केवल नागपुर कोर्टके अधिकारक्षेत्र मे

Under Jurisdiction of Nagpur Court only

वेस्टर्नकोलफील्ड्सलिमिटेड/**Western Coalfields Limited**

मिनिरत्न कम्पनी(A Miniratna Company)

कोल इंडिया लिमिटेड की अनुषंगी कम्पनी(A Subsidiary of Coal India Limited)

CIN-U10100MH1975GOI018626

Azadi Ka Amrit Mahotsav

क्षेत्रीय महाप्रबन्धक का कार्यालय, कन्हान क्षेत्र

पता: वे.को.लि., कन्हान क्षेत्र, पो: दुंगारिया, जिला: छिन्दवाड़ा, मध्य प्रदेश, पिन:480553

Email: agmkanhan@westerncoal.gov.in

Office of Area General Manager, Kanhan Area

Address: WCL, KanhanArea,PO: Dungaria,Dist: Chhindwara, MP, PIN:480553

Fax:07160-230520, Phone: 07160-231245

संदर्भ संख्या: वेकोलि/कन्हान/क्षे.म.प्र./योजना/2024 1582 दिनांक:- 12/08/2024

प्रति,

श्रीमान वन मंडलाधिकारी,

पश्चिम(सा0) वन मण्डल, जिला-छिन्दवाडा।

विषय:-वनमंडल पश्चिम छिन्दवाड़ा के परिक्षेत्र जामई के PF-454 के रकबा 14.000 हे0 वनभूमि में भारत खुली खदान फेस- 2 कोयला उत्खनन् हेतु-मेसर्से वेस्टर्न कोलफील्ड्स लिमिटेड को उपयोग पर देने बावत्।

संदर्भ:- File No. 8-112/2006-FCVol Dtd 18/Sept./2023 of MOEFF&CC New Delhi.

उपरोक्त संदर्भित पत्र द्वारा चाही गई 7 बिन्दुओ की जानकारी निम्नानुसार है:-

क्रं.	चाही गयी जानकारी	जानकारी
1	The State shall submit the justification for submitting the proposals for open cast mining in piecemeal.	The FC for 68.704 ha forest land under FCAct 1980was obtained on 17.07.2008 (copy enclosed as **Annexure-I**) for underground mining only without disturbing the surface of forest land. However, due to tough Geo-Mining conditions the Underground Mining operations were not carried out and Opencast Mining in Phases manner involving small patches have been planned considering the economic viability of the said project and other geographical factor likes fault etc. .Accordingly, FC proposal for diversion of 19.50 Ha was submitted for Phase I of Opencast Mining operation against which FC was accorded on 17.01.2015 (copy attached as **Annexure-II**). After the exhaustion of coal reserves in Phase-I Patch of 19.50 Ha, FC proposal (instant proposal) has been submitted for diversion of 14 Ha forest land in which Opencast Mining in Phase-II will be carried out. It is again to submit that the open cast mining in WCL is carried out in phase manners which is already communicated to MOEF in the EIA/EMP of the Project submitted to MoEF based on which the EC was accorded (*Page No-4(a)*). A copy of the EIA/EMP document is attached herewith as

		Annexure III for ready reference.
2-	As per DSS analysis of the KML file submitted with the proposal, the forest area within the mining lease has been found to be 150.453 ha. The DSS cell has used the boundary of forest available on Sate Forest website for analysis purpose. The State shall therefore recheck the forest area involved or for the correction of the forest boundary available on the website of the State Forest Department.	As per the directives received from MoEF&CC through earlier communications/ EDS, the Mining Plan for Bharat OC Patch has been revised. As per revised Mining Plan, the total land involved in the project is 111.489 Ha out of which 68.704 Ha is forest land & 42.785 Ha is non-forest land. The revised kml file showing project boundary and all three patches of OC patches is enclosed as **Annexure-IV**.
3.	The copy of approved mining plan under which the 19.50 ha area was worked by way of open cast mining shall be provided.	The copy of Approved mining plan under which the 19.50 ha area was worked out is enclosed herewith as **Annexure-V.**
4.	The State Govt. shall submit approved Mining Plan involving details of presently proposed 14.00 ha area showing vital project components like safety zone, external dump, infrastructure, approach road etc.	The copy of Approved mining plan is enclosed as **Annexure-V** involving details presently proposed 14.00 ha area showing vital project components like safety zone, external dump, infrastructure, approach road etc. The map showing all these components is attached in approved Mining Plan at **Plate No. 4** • Infrastructure detail in Chapter 5 • Dumping detail in Chapter 3
5	The purpose wise breakup of the 14 ha area involved in the instant proposal shall be submitted.	The purpose wise breakup of the 14.00 Ha forest land is as follows : 01. Safety zone = 1.4 Ha. 02. Open Cast Area = 12.60 Ha. 03. Infrastructure = Nil. 04. External Dumping = Nil. The map showing detailed purpose-wise breakup is enclosed as **Annexure-VI**.
6	The 19.50 ha mined out area has not been reclaimed so far. The Justification for not reclaiming the same along with the reclamation plan which was suppose to be implemented shall be submitted.	Out of 19.50 Ha land, the mined out land is 12.86 Ha only out of which 5.08 Ha. land has been technically reclaimed (backfilled) as on date. The balance void of 7.78 Ha area will be backfilled from OBR generated through Phase-II involving 14 Ha forest land (instant proposal).

		The details are already mentioned in enclosed Approved Mining Plan including Mine Closure Plan (Chapter 8) of Bharat OC Patch as well as in EC granted vide No. J11015/367/2008-IA.II(M) of MOEF& CC of Ghorawari OC Patches. (Copy of EC enclosed as **Annexure –VII**)
7	The State shall submit point-wise status of the compliance of the conditions stipulated in the approvals accorded earlier along with the justification for non-compliance of the stipulated conditions.	The point wise status of compliance for earlier diverted 19.50 ha forest land is enclosed as **Annexure –VIII.**

उपरोक्त जानकारी आपके आवश्यक कार्यवाही हेतु सादर प्रेषित।

संलग्न: उपरोक्तानुसार

12/08/2024
क्षेत्रीय महाप्रबंधक
कन्हान क्षेत्र

प्रतिलिपि:-

01. प्रधानमुख्य वनसंरक्षक (भू-प्रबंध), मध्यप्रदेश भोपाल।
02. मुख्य वनसंरक्षक, छिन्दवाड़ावृत्त, छिन्दवाड़ा मध्यप्रदेश।
03. महाप्रबंधक (पर्यावरण), वे0को0लि0 मुख्यालय नागपूर।
04. महाप्रबंधक (भू0 एवं रा0), वे0को0लि0 मुख्यालय नागपूर।
05. उपक्षेत्रीय प्रबंधक, घोड़ावाड़ी उपक्षेत्र।
06. क्षेत्रीय योजना अधिकारी / क्षेत्रीय सर्वेक्षण अधिकारी कन्हान क्षेत्र।

Annexure-I

Government of India
Ministry of Environment and Forests
F.C. Division

Paryavaran Bhawan,
CGO Complex, Lodhi Road
New Delhi - 110 510
Dated: 17th July 2008

To,

The Principal Secretary (Forests)
Government of Madhya Pradesh,
Bhopal

Sub:- **Diversion of 68.704 ha of forest land for renewal of mining lease of Western Coalfields Limited underground coal mine in Kanhan Area in Chindwara district of Madhya Pradesh.**

Sir,

I am directed to refer to the State Govt. letter no. No. F-1 / 415 / 06 /10 11 / 2011 dated 13.09.2006 on the above mentioned subject seeking prior approval of the Central Government in accordance with Section-2 of the Forest (Conservation) Act, 1980. After careful consideration of the proposal by the Forest Advisory Committee constituted under Section-3 of the said Act, in-principle approval for the said Mining Lease was granted vide this Ministry's letter of even number dated 17.10.2006 subject to fulfillment of certain conditions. The State Government has furnished compliance report in respect of the condtions stipulated in the in-principle approval and has requested the Central Government to grant final approval.

In this connection, I am directed to say that on the basis of the compliance report furnished by the State Government vide letter no. No. F - 1 / 415 / 06 /10 - 11 / 442 dated 15.02.2008, approval of the Central Government is hereby granted under Section-2 of the Forest (Conservation) Act, 1980 for diversion of 68.704 ha of forest land for renewal of mining lease of Western Coalfields Limited underground coal mine in Kanhan Area in Chindwara district of Madhya Pradesh subject to fulfillment of the following conditions:

1. Legal status of forest land shall remain unchanged.

2. a Fencing, protection and regeneration of the safety zone area (100 metres strip all along the outer boundary of the mining lease area) shall be done at the project cost. Besides this, afforestation on degraded forest land, to be selected elsewhere, measuring one and a half times the area under safety zone, shall also be done at the project cost.

   b Wherever possible and technically feasible, the User Agency shall undertake afforestation measures in the blanks within the lease area, in consultation with the State Forest Department at the project cost.

3 Following activities shall be undertaken by the User Agency at the project cost:

   (i) Proper mitigative measures to minimize soil erosion and choking of streams shall be prepared and implemented.
   (ii) Planting of adequate drought hardy plant species and sowing of seeds to arrest soil erosion.

(iii) Construction of check dams, retention / toe walls to arrest sliding down of the excavated material along the contour.

(iv) The top soil management plan should be strictly adhered to.

4 The forest land shall not be used for any purpose other than that specified in the proposal.

5 The approval under the Forest (Conservation) Act, 1980 is subject to the clearance under the Environment (Protection) Act, 1986.

6 The user agency will make arrangement for free supply of coal to labourers and staff working on the project site so as to avoid any pressure on the adjacent forest areas.

7 The period of permission for lease under the Forest (Conservation) Act, 1980 will be for 20 years subject to possession of valid lease by User Agency under the MMDR Act, 1957.

8 Demarcation of mining lease area will be done on the ground at project cost by erecting stone wall fencing / trenching around it.

9 The User Agency will implement the recommendations of the Subsidence Analysis Report at the project cost.

10 The User Agency will discharge the water used for processing only after proper treatment.

11 Other standard conditions as applicable to underground mining projects shall be applicable in instant case also.

12. The user agency shall take up plantation over the surface area wherever the forest density is less than 0.4. Gap planting should be taken up in the areas where density is between 0.4 and 0.7. The user agency will protect the area till the life of the underground mining in consultation with Forest Department.

13 Any other condition that the State Govt. or the Chief Conservator of Forests (Central), Regional Office, Bhopal may impose from time to in the interest of conservation, protection or development of forests.

Yours faithfully,

(C.D. Singh)
Assistant Inspector General of Forests

Copy to:-

1. The Principal Chief Conservator of Forests Government of Madhya Pradesh, Bhopal.
2. The Nodal Officer, Office of the PCCF, Government of Madhya Pradesh, Bhopal.
3. The Chief Conservator of Forest, Regional Office, Bhopal.
4. The User Agency
5. Monitoring cell of the FC section
6. Guard file.

(C.D. Singh)
Assistant Inspector General of Forests

Annexure-II

F. No. 8-112/ 2006-FC (vol.)
Government of India
Ministry of Environment, Forest and Climate Change
(Forest Conservation Division)

Indira Paryavaran Bhawan
Aliganj, Jorbagh Road
New Delhi - 110003
Dated: 17th January, 2015

To,

The Principal Secretary (Forests),
Government of Madhya Pradesh,
Bhopal.

Sub: Diversion of additional 19.500 hecatres of forest land to M/s Western Coalfields Limited in Kanhan area for open cast mining in Compartment No. 454 C.F.D. under West Chhindwara Division.

Sir,

I am directed to refer to the Government of Madhya Pradesh's letter No. F-1/406/06/10-11/1567 dated 30.06.2008 on the above mentioned subject, on the above mentioned subject, wherein prior approval of the Central Government for the diversion of additional 19.500 hecatres of forest land to M/s Western Coalfields Limited in Kanhan area for open cast mining in Compartment No. 454 C.F.D. under West Chhindwara Division, was sought, in accordance with section-2 of the Forest (Conservation) Act, 1980. After careful consideration of the proposal by the Forest Advisory Committee constituted under section 3 of the said Act, in-principle approval under the Forest (Conservation) Act, 1980 for diversion of the said forest land was accorded vide this Ministry's letter of even number dated 7th November 2013, subject to fulfillment of certain conditions. The State Government has furnished compliance report in respect of the conditions stipulated in the stage-I approval and has requested the Central Government to grant final approval.

2. In this connection, I am directed to say that on the basis of the compliance report furnished by the Addl. Principal Chief Conservator of Forests (Land Management) and Nodal Officer, the Forest (Conservation) Act, 1980, Government of Madhya Pradesh vide letters No. F-1/406/2006/10-11/2927 dated 5th November 2014 and User Agency's letter No. WCL/KAN/AGM/SUR//2014-291 dated 24th December 2014 approval of the Central Government is hereby granted under section-2 of the Forest (Conservation) Act, 1980 for diversion of 19.500 hecatres of forest land to M/s Western Coalfields Limited in Kanhan area for open cast mining in Compartment No. 454 C.F.D. under West Chhindwara Division, subject to fulfillment of the following conditions:

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

(ii) State Forest Department shall create and maintain from funds realised from the user agency the compensatory afforestation over the degraded forest land double in extent to the forest land being diverted shall be raised and maintained by the State Forest Department from the funds to be provided by the user agency;

(iii) Following activities shall be undertaken by the User Agency at the project cost:

(a) Implement the plan containing appropriate mitigative measures to minimize soil erosion and choking of streams shall be prepared and implemented;

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

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

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

(e) Strict adherence to the prescribed top soil management.

(iv) The State Government shall realise from the user agency the additional amount of NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India and transfer the same to the ad-hoc CAMPA under intimation to this Ministry;

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

(vi) 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) from funds already realised from the user agency;

(vii) State Forest Department shall undertake afforestation on degraded forest land, one and half time in extent to the area used for safety zone from funds already realised from the user agency;

(viii) For evacuation of the coal to be extracted from the forest land proposed for diversion, the user agency shall not seek diversion of any additional forest land;

(ix) The user agency shall contribute on proportionate basis the amount required for implementation of the plans to be prepared by the NTCA for rejuvenation and restocking of the viable corridor and the mitigative measures to eliminate/minimize the adverse impacts of the transportation of the coal to be extracted from the Pench-Kanhan coalfield on the viable corridor;

(x) For the purpose of apportioning the cost to be recovered from the user agency for rejuvenation and restocking of the migratory corridor and to implement the mitigative measures to eliminate/minimize the adverse impacts of the transportation of the coal on the said migratory corridor, in case of open cast mining the entire area of lease may be taken into account. In case of underground mining project, half of the area of the mining lease may be taken into account to calculate the amount to be recovered from the user agency;

(xi) The Chief Wildlife Warden, Government of Madhya Pradesh shall monitor the implementation of mitigative measures against the impact of project on wildlife.

(xii) The 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 & Regulating) Act, 1957, or Rules framed there under, subject to a maximum period of 30 years;

(xiii) 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 m. from outer perimeter of the mining lease from funds already realised from the user agency;

(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) The user agency shall undertake mining in a phased manner after taking due care for reclamation of the mined over area. The concurrent reclamation plan shall be executed by the User Agency from the very first year, 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 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) The forest land shall not be used for any purpose other than that specified in the proposal;

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

(xxi) User agency shall submit annual report on compliance to conditions stipulated in this approval to State Government and concerned Regional Office of this Ministry;

(xxii) User Agency and the State Government shall ensure compliance to provisions of the all Acts, Rules, Regulations and Guidelines, for the time being in force, as applicable to the project.

Yours faithfully,

(H.C. Chaudhary)
Director

Copy to:-

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

(H.C. Chaudhary)
Director

FEASIBILITY REPORT

OF

GHORAWARI OPENCAST EXPANSION PROJECT

B. COAL SEAMS AND ITS QUALITY :

Prospecting for the area under consideration for this project had been done by MECL, IBM & NCDC and as per the reports it has been correlated that the workable coal seams from top to bottom as Seam I, II & III. In this area, two of these seams viz. Seam-I & Seam – II; not only occur in split sections, which are designated as IA, IB, IC, (Split of seam I, IIA, IIB (Split of Seam II), etc. but are also at high depth. Due to such splits in both these Seams they are also very thin , hence declared unworkable seams. As such, only Seam – III has been considered for extraction by Opencast method. The quality of coal is designated as " Grade – D ".

C. METHOD OF WORK :

Within the Opencast leasehold area of this project, Opencast Mine is proposed in Seam – III keeping safety barrier from the leasehold boundary. Quarry batter is drawn at 45 degree as the type of rock is hard.

As indicated above Seams- I & II are very thin and at high depth, hence declared unworkable.

Simaltaneous OB removal and backfilling in the decoaled area has been proposed for balance life of the mine. No OB dumping has been proposed in Coal Bearing & Forest Land , for the balance life of the mine. OB dump schedule has been indicated in the progressive mine closure plan. Coal of this seam had already been extracted by under ground mining method earlier. Presently remaining coal from already developed/ depillared galleries and the left out barrier portion is being extracted by opencast mining monethod in small patches by deep hole blasting with shovel dumper combination by obtaining permission from DGMS.

D. CALANDER PROGRAMME FOR BALANCE LIFE:

The total mineable reserve left in the mine is 7.249 Mt. and the balance life of mine is about 7 years.

YEAR	COAL (Mt)	OB(M.Cu.m.)	INTERNAL DUMPING (M.Cu.m.)	EXTERNAL DUMPING (M.Cu.m.)
2008-09	0.59	5.16	4.16	1.00
2009-10	1.25	10.94	8.31	2.63
2010-11	1.25	10.94	8.31	2.63
2011-12	1.30	11.37	8.53	2.84
2012-15	0.95 X 3 = 2.85	8.31 X 3 = 24.93	18.95	5.98
TOTAL	7.24	63.34	48.26	15.08

Annexure-V
Page 11 to Page 91

MINING PLAN
(INCLUDING MINE CLOSURE PLAN)

FOR

BHARAT OC PATCHES

(UNDER GHORAWARI OC)

(TARGET: 0.47 MTPA IN ML AREA OF 111.489 Ha.)

(KANHAN AREA)

WESTERN COALFIELDS LIMITED

(JOB No. - 4020424009)

(TEXT, ANNEXURES & PLANS)

JUNE - 2024

CMPDI
REGIONAL INSTITUTE-IV, KASTURBA NAGAR,
JARIPATKA, NAGPUR, PIN – 440 014

AN ISO 9001:2000 COMPANY

CERT. NO.: C I /8656

INDEX

List of Annexure (As applicable as per guidelines dated 29-05-2020):

List of Plate (As applicable as per guidelines dated 29-05-2020):

Att.

MANAGER
Ghorawari Colliery No.

CHAPTER- 1: PROJECT INFORMATION

	Parameters	Detalls
1.1	INTRODUCTION	
1.1. I	Name of Coal/Lignite Block	**Name of the Mine**: Bharat OC Patch **Name of Coal Block**: Datla West
1.1.2	Name of the Coa1field/ Lignite Field	PenchKanhanTawa valley Coalfield
1.1.3	Base date of Mining P1an/ Mine Closure Plan	1) Mine Closure plan of Ghorawari OC Patch approved by WCL Board vide resolution dated 06/02/2014 on 252nd meeting and Bharat OC Patch is a part of Ghorawari OC Patch.
1.1.4	Linked End Use Plant	The coal is supplied to Thermal Power Plants of MPGCL and other miscellaneous consumers.
1.1.5	Distance of End use plant from the pit head of the project in "km"	The Sarni TPS is at a distance of 50 km (approx.) from the mine pit head.
1.1.6	Mode of Coal Transport	Coal by Rail and Road.

1.2 LOCATION, TOPOGRAPHY AND COMMUNICATION

1.2.1	Location of coal deposit (District and State)	The mine is located between 22°12′22′′ to 22°12′49′′ latitude and 78°32′59′′ to 78°34′37′′ longitudes . The Bharat OC Patch is Situated in Tehsil Junnardeo of Chhindwara District.
1.2.2	Communication: PWD roads, railway lines, Air	Bharat OC Patch is connected by all weather road and also by rail. Nearest railway station is Junnardeo (JNO) which is connected by broad gauge line with Amla Jn. (approx. 68 km) on the main line of Central railway. Junnardeo is also linked to Chhindwara town by broad gauge line of South Eastern Railway. Chhindwaratown is 120 km by road from Nagpur. Nearest Airport is Dr. Baba sahib Ambedkar International airport, Nagpur situated 170 km approx. away from the mine.
1.2.3	Availability of powersupply, water etc.	The source of power supply of Bharat OC Patch from 11 kV Sub Station Situated at Pit Head of Mine & the Sub Station is connected from MPEB. The water requirement for the project is met from the mine discharge water.
1.2.4	Prominent physiographic features, drainage pattern, natural water courses, rainfall data, highest flood level	The area has hilly terrain with generally undulating in the mineable area of the mine with surface elevation ranging from 770m to 830m. There is one number seasonal nallah exists at western side of OC Patch which flows north to south which discharge at Takia Nallah at distance of 1.5km. The H.F.L. of Seasonal Nallah is 774.131 m. Pench river flows at a distance of 7.0 km from the mine on the North-Eastern side.
1.2.5	Important surface features Within the project area and major diversion or shifting involved	Bharat OC Patch is a opencast mine with temporary Operational and service building only. There is no major diversion or shifting involved in the project.

MANAGER
Ghorawari Colliery No.

1.3 DETAILS OF THE ALLOTMENT AGREEMENT

1.3.1	Name the Allottee	Western Coalfields Limited WCL is a Category – I Mini Ratna Company, CPSU and Subsidiary of Coal India Limited (MahaRatna) under Ministry of Coal, Government of India.
1.3.2	Details of allotment/ vesting order	MCR Lease No. 11 are vested to Coal India under Coal Mines Nationalisation Act 1973. After formation of WCL on 01.11.1975 the mines automatilcally come under administrative control of WCL. As per Section 3 of the Coal India, Reg of Transfer and Validation Act 2000, these leases were deemed to be fresh mining lease w.e.f. 01/11/1975 MCR 1960 and valid till year 31/03/2030
1.3.3	Name and address of the applicant	Western Coalfields Limited, Coal Estate , Civil Lines, Nagpur (MS) – 440001
1.3.4	Name of the Previous Allottee of the Block	Not Applicable
1.3.5	Starting Date of the Mine as per CMDPA	Not Applicable as WCL is Govt. PSU
1.3.6	Rated Capacity as per CMDPA	Not Applicable as WCL is Govt. PSU
1.3.7	Production Schedule as per opening permission (meeting provisions of CMDPA if any)	Not Applicable as WCL is Govt. PSU
1.3.8	End Use of Coal/Lignite as per allotment order if any	Power Generation / miscellaneous consumption in Non-Power sector
1.3.9	Cardinal points co-ordinates of the Block boundary	Kml of boundary of Block Boundary Enclosed.

MANAGER
Ghorawari Colliery No.

1.4 DETAILS OF THE PREVIOUS APPROVAL OF MINING PLAN

1.4.1	Date of Approval	Scheme was approved in the year 24.09.2012 (Phase-I)
1.4.2	Conditions, if any	Nil
1.4.3	Scheduled year of start of production	Mine is in operation since 28.06.2015
1.4.4	Proposed year of achieving the targeted production	1st year
1.4.5	Date of actual commencement of mining operations, if operations already started	Mine operation started in 28.06.2015 (After approval of Phase-I in land area under physical possession in 62.285 ha. (Forest land 19.5ha. after forest clearance+Non Forest land 42.785 ha) and further this area is also a part of project Area of 111.489 Ha in this mining plan.
1.4.6	Likely date of mining operations, if operations not yet started & reasons for non-commencement of operations.	Not applicable.
1.4.7	Planned production and actual levels achieved in last 3 years (Coal in Mte, OB in MM³):	

Phase	Year	Planned Coal Production (MT)	Actual Production (MT)	Actual OB excavation Mm³
Ph-I	2015-16	0.200	0.257	1.143
	2016-17	0.254	0.104	0.662
	2017-18	0.209	0.042	0.009
	2018-19	0.000	0.000	0.000
	2019-20	0.075	0.086	0.251
	2020-21	0.040	0.040	0.064
	2021-22	0.000	0.000	0.000
	2022-23	0.000	0.000	0.000

1.4.8	Statutory obligations vis- a-vis compliance status in a tabular form	Existing coal mining operations are being carried out as per the following: 1. EC secured vide MoEF& CC letter No. J-11015/382/2007-IA.II(M) dated 19-02-2008 with production capacity of 1.50 MTPA and total lease area is 1296.011ha for Ghorawari OC coal mine andBharat OC Patch(Land area 111.489 ha.)is also part of aforesaid Ghorawari OC coal mine. 2.Consent: CTO secured vide Consent No. AW-59782 valid upto 31st Jan 2026 for Ghorawari OC Patch. 3. Environment Monitoring: Complying, as per EC conditions.
1.4.9	Reasons for difference between the planned and actual production levels.	Due to adverse geo-mining conditions such as faults and , dewatering of water from the UG galleries hampered productions.

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1.5 PARAMETERS OF APPROVED MINING PLAN VIS-A-VIS PROPOSED MINING PLAN

S.No	*Parameters*	Proposed Mining Plan
1.5.1	Block Area in "Ha"	111.489 Ha.
1.5,2	Block Area Projectised"Ha"	111.489 Ha.
1.5.3	Lease area "Ha"	111.489 Ha.
1.5.4	Project Area "Ha"	111.489 Ha.
1.5.5	Life of the Project "Years"	06 Years as on 01.04.2024 (including 2 years for land acquisition)
1.5.6	Minimum and Maximum Depth of working "m"	Min Depth = 15 Mtr. Max Depth = 90Mtr.
1.5.7	Net Geological Block "Ha"	111.489 Ha.
1.5.8	Production Target"MTPA"	Coal – 0.47 MTPA
1.5.9	Seams Available "As per GR"	One No. Seam i.e. MEC-III
1.5.10	Seams not considered for Mining with Reasons	Nil
1.5.11	Gross Geological Reserve "Mt"	Coal- 3.908 (MEC-III)
1.5.12	Net Geological Reserve "Mt"	3.908
1.5.13	Blocked Reserve "Mt"	1.649
1.5.14	Minable Reserve "Mt"	2.259
1.5.15	Extractable Reserves "Mt"	2.259
1.5.16	% of Extraction/ recovery	100%
1.5.17	Reserve Depleted (till the base date) Reserves " Mt"	0.529 Mt as on 01.04.2024
1.5.18	Balance Extractable reserve "Mt"	Balance reserves as on 01-04-2024 is 1.73
1.5.19	Average Grade (Proposed in approved Scheme of Phase-II & III)	80 % of Grade G-13 for Power sector and 20 % of Grade (G-10 (60%) + G11 (40%)) for Non Power Sector
1.5.20	OB in Mm^3	16.316
1.5.21	SR Mm^3/te	9.43
1.5.22	Mining Technology	Opencast mining method
1.5.23	Coal Beneficiation envisaged	Nil
1.5.24	Handling of Rejects	Nil
1.5.25	Land use pattern "Ha"	
1	External OB Dump	Nil
2	Excavation / Quarry Area (12.86 Ha. already excavated (phase-I) + 40.12 Ha. to be excavated) * Excluding the area of previous quarry. In Bharat OC phase-I, backfilling in 5.08 ha has already done	52.98 Ha.
3	Infrastructure including Roads	4.00 Ha.

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4	Blasting Zone & Rationalization Area	12.519 Ha.
5	Embankment	4.5 Ha.
6	Dumping in void of previous quarry (26.39 Ha. already backfilled + 8.50 Ha. to be backfilled)	34.89 Ha.
7	Other (Green Belt)	2.60 Ha.
8	**Total**	111.489 Ha.
9	**Proposed Back filed Area** (8.50 Ha. at previous quarry + 35.55 Ha at Bharat OC)	44.05 Ha.
1.5.26	Reasons for revision	• Mining Plan of Bharat OC Patch consist of Phase-I ,II& III including land area of old quarries (42.785 ha). Total land area works out to 111.489 ha. Out of 111.489 ha of land, Forest land is 68.704 and Non Forest is 42.785 ha. Total land in physical possession is 62.285 ha. (Forest land 19.5ha. +Non Forest land 42.785 ha). Balance land to be acquired is 49.204 ha . which is totally forest land. • In acquired land, Phase-I mine working with statutory approvals was worked and exhausted. • In addition to the above phase-I, mine has been proposed to worked in phases, namely Phase-II &Phase-III in 49.204 ha forest land (Phase-II :14.0 ha . and Phase-III : 35.204 ha.). A scheme for phase-II OC mine has already been approved by competent authority and a combined scheme for Phase-II and Phase-III is being prepared. • In view of the above proposed mining workings, Mining Plan of Bharat OC Patch has been prepared. • The application for diversion 14.0 Ha. forest land was submitted to MOEF vide Online Application No. FP/MP/MIN/26356/2017. • The Letter of MOEF Ref No. 8-112/2006-FCVOl Dated 18-Sept-2023 the MOEF is asked for Submitting the Mining Plan of Bharat OC Patch.

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CHAPTER- 2: EXPLORATION, GEOLOGY, SEAM SEQUENCE, COAL QUALITY AND RESERVE

	Parameters	*Details*
2.1	DETAILS OF THE BLOCK	
2. 1.1	Particulars of adjacent blocks: North, South, East, West	Jharna Extension block is adjacent The detail of mine boundaries are given below: North = Forest South = Residential Area East = Junnardeo Township West = Jharna UG
2.1.2	Location of the Block District/ State	District – Chhindwara, State – Madhya Pradesh
2.1.3	Area of the Block "Ha"	111.489 Ha.
2.1.4	Area of the geological block projectized "inHa" (Area of the geological block considered for liquidation of coal reserve)	111.489 Ha.
2.1.5	Balance area yet to be projectized "Ha"	**Nil**
2.1.6	Likely Reserve in the area yet to be projectized	Nil
2.1.7	Cardinal Point Co-ordinates of the non-coal/lignite bearing area/existing mining lease outside the allotted Geological Coal/Lignite block (Duly certified in line with para 1.9 of the Guideline, if fresh mining lease required)	(In decimal degree)

S.No.	Longitude	Latitude
1	78.5643960400	22.2111160300
2	78.5630865364	22.2113617771
3	78.5623003269	22.2116369336
4	78.5620204455	22.2120045248
5	78.5614826010	22.2123221780
6	78.5604305170	22.2124996911
7	78.5592777699	22.2125030192
8	78.5555581170	22.2115422043
9	78.5536295660	22.2110641982
10	78.5510106515	22.2108195493
11	78.5499483968	22.2106464595
12	78.5494996827	22.2102040760
13	78.5493583240	22.2096286129
14	78.5496030054	22.2088029908
15	78.5503035576	22.2084422738
16	78.5539196726	22.2093556285
17	78.5553775919	22.2094898020
18	78.5554396700	22.2082755098

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	Parameters	Details		
		19	78.5578600024	22.2082940857
		20	78.5580362579	22.2075243249
		21	78.5587963872	22.2071274689
		22	78.5586548938	22.2062374865
		23	78.5594335156	22.2060982603
		24	78.5605736393	22.2060903851
		25	78.5615359920	22.2064057828
		26	78.5620326374	22.2069880383
		27	78.5638012600	22.2069848100
		28	78.5656715531	22.2074869548
		29	78.5659788994	22.2084045190
		30	78.5677089106	22.2089832722
		31	78.5696033847	22.2089283547
		32	78.5767343227	22.2114368439
		33	78.5768218609	22.2133278128
		34	78.5737529126	22.2138440046
		35	78.5706147800	22.2138182457
		36	78.5658502965	22.2137310841
		37	78.5614716600	22.2134974300
		38	78.5643960400	22.2111160300
	Certificate of Qualified person/ Accredited Mining Plan **preparing** agency (MPPA)if the project area is confined within the vested/allotted block boundary/existing mining lease and	MCR Lease No. 10 &11 are vested to Coal India under Coal Mines Nationalisation Act 1973. After formation of WCL on 01.11.1975 the mines automatically come under administrative control of WCL. As per Section 3 of the Coal India, Reg of Transfer and Validation Act 2000, these leases were deemed to be fresh mining lease w.e.f. 01/11/1975 MCR 1960 and valid till year 31/03/2030		
2.1.8	Where the project area extends beyond the block boundary, a certificate of Qualified person/ Accredited Mining Plan preparing agency (MPPA)should be supported with a certificate of State Government mines and Geology department must be attached, which should specify (a) intent of the state government for grant of lease beyond the vested geological boundary;(b)non-existence of Coal/ Lignite in the area beyond the vested/allotted geological block boundary/existing			

Att.

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	Parameters	Details
	mining lease to rule out the issue of encroachment and use of coal bearing area(beyond the vested/allotted block boundary/existing mining lease in the mining plan. The Project area, Lease area and geological block area in "Ha" shall also be envisaged.	
	Any other adjacent block, and non-coal bearing certificate of the area in case any proposed infrastructure or OB dump is outside the block	Not Applicable
2.1.9	KML file of the Proposed lease area, Project Area and Geological block.	Enclosed as Annexure – I
2.1.10	Whether the proposed project area is confined Within the allotted block boundary/existing mining lease, if not, the reason for deviation from allotted block boundary may be given.	The proposed project is confined within the allotted block.
2.1.11	If the project area extends outside the allotted block boundary/existing mining lease, confirmation about non-occurrence of coal/ lignite in the area under reference needs to be furnished	Nil
2.1.12	Type of the Project (Operating /under Implementation) and year of Starting.	Bharat OC Patch is in operation since 29.06.2015 & the opencast mining is being carried out in small patches thereby extracting the erstwhile left out coal pillars in the old underground workings. In this sequence 19.50 Ha quarry in Phase-I has got exhausted. The OB generated from this Phase-I has been filled in internal dump of adjoining Old quarry located in west (6A &6B). Bharat OC Patch in Phase- II is an already approved scheme which will be work in quarry in 14.0 Ha. The void created in Phase-I will be utilized by

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into the picnic spot. Both side of this haul road will be afforested.

3.6.2 Slope stability arrangement for high wall and back filled dumps

During operation of the mine, overall slope will be maintained at an angle not exceeding 25-28 degrees. Vegetation cover will also be provided along the slopes to arrest any failure.

As regards stability of back-filled dumps, the final level of reclaimed backfill will be matched with the levels of surrounding ground level leaving a final residual void. For the stability of the back-filled dump the slope of the dump will be maintained at the stable angle of 25-28 degrees. Vegetation cover will also be provided along slopes to arrest any failure.

3.7 Survey records of workings

All the mine workings including quarry, roads, ponds, tanks, etc shall be resurveyed and records shall be updated. Copy of such records shall also be submitted to the appropriate competent authorities, such as DGMS and state authorities.

3.8 Disposal management of hazardous material

At the time of closure, assessment would be made as to find whether there is any hazardous material that could cause problem. Such hazardous material e.g. explosives, chemicals, oil, etc. shall be appropriately disposed off.

3.9 Re- deployment of work force

3.9.1 The current manpower of the project is 134 as on 1.04.2013.

3.9.2 However , at the time of final closure, after exhaustion of entire mineable reserve, following steps would be taken for effective management of available manpower at the time of closure:

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A). First, option of VRS would be given to the age group of + 50 years. Some may accept , others will be gainfully utilized in other projects.

B). After exhausting the above portion, the middle aged group workforce (between 40 – 50 years) would be transferred to the similar projects.

C). If vacancy in similar nature projects gets exhausted. The relatively young workforce would be re-trained and re-deployed in other projects.

3.10 Emancipation from the community facilities and the facilities to the PAPs

3.10.1 The project affected persons (PAPs) and also the local communities are being provided many civic facilities, such as educational facilities, health facilities, and drinking water. At the time of final closure after exhaustion of entire mineable reserve these facilities will be entrusted upon the local people and state authorities so that the same could continue even after mine closure. If needed, a lump sum amount would also be paid to the local bodies/trust of PAPs/ state bodies for proper upkeep and maintenance of various community facilities.

3.10.2 To ensure that no financial loss occurs due to the closure of mining activity to the local community engaged indirectly in the exhausting mine, following steps would be taken:

- Will be given option to shift in the new or expansion mines located in the nearby area.
- They will be given vocational training for continuance / sustenance of income level.
- It is proposed that reclaimed and afforested land may be handed over to state forest dept. for the benefit of local ecosystem as per rules in vogue. The forest wealth can also be utilized by local people or tribal in the form of fruits and fodders.

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<table>
<tr><th></th><th>Parameters</th><th>Details</th></tr>
<tr><td></td><td></td><td>proposed scheme in Phase-II & III working for internal dumping of OB. Top soil generated from Phase-II (14.0 ha land area) & Phase-III (35.204 ha) will be dumped in aforesaid internal dump of adjoining Old quarry (6A &6B). The above dumping schedule has been shown in point no.3.1.7</td></tr>
<tr><td>2.2</td><td colspan="2">EXPLORATION, GEOLOGY AND ASSESSMENT OF RESERVE</td></tr>
<tr><td>2.2.1</td><td>Regional geological set up of the area, local geology, structure, stratigraphic sequence, characteristics of the litho-logical units (coal seams/ partings /overburden).</td><td>Regional Geology :The PenchKanhan Valley Coalfields extend over a strike length of about 64Km. The Talchirs are exposed all along the southern limit of basin, while the motors with thin strips of Barakars in between, occur in the central part. In the northern part, Bijori and Panchmarhi formations overlie the lower Gondwanas. Overlying the lower gondwana sediments, the Jabalpurs are exposed in small patches in eastern part of the coalfield. While the Deccan traps covers the Gondwanasendiments over a greater parts in east. A number of Dolerite dykes have also intruded in the coal bearing formations. The archaeans occurring in the south demarcates the southern limit of basin. The regional strike of the sedimentataries is ENE-WSW with northerly dip ranging between 5 Degree and 15 Degree. The Pench Valley area is affected by a network of faults in which the strike faults are dominant. As a result of these faults of varying amounts throw, local changes in dip and strike are common. The fault zones have prominent topographical expressions in the form of linear ridges, fractured and slickenside rocks and faulted / The coal bearing Barakars show conformable relation with the overlying Moturs, but having distint unconformity with Jabalpur.
The Regional Geological sequence of the Satpura-Gondwana is given below :
<table>
<tr><td>Age</td><td>Formation</td><td></td><td>Lithology</td></tr>
<tr><td>Recent</td><td>Alluvium</td><td></td><td>Sandy & Clayey soil</td></tr>
<tr><td>Upper Creataceous to Eccocene</td><td>Deccan Traps</td><td></td><td>Basalt flow withintertrappean beds, dykes & sills of dolerite</td></tr>
<tr><td>Upper Cretaceous</td><td>Lameta</td><td></td><td>Conglomerate, Limestone & Clays</td></tr>
<tr><td colspan="2">UNCONFORMITY</td><td></td><td></td></tr>
<tr><td>Jurrasic</td><td>Jabalpur</td><td></td><td>Sandstone, Jasper bearing conglomerates with soft white clays</td></tr>
<tr><td colspan="2">UNCONFORMITY</td><td></td><td></td></tr>
<tr><td>Rhaetic</td><td>Mahadeva Group</td><td>BagraConglo-merate</td><td>Coarse, conglomerate with quartz pebbles in matrix of sandy clay</td></tr>
</table></td></tr>
</table>

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	Parameters	Details			
		Triassic		Denwa clays	Thick beds of soft variegated clay interstratified with subordinate bands of white sandstone.
		Lower Triassic		Pachmarhi Sandstone	Coarse white soft sandstone with layers of white subangluar quartz pebbles
		UNCONFORMITY			
		Upper Permian	Bijori		Sandsotne, micaceous shales, carbonaceous shales with streaks of coal.
		Lower Permian	Barakar		Feldspathic sandstone shales carbonaceous shales fire clays and coal seams.
		Upper Carboniferous	Talchir		Basal boulder bed followed by alternation of graded sandstone and greenish arenaceous micaceous shales.
		UNCONFORMITY			
		Archaeans	Gneisses and granites		Porphyritic streaky biolite gneisses and granite.
2.2.2	Local geology,Structure, Stratigraphics sequence, Characteristics of the lithological units (coal seams/ partings/overburden).	**Local Geology :** In Bharat OC Patch, The northern hilly region is occupied by the darcoloured basaltic rocks of the Deccan Trap. A dyke is passing through middle of the Bharat OC Patch in E-W to SW-NE trend. The Bharat OC Patch has been proposed to work in Phases namely Phase-I, II & III from old ug working of Datla West Colliery & Bharat Colliery.The old Datla West Colliery is abandoned since 1989. The left out coal in goved& standing on pillar is being extracted in Bharat OC Patch. Phase-I OC patch has been exhausted. Phase-II & III has been proposed to work in the future			

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	Parameters	Details
		STRUCTURE : Bharat OC Patch is affected by One no. major faults (40mtr) in direction of SE-NW at western part of the block. A few minor faults also exists. **Coal Seam details :** The quality of coal is designated as G-13 **Balance Extractable Coal Reserves :**The Balance Mineable Reserve of Phase II & III as on 01.04.2024 is 1.730 Mt.
2.2.3	Geological Block Area " Ha"	111.489 Ha.
2.2.4	Status of Exploration of the block	Explored
2.2.5	Area covered by 'detailed' exploration within the block (sq. km)	111.489 Ha.
2.2.6	Whether entire lease area has been covered by 'Detailed' exploration.	Yes
2.2.7	No. of boreholes drilled within the block	02 Nos. Borehole (1/75 and 2/75) Drilled by CMPDI. * The Block area of Bharat OC Patch is covered from old UG working of Bharat Colliery &Datla West Colliery, The reserve estimation is done on the basis of old Abandoned Mine Plan.
2.2.8	Whether any further exploration/study is required or suggested and time frame in which it is to be completed	**No**
2.2.9	Year wise future program of exploration	No
2.2.10	Overall borehole density within the block(no./ sq. km) approx.	2.91
2.2.11	No of Seams available as per GR	One No. Seam (MEC-III Top)
2.2.12	Seams not consideredfor Mining	Nil
2.2.13	Dip of the Seam	Gradient 1 in 4 to 1 in 5 Towards N 14 W
2.2.14	Seam wise thickness, depth and reserve	

Seam	Thickness Range	Depth	Grade	Reserve
MEC-III	3.50 m - 6.50m	10m to 90m	G-13	1.73 Mt as on 01.04.24

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	Parameters	Details
2.2.15	Methodology of reserves estimation (also Mention if any software package been used).	AUTOCAD
2.2.16	Average GCV "KCal/kg"	G-13 – 3400 to 3700 kCal/kg
2.2.17	Gross Geological Reserve of the block "Mte"	3.908 Mt
2.2.18	Net Geological Reserve of the block "Mte"	3.908 Mt
2.2.19	Minable Reserve of the block "Mte"	2.259 Mt
2.2.20	Blocked Reserve "Mte"	1.649 Mt
2.2.21	Corresponding extractable reserve of the Block	Balance Reserves as on 01-04-2024 is 1.73 Mt
2.2.22	Percentage of Extraction	100 %
2.2.23	Reserve already depleted (till the base data of Mining Plan) "Mte"	0.529 Mt
2.2.24	Balance Reserve (as on Base Date) "Mte"	1.73 Mt (Balance reserves as on (01-04-2024)

CHAPTER- 3: MINING

	Parameters	Details
3.1	**MINING METHOD**	
3.1.1	Existing method of mining if the mine is under operation	The mine is being worked by inclined slicir method i.e. conventional benching syste with shovel dumper combination, with ma sump at the floor of the seam. The thickne of composite seam is about 3.50 – 6.50 m.
3.1.2	Proposed method of mining with justification on suitability of method of mining	There is no change in method of mining fo coal extraction.
3.1.3	Coal production capacity proposed "MTPA"	Coal – 0.470 MTPA
3.1.4	Justification for optimizing coal production capacity	There is no coal production from Bharat C patch since June , 2020.
3.1.5	Calendar year from which the production will start	Production will start in 3rd year
3.1.6	Year of Achieving rated production	Mine will achieve planned coal production 4th year.

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3.1.7 A Tentative Coal production Plan "Mt"

Total Hiring Option

The calendar program of Excavation showing year-wise coal and OB in total Hiring Option are tabulated below.

Note: Calendar Plan/Production for the entire life of the mine.

Year	Coal in Mt.	Total OB in Mm^3	Remarks
Phase-I in 19.50 ha forest land has been exhausted			
Year-1	Land Acquisition		
Year-2	Land Acquisition		
Year-3	0.392	3.329	Phase-II
Year-4	0.470	4.275	Phase-II & Phase III
Year-5	0.438	4.975	Phase-III
Year-6	0.430	3.737	Phase-III
Total	1.730	16.316	

3.1.7 B Dump Capacity

Sl.	Type of Dump	Name of Dump	Existing Status		Additional		Total Volume (Mm3)
			Ht (m)	Volume (Mm3)	Ht (m)	Volume (Mm3)	
A	External Dump	Nil					
B	Internal Dump	D1 (6A & 6B Quarry) Soft OB	GL+20	0.245		0.00	0.245
		D2 (6A & 6B Quarry) Soft OB	GL+25	0.931	GL+30	0.406	1.337
		D3 (Bharat OC) Hard OB	GL+20	0.953	GL+45	12.167	13.120
		J1 (6A & 6B Quarry) Soft OB	Below GL	0.00	25(Up to GL)	0.998	0.998
		J2 (6A & 6B Quarry) Hard OB	Below GL	0.00	25(Up to GL)	2.000	2.000
		J3 (6A & 6B Quarry) Dyke	GL+20	0.00	30 (Up to GL)	0.745	0.745
	Total			2.129		16.316	18.445

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3.1.7 C Proposed Dumping Schedule

Year	OB (Mm^3)	External Dump (Mm^3)	Internal Dump (Mm^3)					
			D1 (6 A & 6B Quarry) (Soft OB	D2 (6 A & 6B Quarry) (Soft OB)	D3 (Bharat OC Quarry) (Hard OB)	J1 (6 A & 6B Quarry) (Soft OB)	J2 (6 A & 6B Quarry) (Hard OB)	J3 (6 A & 6B Quarry) (Dyke)
1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	3.329	0.000	0.000	0.400	2.929	0.000	0.000	0.000
4	4.275	0.000	0.000	0.006	1.875	0.394	2.000	0.000
5	4.975	0.000	0.000	0.000	3.830	0.400	0.000	0.745
6	3.737	0.000	0.000	0.000	3.533	0.204	0.000	0.000
Total	16.316	0.000	0.000	0.406	12.167	0.998	2.000	0.745

3.1.8	**Rated Capacity "Mtpa"**		
	-	By OC	0.470 MTPA
	-	By UG	Nil
	-	Overall	0.470 MTPA
31.9	Life of the mine: Years"		
	-	By OC	6 Years including 2 years for land acquisition
	-	By UG	NA
	-	Overall	6 Years including 2 years for land acquisition
3.1.10	Whether the proposed external OB dump site is coal/ lignite bearing: If so, whether coal/lignite below Waste disposal area is extractable.		No External OB Dump Site is proposed.
3.1.11	Whether negative proving for coal / lignite in the proposed site for OB dump/ infrastructure has been done.		No
3.1.12	Results of any investigation carried out for scientific mining, conservation of minerals and protection of Environment; future Proposals.		Regular monitoring of Environment parameters (Air, water, noise) ar being carried out.
3.1.13	Type of Equipment HEMM proposed		Excavator, Dumper, Dozer, Drille Payloader Sprinkler etc.

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CHAPTER 4: SAFETY MANAGEMENT

	Parameters	***Details***
4.1	Safety Management	
4.1.1	Important safety aspects: Major Risks and uncertainties to the project viz. Proximity to river, adjacent working, geo-mining disturbances, slope stability and remedial measures suggested. It should also include proposed overall slope of the quarry and OB dump, dump height, strata control, fire and spontaneous heating, gas monitoring, disaster management, danger from inrush of water etc.	Bharat OC Patch an Opencast Mine where the seam thickness varies from 3.50 Mtr to 6.50 Mtr. and method of working is Extraction of Old Depillared Pillars by Opencast using HEMM. Proposed Bharat OC patch will adhere to thecoal mine act 1952 , bylaws and CMR 2017 for safety of mine working to eliminate any risk, hazards associated with uncertainties. **Inundation:** 1. Precautionary measures against inundation from surface, such as cutting of garland drains, clearing of Nallah etc. is being done every year before the onset of monsoon. 2. No any river or major water body exist near the mine and only seasonal nallah is flowing through the North-West side of mine boundary which is generally active during monsoon and a strong Embankment is maintained for this purpose. 3. Precautionary measures are also taken from inrush of water/inundation from old developed galleries by maintaining another roadway with high altitude so that inrush water cannot reach there. 4. Description of Seasonal Nallah.

HFL		774.131 M
Withdrawal level		773.131 M
Warning level		772.131 M
Embankment	Min. Top RL Reqd.	777.131 M
	Present Min. RL	780.660 M
	Min. Top width reqd.	3 M

5. No any adjacent mines or workings situated near the mines.

In addition to the above, all precautionary measures as laidout in CMR-2017 and DGMS Technical

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	Parameters	Details
		Circulars will continue to be carried out. **6. Precautions should be taken while Working by Opencast mining method over underground developed pillar** **7. Dewatering of waterlogged quarry will be done before dumping of OB in void of quarry** **Slope Stability:** 1. Scientific study will be done for pit design and OB dump design. 2. The height of individual dumps are not exceeding 30m. Wherever the dump height is exceeding 30m are benched in such a manner that no bench exceeds 30m in height and the general slope in no case exceed 1 in vertical & 1.5 Horizontal. 3. No Toe of dump near to approach any railway lines/public roads. **Dust Suppression:** 1. The dust suppression is controlled at its origin by regular water spraying through water sprinkler tanker. 2. Monitoring of dust concentration by PDS so that permissible dust concentration cannot be exceeded. 3. All Safety Equipment such as Masks Ear-plugs are provided for protection from dust. **Fire & Spontaneous Heating** 1. There is no danger of Fire & Spontaneous heating during extraction of coal from old developed pillars because all these galleries are waterlogged. 2. Also SOP has been devised for working in hot strata. 3. Proper Arrangements of firefighting pipe lines has been laid at coal stock yard. 4. Regular monitoring of all places/points in coal stock yard to prevent the spontaneous heating. In Ghorawari Colliery No.2 there is no such risk of fire and spontaneous heating, In spite of this All the provisions of CMR-2017 and DGMS Technical circulars will continue to be followed **Disaster Management** 1. The detailed Safety Management Plan, Emergency response Plan has been prepared

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	Parameters	Details
		and implemented. 2. Principal Hazards of mine has been identified and Principal Hazard Management Plan (PHMP) has been prepared and implemted. Every risk and hazards associated with it are briefly investigated, control measures implemented and monitoring procedures devised in Safety Management Plan for mine.
4.1.2	A Commitment from the Company Board that entire mining operation will be carried out as per the Statutory provision given under Mines Act 1952, Coal Mine Regulation 2017 and &wherever specific permission will be required the company will approach the Concerned authorities.	. All the statutory provision has been to be adhered for the future mining operation

CHAPTER 5: INFRASTRUCTURE FACILITIES

	Parameters	Details
5.1	Mine infrastructure required e.g. Equipment maintenance planning, Office buildings, Workshop, Power supply arrangement, Water supply etc.	Mine is in operation since 28.06.2015. All existing infrastructure like Office buildings, Workshop, sub station for power supply arrangement , railway siding at Hridagarh, Water supply will be utilsed. In this Mining Plan, no additionalinfrastructure is proposed.
5.2.	Power supply &illumination.	**POWER SUPPLY, ILLUMINATION & COMMUNICATION** The source of power supply toGhorawari OC coal mineis from 24 KV Sub Station situated near Jharna UG & 11 KV Sub Station Situated at Bharat OC are part of Ghorawari OC Patches . Both the Sub Station are connected with MPEB.
5.3	Drainage & Pumping Assessment of Volume of Water for Pumping, Pumping Capacity and Pump Selection	A major portion of the quarry is backfilled and the remaining decoaled void will act as water reservoir. It is proposed to develop a water lagoon in the dip side area of the quarry, which could not be back filled. The water lagoon will be handed over to State Authorities for conversion into a picnic spot with proper fencing and security. If necessary, the lagoon may also be used by the State Authority for supplying water to

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		local community after proper treatment of the same. The existing water supply facilities would be handed over to the State authorities for future upkeep and maintenance. If required local authorities may use the lagoon as a source of domestic water supply for the local community.
5.4	Coal Handling Arrangement: Brief detail of the CHP/Mode of Dispatch, Coal quality and Coal staking and handling arrangement	COAL HANDLING ARRANGEMENT -100mm CHP is installed at Hirdagarh Siding, Produced coal from Ghorawari OC mine is being sent to Hirdagarh Siding for crushing. After Crushing the coal,it is dispatched to various consumers.
5.5	Coal washing and the proposed hand1ing/disposal of rejects.	Not applicable.

CHAPTER 6: LAND REQUIREMENT

	Parameters	Details
6.1	**LAND REQUIREMENT**	
6.1.1	Total Land requirement for the mine in "Ha"	Bharat OC Patch is an Open Cast Coal mine under Ghorawari OC Patches. The detail of Land involved are as under :

Land Type	Area in Ha.	Remarks
Forest Land	68.704 Ha.	Quarries of exhausted Phase-I (19.5 ha) and proposed Phase - II (14.0 ha) & Phase-III (35.204 ha)
Non-Forest Land	42.785 Ha.	Located in Adjoining old quarries of 6A & 6B
Total	111.489 Ha.	

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6.1.2 **During mining Land use details:**

Activity	Area in Ha.	Remarks
Excavation	52.98 Ha.	(12.86 Ha. already excavated + 40.12 to be excavated) * Excluding the area of previous quarry
OB Dump in void of previous quarry	34.89 Ha.	(26.39 Ha. already backfilled + 8.50 Ha. to be backfilled)
Infrastructure	3.00 Ha.	
Road	1.00 Ha.	
Green belt	2.60 Ha.	
Township	Nil	
Rationalisation	17.019 Ha.	Including Blasting zone and embankment
Total	**111.489 Ha**	

6.13 **Progressive Phase Wise Land Use Plan :**

Activity	**Phase-I : Existing (Within 19.50 Ha Forest Land)+ (42.785 Ha Non Forest Land**	**Bharat OC Extension**		**Total (Ha.)**	**Remarks**
		Phase-II : (Within 14.0 Ha. Forest Land) + (42.785 Ha. Non Forest Land of Old Quarry)	**Phase-III : (Within 35.204 Ha. Forest Land) + (42.785 Ha. Non Forest Land of Old Quarry)**		
Excavation	12.86	11.62	28.5	52.98	(12.86 Ha. already excavated + 40.12 to be excavated) * Excluding the area of previous quarry
External Dump	0.00	0.00	0.00	0.00	
Infrastructure incl. Coal stock and Road	4.00	0.00	0.00	4.00	
Green Belt	0.75	0.75	1.10	2.60	Incl. 7.50 m safety zone against

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						Forest land
	Embankment	1.20	1.50	1.80	4.50	
	Undisturbed Area	0.69	0.13	3.804	4.624	
	Sub Total (A)	**19.50**	**14.0**	**35.204**	**68.704**	
	Already Excavated Area	35.60			35.60	
	Undisturbed Area	7.185			7.185	
	Dumping in void of old quarry within excavated Area	4.00			4.00	
	Sub Total (B)	**42.785**			**42.785**	
	Total (A+B)	**62.285**	**76.285**	**111.489**	**111.489**	

6.14	Surface features over the block area	Surface features viz. manager office, coal stockyard, internal roads for transportation etc. have been provided.
6.1.5	No. of villages/Houses to be shifted	This Mining Plan will not involve any shifting.
6.1.6	Population to be affected by the project	Not applicable
6.1.7	Proposed Rehabilitation program	R& R is not applicable since only forest land is involved in the project.
6.2	**DETAILS OF LEASE**	
6.2.1	Status of Lease	The Coal Block of Bharat OC Patch is within the MCR Lease No. 10 &11
6.2.2	Existing Lease Area "Ha"	111.489 Ha.
6.2.3	Period for which Mining Lease has been granted/is to be renewed/is to be applied for.	As per Section 3 of the Coal India, Reg of Transfer and Validation Act 2000, these leases were deemed to be fresh mining lease w.e.f. 01/11/1975 MCR 1960 and valid till year 31/03/2030
6.2.4	Date of expiry of earlier Mining Lease, if any	31/03/2030
6.2.5	Whether the lease boundary/ required boundary is same as mentioned in the allotment order.	The Coal Block Area of Bharat OC Patch is within the Mining Lease.
6.2.6	Lease Area (applied/ required) as per the Mining Plan under consideration (Ha)	Not applicable.
6.2.7	Whether the applied lease Area falls within the allotted block	Not applicable.
6.2.8	Area (Ha) of lease which falls outside the delineated Block Boundary/Existing Mining Lease	Nil
6.2.9	**Details of outside area:**	
	Whether forms part of Any other coal block	No
	Whether it contains any coal/lignite reserves	Yes

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	Purpose for which it is required, e.g. roads/ OB dumps/ service buildings/ colony/ safety zone/ others (specify)	Not required
	Whether some part(s) of the allotted block has not been applied for ruining lease.	Not applicable.
	- Total area in Ha of Such part(s).	Not applicable.
	- Total reserves in such part(s). (Mt)	Not applicable.
	- Brief reasoning for leaving such part(s)	Heavily Populated zone, coal mining is not viable at present.

Chapter 7: ENVIRONMENTAL MANAGEMENT

	Parameters	Details
7	ENVIRONMENTAL MANAGEMENT	
7.1	Commitment from the project proponent that the company will comply Environment Forest Condition stipulated in the respective clearances.	Certificate

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वेस्टर्न कोलफील्ड्स लिमिटेड
Western Coalfields Limited
(मिनीरत्न कंपनी)(A Miniratna Company)
(A Subsidiary of Coal India Limited)

उपक्षेत्रीय प्रबंधक कार्यालय, घोरावाड़ी उपक्षेत्र
पो. घोरावाड़ी, जिला-छिन्दवाड़ा
CIN- U10100MH1975GOI018626

OFFICE OF THE SUB AREA MANAGER,
GHORAWARI SUB AREA
PO- Ghorawari, Distt. Chhindwara (MP) 480555
Ph. No. 07160-266311, email - samgsakan@gmail.com

पंजी.कार्या.:कोल इस्टेट, सिविल लाइन्स, नागपुर - ४४०००१

Regd. Office: Coal Estate, Civil lines, Nagpur-440001

स.क्र: वेकोलि/क.क्षे./घो.उ.क्षे./उ.क्षे.प्र/2023 -

दिनांक:

CERTIFICATE

This is to certify that the Bharat OC patch of Ghorawari OC patches mine, during its operations will comply with the conditions stipulated in the Environment clearance and forest clearance.

Mine Manager
Ghorawari OC mine

Sub Area Manager
Ghorawari Sub Area

CHAPTER 8: PROGRESSIVE & FINAL MINE CLOSURE PLAN

	Parameters	Details
8.1	**Land Degradation and restoration Schedule**	

Tentative Land Degradation and Technical Reclamation (Commutative Area "Ha")

8.1.1

Year/Stage (Life of the mine plus post closure period)	Land Degraded				Technically Reclaimed Area			
	Excavated	External Dump including Embankment)	Infra/ Others	Total	Backfill	External Dump	Others (Previous Quarry)	Total
Upto 01.04.2024	12.86	4.50	4.00	21.36	5.08	-	26.39	31.47
Year-1	0.00	0	0.00	0.00	0.00	0	0	0.00
Year-2	0.00	0	0	0.00	0.00	0	0	0.00
Year-3	11.43	0	0	11.43	9.00	0	5.0	14.00
Year-4	11.43	0	0	11.43	6.00	0	1.5	7.50
Year-5	11.43	0	0	11.43	10.50	0	1.5	12.0
Year-6	5.83	0	0	5.83	10.05	0	0.5	10.55
Total	52.98	4.50	4.00	61.48	40.63	0	34.89	75.52
Post Closure								
Year-1	0	0	0	0	0	0	0	0
Year-2	0	0	0	0	0	0	0	0
Year-3	0	0	0	0	0	0	0	0

*- Considering mine life of 06 years from base year

Tentative Biological Reclamation (Cumulative in "Ha")

8.1.2

Year/Stage (Life of the mine plus post closure period)	Biologically Reclaimed Area							Total
	Agriculture	Plantation	**Water Body (Void – area)**	Public/ Company use	Total		Un Disturbed/ To be left for Public/ company use*	
Upto 01.04.2024		5.04						
Year-1	0	0.00	0	0	0			0
Year-2	0	0.00	0	0	0			0
Year-3	0	0.00	0	0	0			0
Year-4	0	5.00	0	0	5.00			5.00
Year-5	0	7.00	0	0	7.00			7.00
Year-6	0	7.00	0	0	7.00			7.00

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	Total		24.04			24.04			24.04
	Post Closure								
	Year-1	0	20.00	0	0	20.0		0	20.0
	Year-2	0	20.00	0.00	0	20.00		0.0	20.0
	Year-3	0	11.48	12.35	4.00	27.83		19.619	47.449

8.2	**Post Closure**Water Quality management	Water quality of the effluent will continue to be analyzed till 3 yrs after intended closure of the mine as being done during the operation stage and all the pollution control measures presently in operation will continue to be maintained and operated.
8.3	**Post Closure** Air Quality management	Air quality of the mine and surroundings will continue to be analyzed till 3 yrs. after intended closure of the mine as being done during the operation stage and all the pollution control measures presently in operation will continue to be maintained and operated.

8.4 Waste Management (Figures in mm^3) (Tentative)

Year/Stage (Life of the mine plus post closure period)	OB Removal (Absolute)			Technically Reclaimed Area		Internal Back filling (Absolute)		Embankment & top soil dump (Absolute)	
	OB	RH	Total	OB	RH	OB	RH	Top soil	OB
Upto 2023-24									
Year-1	0.000	0	0.000	0.000	0	0.000	0	0	0
Year-2	0.000	0	0.000	0.000	0	0.000	0	0	0
Year-3	2.929	0	2.929	2.929	0	2.929	0	0.400	0
Year-4	3.875	0	3.875	3.875	0	3.875	0	0.400	0
Year-5	4.570	0	4.570	4.570	0	4.570	0	0.400	0
Year-6	3.533	0	3.533	3.533	0	3.533	0	0.204	0
Post Closure									
Year-1	0	0	0	0	0	0	0	0	0
Year-2	0	0	0	0	0	0	0	0	0
Year-3	0	0	0	0	0	0	0	0	0

8.5 To Top Soil Management – (Including Action plan for Top Soil management) (Absolute) (Tentative)

Year/Stage (Life of the mine plus post closure period)	Top Soil Removal Plan (mm^3)	Top Soil Used				
		Spreading Over Embankment	Spreading over Backfill OB Dump area	Spreading over External OB Dump area	Used in Green Belt area	Total Utilized
Upto 01.04.2024	0.245		0.245			0.245
Year-1	0.000	0	0.000	0	0	0.000
Year-2	0.000	0	0.000	0	0	0.000
Year-3	0.400	0	0.400	0	0	0.400
Year-4	0.400	0	0.400	0	0	0.400
Year-5	0.400	0	0.400	0	0	0.400

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	Year-6	0.204	0	0.204	0	0	0.204
	Post Closure						
	Year-1	0	0	0	0	0	0
	Year-2	0	0	0	0	0	0
	Year-3	0	0	0	0	0	0

8.6	Management of Coal Rejects	No such coal beneficiation facility is proposed in mine.
8.7	Restoration of Land used for Infrastructure	The subject of retaining and dismantling of infrastructure depends upon the future needfulness. The same will be reassessed at the time of preparation of Final Mine Closure Plan.

S.No.	Particular	Details
1	Infrastructure to be retained	No structure will be retained.
2	Infrastructure to be dismantled	Office buildings like pit office, token office, etc.

8.8	Disposal of Mining Machinery	Departmental mining machinery will be either shifted to other mines of WCL and work or will be surveyed off.
8.9	Safety and Security	-Safety management Plan is prepared and implemented. -Barbed wire fencing is proposed for preventing any inadvertent entry in mining area. All safety practices as per mining statue will continue to be taken during the balance life of the mine as well as in post closure period.
8.10	Abandonment Cost and Financial Assurance	
8.10.1	Abandonment Cost: Cost of Activities to be taken up for closure of the mine:	

	Weightage as per MCP	Amount available in respective head (In Lakhs)
Dismantling of structures		
Service Buildings	0.3	21.11
Industrial structures like CHP, Office buildings, etc	0.5	35.18
Permanent Fencing of Mine Void and other dangerous Areas		
Random rubble masonry of height 1.2 meters including leveling up in Cement Concrete 1:6:12 in mud mortar	2.8	197.02
Grading of Highwall slopes		
Levelling and grading of highwall slopes	1.77	124.54

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8.10.1 Abandonment Cost: Cost of Activities to be taken up for closure of the mine:

	Weightage as per MCP	Amount available in respective head (In Lakhs)
OB Dump Reclamation		
Handling and dozing of OB dump into Mine Void and the preparation of internal dump for reclamation	88.66	6238.38
Technical and Bio Reclamation including plantation and post care	0.5	35.18
Landscaping		
Landscaping in open spaces in the leasehold area for improving its aesthetics and Eco-value	0.4	28.15
Plantation		
Plantation over cleared Area obtained after dismantling	0.5	35.18
Plantation around the quarry area and in the safety zone	0.3	21.11
Plantation over the external OB Dump	0.09	6.33
Post Closure Environment Monitoring/Testing of parameters for three years		
Air Quality	0.22	15.48
Water Quality	0.2	14.07
Entrepreneurship development (vocational/skill development) training for sustainable income of affected peoples	0.26	18.29
Miscellaneous and other mitigative measures	2.5	175.91
Post Closure Manpower cost of supervision	1	70.36
TOTAL	**100**	**7036.30**

8.10.2 Financial Assurance: Amount to be deposited in Escrow account as a security against the min activities to be carried out for the closure of the mine in 1296.011 ha of Ghorawari patches

The mine closure corpus deposited vis-à-vis provision made in earlier approved MCP is as below-

Year	Provision in approved MCP (Rs Lakh)	Corpus deposited in escrow account (Rs Lakh)
2012-13	392.40	
2013-14	412.02	804.42
2014-15	432.62	432.62
2015-16	454.25	454.25
2016-17	476.96	476.96

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8.10.2 Financial Assurance: Amount to be deposited in Escrow account as a security against the mine activities to be carried out for the closure of the mine in 1296.011 ha of Ghorawari patches

The mine closure corpus deposited vis-à-vis provision made in earlier approved MCP is as below-

Year	Provision in approved MCP (Rs Lakh)	Corpus deposited in escrow account (Rs Lakh)
2017-18	500.81	500.81
2018-19	525.85	525.85
2019-20	552.15	552.15
2020-21	579.75	579.75
2021-22	608.74	608.74
2022-23	639.18	639.18
2023-24	646.17	646.17
	6220.91	6220.91

S.No.	Details	Quantity	Unit
1	WPI as on April 2019	121.1	
2	WPI as on March,2024	151.4	
3	Ratio of WPI = (2)/(1)	1.25020644	
4	Total land area requirement for the project (ha)	1296.011	Ha
5	MCP already deposited(up to 2023-24) for 1296.011 Ha	6220.91	INR Lakhs
6	Mine closure cost @ Rs 9 lakhs /ha for 111.489 ha prorata	1003.401	INR Lakhs
7	Mine closure cost after indexing for Yr 2023-24 for 111.489 Ha	1254.46	INR Lakhs
8	Total Mine Closure balance corpus deposited in Escrow Account of Ghorawari OC upto 2023-24 (Proprata w.r.t. 111.489 ha)	535.15	INR Lakhs
9	Net Mine Closure balance corpus estimated for the proposed Bharat OC (part of Ghorawari OC Patches)	719.31	INR Lakhs
10	Life of mine	06	Years
11	Annual Contribution to Escrow fund for first year (2024-25)= (8)/(9)	119.88	INR Lakhs

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Sl No.	Financial Year	Amount to be deposited (INR Lakhs)
1	2024-25	119.88
2	2025-26	125.87
3	2026-27	132.16
4	2027-28	138.77
5	2028-29	145.71
6	2029-30	153.00
	Total	**815.39**

Total corpus fund = Rs 6220.91 (Upto 2023-24) + Rs 815.39
= Rs 7036.30 Lakhs

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LIST OF ABBREVIATIONS USED

ABBREVIATION USED	Explanation
CMPDIL	Central Mine Planning and Design Institute Ltd.
WCL	Western Coalfields Limited
MECL	Mineral Exploration Corporation Limited
PR	Project Report
HDPE	High Density Polymeric Ethylene
OC	Opencast
UG	Underground
CMR	Coal Mine Regulation
MTY	Million Tonne per Year
QP	Qualified Person
MPPA	Mining Plan Preparing Agency
MoEF& CC	Ministry of Environment Forest and Climate Change
EC	Environmental Clearance
FC	Forest Clearance
EIA	Environmental Impact Assessment

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ANNEXURES

वेस्टर्न कोलफील्ड्स लिमिटेड
Western Coalfields Limited
पंजी.का.: कोयला भिहार, सिविल लाईन्स, नागपूर (महाराष्ट्र)-440001
Regd. Office Coal Estate, Civil Lines, Nagpur (MS) – 440001
CIN - U10100MH1975GOI018626 www.westerncoal.in
कंपनी सचिव का कार्यालय
Office of the Company Secretary
email.- companysecretary.wcl@coalindia.in
R/FAX: 0712 - 2511216

BOARD MATTER
CONFIDENTIAL

REF: WCL/Office of CS/BM-366/2024-25/ 388 DATE: 31.07.2024.

Reproduced below is the relevant excerpt from the minutes of 366th meeting of the Board of Directors of WCL held on 20th July, 2024:

"ITEM NO.366/C-4
SUB Proposal for Mining Plan including Mine Closure Plan of Bharat OC Patch, Kanhan Area.

i) While deliberating on the proposal as brought out in the agenda note, Shri Anil Kumar Singh, Director (Technical) P&P and OP apprised the salient features of the Mining Plan including Mine Closure Plan of Bharat OC Patch, Kanhan Area to the Board.

ii) The Board, after deliberation agreed to the proposal and accorded approval to the Mining Plan including Mine Closure Plan of Bharat OC Patches, Kanhan Area with total land area of 111.489 Ha and Coal production capacity of 0.47 MTPA without any additional requirement of land and capital investment for forestry clearance of 49.204 Ha forestry land as brought out in the agenda note.

iii) General Manager (P&P) to take necessary action in the matter."

31/07/2024
COMPANY SECRETARY

GENERAL MANAGER(P&P)

CC: DIRECTOR (TECHNICAL) P&P
DIRECTOR (PERSONNEL)
DIRECTOR (TECHNICAL)P&P
DIRECTOR (FINANCE)

MANAGER
Ghorawari Colliery No.

Chapter - 1
INTRODUCTION

1.1 About the Mine

Ghorawari Opencast Mine is under Kanhan Area of Western Coalfields Limited, a subsidiary of Coal India Limited. The method of mining adopted is Open Cast Mining by Shovel Dumper combination. Mine produced 0.59 MTPA during 2012-13.

The total project area is 1296.011ha. The financial provision for Mine Closure Plan of this mine at present works out to around Rs 18728.11 lakhs (Based on April 2012 WPI)

The salient features of the mine are as under:-

1.1.1 Name of mine owner/company

Mine	:	Ghorawari Opencast Mine
Area	:	Kanhan Area
Company	:	Western Coalfields Limited
Mine Owner	:	(Director.Tech.)(P&P), WCL.

1.1.2 Address for Communication and Phone Nos.

Mine	:	Ghorawari Opencast Mine
PO	:	Ghorawari Khurd (Via- Junnardeo)
District	:	Chhindwara,
State	:	Madhya Pradesh
Telephone	:	07160-266311

1.1.3 Location of mine

Mine	:	Ghorawari Opencast Mine
Area	:	Kanhan Area
Latitude	:	N 22^0 10' 53" - 22^0 11' 44"
Longitude	:	E 78^0 28' 51" - 78^0 31' 54"

1.1.4 Date of start :

MANAGER
Ghorawari Colliery No.

Date of start of development work :1982
Date of start of Production : 1982

1.1.5 Total Project Area of the mine: 1296.011 Ha

1.1.6 Communication

Road: The mine is well approachable from Junnardeo town which is on state highway about 60 km away from Chhindwara town.

Rail: Nearest railway station is Junnardeo which is about 10 km from the mine. Junnardeo railway station is located on Amla-Chhindwara line of Western - central railways.

Airways: The nearest airport is Nagpur which is about 180 km away from the mine.

1.1.7 Topography of the area

The project has gently undulating slope, the elevation varies from 780.00 m to 800.00 m. Drainage of the area is mainly controlled by Kanhan river lying about 6 -7 Km away from Project.

1.2 Reasons for Closure

The reason for closure of mine will be exhaustion of coal reserve from approved PR/scheme limits.

1.3 Need of Mine Closure Planning

1.3.1 Mining activities leave long lasting impacts on the landscape, ecology and on local inhabitants. These activities disturb the delicate environmental and social equilibrium that exists in its area of influence. Hence, it becomes imperative on part of the mine operator to restore the equilibrium in the mine affected area that existed in the pre-mining period. Thus, any mining venture must have adequate closure plan, aimed at rehabilitation of disturbed area, which should be acceptable to local community as well as regulatory authority.

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1.3.2 Mine closure encompasses rehabilitation process designed to restore physical, chemical and biological quality disturbed by the mining activities. Mine closure is not just something that happens at the end of a mine's life rather mine closure is an ongoing series of decisions and activities beginning in the pre-mining stage of mine and ending with a sustainable site that can be returned to the community.

1.3.3 Thus, a Mine closure plan needs to define the liabilities, responsibilities and authorities of the different agencies like the mine management, other regulatory bodies, Central and State Governments after mine closure Various objectives of the advance mine closure planning are as follows:

a. To allow productive and sustainable after-use of the site, which is acceptable to the mine owner and the regulatory authority.
b. To protect public health and safety.
c. To eliminate environmental damage and thereby encourage environmental sustainability.
d. To minimize adverse socio-economic impacts of mining activities.
e. To protect the flora and fauna of the area affected by the mining.
f. Effective use of the assets created in course of mining.

1.3.4 Primarily, the mine closure activities are planned in two stages. The initial plan identifies the activities required to be executed as the mining activities progress after the inception of the mine. These activities may undergo minor changes depending upon the actual site condition during implementation. Finally, a detailed closure plan is prepared 4-5 years before the actual closure time of the mine depending upon the existing parameters at that point of time.

1.4 Mine closure planning strategy in respect of Ghorawari OC mine based on existing set of parameters.

The life of the mine as on 1.04.2012 is 25 years and coal production Programme from 2013-14 is given below.

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S.No.	Year	Coal production(Mt)	S.No.	Year	Coal production(Mt)
1.	2013-14	0.65	13.	2025-26	0.75
2.	2014-15	0.60	14.	2026-27	0.65
3.	2015-16	0.70	15.	2027-28	0.65
4.	2016-17	0.60	16.	2028-29	0.55
5.	2017-18	0.55	17.	2029-30	0.50
6.	2018-19	0.65	18.	2030-31	0.50
7.	2019-20	0.70	19.	2031-32	0.50
8.	2020-21	0.70	20.	2032-33	0.50
9.	2021-22	0.75	21.	2033-34	0.55
10.	2022-23	0.65	22.	2034-35	0.55
11.	2023-24	0.65	23.	2035-36	0.65
12.	2024-25	0.70	24.	2036-37	0.697
				Total	14.947

Following activities are envisaged towards mine closure programme i respect of Ghorawari Open cast Mine.

Progressive mine closure activities will continue as envisaged in th approved Project Report/Scheme and as enumerated in the variou approvals, permits, consents etc for which adequate financial provision i available.

1.5 Statutory Obligations

The statutory obligations on part of the mine operator have been enumerate in various approvals, permits, consents etc. such as lease deed, approve Mining Plan, approval obtained from MoEF , approval/consent from Sta Pollution Control Board and the other relevant statutes .The copies environment clearance and consent to operate obtained from State Govt. a enclosed.

All the applicable obligations are being strictly complied with and regul reports, wherever required is being sent to respective authorities.

Some obligations relating to the mine management companies arise follows:

a) **Health and safety:** Regulation Nos. 6, 61,106,112 of coal min regulations, 1957 and its related DGMS circulars.

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b) **Environment:**

i) Water (prevention and control of pollution act 1974)

ii) Air (prevention and control of pollution act 1981) environmental protection act , 1980 and environmental protection act 1986 and environmental protection (amendment) 2000 and DGMS directives on noise and ground vibrations :

c) **Forest:** Forest conservation Act , 1980 – not applicable

d) **Rehabilitation:** CIL'S R & R policy.

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Chapter - 2
MINE DESCRIPTION/MINING PARAMETERS

2.0 Geology in brief:-

A. Part of lease 29, Lease Nos. 9,10,11 & 13:

In Ghorawari Area the sediments encountered in the drilled boreholes are represented by Moturs, Barakars, & Talchir. Northern peripheral parts are covered by flows of basalts and underneath which the sediment occurs.
In the West, the hilly region is occupied by basaltic rock of Deccan trap. Besides this few prominent Dolerite dykes traverse through the area having EW to NE-SW trend. Few boreholes drilled by MECL have encountered the dykes.

B. Part of lease 26 & west of lease 26 :-

Based on the sediments encountered in the drilled boreholes in the area. It is observed that they represent Moturs below solid cover followed by Barakar & Talchir. A small outcrop of Barakar sandstone is noted in the North Eastern part of the block. The eastern part is covered by Deccan trap.

C. Lease 5,6,7,8,14,15 & 16 :-

Based on the data of drilled boreholes, it reveals that soil is mostly followed by coal bearing Barakars which is followed by Talchir, however few boreholes encountered Moturs above Barakars.

AGE	FORMATION	LITHOLOGY
Sub Recent to Recent	Soli/ Detrtal Mantle	Sandy clays & Black cotton soil
----------UNCONFORMITY----------		
MIDDLE PERMIAN	Muturs	Greenish purplish, & Variegated clays intercalated with cgd.sst.
LOWER PERMIAN	Barakar	White to grayish mgd to cgd sst. Shale, car, shale and Coal
----------UNCONFORMITY----------		

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UPPER CORBONIFEROUS	TAICHIR	Greenish to blackish splintery shale, sst. & bounder beds	
----------UNCONFORMITY----------			
ARCHEANS	METAMORPHICS	Schist & gneisses	

Structure of the area

A. Part of lease 29, Lease Nos. 9,10,11 & 13:

Strike (on the basis of drawn floor contours) is almost EW with minor swings while at places it is NE- SW & ESE- WNW with Northerly dip varying from 6^0 to 7^0.

B. Part of lease 26 west of lease 26 :-

Strike is almost EW to N 70^0 E – S 70^0 W. at places it is NE-SW. dip is northerly which varies from 5^0 to 13^0.

C. Lease 5,6,7,8,14,15 & 16 :-

Strike is almost EW to NE-SW. Dip is Northerly with varying from 8^0 to 9^0 (Gradient 1 in 6 to 1 in 7.8)

2.1 Brief description of mining system:

The mine is being worked by inclined slicing method i.e. conventional benching system with shovel dumper combination, with main sump at the floor of the seam. The thickness of composite seam is about 5 – 8 m.

2.2 Seam-wise Mine Details

Prospecting for the area under consideration for this project was done by MECL, IBM & NCDC and as per reports it has been correlated that the workable coal seams from top to bottom as Seam I, II & III. In the area two of these seams viz. seam –I & II occur in splits sections and are designated as I A, I B, II B (split of seam II) etc, but due to thickness are declared unworkable seams. As such only Seam –III has been considered for extraction by opencast method. The quality of coal is designated as Grade – D.

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Details about the MEC III (TOP) which is being worked with production figures and has been shown in the following tables:

Table-1

Seam	Thicknes s Range	Depth (m)	Gr.	Balance Mineable Reserves as on 1.04.2013
MEC III (TOP)	5 - 8 M	10 m to 90 m	D	14.947 Mt

Table-2 Performance for last 5 years

Particulars	Unit	Year				
		2008-09	2009-10	2010-11	2011-12	2012-13
Production	Mt	0.5441	0.3900	0.4386	0.534	0.591
OMS	t	16.81	12.01	17.44	22.75	17.04
CPT	Rs/t	526.11	768.63	747.82	675.46	1176.04
SPT	Rs/t	914.76	975.85	1082.54	862.82	1083.00
Profit	Rs/t	388.65	207.22	334.72	187.36	-93.04
Total Profit	Rs Lakhs	2114.64	808.15	1468.08	1000.58	-549.87

2.3 Mine boundary details

North : Forest
South : Residential Area
East : Junnardeo Town
West : Damua Town

2.4 Surface water bodies and their status

Kanhan River which flows southwesterly at a distance of 6-7 Km from lease boundary, controls the master drainage of the area.

2.5 OB dumps and their status

External Dump			
S.N0.	Dump Area(ha)	Dump Height(m)	Volume(Mm3)
1.	24.02	20-30	13.95

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Internal Dump			
S.N0.	Dump Area(ha)	Dump Height(m)	Volume(Mm3)
1.	76.75	20-30	55.80

2.6 Maximum depth of the OCM workings

The maximum depth of workings is 90m

2.7 Coal processing/beneficiation operation

A Coal Handling Plant at Hirdagarh is under construction for Ghorawari OC.

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Chapter - 3

Closure Plan and Related Activities

3.1 Mined out Land & proposed final land use

3.1.1 Management of mined out area

a. Total Mined out area (ha)–Present:59.50ha Proposed-690.86ha Total-750.360ha.

b. Backfilled area (ha) - present : 47.60ha. Proposed : 504.48ha. Total-552.48ha

c. Balance mined out area (ha) which will not be backfilled – 198.28ha.

d. Land use of balanced mine out area:

A part of the land will be backfilled and remaining decoaled void will be developed into a water lagoon. The water lagoon will be handed over to State Authorities for conversion into a picnic spot with proper fencing and security. If necessary the lagoon may also be used by the State authority for supplying water to local community after proper treatment of the same.

e. Details of past subsidence – Not applicable because it is an open cast mine.

3.2 Water Regime Management

3.2.1 Drainage pattern of the area (pre and post closure)

Existing drainage pattern:

Kanhan river which flows southeasterly at a distance of 6-7 Km from lease boundary, controls the master drainage of the area.

Some part of the mine water is discharged through settling pond into seasonal nalas which leads ultimately to the Kanhan River.

Post Closure drainage pattern

In course of mining throughout the life, the general drainage pattern would not be disturbed. As regards the drainage from the mined out area and the OB Dumps,

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Garland drain of appropriate cross section would be provided around the quarry edge and toe of external OB dump of the project. This drain would be connected to the above natural seasonal nalas, which would carry the run-off water to the Kanhan River.

3.2.2 Mine water discharge details.

Existing mine water discharge details

a. Water required for Industrial use is provided from the mine water discharge.

b. Excess pumped out mine water is allowed to flow into the surface drainage system after passing through a settling pond constructed in a suitable place.

Post closure Mine water discharge

A major portion of the quarry will be backfilled and the remaining decoaled void will act as water reservoir. It is proposed to develop a water lagoon in the dip side area of the quarry, which could not be back filled. The water lagoon will be handed over to State Authorities for conversion into a picnic spot with proper fencing and security. If necessary, the lagoon may also be used by the State Authority for supplying water to local community after proper treatment of the same. The existing water supply facilities would be handed over to the State authorities for future upkeep and maintenance. If required local authorities may use the lagoon as a source of domestic water supply for the local community.

3.2.3 Water Quality Monitoring

Present Practice

Fortnightly samples of mine water as well as Quarterly samples of drinking water are collected and the samples are analyzed at Environmental Laboratory, CMPDI, Nagpur and the results are compared with MoEF standard.

Present status of water quality.

Test results of the samples collected from the surface water bodies have shown that the water quality of surface water bodies is matching with the standards prescribed by MoEF.

Results of various quality checks have been furnished below in tabular format.

A++.

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Drinking water quality report

DRINKING WATER QUALITY MONITORING DATA

NAME OF THE COMPANY : WCL
NAME OF THE AREA : KANHAN
NAME OF THE PROJECT : GHORAWARI OC

YEAR : 2012
Q.E. : JUN.
DATE : 23.05.12

Name of the Location : Drinking water from Manager office

Sl. No.	Parameter	Analysis Result	Standard (IS 10500 : 1991)	
			Desirable limit	*Permissible limit in the absence of alternate source*
1.	Colour (Hazen)	3	5	*25*
2.	Odour	Unobject.	Unobject.	*-*
3.	Taste	Agreeable	Agreeable	*-*
4.	Turbidity (NTU)	4	5	*10*
5.	pH value	7.57	6.5 to 8.5	*No relaxation*
6.	Total Hardness(as $CaCO_3$) (mg/l)	324	300	*600*
7.	Iron (mg/l)	BDL	0.3	*1.0*
8.	Chlorides (mg/l)	22	250	*1000*
9.	Residual, Free Chlorine (mg/l)	BDL	0.2	*-*
10.	Dissolved Solids (mg/l)	430	500	*2000*
11.	Calcium (mg/l)	81	75	*200*
12.	Copper (mg/l)	BDL	0.05	*1.5*
13.	Manganese (mg/l)	0.02	0.1	*0.3*
14.	Sulphate (mg/l)	78	200	*400*
15.	Nitrate (mg/l)	3.52	45	*100*
16.	Fluoride (mg/l)	0.57	1.0	*1.5*
17.	Selenium (mg/l)	BDL	0.01	*No relaxation*
18.	Arsenic (mg/l)	BDL	0.05	*No relaxation*
19.	Cadmium (mg/l)	BDL	0.01	*No relaxation*
20.	Lead (mg/l)	BDL	0.05	*No relaxation*
21.	Zinc (mg/l)	0.02	5	*15*
22.	Chromium (Cr^{6+}) (mg/l)	BDL	0.05	*No relaxation*
23.	Alkalinity (mg/l)	148	200	*600*
24.	Aluminium (mg/l)	BDL	0.03	*0.2*
25.	Boron (mg/l)	BDL	1	*5*
26.	Phenolic Compounds (mg/l)	BDL	0.001	*0.002*
27.	Coliform (MPN / 100 ml)	NIL	Shall be absent	-

(BDL – Below Detectable Limit)

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Mine water quality report

EFFLUENT WATER QUALITY MONITORING DATA

NAME OF THE COMPANY : WCL
NAME OF THE AREA : KANHAN
NAME OF THE PROJECT : GHORAWARI OC

YEAR : 2012
Q.E. : JUN.

Name of the Location : Mine water discharge - KGOW-1

Month	Date of Sample collection	Analysis Results			
		pH	TSS (mg/l)	COD (mg/l)	O & G (mg/l)
APR. 2012	08.04.12	7.25	58	120	BDL
MAY. 2012	23.05.12	7.56	36	60	BDL
JUN. 2012	24.06.12	7.54	60	120	BDL
TLV as per Env.(Protection) Amendment rule 2000		**5.5 - 9.0**	**100**	**250**	**10**

(BDL - Below Detectable Level- Value < 1.0 mg/l)

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EFFLUENT WATER QUALITY MONITORING DATA

NAME OF THE COMPANY : WCL
NAME OF THE AREA : KANHAN
NAME OF THE PROJECT : GHORAWARI OC

YEAR : 2012
DATE : 08.01.12

1. Name of the Location : Mine water discharge

Sl. No.	Parameters	Analysis Results	Standards for discharge Part A, Schedule VI
1	pH	7.52	5.5 – 9.0
2	Temperature (^{0}C)	17.4	Te<Ts+5^{0}C
3	Colour (Hz)	1	*
4	Odour	UNOBJECT	Unobjectionable
5	Turbidity (NTU)	1	*
6	Conductivity (µs/cm)	889	*
7	Total Suspended Solids (mg/l)	26	100
8	Oil & Grease (mg/l)	BDL	10
9	Dissolved Oxygen (mg/l)	6.07	*
10	C.O.D. (mg/l)	40	250
11	B.O.D. 3 days at 27^{0}C (mg/l)	2	30
12	Total Residual Chorine (mg/l)	BDL	1 (Max.)
13	Ammonical Nitrogen (mg/l)	0.26	50
14	Total kjeldahl Nitrogen (mg/l)	2.1	100
15	Free Ammonia (mg/l)	BDL	5.0
16	Arsenic (mg/l)	BDL	0.2
17	Lead (mg/l)	BDL	0.1
18	Hexavalent Chromium (mg/l)	BDL	0.1
19	Total Chromium (mg/l)	BDL	2
20	Copper (mg/l)	BDL	3
21	Zinc (mg/l)	BDL	5
22	Selenium (mg/l)	BDL	0.05
23	Nickel (mg/l)	BDL	3
24	Cadmium (mg/l)	BDL	2
25	Dissolved Phosphate (mg/l)	0.23	5
26	Sulphide (mg/l)	BDL	2
27	Iron (mg/l)	BDL	3
28	Manganese (mg/l)	BDL	2
29	Nitrate Nitrogen (mg/l)	1.9	10
30	Phenolics Compounds (mg/l)	BDL	1

1. BDL - Below Detectable Level, 2. * - Limit not specified.

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