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नॉर्दर्न कोलफील्ड्स लिमिटेड
(मिनिरत्न कंपनी)
(कोल इण्डिया लिमिटेड की अनुषंगी कंपनी)

Northern Coalfields Limited
(AMiniRatna Company)
(A subsidiary of Coal India Limited)

कार्यालय महाप्रबंधक, निगाहीपरियोजना
Office of the General Manager, Nigahi Project
CIN- U10102MP1985GOI003160
An ISO: 9001, ISO: 14001 & OHSAS: 18001 Certified Company
पोस्ट-निगाहीपरियोजना, जिला- सिंगरौली, म.प्र., पिन 486884/ Post- Nigahi Project, Distt- Singrauli, M.P. PIN-486884
Phone: 07805- 276306, (FAX) 276306 email: cgmngh.ncl@coalindia.in website : www.nclcil.in

No.: NGH/GM/SO(M)/Env./19-20/967 Date : 03.11.2019

To,
The Addl. Director (IA-Coal mining),
Member Secretary, EAC,
Ministry of Environment, Forest and Climate Change,
3rd floor, Vayu Wing, Indira Paryawaran Bhawan,
JorBagh, New Delhi- 110003

Subject : Additional Details Sought (ADS) against the proposal no. IA/MP/CMIN/109926/2019 submitted on date 13.07.2019, for Expansion of Nigahi OCP of M/s Northern Coalfields Limited, Dist. Singrauli, Madhya Pradesh, from 18.75 MTPA to 21.00 MTPA

Ref. : 1. E-mail from sk.smree66@nic.in dated 14.10.2019
2. Online query sought on Parivesh portal dated 14.10.2019
3. Minutes of the 48th meeting of the Expert Appraisal Committee held on 3-4 October, 2019 for appraisal of coal mining projects at MoEF&CC, New Delhi

Respected Sir,

Additional details were sought, vide above references, against the proposal no. IA/ MP/ CMIN/ 109926/ 2019 dated 13.07.2019, for further consideration of the proposal. Point wise reply of queries of ADS, is tabulated below:

S. No.	Additional Details Sought by EAC	Reply
1.	An addendum EIA for the additional production proposed i.e. from 18.75 MTPA to 21.00 MTPA inter alia including adequate additional measures.	Addendum EIA for the additional production proposed, i.e., from 18.75 MTPA to 21.00 MTPA, has already been submitted with form-1 and also enclosed herewith, along with adequate additional measures, at *Annexure-I.*
2.	Fulfillment of requirements as mentioned in Ministry's OM dated 15th September, 2017.	Point wise compliance status on the fulfillment of requirements, as mentioned in Ministry's OM dated 15th September, 2017, is enclosed herewith at *Annexure-II.*
3.	Action Taken Report on partial compliances of EC conditions reported by the Ministry's Regional Office.	Required Action Taken Report, on partial compliances of EC conditions reported by the Ministry's Regional Office, is enclosed herewith at *Annexure-III.*
4.	CER shall be proposed as per the guidelines given dated 1st May, 2018 for an additional capital investment on the instant proposal.	Additional capital investment required for compliance of conditions of OM F.No. J-11015/224/2015-IA.II dated 15th September, 2017, for proposed EC enhancement, comes

		to about Rs. 6 Crore, i.e., against procurement of Surface Miner, Road Sweeping Machine and Mist Gun. Accordingly, as per the guidelines given in OM F.No.22-65/2017-IA.III dated 01.05.2018, cost of CER is calculated as Rs. 6.00 Lakhs. Proposal has been initiated for distinct sanction of above cost of CER.

In view of the above compliances, with due consideration to meet the surging energy demand of the nation, present proposal for expansion of Nigahi OCP, from 18.75 MTPA to 21.00 MTPA, may kindly be considered.

Thanking You Sir,

Yours Faithfully,

Area General Manager,
Nigahi Area, NCL

Summarized
Environmental Impact Assessment (EIA) & Environmental Management Plan (EMP)
for

Nigahi OCP
(18.75 to 21.00 MTPA)

NORTHERN COALFIELDS LIMITED

July-2019

Prepared By

CMPDI
Environmental Engineering Division
REGIONAL INSTITUTE – VI
P.O: Jayant, Distt. Singrauli, MP-486890

Summarised Environmental Impact Assessment (EIA)
&
Environmental Management Plan (EMP)
For
Nigahi OCP
(18.75 to 21.00 Mtpa)

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Summarised Environmental Impact Assessment (EIA) & Environmental Management Plan (EMP) For Nigahi OCP (18.75 to 21.00 MTPA)

1.0 INTRODUCTION

Nigahi Opencast Project is an existing operating mine in Singrauli Coalfields, NCL in an area of 3018.40 Ha. The mine is in operation since 1985-86 and has produced 258.94 MT of coal and removed 893.95 Mm^3 of OB till 31.03.2019.

1.2 Purpose of the report

This application has been made as per the MoEFCC OM No.J-11015/224/2015-IA.II dated 15.09.2017 for grant of prior Environmental Clearance (EC) under clause 7(ii) of EIA-Notification-2006, for increased capacity to 21.00 Mtpa considering the following points.

A To meet the growing energy demand of coal in the country and further in order to cope up with the fluctuation in production of other mines of NCL, it is imperative that production from Nigahi OCP be further increased owing to its favorable geo-mining conditions.

B Additional Coal winning will be achieved by deployment of 1 No. of Surface Miner (3800-4000mm) in Purewa Bottom/Purewa Top seams for enhanced coal production as per Mining Plan. ROM coal received from Surface Miner will be dispatched by railway wagons through Nigahi Wharf-wall situated within the mine leasehold area.

C The total leasehold area as per existing EC is 3018.40 Ha (extra land is not required and the forestry and other clearances have already been obtained).

D No change in technology is proposed.

E No change in backfilling & land reclamation plan will take place. Nigahi OCP has got Environmental Clearance and the land reclamation plan has been approved by MoEFCC. There is no change in the land reclamation plan and the same shall continue after including the increased capacity of the mine to 21.00 MTPA also.

F The total approved manpower for 21 Mtpa capacity is 2827 (3 shift working), no increase in which is proposed. The total existing manpower as on 01.04.2019 is 2353.

G The average grade of coal is G-10 and the linkage of coal is to serve Vindhyachal Super Thermal Power Station of NTPC. As NTPC has inter-lined Nigah Railway siding with the MGR of NTPC.

H The mine-able coal reserves was estimated to be 483.01 MT and the average stripping ratio is 3.94 m^3/T. The balance 224.07MT of mineable coal reserve is left to be mined as on 01.04.2019.

Due to the increasing demand of coal for the nation, it is requested to consider the proposal for grant of environmental clearance from MoEFCC for increased capacity of 21.00 MTPA (from 18.75 MTPA present capacity to increased capacity of 21.00 MTPA.).

Therefore this project qualifies for EC as per the MoEFCC OM No.J-11015/224/2015-IA.II dated 15.09.2017 for inclusion of increased production capacity from 18.75 MTPA to 21.00 MTPA.

1.3 Previous Coal Production

The actual production performance of the project since inception till 31.03.2019 is given below:

Year	Coal Production Actual (Mt)	OB Removal Actual (Mm3)
Upto 2005-06	82.65	329.65
2006-07	11.10	33.55
2007-08	11.30	34.03
2008-09	11.66	39.41
2009-10	12.36	33.98
2010-11	12.02	31.13
2011-12	10.88	33.37
2012-13	13.52	37.16
2013-14	13.65	36.32
2014-15	13.66	36.29
2015-16	15.01	58.69
2016-17	15.52	53.20
2017-18	17.12	66.45
2018-19	18.48	70.72
Total	**258.94**	**893.95**

1.4 Calendar Plan of proposed enhanced production and Life of the Mine

The balance mineable coal left in Nigahi OCP as on 01.04.2019 is 224.07 MT. The Mining Plan including mine closure plan for Nigahi OCP has been prepared for a rated capacity of 21.00 Mtpa. Corresponding to this, the balance life of Nigahi opencast is 12 years (from 2019-20).

Year	**Coal Production (Mt)**	**OB Removal as per proposed Mining Plan**
2019-20	21.00	83.58
2020-21	21.00	83.58
2021-22	21.00	83.58
2022-23	21.00	83.58
2023-24	21.00	83.58
2024-25	21.00	83.58
2025-26	21.00	83.58
2026-27	21.00	83.58
2027-28	21.00	83.58
2028-29	18.00	70.92
2029-30	12.00	44.00
2030-31	5.07	15.56
Total	**224.07**	**882.70**

1.5 Identification of project & project proponent

The project under consideration, i.e. Nigahi OCP is administratively under the NCL headed by General Manager, Nigahi project. Geologically, it falls in Moher Sub-basin of Singrauli Coalfield in Singrauli District of Madhya Pradesh.

The mailing address of the Project Officer is given below:

General Manager
Nigahi OCP, NCL.
PO: Nigahi, Dist. Singrauli Pin: 486 884 (Madhya Pradesh)

1.6 Location & Communication

The Project is located in Moher basin of Singrauli Coalfields in Singrauli District of Madhya Pradesh. Project is covered under Topo sheet no. 63-L /12 between latitude 24^0 06' 3.29" to 24^0 11' 16.37" North and longitudes 82^0 35' 28.23" to 82^0 39' 50.12" East.

The project is well connected to Sidhi in MP about 110 km and Varanasi in UP about 220 Km. The nearest Railway Station is Shaktinagar in UP about 07 km and Singrauli in MP on the Obra-Katni branch line of Eastern Railway which is about 22 km away and is approachable by an all-weather road. The nearest airport is in Varanasi at a distance of 240 Km.

The area is undulating and hilly terrain. The elevation varies from 300 m to 500 m above MSL (Mean Sea Level). The drainage of the area towards north into Bijul Nallah through Mehrauli/Morwa nallah, the other towards south into GBP Sagar through Motwani and Amjhar nallahs.

Refer project location plan at **Plate No -1** and plan showing leasehold area of project in KML format in **Plate no. 1(A)** attached with accompanying Form-I.

1.7 Description of importance to the country and region

Northern Coalfields Limited is facing increasing demand of coal because of increased demand from industry and power sector. Continuing and augmentation of coal production from the mines of NCL will help to bridge the gap of demand and supply of coal in India.

To meet the growing demand of coal, especially in power and steel sectors, the Ministry of Coal has given target to NCL for the year 2019-20 as 106.00 Mt which will further increase for 1.0 BT plan.

Nigahi Opencast Project will make available additional coal @ 2.25 MTPA apart from the existing capacity of 18.75 MTPA, to meet the growing demand of non-coking coal. The project has already produced 18.48 MT during 2018-19.

2.0 PROJECT DESCRIPTION

2.1 Nature and size of the project

Design, development and operation of Nigahi OCP are done by Northern Coalfields Limited. The project has Environment Clearance from MOEFCC, Government of India for a production capacity of 15.00 Mtpa of coal production with public hearing vide letter No. . J-11015/235/2006-IA.II (M) dated 08/05/2007.

Further, the Project has granted EC for a rated capacity of 18.75 Mtpa under clause 7(ii) vide letter no. J-11015/79/2013-IA.II(M) dated 19.03.2015 and amendment has been issued vide letter no. J-11015/79/2013-IA.II dated 12.10.2018 of MoEF&CC

The project has favorable geo-mining conditions for further enhancement of coal production from 18.75 Mtpa to 21.00 Mtpa increase in capacity. The increase in production would be achieved by way of improvement in availability and utilization of HEMM, increasing the number of working days and by augmenting mine capacity through additional OB outsourcing as well as by arrangement of 1 No. of Surface Miner (3800mm) from internal resources of NCL for additional coal production.

Refer **Plate No-2** showing surface features in surface plan of Nigahi Project.

The Project is designed to produce 21.00 Mtpa of coal from the four working seams namely, Purewa Top, Purewa Bottom,Purewa Merged and Turra, with an average stripping ratio of 3.94 m^3/t. The gradient of the seams varies from 2^o to 3^o .

The average grade of coal is G-10. The Project is linked to serve VSTP of NTPC by MGR and other power plants by public railway.

Total land requirement was estimated as 3018.40 ha, out of which 1280.517 ha is forestland (including 38.517 ha revenue forest land), 1528.883 ha is tenancy land and 209.00 ha is Govt/wasteland. The Project is being worked by combined mining system deploying dragline and shovel dumper combination and one Surface Miner.

The ultimate working depth has been estimated as 250 m. The total O.B. during the mine life has been estimated as 1776.75 $Mm^{3,}$ out of which only 231.00 Mm^3 is proposed to be dumped externally and balance as backfill internally. The overall dump slope will be kept at 28^o to prevent dump slide.

2.2 Quarry Parameters

As per existing scenario, the balance coal production will come as per detail given below.

Sl. No.	Particulars	Stripping Ratio & other Quarry Parameters for balance reserves
1	Total Coal (Mt) (as on 01.04.2019)	224.07
2	Total OBR(Mm^3) (as on 01.04.2019)	882.70
3	S. Ratio (m^3/te.)	3.94
4	Life (Years) from 2019-20	12
5	Dip of seams (Degree)	2°-3°.
6	Strike Length (Km)	3.50
7	Maximum depth (m)	250
8	Present quarry depth (m) (as on 01.04.2019)	180

2.3 Coal trasportation outide the Mine lease :

Nigahi OCP has a full fledged CHP of 15 Mtpa capacity equipped with two nos. of ground bunker of 25000Te and 16000Te capacity each alongwith two nos. of silo of 3000Te capacity each for loading onto the rakes of wagon to dispatch the coal through MGR. During the year 2018-19 the project has dispatched 18.23 Mt coal, out of which 16.71Mt of coal has been dispatched to Vindhyachal STPS and 0.02Mt of coal to Shaktinagar STPS of NTPC through their own MGR.

Additionally, ROM coal of (-)100 mm size received from Surface Miner will be dispatched by railway wagons through Nigahi Wharf-wall situated within the mine leasehold area of Nigahi OCP. So, the present capacity of existing Nigahi CHP / Wharfwall loading is 21 Mtpa.

3.0 DESCRIPTION OF THE ENVIRONMENT

3.1 Ambient Air Quality Status:

A. Routine Environmental Monitoring:

The project is regularly monitored for environmental parameters like Ambient Air, water /effluent and noise levels. Location of the sampling points is indicated in **Plate No.1& 2.** Ambient Air quality at present level of production with control measures is found to be within specified limit (Gazette notification no GSR 742(E) dt. 25-9-2000, Standard for Coal mines). The present Monitoring ambient air quality data is given in **Table no.-1**.

C. **Ambient Air quality impact prediction through Modeling:**

Estimation for increase in PM10 and PM 2.5 at six Ambient Air Quality Stations, has been done with the help of the AERMOD (9.4.0) modeling. The contribution from proposed mining activity (to achieve the peak production level of 21 MTPA) has been assessed for the worst scenario of operation (maximum OB generation) with control measures (business as usual).

The model was run to predict the incremental PM10 concentrations for the over and above the baseline concentrations found at the six Baseline AAQ stations.

Except PM (PM_{10}) and PM ($PM_{2.5}$) level no other parameter will be increased which is a major emission from various opencast mining activities. An ambient air Quality Impact Prediction (AAQIP) for enhanced production of 21.00 Mtpa has been predicted by using AIRMOD.

Estimation of dust (PM10 & PM 2.5) generation at Nigahi OCP

The coal production from Nigahi OCP during 2018-19 was 18.476 Million Metric ton. This will reach 21 MTPA at the proposed target level. The AQIP has been done based on probable maximum coal production of 21 MTPA. During peak coal production, the incremental coal production will be 21 MTPA –18.476 MTPA = 2.524 MTPA =6915 t/day and incremental OB generation will be 35233 m^3/day (for OB the maximum generation as per mining plan for 21 MTPA coal production has been considered to simulate the worst case scenario)

In the mining plan it is proposed that the incremental production of coal i.e. 2.25 Mtpa will be achieved by Surface miner and the remaining will be done by shovel dumper. The Surface miner is to be operated on Purewa Top Seam in both the North and South sections of mine.
The incremental rise in activities like coal production & OB generation, loading, transportation, unloading and storage will cause adverse impact on the AAQ status.

This AAQIP reveals that, the increase in PM (PM_{10}) and PM ($PM_{2.5}$) level will be marginal and within permissible limit. The AAQIP details are enclosed as **Annexure No.-II.**

Predicted and Monitored 24 hourly average PM10 and $PM_{2.5}$ Concentration Levels at various Receptors are given below :

Predicted and Monitored 24 hourly average PM10 Concentration Levels at various Receptors

Receptor	24 hour average concentration in µg/m3			
	Incremental Concentration with control measures	Median values from routine environmental monitoring (March 18 to June'18)	Total predicted concentration with control measures	Permissible Limits
Nigahi STP	4.53	94	98.53	100*
Bareja Pump House	11.22	293	304.22	300**
Surya Kiran Bhawan	7.11	248	255.11	100
Rose Garden	9.97	94	103.97	100
Amlohri Pump House	3.04	303	306.04	100
CETI	5.35	279	284.35	100
Kasar Village	4.76	220	224.76	100

Predicted and Monitored 24 hourly average PM 2.5 Concentration Levels at various Receptors

Receptor	24 hour average concentration in µg/m3			
	Incremental Concentration with control measures	Median values from routine environmental monitoring (March 18 to June'18)	Total predicted concentration with control measures	Permissible Limits
Nigahi STP	0.84	50	50.84	60*
Bareja Pump House	2.29	39	41.29	NA**
Surya Kiran Bhawan	1.90	62	63.90	60
Rose Garden	2.16	51	53.16	60
Amlohri Pump House	0.66	47	47.66	60
CETI	1.65	61	62.65	60
Kasar Village	0.92	47	47.92	60

*** National Ambient Air Quality Standards**

**** Standards for coal mines for monitoring stations at a distance of 500 metres from dust generating source.**

3.2 Noise Level Quality status (Routine Environmental Monitoring) :

Noise levels has been measured at 4 locations in Industrial and residential area of the project during routine Environmental monitoring on fort nightly basis in day and night.

The results of Noise levels recorded during day and night time along with the applicable standard permissible limits are given in **Table No-3**. The observed LEQ values in terms of dB(A) are presented**.**

The observed values are found to be within permissible limits.

3.3 Water quality status: Routine Environmental Monitoring:

The water quality has been monitored at the different locations in the project

The monitoring location and results are given in tabular form along with the applicable standards. Results are compared with Schedule -VI, effluent prescribed by MOEF&CC and IS.10500 (Drinking water). Data on water quality are given in **Table No-2.**

Also, the groundwater levels and quality of Dug wells and piezometers in and around the project area are regularly monitored. The list of Dug wells and piezometers monitored, is given in **Table No.4** and locations of Dug wells and piezometers are shown in **Plate No.4**. The groundwater levels and quality data is given in **Table No.4 & Table No.5** respectively**.**

The monitoring reveals that from the period May'17 to Feb'19, the water levels during Pre-Monsoon varies from 1.25 – 24.75 m bgl, Monsoon varies from 0.05– 24.64 m bgl, Post-Monsoon it varies from 0.82 -24.62 m bgl and during Winter it varies from 1.00– 24.42 m bgl in the monitored Dug wells.

Results show that most of the parameters are within the permissible limits.

4.0 DETAIL OF ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

4.1 Air Pollution Control

Sources of air pollution

The main sources of air pollution are identified as-

1) Drilling & blasting in coal & OB benches.
2) Coal & OB transportation inside the mine.
3) Coal crushing & conveying from the mine.
4) Coal handling activities.
5) Coal conveying to Power plant through MGR/Public Railway.
6) Wind erosion from coal stockyard& OB Dump.

Ambient Air Quality Control Measures

Air pollution control measures	Sufficient numbers of movable water sprinkling system has been provided to check fugitive emissions from various parts of mine. (a) Departmental - 28 KL water tanker : 04 nos. (b) Departmental - 70 KL water tanker : 05 nos. (c) Dumper Converted - 37 KL water tanker : 07 nos. (d) At all transfer points of conveyor system water sprinkling system are available. (e) Outsourcing - 28 KL water tanker : 01 nos. (f) Outsourcing - 18 KL water tanker : 07 nos. (g) Outsourcing - 15 KL water tanker : 02 nos. (h) Outsourcing - 12 KL water tanker : 13 nos.
	Vehicles are regularly being maintained to control the emissions. Coal transportation is being done in covered trucks. The haul road is being graded regularly in order to make it smooth. Coal before being loaded into tippers is watered properly to avoid generation of dust in course of transportation.
	The increase in production would be achieved by way of improvement in availability and utilization of HEMM, increasing the no. of working days and by augmenting mine capacity by deployment of one no. of Surface Miner (3800-4000mm) for additional coal production. Thus addition coal wining is environmental friendly, by deployment of one no. of Surface Miner for additional coal production.
	The present capacity of CHP of Nigahi OCP is 15.00 Mtpa. The project is supplying coal to VSTPS and other pit head power stations of NTPC & UPRVUNL in Singrauli Coalfield to meet any shortfall from respective linked mines through their own MGR system. Additionally, ROM coal of (-)100 mm size received from Surface Miner will be dispatched by railway wagons through Nigahi Wharf-wall situated within the mine leasehold area of Nigahi OCP. So, the present capacity of existing Nigahi CHP / Wharfwall loading is 21 Mtpa. The total dispatch for the year 2018-19 is 18.23 Mt.
	Coal transportation is done by covered trucks to Railway Siding only. Regular water sprinkling on the transportation roads.
	Dust extractors have been provided and made operative in drills.
	Arrangement of wet drilling has also been made at Project level.
	~~Dust is controlled regularly by spraying water at Haul road, transfer point etc.~~ In mine water sprinklers are used for controlling dust generation.
	There are two external & two internal dumps.Till March' 2019, total area of 333.42 Ha OB dump has been afforested with a total of 16.96 Lakhs of plants. Species of plants are- Shisham, Karanj, Maha neem/bakain, Siris, Mahua, Neem, Subabul, Bamboo, Gambhar/Khomer, Jungli jalebi, Chilbil, Amla, Cassia, Babul, Grevillea and other native species.
	Person working in industrial area have been provided with protective respiratory device. Regular training is being imparted to inculcate safety and health aspect. Each person working in or about the mine is being examined periodically by Doctor trained in occupational health services.

4.2 Water Pollution Control

Sources of water pollution

Likely sources of water pollution from this project along with the type of pollutants are as follows:

Water Quality Management:

Likely sources of water pollution from this project along with the type of pollutants are as follows:

(i) Sanitary (domestic) waste water : Suspended solids and BOD.

(ii) Industrial wastewater from workshop : Suspended solids, oil & grease;

(iii) Waste water from mine : Suspended solids of coal, clay and oil;

(iv) Surface run-off passing through coal stockpiles : Suspended solids;

(v) Storm water from leasehold area and built-up area : Suspended solids.

Water pollution control measures	Catch drains and siltation pond of sufficient size has been constructed to arrest the silt and sediment. The clean water so collected is being utilized for watering mine area, roads, green belt developments etc. The drains is being regularly de-silted and maintained properly. Sufficient sump capacity has been provided to have adequate retention period to allow proper settling of silt.
	Sufficient check dam shall be maintained in the toe area of dump to arrest silting of sump.
	The waste water from Workshop and CHP are being treated in existing ETP of 4000.0 m^3/d (present load 1320 m^3/d) and 10500 m^3/d (present load 4600m^3/d) capacity respectively. There is no discharge outside the mine premises except in monsoon season. There is an extra ETP capacity for Workshop and CHP, which is sufficient to handle the excess effluent during expansion. The treated waste water is utilized within the mine premises for Industrial purpose and by outsourcing agencies. The mine water is high on Suspended Solid (TSS) mainly. The TSS are being removed at Sump and then at Old Bareja reservoir and then in New Bareja Reservoir. The clear water are being utilized for Industrial purposes.
	The Domestic effluent is treated in STP (capacity-3000m^3/d). The treated STP water is used for horticulture and for agriculture purpose by farmers. As there is no increase in Manpower for proposed increase in production capacity, there will be no increase in domestic effluent as there is no increase of number of quarters.
Rain Water Harvesting	In order to augment ground water resource, artificial ground water recharge measures have been taken. Further, numerous numbers of hand pumps , wells and ponds have been provided in nearby villages to meet the water requirements of villagers , animals and plants.

Water requirement for the proposed Capacity of Nigahi OCP:

There is no increase in domestic water requirement as no increase in manpower as per mining plan. The water for domestic need are being met by integrated water supply scheme (IWSS) at Khadia.

The industrial water requirement are being met by treated mine water, treated ETP and STP water for haul road and other dust suppression requirements as well as for other industrial use. The mine water and treated ETP water will be used to meet additional requirements of present expansion.

The industrial requirement is met mainly from mine water and treated ETP water. The water requirement for the further increase in capacity in mine as per Mining Plan shall remain unchanged as there is no change in manpower and HEMM provision.

4.3 Noise Level Management:

The mining operation may cause noise nuisance if adequate precautions are not taken to keep the noise level within limits. An environment standard for coal mines stipulates that noise level in Industrial area shall not exceed 75 dB (A) Leq. The following measures therefore, have been envisaged to reduce the noise level to protect the workers from noise hazard and to adhere to the Environmental standards in respect of noise.

- Use of equipment with arrangements for absorbing the operational noise.
- Foundations of vibrating equipment to be designed with isolators to prevent
- Vibrations so that the noise level does not exceed 85 dB(A) Leq.
- Controlled blasting is undertaken under supervision of the blasting officer. Proper blast design is prepared to control ground vibration and to arrest fly rocks and boulders.
- Use of insulated cabins for operators
- Use of rubber/ polymer liners in chutes and hoppers
- Use of ear muffs by workers in the zone of high noise source (if any)
- Plantation of trees around the plant area.
- Routine maintenance of HEMM.
- Regular maintenance with prompt replacement of worn-out parts.

4.4 Land Requirement & Management

The earlier approved Nigahi OCP involved land requirement of 3018.40 Ha, no increase in land requirement is proposed for increase in coal production.

There will be no change in total OB quantity, dump area, final dump plan and dumping strategy due to increased peak production from 18.75 to 21.00 Mtpa.

Modalities for technical and Biological reclamation will be remain same as mentioned in approved EMP (15 Mtpa) of Nigahi OCP.

A. Pre mining Land Use :

The total land requirement for Nigahi OCP has been broadly assessed as 3018.40 Ha of which 1280.517 Ha forest land, 1528.883 Ha Tenancy land and 209.00 Ha Govt. land.

B. Operational stage land use :

Sl. No.	Purpose	Area in Ha
1	Area to be Excavated	1665.00
2	External O.B Dumps	418.00
3	Workshop	74.00
4	Green belt	335.00
5	Other Infrastructure including ETP & CHP	40.40
6	Road and Railways	74.00
7	Township Area	265.00
8	Others (Safety zone, vacant/waste land etc)	147.00
	Total	3018.40

Final dump plan and cross section of External and Internal OB dump is shown in **Plate-No.-6,7 and 8** respectively.

C. Post-mining land use of core zone with environment management

S.No.	Land use during Mining	Land Use (ha)				
		Plantation	Water Body	Public Use	Others	TOTAL
1	External OB dump	418	-	-	-	418
2	Top soil dump	Top soil will be completely used in reclamation of dumps.				
3	Excavation	1405	60	-	-	1465
4	Infrastructures (Workshop, CHP, Admn.Building & Roads)	-	-	84	-	84
5	Residential & Greenbelt	335	-	265	-	600
6	Undisturbed area (Forest land in Safety Zone)	147	-	-	304.40	451.40
Total		2305	60	349	304.40	3018.40

D. Land use / cover mapping of study area based on Remote Sensing map :

A Land Use/ Cover Mapping of Core and Buffer Zones of NIGAHI OCP based on Satellite Data R2 DoP 11th March 2018. has been prepared using remote sensing technique by Geometrics Division, CMPDIL, (HQ) Ranchi. The Area Statistics of core and Buffer zone are given below and Map attached as **Plate No.-3.**

AREA STATISTICS

Classes		Colour	Core Zone(Area)		Buffer Zone(Area)	
Level-I	Level-II		Area (Sq Km)	% of Total	Area (Sq Km)	% of Total
Forest	Dense Forest		0.29	0.98	24.59	4.12
	Open Forest		4.96	16.43	40.87	6.86
	Total Forest		**5.25**	**17.41**	**65.46**	**10.98**
	Scrubs		0.62	2.05	53.32	8.96
Plantation Area	Social Forestry		3.92	12.98	41.25	6.93
	Plantation on backfill		1.94	6.40	10.80	1.81
	Plantation on OB Dump		3.06	10.11	8.76	1.47
	Total Plantation Area		**8.92**	**29.49**	**60.81**	**10.21**
	Total Vegetation		**14.79**	**48.95**	**179.59**	**30.15**
Agriculture	Crop lands		0.05	0.18	125.98	21.17
	Fallow Land		0.79	2.62	99.89	16.78
	Total Agriculture Area		**0.84**	**2.80**	**225.87**	**37.95**
Waste Land	Wastelands		0.42	1.40	39.86	6.70
	Fly Ash Pond		0.00	0.00	14.15	2.38
	Sand Body		0.00	0.00	5.02	0.84
	Total Waste Land		**0.42**	**1.40**	**59.03**	**9.92**
Mining Area	Active Mining Area		3.15	10.41	18.02	3.03
	Barren OB Dump		2.22	7.35	14.42	2.42
	Barren Backfill		3.99	13.18	21.42	3.60
	Coal Dump		0.05	0.16	0.75	0.13
	Advance Quarry Site		1.13	3.74	6.51	1.09
	Waterfilled Quarry		0.07	0.24	2.26	0.38
	Total Mining Area		**10.61**	**35.08**	**63.38**	**10.65**
Settlements	Urban Settlements		2.66	8.78	18.90	3.17
	Rural Settlements		0.00	0.00	4.46	0.75
	Industrial Settlements		0.79	2.60	9.38	1.58
Water Body	**Total Settlement Area**		**3.45**	**11.38**	**32.74**	**5.50**
	River/ Ponds		0.12	0.39	34.68	5.83
	Total Area		**30.23**	**100.00**	**595.29**	**100.00**

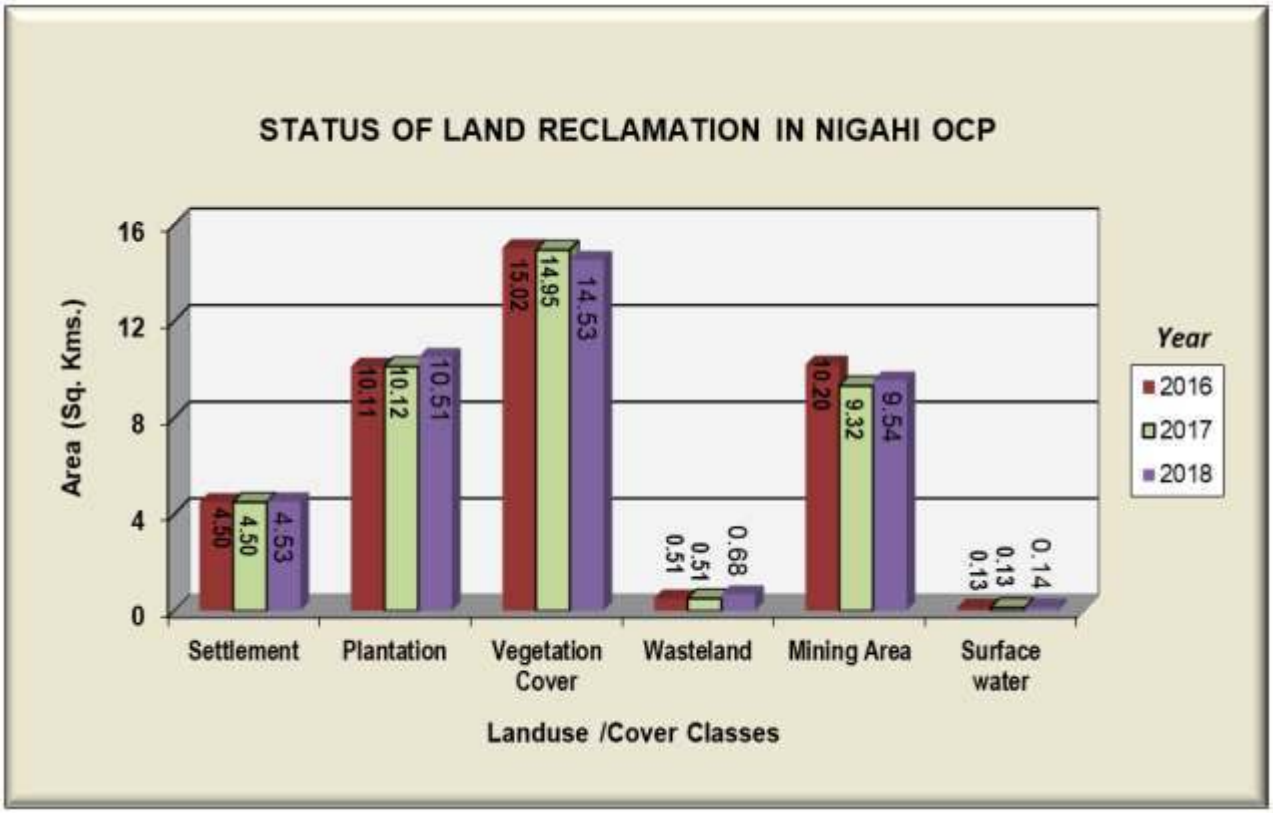
Study based on Remote sensing reveals that in NCL out of total excavated area of 71.68 Km2 , 42.02 Km2 (58.62%) of area is under reclamation out of which 15.37 km2 (21.44%) area has been revegetated and 26.65 km2 (37.18%) area is under backfilling.

There is an increase of 3.29 Km2 for area under reclamation in the year 2018 with respect to the year 2017.This increase is due to the efforts of NCL to protect environment.

Study also reveal that area under barren backfilling (Technical Reclamation) has increased from 23.92 km2 in 2017 to 26.65 km2 in 2018.

It was also observed that total area under plantation (Green Cover) has decreased from 53.69 km2 in 2017 to 52.97 km2 in 2018 due to loss of some plantation as dump heights were increased owing to high overburden removal and no additional space being available for dumping of overburden material.

Year wise changes in the different land use classes based on satellite data for the last three years in Nigahi project are depicted in Bar Chart below :



4.5 Bio-Environment Conservation at Nigahi OCP:

Plantation is being done as per the norms and guidelines of forest department. This helps in enriching the flora and fauna of project area. The density of plantations undertaken is 2500 plants per Ha in plain area and on OB dumps.

The mine is being worked since 1985-86 and out of total 1776.75 Mm^3 of OB, 231.00 Mm^3 dumped in external and balance in internal OB dump. Status of Final OB Dumps are as given below : There are two external & four internal dumps. Till March' 2019, total area of 333.42Ha OB dump has been afforested with a total of 16.96 Lakhs of plants. The total external dump area of 141.64 Ha with 8.57 lakhs plants and internal dump area of 191.78 ha with 8.39 lakhs plants has been reclaimed as on 01.04.2019.

Sl. No.	Dump Sites	Dump Quantity (million m^3)		
		East	West	Total
1	Internal Dump	602	536	1138
2	External Dump	143	88	231
	Total	591	778	1369

Top soil storage:

The mine lease area and its surrounding area is undulating and hilly terrain. Hence, at Nigahi OCP, top soil is available in patches. The prevalent practice is to reuse the top soil, whatsoever is generated, readily for biological reclamation of OB dumps.

The top soil which need to be stored is being stock-piled on the designated top soil dump i.e., top soil storage site on the north side of the top of the western internal dump and preserved by growing suitable vegetation on it.

Status of Plantation and Reclamation of OB Dumps at Nigahi OC project of last five years

Data source: Project authorities

Year	Plantation on OB dump		Plantation on Plain Area		Total	
	Area (Ha)	Nos	Area (Ha)	Nos	Area (Ha)	Nos
2014-15	17.61	61815	11.00	27500	28.61	89315
2015-16	26.53	92855	0.00	0	26.53	92855
2016-17	20.00	50000	0.00	0	20.00	50000
2017-18	15.00	37500	0.00	0	15.00	37500
2018-19	20.90	52250	0.00	0	20.90*	52250

* Out of 20.9 Ha area, 14.42 Ha is fresh OB dump area reclaimed whereas 8.4 Ha is re-plantation area

Up to 2019, total 16.96 Lakhs of plants on OB dump and 15.23 lakhs on plain area have been planted in Nigahi area.

Technical Reclamation up to Mine life:

Dump	Area (Ha)	Volume (Mm3)	No of plants
External	418.00	231.00	10.45 Lakhs
Internal	1405.00	1138.00	35.13 Lakhs
Total	1823.00	1369.00	45.58 Lakhs

Hence during mining operations, disturbed forest land will be equally compensated which will ensure total green land area almost more at every stage of mining operation. Plantation done as compensation to forest as well as reclaimed land will take time to restore to original ecosystem. Total area backfilled as on 01.04.2019 is 570.22 Ha.

4.6 Socio-Economic Issues:

The proposed increase in production capacity will further give a boost to the economy of the area by providing primary and secondary employment to local people. The infra-structural facilities provided by the project are benefitting local villagers also. The mine closure activity is likely to significantly reduce the impact of industrial activity on the land apart from increasing the green cover and surface water availability. The standard of living of the local inhabitants has improved significantly due to indirect employment and service opportunities.

Resettlement & Rehabilitation of PAPs

Total plots allotted for re-settlement to 657 PAPs and 296 PAPs was given cash in lieu of plot and all PAPs have already been rehabilitated. The rehabilitation site is Nandgaon and Jaitpur R&R site of NCL in MP. Total 925 PAPs has been given employment in NCL. All PAPs have already been rehabilitated. There is no additional land required for the proposed increase in capacity, therefore no R&R involved.

Corporate Social Responsibility

Corporate Social Responsibility (CSR) is taken up at Nigahi Project level. Different villages falling in core zone and adjoining areas are benefited through CSR activities run at project level. The nature of benefits include maintenance of ponds and community buildings, well digging and renovation, road repair, renovation of schools and construction of boundary wall, medical camps, water supply, skill development for employment generation etc.

The expenditure on CSR activities in last few years is given below:

Year	Amount Spent (Rs. Lakhs)
2016-17	413.00
2017-18	390.00
2018-19	640.07
2019-20 (Proposed)	1372.08

As per the CIL CSR policy of June-2014, the fund for the CSR should be allocated based on 2% of the average net profit of the company for the three immediate preceding financial years or Rs. 2/- per tonne of coal production of previous year whichever is higher.

Out of above, 80% would be allocated for CSR activities to be carried out within the radius of 25 Km of the project site and the balance 20% would be allocated for carrying out CSR activities by company in the state to which it belongs.

4.7 Detail of Last Public Hearing

Public hearing was conducted for the Environmental Clearance of Nigahi OCP (for 15.00 Mtpa) by State Pollution Control Board of M.P. on 18-12-2005 at Community Hall, Waidhan.

As per the Public Hearing details there was not any issue related to Environment. The detail of Public Hearing along with ATR on issues raised during public hearing is enclosed as **Annexure No.-V.**

5.0 Analysis of Alternatives

Not applicable, as this is an increase in production capacity from 18.75 to 21.00 Mtpa of existing opencast mine.

6.0 Environmental Monitoring Program

For effective implementation, a time bound action plan for environmental management including all aspects are being followed by the project. Samples for study of ambient air quality, water/Effluent quality, groundwater level and noise level are collected and tested quarterly at strategic places representing all the categories of location.

Also, Ground water level and quality monitoring are being done on quarterly basis. The results have been given in Table No. 4 and 5. Refer **Plate No.4** for sampling point location details.

7.0 Project Benefits

Development of Nigahi OCP has considerably improved the socio-economic status of the adjoining areas. This has resulted in following benefits:

- Improvements in Physical Infrastructure
- Improvements in Social Infrastructure
- Increase in Employment Potential
- Contribution to the Exchequer
- Meet energy requirement
- Post-mining Enhancement of Green Cover

8.0 Environmental Management Plan

Northern Coalfields Limited, the owner of this project has already set-up an Environmental Department headed by a General Manager at its HQs. The cell provides necessary support that is required for Environmental Management of various projects and mines under the jurisdiction of the company.

9.0 Mine Closure Planning:

Mine closure planning has to be carried out at the starting of the mine and needs periodic reviewing and revision during its life cycle to cope with the geo-technical constraints, safety and economic risks, social & environmental challenges. Various other objectives are as follows.

a) To allow a productive and sustainable after-use of the site this is acceptable to the mine owner and the regulatory authority.

b) To protect public health and safety.

c) To alleviate or eliminate environmental damage and thereby encourage environmental sustainability.

d) To minimize adverse socio-economic impacts.

As per Mining Plan for 21.00 Mtpa, the Mine closure cost has been estimated as Rs. 23071.35805 lakhs (Feb.-2019) based on the guide lines provided by MOC.

10.0 Capital Cost for Environmental Control Measures: (As per approved EIA/EMP (April.-2007)

S No.	Particulars	Cost (Rs Lakh) (May-2005)
1	Compensatory Afforestation	373.99
2	Cost of Technical Reclamation	701.20
3	Anti-Pollution Measures In Mine area	703.79
4	Anti-Pollution Measures In Industrial area	250.91
5	Anti-Pollution Measures In Colony area	750.33
6	Other Provisions	650.06
	Total	**3430.32**

11.0 Justification for grant of Environmental Clearance

1. A Mining Plan along with mine closure plan for enhanced coal production from Nigahi Opencast Project for 21.00 Mtpa has been prepared to meet the increase demand of power grade coal. The Mining Plan has been approved by NCL Board in 241st meeting on 23rd April, 2019. As per the mining plan the increase in coal production is by enhancing the utilization of existing HEMM, increasing the no. of working days and by augmenting mine capacity through additional OB outsourcing and deploying Surface Miner for Coal.

   There is no change in mining lease area, mining technology, project economics and other project parameters.

This is an existing operating Opencast Coal mine having EC for 18.75 Mtpa vide vide letter no. J-11015/79/2013-IA.II(M) dated 19.03.2015 and amendment has been issued vide letter no. J-11015/79/2013-IA.II dated 12.10.2018 of MoEF&CC.

The increase in production capacity is 2.25 Mtpa which is well within the ceiling of 40% as specified in MOEFCC OM No.J-11015/224/2015-IA.II dated 15.09.2017.

2. Public hearing was conducted for the Environmental Clearance of Nigahi OCP (for 15.00 Mtpa) by State Pollution Control Board of M.P. on 18-12-2005. As per the Public Hearing details there was not any issue related to Environment. The detail of Public Hearing along with ATR on issues raised during public hearing is enclosed as **Annexure No.-V.**

3. There is no legal case for any violation related to pollution activities in Nigahi Project.

4. There is no Notice given to the project under section 5 of the Environment (Protection) Act. 1986 and section 18 of the Air (Prevention and Control of Pollution) Act, 1981.

5. A summarised EIA-EMP has been prepared on existing environmental scenario, impact assessment & control measures, disaster management due to increased production.

   As the increased coal production will be achieved by deployment of 1 No. of Surface Miner (3800mm), therefore, no. drilling, blasting, crushing etc involved. Therefore, addition coal wining is environmental friendly and there will be no increase in the pollution load except marginal increase of PM10 level which will also within the permissible limit.

   Therefore, by increasing the capacity of mine from 18.75 Mtpa to 21.00 Mtpa, there will be no increase in the pollution load except sometimes marginal increase of PM10 level due to no. of thermal power plants in the vicinity.

6. The Project authority is monitoring the Environmental Quality to determine the pollution level and ensuring that Ambient Air, Water & Noise quality is kept within permissible limit.

   No additional land is required for the project. No additional Resettlement and Rehabilitation is required. The EC for 18.75 Mtpa production level already exists.

7. All the statutory environmental requirements are complied with, therefore, it is kindly submitted that approval for environmental clearance as per the MOEFCC OM No.J-11015/224/2015-IA.II dated 15.09.2017 for 21.00 Mtpa (increase in capacity), in respect of Nigahi OCP of NCL may please be granted.

****

Table No.-1

AMBIENT AIR QUALITY MONITORING

Location of sampling station and their rationale
(as per G.S.R. 742 (E) dt. 25th December,2000)

Ambient Air Quality Sampling Locations

I. CORE ZONE Monitoring Location (Refer Plate No.-2)

i) Time Office / Substation (NA1): Industrial Area

The samplers were placed at the electric substation near mine working zone. The station was selected to assess the ambient air quality in the core zone where mining activities are in progress. The Dust generating most probable sources are haul road and OB Dump which are nearly 500 m away from the selected point.

ii) Bareja Pump House, (NA2) : Industrial Area

The Air samplers were placed at pump house near CHP. This station was selected to assess the ambient air quality in the core zone where road & CHP operation are in progress. The Dust generating most probable sources are haul road and CHP which are nearly 400 m away from the selected point.

iii) Nigahi Colony STP (NA3): Residential Area

The samplers were placed at STP near residential Colony of Nigahi. This location will represent the ambient air quality of residential area in Core zone of Nigahi Project. The Dust generating most probable sources are CHP and OB Dump which are nearly 1500 m away from the selected point.

iv) Nigahi Old Guest House (NA4): Residential Area

The samplers were placed at Old Guest House near DAV School and Temporary Colony of Nigahi. This site was selected to assess the present ambient air quality status in residential area in Core zone. The Dust generating most probable sources are haul road, OB Dump and CHP which are nearly 600 m away from the selected point.

v) Nigahi (East) Substation (NA5) : Industrial Area

The samplers were placed at Nigahi (East) Substation. This site was selected to assess the present ambient air quality status in Industrial area in Core zone of Nigahi Project. The Dust generating most probable sources are haul road and OB Dump which are nearly 200 m away from the selected point.

II. BUFFER ZONE Monitoring Location (Refer plate. No.-1)

i) Amlohri Colony Pump House (AA4): Residential Area

The Air samplers were placed at Pump House near Residential Complex of Amlohri. The station was selected to represent the impact of mining activities of Nigahi project in the buffer zone. The Dust generating most probable sources are CHP and Coal Yard which are nearly 1200 m away from the selected point.

Table No.-1

ii) Surya Kiran Bhawan (DA5): **Residential Area**.

The samplers were placed at Surya Kiran Bhawan near residential colony of Dudhichua as well as NSC. This site was selected to assess the present ambient air quality status in residential area in buffer Zone of Nigahi OCP. The Dust generating most probable sources are nearby road and OB Dump which are nearly 800 m away from the selected point.

iii) Rose Garden (JYA3): **Residential Area**

The Air samplers were placed at Rose Garden near Residential Complex of Jayant. This site was selected to assess the present ambient air quality status in residential area in buffer Zone of Nigahi OCP. The Dust generating most probable sources are CHP and nearby road which are nearly 200 m away from the selected point.

iv) Madhauli Substation (JYA4): **Residential Area**

The samplers were placed at the electric substation near Madhauli Village. The station was selected to represent the mining activities of Nigahi Project in the buffer zone. The Dust generating most probable sources are CHP and nearby road which are nearly 100 m away from the selected point.

Methodology of sampling and analysis

Parameters chosen for assessment of ambient air quality were Suspended Particulate Matter, Respirable Particulate Matter (PM 10), Fine Particulate Matter (PM 2.5), Sulphur Di-oxide (SO_2) and Nitrogen Oxides (NO_X). Respirable Dust Samplers (RDS) & Fine particulate Sampler (FPS) were used for sampling “SPM, PM 10, SO_2 & NOx” and “PM 2.5” respectively at 24 hours interval once in a fortnight. The samples were analysed in Environmental Laboratory of CMPDI, RI-VI, Jayant.

Results & Interpretations

The results of Ambient Air Quality are presented in tabular form along with Bar chart for each monitoring station. The interpretations of different parameters are given below:

Ambient air quality Status :

suspended Particulate Matter

In core zone under Industrial area varies from 326 to 618 µg/m^3.

Respirable Particulate Matter (PM 10)

In core zone under Industrial area varies from 229 to 459 µg/m^3 & in Residential area 91 to 256 µg/m^3. In buffer zone in Residential area varies from 70 to 337 µg/m^3.

Fine Particulate Matter (PM 2.5):

In core zone under Industrial area varies from 24 to 56 µg/m^3 & In core zone under Residential area PM 2.5 varies from 20 to 52 µg/m^3. In buffer zone in Residential area varies from 29 to 58 µg/m^3.

Sulphur Dioxide:

In core zone under Industrial area varies from 17 to 41 µg/m^3 & in Residential area 14 to 30 µg/m^3. In buffer zone in Residential area varies from 16 to 34 µg/m^3.

Oxides of Nitrogen:

In core zone under Industrial area varies from 23 to 42 µg/m^3 & in Residential area 19 to 42 µg/m^3. In buffer zone in Residential area varies from 22 to 42 µg/m^3.

Table No.-1

AMBIENT AIR QUALITY DATA

Name of the Company: **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Q.E.: **March'2019.**

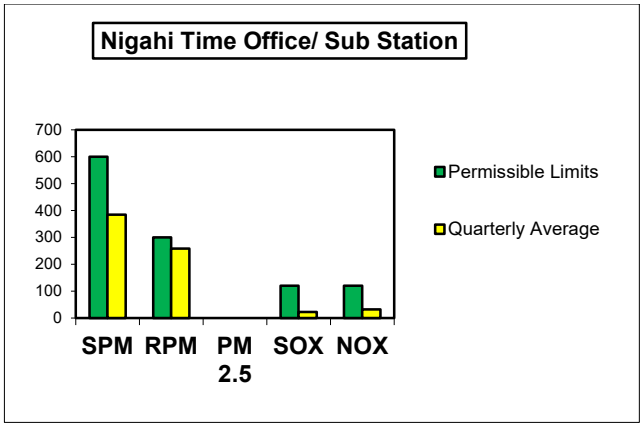
Core Zone

Name of the stations & Code :

1. **NA1- Time Office/Substation.**
2. **NA2- Bareja Pump house**
3. **NA3- Nigahi Colony STP**
4. **NA4- Nigahi Old Guest House**
5. **NA5- Nigahi (East) Substation**

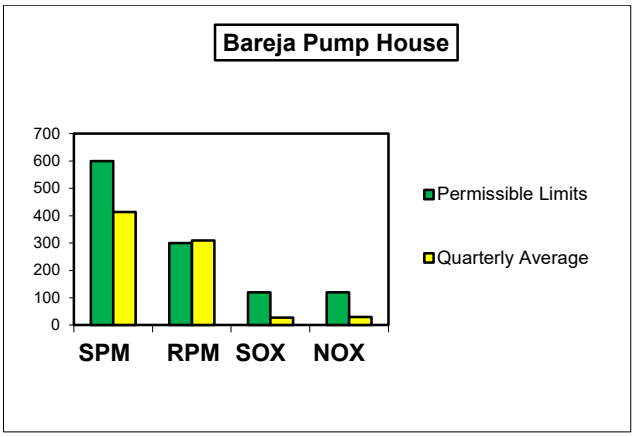
1. Station Code/Name: NA1- Time Office/Substation Category: Industrial.

Dates of sampling	SPM	RPM	PM 2.5	SO_2	NO_x
01/02.01.2019	416	290	24	28	42
16/17.01.2019	384	232	27	26	37
05/06.02.2019	415	263	36	17	26
19/20.02.2019	326	235	39	23	32
04/05.03.2019	422	282	41	24	30
18/19.03.2019	342	250	32	18	23
Quarterly Average	384	259	33	23	32
Permissible Limits	600	300	*NA	120	120



2. Station Code/Name: NA2 - Bareja Pump house, Category: Industrial.

Dates of sampling	SPM	RPM	PM 2.5	SO_2	NO_x
01/02.01.2019	442	314	56	32	37
16/17.01.2019	517	450	37	17	24
05/06.02.2019	467	352	30	41	25
19/20.02.2019	336	229	26	23	36
04/05.03.2019	344	245	32	25	28
18/19.03.2019	375	267	35	28	30
Quarterly Average	414	310	36	28	30
Permissible Limits	600	300	*NA	120	120



Note: NA*- Standards for coal mines inserted in Environment (Protection) Rules, 1986 via Rule 2(1) of the Environment (Protection) Amendment Rules, 2000 notified vide notification G.S.R. 742(E), dated 5.9.2000. do not stipulate permissible limit for PM 2.5.

Table No.-1

AMBIENT AIR QUALITY DATA

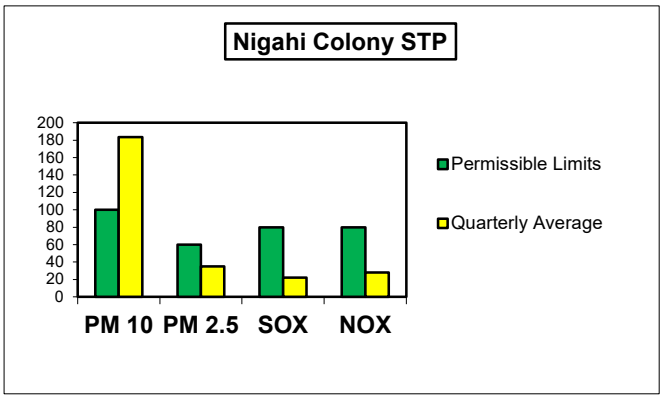
Name of the Company: **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Q.E.: **March'2019.**

Core Zone

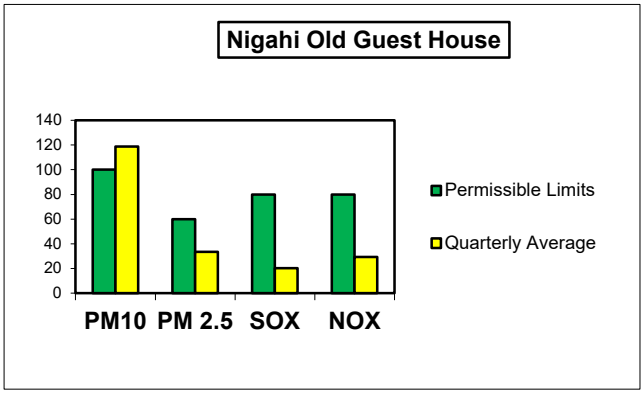
3. Station Code/Name: NA3 – Nigahi Colony STP, Category: Residential.

Dates of sampling	PM 10	PM 2.5	SO_2	NO_x
01/02.01.2019	173	48	26	31
16/17.01.2019	181	40	23	27
05/06.02.2019	172	32	19	32
19/20.02.2019	256	37	24	29
04/05.03.2019	166	28	21	24
18/19.03.2019	154	25	20	25
Quarterly Average	184	35	22	28
Permissible Limits	100	60	80	80



4. Station Code/Name: NA4 - Nigahi Old Guest House , Category: Residential

Dates of sampling	PM 10	PM 2.5	SO_2	NO_x
01/02.01.2019	96	43	30	42
16/17.01.2019	114	52	23	34
05/06.02.2019	136	34	14	26
19/20.02.2019	152	27	20	33
04/05.03.2019	123	24	18	22
18/19.03.2019	91	20	16	19
Quarterly Average	119	33	20	29
Permissible Limits	100	60	80	80



5. Station Code/Name: NA5 - Nigahi (East) Substation, Category: Industrial

Dates of sampling	SPM	RPM	PM 2.5	SO_2	NO_x
01/02.01.2019	618	459	48	26	32
16/17.01.2019	395	286	37	25	24
05/06.02.2019	484	367	44	19	30
19/20.02.2019	370	296	38	27	34
04/05.03.2019	452	314	33	25	31
18/19.03.2019	512	383	38	26	34
Quarterly Average	472	351	40	25	31
Permissible Limits	600	300	*NA	120	120

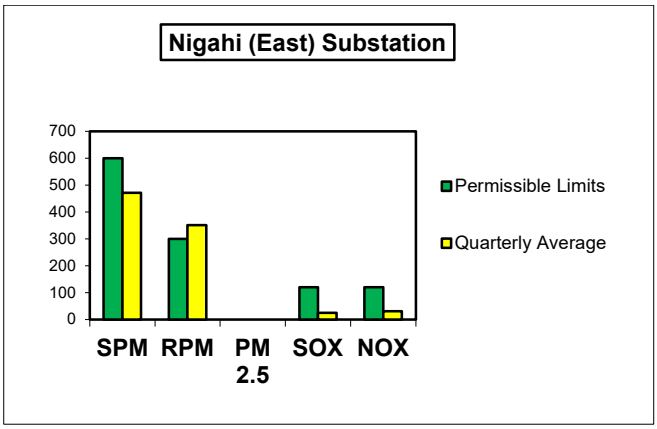


Table No.-1

AMBIENT AIR QUALITY DATA

Name of the Company: **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Q.E.: **March'2019.**

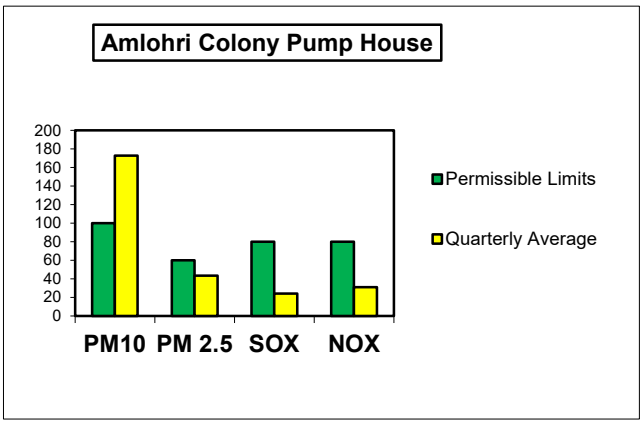
Buffer Zone

Name of the stations & Code :

1. **AA4- Amlohri Colony, Pump House**
2. **DA5 - Surya Kiran Bhawan**
3. **JYA3 - Rose Garden**
4. **JYA4 - Madhuli Substation.**

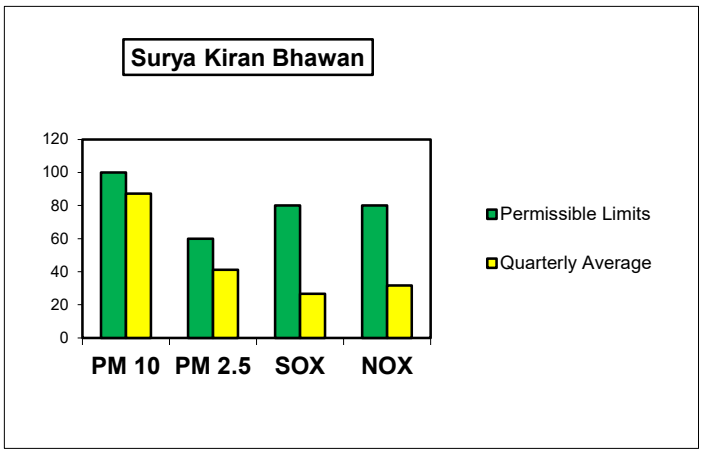
1. Station Code/Name: AA4- Amlohri Colony, Pump House, Category: Residential.

Dates of sampling	PM 10	PM 2.5	SO_2	NO_X
15/16.01.2019	277	58	25	36
29/30.01.2019	136	42	33	40
04/05.02.2019	70	36	19	28
18/19.02.2019	121	45	21	25
01/02.03.2019	244	48	23	30
15/16.03.2019	190	32	24	26
Quarterly Average	173	44	24	31
Permissible Limits	100	60	80	80



2. Station Code/Name: DA5 - Surya Kiran Bhawan, Category: Residential.

Dates of sampling	PM 10	PM 2.5	SO_2	NO_X
01/02.01.2019	74	38	24	37
23/24.01.2019	82	32	21	26
06/07.02.2019	93	29	23	30
26/27.02.2019	87	41	26	24
12/19.03.2019	97	55	34	31
19/20.03.2019	90	52	32	42
Quarterly Average	87	41	27	32
Permissible Limits	100	60	80	80



- *All values are expressed in microgram per cubic meter.*
- *24 hours duration*

Table No.-1

AMBIENT AIR QUALITY DATA

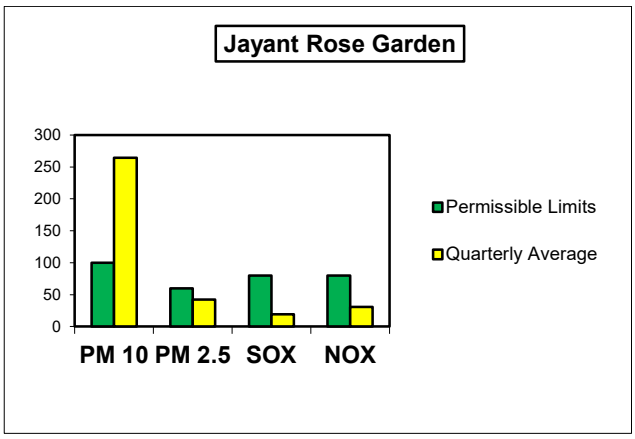
Name of the Company: **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Q.E.: **March'2019.**

Buffer Zone

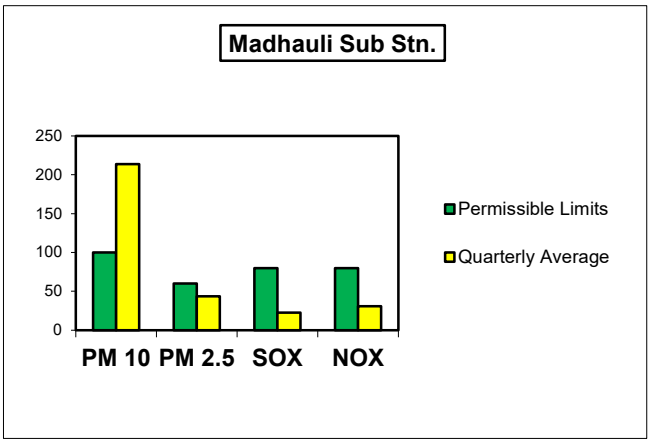
3. Station Code/Name: JYA3 - Rose Garden, Category: Residential.

Dates of sampling	PM 10	PM 2.5	SO_2	NO_x
02/03.01.2019	270	43	22	26
17/18.01.2019	278	48	18	25
01/02.02.2019	236	37	20	37
20/21.02.2019	337	48	18	28
14/15.03.2019	209	38	16	30
29/30.03.2019	257	41	20	38
Quarterly Average	265	43	19	31
Permissible Limits	100	60	80	80



4. Station Code/Name: JYA4 - Madhauli Sub Stn, Category: Residential

Dates of sampling	PM 10	PM 2.5	SO_2	NO_x
02/03.01.2019	266	39	21	28
17/18.01.2019	174	43	23	32
01/02.02.2019	254	48	23	30
20/21.02.2019	182	34	26	22
14/15.03.2019	210	51	23	38
29/30.03.2019	196	46	20	35
Quarterly Average	214	44	23	31
Permissible Limits	100	60	80	80



Note:

- *All values are expressed in microgram per cubic meter.*
- *24 hours duration*

Table No.-1

Heavy Metal Analysis of PM 10 in Ambient Air of Nigahi Project (Half year ending Dec.' 18)

Sl No.	Name of Station & Code	Area	Hg	As	Pb	Cr	Ni
I. Core Zone Monitoring Stations							
1.	NA1- Time Office/Substation	Industrial	BDL	BDL	BDL	BDL	BDL
2.	NA2 - Bareja Pump house,	Industrial	BDL	BDL	BDL	BDL	BDL
3.	NA3 – Nigahi Colony STP	Residential	BDL	BDL	BDL	BDL	BDL
4.	NA4 - Nigahi Old Guest House	Residential	BDL	BDL	BDL	BDL	BDL
5.	NA5 - Nigahi (East) Substation,	Industrial					
II. Buffer Zone Monitoring Stations							
1.	AA4- Amlohri Colony, Pump House	Residential	BDL	BDL	BDL	BDL	BDL
2.	DA5 - Surya Kiran Bhawan,	Residential	BDL	BDL	BDL	BDL	BDL
3.	JYA3 - Rose Garden	Residential	BDL	BDL	BDL	BDL	BDL
4.	JYA4 - Madhauli Sub Stn.	Industrial	BDL	BDL	BDL	BDL	BDL

Note: All values are in $\mu g/m^3$
BDL - Below Detection Limit
DL- Detection Limit (Hg = 0.001 $\mu g/m^3$, Cr = 0.001 $\mu g/m^3$, Cd = 0.001 $\mu g/m^3$, Pb = 0.001 $\mu g/m^3$, As = 1.0 ng/m^3 & Ni = 1.0 ng/m^3).

Table No.-2

WATER QUALITY MONITORING

Location of sampling sites and their rationale
(Refer **Plate No-.2**)

i) **Inlet of W/S- ETP (NW1)**
To assess the effluent quality of Workshop before treatment in workshop ETP.

ii) **Outlet Discharge from W/S- ETP (NW2)**
To assess the effluent quality of Workshop discharge after treatment in ETP.

iii) **Inlet of CHP- ETP (NW3)**
To assess the CHP effluent quality before treatment in CHP ETP

iv) **Outlet Discharge from CHP's ETP (NW4)**
This location has been selected to monitor the discharge quality of CHP ETP.

v) **Outlet Discharge from STP (NW5)**
This site has been selected for asses the quality of treated domestic effluent through STP.

vi) **Tap Water of DPS School (NW6)**
This is the location of the Project for monitoring of Drinking Water.

vii) **Hand Pump Water of Temporary Colony (NW7)**
This location is monitoring for underground water quality of Drinking Water

viii) **Overflow from Bareja Siltation pond (NW8)**
The sampling site was selected to check the water quality of overflow during the monsoon and the seepage from this dam, which should confirm to MOEF SCH-VI Standards.

ix) **Water near OB dump at east Section (NW10)**
This location is monitoring for surface water quality.

x) **Hand Pump Water of Amjhar School (NW11)**
This location is monitoring for underground water quality of Drinking Water

Methodology of sampling and analysis
Water samples were collected as per standard practice. The effluent samples and Drinking water samples were collected and analyzed for four/five parameters on fortnightly basis. The surface water sample and drinking water samples were collected and analyzed for all parameters on quarterly basis. Parameters like pH, Temperature and Dissolved Oxygen were analyzed on-site while collecting the samples. Thereafter the samples were preserved and analyzed at the CMPDI lab.

Results & Interpretations
The results are given in tabular form along with the applicable standards. Results are compared with Schedule - VI, effluent prescribed by MoEF&CC IS.10500/2012 (Drinking Water) & IS:2296 (Surface water). Results show that most of the parameters are within the permissible limits.

Table No.-2

WATER QUALITY DATA

(Effluent Water)

Name of the Company : **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Month. : **JANUARY.**

Name of the stations & Code :

1. NW1- Inlet from W/S ETP **2. NW2- Outlet from W/S ETP**

3. NW3- Inlet from CHP ETP **4. NW4- Outlet from CHP ETP**

5. NW5- Outlet from STP **6. NW8- Overflow from Bareja Siltation pond**

First Fortnight data

Sl. No.	Parameters	Sampling station & sampling date/time						* Limit
		NW1 (Inlet W/S ETP)	**NW2** (Outlet W/S ETP)	**NW3** (Inlet CHP ETP)	**NW4** (Outlet CHP ETP)	**NW5** (Outlet STP)	**NW8** (Siltation Pond)	
		01.01.2019	01.01.2019	01.01.2019	01.01.2019	01.01.2019	01.01.2019	
		9:10AM	9:15AM	9:25AM	9:30AM	9:05AM	9:35AM	
1	Total Suspended Solids	187	54	304	59	56	72	***100 (Max)***
2	pH	8.24	7.90	7.73	7.98	8.31	8.21	***5.5 - 9.0***
3	Oil & Grease	9	6	10	6	4	3	***10 (Max)***
4	COD	64	25	39	24	36	42	***250 (Max)***
5	BOD	-	-	-	-	7	-	***30 (Max)***

Second Fortnight data

Sl. No.	Parameters	Sampling station & sampling date/time						* Limit
		NW1 (Inlet W/S ETP)	**NW2** (Outlet W/S ETP)	**NW3** (Inlet CHP ETP)	**NW4** (Outlet CHP ETP)	**NW5** (Outlet STP)	**NW8** (Siltation Pond)	
		16.01.2019	16.01.2019	16.01.2019	16.01.2019	16.01.2019	16.01.2019	
		9:15AM	9:15AM	9:35AM	9:30AM	9:10AM	9:45AM	
1	Total Suspended Solids	143	42	276	69	42	64	***100 (Max)***
2	pH	8.30	8.18	8.03	7.97	8.58	8.32	***5.5 - 9.0***
3	Oil & Grease	10	7	9	6	3	3	***10 (Max)***
4	COD	49	18	54	32	39	21	***250 (Max)***
5	BOD	-	-	-	-	6	-	***30 (Max)***

All values are expressed in mg/lit unless specified

*** Limit -** As per MOEF Gazette Notification No. GSR 742(E) dt 25.09.2000 Std. for Coal mines

Table No.-2

WATER QUALITY DATA

(Effluent Water)

Name of the Company : **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Month. : **FEBRUARY.**

Name of the stations & Code :

1. NW1- Inlet from W/S ETP **2. NW2- Outlet from W/S ETP**

3. NW3- Inlet from CHP ETP **4. NW4- Outlet from CHP ETP**

5. NW5- Outlet from STP **6. NW8- Overflow from Bareja Siltation pond**

First Fortnight data

Sl. No.	Parameters	Sampling station & sampling date/time						* Limit
		NW1 (Inlet W/S ETP)	**NW2** (Outlet W/S ETP)	**NW3** (Inlet CHP ETP)	**NW4** (Outlet CHP ETP)	**NW5** (Outlet STP)	**NW8** (Siltation Pond)	
		16.02.2019	16.02.2019	16.02.2019	16.02.2019	16.02.2019	16.02.2019	
		5:10PM	5:15PM	5:25PM	5:30PM	3:05PM	5:35PM	
1	Total Suspended Solids	82	42	72	38	54	44	***100 (Max)***
2	pH	7.70	8.10	7.05	8.28	8.76	7.95	***5.5 - 9.0***
3	Oil & Grease	9	7	9	6	6	4	***10 (Max)***
4	COD	66	26	86	28	42	18	***250 (Max)***
5	BOD	-	-	-	-	5	-	***30 (Max)***

Second Fortnight data

Sl. No.	Parameters	Sampling station & sampling date/time						* Limit
		NW1 (Inlet W/S ETP)	**NW2** (Outlet W/S ETP)	**NW3** (Inlet CHP ETP)	**NW4** (Outlet CHP ETP)	**NW5** (Outlet STP)	**NW8** (Siltation Pond)	
		16.02.2019	16.02.2019	16.02.2019	16.02.2019	16.02.2019	16.02.2019	
		5:10PM	5:15PM	5:25PM	5:30PM	3:05PM	5:35PM	
1	Total Suspended Solids	76	46	62	42	46	58	***100 (Max)***
2	pH	7.69	8.12	7.73	7.52	8.48	8.27	***5.5 - 9.0***
3	Oil & Grease	8	6	7	5	5	4	***10 (Max)***
4	COD	56	36	52	34	39	22	***250 (Max)***
5	BOD	-	-	-	-	3	-	***30 (Max)***

All values are expressed in mg/lit unless specified

*** Limit -** As per MOEF Gazette Notification No. GSR 742(E) dt 25.09.2000 Std. for Coal mines

Table No.-2

WATER QUALITY DATA

(Effluent Water)

Name of the Company : **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Month. : **MARCH.**

Name of the stations & Code :

1. NW1- Inlet from W/S ETP
2. NW2- Outlet from W/S ETP
3. NW3- Inlet from CHP ETP
4. NW4- Outlet from CHP ETP
5. NW5- Outlet from STP
6. NW8- Overflow from Bareja Siltation pond

First Fortnight data

Sl. No.	Parameters	Sampling station & sampling date/time						* Limit
		NW1 (Inlet W/S ETP)	**NW2** (Outlet W/S ETP)	**NW3** (Inlet CHP ETP)	**NW4** (Outlet CHP ETP)	**NW5** (Outlet STP)	**NW8** (Siltation Pond)	
		01.03.2019	01.03.2019	01.03.2019	01.03.2019	01.03.2019	01.03.2019	
		5:10PM	5:15PM	5:25PM	5:30PM	3:05PM	5:35PM	
1	Total Suspended Solids	122	64	96	45	52	41	***100 (Max)***
2	pH	7.63	7.06	7.85	7.23	8.08	8.2	***5.5 - 9.0***
3	Oil & Grease	14	8	11	6	5	4	***10 (Max)***
4	COD	142	66	98	52	48	36	***250 (Max)***
5	BOD	-	-	-	-	7	-	***30 (Max)***

Second Fortnight data

Sl. No.	Parameters	Sampling station & sampling date/time						* Limit
		NW1 (Inlet W/S ETP)	**NW2** (Outlet W/S ETP)	**NW3** (Inlet CHP ETP)	**NW4** (Outlet CHP ETP)	**NW5** (Outlet STP)	**NW8** (Siltation Pond)	
		15.03.2019	15.03.2019	15.03.2019	15.03.2019	15.03.2019	15.03.2019	
		5:10PM	5:15PM	5:25PM	5:30PM	3:05PM	5:35PM	
1	Total Suspended Solids	151	53	182	77	65	55	***100 (Max)***
2	pH	7.02	7.48	6.75	7.86	8.13	7.76	***5.5 - 9.0***
3	Oil & Grease	12	7	14	6	4	5	***10 (Max)***
4	COD	56	28	42	37	46	35	***250 (Max)***
5	BOD	-	-	-	-	9	-	***30 (Max)***

All values are expressed in mg/lit unless specified

*** Limit -** As per MOEF Gazette Notification No. GSR 742(E) dt 25.09.2000 Std. for Coal mines

Table No.-2

WATER QUALITY DATA

(Drinking Water)

Name of the Company: **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Month. : **JANUARY.**

Name of the stations & Code : **1. NW6- Tap Water-DPS School**
2. NW7- Hand Pump Temp Colony
3 NW11-Hand Pump Amjhar School

First Fortnight data

Sl. No.	Parameters	Sampling station & sampling date/time			*Tolerance Limit* *(As per IS-10500/2012 for Drinking water Standard)*	
		NW6 (Tap Water – DPS School)	**NW7** (Hand Pump – Temp Colony)	**NW11** (Hand Pump – Amjhar School)		
		01.01.2019	01.01.2019	01.01.2019	**Requirement (Acceptable Limit)**	**Permissible Limit in the absence of Alternate Source**
		9:40AM	9:15AM	9:15AM		
1	Dissolved Solid	55	215	321	**500**	**2000**
2	pH	8.30	7.75	7.57	**6.5 – 8.5**	**No relaxation**
3	Fluoride	0.1	0.1	0.2	**1.0**	**1.5**
4	Turbidity, NTU	4	1	1	**1**	**5**
5	Residual Free Chlorine	0.02	-	-	**0.2**	**1**
6	MPN (Coliforms)	-	NIL	NIL	**NIL**	**No relaxation**

Second Fortnight data

Sl. No.	Parameters	Sampling station & sampling date/time			*Tolerance Limit* *(As per IS-10500/2012 for Drinking water Standard)*	
		NW6 (Tap Water – DPS School)	**NW7** (Hand Pump – Temp Colony)	**NW11** (Hand Pump – Amjhar School)		
		16.01.2019	16.01.2019	16.01.2019	**Requirement (Acceptable Limit)**	**Permissible Limit in the absence of Alternate Source**
		9:45AM	9:25AM	9:20AM		
1	Dissolved Solid	65	248	385	**500**	**2000**
2	pH	9.10	7.90	7.72	**6.5 – 8.5**	**No relaxation**
3	Fluoride	.1	0.1	0.0	**1.0**	**1.5**
4	Turbidity, NTU	1	1	6	**1**	**5**
5	Residual Free Chlorine	0.01	-	-	**0.2**	**1**
6	MPN (Coliforms)	-	NIL	NIL	**NIL**	**No relaxation**

All values are expressed in mg/lit unless specified

Table No.-2

WATER QUALITY DATA
(Drinking Water)

Name of the Company : **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Month: **FEBRUARY.**

Name of the stations & Code :
1. NW6- Tap Water-DPS School
2. NW7- Hand Pump Temp Colony
3 NW11-Hand Pump Amjhar School

First Fortnight data

Sl. No.	Parameters	Sampling station & sampling date/time			*Tolerance Limit* *(As per IS-10500/2012 for Drinking water Standard)*	
		NW6 (Tap Water – DPS School)	**NW7** (Hand Pump – Temp Colony)	**NW11** (Hand Pump – Amjhar School)		
		01.02.2019	01.02.2019	01.02.2019	**Requirement (Acceptable Limit)**	**Permissible Limit in the absence of Alternate Source**
		3:40PM	6:15PM	4:15PM		
1	Dissolved Solid	Analysis Results are included in all Parameters for Q.E. MARCH, 2019 given separately.			**500**	**2000**
2	pH				**6.5 – 8.5**	**No relaxation**
3	Fluoride				**1.0**	**1.5**
4	Turbidity, NTU				**1**	**5**
5	Residual Free Chlorine				**0.2**	**1**
6	MPN (Coliforms)				**NIL**	**No relaxation**

Second Fortnight data

Sl. No.	Parameters	Sampling station & sampling date/time			*Tolerance Limit* *(As per IS-10500/2012 for Drinking water Standard)*	
		NW6 (Tap Water – DPS School)	**NW7** (Hand Pump – Temp Colony)	**NW11** (Hand Pump – Amjhar School)		
		16.02.2019	16.02.2019	16.02.2019	**Requirement (Acceptable Limit)**	**Permissible Limit in the absence of Alternate Source**
		3:40PM	6:15PM	4:15PM		
1	Dissolved Solid	75	262	455	**500**	**2000**
2	pH	8.25	7.69	7.84	**6.5 – 8.5**	**No relaxation**
3	Fluoride	0.1	0.2	0.2	**1.0**	**1.5**
4	Turbidity, NTU	1	1	0	**1**	**5**
5	Residual Free Chlorine	0.03	-	-	**0.2**	**1**
6	MPN (Coliforms)	-	NIL	NIL	**NIL**	**No relaxation**

All values are expressed in mg/lit unless specified

Table No.-2

WATER QUALITY DATA

(Drinking Water)

Name of the Company: **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Month. : **MARCH.**

Name of the stations & Code : **1. NW6- Tap Water-DPS School**
2. NW7- Hand Pump Temp Colony
3 NW11-Hand Pump Amjhar School

First Fortnight data

Sl. No.	Parameters	Sampling station & sampling date/time			*Tolerance Limit* *(As per IS-10500/2012 for Drinking water Standard)*	
		NW6 (Tap Water – DPS School)	**NW7** (Hand Pump – Temp Colony)	**NW11** (Hand Pump – Amjhar School)		
		01.03.2019	01.03.2019	01.03.2019	**Requirement (Acceptable Limit)**	**Permissible Limit in the absence of Alternate Source**
		3:40PM	6:15PM	4:15PM		
1	Dissolved Solid	71	284	343	**500**	**2000**
2	pH	7.71	7.64	7.83	**6.5 – 8.5**	**No relaxation**
3	Fluoride	0	0	0.2	**1.0**	**1.5**
4	Turbidity, NTU	1	1	2	**1**	**5**
5	Residual Free Chlorine	0.03	-	-	**0.2**	**1**
6	MPN (Coliforms)	-	NIL	NIL	**NIL**	**No relaxation**

Second Fortnight data

Sl. No.	Parameters	Sampling station & sampling date/time			*Tolerance Limit* *(As per IS-10500/2012 for Drinking water Standard)*	
		NW6 (Tap Water – DPS School)	**NW7** (Hand Pump – Temp Colony)	**NW11** (Hand Pump – Amjhar School)		
		15.03.2019	15.03.2019	15.03.2019	**Requirement (Acceptable Limit)**	**Permissible Limit in the absence of Alternate Source**
		3:40PM	6:15PM	4:15PM		
1	Dissolved Solid	49	235	307	**500**	**2000**
2	pH	8.16	7.65	7.42	**6.5 – 8.5**	**No relaxation**
3	Fluoride	0.1	0.2	0.1	**1.0**	**1.5**
4	Turbidity, NTU	0	2	4	**1**	**5**
5	Residual Free Chlorine	0.03	-	-	**0.2**	**1**
6	MPN (Coliforms)	-	NIL	NIL	**NIL**	**No relaxation**

All values are expressed in mg/lit unless specified

Table No.-2

WATER QUALITY DATA
(Drinking Water)

Name of the Company: **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Q.E. : **MARCH, 2019.**

Name of the stations & Code :

1. NW6- Tap Water-DPS School

2. NW7- Hand Pump Temp Colony

3 NW11-Hand Pump Amjhar School

Sl. No.	Parameters	Sampling station & sampling date/time			*Tolerance Limit (As per IS-10500/2012 for Drinking water Standard)*	
		NW6 (Tap Water – DPS School)	**NW7** (Hand Pump – Temp Colony)	**NW11** (Hand Pump – Amjhar School)		
		01.02.2019	01.02.2019	01.02.2019	**Requirement (Acceptable Limit)**	**Permissible Limit in the absence of Alternate Source**
		9:45 AM	9:10 AM	9:20 AM		
1	Colour Hazen Unit.	4	3	3	**5**	**15**
2	Odour	Agreeable	Agreeable	Agreeable	**Agreeable**	**Agreeable**
3	Taste	Agreeable	Agreeable	Agreeable	**Agreeable**	**Agreeable**
4	Turbidity, NTU	1	1	0	1	**5**
5	pH Value	8.38	7.37	7.29	6.5 – 8.5	**No relaxation**
6	Total Hardness	104	268	412	200	**600**
7	Iron	0.062	0.042	0.054	0.3	**No relaxation**
8	Chlorides	18	30	94	250	**1000**
9	Residual Free Chlorine	0.02	0.02	0.02	0.2	**1**
10	Dissolved Solids	72	260	395	500	**2000**
11	Calcium	26	26	37	75	**200**
12	Sulphate	28	42	44	200	**400**
13	Nitrate	2.1	1.1	5.2	45	**No relaxation**
14	Fluoride	0.1	0.1	0.2	1.0	**1.5**
15	Phenolics	BDL (<0.001)	BDL (<0.001)	BDL (<0.001)	0.001	**0.002**
16	Alkalinity	20	48	60	200	**600**
17	MPN	NIL	NIL	NIL	NIL	**No relaxation**
18	Total Chromium	BDL	BDL	BDL	0.05	**No relaxation**
19	Boron	BDL (<0.20)	BDL (<0.20)	BDL (<0.20)	0.5	**1.0**
20	Copper	BDL (<0.03)	BDL (<0.03)	BDL (<0.03)	0.05	**1.5**
21	Manganese	BDL (<0.02)	BDL (<0.02)	BDL (<0.02)	0.1	**0.3**
22	Arsenic	BDL (<0.002)	BDL (<0.002)	BDL (<0.002)	0.01	**0.05**
23	Selenium	BDL (<0.002)	BDL (<0.002)	BDL (<0.002)	0.01	**No relaxation**
24	Lead	BDL (<0.005)	BDL (<0.005)	BDL (<0.005)	0.01	**No relaxation**
25	Zinc	0.08	0.09	0.08	5	**15**
26	Mercury	BDL (<0.0002)	BDL (<0.0002)	BDL (<0.0002)	0.001	**No relaxation**

All values are expressed in mg/lit unless specified

Table No.-2

WATER QUALITY DATA

(Surface Water)

Name of the Company : **Northern Coalfield Limited** Year: **2017-18.**

Name of the Project : **Dudhichua Opencast Project** Q.E.: **MARCH, 2018.**

Name of the Stations & Code :

1. **DW3- Ballia nalla west of Hanuman mandir**
2. **DW4- D/S of Ballia nalla after discharge of STP overflow**

Sl. No.	Parameters	Sampling station & sampling date/time		*IS : 2296 Inland Surface water (1982) Class 'c'*
		DW3 (Ballia nalla)	**DW4** (D/s of Ballia nalla)	
		02.02.2018 6:30PM	02.02.2018 6:35PM	
1	Colour, Hazen Unit.	8	19	*300 (Max)*
2	TSS	136	122	$
3	Dissolved Oxygen	7.7	7.4	*4 (Min)*
4	pH	7.04	7.46	*6.5 - 8.5*
5	Iron	0.16	0.2	*5 (Max)*
6	Chlorides	12	32	*600 (Max)*
7	BOD(3days27^{o}C)	4	7	*3 (Max)*
8	Total dissolved Solids	52	135	*1500 (Max)*
9	Copper	0.012	0.03	*1.5 (Max)*
10	Sulphates	117	75	*400 (Max)*
11	Nitrate	4.7	3.8	*50 (Max)*
12	Fluorides	0.3	0.2	*1.5 (Max)*
13	Selenium	BDL (<0.01)	BDL (<0.01)	*0.05 (Max)*
14	Arsenic	BDL (<0.01)	BDL (<0.01)	*0.2 (Max)*
15	Lead	BDL (<0.01)	BDL (<0.01)	*0.1 (Max)*
16	Zinc	0.042	0.06	*15 (Max)*
17	Hexavalent Chromium	BDL(<0.01)	BDL(<0.01)	*0.05 (Max)*
18	Phenolics Compounds	BDL (<0.001)	BDL (<0.001)	*0.05 (Max)*
19	Mercury	BDL (<0.001)	BDL (<0.001)	*0.001(Max)*

All values are expressed in mg/lit unless specified

$ - Limit not specified

Table No.-3

NOISE LEVEL QUALITY MONITORING

Location of sampling sites and their rationale
(Refer **Plate No-.2**)

i) **Time Office (NN1)**

The location is selected to assess the environmental noise quality of working area surrounded by workshop, mining face & substation.

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ii) **Nigahi Colony (NN2)**

The station is located in the Nigahi colony and will represent the ambient noise quality of the residential area of the Project.

iii) **Nandgaon Rehabilitation Site (NN3)**

The location will represent the ambient noise quality of the residential area of Nandgaon rehabilitation site.

Methodology of sampling and analysis

Noise level measurements in form of 'LEQ' were taken using Integrated Averaging Sound Level Meter (CR: 812C) during day and night time. Noise levels were measured for about one hour time in day and night time. Noise levels were measured in Decibels, 'A' weighted average, i.e. dB (A).

Results & Interpretations

Ambient noise levels were recorded during day and night time and the observed values were compared with standards prescribed by MoEF&CC.

The results of Noise levels recorded during day and night time on fortnightly basis are presented in tabular form along with the applicable standard permissible limits. The observed values in terms of LEQ are presented**.**

The observed values at all the monitoring locations are found to be within permissible limits.

Table No.-3

NOISE LEVEL DATA

Name of the Company : **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Month. : **Jaunary.**

Name of the stations & Code : **1. NN1- Time Office 2. NN2- Nigahi Colony 3. NN3- Nandgaon Rehabilitation site**

First Fortnight data

Sl. No.	Station Name/Code	Category of area	Measurement Details				*Permissible Limit of Noise level in dB(A)
			Date	Time +Day/ Night	Duration (In Hrs.)	Noise level dB(A) LEQ	
1	Time Office NN1	Industrial area	01.01.2019	Day	11.10 to 12.10	68.7	*75*
			04.01.2019	Night	01.35 to 02.35	45.6	*70*
2	Nigahi Colony NN2	Residential Area	01.01.2019	Day	08.40 to 09.40	51.2	55
			04.01.2019	Night	23.15 to 00.15	42.2	*45*
3	Nandgaon Rehab Site AN3	Residential area	01.01.2019	Day	10.00 to 11.00	47.3	55
			04.01.2019	Night	00.25 to 01.25	33.8	*45*

Second Fortnight data

Sl. No.	Station Name/Code	Category of area	Measurement Details				*Permissible Limit of Noise level in dB(A)
			Date	Time +Day/ Night	Duration (In Hrs.)	Noise level dB(A) LEQ	
1	Time Office NN1	Industrial area	16.01.2019	Day	11.05 to 12.05	68.6	*75*
			17.01.2019	Night	02.35 to 03.35	45.6	*70*
2	Nigahi Colony NN2	Residential area	16.01.2019	Day	08.30 to 09.30	46.3	55
			17.01.2019	Night	01.20 to 02.20	42.2	*45*
3	Nandgaon Rehab Site NN3	Residential Area	16.01.2019	Day	09.45 to 10.45	50.4	55
			17.01.2019	Night	00.05 to 01.05	33.7	*45*

+ Day Time: 6.00 AM to 10.00 PM, +Night Time: 10.00 PM to 6.00 AM.

Permissible limits of Noise Level as per MOEF&CC Gazette Notification No. GSR 742(E) dt. 25.09.2000 Standards for Coal Mines and Noise Pollution (Regulation and Control)Rules, 2000.

Table No.-3

NOISE LEVEL DATA

Name of the Company : **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Month. : **February.**

Name of the stations & Code : **1. NN1- Time Office 2. NN2- Nigahi Colony 3. NN3- Nandgaon Rehabilitation site**

First Fortnight data

Sl. No.	Station Name/Code	Category of area	Measurement Details				*Permissible Limit of Noise level in dB(A)
			Date	Time +Day/ Night	Duration (In Hrs.)	Noise level dB(A) LEQ	
1	Time Office NN1	Industrial area	05.02.2019	Day	10.30 to 11.30	55.3	*75*
			03.02.2019	Night	00.25 to 01.25	46.7	*70*
2	Nigahi Colony NN2	Residential Area	05.02.2019	Day	08.15 to 09.15	46.8	55
			03.02.2019	Night	01.40 to 02.40	42.5	*45*
3	Nandgaon Rehab Site AN3	Residential area	05.02.2019	Day	09.20 to 10.20	42.3	55
			03.02.2019	Night	23.15 to 00.15	36.6	*45*

Second Fortnight data

Sl. No.	Station Name/Code	Category of area	Measurement Details				*Permissible Limit of Noise level in dB(A)
			Date	Time +Day/ Night	Duration (In Hrs.)	Noise level dB(A) LEQ	
1	Time Office NN1	Industrial area	19.02.2019	Day	09.50 to 10.50	57.4	*75*
			18.02.2019	Night	01.40 to 02.40	45.4	*70*
2	Nigahi Colony NN2	Residential area	19.02.2019	Day	08.30 to 09.30	48.2	55
			18.02.2019	Night	23.10 to 00.10	40.5	*45*
3	Nandgaon Rehab Site NN3	Residential Area	19.02.2019	Day	11.00 to 12.00	40.3	55
			18.02.2019	Night	00.25 to 01.25	37.3	*45*

+ Day Time: 6.00 AM to 10.00 PM, +Night Time: 10.00 PM to 6.00 AM.

Permissible limits of Noise Level as per MOEF&CC Gazette Notification No. GSR 742(E) dt. 25.09.2000 Standards for Coal Mines and Noise Pollution (Regulation and Control)Rules, 2000.

Table No.-3

NOISE LEVEL DATA

Name of the Company : **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Month. : **March.**

Name of the stations & Code : **1. NN1- Time Office** **2. NN2- Nigahi Colony** **3. NN3- Nandgaon Rehabilitation site**

First Fortnight data

Sl. No.	Station Name/ Code	Category of area	Measurement Details				*Permissible Limit of Noise level in dB(A)
			Date	Time +Day/ Night	Duration (In Hrs.)	Noise level dB(A) LEQ	
1	Time Office NN1	Industrial area	04.03.2019	Day	10.50 to 11.50	52.4	*75*
			02.03.2019	Night	00.25 to 01.25	48.4	*70*
2	Nigahi Colony NN2	Residential Area	04.03.2019	Day	08.25 to 09.25	42.6	55
			02.03.2019	Night	01.40 to 02.40	40.9	*45*
3	Nandgaon Rehab Site AN3	Residential area	04.03.2019	Day	09.30 to 10.30	42.5	55
			02.03.2019	Night	23.20 to 00.20	36.2	*45*

Second Fortnight data

Sl. No.	Station Name/ Code	Category of area	Measurement Details				*Permissible Limit of Noise level in dB(A)
			Date	Time +Day/ Night	Duration (In Hrs.)	Noise level dB(A) LEQ	
1	Time Office NN1	Industrial area	20.03.2019	Day	11.00 to 12.00	56.3	*75*
			19.03.2019	Night	23.20 to 00.20	61.4	*70*
2	Nigahi Colony NN2	Residential Area	20.03.2019	Day	08.40 to 09.40	52.1	55
			19.03.2019	Night	00.35 to 01.35	44.2	*45*
3	Nandgaon Rehab Site AN3	Residential area	20.03.2019	Day	09.50 to 10.50	53.0	55
			19.03.2019	Night	01.40 to 02.40	40.2	*45*

+ Day Time: 6.00 AM to 10.00 PM, +Night Time: 10.00 PM to 6.00 AM.

Permissible limits of Noise Level as per MOEF&CC Gazette Notification No. GSR 742(E) dt. 25.09.2000 Standards for Coal Mines and Noise Pollution (Regulation and Control)Rules, 2000.

Table No.-4

GROUNDWATER LEVEL MONITORING DATA

Dug Well Inventory - NIGAHI PROJECT									
S.No.	Well No.	Village	Owner	M.P. (m.agl)	T.D. (m.bgl)	Dia. (m)	R.L. of M.P.	Geology	Use
1	A-1	Nandgaon	Sohanial Sahu	0.30	7.90	1.50	299.79	Barakar sst	Domestic
2	A-2	Dasali	Jamma Prasad	0.00	11.85	3.55	302.25	Barakar sst	Irrigation
3	A-3	Bharua	Ramcharan	0.50	11.25	4.15	305.00	Barakar sst	Domestic
4	A-4	Bharua	Radha Yadav	0.00	9.90	1.35	311.81	Barakar sst	Domestic
5	A-6	Bhakuwar Tola	Janak Lal Sahu	0.10	10.65	1.70	312.33	Barakar sst	Irrigation
6	A-7	Bhakuwar Tola	Devnath Sahu	0.00	9.95	4.85	305.88	Barakar sst	Irrigation
7	A-8	Amlohri Village	Premsukh Sahu	0.00	7.35	2.70	296.91	Barakar sst	Domestic
8	A-9	Deori	Chhaber Giri	0.55	7.25	1.05	296.45	Barakar sst	Domestic
9	A-10	Deori	Devi Charan ram	0.30	7.70	2.40	296.52	Barakar sst	Domestic
10	D-1	Chatka Basti	Ram Lalu	0.45	9.55	1.88	365.16	Barakar sst	Domestic
11	D-2	Panjreh	Lal Bhahadur	1.10	15.94	1.74	375.32	Barakar sst	Domestic
12	D-3A	Chatka Basti	Shri Dayal	0.00	17.84	2.04	369.98	Barakar sst	Domestic
13	D-4	Mirchaghar	Sabhapati	0.00	13.75	2.00	383.37	Barakar sst	Domestic
14	D-5	Chatka Basti	Ram Narayan	0.60	16.25	2.50	370.42	Barakar sst	Domestic
15	G-1	Morwa	Ram Lalu Singh	0.90	7.50	3.05	357.75	Barakar sst	Domestic
16	G-2	Gorbi Basti	Santram Vaish	0.50	7.20	6.45	381.86	Barakar sst	Domestic
17	G-3	Gorbi Basti	Ram Ashrya Sony	0.40	11.70	2.15	390.83	Barakar sst	Domestic
18	G-4A	Mahadai	Chhote Lal	0.10	17.00	2.00	380.00	Barakar sst	Domestic
19	G-5	Thurwa	Laxman Sake	0.50	7.55	5.50	402.75	Barakar sst	Domestic
20	G-6A	Gorbi	Public well	0.55	7.95	4.70	380.00	Barakar sst	Domestic
21	G-7	Naudhiya	Ramji	0.00	10.20	5.90	386.47	Barakar sst	Irrigation
22	G-8	Solang	Md.Abdul	0.50	11.30	1.60	385.15	Talchir	Domestic
23	G-9	Padari	Samay Lal	0.00	7.80	2.00	384.21	Talchir	Domestic
24	G-10	Kasar	Jagjivan Ram	0.00	9.80	4.80	385.55	Barakar sst	Domestic
25	G-12	Gorbi Tola	Ram Prasad Yadav	0.00	4.25	2.45	380.03	Barakar sst	Domestic
26	G-15A	Padari	Shiv Pd.Sharma	0.00	8.10	6.65	382.29	Talchir	Domestic

M.P. = Measuring Point Dia. = Diameter agl = Above Ground Level

T.D. = Total Depth R.L. = Reduced Level Above MSL bgl = Below Ground Level

m.amsl = meters above mean sea level

Table No.-4

GROUNDWATER LEVEL MONITORING DATA

Dug Well Inventory – NIGAHI PROJECT									
S.No.	Well No.	Village	Owner	M.P. (m.agl)	T.D. (m.bgl)	Dia. (m)	R.L. (m.amsl)	Geology	Use
27	G-16A	Padari	Hakeem Khan	0.40	6.25	4.35	379.52	Talchir	Domestic
28	J-1	Pipralal	S.P.Tiwari	0.35	9.03	1.64	293.35	Talchir	Domestic
29	J-2	Jaitpur	Ram Kumar Sahu	0.20	5.56	1.50	292.02	Barakar sst	Domestic
30	G-16A	Padari	Hakeem Khan	0.40	6.25	4.35	379.52	Talchir	Domestic
31	J-3	Pipralal	S.P.Tiwari	0.80	10.05	1.23	294.33	Talchir	Domestic
32	J-4	Jaitpur	Ram Kumar Sahu	#N/A	#N/A	#N/A	#N/A	Barakar sst	Domestic
33	G-16A	Padari	Hakeem Khan	0.40	6.25	4.35	379.52	Talchir	Domestic
34	J-9A	Semrewa Tola	Jawahar Lal Panika	1.00	11.70	3.40	386.50	Barakar sst	Domestic
35	J-10	Medhauli	Deocara Panika	0.20	7.85	2.40	384.26	Barakar sst	Domestic
36	J-11	Medhauli	Sheetal Pd.Prajapati	0.40	13.60	2.39	390.09	Barakar sst	Domestic
37	J-14A	Medhauli	Dewan Waisya	0.70	12.70	4.11	384.00	Barakar sst	Domestic
38	J-15A	Golai Basti, Arjun Nagar	Public well	0.35	6.40	1.10	301.00	Barakar sst	Domestic
39	JH-1	Chatka Dand	Rameshwar Prasad	1.30	18.90	2.10	377.95	Barakar sst	Domestic
40	JH-3	Panjreh	Bajnath Khairwar	0.40	6.20	2.00	368.60	Barakar sst	Domestic
41	JH-8	Pindartall	Lalman Singh	0.45	6.90	4.50	366.94	Archaeans	Domestic
42	JH-9	Chandrapur	NCL	0.60	9.75	3.00	357.66	Barakar sst	Domestic
43	JH-11	Morwa CETI	Surendra Pd.Dwedi	0.90	14.35	1.30	378.79	Barakar sst	Domestic
44	JH-13	Bhuse Mode	public well	1.00	10.20	2.30	364.63	Barakar sst	Irrigation
45	JH-14	Jug Morwa	Deonath Panika	0.00	10.55	2.30	365.03	Barakar sst	Domestic
46	JH-15	Jhingurdah Mode	Jagannath	0.60	7.55	2.80	356.74	Barakar sst	Domestic
47	KD-6A	Khadia DAV	NCL	0.45	8.90	2.50	295.28	Barakar sst	Domestic
48	KD-10	Chilka Dand	NTPC	0.60	6.65	2.55	290.97	Barakar sst	Domestic
49	M-4	Telai	Bokarilal Sharma	0.00	10.95	2.85	285.00	Talchir	Domestic
50	M-9A	Parasauni	Ram krishna Prajapath	0.15	7.50	2.00	297.00	Talchir	Domestic
51	N-1	Kharia Tola	Bisheshwr Sahu	0.35	16.85	2.80	487.94	Barakar sst	Domestic
52	N-3	Pokhara Tola	Mewa Lal	0.50	13.15	1.35	488.45	Barakar sst	Domestic

M.P. = Measuring Point Dia. = Diameter agl = Above Ground Level

T.D. = Total Depth R.L. = Reduced Level Above MSL bgl = Below Ground Level

m.amsl = meters above mean sea level

Table No.-4

GROUNDWATER LEVEL MONITORING DATA

Dug Well Inventory - NIGAHI PROJECT									
S.No.	Well No.	Village	Owner	M.P. (m.agl)	T.D. (m.bgl)	Dia. (m)	R.L. (m.amsl)	Geology	Use
53	N-4	Mukhiya Tola	Shaulak Lal	0.73	25.50	2.95	484.34	Barakar sst	Domestic
54	N-5	Tendu Tola	Public Well	0.00	2.45	3.05	466.18	Barakar sst	Domestic
55	N-6A	Majan Kalan	Budh Lal Kushwaha	0.50			293.73	Talchir	Domestic
56	N-7	Majan Kalan	Shyam Lal Namdeo	0.00	14.10	3.40	286.54	Talchir	Domestic
57	N-9	Itma Daxin	Ram Adhin	0.00	6.10	1.35	285.53	Talchir	Domestic
58	N-10A	Banauli Daxin	Chhotak Pd.Kushwaha	0.00	13.30	4.70	287.75	Talchir	Domestic
59	N-11	Itma Uttar	Ram Pyare Sahu	0.00	15.70	2.25	297.07	Barakar sst	Domestic
60	N-12	Ghorauli Kalan	Narbada Singh	0.25	16.20	2.33	297.94	Barakar sst	Domestic
61	N-13	Ghorauli Khurd	Kamla Pd.Sivastava	0.00	3.45	1.55	300.37	Talchir	Domestic
62	N-14A	Kaushalya Dand	Mansa Prasad	0.45	15.35	2.45	393.60	Barakar sst	Domestic
63	N-15	Belahwa Tola	Tulsi Ram	0.00	9.50	1.75	285.16	Talchir	Domestic
64	N-16	Kachni	Govind Kushwaha	0.25	19.10	3.60	293.06	Barakar sst	Domestic
65	N-17	Dasauti	D.N.Pandey	0.35	12.60	1.70	302.08	Talchir	Domestic
66	N-20A	Banauli	Vishnath Sahoo	0.35	7.70	1.40	307.59	Barakar sst	Domestic
67	N-21	CMPDI Colony	CMPDI,RI-VI	0.75	6.35	2.25	305.20	Barakar sst	Domestic
68	N-22	Budhwa Tola	Lalu Pr. Jaiswal	0.00	23.25	1.85	417.07	Barakar sst	Domestic
69	N-24A	Nawanagar	Raj Bali Yadav	0.00	7.35	1.40	306.59	Barakar sst	Domestic
70	N-25	Ghorauli Kalan	Indermani Sahu	0.80	10.75	1.25	303.91	Barakar sst	Domestic

M.P. = Measuring Point Dia. = Diameter agl = Above Ground Level

T.D. = Total Depth R.L. = Reduced Level Above MSL bgl = Below Ground Level

m.amsl = meters above mean sea level

Table No.-4

GROUNDWATER LEVEL MONITORING DATA

Dugwells Water Level Details - NIGAHI PROJECT

S.No.	Well No.	Pre-monsoon	Monsoon	Post-monsoon	Winter	Pre-monsoon	Monsoon	Post-monsoon	Winter
		May'17	Aug'17	Nov'17	Feb'18	May'18	Aug'18	Nov'18	Feb'19
1	A-1	6.70	2.10	7.00	5.50	6.45	2.50	3.50	6.00
2	A-2	9.01	7.11	4.81	5.41	8.30	10.90	6.20	6.50
3	A-3	6.04	0.14	4.69	4.24	7.90	4.05	5.65	6.20
4	A-4	6.85	3.70	7.40	8.70	8.50	4.90	3.90	5.10
5	A-6	7.88	7.03	7.23	8.38	12.15	7.50	10.40	8.00
6	A-7	7.20	6.80	6.50	7.20	6.20	5.40	7.40	7.80
7	A-8	6.80	1.50	5.80	7.20	NA	2.50	4.10	NA
8	A-9	7.43	6.03	5.68	6.98	NA	NA	NA	ABANDONED
9	A-10	7.48	5.88	5.53	6.48	NA	NA	NA	ABANDONED
10	D-1	7.72	5.12	6.25	7.30	6.75	1.25	8.05	8.85
11	D-2	7.91	6.06	8.00	9.80	8.20	6.10	8.15	9.20
12	D-3A	7.00	5.00	5.65	7.40	7.30	6.60	6.90	7.80
13	D-4	New monitoring well			10.15	10.80	11.40	7.70	12.50
14	D-5	New well	10.15	10.80	11.40	7.70	12.50	12.50	12.80
15	G-1	3.90	0.70	2.10	4.25	3.70	2.25	2.00	2.75
16	G-2	2.87	0.27	3.67	4.37	4.10	1.70	3.50	3.85
17	G-3	4.85	2.80	4.60	5.25	5.90	4.25	4.80	5.40
18	G-4A	New monitoring well				5.90	4.10	4.05	5.20
19	G-5	11.93	12.18	12.28	13.33	12.70	13.00	12.70	12.80
20	G-6A	2.30	0.35	1.55	2.45	4.55	6.25	3.85	4.45
21	G-7	6.40	2.00	3.60	5.70	6.00	4.80	4.90	5.70
22	G-8	7.91	5.41	5.91	7.71	8.85	7.80	7.50	8.70
23	G-9	7.15	5.40	5.95	8.10	7.75	7.60	5.90	7.00
24	G-10	9.98	2.23	8.58	13.53	12.40	8.60	13.30	13.70
25	G-12	1.25	0.90	2.15	4.40	4.50	0.90	2.70	2.40
26	G-15A	7.30	5.80	6.60	6.90	7.20	6.40	5.60	7.10
27	G-16A	3.45	1.20	2.50	3.70	3.65	1.90	3.05	4.30
28	J-1	5.82	2.57	4.37	5.12	6.65	4.10	5.05	5.85
29	J-2	4.50	2.20	2.95	4.45	4.75	1.75	2.15	3.70
30	J-3	5.12	2.32	3.92	4.22	5.50	3.65	4.20	4.70
31	J-4A	10.70	8.10	13.05	13.80	10.70	11.35	14.20	14.00
32	J-5A	11.00	8.95	7.15	8.05	9.50	6.65	8.00	9.80
33	J-7	7.92	7.57	8.67	8.97	9.40	9.65	9.45	9.80
34	J-9A	8.81	6.31	5.91	6.81	7.80	8.55	9.60	10.00
35	J-10	6.72	5.62	6.12	6.52	7.00	6.75	7.15	7.10
36	J-11	8.69	7.54	7.24	9.39	11.00	11.10	10.70	11.20
37	J-14A	5.15	4.60	4.95	5.10	4.60	4.40	4.40	4.60
38	J-15A	2.70	1.30	1.25	2.05	4.25	3.30	4.10	4.15

S.No.	Well No.	Pre-monsoon	Monsoon	Post-monsoon	Winter	Pre-monsoon	Monsoon	Post-monsoon	Winter
		May'17	Aug'17	Nov'17	Feb'18	May'18	Aug'18	Nov'18	Feb'19
39	JH-1	13.60	14.40	14.50	16.10	13.85	12.80	13.40	10.70
40	JH-3	4.31	2.76	3.56	3.81	4.30	2.80	3.90	4.20
41	JH-8	4.57	0.77	2.57	4.92	5.30	0.95	4.00	5.45
42	JH-9	5.11	1.76	2.41	3.41	3.30	3.20	3.80	4.70
43	JH-11	9.79	9.94	8.59	9.79	11.45	12.00	11.90	12.70
44	JH-13	6.74	4.34	6.44	7.29	6.80	5.75	6.10	6.55
45	JH-14	7.68	7.28	6.98	7.83	9.25	8.25	7.90	9.70
46	JH-15	4.02	0.97	1.77	2.62	2.90	2.90	3.30	4.05
47	KD-6A	2.88	1.63	2.63	2.83	4.00	1.80	2.65	2.85
48	KD-10	3.38	2.53	3.13	3.13	3.65	3.10	3.30	3.60
49	M-4	8.95	9.80	8.10	9.70	9.90	8.20	7.10	9.50
50	M-9A	6.35	4.35	5.10	7.55	7.45	4.65	6.55	8.20
51	N-1	13.50	13.25	12.95	14.85	14.05	14.95	15.15	16.75
52	N-3	10.25	10.00	9.30	10.60	11.30	12.10	10.60	11.75
53	N-4	22.57	22.27	14.67	16.52	22.37	22.62	22.97	23.42
54	N-5	NA	19.55	16.55	18.65	NA	NA	15.60	17.35
55	N-6A	9.47	3.27	6.47	6.07	9.55	2.75	4.15	5.10
56	N-7	9.30	2.90	4.50	5.85	8.30	2.70	4.35	4.80
57	N-9	5.45	2.75	3.70	3.95	4.95	2.15	4.00	4.75
58	N-10A	11.82	3.32	10.22	10.22	12.95	3.15	12.30	14.15
59	N-11	5.10	2.10	3.10	3.80	5.60	3.60	3.90	5.10
60	N-12	13.50	0.80	8.25	11.65	14.45	4.85	6.10	6.65
61	N-13	2.85	1.80	2.00	1.90	2.70	1.40	2.20	4.25
62	N-14A	7.77	8.32	8.22	8.62	9.70	9.62	9.40	10.05
63	N-15	6.30	2.25	9.25	9.90	5.60	1.70	6.50	7.30
64	N-16	12.55	10.05	7.95	11.25	13.25	10.35	7.05	9.00
65	N-17	8.35	6.05	6.30	9.70	10.05	5.65	6.95	7.55
66	N-20A	9.00	1.80	3.50	3.10	8.55	1.85	2.55	3.05
67	N-21	3.36	0.86	1.61	1.66	3.35	1.20	1.55	1.90
68	N-22	11.28	10.78	11.83	13.68	14.20	14.95	15.80	16.65
69	N-23A	13.82	11.82	13.02	14.62	15.45	15.55	16.65	17.70
70	N-25	NA	1.49	9.59	NA	NA	2.20	7.70	9.30

NA= Not Available, bgl= below ground level

Table No.-4

GROUNDWATER LEVEL MONITORING DATA

A. Piezometer Inventory - NIGAHI PROJECT

S. No.	Piezometer No.	Latitude , Longitude	Nearby Landmark/ Owner	M.P. (m.agl)	T.D. (m.bgl)	Dia. (mm)	Type of Piezometer	Geology
1	PSN-1	24.18388889, 82.63777778	Near Medhauli Substation VPR Camp,Nigahi/NCL	0.5	60	125	Shallow	Barakar sst
2	PSN-2	24.16555556, 82.61722222	Near Nigahi West Substation,Nigahi/ NCL	0.5	60	125	Shallow	Barakar sst
3	PSN-3	24.11472222, 82.61888889	Near Forest Nursery ,Nigahi/NCL	0.5	60	125	Shallow	Barakar sst
4	PSN-4	24.10638889, 82.62777778	Near backside of Composite building,Nigahi/NCL	0.5	60	125	Shallow	Barakar sst
5	PSN-5	24.11027778, 82.62055556	Near GM Office,Nigahi/NCL	0.4	60	125	Shallow	Barakar sst
6	PDN-1	24.18444444, 82.63638889	Near Medhauli Substation next to anath ram house,Nigahi/NCL	0.4	180	100	Deep	Barakar sst
7	PDN-2	24.16694444, 82.63305556	Near Nigahi East Substation,Nigahi/NCL	0.5	90	150	Deep	Barakar sst
8	PDN-3	24.165, 82.61694444	Near Nigahi East Substation,Nigahi/NCL	0.7	90	150	Deep	Barakar sst
9	PDN-4	24.16527778, 82.61027778	1.5 km from Nigahi west substation,Nigahi/NCL	0.4	90	150	Deep	Barakar sst
10	PDN-5	24.11194444, 82.60916667	Near LCH Colony Temple,Nigahi/NCL	0.6	90	150	Deep	Barakar sst

M.P. = Measuring Point Dia. = Diameter agl = Above Ground Level
T.D. = Total Depth R.L. = Reduced Level Above MSL bgl = Below Ground Level
NA= Not Available.

Table No.-4

GROUNDWATER LEVEL MONITORING DATA

B. Water level data of Piezometers in m. bgl - NIGAHI PROJECT

S.No.	Piezometer No.	Pre-Monsoon	Monsoon	Post Monsoon	Winter	Pre-Monsoon	Monsoon	Post Monsoon	Winter
		May'17 (m.bgl)	Aug'17 (m.bgl)	Nov'17 (m.bgl)	Feb'18 (m.bgl)	May'18 (m.bgl)	Aug'18 (m.bgl)	Nov'18 (m.bgl)	Feb'19 (m.bgl)
1	PSN-1	14.10	12.30	13.70	14.00	14.15	14.40	14.60	14.80
2	PSN-2	35.00	34.00	34.50	35.00	35.30	35.95	39.15	40.00
3	PSN-3	4.95	3.30	2.45	2.50	4.40	0.90	2.95	3.00
4	PSN-4	2.70	0.70	1.30	1.50	1.88	0.70	0.90	1.30
5	PSN-5	2.85	1.70	2.35	2.40	3.05	2.00	2.40	2.40
6	PDN-1	NA	NA	NA	NA	NA	NA	NA	NA
7	PDN-2	61.80	62.90	69.30	72.00	71.50	71.60	69.65	71.40
8	PDN-3	44.10	45.30	46.30	46.35	47.45	51.45	58.00	61.60
9	PDN-4	NA	NA	NA	NA	NA	NA	NA	NA
10	PDN-5	4.60	3.60	4.30	4.80	NA	5.05	6.05	NA

M.P. = Measuring Point Dia. = Diameter agl = Above Ground Level
T.D. = Total Depth R.L. = Reduced Level Above MSL bgl = Below Ground Level
NA= Not Available.

WATER QUALITY DATA
(FOR GROUND WATER MONITORING)

ANNEXURE NO.-I

Name of the Company : **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Q.E. : **June'18**

Name of the Stations & Code :	**1. Kharia Tola, Bisheshwar Sahu** **2. Pokhra Tola, Mewa Lal** **3. MukhiaTola, Shaulak Lal**	**N - 1** **N - 3** **N - 4**

Sl. No.	**Parameters**	**1**	***2***	***3***	***Tolerence Limit*** *(As per IS-10500/2012 for Drinking water Standard)*	
	Date of Sampling	10.05.2018	10.05.2018	10.05.2018	**Requirement (Acceptable Limit)**	**Permissible Limit in the absence of Alternate Source**
1	Colour , Hazen Unit.	10	23	5	**5**	**15**
2	Odour	Agreeable	Agreeable	Agreeable	**Agreeable**	**Agreeable**
3	Taste	Agreeable	Agreeable	Agreeable	**Agreeable**	**Agreeable**
4	Turbidity, NTU	1	9	1	**1**	**5**
5	pH Value	7.39	7.63	7.51	**6.5 – 8.5**	**No relaxation**
6	Total Hardness	324	284	316	**200**	**600**
7	Iron	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.3**	**No relaxation**
8	Chlorides	78	60	42	**250**	**1000**
9	Dissolved Solids	241	226	239	**500**	**2000**
10	Calcium	39	45	34	**75**	**200**
11	Sulphate	70	106	38	**200**	**400**
12	Nitrate	8.2	4.6	10.4	**45**	**No relaxation**
13	Flouride	0.2	0.1	0	**1.0**	**1.5**
14	Phenolics	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	**0.001**	**0.002**
15	Alkalinity	180	228	164	**200**	**600**
16	Hexavalent Chromium	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.05**	**No relaxation**
17	Boron	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.5**	**1.0**
18	Copper	BDL(<0.02)	BDL(<0.02)	BDL(<0.02)	**0.05**	**1.5**
19	Manganese	BDL(0.005)	BDL(0.005)	BDL(0.005)	**0.1**	**0.3**
20	Arsenic	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.01**	**0.05**
21	Selenium	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.01**	**No relaxation**
22	Lead	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.01**	**No relaxation**
23	Zinc	0.0433	0.0518	0.0112	**5**	**15**
24	MPN	NILL	NILL	NILL	**NIL**	**No relaxation**
25	Mercury	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	**0.001**	**No relaxation**

All values are expressed in mg/lit unless specified (Except pH)

WATER QUALITY DATA
(FOR GROUND WATER MONITORING)

ANNEXURE NO.-I

Name of the Company : **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Q.E. : **June'18**

Name of the Stations & Code :	**4. Majan Kalan, Budh Lal Kushwaha** **5. Majan Kalan, Shyam Lal Namdeo** **6. Itma Daxin, Ram Adhin**	**N – 6A** **N – 7** **N – 9**

Sl. No.	**Parameters**	**4**	**5**	**6**	***Tolerence Limit*** *(As per IS-10500/2012 for Drinking water Standard)*	
	Date of Sampling	17.05.2018	17.05.2018	08.05.2017	**Requirement (Acceptable Limit)**	**Permissible Limit in the absence of Alternate Source**
1	Colour , Hazen Unit.	5	7	19	**5**	**15**
2	Odour	Agreeable	Agreeable	Agreeable	**Agreeable**	**Agreeable**
3	Taste	Agreeable	Agreeable	Agreeable	**Agreeable**	**Agreeable**
4	Turbidity, NTU	1	2	6	**1**	**5**
5	pH Value	7.34	7.63	8.26	**6.5 – 8.5**	**No relaxation**
6	Total Hardness	464	628	172	**200**	**600**
7	Iron	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.3**	**No relaxation**
8	Chlorides	174	264	86	**250**	**1000**
9	Dissolved Solids	502	583	507	**500**	**2000**
10	Calcium	56	46	24	**75**	**200**
11	Sulphate	86	62	74	**200**	**400**
12	Nitrate	6.3	8.7	1.2	**45**	**No relaxation**
13	Flouride	0.1	0.1	0.4	**1.0**	**1.5**
14	Phenolics	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	**0.001**	**0.002**
15	Alkalinity	172	232	564	**200**	**600**
16	Hexavalent Chromium	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.05**	**No relaxation**
17	Boron	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.5**	**1.0**
18	Copper	BDL(<0.02)	BDL(<0.02)	BDL(<0.02)	**0.05**	**1.5**
19	Manganese	BDL(0.005)	BDL(0.005)	BDL(0.005)	**0.1**	**0.3**
20	Arsenic	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.01**	**0.05**
21	Selenium	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.01**	**No relaxation**
22	Lead	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.01**	**No relaxation**
23	Zinc	0.0577	0.0756	0.0613	**5**	**15**
24	MPN	NILL	NILL	NILL	**NIL**	**No relaxation**
25	Mercury	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	**0.001**	**No relaxation**

All values are expressed in mg/lit unless specified (Except pH)

ANNEXURE NO.-I

WATER QUALITY DATA

(FOR GROUND WATER MONITORING)

Name of the Company : **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Q.E. : **June'18**

Name of the Stations & Code :	**7. Banauli Daxin, Chotak Pd. kushwaha** **8. Itma Uttar, Ram Pyare Sahu** **9. Ghorauli Kalan, Narbada Singh**	**N – 10A** **N – 11** **N – 12**

Sl. No.	**Parameters**	**7**	**8**	**9**	***Tolerence Limit*** *(As per IS-10500/2012 for Drinking water Standard)*	
	Date of Sampling	08.05.2018	17.05.2018	17.05.2018	**Requirement (Acceptable Limit)**	**Permissible Limit in the absence of Alternate Source**
1	Colour , Hazen Unit.	4	9	12	**5**	**15**
2	Odour	Agreeable	Agreeable	Agreeable	**Agreeable**	**Agreeable**
3	Taste	Agreeable	Agreeable	Agreeable	**Agreeable**	**Agreeable**
4	Turbidity, NTU	5	9	10	**1**	**5**
5	pH Value	7.72	7.78	8.17	**6.5 – 8.5**	**No relaxation**
6	Total Hardness	456	536	640	**200**	**600**
7	Iron	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.3**	**No relaxation**
8	Chlorides	416	212	232	**250**	**1000**
9	Dissolved Solids	691	528	507	**500**	**2000**
10	Calcium	83	43	74	**75**	**200**
11	Sulphate	60	64	88	**200**	**400**
12	Nitrate	2.4	5.5	1.3	**45**	**No relaxation**
13	Flouride	0.2	0.4	0.5	**1.0**	**1.5**
14	Phenolics	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	**0.001**	**0.002**
15	Alkalinity	156	220	296	**200**	**600**
16	Hexavalent Chromium	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.05**	**No relaxation**
17	Boron	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.5**	**1.0**
18	Copper	BDL(<0.02)	BDL(<0.02)	BDL(<0.02)	**0.05**	**1.5**
19	Manganese	BDL(0.005)	BDL(0.005)	BDL(0.005)	**0.1**	**0.3**
20	Arsenic	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.01**	**0.05**
21	Selenium	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.01**	**No relaxation**
22	Lead	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.01**	**No relaxation**
23	Zinc	0.0511	0.0594	0.0803	**5**	**15**
24	MPN	NILL	NILL	NILL	**NIL**	**No relaxation**
25	Mercury	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	**0.001**	**No relaxation**

All values are expressed in mg/lit unless specified (Except pH)

ANNEXURE NO.-I

WATER QUALITY DATA

(FOR GROUND WATER MONITORING)

Name of the Company : **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Q.E. : **June'18**

Name of the Stations & Code :	**10. Ghorauli Khurdh, Kamla Pd. Srivastava** **11. Kaushalya Dand, Mansa Prasad** **12. Belahwa Tola, Tulsi Ram**	**N – 13** **N – 14A** **N – 15**

Sl. No.	**Parameters**	**10**	**11**	**12**	***Tolerence Limit*** *(As per IS-10500/2012 for Drinking water Standard)*	
	Date of Sampling	17.05.2018	15.05.2018	15.05.2018	**Requirement (Acceptable Limit)**	**Permissible Limit in the absence of Alternate Source**
1	Colour , Hazen Unit.	8	4	19	**5**	**15**
2	Odour	Agreeable	Agreeable	Agreeable	**Agreeable**	**Agreeable**
3	Taste	Agreeable	Agreeable	Agreeable	**Agreeable**	**Agreeable**
4	Turbidity, NTU	8	9	2	**1**	**5**
5	pH Value	7.34	6.89	7.98	**6.5 – 8.5**	**No relaxation**
6	Total Hardness	308	228	772	**200**	**600**
7	Iron	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.3**	**No relaxation**
8	Chlorides	40	24	424	**250**	**1000**
9	Dissolved Solids	306	128	838	**500**	**2000**
10	Calcium	40	35	128	**75**	**200**
11	Sulphate	42	14	118	**200**	**400**
12	Nitrate	2.1	0.3	0.3	**45**	**No relaxation**
13	Flouride	0.5	0.2	0.1	**1.0**	**1.5**
14	Phenolics	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	**0.001**	**0.002**
15	Alkalinity	284	156	268	**200**	**600**
16	Hexavalent Chromium	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.05**	**No relaxation**
17	Boron	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.5**	**1.0**
18	Copper	BDL(<0.02)	BDL(<0.02)	BDL(<0.02)	**0.05**	**1.5**
19	Manganese	BDL(0.005)	BDL(0.005)	BDL(0.005)	**0.1**	**0.3**
20	Arsenic	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.01**	**0.05**
21	Selenium	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.01**	**No relaxation**
22	Lead	BDL(0.01)	BDL(0.01)	BDL(0.01)	**0.01**	**No relaxation**
23	Zinc	0.0516	0.0756	0.0643	**5**	**15**
24	MPN	NILL	NILL	NILL	**NIL**	**No relaxation**
25	Mercury	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	**0.001**	**No relaxation**

All values are expressed in mg/lit unless specified (Except pH)

ANNEXURE NO.-I

WATER QUALITY DATA

(FOR GROUND WATER MONITORING)

Name of the Company : **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Q.E. : **June'18**

Name of the Stations & Code :	**13. Kachni, Govind Kushwaha** **14. Dasauti, D.N.Pandey**	**N – 16** **N - 17**

Sl. No.	**Parameters**	**13**	**14**	***Tolerence Limit*** *(As per IS-10500/2012 for Drinking water Standard)*	
	Date of Sampling	15.05.2018	15.05.2018	**Requirement (Acceptable Limit)**	**Permissible Limit in the absence of Alternate Source**
1	Colour , Hazen Unit.	5	5	**5**	**15**
2	Odour	Agreeable	Agreeable	**Agreeable**	**Agreeable**
3	Taste	Agreeable	Agreeable	**Agreeable**	**Agreeable**
4	Turbidity, NTU	0	0	**1**	**5**
5	pH Value	7.24	7.31	**6.5 – 8.5**	**No relaxation**
6	Total Hardness	768	288	**200**	**600**
7	Iron	BDL(0.01)	BDL(0.01)	**0.3**	**No relaxation**
8	Chlorides	258	98	**250**	**1000**
9	Dissolved Solids	680	392	**500**	**2000**
10	Calcium	58	29	**75**	**200**
11	Sulphate	70	72	**200**	**400**
12	Nitrate	2.4	1.6	**45**	**No relaxation**
13	Flouride	0.1	0.4	**1.0**	**1.5**
14	Phenolics	BDL(<0.001)	BDL(<0.001)	**0.001**	**0.002**
15	Alkalinity	272	220	**200**	**600**
16	Hexavalent Chromium	BDL(0.01)	BDL(0.01)	**0.05**	**No relaxation**
17	Boron	BDL(0.01)	BDL(0.01)	**0.5**	**1.0**
18	Copper	BDL(<0.02)	BDL(<0.02)	**0.05**	**1.5**
19	Manganese	BDL(0.005)	BDL(0.005)	**0.1**	**0.3**
20	Arsenic	BDL(0.01)	BDL(0.01)	**0.01**	**0.05**
21	Selenium	BDL(0.01)	BDL(0.01)	**0.01**	**No relaxation**
22	Lead	BDL(0.01)	BDL(0.01)	**0.01**	**No relaxation**
23	Zinc	0.0653	0.0487	**5**	**15**
24	MPN	NILL	NILL	**NIL**	**No relaxation**
25	Mercury	BDL(<0.001)	BDL(<0.001)	**0.001**	**No relaxation**

All values are expressed in mg/lit unless specified (Except pH)

ANNEXURE NO.-I

WATER QUALITY DATA

(FOR GROUND WATER MONITORING)

Name of the Company : **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Q.E. : **June'18**

Name of the Stations & Code :	**15. Banauli, Vishnath Sahu** **16. Budhwa Tola, Lalu Prasad Jaiswal**	**N – 20A** **N – 22**

Sl. No.	**Parameters**	**15**	**16**	***Tolerence Limit*** *(As per IS-10500/2012 for Drinking water Standard)*	
	Date of Sampling	08.05.2018	14.05.2018	**Requirement (Acceptable Limit)**	**Permissible Limit in the absence of Alternate Source**
1	Colour , Hazen Unit.	13	55	**5**	**15**
2	Odour	Agreeable	Agreeable	**Agreeable**	**Agreeable**
3	Taste	Agreeable	Agreeable	**Agreeable**	**Agreeable**
4	Turbidity, NTU	1	8	**1**	**5**
5	pH Value	7.94	6.53	**6.5 – 8.5**	**No relaxation**
6	Total Hardness	280	160	**200**	**600**
7	Iron	BDL(0.01)	0.312	**0.3**	**No relaxation**
8	Chlorides	130	2	**250**	**1000**
9	Dissolved Solids	527	72	**500**	**2000**
10	Calcium	21	19	**75**	**200**
11	Sulphate	64	18	**200**	**400**
12	Nitrate	1.2	2.5	**45**	**No relaxation**
13	Flouride	0.4	0.1	**1.0**	**1.5**
14	Phenolics	BDL(<0.001)	BDL(<0.001)	**0.001**	**0.002**
15	Alkalinity	508	116	**200**	**600**
16	Hexavalent Chromium	BDL(0.01)	BDL(0.01)	**0.05**	**No relaxation**
17	Boron	BDL(0.01)	BDL(0.01)	**0.5**	**1.0**
18	Copper	BDL(<0.02)	BDL(<0.02)	**0.05**	**1.5**
19	Manganese	BDL(0.005)	BDL(0.005)	**0.1**	**0.3**
20	Arsenic	BDL(0.01)	BDL(0.01)	**0.01**	**0.05**
21	Selenium	BDL(0.01)	BDL(0.01)	**0.01**	**No relaxation**
22	Lead	BDL(0.01)	BDL(0.01)	**0.01**	**No relaxation**
23	Zinc	0.0521	0.0615	**5**	**15**
24	MPN	NILL	NILL	**NIL**	**No relaxation**
25	Mercury	BDL(<0.001)	BDL(<0.001)	**0.001**	**No relaxation**

All values are expressed in mg/lit unless specified (Except pH)

ANNEXURE NO.-I

WATER QUALITY DATA

(FOR GROUND WATER MONITORING)

Name of the Company : **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Q.E. : **June'18**

Name of the Stations & Code :	**17. Budhwa Tola,** **18. Nawanagar, Raj Bali Yadav**	**N – 23A** **N – 24A**

Sl. No.	**Parameters**	**17**	**18**	***Tolerence Limit*** *(As per IS-10500/2012 for Drinking water Standard)*	
	Date of Sampling	14.05.2018	17.05.2018	**Requirement (Acceptable Limit)**	**Permissible Limit in the absence of Alternate Source**
1	Colour , Hazen Unit.	32	9	**5**	**15**
2	Odour	Agreeable	Agreeable	**Agreeable**	**Agreeable**
3	Taste	Agreeable	Agreeable	**Agreeable**	**Agreeable**
4	Turbidity, NTU	9	1	**1**	**5**
5	pH Value	7.66	6.97	**6.5 – 8.5**	**No relaxation**
6	Total Hardness	248	400	**200**	**600**
7	Iron	BDL(0.01)	BDL(0.01)	**0.3**	**No relaxation**
8	Chlorides	34	124	**250**	**1000**
9	Dissolved Solids	197	495	**500**	**2000**
10	Calcium	48	59	**75**	**200**
11	Sulphate	16	72	**200**	**400**
12	Nitrate	2.5	8.3	**45**	**No relaxation**
13	Flouride	0.1	0.1	**1.0**	**1.5**
14	Phenolics	BDL(<0.001)	BDL(<0.001)	**0.001**	**0.002**
15	Alkalinity	204	200	**200**	**600**
16	Hexavalent Chromium	BDL(0.01)	BDL(0.01)	**0.05**	**No relaxation**
17	Boron	BDL(0.01)	BDL(0.01)	**0.5**	**1.0**
18	Copper	BDL(<0.02)	BDL(<0.02)	**0.05**	**1.5**
19	Manganese	BDL(0.005)	BDL(0.005)	**0.1**	**0.3**
20	Arsenic	BDL(0.01)	BDL(0.01)	**0.01**	**0.05**
21	Selenium	BDL(0.01)	BDL(0.01)	**0.01**	**No relaxation**
22	Lead	BDL(0.01)	BDL(0.01)	**0.01**	**No relaxation**
23	Zinc	0.0437	0.0246	**5**	**15**
24	MPN	NILL	NILL	**NIL**	**No relaxation**
25	Mercury	BDL(<0.001)	BDL(<0.001)	**0.001**	**No relaxation**

All values are expressed in mg/lit unless specified (Except pH)

WATER QUALITY DATA

(FOR PEIZOMETER GROUND WATER MONITORING)

Name of the Company : **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Q.E. : **June'18**

Sl. No.	Parameters	PSN-1	PSN-2	PSN-3	*Tolerance Limit* *(As per IS-10500/2012 for Drinking water Standard)*	
	Date of Sampling	03.05.2018	03.05.2018	03.05.2018	Requirement (Acceptable Limit)	Permissible Limit in the absence of Alternate Source
1	Colour, Hazen Unit.	4	5	1	5	15
2	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity, NTU	1	4	2	1	5
5	pH Value	7.01	6.78	7.28	6.5 – 8.5	No relaxation
6	Total Hardness	168	144	232	200	600
7	Iron	BDL(0.01)	BDL(0.01)	BDL(0.01)	0.3	No relaxation
8	Chlorides	12	28	46	250	1000
9	Dissolved Solids	113	92	299	500	2000
10	Calcium	32	26	282	75	200
11	Sulphate	18	12	32	200	400
12	Nitrate	2.6	2.0	2.1	45	No relaxation
13	Flouride	0	0	0.4	1.0	1.5
14	Phenolics	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	0.001	0.002
15	Alkalinity	140	140	264	200	600
16	Hexavalent Chromium	BDL(0.01)	BDL(0.01)	BDL(0.01)	0.05	No relaxation
17	Boron	BDL(0.01)	BDL(0.01)	BDL(0.01)	0.5	1.0
18	Copper	BDL(<0.02)	BDL(<0.02)	BDL(<0.02)	0.05	1.5
19	Manganese	BDL(0.005)	BDL(0.005)	BDL(0.005)	0.1	0.3
20	Arsenic	BDL(0.01)	BDL(0.01)	BDL(0.01)	0.01	0.05
21	Selenium	BDL(0.01)	BDL(0.01)	BDL(0.01)	0.01	No relaxation
22	Lead	BDL(0.01)	BDL(0.01)	BDL(0.01)	0.01	No relaxation
23	Zinc	BDL(0.02)	BDL(0.02)	BDL(0.02)	5	15
24	MPN	NILL	NILL	NILL	NIL	No relaxation
25	Mercury	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	0.001	No relaxation

All values are expressed in mg/lit unless specified (Except pH)

WATER QUALITY DATA

(FOR PEIZOMETER GROUND WATER MONITORING)

Name of the Company : **Northern Coalfield Limited** Year : **2018-19.**

Name of the Project : **Nigahi Opencast Project** Q.E. : **June'18**

Sl. No.	Parameters	PSN-4	PDN-3	*Tolerance Limit* *(As per IS-10500/2012 for Drinking water Standard)*	
	Date of Sampling	03.05.2018	03.05.2018	**Requirement (Acceptable Limit)**	**Permissible Limit in the absence of Alternate Source**
1	Colour, Hazen Unit.	02	1	**5**	**15**
2	Odour	Agreeable	Agreeable	**Agreeable**	**Agreeable**
3	Taste	Agreeable	Agreeable	**Agreeable**	**Agreeable**
4	Turbidity, NTU	1	1	**1**	**5**
5	pH Value	7.94	6.90	**6.5 – 8.5**	**No relaxation**
6	Total Hardness	380	256	**200**	**600**
7	Iron	BDL(0.01)	BDL(0.01)	**0.3**	**No relaxation**
8	Chlorides	26	08	**250**	**1000**
9	Dissolved Solids	243	83	**500**	**2000**
10	Calcium	45	38	**75**	**200**
11	Sulphate	42	12	**200**	**400**
12	Nitrate	1.1	0.9	**45**	**No relaxation**
13	Flouride	0.1	0.1	**1.0**	**1.5**
14	Phenolics	BDL(<0.001)	BDL(<0.001)	**0.001**	**0.002**
15	Alkalinity	272	72	**200**	**600**
16	Hexavalent Chromium	BDL(0.01)	BDL(0.01)	**0.05**	**No relaxation**
17	Boron	BDL(0.01)	BDL(0.01)	**0.5**	**1.0**
18	Copper	BDL(<0.02)	BDL(<0.02)	**0.05**	**1.5**
19	Manganese	BDL(0.005)	BDL(0.005)	**0.1**	**0.3**
20	Arsenic	BDL(0.01)	BDL(0.01)	**0.01**	**0.05**
21	Selenium	BDL(0.01)	BDL(0.01)	**0.01**	**No relaxation**
22	Lead	BDL(0.01)	BDL(0.01)	**0.01**	**No relaxation**
23	Zinc	BDL(0.02)	BDL(0.02)	**5**	**15**
24	MPN	NILL	NILL	**NIL**	**No relaxation**
25	Mercury	BDL(<0.001)	BDL(<0.001)	**0.001**	**No relaxation**

All values are expressed in mg/lit unless specified (Except pH)

AIR QUALITY IMPACT PREDICTION

FOR

NIGAHI OCP (18.75 TO 21 MTPA)

BY

AERMOD (Version 9.4.0) software.

Introduction

The impact of mining activities on the air quality of the core zone and buffer zone, with respect to PM10 and PM2.5, has been assessed by modeling using the AERMOD (Version9.4.0)software.

The control measures to mitigate adverse environmental impacts on air quality are also highlighted in this chapter for carrying out mining operation in an environmentally compatible manner. Further, all provisions of Coal Mines Regulations and Directives shall be followed in this project.

Impact Assessment & Pollution Control Measures for Air

The impact assessment (both short-term and long-term) has been carried out dealing with the following points:

(i) Inventory of air pollution emission sources
(ii) Impact assessment (short-term and long-term besides direct/indirect and residual)

Appropriate air pollution control measures are being taken to control the air pollution for maintaining the ambient air quality within the stipulated standards.

Air Pollution Impact Assessment

The activities associated with operational phase of the mine and having impact on the ambient air quality along with the pollutants are enumerated in the following sections:
During this phase activities for mining of coal, its handling and transport are taken up. Such activities are detailed below:

(i)	Handling, loading & unloading of coal and OB	:	Dust and exhaust gases
(ii)	Ground coal stock formation	:	Dust and exhaust fumes from dumpers and dust from wind erosion till the development of green cover
(iii)	Movement of HEMMs and vehicles	:	Dust and exhaust gases

The mining and its related activities create ambient air pollution. The impact of mining on ambient air quality is highlighted in the following paragraphs:

Air quality modeling

Air Quality Impact Prediction

Estimation for increase in PM10 and PM 2.5 at six Ambient Air Quality Stations, has been done with the help of the AERMOD (9.4.0) modeling. The contribution from proposed mining activity (to achieve the peak production level of 21 MTPA) has been assessed for the worst scenario of operation (maximum OB generation) with control measures (business as usual). The model was run to predict the incremental PM10 concentrations for the over and above the baseline concentrations found at the six Baseline AAQ stations.

Identification of sources of PM10, and PM 2.5 :

The main sources of air pollution with regard to Nigahi OCP for the purpose of estimation of increase in PM10, and PM 2.5 were identified as-

1) Drilling in Coal benches.
2) Drilling in OB benches.
3) Blasting in Coal benches.
4) Blasting in OB benches.
5) Truck loading of coal & OB.
6) Coal transportation.
7) Truck unloading of coal & OB
8) OB transportation.
9) Wind erosion

Of the above sources Wind Erosion have been assumed to have no contribution in “incremental” concentration level of PM 10 and PM 2.5 as the areas susceptible for wind ersosion will remain same in magnitude and erosion potential i.e. the incremental potential due to the proposed expansion will be zero.

Also Blasting in OB and Coal have not been considered for mdeling purpose due to the very short duration of this activity and resulting emission (approximately 30 minutes maximum of blasting duration). Moreover the magnitude of dust emitted is very meagre compared to other mining activities.

Receptors

The Routine Ambient Air Quality Monitoring Stations (1 in Core Zone and 6 in the Buffer Zone) were chosen as receptors for predicting the PM10 concentration. One of the station viz. Kasar Village was chosen as control station in the upwind direction and rest of the stations were chosen in downwind direction.

Meteorological Input

Micrometeorological and microclimatic parameters were recorded by M/S CEG Test House And Research Centre Pvt. Ltd. Jaipur by installing hourly reading of wind velocity, wind direction, temperature, relative humidity, cloud cover and rainfall data were recorded. The model was run on 24 hours input meteorological file based on the median values of each hour for the whole seasonal data, which would represent typical meteorological condition found during the study period.

Emission Factors

An S&T study titled, "Development of emission factors for various mining machineries & operations in opencast coal mines (EE-27)" was carried out by CMPDI (HQ) during 2002 to 2008. During this study, emission factors for Suspended Particulate Matter (PM ≤ 100 µm) were developed for Drilling, Loading of coal and OB by Shovel, Unloading of OB, Transportation on haul roads and Coal sizing. The emission factors data for PM -10 and PM -2.5 have been estimated on the basis of particle size distribution study.

Emission factors as provided by CMPDI, Head Quarter, Ranchi

Sl. No	Activity	Uncontrolled Emission Factor				Control Factor (as given in EET)	Reference of E.F.
		Unit	PM – 2.5	PM -10	TSP		
1	Top soil removal by scrapper	kg/t	**0.00058**	**0.0052**	0.029	50 % control when soil is naturally or artificially wet.	AP 42 , USEPA(1998)
2	Drilling in Coal Bench	kg/hole	**0.04**	**0.22**	0.83	90 % for fabric filter 70 % for water sprays	*Coal S&T Project
3	Drilling in OB Bench	kg/hole	**0.11**	**0.56**	2.18	90 % with fabric filter 70 % for water sprays	*Coal S&T Project
4	OB Loading	kg/t	**1.5×10^{-05}**	**1.4×10^{-04}**	7.7×10^{-04}	None	*Coal S&T Project
5	OB Unloading	kg/t	**6.0×10^{-05}**	**5.0×10^{-04}**	3.0×10^{-03}	None	*Coal S&T Project
6	Coal Loading	kg/t	**2.1×10^{-04}**	**1.5×10^{-03}**	7.1×10^{-03}	None	*Coal S&T Project
7	Coal Unloading	kg/t	**1.4×10^{-04}**	**1.23×10^{-03}**	7.1×10^{-03}	None	*Coal S&T Project
8	Coal / OB transportation on unpaved haul road	kg/VKT	**0.076 Vehicle km traveled (VKT) = (No. of trips) x (distance traveled)**	**0.53**	2.56	None as the emission factor was developed under the condition of watering of haul road	*Coal S&T Project
9	Coal Sizing						
	(a) Primary Crusher	kg/t	**0.008**	**0.056**	0.28	Control factor = 99 % for enclosure with dust extraction system	*Coal S&T Project
	(b) Secondary Crusher	kg/t	**0.02**	**0.13**	0.64	Control factor = 99 % for enclosure with dust extraction	*Coal S&T Project

Sl. No	Activity	Uncontrolled Emission Factor				Control Factor (as given in EET)	Reference of E.F.
		Unit	PM – 2.5	PM -10	TSP		
						system	
10	Blasting OB / Coal	kg/ blast	**0.03 x E.F. for TSP***	**0.18 x E.F. for TSP***	$344(A)^{0.8}$ / $(M)^{1.9}(D)^{1.8}$	None	AP 42 , USEPA(1998)
11	Dozing OB**	kg/hr	**0.11 x E.F. for TSP**	**0.29 x E.F. for TSP**	$2.6\ (S)^{1.2}$ $/(M)^{1.3}$	None	AP 42 , USEPA(1998)
12	Dozing Coal#	kg/hr	**0.11 x E.F. for TSP**	**0.29 x E.F. for TSP**	$35.6\ (S)^{1.2}$ $/(M)^{1.4}$	None	AP 42 , USEPA(1998)
13	Wind erosion from OB dumps, coal mine pits and coal stockyard	kg/ha/hr	**0.008 (exclude contribution of calm period)**	**0.09 (exclude contribution of calm period)**	0.4	50 % for water sprays	AP 42 , USEPA(1998)
14	Pit retention***		**0 %**	**5 %**		Emission Estimation Technique for Mining, version 2.3 , EPA Australia	

SO_2 emission factor = 17 kg per 1000 litres of diesel burnt (Source USEPA 1998).
NO_X emission factor = 35.7 kg per 1000 litres of diesel burnt (Source USEPA 1998).

*The average values for Silt(S) and Moisture (M) content in coal and OB were observed as S = 12 %, M = 7 % , For OB, S = 5 % & M = 4 % respectively during an coal S&T Study for "Development of emission factors for various mining machineries &operations in an opencast coal mines"(EE-27).

**For Dozing OB, TSP = = 2.96 kg/hr for S = 5 %, M = 4 %,
#For Dozing Coal, TSP **=** = 46.06 kg/hr for S = 12 %, M = 7 %,

***-Pit retention was not considered in modeling as the AERMOD terrain features already incorporates the effect of pits.

Estimation of dust (PM10 & PM 2.5) generation at Nigahi OCP

The coal production from Nigahi OCP during 2018-19 was 18.476 Million Metric ton. This will reach 21 MTPA at the proposed target level. The AQIP has been done based on probable maximum coal production of 21 MTPA. During peak coal production, the incremental coal production will be 21 MTPA –18.476 MTPA = 2.524 MTPA =6915 t/day and incremental OB generation will be 35233 m^3/day (for OB the maximum generation as per mining plan for 21 MTPA coal production has been considered to simulate the worst case scenario)

In the mining plan it is proposed that the incremental production of coal i.e. 2.25 Mtpa will be achieved by Surface miner and the remaining will be done by shovel dumper. The Surface miner is to be operated on Purewa Top Seam in both the North and South sections of mine.
The incremental rise in activities like coal production & OB generation, loading, transportation, unloading and storage will cause adverse impact on the AAQ status. The future anticipated impact on AAQ due to dust emission from various activities related to the proposed incremental coal production has been calculated as per the following table for the future scenario:

1	**OB Removal (including top soil removal)**
1a	**Drilling:** Total No. of Incremental holes = 48 holes /day. PM 10 expected to be generated = 48 x 0.56 kg/d = 26.88 kg/day PM 10 expected to be generated due to this activity with control measures=26.88 x 0.1 kg/day= 2.688 kg/day (Assuming 90% control factor for use of dust extractors) Using the emission factors for PM 2.5 and the control factor of 90% the PM 2.5 expected to be generated = 0.528 Kg/day **Drilling in Dragline Bench:** PM 10 generation= 0.224 Kg/day PM 2.5 generation = 0.044 Kg/day
1b	**Dumper loading by shovel-** PM10 generated would come out to be= 9.67 kg/day PM 2.5 generated would come out to be= 1.04 kg/day (No control factor is available for this activity)
1c	**Transportation of OB :** The PM 10 generated would come out to be (watered condition with use of dust suppressing chemicals) = 613 kg/day The PM 2.5 generated would come out to be (watered condition with use of dust suppressing chemicals) = 88 kg/day
1d	**Dragline Operation:** PM10 generated due to D/L operations: 27.5 Kg/day PM 2.5 generated due to D/L operations: 2.8 Kg/day
1e	**Unloading of overburden** PM 10 generated= 34.5 Kg/day PM 2.5 generated= 4.14 Kg/day
2	**Coal Extraction**
a	**Drilling:** PM 10 generated = 0.088 Kg/day PM 2.5 generated = 0.016 Kg/day
b	**Dust generation due to loading of coal without control factor** PM10 generated would be= 5.18 kg/day PM 2.5 generated without control factor= 0.73 kg/day
c	**Transportation of Coal** PM 10 generated under watered condition with use of dust suppressant chemicals=31.29 Kg/day PM 2.5 generated under watered condition with use of dust suppressant chemicals=4.48 Kg/day

d	**Coal Unloading** PM 10 generated = 8.96 Kg/day PM 2.5 generated = 1.02 Kg/day
e	**Coal Crushing** PM 10 generated = 0.97 Kg/day (Assuming 99% Control Factor) PM 2.5 generated =0.15 Kg/day (Assuming 99% Control Factor)

Emission factors expressed as per unit area/length of the area/line/point sources

Source Type	Source ID	PM 10 Incremental Emission factor with control measures	PM 2.5 Incremental Emission factor with control measures	Description
AREA	AREA10	6.59089E-06	7.48965E-07	WHARFALL
AREA	WOBENCH1	0.00000008	9.86667E-09	OB BENCH CUM PUREWA COAL BENCH
AREA	WDLBENCH 1	5.02828E-07	5.02828E-08	WEST DRAGLINE BENCH
AREA	AREA1	5.14337E-07	5.14337E-08	WDLBENCH2
OPEN_PIT	OPIT1	8.33333E-08	1.16667E-08	WEST TURRA PIT
OPEN_PIT	OPIT2	8.33333E-08	1.16667E-08	WEST TURRA PIT2
OPEN_PIT	OPIT3	1.42857E-07	0.00000002	EAST TURRA PIT
OPEN_PIT	OPIT4	4.36244E-07	6.10742E-08	EAST TURRA PIT2
AREA	AREA2	8.63014E-07	8.63017E-08	EAST D/L BENCH
AREA	AREA3	3.48086E-07	4.17702E-08	EAST OB BENCH
AREA	AREA4	6.16135E-07	7.59901E-08	EAST OB BENCH CUM COAL BENCH (PUREWA)
LINE_AREA	COALHLRD 1	1.04371E-06	1.46119E-07	PACKAGE A COAL HAUL ROAD
LINE_AREA	COALHLRD 2	2.92533E-06	4.21248E-07	coal road OLD R PIT
LINE_AREA	COALHLRD 3	1.03963E-06	1.38617E-07	PACK B COAL HLRD
LINE_AREA	OBWHLRD1	5.11428E-05	7.37059E-06	WESTOBHAULROAD
LINE_AREA	OBHLRDEA ST	5.03006E-05	7.40537E-06	EASTOBHLRD
AREA	AREA5	4.45772E-07	2.97181E-08	WEST OB DUMPING
AREA	AREA6	6.16277E-07	0.00000003	EAST OB DUMPING
AREA	AREA7	3.15593E-06	4.15255E-07	RECIEVING PIT PACK B
AREA	AREA8	1.83831E-06	2.41885E-07	RECIEVING PIT PACK A
AREA	AREA9	8.33613E-07	1.09686E-07	OLD REC PIT
AREA_CIRC	CAREA1	1.68704E-05	1.90986E-06	SILO

Predicted and Monitored 24 hourly average PM10 Concentration Levels at various Receptors

Receptor	Distance from quarry edge in Km	24 hour average concentration in µg/m3			
		Incremental Concentration with control measures	Median values from routine environmental monitoring (March 18 to June'18)	Total predicted concentration with control measures	Permissible Limits
Nigahi STP	6.84	4.53	94	98.53	100*
Bareja Pump House	4.16	11.22	293	304.22	300**
Surya Kiran Bhawan	6.30	7.11	248	255.11	100
Rose Garden	6.18	9.97	94	103.97	100
Amlohri Pump House	6.25	3.04	303	306.04	100
CETI	8.00	5.35	279	284.35	100
Kasar Village	8.00	4.76	220	224.76	100

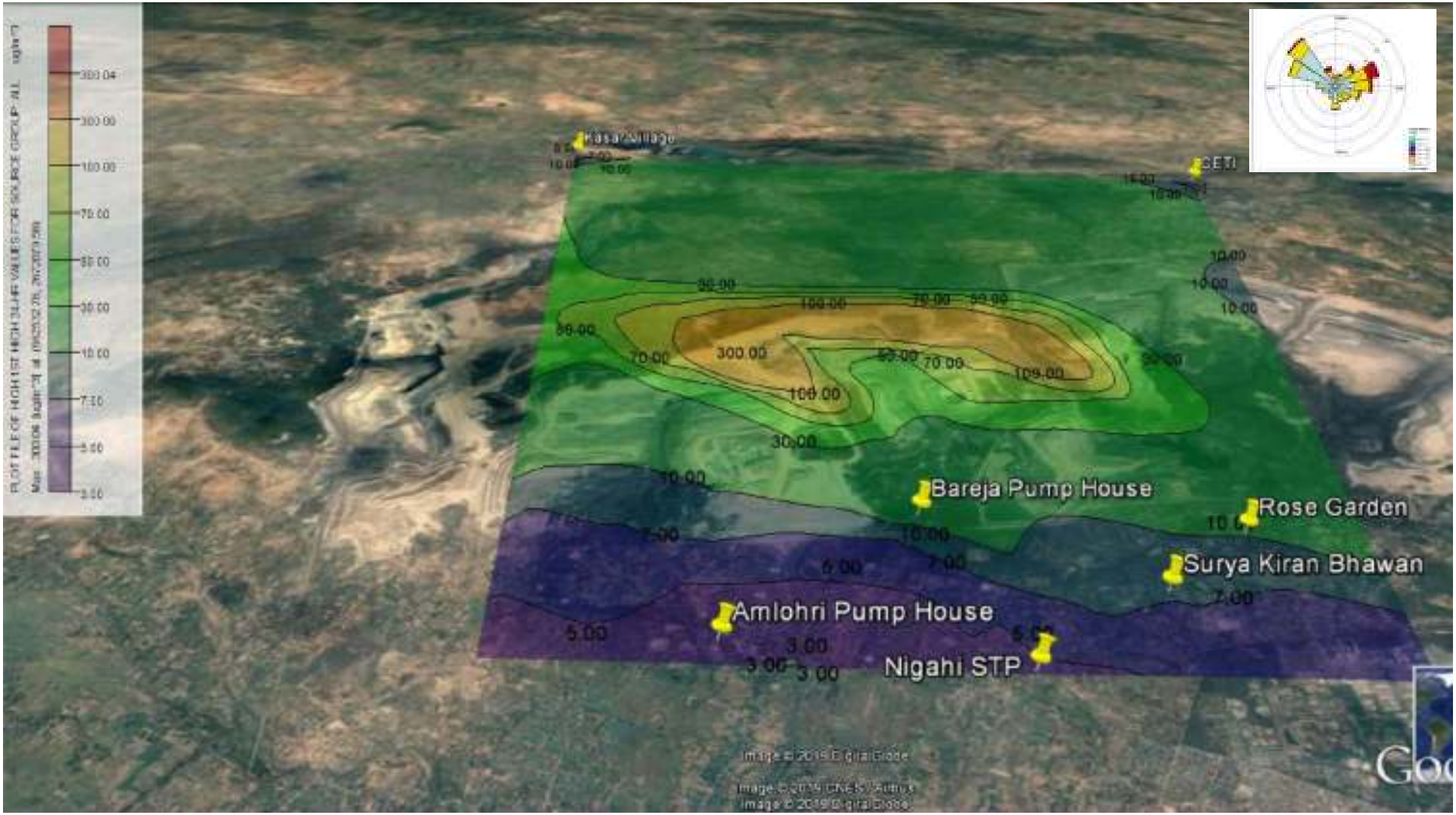
Predicted and Monitored 24 hourly average PM 2.5 Concentration Levels at various Receptors

Receptor	Distance from quarry edge in Km	24 hour average concentration in µg/m3			
		Incremental Concentration with control measures	Median values from routine environmental monitoring (March 18 to June'18)	Total predicted concentration with control measures	Permissible Limits
Nigahi STP	6.84	0.84	50	50.84	60*
Bareja Pump House	4.16	2.29	39	41.29	NA**
Surya Kiran Bhawan	6.30	1.90	62	63.90	60
Rose Garden	6.18	2.16	51	53.16	60
Amlohri Pump House	6.25	0.66	47	47.66	60
CETI	8.00	1.65	61	62.65	60
Kasar Village	8.00	0.92	47	47.92	60

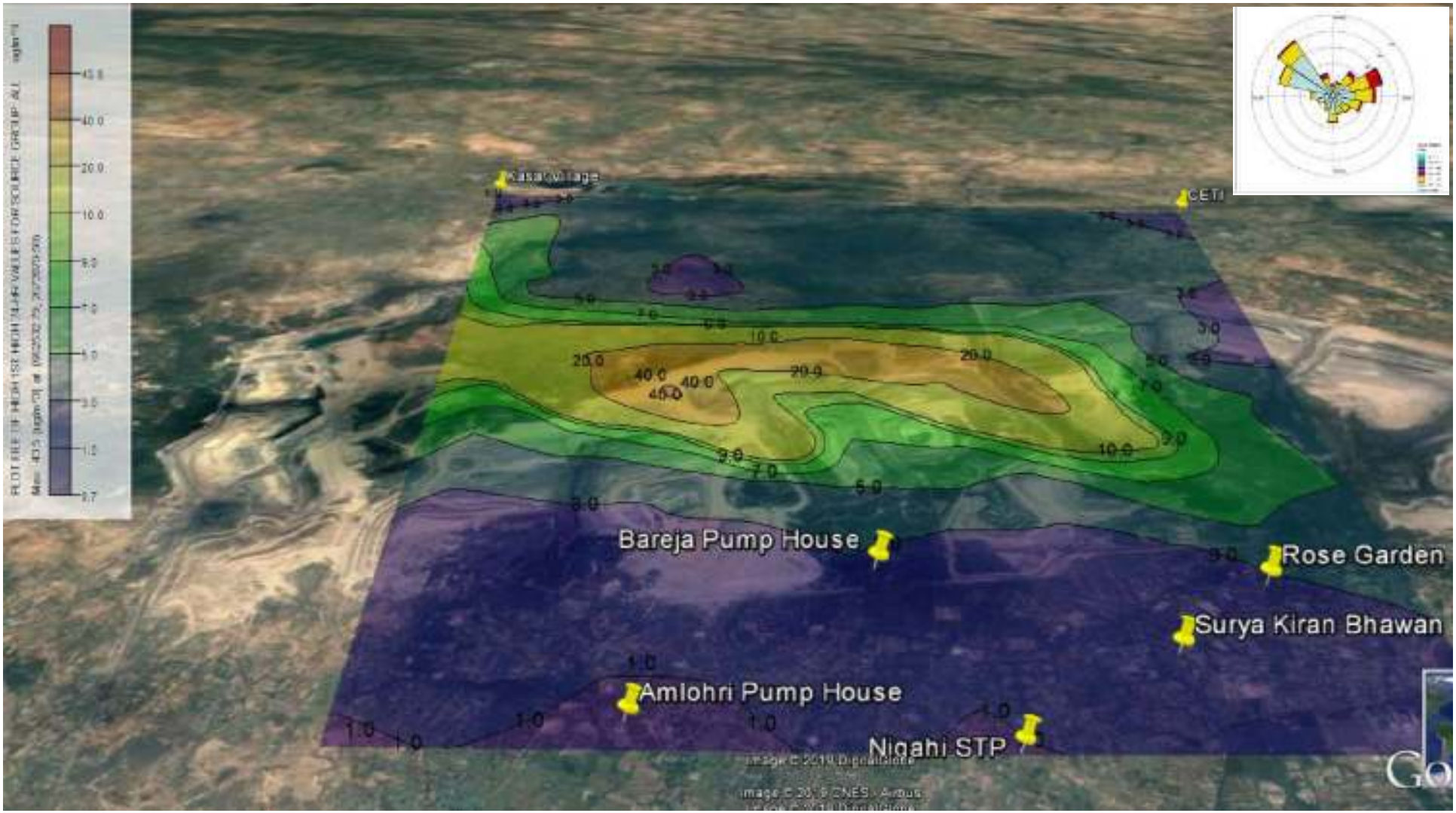
*** National Ambient Air Quality Standards**

**** Standards for coal mines for monitoring stations at a distance of 500 metres from dust generating source.**

Isopleth for incremental PM 10 for Nigahi OCP (18.75 to 21 Mtpa)



Isopleth for incremental PM 2.5 for Nigahi OCP (18.75 to 21 Mtpa)



ANNEXURE NO.-III

F. No J-11015/79/2013-IA.II
Government of India
Ministry of Environment, Forest and Climate Change
IA-II (Coal Mining) Division

Indira Paryavaran Bhawan
Jorbagh Road, N Delhi - 3
Dated: 12th October, 2018

To

The General Manager
NCL Nigahi Project
M/s Northern Coalfields Ltd.
Post Nigahi, District Singrauli - 486884 (MP)

Email: cgmngh@ncl.gov.in

Sub: Expansion of Nigahi Opencast Coal Mining Project of M/s Northern Coalfields Limited located in District Singrauli (MP) - Amendment in Environmental Clearance - reg.

Sir,

This refers to your letter No.NGH/GM/Env/MoEF/18/88 dated 26th July, 2018 along with online proposal No. IA/MP/CMIN/20464/2013 dated 28th July, 2018 on the above mentioned subject.

2. The Ministry of Environment, Forest and Climate Change has considered the proposal for amendment in environment clearance dated 19th March, 2015 granted by the Ministry to the project for expansion of Nigahi Opencast Coal mine from 15 to 18.75 MTPA of M/s Northern Coalfields Limited in mine lease area of 2650.40 ha located in District Singrauli (MP), excluding the forest land of 386 ha (having no forest clearance) from the total area of 3036.40 ha.

3. The stage-II forest clearance has been obtained vide this Ministry's letter dated 12th April, 2018 for diversion of 424.517 ha of forest land which includes 38.517 ha of area, earlier identified as tenancy land but turned out to be the forest after reassessment/compilation of land records. It is also proposed to carve out 18 ha of the forest land from the Nigahi OCP and to merge the same with the adjoining Jayant OCP for its expansion from 15.5 to 25 MTPA.

4. The amendment in environmental clearance has been sought for the mine lease area of Nigahi OCP to be increased from 2650.40 ha to 3018.40 ha i.e. (2650.40+386-18) ha.

Mining Plan for the Nigahi OCP including the progressive Mine Closure Plan has been revised accordingly and approved by the Board of M/s NCL on 21st June 2018.

5. The proposal was considered by the sectoral Expert Appraisal Committee (EAC) in the Ministry for Thermal & Coal Mining Sector in its 36th meeting held on 31st August, 2018.

The EAC, after detailed deliberations, has recommended for amendment in the environmental clearance dated 19th March, 2015 to the project for expansion of Nigahi Opencast Coal Mining Project from 15 to 18.75 MTPA, to effect increase in mine lease area from 2650.40 ha to 3018.40 ha, with the revised land use details as under-

S. No.	Land use	Area (ha)
1.	Forest land (including newly identified revenue forest land of 38.517 ha)	1280.517
2.	Government land	209
3.	Tenancy land	1528.883
	Total	**3018.40**

6. Based on recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords approval for amendment in the environmental clearance dated 19th March 2015 to the above said project, as stated in para 5 above.

7. All other terms and conditions stipulated in the environmental clearance dated 19th March 2015 shall remain unchanged.

12/10/2018

(S. K. Srivastava)
Scientist E

Copy to:

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi
2. The APCCF, MOEF&CC, Regional Office (EZ), E-5 Arera Colony, Bhopal - 462 016
3. The Secretary, Department of Environment & Forests, Government of Madhya Pradesh, Secretariat, Bhopal
4. The Member Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi -32
5. The Member Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi
6. The Member Secretary, Madhya Pradesh State Pollution Control Board, Paryavaran Parisar, E-5, Arera Colony, Bhopal - 462 016
7. The District Collector, Singrauli, Government of Madhya Pradesh
8. Monitoring File 9. Guard File 10. Record File 11. Notice Board

12/10/2018

(S. K. Srivastava)
Scientist E

No. J-11015/79/2013-IA.II (M)
Government of India
Ministry of Environment, Forests & Climate Change
IA-II Division (Coal Mining)

Indira Paryavaran Bhawan,
Jorbagh Road,
New Delhi-110003

Dated: 19th March, 2015

To,

The Chief General Manager
NCL Nigahi Project
M/s Northern Coalfields Ltd.,
District Sidhi,
Madhya Pradesh
Email: cgmnjh@ncl.gov.in

Sub.: Expansion (Under 7(ii) of EIA Notification, 2006) of Nigahi Opencast Expansion Coal Mining Project of (15 MTPA to 18.75 MTPA in an ML area of 2650.40 ha (3036.40 Ha – 386 Ha = 2650.40 ha); Latitude 24°07'30" to 24°10'58" N and Longitude 82°36'24" to 82° 39'28"E) of M/s Northern Coalfields Ltd., Dist. Singrauli, Madhya Pradesh - Environment Clearance - reg.

Sir,

This is with reference to letter no. NCL/SGR/Env./13/3995 dated 09.03.2013 along with the application for expansion of the production under section 7(ii) of the EIA Notification, 2006. Reference is also invited to the subsequent letter nos. dated 22.10.2013; 05.05.2014; 16.05.2014; 14.06.2014; 18.07.2014; 21.10.2014 and 26.02.2015 for environmental clearance on the above-mentioned subject.

2. The Ministry of Environment, Forests & Climate Change has considered the application. It is noted that the proposal is for grant of Environmental Clearance for **expansion (Under 7(ii) of EIA Notification, 2006) of Nigahi Opencast Expansion Coal Mining Project of (15 MTPA to 18.75 MTPA in an ML area of 2650.40 ha (3036.40 Ha – 386 Ha = 2650.40 ha); Latitude 24°07'30" to 24°10'58" N and Longitude 82°36'24" to 82° 39'28"E) of M/s Northern Coalfields Ltd., Dist. Singrauli, Madhya Pradesh.** The proposal was considered in the 7th EAC meeting held on 12th -13th December, 2013 and 17th EAC meeting held on 23rd – 25th July, 2014. The proponent has informed that:

i. Environment Clearance for 15 MTPA OCP was granted vide letter No. J-11015/235/2006-IA.II (M) dated 08.05.2007. Now, project proponent has applied for 25% expansion under 7(ii) of EIA Notification 2006 in line with the MOEF O.M. No. J-11015/30/2004-IA.II (M) dated 19.12.2012.

ii. Project is linked with Vindhyachal Super Thermal Power Station (NTPC). The existing Nigahi mine (15 MTY) is supplying coal to Vindhyachal STPS having a generation capacity of 3260 MW (6*210+4*500 MW units). The proposed expansion from 15 MTY to 18.75 MTY is to meet the demand of Vindhyachal STPS having proposed generation capacity upto 4260 MW (additional 2*500 MW units).

iii. The latitude and longitude of the project are 24°07'30" to 24°10'58" N and 82°36'24" to 82° 39'28"E respectively.

iv. The land usage of the project:

Pre-mining:

1	Forest land	1260.00 Ha
2	Tenancy Land	1567.40 Ha
3	Govt. Land	209.00 Ha
	Total	**3036.40 Ha**

Post Mining:

Land Use	Total Area in Ha	Post Mining Land Use (Area in Ha)			
		Forest/ Green Area	Water Body	Public Use	Others
Top Soil	1.5	Included in OB			
Undisturbed Land	165	165			
Mine Void	60		60		
Reclaimed O.B dump	1823	1823			
Infra-Structure	74			10	64
Colony	265			265	
Green Belt		335			
Road, Rail	74			74	
ETP, CHP	40.4				40.4
Others	200				200
Total	**3036.4**	**2323**	**60**	**349**	**304.4**

Core area:

1	Backfilled Area	1405 ha
2	Void /Water body	60.0 ha
	Total Excavation Area:	1665.0 ha

v. The total geological reserve is 561.71 MT. The mineable reserve 483.01 MT, extractable reserve is 483.01 MT. The per cent of extraction would be 86 %.

vi. The coal grade is G7, G11 and G14. The stripping ratio is 3.68 m^3/tone. The average Gradient is 2° to 3°. There will be four composite seams with thickness ranging from 4.0 m to 27.50 m.

vii. The total estimated water requirement is 13620 m^3/day. The level of ground water ranges from 1.12 m to 14.45 m bgl. A void of area 60 ha at a depth of average 40 m is proposed to be converted into a water body.

viii. The Method of mining would be Opencast with Shovel-dumper combination with Dragline.

ix. There are two external OB Dumps covering an area 418 ha with the height upto 150 m. The quantity will be 231 Mm3. There are four internal dumps covering an area 1405 ha. with the height upto 150 m (maximum from ground level). The quantity will be 1138 m3.

x. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.

xi. The **life of mine** is 24 Years.

xii. **Transportation:** Coal transportation in pit shall be by dumper, Surface to Siding by CHP and siding to loading through SILO and MGR.

xiii. There is no **R & R** involved. There are no PAFs.

xiv. **Cost:** Total capital cost of the project is Rs. 2078 Crores. CSR Cost Rs. 5.00 per tonne. No R&R Cost. Environmental Management Cost Rs. 4492.45 Lakhs.

xv. **Water body:** No river/nalla flowing adjacent to the proposed mine.

xvi. **Approvals:** Ground water clearance has not been obtained. Board's approval on 04.06.2005. Mining plan approval obtained for 15.0 MTPA approved on Oct.'2007. Mine Closure Plan obtained on 05.11.2011.

xvii. **Wildlife issues**: There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.

xviii. **Forestry issues:** Total forest area involved for mining is 1260 ha. FC has been granted for 874 ha of forest land (vide letter no. 8-62/86-FC Dated 18.06.1987). Balance forest land 386 ha for which Stage-I FC is not available.

xix. Total afforestation plan shall be implemented covering an area of 2158.0 ha at the end of mining. Green Belt over an area of 335 ha. Density of tree plantation 2500 trees/ ha of plants.

xx. There are no court **cases/violation** pending with the project proponent.

3. The proponent made the presentation and further informed that:

i. The moratorium has been lifted vide MOEF&CC letter no.]-11013/5/2010-IA.[[(I) dated 10.06.2014 from Singrauli area.

ii. The detailed action plan along with the budgetary provision for EC conditions of Nigahi OCP, for "partly/not complied" as per compliance report of Regional Officer, have been sent to Regional Office, MoEF Bhopal requesting him for certification and forwarding the same to MoEF, New Delhi.

iii. Study of zero discharge for Nigahi mine has been conducted and the report submitted to Regional Office, MoEF at Bhopal. Further, the zero discharge has also been implemented by construction of reservoirs and re-circulating system.

iv. The satellite image of the land use pattern along with analytical report has been submitted to Regional Officer MoEF, Bhopal. The satellite data of 2008 to 2012 indicated that plantation carried out on backfilled area,OB dumps as well as under social forestry in Nigahi mine of NCL has increased from 8.4 Sq. Km to 9.96 Sq. Km in span of four years. This increase of 1.56 Sq. Km (i.e. 18.57 %) area of plantation in four year's time is due to the efforts of the Project towards mine land reclamation.

v. The revised calendar plan for production has been submitted.

4. MoEF Regional Office, Bhubaneswar has submitted the certificate of compliance to the EC vide their letter no. 3-33/2008/(ENV)/1561 dated 23.09.2013. The EAC deliberated on the compliance report of the MoEF's Regional Office and noted the action plan submitted by the proponent which include the following:

i. Mining is being carried out only in the acquired land. At present mining is going on in 874 Ha of Forest land, which has the FC. In Mine Lease Area of 3036.40 ha, forest land is 1260 Ha. out of which 874 Ha has been acquired. The proposal for forest clearance for remaining 386 Ha is in process, which will be required for mining during 2017-18.

ii. 7 km. long retaining wall has been constructed till March 2012 and further 80 mt. long retaining wall has already been constructed by 15th November, 2013 and construction of additional 80 mtr of retaining wall is under process. All the AAQ parameters are within permissible limits at all the 5 stations of Nigahi OCP.

iii. More than 30 Lakh plants have been planted in nearly 800 Ha of land till date. The land which becomes available after dumps are finalized & backfilling is completed, is taken up for technical & biological reclamation.

iv. The ground water quality of 33 dug wells surrounding the mine area is already being monitored. No piezometer has been installed for which action has been taken. Tendering has been done in this regard.

v. A pond of 100 m X 150 m X 40 m. is under process in the township of Nigahi OCP which will help

in the recharging of ground water and surrounding village wells.

vi. Mine water is stored in ponds for use during summer days for dust suppression. Two Tanks each of size 138 cum is under construction for treated water of ETP, which will help in meeting the EC condition of the zero-discharge.

vii. 119 employees against the annual target of 616, have been medically examined for occupational disease and hearing impairment. No occupational disease patient was found till date at Nigahi Project. However a team from NIOH, Ahmadabad is expected in January 2014 for the study.

viii. Water sprinkling arrangements on haul road with 13 water tanker (28 KL capacity) and water springing arrangements at receiving pit, transfer point, wagon loading etc. is done for fugitive dust control, which is also reflected in one year AAQ data. The no. of water tankers has been increased from 11 to 14 in the last four years.

5. The compliance report was deliberated earlier in the EAC which observed with concern that several EC conditions have not been complied with and asked the proponent to submit the action plan. The proponent has presented the compliance report to the earlier EC conditions visi-a-vis the Action Plan.

i. The target for construction of retaining wall in the year 2014-15 is for a length of 160 m (approx.) with a budgetary provision of Rs. 70.0 lakh (approx.). The work will be completed in the current Financial Year.

ii. Additional 2 nos. of mobile water sprinkler of 60/70 KL capacity for a cost of Rupees 2.4 Crores (approx.) each is under procurement at a total cost of Rs. 4.8 Crores.

iii. Fixed water sprinkling system for a length of 1.6 Km of Haul Road length will be established in the current financial year (2014-15).

iv. The mine is in operation as per the plan. Balance 60 ha of decoaled area shall be converted into water body.

v. The construction of piezometers shall be done in the current financial year and the budget provision of Rs.2.05 Cr. (for NCL) has been kept for this job.

vi. Two Rain water harvesting structures near Delhi Public School and area covering Union Bank of India, Post Office and Nigahi Dispensary in residential area with a budgetary support of Rs.4.87 Lakhs.

vii. One water recharging reservoir behind cluster 5, C- Type of Nigahi Township (Area - 1.68 Ha.) with a budgetary support of Rs.44.43lakhs.

viii. The CMPDI report on zero discharge study at Nigahi Opencast Project has been sent to Regional Office, Western Region, MOEF.

ix. Proposal from NIOH, Ahmedabad has been received for conducting health study in various projects of NCL including Nigahi Opencast Project at a cost of Rs. 27 Lakhs. This is in process of finalization.

6. Out of the total ML area is 3036.40 Ha, of which forest land is 1260 Ha. FC has been granted for diversion of 874 Ha of forest land vide letter No. 8-62/86-FC Dated 18.06.1987 by MoEF. The FC for 386 Ha forest land is not available. Therefore, EC for ML area of 1181.968 Ha (3036.40 Ha – 386 Ha – 2650.40 ha) – 2650.40 Ha. may be granted. In this regard, you are required to follow the guidelines issued by the FC Division of the Ministry of Environment and Forests vide no. 11-362/2012-FC dated 01-02-2013 "Guidelines for diversion of forest land for non-forest purposes under the Forest (Conservation) Act 1980. Submission of proposals to obtain forest land located within the mining lease and grant of environment clearance to mining projects" addressed to the Principal Secretary (Forests), Principal Secretary (Environment) of all the States/UT Govts. and copy to concerned Government Departments/Organisations which prescribes, inter-alia, the following:

" (iii) As regards Environment Clearance (EC) cases of existing mining operations, where approval under the FC Act for the full forest area in the mining lease area is not available

granting of EC may be considered and the following process will be adopted for processing such cases:

i Grant of EC may be considered only for the non-forest area plus the forest area within the mining lease for which FC is available. No mining activities will be allowed in forest area for which the FC is not available; and

ii The project proponent will seek and obtain approval under the FC Act for diversion of the entire forest land located within the mining lease within a period of two years from the date of issue of these guidelines, failing which the mining lease area will be reduced to the non-forest area plus the forest area for which the project proponent has been able to obtain the FC at the end of this time period. In the case of reduction in mine lease area, the project proponent will need to get a revised mining plan approved from the competent authority for reduced area and enter into a new mining lease as per reduced lease area. The EC will be construed to be available for the mining lease area as per the revised mining lease deed."

7 The proposal was reconsidered in the Expert Appraisal Committee (EAC) (Thermal & Coal Mining) and recommended in its 17th EAC meeting held on 23rd – 25th July, 2014 for granting Environmental Clearance. The Ministry of Environment, Forests & Climate Change hereby accords environmental clearance for the above-mentioned **Expansion (Under 7(ii) of EIA Notification, 2006) of Nigahi Opencast Expansion Coal Mining Project of (15 MTPA to 18.75 MTPA in an ML area of 2650.40 ha (3036.40 Ha – 386 Ha = 2650.40 ha); Latitude 24°07'30" to 24°10'58" N and Longitude 82°36'24" to 82° 39'28"E) of M/s Northern Coalfields Ltd., Dist. Singrauli, Madhya Pradesh** under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments thereto subject to the compliance of the terms and conditions mentioned below. You will need to seek and obtain approval under the FC Act for diversion of the entire forest land located within the mining lease within a period of two years from the date of issue of these guidelines (i.e. 01 February, 2013), failing which the mining lease area will be reduced to the non-forest area plus the forest area for which you have been able to obtain the FC at the end of this time period. In the case of reduction in mine lease area, you will need to get a revised mining plan approved from the competent authority for reduced area and enter into a new mining lease as per reduced lease area. The EC will be construed to be available for the mining lease area as per the revised mining lease deed.

A. Specific Conditions:

i. The maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC.
ii. No mining operations shall be undertaken of forestland until prior clearance has been obtained under the provisions of FC Act, 1980.
iii. The validity of the EC is for the life of the Mine or as specified in the EIA Notification, 2006, whichever is earlier.
iv. The construction of retaining wall shall be completed during the Financial Year 2014-15. For a length of 160 m.
v. Additional 2 nos. of mobile water sprinkler of 60/70 KL capacity shall be completed during 2014-2015.
vi. Two Rain water harvesting structures shall be installed.
vii. One water recharging reservoir shall be installed.
viii. The recommendations of the Health study conducted by NIOH, Ahmedabad shall be implemented.
ix. Fixed water sprinkling system for a length of 1.6 Km of Haul Road length shall be undertaken financial year 2014-15.
x. The action plan as recommended in the Report of SPCB in the CEPI report shall be implemented.

xi. Piezometers shall be installed at the level of aquifer in the selected villages within three months.

xii. The project authorities shall carry out a study for zero discharge from NCL mines by considering various options for using excess treated effluents including artificial recharge and the report on the same shall be submitted to this Ministry within six months of issue of this clearance letter.

xiii. Coal transportation in pit shall be by dumper, Surface to Siding by CHP and siding to loading through SILO and MGR.

xiv. Major approach roads and haul roads shall be metal topped.

xv. The production shall be within the same Mining Lease area.

xvi. The OB shall be completely re-handled at the end of the mining. The land after mining shall be brought back for agriculture purpose.

xvii. Final mine void depth will not be more than 40 m. The void area will be converted into water body. The rest of the area will be back filled upto the ground level and covered with about a meter thick top soil and put to use.

xviii. Garland drains be provided.

xix. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine.

xx. Mine water should be treated for discharge into the lagoon. The quality of lagoon water shall be regularly monitored and mitigation measures taken.

xxi. The CSR cost should be Rs 5 per Tonnes of Coal produced which should be adjusted as per the annual inflation.

xxii. Everybody in the core area should be provided with mask for protection against fugitive dust emissions.

xxiii. People working in the core area should be periodically tested for the lung diseases and the burden of cost on account of working in the coal mine area.

xxiv. The mining area should be surrounded by green belt having thick closed thick canopy of the tree cover.

xxv. The embankment constructed along the river boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side and stabilised with plantation so as to withstand the peak water flow and prevent mine inundation.

xxvi. There shall be no overflow of OB into the river and into the agricultural fields and massive plantation of native species shall be taken up in the area between the river and the project.

xxvii. OB shall be stacked at two earmarked external OB dumpsite(s) only. The ultimate slope of the dump shall not exceed 28°. Monitoring and management of existing reclaimed dumpsites shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forests & Climate Change and its concerned Regional office on yearly basis.

xxviii. Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilised for watering the mine area, roads, green belt development, etc. The drains shall be regularly desilted and maintained properly. Garland drains (size, gradient and length) and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material.

xxix. Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation shall be based on the rainfall data.

xxx. Crushers at the CHP of adequate capacity for the expansion project shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc.

xxxi. Drills shall be wet operated.

xxxii. The project authorities shall undertake regular repairing and tarring of roads used for mineral transportation. A 3-tier green belt comprising of a mix of native species shall be developed all along the major approach roads.

xxxiii. Controlled blasting shall be practiced with use of delay detonators and only during daytime. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.

xxxiv. A Progressive afforestation plan shall be implemented covering an area of 2158.0 ha at the end of mining, which includes reclaimed External OB dump area (418 ha), Internal OB dump area (1405 ha) and Green belt (335 ha) and in township located outside the lease by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha. Massive plantation shall be carried out in open spaces in and around the mine and a 3-tier avenue plantation along the main approach roads to the mine.

xxxv. An estimated total 1776.65 Mm^3 of OB will be generated during the entire life of the mine. Out of which 231 Mm^3 of OB will be dumped in two external OB Dumps an earmarked area covering 418 ha of land. 1545.65 Mm3 of will be dumped in four internal OB dump in covering an area of 1405 ha. The maximum height of external OB dump for hard OB will not exceed 90 m and that for soft OB shall not exceed 60 m. The maximum slope of the dump shall not exceed 28 degrees. Monitoring and management of reclaimed dump sites shall continue till the vegetation becomes self- sustaining and compliance status shall be submitted to MOEFCC and its Regional Office on yearly basis.

xxxvi. The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.

xxxvii. Compensatory Ecological & Restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land be carried out.

xxxviii. The mining should be phased out in sustainable manner. No extra over burden dumps are permitted.

xxxix. No groundwater shall be used for mining operations.

xl. Of the total quarry area of 1665 ha. the backfilled quarry area of 1405 ha shall be reclaimed with plantation and a void of 60 ha at a depth of 30-40 m which is proposed to be converted into a water body shall be gently sloped and the upper benches shall be terraced and stabilised with plantation/afforestation by planting native plant species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.

xli. Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment, Forests & Climate Change and tot eh Central Pollution Control Board quarterly within one month of monitoring.

xlii. The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring indicates a decline in water table. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.

xliii. Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.

xliv. Besides carrying out regular periodic health check-up of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, through an specialised agency /institution within the District/State and the results reported to this Ministry and to DGMS.

xlv. Land oustees shall be compensated as per the norms laid out R&R Policy of CIL or the National R&R Policy or R&R Policy of the State Government whichever is higher.

xlvi. For monitoring land use pattern and for post mining land use, a time series of land use maps, based on satellite imagery (on a scale of 1: 5000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in 3 years (for any one particular season which is consistent in the time series), and the report submitted to MOEFCC and its concerned Regional office.

xlvii. A detailed Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment, Forests & Climate Change within 6 months of grant of Environmental Clearance.

xlviii. The project authorities shall in consultation with the Panchayats of the local villages and administration identify socio-economic and welfare measures under CSR to be carried out over the balance life of the mine.

xlix. Corporate Environment Responsibility:

a) The Company shall have a well laid down Environment Policy approved by the Board of Directors.

b) The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.

c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.

d) To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.

B. General Conditions

i. No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment, Forests & Climate Change.

ii. No change in the calendar plan of production for quantum of mineral coal shall be made.

iii. Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM_{10}, $PM_{2.5}$, SO_2 and NOx monitoring. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc carried out at least once in six months.

iv. Data on ambient air quality (PM_{10}, $PM_{2.5}$, SO_2 and NO_x) and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly submitted to the Ministry including its concerned Regional Office and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognised under the EPA rules, 1986 shall be furnished as part of compliance report.

v. Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs.

vi. Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31st December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.

vii. Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.

viii. Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analysed through a laboratory recognised under EPA Rules, 1986.

ix. Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.

x. Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed and records maintained thereof. The quality of environment due to outsourcing and the health and safety issues of the outsourced manpower should be addressed by the company while outsourcing.

xi. A separate environmental management cell with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the company.

xii. The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its concerned Regional Office

xiii. The Project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution control Board and may also be seen at the website of the Ministry of Environment, Forests & Climate Change at http://envfor.nic.in.

xiv. A copy of the environmental clearance letter shall be marked to concern Panchayat/Zila Parishad, Municipal Corporation or Urban local body and local NGO, if any, from whom any suggestion/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on company's website.

xv. A copy of the environmental clearance letter shall be shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Sector and Collector's Office/Tehsildar's Office for 30 days.

xvi. The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated environmental clearance conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in public domain. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM_{10}, $PM_{2.5}$, SO_2 and NO_x (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.

xvii. The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the Ministry, respective Zonal Office s of CPCB and the SPCB.

xviii. The Regional Office of this Ministry located in the Region shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/ information/monitoring reports.

xix. The Environmental statement for each financial year ending 31 March in For –V is mandated to be submitted by the project proponent for the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MoEF&CC by e-mail.

8. The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during their presentation to the EAC.

9. The commitment made by the Proponent to the issue raised during Public Hearing shall be implemented by the Proponent

10. The proponent is required to obtain all necessary clearances/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

11. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

12. The Proponent shall setup an Environment Audit cell with responsibility and accountability to ensure implementation of all the EC Conditions.

13. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

14. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India/ High Courts and any other Court of Law relating to the subject matter. The proponent shall ensure to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of groundwater and surface water, and occupational and other diseases due to the mining operations.

15. Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

16. This EC supersedes the earlier EC, vide letter no. J-11015/235/2006-IA.II (M) dated 08.05.2007 for 15 MTPA within same mining lease area.

17. EC would be subject to the final order of the Supreme Court Judgement dated 24th February, 2014 in the matter.

(Dr. R. Warrier)
Director

Copy to:

1. Secretary, Ministry of Coal, New Delhi.
2. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, E-2/240 Arera Colony, Bhopal 462016.
3. Secretary, Department of Environment & Forests, Government of Madhya Pradesh, Secretariat, Bhopal.
4. Member Secretary, Madhya Pradesh State Pollution Control Board, Kalapataru Point, 3rd & 4th Floors, Sion, Matunga Scheme Road No. 8, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E), Mumbai – 400002.
5. Member Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, New Delhi -110032.
6. Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
7. District Collector, Chandrapur, Government of Madhya Pradesh.
8. EI Division, Ministry of Environment & Forests, New Delhi
9. Monitoring File 10. Guard File 11. Record File 12. Notice Board

(Dr. R. Warrier)
Director

Annexure No.-III

ANNEXURE NO.-IV

F. No. 8-26/2015-FC
Government of India
Ministry of Environment, Forests and Climate Change
(Forest Conservation Division)
****

Indira Paryavaran Bhawan
Aliganj, Jorbagh Road
New Delhi – 110 003
Dated: 12th April, 2018

To,

The Principal Secretary (Forests),
Department of Forest & Environment,
Government of Madhya Pradesh,
Bhopal.

Sub: Diversion of 424.517 ha of forest land in favour of M/s. Northern Coalfields Limited for mining of coal in Nigahi Open Cast mining in Singrauli District in the State of Madhya Pradesh.

Sir,

I am directed to refer to the Addl. Principal Chief Conservator of Forests (Land management) and Nodal Officer, the Forest (Conservation) Act, 1980, Government of Madhya Pradesh's letter No. F-1/732/2014/10-11/1773 dated 01.08.2015 on the above-mentioned subject, seeking prior approval of the Central Government under Section-2 of the Forest (Conservation) Act, 1980. After careful examination of the proposal and recommendations made thereof by the Forest Advisory Committee constituted under Section-3 of the said Act, 'in-principle' approval was granted vide this Ministry's letter of even number dated 13.09.2017 subject to fulfillment of certain conditions prescribed therein. The State Government has furnished compliance report in respect of the conditions stipulated in the **'in-principle'** approval and requested the Central Government to grant final approval to the proposal.

2. In this connection, I am directed to say that on the basis of the compliance report furnished by the Addl. PCCF & Nodal Officer (FCA), State Government of Madhya Pradesh vide his letters no. F-1/732/2014/10-11/490 Bhopal dated 20th February, 2018 and No. F-1/732/2014/10-11/894 Bhopal dated 24.03.2018, final approval ***(Stage - 2)*** of the Central Government is hereby granted under Section -2 of the Forest (Conservation) Act, 1980 for diversion of 424.517 ha of forest land in favour of M/s. Northern Coalfields Limited for mining of coal in Nigahi Open Cast mining in Singrauli District in the State of Madhya Pradesh, subject to following conditions:

(i) Legal status of the diverted forest land shall remain unchanged;

(ii) Compensatory afforestation over the degraded forest land of 1274.00 ha. (twice in extent to the area of forest land proposed to be diverted (2 x 424.517 = 849.034) 849.034 ha.+424.517 ha. -additional compensatory afforestation in degraded forest area of Singrauli District in order to compensate the environmental losses = 1273.551 say 1274.00 ha. (excluding the area which is under encroachment) -of degraded forest land shall be raised within a period of three years with effect from the date of issue of Stage-II clearance and maintained thereafter as per approved plan by the State Forest

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Department from the funds of Rs. 583008105/- deposited in Ad-hoc CAMPA Account by the User Agency;

(i) Following activities, as per approved plan/schemes, shall be implement by the user agency under the supervision of the State Forest Department.

(a) Mitigative measures to minimize soil erosion and choking of streams shall be implemented in accordance with the approved Plan in consultation with the State Forest Department.

(b) Planting of adequate drought hardy plant species and sowing of seeds, in the appropriate area within the mining lease to arrest soil erosion in accordance with the approved scheme;

(c) Construction of check dams, retention /toe walls to arrest sliding down of the excavated material along the contour in accordance with the approved scheme;

(d) Stabilize the overburden dumps by appropriate grading/benching, in accordance with the approved scheme, so as to ensure that that angles of repose at any given place is less than 28°; and

(e) No damage shall be caused to the top-soil and the user agency will follow the top soil management plan.

(iii) The user agency shall pay the additional amount of NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India;

(iv) The User agency shall obtain the Environment Clearance as per the provisions of the Environmental (Protection) Act, 1986, if required;

(v) The State Government shall ensure that the user agency shall not utlize three patches of Very Dense forests at the western end of the proposed area for mining and the area will be preserved as safety Zone considering the richness of the forests;

(vi) The State Government shall ensure the user agency do not carry out mining in the following area, being VDF patches, for which coordinates are as follows:

a) **Patch 1:** situated between 24°10'7.81"N-24°10'10.63"N Latitude and 82°36'46.02"E 82°36'46.93"E Longitude.

b) **Patch 2:** situated between 24°10'10.45"N- 24°10'14.32"N Latitude and 82°36'52.36"E- 82°36'49.51"E Longitude.

c) **Patch 3:** situated between 24°10'41.18"N- 24°10'37.02"N Latitude and 82°36'59.68"E- 82°36'56.02"E Longitude.

(vii) The State Government shall ensure the User Agency implements the R&R Plan as per the R&R Policy of State Government in consonance with National R&R Policy, Government of India before the commencement of the project work and implementation. The said R&R Plan will be monitored by the State Government/Regional Office of MoEF &CC along with indicators for monitoring and expected observable milestones;

(viii) The user agency shall ensure surrendering of biologically reclaimed forest land is surrendered to the State Forest Department as per the land surrender schedule prepared by them in accordance with the existing mine plan and progressive mine closure plan;

(ix) User agency in consultation with the State Forest Department shall create and maintain alternate habitat/ home for the avifauna, whose nesting trees are to be cleared in this

project. Bird nests artificially made out of eco-friendly materials shall be used in the area, including forest area and human settlements, adjoining the forest area being diverted for the project;

(x) User agency either himself or through the State Forest Department shall undertake fencing, protection and afforestation of the safety zone area (7.5 meter strip all along the outer boundary of the area identified to undertake mining), at the project cost;

(xi) User agency either himself or through the State Forest Department shall undertake afforestation on degraded forest land, one and half time in extent to the area used for safety zone as per the scheme approved by the Chief Conservator of Forests, Singrauli;

(xii) Period of diversion of the said forest land under this approval shall be for a period co-terminus with the period of the mining lease proposed to be granted under the Mines and Minerals (Development and Regulation) Act, 1957, as amended and the Rules framed there-under;

(xiii) User agency either himself or through the State Forest Department shall undertake gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests (having crown density less than 0.4), if any, located in the area within 100 meters from outer perimeter of the mining lease;

(xiv) User agency shall undertake de-silting of the village tanks and other water bodies located within five km from the mine lease boundary so as to mitigate the impact of siltation of such tanks/water bodies, whenever required;

(xv) User agency shall undertake mining in a phased manner and take due care for reclamation of the mined over area. The concurrent reclamation plan shall be executed by the User Agency as per the approved mining plan/scheme and an annual report on implementation thereof shall be submitted to the Nodal Officer, Forest (Conservation) Act, 1980, Government of Madhya Pradesh and the Addl. Principal Chief Conservator of Forests (Central), Ministry of Environment & Forests, Regional Office (western Zone), Bhopal. If it is found from the annual report that the activities indicated in the concurrent reclamation plan are not being executed by the user agency, the Nodal Officer or the Addl. Principal Chief Conservator of Forests (Central) may direct that the mining activities shall remain suspended till such time, such reclamation activities are satisfactorily executed;

(xvi) No labour camp shall be established on the forest land;

(xvii) User agency shall provide firewood preferably alternate fuel to the labourers and the staff working at the site so as to avoid any damage and pressure on the adjacent forest areas;

(xviii) Boundary of the mining lease and safety zone shall be demarcated on ground at the project cost, by erecting four feet high reinforced cement concrete pillars, each inscribed with its serial number, forward and back bearing and distance from pillar to pillar;

(xix) Forest land shall not be used for any purpose other than that specified in the proposal;

(xx) The user agency shall submit the annual self-compliance report in respect of the above conditions to the State Government and to the concerned Regional Office of the Ministry regularly.

(xxi) Any other condition that the Regional Office (Western Zone), Bhopal of this Ministry, Bhopal may stipulate, from time to time, in the interest of conservation, protection and development of forests & wildlife; and

(xxii) The State Government and user agency shall ensure compliance to all conditions stipulated in the Stage-I approval for which undertakings have been obtained from the user agency and also the provisions of the all Acts, Rules, Regulations and Guidelines, for the time being in force, as applicable to the project.

Yours faithfully,

(Nishceth Saxena)
Sr. Assistant Inspector General of Forests (FC)

Copy to:-

1. The Principal Chief Conservator of Forests, Government of Madhya Pradesh, Bhopal.
2. The Addl. PCCF (Central), Regional Office (Western Zone), Bhopal.
3. The Nodal Officer, the Forest (Conservation) Act, 1980, Government of Madhya Pradesh, Bhopal.
4. User Agency.
5. Forest Conservation Monitoring Cell, FC Division, MoEF, New Delhi.
6. Guard File.

(Nishceth Saxena)
Sr. Assistant Inspector General of Forests (FC)

ANNEXURE NO.-IV

No.8-62/86-FC
Government of India
Ministry of Environment & Forests
Deptt. of Environment, Forests & Wildlife

.....

New Delhi, 18th June 1987

To
The Secretary,
Forest Department,
Govt. of Madhya Pradesh,
B H O P A L

Sub:- Diversion of 874.146 ha. of forest land in Sidhi District for grant of surface rights for mining of coal to Central Coalfields Limited (Singhi Project).

Sir,

I am directed to refer to your letter No. F1/1/144/81/10/1 dated 4th August, 1986 on the above subject mentioned subject seeking prior approval of the Central Govt. in accordance with Section 1 of the Forest(Conservation) Act 1980.

2. The proposal has been examined by the Advisory Committee constituted by the Central Government under Section 3 of the aforesaid Act.

3. After careful consideration of the proposal of the State Government and on the basis of the recommendations of the above mentioned Advisory Committee, the Central Govt. hereby conveys its approval under Section 3 of the Forest(Conservation) Act 1980 for release of 874.146 ha. of forest land in Sidhi District for mining of Coal to Central Coalfields Ltd. subject to the following conditions:-

i) The compensatory afforestation will be raised on 874.146 ha. of non-forest land and this non-forest land will be handed over to the Forest Deptt. for afforestation before starting the work in the proposed area. In addition to above, compensatory afforestation will also be raised over 1784.292 ha. of degraded forest land.

ii) The clearance will be withdrawn if the disciplinary action is not completed within six months from the date of approval.

iii) Legal status of the forest to remain unchanged.

iv) Mined over area to be reclaimed/restored after mining/quarrying is over

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v) In order that the construction labour and staff while working on the project in the forest area may not cause destruction to the forest area for meeting their fuelwood needs, the agency will establish fuelwood depots and will provide the fuelwood to them free of cost or its cost deducted from their salary & wages.

vi) Arrangements to be made by the project authorities for free supply of fuelwood or other sources of energy to the staff and labourers engaged in the project free of cost.

vii) No explosive should be allowed to stored in the forest area.

viii) The conditions/safeguards proposed while clearing the project from environment angle to be followed strictly.

Sd/-
(R.S. BISHT)
UNDER SECRETARY TO THE GOVT. OF INDIA

Copy to:-

1. The Chief Conservator of Forests, Govt. Madhya Pradesh, Bhopal.

2. Shri K.P. Nagaraja, Conservator of Forest(Central) Regional Office(Central zone), plot No. B-1/187, Arera Colony, Bhopal(MP).

3. Director, Impact Assessment Division, Deptt. of Environment, Forests & Wildlife.

4. Joint Secretary, Ministry of Energy, Deptt. of Coal,(Shri N.R. Krishnan), New Delhi.

5. Guard file.

Sd/-
(R.S. BISHT)
UNDER SECRETARY TO THE GOVT. OF INDIA.

ANNEXURE NO.-IV

मध्य प्रदेश शासन
वन विभाग

क्रमांक एफ-5/146/85/10/3 भोपाल, दिनांक 7 जुलाई 1988

प्रति,

मुख्य वन संरक्षक(विकास)
म0प्र0 भोपाल।

विषय:- नार्दन कोल फील्ड्स लिमि0 को सीधी जिले में निगाही प्रोजेक्ट में खुली कोयला खदान हेतु 874.146 हैक्टर वन भूमि पर उपरितल अधिकार की स्वीकृति।

संदर्भ :- (1) नार्दन कोल फील्ड्स लिमि0 के पत्र क्र0एन.सी./खार/देव/1-44/1491, दिनांक 22/12/87।
(2) मुख्य वन संरक्षक(विकास) के आपन क्र0/मु.प्रबंध/वृक्षद अनिज/48/361, दिनांक 12-1-88।
(3) नार्दन कोल फील्ड्स लिमि0के पत्र क्र0 सिंगरौली/राजस्व/1-37/87-88, दिनांक 9-1-88।

प्रकरण में शासन के समतुल्य पत्र दिनांक 19-3-86 से भारत सरकार को प्रेषित प्रस्ताव पर भारत सरकार के पत्र क्रमांक 8-62/86-एफ.सी. दिनांक-18-6-87 से प्राप्त अनुमति के आधार पर तथा उपरोक्त संदर्भित पत्रों द्वारा भारत सरकार से लगाई शर्तों को पूर्ण करने की स्थिति में शासन द्वारा पूर्व सीधी वन मंडल की 874.146 हैक्टर आरक्षित एवं संरक्षित वन भूमि निगाही कोयला परियोजना हेतु कोयला उत्खनन एवं डम्पिंग कार्य के लिए स्वीकृति लीज अवधि में नार्दन कोल फील्ड्स लिमि0 सिंगरौली कालरी जिला सीधी को निम्नांकित शर्तों पर उपरितल अधिकार पर देने की स्वीकृति प्रदान की जाती है :-

(1) वन भूमि का वैधानिक स्वरूप परिवर्तित नहीं होगा। भूमि पर स्वत्वाधिकार वन विभाग का ही रहेगा। संस्थान को केवल वन भूमि के उपयोग का अधिकार रहेगा।

(2) संस्थान से प्राप्त वृक्षारोपण राशि से प्राप्त समतुल्य राजस्व भूमि तथा दूने बिगड़े वन क्षेत्र 1748.292 हैक्टर पर वृक्षारोपण किया जावे। प्रस्तावित राजस्व भूमि का पहले अधिकार प्राप्त करें व उसे वन भूमि घोषित करने संबंधी अधिसूचना शासन को शीघ्र प्रेषित की जावे।

(3) वन क्षेत्र पर खड़े वृक्षों का विदोहन वन विभाग द्वारा किया जाने उपरान्त वन भूमि संस्थान को उपयोग पर दी जावेगी ।

(4) कोयले का पूर्ण भंडार पता लगाकर निकाल लेने के पश्चात् उत्खनित क्षेत्र को भरा जावे तथा पूर्वत: स्थिति में किया जावे ।

(5) कार्यरत अवधि में श्रमिकों/कर्मचारियों के द्वारा निकटस्थ वन को कोई क्षति नहीं पहुंचाई जाये इस सम्भावना से बचने के लिए संस्थान द्वारा श्रमिकों/कर्मचारियों को जलाऊ लकड़ी का डिपो खोलकर नि:शुल्क जलाऊ लकड़ी/ईंधन उपलब्ध कराया जाय या उनके पराश्रमिक से उपलब्ध कराये गये ईंधन की कीमत वसूल की जावे ।

(6) वन क्षेत्र में बारूद का प्रज्ञारण नहीं किया जावे ।

(7) पर्यावरण स्वीकृति में सुरक्षात्मक जो उपाय सुझाये गये हैं, उनका पूर्णत: पालन किया जाय ।

(8) इस वन क्षेत्र में वन संरक्षण अधिनियम का उल्लंघन करने वाले दोषी अधिकारियों के विरुद्ध भारत शासन पर्यावरण व वन मंत्रालय के पत्र क्र0 8-62/86-एफ.सी. दिनांक 20-4-88 में दिए गये निर्देशानुसार समुचित कार्यवाही कर उसकी सूचना 3 माह के भीतर दी जाए अन्यथा यह स्वीकृति निरस्त की जा सकेगी ।

(9) संस्थान से लिखित बंधन पत्र लिया जावे कि वन विभाग द्वारा इस संबंध में भविष्य में भी यदि कोई शर्तें निर्धारित की जाती है तो संस्थान उन्हें मानने के लिए बाध्य होगा ।

मध्यप्रदेश के राज्यपाल के नाम से
तथा आदेशानुसार

(आलोक मसीह)
अवर सचिव
मध्यप्रदेश शासन, वन विभाग,
भोपाल, दिनांक 7 जुलाई 1988;

पृ0क्र0एफ-3/146/85/10/3

प्रतिलिपि:-

1- महाप्रबंधक, उत्तरी कोयला खदान सिंगरौली पो0 सिंगरौली कानरो जिला सीधी (म0प्र0)

2- प्रमुख सचिव, म0प्र0 शासन पर्यावरण साधन विभाग भोपाल;

...3/-

ANNEXURE NO.-IV

(3) जिलाध्यक्ष,सीधी,को अधिसूचित कर निवेदन है कि प्रस्तावित राजस्व भूमि का कब्जा वन विभाग को सरकार है।

(4) वन संरक्षक,ईवा वृत्त,रीवा।

(5) वन मंडलाधिकारी पूर्व सीधी वन मंडल सीधी सामान्य मo प्रo को अधिसूचित कर निर्देशित किया जाता है कि राजस्व भूमि का शीघ्र प्राप्त कर उसे वन भूमि घोषित करने संबंधी अधिसूचना मुख्य वन संरक्षक (विकास) को शीघ्र भेजें।

अपर सचिव
मध्यप्रदेश शासन, वन विभाग।

सि0-7788।

ANNEXURE NO.-IV

PUBLISHED IN PART II SECTION 3 SUB-SECTION(ii)
OF THE GAZETTE OF INDIA dt. 20.2.82

GOVERNMENT OF INDIA(BHARAT SARKAR)
MINISTRY OF ENERGY (OORJA MANTRALAYA)
DEPARTMENT OF COAL(KOYAL VIBAGH)

New Delhi, the 4 - 2 - 1982

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NOTIFICATION

S.O. WHEREAS by the notification of the Government of India in the Ministry of Steel, Mines and Coal (Department of Coal) No.S.O.1251 dated the 3rd May, 1980, under sub-section (1) of section 7 of the Coal Bearing Areas (Acquisition and Development) Act, 1957 (20 of 1957), the Central Government gave notice of its intention to acquire the lands specified in the Schedule appended to that notification:

AND WHEREAS the competent authority, in pursuance of section 8 of the said Act, has made his report to the Central Government;

AND WHEREAS the Central Government, after considering the report aforesaid and, after consulting the Government of Madhya Pradesh, is satisfied that the land measuring 18082.00 acres (approximately) or 7317.42 hectares (approximately) described in the Schedule appended hereto should be acquired.

NOW, THEREFORE, in exercise of the powers conferred by sub-section(1) of section 9 of the said Act, the Central Government hereby declares that the lands measuring 18082.00 acres (approximately) or 7317.42 hectares (approximately) described in the said Schedule are hereby acquired;

2. The plans of the area covered by this notification may be inspected in the Office of the Collector, Sidhi (Madhya-Pradesh) or in the Office of the Coal Controller, 1,Council House Street, Calcutta, or in the Office of Central Coalfields Limited (Revenue Section), Darbhanga House, Ranchi (Bihar).

....2/-

ANNEXURE NO.-IV

SCHEDULE
Jhingurda Block -Extn.
Singrauli Coalfield.
Distt. Sidhi.
(M.P)

Drg.No. Rev/16/81
Dated : 28.1.81
(Showing lands acquired)

All Rights.

Serial number.	Village	Tahsil,	Tahsil number.	District.	Area	Remarks.
1.	Churki	Deosar.	-	Sidhi		Part.
2.	Jhingurda	Singrauli	206	Sidhi		Part.

Total Area: 307.00 Acres(approximately)
or: 124.24 Hectares(approximately)

Plot numbers acquired in village Churki:-

761(Part), 915(Part), 921(Part), 922(Part), 923(Part), 924,

925(Part), 929(Part), 932(Part), 933(Part),1010(Part) & 1011(Part).

Plot numbers acquired in village Jhingurda :-

11(Part), 12(Part), 13(Part), 17(Part),20(Part),21(Part), 24(Part), 25(Part),68(part),69(Part),70(Part),73(Part),74(Part),75(Part),79(Part 92(Part),97(Part) & 105(Part).

Boundary description.

A-B Line passes through plot Nos.73 and 105 of village Jhingurda.

B-C-D-E lines pass through plot nos. 105,75,97,92,79,68 12,13,17,20,21,24 & 25 of village Jhingurda and along the part common boundary of villages Jhingurda & Churik (which forms part common boundary of the Jhingurda Colliery acquired u/s 9(1) of Coal act.)

E-F line passes through plot no. 25 of village Jhingurda & through plot no. 933 of village Churki.

F-G-H lines pass through plot nos. 933,932,929,1010,1011,925, 923,922 & 921 of village Churki.

H-A line passes through plot nos. 921,915,&761 of village Churki and through plot nos. 11,69,70,74 & 73 of village Jhingurda.

ANNEXURE NO.-IV

SCHEDULE
Muher Block
(Singrauli Coalfield)
District: Sidhi (M.P.)

Drg. No. Rev/14/81
Dated 28.1.81

(Showing lands acquired)

ALL RIGHTS

Serial Number.	Village.	Tahsil.	Tahsil Number.	District.	Area.	Remarks.
1.	Amlori	Singrauli	6	Sidhi		Part.
2.	Muher	-do-	476	"		"
3.	Paderi	-do-	305	"		"
4.	Chinagitola	-do-	173	"		"
5.	Harsia (Pukra Ramgarh)	-do-	6	"		"
6	Chekara	-do-	178	"		"

Total area: 6015.00 acres (approximately)
or: 2434.15 hectares (approximate)

Plot numbers acquired in village Amlori:-

1 to 43, 44(Part), 45(Part), 46 to 62, 63(Part), 64(Part), 65 (Part), 66(Part), 67(Part), 68(Part), 69 to 87, 88(Part), 89 (Part), 92(Part), 93,94, 95,96(Part), 97,98(Part), 100(Part) 101 to 108, 109(Part), 110(Part), 114(Part), 115(Part), 116 to 118, 119(Part), 120(Part), 121 to 272, 273(Part), 274 to 286 287(Part), 288(Part, 289(Part), 290(Part), 293(Part), 294 to 412, 413 to 641, 642(Part), 661(Part), 662(Part), 663(Part), 664,(Part), 665(Part), 666(Part), 667(Part), 669(Part),670(Part) 671(Part), 672 to 674, 675(Part), 732(Part), 733(Part), 745 to 749, 751 to 753, 754(Part), 757 , 643(Part), 653(Part), 654(Part), 655(Part), 656(Part), 657(Part), 658(Part), 659(Part) & 660(Part).

Plot Numbers acquired in village Muhari: 411(Part), 412,413, 414(Part), 477(Part), 478(Part), 479 to 483, 484(Part), 502(Part), & 520(Part).

5/-

ANNEXURE NO.-IV

Plot numbers acquired in village Padarâi:-

1353 (Part), 1362 (Part), 1363, 1364, 1365(Part), 1366 (Part), 1367(Part), 1372 (Part) & 1373 to 1383.

Plot numbers acquired in village Chhinagitela:-

489(Part), 490(Part), 491(Part), 492 (Part) & 493.

Plot numbers acquired in village Harâia (Pukra Ramgarh):

6(Part), 7,8(Part), 9, 10(Part), 12(Part), 26/1(Part), 26/2 (Part), 26/3(Part), & 27(Part).

Plot numbers acquired in village Chokara:-

1 to 12, 13(Part) & 14 to 254.

Boundary description:-

A-B line passes through plot nos. 414, 411, in village Muher, through plot nos 1372, 1367, 1365, 1364, 1362, 1363 in village Padari, then through plot nos 492, 491, 490, 489 in village Chhinagitela & meets at point 'B'.

B-C line passes through plot no 489 in village Chhinagitela, then through plot nos 6,8,10,12,26/1,26/2,26/3,27 in village Harâia (Pukra Ramgarh) then through plot no 13 in village Chokara & meets at point 'C'.

C-D line passes along the Central line of River, then through plot Nos 290,273,289,287,295,642,643,653,654,655, 656,657, 658,659,660,661,662,663,664,665,666,667,669,670,671 675,754,732, 733, in village Amlori & meets at Point 'D'.

D-E line passes along the Central Line of Nalla, then along the part common boundary of villages Ramgarh & Amlori, then through plot nos 120,119,115,109,110,104,100,96, 98,92,89,88,68,67,66,65,64,63,45,44 in village Almori, then through plot nos 528,502,484, in village Muher & meet at point 'E'.

E-A line passes through plot nos 484,479,477, 414, in village Muher & meets at starting point 'A'.

5/-

ANNEXURE NO.-IV

SCHEDULE
AMLORI BLOCK
(Singrauli Coalfields)
District- Sidhi (M.P.)
.....

Drg.No Rev/15/01
Dated: 28.1.81.

(showing lands acquired)

ALL RIGHTS

S.No.	Village	Tahsil	Tahsil number	District	Area	Remarks
1.	Amlori	Singrauli	6	Sidhi		Part
2.	Muhar	"	476	"		"
3.	Mouserh.	"	-	"		"
4.	Kachnai	"	-	"		"
5.	Deseuti	"	-	"		Full
6.	Bharwa	"	181	"		"
7.	Kol Bharwa	"	41	"		"
8.	Purewa	"	309	"		Part
9.	Amjhar	"	7	"		"
10.	Nawa Nagar	"	-	"		"
11.	Majan Kala	"	-	"		"

Total Area : 5375.00 Areas (approximately)
Or ± 2175.15 hectares ( )

Plot numbers acquired in village Amlori:-

44(Part), 45 (Part), 63(Part), 64(Part), 65(Part), 66(Part), 67(Part), 68(Part), 88(Part), 89(Part), 90, 91, 92(Part), 96(Part), 98(Part), 99, 100(Part), 109(Part), 110(Part), 111, 112, 113, 114(Part), 115(Part), 119(Part) and 120(Part).

ANNEXURE NO.-IV

Plot numbers acquired in village Muhar:-

484(Part), 487(Part),488(Part),489(Part),491(Part),493(Part) 494(Part),495(Part),496(Part),496/2(Part),497 to 501, 502(Part), 503 to 512, 520(Part), 569 & 570.

Plot numbers acquired in village Nowgarh:-

1 to 58, 59(Part),60 to 71, 72(Part),73(Part),74(Part), 75, 76,77,78, 79(Part),80(Part),81(Part),87(Part), 90(Part), 91(Part),2213,2214,2215,2216,2217,2218,2219,2220, 2221, 2222,2223,2224,2225,2226,2227,2228,2229,2230, 2231, 2232, 2233 & 2234.

Plot numbers acquired in village Kraknaj:-

1(Part), 2 to 618,619,(Part),620, 621,623(Part), 624 to 672, 673(Part),674(Part),675(Part),676(Part), 677(Part), 686(Part),687(Part),689,690(Part),691(Part),692(Part), 899(Part),900, 901(Part), 902(Part), 909(Part), 910(Part) 911(Part),912, 913,914(Part), 917(Part),918(Part), 919 to 941, 942(Part), 943(Part), 972(Part), 976(Part),977(Part), 978(Part),979(Part),980 to 1000, 1001(Part), 1002(Part), 1003(Part), 1004(Part), 1024(Part), 1025(Part), 1026(Part), 1029(Part), 1030(Part), 1031, 1032, 1033(Part), 1034,1035,1036 (Part), 1039(Part), 1040, 1041,1 ,1042(Part),1046(Part),1047, 1048(Part), 1051(Part), 1054(Part), 1057(Part), 1058(Part), 1061(Part), 1062(Part), 1065(Part), 1066(Part), 1068(Part), 1069(Part), 1071(Part), 1072(Part), 1136(Part), 1137(Part), 1138, 1139 (Part), 1140, 1141(Part), 1142(Part), 1143(Part), 1144(Part), 1145 to 1161, 1162(Part), 1164(Part), 1165(Part), 1166 to 1179, 1180(Part), 1181, 1182, 1183(Part), 1188(Part), 1244(Part), 1246(Part), 1247(Part), 1248(Part), 1249 to 1251, 1252(Part), 1255(Part), 1256(Part), 1257(Part),1258 to 1275,

7/-

1276(Part), 1277(Part), 1278, 1279, 1280, 1281, 1282 1283, 1284, 1285, 1286, 1287(Part), 1298(Part), 1302(Part) 1378(Part),2967, 2970. 2971, 2973, 2974, 2975, 2976, 2977, 2978, 2979, 2980, 2981, 2982, 2983, 2984, 2995, 2996, 2997, 2998, 3000(Part), 3001, (P), 3002(Part), 3100 & 3101.

Plot numbers acquired in village Daenauti: 1 to 661.

Plot numbers acquired in village Sherwa: 1 to 1501

Plot numbers acquired in village Kol Sherwa: 1 to 39.

Plot numbers acquired in village Parewa: 38 (Part).

Plot numbers acquired in village Akbari-

1(Part), 3(Part), 6(Part), 7, 8(Part), 22(Part), 27(Part). 30(Part), 33(Part), 34(Part), 35(Part), 36(Part), one unnumbered plot 37 to 47, 48(Part), 49(Part), 50, 51, 52, 53(Part), 54 to 83, 84(Part), 87(Part), 88(Part), 89 to 797, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, [illegible],829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864 [illegible] & 865.

Plot numbers acquired in village Nawn Nagara-

255(Part), 266(Part), 267(Part), 268(Part), 269, 270, 271, 272 (Part), 273(Part), 275(Part), 345(Part)1 346(Part), 347(Part), 348(Part), 349to 359, 360(Part), 361(Part), 364(Part), 366(Part), 367 to 599, 600(Part), 601(Part), 602, 603, 604(Part), 650(Part), 651, 652, 653(Part), 654(Part), 655, 656, 657(Part), 658(Part), 659(Part), 716(Part), 717(Part), 718(Part), 719(Part).

.....2/-

ANNEXURE NO.-IV

720(Part),722(Part),723(Part),724 to 772,773(Part),774(P) 775(Part), 776,777(part),788(Part),787(Part),788(Part),789 to 797,798(Part) 799, 800(Part),801,802,803,804,805,806(Part),807(Part),808(Part),809(Part) 810(Part),811(part),812(part),813(Part),814(part),815(Part), 816(part) 817(Part), 818(part), 819(Part), 833(Part),835(Part),941 & 942.

Plot nos. acquired in village Mukim Ka'ra:-

1 to 147,148(Part),149,150(Part),153(Part), 154(Part), 155(Part), 186 to 239,240(Part),255,260(Part),381(Part), 382(Part), 385(Part), 388(Part), 389(Part) ,390 to 396,397(Part), 398 to 519,520(Part), 521(Part), 522(Part),523(Part), 524,525(Part), 526 to 534,535(Part), 536,537(Part), 546(Part), 547(Part), 561(Part), 562(Part),563(Part), 564(Part), 565(Part), 1114,1116,1118,1119,1120,1121,1122 & 1123.

Boundary Description :-

B-D. line passes through plot nos. 484,502,520, in village Mukeri through plot nos: 44,45,63,64,65,66,67,68,88,89,92,98,96, 100,114,110,109,115,119,120, in village Amlori then alone parts

common boundary of villages Amlori & Nawgarh & meets at point 'D'.

D-E-G. lines pass through plot nos. 69,72,73,74,81,80,79,87,90,91 in village Nawgarh through plotnis .1,1287,1288,1278,1277,1276 1276,1257,1256,1255,1252,1246,1248,1247,1244,1158,1183,1180, 1164,1165,1162,1136,1137,1139,1132,1131,1141,1142,1143,1144, 1069,1068,1066,1065,1062,1061,1058,1057,3002,1054,3001,1051, 1048,1046,1042,1039,1036,1033,1030,3000,1029,1026,1026,1001, 1002,1003,1004,976,977,978,979,972,943,942,918,917,914,911, 910,909,902,901,900,619,899,675.

623,674,673, again 675, 592,691, 690, 687, 686, 675, 677, in village Kachani through plot nos: 240,260,153, 154, 155, 148, 150, 381, 382, 389,385, 388, 565,564,563,562,561,397,520,521,547,546,523,525,537,535, in village Majan Kala ,then through plot nos. 800,835,833,806,507,808, 809,810, 811 , 812,813, 814, 815, 816, 818, 819, in village Nawanagar and meets at plot 'G'.

G-F. line passes through plot nos. 819,817,816,789, 787,788,773, 774, 775,780,777,722,723,720,719,718,717,716,657,658,659,653,650, 654,600,601,604,536,357,255,268,275,272,273,364,366,360,361, 346,348,347,345, in village Nawanagar through plot nos. 88, 37,84, 49, again 84,22,48, one un-numbered plot ,36,35,27, 34,53, again 34,53, again 53,30, again 53,30,53,8,6,3, and 2 in village Amjhar,then through plot no. 38 in village Purewa, then through plot nos. 495,494,493,496,496/2,491, 489,488,again 489 in village Muher (which forms common boundary of Nigahi Nicck) & reats at point 'F'.

F-E. line passes through plot nos. 489,488,487,484, in village Muher & meets at starting plot 'E'.

ANNEXURE NO.-IV

SCHEDULE

Nigahi Block

(Singrauli Coalfields)
District - Sidhi (M.P.)

Dgr. No. Rev/15/81
Dated : 28.1.81

All Rights (Showing lands acquired).

Serial number.	Village	Tehsil	Kabali number	District	Area	Remarks
1.	Nigahi	Singrauli	288	Sidhi		Part
2.	Chhan Kalan	"	194	"		Full
3.	Purewa	"	309	"		Part
4.	Mahor	"	175	"		Part
5.	Amjhar	"	-	"		Part
6.	Kewa Kalan	"	129	"		Part
7.	Ghoraduli Khurd	"	117	"		Part
8.	Ghoraduli Kala	"	115	"		Part
9.	Itwa	"	-	"		Part
10.	Binauli	"	170	"		Part
11.	Pipra Lal tola	"	-	"		Part
12.	Jaitpur	"	-	"		Part
13.	Sarsabah Rajatola	"	224	"		Part
14.	Gorda	"	-	"		Part
15.	Murbbani	"	205	"		Part

Total Area : 6385.00 acres (approximately)
or : 2583.88 hectares (approximately)

...11/-

ANNEXURE NO.-IV

Plot numbers acquired in village Nigehi :-
2(Part), 9(Part), 10(Part), 11 to 64, 68(Part), 70(Part), 72 (Part), 73(Part), 74 to 91, 92(Part), 93, 94(Part), 95(Part), 96(Part), 97(Part), 111(Part), 112(Part), 113(Part), 116 to 152, 153(Part), 154(Part), 55/162(Part), 163, 164, 95/165(Part), 95/166, 95/167(Part), 96/178, 179, 46/180, 38/181, 116/182, 183, 184, 116/185, 116/186, 116/187, 116/188, 189, 190, 116/191, 116/192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202& 203.

Plot numbers acquired in village Chhan Pathar :- 1 to 16

Plot numbers acquired in village Purewa :- 1, to 37, 38(Part), 39, 40 &41.

Plot numbers acquired in village Kuher :- 222(Part), 223(Part), 226(Part), 227(Part), 228(Part), 229, 230, 231, 232, 234, 235(Part), 236(Part), 240(Part), 488(Part), 489(Part), 490, 491(Part), 492, 493(Part), 494(Part), 495(Part), 496(Part), 496/2(Part), 514& 515.

/ 233

Plot numbers acquired in village Ambher :-
1(Part), 2, 3(part), 4, 5, 6(Part), 8(Part), 9 to 21, 22(Part), 23 to 26, 27(Part), 28, 29, 30(Part), 31, 32, 33(Part), 34(Part), 35(Part), 36(Part), one unnumbered plot , 48(Part), 49(Part), 53(Part), 84 (Part), 85, 86, 87(Part), 88(Part)& 798,

Plot numbers acquired in village Newa Nagar :-
1 to 254, 255(Part), 256 to 265, 266(Part), 267(Part), 268(Part), 272(Part), 273(Part), 274, 275(Part), 276 to 344, 345(Part), 346(Part), 347(Part), 348(Part), 360(Part), 361(art), 362.

...12/-

ANNEXURE NO.-IV

363, 364(Part), 365, 366(Part), 600(Part), 601(Part), 604(Part), 605 to 648, 650(Part), 655(Part), 657(Part), 658(Part), 659 (Part), 660 to 715, 716(Part), 717(Part), 718(Part), 719(Part), 720(Part), 721, 722(Part), 723(Part), 773(Part), 774(Part), 775(Part), 777(Part), 778, 779, 780(Part), 781 to 786, 787(Part), 788(Part), 816(Part), 819(Part), 934, 936, 937, 940, 798(Part), 817(Part), & 946.

Plot numbers acquired in village Ghorauli Khurd :-
1 to 340, 341(Part), 342(Part), 343(Part), 346(Part), 348(Part),, 349(Part), 360(Part), 362(Part), 363(Part), 364(Part),365 to 473, 474(Part), 475(Part), 565, 566, 568&570.

Plot numbers acquired in village Ghorauli Kala :-
1 to 414, 415(Part), 418 to 420, 421(Part), 422, 423, 424, 425 (Part), 427(Part), 428 to 430, 431(Part), 432(Part), 470(Part), 471(Part), 472(Part), 473(Part), 474 to 477, 478(Part), 479 to 489, 490(Part), 491, 492(Part)&734 to 746.

Plot numbers acquired in village Itwa :-
1 to 106, 107(Part), 108, 109(Part), 130(Part), 131(Part), 132 (Part), 133(Part), 134(Part), 136(Part), 137 to 263, 264(Part), 270(Part), 271(Part), 272(Part), 273 to 300, 301(Part), 303 (Part), 304, 305(Part), 306, 307(Part), 308(Part), 312(Part), 715 to 726, 733& 734.

Plot numbers acquired in village Bimauli :-
1, 2, 2/1, 3 to 31, 32, 32/1, 32/2, 33 to 35, 35/1, 35/2, 35/3, 36, 36/1, 36/2, 36/3, 36/4, 36/5, 36/6, 37, 37/2, 37/21, 37/22, 37/23, 37/24, 37/25, 37/26, 38 to 42, 42/1, 43, 43/1, 43/2, 43/3, 43/4, 43/5, 44 to 86, 87(Part), 88(Part), 95(Part), 96(Part)

...13/-

ANNEXURE NO.-IV

97 to 112, 113(Part), 114 to 123, 124/1, 125 to 140, 141(Part), one unnumbered plot, 146(Part), 147(Part), 148(Part), 149 to 159, 160(Part), 161, [illegible] 162(Part), 163(Part), 165, 169, 170, 185(Part), 187(Part), 192(Part), 195(Part), 197(Part), 198 (Part), 199(Part), 200, 201, 201/21, 201/22, 201/23, 201/24, 201/25, 207(Part), 208(Part), 209(Part), 210, 211, 213 to 215, 217(Part), 218(Part), 219(Part), 1048, 1050(Part), 1052 to 1054, 1051 (Part) 1055(Part) & 1055 to 1058.

Plot numbers acquired in village Digra Tal Roha :-

1 to 14, 15(Part), 16(Part), 17(Part), one unnumbered plot, 31(Part), one unnumbered plot, 38(Part), 39(Part), 40(Part), 41 to 61, 64(Part), 65, 66(Part), 72(Part), 112(Part), 113(Part), 114, 115, 116(Part), 117 to 121, 122(Part), 123(Part), 124(Part), one unnumbered plot, 125 to 128, 129(Part), 130(Part), 152(Part) & 156(Part).

Plot numbers acquired in village Jaitpur :-

3(Part), 6(Part), 9(Part), 10(Part), 11(Part), 12 to 35, 36/1, 36/2, 36/3, 36/4, 36/5, 36/6, 36/7, 36/8, 37 to 42, 43 (Part), 44, 45, 46, 47(Part), 48 to 66, 68 to 71, 73/1, 73/2, 74 to 93, 96/1, 96/2, 96/3, 96/4, 96/5, 96/6, 97, 98, 99, 100, 101, 102, 103(Part), 104(Part), 105 to 109, 110(Part), 111, 112 (Part), 142(Part), 143(Part), 145(Part), 154(Part), 155(Part), 156 to 160, 161(Part), 162(Part), 163, 164, 165(Part), 166(Part), 320(Part), 322 to 334, 336(Part), 338(Part), 339(Part), 882 (Part), 883(Part), 884(Part), 886, 887, 888, 889, 890, 899, 900, 901(Part), 937& 938.

...14/-

ANNEXURE NO.-IV

Plot numbers acquired in village Sarasbah Raja Tola :-
100(Part), 101, 102, 103, 104(Part), 105(Part), 107(Part), 108(Part), 109(Part), 110 to 115, 116/1, 116/2, 117 to 162, 188, 189, 190, 191, 192, 193, 194, 195, 196 & 197.

Plot numbers acquired in village Gard :-
1, 2/1, 2/2, 61/1(Part), 63(Part), 64(Part), 66(Part), 67(Part), 96, 97, 98 & 99.

Plot numbers acquired in village Murhbani :-
1(Part), 2(Part), 3(Part), 30(Part), 37(Part) & 38(Part).

Boundary Description :-

F-G line passes through plot nos. 489, 488, 491, 496/2, 496, 493, 494, 495, in village Muher, through plot no. 38 in village Sarsua, through plot nos. 1, 3, 6, 8, 53, 50, 51, 52, 57, 59, 58, one unnumbered plot, 48, 22, 49, 84, 87, 88, in village Amjhar through plot nos. 345, 347, 348, 346, 361, 360, 366, 364, 273, 272, 275, 268, 265, 267, 266, 604, 601, 600, 650, 653, 658, 659, 657, 716, 717, 718, 719, 720, 723, 722, 777, 780, 775, 774, 773, 786, 798, 787, 788, 817, 815, 819, in village Nawa Nagar.

G-I / 364 line passes through plot nos. 818, 817, in village Nawa Nagar, through plot nos. 474, 475, /362, 363, 360, 349, 348, 346, 341, 343, 342 in village Ghurauli Khurd, through plot nos. 480, 482, 478, 470, 471, 472, 473, 415, 432, 431, 427, 425, 421 in village Ghurauli Kala through plot nos. 107, 109, 136, 134, 133, 132, 131, 130, 264, 270, 271, 272, 301, 303, 305, 312, 307, 308, in village Itwa, through plot nos. 87, 88, 95, 96, 113, 141, 146, 148, 147, 160, one unnumbered plot, 152, 163, 189, 187, 1050, 1051, 1055, 199, 192, 196, 198, 197, 200, 208, 207, 218, 217, 219, in village Bineuli, through plot nos. 16, 17, 15, one unnumbered plot, 31, one unnumbered plot, 40, 39, 38, 66, 72, 64, 113, 112, 116, 130, 129, 132, 124, one unnumbered plot , 123, 122, 156, in village Pipra Lal Tola through plot no. 901, one unnumbered plot .

....15/-

ANNEXURE NO.-IV

339, 338, 336, 320, 165, 166, 162, 161, 155, 103, 154, 104, 145, 142, 143, 112, 110, in village Jaitpur.

I-J line passes along the part common boundary of villages Jaitpur & Sarsabh Lal Tola, Sarsabh Rajatola & Sarsabh Lal-tola.

J-K-L lines pass through plot nos. 100, 104, 105, 107, 108, 109, in village Sarsabh Raja tola, through plot nos. 8, 9, 832, 10, 804, 803, 11, 43, 3, 47 in village Jaitpur, through plot nos. 67, 66, 61/1, 60, 64, 63, By plot nos. 63, 3, 4/2, 4/1, 5 in village Garda (which forms part common boundary of Jayant block Extn. acquired u/s 9 of the Coal Act).

L-M-M1 lines pass along the part common boundary of villages Garda & Murhbani, Hinauli & Murhbani, then through plot nos. 38, 37, 36, 3, 2, 1, in village Murhbani.

M1-M2 line passes through plot no 1 in village Murhbani, then through plot nos. 153, 154, 114, in village Nighhi. (which form part common boundary of Jayant block acquired u/s 9 of the Coal Act).

M2-N line passes through plot nos. 114, 115, 111, 92, 94, 95/167, 95 in village Nighhi (which forms part common boundary of Jayant Block Extn. acquired u/s 9 of the Coal Act.)

N-O-P line passes through plot nos. 95, 95/165, 55/162, 96, 97, 72, 73, 70, 69, 3, 2, in village Nighhi (which forms part common boundary of notifiontion u/s 17 of Mines & Minerals (Regulation & Development) Act, 1957).

P-P line passes through plot nos. 210, in village Nighhi, through plot nos. 222, 223, 229, 227, 226, 235, 236, 370, 469, in village Kutar & meets at starting point 'P'.

(Swaran Singh)
Under Secretary to the Govt. of India.

No. 19/13/81-CL

To
The Assistant Manager (Tech.)
Government of India Press.
Mayapuri, Ring Road,
New Delhi, (with a copy of Hindi version).

ANNEXURE NO.-IV

Copy forwarded for information and necessary action to :-

1. The Secretary to the Government of M.P., Natural Resources & Scientific Research Department, Bhopal. It is requested that the notification may be republished immediately in the State Gazette and copy of the same sent to this Ministry.

2. The Chairman-cum-Managing Director, Central Coalfields Ltd., Darbhanga House, Ranchi (with 20 copies of notification).

3. The Coal Controller, 1, Council House, Street, Calcutta-700001 with two spare copies alongwith two copies of the plan for inspection by the interested parties.

4. The Controller, India Bureau of Mines, Nagpur (with two spare copies).

5. The Director General, Geological Survey of India Calcutta.

6. The Collector, Sidhi (M.P.), with two spare copies alongwith two copies of the plan for inspection by the interested parties.

7. The Planning Commission, New Delhi.

8. The Regional Manager, Coal India Limited, Ansal Bhawan, 4th floor, Kasturba Gandhi Marg, New Delhi.

9. The Regional Director, Regional Institute VII, C.M.P.D.I. Ranchi.

10. For folder.

Sd/-

(Bhagwan Singh)
Under Secretary to the Govt. of India.
No. 19/13/81-CL

A-104

ANNEXURE NO.-V

लोक सुनवाई – अभिमत

मे0 निगाही ओपन कास्ट परियोजना एन0सी0एल0 (10 मिलियन टन/वर्ष से 15 मिलियन टन/वर्ष) उत्पादन क्षमता विस्तार किए जाने हेतु 18–12–2005 को सामुदायिक भवन बैढन जिला–सीधी में सम्पन्न लोक सुनवाई अभिमत :–

भारत सरकार पर्यावरण एवं वन मंत्रालय के ई0आई0ए 0 नोटिफिकेशन 1994 यथा संशोधित अधिसूचना क्रमांक 318(अ) दिनांक 10–04–1997 के प्रावधानानुसार मे0 निगाही ओपन कास्ट परियोजना नार्दर्न कोलफील्ड्स लिमिटेड के क्षमता विस्तार प्रकरण (10 मिलियन टन/वर्ष से 15 मिलियन टन/वर्ष) किये जाने हेतु पर्यावरणीय स्वीकृति परिपेक्ष्य में दिनांक 18–12–2005 को, सामुदायिक भवन, बैढन जिला–सीधी में माननीय कलेक्टर सीधी द्वारा निर्धारित लोक सुनवाई पैनल के माननीय सदस्यों के समक्ष, लोक सुनवाई सम्पन्न हुई । लोक सुनवाई के दौरान पैनल के माननीय सदस्य, परियोजना के आस–पास के नागरिकगण, विस्थापित लोग, पर्यावरण के क्षेत्र से जुड़े प्रबुद्ध गणमान्य नागरिक, एन0सी0ओ0, एन0सी0एल0 प्रबंधन के अधिकारीगण, म0प्र0 प्रदूषण नियंत्रण बोर्ड के अधिकारीगण, मिडिया पक्ष के प्रबुद्धगण आदि उपस्थित रहे ।

लोक सुनवाई के दौरान विस्थापितों द्वारा, गणमान्य नागरिकों द्वारा,बुद्धिजीवियों द्वारा अपने सुझाव, प्रस्ताव, आक्षेप, टीका–टिप्पणी, विचार प्रस्तुत किये गये जिन्हें पैनल के माननीय सदस्यों द्वारा सुना गया । प्रस्तुत किये गये सुझावों, विचारों,टीका–टिप्पणी, आक्षेप पर एन0सी0एल0 प्रबंधन द्वारा सकारात्मक तर्क प्रस्तुत कर नियमानुसार विस्थापितों की समस्याओं का निराकरण करने का आश्वासन दिया गया ।

पैनल के माननीय सदस्यों की सर्व सम्मति से निगाही परियोजना, नार्दर्न कोलफील्ड्स लिमिटेड की क्षमता विस्तार (10 मिलियन टन/वर्ष से 15 मिलियन टन/वर्ष) बिना किसी लीज क्षेत्र में वृद्धि के निम्न शर्तों के अधीन पर्यावरणीय स्वीकृति दिये जाने की अनुशंसा की गयी :–

1–पूर्व में निगाही परियोजना के स्थापना के दौरान विस्थापित हुए लोगों के परिवारों को जो सुविधाएं प्राप्त थी थी, वे या पूर्ण रूप से उपलब्ध नहीं कराई गयी अथवा उपलब्ध ही नहीं कराई गयी जैसे– विस्थापितों को प्लाट, नौकरी, मुआवजा आदि प्रकरण लम्बित है उनका निराकरण एक समय सीमा निर्धारित कर कराया जाऐं । ऐसे मामलों की प्रगति की समीक्षा समय–समय पर जिला प्रशासन के माध्यम से की जावें ।

2–विस्थापितों के हितों को ध्यान रखते हुए सामुदायिक विकास कार्यों, बुनियादी सुविधाओं जैसे–पीने के पानी की सुविधा, बिजली सुविधा, सड़क, पाठशाला, स्वास्थ्य चिकित्सा जैसे बुनियादी सुविधाएं नियमानुसार आवश्यकतानुसार उपलब्ध कराई जाये ।

3–परियोजना के विस्तारीकरण (क्षमता विस्तार) में वृक्षारोपण के काटे जाने की सम्भावनाओं को ध्यान रखते हुए जो भी वृक्षारोपण कराया जाये उसमें फलदार वृक्षों का वृक्षारोपण अवश्य कराया जावे । वृक्षारोपण व पेड़ों की अवैध कटाई न हो इस पर भी एन0सी0एल0 प्रबंधन ठोस कार्यवाही सुनिश्चित करे ।

4–खनन प्रक्रिया के दौरान ब्लास्टिंग की जाती है । अनियंत्रित ब्लास्टिंग के कारण आस–पास के गाँवों के घरों में कम्पन के कारण दरार पड़ जाने, मकान गिर जाने की बात भी चर्चा में लायी गयी, अतः नियंत्रित ब्लास्टिंग पर विशेष ध्यान देकर कोयला उत्खनन कार्य कराया जावे । माननीय अपर कलेक्टर महोदय, बैठक ने ब्लास्टिंग से प्रभावित घरों का सर्वेक्षण कर तकनीकी रूप से ब्लास्टिंग प्रक्रिया में सुधार करने का सुझाव दिया ।

5–लोक सुनवाई के दौरान चर्चा में माननीय पूर्व विधायक,सिंगरौली श्री रामचरित्र ने कहा कि इस क्षेत्र में एन0टी0पी0सी0/एन0सी0एल0 स्थापित होने से यहाँ के लोगों को तीन बार विस्थापित होना पड़ा है । पुनर्वास के ध्यान रखते हुए जो लोग विस्थापित हुए उन्हें नियमानुसार मिलने वाली सुविधाओं को पूर्ण रूप से उपलब्ध नहीं कराया जा सका है । पूर्व विस्थापन के दौरान जिन लोगों की जमीन ली गयी उन्हें नौकरी पर रखे जाने का आश्वासन दिया गया था किन्तु एनसीएल व शासन की समय–समय पर बदली गयी नीतियों के कारण आज भी कई लोग बेरोजगार हैं । इस दिशा में एनसीएल कारगर कार्यवाही करें ।

6–जिला पंचायत अध्यक्ष,सीधी श्री अशोक शाह ने कहा कि पूर्व की लोक सुनवाईयों के दौरान एनसीएल द्वारा दिये गये आश्वासनों को पूरा नहीं किया गया । जैसे कि अवैध वृक्षारोपण कटाई पर रोक लगाई जाय, तालाब की साफ–सफाई, गहरीकरण, विस्थापितों को पात्रतानुसार नौकरी तथा शिक्षा व चिकित्सा की सुविधाएं जैसी सुविधाएं उन सभी विस्थापितों को मिलनी चाहिए । शिक्षा व चिकित्सा जैसे एनसीएल प्रबंधन अपने कर्मचारी को देता है वैसी ही सुविधाएं विस्थापितों को भी मुहैया कराई जावे । अमहरा गाँव में 150 एकड़ भूमि पर वनीकरण, विस्थापितों को आवंटित प्लाट का मालिकाना हक, पुहर एवं अमझर गाँव में पेयजल स्रोतों का परीक्षण कराया जाए।

7–महावीर नगर निगम सिंगरौली श्री राम लल्लू वैश्य ने चर्चा में कहा कि परियोजना के विस्तार से जो वृक्षारोपण कट उनके बदले फलदार वृक्षों का रोपण हो। ऐसे विस्थापित जिनका मुआवजा नहीं दिया गया है उन्हें कार्यवाही कर पूर्ण किया जाय, विस्थापितों को वर्तमान में आवास प्लाट के [illegible] उन्हें हटाकर 1 लाख रूपया दिया जाये । उन्होंने कहा कि [illegible] विस्तार के कारण नई भर्ती बाहर से लगा न की जाय वहीं के विस्थापित परिवार से पात्रतानुसार भर्ती की जाये ।

8– [illegible] बैठक में कहा कि जो भी आश्वासन दिये गये हैं एनसीएल उन्हें पूरा करे । [illegible] विजली जैसी सुविधाएं विस्थापितों को उपलब्ध कराई जाये ।

उपरोक्त शर्तों के साथ-साथ पर्यावरण संरक्षण हेतु परियोजना अपने प्रस्ताव के अनुसार जल,वायु ध्वनि भूमि-क्षरण आदि पर पूर्ण नियंत्रण हेतु कारगर व सक्षम उपाय करें । जो उपाय पूर्व से स्थापित है उन पर पूर्ण नियंत्रण रखे जाये,सतत निगरानी रखी जाये, उपचारित दूषित खदान के पानी का संरक्षण किया जाये, अधिक से अधिक कृषि कार्य में उपयोग हो यह निश्चित किया जाये ।

उक्त शर्तों के तहत मै0 निगाही आयन कास्ट परियोजना नार्दर्न कोलफील्ड्स लिमिटेड की क्षमता विस्तार (10 मिलियन टन/वर्ष से 15 मिलियन टन/वर्ष) बिना लीज क्षेत्र वृद्धि किये, विस्तार हेतु सर्व सम्मति से पर्यावरणीय अनापत्ति दिये जाने हेतु अनुशंसा की जाती है :-

श्री अशोक सिंह
(अध्यक्ष,जिला पंचायत,सीधी)

श्रीमती गीता शाह
(अध्यक्ष,जनपद पंचायत,वैढन)

श्री रामलल्लू वैश्य
(महापौर,नगर निगम,सिंगरौली)

श्री ऋषेश्वरी सिंह
(सेवा निवृत्त सहायक संचालक कृषि,वैढन)

श्री रामचरित्र
(पूर्व विधायक,सिंगरौली)

(डा0 पी0डी0श्रीवास्तव
क्षेत्रीय अधिकारी म0प्र0प्रदूषण
नियंत्रण बोर्ड, रीवा)

श्री एस0डी0बाल्मिकी
(उप क्षेत्रीय अधिकारी,म0प्र0
प्रदूषण नियंत्रण बोर्ड, वैढन)

श्री चन्द्रशेखर नीलकण्ठ
(अपर कलेक्टर, वैढन)

मेसर्स निगाही परियोजना नार्दन कोलफील्ड लिमिटेड,
जिला-सीधी के क्षमता विस्तार हेतु पर्यावणीय
अनापत्तीय बाबत् दिनांक 18.12.2005 के सम्पन लोक सुनवाई का
कार्यवाही विवरण।

भारत सरकार पर्यावरण एवं वन मंत्रालय की अधिसूचना कमांक 318 (अ) दिनांक 10.04.97 के प्रावधना अनुसार मेसर्स निगाही परियोजना एन.सी.एल. जिला-सीधी कै पर्यावणीय अनापत्तीय प्रकरण में (क्षमता विस्तार 10 मि. टन प्रति वर्ष से 15 मि0 टन प्रति वर्ष) हेतु कलेक्टर सीधी द्वारा गठित लोक सुनवाई पैनल के समक्ष दिनांक 18.12.2005 समुदायिक भवन बैढ़न जिला-सीधी में लोक सुनवाई सम्पन हुई।

लोक सुनवाई के दौरान कलेक्टर सीधी द्वारा गठित पैनल के निम्न सदस्य उपस्थित रहे:-

(1) श्री चन्द्र शेखर नीलकंठ अपर कलेक्टर बैढ़न
(कलेक्टर प्रतिनिधि)
(2) डा0 पी.डी0. श्रीवास्तव क्षेत्रीय अधिकारी
(म.प्र.) प्रदूषण नियंत्रण बोर्ड रीवा
(3) श्री एस.डी. वाल्मीकी उप क्षेत्रीय अधिकारी
(म.प्र.) प्रदूषण नियंत्रण बोर्ड बैढ़न
(4) श्री अशोक शाह अध्यक्ष जिला पंचायत सीधी
(5) श्रीमती गीता शाह अध्यक्ष जनपद पंचायत बैढ़न
(6) श्री राम लल्लू वैश्य महापौर नगर निगम सिंगरौली
(7) श्री राम चरित्र पूर्व विधायक सिंगरौली
(8) असेश्वरी सिंह सेवा निवंत सहायक सेचालक कृषि बैढ़न

लोक सुनवाई के दौरान परियोजना के आस-पास के गणमान्य नागरिक, पर्यावरण के क्षेत्र से जुड़े वृद्ध जनों, एन.जी.ओ. परियोजना के प्रारम्भ के दौरान विस्थापित हुए लोग मीडिया एवं प्रेस के प्रतिनिधी, परियोजना प्रबन्धन की ओर से प्रतिनिधी गण आदि उपस्थित रहे।

लोक सुनवाई के प्रारम्भ में क्षेत्रीय अधिकारी म.प्र. प्रदूषण नियंत्रण बोर्ड रीवा के डा. पी.डी. श्रीवास्तव ने उपस्थित पैनल के माननीय सदस्यों स्वागत उदबोधन करते हुए निगाही विस्तार परियोजना के सम्बंध में बताया कि यह एक स्थापित परियोजना है जिसके द्वारा 10 मि0 टन प्रतिवर्ष कोयला उत्पादन किया जा रहा है परियोजना द्वारा 10 मि0 टन प्रतिवर्ष से 15 मि0टन प्रतिवर्ष क्षमता विस्तार किये जाने हेतु म.प्र. प्रदूषण नियंत्रण भोपाल के समक्ष पर्यावर्णीय अनापत्तीय हेतु आवेदन प्रस्तुत किया गया है। पर्यावरण (सरक्षण) अधिनियम 1986 एवं भारत सरकार पर्यावरण एवं वन मंत्रालय की यथा संशोधित अधिसूचना कमांक 318 (अ) दिनांक 10.04.97 के प्रावधानानुसार एसे प्रकरणों में लोक सुनवाई के माध्यम से पर्यावर्णीय अनापत्तीय हेतु प्रकरण भारत सरकार एवं वन मंत्रालय के समक्ष प्रेषित किये जाते है तदउपरान्त भारत सरकार पर्यावरण एवं वन मंत्रालय द्वारा प्रकरण में अध्ययन कर अनापत्ती जारी होती है। डा0 श्रीवास्तव ने बताया कि निगाही विस्तार परियोजना प्रकरण में अतिरिक्त भूमि की आवश्यकता नही हो गी मात्र उन्नत एवं आधुनिक उपकरणों, मशीनरी के द्वारा कोयला उत्पादन किया जावेगा डा0 श्रीवास्तव ने परियोजना के ओर से उपस्थित सी.जी.एम. श्री घोष से अनुरोध किया की स्थापित परियोजना द्वारा प्रदूषण नियंत्रण हेतु वर्तमान में जो व्यवस्थायें की गई है तथा प्रस्तावित विस्तार से होने वाले संम्भावित प्रदूषण के नियंत्रण हेतु जो तकनीकी जानाकरी है के संम्बंध में विवरण उपस्थित जन समुदाय को बताये। परियोजना की ओर से उपस्थित सी.जी. एम. श्री घोष ने परियोजना के सम्बंध में चल चित्र। एल.सी.डी.के माध्यम से विस्तृत जानकारी उपस्थित जन समुदाय के समक्ष बताई श्री घोष ने बताया कि परियोजना को 1989 में 4.2 मि0 टन प्रतिर्ष हेतु स्वीकृति दी गई थी तत्पश्चात सन् 1997 में परियोजना का विस्तार 10 मि0 टन के रूप में किया गया। निगाही कोयला उत्पादन एन टी पी सी के विध्यांचल सुपर थर्मल पावर स्टेशन विन्ध्यनगर वैढ़न जिला-सीधी के कोयला खपत से संम्बंध रखता है। चूंकि विन्ध्याचल सुपर थर्मल पावर प्रोजेक्ट द्वारा अपने तृतीय चरण में विद्युत उत्पादन बढ़ाने हेतु दो अतिरिक्त ईकाइयां पांच सौ, पांच सौ मेगावाट क्षमता की लगाने जा रहा है अतः विन्ध्यांचल सुपर थर्मल पावर के द्वारा की अनुरक्षण कोयला अपूर्ती करने हेतु पुनः निगाही परियोजना का उत्पादन 10 मि0 टन से 15 मि0 टन प्रतिवर्ष किया जाना प्रस्तावित है। श्री घोष ने परियोजना के संम्बंध में मूलभूत जानकारी देते हुये बताया की परियोजना के विस्तार हेतु अतिरिक्त भूमि की आवश्यकता नही होगी। उन्होने बताया कि निगाही विस्तार

परियोजना से म.प्र. सरकार, भारत सरकार को प्राप्त होने वाला राजस्व वर्ष 2004-2005 के दौरान 162.66 करोड़ रहा परियोजना के 15 मि0 टन प्रतिवर्ष क्षमता से कोयला उत्पादन करने पर यह राशि 226.5 करोड़ हो जावेगी। चल चित्र एल.सी. डी. के माध्यम से श्री घोष ने परियोजना के प्रारम्भ में विस्थापित हुये लोगो को उपलब्ध कराई गये सुविधायें एवं रोजगार के संम्बंध में भी जानाकरी दी उन्होने बताया की एन.सी.एल. में नौकरी पाने की पात्रता रखने वाले विस्थापितों की कुल संख्या 895 में से 881 विस्थापितों को नौकरी दी जा चुकी है इसके अतिरिक्त पुर्नवास एवं पुनंस्थापन के तहत विस्थापित परिवारो की कुल संख्या 1309 को पुर्नवास स्थल में आवंटित किये गये प्लाटो की संख्या 729 एवं प्लाट के बदले नगद राशि ग्रहण करने वालो विस्थापितों की संख्या 190 है। उन्होने ये ही बताया कि विस्थापित हेतु बकाया प्रस्तावित परिवारो की संख्या 687 है। इसके अतिरिक्त श्री घोष ने पुर्नवास अस्थल नंदगाव में उपलब्ध कराई गई सुविधाओं की जानकारी दी। सामुदायिक विकास के कार्यो एवं परियोजना के आस-पास के विभिन्न गावों में स्थानीय जन विकास कार्यो पर भी जानकारी दी। श्री घोष ने बताया कि पर्यावरण संरक्षण हेतु परियोजना द्वारा जल प्रदूषण नियंत्रण वायु प्रदूषण नियंत्रण भूमि छरण हेतु प्रर्याप्त व्यवस्थाये की गई है। एन.सी.एल. को पर्यावरण का अन्तर्राष्टीय मानक आई एस वो 14001प्राप्त है तथा निगाही विस्तार परियोजना भी एन.सी.एल. की अन्य परियोजनाओं की तरह पर्यावरण संरक्षण हेतु वचन वद्ध है। निगाही परियोजना द्वारा वर्ष 1987-88 से वर्ष 2005 के दौरान 2414578 नग वृक्षा रोपण लगभग 617.72 हेक्टेयर क्षेत्रफल में कराया गया है। श्री घोष ने बताया कि खदान सी.एच.पी. एवं वर्क शाप से निकलने वाले दूषित जल के उपचार हेतु तथा घरेलू प्रयोजन से निकलने वाले दूषित जल के उपचार हेतु उपचार संयन्त्र स्थापित किये गये है।

श्री घोष सी.जी.एम. निगाही परियोजना के द्वारा परियोजना के संम्बंध में तकनीकी जानाकरी उपलब्ध कराने के उपरान्त डा0पी.डी. श्रीवास्तव क्षेत्रीय अधिकारी म.प्र. प्रदूषण नियंत्रण बोर्ड रीवा ने लोक सुनवाई में उपस्थित नागरिकों, परियोजना के आस-पास से एवं विस्थापितों से अपने सुझाव विचार टिका टिप्पणी अक्षेप प्रस्तुत करने हेतु आमत्रित किया। उपस्थित लोगो ने अपने विचार सुझाव विचार टीका टिप्पणी आदि ध्वनी विस्तारक यंत्रों के माध्यम से तथा कुछ लोगों ने अपने सुझाव लिखित रूप से दिये।

ANNEXURE NC. .

1. लोक सुनवाई के दौरान श्री अरविन्द सिंह चन्देल पार्षद वार्ड [illegible] कहा कि परियोजना का स्वागत है परियोजना का विस्तार हमारे वार्ड क्षेत्र में ही हो रहा है श्री चन्देल ने बताया की परियोजना द्वारा अपनी तकनीकी जानकारी में जो आकड़े प्रस्तुत किये है वह पूर्ण सत्य नही प्रतीत नही होते विस्थापितों की समस्या व निराकरण के सम्बंध में जोर देते हुए कहा की विस्थापितों के लिये सभी मूल भूत सुविधाये रोजी रोटी, पेयजल, बिजली, सड़क, चिकित्सा आदि सुविधाये उपलब्ध कराई जावे।

उन्होंने कहा की जैसे एन.टी.पी0सी. अपने अस्पताल सुविधाये देती है वैसी ही सुविधाये दी जानी चाहिये। श्री चन्देल ने परियोजना के द्वारा ब्लासटिंग से भू-कम्पन के सम्बंध में बताया कि भू-कम्पन से कई घरो में दरारे हो गई है एवं कई घर गिर भी चुके है उन्होंने जल स्तर नीचे चले जाने की भी बात कही। खदान से निकलने वाले उपजाऊ साईल माटर को नजदीकी गावों में कृषिकार्य हेतु दिये जाने हेतु भी परियोजना से आग्रह किया।

2. श्री सुरेन्द्र सिंह निवासी धोरोली ने कहा कि विस्थापितों मालिकाना हक मिलना चाहिये। उन्होंने कहा कि हमे विभिन्न विभागों जैसे नगर निगम बिजली विभाग आदि से बिल प्राप्त होते है जो हमे भुगतान करने पड़ते है परियोजना द्वारा यह व्यवस्था सुनिश्चत की जावे कि इस तरह के बिल विस्थापितों को न भरने पड़े, स्कूल फीस भी विस्थापितों से न ली जावे अस्पताल सुविधा एन.टी.पी.सी. की तरह दी जावे। वनों की कटाई पर प्रतिबन्ध लगाया जावे।

3. श्री राजेश शाह ने कहा कि रोजगार कार्यालय में पात्र व्यक्ति उपलबध नही है तभी बाहर के लोगो से भर्ती की जावे अन्यथा नही उन्होंने यह भी कहा कि ठेकेदारो को व्यस्थापितों की दी जाती है वह सभी प्रभागों जैसे बिजली, मशीनरी, मेन्टीनेश, निर्माण आदि को भी दी जावे।

4. श्री उपेन्द्र पाण्डेय ने कहा कि पूर्व में एन.सी.एल. की अन्य परियोजनाओं हेतु हुई लोक सुनवाई के दौरान भी विस्थापितों की समस्याओं के सम्बंध में कई बातें आयी थी और जिन्हे एन.सी.एल. प्रबन्धन ने वादा किया था किन्तु एन.सी.एल. द्वारा अपना वादा पूरा नहीं किया गया है।

श्री पाण्डे ने कहा की वनो की कटाई पर भी एन.सी.एल. द्वारा कोई नियंत्रण नही रखा जाता है जिससे वनों की अवैध कटाई होती है इस पर एन.सी.एल. कारगर कदम उठाए। उन्होंने यह भी कहा कि जो सुझाव विचार टिप्पणी आदि दिये

जाते हैं उस पर भारत सरकार अमल किये बिना ही पर्यावरण अनापत्ति जारी कर देता है जिससे आम-जन में आक्रोश की भावना उत्पन्न होती है श्री पाण्डे ने अपने सुझाव विचार टिका टिप्पणी लिखित में भी दिये ।

5. श्री अश्वनी कुमार साहू निवासी ग्राम मुहेर ने कहा कि पानी का स्तर दिनों दिन कम होता जा रहा है कुआं खुदवाया है लेकिन पानी नहीं रहता जिससे पीने की समस्या रहती है इस प्रकार गांव में रोड की समस्या है। बॉध बनाये है लेकिन गर्मी में सुख जाते है जिससे पानी की कमी के कारण सिंचाई भी नहीं हो पाती अतः परियोजना इन सभी मुद्दों पर ध्यान दें।

6. श्री आर.बी.साहू अमझर निवासी ने कहा कि परियोजना वृक्षा रोपण तो करती है किन्तु वृक्षों की अवैध कटाई पर नियंत्रण नहीं रखती इस पर परियोजना को ध्यान रखना चाहिए श्री साहू ने कहा कि कुओं के पानी में फ्लोराईड तत्व की उपलब्धता के कारण दांतों एवं हड्डी के कमजोर हो जाने की समस्या है अतः परियोजना द्वारा इस पर जांच कराई जावे।

7. श्रीमती फुलमती वर्मा पति श्री जगजीवन राम वर्मा ग्राम बनौली ने एन.सी.एल. पर टिप्पणी करते हुए कहा कि हमारी दो एकड़ जमीन ली गई है लेकिन मकान नहीं बनाने देते ना ही नौकरी दी गई प्लाट भी नही दिया गया है अतः नियमानुसार एन. सी.एल.हमे सुविधा उपलब्ध कराये।

8. श्री अशोक शाह अध्यक्ष जिला पंचायत सीधी ने कहा की निगाही परियोजना एन.सी.एल.10 मि0टन से 15 मि0टन किये जाने के लिये किया जा रहा है जो कि राष्ट्रीय विकास का बिन्दू है उससे हम सहमत भी हैं जो इस लोक सुनवाई का उद्देश्य है उसकी पूर्ती नहीं हो पा रही है क्यों कि विगत कई बैठको के सामने जो पर्यावरण से समबंधित बिन्दू प्रकाश में आए थे तथा सम्बंधित विस्थापितों की समस्या आई थी उसका कोई निराकरण नहीं किया उसका उदा0 है कि ग्राम अमहरा में 100-150 एकड़ भूमि पर वनीकरण की बात थी तथा कई ऐसे बिन्दू थे उसका कोई निराकण नहीं हो पाया जबकि लगातार वनों की कटाई हो रही है उसका भी हम खेद व्यक्त करते हैं पिछले बैठक मे जल प्रदूषण से मुक्त करने के लिये जो अमलारी के ओवर ब्रिज के नीचे जो तालाब है तथा आस-पास जो तालाब है उसको भी सफाई नहीं की गई आज भी कुछ पर्यावरण एवं विस्थापितों की समस्या आई है उसको मैंअपनी तरफ से भारत सरकार को भेजने की अनुशन्सा है जैसे खदानों से प्रदूषित

ANNEXURE

पानी की व्यवस्था की जावे ।

1. जो सामुदायिक विकास के कार्यक्रम में विसंगतिया पाई गई है उसको दूर किया तथा जानकारी के हिसाब से कार्य कराये जावे।
2. जो पट्टे विस्थपितों को दिये गये हैं उससे मालिकाना हक दिलाये जाने कि भारत सरकार एवं राज्य सरकार तथा जिला प्रशासन से पहल की जावे ।
3. मुहेर की पानी जांच करई जावे ।
4. ब्लास्टिंग की क्षमता को घटाई जावे।
5. मुहेर से बैढ़न मुख्यालय तक आने के लिए सड़क की व्यवस्था ।
6. विस्थापित का समुह बनाकर वृक्षों के कटाई को रोकने हेतु प्रयास किये जावे
7. अमझर गाव के पानी की समुचित जांच कराई जावे ।
8. विस्थापित प्लाटो में उनको आवस्यकता अनुसार निर्माण को अनुमति दी जावे
9. विस्थापितों के बीच में नौकरी के पात्र लोगों के सम्बंध में समस्याए हैं उसको दूर करने के लिये नौकरी सम्बंधीत सरकुलर के विस्थापितों के समक्ष सार्वजनिक किया जावे ।
10. निगाही के बगल में जो हरिजन बस्ती है उनकी समस्या प्राथमिकता पर क्योंकि वो परियोजना से बहुत निकट है उसमें मुलभुत सुविधा दिलावे ।
11. चिकित्सालय में एवं एन.सी.एल. द्वारा संचालित विद्यालय डी.पी.एस. डी.ए.वी. विद्यालयों में सुचि विस्थापित परिवारों को कार्ड जारी करके फीस में छुट दिलावे जावे ।

9. श्री रामलल्लू वैश्य महापौर नगर निगम सिंगरौली ने कहा की परियोजना का क्षमता का विस्तार किया जाना है जिसका हम स्वागत करतें हैं उपस्थित लोगों ने अपने विचार या मांगें रखी है परियोजना उसे पूरा करे यह बात सही है की बगैर पेड़ काटे खुदान नहीं हो सकेगी किन्तु इसके बदले में परियोजना अधिकतर फलदार वृक्ष लगावे विस्थापितों जिसका मुआवजा लम्बीत है उसका शीघ्र भुगतान हो प्लाट आवंटन शेष शीघ्र आवंटित हो एवं उन्हें शीघ्र बसाया जावे । श्री वैश्य ने कहा की आवास प्लाट के बदले 50,000/- रूपये दिये जाते है मुआवजे की यह राशि एक लाख किया जावे उन्होंने यह भी कहा की रोजगार जैसी समस्या पर एन.सी.एल. पूणं ध्यान दें मार्च 2005 के पूर्व एन.सी.एल. के जो नार्म थे उसी आधार पर नौकरी दी

जाये। चर्चा में यह बात आई है की बाहर के लोगों से भर्ती न की जावे। उन्होने परियोजना का स्वागत किया एवं कहा कि परियोजना विस्तार क्षेत्र का विकास प्रदेश का विकास एवं राष्ट्र का उज्वल भविष्य होगा मैं यही कामना करता हूँ ।

10. श्री रामचरित्र पूर्व विधायक सिंगरौली ने कहा कि एन.सी.एल. को नियम सन् 1960 में थे उन्हीं नियमों के तहत् नौकरी दी जावे बार-बार नियम बदले न जाये उन्होने कहा कि क्षेत्र पानी पीने की व्यवस्था,सभी जाती धर्म के लोगों को सामान्य अधिकार बिजली पूर्ति, विस्थापितों को नियमानुसार बसाया जाना एन.सी.एल.सभी मद्दों को पूर्ण करें । वर्तमान एन.सी.एल. द्वारा विस्थपितों को जो सुविधाएं दी गई है उन्हें सक्षन व प्रभावी [illegible] जाये। यह भी अनुरोध करूगां एन.सी.एल.ताल मेल बनाकर कार्य करे। परियोजना का स्वागत है परियोजना का विकास होना चाहिये तभी क्षेत्र का विकास सम्भव है।

11. श्री घोष सी.जी.एम. निगाही परियोजना ने लोक सुनवाई के दौरान उठाये गये सभी बिन्दुओं पर अपना स्पष्टीकरण व्यक्त किया। उन्होने आश्वासन दिया की एन.सी.एल.एवं शासन के नियमानुसार नौकरी दी जावे मैं ऐसा प्रयास करूगां उन्होने यह भी कहा कि 5 डिसमिल भूमि ग्राही व्यक्ति जिसे विस्थापित होना पड़ा के लिये भी नौकरी का प्रस्ताव अपने सम्बंधित वरिष्ठ अधिकारियों को भेजूगां उन्होने कहा कि अभी एन.सी.एल.ने निर्देश दिये है कि विस्थापितों द्वारा एक कोआपरेटिव सोसायटी बनाई जावे ताकि उन्हें 5 लाख रूपये के उपर का भी कार्य दिया जा सके उन्होने ने कहा कि डी.पी.एस. स्कुल में हमारे कर्मचारी या बाहर के बच्चों में भेद-भाव रखा जाता है (शुल्क सम्बंधी) इस सम्बंध में डी.पी.एस.स्कूल की सोसिति / चेयरमैन दिल्ली से चर्चा कर शुल्क में एक रूपता बनाये जाने का आश्वासन देता हूँ। श्री घोष ने कहा कि मुहेर गांव मे पीने के पानी की समस्या का पूर्ण प्रयास किया जावेगा । चर्चा में ब्लास्टिंग और कम्पन के सम्बंध में बात आई है इस बिन्दु पर मैं स्पष्ट करना चाहता हूँ एन.सी.एल. द्वारा की जाने वाली ब्लास्टिंग डी.जी.एम.एस. डायरेक्टर जनरल आफ माईन्स सेफ्टी के निर्देसानुसार सुरक्षा नियमों के तहत ही ब्लास्टिंग की जाती है। कम्पन का मापन किया जाता है यदि नार्म से अधिक कम्पन होता है तो आपरेशन बन्द कर दिया जाता है। एन.सी.एल. द्वारा प्रतिवर्ष वृक्षारोपण कराया जाता है जिसमें फलदार वृक्ष औसधी वृक्ष एवं छायादार वृक्षों पर विशेष ध्यान दिया जाता है। श्री घोष ने कहा कि चर्चा में वृक्षों की अवैध कटाई की बात आई

इस पर नियंत्रण हेतु म.प्र. शासन वन विभाग से चर्चा चल रही है की वन विभाग देख भाल करें उन्होंने कहा की विस्थापितों को आवंटित प्लाट के मालिकाना हक की बात आई है इस सम्बंध में वरिष्ठ अधिकारीयों से चर्चा कर शीघ्र कार्यवाही करूगा। श्री घोष ने कहा की मुहेर से बैढ़न रोड की बात चर्चा में आई है यह रास्ता निगाही माईन्स से होकर जावेगा जिसमें माईन्स गतिविधियों के कारण रास्ता बनाया जाना सम्भव नहीं है। जो रास्ता बना है उसी का इस्तेमाल किया जाने का अनुरोध है। गई है उन्हें सक्षम व प्रभावी बनाया जावे ।यह भी अनुराध करूगां एन.सी.एल.ताल मेल बनाकर काम करें । परियोजना का स्वागत है परियोजना का विकास होना चाहिये तभी क्षेत्र का विकास सम्भव है।

अन्त में श्री घोष ने कहा कि मै विस्थापितों के हर समस्याओं पर निराकरण का प्रयास करूगा निगाही परियोजना का विस्तार क्षेत्र का विकास है देश का विकास है जो उत्तरदायित्व सरकार ने दिया है मैं उसे भरसक निभाउगां।

12. श्री चन्द्र शेखर नीलकण्ठ अपर कलेक्टर बैढ़न ने कहा कि आज की इस लोक सुनवाई के दौरान मंच के माध्यम से विस्थापितों की समस्यायें सुनी। ऐसा प्रतीत होता है कि एन.टी.पी.सी./एन.सी.एल. द्वारा विस्थापितों के लिए जो कार्यवाही की जानी थी वो नहीं की गई है इसलिये आवश्यक जाता है कि एन.सी.एल. एवं एन.टी.पी. सी. समय- समय पर विस्थापितों के सम्बंध में चर्चा करें एवं निरंतर सम्पर्क में रहें। विस्थापित जिन्हे अभी तक मुआवजा, प्लाट, पट्टा आदि शीघ्र दिये जावे यह सुनिश्चित किया जावे। अमहर गांव एवं मुहेर गांव में पीने के पानी की खराबी पर चर्चा आई इस सम्बंध में एन.सी.एल. प्रदूषण नियंत्रण बोर्ड के सहयोग से जांच करावे। ब्लास्टिंग से जिन गावों में क्षति हुई है इसकी जांच एन.सी.एल. सुनिश्चित करें उन्होंने आगे कहा कि एन.सी.एल. यह निश्चित करें कि स्थानीय लोगो को रोजगार अवश्य प्राप्त हो इस सम्बंध में स्थानीय होने का प्रमाण जन प्रतिनिधि द्वारा दिया जाय ताकि व्यक्ति के स्थानीय होने पर नौकरी दी जावे समस्त प्रकार की पुष्टी होने पर ही कार्यवाही की जावे इससे बाहरी लोगो अथवा गलत व्यक्तियों को नौकरी मिलने पर [illegible] उन्होंने कहा कि हम पूरा प्रयास करेगें कि रोजगार अधिकारी के माध्यम से परीक्षण कर कार्यवाही सुनिश्चित हो अन्त में उन्होने कहा कि देश हित में एक साथ है एन.टी.पी.सी./एन.सी.एल.[illegible] कर रानी [illegible]

TRUE COPY

Public Hearing Procedings

Detail procedings of Public Hearing held on 18-12-2005 for Environmental Clearance of Nigahi Opencast Project of Northern Coalfields Limited

As per the Notification No.318 (A), dated 10.04.1997 and its provisions, Nigahi Project of NCL, Dist-Sidhi, the Public Hearing Committee constituted by Collector of Sidhi before the panel at Community Hall of Waidhan, Dist-Sidhi, heard the Public Hearing on 18.12.2005.

The following panel members were present during the hearing:

1) Shri Chandra Shekhar Neelkanth, Additional Collector, Waidhan – Representative of Collector
2) Dr. P.D. Srivastava, Regional Officer, MP Pollution Control Board, Rewa
3) Shri S. D. Valmiki, Dy. Regional Officer, MP Pollution Control Board, Rewa
4) Shri Ashok Shah, President, District Panchayat, Sidhi
5) Smt. Geeta Shah, President, Divisional Panchayat, Waidhan
6) Shri Ram Lallu Vaishya – Mahapaur, Municipal Corporation, Singrauli
7) Shri Ram Charitra – Ex- MLA, Singrauli
8) Shri Aseswari Singh – Retired Assistant Operator (Agriculture), Waidhan.

During the public hearing, the important citizens of the nearby projects, intellectuals associated with Environment and some NGOs were present. In addition, the displaced persons, representatives of Press and Media and other representatives of Management of the project were also present.

On the outset, Dr. P. D. Srivastava, Regional Officer of MP Pollution Control Board, Rewa welcomed the members of the panel and informed them in details that the established project is producing 10 Mt of coal every year but the same production to to be enhanced to 15 Mt per annum and clearance has to be obtained before MP Pollution Control Board, Bhopal. As per Environment (Conservation) Act, 1986 and revised Notification No.318 (A), dated 10.04.1997 of Ministry of Environment and Forest and its provisions thereto, through Public Hearing, environment clearance has been forwarded to Govt. of India, Ministry of Forest and Environment Deptt. Thereafter, careful study by Govt. of India, Ministry of Forest and Environment gives its clearance.

Dr. Srivastava has informed that in the matter of enhancement of Nigahi project, no additional land is required. Only advanced and modern accessories and machineries will be used for production of coal. He requested Shri Ghosh, CGM of the established project that at present whatever facilities have been provided for pollution controls and after the expansion or enhancement, the possibilities of pollution controls and there technical knowhow in details may be elaborated to the general public. Shri Ghosh, CGM of the project has through film and LCD, gave detailed information to the general public who were present there. He further informed that in the year 1989, the project was approved for producing 4.2 Mt per annum. Subsequently, in the year 1997, the project was enhanced to produce 10 Mt. of coal per annum.

The production of coal from Nigahi is linked to Vindhyachal STPS of Waidhan, Dist-Sidhi. As Vindhyachal STPS in its phase 3 has increased its production capacities by making two units each of 500 MW capacities unit. Nigahi Project has to be enhanced from 10 Mt. per annum to 15 Mt. per annum. Shri Ghosh while informing this to general public, told them that for enhancing of coal production, no extra land is needed and informed that after enhancement of Nigahi project, the revenue during 2004-05 is likely to increase to Rs.226.5 crores from Rs.162.65 crores. Shri Ghosh also informed through film and LCD that the displaced persons in the beginning stage of the project were getting copany's facilities and employment and informed that displaced persons who were eligible to get employment in NCL have the number of 881 out of 895. In addition under Rehabilitation the total number was 1309. Out of 1309, 190 families have been paid money in lieu of plots. No. of family is 687 who are awaiting rehabilitation. In addition Shri Ghosh also informed the facilities made available at Nandgaon village for them regarding community development works and local people development works undertaken for them. He also informed that the project has also taken up works on Air and Water pollution control and erosion of land in the area. NCL has been awarded ISO 14001 of International Standard of Environment and Extension of Nigahi Project of NCL is committed to conserve the environment. During the period 1987-88 to 2005, at least 2414578 saplings have been planted in 617.72Ha areas. Shri Ghosh also informed that treatment plants are in operation to treat the effluent coming out of CHP, workshop and domestic areas.

After detailed technical knowhow was informed by Shri Ghosh regarding the project of Nigahi, Shri/Dr. P D Srivastava, Regional Officer, MP Pollution Control Board, Rewa has invited to the members of Public Hearing to comment. Some of the members, gave their comments on sound system, others gave their comments in writing also.

At the time of Public Hearing, Shri Arvind Singh Chandel of Ward No.20 welcomed the project and its enhancement. However, he also said the statistics given in Technical knowhow seems not to be correct. And the problems of displaced persons like food, drinking water, power, road, medical facilities etc. are made available to them.

1. He further said that like NTPC, they (displaced persons) should also get hospital facilities. Many houses have got cracks and some have collapsed due to blasting work carried out by the project. He also emphasized that the level of ground water has further going down. The effluent water after its treatment may be used for agriculture purpose.

2. Shri Surendra Singh, resident of Ghorwali said that the displaced persons should get their right to ownership. He further said that many other departments like Municipal Corporation, Electricity Dept. bill are raised and we have to make payments. The project should make some facilities so that the displaced persons do not have to produce such bills. No school fees are to be charged from displaced persons. Like NTPC medical facilities to be made available to displaced persons. No green threes to be felled in the area.

3. Shri Rajesh Shah of Employment Exchange said that in Employment Exchange Office only eligible persons should be made available. After that outside people should only be entertained. Contractual works are given only to displaced persons. However, other deptt. like electricity, machinery, maintenance and construction etc. should also get contractual jobs.

4. Shri Upendra Pandey said that in earlier public hearing cases, the problems of displaced persons are being raised and the NCL management promised to fulfil the claims of the displaced persons but so far nothing has been fulfilled.

   Shri Pandey further said that felling of green trees has to be kept under control and NCL should take some concrete steps in this direction. He opined that Govt. of India does not take concrete step and before that environmental clearance is given. This leads to creation of disenchant among people. He gave his comments in writing also.

5. Shri Ashwini Kumar Sahu of village Moher said that the level of ground water is reducing day by day. A well has been made but there is no water and there is problem of drinking water. There is problem of road in villages. Ponds have also been made but they remain dry. As a result no irrigation is possible. The project should make such issues in its workings.

6. Shri R B Sahu of Amjhar village said that the project carries out tree plantation but cannot control the unauthorized felling of green trees. The project should keep in mind such issues. He also said the quantity of fluride in the water of well is also a problem. The project should test and check up such issues.

7. Smt. Fulmati Verma, W/o Jag jiwan Verma of village Banauli committed that two acres of our land has been taken away by NCL by they are not allowing us to construct house on the land nor employment has been given to us or any plot has been given to us. As per Rule, NCL should give us the facilities as required.

8. Shri Ashok Shah – President District Panchayat, Sidhi said that Nigahi Project is being enhanced to 15 Mt. per annum instead of 10 Mt. per annum. This is the National Development point. We agree to this point of Public Hearing. But this point is yet unfulfilled because in the previous meetings also points came up regarding environment as well as points of displaced person's problems which were not taken up. For example – there was forestation programme of 100-150 acres of land in village Amraha which has not yet been done. Felling of trees are continuing unabated. We express sorry for the same. And also express sorry for the cleanliness of the pond below Amlohri over-bridge. As of today- there are problems on environment and displaced persons are to be forwarded to Govt. of India and water to be made available to:

   a. Anomalies in the programmes of community developments should be dealt with and work is to be completed;

b. The plots allotted to displaced persons have to be made the right of enheritance by State Govt. and district administration;

c. Testing of water at village Moher is to be completed;

d. Capacity of Blasting is to be reduced;

e. Road construction between Moher and Waidhan HQ;

f. Group of displaced persons to be made to avoid felling of green trees;

g. Water to be tested at village of Amjhar;

h. Construction of plots allotted to displaced persons be allowed;

i. Circular regarding employment to eligible displaced persons be made available;

j. The schedule caste colony near Nigahi should be given facilities of infrastructure.

9. Mahapaur, Municipal Corporation, Singrauli Shri Ram Lallu Vaishya said that the project enhancement is being welcomed. The important people present have expressed their comments. The project should fulfill those requirements. The project can't work without felling the trees. But instead the project can plant fruit bearing trees. Also the issues of displaced persons should be allotted plots and they should be rehabilitated as early as possible. Shri Vaishya said the constructed houses or plots are given in exchange for Rs.50,000/-. This compensation be increased to Rs.1.00 Lakh. He further said that NCL should settle the issues of employment. Before March, 2005, the names appearing before NCL list those names should get employment. It has come to light that outside have been employed. He expressed his confidenfe that the future of the state and that of the nation is bright.

10. Ex-MP Shri Ram Charitar, Singraui stated that the rules of NCL were made in 1960. Under those rules employment may be given and those rules should not be changed. He further said that drinking water in the area should be ensured. All the people in respect of any religion they practice should have right for electricity and rehabilitation for all displaced people should be completed by NCL. Whatever facilities for displaced persons have been given should be effectively implemented. It is also requested that NCL should work with co-ordination. The project is appreciated and the development of the area is possible.

11. Shri Ghosh, CGM of Nigahi Project has clarified all the points raised before public hearing. He also assured that as per rules employment may be given. He further said that any displaced person have only 5 dismil land, such names will be forwarded to the concerned authorities. He further said that NCL has been instructed that a co-operative society should be made for displaced persons so that work order beyond Rs.5 lakhs should be given to them. He further said that a bias is being taken towards the wards of our employees with regard to wares of outside employees (in the matter of school fees). In this regard, a committee of DPS School/Chairman, Delhi has been discussed and he has assured to uniformity

regarding fee matter. Shri Ghosh has said that the issues of drinking water of Moher village have been assured. Regarding blasting and tremor, he said that DGMS, Directorate General of Mines Safety's directives are being followed. Tremors are measured and when the norms are found in excess, the operation of blasting cases. Every year NCL carries out tree plantation and medicinal plants, evergreen plants are generally planted. He also said that the felling is beindf done at random. To control such activities, discussion is going on with Forest Deptt of MP State and they have agreed to look into the issues. The matter of plots allotted to displaced persons has also come up. In this regard action has been discussed with Sr. Officers regarding inheritance of such allotted plots to them. He further said a road from Moher to Waidhan has come up. This road passes through the coal zones of Nigahi Project. As such the road is not feasible. The other road may please be used. I have also requested to co-operate with NCL and the development of the project is possible.

At the end Shri Ghosh said that I will take every step to eradicate the issues of displaced persons. Extension of Nigahi Project is for development of this area and development of the country. Whatever responsibility I have been given, I will try my best to eradicate them.

12. Shri Chandra Shekhar Neelkanth, Additional Collector, Waidhan said that during Public Hearing through this platform, I heard the problems of displaced persons. It gives me feeling that NTPC/NCL has failed to take appropriate actions in relation to displaced persons. And therefore, the NCL/NTPC should time to time take discussions regarding the problems of displaced persons and remain in constant touch. It should be ensured that compensation, plot, p atta to displaced persons be immediately given. Drinking water problems of Amjhar village and Moher village also came up in discussion. In this regard, NCL should carry out a test of drinking water with the help of Pollution Control Board. Regarding damages in some villages due to blasting, NCL should ensure to survey the villages and find out the quantity if such damages. He further said that NCL should ensure that the local people have got employment. In this regard, the representatives should give certificate that they belong to local communities so that they got their employment and having confirmed, action should be taken for giving them employment and when outsiders or ineligible persons are employed I will take action against them. Our efforts will be made that after checking from employment officer, action should be taken. In the end he said that we are all together in the interest of the country.

TRUE COPY

Opinion of the Public Hearing Panel

Opinion of the Public Hearing held on 18.12.2005 at Community Hall of Waidhan, Dist-Sidhi relating to enhancement of coal production from 10 Mt per annum to 15 Mt. per annum of Nigahi Opencast Project of NCL.

A Public Hearing was conducted before the selected/nominated members on 18-12-2005 by the learned Collector of Sidhi in the matter of enhancement issue from 10 Mt per annum to 15 Mt per annum in accordance with E.I.A. Notification 1994 as amended No. 318 (A) dated 10.04.1997 of Forest and Environment Ministry, Govt. of India. During the hearing, Hon'ble members of the panel, citizens adjacent to the project, displaced persons, persons connected with Environment, NGOs, officers of NCL management and MP Pollution Control Board members etc. were present.

During the hearing the displaced persons, respected citizens and representatives of intellectuals have put forward their proposals, notings and opinion before the members of the panel. On the proposals, notings and opinion, the management of NCL put up affirmative arguments and as per rules the problems of displaced persons are ensured to eradicate the problems of displaced persons.

Committee of the panel members agreed to recommend with approval of Environment clearance under the following terms and conditions:

1. Earlier, during the establishment of Nigahi Project, whatever facilities were available to displaced persons, were not made available to them earlier or not made available to them. For example – plot to displaced persons, employment, compensation etc. are pending and has to be executed in stipulated time frame. The progress of such issues has to be monitored time to time under the guidance of State Administration.

2. Keeping in view the interest of the displaced persons they should be provided with community development work, facilities based on infrastructure, drinking water facilities, electricity, road, schools, and medical facilities as and when required should be made available to them.

3. For capacity enhancement, the decrease in forestation and its problems, all keeping in mind, the forestation of fruit bearing trees should always be done. NCL should ensure some concrete step so that felling of trees is minimized.

4. Durig mining of coal, blasting work is carried out. It has been brought before members of the panel that uncontrolled blasting and tremor causes collapses of houses or cracks development. Accordingly, controlled blasting has to be undertaken. The Hon'ble Collector has suggested for survey of houses in the affected areas and technically the process of blasting have to the improved.

5. During the hearing, Hon'ble Ex-MLA Shri Ram Charitra of Singrauli said that due to NCL and NTPC having been established in the area, three or four time displacement, the basic facilities are not available to displaced families. In the earlier displacement, they were assured employment but due to changing rules at time to time, NCL has not been able to employ them. In this direction, NCL should take effective steps.

6. President, Zila Panchayat, Sidhi Shri Ashok Shah said that in the earlier Public Hearing, the assurance given by NCL has not been completed. For example – unauthorized felling of green trees is concerned, no action is completed. For example - unauthorized felling of tree is concerned no control has been imposed, cleanliness of ponds not taken up, deepness of ponds is not taken up, the displaced persons has not been employed as per their eligibility, medical and education also no basic facilities were ignored, ponds cleanliness and deeping of ponds also not considered. As NCL is giving support in medical facilities, the same facilities should also be given to displaced persons. In Amhara village forestation in 150 acres of land has been allotted for displaced persons. They should be given inheritance rights and in Amjhar village the water also should be tested.

7. While discussing, the Mahapour, Shri Ram Lallu Vaishya has said that on question of plantation, the fruit bearing trees only be planted. Also, such displaced people who have not been paid compensation such details should be given after verification. The compensation should be increased to Rs.1.00 lakhs instead of Rs.50,000/- for plot or house. He further said the due to enhancement of the project, no outsiders should be employed but only displaced persons according to their eligibility should be employed.

8. Smt. Geeta Shah, President, Sub-divisional Panchayat, Waidhan said that whatever assurance were earlier given by NCL should be implemented and facilities like drinking water, electricity etc. should also be provided.

   All the earlier said measures have been established and are kept under control and monitoring should also be done. Treated effluents water should also be preserved which can be used for agriculture work should be ensured.

   Under the said terms and conditions, M/s. Nigahi Opencast Project of NCL's capacity enhanced from 10 Mt per annum to 15 Mt. per annum with increasing the lease area and is recommended for environmental clearance.

Sd/-
Shri Ashok Shah
President, Zila Panchayat, Sidhi

Sd/-
Smt. Geeta Shah,
President, Janpad Panchayat, Waidhan

Sd/-
Shri Ram Lallu Vaishya,
Mahapaur, Nagar Nigam, Singrauli

Sd/-
Smt. Asheshwari Singh
Ex- Assistant Director, Agriculture

Sd/-
Shri Ram Charitra
Ex- MLA

Sd/
Dr. P.D. Srivastav
Regional Officer,
MP Pollution control Board, Rewa

Sd/-
Sri S. D. Valmiki,
Dy.Regional Officer
MPPCB, Waidhan

Sd/
Shri Chandra Shekhar Neelkanth
Additional Collector, Waidhan

ANNEXURE NO.-V

ATR on issues raised during public hearing, at 15 MTPA stage, held on 18.12.2005

Sl.No.	Opinion of the Public Hearing	Compliance Status as on 01.06.2019
1.	Earlier, during the establishment of Nigahi Project, the facilities made available to displaced persons, are either fully not made available to them or not even made available. For example – plot to displaced persons, employment, compensation etc. are pending and has to be executed in stipulated time frame. The progress of such issues has to be monitored time to time under the guidance of State Administration.	Following facilities have been given to the displaced persons: Total patta issued against house : 678 PAPs Cash lieu of plot against house : 314 PAPs Employment given : 1050 At present, no eligible case in pending with the project for R & R benefits. Some of the PAPs residing near the township are resistant towards shifting to the rehabilitation site, efforts are being made in collaboration with the local administration for shifting of the same.
2.	Keeping in view the interest of the displaced persons they should be provided with community development work, facilities based on infrastructure, drinking water facilities, electricity, road, schools, and medical facilities as and when required, should be made available to them.	Following infrastructure facilities have been given to the displaced persons at the Nandgaon Rehabilitation Site: 1. Blacktopped road equipped with street lights in different sectors. 2. Marketing Centre, community hall and play ground 3. School building with furniture and play ground 4. Centralized RO plant for drinking water 5. On site medical facilities for PAPs by organizing medical camps at their residential area. In addition to this, treatment facilities are also provided to them at Nigahi Dispensary as well as Nehru Shatabdi Chikitsalaya, Jayant.
3.	For capacity enhancement, the decrease in forestation and its problems, all keeping in mind, the forestation of fruit bearing trees should always be done. NCL should ensure some concrete step so that felling of trees is minimized.	To have a check on the decrease in the forestation, and its problem due to enhancement, fruit bearing trees are being regularly distributed amongst nearby villagers through their Ward-Parshad for planting in their houses. Apart from the previous years, details of the fruit bearing plants distributed to the nearby villagers, in the recent years, is given below: • 2017-18 : 3100 numbers • 2018-19 : 900 numbers (under transform Singrauli campaign)
4.	During mining of coal, blasting work is carried out. It has been brought before members of the panel that uncontrolled blasting and tremor causes collapses of houses or cracks development. Accordingly, controlled blasting has to be undertaken. The Hon'ble Collector has suggested for survey of houses in the	Ground vibrations are being kept minimum possible by using controlled blasting techniques such as use of Electronic Delay Detonator and NONEL etc. Testing for ground vibrations is being done during every major blast and ground vibrations have always been recorded within limits. In the recent past, no such compliant, of collapse of house or cracks development, received.

	affected areas and technically the process of blasting have to the improved.	
5.	During the hearing, Hon'ble Ex-MLA Shri Ram Charitra of Singrauli said that due to NCL and NTPC having been established in the area, people have been displaced three or four time, but the basic facilities are not available to displaced families. In the earlier displacement, they were assured employment but due to changing rules at time to time, NCL has not been able to employ them. In this direction, NCL should take effective steps.	As per the minutes of 155th meeting of Board of Directors of NCL held on 06.12.2010, additional one employment (not more than two in all) is being given to the owner of the land in case of displacement exceeding two times for the same owner of the land. Apart from above: • Tenders from Civil Department of value up to Rs. 10.00 Lakhs are being awarded to the PAPs. • Preference, in employment in OB outsourcing agency of NCL, is given to the PAPs
6.	President, Zila Panchayat, Sidhi Shri Ashok Shah said that in the earlier Public Hearing, the assurance given by NCL has not been completed. For example – unauthorized felling of green trees is concerned, no action is completed. For example - unauthorized felling of tree is concerned no control has been imposed, cleanliness of ponds not taken up, deepness of ponds is not taken up, the displaced persons has not been employed as per their eligibility, medical and education also no basic facilities were ignored, ponds cleanliness and deeping of ponds also not considered. As NCL is giving support in medical facilities, the same facilities should also be given to displaced persons. In Amjhar village forestation in 150 acres of land has been allotted for displaced persons. They should be given inheritance rights and in Amjhar village the water also should be tested.	Security of the plantation is being done by the MPRVVN for the first five years. Thereafter, security is looked after security department of Nigahi Project. Cleanliness and deepening of the ponds is being undertaken by the Nigahi Project as per the requirement. Apart from the previous years, following works have been undertaken in the recent years: • Deepening and beautification of pond and making pucca ghat for itma village. • Deepening of pond with ghat construction at Muher village. On site medical facilities for PAPs by organizing medical camps at their residential area. In addition to this, treatment facilities are also provided to them at Nigahi Dispensary as well as Nehru Shatabdi Chikitsalaya, Jayant. Testing of drinking water from hand pump of Amjhar Village School has regularly been done by CMPDIL on fortnightly basis and records are found within permissible limits.
7.	While discussing, the Mahapour, Shri Ram Lallu Vaishya has said that on question of plantation, the fruit bearing trees only be planted. Also, such displaced people who have not been paid compensation such details should be given after verification. The compensation should be increased to Rs.1.00 lakhs instead of Rs.50,000/- for plot or house. He further said that due to enhancement of the project, no outsiders	The compensation has already been increased to Rs. 3.00 Lakhs in lieu of plot or house. Displaced persons are being employed according to their eligibility, as per the Corporate Social Responsibility of CIL. In addition to above, tenders from Civil Department of value up to Rs. 10.00 Lakhs are being awarded to the PAPs.

	should be employed but only displaced persons according to their eligibility should be employed.	
8.	Smt. Geeta Shah, President, Sub-divisional Panchayat, Waidhan said that whatever assurance were earlier given by NCL should be implemented and facilities like drinking water, electricity etc. should also be provided.	Drinking water facilities are being provided to the employees by installation of hand pumps, RO plant and water tanker, as per the requirement. Street lights have been provided along the road in rehabilitation site.
	Along with above conditions, for environmental conservation, the project should as per its proposals take effective measures for control of water, air, noise and land pollution. All the earlier said established measures shall be kept under control and monitoring should also be done. Treated effluents water should also be preserved and it shall be ensured that this water shall be utilized for agriculture work.	Monitoring for Water, Air And Noise is regularly being done by CMPDIL on fortnightly basis, whereas monitoring for groundwater is being done on quarterly basis. Accordingly various control measures are being undertaken to keep above monitoring parameters within permissible limits. Industrial effluents from workshops and CHP are being treated in two numbers of ETPs of capacity 4.00 MLD and 10.50 MLD respectively and treated effluent is being reutilized in industrial activities. Mine water is being de-silted and reutilized in industrial activities like dust suppression, HEMM washing, firefighting etc. in this way, no mine water is being discharged outside and mine is operating on Zero Discharge Principle. In addition to above, CAAQMS has also been installed, in May' 2019, in township of Nigahi Project for monitoring of ambient air. 10 numbers of piezometers have also been installed, during financial year 2015-16, for monitoring of groundwater levels. Sewage Treatment Plant, of capacity 3.00 MLD, is installed for treatment of domestic sewage. Treated water of STP, is being given to the nearby villagers for their irrigation needs.

General Manager
Nigahi Area, NCL

Computer No: 128392 File No: OFFICE/29/2837/2019-PnP, NCL HQ-NORTHERN COALFIELDS LIMITED Subject: Mining Plan (21 Mtpa) with Mine Closure Plan for N...

In response to request for Early Communication of Board decision by GM(CP) and approved by D(T/P&P) for Item No. 241/C-6 put up in 241st Board meeting of NCL held on 23/04/2019, the draft entries recorded in minutes of 2 41st Meeting are reproduced below:

"Item No.241/C-6 Approval of Mining Plan (21 Mtpa) with Mine Closure Plan for Nigahi Expansion OCP.

i. Board noted the information brought out in the agenda note .
ii. Shri Satish Jha GM(CP) and Shri Sachin T. Patil apprised the Board members that the Government of India approved the EPR for Nigahi OCP (15 Mtpa) on 8th October, 2007 for incremental coal production by departmental operations and removal of corresponding Shovel-Dumper OB through outsourcing and the RCE for Nigahi OCP (15 Mtpa) was sanctioned by NCL Board for an additional capital investment of Rs 486.57 Crores on 31/10/2015.
iii. He informed that the project had earlier been granted Environmental Clearance (EC) on 08/05/2007 for a rated capacity of 15 Mtpa of coal production in a total lease area of 3036.40 Ha with public hearing under EIA Notification 2006. Further, project has been granted EC for a rated capacity of 18.75 Mtpa of coal production in Mine Leasehold area of 2650.40 Ha { 3036.40 Ha-386 Ha (forest land) =2650.40 Ha } under clause 7(ii) of EIA notification, 2006 on 19.03.2015. An amendment in the above EC of 18.75 Mtpa, dated 19.03.2015 has been granted by MoEF&CC, Government of India for a rated capacity of 18.75 Mtpa of coal production for mine lease area of Nigahi OCP to be increased from 2650.40 Ha to 3018.40 Ha vide letter no. F. No. J-11015/79/2013-IA. II, dated 12.10.2018. Thus, presently mine has EC for 18.75 Mtpa coal production for leasehold area of 3018.40 Ha.
iv. GM (CP) and Sr. Manager (C.P.) made a detailed Power point Presentation before the Board members featuring the Marketability, Justification, Status Of The Project, Mineable Reserves, Stripping Ratio, Calendar Programme Of Mining Operation, HEMM Requirement, Land, Coal Handling Plant, Railway Siding, Manpower & Productivity and Mine Closure Plan considered in Mining Plan For Nigahi OCP (21 Mtpa).
v. After detailed deliberations, the Board, unanimously accorded its approval for the Mining Plan alongwith updated Mine Closure Plan for Nigahi OCP (21 Mtpa), as brought out in the Agenda Note.
vi. All the directors disclosed that they have no personal or vested interest or concern in this resolution/ agreement/ decision."

The extract of the minutes shall be communicated after confirmation of the minutes by the board.

Submitted for kind perusal and approval.

HOD(Board Secretariat)
20.05.2019

Director(T/P&P), NCL

Director(Tech/Oprns), NCL

Director(Fin.), NCL

CMD, NCL

HOD (Board Secretariat)

20/05/2019 12:55 PM

DIWAKAR SRIVASTAVA
(COMPANY SECRETARY)

Note # 5
Agreed

20/05/2019 6:31 PM

P M PRASAD
(DIRECTOR(TECHNICAL/PROJECT & PLANNING))

Page: 3

Note # 6
Agreed

20/05/2019 6:32 PM

GUNADHAR PANDEY
(DIRECTOR(TECHNICAL/OPERATION))

Note # 7
Agreed

21/05/2019 1:32 PM

NAG NATH THAKUR
(DIRECTOR(FINANCE))

Note # 8
Agreed as proposed and recommended.

21/05/2019 2:11 PM

PRABHAT KUMAR SINHA
(CHAIRMAN CUM MANAGING DIRECTOR)

Note # 9

21/05/2019 3:21 PM

DIWAKAR SRIVASTAVA
(COMPANY SECRETARY)

Plates

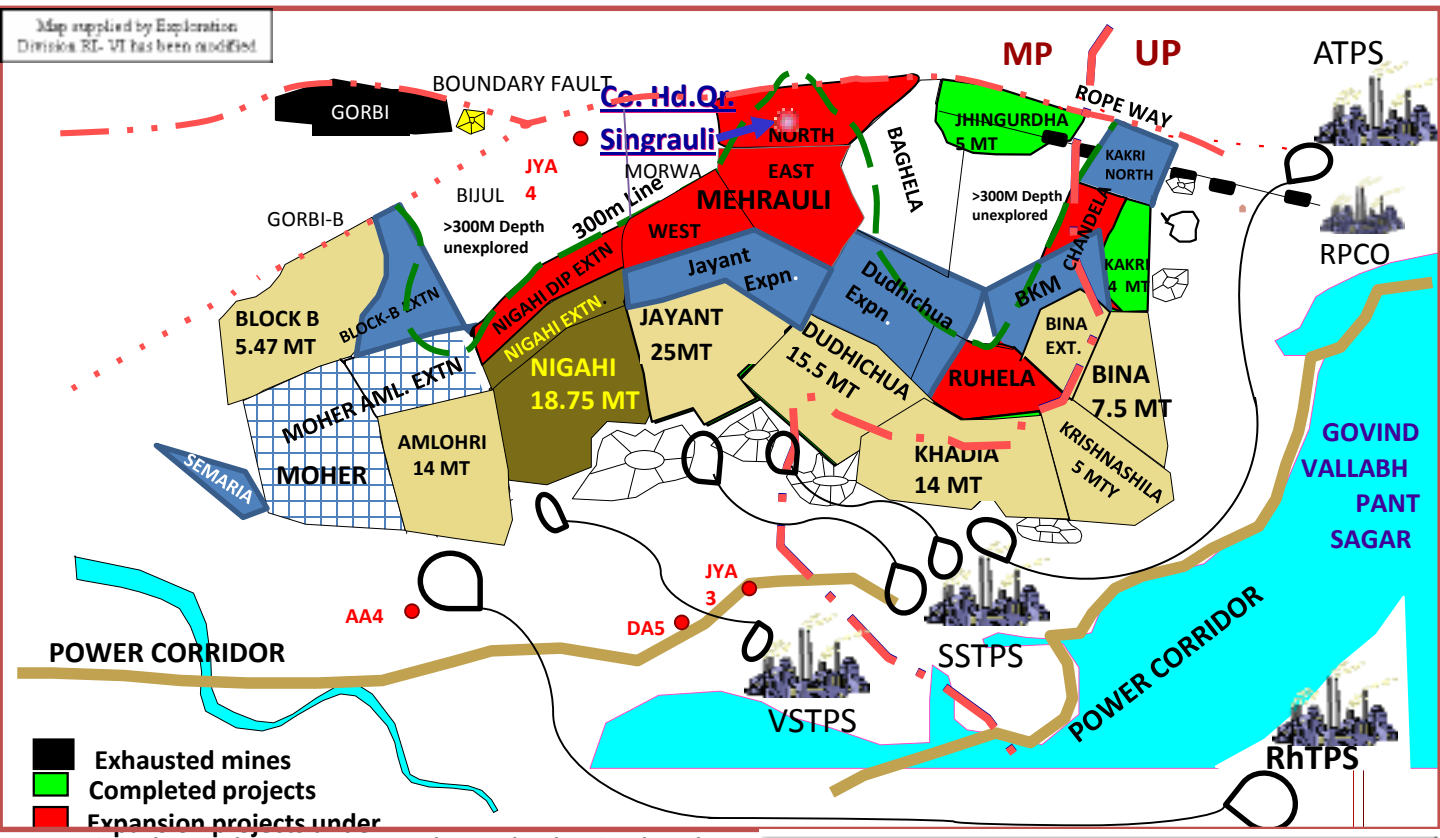

Plate No.-1

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NORTHERN COALFIELDS LTD.

ENVIRONMENTAL MONITORING

006081

PROJECT LOCATION PLAN OF NIGAHI OCP

CMPDI
ISO 9001 Company

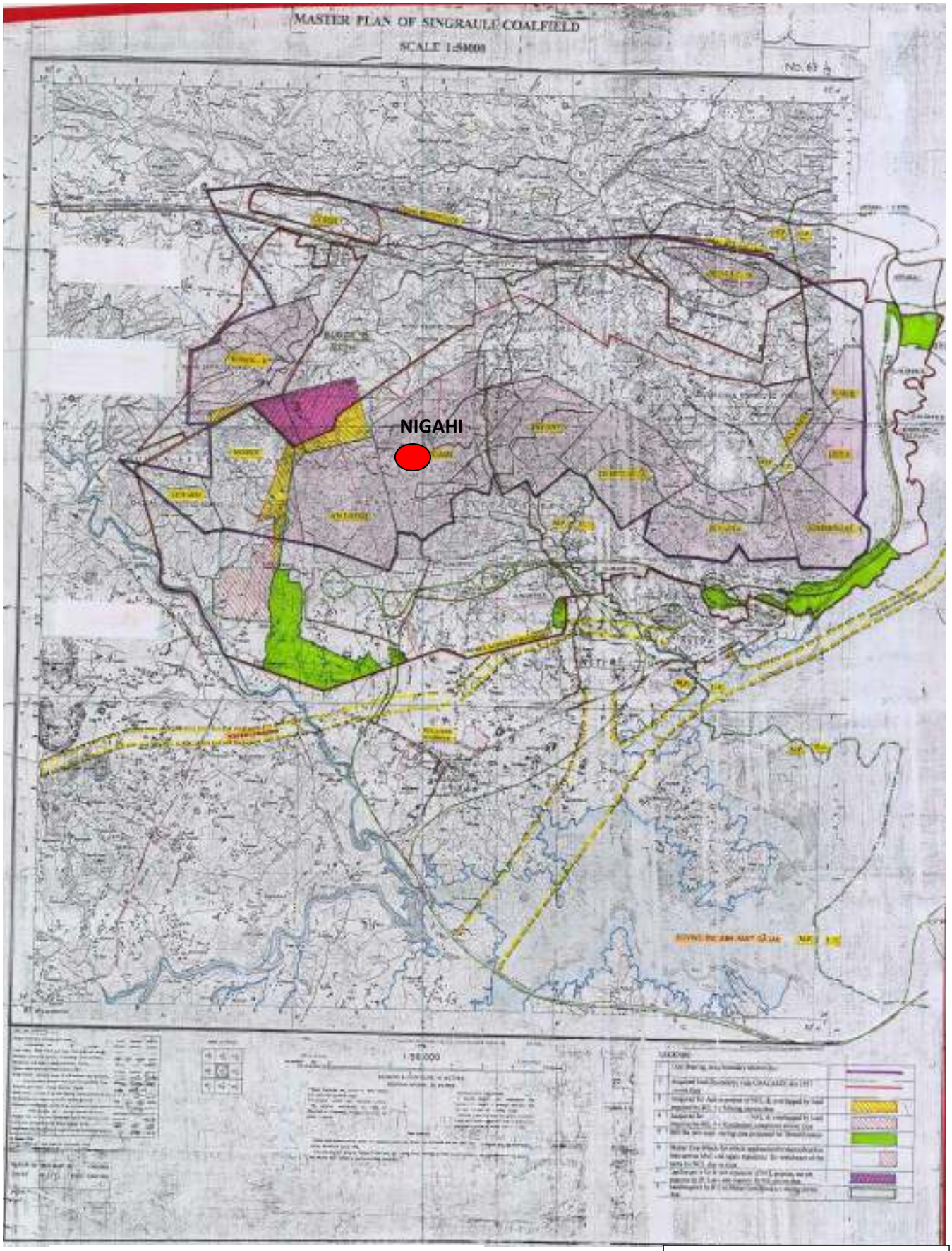
1 of 1

1

LEASEHOLD BOUNDARY OF NIGAHI OCP IN KML FORMAT

Plate No.-1(A)

PLAN SHOWING PROJECT TOPOGRAPHY IN SURVEY OF INDIA TOPOSHEET 63/L/12



NIGAHI OCP

Plate No. 1(B)

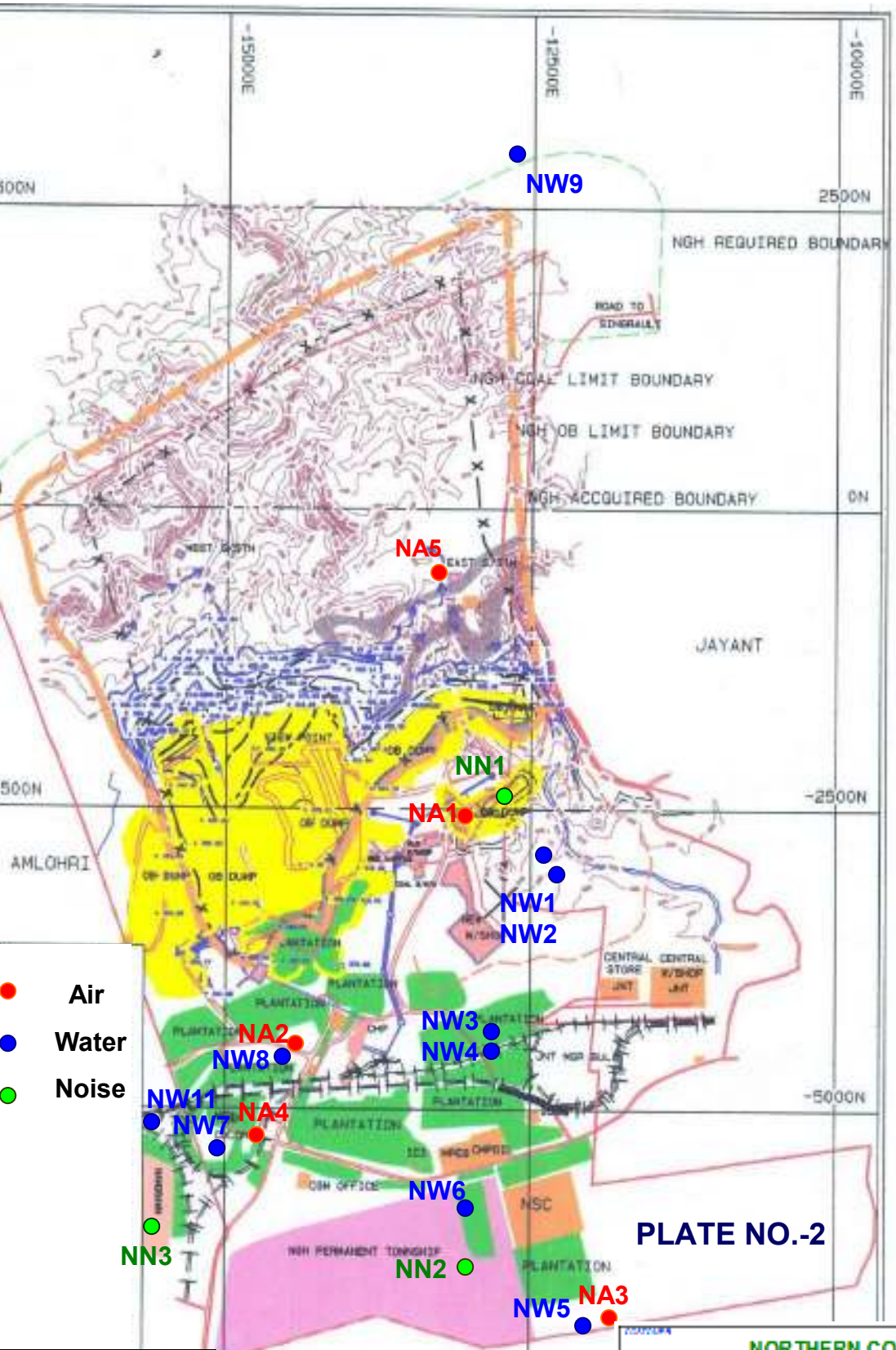


PLATE NO.-2

itoring Stations have been indicated on the map supplied by NCL

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ENVIRONMENTAL MONITORING

006081

SURFACE PLAN SHOWING MONITORING STATIONS OF NIGAHI OCP

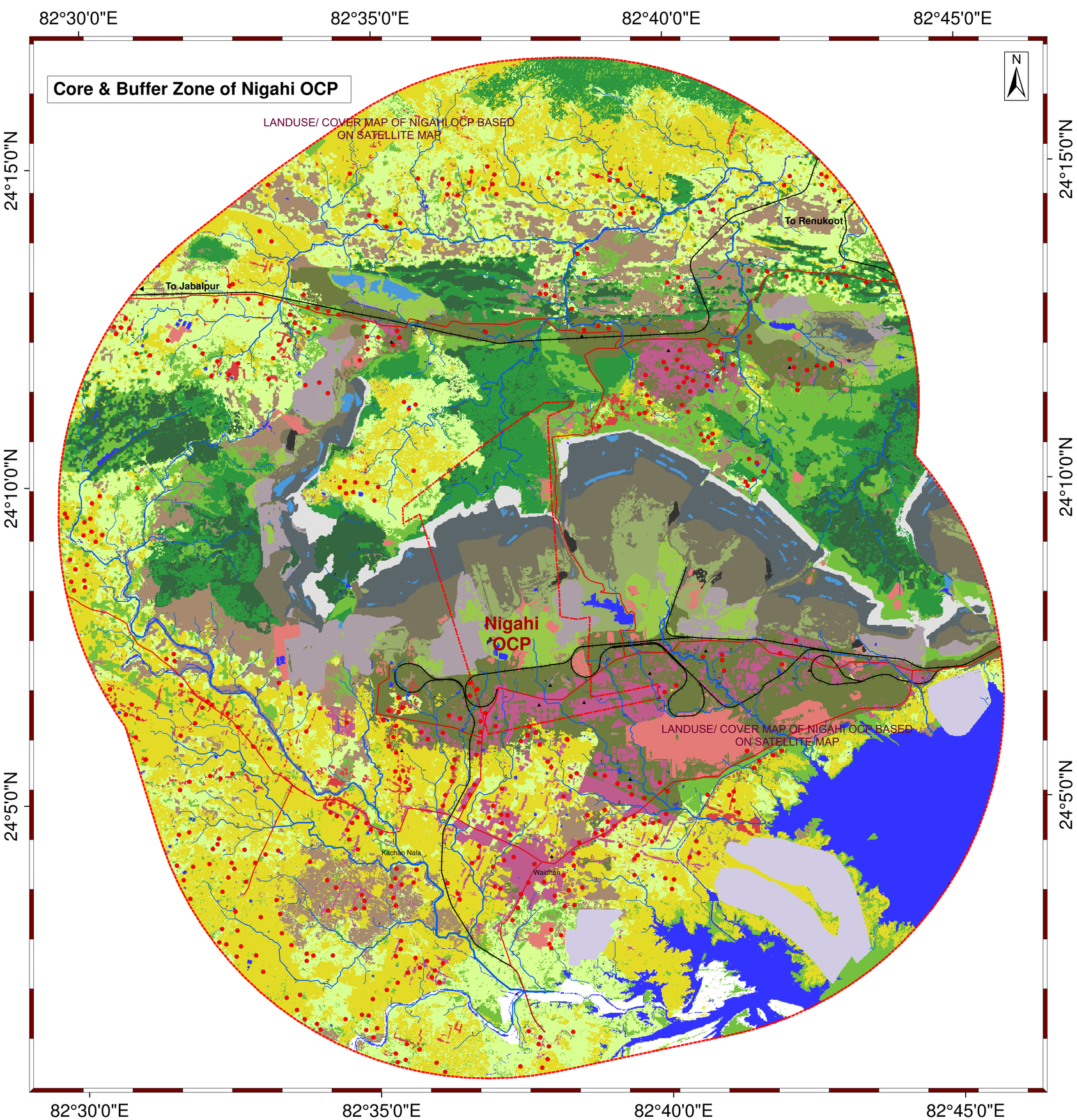
SCALE : NTS

1 of 1

CMPDI

ISO 9001 Company

1



LANDUSE/ COVER MAP OF NIGAHI OCP BASED ON SATELLITE MAP

			AREA STATISTICS			
Classes		Colour	Core Zone(Area)		Buffer Zone(Area)	
Level-I	Level-II		Area (Sq Km)	% of Total	Area (Sq Km)	% of Total
Forest	Dense Forest		0.29	0.98	24.59	4.12
	Open Forest		4.96	16.43	40.87	6.86
	Total Forest		**5.25**	**17.41**	**65.46**	**10.98**
	Scrubs		0.62	2.05	53.32	8.96
Plantation Area	Social Forestry		3.92	12.98	41.25	6.93
	Plantation on backfill		1.94	6.40	10.80	1.81
	Plantation on OB Dump		3.06	10.11	8.76	1.47
	Total Plantation Area		**8.92**	**29.49**	**60.81**	**10.21**
	Total Vegetation		**14.79**	**48.95**	**179.59**	**30.15**
Agriculture	Crop lands		0.05	0.18	125.98	21.17
	Fallow Land		0.79	2.62	99.89	16.78
	Total Agriculture Area		**0.84**	**2.80**	**225.87**	**37.95**
Waste Land	Wastelands		0.42	1.40	39.86	6.70
	Fly Ash Pond		0.00	0.00	14.15	2.38
	Sand Body		0.00	0.00	5.02	0.84
	Total Waste Land		**0.42**	**1.40**	**59.03**	**9.92**
Mining Area	Active Mining Area		3.15	10.41	18.02	3.03
	Barren OB Dump		2.22	7.35	14.42	2.42
	Barren Backfill		3.99	13.18	21.42	3.60
	Coal Dump		0.05	0.16	0.75	0.13
	Advance Quarry Site		1.13	3.74	6.51	1.09
	Waterfilled Quarry		0.07	0.24	2.26	0.38
	Total Mining Area		**10.61**	**35.08**	**63.38**	**10.65**
Settlements	Urban Settlements		2.66	8.78	18.90	3.17
	Rural Settlements		0.00	0.00	4.46	0.75
	Industrial Settlements		0.79	2.60	9.38	1.58
Water Body	**Total Settlement Area**		**3.45**	**11.38**	**32.74**	**5.50**
	River/ Ponds		0.12	0.39	34.68	5.83
	Total Area		**30.23**	**100.00**	**595.29**	**100.00**

Legend

- Settlements_Urban
- Settlements_Rural

Stram Order

- 1
- 2
- 3
- 4
- 5
- Roads
- Railways
- Nigahi_EC_Boundary
- Nigahi_Buffer_Boundary

Plate No.-3

Customer	NIGAHI OCP (NCL)				
Title	Land Use/Cover Mapping of Core and Buffer Zones				**Job No.** 181906102
Subject Land Use/ Cover Mapping of Core and Buffer Zones of NIGAHI OCP based on Satellite Data R2 DoP 11th March 2018.	**Activity**	**Name**	**Designation**	**Sign**	**Date**
	Prepared	Rohit Singh	Mgr (Geo)		20.05.19
	Checked	A K Singh	CM(RS)		20.05.19
	Approved	R. Kumar	HoD(Geom)		20.05.19
cmpdi A Mini Ratna Company	**Scale**				**Sheet 1**
	Drg No. HQ/REM/A1/19				**REVNo 0**

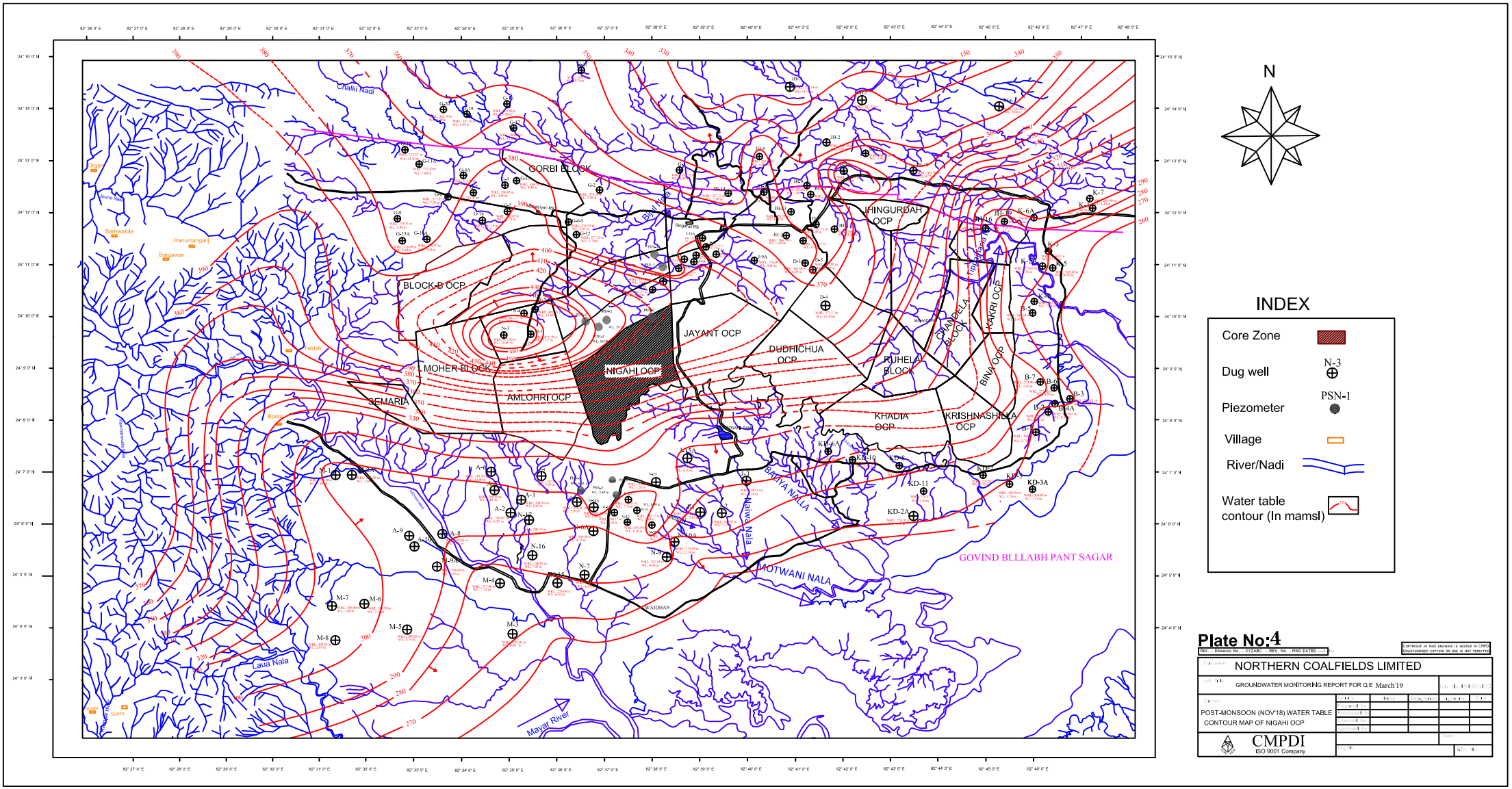


Plate No:4

REF. - DRAWING NO. - XYZ/ABC - REV. NO. - PNO DATED ---/--/--

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NORTHERN COALFIELDS LIMITED

GROUNDWATER MONITORING REPORT FOR Q.E March'19

POST-MONSOON (NOV'18) WATER TABLE CONTOUR MAP OF NIGAHI OCP

CMPDI
ISO 9001 Company

NORTHERN COALFIELDS LIMITED
NIGAHI PROJECT
SURFACE PLAN
SCALE 1 : 10000

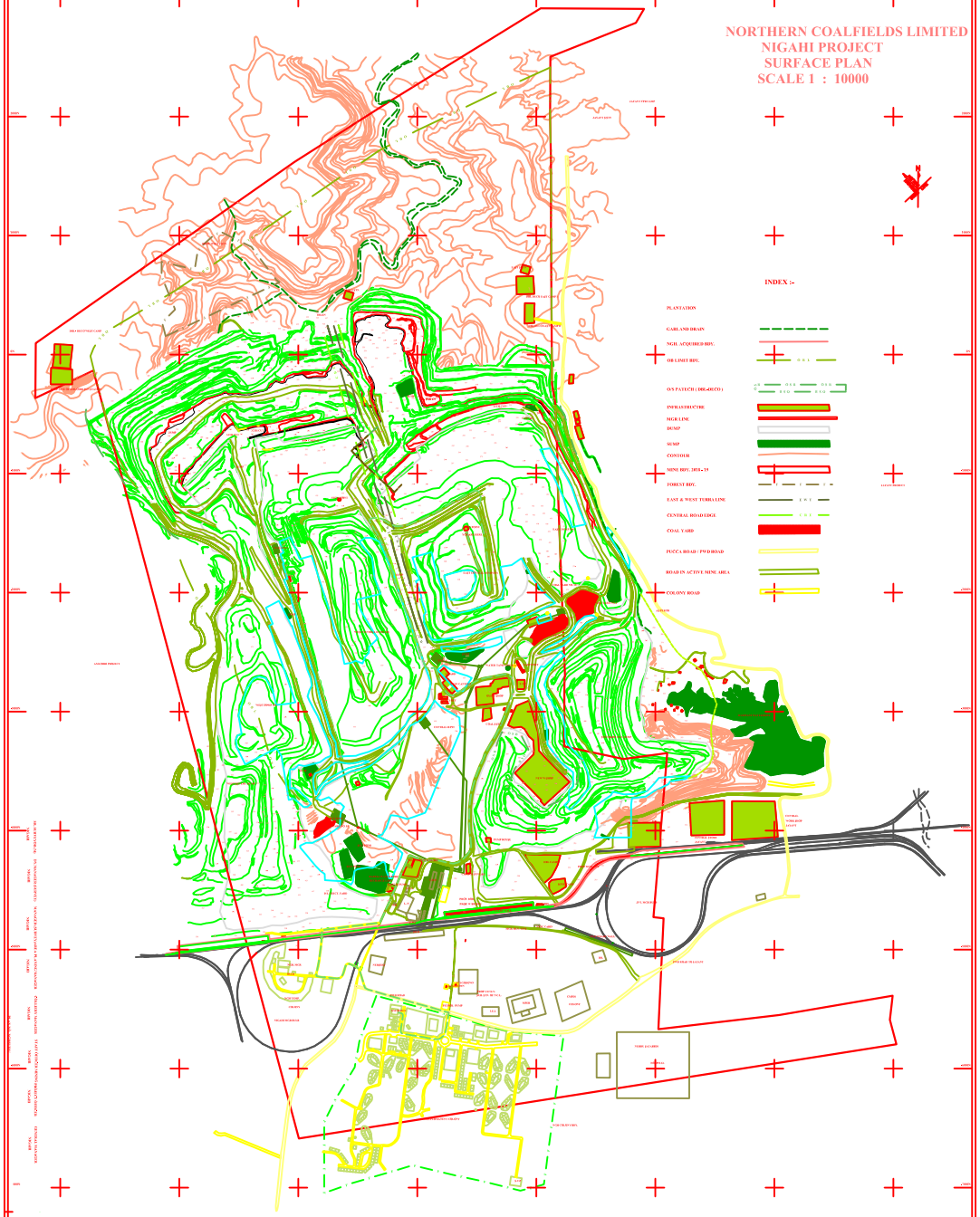


PLATE NO.-5
NIGAHI OPENCAST PROJECT
SURFACE PLAN AS ON 31/04/2019

REFERENCE DRAWINGS

CLASS	NAME OF DRAWINGS	DRG. NO.	SCALE
1.	GEOLOGY & SURFACE FEATURES ABOVE NORTH SEAM		
2.	FLOOR CONTOUR OF TURRA SEAM		
3.	FLOOR CONTOUR OF PURENA BOTTOM / PURENA MERGED SEAM		
4.	FLOOR CONTOUR OF PURENA TOP SEAM		
5.	ROOF CONTOUR OF TURRA SEAM		
6.	ROOF CONTOUR OF PURENA BOTTOM SEAM		
7.	ROOF CONTOUR OF PURENA TOP/PURENA MERGED SEAM		
8.	ULTIMATE PIT CONFIGURATION		
9.	FINAL QUARRY LAYOUT PLAN		

LEGEND

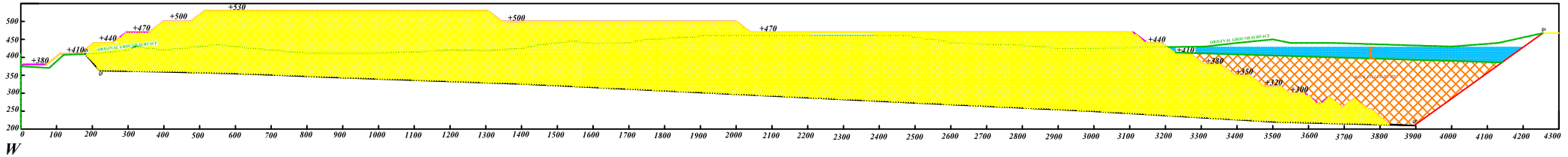
CLASS	PLANT & BUILDINGS	SYMBOL
1	WORKSHOP & MINE OFF.	
2	FLOOR CONTOUR OF PURENA SEAM	
3	BURNED COAL/OUTCROP	
4	FLOOR CONTOUR OF TURRA SEAM	
5	FLOOR CONTOUR OF PURENA TOP SEAM	
6	OB BENCH	
7	DUMP	
8	COAL MINED	
9	SPOT LEVEL	
10	HAUL ROAD	+315
11	CHORD REC. BEARING	

PLATE NO.-6

Customer:	NORTHERN COALFIELDS LIMITED		
Project Title:	NIGAHI OPENCAST PROJECT (15 Mtpa)		Job No. 1160/W/01
Subject:	FINAL STAGE DUMP PLAN	Drawn: Vaishali Thakur	Checked: OB Dump
		Designed: Ashok Prasad	Approved: PJM
		Surveyed: S.K.Choudhary	Rev:
		Scale: 1:5000	
		Drg.No.:SR/NIP/dwg/NIGAHI/2019	REV. No.

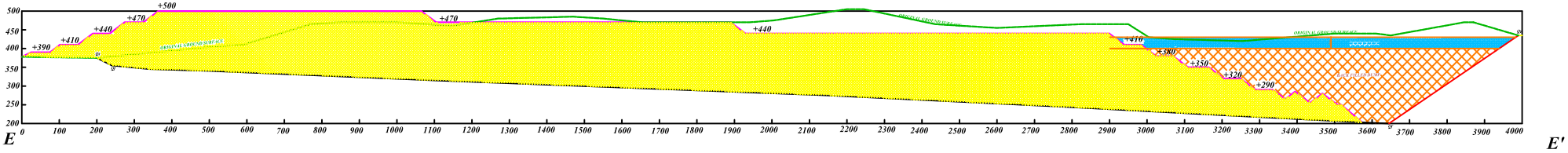
NIGAHI OCP

CROSS-SECTION W-W' SHOWING DUMP PROFILE
INTERNAL DUMP (D2) OF WEST SECTION



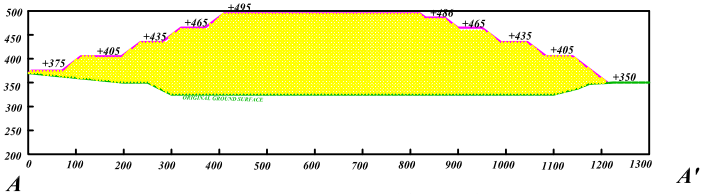
NIGAHI OCP

CROSS-SECTION E-E' SHOWING DUMP PROFILE
INTERNAL DUMP(D3 OF EAST SECTION



NIGAHI OCP

CROSS-SECTION A-A' SHOWING DUMP PROFILE
EXTERNAL DUMP OF SUTHERN SIDE



NIGAHI OCP

CROSS-SECTION B-B' SHOWING DUMP PROFILE
EXTERNAL DUMP OF SOUTHERN SIDE

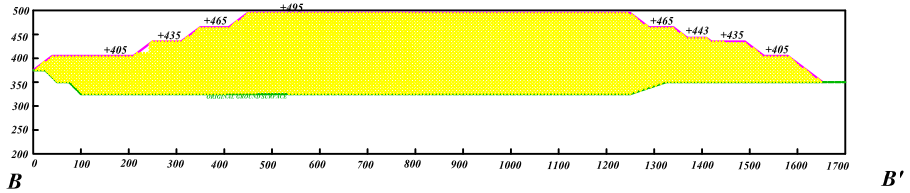
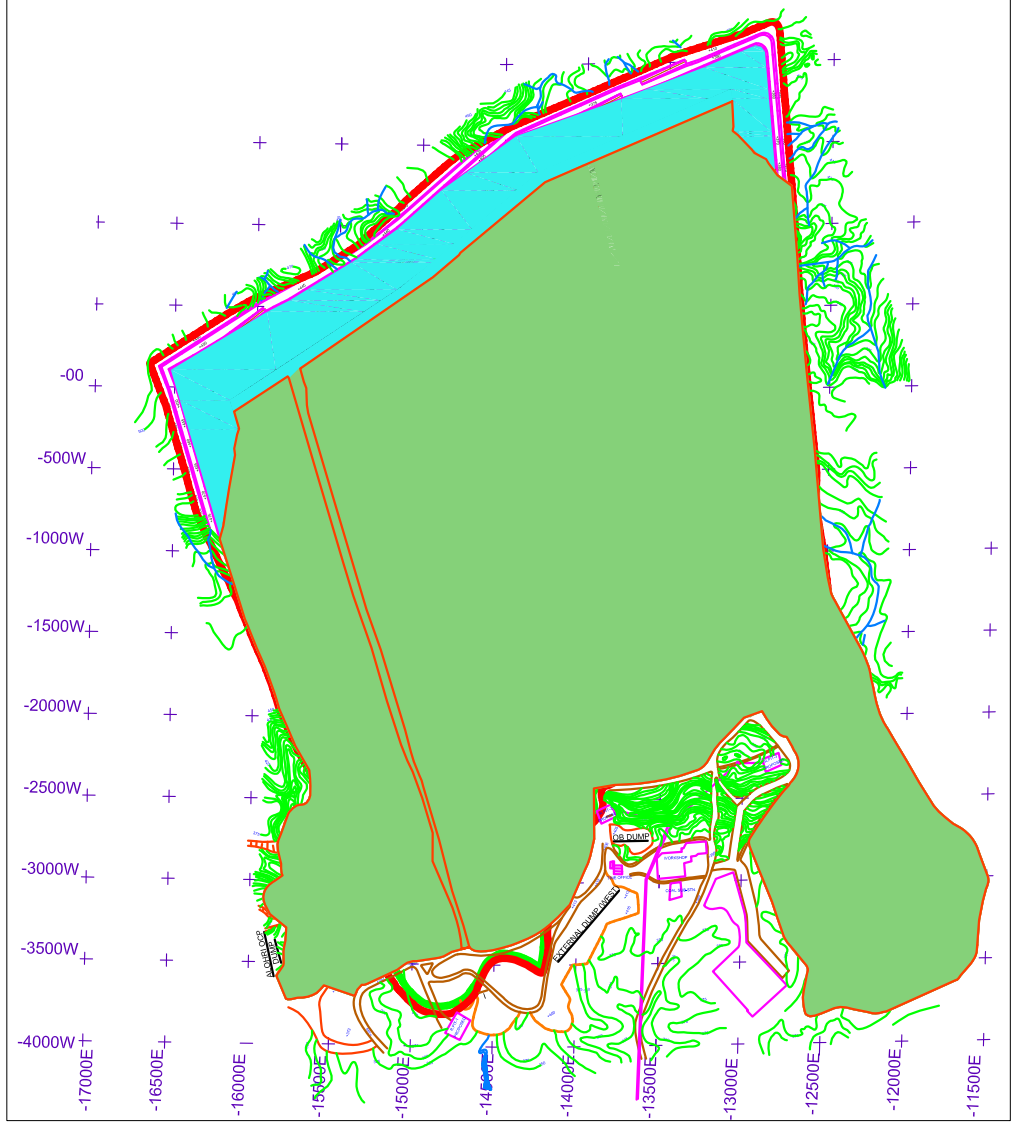


PLATE NO.-7

Customer :	Northern Coalfields Limited				
Job Title :	Nigahi OpenCast Project (21Mtpa)			Job No. 1920006101	
Subject :	Quarry Cross - Sections Showing DumpProfile, at the end of Mining operation	Activity	Name	Design.	Sign.	Date
		Design	Atul Bihari	CM (Excel)		
		Drawn	Roshni Kisku	Sr.Manager(P)		April 19
		Checked	Vinod Trivedi	Addl.GM(P)		
		Approved	R.K.Mahapatra	RD		
			Scale :- 1:2000			
			Drg.No.-RI-VI/Plng/NIGAHI/2019			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-11500E
NORTHERN COALFIELDS LIMITED
NIGAHI OPENCAST PROJECT (21 Mtpa)
POST MINING LAND USE PLAN

PLATE NO.-8

REGISTERED OFFICE

Gondwana Place, Kanke Road
Ranchi – 834 031
(Jharkhand)

REGIONAL INSTITUTES

क्षेत्रीय संस्थान-I
वेस्ट एंड, जी॰टी॰रोड
असनसोल-713 301
(पश्चिम बंगाल)

Regional Institute - I
West End, G.T. Road
Asansol - 713 301
(West Bengal)

क्षेत्रीय संस्थान-II
कोयला भवन, कोयला नगर
धनबाद-826 005
(झारखंड)

Regional Institute - II
Koyla Bhavan, Koyla Nagar
Dhanbad - 826 005
(Jharkhand)

क्षेत्रीय संस्थान-III
गोंदवाना प्लेस, कांके रोड
रांची - 834 031
(झारखंड)

Regional Institute - III
Gondwana Place, Kanke Road
Ranchi - 834 031
(Jharkhand)

क्षेत्रीय संस्थान-IV
जरीपटका, कस्तूरबा नगर
नागपुर - 440 014
(महाराष्ट्र)

Regional Institute - IV
Jaripatka, Kasturba Nagar
Nagpur - 440 014
(Maharashtra)

क्षेत्रीय संस्थान-V
सीपत रोड
बिलासपुर -
(छत्तीसगढ़)

Regional Institute - V
Seepat Road
Bilaspur - 495 001
(Chattisgarh)

क्षेत्रीय संस्थान-VI
पोस्ट : जयंत कोल्लियरी
जिला : सिंगरौली
पिन no. - 486 890
(मध्य प्रदेश)

Regional Institute - VI
P.O. : Jayant Colliery
Distt. : Singrauli
PIN - 486 890
Madhya Pradesh

क्षेत्रीय संस्थान-VII
गृह निर्माण भवन
सचिवलाय मार्ग
पिन no. - 486 890
(भुवनेश्वर - 751001)
(उड़ीसा)

Regional Institute - VII
Grih Nirman Bhawan
Sachivalaya Marg
Bhubaneswar - 751 001
(Orissa)

सेन्ट्रल माईन प्लानिंग एंड डिजाइन इन्स्टीच्यूट लिमिटेड

(कोल इंडिया की अनुषंगी कम्पनी)
एक मिनी रत्न कम्पनी

Central Mine Planning & Design Institute Limited

(A Subsidiary of Coal India Limited)
A Mini Ratna Company

गोंदवाना प्लेस, कांके रोड- 834 031, भारत
दूरभाष : (91-0651) 2230002, 2230483
फैक्स : (91-0651) 2231447
वेबसाईट : *www.cmpdi.co.in*

Gondwana Place, Kanke Road, Ranchi - 830 031, India
Phone : (91-0651) 2230002, 2230483
Fax : (91-0651) 2231447
Website : *www.cmpdi.co.in*

Adequate additional measures proposed for 21.00 MTPA

1. Procurement of 2 number Road Sweeping Machine has been proposed.
2. Procurement of 1 number Mist Gun has been proposed.
3. A scheme, proposed for enhancing the coal dispatch of Nigahi Project, through closed conveyor system of Nigahi CHP, by addition of closed conveyor belt between Old CHP and transfer point of New CHP, is under consideration.
4. Increased frequency of water sprinkling on haul road.
5. Increased frequency of water sprinkling on storage of coal.
6. Improved cleaning of haul road from coal spillage using sweeping machines.
7. Paving of coal transportation roads.
8. Optimized blast geometry, use of millisecond delay detonation and resorting to controlled blasting.
9. Strengthening of green belt is proposed between the dust generating source of mining area and residential premises in the downwind direction, to control the dust at these locations.
10. Use of plants having higher dust collection efficiency.

Area General Manager,
Nigahi Area, NCL

Annexure- II

Fulfillment of requirements as mentioned in Ministry's OM dated 15th September, 2017 :

S.No	Requirements as per the OM	Fulfillment by the project
1.	Predicted air quality parameters are within the prescribed norms.	Predicted air quality parameters are mostly found within the prescribed norms.
2.	Coal transportation is through conveyor system up to the silo and then loading to railway wagons, involving no transportation through road	Coal from CHP receiving pits is transported through Closed Belt Conveyor to SILO and then loaded to MGR wagons for transportation to the NTPC Vindhyanagar. Coal on e-auction basis has been transported, as a basket link, temporarily, depending on the demand – supply scenario of NCL. However, arrangements have been made for transportation of additional quantity of coal, proposed to be produced from Surface Miner, through railway wagons. A scheme for enhancing the CHP (Coal Handling Plant) capacity is also under consideration, in order to further strengthen the coal transportation through railway wagon.
3.	Coal mining is done through deployment of surface miners, replacing three dust generating operations of the conventional mining system namely drilling, blasting and crushing in one go.	Additional coal mining will be done by deployment of Surface Miner (3800-4000mm), thereby, replacing the three dust generating operations of the conventional mining system, namely drilling, blasting & crushing in one go.
4.	Public hearing already conducted for the total mine lease area involved and no more area is required for the proposed expansion	Public hearing has already been conducted for the total mine lease area involved and no more area is required for the proposed expansion. Above Public hearing was conducted by Madhya Pradesh Pollution Control Board on 18.12.2005 at Community Hall, Waidhan.
5.	Compliance status of EC conditions monitored by the concerned Regional Office of this Ministry is found to be satisfactory	Compliance status of EC conditions of 18.75 MTPA was issued by RO, MoEF&CC vide letter no. 3-17/ 2015/(ENV)/681 dated 18.06.2019, on the basis of site visit conducted on 14.05.2019.
6.	Other statutory requirements like Consent to Establish/Operate, Clearance from CGWA, approval of Mining Plan and Mine Closure Plan, Mine Closure Status Report as applicable, Forest Clearance, etc are satisfactorily fulfilled.	• Consent to Establish has been obtained vide no. CTE-44808 dated 22.10.2015, which is valid up to 15.10.2020 • Consent to Operate (Air and Water) has been obtained vide no. AW-46103 dated 28.09.2016, which is valid up to 31.01.2020. Hazardous Waste Authorisation has been obtained vide no. H-49744 dated 30.03.2019, which is valid up to 07.11.2023. • Application was submitted for obtaining ground water clearance, but clearance was not granted on account of falling of Waidhan block (where Nigahi OCP is located) in "safe" category. Application is again re-submitted on 26.09.2019, vide application number 21-4/878/MP/MIN/2019. • Mining Plan incorporating Mine Closure Plan for Nigahi OCP, has been prepared for coal production of 21.00 MTPA and approved by NCL Board on 23.04.2019. quarterly and annual mine closure status reports are being regularly submitted to the Coal Controller.

		• The Project has stage-1 forest clearance for all the forest land involved, i.e., 1280.517 Ha. Details of the FC is as given below: **(i) <u>874 Ha</u> :** Original FC was obtained on 18.06.1987 vide File No. 8-62/86-FC. Stage-I FC for renewal has been obtained on 12.12.2018, vide F. No. 8-62/1986-FC(Pt.). **(ii) <u>406.517 Ha</u> :** Stage-I FC has been obtained on 12.04.2018, vide F. No. 8-26/2015-FC.

Area General Manager,
Nigahi Area, NCL

Annexure- III

Action Taken Report on partial compliances of EC conditions reported by the Ministry's Regional Office :

Cond. No.	Condition	Compliance status (as reported by RO, Western Region, MoEF&CC, Bhopal)	Action Taken Report
Sp. Cond. xiii)	Coal transportation in pit shall be by dumper, Surface to siding by CHP and siding to loading through SILO and MGR.	Coal transportation from Face to Receiving Pit (R/P) of CHP is done by dumpers, coal transportation from R/P (CHP) to SILO is done via Closed belt Conveyor System and loaded into wagons of MGR transportation through the SILO. About 1%-2% coal on e-auction has been road transported. **Partly complied.**	Coal on e-auction basis has been transported, as a basket link, temporarily, depending on the demand – supply scenario of NCL. However, arrangements have already been made so that additional quantity of coal in 21.00 MTPA project, can be transported through railway wagons. A scheme for enhancing the CHP capacity is also under consideration, in order to further strengthen the coal transportation through railway wagon.
Sp. Cond. xvi)	The OB shall be completely re-handled at the end of mining. The land after mining shall be brought back for agriculture purpose.	The condition could be complied partially because of the following: Till grant of EC for 18.75 MTPA, dumping of OB has been done in compliance to specific condition (iii) of EC for 15 MTY which states, "*OB generated shall be stored in two external waste dump of 418 ha, and a max. height of 150m, consisting of 5 benches of 30m each, which will be stabilized with plantation, and the ultimate slope of the dump shall not exceed 28^0.Monitoring and management of reclaimed dumpsite should continue until the vegetation becomes self-sustaining.*" If the OB is required to be re-handled completely, felling of trees will be required from the already reclaimed dumps. This will require fresh permission from forest department and will also disturb the huge quantity of stabilized OB dumps. This will not only incur additional cost for re-handling, but also add to the air and water pollution. Further, as per the conditions laid down in Forest Clearance, "Legal status of the diverted forest land shall remain unchanged." Since a major portion of mined out area will be diverted forest land, the same is required to remain as forest land. In view of the above constraints, a proposal was initiated for amendment in this condition, vide letter no. NCL/ Env/ 17/ 7195 dated 05.02.2018. **Partially complied**	As pointed out by the RO, Western Region, MoEF&CC, Bhopal, the condition needs amendment on account of the followings: • If the OB is required to be re-handled completely, felling of trees will be required from the already reclaimed dumps. This will require fresh permission and will also disturb the huge quantity of stabilized OB dumps. This will not only incur additional cost for re-handling, but also add to the air and water pollution. • As per the conditions laid down in Forest Clearance, "Legal status of the diverted forest land shall remain unchanged." Since a major portion of mined out area is diverted forest land, the same is required to remain as forest land. A request letter has already been submitted to the MoEF&CC, New Delhi, vide letter no. NCL/ Env/ 17/ 7195 dated 05.02.2018, for amendment in this condition. As per the recommendations of the EAC, proposal has been initiated on 09.10.2019 vide File No. SOM55 (Comp. No. 175799), for conducting scientific study regarding dump stability analysis up to height of 150 m, through Central Institute of Mining and Fuel Research, Dhanbad.

Area General Manager,
Nigahi Area, NCL