1. INTRODUCTION

1.1. Introduction

The Mining industry in India is a major economic activity which contributes significantly to the economy of India. The GDP contribution of the mining industry varies from 2.2% to 2.5% only but as per the GDP of the total industrial sector it contributes around 10% to 11%. Even mining done on a smaller scale contributes to 6% of the entire cost of mineral production. Indian mining industry provides significant job opportunities.

Gypsum plays dual role in cement. It is used in a small quantity, in the range of 2.5-3.0 percent in terms of SO_4. Gypsum is identified as a set regulator or retarder, and also contributes for strength acceleration in the early stages of hydration. Gypsum is the basic requirement for manufacture of cement & fertilizer. Cement and agriculture are the two major industries in which Gypsum finds its major use. It is estimated that more than 80% of the gypsum production from Rajasthan is used in cement industries, many of whom are located in southern Rajasthan. Apart from this it is also used in manufacturing of plaster of Paris, partition blocks, sheets and tiles, insulation boards, pharmaceuticals, textiles, paints, paper, in agriculture as soil conditioner etc.Over 90% of Gypsum reserves of the India are located in Rajasthan. Rajasthan gypsum is mostly of gypsite type found in bedded deposits. From the natural gypsum, marine gypsum is recovered while evaporating brines and phosphor gypsum as a by-product from the phosphate fertilizer plants.Gypsum deposits are available in the western part of the state which account for 81.39% of total country's reserves. Rajasthan is the principal producer of Gypsum, accounting for 98.81% of the total country's production.

M/s FCI Aravali Gypsum and Minerals India Ltd (FAGMIL) under flagship of Department of Fertilizers, Ministry of Chemicals & Fertilizers is ISO certified premier company in the country for producing agriculture and mineral gypsum which has been playing major role in land reformation in agriculture sector by reclamation ofsodic land in India. It has experience of almost six decades in supplying of gypsum for producing Ammonium Sulphate in Sindri Unit, Dhanbad. During this period it helped the country in achieving self – sufficiency in food grain production.

Environmental Impact Assessment (EIA) is a planning tool for assessing the environmental concerns of a project at an early stage of project planning and design, so that it can assure the environmental feasibility of the project. An Environment management plan is prepared which will identify and address the impacts, where these are adverse in nature, and thereafter design mitigative measures to manage such impacts in a manner as to conserve environment and ecology of the area. The EMP has been prepared with a view to ultimately ensure that the adverse impacts are minimized if these cannot be prevented altogether.

1.2. Purpose of report

The Environmental Impact Assessment Report has been prepared to assess the current environmental scenario of the area and then based on the activities of the proposed mining; Environment Management Plan (EMP) is prepared.

Category "B1"- As per EIA Notification, 2006 and its amendment dated 14th August 2018, the projectarea is 95.10 ha which is less than 100 Ha thereby the project comes under "B1" category andas per MoEF& CC notification S.O. 1530(E) dated 6.4.2018, our project falls under clause b which is repronounced as-**"fresh EC**

required for all project which were granted environmental clearance under the EIA Notification, 1994, but not obtained environmental clearance for expansion / modernization / amendment under the EIA Notification, 2006".

1.3. Details of mining (Chronology of the Project)

1. The Mining lease over an area of 95.10 ha has been granted in favor of FCI Aravali Gypsum and Minerals India Ltd by the DMG, Rajasthan vide order no. F-3(5)(42)IND (B)/64/3228 on dated 21.07.1966 for the period of twenty years from the date of registration i.e 06.03.1967.As per the RMMCR, 2017, section 9(3) the validity of mining lease is up-to 31.03.2025 vide order no. ME/GANGA/ML/4/1985 of Dept. of Mines & Geology, Govt. of Rajasthan, Sri Ganganager. **(Attached as Annexure-I)**
2. M/s FCI Aravali Gypsum and Minerals India Ltd has obtained environmental clearance for Raghunathpura Gypsum (Minor Mineral) Mining project (ML No 04/85, ML Area 95.10 ha) with production capacity 30,000 TPA of Mineral Gypsum under the provisions of EIA Notification, 1994 vide letter no J-11015/434/2005-IA.II (M) dated 16thJune, 2006 from MoEFCC & Public Hearing is done on dated 18/07/2005. The certified compliance of earlier EC has been obtained on dated 01.10.2019 **(Attached as Annexure-II).**
3. Scheme of mining with progressive mine closure plan has been approved by SME, Bikaner, Dept. of Mines & Geology, Govt. of Rajasthan vide letter no. 1116-1120 of dated 10.04.2017**(Attached as Annexure III).**
4. In this context, ToR application comprising of Form-I and Pre-Feasibility Report along with Approved mining scheme was submitted to SEIAA Rajasthan on dated 02.10.2018. Subsequently the ToR was issued by SEAC, Rajasthan in the 4.7th meeting of SEAC held on 28th,29th, 30thand 31st January, 2019 at Agenda no. 53 vide letter no **F1 (4)/SEIAA/SEAC-Raj/Sectt/Project / Cat. 1(a) .B1 (15530)/ 16-17/8788 dated 07.03.2019** (**enclosed as Annexure-IV**). The baseline data was collected in December 2018 to February 2019.
5. Previous production detail for the same is attached as **Annexure V**which is certified by Assist. Mining Eng. Sri Ganganagar.

1.4. Identification of projectand project proponent

M/s FCI Aravali Gypsum and Minerals India Ltd (FAGMIL) under flagship of Department of Fertilizers, Ministry of Chemicals & Fertilizers is ISO certified premier company in the country for producing agriculture and mineral gypsum which has been playing major role in land reformation in agriculture sector by reclamation ofsodic land in India. It has experience of almost six decades in supplying of gypsum for producing Ammonium Sulphate in Sindri Unit, Dhanbad. During this period it helped the country in achieving self – sufficiency in food grain production.

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As per MoEF& CC notification S.O. 1530(E) dated 6.4.2018, our project falls under clause b which is repronounced as-**"fresh EC required for all project which were granted environmental clearance under the EIA Notification, 1994, but not obtained environmental clearance for expansion / modernization / amendment under the EIA Notification, 2006"**

Name of the applicant	M/s FCI Aravali Gypsum and Minerals India Ltd (FAGMIL)
Name and Address of Applicant	M/s FCI Aravali Gypsum and Minerals India Ltd (FAGMIL) R/O – MANGU SINGH RAJVI MARG, (Paota 'B' Road) Jodhpur (RAJ.) E-MAIL-aravalifci@gmail.com, fagmil@rediffmail.com
Name of Mine	Raghunathpura-I - Gypsum, (Minor Mineral) (ML.NO. 04/85), Area:-95.10 Ha., Production Capacity :- 30,000 TPA, Located at Village -Raghunathpura, Tehsil- Suratgarh , Distt.- Sri Ganganagar (Raj.) of M/S FCI Aravali Gypsum And Minerals India Ltd
Mineral	Gypsum, (Minor Mineral)
Lease Area (ha)	95.10 Ha.
Status of Project	Existing Mining Project.

1.5. Brief description of nature, size, location of the project and its importance to the country region

Nature of project

The proposed project is a mechanized open-cast mining project having an area of 95.10 ha and is classified as "Category-B1" by the MoEF&CC, New Delhi as per the EIA Notification dated 14thSeptember 2006 and its amendments thereof.

Size of project

Existing Mining Project of Mineral Gypsum with Production Capacity :- 30,000 TPA&14032 cum/year OB Waste, within the mining lease area of 95.10 ha. The total gross geological reserves, have been estimated as 397999 MT.

Location of the project

The existing project is located at Village -Raghunathpura, Tehsil- Suratgarh ,Distt.- Sri Ganganagar (Raj.) by M/s FCI Aravali Gypsum and Minerals India Ltd (FAGMIL). Nearest Railway station is KalyanKot Railway Station~5.54 Km in NNW direction from mine site. Mine is approachable through good tar road which is connected to NH-15 ~24.72 Km in East direction & MDR-103, ~ 5.43 Km in NW direction from mine site.
The salient features of the project are presented in **Table 1.1.**

Table 1-1: Brief Description of the Project

S. No.	Particulars	Details
A.	**Nature and Size of the Project.**	The existing project is located at Village -Raghunathpura, Tehsil- Suratgarh , Distt.- Sri Ganganagar (Raj.) by M/s FCI Aravali Gypsum and Minerals India Ltd (FAGMIL) Existing Mining Project of Mineral Gypsum with Production Capacity :- 30,000 TPA&14032 cum/year OB Waste, within the mining lease area of 95.10 ha.
B.	**Location**	
	Khasra Number	32/39 , 132/47, 132/55, 132/63, 152/7, 152/15,152/23,

<table>
<tr><td></td><td></td><td>152/31, 152/32, 152/24, 152/16, 152/8, 132/64, 132/56, 132/48, 132/40, 133/33, 133/49/, 133/57, 153/1, 153/9, 153/17, 153/25</td></tr>
<tr><td></td><td>Village& Tehsil</td><td>Village –Raghunathpura& Tehsil-Suratgarh</td></tr>
<tr><td></td><td>District</td><td>Sri Ganganagar</td></tr>
<tr><td></td><td>State</td><td>Rajasthan</td></tr>
<tr><td>Geographical Coordinates</td><td>Latitude and Longitude of Project Area</td><td>
<table>
<tr><th>Point</th><th>Longitude</th><th>Latitude</th></tr>
<tr><td>E</td><td>73°37' 36.83" E</td><td>29°13' 38.1" N</td></tr>
<tr><td>F</td><td>73°37' 45.75" E</td><td>29°13' 53.56" N</td></tr>
<tr><td>G</td><td>73°38' 44.67" E</td><td>29°13' 27.42" N</td></tr>
<tr><td>H</td><td>73°38' 35.76" E</td><td>29°13' 11.95" N</td></tr>
<tr><td>E</td><td>73°37' 36.83" E</td><td>29°13' 38.1" N</td></tr>
</table>
</td></tr>
<tr><td></td><td>Toposheet (OSM) No.</td><td>44G12</td></tr>
<tr><td>C.</td><td>Lease Area Details</td><td></td></tr>
<tr><td></td><td>Lease Area</td><td>95.10Ha.</td></tr>
<tr><td></td><td>Type of Land</td><td>Govt. &Pvt. Land</td></tr>
<tr><td></td><td>Topography</td><td>Flat Land with some undulated terrain</td></tr>
<tr><td></td><td>Site Elevation Range</td><td>169mRL to 165Mrl
Source:Mining Plan</td></tr>
<tr><td>D.</td><td>Cost Details</td><td></td></tr>
<tr><td></td><td>Cost of the project</td><td>Rs. 10.0 Lakhs</td></tr>
<tr><td></td><td>Cost for EMP</td><td>Rs.8.0 Lakhs/year</td></tr>
<tr><td></td><td>Cost for CER</td><td>Rs.5.0 Lakhs/year</td></tr>
<tr><td></td><td>OH&S</td><td>Rs.2.0 Lakhs/year</td></tr>
<tr><td></td><td>Cost for Labour Welfare</td><td>Rs.1.50 Lakhs/year</td></tr>
<tr><td></td><td>Cost For Biodiversity Conservation</td><td>Rs.5.0 Lakhs</td></tr>
<tr><td>E.</td><td>Environmental Settings of the area</td><td></td></tr>
<tr><td></td><td>Ecological Sensitive Areas (National Park, Wild Life Sanctuary, Biosphere Reserve, Reserve/ Protected Forest etc.) within 10 Km radius</td><td>There is no National Park, Wild Life Sanctuary and Biosphere Reserve & Reserve/ Protected Forest etc. within 10 Km of Project site.</td></tr>
<tr><td></td><td>Interstate boundary within 5 Km radius</td><td>None within 5 Km of the study area.</td></tr>
<tr><td></td><td>Archaeological Important Place</td><td>None within 5km of the study area.</td></tr>
<tr><td></td><td>Nearest Habitation</td><td>Village Raghunathpura ~ 2.54 km in WSW direction from mine site.</td></tr>
<tr><td></td><td>Nearest Town/City</td><td>Suratgarh ~29.67 Km in NEdirection from mine site.</td></tr>
</table>

	Nearest Railway Station	KalyanKot Railway Station~5.54 Km in NNW direction from mine site.
	Nearest State/ National Highway	NH-15 ~24.72 Km in East& MDR-103, ~ 5.43 Km in NW direction from mine site.
	Nearest Airport	Suratgarh ~29.67 Km in NE direction from mine site.
	Nearest Post Office	Village Raghunathpura ~ 2.54 km in WSW direction from mine site.
	Nearest Police Station	Village Raghunathpura ~ 2.54 km in WSW direction from mine site.
	Medical Facilities	Village Raghunathpura ~ 2.54 km in WSW direction from mine site.
	Education Facilities	Village Raghunathpura ~ 2.54 km in WSW direction from mine site.
	Seismic Zone	Zone II
	Water Body	Indra Gandhi Canal Project at 1.50 km in South directionfrom mine site.

(Source: Site visit /Baseline Data and Pre-feasibility Report)

All corners-coordinates of the ML area are superimposed on Toposheet(OSM No.) 44G12 of survey of India **Figure-1.1**.

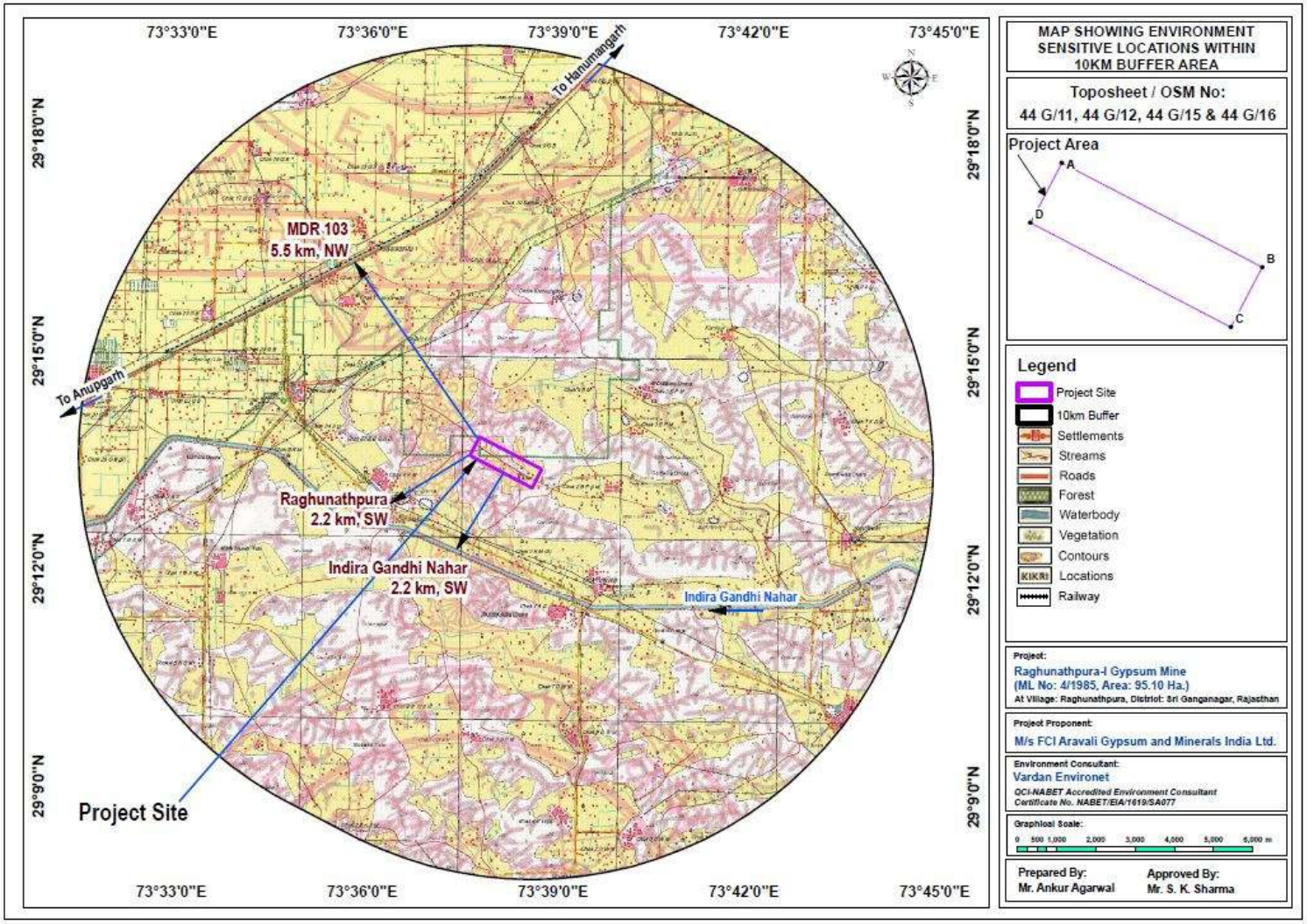

Figure1-1 Key Plan showing the Environmental Settings of the Study area

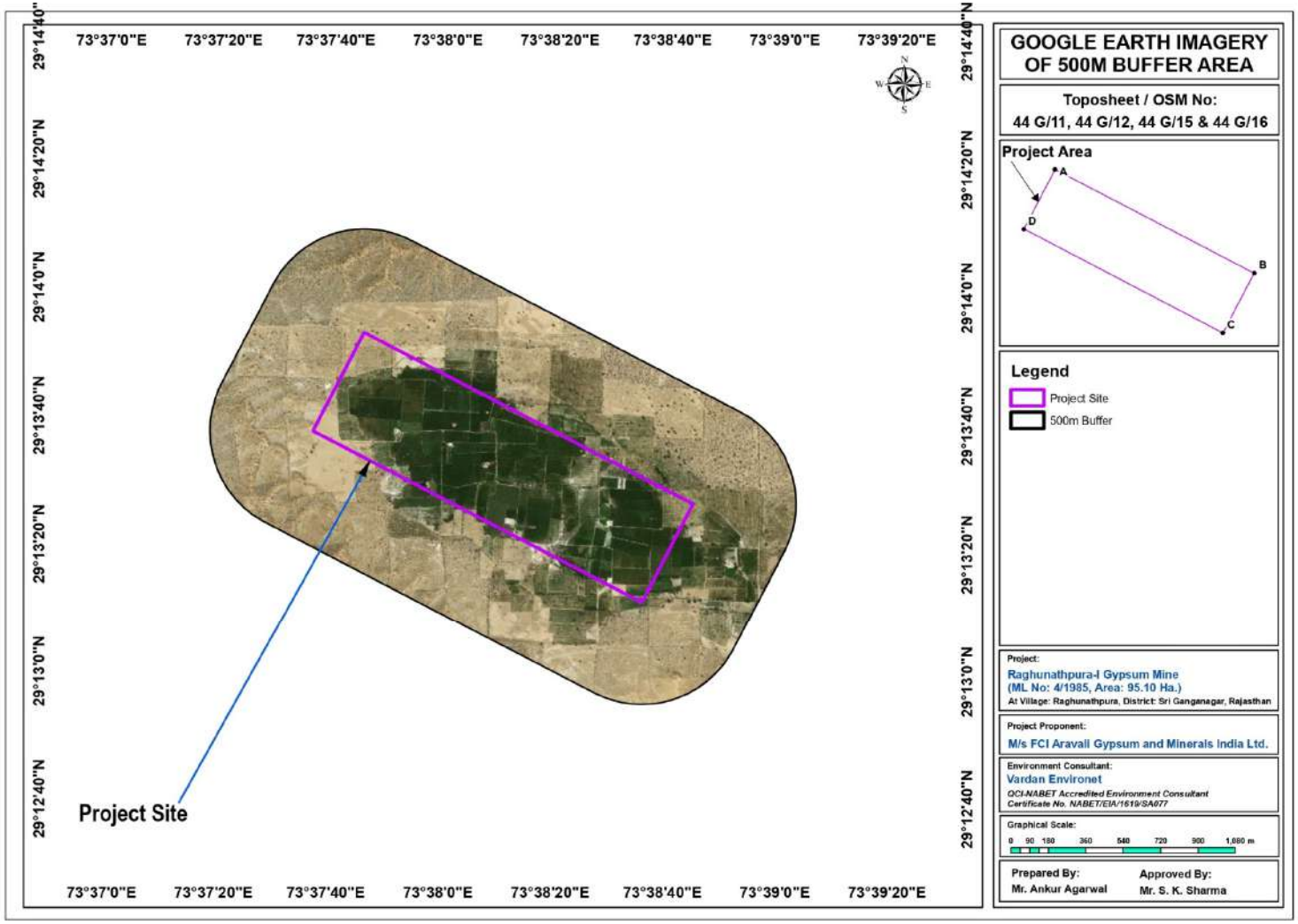

Figure1-2 500m map of the study area

1.6. Importance of the project for country or region

The said project plays a significant role in the domestic as well as infrastructural market. The lessee suppliesmineral Gypsum to various industries which are situated near by area. Gypsum plays dual role in cement. It is used in a small quantity, in the range of 2.5-3.0 percent in terms of SO_4. Gypsum is identified as a set regulator or retarder, and also contributes for strength acceleration in the early stages of hydration. Gypsum is the basic requirement for manufacture of cement & fertilizer. Cement and agriculture are the two major industries in which Gypsum finds its major use. It is estimated that more than 80% of the gypsum production from Rajasthan is used in cement industries, many of whom are located in southern Rajasthan. Apart from this it is also used in manufacturing of plaster of Paris, partition blocks, sheets and tiles, insulation boards, pharmaceuticals, textiles, paints, paper, in agriculture as soil conditioner etc.

The existing project will generate direct and indirect employment for the locals of nearby villages. The State Government will be benefitted from the royalty taxes received from the mining activities in the region. The proponents will imply suitable EMP which will act as the aesthetic and social upliftment of the area.

1.7. Scope of study

The Environmental Impact Assessment (EIA) studies are aimed to identify and analyze the aspects that affect the environmental conditions within the mine lease area and surrounding areas around 10 km radius from its epicenter. The project scope includes detailed characterization of various environmental components like air, noise, water, land and socio-economic within this project study area and around the proposed mine site.

The objectives set for carrying out this EIA study are based upon the requirements that fulfill the EIA Notification 2006 and there subsequent amendments under the guidelines of MoEF&CC and its various amendments. These objectives are described as follows:

- To carry out environmental monitoring in order to establish a baseline environmental status of the study area
- To identify various existing pollution loads due to industrial and domestic activities in the ambient zone.
- To predict the impacts on environmental attributes.
- To evaluate the predicted impacts on the various environmental attributes in the study area by using scientifically developed and widely accepted Environmental Impact Assessment (EIA) Methodologies.
- Preparation of an Environmental Management Plan (EMP) outlining the measures for improving the environmental quality.
- To identify critical environmental attributes required to be monitored.
- To conduct literature review that includes identification of relevant data and articles from various publications, various government agencies and other sources.
- To collect available secondary data.

1.8. EIA Methodology

Environmental Impact Assessment study is conducted within an area of 10 km radius in and around the mine area involved following three phases.

- Identification of significant environmental parameters and assessing the status within the impact zone.
- Prediction of impacts envisaged due to proposed mining activity on various environmental parameters.

- Evaluation of impacts after superimposing the predicted scenario over the baseline scenario to prepare Environmental Management Plan.

During screening, significant environmental issues were examined for all the alternatives. Primary and secondary data were collected to describe the existing environmental set-up. The methodology adopted is presented in the form of a flow chart. Keeping in view the activities envisaged and size of the mining activities, the work carried out is briefly reported below and has been described in detail in the subsequent sections.

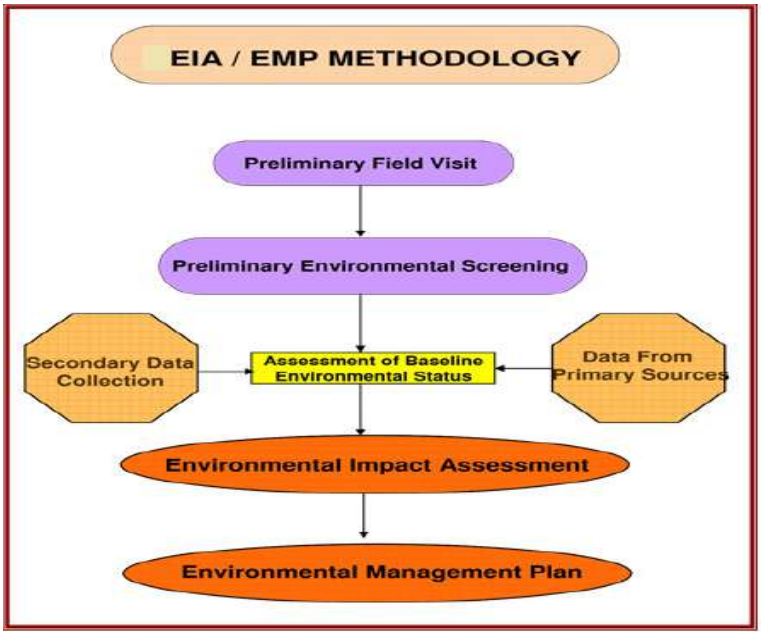

Figure 1-3 Flow Chart - EIA/EMP Methodology

1.9. Preparation of EIA

This EIA Report is prepared in accordance with has been divided into twelve chapters (in addition to Executive Summary) as briefed hereunder:

Chapter 1 – Introduction
Chapter 2 – Project Description
Chapter 3– Description of the Environment
Chapter 4 – Anticipated Environmental Impacts and Mitigation Measures
Chapter 5 – Analysis of Alternatives (Technology and Site)
Chapter 6 – Environmental Monitoring Program
Chapter 7 – Additional Studies
Chapter 8 – Project Benefits
Chapter 9 – Environmental Cost Benefit Analysis
Chapter 10 – Environmental Management Plan
Chapter 11 – Summary& Conclusion
Chapter 12 – Disclosure of Consultant

1.10. Laws applicable to this project

The Acts, Notifications, Rules and Amendments applicable for setting up a mining project.

Legal Channel	Responsible Ministries/Bodies	Objective of Legislation	Action Plan
The Water (Prevention & Control of Pollution) Acts 1974/ Rules 1975	CPCB, SPCB	The prevention and control of water pollution and also maintaining or restoring the wholesomeness of water.	Not to discharge any effluent, not confirming to standards, prescribed by RSPCB into any stream, well, sewers or land, Not to discharge air pollutant(s) in excess of standards, prescribed by the State PCB. Obtain 'Consent to Establish' prior to establish any process, operation or treatment system. Obtain 'Consent to Operate' prior to operation of system which is likely to discharge effluent. Apply for renewal of the 'Consent to Operate' before the expiry. Comply with conditions as prescribed under consents.
The Air (Prevention & Control of Pollution) Acts 1981/ Rules 1982	CPCB, SPCB	The prevention, control and abatement of air pollution.	
The Environment (Protection) Acts 1986/Rules 1986 The Environmental Impact Assessment (EIA) Notification, 2006	MoEF&CC,CPCB, SPCB	Protection and Improvement of the Environment	Prevent discharge or emission of environment pollutants in excess of the prescribed standards Submit 'Environmental Statement' every year Obtain prior "Environmental Clearance' from MoEF&CC in case of new project or for Modernization / Expansion.
Rajasthan Minor Mineral Concession Rules, 1986& Rajasthan Minor Mineral Concession Rules, 2017	DMG, RAJ	Guidelines for mining of minerals in the lease area	Mineral will be extract as per the mining plan approved by DMG.
Mines minerals Development Restoration and Rehabilitation Act 1957&Mineral Conservation and Development Rules, 2017&Mines & Minerals (Contribution to District Mineral Foundation) Rules, 2015	DMG, Raj	Regulation of mines and the development of minerals	Development Restoration and Rehabilitation fund will be spend as per the LOI/Lease conditions.
Wildlife protection Act 1972	Forest Department, PPCCF	protection of plants and animal species	Wildlife conservation plan has been prepared to protect the Schedule species in the study area.
Solid Waste Management Rules, 2016	CPCB	Management of solid waste	Waste will be mange as per the SWMR 2016.