailings area was constructed by Trepca in the mid 1900's to accommodate a significant quantity of mine wastes, 11 million tons, from the processing of ore to recover the minerals lead and zinc.

The tailings are potentially harmful to the environment, especially for people in the adjacent community. The environment is mainly affected by wind-blown dust and contaminated water from the area.

Year 2000 Sida decided to support UNMIK's (United Nations Interim Administration Mission in Kosovo) Department of Trade and Industry with an amount of 5 MSEK. The programme was called Environmental Remediation in Gracanica. The implementing institution was Trepca, which is the former state industrial conglomerate with mining and smelting as its core business.

The funds for the project were originally transferred to UNMIK Department of Trade and Industry, but this was later changed and funds are nowadays handled by the Ministry of Finance and Economy.

The overall objective of the project was to improve people's health and the environment as a whole. It was also anticipated that the project would provide job for unemployed people.

The project was planned to be finalised 2001, but it has been delayed several times and is now anticipated to end 2004.

Sida decided to carry out an evaluation of the project in May 2004 before taking any decision on continued support to Trepca. (A request for continued support from Trepca was submitted to Sida in October 2003.)

The evaluation was carried out by Sweco International and included besides the existing project also a review of the present request and proposals for improvements, in case a continuation was deemed feasible.

The evaluation process contained interviews with relevant stakeholders and a visit to Kosovo was made in August 2004.

Relevance

The project is prioritised in a reconstruction perspective and is in line with the Swedish aid objectives, Sida's action plan and the guidelines for Swedish support to Kosovo.

One of two major polluting industries in Kosovo is the mining complex Trepca. Besides rehabilitation of concentrators and smelting facilities there are totally eight tailing areas to be remediated in accordance with Trepca's own Pollution Control Plan. The evaluated project addresses problems that are clearly a priority for both Trepca and the Ministry of Environment.

Thus, all kinds of support to reduce the environmental impact from the mining sector must be considered relevant.

Achievement of objectives

Objective	Fulfilment
To study the environmental situation in Gracanica, incl. geotechnical investigations of tailings area and dams.	High
To control the spread of lead contaminated dust by wind.	Medium
To stabilize the tailings area	Medium
To control stored hazardous chemicals used in the concentrator operation	None
To reduce and control contaminated water (acid mine drainage)	Low

The objectives themselves are realistic. However, if the original intention was to fully finance the implementation of the activities to reach those objectives there was certainly a large discrepancy between fulfilling the objectives and funding available.

Impact, Efficiency and Sustainability

The project has had an impact in both the short and long-term perspective in regard to maintaining the stability of the perimeter slopes, preventing pollution of surface water and reducing the windblown dust. However, only some 30% of the total tailings area is covered by soil and additional measures should be made to complete the works.

The timing is obviously not in accordance with initial expectations as there are three extension agreements. The original timetable cannot be considered realistic considering the prevailing conditions. There are several factors having an influence on the timely execution and some of them are due to unforeseen circumstances.

The cost and timely effectiveness of the project can be questioned mainly on the item concerning revision of the design.

The procurement of the major implementation works was carried out in full competition according to procurement regulations, which ascertains the most cost efficient solution. More than 70 percent of the budget was used for local contractors.

Trepca is the owner of the project in all respects. Although the responsible manager at Trepca, belonging to the international staff, has performed his duties well, there is no capacity to take over his responsibilities in case of replacement of the international personnel. It could have been a reasonable approach to fund also a local Trepca officer to certify a better sustainability of future management.

Future Project

The basic principle of the proposed measures in the request for continued support provided by Trepca is sound. However, the descriptions of the proposed activities are scarce and objectives and accompanying activities should be elaborated. We propose that local staff will be included during project execution in order to ascertain sustainability of the management of tailings areas within Kosovo.

We recommend Sida to provide funds for the proposed project taking the above pre-requisite concerning local participation into consideration. We even recommend an enlargement of the budget to allow

soil covering of the whole area to completely prevent windblown dust. By this measure one will obtain the effect that the project can serve as a “good example” for remediation at other tailings areas.

For a project limited to finalise the works in Gracanica, there is no compelling reason to change the current set-up with Trepca as implementer.

We also advise Sida to establish a contact with other donors, especially the Dutch Government and European Agency for Reconstruction, before implementation, in order to share their experience from similar projects.

Lessons Learned

Apart from the specific conclusions pertaining to the on-going project and proposal for future support, there are some general lessons learned:

- A flexible approach, i.e. initiating a project with the intent to work out details of activities and implementation gradually, is in some cases possible and perhaps even preferable. However, it is necessary to monitor such projects closely according to procedures agreed at the outset.
- Direct coordination between donors active in the same sector is crucial to the success of any programme.
- Even for projects that are primarily focused on very specific technical results, the capacity building of national experts within the appropriate entities should always be addressed.
- For any project involving funding for investments, parallel cost estimate through the implementation of the project is crucial and should be communicated clearly between project management and funding agencies through mechanisms and with a timing established during the project's inception.
- Projects should be analysed carefully in the programming phase to assess a realistic timeframe.



Covering of the perimeter of the tailings area in Gracanica, August 2004.

Table of Contents

1	Programme Context	7
1.1	Development Context	7
1.2	Project Documents and Objectives	7
1.3	Implementation Modalities	8
1.4	Project History	8
2	Evaluation Methodology	9
2.1	Purpose and Scope	9
2.2	Approaches	9
2.3	Limitations	6
3	Findings	10
3.1	Studies and works	10
3.1.1	Phase 1 Environment Assessment	10
3.1.2	Phase 2 Technical Investigations and Design	11
3.1.3	Phase 3 Revision of Design and Other Minor Actions	11
3.1.4	Phase 4 Remediation Works	11
3.2	Implementation Modalities and Participating Institutions	12
3.2.1	Trepca and Project Management	12
3.2.2	Financing and Procurement Mechanisms	13
3.2.3	Other Participating Institutions	14
3.2.4	Related Projects and Plans	14
3.2.5	Sida Support and Programming	15
4	Conclusions and Recommendations	16
4.1	On-going Project	16
4.1.1	Relevance	16
4.1.2	Achievement of Objectives	17
4.1.3	Impact	18
4.1.4	Efficiency	18
4.1.5	Sustainability	18
4.2	Proposal for the Future Project	18
5	Lessons Learned	20
Appendices		
1	Terms of Reference	23
2	List of Persons Interviewed	28
3	List of Documentation and Other References	29
4	Environmental Demands and Programme	31
5	Tailings areas – Current Status, Funding and Activities	32

Abbreviations

EAR	European Agency for Reconstruction
KTA	Kosovo Trust Agency
MOESP	Ministry of Environment and Spatial Planning
UNMIK	United Nation Interim Administration Mission in Kosovo

1 Programme Context

1.1 Development Context

Sida opened the Liaison office for Kosovo in 1999 and the project “Environmental remediation at paddock tailings area, Gracanica, Kosovo” was initiated shortly after. Environmental protection is one of the objectives for Sida support to Kosovo and a “Strategic Environmental Assessment of Kosovo” was made in 2001. Support to remediation of sites affected by mining is one of the recommended areas in this strategy.

1.2 Project Documents and Objectives

The project was initiated in late 2000 through a request from Trepca to Sida. However, since there seems to be some uncertainties (on Sida’s and the project management’s part) regarding what actually constituted the original proposal and objectives, a review of the existing documents and original objectives was necessary. A summary of original project documents are listed below:

- Project proposal for limited environmental remediation at the Gracanica Concentrator. This is a brief proposal, but it is not dated or signed. It was registered in the year 2000 at Sida. The proposal describes four tasks with individual budgets. A LFA matrix dated November 14 is attached.
- Sida’s Project Assessment Memorandum (Bedömningspromemoria) dated 2000-11-27
- Sida’s Decision of project support (Beslut om insatsstöd), dated 2000-12-15
- Specific Agreement between the Government of Sweden and the United Nations Interim Administration Mission in Kosovo (UNMIK) on Support to Environmental Remediation in Gracanica. The document was signed December 2000, and covers legal and contractual issues besides specifying a budget of 5 000 000 SEK.

The above mentioned project proposal is the only one that could be found in the archives of Sida and Trepca. Due to the fact that the proposal is neither dated nor referred to in any other document, we will henceforth refer to the project objectives as they are stated in the Project Assessment Memorandum.

Project objectives:

- To study the environmental situation in Gracanica, including geotechnical investigations of tailings area and dams.
- To control the spread of lead contaminated dust by wind.
- To stabilize the tailings area
- To control stored hazardous chemicals used in the concentrator operation
- To reduce and control contaminated [mine]* water

* The actual objectives do not specify acid mine water, but it is clear from the context and described activities.

The support was suggested to have a flexible approach in order to allow for adjustments according to changed circumstances.

These objectives are more or less consistent with the original project proposal, although this proposal also mentions measures to protect the health and safety of the concentrator workers. This was reportedly handled by Trepca directly and required no specific donor support.

1.3 Implementation Modalities

The Specific Agreement was from the outset between Sida and UNMIK Department of Trade and Industry. The implementing institution was *Trepca*, which is the former state industrial conglomerate with mining and smelting as its core business.

The funds for the project were originally transferred to UNMIK Department of Trade and Industry, but this was later changed and funds are nowadays transferred to the *Ministry of Finance and Economy*. *Trepca* makes a request for withdrawal of funds through a Commitment and Payment Order.

Other institutions participating to a varying degree are listed below.

Gracanica Community Office of the Pristina Municipality is a satellite office for the municipality in the Gracanica area handling all issues related to minority groups in the area, including Serbs, Romans and Turks (non Albanian groups are most numerous in the close vicinity of the Gracanica tailings area).

Ministry of Environment and Spatial Planning is the regulatory body in the Environmental sector and perform all the work within this sector, while the local parliament is the deciding body. UNMIK approves issues related to budget and legislation.

Ministry of Environment and Spatial Planning is the regulatory body in the Environmental sector and still under UNMIK control.

Directorate for Mines and Minerals is the lead entity for the mining sector and still under UNMIK control.

A description of the involvement of the individual institutions can be found in Chapter 3.2.3.

1.4 Project History

The project can be divided into four phases:

Phase 1 Environmental assessment

Phase 2 Topographic survey, geotechnical investigations and design of remediation measures

Phase 3 Design revision, air monitoring, pilot plant for acid mine drainage, purchase of soil for cover

Phase 4 Implementation of rehabilitation of perimeter slopes and toe perimeter drains

Below is a summary of timing for the main activities.

Date	Document	Involved parties (besides Sida)
December 2000	Specific Agreement on support to environmental remediation in Gracanica	UNMIK/Trepca
March 2001	Agreement: Study on heavy metals in blood*	Lund University
May 2001	Report: Environmental Assessment of Gracanica/Kisnica, Kosovo	CSA Sinclair Knight Merz
June 2001	Proposal for Stage II: Technical assessment of the Gracanica tailings dam	CSA Sinclair Knight Merz
October 2002	Elaborate for geomechanical investigations and laboratory testing on tailing dam in Gracanica-Kosovo	Geing, Skopje CSA
October 2002	Report from conducted cone penetration test (CPT) on tailing dam in Gracanica-Kosovo	Geing, Skopje CSA

February 2003	Design documents: Proposed environmental remediation of Gracanica tailings facility – drawings, specifications and bills of quantities	CSA
October 2003	Agreement: Minor local supply and spreading of fill material	UNMIK/Trepca
October 2003	Agreement: Supplementary works for finalizing tender documents	UNMIK/Trepca Golder
October 2003	Revised design documents for stabilisation of the perimeter slopes	Golder
March 2004	Agreement: Implementation of the Phase 1 Tailings Rehabilitation Programme	UNMIK/Trepca
April 2004	Award of Contract for rehabilitation of perimeter slopes	UNMIK/Trepca and Kastrioti

* The study was carried out as a supporting study for the environmental assessment and was not financed by the Specific Agreement between UNMIK/Trepca and Sida.

2 Evaluation Methodology

2.1 Purpose and Scope

The purpose of this evaluation is twofold:

1. To review results achieved of the on-going project
2. To assess the proposal for continued support to clean-up activities in Gracanica

The Terms of Reference for the evaluation is provided in Appendix 1.

2.2 Approaches

The evaluation started by a meeting with Sida's programme Officer in Stockholm, including data collection and discussions and agreement on a suitable time for a visit in Kosovo. Due to vacation periods the visit was carried out in between August 24th and September 1st, 2004.

During the visit in Kosovo two field visits at the Gracanica tailings area were performed. Main inputs regarding the project was received at meetings with Sida's Programme Officer in Kosovo and Trepca's Health, Safety and Environment Officer. Furthermore, a number of meetings with other stakeholders were held. Trepca assisted kindly and set up most of those meetings. Additional documents were also collected.

A list of persons met in enclosed in Appendix 2.

A list of documents reviewed are shown in Appendix 3.

2.3 Limitations

It should be observed that the evaluation is not a financial audit. Neither has the evaluation included any review of local legislation, i.e. remarks made by any stakeholder on existing regulations have been taken for granted.

3 Findings

All findings presented in this report must be seen in the light of the very special conditions prevailing in Kosovo. There has been a rapid change in institutions since the start of the project and there is still no consolidated institutional and political structure allowing “ideal” arrangements for implementation. Continuous tensions affect relations between institutions and creates unexpected obstacles. Furthermore, the project was initiated shortly after Sida and other donors arrived amidst chaotic conditions and tumultuous changes.

This chapter principally concern findings related to the on-going project. Conclusions on the proposal for future work are presented in Chapter 4.2.

3.1 Studies and works

The activities can, as shown in Chapter 1.4 above, be divided in four phases.

3.1.1 Phase 1 Environment Assessment

The project started with an environmental assessment providing an overview of the existing contamination in soil, ground and surface water and locally produced foodstuff. In parallel, Sida also financed a study on blood lead level monitoring on local school children.

The environmental assessment identified a number of problem areas, such as:

- A high degree of contamination in surface water with the highest concentrations in close proximity to the Paddock dam.
- Groundwater contained a high concentration of arsenic.
- The highest soil and groundwater arsenic concentrations were adjacent to the Gracanica River.
- Concentrations of metals in soil were generally high.
- High metal concentrations in vegetables.

Although there may be naturally high metal concentrations in the area it was obvious that there is an impact from leachate and windblown dust from the Paddock Dam.

Water is mainly supplied from the town reservoir east of the town. However, during summer months local residents rely on groundwater.

The land use in surrounding areas are residential and subsistence agriculture. Vegetables and fruit are grown in most domestic gardens. Furthermore, cattle and sheep are grazing in and around the villages.

The basic approach to make an overall assessment of the pollution situation is considered an appropriate initial action.

The blood lead level analyses aimed to provide Sida with background information and not to haste into funding a project to cover the tailings area. However, the study showed the unexpected result that contamination level was higher for people in the surrounding villages, originally intended to be reference values. The study did not take into account actual recent resettlements in this area and it seems the exposure time for contamination for individuals was never considered. Thus, the results from the study did not contribute much to the understanding of the impact from the mine tailings.

3.1.2 Phase 2 Technical Investigations and Design

Besides the direct contamination issues also the stability of the dam sides was a major concern and Phase 2 contained a topographical survey and geotechnical investigations focusing on the stability of the dam perimeter. The actions provided necessary background information for the design works to follow.

The initial design contained the following environmental measures:

- A diversion ditch for surface water run off along the hillside
- Covering of the flat surface to allow vegetation (80 cm thick cover)
- Installation of a drainage system for surface water on the flat top surface preventing ponding and reduce production of leachate
- Improvement of the perimeter toe drains
- Reprofile, cover and vegetate the perimeter slopes

All the proposed actions will definitely have an impact and be considered as appropriate for stabilising the perimeter slopes, reducing the leachate amount and prevent windblown dust. However, Trepca did not accept the proposed design, as there was no funding available for such an ambitious rehabilitation scheme.

3.1.3 Phase 3 Revision of Design and Other Minor Actions

The original design for stabilisation of the dam perimeter slopes was revised by Golder, a consultant already working for Trepca performing similar design works at other tailing areas in Kosovo.

Under phase 3 also some minor activities have been included, such as installation of air monitoring equipment, purchase of local soils from nearby excavation works for covering of the surface and a test pilot plant for treatment of acid mine drainage from the Kisnica mine upstream the Paddock dam.

3.1.4 Phase 4 Remediation Works

During the winter 2003/04 procurement procedures were made and a local contractor was selected to perform the remediation works, starting in the summer 2004. The works include stabilisation works by minor reshaping of the slopes and covering the perimeter with 300 mm of soil. Also improvement of the perimeter toe drain is included in the works.

The soil used for cover is taken from the area adjacent to the Paddock dam. The Gracanica community agreed to use the soil as cover material.

The remediation works presently carried out was identified to fit the budget available and the works is concentrated to stabilise the perimeter of the dam thus reducing the risk for a severe dam failure.

The remediation works carried out so far has some impact on the pollution of the surface water, but rather limited impact on generation of leachate contaminating groundwater. It has also a certain impact on the dust problem, but the major surface is still exposed to wind.

The approach shall be seen in the light that Trepca has a number of remediation actions taking place and that the lack of funding is a major obstacle. Thus, the approach to initiate works to fit the budget available is understandable.

The evaluation team made two site visits in August 2004. Covering of soil on the perimeter slopes was going on and information was provided that the works should be finalized around mid-September. Rehabilitation of toe drains had not started yet.

It is worth noting, that while the EIA focused on groundwater contamination through leaching of heavy metals from the site, the remediation work carried out do not to a substantial degree address this problem. The remediation measures do primarily address to secure the stability of the dam perimeter and the spread of dust and only slightly limit leachate generation and do therefore not significantly reduce the problem of groundwater contamination. That would require either a more impermeable top layer and/or measures to reduce inflow of surface water from the adjacent hill.

It is important to note that protection of groundwater does in technical term represent an additional objective requiring additional measures. The project has not been entirely consistent in its execution in this respect.

It is a common procedure in (for example in most EU funded projects) today that design works are required to be performed very much in parallel to making cost estimates. The technical objectives could have been prepared for alternative solutions at a conceptual level and the detailed design could have been adopted to fit the budget.

Summary of findings for studies and works

- The implemented works are appropriate given the limited budget for works.
- The technical objectives (only dust control or also limiting leachate generation) of the project should have been more clear throughout the implementation
- Time and money would have been saved if the financial limitations would have been realised from the outset and resources had not been allocated to design measures that could not be covered by the budget for works.

3.2 Implementation Modalities and Participating Institutions

3.2.1 Trepca and Project Management

The project management at Trepca seems almost to have been limited to one single person, the international Health, Safety and Environment Officer contracted by UNMIK, working from within Trepca. The project manager has received administrative support from Trepca's general staff but has had only limited support in terms of technical experts (a local, technical expert is seconded for the southern tailings area, but there appears to be no project team per se). It is also worth noting that the project manager's duties is not limited to Gracanica but he also handles the complete environmental clean-up programme including other remediation of tailing areas and these projects has the same limited set-up. The lack of a project team with national technical experts do not only hamper project execution but also seriously limits capacity building and sustainability.

The project manager has clearly been very committed to the success of the project and achieved tangible results despite administrative and other obstacles.

Although the specific agreement is made with UNMIK, they have not provided any direct involvement apart from the seconded expert within Trepca. Trepca is under the Kosovo Trust Agency, which is ultimately accountable for its management but whose direct role is limited to handle major procurements.

While the technical decisions made have been pragmatic and sound there has been a lack of project planning and financial estimates. The lack of consistency in planning through assessments, design and execution of works could perhaps have been avoided with more support and better-established project management modalities.

Although Trepca has provided status reports to Sida, it cannot be verified that objectives and financial limitations were discussed or reviewed when decisions were taken on the step-by-step implementation procedures.

Some minutes of meetings/reports occur at irregular intervals probably at times when there was any progress considered worth reporting. In general, the project files, both Trepca's and Sida's, lack some kind of overall itinerary. There are of course agreements and other documents for most of the activities carried out, but in order to simplify the follow-up of the project progress those agreements could have been numbered and presented in a simple table including e.g. the number of the "batch of works", date for agreement, date for reports, etc.

Despite the fact that real progress has been achieved, it could therefore be concluded that the project set-up could not adequately handle the flexible approach.

3.2.2 Financing and Procurement Mechanisms

The project is funded by an indirect modus operandi through the Ministry of Finance and Economy (MFE) that is standard procedure in Kosovo.

After project approval and signing the Specific Agreement with UNMIK Sida (in this case) transfers the project budget to MFE. The budget is subsequently allocated to a special account and MFE divides the money according to budget lines specified by the project agreement or according to instructions from the donor. Trepca as implementing entity will then apply for payments for each project stage or activity through a CPO: Commitment and Payment Order. The CPO must be signed by three Trepca managers and describe the process of procurement. MFE verifies that the CPO corresponds to the appropriate budget line and notes (although not reviews) the statement regarding procurement procedures.

The time from submission of a CPO to MFE to actual payment of a contractor is in the range between three weeks to three months. The stakeholders provide different information regarding the time span.

The procurement procedures follow the national law of procurement. Trepca may directly handle procurement up to 25 000 EUR themselves, but above that figure the procurement is handled by KTA.

Although the project manager at Trepca has expressed strong concerns regarding the slow payment process, the overall view of concerned institutions (Trepca, KTA and MFE) is that the system nowadays works satisfactory. The initial problems with delays and misunderstandings regarding procedures appear to have been straightened out.

As stated initially, the same procedures are followed by almost all donor funded projects whether they are bilateral, EAR, World Bank etc. One of few exceptions is actually one Sida funded project concerning district heating.

It is possible to choose a different, more direct mechanism and both KTA and MFE stressed that it is up to the donor. However, MFE also stressed some of the advantages of the current system:

- It provides a transparency,
- The funding can be followed through the Ministry's monthly, quarterly and yearly reports
- It assists the country in monitoring the flow of assistance into Kosovo, which is crucial in the prevailing, rather donor dominated, economy.

In conclusion, as long as the implementing agent is a national entity there seems to be no compelling reason to change this system for funding of the Sida support in the mining sector.

3.2.3 Other Participating Institutions

Apart from Trepca, the following organisations have participated to various degrees.

Gracanica Community Centre of the Pristina Municipality. This office has been very supportive and enthusiastic about the project from the start. It is also interesting to note from our interview that they have a clear view of their role, which they have fulfilled throughout. They have acted as facilitator in all aspects related to their jurisdiction and one important component has been identifying an area to excavate topsoil for the covering. However, they state very clearly that they do not have neither the mandate nor the competence to participate in any detailed technical decisions. It should be noted that the community office does not have an environmental department, and these issues are handled directly by Pristina Municipality's main office.

Ministry of Environment and Spatial Planning. It appears as if the Ministry and Trepca have different views of what should be the role of the Ministry in the project. Although the Ministry is very supportive of the project and its overall objective, they have expressed concerns regarding the lack of proper procedures for obtaining permits for project activities, especially the excavation of topsoil. The project management at Trepca do not believe they have got sufficient support and cooperation from the Ministry. They would have liked the Ministry's involvement to go beyond a regulatory role.

The following should be noted in relation to the Ministry's role in the project:

- The Ministry is in principle correct in insisting that they maintain regulatory roles even in a project, which overall aim is environmental protection. Some kind of permit to excavate soil used for environmental remediation would be standard procedure in any country, and there is no reason why the Ministry should not assume that role in Kosovo since it is within its mandate.
- At the same time, under ideal conditions the Ministry's participation should not be limited to a regulatory function, but also include a strategic role in projects like this. It should ideally be involved in the future identification of high priority remediation project and ensure that the identified interventions are in line with national priorities and guidelines. (Project implementation, however, could possibly interfere with its role as regulator.)

Directorate of Mines and Minerals. The Directorates' role has been very limited. Since the activities do not include any on-going mining activities it is the view of both DMM and Trepca project management that it falls outside their mandate and sphere of interest. They are, however, interested to ascertain the stability of the tailings areas after the remediation work.

3.2.4 Related Projects and Plans

Trepca has prepared a policy document "Pollution Control Plan of the Trepca Mining Complex, Kosovo", dated 15 February 2001. Remediation of tailing areas is part of the overall scheme for environmental clean up. A summary of environmental issues and financial demands for Trepca is provided in Appendix 4.

There are altogether eight tailings areas in Kosovo. Of these eight areas two sites (Gracanica and Zitkovac) has been assessed and remedial actions have been designed and implementation is on-going. Assessment and design are in progress in additional five sites.

Sida's support is focused on Gracanica and the funds for the project cover studies, field investigations and remedial works.

The other main donor for investigations and remediation of tailings areas is the Dutch Government. The Dutch programme originally included several components addressing site clean up at the mineral

refineries, tailings assessments, mine reactivation, safety and health, etc. Of these, three programmes continue at this time:

- Site clean up at the lead refinery
- An assessment and design of remedial measures at five tailings area. The project do not cover costs for actual works but the European Agency for Reconstruction (EAR) provides funds for remediation at Zitkovac.
- A health programme managed by WHO for population exposed to the pollution from the tailings areas. This programme comprises four parts; 1) health risk assessment 2) public awareness campaigns 3) capacity building of health workers and 4) risk management activities. Some activities are similar with the blood lead level analysis made in the Sida project, but the scope and methodology reportedly different.

The overall budget for the Dutch programme is at present, after some revisions over time, 2.75 million Euros.

A summary of current status for the remediation of tailings areas is shown in Appendix 5.

3.2.5 Sida Support and Programming

The project was approved in December 2000 by Sida's office in Sweden and has been handled jointly by Sida's department for cooperation with Eastern Europe and the Sweden's liaison office in Pristina.

One difficulty in monitoring and handle decisions on payments for the project appears to have been the rather limited documentation. The project documents, which have served as a reference point for the responsible programme officers, have been the assessment memorandum and the Specific Agreement. Neither the programme officer at the Sida office in Kosovo nor the project manager at Trepca has had access to the assumed original project proposal (which is slightly more detailed regarding project activities and budget, but still rather brief). This, and the lack of keeping the established procedures for reporting and review of project status in the Specific Agreement, has made the project monitoring difficult.

Therefore many decisions regarding release of funds for different stages of the project seems to have been made without the possibility of reviewing the overall picture: are the project objectives as originally envisaged being addressed, are the project being implemented within its budget, are the studies carried out required for the envisaged works etc.

Again, these findings should be seen in the light of the very difficult conditions in Kosovo, when the project was initiated.

However, it would have been advisable for Trepca and Sida to at some point into the project jointly review project proposal, budget and future plans in order to re-assess project objectives and activities and establish a more clear monitoring and reporting procedures.

Another observation is that the project and the sector as a whole would have benefited greatly from increased coordination of donor-funded activities. At present, all donor agencies agree that there is no coordination between the different projects in the sector. The different effort by Sida, the Dutch government and EAR would have been more effective if it had been part of a more coordinated effort.

Summary of findings regarding implementation modalities

- The project has overall been well managed by the project manager.
- A main drawback has been the limited project team, especially the lack of full time participation from national experts. This has both hampered implementation and limited the project's sustainability.
- Implementation through Trepca was most probably the right decision under present conditions, but this should be reviewed if any broader project is considered for the future.
- The participation of other institutions such as the municipality has been satisfactory; although the Ministry of Environment should be given a more strategic role in future projects in the sector.
- The financing mechanism seems to be appropriate enough, and there are no compelling reasons to change that for future similar projects.
- A main drawback has been that no detailed project plan has been agreed upon between Sida and project management, and that clear modalities for financial estimates and review of progress have not been established.
- Coordination with other donors would have improved the projects impact and efficiency.

4 Conclusions and Recommendations

The conclusions below aim at providing a response to questions raised in the Terms of Reference.

4.1 On-going Project

4.1.1 Relevance

The project is prioritised in a reconstruction perspective and is in line with the Swedish aid objectives, Sida's action plan and the guidelines for Swedish support to Kosovo. See also Chapter 1.1.

The two major polluting industries in Kosovo are the mining complex Trepca and the power company KEK. Thus, all support to reduce the environmental impact must be considered relevant.

There is an overall assessment of Trepca's environmental problems in "Pollution Control Plan of the Trepca Mining Complex". Besides the more complex rehabilitation of concentrators and smelting facilities there are totally eight tailing areas within the Trepca complex. The project addresses problems that are clearly a priority for both Trepca and the Ministry of Environment, although it addresses only part of the problem.

The on-going project 1) addresses the overall environmental impact in Gracanica; 2) provides necessary background information by performing field investigations for the design and 3) starts implementing certain components of the design within the available budget. The approach is quite relevant for this type of environmental remediation projects. However, it seems that funding of the activities has originally been greatly underestimated.

The side-project Elements in Blood, Soil, Tap-water and Air Borne Dust must be considered relevant at the time it was performed with a general lack of information of the prevailing pollution situation in Gracanica. However, the results did not provide any significant contribution in assessing the impact on human health of the tailings area, as e.g. recent resettlements were not taken into account.

The project creates a large involvement of a local contractor performing the rehabilitation of the dam perimeter slopes. Out of the total project budget of 5 MSEK the contribution to the Kosovo contractor is approximately 3 MSEK or 60 percent. Another 700 000 SEK has been spent for sub-contracting a Macedonian company for geotechnical investigations.

4.1.2 Achievement of Objectives

The background for identifying the objectives of the project is described in Chapter 1.2.

Objective	Fulfilment	Comment
To study the environmental situation in Gracanica, including geotechnical investigations of tailings area and dams.	High	The environmental assessment and the field investigations have been carried out providing the necessary background information for design and further implementation.
To control the spread of lead contaminated dust by wind.	Medium	The perimeter slopes is approx. 30 percent of the total area. This area is soon covered by soil. The remaining flat surface will still be left open for wind exposure.
To stabilize the tailings area	Medium	The dam perimeter slopes are being covered by soil as erosion protection. Improvement of the perimeter toe drains is also included in the works contract. Diversion of surface runoff from the hillside, prevention of ponding at the surface and sealing of the surface to prevent infiltration of precipitation have not been accomplished.
To control stored hazardous chemicals used in the concentrator operation	None	Trepca performed clean-up actions with the assistance of Swebat. No funds were used from the project budget.
To reduce and control contaminated water (acid mine drainage)	Low	A minor amount of money was used for construction of a simple pilot plant in the creek. However, the results have not been very successful.

The objectives themselves are realistic. However, if the original intention was to fully finance the implementation of the activities to reach those objectives there was certainly a large discrepancy between fulfilling the objectives and funding available.

One way to tackle the above discrepancy would be to work step by step in identifying a conceptual design and make a rough cost estimate for the proposed activities. In case the available budget does not fit with the funding a priority list should be made for the proposed activities comparing costs and expected environmental benefits for each activity in order to optimise the overall intervention.

The methodology was generally logic and following common procedures for similar projects. The main approach was to provide necessary information for design and go directly for implementation. As such the approach is acceptable. However, the discrepancy in objectives and available funds could have been identified earlier by applying the above remark of first preparing a cost estimate for a conceptual design and after approval prepare the detailed design.

The acid mine water pilot plant was constructed by Trepca's own personnel advised by international consultants. It would not have been possible for Trepca to find own personnel with the capacity to perform the environmental assessment, the field investigations or design. To our understanding Trepca would have used own equipment for earth works, if such had been available.

The so-called "flexible approach" has resulted in a concentration of activities to rehabilitation of the Paddock dam. Some activities like treatment of acid mine waters from the Kisnica mine was substantially reduced and clean up at the Gracanica concentrator was completely abandoned (however clean-up was carried out by Trepca personnel supervised by Swebat).

Sida should already at the start of the project have realised that a “flexible approach” calls for more efficient procedures in order to follow the project progress as the objectives were not possible to measure, e.g. what means exactly with dust control?

Awareness campaigns for people living nearby mine tailing areas are carried out e.g. by WHO in Mitrovica. The problem is to reach people with low education, of which many are illiterate. The efficiency of those measures is always up to the individual in the end and such measures can never replace rehabilitation of the point source for pollution, only be performed in parallel.

4.1.3 Impact

The project has had an impact in both the short and long term perspective in regard to:

- Maintaining the stability of the perimeter slopes and prevent erosion.
- Preventing pollution of runoff of surface water on the perimeter slopes.
- Reducing the windblown dust as approximately 30 percent of the tailings area is covered by soil.

4.1.4 Efficiency

The timing is obviously not in accordance with initial expectations as there are three extension agreements. The project should have been finalized already in December 2001 and works are still ongoing in September 2004. The original timetable cannot be considered realistic considering the prevailing conditions, especially at the time the project started.

There are several factors having an influence on the timely execution and some of them are due to unforeseen circumstances. The field investigations took e.g. longer time than originally anticipated due to closing of the Macedonian border at some occasion. One factor that could have been avoided is the unexpected need for revision of the design for the rehabilitation works. We also understand that the workload on the Trepca management has been high and we may assume that other projects were given higher priorities during certain periods.

It would create less frustration for the stakeholders to allow more time for performing similar projects under the specific working conditions with rapid and unpredictable changes. The delays may to some extent have been foreseen as the approach was agreed to be flexible.

The cost effectiveness of the project can be questioned mainly on the item concerning revision of the design. The procurement for the major implementation was carried out according to procurement regulations, which ascertains the most cost efficient solution.

4.1.5 Sustainability

Trepca is the owner of the project in all respects. Although the responsible manager at Trepca has performed his duties well, there is no capacity to take over his responsibilities in case of replacement of the international personnel. It could have been a reasonable approach to fund also a local Trepca officer to certify a better sustainability of future management. It could also have been a requisite by Sida that Trepca should have provided project staff and technical experts, as is customary in these kind of projects elsewhere.

4.2 Proposal for the Future Project

A project proposal for future activities has been provided by Trepca to Sida, containing the following components:

- Collection and diversion of hillside run-off

- Collection and discharge of precipitation ponding on the tailings surface
- Continued cover of the tailings surface

The basic principle of the proposed measures is sound. However, an initial comment of the proposal is that the descriptions of the proposed activities are scarce. Objectives and accompanying activities should be elaborated. The impression is to some extent that the activities should have been performed already in the on-going project.

To our understanding only part of the surface will be covered within the proposed project. We recommend that funding be provided for covering the whole area indicating an enlarged budget. One possible measure, keeping a realistic budget, is that the flat surface should be covered with at least 10 cm of soil to prevent windblown dust, even though the groundwater pollution will benefit only slightly by this measure. To cover the whole area will have the benefit to serve as a “good example” for remediation at other tailings areas.

Trepca has not yet provided the Final Report for the on-going project as works are going on at present. However, it is recommended that a draft report be submitted soon including a compilation of activities carried out to facilitate the understanding of achievements and to what extent the objectives have been fulfilled.

We propose the following pre-requisites for supporting the additional measures:

- Trepca submits a final report for the on-going project.
- A project proposal with objectives, activities and clear cost estimates are made. (Including cover of the whole surface in accordance with the description above).
- A project team with seconded national experts working closely with the project manager is included and clearly defined
- A rough description of anticipated effects on dust control and groundwater protection are outlined in the proposal based on existing studies.

We also advise Sida to establish a contact with other donors, especially the Dutch Government and EAR, before implementation, in order to obtain their view and experience from similar projects for remediation of tailings areas.

When Trepca was identified as the implementing institution for the on-going activities, there appears to have been few real alternatives. However, it is important to re-assess possible implementing arrangements when reviewing the possibility for continued support.

There are two issues to consider when reviewing Trepca's future role:

1. Trepca future role is unclear: it has not been given a renewed mandate in the re-construction of Kosovo and many believe that when the mining sector is re-structured it could be dismantled or reconstructed out of recognition.
2. According to the new environmental legislation, Trepca have no responsibility for passed environmental debts such as the tailings areas¹.

In conclusion, based only on the existing laws and institutional framework there are no compelling reasons why Trepca should continue to be the implementing institution for Sida funded project.

¹ Source: Roger Payne, Project Manager Trepca and Gunnar Olvik, Sida.

However, an important aspect to consider is the fact that Trepca is in reality the driving force behind various clean up activities of mine waste areas which is being funded by different donors and de-facto implementer and coordinator of these. A decision to change implementation modalities should therefore not be taken in isolation but rather as a joint effort between the UNMIK and involved donors to find the best overall solution to implement remediation of the tailings areas.

There are in principle three possible different implementation set-ups if Sida would decide to continue the project.

1. Continue with Trepca as lead implementer
2. Choose a different national entity as implementing agent, possibly in coordination with KTA
3. Implement the project with independent experts/consultants reporting directly to Sida.

Again, the ideal solution depends mostly on how the other tailings areas are remediated and the mining sector in general are restructured. It is recommended that the final decision for implementation arrangements be taken jointly with the stakeholder organisation.

We recommend Sida to provide funds for the proposed project taking the above pre-requisites into consideration.

For a project limited to finalise the works in Gracanica, there is no compelling reason to change the current set-up with Trepca as implementer. However, the above recommendations regarding increased participation of national experts should be taken into consideration.

5 Lessons Learned

Apart from the specific conclusions pertaining to the on-going project and proposal for future support, there are some general lessons learned:

- A flexible approach, i.e. initiating a project with the intent to work out details of activities and implementation gradually, is in some cases possible and perhaps even preferable. However, it is necessary to monitor these projects closely, specify activities well in advance through updated project documents and note all agreements along the way through procedures agreed at the outset. This can be achieved by preparation of e.g. brief quarterly progress reports.
- Direct coordination between donors active in the same sector is crucial to the success of any programme; it enables higher efficiency, avoids duplication and can create synergy effects for the different projects. In Kosovo, where the situation is rather extreme in terms of number of donors and resources for development support, established mechanisms for donor coordination should perhaps be a pre-requisite for all Sida supported projects.
- Even for projects that are primarily focused on very specific technical results (Like the Gracanica project), the capacity building of national experts within the appropriate entities should always be addressed. This should not necessarily be done through traditional training, but preferably through on-the-job training. One way is to ensure that, in the case of an international expert as project manager, a national deputy with sufficient time allocated for the project are appointed and involved in all activities. An established project organisation with national experts acting in their respective

roles is strongly advisable. These aspects appear to be particularly important for Kosovo where the handover to national officials and experts in general is a crucial albeit delayed process. Again, a national team involved in all project activities should perhaps be seen as pre-requisite for Sida funding.

- For any project involving funding for investments, parallel cost estimate through the implementation of the project is crucial and should be communicated clearly between project management and funding agencies through mechanisms and with a timing established during the project's inception.
- Projects should be analysed carefully in the programming phase to assess a realistic timeframe. One effect of an overly optimistic time schedule followed by a number of time extensions is that the appropriate procedures for reporting and review and reporting are not established at the inception. In the case of the Gracanica project, for example, if the project time frame had been set at 2 years or more at the outset, an annual review meeting had been scheduled from the start, which would have been very beneficial in managing the flexible approach.

Appendix 1

Terms of Reference for the Evaluation of the Project Environmental Remediation at Paddock Tailings Area, Gracanica

1 Background

The Gracanica tailings management facility lies approximately 5.5km south west of Pristina, north east of the village of Gracanica in southern Kosovo. The site area covers approximately 380,000m². It rises between 20 and 24 meters above the level of natural ground.

The tailings area (waste management site) was constructed by Trepca in the mid-1900's to accommodate the significant quantity (11m.tons) of solid wastes arising from the processing of mine ore to recover the minerals lead and zinc. The tailings are potentially harmful to the environment and therefore the adjacent community as a consequence of the natural minerals they still contain. The environment and people is mainly affected through the dust spread by the wind from the area and by contaminated water that leaks from the area.

Year 2000 Sida decided to support UNMIKs (United Nations Interim Administration in Kosovo) Department of Trade and Industry with a suggested amount of 5 MSEK. The program was called Environmental Remediation in Gracanica. The main receiver of the support was Trepca, a Public Owned Enterprise (POE) responsible for all Kosovo's mining activities.

The objectives of the project were to improve people's health and the environment as a whole. It was also anticipated the project would provide job for unemployed people, which in turn could lead to decreased poverty and release of political tensions in the area.

Sida has received a request for continued support to clean-up activities in the area. An evaluation of the on-going support needs to be undertaken before assessing the new request.

Duration

The project was planned to be finalized during year 2001 but has been delayed several times. It is now anticipated to end mid 2004.

Disbursements

The funds for the project, 5 MSEK, were transferred to the receiving body (UNMIK Department of Trade and Industry) when the project started. The funds have then been transferred to the Ministry of Finance and Economy (MFE). MFE are part of the local structure in contrast to KTA (and formally Trepca).

Activities

According to the original proposal the project suggested to contain the following activities

- Continued investigations of the environmental situation in the mining and tailings area, including geotechnical investigations of the tailings area.

- Control of dust spread by the wind by covering the areas with soil.
- Stabilization of the tailings area by re-profiling the slopes.
- Control of hazardous chemicals that have been used in the Gracanica anrlinknings facility, through destruction or safe storage.
- Reduction and control of the polluted water from the mining area that for example, is contaminating the ground water.

The support was suggested to have a flexible approach in order for it to be adjusted to changed circumstances.

Stakeholders

The contract was once signed between Sida and UNMIK Department of Trade and Industry. This entity doesn't exist anymore and all its responsibility has been transferred to KTA, but the funds for the project was transferred to MFE, as mentioned above. All POE's are held in trust by Kosovo Trust Agency (KTA), an agency established by the UN "to preserve or enhance the value, viability, and corporate governance of socially owned and public enterprises in Kosovo". KTA is a provisional or substitute owner and is also the entity through which Trepca enters contracts with international donors and suppliers.

The main stakeholder is the UN through the complex UNMIK – Pillar IV – KTA structure. Trepca, as most publicly owned enterprises in Kosovo, falls under a branch of the UNMIK government of Kosovo, which is referred to as EU Pillar¹ IV.

The predecessor of KTA was a unit within UNMIK. It became a separate trust agency in mid-2002 for the purpose of administering publicly and socially owned enterprises as a trustee of their owners.

Both EU and the US have seconded staff and funds for investments in KTA, administered enterprises have been solicited from a wide range of donors. PISG has contributed funds for operating costs for both KTA and KTA enterprises. General director of Trepca, is paid by UNMIK/EU-pillar IV and the other four internationals within Trepca's international committee is paid by the Kosovo Consolidated Budget (KCB).

Implementing organisations

Trepca through its international staff is the implementing organisation. Procured professionals have done much of the actual work.

The evaluation will take place when much of the actions that will create a visible change are ongoing.

2 Purpose and Scope of the Evaluation

The purpose of the evaluation is twofold;

a. to review results achieved of the on-going project

The consultant shall examine if the original objectives have been achieved and actions have taken place. If not, what are the reasons?

¹ To implement its mandate, UNMIK created four "pillars":

Pillar I: Police and Justice, under the direct leadership of the United Nations

Pillar II: Civil Administration, under the direct leadership of the United Nations

Pillar III: Democratization and Institution Building, led by the Organization for Security and Co-operation in Europe (OSCE)

Pillar IV: Reconstruction and Economic Development, led by the European Union (EU)

b. to assess the proposal for continued support to clean-up activities in Gracanica

Sida has received a new project proposal from Trepca. The new proposal intends to finalize the closure works of the tailings area, which will not be done in the ongoing project. The consultants work is to evaluate the new proposal and give recommendations to Sida whether it is feasible to accept the proposal. Should the proposal be changed in any way? Can the suggested work be done in any other way?

It could be worth mentioning that Sida's support to the District heating companies and UNMIK Railways, who also are a part of KTA, have a different organisational set-up. Those agreements are not as old as the one with Trepca. The consultant should investigate whether it is possible and feasible to use the same set-up for the suggested project to Trepca.

The findings and recommendations of the evaluation and the assessment of the new request will serve as a basis for Sida's decision whether to continue our support to Trepca or not.

Interested parties are Sida, Trepca, KTA, Ministry of Finance and Economy, Municipality of Gracanica and CSA, the agency who conducted the geo-technical investigation and elaborated the first (too advanced) proposal for the remediation works.

3 The Assignment (issues to be covered in the evaluation)

Except from what is mentioned in the chapter above, the following issues shall be covered in the evaluation of the project. The evaluators may propose to focus on some of these issues in the evaluation and after agreement with Sida:

a. Relevance

The relevance of the project objectives shall be evaluated. Could the affected water and land biotopes have been protected in any other and more efficient way? Was it a relevant project in comparison to the needs and priorities of the project partners? Was it relevant at this time of development in Kososvo?

Was it relevant and beneficial to conduct the side-project Elements in Blood, Soil, Tap-Water and Air Borne Dust, Sida pilot study in Gracanica Kosovo? Did this study lead to improved proposals from UNMIKs side on cost-effective activities? Did it prevent UNMIK from proposing unmotivated or unsubstantiated (and expensive) activities? Did it show that the problem definition (how was health affected and whom where affected?) was more complicated than firstly anticipated?

b. Achievement of objectives (effectiveness)

Achievements and realism of the project objectives as defined and documented in the Terms of Reference and other documentation. Have project objectives been met and is it possible to measure this? Where the methods used to achieve the objectives optimal? Where the methods used to achieve objectives optimal? Would it have been possible to, at least partly, use the currently underused staff in Trepca for the work instead of using procured professionals?

Has the receiving beneficiary had an adequate organisation?

Has the suggested "flexible approach" been used as an excuse for choosing easy solutions? Has Sida monitored the project adequately? Was the original timetable realistic or would it have been better with a longer implementation time to achieve the objectives?

How could the next proposal be changed in order to be more effective?

Effects on target group (gender specific)

Would clean up activities in the surrounding villages and education of inhabitants on how to prevent being contaminated (water and food) been more effective? Especially for woman and children who are assumed to spend more time in the village and its surroundings. Is that assumption correct?

Cost effectiveness

Has the project been cost effective? How could the next proposal be changed in order to be more effective?

c. Impact

Has the project had any impact in the short or long term? Are there any unforeseen impacts of the project?

Have those impacts any influence on the new proposal?

d. Efficiency

The efficiency of the support provided should be analysed according to its adequacy in the terms of the forms of input, their timing and duration. Should Sida have procured implementation of the project rather than leaving responsibility to UNMIK for implementation?

e. Sustainability of results

Was there sufficient ownership with the project partners for the project and to maintain results achieved? Will the new proposal be enough to achieve the desired results?

4 Methodology, Evaluation Team and Time Schedule

Organisation of evaluation and competence of the team

The team (two persons?) to perform the evaluation shall have comprehensive international working experience, preferably in the transition countries in the Balkan region or Eastern Europe. They should also have relevant knowledge of the 1) technical/environmental (mining) and 2) management/organisational and 3) financial issues. Experience of international development and of conducting evaluations is a requirement.

The evaluation team shall review relevant documentation (provided by Sida) and iother possible doucmentation from other partners.

The evaluation team shall meet with the Sida Programme Manager in Stockholm, the Kosovo Desk Officer and Sida staff in Kosovo.

The evaluation team can also interview the previously seconded expert in mining to the Department of Environment.

Background material

As specified in annex. Most of the documentation only exists in paperformat.

Site visits and interviews

The team should visit the project site and if the security situation allows is, Trepca main office in Northern Mitrovica. The team should also visit the Sida office in Pristina, the Ministry of Finance and Economy and the Municipality of Gracanica.

Time schedule for the full assignment, duration, field visits etc.

The assignment is expected to take the evaluation team 25 man-days in total, including preparations in home office, interviews in Sweden, work in Kosovo, report writings and preparations. At least 3 meetings shall be held with Sida Stockholm; at start of assignment, following trip to Kosovo and when submitting the final report.

5 Reporting

The evaluation report shall be written in English and should not exceed 20 pages, excluding annexes. Format and outline of the report shall follow the guidelines in *Sida Evaluation Report – a Standardized Format* (see Annex 1). The draft report shall be submitted to Sida electronically (and in 3 hardcopies (air-/surface mailed or delivered)) no later than 2 months after start of the assignment. Within 2 weeks after receiving Sida's comments on the draft report, a final version shall be submitted to Sida, again electronically and in 3 hardcopies. The evaluation report must be presented in a way that enables publication without further editing. Subject to decision by Sida, the report will be published in the series *Sida Evaluations*.

The evaluation assignment includes the completion of *Sida Evaluations Data Work Sheet* (Annex 2), including an *Evaluation Abstract* (final section, G) as defined and required by DAC. The completed Data Worksheet shall be submitted to Sida along with the final version of the report. Failing a completed Data Worksheet, the report cannot be processed.

Annex 1 (not listed in order of relevance)

- Projektfakta Kosovo, Augusti 2002
- Project Proposal for limited environmental remediation at the Gracanica Concentrator
- Specific Agreement between Sida and UNMIK
- Sida beslut om insatssstöd 463/00
- Progress Reports
- Lunds University Final Report – Elements in Blood, Soil, Tap-Water and Air Borne Dust, Sida pilot study in Gracanica Kosovo

Annex 2: Sida Evaluation Report – A Standardized Format

Annex 3: Data Work Sheet

Appendix 2

List of Persons Interviewed

List of stakeholders interviewed

Name	Organisation	Role in the Project	Date 2004
Helen Holm*	Sida	Programme Officer	25 May, 23 Sept
Gunnar Olvik*	Sida	Liaison Officer	20 Aug, 25 Aug, 26 Aug
Roger Payne*	Trepca Health, Safety and Environment Officer	Project Manager	25 Aug, 26 Aug, 30 Aug
Predrag Vasić	Municipal Community Office Gracanica Chief of Public Services	Local support, such as identification of soil pit	25 Aug
Thomas Kontogeorgos	Local Community Officer		
Avdi Halitaj	Kastrioti, Director	Contractor for the Rehabilitation of the Dam Perimeter	25 Aug
Fatoni Shipni	Kastrioti, Financial Officer		
Marina Lazarevic	Trepca	Payroll Officer	25 Aug
Keith Tysall	Consultant for EAR	No role. Supervisor of rehabilitation works at tailings dam, Zitkovac	25 Aug
Behxhet Shala	Ministry of Environment and Spatial Planning	Regulatory role	26 Aug
Shefqet Pecanin	Ministry of Environment and Spatial Planning Director	Regulatory role	26 Aug
Alexander Valenta	Directorate of Mineral and Mines, Chief Inspector	Not directly. No approval requested. Concerned about dam safety.	26 Aug
Carel Brands	Dutch Office, Programme Officer	No role	26 Aug
Ahmet Shala	Kosovo Trust Agency Deputy Managing Director	Not directly. Possibly in the future project.	31 Aug
Gerry McWeeney	World Health Organization Healthy Environment Programme Manager	No role. Perform similar health studies and awareness campaigns in other areas	31 Aug
Kris Kauffmann	Ministry of Finance and Economy, Director	Managing funds and payments	31 Aug
Agron Bektashi	European Agency for Reconstruction, Senior Task Manager	No role. Involved in rehabilitation of tailing dam in Zitkovac.	1 Sept

* Phone calls and communication via e-mail are not included in the list above.

Appendix 3

List of Documentation and Other References

List of documents received

Doc no.	Report	Author	Date	Received
Project Documents				
1	Trepca Project; Sida's Project File	Various docs		Sida/Helen May 2004
2	Pollution Control Plan of the Trepca Mining Complex, Kosovo	ITT Kosovo Consortium Ltd.	15 Febr. 2001	Sida/Helen May 2004
3	Tungmetaller i Gracanica – blodanalyser; Final Report	Lund University	May 10, 2002	Sida/Helen May 2004
4	Environmental Assessment of Gracanica/Kisnica, Kosovo (Maps in a separate volume)	CSA Sinclair Knight Merz	May 2001	Sida/Helen May 2004
5	Stage II: Technical Assessment of the Gracanica Tailings dam Proposal to Sida	CSA Sinclair Knight Merz	June 2001	Sida/Helen May 2004
6	Mission in Kosovo 011126–021125 Final Report	Erik Solbu		Sida/Helen May 2004
7	Final Report 3 Dec 2001–2 Dec 2002	Rolf Johansson	2002-12-02	Sida/Helen May 2004
8	Strategic Environmental Assessment of Kosovo 2001; Summary Report	Regional Environmental Center		Sida/Helen e-mail 26 May 2004
9	Proposal to Sida; Phase #2 program	Trepca Kosovo	24 Febr., 2004	Sida/Helen e-mail 26 May 2004
10	Proposal to Trepca; Phase #2	Golder	15 Oct. 2003	Sida/Helen e-mail 26 May 2004
11	Proposed Environmental Remediation of Gracanica Tailings Facility – Specifications, Bills of Quantities, Drawings	CSA	February 2003	Trepca/Roger August 2004
12	Elaborate for Geomechanical Investigations and Laboratory Testing on Tailing Dam in Gracanica	Geing Skopje	October 2002	Trepca/Roger August 2004
13	Report from Conducted Cone Penetration Test on Tailing Dam in Gracanica	Geing Skopje	October 2002	Trepca/Roger August 2004
14	Contract and related documents for Rehabilitation of Perimeter Slopes	Castrioti and Trepca	3 Dec. 2003	Trepca/Roger August 2004
15	Kisnica Stream Amelioration – Set of Documents	Trepca and others	5 Nov. 2002	Trepca/Roger August 2004
16	Presentation of Trepca – CD	Trepca	August 2004	Trepca/Roger August 2004

Evaluation Documents				
101	Sida Evaluation Report – A Standardized Format	Sida		Sida/Helen e-mail 26 May 2004
102	Sida Evaluation Data Worksheet	Sida		Sida/Helen e-mail 26 May 2004
103	Sida's environmental co-operation in South-East Europe – In brief	Sida		Sida/Helen 26 May 2004
104	Guidelines for Sida's environmental co-operation – South-East Europe	Sida		Sida/Helen 26 May 2004
105	Sharra Waste Dump Site, Albania	Sida Evaluation 04/11		Sida/Helen 26 May 2004
107	Kosovo Advice	Sida	5 July, 2004	Sida/Gunnar e-mail 5 July 2004
108	Response to Elevated Blood Levels of Heavy Metals in Gracanica Area	WHO	August 2004	WHO/Gerry McWeeny August 2004
109	Looking Back, Moving Forward – Sida Evaluation Manual	Sida	2004	Sida library June 2004

* Later replaced by an up dated version.

Appendix 4

UNMIK/KTA Trepca Mines Complex Summary

Environmental Demands & Program

Environment issues	Locations	Proposal	Estimated Costs ('000•)	Funding in hand	Funding Applied for	Funding required
1 Tailings-inactive	Leposavic 1		500		25	475
	Leposavic 2		1 000		25	975
	Zvecan /Zitko		1 100	1 100		0
	Zvecan/G.Polije		3 000		500	3 000
	Gracanica/Paddock	Stabilize and Vegetate	750	300		450
Active Tailings Areas and Process Waste	Prvi Tunel		500		50	450
	Kisnica		500		50	450
	MIP		1 000			1 000
2 Mine Water/AMD	Crnac		100			100
	Belo Brdo	Stabilize	100			100
	Leposavic old mines	Mine Wastes Mitigate AMD	200			200
	Stari Trg	Reduce/ Neutralize	250			250
	Kisnica		500			500
	Novo Brdo		500			500
3 Process Wastes (on property)	Zvecan	Relocate to processing or landfill	500		500	?
	MIP		250	250		0
4 Demolition	Zvecan		10 000			10 000
	MIP Phase I	Demolish	400		200	200
	MIP Phase II		5 000			5 000
	Mines		1 000			1 000
5 Site Reclamations	Zvecan	Reclaim land for alternative future use	5 000			5 000
	MIP		2 000			2 000
	Mines		1 000			1 000
TOTAL			35 150	1 650	1 350	32 650

RAP

Note: All figures are in 1,000's Euro

February-04

Appendix 5

Trepca under UNMIK Administration – Summary for SWECO, August 2004.
Environmental Issues

Tailings Areas-current status, funding and activities

Tailings Area	Operational Status	Geotechnical Assessment	Closure Design Reactivation design	Remediation Progress	Funding Agency	Funding Level	Estimated cost
Gracanica	Closed	Completed			SIDA	100K	
				Phase 1 Completed	SIDA	30K	
				Phase 1 in progress	SIDA	300K	300K
				Phase 2+3 to schedule	??		50K
			Phase 2+3 to schedule	??		500K+	
Zitkovac	Closed	Completed	Completed		Dutch	100K	
				In progress	EAR	800K	800K
Leposavic-old	Closed	In progress	In progress		Dutch	50K	
				To be scheduled	??	0	500K
Zvecan-old	Closed	In progress	In progress		Dutch	50K	
				To be scheduled	??		3,000K
Leposavic recent	To be reactivated	In progress	In progress		Dutch	50K	
				To be scheduled	??		1000K
Prvi Tunel,Mitrovica	To be reactivated	In progress	In progress		Dutch	50K	
				To be scheduled	??		1000K
Kisnica (Gracanica)	To be reactivated	In progress	In progress		Dutch	50K	
				To be scheduled	??		750K
Novo Brdo	Closed-recover and process??	not scheduled	not scheduled	not scheduled			???
Trepca Zinc waste area	close?/?reactivate?/?reprocess	not scheduled	not scheduled	not scheduled	??		1000K

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