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## ***EXECUTIVE SUMMARY***

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# **EXECUTIVE SUMMARY**

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*Draft EIA REPORT*

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## EXECUTIVE SUMMARY

### 1.1 Introduction

**M/s. Mysore Minerals Limited** is a Government of Karnataka undertaking established in the year 1996 with main objective of systematic mining and planned development of mineral resources in the State. The main activities of the company are Exploration, Development of Mineral Resources, Extraction and Marketing of Minerals and Granites.

The Karya Magnesite Mine, its existing production is 0.24 Lakh tones Annum with open cast mining method & having more demand in the market and also associated another mineral Dunite having commercial value. In view of the same, MML is proposes to increase its production from 0.24 Lakh tones per annum to 3.875 Lakh tones Anuum at Karya Village, Nanjangud Taluk, Mysore District, Karnataka. The mine details are given in **Table 1.1**.

**Table 1.1 Details of Mine**

<b>Project</b>	: Karya Magnesite Mine
<b>Project Proponent</b>	: M/s. Mysore Minerals Limited
<b>Location</b>	: Karya Village, Nanjangud Taluk, Mysore District, Karnataka State.
<b>Area</b>	: 86.25 ha (213.12 Acres)
<b>Production Capacity</b>	: Expansion Capacity from 0.24 Lakh tones annum to 3.875 Lakh tones annum (Magnesite - 0.24 LTPA and Dunite – Nil to 3.635 LTPA)

### 1.2 Site Location and Accessibility

Accessibility and transportation of heavy equipment to lease area by road or rail is easy. No problem is envisaged in accessibility and transportation of heavy equipment to site by road or rail as nearest broad gauge railway line is Mysore which is 32 km from the mine site, Mysore – Ooty road connectivity is through National Highway located at distance of 16 Km from the mine site. Mine location has been so chosen that, it is close to the main road and broad gauge railway line thus, transportation of finished products to various sites is easy and economical. Details of the locations are given in **Table 1.2**.

**Table 1.2: Location Details**

Mine Lease Nos.	2495
Survey Nos.	<b>North Side:</b> 95, 97 & 98 of Karya Village and 4, 5 & 6 of Hullahalli Village. <b>South Side:</b> 75, 74, 136, 52 and part of 54 & 53 of Chamanamadanahalli Village. <b>East Side:</b> 2, 1, 345, 130 & 51 of Hullahalli & Chamanamadanahalli Village. <b>West Side:</b> Part of 95, 106 & 107 of Kurihundi-Karya Village and part of 126, 123 & 76 of Chamanamadanahalli Village.
Longitude	E: 76°32'47.3" - E: 76°033'20.2"
Latitude	N: 12°04'33.0" - N: 12°3'59.3"
Village	Karya
Tehsil	Nanjangud
District	Mysore
State	Karnataka

### 1.3 Topography

The Mining Lease area was a mound with an elevation of 726 mtrs, from M.S.L. The area is uncultivable Barren Land and free from Vegetation. Due to Mining Activity topography has been changed. The surrounding Land is using for growing both Dry and Wet Crops. The water for irrigation is getting from Kabini Reservoir. The area enjoys sub-tropical climate with Temperature ranging from 22-32<sup>0</sup> C, in different seasons. The Rainfall is ranging from 700-900 mm. Present Level of area varies from 690-720 Mtrs.

### 1.4 Drainage

The mining area forms a part of the drainage system of the Kapila River situated towards North of the Mine. There are no major streams in the Mining Lease area except small canal flowing from south-east to north-west as a part of mining leased.

### 1.5 Production Details

Details of the proposed expansion of production capacity in the mining activity are given at **Table 1.3.**

**Table 1.3: Production Details**

Sr. No.	Particulars	Existing Capacity	Proposed Capacity
1	Magnesite	0.24 LTPA	0.24 LTPA
2	Dunite	Nil	3.635 LTPA

## 1.6 Waste Disposal

The waste generated from the process will be Over Burden and the same will be utilized in the back filling in the working pit. The water and tailings will be separated by employing new technology. Domestic water will be treated in the treated in CPCB approved septic tank & soak pits.

## 1.7 Employment Potential

Karya Magnesite Mine is existing mine, 75 nos. peoples are working and also MML is proposed create employment potential up to 25 people and preference will be given to local community.

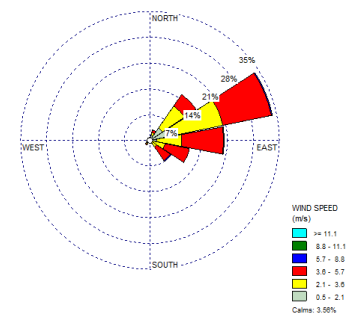
## 1.8 Environmental Description

### 1.8.1 Meteorology

#### Study Period

Winter 2013-14 (December 2013, January - February 2014)

Predominant wind direction is NE to SW.



**Table No: 1.4: Salient Features of the Project**

Site location	Karya Village, Nanjungud Taluk, Mysore District.
State	Karnataka
Land availability	86.25 ha (213.12 Acres)
Relative humidity % (during study period)	25-100%
Temperature (during study period)	12.0 Deg. C. minimum 27.6 Deg. C. maximum
Rain fall (Annual)	761.9 mm average
Nearest town (Aerial)	Nanjangud – 14.0 Km
Nearest cities (Aerial)	Nanjangud– 14.0 Km
Nearest airport (Aerial)	Mysore Airport – 35.0 Km
Nearest rail heads	Mysore at 35.0 Km from the mine site
Nearest highway (Aerial)	Mysore - Ooty National Highway which is at a distance of 16.0 km from the mine site.
Source of water	Kapila River which is 2.0 km from the mine site.

## 1.8.2 Baseline Ambient Air Quality

The design of monitoring network in the air quality surveillance program was based on topography/terrain of the study area, human settlements, Wind Pattern, representation of regional background levels, accessibility of monitoring sites and resource availability.

The scenario of the existing Ambient Air Quality in the study region has been assessed through a network of 4 Ambient Air Quality locations in the buffer zone and 3 monitoring location in the core zone. The data thus obtained is considered for preparing the EIA report. Ambient Air Quality locations are given in **Table 1.5** and summary of Ambient Air Quality is given in **Table 1.6**.

**Table 1.5: Ambient Air Quality Locations with Distance**

Code	Name of Sampling Location	Distance in Km	Direction	Geographical Location
<b>Core Zone</b>				
FA-1	Working Pit	--	--	<b>Longitude:</b> E: 076°32'54.88" <b>Latitude:</b> N: 12°04'14.55" <b>MSL:</b> 705 m
FA-2	Dumping Area	--	--	<b>Longitude:</b> E: 076°32'59.54" <b>Latitude:</b> N: 12°04'23.02" <b>MSL:</b> 717 m
FA-3	Main Haulage Road	--	--	<b>Longitude:</b> E: 076°33'3.03" <b>Latitude:</b> N: 12°04'12.13" <b>MSL:</b> 709 m
<b>Buffer Zone</b>				
A-4	Karya Village	0.5	NE	<b>Longitude:</b> E: 076°33'18.41" <b>Latitude:</b> N: 12°04'23.71" <b>MSL:</b> 693 m
A-5	Kuri Hundi Village	3.0	N	<b>Longitude:</b> E: 076°32'10.50" <b>Latitude:</b> N: 12°04'8.23" <b>MSL:</b> 702 m
A-6	Taragana Halli Village	6.0	NW	<b>Longitude:</b> E: 076°31'1.89" <b>Latitude:</b> N: 12°04'11.09" <b>MSL:</b> 709 m
A-7	Madapura Village	2.5	SW	<b>Longitude:</b> E: 076°33'11.50" <b>Latitude:</b> N: 12°03'26.46" <b>MSL:</b> 709 m



**Table No: 1.6: Summaries of Ambient Air Quality Data (Average Conc.)**  
Units:  $\mu\text{g} / \text{m}^3$

Code	Name of Sampling Location	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>x</sub>
		$\mu\text{g} / \text{m}^3$			
<b>Core Zone</b>					
A-1	Working Pit	52	17	13.2	20.6
A-2	Dumping Area	47	17	14.2	16.5
A-3	Main Haulage Road	53	18	12.6	18.4
<b>Buffer Zone</b>					
A-4	Karya Village	42	14	10.6	12.7
A-5	Kuri Hundi Village	46	16	11.5	13.8
A-6	Taragana Halli Village	46	15	11.5	13.4
A-7	Madapura Village	44	14	10.2	12.4
<b>CPCB AAQ Standards</b>					
Industrial Areas		100	100	80	80
Residential, Rural & Other Areas		100	60	80	80

The ambient air quality observed during the study period is well within the prescribed National Ambient Air Quality Standards prescribed by CPCB.

### 1.8.3 Ambient Noise Levels

The data thus obtained is considered for preparing this report. Noise monitoring locations are given in **Table 1.7** and present noise level at study area is given in **Table 1.8**.

**Table 1.7: Noise Monitoring Locations with Distance**

Code	Name of Sampling Location	Distance in Km	Direction	Geographical Location
<b>Core Zone</b>				
N-1	Working Pit	--	--	<b>Longitude:</b> E: 076°32'54.88" <b>Latitude:</b> N: 12°04'14.55" <b>MSL:</b> 705 m
N-2	Dumping Area	--	--	<b>Longitude:</b> E: 076°32'59.54" <b>Latitude:</b> N: 12°04'23.02" <b>MSL:</b> 717 m
N-3	Main Haulage Road	--	--	<b>Longitude:</b> E: 076°33'3.03" <b>Latitude:</b> N: 12°04'12.13" <b>MSL:</b> 709 m

Code	Name of Sampling Location	Distance in Km	Direction	Geographical Location
<b>Buffer Zone</b>				
N-4	Karya Village	0.5	NE	<b>Longitude:</b> E: 076°33'18.41" <b>Latitude:</b> N: 12°04'23.71" <b>MSL:</b> 693 m
N-5	Kuri Hundi Village	3.0	N	<b>Longitude:</b> E: 076°32'10.50" <b>Latitude:</b> N: 12°04'8.23" <b>MSL:</b> 702 m
N-6	Taragana Halli Village	6.0	NW	<b>Longitude:</b> E: 076°31'1.89" <b>Latitude:</b> N: 12°04'11.09" <b>MSL:</b> 709 m
N-7	Madapura Village	2.5	SW	<b>Longitude:</b> E: 076°33'11.50" <b>Latitude:</b> N: 12°03'26.46" <b>MSL:</b> 709 m

**Table No: 1.8: The present Noise levels were measured at 7 locations. The results obtained are as follows.**

Villages / Parameters	Day Time		Night Time	
	Min	Max	Min	Max
Working Pit	63.8	68.9	49.2	57.3
Dumping Area	61.9	67.7	46.9	58.7
Main Haulage Road	58.1	68.2	43.1	62.1
Karya Village	47.1	59.6	32.1	50.3
Kuri Hundi Village	42.3	53.0	30.2	41.7
Tharangana Halli Village	42.6	53.4	32.1	41.4
Madapura Village	40.8	53.8	32.8	42.1

It is observed that the noise values obtained were within the prescribed Ambient Air Quality Standards with respect to Noise.

#### **1.8.4: Water Quality**

The water samples were collected from the available ground water and surface water sources and have been analyzed to assess the quality of water and any impacts on the quality of water due to the proposed project. The surface and ground water quality sampling location details are given in **Table 1.9 & Table 1.10.**

### 1.8.4.1 Surface Water Quality

The nearest Water body is Kapila River which is at a distance of about 1.5 km from the mining lease area.

**Table 1.9: Surface Water Sampling Locations with Distance**

Code	Name of Sampling Location	Distance in Km	Direction
<b>Surface Water Sampling Locations</b>			
SW1	Kapila River	2.0	N

### 1.8.4.2 Ground Water Quality

Five Bore well has been selected to test the characteristics. Bore well at mine lease area, Bore well water at Karya Village which is at a distance of 0.5 km towards North-East Direction, Bore well at Kuri Hundi Village which is at a distance of 3.0 km towards North direction, Bore well at Taragana Halli Village which is at a distance of 6.0 km towards North-West direction, Bore well at Madapura Village which is at a distance of 2.5 km towards South-west direction.

**Table 1.10: Ground Water Sampling Locations with Distance**

Code	Name of Sampling Location	Distance in Km	Direction
<b>Ground Water Sampling Locations</b>			
GW1	Bore well water at Mining Lease Area	--	--
GW2	Borewell water at Karya Village	0.5	NE
GW3	Borewell water at Kuri Hundi Village	3.0	N
GW4	Borewell water at Taragana Halli Village	6.0	NW
GW5	Borewell water at Madapura Village	2.5	SW

### 1.8.4.3 Analysis of Water Sample

#### 1.8.4.3.1 Surface Water

The Analysis of Ground water in the study area for **Winter 2013- 2014** season is summarized in **Table 1.11**.

**Table No: 1.11: Summary of Surface Water Quality**

Unit: mg/l

Standards	Parameter				
	TDS	Iron	CaCO <sub>3</sub>	Cl	NO <sub>3</sub>
<b>Results</b>	166	0.1	97	15.9	3.8
<b>Désirable Limits</b>	500	0.3	300	250	45
<b>Permissible Limits</b>	2000	1.0	600	1000	No Relaxation

#### 1.8.4.3.2 Ground Water Sample:

The Analysis of Ground water in the study area for **Winter 2013- 2014** season is summarized in **Table 1.12**.

**Table No: 1.12: Summary of Ground Water Quality**

Unit: mg/l

Standards	Parameter				
	TDS	Iron	CaCO <sub>3</sub>	Cl	NO <sub>3</sub>
<b>Results</b>	<b>274 - 508</b>	<b>0.2 - 0.5</b>	<b>181.8 - 315.5</b>	<b>3.8 - 41.7</b>	<b>1.0 - 1.5</b>
<b>Désirable Limits</b>	500	0.3	300	250	45
<b>Permissible Limits</b>	2000	1.0	600	1000	No Relaxation

### 1.8.5 Soil Quality

Five locations were selected for analyzing the soil quality status both in core & buffer zone. Soil Sampling Locations with distance from the Core Zone is given in **Table 1.13**.

**Table No: 1.13 Soil Sampling Locations with Distance from the Core Zone**

Code	Name of Sampling Location	Direction	Distance in Km
S1	Mine site	--	--
S2	Agricultural Soil near Karya Village	0.5	NE
S3	Agricultural Soil near Kuri Hundi Village	3.0	N
S4	Agricultural Soil near Taragana Halli Village	6.0	NW
S5	Agricultural Soil near Madapura Village	2.5	SW

**The findings are:**

- pH varies from 6.32 to 7.73
- The Nitrogen content varies from 9036.1 to 17749.9 Kg/ha
- The Phosphorous content is between 400.7 to 1713.5 Kg/ha
- The Potassium concentration was 30 mg to 210 mg /100 gm
- The Sodium varies from 19.1 to 43 mg/100 gm
- The texture of the soil in the study area observed to be of sandy clay loam type.

### 1.8.6 Socio Economics

There is no human habitation in the core zone. The socio economic condition is summarized as below. Population Details at study area is given in **Table 1.14**.

**Table 1.14 Population Details**

Population	Total No of House Holds	Total Population	Others			S.C		S.T	
			M	F	T	M	F	M	F
2011 Census	14693	62764	18584	18309	36893	7100	6939	5823	6009

### 1.8.7 Biological Environment

There are no endemic species or endangered species of flora and fauna.

## **1.9 Environmental Impacts and Management Plan**

### **1.9.1 Air Environment**

The proposed expansion of Mining activity is in proposes in the agricultural and Govt. land covering an area of 86.25 ha. Main source of air pollution in the mine is main sources of fugitive emissions are raw material unloading, raw material handling, material transfer points, storage bin etc. in addition to this, dust generation due to operation of HEMMs in the mine and tipper movement on the road.

#### **1.9.1.1 Mitigation Measures**

*Management proposes the following effective control measures;*

- Dust Extraction System to be used in Drill Machines
- Use of Sharp drill bits for drilling Holes and drills with Water Flushing System (Wet Drilling) to reduce dust generation.
- Ore carrying trucks will be effectively covered with tarpaulin.
- Water spraying on roads, waste dumps, sub-grade stacks and mine faces.
- Drilling by using dust extractors.
- Well designed blast by effective stemming and use of optimum charge.
- Transport vehicles will be regularly checked for their environmental fitness like pollution under control and fitness etc.
- Green barriers with tall growing thick foliage plants species will be developed around the mine lease area towards noise transmission and dust dispersion.
- For safety of workers at site, engaged at strategic locations/dust generation points Personnel Protective Equipment (PPE) would be provided and ensured for using the same.
- Environmental monitoring of air quality to take mid-course correction, if required to keep the pollution constituent with-in the permissible limits always.
- Construction of well designed haulage roads.
- Monitoring of air quality periodically to take necessary steps to keep the pollution with-in the permissible limits.

### **1.9.2 Noise Environment**

The main sources of noise in the plant are classified into following types:

- Operation of Mining Activity
- Operation of Heavy Earth Moving Machinery (HEMMs).

#### **1.9.2.1 Mitigation Measures for Noise Control**

- ❖ Innovative approaches of using improvised plant and machinery designs with in-built mechanism to reduce noise emission.

- ❖ Blasting operations to be carried out during only in day time to avoid high noise in the night time.
- ❖ A green belt will be made by selecting thick foliage and tall growing plants around the mine lease area which will act as acoustic barriers in arresting noise transmission.
- ❖ Providing PPE (Personal Protective Equipment) to the personnel who are exposed continuously to the high noise zone/ operation area i.e., to drillers and compressor operator etc.
- ❖ Display of sign boards at high noise generation zones.
- ❖ Use of sharp drilling bits, delivery of compressed air at optimal pressure.
- ❖ Corrective & preventive maintenance of Vehicle & machinery including transport vehicles.
- ❖ Providing rubber lining at screening decks to reduce noise generation.
- ❖ Blasting noise shall be minimized / reduced by using optimum spacing and burden with proper charge.

### **1.9.2.2Vibration**

The vibration levels from the designed blasting pattern are expected to be well below the permissible limits, as the drilling and blasting will be carried- out with jack-hammer drills of 33 mm dia. The following mitigation measures shall be adopted.

### **1.9.2.3Mitigation Measures for Vibration**

- Peck particle velocity or ground vibrations for safety of nearby structures and residential building should be well within 12.5 mm/sec.
- To contain fly rocks, stemming column will not be less than the burden of the hole and the blasting area should be muffled.
- A danger-zone of 500 m from the blasting site shall be monitored.
- Charge weight used per hole will not exceed 300 gm
- Stemming column shall be more than the burden to avoid blow-out shots.
- Each blast shall be carefully planned, supervised, executed.

### **1.9.3 Water Environment**

The impact on water environment has been considered under the following heads:

- Impact on Ground Water
- Impact on Surface Water Bodies
- Storm Water Management

The water requirement for the proposed expansion project is 89 m<sup>3</sup>/day and met from the Borewell within the MLA. Since the entire mine lease is on top of the plateau and the surface will be sloped inward from periphery towards inside, the storm water from outside the MLA will not enter the MLA. The rainfall on the MLA will be accumulated n the mine pit which

will be pumped out through de-silting pits using pumps or will be allowed to seep into the ground to recharge ground water regime.

Thus no adverse impact is envisaged on the surface or ground water regime of the area due to the proposed expansion in the mining activity.

### 1.9.3.1 Mitigation Measures of Water Pollution

The chemical analysis of the iron ore does not show any toxic substance, which can dissolve and pollute water quality.

- ❖ Construction of parapet wall of appropriate dimension all along the toe of ore stock,
- ❖ Contour trench of appropriate width and depth all along the ore stock,
- ❖ Systematic drainage system for diverting the surface run-off during monsoon.
- ❖ Plantation of local varieties of species, so that there will be fast and healthy growth of vegetation.
- ❖ Regular monitoring and analyzing the quality of water

### 1.9.4 Land Environment

Proposed expansion of mining activities will be restricted over an area of 86.25 ha, is in proposes in Agriculture and Govt. Land. There will not be any impact due to operation of the mining to buffer zone land use.

#### 1.9.4.1 Disposal of Waste

4,57,380 Tonnes (during 5 year Plan Period) of Over Burden / Waste will be generated as solid waste which is utilized for toe of the dump retention wall with garland drain to arrest wash off from the dump slope. The Hazardous waste such as used / spent oil will be disposed off to authorized recyclers. The details of hazardous waste are given **Table 1.15**.

**Table 1.15: Hazardous Waste Management**

Source	Waste	Quantity	Utilization plan
Generator/ Lubricants	Used oil	100-200 MT per year	Shall be sold to the approved/authorized recycler/reprocessors.

#### 1.9.4.2 Mitigative Measures

There will be no negative impact due to solid waste disposal, it will be effectively used for toe of the dump retention wall with garland drain to arrest wash off from the dump slope. The details of solid waste management are given in **Table 1.16**.



**Table 1.16: Details of Solid Waste Recycling**

Source	Waste	Quantity	Utilization Plan
Mine	Over Burden / Waste	4,57,380 Tonnes (during 5 year Plan Period)	Shall be utilized for toe of the dump retention wall with garland drain to arrest wash off from the dump slope.

### **1.9.4.3 Afforestation**

Plantation is proposed to be carried out around the Lease Area with tall growing having thick foliage plant species.

All effort will be made to improve the survival rate of the saplings and their healthy growth will be taken care of by simple methods like proper watering, fencing and after care.

### **1.9.4.4 Resettlement**

There are no human settlements within the project site area. The entire project area of 86.25 ha. The mining area is in Agricultural lands/Govt. Lands. Hence, no resettlement and rehabilitation is proposed.

## **1.10 Biological Environment**

There is no adverse impact on core-zone as well as buffer zone Flora and Fauna due to proposed expansion in the mining production.

## **1.11 Demography & Socio Economic Environment**

The objective is to demonstrate the range of potential impacts on communities and families by the project. The actual impacts experienced at a given project site will depend on a variety of factors.

The impact of the expansion in the mining activity on the surrounding community will be positive in nature in improving the Quality of Life (QoL), economic status of the local people and infrastructure in buffer zone.

### **1.11.1 Social Corporate Responsibility**

The Management of MML is expansion project. It's already undertaking many CSR activities within the study area and also the management proposes to increase literacy levels within buffer zone, by way of support to school going children through free distribution of books and by way of supporting NGO's for adult education.

Management will actively participate in the efforts by the local bodies and the Government to improve the health and social status of the population living in the buffer zone villages. Management proposes to extend the medical assistance to the local needy people by engaging a part time Medical Officer on a regular basis.

However, management allocates necessary funds towards community developmental activities in the buffer zone villages to improve the facilities such as school, health, road, infrastructure, etc.

### **1.11.2 Other Tangible Benefits**

The proposed expansion project is likely to have other tangible benefits as given below.

- Indirect employment opportunities to local people in contractual works like housing construction, transportation, sanitation, for supply of goods and services to the project and other community services.
- Market and business establishment facilities will also increase.
- Cultural, recreation and aesthetic facilities will also improve.
- Improvement in communication, transport, education, community development and medical facilities.
- Overall change in employment and income opportunity.
- The State Government will also benefit directly from the proposed project, through increased revenue from royalties, excise duty.

### **1.11.3 Occupational Health and Safety**

- Preliminary screening of all the employees for their baseline health condition.
- Medical evaluation of workers condition before joining to the duty.
- Educating the workers w.r.t the safety conditions & occupational health diseases.
- Regular health checkups for all the employees will be conducted.
- Database will be created for individual worker and will be updated regularly to compare health status.
- Doctor specialized in Occupational health will be appointed for special needs.

### **1.12 Post Project Monitoring**

The company will undertake post project monitoring as per MoEF guidelines for all the environmental attributes.

### **1.13 Financial Considerations**

After an in-depth examination of the environment management plan, the management has made a time specific budgetary cost allocation towards carrying out environmental related works on a continuous basis and the same is given below in **Table 1.17**.

**Table 1.17: Proposed Costing Towards Environmental Protective Measures**

Sr. No.	Activity	Initial cost (Lakh Rs.)	Recurring expenses proposed/ annum (Lakh Rs.)
<b>I – Protection for canal</b>			
1	Reinforcement of existing walls	2.43	0.50
2	Terracing of dump slopes	3.13	0.70
3	Embankment	10.80	1.00
4	Plantation on embankment	0.60	0.10
5	Plantation of dump slopes	7.50	1.50
	<b>TOTAL</b>	<b>24.46</b>	<b>3.80</b>
<b>II – Safety barrier for public road</b>			
1	Back filling	44.00	-
2	Plantation over backfilling area	2.64	0.50
	<b>TOTAL</b>	<b>46.64</b>	<b>0.50</b>
<b>III – Protection for active and proposed dumps</b>			
1	Strengthening the existing wall	0.30	-
2	Construction of protection wall	3.38	0.50
3	Terracing of dumps	2.19	0.50
4	Coco – erosion blanket on dump slope	16.00	2.00
5	Garland Drain all along toe of dump	1.00	0.20
6	Plantation on coco – erosion blanket	4.80	1.00
7	Settling pond	5.00	0.50
8	De-silting of settling pond	-	2.50
	<b>TOTAL</b>	<b>32.67</b>	<b>7.20</b>
<b>IV – Other measures</b>			
1	Air Pollution Control (Dust suppression by water spraying)	25.00	3.00
2	Water Pollution Control Measures	10.00	2.50
3	Occupational Health & Safety	10.00	7.75
4	Environmental Monitoring	Nil	10.25
5	Socio-Economic Welfare Measures as a corporate social responsibility (CSR)	-	50.00
6	Maintenance of HEMM (15% of the equipment & machinery cost)	-	15.50
	<b>TOTAL</b>	<b>45.00</b>	<b>89.00</b>

Sr. No.	Activity	Initial cost (Lakh Rs.)	Recurring expenses proposed/ annum (Lakh Rs.)
<b>A B S R A C T</b>			
1	Protection for canal	24.46	3.80
2	Safety barrier for public road	46.64	0.50
3	Protection for active and proposed dumps	32.67	7.20
4	Other measures	45.00	89.00
	<b>TOTAL</b>	<b>148.77</b>	<b>100.90</b>

**Project Cost:** The estimated cost of the project is **Rs. 100 Lakh.**

### 1.14 Conclusion

It can be concluded that there would be negligible impact in the buffer zone due to the proposed expansion in the production capacity in the mine. The project will contribute to the socio-economic development, strengthening of infrastructural facilities like medical, educational etc. The mine will be operated keeping “**Sustainable Development**” of the region in mind.

Further, management is committed to contribute towards improving socio-economic status of the surrounding local community.

Environmental monitoring is a successful tool for the management for implementation of adequate & effective environmental measures. It also helps the management to take mid course correction, if required based on the environmental monitoring results.

Considering the above overwhelming positive impact on the community, there will be overall development of the area. Hence, it is requested that Environmental Clearance may be granted for this very ambitious project of **M/s. Mysore Minerals Limited.**