Executive Summary

1.1 INTRODUCTION

M/s. Kohinoor Minerals is silica Sand Mine spread over an extent of 38.843 Hectares (95.98 Acres) of mining lease area in Sy. Nos.: 396, 397, 398, 410, 411, 412, 413, 420 & 421 of Chintavaram village & 496/1 of Ballavolu village, Chillakur Mandal, S.P.S.R. Nellore District, Andhra Pradesh. Silica sand production from the mine is 2,01,975 TPA.

1.2 PROJECT DESCRIPTION

M/s. Kohinoor Minerals proposes to produce Silica Sand of 2,01,975 TPA from its mining lease spread over an area of 38.843 Ha, with a project cost of Rs.50.0 Lakhs. An amount of Rs. 5.0 lakhs has been budgeted for implementing the Environmental Management Plan.

1.3 DESCRIPTION OF THE ENVIRONMENT

The study area covers 10 km radius of M/s. Kohinoor Minerals mine lease area located near Chintavaram & Ballavolu Villages, Chillakur Mandal, Nellore District, Andhra Pradesh.

As part of Environmental Impact Assessment study, baseline environmental monitoring was carried out covering the months of December 2016, January and February 2017.

The predominant wind directions during these hours were from NW - N – W sector accounting to about 33.7 % of the time with calm winds of less than 1.6 kmph for 32.1 % of the time. Wind speed during this period was varying from 1.6 to 15 kmph.

Ambient air quality of the study area has been assessed through a network of 8 ambient air quality locations.

Results of the ambient air quality at all the above locations were found to be well within the limits of National Ambient Air Quality (NAAQ) standards specified for Rural and Residential areas. Concentrations of PM_{10}, $PM_{2.5}$, SO2, NO_x and CO are mainly contributed due to vehicular traffic and local activities. The following is the summary of ambient air quality in the study area

Table1.1: Summary of Ambient Air Quality (mg/m^3)

98th Percentile Values			
PM_{10}	$PM_{2.5}$	SO_2	NOx
54.92-69.46	22.16-28.05	11.36-14.35	14.21-17.15

Note: CO values are observed less than 1 ppm during study period.

Noise levels were measured near residential areas and other settlements located within 10 km radius in and around the mine area. Noise levels recorded were found to be in the range of 50.4 to 54.5 dB (A) during day time and in the range of 41.4 to 51.6 dB (A) during night time.

Assessment of water quality in the study area includes the quality assessment of parameters as per the Indian standard IS 10500. Water samples collected showed compliance of all parameters with the drinking water standard of IS 10500.

The study area is covered with sand. Soil samples were collected from eight locations for assessing the quality.

There are no rare or endangered flora/fauna species in the area. Major portion of the working category is engaged in agricultural, cultivation and other works than household works. Due to the excavation of mining activity in the area a good proportion of the population is directly or indirectly employed in other works also.

1.4 ANTICIPATED ENVIRONMENTAL IMPACTS & MITEGATONS MEASURES

1.4.1 AIR ENVIRONEMENT

The air borne particulate matter is the main air pollutant contributed by open cast mining. The major activity being transport from the working pit to the stock pile and stock pile to end users, the dust levels are distributed all along the transport route from the mine.

The maximum concentration of PM10 is about 69.60 µg/m^3 at 50 m from source and hence the air pollution impact on the surrounding is negligible.

AIR POLLUTION CONTROL MEASURES

Present ambient air quality levels in the mine area are well within the limits. The

mining operations being fugitive dust prone, the impact at far distances will be minimal. The main activities for air pollution are loading, unloading of silica sand and transportation of silica sand by trucks.

The maximum contribution of dust emissions will be from handling and transport to an extent of 2,01,975 tonnes/annum. No overburden is present in the mine so transport of overburden is not envisaged.

The environmental control measures to control the fugitive dust released for the proposed production are given below:

- Regular water sprinkling on sand heaps and haul roads with water tankers.
- Regular grading of haul roads and service roads to clear accumulation of loose material.
- The vehicles will be kept in well-maintained condition so that emissions will be minimized.
- Afforestation for control of dust.

1.4.2 NOISE ENVIRONMENT

Noise will be produced due to vehicular movement. The mining activity will not generate any noise as no drilling or blasting or use of heavy machinery is involved.

NOISE POLLUTION CONTROL MEASURES

No major impact of the mining activity on the vicinity is envisaged. However, pronounced effect of noise levels (generated by vehicular operations) is felt only near the active working area and on the personnel working in the vicinity.

The following noise abatement measurements are proposed for implementation during operational phase:

- Proper and regular maintenance of vehicles, machinery and other equipment.
- The workers employed will be provided with protection equipment, earmuffs and ear-plugs, as a protection from the high noise level generated at the mine site wherever required.
- Speed of trucks entering or leaving the mine will be limited to moderate

speed of 25 kmph to prevent undue noise from empty trucks.

M/s. Kohinoor Minerals will develop greenbelt in 7.5 m width barrier zone all around the mine boundary to control the work zone noise levels around the mine to some extent.

1.4.3 WATER ENVIRONMENT

The drainage pattern in the area is dendritic. One spring channel is passes through the mine lease area. M/s. Kohinoor Minerals will leave a barrier of 50 m on either side of the channel as undisturbed zone to prevent any contamination or siltation of the canal. Both side 50 m barrier of spring channel will be maintained as 'No Mining Zone'.

The mine workings will be above the water table throughout the life of the mine. The deepest level to be reached will be 2.5 m below ground level and groundwater table is at 3.5 m bgl. There will not be intersection of ground water table due to mining.

About 0.4 m^3/day of domestic sewage will be generated from the toilets and other areas. This waste water will be treated in septic tank followed by soak pit. As the quantity of wastewater generation from this section is very small, no biological treatment system is envisaged.

1.4.4 LAND ENVIRONMENT

There is no solid waste generation from the mine.
No top soil is generated from the mine as the mine lease area is full of silica sand in loose form.

No overburden waste material generation is envisaged during the life of the mine.

1.4.5 AFFORESTATION

M/s. Kohinoor Minerals proposes to afforest an area of 0.04 Ha along the mine lease boundary.

Table 1.2: AFFORESTATION SCHEDULE

Years	Area (Ha)	No. of plants proposed	Location	Type of plant
Ist Year	**0.01**	**50**	*Along 7.5 m barrier zone*	*Cashew plants*
IInd Year	**0.01**	**50**		
IIIrd Year	**0.01**	**50**		
IVth Year	**0.01**	**50**		
Life of Mine	**0.04**	**200**		

Afforestation along the mining lease and mined out area will be done mainly by planting Cashew plantation which is growing in the area based on agro climatic conditions.

1.4.6 SOCIO ECONOMIC ENVIRONMENT

The mine area does not cover any habitation. Hence the mining activities do not involve any displacement of human settlement. No public buildings, places, monuments etc exist within the lease area or in the vicinity. The mining operations will not disturb/relocate any village or need resettlement. No R&R plan is involved.

1.4.7 OCCUPATIONAL HEALTH AND SAFETY MEASURES

All the persons will undergo preplacement examination at the time of joining.

M/s. Kohinoor Minerals will provide essential medicines at the site. The medicines and other test facilities will be provided at free of cost. The first aid box will be made available at the mine for immediate treatment. Apart from the above, M/s. Kohinoor Minerals will incur an amount of Rs.2 lakhs/year towards the periodic checkup of the workers.

1.5 ANALYSIS OF ALTERNATIVES (TECHNOLOGY & SITE)

M/s. Kohinoor Minerals is adopting open cast semi mechanized method of mining. This method mainly involves digging, scooping, spreading, screening, collecting in basket and loading into trucks and occasionally use of excavators.

1.6 ENVIRONMENTAL MONITORING PROGRAM

M/s. Kohinoor Minerals will monitor the environmental parameters as per CPCB/ IBM/ MoEF&CC guidelines and will ensure the implementation of the EMP measures within the mine area and carryout efficient monitoring. They will incur an amount of Rs. 4.0 lakhs for implementation of environmental management plan.

1.7 PROJECT BENEFITS

M/s. Kohinoor Minerals has employed 32 persons for carrying out the mining operations. In addition there will be indirect employment to many more people in the form of contractual jobs, business opportunities, service facilities etc. This will enhance the economic status.

Apart from the jobs, the M/s. Kohinoor Minerals will contribute to medical and educational facilities to the employees.

SOCIAL WELFARE MEASURES

M/s. Kohinoor Minerals will take up the following social welfare measures for the villages located in the vicinity.

- Conducting Health camps for surrounding villages
- Repair of roads in nearby villages.
- infrastructure to schools including toilets, uniforms, black board, Providing course material, text books etc
- Sponsoring rural sports and adult education.
- Publicity awareness camps for HIV, Pregnant women
- Repair/construction of public conveniences like Bus Shelters etc.,

M/s. Kohinoor Minerals will incur an amount of Rs. 2.0 lakhs/annum for implementing the above measures.

1.8 CONCLUSION

M/s. Kohinoor Minerals strongly believes in the concept of ecofriendly industrialization. Various socio economic development activities proposed will bring about overall socio economic development in the area.