

EXECUTIVE SUMMARY (ENGLISH)

**FOR THE
DRAFT EIA/EMP REPORT
FOR
IRON ORE MINING PROJECT
LOCATED NEAR VILLAGE- BHAGOLI, TEHSIL: UDAIPURWATI
DISTRICT: JHUNJHUNU, RAJASTHAN
M.L AREA- 4.945 ha, M.L NO. 10/98,
PRODUCTION CAPACITY: - 1, 50,700 TPA (ROM)
PROJECT COST: - Rs. 1.00 Crore
Study period: Winter Season (1/12/2020 - 28/02/2021)**

**Name of Laboratory: Noida Testing Laboratories
MoEF& NABL Accredited Laboratory (NABL certificate Number: TC-6814; Validity Date:
02/12/2021)**

PROJECT PROPONENT

**M/s. Nilkanth Concast Pvt. Ltd
R/o In front of Gandhidham, Plot No. 403, Ward 6/C,
Opposite Om Cineplex, Adipur, Kutch (Gujarat)
Email: msnilkanthconcast@gmail.com,
Phone No.: 2838283495**

ENVIRONMENTAL CONSULTANT



Environmental and Engineering Services India Pvt. Ltd.

**(NABET Accredited & ISO 9001:
2015 Certified Company)
27, Ashok Vatika, Khatipura Road, Jhotwara, Jaipur-302012
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*(As per QCI NABET List of Accredited Consultant Organisations List-'A' Accredited EIA Consultant
Organisations as on 9th June , 2021 FEES Jaipur, Listed at S.No.-100)*

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EXECUTIVE SUMMARY

1.0 INTRODUCTION

The said mining lease is situated at M.L. No. 10/98 at Village- Bhagoli, Tehsil: Udaipurwati & District: Jhunjhunu (Rajasthan). Initially the lease was granted in favor of Sh. Bajrang Kumar Bansal S/o Sh. Mahaveer Prasad Agrawal vide government order P-17(32)Khan/Group-1/2002 on dated 10/05/2002 and registered on 31/10/2002 for 30 years i.e: 31/10/2032.

Further lease was transferred in favor of M/s Nilkanth Concast Pvt. Ltd. vide order no. P 17(32)/Khan/Group-2/2000-Part on dated 10/10/2013 and executed on 22/11/2013 and registered on 04/12/2013. Lease period was extended for 50 years i.e.: 31/10/2052 vide letter dated 20/02/2015. Review Mining Plan for period 2017-18 to 2021-22 was approved by Regional Controller of Mines, Indian Bureau of Mines Ajmer vide letter no 584(4)(3)(1731)/2018 RCM-AJM on dated 27/04/2018. As per EIA Notification, dated 14th September, 2006 Environmental Clearance (EC) for mining activity is required from the Ministry of Environment & Forests, Government of India MoEF&CC/SEIAA and further as per the MoEF & CC Gazette vide S.O.3977 (E) dated 14th August 2018 the said project falls under Category “B1” Schedule 1 (a).

1.1 IDENTIFICATION OF PROJECT AND PROJECT PROPONENT

1.1.1 NAME OF THE PROJECT

This is an iron ore mining project of M/s. Nilkanth Concast Pvt. Ltd. having mine lease M.L. No. 10/98 falling in Survey of India toposheet no. 45M/9 having area of 4.945 Hectare with proposed annual production capacity 1,50,700 TPA (ROM) located at Khasra No. 1583, 1601, 1582, 1602, 1604, 1606, 1566, 1567, 1568, 1569, 1570, 1571 near village- Bhagoli, Tehsil: Udaipurwati, District- Jhunjhunu, Rajasthan.

The said Draft EIA/EMP is being submitted as per the cluster certificate issued vide No. ME/Jhunjhunu/M.L. 10/98/570 on dated 17/06/2020 ME, Jhunjhunu.

1.1.2 PROJECT PROPONENT

Applicant : **M/s. Nilkanth Concast Pvt. Ltd**
Add. -R/o In front of Gandhidham, Plot No. 403, Ward
6/C, Opposite Om Cineplex, Adipur, Kutch (Gujarat)

1.1.3 ENVIRONMENTAL CONSULTANT

Fulgro Environmental and Engineering Services India Pvt. Ltd. (QCI NABET Accredited) is the Environmental Consultant for the said project.

Registered Office Address: 27, Ashok Vatika, Khatipura Road,
Jhotwara, Jaipur, Rajasthan

1.1.4 LABORATORY DETAILS

Baseline data for the Winter season (1st December 2020 to 28th February 2021) has been generated by NABL/MoEF & CC recognized laboratory Noida Testing laboratory.

Accreditation o. TC-6814, Validity Date: 02/12/2021

Address:

Sector 117, GT 20, Noida,
Gautama Buddha Nagar-201301
Uttar Pradesh

2.0 PROJECT DESCRIPTION

Location of the Project

Iron Ore mining project located near village- Bhagoli, Tehsil Udaipurwati, District Jhunjhunu, Rajasthan.

Size and Magnitude of the Operation

The said project is for iron ore mining for a production of 1,50,700 TPA (ROM) by open cast semi-mechanized method. The lease area is 4.945 ha which Non-Forest Land. The total mineable reserves are 8,05,810 MT Tones. The expected life of the mine is 6.62 years.

TABLE NO. 2.1: PROJECT PROFILE

S. NO.	TITLE	DETAILS
1.	Lease area	4.945 Ha.
	Said area to be mined out till the end of life of mine	1.860 ha
	Ultimate Depth of Mining	Deposit 1 mining will take place from elevation of 410 mRL depth of mining will be 30 m bgl (380 mRL) Deposit 2 mining will take place from elevation of 428 mRL depth of mining will be 48 m bgl (380 mRL)
2.	Total Production Capacity	1,50,700 TPA
3.	Mining Method	Open Cast Semi-Mechanized Method <i>Note: Drilling and blasting will be carried out</i>
4	Raw Material Requirement -Nil	
5.	Water Requirement	7.50 KLD
	Domestic	2.70 KLD
	Dust Suppression	1.00 KLD
	Green Belt	3.80 KLD
	Source:	Water will be made available by nearby village Bhagoli through private water tanker
6.	Waste Water Generation	Not Applicable
7.	Total Power Requirement and source	Mining operation will be carried out during sun rise to sun set hence no power required for the mining operation. However, if required electricity connection will be taken from the

		concerned electricity department
8.	Manpower	77

2.1 SALIENT FEATURES OF PROJECT

The brief details of project presented in below mentioned table;

TABLE 2.2: SALIENT FEATURES OF THE PROJECT

S. No.	Particulars	Details		
A.	Name of the project	Iron Ore Mining Project		
B.	Size of the project			
1.	Mine Lease area	4.945 Ha.		
	Method of Mining	Semi-mechanized (with Drilling and blasting)		
2.	Proposed Production capacity	1,50,700 TPA (ROM)		
C.	Project Location			
1.	Village	Bhagoli		
2.	Tehsil	Udaipurwati		
3.	District	Jhunjhunu		
4.	State	Rajasthan		
5.	Geographical Location	Pillar No.	Latitude(N)	Longitude(E)
		A.	27°45' 28.86" N	75°41'45.01" E
		B.	27°45' 19.94" N	75°41'32.92" E
		C.	27°45' 22.82" N	75°41'30.24" E
		D.	27°45' 31.74" N	75°41'42.33" E
6.	Toposheet No.	45M/9, 45M/10, 45M/13 &45M/14		
D.	Environmental Settings Details (with aerial distance & direction from the mine lease boundary)			
1.	Nearest Village	Papra Village is at a distance of 1.23 Km towards SW direction from M.L. area. Bhagoli Village is at a distance of 1.70 Km towards NW direction from M.L. area.		
2.	Nearest Town	Neem Ka Thana is at a distance of 7.85 Km towards ESE direction from M.L. area.		
3.	Nearest National Highway	<ul style="list-style-type: none"> • SH-37 B which is at a distance of 6.30 Km towards SE direction from M.L. area. • SH-13 which is at a distance of 9.60 Km towards East direction from M.L. area. 		
4.	Nearest Railway Station	Neem Ka Thana Railway Station at a distance of 8.40 Km towards ESE direction from M.L. area.		
5.	Nearest Airport	Jaipur International Airport at a distance of 103.25 Km towards South direction from M.L. area.		
6.	National Parks, Wild Life Sanctuaries, Biosphere Reserves etc.), Reserved /Protected Forest within 10 Km radius study area	No, National Parks, Wildlife Sanctuaries, Biosphere Reserves etc.), within 10 Km radius study area. Few Protected Forest are fall within 10 km radius of the study area are: -		
		Kankriya Block Protected Forest	3.22 Km towards NW direction from M.L. area	

		Norangpura Block Protected Forest	4.60 Km towards North direction from M.L. area
		Kankriya Block Protected Forest	4.85 Km towards West direction from M.L. area
		Kankriya Block Protected Forest	7.71 Km towards NW direction from M.L. area
		Chichdoli Protected Forest	7.90 Km towards NE direction from M.L. area
7.	Water Bodies within 10km radius	Kantli River	At a distance of 0.35 Km towards West direction from mine lease area.
		Water Body Near Village Mavanda Tarla	At a distance of 7.90 Km towards NE direction from mine lease area.
		Chandrabhaga River	At a distance of 8.83 Km towards SE direction from mine lease area.
		Khakli Nala	At a distance of 9.65 Km towards North direction from mine lease area.
8.	Places of Archaeological importance	No archaeological importance place falls within 10 km radius from the mine lease boundary.	
9.	Seismic Zone	Seismic Zone- III (as per IS 1893 (Part-I): 2002) (Source: National Disaster Management Authority www.ndma.gov.in/en/zone-map.html)	
Environmental Settings of the study area has been shown in Figure 1.3 on the G.T sheet <i>Source: Site Visit and Toposheet of the area</i>			
E.	Cost Details		
1.	Total Project Cost	1.00 Crore	
2.	Cost for Environmental Protection Measures	5.00 Lac (Recurring Cost)	

3.0 ALTERNATIVE TECHNOLOGY AND SITE ANALYSIS

As the mineral is site specific so no alternate sites have been examined.

4.0 DESCRIPTION OF THE ENVIRONMENT

The baseline environmental monitoring was carried out during winter season (1st December 2020 to 28th February 2021) from MoEF & CC/NABL accredited laboratory. For monitoring the environmental parameters like meteorology, air, water, soil and noise quality, the monitoring stations have been established at various locations in the study area as per the criteria for selection mentioned in Chapter 3 of the EIA/EMP report. The detail of the sampling locations is given in below Table: -

Soil Sampling Location

Station Code	Station name	Approx. Aerial Distance with respect to mine lease area (in km)	Direction with respect to mine lease area	Site Selection Criteria
--------------	--------------	-----------------------------------------------------------------	-------------------------------------------	-------------------------

SQ1	Mine Site	--	--	Core Zone
SQ2	Dhani	0.18	SE	Agriculture
SQ3	Near Road Junction	0.49	North	Agriculture
SQ4	Bhagoli	1.56	NW	Agriculture
SQ5	Papra	1.38	SW	Agriculture
SQ6	Sarai	2.24	NE	Agriculture

Water Sampling Location

Code	Location	Aerial Distance (km)	Direction
		with respect to mine lease area	
Ground Water			
GW1	Dhani	0.18	SE
GW2	Bhagoli	1.56	NW
GW3	Near Road Junction	0.49	North
GW4	Papra	1.38	SW
GW5	Sarai	2.24	NE
GW6	Pachlangi	4.00	SSW

Air Quality Sampling Location

Station	Location	Approx. Aerial Distance (in km)	Direction with respect to mine site	Site Selection criterion
AQ1	Near Mine Site	--	--	Core Zone
AQ2	Near to Mine Site: Dhani (180 Mtr downwind)	0.18	SE	Falls in downwind to predominant wind direction
AQ3	Near Road Junction (Neem Ka Thana Road)	0.49	North	Near Road Junction
AQ4	Bhagoli	1.56	NW	Falls in upwind of predominant wind direction
AQ5	Papra	1.38	SW	Nearest Habitation in buffer zone
AQ6	Sarai	2.24	NE	Falls in downwind of second dominant wind direction
AQ7	Neem Ka Thana	8.00	ESE	Densely Populated Area with mixed traffic density

Noise Monitoring Sampling Location

Location Code	Location	Aerial Distance (km)	Direction	Site Selection Criteria
		with respect to mine lease area		
NQ1	Mine Site	Core zone		Project Site
NQ2	Dhani	0.18	SE	Rural Settlement
NQ3	Near Road Junction	0.49	North	Near Road Junction (Neem Ka Thana Road)
NQ4	Bhagoli	1.56	NW	Neem Ka Thana Road
NQ5	Papra	1.38	SW	Near Village Road in Rural Settlement
NQ6	Sarai	2.24	NE	Rural Settlement

4.1 LAND ENVIRONMENT

4.1.1 Land Use

The land use pattern of the study area based on the latest satellite imagery is given below: -

TABLE 4.2 LAND USE BREAKUP OF THE STUDY AREA

Sr. No	Class	Area in ha.	(Area)%
1.	Urban	532.6674	1.61
2.	Rural	650.4027	1.97
3.	Waterbodies	14.7539	0.04
4.	Mining/Mine Dump	22.231	0.07
5.	River	1769.1766	5.36
6.	Flood Plain	2457.4901	7.44
7.	Irrigation	911.225	2.76
8.	Wastelands/Scrubs land	21113.3128	63.91
9.	Moderately dissected hills	326.8665	0.99
10.	Highly dissected hills	5236.6396	15.85
Total		33034.7657	100.00

Source: Resource Sat-2 Satellite Imagery

4.2 PRESENTATION OF RESULTS (AIR, NOISE, WATER & SOIL)

Baseline study of the study area was conducted during winter season (December, January, February) 2020-2021.

The concentration for all the 7 AAQM stations for PM₁₀ ranges between 41.3 to 78.9 µg/m³, PM_{2.5} ranges between 21.8 to 45.6 µg/m³, SO₂ ranges between 4.78 to 9.8 µg/m³ and NO₂ ranges between 9.5 to 20.2 µg/m³.

Ambient noise levels were measured at 6 locations around the mining project. Noise levels varies from 47.1 to 51.8 Leq dB(A) during day time and during night time noise levels ranges from 38.3 to 43.4 Leq dB(A).

The ground water analysis for all the 6 sampling stations shows that pH varies from 7.6 to 7.8, total hardness varies from 303 to 482 mg/l and total dissolved solids varies from 758 mg/l to 910 mg/l.

The analysis results for soil shows that pH value ranges from 7.9 to 8.2. It means soil is moderately alkaline in nature.

4.3 BIOLOGICAL ENVIRONMENT

Flora: A general floral survey was carried out in the study area. Plant species found in the 10 km study area are *Cassia fistula* *Acacia* (Amaltas), *Emblica officianalis* (Avla), *Acacia nilotica* (Babool), *Prosopis cineraria* (Khejri), *Azadirachta indica* (Neem), *Prosopis juliflora* (Vilayti Babool), *Morus alba* (Shahtoot) *Phoenix sylvestris* (Khajoor) etc. Periodic cleaning, manuring and watering will be done for healthy growth of trees with proper fencing and guarding of trees. Plantation area will be fenced to protect from cattle menace.

Fauna: The mining lease area is in non-forest land where presence of fauna is very rare. No endangered species of fauna is found in the lease area. As such, there will be no adverse impact of the mining activity on fauna found in the study area.

4.4 SOCIO-ECONOMIC ENVIRONMENT

To make the socio-economic data easily understandable the study area has been divided into three zones such as Primary zone (0-3 km), Secondary Zone (4-7 km) and outer zone (8-10 km). Total 36 villages fall in the study area of the Iron Ore mining project. As per Census 2011 the total population is 50,148 and total household in the study area is 8889 comprises of primary zone is 1656 secondary zone is 4192 and in the outer zone area is 3041 average household/family size is about 5 in the region.

4.5 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

- **Impact on air** – The key emissions from the project are particulate matter (PM₁₀), Nitrogen dioxide (NO₂) and Sulphur dioxide (SO₂). Use of proper mitigation measures will be adopted like water sprinkling on haul roads, proper maintenance of vehicles, green area development along the road sides and along the lease boundary to minimize air pollution & periodic Air Quality Monitoring.

- **Impact on Water Environment** –No impact on water environment is envisaged as mining will not generate any waste water or toxic water. Hence, no impact is envisaged. During mining no water will be drawn from site. So, there is no impact anticipated on quantity and quality of ground water.
- **Impact of noise** - The general noise level generated will be below 75 Leq dB (A) in the working area. Transportation vehicles used for the transportation of mineral are a source of Noise pollution at the Mine site. Thus, measures will be taken to minimize the same, though noise due to operation of Mining machinery will be within permissible limits.
- **Impact on land environment**– Land use will be change due to the excavation process. The 1.860 Ha of the excavated pit will be converted into a water reservoir. It will have positive impact on the ground water table it will recharge the ground water table. The water will be used for the plantation purpose.
- **Impact on topography and drainage pattern** – No impact on topography will be as the water will follow the natural gradient of the area.
- **Impact on soil** - No major impact on soil of the study area is envisaged due to mining activities.
- **Impacts on Biological Environment** – No significant impact will be on the biological environment as mine lease area has only few bushes at the mine site and it will clear during the construction phase and the afforestation programme at the mine site will enhance the aesthetic beauty of the surrounding area.

4.6 POST PROJECT ENVIRONMENTAL MONITORING PROGRAMME

Table No. -4. 3 Environmental Monitoring Programme

S. No.	Activity	Parameters for Monitoring	Frequency of Monitoring	Location
Air Pollution Monitoring				
1	Ambient air quality monitoring of parameters specified by CPCB within and outside the mining lease area.	Ambient air monitoring of parameters as specified by CPCB preferably PM ₁₀ , PM _{2.5} , SO ₂ and NO _x within the mining lease area and outside the mine lease area.	Once in every season at each station except monsoon	Near Mine Pit, Loading area, Nearest Habitation (downwind and upwind) as per granted EC letter
Water Pollution Monitoring				
1	Monitoring of surface and ground water samples at nearby area. Parameters are essential parameters as	As per drinking water standards	Two times in a Year (Pre & Post monsoon)	One sample of surface water and one sample of ground water/ As per granted EC

	per IS standards.			letter.
Noise Quality Monitoring				
1	Noise in the ambient atmosphere in mining lease area.	Spot Noise level recording Leq (day), Leq (night), Leq (dn)	Once in every season except monsoon	Near mine pit area, near loading area
2	Maintenance and service of mechanized equipment and vehicles.		Regularly	--
Soil Quality Monitoring				
1	Soil Quality Monitoring at mine site		Once in every year	Within the mine lease area, nearby agricultural area
Hydrogeology				
1	Well Inventory	Water analysis as per drinking water standards, Water level fluctuation in post and pre monsoon period (open well)	Pre and post monsoon	Within 5 km of mine lease area

5.0 ADDITIONAL STUDIES

Public Hearing

This draft EIA/EMP is being submitted for the conduction of Public hearing and Public hearing will be conducted as per government norms of state pollution control board.

6.0 PROJECT BENEFITS

The overall impact on the socio-economic environment will be positive as the deployed laborers will be from nearby villages only and these people are mainly dependent upon such mining activities because they are not skilled in any other trade and vocation.

Therefore, Iron Ore mining project of M/s. Nilkanth Concast Pvt. Ltd. will enhance the opportunities of better employment, infrastructure and other basic amenities. This will lead to a better social and economic life of the nearby villagers.

7.0 ENVIRONMENT MANAGEMENT PLAN

7.1 Air Quality Management

- The only air pollution sources are the road transport network of the trucks. The dust suppression measures like water spraying will be done on the roads regularly.
- Care will be taken to prevent spillage by covering the carrying vehicles with tarpaulin.
- Overloading of material will be kept under check.
- Proper tuning of vehicles will be ensured to keep gas emission from the vehicles within prescribed limits/norms.

- Plantation of trees in the mine lease area and nearby area.

7.2 WASTE WATER MANAGEMENT

- No waste water will be generated from the mining activity only municipal sewage will be generated and same will be disposed via septic tank followed by soak pit.
- The pit water will be used for dust suppression, greenbelt development etc.

7.3 NOISE MANAGEMENT

- Proper maintenance of machinery, equipment's and improvement on design of machines.
- Use of personal protective devices i.e., earmuffs and earplugs by workers, working in high noise areas.
- Plantation of trees will result in attenuation of noise level.
- Proper maintenance and tuning of machinery will be ensured.

7.4 SOLID WASTE MANAGEMENT

During five years, as per the approved mining scheme 77,870 MT of the waste will be generated which will be dumped in the lease area. Waste including low grade mineral and dust will be sold in the market to cement industries. The lessee will also sale the waste after taking short term, permit from dept. as per state Govt. policy.

7.5 GREENBELT DEVELOPMENT AND PLANTATION PROGRAMME

Green Belt Development Plan

Year	Un-worked Area		Backfilled Area		Outside Plantation		Top Soil Dumps		Total	
	Area (Ha)	No. of Trees	Area (Ha)	No. of Trees	Area (Ha)	No. of Trees	Area (Ha)	No. of Trees	Area (Ha)	No. of Trees
Existing	0.100	60	--	--	--	--	--	--	0.100	60
I	0.511	530	--	--	--	--	--	--	0.511	530
II	0.511	522	--	--	--	--	--	--	0.511	522
III	0.510	520	--	--	--	--	--	--	0.510	520
IV	Maintenance to be done									
V										
At the End of Life of Mine	--	--	--	--	--	--	--	--	--	--
Total	1.632	1632	--	--	--	--	--	--	1.632	1632

Note: Total 1632 saplings will be planted over an area of 1.632 hectare (i.e., 33 % of the mine lease area) out of which 60 saplings area existing over an area of 0.100 ha. and remaining 1572 saplings will be planted over the undisturbed area of 1.532 ha. *It will be ensured that after ceasing mining operations re-grassing of the mining area and any other area which may have been disturbed due to the mining activities will be done and will restore the land to a condition which is fit for growth of fodder, flora, fauna etc. as per the MoEF & CC O.M vide No. 22-34/2018-IA.III dated 16th Jan 2020.*

Native species which are more suitable to the local environment are preferred to be planted such as Khejari, Neem, Pipal, Sheesham etc

7.6 SOCIO-ECONOMIC ENVIRONMENT

The propose mining will directly generate new employment and associate activity will also give an employment opportunity, which will have beneficial impact. The initiation of this mine will become a source of livelihood to the households of nearby villages and will contribute towards improvement in living standards of the local people. Further, local people will be taken into confidence in all activities to redress their grievances, if any, and to meet their aspirations.

7.7 OCCUPATIONAL HEALTH & SAFETY

- Safety clauses in contract order
- Inspection and maintenance of equipment's and accessories
- Pre placement and periodic health check up
- Removal of unsafe conditions and prevention of unsafe acts
- Detailed analysis of each and every incident
- To provide standard PPEs and ensure its uses
- Periodic inspection by internal and external safety experts
- Celebrations of various safety events for awareness
- Medical facilities and first aid boxes will be developed in the mine premises.
- Pits, sumps, openings in floor etc. which may be a source of danger, will be either securely covered or securely fenced. Securely fencing a pit means covering or fencing it in such a way that it ceases to be a source of danger.
- Health Awareness Programmes and camps will be organized on regularly.
- Awareness programme for Malaria eradication, HIV and health effects on exposure to mineral dust will be organized for employed person as well as for nearby villagers.
- The Occupational Health Surveillance Programme: A team of qualified doctors and nurses will visit periodically for health checkup of all the workers, team and its records are maintained properly.

8.0 CONCLUSION

Seeing the above facts and data reveals that there will no adverse impact on water quality, hydrogeology, soil, geology, biodiversity, air quality, risk hazards, Socio –economic status, noise & vibration and solid waste generation. There will be a visible change in the land use pattern in the mine lease area.

A sustainable development of mining will be done by reducing dust at source from water sprinkling, labour will be provided with face mask, shoes and ear plugs at noisy place. Transportation mineral will be done through covered tarpaulin. PUC certified vehicle's will be allowed in the mine lease area, speed of vehicle will be restricted in the mine lease area and no over loading of vehicles will be practiced. Working will be done only in day time only. Air quality modeling was done for the area also does not predict higher concentration considering air quality parameters like PM₁₀, PM_{2.5}, traffic emission factors.

Seeing the very low or negligible adverse impact on ambient environment whereas as the

positive impact due to this mining activity are more and is sustainable to the environment. Further, by suggesting various mitigation measures, possible adverse impact can be minimized, hence, we recommend the iron ore mining project for Environment Clearance.
