



Office of the Principal Chief Conservator of Forests (Head of Forests Force),
Maharashtra State
Additional Principal Chief Conservator of Forests & Nodal Officer,
1st Floor, B Wing
Van Bhavan, Ramgiri Road, Civil Lines, Nagpur- 440 001
Tel.No.: 0712- 2556916 , E-mail: apccfnodal@mahaforest.gov.in

By E-mail/Speed Post

No.Desk-17/Nodal/1//PID-8832/1871/2024-25

Nagpur - 440 001, Date: - 18/11/2024

To,

The Government of India, Ministry of Environment,
Forests and Climate Change, (Forest Conservation Division),
Indira Paryavaran Bhawan,
Jor Bag Road, Aliganj, New Delhi-110003

Sub:- Proposal for seeking prior approval of the Central Government under section 2(1) (ii) of the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 for diversion of 12.07 forest land Sakhari-Irawanti (Pouni III) Opencast Mine project in Reserve Forest Compartment No. R603 in favour of M/s Western Coalfields Limited in Chandrapur District of Maharashtra State.

Ref:- 1) Government of India, Ministry of Environment, Forests and Climate Change, (Forest Conservation Division), New Delhi, Dt. 11/07/2024.
2) The Chief Conservator of Forests (T), Chandrapur Letter No.Desk-3 (1)/ Land/Sr.No. 44/1221, Date: 29/10/2024.

Sir,

The Government of India raised certain queries vide letter under reference No.1 Accordingly, the Chief Conservator of Forests (T), Chandrapur vide letter under reference No.2 has submitted the compliance to the queries to this office which is being submitted as under:

Sr. No.	Conditions	Compliance
i	Copy of the approved mining plan along with progressive mine closure plan for the total lease area i.e, 1152.66 ha.(out of which 1140.59 ha is non-forest and remaining 12.07 ha is forest land) is not available which needs submission.	As per the Compliance submitted by Deputy Conservator of Forest (T), Central Chanda Division and forwarded by the Chief Conservator of Forest (T) Chandrapur, total area requirement of project is 1152.66 ha Mining plan along with Mine closure plan has been attached as Annexure-A. (Page No.319 to 248)
ii	As per the DSS analysis, KML file of Complete project area i.e.1156.55 ha and KML file of the safety zone has not been uploaded/submitted. The same shall be provided.	As per the Compliance submitted by Deputy Conservator of Forest (T), Central Chanda Division and forwarded by the Chief Conservator of Forest (T) Chandrapur, KML file of the complete project area demarcating 1152.66 ha along with 7.5 m safety

		zone/barrier plantation that is to be maintained all along project boundary as per EC Generic condition 4.1 (c) (ii) stating ‘ Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area in a phased manner’. Attached as Annexure-C. (KML File) Plantation along mine boundary has already been started with 1,02,000 nos. in last 4 years.
iii	The safety zone component is not listed as per submitted land use plan in the instant mine. In the regard the State Govt. shall offer comments and ensure the compliance of the guidelines with regard to safety zone.	As per the Compliance submitted by Deputy Conservator of Forest (T), Central Chanda Division and forwarded by the Chief Conservator of Forest (T) Chandrapur, the land use plan of entire 1152.66 ha project area including 27.95 ha of safety zone area all along the mine boundary is attached in plan of 1:5000 scale As Annexure-D along with tabulated details. (Page No.214) It is also submit that in compliance to EC Generic condition 4.1 (c) (ii) stating “Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area in a phased manner” safety barrier of 7.5 m has been maintained all along mine boundary. KML file of complete project area demarcating 1152.66 ha along with 7.5 m safety zone/barrier plantation attached as Annexure-C. (KML File) (Page No.215)
iv	As per the details mentioned in online Part-I the total mining lease area reported as 778.54 ha. whereas examination of the proposal revealed that the total mining lease involves 1152 ha area. In this regard, the State Govt.vide their letter no.Desk-17/FCA-S 1/PID-8832/2023-24/3556 dt. 28/03/2024 has forwarded the Justification submitted by the user agency. However, necessary correction in online Part-I of the proposal has not been carried out yet.	As per the Compliance submitted by Deputy Conservator of Forest (T), Central Chanda Division and forwarded by the Chief Conservator of Forest (T) Chandrapur, As the proposal was submitted in Parivesh I, there is no scope of modification of Area. However, regarding the discrepancy in mining lease Area, reply has been submitted by Area Planning Officer, Ballarpur Area to Dy. Conservator of Forests Central Chanda vide letter no WCL/BA/AGM/PLG/714, dated 14/12/2023. Copy of reply to query attached as Annexure-E (Page No.229- to 226)
v	It was asked to assess the efficacy of the Wildlife Management Plan of Rs. 20 Lakhs, as recommended by the State, in term of holistic impact of the mining activity on the surrounding flora and fauna. In this regard, the State government	As per the Compliance submitted by Deputy Conservator of Forest (T), Central Chanda Division and forwarded by the Chief Conservator of Forest (T) Chandrapur, The Dy.CF Central Chanda studied the forest area around the project affected area and he

<p>has submitted copy wildlife management plan which is approved by the DCF, Central Chanda, Chandrapur Forest Division, However comments of the CWLW, Govt. of Maharashtra on the efficacy of the Wildlife management plan of Rs. 20 lakhs has not been submitted. Further, the wildlife management plan has not been approved by the principal Chief Conservator of Forests (Wildlife), Maharashtra State, in this regard, the duly approved wildlife Management Plan by CWLW, Maharashtra along with its recommendation shall been submitted by the State Govt.</p>	<p>decided to spend Rs. 20 lakhs for Flora & Fauna conservation plan. The Wildlife Management plan has submitted to APCCF (Wildlife) East, Nagpur vide CCF Chandrapur Letter No.Des-3(1)/Land/1726, dt. 14/03/2024. (Copy enclosed herewith). However, to address the Wildlife issue, User Agency has applied separately for Wildlife Clearance for the project vide proposal no. WL/MH/MIN/QRY/504961/2024. (Copy of WL Application submitted by User Agency is enclosed). (Page No.213 to 210)</p>
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This is for your information and further necessary action.

Encl: As above

18/11/24

(Naresh Zurmure)
Additional Principal Chief Conservator of
Forests & Nodal Officer, Nagpur

Copy Submitted for information to:-

1. The Principal Secretary (Forests), Revenue & Forests Department, Mantralaya Mumbai-32.

Copy for information.

- 1.The Chief Conservator of Forests (T), Chandrapur.
- 2.The Deputy Conservator of Forests, Central Chanda Forest Division, Chandrapur.
- 3.The Area General Manager, Western Coalfields Ltd Ballarpur Area, P.O.Sasti.Dist.Chandrapur.



State of Maharashtra
Forest Division



स्वातंत्र्याचा अमृत महोत्सव

**Office of the Chief Conservator of Forests,
Chandrapur Circle, Chandrapur**



Chandrapur Forest Academy of Administration, Development & Management,
Chandrapur premises, Mul Road Chandrapur- 442401 (MS)

Tel. No .07172-256279, 277232 E-mail id:- ccfchandrapur@gmail.com, ccfchandrapur@mahaforest.gov.in

No. : Desk-3(1)/Land/Sr.No.44/2024-25/ 1221

Dated :- 29.10.2024

✓ To,

**The Add. Principal Chief Conservator of Forests
& Nodal Officer,
Mah. State, Nagpur**

Sub :- Proposal for seeking prior approval of the Central Government under section 2(1) (ii) of the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 for diversion of 12.07 ha. forest land Sakhari- Irawati (Pouni III) Operncast Mine Project in Reserve Forest Compartment No.R603 in favour of Western Coalfield Ltd., in Chandrapur Distt. of Maharashtra State.

- Ref :-
1. Government of India, Ministry of Environment Forests & Climate Change, (Forest Conservation Division) New Delhi, Dt. 11/07/2024
 2. Addl. Principal Chief Conservator of Forests & Nodal Officer, M.S.Nagpur vide letter No. Desk-17/Nodal/ID-8832/903, dated 15.07.2024
 3. Dy.CF.Central Chanda division, Chandrapur vide letter No. Desk-12/Surv/Land/ 2023-24/903, dated 11.10.2024

In continuation of above cited letter, the shortfalls/ queries raised in the proposal vide letter under reference No. 1 with respect to diversion of 12.07 ha. forest land Sakhari-Irawati (Pouni III) Operncast Mine Project under Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980.

The compliance report is submitted to this office by Dy. Conservator of Forests, Central Chanda Division, Chandrapur vide his letter under reference 3. The Compliance report is being scrutinized & agreed with the report submitted by Dy. CF, Central Chanda Division, Chandrapur.

The Compliance report is being submitted herewith in three copies for information and necessary action.

Encl :- As above 3 copies

(Dr.Jitendra Ramgaokar)
Chief Conservator of Forests,
Chandrapur Circle, Chandrapur

Copy to- Dy.CF.Central Chanda division, Chandrapur for information & necessary action.

(Under Jurisdiction of Nagpur Court only)

वेस्टर्न कोलफील्ड्स लिमिटेड

"मिनी रत्न कंपनी"

(कोल इंडिया की सहायक कंपनी)

सीआईएल: U10100MH1975GOI018626

कार्यालय: एजीएम कार्यालय, बलारपुर क्षेत्र

संस्था: सस्ति, तहसील: राजुरा

चंद्रपुर (म.राज्य) 442706

वेबसाइट: www.westerncoal.nic.in

उपक्षेत्रीय प्रबंधक कार्यालय



WESTERN COALFIELDS LIMITED

"A Mini Ratna Company"

(A Subsidiary of Coal India Ltd.)

CIN: U10100MH1975GOI018626

Office: AGM Office, Ballarpur Area

P.O.: Sasti, Tah.: Rajura,

Chandrapur (M.S.) 442706

Website: www.westerncoal.nic.in

SUB AREA MANAGER OFFICE

Ref. No: - WCL/BA/PSA/SAM/24-25/ 549

Date:- 28/09/2024

To,

The Deputy Conservator of Forest (T),
Central Chanda, Chandrapur.

Subject: Proposal for seeking prior approval of the Central Government under section 2(1) (ii) of the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 for diversion of 12.07 forest land Sakhari-Irawati (Pouni III) Opencast Mine Project in Reserve Forest Compartment No.R603 in favour of M/s Western Coalfields Limited in Chandrapur District In of Maharashtra State.

Reference:

1. Government of India, Ministry of Environment, Forests and Climate Change, (Forest Conservation Division) New Delhi, Dt. 11/07/2024.
2. No. Desk-17/FCA 12/PID 8832/Chandrapur/903 dated: 15/07/2024.

Sir,

With reference to above mentioned subject reply was earlier submitted to your good Office on 04/09/2024. As per discussion please find the modified reply along with Annexures (5 sets copies). The same has been uploaded on Parivesh Portal as well


Sr no	Query	Compliance
1	Copy of the approved mining plan along with progressive mine closure plan for the total lease area i.e. 1152.66 ha (out of which 1140.59 ha is non-forest and remaining 12.07 ha is forest land) is not available which needs submission.	<p>Total Area requirement of project is 1152.66 Ha. Mining plan along with Mine Closure plan has been approved by Board on 09/09/2023 for the acquired land of 1105.95 Ha. Copy of same has been attached as Annexure A.</p> <p>Also, Environment Clearance has been obtained vide no. J-11015/80/2016-IA.II(M) dated 01.12.2020 for area of 1095.52 Ha. Mining Plan along with Mine Closure Plan will be revised for obtaining EC for area of 1152.66 Ha (out of which 1140.59 ha is non-forest and remaining 12.07 ha is forest land) after obtaining Stage I Forest Clearance (same has been categorically mentioned in present EC which is reproduced below: (Annexure B)).</p> <p>Quote: <i>"Total agricultural land of 1050.99 Ha and govt land of 89.60 Ha is involved in the project. About 12.7 Ha of forest land is also required in overall 1152.66 ha land. The application for Stage-I FC has already been made but FC is yet to be secured.</i> <i>Now considering the present position of the mine and the surged demand of power grade coal from</i></p>

		<p>WCL mines for the power plants of Maharashtra and as per the requirements of MoEF& CC (for project involving forest land but not having Stage-I FC in hand), a Mining Plan by excluding the Forest land and adjacent non-forest land (for maintaining mine geometry) has been prepared as Phase-I for the proposed expansion from 0.60 to 3.25 MTPA.</p> <p>In view of public hearing and the ToR secured for total land area of 1152.66 Ha, fresh proposal for EC or amendment therein, shall be submitted to take into account the additional land after receipt of stage-I forest clearance for the forest land of 12.07 Ha".</p> <p style="text-align: right;">Unquote</p>
2	As per the DSS analysis, KML file of complete project area i.e. 1156.66 ha and KML file of the safety zone has not been uploaded/ submitted. The same shall be provided.	<p>KML file of complete project area demarcating 1152.66 Ha along with 7.5m safety zone/barrier plantation that is to be maintained all along project boundary as per EC Generic condition 4.1 (c) stating "Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area in a phased manner" Attached as Annexure C. Plantation along mine boundary has already been started with 1,02,000 nos. in last 4 years.</p>
3	The safety zone component is not listed as per submitted land use plan in the instant mine. In this regard the State Govt. shall offer comments and ensure the compliance of the guidelines with regard to safety zone.	<p>The Land Use Plan of entire 1152.66 Ha project area including 27.95 Ha of Safety Zone area all along the mine boundary is attached in Plan of 1:5000 scale as Annexure D along with tabulated details.</p> <p>It is also to submit that in compliance to EC Generic condition 4.1 (c)(ii) stating "Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area in a phased manner" safety barrier of 7.5 m has been maintained all along mine boundary.</p> <p>KML file of complete project area demarcating 1152.66 Ha along with 7.5m safety zone/barrier plantation attached as Annexure C.</p>
4	As per the details mentioned in online Part-I the total mining lease area reported as 778.54 ha whereas examination of the proposal revealed that the total mining lease involves 1152 ha area. In this regard, the State Govt. vide their letter no. Desk-17/FCA-S1/PID-8832/2023-24/3556 dated 28.03.2024 has forwarded the justification submitted by the user agency. However, a necessary correction in online Part-I of the proposal has not been carried out yet.	<p>As the proposal was submitted in Parivesh I, there is no scope of modification of Area. However, regarding the discrepancy in mining lease Area reply submitted by Area Planning Officer, Ballarpur Area to Dy. Conservator of Forest, Central Chanda vide no WCL/BA/AGM/PLG/714 dated: 14/12/2023 may be cited which gives the details of mining lease involved (1152.66 Ha). Copy of reply to query attached as Annexure E.</p>
5	It was asked to assess the efficacy of the Wildlife Management Plan of Rs. 20 lakhs, as recommended by the State, in term of holistic impact of the mining	<p>Dy.CF Central Chanda studied the forest area around the project affected area and he decided to spend Rs. Rs.20 lakhs for Flora& Fauna</p>

activity on the surrounding flora and fauna. In this regard, the State government has submitted copy wildlife management plan which is approved by the DCF, Central Chanda, Chandrapur Forest Division. However, comments of the CWLW, Govt. of Maharashtra on the efficacy of the Wildlife Management Plan of Rs. 20 lakhs have not been submitted. Further, the wildlife management plan has not been approved by the Principal Chief Conservator of Forests (Wildlife), Maharashtra State. In this regard, the duly approved Wildlife Management Plan by CWLW, Maharashtra along with its recommendation shall be submitted by the State Govt.

Conservation Plan. The plan is submitted to this office vide their letter No. 1930, dated 05.03.2024. The Conservation Plan submitted by Dy.CF, Central Chanda is suitable, this office is agreed and submitted it to APCCF (Wildlife) East, Nagpur vide this office letter No. 1726, dated 14.03.2024 for approval. Any further comments required may please be provided by Forest department.

Your's faithfully,


Sub Area Manager,
Pauni Sub Area,
Ballarpur Area.



उपवनमंरक्षक मध्य चांदा वनविभाग, यांचे कार्यालय मुल रोड, चंद्रपूर

दूरध्वनी क्र 250561/233508-07172 .E-mail :-dycfcentralchanda@mahaforest.gov.in

क्रमांक- कक्ष-12/मच्छे/जमीन/2023-24/ 903

चंद्रपूर दिनांक :-

10/09/2024

11/10/2024

प्रति,

मा. मुख्य वनसंरक्षक

चंद्रपूर वनवृत्त, चंद्रपूर

विषय :- Proposal for seeking prior approval of the Central Government under section 2(1) (ii) of the Van (Sanrakshan Evam Samwardhan) Adhiniyam, 1980 for diversion of 12.07 ha. Forest land Sakhari - Irawati (Pouni III) Opencast Mine Project in Reserve Forest Compartment No. R603 in favour of M/s Western Coalfield Limited in Chandrapur District in of Maharashtra State.

संदर्भ :- १) मा. अपर प्रधान मुख्य वनसंरक्षक व केंद्रस्थ अधिकारी, म. रा. नागपुर यांचे कार्यालयाचे पत्र क्रमांक कक्ष- १७/नोडल/आयडी- 8832/903 दिनांक 15/07/2024.

२) प्रकल्प यंत्रणेचे पत्र क्रमांक WCL/PSA/SAM/24-25/549 दिनांक 28/09/2024.


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उपरोक्त विषयांकीत प्रकल्प प्रस्तावात केंद्र शासनाचे पत्र दिनांक ११/०७/२०२४ अन्वये एकुण ५ आक्षेप नोंदविलेले असुन संदर्भित पत्र क्रमांक १ अन्वये पुर्तता करणे बाबत कळविलेले होते. प्रकल्प यंत्रणेने त्यांचे उपस्थित त्रुटींचा पुर्तता अहवाल या कार्यालयास सादर केलेले आहे. सदर अहवालाशी हे कार्यालय सहमत असुन पुढील कार्यवाहीस्तव पुर्तता अहवाल खालील प्रमाणे सादर करण्यात येत आहे.

Sr. No.	Queries	Compliance
i	Copy of the approved mining plan along with progressive mine closure plan for the total lease area i.e. 1152.66 ha. (out of which 1140.59 ha. is non-forest and remaining 12.07 ha is forest land) is not available which needs submission.	This point has been complied by User Agency.
ii	As per the DSS analysis KML file of complete project area i.e. 1156.66 ha. And KML file of the safety zone has not been uploaded submitted. The same shall be provided.	The KML file of the complete project area with the project Agency is 1156.66 ha. and the KML file of the safety zone is uploaded in Part 1.
iii	The safety zone component is not listed as per submitted land use plan in the instant mine. In this regard the State Govt. shall offer comments and ensure the compliance of the guidelines with regard to safety zone.	This point has been complied by User Agency.
iv	As per the details mentioned in online Part-I the total mining lease area reported as 778.54 ha. Whereas examination of the proposal revealed that the total mining lease involves 1152 ha. Area. In this regard, the State Govt. vide their letter no. Desk- 17/FCA-S-1/PID-8832/2023-24/3556 dated 28/03/2024 has forwarded the justification submitted by the user agency. However, necessary corrections in online Part-I of the proposal has not been carried out yet.	This point has been complied by User Agency.

v	<p>It was asked to assess the efficacy of the Wildlife Management Plan Rs. 20 lakhs, as recommended by the State, in term of holistic impact of the mining activity on the surrounding flora and fauna. In this regard, the State government has submitted copy wildlife management plan which is approved by the DCF, Central Chanda, Chandrapur Forest Division. However, comments of the CWLW, Govt. of Maharashtra on the efficacy of the Wildlife Management Plan of Rs. 20 lakhs has not been submitted. Further, the wildlife management plan has not been approved by the Principal Chief Conservator of Forests (Wildlife), Maharashtra State. In this regard, the duly approved Wildlife Management Plan by CWLW, Maharashtra along with its recommendation shall be submitted by the State Govt.</p>	<p>The Wildlife Management plan has been submitted to APCCF (Wildlife) East, Nagpur vide C.C.f, Chandrapur letter No. Desk-3(1)/Land/1726 dated 14/03/2024. (Copy enclosed herewith)</p>
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सहपत्र :- वरील प्रमाणे


 (श्री. बी. बी. बी.)
 उपवनसंरक्षक,
 मध्य चांदा वनविभाग, चंद्रपूर

प्रतिलिपी :- क्षेत्रीय महाप्रबंधक, वेस्टर्न कोलफिल्ड लिमी. बल्हारपुर यांना माहितीस व आवश्यक कार्यवाहीस अग्रेषित.



वेस्टर्न कोलफील्ड्स लिमिटेड
Western Coalfields Limited

पंजी.का.: कोयला विहार, सिविल लाइन्स, नागपुर (महाराष्ट्र)-440001
Regd. Off.: Coal Estate, Civil Lines, Nagpur (MS) - 440001
CIN - U10100MH1975GOI018626 www.westerncoal.in

कंपनी सचिव का कार्यालय
Office of the Company Secretary

ANNEXURE-A

319

BOARD MATTER
CONFIDENTIAL

REF: WCL/Office of CS/BM-355/2023-24/ 626

DATE: 09.09.2023.

Reproduced below is the relevant excerpt from the minutes of 355th meeting of the Board of Directors of WCL held on 28th August, 2023:

ITEM NO.355/ C-5

SUB Proposal for Revised Mining Plan (including Mine Closure Plan) August, 2023 for Pauni-II Expn. OC Mine (3.25 MTY), Ballarpur area.

- i) While deliberating on the proposal brought out in the agenda note, Shri Anil Kumar Singh, Director (Technical) P&P apprised the salient features of the Revised Mining Plan including Mine Closure Plan of Pauni-II Expn. OC Mine, Ballarpur area to the Board.
- ii) In consideration of the proposal and after deliberation, the Board agreed to the proposal and accorded approval to the Revised Mining Plan including Mine Closure Plan (August, 2023) of Pauni-II Expn. OC Mine, Ballarpur area for 3.25 MTY capacity in 1105.95 Ha land area (Phase I + II) with revised leasehold boundary, quarry area and dump area as brought out in the agenda note.
- iii) Shri Bhagchand Agarwal, Independent Director enquired financial implication due to such revision in mining plan and as per his suggestion the Board directed to include financial implication also in respect of amendment in Project Report / Mining Plan/ Mine Closure Plan etc. henceforth.
- iv) General Manager (P&P) to take necessary action in the matter.

9/9/2023
COMPANY SECRETARY

GENERAL MANAGER (P&P)

- DIRECTOR (TECHNICAL) OP
- DIRECTOR (FINANCE)
- DIRECTOR (TECHNICAL) P&P
- DIRECTOR (PERSONNEL)

REVISED MINING PLAN FOR
PAUNI-II EXPANSION OC MINE (3.25 Mty) AUGUST, 2023

1.0 INTRODUCTION

The Pauni-II Expansion OC mine is an operating mine of Ballarpur Area, WCL located in the extreme western part of Rationalized Pauni Combined Geological block of Wardha Valley Coalfield. Rationalized Block of Pauni Combined geological block occupies an area of about 15.396 sq. km. and includes the area of earlier three geological blocks namely Gauri block, Pauni Extension block and Pauni-III block. The nearest operating mine is Gauri Pauni Expansion OC mine in the eastern side of the project. The area falls in the Rajura tehsil of Chandrapur district of Maharashtra State. The Chandrapur district township is located at the distance of about 25 km from the block. Delhi-Madras Grand Chord Railway line passes through Ballarpur township which is located in the NE of the block at a distance of about 10 km. Ballarshah Railway Station is located in the NE at about 10 km from the area.

The existing Pauni-II Expansion OC mine is operating mine based on approved PR (June 2015). The PR was approved for a target capacity of 3.25 Mty in ML area of 1152.66 ha (including Forest land of 12.07ha). As stage-I FC was yet to be obtained, to increasing the coal production an interim arrangement was made by preparing the Mining Plan (Dec, 2018) by excluding forest land of 12.07 ha and adjoining non-forest land of 45.07 ha for balance ML area of 1095.52 ha and capacity of 3.25 Mty. The Mining Plan of Phase-I was approved by WCL board vide letter WCL/BD/SECTT/BM-307/2018/830 dated 26.12.2018. The EC has been granted for Expansion in capacity of Pauni-II Expansion OCM from 0.60 MTPA to 3.25 MTPA in ML area of 1095.52 ha vide letter no. J-11015/80/2016-IA.II(M) dated 28.03.2019 for Phase-I.

As soon as, the Stage – I FC is received, the application for EC will be again made for additional land of 57.14 Ha only, since the Public Hearing and ToR have been secured for the total land of the project i.e. 1152.66 ha (Phase-II).

1.1 BACKGROUND OF THE PROJECT REPORT / MINING PLAN

EARLIER PROJECT REPORTS

The Project Report of Pauni-II OC mine was approved by WCL Board on 13.11.2003 in Total Hiring option for 0.60 Mty target capacity with capital investment of Rs 28.1120 Crores. The Project was accorded environmental clearance for 0.60 MTPA in a Mine lease area of 316.30 ha by MoEF & CC vide its letter no. J-11015/71/2005 – IA.II (M) dated 02/02/2006.

The Project Report for Pauni-III OC mine was prepared in March, 2009 for a target capacity of 1.25 Mty. The Project Report for Pauni-III OCP (updated February 2010) was placed in the 224th meeting of the Board of Directors of WCL held on 29.04.2010. After deliberations at length, the Board accorded first stage approval, i.e., approval of the Mining Plan to facilitate application of forestry and environment clearance for a capacity of 1.25 Mty at a capital investment of Rs 360.7987 crores with Departmental Option. The Board directed for entering into Coal Supply Agreement with prospective consumer on Cost Plus Basis to yield 12% IRR at 85% target capacity and clearance from CIL.

Considering delay in land acquisition due to increase in land cost, WCL desired to prepare an Amalgamated PR of both Pauni-II and Pauni-III OC mines with common infrastructure facilities for better economics of the two projects. Accordingly, a Project Report for Amalgamated Pauni-II & III OC mine was prepared by CMPDI in May, 2015. The target of this Amalgamated mine was envisaged as 3.25 Mty (0.75 Mty of Pauni-II OC and 2.50 Mty of Pauni-III OC) & maximum possible proved reserves in both the blocks were considered. The mine has been planned to operate with two

independent quarries (Quarry-I & Quarry-II) with use of common infrastructure facilities. This has been done to enhance the production capacity of mine from 0.60 MTPA to 3.25 MTPA with increase in project area from 316.30 ha to 1152.66 ha. Only Total hiring option was detailed in this Amalgamated PR.

The total additional capital of the project was Rs. 483.6948 crores (excluding existing capital of Rs. 15.3094 crores). This project report for Amalgamated Pauni- II & III OC was approved by WCL Board in its 266th meeting held on 20/06/2015. The name of project was thereafter changed to Pauni-II OC Expansion by WCL Board in its 281st meeting held on 19/09/2016 to facilitate obtaining Environmental Clearance.

Based on the aforesaid approved Project Report of Pauni- II Expansion OC mine, the process of Environmental Clearance was initiated with the submission of Form – I in October 2016. The expansion project was granted ToR by MoEF & CC vide its letter dated 30-03-2017 for an increase in capacity from 0.60 MTPA to 3.25 MTPA with increase in land area from 316.30 ha to 1152.66 ha. There was 12.07 ha of forest land involved in the project which falls partly in the excavation area of Quarry – II. The application for Stage – I FC was already made but FC is yet to be secured.

As directed in ToR, the Public Hearing has been successfully conducted on 01.12.2018. Further as per the requirement of MoEF & CC, the site inspection by the Regional Office of MoEF & CC, Nagpur for issuing the Certificate of Compliance has been completed on 24.09.2018.

The performance of the mine since opening upto the approval of Mining Plan (December, 2018) was as follows :-

Sl. No.	Year	Coal (Mt)	OB (Mm ³)
1.	2016-17 (Started on 09.04.2016)	0.51	2.57
2.	2017-18	0.306	1.51
3.	2018-19 (upto Oct)	0.354	1.78

APPROVED MINING PLAN (DECEMBER, 2018)

Considering the progress of the mine and present condition, the mine was most likely to achieve the target of 0.60 Million Tonnes by February, 2018. But as the Stage – I FC for the 12.07 ha of forest land was yet to be secured and with all efforts, the formal Stage – I FC would have taken atleast another 12 months. Therefore, even if all the other requirements are fulfilled, but without Stage – I FC, the formal EC for the expansion project could not be secured from MoEF & CC in the next 6-12 months. Hence without the EC, the production cannot be enhanced even after having the potential to produce as well as the demand from the market.

Considering the position of the mine and the surged demand of power grade coal from WCL mines for the power plants of Maharashtra and as per the requirements of MoEF & CC (for project involving forest land but not having Stage – I FC in hand), a Mining Plan by excluding the Forest land and adjacent non-forest land (for maintaining mine geometry) was prepared as **Phase – I** for the expansion capacity (0.60 to 3.25 MTPA) and revised land area from 316.30 ha to 1095.52 ha.

This Mining Plan was approved by WCL Board and submitted to MoEF & CC along with the EIA/EMP, Public Hearing Compliance and EC Compliance Certificate for grant of EC.

However, as soon as, the Stage – I FC would have received, the application for EC would have to be made for additional land only, since the Public Hearing and ToR have been secured for the total land area of the project i.e. 1152.66 ha.

The arrangement of proceeding ahead with **Phase – I** (with the expansion capacity excluding the forest and adjacent non – forest) was an interim arrangement for a period of maximum 24 months (considering physical possession of forest land) and it would have helped the project to achieve

considerable increase in production following all the requirements of MoEF & CC within the non – forest land to meet the requirement of the Nation.

As already explained, this was an interim arrangement and the excavation would be contained within the already approved Quarry limit (as already recorded in ToR), therefore, only relevant changes have been made for the Phase – I Mining Plan, keeping the basic parameters viz. Geology, seam characteristics, Quality calendar programme and Mine Closure same as per the approved PR.

Thus for the enhancement of EC capacity from 0.60 MTPA to 3.25 MTPA, a Mining plan for Phase-I was prepared in land area of 1095.52 ha, which was approved by WCL Board on 26.12.2018 & Environmental Clearance from MOEF & CC has been obtained vide letter no. J-11015/80/2016.IA.II(M) dated 28.03.2019. The Pauni-II Expansion OC Mine is presently working according to the approved Mining Plan (December, 2018).

The Chronology of Previous Approved Reports in Pauni-II Expansion OC are as tabulated below:-

Chronology of Previous Approved Project Reports / Mining Plans

Sl. No.	Approved Project Report	Date of Approval	Capital Investment (Rs. Crores)	Target Capacity (Mty)
1	PR of Pauni-II OC	13.11.2003	28.1120	0.60
2	PR of Pauni-III OC	29.04.2010	360.7987	1.25
3	Mining Plan of Pauni-II Expansion OC Mine (Phase-I) (April,2018)	26.12.2018	-	3.25
4	Mining Plan of Pauni-II Expansion OC Mine (Phase-I) (May,2022)	24.06.2022	-	4.875
5	RPR of Pauni-II Expansion OC Mine (March,2023)	08.04.2023	464.4498	4.875

1.2 MINING ACTIVITIES

1.2.1 Production

The Mine is in operation from F.Y. 2016-17, and the details of production from 2016-17 to 2021-22 are as follows. The mine has achieved target capacity of 3.25 Mty in the year 2021-22.

Year	Production	
	Coal (Mt)	OB (Mm ³)
2016-17	0.51	2.57
2017-18	0.31	1.48
2018-19	0.60	2.78
2019-20	2.11	6.47
2020-21	2.80	15.06
2021-22	3.25	20.84
2022-23	3.25	19.68
Total	12.83	68.88

1.2.2 Manpower

Total departmental manpower deployed in existing Pauni-II Expansion OC mine as on 01.04.2023 is 277 nos. as per data supplied by mine/Area .

1.2.3 Land Acquisition

As per approved PR (June, 2015), 1152.66 ha land is required for Pauni-II Expansion OC Mine. However, as per 7/12 Govt. land records, only 1093.88 ha land is acquired. Total land already acquired in Pauni-II Expansion OC Mine as on 01.04.2022 is tabulated below:

Existing Land Acquisition

S.No.	Particulars	Existing Land Phase-I (ha)	Existing Land Phase-II (ha)	Total Land Phase-I+II (ha)
1	Tenancy land	962.45	43.43	1005.88
2	Government Land	88.00	0	88.00
3	Forest Land	0	0	0
	Total	1050.45	43.43	1093.88

1.3 EXISTING ENVIRONMENTAL CLEARANCE

The existing Pauni- II Expansion OC mine has been granted Environmental clearance for 3.25 MTPA capacity and total leasehold area of 1095.52 Ha from MOEF&CC vide letter no J-11015/80/2016-IA.II(M) dated 28.03.2019. Earlier, the Pauni-II OC mine was accorded environmental clearance for 0.60 MTPA in a Mine lease area of 316.30 ha by MoEF & CC vide its letter no. J-11015/71/2005 – IA.II (M) dated 02/02/2006.

Revalidation of EC

The existing project of Pauni-II OC has been granted EC under the provisions of EIA Notification, 1994. As per MoEF&CC OM dated 06.04.2018, all projects granted environmental clearance in accordance with the EIA Notification, 1994, have to seek revalidation of existing EC in accordance with the EIA Notification, 2006. Revalidation for the Pauni-II Opencast mine for 3.25 MTPA production capacity has been granted by MOEF&CC vide letter no J-11015/80/2016-IA.II(M) dated 13.03.2020.

1.4 JUSTIFICATION OF PREPARATION OF REVISED MINING PLAN (AUGUST 2023)

The Pauni-II Expansion OC Mine is presently working according to the mining plan prepared for the enhancement of capacity from 0.60 MTPA to 3.25 MTPA in land area of 1095.52 ha for Phase-I. The Mining Plan of Phase-I was approved by WCL board vide letter WCL/BD/SECTT/BM-307/2018/830 dated 26.12.2018. The EC has been granted for Expansion in capacity of Pauni-II OCM from 0.60 MTPA to 3.25 MTPA in ML area of 1095.52 ha vide letter no. J-11015/80/2016-IA.II(M) dated 28.03.2019 and 13.03.2020 for Phase-I and amended vide J-11015/80/2016-IA.II(M) dated 03.12.2020.

However, the justification of proposed Mining Plan for Pauni-II Expansion is as follows:

- 1) The alignment of boundary fault F2-F2 in Quarry-2 is shifted outwards by about 100 m to 130 m while encountering mine working which results in revision of Coal/OB quantities and quarry area of Quarry-2.
- 2) Diversion of Lendi Nala and Sakhri Nala was proposed as per tentative alignment proposed in PR of Pauni-II Expansion (June, 2015). However actual diversion has been made as per the detailed design by CDO, Nashik and subsequent permission from state irrigation department. As diversion has taken place with proper technical study from Central Design Organization, Nashik and due statutory permission from irrigation department, this actual diversion alignment is kept as final alignment proposed in this mining plan. This will result in reduction of total project area from 1095.52 ha in phase – I to 1050.45 ha in Phase – I and 1152.66 ha to 1105.95 ha in Phase – II.
- 3) Change in dump site and revision in external OB dump area from 308.90 Ha to 243.99 Ha.

Hence, the proposed Revised Mining Plan for Pauni-II Expansion OC Mine is being prepared for 3.25 Mty capacity in land area of 1050.45 ha (Phase-I) and 1105.95 ha (Phase-II) with revised leasehold boundary and Quarry area and dump area.

2.0 MARKETABILITY

The mines of WCL are under constant pressure to meet the increasing demand of non-coking coal for power houses and other bulk consumers from Western as well as Southern part of country. The justification of this mine has been studied in the light of estimated demand for non-coking coal from power and other sectors and production forecast from existing, completed, ongoing and future projects of WCL. To reduce the gap between demand and supply of coal, it is very essential to either open new mines or increase the production from existing mines of WCL. Thus, Revised Mining Plan of Pauni-II Expansion OC mine having target capacity of 3.25 Mty will help to reduce the gap between demand and supply of coal from WCL mines.

3.0 LOCATION, COMMUNICATION, TOPOGRAPHY & DRAINAGE

3.1 LOCATION

The proposed mine area falls in the Rajura tehsil of Chandrapur district of Maharashtra State. The Chandrapur district township is located at the distance of about 25 km from the block. The area of Pauni-II Expansion OC block is bounded by latitudes N 19° 48' 19" and 19° 49' 27" and Longitude E 79° 13' 48" and 79° 16' 13". The block is covered in the survey of India Toposheet No.- 55 M/5.

3.2 ACCESSIBILITY AND COMMUNICATION

The approach to the area at present is via Sasti Colliery or Rajura, Mathra, Gauri, Pauni and Sasti villages by a fair weathered road, which is passing from north of the block boundary.

The block boundary and connected with all-weather metal road with Rajura tehsil. Delhi-Madras Grand Chord Railway line passes through Ballarpur township which is located in the NE of the block at a distance of about 10 km. Ballarshah Railway Station is located in the NE at about 10 km from the area.

4.0 GEOLOGY

4.1 INTRODUCTION

The area under consideration falls under Pauni combined geological block which is a part of Gauri Pauni Rationalized Block and it is located in the south-western part of eastern limb of Wardha Valley Coalfield. Gauri Pauni Rationalized Block comprises Pauni combined and Gauri central geological blocks. The area of Pauni Combined Block is 15.396 sq. km. and it is located in the south-western part of eastern limb of Wardha Valley Coalfield. CMPDI and MECL have carried out detailed coal exploration in Gauri Pauni rationalized block during the period from Feb'1981 to 2011. CMPDI has prepared a geological report entitled "Geological report on Exploration for coal

in area west of Pauni Extn block (Pauni-III), Wardha Valley Coalfield. November 2006", which is the western continuity of Pauni Extn. Block. The report was based on 57 boreholes drilled within the area and 4 boreholes drilled outside the area. This Geological Report was used as reference for preparation of previous Project Reports and Mining Plans of Pauni –II Expn OC.

Subsequently, CMPDI prepared a Geological Report in 2012 titled "Geological Report on Exploration for coal in Pauni Combined Block, Wardha Valley Coalfield", which is based on 373 boreholes drilled during 16.02.1981 to 17.06.2011. In addition to area south and west of Pauni Extension, boreholes drilled in Gauri, Pauni, Pauni Extension area, West of Pauni Extension and Hirapur Blocks have also been considered in the above said Geological Report.

4.1.1 Geological Reports

The geology of the area under consideration is based on the following geological reports :

- 1) Geological report on Gauri Block, Wardha Valley Coalfield, Dist – Chandrapur, Maharashtra, February 1985".
- 2) Geological note on exploration for coal Gauri OC area, MECL, Oct'1988.
- 3) Geological note on production support drilling for coal in Pauni Opencast Area, Wardha Valley Coalfield, Dist – Chandrapur, Maharashtra, Sept, 1996".
- 4) Geological note on production for coal Gauri-II OC area, MECL, July'1994.
- 5) Geological note on exploration for coal Pauni Production Support (97-98).

- 6) Geological report on quarriable potential of Pauni Extension Block, Wardha Valley Coalfield, Dist – Chandrapur, Maharashtra, March 2002".
- 7) Geological report on Exploration for coal, in area west of Pauni Extension Block. Wardha Valley Coalfield, Dist–Chandrapur, Maharashtra, Nov, 2006".
- 8) Geological Report on Exploration for coal in Pauni Combined Block, Wardha Valley Coalfield", Dist–Chandrapur, Maharashtra, March, 2012.

4.1.2 Geological Block Boundary

The area under consideration falls under Gauri Pauni Rationalized Block. The area of Pauni Combined Block is 15.396 sq. km. The block boundaries of Geological Block area are as follows:

- North : Subcrop of Composite seam and Fault F2 – F2
- South : Fault F₁ – F₁ and subcrop of Composite Seam (below Kamthi)
- East : Western limit of Gauri Central and Sasti block and Faults F19-19, F23-F23, F20-F20, F24-F24, F18-F18 and F16-F16.
- West : Confluence of Fault F1- F1 with fault F2- F2.

Area under consideration for project (part of Pauni combined block)

The area considered for reserve calculation is 2.52 km² and is located in the North-western part of northern limb of Pauni combined block. The limits of area are as follows:

1. North - Subcrop of Composite seam and Fault F2 – F2
2. South - Faults F1–F1, F4-F4 and subcrop of Composite Seam (below Kamthi)
3. East - Fault F₂ - F₂ and appx. 100m influence line of CMWG144, 168 & 142

4. West - Confluence of Fault F1- F1 with fault F2- F2.

4.2 EXPLORATION STATUS

The Pauni Combined geological block covers an area of 15.40 sq. km. The total number of boreholes drilled in block is 373 with meterage of 45202.40m. The project area is 2.5 sq.km.

- 4.2.1 The Agency wise and period wise drilling, number of boreholes and meterage drilled in proposed Project area during the period from 16.2.1999 to 17.6.2007 in different phases is detailed below:

Summary of Exploratory Boreholes drilled in area under consideration

Agency	Period of drilling	No. of boreholes	Total Meterage
A. BOREHOLES DRILLED WITHIN THE BLOCK			
CMPDI (CMWG – Series)	1999 – 2000	1	166.00
	2000 – 2001	2	352.00
	2001 – 2002	6	845.00
	2003 – 2004	14	1565.60
	2004 – 2005	21	2326.40
	2005 – 2006	11	817.00
	2006 – 2007	2	153.00
	Total	57	6225.00
B. BOREHOLES DRILLED OUTSIDE THE BLOCK			
	2006 - 2007	4	407.00

4.2.2 Area and Borehole Density

The total number of boreholes drilled in proposed area is 57 in total area of 2.5 sq. km. and the borehole density works out to **22 BH/sq.km.**

The Pauni Combined block covers an area of 15.40 sq. km with bh density 24 BH/sq.km.

4.2.3 Sampling and Status of Analysis

The coal cores generated during exploratory drilling were geologically logged, systematically packed and were sent to CIMFR Laboratory, Nagpur unit and CMPDI Laboratory, Ranchi for analysis (Band by Band Analysis and special tests). For carrying out physico-mechanical tests the entire cores of nine boreholes were sent to VNIT, Nagpur.

A. Physico-Mechanical Studies

Coal and non-coal portions of the boreholes CMWG-110, & 208 were sent to VNIT, Nagpur for carrying out physico-mechanical tests. The results are given in form of Annexure.

B. Geophysical Logging

Geophysical logging in none of the boreholes has been carried out in the project area. But in Pauni Combined block Geophysical logging has been carried out in 4 boreholes (CMWG -265, 287, 291 & 362). Natural Gamma, SP, Single point resistance, Short & long normal resistivity, Dual Density logs were recorded.

C. Coal Analysis

The details of coal analysis carried out for proposed area is tabulated below:

Sl. No.	Parameter	Composite Top Section		Composite Bottom Section		Composite Top + Bottom Sections	
		No. of B.H.	No. of determination	No. of B.H.	No. of determination	No. of B.H.	No. of determination
1.	Moisture %	27	29	40	41	27	31
2.	Ash %	27	29	40	41	27	31
3.	V.M. %	27	29	40	41	27	31

Sl. No.	Parameter	Composite Top Section		Composite Bottom Section		Composite Top + Bottom Sections	
		No. of B.H.	No. of determination	No. of B.H.	No. of determination	No. of B.H.	No. of determination
4.	G.C.V. (kCal/kg)	27	29	40	41	27	31
5.	Ultimate Analysis	4	4	4	4	6	6
6.	Total Sulphur	24	24	37	37	20	20
7.	Sulphur Distribution	4	4	4	4	4	4
8.	HGI	1	1	1	1	1	1
9.	Mineralogical analysis	4	4	4	4	4	4
10.	Coal Petrography/ (Random Vitrinite Reflectance)	-	-	-	-	2	2
		(4)	(4)	(4)	(4)	(4)	(4)

Note: Moisture, Ash, VM and Ultimate Analysis determined on 60% RH & 400° C

4.3 GEOLOGY AND STRUCTURE OF BLOCK

4.3.1 Regional Geological Succession

The regional geological succession of Wardha valley coalfield is tabulated below.

Regional Geological Sequence, Wardha Valley Coalfield

Age	Formation	Lithology
Recent/Sub-Recent	Detrital Mantle	Black cotton soil/sandy soil
Upper Cretaceous	Deccan Trap	Basalts
UNCONFORMITY		
Cretaceous	Lameta	Cherty limestone, chert, brown, yellowish to pale white silicified sandstones, claystone.
UNCONFORMITY		

Age	Formation	Lithology
Upper Permian to Lower Triassic	Kamthi	Red, brown and variegated clays, ferruginous coarse grained sandstone and shale bands.
UNCONFORMITY		
Middle Permian	Motur	Medium to fine grained variegated sandstones, variegated clays and shales.
Lower Permian	Barakar	Light grey to whitish sandstones with grey shale, sandy shale, alternate bands of shale and sandstone and coal seams.
Upper Carboniferous to Lower Permian	Talchir	Greenish to grey sandstones, siltstone and shale.
UNCONFORMITY		
Pre-Cambrian	Vindhyan	Greenish to grey quartzitic sandstone, pinkish limestone and chert.
UNCONFORMITY		
Archaeans	Metamorphics	Quartzites, granites, gneisses and schist etc.

4.3.2 Geological Succession of Pauni Combined Block

The geological succession of Pauni Combined block is as follows:-

Geological Succession of Pauni Combined Block, Wardha Valley Coalfield

Age	Formation	Thickness range (m)		Lithology
		Min.	Max.	
Recent / Sub- Recent	Detrital Mantle	0.50 (MWS-40&52)	14.00 (MWPS-2)	Black cotton soil/sandy soil

Age	Formation	Thickness range (m)		Lithology
		Min.	Max.	
Upper Permian to Lower Triassic	Kamthi	0.80 (CMWG-286)	58.00 (CMWG-149)	Yellow to brown fine to coarse grained sandstones, shale and variegated clays.
-----UNCONFORMITY-----				
Lower Permian	Barakar	NIL (CMWG-85,87&89)	202.57 (CMWG-330)	Grey to white fine to coarse grained sandstones, thin clay bands, shale, intercalation of shale and sandstone, sandy, shale, shaly sandstone, carb. shale, shaly coal and coal
Upper Carboniferous to Lower Permian	Talchir	(+) 1.00 (CMWG-83)	(+) 10.46 (CMWG-173)	Greenish shale.
-----UNCONFORMITY-----				
Pre-Cambrian	Vindhyan	(+) 4.54 m (CMWG-173)		Limestone

4.3.3 Sequence of coal seams and parting in the proposed area

The seam sequence, thickness range, intervening parting and No. of boreholes intersected, based on the data generated from the boreholes drilled within the Block are tabulated below.

Sequence of coal seams and parting

Coal seam/ Parting	Thickness range (m)		thickness range (m)
	Minimum	Maximum	
Composite Section Top	5.56 (CMWG - 151)	13.99 (CMWG - 174)	8.00-12.00

Parting	1.33 (CMWG - 174)	5.55m (CMWG-118)	
Composite Bottom Section	2.05 (CMWG - 174)	6.00 (CMWG - 176)	2.00 - 6.00
Composite Top+ Bottom Section	13.50 (CMWG-80)	15.02 (CMWG-118)	

The thickness figures mentioned above pertain to only those boreholes where the seam/sections and partings are not affected by fault/incrop. Boreholes with reduced thickness, poor recovery, core loss, part thickness, partly drilled and deteriorated or washed cores are also not considered. The two seam sections are mainly composed of coal and shaly-coal, thin bands of carbonaceous shale and obvious dirt bands. The coal is generally of dull rank i.e. non-coking type.

4.3.4 Dip and Strike of the Pauni Combined Block

The general strike of the strata as deciphered from the floor contour plans of Composite Top and Bottom Sections varies from WSW-ENE to NNW-SSE with minor swing in the north western part of the area. However, minor swing in the strike has also been observed locally in the area.

The dip of the strata ranges from 4.50° to 17.50° (gradient 1 in 3.2 to 1 in 12.6). As deciphered from the floor contour plan of bottom section of Composite Seam, the area under consideration is a part of basin that closes in the west and opens in the east. It is evident from subcrop of Composite seam that, the strata is dipping due SE in the northern part of the area and dipping due NE in the southwestern part of the area. Broadly, the total area can be divided in two limbs as Northern limb and Southern limb. The Northern limb represents the strike of WSW-ENE to E-W to NW-SE dipping due SSE to S to SW with gradient ranging from 1 in 7.4 to 12.6. The Southern limb represents the strike of NNW-SSE to NW-SE to WNW-ESE dipping due ENE to NE to NNE with gradient ranging from 1 in 3.2 to 6.8. The central part of the area above fault F12-F12 and below fault F25-F25, represents a basinal feature. The attitude of the seams are presented in the floor contour plans.

4.3.4a Dip and Strike of the proposed area

In Quarry -I, the general strike of the coal seam as determined from the floor contour and roof contour plans of Composite Seam is ENE-WSW dipping towards south. The dip of the formation ranges 8o-9o (1 in 6 to 1 in 7).

In Quarry-II, the general strike of the coal seam as determined from the floor contour plans of Composite Top and Bottom Sections is WSW – ESE with minor swing to NNW – SSE in the north western part of the area. However, local minor swing in the strike has also been observed in the area. The dip of the strata ranges from 6.50 to 140 (gradient 1 in 4 to 1 in 8.5) and dipping towards east.

4.3.5 Faults

The area of the entire Pauni Combined block is traversed by total 45 faults. A total of 14 faults is falling in the proposed area. All the faults are oblique and strike faults, cutting across and almost parallel to the strike of the strata. Due to thick cover of Soil/Kamthi rocks none of the faults are visible on the surface. Therefore, their presence has been interpreted from the direct evidence generated through boreholes drilled in the area. Faults have been interpreted by direct evidences. i.e. omission of full or part of seam, reduction in parting between the seams and indirect evidence. i.e. through difference in floor-reduced-levels on either side of the fault. All the faults have been considered as Pre-Kamthis and therefore, their surface position has been projected below the floor of Kamthi Formation. Fault F2-F2 has been encountered in the Pauni- II OC mine. The fault position of F2-F2 is shifted towards North (around the boreholes namely CMWG-167,184,175 & 152) w.r.t the fault position given in the GR. The shifted position of Fault F2-F2 is projected to the Floor of Composite seam in reference to the available borehole data and coordinates & RL provided from the Area. The surveyed coordinates of fault F2-F2 is as follows:

Fault F2-F2 Surveyed Coordinates			
	X	Y	Z
A	3024934	1062936.5	194.32
B	3025185	1062766.8	174.67
C	3025372	1062633.5	155.73
D	3025500	1062464.8	130.64

The details of the individual faults are tabulated below:

Brief Description of Faults within the block

Fault No.	Linear Extent of fault in the block) (km)	Trend	Throw		Evidence	
			Direction	Amount (m)	Up throw	Down throw
*F1-F1	7.80	NW/SE	NE	50-150 m.	Total Seam omitted in 98,146, 270 & 363.	
					CMWG-270, 278, 264, 263, 210, 186, 360, 228, 217, 370, 150, 147, 100, 99.	CMWG-358, 219, 202, 98, 345, 93, 143, 258, 139, 267, 266, 212, 262, 274.
*F2-F2	7.50	NW/SE-NNW/SSE	SW to WSW	20-150 m.	Floor of Top Sect., parting & total Bot. sect. faulted in CMWG 247. No coal encountered in 173, 249, 259, 280, 282, 281, 124, 181, 104, 116, 207. Encountered in Pauni-II OC mine	
					CMWG-229, 195, 331, 236, 298, 135, 109, 211, 118, 296, 135, 254, 257, 121, 112.	CMWG-226, 213, 231, 352, 132, 248, 144, 102, 168, 152, 175, 184, 188, 253, 274, 119.
F3-F3	3.70	EW to NW/SE to NNW/SSE	S to SW to WSW	20-60 m.	CMWG-367, 240, 227, 191, 346, 131, 43	CMWG-93, 255, 90, 156, 71, 194, 205, 362, 364.
*F4-F4	2.35	EW to WNW/ESE	S to SSW	15-70 m	Total Bot. Sect faulted in CMWG-165. 256 Top Sect. floor, parting & Bot. Sect. faulted in CMWG-256 & 101.	
					CMWG-189, 140, 250, 157.	CMWG-190, 350, 131, 149, 145.

Fault No.	Linear Extent of fault in the block) (km)	Trend	Throw		Evidence	
			Direction	Amount (m)	Up throw	Down throw
F5-F5	2.20	EW to NW/SE	S to SW	20-50 m	CMWG-241, 213, 332, 238, 334.	CMWG-196, 354, 191, 246.
F6-F6	1.75	NW/SE	SW	50-110 m	Total seam omitted in CMWG-233, 356 & 134. CMWG-345, 361.	CMWG-353, 364.
F7-F7	1.75	NW/SE	NE	0-50 m	Bot. Sect. faulted in CMWG-225 & 357. Top Sect. faulted in CMWG-359 & total seam omitted in CMWG-230 & 365. CMWG-206.	CMWG-193, 215
F8-F8	0.49	NNW/SSE	ENE	30 m	FRL difference on both the sides of fault. CMWG-353, 199, 203.	CMWG-366, 368.
F9-F9	2.40	NW/SE	NE	15-45 m	Total seam omitted in CMWG-261, 133, 200 & 224. FRL difference on both the sides of fault. CMWG-201, 345, 93.	CMWG-255, 148, 192, 220.
F10-F10	1.20	NNW/SSE	ENE	10-90 m	Total seam omitted in CMWG-222. FRL difference on both the sides of fault. CMWG-220.	CMWG-194, 205, 362, 361.
F11-F11	0.63	NNW/SSE	WSW	10-25 m	FRL difference on both the sides of fault. CMWG-354, 196, 204.	CMWG-227, 335.
F12-F12	2.65	WNW/ESE to NW/SE	SSW to SW	0-55 m	Top sect. faulted in CMWG-265. CMWG-301, 239, 304, 310, 305, 307 & 306.	CMWG-232, 234, 74.
F13-F13	1.61	NW/SE to NNW/SSE	SW to WSW	20-30 m	FRL difference on both the sides of fault. CMWG-234, 328, 331.	CMWG-229, 195.

Fault No.	Linear Extent of fault in the block) (km)	Trend	Throw		Evidence	
			Direction	Amount (m)	Up throw	Down throw
F14-F14	0.95	NW/SE	SW	10-50 m	FRL difference on both the sides of fault.	
					CMWG-232, 235.	CMWG-330.
F15-F15	0.55	NW/SE to WNW/ESE	SW to SSW	0-15 m	FRL difference on both the sides of fault.	
					CMWG-237.	CMWG-307.
F16-F16	0.65	EW	N	10-50 m	FRL difference on both the sides of fault.	
						CMWG-326, 324, MWS-40.
F17-F17	0.85	NS	E	50-110 m	FRL difference on both the sides of fault.	
					CMWG-29.	MWS-40, CMWG-43.
F18-F18	2.50	NW/SE	NE	45-125 m	FRL difference on both the sides of fault.	
					CMWG-15, 14.	MWS-59, 4, 9, 10, 9, 289, 68, 64.
F19-F19	2.10	NW/SE	SW	60-125 m	Older formations.	CMWG-2,30, 28, 73, 76, MWS-52.
F20-F20	1.82	NW/SE	NE	15-40 m	Total seam omitted in CMWG-290. FRL difference on both the sides of fault.	
					CMWG-289, 94, 92, 95.	MWS-9, CMWG-77, 20, 75, 26.
F21-F21	0.48	ENE/WSW	SSE	15-50 m	FRL difference on both the sides of fault.	
					MWS-56, CMWG-62.	CMWG-30, MWS-10.
F22-F22	0.39	NNW/SSE	ENE	15-20 m	CMWG-73 is faulted. FRL difference on both the sides of fault.	
					CMWG-76.	CMWG-75.
F23-F23	0.56	NNW/SSE	ENE	20 m	CMWG-27 is faulted. FRL difference on both the sides of fault.	
					CMWG-75 & 26.	

Fault No.	Linear Extent of fault in the block) (km)	Trend	Throw		Evidence	
			Direction	Amount (m)	Up throw	Down throw
F24-F24	0.50	NNW/SSE	E	20 m	CMWG-23 is faulted.	
*F25-F25	2.90	EW	S	0-80 m	Top sect. floor, parting & Bot. faulted in CMWG-114. Total seam faulted in CMWG-41, 51, 159, 130 & MWPS-5. Bot. Sect. floor faulted in CMWG-158., FRL difference on both the sides of fault. CMWG-322, 78, 60, 160, MWPP-3, CMWG-52. CMWG-111, 103, 80, 297, 295, 8, 325.	
F26-F26	2.2	WNW/ESE to ENE/WSW	SSW to SSE	15-35 m	FRL difference on both the sides of fault. MWPS-3, 11, CMWG-49, 65. CMWG-50, MWPS-15, 9 CMWG-39, 48, 284, 9, 283, 33, 68.	
F27-F27	0.75	WNW/ESE to EW.	SSW to S	0-20 m	Total Seam omitted in CMWG-286. MWPS-9, CMWG-287, 21 CMWG-57, 22.	
F28-F28	0.42	WNW/ESE	SSW	0-20 m	Total Seam omitted in CMWG-285. CMWG-22. CMWG-58.	
F29-F29	0.20	NNE/SSW	ESE	0-10 m	FRL difference on both the sides of fault. MWPS-17, 8, CMWG-49. MWPS-4, 7.	
F30-F30	0.35	EW	S	0-5 m	Roof of Top Sect. truncated in CMWG-35. FRL Difference on both sides of fault. - -	
F31-F31	0.35	WNW/ESE	SSW	0-5 m	Top sect. faulted in CMWG-59. FRL difference on both sides of fault. - CMWG-60	
F32-F32	0.95	WNW/ESE	SSW	90-95 m	Top sect. faulted in CMWG-119, Total seam omitted in CMWG-106. - CMWG-152, 136, 293.	

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Fault No.	Linear Extent of fault in the block) (km)	Trend	Throw		Evidence	
			Direction	Amount (m)	Up throw	Down throw
*F33-F33	0.70	EW/ESE	N	0-50 m	Bottom sect. faulted in CMWG-242. CMWG-299. CMWG-172, 136, 293.	
*F34-F34	0.78	WNW/ESE	SSW	10 m	Floor of Top Sect., parting & Bot. Sect. faulted in CMWG-293. Floor of Bot. sect. faulted in CMWG-294. CMWG-86. CMWG-172, 136.	
*F35-F35	1.40	NS/NW/SE	E to NE	25-60 m	Floor of Bot. Sect. faulted in CMWG-170. Total seam omitted in CMWG-182 CMWG-161, 162, 153, 163, 140. CMWG-138, 107, 151, 164.	
*F36-F36	2.10	WNW/ESE	SSW	10-25 m	Roof of Top Sect faulted in CMWG-142 & 164. CMWG-78, 141, 163, 96, 168. CMWG-250, 177, 151, 140, 189.	
*F37-F37	0.80	EW	N	0-15 m	Bot. Sect. faulted in CMWG-154 & roof of Top Sect. faulted in CMWG-107. CMWG-178, 153 105. CMWG-180, 138.	
*F38-F38	1.35	NW/SE	NE	0-35 m	FRL difference on both the sides of fault. CMWG-179, 129, 176. CMWG-126, 155, 180, 178, 189.	
*F39-F39	0.70	NW/SE	SW	0-5 m	FRL difference on both the sides of fault. CMWG-208, 167, 188. CMWG-187, 171.	
F40-F40	0.40	NNW/SSE	SW	15-25 m	Coal in juxta position with up dip formation. CMWG-276, 277.	

Fault No.	Linear Extent of fault in the block) (km)	Trend	Throw		Evidence	
			Direction	Amount (m)	Up throw	Down throw
F41-F41	0.60	NW/SE	Due WSW	10-15 m	Total Seam omitted in 260	
					CMWG-276, 277.	CMWG-268, 269, 271, 272, 275.
F42-F42	0.25	NNW/SSE	WSW	5 m	FRL difference on both the sides of fault.	
					CMWG-269, 268.	CMWG-266, 267, 271.
F43-F43	0.55	NNW/SSE	WSW	5-10 m	FRL difference on both the sides of fault.	
					CMWG-266, 267, 271, 272, 275.	CMWG-279, 251, 212, 252, 273, 274.
F44-F44	0.22	NNW/SSE	WSW	5 m	FRL difference on both the sides of fault.	
					CMWG-253, 252 & 212.	CMWG-274, 273, 262.
F45-F45	0.175	E/W	N	10 m	Top Section, parting and part of Bot. Section is missing in CMWG-211.	

Note: ‘*’ Faults falls inside the proposed area are highlighted

The whole of Pauni Combined Block represents the western part of basin structure. The area of the block under consideration shows synclinal structure which is evident from the sub crops in Pauni OC, Pauni Extn. area & Gauri OC dipping due south or south east direction, whereas bore holes CMWG-187, 171, 185, 179, 129, 176, 180, 178, 141, 163, 189 and 165 have encountered sub crop of the Composite Seam dipping due north or north-east direction. In addition to this, in most of the boreholes drilled in west of Pauni-III (Area West of Pauni Extn.) only Bottom section of the Composite seam that to in sub crop has been encountered dipping towards east. Moreover the data generated from borehole CMWG-202 and others, also confirms the concept of basin structure in this area.

4.3.6 Presence of Intrusive

No Dykes Sills or Igneous Intrusives have been encountered in Pauni Combined Block.

4.4 RESERVES

4.4.1 Sectors

For the suitable estimation of net proved quarriable reserve, the area of the block has been divided into 29 sectors (A to Z, ZA, ZB and ZC) based on fault pattern of the area and subcrop of Composite Seam. Only 7 sectors falls within the proposed area. The details of the sector boundaries are given below :

Sector	North	South	East	West
A	Faults $F_2 - F_2$ & $F_{32} - F_{32}$	Fault $F_{37} - F_{37}$ and sub crop of comp. seam	Fault $F_{35} - F_{35}$	Subcrop of comp.seam
B	Fault $F_2 - F_2$	Fault $F_{32} - F_{32}$	Fault $F_2 - F_2$	Fault $F_{32} - F_{32}$
C	Faults $F_{32} - F_{32}$ & $F_2 - F_2$	Faults $F_4 - F_4$ & $F_{36} - F_{36}$	Fault $F_2 - F_2$	Fault $F_{35} - F_{35}$
D	Fault $F_{37} - F_{37}$	Subcrop of comp. seam & Fault $F_{36} - F_{36}$	Fault $F_{35} - F_{35}$	Fault $F_1 - F_1$
E	Fault $F_{36} - F_{36}$	Fault $F_4 - F_4$	Fault $F_{35} - F_{35}$	Fault $F_1 - F_1$
F	Fault $F_4 - F_4$	Faults $F_3 - F_3$ & $F_1 - F_1$	Fault $F_{35} - F_{35}$	Fault $F_1 - F_1$
G	Fault $F_{36} - F_{36}$	Fault $F_4 - F_4$	Faults $F_4 - F_4$ & $F_{36} - F_{36}$	Fault $F_{35} - F_{35}$
H	Fault $F_4 - F_4$	Fault $F_4 - F_4$ and common boundary of Gauri central	Faults $F_2 - F_2$ & $F_{13} - F_{13}$	Faults $F_5 - F_5$, $F_3 - F_3$ and $F_{35} - F_{35}$
I	Faults $F_3 - F_3$ & $F_9 - F_9$	Fault $F_6 - F_6$	Faults $F_9 - F_9$ & $F_{10} - F_{10}$	Fault $F_6 - F_6$ and $F_1 - F_1$
J	Fault $F_6 - F_6$	Fault $F_1 - F_1$	Fault $F_8 - F_8$	Fault $F_1 - F_1$
K	Fault $F_6 - F_6$	Fault $F_1 - F_1$ and common boundary of Gauri central	Fault $F_7 - F_7$	Fault $F_8 - F_8$
L	Faults $F_6 - F_6$ and $F_3 - F_3$	Fault $F_7 - F_7$ and common boundary of	Common boundary of Gauri central	Fault $F_7 - F_7$

Sector	North	South	East	West
		Gauri central		
M	Fault F ₃ – F ₃	Faults F ₉ – F ₉ & F ₁₀ – F ₁₀	Fault F ₁₀ – F ₁₀	Fault F ₉ – F ₉
N	Fault F ₅ – F ₅	Fault F ₃ – F ₃ and F ₁₁ – F ₁₁	Fault F ₁₁ – F ₁₁	Fault F ₃ – F ₃
O	Fault F ₆ – F ₆	Fault F ₃ – F ₃	Fault F ₆ – F ₆	Fault F ₁₀ – F ₁₀
P	Fault F ₅ – F ₅	Fault F ₃ – F ₃ and common boundary of Gauri central	Fault F ₅ – F ₅ and common boundary of Gauri central	Faults F ₃ – F ₃ , F ₆ – F ₆ , F ₁₁ – F ₁₁
Q	Faults F ₁₂ – F ₁₂ & F ₁₄ – F ₁₄	Common boundary of Gauri central	Fault F ₁₄ – F ₁₄	Fault F ₁₃ – F ₁₃
R	Faults F ₁₂ – F ₁₂ & F ₁₄ – F ₁₄	Common boundary of Gauri central & Fault F ₁₄ – F ₁₄	Fault F ₁₂ – F ₁₂	Fault F ₁₄ – F ₁₄
S (Part in the proposed area)	Faults F₂₅ – F₂₅ & F₂₆ – F₂₆ and sub crop of Composite Seam	Fault F₁₆ – F₁₆ & Common boundary of Gauri central	Fault F₁₈ – F₁₈ Common boundary of Gauri central	Faults F₂ – F₂, F₁₃ – F₁₃, F₁₂ – F₁₂
T	Fault F ₃₄ – F ₃₄	Fault F ₃₃ – F ₃₃	Faults F ₃₄ – F ₃₄ , F ₃₃ – F ₃₃	Fault F ₂ – F ₂
	Fault F ₂₀ – F ₂₀	Faults F ₁₈ – F ₁₈ , F ₂₄ – F ₂₄	Fault F ₂₀ – F ₂₀	Fault F ₁₈ – F ₁₈
V	Faults F ₁₉ – F ₁₉ & F ₂₃ – F ₂₃	Fault F ₂₀ – F ₂₀	Fault F ₂₃ – F ₂₃	Fault F ₂₂ – F ₂₂
W	Fault F ₂₁ – F ₂₁	Faults F ₂₀ – F ₂₀ , F ₂₂ – F ₂₂	Fault F ₁₉ – F ₁₉	Faults F ₁₈ – F ₁₈ , F ₂₀ – F ₂₀
X	Subcrop of Composite Seam	Fault F ₂₁ – F ₂₁	Fault F ₁₉ – F ₁₉	Fault F ₁₈ – F ₁₈
Y	Fault F ₄₁ – F ₄₁	Fault F ₂ – F ₂	Fault F ₄₀ – F ₄₀	Fault F ₄₀ – F ₄₀ & Subcrop of Composite Seam
Z	Fault F ₂ – F ₂	Fault F ₄₁ – F ₄₁	Fault F ₄₀ – F ₄₀	Fault F ₄₁ – F ₄₁
ZA	Fault F ₂ – F ₂	Fault F ₁ – F ₁	Fault F ₄₂ – F ₄₂	Fault F ₄₃ – F ₄₃ & Subcrop of Composite Seam
ZB	Fault F ₂ – F ₂	Fault F ₁ – F ₁	Fault F ₄₃ – F ₄₃	Subcrop of Composite Seam
	Fault F ₂ – F ₂	Fault F ₁ – F ₁	Fault F ₄₄ – F ₄₄	Subcrop of Composite Seam

Note: Highlighted sectors falls in the proposed area.

4.4.2 Reserves in the geological Block

As per Geological Report on Coal Exploration in Pauni Combined Block 2012, a total of 226.7909 Mt. of quarriable net proved reserves of Composite Seam (Composite Top + Bottom Sections) have been estimated in Pauni Combined Block. Total reserves fall in GCV Band range from 3100-3400 to 5200-5500 K.Cal./Kg. Total 98.71% (220.6943 Mt.) of net proved reserves in full seam thickness area (223.5603 Mt.) fall in GCV ranging from 4000 to 4900 KCal/Kg. Out of total 226.7909 Mt. quarriable net proved reserves 3.2306 Mt. fall in subcrop area of Composite Seam and balance reserves of 223.5603 Mt. for full seam thickness area. The entire quarriable net proved reserves fall between < 1: 1 to 1: 26 coal overburden ratio and average stripping ratio 7.22.

A total of appx. 1.52 Mt net proved resources are added to Sector A, as fault F2-F2 is shifted and an area of appx. 0.08 sqkm is annexed to the original sub block area. Thus the total net proved reserves of Composite Seam (Top+Bottom) have been estimated in Pauni combined sub block is 228.3129Mt.

Reserves in the Proposed area

Only one Composite workable seam in two sections designated as Top and Bottom section occurs in the area under report. Quarriable resources were estimated w.r.t the Geological report on coal exploration in Pauni Extn area prepared by CMPDI in 2002 & 2006.

Pauni-II (Quarry-I)

A total of **13.56 Mt** of proved quarriable reserves of Composite Seam have been established in Pauni Extension Geological Block.

Out of 13.56 Mt Proved Geological Reserves in Pauni Extension Geological Block, **geological reserves upto 120m depth is 6.06 Mt** and rest 7.50 Mt lies beyond 120m depth.

West of Pauni Extension (Quarry-II)

The sectorwise, depthwise and gradewise quarriable net proved reserves are given in following table:

**SECTORWISE, DEPTHWISE AND GRADEWISE QUARRIABLE NET
PROVED RESERVES, AREA WEST OF PAUNI EXTN. BLOCK**

Grade	Depth (m)					Total reserves (Mt.)
	Upto 50	50-100	100 - 150	150 - 200	> 200	
SECTOR - A						
i) Subcrop Zone	1.257	0.131	--	--	--	1.388
ii) Full Thickness	0.050	14.037	8.769	2.550	0.093	25.499
TOTAL SECTOR – A	1.307	14.168	8.769	2.550	0.093	26.887
SECTOR – B						
i) Subcrop Zone	0.494	--	--	--	--	0.494
ii) Full Thickness	0.270	0.517	--	--	--	0.787
TOTAL SECTOR– B	0.764	0.517	--	--	--	1.281
SECTOR – C						
i) Subcrop Zone	0.095	--	--	--	--	0.095
ii) Full Thickness	0.186	0.838	--	--	--	1.024
TOTAL SECTOR – C	0.281	0.838	--	--	--	1.119
SECTOR – D						
i) No Subcrop Zone						
ii) Full Thickness	--	--	3.045	8.921	2.398	14.364
TOTAL SECTOR – D	--	--	3.045	8.921	2.398	14.364
SECTOR-E	NIL					
TOTAL SECTOR A+B+C+D+E	1.846	0.131	--	--	--	1.977
A. SUBCROP ZONE						
B. FULL SEAM THICKNESS	0.506	15.392	11.814	11.471	2.491	41.674
G. TOTAL	2.352	15.523	11.814	11.471	2.491	43.651

West of Pauni Extension mining block has been projected in Sec- A, Sec- B and Sec- C. Geological reserves estimated in this proposed area is **29.287Mt.**

5.0 MINE BOUNDARY, RESERVES, TARGET & MINE LIFE

5.1 MINE BOUNDARY DELINEATION

The Pauni-II Expansion OC mine has two quarries : Quarry-I & Quarry-II.

Quarry-I

Quarry-I has been planned in Pauni Extension Geological block which is bounded in north by fault F1-F1 (70m throw) and in south by another fault F2-F2 (100m throw). Thus these two faults form the natural mine boundary at the floor of coal seam of proposed Quarry-I in northern and southern side.

The top and bottom sections of composite seam subcrop in western side. The subcrop of top section forms the mine boundary (in coal) in the western side where bottom section also exists. The subcrop of bottom section has been excluded because of high cut off ratio due to non-existence of top section at that place.

In the eastern dip side, coal reserves have been proved upto a depth of 170m of the floor of composite seam. However, in this report the dip side limit of quarry has been fixed up to a depth of 120m at the floor of composite seam.

Thus the quarry boundaries of the Quarry-I are as follows:

Particulars	North	East	South	West
Proposed Mine Boundary	Fault F1-F1.	120m depth line at the floor of bottom section of composite seam	Fault F2-F2	Subcrop of top section of composite seam

There is no change in the limits of Quarry-I in Phase-I.

Quarry-II

The Pauni-III geological block is bounded by faults in three directions & sub-crop of seam in fourth direction. The block is divided in to five sectors i.e. 'A', 'B', 'C', 'D' & 'E' as detailed in para 4.6. The proposed mine is envisaged to mine coal in sectors 'A', 'B' & 'C' only, considering the geo-mining parameters, stripping ratio, etc. Exploration is being carried out near sector 'D' and no geological reserves have been projected in sector 'E' as it is having negligible width bounded with two major faults.

The mining reserves in sector 'A', 'B' & 'C' have been considered upto dip side major fault F₂-F₂ (max. depth about 200m). Faults namely F₅-F₅, F₆-F₆ & F₈-F₈ which exist towards east side of the property, make the eastern boundary of the proposed mine. Reserves east of these faults (in Sector D) have not been considered in this report as the extension of eastern side is still under geological investigation. Subcrop of the bottom section of seam makes the southern & western boundary of proposed mine. The Quarry boundaries of Quarry-II are tabulated below :

Particulars	North	East	South	West
Proposed mine Boundary	Fault F ₂ -F ₂	Fault F ₅ -F ₅ , F ₆ -F ₆ & F ₈ -F ₈	Sub crop of bottom section	Sub crop of bottom section & Fault F ₁ -F ₁

In the Approved Mining Plan (Phase – I), the Quarry-I remained unchanged, however Quarry-II was planned (as an interim arrangement) by excluding the forest land & adjoining non-forest land (57.14 ha) as shown in the Quarry and Surface Layout Plan.

5.2 MINEABLE RESERVES

S.No.	Particulars	Quarry-I	Quarry-II	Total
1	Mineable Reserves as on 01.04.2022 as per approved PR March 2023	2.10	21.82	23.92
2	Production in 2022-2023	0.77	2.48	3.25
3	Reserves included with Change in Fault position F2-F2	-	1.40	1.40
4	Balance Reserves as on 01.04.2023	1.33	20.74	22.07

Thus, Total mineable reserves as on 01.04.2023 is **22.07 Mt.**

5.3 TARGET PRODUCTION & MINE LIFE

The revised Mining Plan has been prepared for a target capacity of 3.25 Mt/annum from Quarry-I and Quarry-II. The parameters of opencast mine field and technical conditions of its development make this target feasible with normal indices namely length, width & depth of the excavated block, thickness of coal seam, seam gradient, method of mining etc. The target of approved mining plan (2018) was 3.25 Mty. It is proposed in this Revised Mining Plan to include the reserves which are obtained by change in fault (F2-F2) position by approximately 130m towards dip side. Thus, total of 1.40 Mt of coal is being added to the balance reserves as on 01.04.2023 of approved RPR March 2023.

Keeping target production as 3.25 Mty and with total reserves of 22.07 Mt, Mine life comes around 7 years.

6.0 METHOD OF MINING

6.1 GEO-MINING CHARACTERISTICS

Sl. No.	Particulars	Quarry-I	Quarry-II	Total
1.	Area of the Quarry			
a)	On floor (ha)	29.40	161.28	190.68
b)	On surface (ha)	63.45	240.49	303.94
2.	Depth (m)			
a)	Initial	28-30m	27	27
b)	Final	120m	200	200
3.	Gradient of Seam	1 in 6 to 1 in 7	1 in 6	1 in 6 to 1 in 7
4.	Average thickness of seams (m)			
a)	Top Section	10.72 – 10.95	10.00	
b)	Bottom Section	2.55 – 4.30	4.00	
5.	Strike length (m) on floor	400	2500	
6.	Strike length (m) on surface	600	1250	
7.	Width on surface (m) [dip rise]	110	950	
8.	Width on floor (m) [dip rise]	875	750	
9.	GCV (kCal/kg) and Band of GCV	4755 (G-9)	4830 (G-9)	4817 (G-9)
10.	Mineable Reserves (Mt) (considering 5% mining losses) (As per approved PR March 2023)	2.10	21.82	23.92
10a	Balance Mineable Reserves (Mt) (As per proposed Revised Mining Plan as on 01.04.2023)	1.33	20.74	22.07
11.	Total OB (Mm ³) including access trench (As per approved PR March 2023)	15.43	124.56	139.99
11a.	Balance Total OB (Mm ³) including access trench (As per proposed Revised Mining Plan as on 01.04.2023)	9.26	119.78	129.04
12.	Average stripping ratio (m ³ /t) (As per approved PR March 2023)	7.35	5.70	5.85
12a	Average stripping ratio (m ³ /t) (As per proposed Revised Mining Plan as on 01.04.2023)	6.96	5.77	5.85

6.2 CHOICE OF TECHNOLOGY

The peak target of proposed quarry has been envisaged as 3.25 Mty. Production is proposed from multi sections (two sections) of composite seam. Property of Quarry-I is having limited strike length, steep gradient (1 in 6 to 1 in 7) and property of Quarry-II has several faults hence, deployment of Surface miner is ruled out in the PR. Deployment of dragline has not been proposed considering the geo-mining conditions and lesser mine life (balance 7 years mine life). Underground mining has been ruled out considering conservation of coal in thick seam and better economics in an opencast compared to underground mining.

Presently shovel-Dumper combination is being practiced very successfully in existing mines of WCL. Hence, in proposed Revised Mining Plan of Pauni-II Expansion OC mine also shovel-dumper combination has been proposed.

6.3 OPTION IN REVISED MINING PLAN

The Approved Mining Plan of Pauni-II Expansion OC mine (Dec., 2018) for 3.25 Mty was also prepared in Total Hiring Option with Shovel Dumper method of mining. In this proposed Revised Mining Plan of Pauni-II Expansion OC mine (August, 2023) for 3.25 Mty entire coal extraction and OB removal will also be done by hiring of HEMM.

6.4 EQUIPMENT SELECTION

6.4.1 Total Hiring Option

In this Option, entire coal extraction and OB removal will be done by hiring of HEMM. It is proposed that coal extraction and OB removal in Quarry will be done by Shovel Dumper/Surface Miner combination through out-sourcing agency. Few common departmental HEMM have been provided in Total Hiring option.

In Total Hiring option, although no specification of HEMM has been provided

to be deployed by hiring / out-sourcing agency, the HEMM should be of adequate size for operational efficiency and to avoid traffic congestion and environmental pollution. Some Common departmental equipment have been proposed in the mine as per approved PR are as follows :

Sl. No.	HEMM (For Common)	Nos.
1.	Fire Fighting Truck	1
2.	8-12 t crane	2
3.	2.8 m ³ Backhoe	2
4.	3.1-4.6 m ³ Front End Loader	1
5.	Water Sprinkler	2

6.5 MINING SYSTEM & SYSTEM PARAMETERS

6.5.1 Width & height of benches

The height of benches in OB has been considered as 10m while height of benches in coal has been considered as per thickness of seam. However, maximum height of bench in coal seam has been considered as 5 m. The width of working and non-working benches for top overburden removal have been considered as 30m and 20m respectively. The height of benches for parting removal has been considered as per thickness of parting. The width of coal and parting bench has been considered as 20m. The height and width of uppermost two benches in OB has been considered as 5m.

6.5.2 Slope of benches & quarry

i) During mining operation :

The slope of topmost two OB benches in quarry has been considered as 45°. The slope of Individual OB and coal benches has been considered as 70°. The rise side quarry slope has been considered as 37° and dipside working slope of quarry has been considered about 22° during mining operation.

ii) At the end of quarry

At the end of quarry, the slope of topmost two OB benches has been considered as 45° whereas the slope of individual OB benches in hard strata

and coal benches has been considered as 70°. Quarry slope has been considered as 37° in rise side & dip side of quarry.

It is proposed in this Revised Mining plan to carry out scientific study for slope and design of benches in quarry. Based on above scientific study, bench and quarry profile may change.

7.0 MINING & DUMPING STRATEGY

7.1 SURFACE CONSTRAINTS / RISKS IN MINING

Following surface constraints are envisaged in the proposed Revised Mining Plan for Pauni-II Expansion OC mine:

a) Diversion of 66 kV power line, 11 kV power line & other rural feeders

66 kV HT line, 11 kV power line and other rural feeders passing over the quarry area are proposed to be diverted. The diversion of 66 kV HT line has been proposed as per route shown in Quarry & Surface layout Plan.

b) Land Acquisition

12.07 ha of forest land is also to be acquired for Phase-II which is a critical activity. Acquisition of balance land including 12.07 ha of forest land for Phase-II is mandatory in initial two years for continuation of mine life and for start of internal dumping.

c) Diversion of Sakhari-Chincholi road

Diversion of Sakhari-Chincholi road is proposed around the outer periphery of quarry area.

d) Diversion of Sakhari-Waroda road

Diversion of Sakhari-Waroda road is proposed around the outer periphery of proposed external dump in northern side.

7.2 MINING STRATEGY

The existing Pauni-II Expansion OC mine has two operating quarries namely Quarry-I & Quarry-II.

In Quarry-I, the Access Trench has been made to touch the composite coal seam near the sub-crop of Bottom section near fault F2-F2 (where top section also exists) as per the original approval of PR. The balance life as on 01.04.2023 of Quarry-I is around one year. In Quarry-II, Access trench has been made to touch at subcrop of bottom section of seam (where thickness is 2.0m) in sector 'A'. The central part of Quarry-II is under operation by this access trench. Another Access trench is proposed to be driven for Sector 'B' & 'C'. Part of this access trench would be common for both the sectors. There is no change in the access trench in Quarry – II in Phase – I (same as given in the original approved PR).

In the Revised Mining Plan for Pauni-II Expansion OC mine, after diversion of 66kV HT line and due to diverted Sakhari nala, the space for additional external dumping is limited to initial 3 years i.e. upto 2024-25. It is essential to acquire forest land and adjacent tenancy/Government land for Phase-II in initial 2 years so that internal dumping may be started in available void of Quarry-II.

As already explained, the approved Phase – I (with the expansion capacity excluding the forest and adjacent non – forest) is an interim arrangement for a period of 24 months (awaiting only the Forest Clearance) for working within the non-forest land.

As this is an interim arrangement and the excavation will be contained within the already approved Quarry limit (as per existing EC). However, stage-I FC has to be obtained within two years. Accordingly, the calendar plan of excavation and dumping schedule has been revised in this proposed mining plan for balance life of the mine.

7.2.1 Balance Coal, OB & Stripping Ratio

The balance coal reserves of Quarry-I and Quarry-II as on 01.04.2023 are as follows:

PAUNI-II EXPANSION OC MINE (As on 01.04.2023)						
QUARRY	COAL (Mt)			OB (Mm ³)		
	Total Coal (As per Approved PR 2023)	Extracted (2022-2023)	Balance as on 01.04.2023	Total OB (As per Approved PR 2023)	Extracted (2022-2023)	Balance as on 01.04.2023
For Phase-I						
Quarry-I	2.10	0.77	1.33	15.43	6.17	9.26
Quarry-II	18.42	2.48	15.94	116.48	13.51	102.97
Additional Reserves	-	-	1.40	-	-	8.73
Sub-Total	20.52	3.25	18.67	131.91	19.68	120.96
For Phase-II						
Quarry-I	0	0	0	0	0	0
Quarry-II	3.40	0	3.40	8.08	0	8.08
Sub-Total	3.40	0	3.40	8.08	0	8.08
Total (Phase I+II)	23.92	3.25	22.07	139.99	19.68	129.04

7.3 DUMPING STRATEGY

As detailed above, entire mining area is divided in two quarries namely Quarry-I & Quarry-II. Due to limited strike length of the Quarry-I and steep gradient of seam sections, no internal dumping is proposed in the quarry and therefore the entire overburden will be dumped externally. The layout of these OB dumps are shown in Quarry and Surface Layout plan. External Dump 'D' having dumping capacity of 25.45 Mm³ and maximum height of 90m for dumping of hard OB of Quarry-I, has three benches each of 30m height and final angle of slope is proposed to be kept at maximum 25°.

It was proposed to remove soil upto 3m depth in 120m trench along periphery of proposed external dump 'D' to increase the stability of dump. However, it is

proposed to involve some scientific agency to conduct the study on slope stability and the final angle of slope as suggested by the above agency will be implemented. Provision for the same was made in Approved PR (June 2015).

Another external dump 'C' on coal bearing area between Quarry-I & Quarry-II, having dumping capacity of 12.80 Mm^3 and maximum height of 30m at slope angle of 37° has been proposed for dumping of Black cotton soil of Quarry-I (4.45 Mm^3), part of black cotton soil of Quarry-II (5.42 Mm^3), trench cutting OB from the site of Dump 'A' of Quarry-II (1.88 Mm^3) and trench cutting OB from the site of Dump 'D' of Quarry-I (1.05 Mm^3). It is proposed to rehandle entire about 12.80 Mm^3 of black cotton soil dump quantity over top of internal dump of Quarry-II & External Dump-A as shown in Calender programme of excavation. It was also proposed to construct an embankment (6 m high above HFL & top width of 20m) against Lendi nala, Sakhri nala, Pauni nala and seasonal nala. 2.82 Mm^3 of hard OB from Quarry-I will be used for construction of this embankment.

In Quarry-II, external Dump 'A' having dumping capacity of 63.21 Mm^3 and maximum height of 90m for dumping of hard OB of Quarry-II, has three benches each of 30m height and final angle of slope is proposed to be kept at maximum 25° . It was proposed to remove soil upto 3m depth in 120m trench along periphery of proposed external dump 'A' to increase the stability of dump. External dump 'B' on dipside non coal bearing area having dumping capacity of 6.80 Mm^3 and maximum height of 30m at slope angle of 37° was been proposed for dumping of Black cotton soil of Quarry-II. Another External Hard OB Dump E of Capacity 2.32 Mm^3 is proposed beside BC soil Dump B to accommodate Hard OB. As mentioned earlier, external dump 'C' on coal bearing area between Quarry-I & Quarry-II, having dumping capacity of 12.80 Mm^3 and maximum height of 30m at slope angle of 37° has been proposed for dumping of Black cotton soil of Quarry-I & part of black cotton soil of Quarry-II.

Internal dumping has also been proposed in the mine towards western side of the property in the sector A of the proposed mine. It has been projected to backfill 97.99 Mm^3 of OB in this dump. Thus, Out of total 197.92 Mm^3 OB (31.90 Mm^3 from Quarry-I, 163.09 Mm^3 from Quarry-II, 1.88 Mm^3 from trench cutting at Dump 'A' and 1.05 Mm^3 from trench cutting at Dump 'D'), 97.78 Mm^3 OB will be accommodated in External OB Dumps, 2.15 Mm^3 in embankment and balance 97.99 Mm^3 will be dumped in decoaled void of Quarry-II. Thus, 50.50% of total OB will be dumped externally and 49.50% OB will be accommodated in Internal Dump.

7.4.1 Dump Capacity

The different External and Internal dumps proposed in the Revised Mining plan of Pauni – II Expansion OC mine are tabulated below :

DUMP CAPACITY

Sl. No.	Dump	Location	Source of OB	OB (Mm^3)	Height (m)
A)	EXTERNAL DUMP				
1)	Dump-A	In rise side of Quarry-II OC	Quarry-II OC	63.21	90
2)	BC Soil Dump-B	In dip side of Quarry-II OC	Quarry-II OC	6.80	30
3)	Dump-D	In rise side of Quarry-I OC	Quarry-I OC	25.45	90
4)	Dump-E	In dip side of Quarry-II OC	Quarry-II OC	2.32	30
5)	Embankment	Surrounding Quarry-I OC & Quarry-II OC	Quarry-I OC	2.00	6 m above HFL
			Quarry-II OC	0.15	
	Total (External Dump)		Sub-Total (A)	99.93	

Sl.	Dump	Location	Source of OB	OB (Mm ³)	Height (m)
B)	TEMPORARY BC SOIL				
	This entire OB dump will be rehandled & accommodated over External OB Dump-A & in the internal dump in de-coaled void of Quarry-II OC	In Coal bearing area between Quarry-I OC & Quarry-II OC	Quarry-I OC	4.45	30
			Quarry-II OC	5.42	
			Trench Cutting at Dump A	1.88	
			Trench Cutting at Dump D	1.05	
			Sub-Total (B)	12.80	
C)	INTERNAL DUMP				
1)	De-coaled void of Quarry-II OC	De-coaled void of Quarry-II OC	Quarry-II OC	85.19	60m above GL
			Rehandling of Temporary BC Soil Dump C	12.80	
			Sub-Total (C)	97.99	
	GRAND TOTAL (EXTERNAL+ INTERNAL)		Quarry-I OC	31.90	
			Quarry-II OC	163.09	
			Trench Cutting at Dump sites	2.93	
TOTAL (A+C)				197.92	

From above, it is clear that about 49.5 % of total OB of proposed Pauni-II Expansion OC mine will be accommodated in Internal dumps and rest 50.5 % OB will be dumped in External OB dumps.

7.4 SEQUENCE OF DUMPING OPERATIONS AND STAGE-WISE DETAILS

The balance life of the **Pauni-II Expansion OC mine** is 7 years. The Stage Plan showing status of coal extraction, OB removal, external and internal dumping and area of excavation in the quarry at the end of 7th year (end of mine life) is given in the table below :

Sl. No	Particulars	As on 01.04.23	Balance Life (end of 7 th Year)	Total
1.	Coal Mined (Mt)			
2.	OB Removed (Mm ³)	12.82	22.07	34.89
	a) In-situ OB from Quarry	68.88	129.04	197.92
3.	Stripping Ratio (m ³ /t) (In-situ OB)	5.37	5.87	5.67
4.	Excavated Quarry Area (ha)	160.00	303.19	303.19
5.	External Dump (Mm ³)			
	a) External OB Dump No-A	37.19	26.02	63.21
	b) External OB Dump No-D	16.19	12.16	25.45
	c) BC Soil Dump No-B	6.40	0.40	6.80
	d) Temp BC Soil Dump No-C	6.95	2.98	0
	e) Hard OB Dump E	0	2.32	2.32
	f) Embankment	2.15	0	2.15
	Total	68.88	31.05	99.93
6.	Internal Dump (Mm ³)			
	a) Below ground	0	70.07	70.07
	b) Above ground	0	27.92	27.92
	Total	0	97.99	97.99

8.0 MINING SCHEDULE AND EQUIPMENT PHASING

8.1 DESIGN CRITERIA

The Revised Mining Plan of Pauni-II Expansion OC mine has envisaged 330 days of working in a year based on 7 days schedule of mine working. As per the prevalent practice in WCL, there will be 3 working shifts in a day and each shift will be of 8 hours duration. The excavation category of OB material has been assumed as 50% Category-III + 50% Category-IV, whereas, for coal it is assumed as Category-III. The in-situ volume weight of OB material has been considered as 2.1 t/m³ whereas for coal it is taken as 1.60 t/m³.

8.2 CALENDAR PROGRAMME OF EXCAVATION

The actual coal and OB quantity excavated since inception and scheduled quantities for balance life of the mine with target capacity of 3.25 MTPA are as under:

YEAR	QUARRY	COAL(Mt)	OB (Mm3)
2016-17	QUARRY-I	0.51	2.144
	Trench Dump-D		0.426
	Sub-Total	0.51	2.57
2017-18	QUARRY-I	0.31	1.48
2018-19	QUARRY-I	0.60	2.78
2019-20	QUARRY-I	0.75	0.54
	QUARRY-II	1.36	5.12
	Trench Dump-A		0.810
	Sub-Total	2.11	6.47
2020-21	QUARRY-I	0	2.00
	QUARRY-II	2.80	11.91
	Trench Dump-D		0.51
	Trench Dump-A		0.64
	Sub-Total	2.80	15.06
2021-22	QUARRY-I	0.91	7.53
	QUARRY-II	2.340	13.20
	Trench Dump-D		0.11
	Sub-Total	3.25	20.84
2022-23	QUARRY-I	0.77	6.17
	QUARRY-II	2.48	13.51
	Trench Dump-A	-	
	Sub-Total	3.25	19.68
	Total	12.83	68.88
Proposed as per Revised Mining Plan as on 01.04.2023			
2023-24	QUARRY-I	1.33	9.26
	QUARRY-II	1.92	9.81
	Trench Dump-A	-	0.43
	Sub-Total	3.25	19.50

YEAR	QUARRY	COAL(Mt)	OB (Mm3)
2024-25	QUARRY-II	3.25	19.50
	Sub-Total	3.25	19.50
2025-26	QUARRY-II	3.25	19.50
2026-27	QUARRY-II	3.25	19.50
2027-28	QUARRY-II	3.25	19.50
2028-29	QUARRY-II	3.25	19.50
2029-30	QUARRY-II	2.57	12.04
	Sub-Total	22.07	129.04
	Total	34.90	197.92

8.3 Trench Cutting

It was proposed in the approved PR to excavate additional 1.88 Mm³ BC soil from 120 m wide trench cutting along the periphery of proposed External Dump A and 1.05 Mm³ BC soil from 120 m wide trench cutting along the periphery of proposed External Dump D for stability of External Dump. The existing and proposed schedule for trench cutting is shown in dumping schedule.

8.4 DUMPING SCHEDULE

The entire OB (197.92 Mm³) is proposed to be accommodated in:

1. External OB Dump-A (63.21 Mm³)
2. External OB Dump-D (25.45 Mm³)
3. BC Soil Dump -B (6.80 Mm³)
4. Temp. BC Soil Dump -B (12.80 Mm³) will be rehandled
5. Embankment (2.15 Mm³)
6. Internal OB Dump in void of Quarry-II (97.99 Mm³)
7. Hard OB Dump-E (2.32 Mm³)

DUMPING SCHEDULE

YEAR	QUARRY	COA L(Mt)	OB (Mm3)	EXTERNAL OB DUMP						INTERNAL DUMP (VOID OF Q-II)
				DUMP -A	BC-B	TEMP BC -C	DUMP -D	EMBA N- KMENT	DUMP-E	
As per existing PR/ Mining Plan upto 31.03.2022										
2016- 17	QUARRY-I	0.51	2.144			0.824	1.32			
	Trench Dump-D		0.426			0.426				
	Sub-Total	0.51	2.57	0	0	1.25	1.32	0	0	0
2017- 18	QUARRY-I	0.31	1.48			0.42	1.06			
2018- 19	QUARRY-I	0.60	2.78			0.43	2.35			
2019- 20	QUARRY-I	0.75	0.54				0.54			
	QUARRY-II	1.36	5.12	3.01	1.93			0.18		
	Trench Dump-A		0.81			0.81				
	Sub-Total	2.11	6.47	3.01	1.93	0.81	0.54	0.18	0	0
2020- 21	QUARRY-I	0	2.00			1.13	0.18	0.69		
	QUARRY-II	2.80	11.91	9.96	1.31			0.64		
	Trench Dump-D		0.51			0.51				
	Trench Dump-A		0.64			0.64				
	Sub-Total	2.80	15.06	9.96	1.31	2.28	0.18	1.33	0	0
2021- 22	QUARRY-II	2.34	13.20	12.00	1.20					
	Trench Dump-D		0.11			0.11				
	Sub-Total	3.25	20.84	12.00	1.20	0.79	6.71	0.14	0	0
2022- 23	QUARRY-I	0.77	6.17			0.14	6.03			
	QUARRY-II	2.48	13.51	12.54	0.97					
	Sub-Total	3.25	19.68	13.68	0.97	0.14	6.03			

YEAR	QUARRY	COA L(Mt)	OB (Mm3)	EXTERNAL OB DUMP						INTER DUP (VOID Q-I)
				DUMP -A	BC -B	TEMP BC -C	DUMP -D	EMBAN - KMENT	DUMP-E	
Sub-Total (Upto 01.04.2023)		12.83	68.88	37.51	5.41	6.12	18.19	1.65	0	0
2023- 24	QUARRY-I	1.33	9.26	2.00			7.26			
	QUARRY-II	1.92	9.81	4.99	1.39	0.61		0.50	2.32	
	Trench Dump-A		0.43			0.43				
	Sub-Total	3.25	19.50	6.99	1.39	1.04	7.26	0.50	2.32	0.00
2024- 25	QUARRY-II	3.25	19.50	12.71		2.43				4.36
2025- 26	QUARRY-II	3.25	19.50			2.00				17.50
2026- 27	QUARRY-II	3.25	19.50			1.21				18.29
2027- 28	QUARRY-II	3.25	19.50	6.00		-6.00				19.50
2028- 29	QUARRY-II	3.25	19.50			-6.80				26.60
2029- 30	QUARRY-II	2.57	12.04							12.04
Grand Total		34.89	197.92	63.21	6.80	0.00	25.45	2.15	2.32	97.99

9.0 QUALITY OF COAL

COAL QUALITY IN QUARRY AREA

Quality of coal has been assessed for both the quarries separately as well as for Combined OC based on the borehole data available within the quarry area.

Quarry-I

The minimum and maximum range of analytical data for quality of coal for composite seam is as given below:

Parameters	Range
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	Minimum	Maximum
Moisture %	8.0 (CMWG-118)	8.1 (CMWG-80)
Ash %	26.5 (CMWG-80)	27.3 (CMWG-118)
GCV (kCal/kg) (excluding Parting)	4470	4826

Overall quality for Quarry-I has been assessed based on borehole wise GCV in quarriable area which works out to **4755 kCal/kg (G-9)**.

Quarry-II

The minimum and maximum range of analytical data for quality of coal for bottom section & top section is as given below:

Parameters	Range	
	Minimum	Maximum
Bottom Section		
Moisture %	6.3 (CMWG-187)	9.5 (CMWG-96)
Ash %	18.7 (CMWG-164)	34.7 (CMWG-128)
GCV (kCal/kg) (excluding Parting)	4072	5339
Top Section		
Moisture %	5.7 (CMWG-155)	9.0 (CMWG-153)
Ash %	20.2 (CMWG-167)	40.0 (CMWG-155)
GCV (kCal/kg) (excluding Parting)	3796	5073

Overall quality for Quarry-II has been assessed based on borehole wise GCV in the quarriable area (calculated basis) which works out to **4830 kCal/kg (G-9)**.

9.1 Overall Quality

Due to mild to flat gradient of composite seam in the proposed Gauri Pauni Expansion OC mine, Surface Miner has been proposed for extraction of coal in this proposed RPR. With Surface Miner, there will be minimum dilution and grade deterioration during coal extraction and therefore coal quality assessed for Top + Bottom Section (excluding parting) on I-100 basis can be achieved.

The overall quality of composite seam (top & bottom section combined) for PR for Pauni-II Expansion OC mine, on average basis, was **4817 kCal/kg (G-9)** which has been kept same in this proposed RPR. Proposed working in coal by Surface Miner will also benefit in achieving better quality of coal.

10.0 PUMPING

Adequate pumping provision has been made in approved PR of Pauni-II Expansion OC Mine (June, 2015).

11.0 WORKSHOP & STORES

All HEMM deployed in this mine will be hired and their maintenance will be contractor's responsibilities. Hence, there is no provision of any unit excavation workshop in the report. E & M workshop facilities have been provided to carry out the maintenance and repair of the CHP equipment, pumps, electrical etc. of the mine. This E & M workshop will be supported by Regional/Central workshop for major repairs and parts manufacture, because it is essentially a pithead maintenance workshop.

12.0 CHP

In the approved PR of Pauni-II Expansion OC (March 2023), (-)100 mm coal cutting by surface miner was proposed to be transported from coal stock to TRS-1 of Amalgamated Gauri Pauni OC Mine by truck within the mine boundary of WCL. The coal will be further transported from TRS-1 to Silo/RLS by belt conveyor.

13.0 POWER SUPPLY

Presently the Pauni-II Expansion OC Mine is receiving power from Sasti 66KV / 11 KV Substation with two power transformers of 1.6 MVA and 1 MVA substation capacity, which is receiving power at 11kV/3.3KV. Additional provision was made as per approved PR of Pauni-II Expansion OC Mine (March 2023).

14.0 CIVIL PROVISIONS

The civil provisions has been kept same as per the Approved PR of Pauni-II Expansion OC(March 2023) . The Chincholi-Sakhari road is to be diverted as per the proposed route in Approved PR ((June 2015).

15.0 SAFETY & CONSERVATION

15.1 GENERAL

The Mining Plan has been drawn in conformity with the prevailing statutory provisions as per Mines Act, 1952 and CMR, 2017 applicable for safety in opencast mines. However, all statutory rules, regulations, applicable laws etc. and statutory requirement related to Govt. licenses, workers compensation, Insurance, etc. shall have to be adhered to. All the regulations & schedules of Coal Mines Regulations, 2017, DGMS circulars relating to opencast mining, inundation, dust suppression, slope stability etc will have to be adhered to and implemented in order to maintain day to day safety precautions as per statute.

15.2 INUNDATION

Lendi nala, Sakhri nala and some seasonal nalas are passing through proposed mine area of Pauni-II Expansion OC Mine. In this report, if required, it is proposed to make a flood protection embankment 6m above HFL around the proposed mine wherever necessary. The top width of embankment is proposed as 20m. During rainy season regular inspection of embankment shall be done.

15.11 SCIENTIFIC STUDIES

Provision for scientific studies regarding Slope stability & Hydro-geological study and Drilling & Blasting etc. have been made in this Mining Plan:-

a) **Slope Stability**

It is proposed to carry out scientific study on slope stability external OB Dump and internal OB dumps as well as for stability of final slope of quarry batter. Based on the findings of scientific research the proposed slope of dumps and batter in the report may change.

b) **Drilling & Blasting**

For optimum fragmentation of rock and coal to minimize the overall cost of excavation, it is proposed in this report to engage some Scientific body to carry out research for optimum drilling and blasting. Accordingly, the powder factor suggested after this study will be followed in the proposed mine.

c) **Hydrogeology**

Proper provision has been made in this report for Scientific study to assess the hydrogeological parameters of the proposed area. In addition to this, various other parameters like, soil testing, etc. need scientific study.

16.0 ENVIRONMENT MANAGEMENT

16.1.1 INTRODUCTION

The existing Pauni- II Expansion OC mine has been granted Environmental clearance for 3.25 MTPA capacity and total leasehold area of 1095.52 Ha from MOEF&CC vide letter no J-11015/80/2016-IA.II(M) dated 28.03.2019 and 13.03.2020. Amendment in EC was granted by MOEF&CC vide letter no. J-11015/80/2016-IA.II(M) dated 01.12.2020 by considering off-pit belt conveyor (Enclosed in Annexures).

The present proposal is for updating / renewing the existing Mining Plan of Pauni – II Expansion OC (3.25 MTPA) in concurrence with Gazette notification 1807(E) dated 12.04.2022 point(i)(a)(iv). This Mining Plan envisages following changes:

1. Within Phase – I (i.e. existing EC)

- a. Due to the encounter of geological fault as explained in earlier chapters, there will be change in quarry area from 295.35 Ha to 303.19 Ha.
- b. Due to the fault encountered, change in arrangement of external dumping is proposed. This revised dumping arrangement will change total dump area from 308.90 Ha to 243.99 Ha.

2. Diversion of Lendi Nala and Sakhri Nala was proposed as per tentative alignment proposed in PR of Pauni-II Expansion, June, 2015. However actual diversion has been made as per the detailed design by CDO, Nashik and subsequent permission from state irrigation department. As diversion has taken place with proper technical study from central design organization, Nashik and due statutory permission from irrigation department, this actual diversion alignment is kept as final alignment proposed in this mining plan. This will result in reduction in total project area from 1095.52 ha in phase – I to 1050.45 ha in Phase – I and 1152.66 ha to 1105.95 ha in Phase – II.

3. Phase – II

- a. Public Hearing was completed for entire 1152.66 ha land including 12.07 ha forest land as per the ToR given. However, due to non-availability of Stage – I FC, EC has been given for 1095.52 ha only based on the mining plan for Phase – I only.
- b. Upon grant of stage – I FC, application for granting environmental clearance for entire project area i.e 1105.95 Ha (changed from 1152.66 ha due to change in alignment of Diverted Nala as explained in earlier paragraph.) shall be made.

In the subsequent paragraphs an attempt has been made to assess the likely environmental impacts due to proposed mining activities.

16.2 EXISTING ENVIRONMENTAL QUALITY

16.2.1 Ambient Air Quality in Project Area

Baseline data has been generated during April 2022 to June 2022.

PM₁₀ and PM_{2.5} values are ranging from 121 $\mu\text{g}/\text{m}^3$ to 170 $\mu\text{g}/\text{m}^3$ and 30 $\mu\text{g}/\text{m}^3$ to 56 $\mu\text{g}/\text{m}^3$ respectively in the Core Zone. PM₁₀ and PM_{2.5} values are ranging from 51 $\mu\text{g}/\text{m}^3$ to 88 $\mu\text{g}/\text{m}^3$ and 17 $\mu\text{g}/\text{m}^3$ to 56 $\mu\text{g}/\text{m}^3$ respectively in the Buffer Zone. SO₂ values are ranging from BDL to 14 $\mu\text{g}/\text{m}^3$ and NO_x values are varying between 6 $\mu\text{g}/\text{m}^3$ to 19 $\mu\text{g}/\text{m}^3$ respectively and hence these are well within the standard limit of 80 $\mu\text{g}/\text{m}^3$. The heavy metals values are found to be very low and negligible. The heavy metals like Arsenic (As) and Cadmium (Cd) and other metals like Nickel (Ni), Lead (Pb) and Total Chromium (Cr) were found to be Below Detectable Limit (BDL).

16.2.2 WATER QUALITY

Baseline data has been generated during April 2022 to June 2022.

The surface water samples have been collected from upstream and downstream of Sakhra Nalla. PH and TDS values of surface water samples lie in the range of 6.79 to 7.68 mg/l, and 207 to 466 mg/l, respectively. BOD and COD values are highest in mine water discharge with values being reported 3.2 and 40 mg/l respectively. BOD concentration in Wardha river ranges from 4.4 to 4.8 mg/l while COD concentration ranges from 24 mg/l (u/s) to 32 mg/l (d/s) which are within the prescribed limits. The results with respect to drinking water standards as per IS: 10500 for all the parameters analyzed are found to be well with the limit.

16.2.3 NOISE LEVEL QUALITY

Baseline data has been generated during April 2022 to June 2022. Summary

of the baseline data has been given below. As per the baseline data generated, Noise level noise level remains well within limits for the residential as well as industrial locations.

16.2.4 FLORA AND FAUNA

Baseline study for Flora & Fauna has been carried out in Pre-Monsoon season 2022.

(a) Endangered Flora

No endangered plant species were recorded in the Core and Buffer zones of Mining project.

(b) Endemic Flora

No endemic plant species were recorded in the Core and Buffer zones of the project areas.

(c) Endangered Species (as per Wildlife (Protection) Act)

No Endangered fauna was recorded in Core zone and buffer zone.

(d) Endemic Species of the Project areas

No endemic species were observed in Core Zone and buffer zone.

(e) Migratory species of the Project areas

No migratory fauna was observed in core zone and buffer zone of the project.

(f) Migratory corridors and Flight paths

No migratory corridors and Flight paths were observed in Core and Buffer Zones.

(g) Breeding and spawning grounds

No breeding and spawning grounds were earmarked for the wildlife fauna in core and buffer zones.

Only 12.07 ha of forest land is involved in the project. However detailed updated Flora and fauna study would be required at the time of preparation of EMP/EIA to ascertain presence of scheduled species –I in core zone and buffer zone.

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16.2.5 SOCIO-ECONOMIC STATUS

No Rehabilitation has been proposed in the proposed expansion and there is no increase in land acquisition and forest area. Detailed socio-economic study would be required at the time of preparation of EMP/EIA to ascertain the socio-economic status of project affected people.

16.3 ENVIRONMENTAL IMPACT

16.3.1 Air Quality Impact

Due to coal transportation, wind erosion of OB dumps and coal handling, dust is likely to be generated. Concentration of SO₂, NOX, and PM_{2.5} may likely to increase due to the increased vehicular movement.

16.3.2 Water Quality Impact

As per the quality of Water as described in earlier paragraph, water pumped out from the proposed project will be less likely to have any significant pollution load even in untreated condition.

16.3.3 Ground Water Impact

A project titled "Modelling and Control of Water System in Coal Mining Environment, Chandrapur project area, Maharashtra (Dec. 1998)" under United Nations Development Programme was carried out for opencast mines. An inference can be made on the above study that due to proposed project, it is anticipated that the effect on ground water regime will be pronounced up to around 500 m from mine edge and effect will be pronounced in the down-dip side and milder in the up-dip side. But this effect will be temporary in nature and once the project is over, after 2 – 3 rains, the regime will regain its almost original status.

16.3.4 Noise Impact

Existing noise level at the mine site is likely to increase due to the increased number of vehicular movement and deployment of additional HEMM.

16.3.5 Flora and Fauna

The project doesn't not involve diversion of forest land in Phase-I of the project.

16.3.6 Socio-Economic Status

The Mining activities of the project will improve the socio-economic activities in the adjoining areas. This will result in the following benefits:

- Improvement in physical infrastructure
- Improvement in social infrastructure
- Increase in employment potential
- Meet energy requirement and
- Post-mining enhancement of green cover

There is no additional land required in the proposed project vis-à-vis land provision in earlier approved project report and public hearing completed.

Impacts on Socio-Economic status would be most likely observed as change in standard of living of the project affected people.

16.3.7 LAND USE

Total land involved in the approved project report of Pauni – II Expansion OC was 1152.66 ha. Public Hearing has been completed for the same.

It was proposed in the approved PR that Lendi Nala and Sakhri Nala will be diverted in the south side of the for which 46.71 ha land was to be acquired in the south side. A temporary arrangement with due design from CDO, Nashik and permission from State Irrigation Department, has been made. This involves diversion of Lendi Nala and Sakhri Nala in the existing acquired land in the south side of Quarries. Dumping strategy has been reworked and it is now proposed that existing diverted route shall be made final and there will not be any further nala diversion. This would save 46.71 ha land and

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eliminate further requirement of Nala diversion.

A comparison of land requirement has been given below :

	Approved Project Report/ Mining Plan		As per proposed Mining plan August,2023	
	Phase - I	Phase - II	Phase - I	Phase - II
Tenancy land	1007.52	1050.99	962.45	1005.88
Government Land	88.00	89.60	88.00	88.00
Forest Land	0	12.07	0	12.07
Total	1095.52	1152.66	1050.45	1105.95

Comparative land use Pattern is shown in the following table:

Sl. No.	Post Mining Land use	EC Dt: 28.03.2019/ Approved Mining Plan / PR		Revised Mining Plan August 2023 (Phase-I+II)
		Phase-I	Phase-II	
1	External OB Dump	209.50	214.57	199.91
2	Top Soil Dump	35.40	35.40	44.08
3	Excavation	273.79	295.35	303.19
4	Road & Embankment	38.50	38.50	38.50
6	Infrastructure	10.00	10.00	10.00
7	Blasting Zone	208.84	208.84	200.00
8	Rationalisation	319.49	350.00	310.27
	Total	1095.52	1152.66	1105.95

The Post mining land use is shown in the following table:-

Table : Post-Mining Land Use Pattern

Sl. No.	Post Mining Land use	Land use (ha)				
		Plantation	Water Body	Public use	Undisturbed	Total
1	External OB Dump	199.91				199.91
2	Top Soil Dump	44.08				44.08
3	Excavation	114.84	188.35			303.19
4	Road & Embankment	0.50		8.50	29.50	38.50
5	Infrastructure	3.00		7.000		10.00
6	Blasting Zone	200.00				200.00
7	Rationalisation	160.36			149.91	310.27
	Total	722.69	188.35	15.50	179.41	1105.95

Breakup of total waste generated is given below :

Project	Total waste generation (Mm ³)	Top soil (Mm ³)	Total OB generation (Mm ³)	Total OB in Ext. Dump (Mm ³)	Total OB Backfilled (Mm ³)
Original project (Upto 31.03.2023)	68.88	11.10	57.78	68.88	0.00
Balance Life of Project (Excluding RH)	129.04	8.07	120.97	31.05	97.99
Total (Mm³)	197.92	19.17	170.02	99.93	97.99

16.4 ENVIRONMENT MANAGEMENT

16.4.1 Air Quality Management

Ambient Air quality of the existing Pauni-II OC mine is being regularly monitored as per Environmental Protection Amendment Rules 2000 and the same would be continued for the proposed project after getting statutory clearances. Ambient Air Quality will be controlled by black topping of roads, water spraying on roads, biological reclamation of OB dumps, green belt around CHP, OB dump and along coal transportation roads on both sides etc. Following provisions has been given for Air Quality management

	Particulars	Amount (Rs Lakhs)
1	Fixed Sprinklers along the haul road, coal transportation route, CHP and other dust generating sources and other air pollution control systems etc	100
2	10 to 30 meter of three tier Green Belt along the mine boundary for 10-12 kms to control air pollution	100
3	Continuous Ambient Air Quality Monitoring Station (CAQMS)	110
4	Fogging Arrangement for Dust control measures.	70
5	Tyre washing system	50
	Total	430

16.4.2 Water Quality

To ensure proper water quality in the proposed Project, the control measures like augmentation of settling tank for mine water discharge, Effluent Treatment Plant etc., as is being done in existing project. The regular Water Quality Monitoring as per Environment Protection Amendment Rules, 2000 is being undertaken, and the same would be carried out for the proposed project.

Mine pumped out water after sedimentation will be utilized within mine premises and balance will be used for supplementing any shortage of water in the nearby villages. Effluent from workshop will be treated in ETP & thereafter recycled. Similarly, water from CHP after sedimentation will also be recycled.

16.4.3 Noise Management

For proper noise management in the proposed Project, the control measures will be undertaken as is being done in the existing Pauni-II OC mine of WCL. The worker exposed to high noise level will be provided with earplugs & ear muffs. Proper enclosure and regular maintenance of equipment will be done. Plantation along road and around industrial & service building will be done to reduce the noise level. The regular Ambient Noise Quality monitoring as per Environment Protection Amendment Rules, 2000 is being undertaken and the same would be carried out for the proposed project after getting statutory clearances.

16.4.4 Flora and Fauna Management

Adequate plantation has been proposed with native species to maintain the diversity and also to attract the fauna.

16.4.5 Socio-Economic Status

The proposed project will bring development in the area and its neighborhood and nearby residents will be benefitted by the job opportunities created by the project. The local business and service providers will also be benefitted due to several ancillary activities generated due to this project.

In the course of hearing, Supreme Court on 16.01.2019 passed an order taking cognizance of the deleterious effect of mining on vegetation, after mining activities are over. In particular, it is observed that "An area which is mined results in complete elimination of grass which in turn denies fodder to the herbivores. The only solution can be re-grassing of such mined areas. It is not in dispute that re-grassing technology is available in this country. We see no reason why the area which has been mined should not be restored so that grass and other vegetation including trees can grow in the mining area for the benefits of animals."

The mining lease holders shall after ceasing mining operations undertake re-grassing the mining area and any other area which may have been disturbed

due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. This condition shall be in addition to those conditions which have already been imposed for achieving the same purpose under the mine closure plan. This condition shall not be imposed in derogation of any conditions which are already in force. Suitable grassing should be carried out in the vacant space as per the above order and EC condition.

16.4.6 Land Resource Management

The total land involved in the Pauni-II Expansion OC mine is 1105.95 ha. The following table depicts stage wise land resource management strategy which is laid out to properly utilize land during mining and after mining scenario.

Sl. No.	Land use category	01.04.2023 (1 st year)	End of Mine Life (7 th Year)	Post Mining
1	Backfilled Area above GL	0	114.84	114.84
	(Reclaimed with plantation)		50.00	114.84
2	Excavated Area (Not reclaimed) / Void	150.50	188.35	188.35
3	External OB dump	199.14	243.99	243.99
	(Reclaimed with plantation)		200.00	243.99
4	Infrastructure	10.00	10.00	10.00
	(Brought under plantation)		3.00	3.00
7	Roads & Embankment	38.50	38.50	38.50
	(avenue plantation)		0.50	0.50
8	Undisturbed / Rationalization Area	707.81	510.27	510.27
	(Plantation)	36.00	353.29	363.86
	Total Area (Ha)	1105.95	1105.95	1105.95
	Total Plantation (Ha)	36.00	606.79	722.69

Plantation would be carried out during mining and post mining. Plantation schedule is given below

Year	External Dump (OB+Top Soil)		Backfilled area		Others (undisturbed area/etc.)		Total	
	Area (ha)	No. of trees	Area (ha)	No. of trees	Area (ha)	No. of trees	Area (ha)	No. of trees
1 st year	0	0	0	0	36.00	90000	36.00	90000
7 th year (End of Mine Life)	200.000	500000	50.00	125000	356.79	891975	606.79	1516975
Post Mining	243.99	609975	114.84	287100	363.86	909650	722.69	1806725

2500 plants/ha are proposed as plantation density. It can be observed that out of 1105.95 ha land, 722.69 ha is proposed as plantation in post mining scenario, which is 66.75 % of the total project area. This plantation would serve purpose of restoring a good quality of ecosystem.

16.4.7 Environment Management System

To have a close watch on the environmental condition, WCL Headquarter acts as apex body which supervises the activities relating to environment at project level through the General Manager. General Manager of the area coordinates the activities of various disciplines in the area to render all necessary assistance at the implementing level i.e. the project. Area Nodal Officer (Environment) monitors all aspects of environment on behalf of the General Manager. He also takes suitable steps for generation of environment data along with its analysis and interpretations. Sub-Area Manager is responsible for mechanical reclamation of the area. He is also responsible for biological reclamation with the assistance of GM's office. For implementation of the various measures suggested, a multi- disciplinary approach is essential.

17.0 LAND, REHABILITATION & RESETTLEMENT

17.1 The total Land requirement as per approved PR of Pauni-II Expn. OCM (2015) was 1152.66 ha. It was proposed in the approved PR that Lendi Nala and Sakhri Nala will be diverted in the south side of the for which 46.71 ha land was to be acquired in the south side. A temporary arrangement with due design from CDO, Nashik and permission from State Irrigation Department, has been made. This involves diversion of Lendi Nala and Sakhri Nala in the existing acquired land in the south side of Quarries.

Dumping strategy has been reworked and it is now proposed that existing diverted route shall be made final and there will not be any further nala diversion. This alternative route of diverted nala resulted in reduction of 46.71 ha of additional land. Accordingly in this proposed Mining Plan of Pauni-II Expansion OCM, the total land requirement works to 1105.95 ha (1152.66 ha - 46.71 ha), including 12.07 ha of forest land to be acquired in Phase-II.

17.2 LAND REQUIREMENT**17.2.1 Land Acquisition under Existing Mines**

Total land acquired in the existing Pauni-II Expansion OC mine are tabulated below :

S.No.	Particulars	Existing Land Phase-I (ha)	Existing Land Phase-II (ha)	Total Existing Land Phase-I+II (ha)
1	Tenancy land	962.45	43.43	1005.88
2	Government Land	88.00	0	88.00
3	Forest Land	0	0	0
	Total	1050.45	43.43	1093.88

17.2.2 Land Requirement for Pauni-II Expansion OC mine (Phase - I & II)

This proposed RPR of Pauni-II Expansion OC mine (Phase - I & II) for 4.875 Mty target capacity involves about 1105.95 Ha total land out of which 12.07 Ha of Forest land is to be acquired additionally in Phase-II.

The Phase-wise Land acquisition are as follows :

S.No.	Particulars	Phase-I		Phase-II		Total Land (Phase-I+II)
		Existing	To be Acquired	Existing	To be Acquired	
1	Tenancy land	962.45	0	43.43	0	1005.88
2	Government Land	88.00	0	0	0	88.00
3	Forest Land	0	0	0	12.07	12.07
	Total	1050.45	0	43.43	12.07	1105.95

Thus the total land requirement for the proposed Mining Plan of Pauni-II Expansion OC mine (Phase - I & II) is as follows :

Sl. No.	Phase	Land Requirement (ha)		
		Acquired Land	To be Acquired	Total
1	Within Mine Leasehold	1093.88	12.07	1105.95
2	Outside Mine Leasehold	0.00	0.00	0.00
	Total	1093.88	12.07	1105.95

Thus, about 12.07 ha of balance Forest Land land will have to be acquired within proposed Mine Leasehold boundary of Mining Plan of Pauni-II Expansion OC mine (Phase - I & II).

17.3 LAND USE OF THE PROJECT

The total land requirement of proposed Mining Plan of Pauni-II Expansion OC mine (Phase - I & II) mine is **1105.95 ha**. The use of the above land is tabulated below:

Land Use Details

Sll. No.	Land Use	Area (Ha)
1	External OB Dump	199.91
2	Top Soil Dump	44.08
3	Excavation	303.19
4	Embankment / Road	38.50
5	Infrastructure	10.00
6	Blasting Zone	200.00
7	Rationalisation	310.27
	Total	1105.95

Proposed mine boundary has been shown in quarry & surface layout plan.

17.4 PRESENT STATUS OF LAND ACQUISITION

The total land in the existing Pauni - II Expansion OC is 1093.88 ha which is already acquired by WCL.

17.5 STATUS OF FORESTRY CLEARANCE

12.07 ha of forest land is proposed to be acquired in Phase-II.

18.0 MINE CLOSURE PLANNING

For the Mine Closure activities, a corpus fund is created by opening an escrow account with the coal controller organization in nationalized bank. For opencast mine, an amount @ Rs 9.00 lakhs per Ha of the project area is required to be deposited in this escrow account for final mine closure after adjustment for WPI on the date of computation. This mine closure corpus is divided by the life of mine to calculate yearly mine closure contribution. This amount is deposited in the escrow account every year after escalating @ 5% per annum.

Mine closure Plan of Pauni- II Expansion OC (3.25 MTPA) is inbuilt in the Project Report approved by WCL Board in its 266th meeting held on 20/06/2015 & in 281st meeting held on 19/09/2016 (renaming of project). Subsequently, an escrow agreement has been signed between CCO vide dated 13-12-2016 & 18-07-2018 (amended) and opened an escrow account bearing no. 0897316006063 in OBC bank, Nagpur.

Regarding Phase-I, it is submitted that this Phase-I Mining Plan is an interim arrangement within the acquired land and quarry limit of approved PR (June'2015). This has been made only to enhance the capacity of existing operations for grant of EC and simultaneously securing necessary forest clearance within the operational life of the Phase-I workings. The EC thereafter can be extended on receipt of stage-I FC for the total quantum of forest land involved and the adjoining non-forest land.

As such no change in the closure plan has been made which is part of the approved PR (June'2015).

The total amount deposited in the Escrow A/c against Mine Closure for existing Pauni-II Expansion OC mine upto 31.03.2023 is tabulated below :

Year	Amount Deposited in Escrow Account (Rs. In Lakhs)
2015-16	658.67
2016-17	0.00
2017-18	854.98
2018-19	972.47
2019-20	1021.09
2020-21	1072.15
2021-22	1125.75
2022-23	1362.23
Total	7067.34

The total area involved in Pauni-II Expansion OC Mine is 1105.95 Ha. Hence, in this Mining Plan provision for mine closure plan has been made for 1105.95 ha land and balance production life of 7 years as on 01.04.2023 after making adjustment for the corpus fund already deposited / to be deposited in the Escrow account of Amalgamated Pauni-II & III OC mine / Pauni-II Expansion mine during the period from 2015-16 to 2022-23.

The detailed calculation of the corpus fund as well as annual corpus amount for the Pauni-II Expansion OC mine has been worked out and the details are tabulated below.

1	WPI for All Commodities for April 2019 (New Series)	121.1
2	WPI for All Commodities for May 2023 (Final)	149.4
3	Ratio of WPI = (2) / (1)	1.233691
4	Total land area requirement for the project (ha)	1105.95
5	Mine closure cost @ Rs 9 lakhs/ha (Rs in Lakhs)	9953.55
6	Mine closure cost after indexing (Rs. In Lakhs) = (5) x (3)	12279.61
7	Amount deposited by existing Pauni-II Expansion OC mine up to 31.03.2023 (Rs in Lakhs)	7067.34
8	Balance Mine Closure Corpus to be deposited in Pauni-II Expn. OC mine from 2023-24 onwards (Rs. In Lakhs) = (6) - (7)	5212.27
9	Production Life of proposed Pauni-II Expansion OC mine	7
10	Net Annual Mine closure amount to be deposited for 7 years (Rs. In Lakhs) = (8) / (9)	744.61

The annual Mine Closure Cost to be deposited in the proposed Revised Mining Plan of Pauni -II Expansion OC mine is tabulated below:

Year		Annual Production (Mty)	Corpus Fund (Rs. in Lakhs)
1	2023-24	3.25	744.61
2	2024-25	3.25	781.84
3	2025-26	3.25	820.93
4	2026-27	3.25	861.98
5	2027-28	3.25	905.08
6	2028-29	3.25	950.33
7	2029-30	2.57	997.85
Total		22.07	6062.62

18.1 IMPLEMENTATION OF MINE CLOSURE PLAN

1) Mine Closure Plans will have following two components :

- i) Progressive or Concurrent Mine Closure Plan
- ii) Final Mine Closure Plan

Progressive Mine Closure Plan would include various land use activities to be done continuously and sequentially during the entire period of the mining operations. The Final Mine Closure activities would start towards the end of mine life and may continue even after the reserves are exhausted and/or mining is discontinued till the mining area is restored to an acceptable level.

2) Progressive Mine Closure Plan shall be prepared for a period of every five years from the beginning of the mining operations. These plans would be examined periodically in every five years period and to be subjected to third party monitoring by the agencies approved by the Central Govt. Various project specific activities like mined out land details & their technical and biological restoration plan, water quality management, infrastructure to be retained and demolished, disposal of mining machinery etc. shall be furnished in the relevant paras. Where the backfilling of the mine void is being carried out as part of the regular mining operation, it shall not be included in the list of progressive mine closure activities. However, in case, where the backfilling of

mine void is to be carried out specifically for closure of mine, quantum of such OB and the mine closure fund earmarked for the purpose must be included in the list of activities to be taken up for mine closure in the Mining Plan.

3) Mining is to be carried out in a phased manner i.e. continuation of mining activities from one phase to other indicating the sequence of operations depending on the geo-mining conditions of the mine. Up to 50% of the total deposited amount including interest accrued in the Escrow Account may be released after every five years in line with the periodic examination of the Closure Plan. The amount released should be equal to expenditure incurred on the progressive mine closure in past five years or 50% whichever is less. The balance amount shall be released to mine owner/ leaseholder at the end of the final Mine Closure on compliance of all provisions of Closure Plan.

4) Mine Closure Activities (Abandonment Activities)

The mine closure activities involving progressive and final mine closure shall include barbed wire fencing all around the working area, dismantling of structure / demolition and cleaning of sites, rehabilitation of mining machinery, plantation, physical / biological reclamation, landscaping, biological reclamation of left out overburden dump, filling of de-coaled void, post environment monitoring, supervision charges, power cost, protective and rehabilitation measures including their maintenance and monitoring, miscellaneous charges etc. for the specified post closure period.

The different mine closure activities and cost distribution for Progressive and Final Mine Closure are tabulated below :

Activity wise Break-up of Closure Cost

Total Corpus Fund = Rs. 7067.34 lakhs (upto 2022-23) + Rs. 6062.62 lakhs
= Rs. 13129.96 lakhs

Sl. No.	Activity	Weighted % of Mine Closure Cost			Mine Closure Amount (Rs. in Lakhs)
		Progre-ssive	Final	Average	
A	Dismantling of structure				
	Service Building				
	Residential Building	0.00	8.50	4.25	558.02
	Industrial Structure				
B	Safety & Security				
	Random rubble masonry / concrete wall				
	Toe wall around dump/Gabbion wall				
	Barbed wire fencing	6.50	3.20	4.85	636.81
	Fencing/Boundary wall, fencing around water body				
	Garland Drains				
C	OB Dumping Reclamation				
C.1	Technical Reclamation				
	Re-handling of OB				
	Levelling by Dozer	60.50	60.50	60.50	7943.63
	Grading				
	Levelling and Grading of highwall slopes and OB Dump				
C.2	Biological Reclamation & Plantation				
	Top Soil Management				
	Grassing of OB Dump				
	Plantation around virgin area, safety zone, green belt over external dump and internal reclamation area	15.00	11.70	13.35	1752.85
	Plantation post care (incl. manpower)				
	Plantation over cleared area obtained after dismantling				
D	Landscaping of the open space in leasehold area for improving its esthetic. Drain, pipe lines, peripheral road, gates, View points, cemented steps on bank	4.00	5.50	4.75	623.67
	Development of Agriculture Land				

Sl. No.	Activity	Weighted % of Mine Closure Cost			Mine Closure Amount (Rs. in Lakhs)
		Progre-ssive	Final	Average	
E	Environment Mitigation and Manpower	12.00	1.50	6.75	886.27
	Air Quality (Water tanker, Sprinkler & Other control measures.)				
	Water Quality (ETP & STP etc operating cost)				
	Manpower cost and Supervision				
F	Post Closure Monitoring	0.00	3.20	1.60	210.08
	Air Quality				
	Water Quality				
	Power Cost				
	Manpower cost and supervision				
	Barbed wire fencing				
G	Entrepreneurship Development (Vocational/Skill development training for sustainable income of affected people)	1.00	0.50	0.75	98.47
H	Miscellaneous & Other measures like Golden Handshake, one time financial grant, alternative jobs, other services etc.	1.00	5.40	3.20	420.16
TOTAL		100	100	100	13129.96

19.0 CONCLUSION

The proposed Mining Plan for Pauni-II Expansion is prepared considering the following points:

1. The alignment of boundary fault F2-F2 in Quarry-2 is shifted outwards by about 100m to 130 m while encountering mine working which results in revision of Coal/OB quantities and quarry area of Quarry-II.

2. Diversion of Lendi Nala and Sakhri Nala was proposed as per tentative alignment proposed in PR of Pauni-II Expansion, June, 2015. However actual diversion has been made as per the detailed design by Central Design Organisation, Nashik and subsequent permission from state irrigation department. As diversion has taken place with proper technical study from Central Design Organization, Nashik and due statutory permission from irrigation department, this actual diversion alignment is kept as final alignment proposed in this mining plan. This will result in reduction of total project area from 1095.52 ha in phase – I to 1050.45 ha in Phase – I and 1152.66 ha to 1105.95 ha in Phase – II.
3. Change in dump site and revision in external OB dump area from 308.90 Ha to 243.99 Ha.

Hence, the proposed Revised/renewed Mining Plan for Pauni-II Expansion OC Mine is prepared for 3.25 Mty capacity in land area of 1050.45 ha (Phase-I) and 1105.95 ha (Phase-II) with revised leasehold boundary and Quarry area and dump area in concurrence with Gazette notification 1807(E) dated 12.04.2022 point(i)(a)(iv).



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Government of India
Ministry of Environment, Forest & Climate Change
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Indira Paryavaran Bhawan,
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Email: lk.bokolia@nic.in Tel: 01124695301

Dated: 1st December, 2020

To,

The General Manager (Environment),
M/s Western Coalfields Ltd,
Coal Estate, 9th Floor, Civil Lines,
Nagpur - 1 (Maharashtra)

Email: gmenvironment.wcl@nic.in; wclenv@yahoo.in

Sub: Expansion of Pauni-II Opencast Coal Mining Project from 0.6 MTPA to 3.25 MTPA of M/s Western Coalfields Limited in mine lease area of 1095.52 ha located in District Chandrapur (Maharashtra) – Amendment in Environment Clearance - reg.

Sir,

This has reference to your online proposal No. IA/MH/CMIN/170637/2020 dated 31st August, 2020 on the above-mentioned subject.

2. The Ministry of Environment, Forest and Climate Change has considered the proposal for amendment in Environment clearance dated 28th March, 2019 to the Expansion of Pauni-II Opencast Coal Mining Project from 0.6 MTPA to 3.25 MTPA of M/s Western Coalfields Limited in mine lease area of 1095.52 ha located in District Chandrapur (Maharashtra), subject to compliance of certain terms and conditions, which *inter-alia* included the following specific conditions: -

(iii) PP shall implement in-pit belt conveyor system in next 3 years from the issue of this letter"

(xviii) the Percentage of CER may be at least 2 times the amount given in the OM dated 01st May, 2018 recommended by EAC and item wise details along with time bound action plan shall be prepared and submitted to Ministry's Regional Office"

3. Amendment has been sought by project proponent citing the deployment of In-pit belt conveyor system in the mine is technically difficult proposition and the same is not included in the approved Project Report / Mining Plan. Similarly, specific condition no. (xviii) as state above, PP has proposed for modification with the condition that the project proponent shall comply with the provisions contained in this ministry's OM dated 1st May, 2018 as applicable, regarding Corporate Environment Responsibility (CER).

4. The proposal was considered by the sectoral Expert Appraisal Committee (EAC) in its 2nd meeting held on 28-29 September, 2020 and recommended the proposal for amendment in specific condition (iii) only. Based on recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords approval for amendment in Environment Clearance of the Expansion of Pauni-II Opencast Coal Mining Project from 0.6 MTPA to 3.25 MTPA of M/s Western Coalfields Limited in mine lease area of 1095.52 ha located in District Chandrapur (Maharashtra), under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of additional as under:

- PP shall implement off pit conveyor system i.e. from Coal Handling Plant to Railway siding with silo loading facility in three years (i.e. 2023).
- 5. All other terms and conditions stipulated in the earlier Environmental Clearance dated 28th March, 2019 and 13th March, 2020 shall also apply in addition above conditions.
- 6. This issues with the approval of the competent authority.

Munna Kumar Shah
(Munna Kumar Shah)
Scientist D

Copy to:

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi
2. The Principal Secretary, Department of Environment, Government of Maharashtra, 15th Floor, New Admn. Bldg, Madam Cama Road, Mantralaya, Mumbai - 32 (Maharashtra)
3. The Additional PCCF (Central), Ministry of Environment Forest and Climate Change, Regional Office (Western Central Zone), Ground Floor, East Wing, New Secretariat Building Civil Lines, Nagpur-1 (Maharashtra)
4. The Chairman, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi
5. The Chairman, Maharashtra 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 - 2
6. The District Collector, Chandrapur, Government of Maharashtra
7. Monitoring File/ Guard File / Notice Board

Munna Kumar Shah
(Munna Kumar Shah)
Scientist D



No. J-11015/80/2016-IA.II (M)
Government of India
Ministry of Environment, Forest & Climate Change
Impact Assessment Division

Indira Paryavaran Bhawan,
Jorbagh Road, N Delhi - 3

Dated: 13th March, 2020

To,

The General Manager (Environment),
M/s Western Coalfields Ltd,
Coal Estate, 9th Floor, Civil Lines,
Nagpur - 1 (Maharashtra)

Email: gmenvironment.wcl@nic.in; wclenv@yahoo.in

Sub: Expansion of Pauni-II Opencast Coal Mining Project from 0.6 MTPA to 3.25 MTPA of M/s Western Coalfields Limited in mine lease area of 1095.52 ha located in District Chandrapur (Maharashtra) - Revalidation and Environment Clearance - reg.

Sir,

This has reference to your online proposal No. IA/MH/CMIN/133855/2019 dated 28th December, 2019 on the above-mentioned subject.

2. The Ministry of Environment, Forest and Climate Change has considered the proposal for extension of environmental clearance dated 28th March, 2019 to the Expansion of Pauni-II Opencast Coal Mining Project from 0.6 MTPA to 3.25 MTPA of M/s Western Coalfields Limited in mine lease area of 1095.52 ha located in District Chandrapur (Maharashtra), for a period of one year and subject to compliance of certain terms and conditions, which *inter-alia* included the following and other conditions: -

The project proponent shall collect and analyze one season data for environmental parameters and submit for consideration of the EAC before 31st December, 2019.

3. In line with the above condition, Project Proponent submitted the compliance of all the specific conditions including one season baseline data. Site inspection was carried out by Regional Office, Nagpur on 26th July, 2019 to monitor the status of compliance of conditions stipulated in the environmental clearance dated 28th March, 2019 and certified compliance report was submitted vide its letter dated 5th December, 2019.

4. The proposal was considered by the sectoral Expert Appraisal Committee (EAC) in its meeting held on 24th January, 2020 and recommended for continuance of the project and validity of environmental clearance dated 28th March, 2019 for a period of 30 years or life of the mine, whichever is earlier subject to the terms and conditions stipulated therein remaining the same and with additional conditions. Based on recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords approval for continuance of the

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Expansion of Pauni-II Opencast Coal Mining Project from 0.6 MTPA to 3.25 MTPA of M/s Western Coalfields Limited in mine lease area of 1095.52 ha located in District Chandrapur (Maharashtra), for a period of 30 years or life of the mine, whichever is earlier, under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of additional as under:-

- (i) EAC desired that the MoC may direct CIL subsidiaries to comply the EC/FC/CTO conditions strictly within certain time bound manner so that the mining operations will be environmentally sustainable/viable etc
- (ii) All the partially complied condition observed by Ministry's Regional Office in certified compliance report dated 5th December, 2019 shall be completed in 3 years.
- (iii) PP shall implement in-pit belt conveyor system in next 3 years from the issue of this letter.
- (iv) Project proponent to plant 100,000 nos. of native trees with broad leaves along the periphery of the mine to prevent the effect of air pollution in 3 years of the issue of this letter. After completion of tree plantation, number of trees shall be duly endorsed from District Forest Officer
- (v) The Project Proponent shall comply with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors. State Government shall ensure that the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department in strict compliance of judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.
- (vi) Project Proponent shall obtain the necessary prior permission from the Central Ground Water Authority (CGWA) in case of intersecting the Ground water table. The intersecting ground water table can only be commencing after conducting detailed hydrogeological study and necessary permission from the CGWA. The Report on six monthly basis on changes in Ground water level and quality shall be submitted to the Regional Office of the Ministry, CGWA and State Pollution Control Board.
- (vii) Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The Recommendations of National Institute for ensuring good occupational environment for mine workers shall be implemented; The prevention measure for burns, malaria and provision of antisnake venom including all other paramedical safeguards may be ensured before initiating the mining activities.
- (viii) Project Proponent shall follow the mitigation measures provided in Office Memorandum No. Z-11013/57/2014-IA.II (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and

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villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".

- (iv) The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PP's must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours.
- (x) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna, if any, spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. A copy of action plan shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office.
- (xi) Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the Ministry
- (xii) PP shall not divert proposed nallah till it justifies the reason of diversion
- (xiii) PP shall ensure regular water supply to the nearest villages.
- (xiv) CTE/CTO for the project shall be obtained from the SPCB as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974, and the SPCB shall follow the mechanism/protocol issued by the Ministry vide letter no. Q-16017/38/2018-CPA dated 24th October, 2019 while issuing the CTE/CTO for the project, for improvement of environmental quality in the area.
- (xv) The green belt of at least 5-10 m width shall be developed in more than 40% of the total project area, mainly along the periphery of mine boundary, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.
- (xvi) In addition, the project proponent shall develop greenbelt outside the plant premises such as avenue plantation, plantation in vacant areas, social forestry etc.
- (xvii) Monitoring of compliance of EC conditions may be submitted with third party audit every year.

[Signature]

- (xxviii) The percentage the CER may be atleast 2 times the amount given in the OM dated 1st May, 2018 recommended by the EAC and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.
- (xix) Effective fugitive emission control measures should be imposed in the process, transportation, packing etc.
- (xx) Transportation of materials by rail/ conveyor belt, wherever feasible.
- (xxi) A detailed water harvesting plan may be submitted by the project proponent
- (xxii) In case, domestic waste water generation is more than 10 KLD, the industry may install SIP.
- (xxiii) Monitoring of compliance of EC conditions may be submitted with third party audit every year
5. All other terms and conditions stipulated in the earlier Environmental Clearance dated 28th March, 2019 shall also apply in addition above conditions.
6. This issues with the approval of the competent authority.

Manoj Kumar Gangeya
 13.3.2020
 (Manoj Kumar Gangeya)
 Director

Copy to:

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi
2. The Principal Secretary, Department of Environment, Government of Maharashtra, 15th Floor, New Admn. Bldg, Madam Cama Road, Mantralaya, Mumbai - 32 (Maharashtra)
3. The Additional PCCF (Central), Ministry of Environment Forest and Climate Change, Regional Office (Western Central Zone), Ground Floor, East Wing, New Secretariat Building Civil Lines, Nagpur-1 (Maharashtra)
4. The Member Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi
5. The Member Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32
6. The Member Secretary, Maharashtra 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 - 2
7. The District Collector, Chandrapur, Government of Maharashtra
8. Monitoring File 10. Guard File 11. Record File 12. Notice Board

Manoj Kumar Gangeya
 13.3.2020
 (Manoj Kumar Gangeya)
 Director

No. J-11015/80/2016-IA-II (M)
Government of India
Ministry of Environment, Forest & Climate Change
IA-II (Coal Mining) Division

Indira Paryavaran Bhawan,
Jorbagh Road, N Delhi- 3
Dated: 28th March, 2019

To,

The General Manager (Environment),
M/s Western Coalfields Ltd.,
Coal Estate, 9th Floor, Civil Lines,
Nagpur - 1 (Maharashtra)

Email: gmenvironment.wcl@nic.in; wclenv@yahoo.in

Sub: **Expansion of Pauni-II Opencast Coal Mining Project from 0.6 MTPA to 3.25 MTPA of M/s Western Coalfields Limited in mine lease area of 1095.52 ha located in District Chandrapur (Maharashtra) - Revalidation and Environment Clearance - reg.**

Sir,

This has reference to your online proposal No. IA/MH/CMIN/90274/2016 dated 11th January, 2019 on the above-mentioned subject.

2. The Ministry of Environment, Forest and Climate Change has considered the proposal for revalidation of the environmental clearance dated 2nd February, 2006 as mandated under the Ministry's Notification dated 6th April, 2018, and grant of environmental clearance to expansion of Pauni II Opencast Coal Mining project from 0.60 MTPA to 3.25 MTPA in mine lease area of 1095.52 ha of M/s Western Coalfields Ltd located in village Sakhri, Tehsil Rajura, District Chandrapur (Maharashtra) under the provisions of the EIA Notification, 2006

3. The proposal was considered by the Expert Appraisal Committee (EAC) in its 42nd meeting held on 24th January, 2019. The details of the project, as per the documents submitted by the project proponent, and also as informed during the meeting, are reported to be as under:-

(i) The project area is covered under Survey of India Topo Sheet No 56 M/1 and 56 M/5 and is bounded by the geographical coordinates ranging from N 19° 48' 19" to N 19° 48' 19" N and longitudes E 79° 13' 48" and E 79° 16' 13".

(ii) Coal linkage of the project is proposed for MahaGenco, KPCL, GSCCL & various consumers

(iii) Employment generated is 945 Nos. Employment provided is 182 nos., Monetary compensation given- 20 Nos. balance 743 Nos. persons will be provided employment from the project. The project involves 954 nos. project affected families.

(iv) The project is reported to bridge the gap (to the extent of the peak production capacity of the project) between demand & supply of non-coking coal for the power houses and other bulk consumers of western as well as southern part of the country.

(v) Earlier, the environment clearance to the project was obtained under EIA Notification, 1994 vide Ministry's letter 1/2005-IA-II (M) dated 2nd February, 2006 for 0.60 MTPA in mine lease area of 316.30 ha.

(vi) Total mine lease area is 1095.52 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by the WCL Board on Vide letter no WCL/BD/SECTT/BM-307/2018/830 dated 26th December, 2018.

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(vii) The land usage pattern of the project is as follows:

Pre-mining land use details (Area in Ha)

S. No.	Land Use	Within ML Area	Outside ML Area	Total
1	Agricultural Land	718.69	0	718.69
2	Forest Land	0	0	0
3	Wasteland	60.53	0	60.53
4	Grazing Land	0	0	0
5	Surface Water Bodies	0	0	0
6	Settlements	0	0	0
7	Others (Industrial)	316.30	0	316.30
	Total Project Area	1095.52	0	1095.52

Post Mining

S. No.	Land use	Land use (ha)				Total
		Plantation	Water Body	Public Use	Undisturbed	
1	External OB Dump	214.57	0	0	0	214.57
2	Top Soil Dump	35.40	0	0	0	35.40
3	Excavation / Quarry	107.0	188.35	0	0	295.35
4	Roads	0.5	0	1.5	0	2.0
5	Built-up Area (Colony/office)	3.0	0	7.0	0	10.0
6	Green Belt	0.0	0.0	0.0	0	0.0
7	Undisturbed Area	0.0	0.0	186.41	0.0	186.41
8	Internal OB dumps	58.93	0.0	0.0	0.0	58.93
9	Virgin area	350.0	0.0	0.0	0.0	350.0
	Total Area	769.4	188.35	194.91	0.0	1152.66

(viii) Total land requirement for Pauni-II Expansion OC Mine is 1152.66 ha. Out of 1152.66 ha land, 21.61 ha land which is already acquired for Pauni OC has to be transferred to Pauni-II Expansion OC by boundary readjustment.

(ix) Total agricultural land of 1050.99 ha and govt land of 89.60 ha is involved in the project. About 12.7 ha of forest land is also required in overall 1152.66 ha land. The application for Stage-I FC has already been made but FC is yet to be secured.

(x) Now considering the present position of the mine and the surged demand of power grade coal from WCL mines for the power plants of Maharashtra and as per the requirements of MoEF & CC (for project involving forest land but not having Stage-I FC in hand), a Mining Plan by excluding the Forest land and adjacent non-forest land (for maintaining mine geometry) has been prepared as Phase-I for the proposed expansion from 0.60 to 3.25 MTPA.

(xi) In view of public hearing and the ToR secured for total land area of 1152.66 ha, fresh proposal for EC or amendment therein, shall be submitted to take into account the additional and after receipt of stage-I forest clearance for the forest land of 12.07 ha.

(xii) Total geological reserve reported in the mine lease area is 42.847MT with 30.63 MT mineable reserves. Out of total mineable reserve of 30.63MT, 30.63 MI are available for extraction. Percent of extraction is 72%.

- (xiii) Two seams with thickness ranging from 2.55 m – 10.95 m are workable. Grade of coal is G-9, stripping ratio 1 in 6.19, while gradient is 1 in 6 to 1 in 7.
- (xiv) Method of mining operations would be Opencast with Shovel dumper combination method. Life of mine is 13 years.
- (xv) The project has three external OB dumps in an area of 214.57 ha with 90 m height and 184.32 Mm³ of OB. The OB from the current mining operations shall be backfilled from 6th year onwards, one internal OB in an area of 107.0 ha-with 80.73 Mm³ of OB.
- (xvi) Total quarry area is 295.35 ha out of which backfilling will be done in 107 ha while final mine void will be created in an area of 188.35 ha with a depth of 200 m. Backfilled quarry area of 107 ha shall be reclaimed with plantation. Final mine void will be converted into water body.
- (xvii) Transportation of coal has been proposed by dumpers in mine pit head, from surface to siding by tippers/dumpers and at sidings by pay loaders.
- (xviii) Reclamation Plan in an area of 769.4 ha, comprising of 214.57 ha of external dump, 35.40 ha of top soil dump, 107.0 ha of internal dump, 412.43 ha for green belt development.
- (xix) No forest land has been reported to be involved in the Phase-I project.
- (xx) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones have been reported with 10 km boundary of the project.
- (xxi) The ground water level has been reported to be varying between 6.05 m to 8.40 m during pre-monsoon and between 1.85 m to 7.90 m during post-monsoon. Total water requirement for the project is 880 KLD.
- (xxii) Application for obtaining the approval of the Central Ground Water Authority for withdrawal of groundwater from CGWA has been applied on 19th January, 2017.
- (xxiii) Public hearing has been conducted on 1st December, 2018 for expansion of Pauni-II Opencast Coal Mining Project in an area of 1152.66 ha, in compliance with the ToR dated 30th March, 2017, at Manoranjan Kendra, Sasti colony, Near CGM office, WCL Ballarpur area, Taluka Rajura, District Chandrapur (Maharashtra).
- (xxiv) Sakhari & Lendi Nallah is flowing along boundary of lease. The nallah will be diverted in consultation with the Water Resource Department of the State Government.
- (xxv) Baseline monitoring of environmental parameters has been carried out during Nov'2015 to Jan'2016.
- (xxvi) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to MPCB and also to MoEF&CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits.
- (xxvii) No court cases, violation cases are pending against the project of the PP.
- (xxviii) The project does not involve violation of the EIA Notification, 1994 and amendment issued there under. The coal production from the mine was started from the year 2016-17 onwards. No excess production of coal from the sanctioned capacity has been realized since the commencement of mining operations, with the details as under:

Year	EC sanctioned Capacity (MTPA)	Actual production (MTPA)	Excess production
2016-17	0.60	0.510	Nil
2017-18	0.60	0.306	Nil
2018-19 (up to 31 st December, 18)	0.60	0.543	Nil

- (xxix) Total cost of the project is Rs.483.6948 crores. Cost of production is Rs.1018.96/- per tonne. CSR cost is Rs.2 per tonne, R&R cost is Rs 318.58 crores. Environment Management Cost is Rs. 97.09 lakhs.

(xxx) The proposal for renewal of consent for Pauni II OC of 0.60 MTPA production capacity was considered in the 6th Consent committee meeting of MPCB for 2018-19 held on 17/18.12.2018 at MPCB, Mumbai vide application no. MPCB CONSENT 0000039454.

4. The sectoral Expert Appraisal Committee in its meeting held on 24th January, 2019 has recommended for revalidation of the existing environmental clearance as mandated under the Ministry's Notification dated 6th April, 2018 and grant of environmental clearance to the expansion project. Based on recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords approval for revalidation of the existing environmental clearance dated 2nd February, 2006, and grant of environmental clearance to the expansion of **Pauni-II Opencast Coal Mining project from 0.60 MTPA to 3.25 MTPA of M/s Western Coalfields Ltd** in mine lease area of 1095.52 ha located in village Sakhri, Tehsil Rajura, District Chandrapur (Maharashtra), for a period of one year, under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto, subject to the compliance of the terms & conditions and environmental safeguards as under:-

- (i) The project proponent shall collect and analyze one season data for environmental parameters and submit for consideration of the EAC before 31st December, 2019.
- (ii) The project proponent shall obtain Consent to establish from the State Pollution Control Boards for the proposed peak capacity of 3.25 MTPA prior to commencement of the increased production.
- (iii) Transportation of coal from face to Coal heap shall be carried out by truck. Further, coal transportation from Coal heap to Coal Handling Plant shall be through covered trucks.
- (iv) To control the production of dust at source, the crusher and in-pit belt conveyors shall be provided with mist type sprinklers.
- (v) Mitigating measures shall be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient water sprinklers. Adequate corrective measures shall be undertaken to control dust emissions, which would include mechanized sweeping, water sprinkling/mist spraying on haul roads and loading sites, long range misting/fogging arrangement, wind barrier wall and vertical greenery system, green belt, dust suppression arrangement at railway siding, etc.
- (vi) The company shall obtain approval of CGWA for use of groundwater for mining operations at its enhanced capacity of 3.25 MTPA.
- (vii) Continuous monitoring of occupational safety and other health hazards, and the corrective actions need to be ensured.
- (viii) Persons of nearby villages shall be given training on livelihood and skill development to make them employable.
- (ix) To ensure health and welfare of nearby villages, regular medical camps shall be organized at least once in six months.
- (x) Thick green belt of adequate width at the final boundary in the down wind direction of the project site shall be developed to mitigate/check the dust pollution.
- (xi) Efforts shall be made for utilizing alternate sources of surface water, abandoned mines or else whatsoever and thus minimizing the dependability on a single source.
- (xii) A third party assessment of EC compliance shall be undertaken once in three years through agency like ICFRI /NEERI/IIT or any other expert agency identified by the Ministry.

4.1 The grant of environmental clearance is further subject to compliance of the generic conditions as under:

(a) Mining

(i) Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.

(ii) No change in mining method, calendar programme and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forest and Climate Change.

(iii) Mining shall be carried out as per the approved mining plan including Mine Closure Plan abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS)

(iv) No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980 and also adhering to The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 read with provisions of Indian Forest Act, 1927.

(b) Land reclamation and water conservation

(i) Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale shall be submitted to Ministry of Environment, Forest and Climate Change/Regional Office (RO).

(ii) The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/tributary/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/Govt Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS.

(iii) The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural/forestry purposes and shall be handed over to the respective state government as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.

(iv) The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the "during mining"/"post mining" land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the Ministry of Environment, Forest and Climate Change/Regional Office on six monthly basis.

(v) The top soil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized for long. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office on six monthly basis.

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(c) Emissions, effluents, and waste disposal

- (i) Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of $PM_{10}/PM_{2.5}$) such as haul road, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.
- (ii) Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area in a phased manner. The green belt comprising a mix of native species shall be developed all along the major approach/ coal transportation roads.
- (iii) The transportation of coal shall be carried out as per the provisions and route proposed in the approved Mining Plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.
- (iv) Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
- (v) Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air borne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.
- (vi) Coal handling plant shall be operated with effective control measures viz. bag filter/water or mist sprinkling system etc to check fugitive emissions from crushing operations, conveyor system, transfer points, etc.
- (vii) Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
- (viii) Catch/garland drains and siltation ponds of appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly desilted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression measures and green belt development. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.
- (ix) Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Oil and grease trap shall be installed and maintained fully functional with effluents

discharge adhering to the norms. Sewage treatment plant of adequate capacity shall be installed for treatment of domestic waste

(x) Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.

(d) Illumination, noise & vibration

(i) Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & its RO on six-monthly basis.

(ii) Adequate measures shall be taken for control of noise levels below 85 dB(A) in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.

(iii) Controlled blasting techniques shall be practiced in order to mitigate ground vibrations and fly rocks as per the guidelines prescribed by the DGMS.

(iv) The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.

(e) Occupational health & safety

(i) The project proponent shall undertake occupational health survey for initial and periodical medical examination of the workers engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% 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.

(ii) Personnel (including outsourcing employees) working in dusty areas shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.

(iii) Skill training as per safety norms specified by DGMS shall be provided to all workmen including the outsourcing employees to ensure high safety standards in mines.

(f) Ecosystem and biodiversity conservation

(i) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.

(g) Public hearing, R&R and CSR

(i) Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan

submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.

(ii) The project proponent shall ensure the expenditure towards socio-economic development in and around the mine, in every financial year as per the Corporate Social Responsibility Policy as per the provisions under Section 135 of the Companies Act, 2013

(iii) The project proponent shall follow the mitigation measures provided in this Ministry's OM No Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'

(iv) The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

(h) Corporate environment responsibility

(i) The Company shall have a well laid down environment policy duly approved by Board of Directors. The environment policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions. Also, the company shall have a defined system of reporting of non-compliances/violations of environmental norms to the Board of Directors and/or shareholders/stakeholders.

(ii) The project proponent shall comply with the provisions contained in this Ministry's OM dated 1st May, 2018, as applicable, regarding Corporate Environment Responsibility.

(iii) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions should be displayed on website of the Company.

(iv) A separate environmental management cell both at the project and company headquarters level, with suitable qualified personnel shall be set-up under the control of a Senior Executive who will report directly to the Head of the Organization.

(v) Action plan for implementing EMP and environmental conditions shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

(vi) Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

(i) Statutory Obligations

(i) The environmental clearance shall be subject to orders of Hon'ble Supreme Court of India, Hon'ble High Court, NGT and any other Court of Law from time to time, and as applicable to the project.

SD

(i) This environmental clearance shall be subject to obtaining wildlife clearance, if applicable, from the Standing Committee of National Board for Wildlife.

(ii) The project proponent shall obtain Consent to Establish/Operate under the Air Act, 1981 and the Water Act, 1974 from the concerned State Pollution Control Board.

(v) The project proponent shall obtain the necessary permission from the Central Ground Water Authority (CGWA).

(j) Monitoring of project

(i) Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM₁₀, PM_{2.5}, SO₂ and NO_x. 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. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.

(ii) The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.

(iii) The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board.

(iv) The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-IA 11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.

(v) Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to Ministry of Environment, Forest and Climate Change/Regional Office.

(vi) Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.

(vii) The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental conditions to the Ministry of Environment, Forest and Climate Change/Regional Office. For half yearly monitoring reports the data should be monitored for the period of April to September and October to March of the financial years.

SK

(viii) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

(k) **Miscellaneous**

(i) Efforts should be made to reduce energy consumption by conservation, efficiency improvements and use of renewable energy.

(ii) The project authorities shall inform to the Regional Office regarding commencement of mining operations.

(iii) A copy of the environmental clearance shall be marked to concerned Panchayat. A copy of the same shall also be sent to the concerned State Pollution Control Board, Regional Office District Industry Sector and Collector's Office/Tehsildar Office for information in public domain within 30 days.

(iv) The EC shall be uploaded on the company's website. The compliance status of the stipulated EC 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.

(v) The project authorities shall advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of this clearance, informing that the project has been accorded environmental clearance and a copy of the same is available with the State Pollution Control Board and also at website of the Ministry.

(vi) The environmental statement for each financial year ending 31 March in Form-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. Concerns raised during public hearing.

(vii) 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.

5. The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report and also that during presentation to the EAC. All the commitments made on the issues raised during public hearing shall also be implemented in letter and spirit.

6. The proponent shall 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. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

7. 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.

8. The coal company/project proponent shall be liable to pay the compensation against the illegal mining, if any, and as raised by the respective State Governments at any point of time, in terms of the orders dated 2nd August, 2017 of Hon'ble Supreme Court in WP (Civil) No. 114/2014 in the matter of 'Common Cause Vs Union of India & others

9. The concerned State Government shall ensure no mining operations to commence till the entire compensation for illegal mining, if any, is paid by the project proponent through their respective Department of Mining & Geology, in strict compliance of the judgment of Hon'ble Supreme Court.

10. This environmental clearance shall not be operational till such time the project proponent complies with the above said judgment of Hon'ble Supreme Court, as applicable, and other statutory requirements.

11. This issues in supersession of the earlier environmental clearance granted by the Ministry vide letter dated 2nd February, 2006.

SKJ
28/3/2019
(S. K. Srivastava)
Scientist E

Copy to:

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi
2. The Principal Secretary, Department of Environment, Government of Maharashtra, 15th Floor, New Admn. Bldg, Madam Cama Road, Mantralaya, Mumbai - 32 (Maharashtra)
3. The Additional PCCF (Central), Ministry of Environment Forest and Climate Change, Regional Office (Western Central Zone), Ground Floor, East Wing, New Secretariat Building Civil Lines, Nagpur-1 (Maharashtra)
4. The Member Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi
5. The Advisor, Coal India Limited, SCOPE Minar, Core-I, 4th Floor, Vikas Marg, Laxmi Nagar, New Delhi
6. The Member Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32
7. The Member Secretary, Maharashtra 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 - 2
8. The District Collector, Chandrapur, Government of Maharashtra
9. Monitoring File 10. Guard File 11. Record File 12. Notice Board

SKJ
28/3/2019
(S. K. Srivastava)
Scientist E

ANNEXURE - E 229

**OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS
(HEAD OF FOREST FORCE), MAHARASHTRA STATE, NAGPUR**

ADDITIONAL PRINCIPAL CHIEF CONSERVATOR OF FORESTS AND NODAL OFFICER, MAHARASHTRA STATE, NAGPUR,
First Floor, 'B' Wing, Van Bhavan, Civil Lines, Nagpur-440001.
Tel no. (0712) 2530166, 2556916, Fax no. (0712) 2550675 E-mail- apccfnodal@mahaforest.gov.in

To:
The Deputy Director General (Central)
Ministry of Environment, Forests, and Climate Change,
Regional Office, Ground Floor, East Wing,
New Secretariate Building, Civil Lines,
Nagpur- 440001.

No. Desk-17/FCA-S1/PID-8832/Chandrapur/2023-24/3556
Nagpur - 440 001. Date:- 28/03/2024

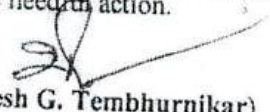
Sub :- Diversion of 12.07 ha forest land in favour of Western Coalfield Ltd., Ballarpur under Forest (Conservation) Act, 1980 for Sakhari-Irawati (Pouni III) Opencast Mine Project at Village-Sakhari, Tal. Rajura, Dist.Chandrapur in the State of Maharashtra- regarding.

- Ref- 1) The Government of India, MoEF&CC, Integrated Regional Office, Nagpur vide letter No.F.No.FC-II/MH-165/2021-NGP/12320, dated 13/10/2023.
2) The Chief Conservator of Forests (T), Chandrapur letter No. Desk-3(1)/land/Sr.No.570/2023-24/1745, dated 19/03/2024.

The Government of India, Ministry of Environment, Forests and Climate Change, Regional Office, Nagpur vide letter under reference No. 1 has raised back query on 02 points. Accordingly, the Chief Conservator of Forests (T), Chandrapur vide letter under reference No. 2 has submitted the compliance report to this office. The same may be submitted as under:-

S. No.	Query	Compliance
I	In query (v), it was asked that "as per detail provided in the Part-I, the total project area has been indicated as 820. 70 ha. while the same is mentioned as 1140.59 ha in the deliberation of REC dated 14.10.2022. Exact position in this regard may be informed." The State Government in their reply have informed that the total project land acquired for the project as per the requirement is 1152.66 ha. Further the State Government have mentioned the details of the said land in the same reply that total land area is mentioned as 327.41 ha. This is not found to be in conformity with the total project area mentioned in part I of the proposal. Clarity in the above matter is required.	The Deputy Conservator of Forests, Central Chanda Forest. Division, Chandrapur and the Chief Conservator of Forest (T), Chandrapur vide letter dated 15/03/2024 & 19/03/2024 has submitted compliance:- The User Agency has submitted detailed information about lease area difference. The copy of the same is enclosed herewith as (Annexure No.I)
II	In query (vi), it was asked to assess the efficacy of the Wildlife Management Plan of Rs. 20 lakhs, as recommended by the State, in term of holistic impact of the mining activity on the surrounding flora and fauna. The state Government has not provided a copy of the same.	The Deputy Conservator of Forests, Central Chanda Forest, Division, Chandrapur and the Chief Conservator of Forest (T), Chandrapur vide letter dated 15/03/2024 & 19/03/2024 has submitted compliance:- The copy of the Conservation Plan duly signed by Deputy Conservator of Forests, Central Chanda Forest Division, Chandrapur is enclosed herewith as (Annexure No.II)

In view of the above facts, the aforesaid compliance submitted for further needful action.
Encl : As above


(Shailesh G. Tembhurnikar)
Principal Chief Conservator of Forests,
(Head of Forest Force)
Maharashtra State, Nagpur

Copy submitted to the Principal Secretary (Forests), Revenue & Forest Department, Mantralaya Mumbai -32 for information.

Copy to the Chief Conservator of Forest (T), Chandrapur for information.

Copy to the Deputy Conservator of Forests, Central Chanda Forest, Division, Chandrapur for information.

Copy to the Area General Manager, Western Coalfields Limited Ballarpur Area, P.O.Sasti, Dist. Chandrapur-442706 for information.



State of Maharashtra

Forest Division

**Office of the Chief Conservator of Forests,
Chandrapur Circle, Chandrapur**

Civil Line, Nagpur road, Chandrapur- 442401

Tel. No .07172-256279, 252232 E-mail id:- ccfchandrapur@gmail.com, ccfchandrapur@mahaforest.gov.in

No. : Desk-3(1)/Land/Sr.No.570/2023-24/ 1745

Dated :- 19-03-2024

To,

The Add. Principal Chief Conservator of Forests
& Nodal Officer,
Mah. State, Nagpur

Sub :- Diversion of 12.07 ha. forest land in favour of Western Coalfield Ltd., Ballarpur under Forest (Conservation) Act, 1980 for Sakhari - Irawati (Pouni III) Opencast Mine Project at Village Sakhari Tal. Rajura, Distt. Chandrapur in the State of Maharashtra- regarding.

- Ref :- 1. Government of India, Ministry of Environment Forests & Climate Change, Regional Office, Nagpur letter No. F.No.FC-II/MH-165/2021-NGP/12320, dated 13.10.2023
2. Addl. Principal Chief Conservator of Forests & Nodal Officer, M.S.Nagpur vide letter No. Desk-17/FCA-S1/PID-8832/Chandrapur/2143, dated 17.10.2023
3. This office letter No. Desk-3(1)/land/C.No.503/2023-24/4166, dated 04.03.2024
4. Dy.CF.Central Chanda division, Chandrapur vide letter No. Desk-12/Surv/Land/ 2023-24/2015, dated 15.03.2024

The Govt. of India vide letter under reference 1 mentioned on the above subject with condition to submit compliance of 2 conditions.

Accordingly the User Agency has submitted their compliance to Dy. Conservator of Forests, Central Chanda Division, Chandrapur. The details of conditions are as follows.

Sr.No.	Queries	Compliance
1	<p>In query (v), it asked that "as per details provided in the Part-I, the total project area has been indicated as 820.70 ha. while the same is mentioned as 1140.59 ha. in the deliberation of REC dated 14.10.2022. Exact position in this regard may be informed.</p> <p>The same Government in their reply have informed that the total project land acquired for the project as per the requirement is 1152.66 ha. Further the State Government have mentioned the details of the said land in the same reply that total land area is mentioned as 327.41 ha.</p> <p>This is not found to be in conformity with the total project area mentioned in part-I of the proposal, Clarity in the above matter is required.</p>	<p>The User Agency has submitted detailed information about lease area difference and Dy.CF Central chanda agrees with the compliance report. The compliance report of the same is enclosed.</p>

2

In query (vi), it was asked to assess the efficacy of the Wildlife Management Plan of Rs. 20 lakhs, as recommended by the State, in term of holistic impact of the mining activity on the surrounding flora and fauna. The State of Government has not provided a copy of the same.

Dy.CF. Central Chanda studied the forest area around the project affected area and he decided to spend Rs. Rs. 20 lakhs for Flora & Fauna Conservation Plan. The plan is submitted to this office vide their letter No. 1930, dated 05.03.2024.

The Conservaton Plan submitted by Dy.CF. Central Chanda is suitable, this office is agreed and submitted it to APCCF (Wildlife) East, Nagpur vide this office letter No. 1726, dated 14.03.2024 for approval.

Encl:- As above



(Dr. Jitendra Ramgaokar)

**Chief Conservator of Forests,
Chandrapur Circle, Chandrapur**

Copy to- Dy.CF.Central Chanda division, Chandrapur for information & necessary action.

उप वनसंरक्षक
मुख्य चान्दा वन विभाग
वांचे कार्यालय

14 DEC 2023

पत्र क्रमांक... 2402

आ. क्र. दि. 12/12/23



Western Coalfields Limited
Office of the Area General Manager
Ballarpur Area
P.O.SASTI, DISTT.CHANDARPUR(MS) Pin-442706
Tel 07173-230105, 230260 Fax- 07173-230076

File No : W.C.L/BA/AGM/PLG/714

Date : 13/12/2023

14

To

The Dy.Conservator of Forests
Central Chanda Chandrapur,

Sub - Diversion of 12.07 Ha Forest land in favor of Western Coalfields Ltd.
Ballarpur under Forest (Conservation) Act, 1980 for Sakhari- Irawati
(Pouni-III) Opencast Mine project at Village Sakhari, Tal. Rajura,
District- Chandrapur in the State- Maharashtra - regarding.

Ref. - (i) F.No. FC-II/MH-165/2021-NGP/12320
(ii) Kaksha /Survey/ Land /20023-24/1928

Dated 13/10/2023.

Dated 13/11/2023.

Sir,

With reference to the above mentioned subject please find
enclosed here-with the point wise reply in english of 2 queries
alongwith annexures

This is kind information and further necessary action at
your end.

Yours Faithfully

[Signature]
Area Planning Officer
Ballarpur Area

Reply to the queries raised by MoEF&CC, Head Office/ IRO, Nagpur against the FC proposal for diversion of 12.07 Ha forest land.

- i. In query (v), it was asked that "as per detail provided in the Part-I, the total project area has been indicated as 820.70 ha. while the same is mentioned as 1140.59 ha in the deliberation of REC dated 14.10.2022. Exact position in this regard may be informed."

The State Government in their reply have informed that the total project land acquired for the project as per the requirement is 1152.66 ha. Further the State Government have mentioned the details of the said land in the same reply that total land area is mentioned as 327.41 ha.

This is not found to be in conformity with the total project area mentioned in part-I of the proposal. Clarity in the above matter is require.

Reply: Vide letter dtd. 09.02.2023 IRO Nagpur raised 7-point EDS. The query (v) is reproduced below:

Quote

As per detail provided in the Part-I, the total project area has been indicated as 820.70 ha while the same is mentioned as 1140.59 ha in the deliberation of REC dated 14.10.2022. Exact position in this regard may be informed by the State Government.

Unquote

In reply to the above, WCL has already submitted that the Project Report for Pauni-III OC mine was prepared in March, 2009 for a target capacity of 1.25 Mty. The Board directed for entering into Coal Supply Agreement with prospective consumer on Cost Plus Basis to yield 12% IRR at 85% target capacity and clearance from CIL. However, the Cost-Plus agreement is not yet finalized.

The acquisition process was started in the year 2012 wherein 820.70 Ha land notified under section 4(1) of CBA(A&D) Act, 1957 vide S.O. no. 3159 dtd. 03/10/2012 including 12.07 Ha. Forest Land. Subsequently, 778.54 Ha land (including 12.07 Ha Forest land) notified under section 7(1) of CBA(A&D) act, 1957 vide S.O. no. 3054(E) dtd. 09/10/2014 which is "Intention to acquire" as per the requirement of project. The application for diversion of 12.07 Ha was submitted vide ref. no. WCL/BA/AGM/PLG/83 dtd. 14 -16/02/2015. As such, the Part-I of FC application indicates 820.70 Ha ~~forest~~ land.

Subsequently, the land rates were increased in Maharashtra as per MSGR 2014 and in absence of Cost-Plus Agreement with prospective consumers in respect of Pauni-III OC it was decided by the management of WCL to combine the Pauni-II OC & Pauni-III OC projects with common infrastructure facilities for better economics of the two projects. Accordingly, a Project Report for Amalgamated Pauni-II & III OC mine was prepared by CMPDI in May, 2015. The target of this Amalgamated mine was envisaged as 3.25 Mty (0.75 Mty of Pauni-II OC and 2.50 Mty of Pauni-III OC) & maximum possible proved reserves in both the blocks were considered.

per the recommendation of EAC, the project was renamed as Pauni-II Expn. OC which was approved by WCL Board in its 281st meeting held on 19.09.2016. The total land requirement for Pauni-II Expansion OC Mine is 1152.66 ha out of which Agricultural land is 1050.99 ha, Govt land is 89.60 ha and forest land is 12.07 ha. The details are as follows:

Sl No.	Particulars	Quarry-I			Quarry-II	Total Land
		Existing Land (Acquired for Pauni OC)	Additional Land	Total Land	Additional Land	
1)	Tenancy Land	21.61	281.03	302.64	748.35	1050.99
2)	Govt. Land	0.00	24.77	24.77	64.83	89.60
3)	Forest Land	0.00	0.00	0.00	12.07	12.07
Total		21.61	305.80	327.41	825.25	1152.66

However, considering the position of the mine and the surged demand of power grade coal from WCL mines for the power plants of Maharashtra and as per the requirements of MOEF&CC (for project involving forest land but not having Stage - I FC in hand), a Mining Plan by excluding the Forest land and adjacent non-forest land (for maintaining mine geometry) was prepared as Phase-I for the expansion capacity (0.60 to 3.25 MTPA) and balance land area of 1095.52 ha which was approved by WCL Board on 26.12.2018. The Mining is going on in this ML Area of 1095.52 ha land only.

All these facts have been recorded by EAC in its meeting held on 24.01.2019. Minutes of the said EAC meeting is also attached for ready reference. It is also noted by EAC that, as soon as, the Stage - I FC for 12.07 ha forest land is received, the application for EC will again be made for additional land since the Public Hearing and ToR have been secured for the total land of the project i.e. 1152.66 ha.

It was also noted by REC that the project involves 1152.66 Ha land out of which 1140.59 ha is non-forest and remaining 12.07 ha is Forest Land. Minutes of the meeting held on 14.10.2022 attached for ready reference.

It is also to submit humbly that in reply of query (v) submitted through State Govt., there was error in printing the above table as such the details were captured for only Quarry-I involving 327.41 Ha. However, the total area is 1152.66 Ha comprising 327.41 Ha of Quarry-I and 825.25 Ha of Quarry-II.

Query (vi), it was asked to assess the efficacy of the Wildlife Management Plan of Rs. 20 lakhs, as recommended by the State, in term of holistic impact of the mining activity on the surrounding flora and fauna. The state Government has not provided a copy of the same.

It requested to clarify the lands involved and submit the proposal with clarity and an SCN for further needful.

Reply: The query (vi) raised by IRO Nagpur vide letter dtd. is reproduced below:

Quote

To mitigate the impact of project activity on the wildlife, preparation of Wildlife Management Plan of Rs. 20 lakh has been recommended by the State Government, same need to be approved by the PCCF (wildlife) and specific comments in term of holistic impact of the mining activity on the surrounding flora and fauna need to be submitted.

Unquote

Reply: The Maharashtra State Forest Deptt. is requested to provide comments on this query along with a Self-Contained Note (SCN). User Agency undertakes to abide by the directives issued by MH State Forest Deptt./ IRO Nagpur in this regard.

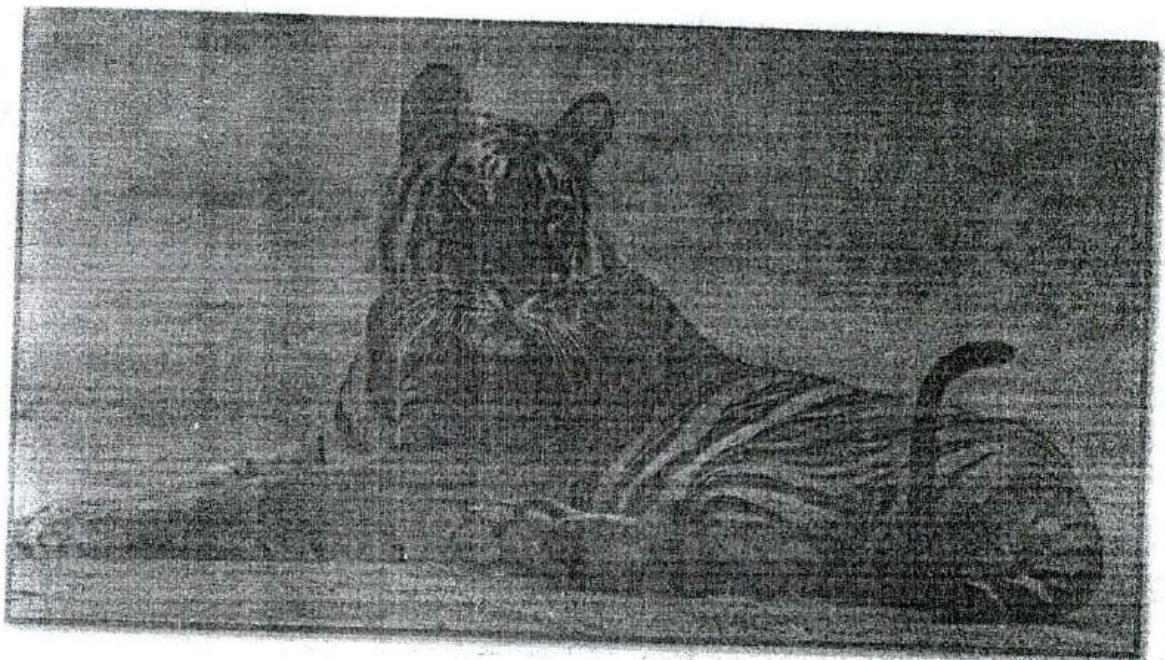
उपक्षेत्र प्रबंधक
पवनी उपक्षेत्र बल्लासपुर (WCL)



Government of Maharashtra

Flora & Fauna Conservation Plan

Sakhari – Irawati (Pouni-III) Open Cast Mine
Project



Year 2024 to 2028



Central Chanda Forest Division



INTRODUCTION:

Name and Situation :- Central Chanda Forest Division lies between $19^{\circ}31'$ to 20° North latitudes and $79^{\circ}50'30''$ to $80^{\circ}45'$ East longitudes.

The boundary of the division in the North is bounded by Penganga and Wardha river along the Yavatmal district, Chanda and Mul Forest Ranges of Chandrapur Non-Buffer Forest Division of Maharashtra State.

The total forest area of Central Chanda Forest Division is 1119.080 Sq.Km.

Configuration of the ground :- The most of the forest areas Rajura Subdivision are on undulating terrain and rest are on slight undulation. The track lies between 192.2m to 588.6m above MSL, with the highest point in Manikgarh hills at Jitameda with an altitude of 588.6m above MSL.

Geology Rock and Soil :- The tract comprises of archaean age of rocks which are rich in lime stone, clays, granites, gneisses, quartzites, magnesites, laterites, sandstones etc. The soils are red as well as black soils.

Climate :- Climate is hot summer with well distributed rainfall during south-west monsoons. The mean daily maximum temperature in December is 38.6 degree centigrade and mean daily minimum is 23.6 degree centigrade. The humidity exceeds 70% in the South-West monsoon season.

Water Supply :- Chandrapur District fall within Godavari drainage and the whole district is covered by important rivers like Penganga, Wardha, Wainganga, Andhari etc. and nalas which supply water throughout the year.

Rights and Concessions :- There are no rights in the Reserve Forest except right to way and access to water however the nistar rights are fulfilled from Protected Forest Areas.

Type of Forests :- According to H.G. Champion and S.K. Seth, the forest type is 5A Southern-Tropical Dry Mixed Deciduous Forest. Teak is the important timber species and its associates are bija, dhaora, ain, semal, moha, tendu, lendia, kullu, siras, haldu, salai, moyen, bhirra, aonla, gongal, hirda, kumbhi, bamboo etc. The important grasses are kushal, chit, bharbhusi, mushan etc.

Injuries to which the crop is liable: - The forests are liable to injuries due to fire, illicit felling encroachments, grazing by domestic and wild animals, insects and fungal attack climbers and weeds, parasites and epiphytes, wind and drought. The drought is common.

Utilizations of the forest produce :- The local people depend on the forest particularly for small timber, firewood, bamboos, thatching grass, fodder, fruits and flowers, fibers, etc. The total number of villages in the Chandrapur District is 1792 and out of this 319 are deserted villages (Rithi).

Staff and Labour :- The head of the territorial division is Dy. Conservator of Forests assisted by Assistant Conservator of Forests at Divisional level. There are Eight range forest guards at Kothari, Dhaba, Pombhurna, Rajura, Wirur, Wansadi & Jiwati headed by W.F.O.s. The labour required for forestry operations come from adjoining villages.

Wildlife Preservation :- Wildlife in the division has been managed under various rules and regulations framed from time to time till enactment of wildlife (Protection) Act 1972 which came into existence in the State of Maharashtra w.e.f. June 1, 1973 which has been amended in 1991. In the amended Act the words game reserves, big game and small game have been omitted. Thus even legal hunting has been banned.

Basis of Proposals:-

A) National Forest Policy of 1988:-

The National Forest Policy of 1988 is in force and basic objects are outlined below:-

- (i) Maintenance of environmental stability through preservation and restoration of ecological balance that has been adversely disturbed by serious depletion of the forest of the country.
- (ii) Conserving the national heritage of the country by preserving the remaining natural forests with the vast variety of flora and fauna which represent the remarkable biological diversity and genetic resources of the country.
- (iii) Checking soil erosion and denudation in the catchment areas of the rivers, lakes, reservoirs in the interest of soil and water conservation for mitigating floods and droughts and for the retardation of siltation of reservoirs.
- (iv) Increasing substantially the forests / trees cover in the country through massive afforestation and social forestry program, especially on all denuded, degraded and unproductive lands.
- (v) Meeting the requirements of fuel wood, fodder, minor forests produce and small timber of the rural and tribal population.
- (vi) Increasing the productivity of forests to meet essential national needs.
- (vii) Encouraging efficient utilization of the forest produce and maximum substitution of wood.
- (viii) Creating a massive people's movement with involvement of all women, for achieving these objects and to minimize pressure on existing forests.

Based on above objects the salient features of 1988 forest policy are as follows:-
 restrictions on schemes and projects which interfere with forests that clothes steep slope catchment of rivers, lakes and reservoirs, no working of forest without the Government having approved the management plan, non-introduction of exotic species without long term scientific species trials, the rights and concessions including grazing always remain related to the carrying capacity of forests, rights and concessions enjoyed by the tribal should be protected and their domestic requirement of the fuel wood, fodder, minor forests produce and timber for construction should be the first charge.

Forest management plans to take special care of the needs of wildlife conservation, effective action should be taken to prevent encroachments on forest land and the existing encroachment should not be regularized. forest based industries should raise the raw material needed by themselves in arrangement with the private cultivators and survey of forest resources to be completed on scientific lines for updating information.

(b) **General Objects of Management:-**

- (i) To preserve and enrich the growing stock in natural forest and to restock all understocked and degraded area of the Forests with the help of soil and moisture conservation measures.
- (ii) Preservation and improvement of minor forest to obtain progressively increasing yield of small timber, fire wood and poles in order to meet the demands of local people and to provide grazing to local cattle.
- (iii) To combat ill effects of soil erosion wherever it has already started and to prescribe preventive measures.
- (iv) To increase the productivity and ensure progressively increasing yield of forest produce in demand.
- (v) To achieve compatible wildlife management.
- (vi) To maintain and conserve the medicinal plants in the conservation area, to preserve and multiply the endangered species, to ensure sustainable and non-destructive harvest of medicinal plants, to cultivate and harvest medicinal plants in degraded forest treated in the JFM and to motivate the cultivation of medicinal plant.

The trees, shrubs, herbs, bamboos, climbers, parasites, wild animals, birds which are found in area are as under-

TREES			
S.No.	Local Name	Botanical Name	Family
1	2	3	4
1	Bahava	Cassia Fistula. Linn	Caesalpinaceae
2	Apta	Bauhinia recemosa. Lamk	Caesalpinaceae
3	Bel	Aegle marmelos (L)	Rutaceae
4	Tendu	Diospyros melanoxylon Roxb.	Ebenaceae
5	Bor	Zizyphus mauritiana. Lamk	Rhamnaceae
6	Kawith	Limonia acidissima Lorr	Rutaceae
7	Dikamali	Gardenia resinifera. Roth	Rubiaceae
8	Hingan	Balanites aegyptica (L) Del	Balanitaceae
9	Hiwar	Acacia leucophloea Roxb Wild	Mimosaceae
10	Karanj	Pongamia pinnata (L) Pierre	Fabaceae
11	Sehna	Lagorstroemia parviflora Roxb	Lythraceae
12	Lokhandi	Ixon arboreum Roxb	Rubiaceae
13	Moha	Madhuca longifolia Koen	Sapotaceae
14	Mowai	Lannea coromandelica Hoult Merr	Anacardiaceae
15	Neem	Azadirachta indica A. Juss	Meliaceae

16	Pulas	Butea monosperma Lamk Taub	Fabaceae
17	Rohan	Soymida febrifuga (A. Juss)	Meliaceae
18	Umbar	Ficus recemosa Linn	Moreaceae

SHRUBS AND HERBS

S.No.	Local Name	Botanical Name	Family
1	2	3	4
1	Sitafal	Anona squamosa	
2	Bhootganja		
3	Bharati	Maytenus emarginata (Benth)	
4	Sindi	Phonix	Celastraceae
5	Zilbuli	Woodfordia floribunda	
6	Gaturli	Grewia hirsute	
7	Kuda	Holarrhena pubescens (Buch, Ham)	Tiliaceae
8	Lokhandi	Ixora arborea Roxb	Apocynaceae
9	Tarota	Cassia tora Linn	Rubiaceae
10	Besram	Ipomia cornia	Caesalpinaceae
11	Sagm		
12	Bandiyaval		
13	Katbor		
14	Bamboo Karak	Bamboosa arundanisia	
15	Yeruni		
16	Kalam Zudup	Mitra gyna parvi flora	

GRASS AND BAMBOOS

S.No.	Local Name	Botanical Name	Family
1	2	3	4
1	Bhurbhusi	Eragrostis tenella (Roem & Schult)	Gramineae
2	Godhel	Eragrostis interapta	Gramineae
3	Kusal	Heteropogon contortus (Linn) Beau	Gramineae
4	Paonya	Sehima sulcatum (Hack) Acamus	Gramineae

CLIMBERS

S.No.	Local Name	Botanical Name	Family
1	2	3	4
1	Chilar	Caesalpinia ecapetala (Roxb)	Caesalpinaceae
2	Chilati	Mimosa hamate (Wild)	Mimosaceae
3	Gulvel	Tinospora cordifolia (Wild)	Menispermaceae
4	Kajkuri	Mucuna pruriens (L.)	Fabaceae
	Kukurani	Calycopteris floribunda	Combretaceae

PARASITES

S.No.	Local Name	Botanical Name	Family
1	2	3	4
1	Amaraval	Cuscuta refferxa (Roxb)	Cuscutaceae

TREES		
S.No.	Common Name	Scientific Name
1	2	3
1	Wild dog	Cuon aplinus
2	Fox	Vulpes bengalens
3	Jungle Cat	Felis chaus
4	Sambhar	Cervus unicolor
5	Nilgai	Boselaphus ragocamelus
6	Common langur	Presbytis entellus
7	Hare	Lepus ruficaudatus
8	Tiger	Panthera tigris
9	Leopard	Panthera pardus
10	Sloth Bear	Melursus ursinus

BIRDS		
S.No.	Common Name	Scientific Name
1	2	3
1	Common sandgrouse	Pterocles exustus
2	Pea fowl	Pavo cristatus
3	Grey partridge	Francolinus pondicerianus
4	Pigeon	Treron phoenicoptera
5	Wild Cock	Gallus sonneratii

ENDANGERED WILDLIFE ANIMALS		
S.No.	Common Name	Scientific Name
1	2	3
1	Leopard	Panthera pardus
2	Tiger	Panthera tigris

The working circle comprises of minor and degraded forest and the maximum in hence of grazing prescribed for it is 0.8 ha. per cattle unit. All main felling coupes will remain closed to grazing for 5 years from the year of main felling. Thus with a felling cycle of 10 years, 5/10th or 1/2nd area will remain closed to grazing at any time after 5 year from the commencement of this plan.

The remaining cattle which are in excess of carrying capacity and be accommodated by taking the fodder development works in the community lands in these villages with the help of Social Forestry Department, village Panchayat, Forest Protection

voluntary agencies, at the same time the villagers will be persuaded to stop grazing. the grass for which will be allowed to be removed from the closed compartments. They will be made aware of the ill effects of excessive grazing on the forest growth. Besides, the staff should have think for rotational grazing in areas which are not due for working. The experiment of silage preparation should be conducted and through this, stall feeding should be advocated. The preparation of silage will solve the problem completely. People should be motivated for rearing cattle in less number but of better breed to have better return and less problem.

Grazing rules made applicable vide Govt. of Maharashtra Revenue and Forest Department Resolution No. MFP-1371/237035-Z, dated 03rd November, 1973.

The Guidelines for forest areas outside the protected area standing order No. 001.

There are 6 tiger reserve projects and 35 sanctuaries in Maharashtra. The protected areas comprise of 7 Lac hectares & moreover another 8 Lac ha. area covers Great Indian Sanctuary. Thus another 40 Lac ha. is Non P.A. area. These area also need wildlife protection measures. The measures include protection, habitat conservation & improvement of habitat. The paucity of water & grasses (fodder) forces the wildlife to migrate to non-forest areas also. This causes man animal conflict.

All these affect reproduction of wildlife & reduction in their no also. Therefore there is urgent need of protection scheme for non P.A. also.

Sakthi Brawati project has a total forest area of 12.07 hectares in C. no. 603 at Village Sakthi and is proposed for diversion. There is no other forest area adjacent to this compartment. A 100 ft. is made for adjoining forest patch. Jogapur RF Block to ensure maximum protection to wildlife. Details of the RF block are as follows -

Jogapur Reserve Forest Block in Rajura Range is dense forest with mixed and diverse shrubs. It has at least 5 tigers, sloth bears, leopards, wild dogs, wild boars, peacocks, sambars, nilgai, jackals, deer, chausinga, reptiles and various types of birds and insects.

Wild Life Conservation Plan for Jogapur RF Block

Sl. No.	Action	Task	Estimated Funds (Lakh)
1	Rehabilitating bare wells with solar powered pumps, creating permanent water bodies for next summer months.	2 Nos	2.00
2	Removal of dominant and invasive Kukkadaranzi species to allow grassland development	10 ha	10.00
3	Purchase of rescue vans for rapid rescue operations	1 Nos	8.00
	Total :-		20.00

(Swetha Boddu)
Dy. Conservator of Forests
Central Chanda Forest Division
Chandrapur

Seeking recommendation of Standing Committee of NBWL/ SBWL

Project Name: Pauni II Expansion OC
to: MAHARASHTRA

Proposal Number: W1/MH/MH/CRV/504961/2024
Single Window Number: SW/215996/2024

Common Application Form

Project Details

Details of Project

- 1.1. Name of the Project
- 1.2. Project Proposal For
- 1.3. Project ID (Single Window Number)

Pauni II Expansion OC

New

SW/215996/2024

1.4. Description of Project

The Pauni-II Expansion OC mine is an operating mine of Ballarpur Area, WCL located in the extreme western part of Rationalized Pauni Combined Geological block of Wardha Valley Coalfield. Rationalized Block of Pauni Combined geological block occupies an area of about 15,396-sq. km. and includes the area of earlier three geological blocks namely Gauri block, Pauni Extension block and Pauni-III block. The nearest operating mine is Gauri Pauni Expansion OC mine in the eastern side of the project. The area falls in the Rajura tehsil of Chandrapur district of Maharashtra State. The Chandrapur district township is located at the distance of about 25 km from the block. Delhi-Madras Grand Chord Railway line passes through Ballarpur township which is located in the NE of the block at a distance of about 10 km. Ballarshah Railway Station is located in the NE at about 10 km from the area.

2. Details of the Company/Organization/User Agency making application

- 2.1. Legal Status of the Company/Organization/User Agency
- 2.2. Name of the Company/ Organization/User agency

Central PSU (eg. NHAI, AAI, NTP, CIL, SAIL)

WESTERN COALFIELDS LIMITED

Registered address

- 2.3. Address
- 2.4. Village /Town / City
- 2.5. State
- 2.6. District
- 2.7. Pin Code
- 2.8. Landmarks
- 2.9. E-mail address
- 2.10. Mobile number

Office of the Sub Area Manager, Ballarpur Sub Area, Ballarpur , MS

Sakhari

MAHARASHTRA

CHANDRAPUR

442905

Sakhari village

apobawcl@gmail.com

9552265303

3. Details of the person making application

- 3.1. Name
- 3.2. Designation

MADHUKAR R GAJBHIYE

Sr.Manager(Mining)

Correspondence address

- 3.3. Address
- 3.4. State
- 3.5. District
- 3.6. Pin Code
- 3.7. E-mail address
- 3.8. Mobile number

Office of the Area General Manager, Ballarpur Area, Ballarpur , MS

MAHARASHTRA

CHANDRAPUR

442905

apobawcl@gmail.com

9552265303

Project Location

4. Location of the Project or Activity

- 4.1. Upload KML
- 4.2. Whether the project/activity falling in the state/UT sharing international borders
5. Shape of the Project

kml for pauni ii expansion oc mine.kml

NO

Hybrid

Location Details

Toposheet No	State/UT	District	Sub District	Village	Plot/Survey/Khasra No.
E44B1	MAHARASHTRA	Chandrapur	Rajura	Chincholi Kh.	
E44B5	MAHARASHTRA	Chandrapur	Rajura	Chincholi Kh.	
E44B1	MAHARASHTRA	Chandrapur	Rajura	Waroda	

Remarks

N/A

5. Land Requirement (In Ha) of the project or activity

5.1. Nature of Land involved

5.2. Non-Forest Land [A]	1140.59
5.3. Forest Land [B]	12.07
5.4. Total Land [A+B]	1152.66

Project Activity Cost

6. Project/Activity Cost

6.1. Total Cost of the Project at current price level (in Lakhs)	49899
Amount in Words : Forty Nine Thousand Eight Hundred Ninety Nine Lakh(s) Only	

7. Employment likely to be generated

7.1. During construction phase

Permanent employment

Temporary employment

7.2. During operational phase

Permanent employment

7.2.1. No. of permanent employment (No.s) [A]	700
7.2.2. Period of employment (No. of days) [B]	2190
7.2.3. No. of man-days [X]=[A]*[B]	1533000
Temporary employment	
7.2.4. Temporary / Contractual employment (No. of Man days) [Y]	300
7.2.5. Total [X] + [Y]	1533300

Others

8. Whether Rehabilitation and Resettlement (R&R) involved?	NO
9. Whether project area involves shifting of watercourse/road/rail/Transmission line/water pipeline, etc. required?	NO
10. Whether any alternative site(s) examined or part thereof for the non-site-specific component?	Not applicable as the project or activity is site specific
11. Whether there is any Government Order or Policy/ Court order relevant or restricting to the site?	NO
12. Whether there is any litigation pending against the project and/or land in which the project is proposed to be set up?	NO
13. Whether the proposal involves violation of Act/Rule/Regulation/Notification of Central/State Government?	NO

Part-I & Part-II (Seeking recommendation of Standing Committee of NBWL/ SBWL)

Project Details

Wildlife Clearance

14 State	MAHARASHTRA
15 Whether proposal is for investigation/survey?	No
16 Upload a copy of note containing justification for locating the project in protected area	wildlife clearance note_compressed.pdf
17 Category of the project	Mining / Quarrying
18 Category of area required	Tiger Corridor
19 Whether any proposal seeking prior approval of Central Government under the Forest (Conservation) Act for diversion of forest land required for this project has been submitted in the past?	Yes

Status of the Proposal	Proposal No. / SW No. / CDN No.	Project Name	MoEFCC File No.	Area proposed for Diversion (Ha)	Area Diverted (Ha)	Recommend Area For Diversion	Date of in-principle approval	Date of final approval	Date of Application
Submitted and under process	FP/KH/MN/8832/2014	Sakhori Iravati (Panti-B)OC Mine		12.07	N/A	N/A	N/A	NA	27-12-2014

Proposed Land

20. Location of project / activity with respect to Protected Area

20.1 Location of Project Area	Other
20.11 Please specify	Tiger Telemetry Corridor

21.2.2 Location Details

Division	Toposheet No.	District	Village	Range	Proposed area inside PA (ha)	Proposed area outside PA (ha)
----------	---------------	----------	---------	-------	------------------------------	-------------------------------

21.3 Remarks Details

Remarks

21.4.1 Division-wise breakup of land required

Name of the District	Name of the Division	Name of the protected area/ Tiger Reserve	Project area under Protected Area/Tiger Reserve (Ha)			Project area outside Protected Area (Ha)		
			Forest	Non-Forest	Total	Forest	Non-Forest	Total
CHANDRAPUR	CENTRAL CHANDA DIVISION WL	NA	0	0	0	8.81	770.85	779.66
Total Area (ha)			779.66					

21.4.2 Component-wise breakup of land required

Linear

Sr No.	Component	Name of the PA	Project area under PA (X) (ha)			Project area outside PA (Y) (ha)			Component Area (X + Y) (ha)
			Forest	Non-Forest	Total	Forest	Non-Forest	Total	

Non Linear

Sr No.	Component	Name of the PA	Project area under PA (X) (ha)			Project area outside PA (Y) (ha)			Component Area (X + Y) (ha)
			Forest	Non-Forest	Total	Forest	Non-Forest	Total	
1	Mining	NA	0	0	0	8.81	86.1	94.91	94.91
2	Other	NA	0	0	0	0	431.34	431.34	431.34
3	Dumping	NA	0	0	0	0	193.47	193.47	193.47
4	Infrastructure	NA	0	0	0	0	15.54	15.54	15.54
5	Plantation	NA	0	0	0	0	44.3	44.3	44.3

Total Component Area (ha) 779.66

21.4.2.1 Upload animal passage plan

topo sheet forest land 07.11.2024.pdf

21.5 Total period for which land is required (years)

30

21.6 Aerial distance of the project from the boundary of the PA (km)

0

21.7 Project area under PA / Tiger Corridor/ Tiger Reserve / ESZ (ha)

779.66

21.9 No. of trees proposed to be cut

0

21.10 Upload a copy of the Geo-referenced map of the project area with respect to the protected area prepared by using DGPS/GPS Station (pdf only)

khoshra plan area under telemetry corridor 06.11.2024.pdf

21.11 Copy of Biodiversity Impact Assessment report (in case the proposal involves use of more than 50 ha. of NP/WLS)

annexure e_ flora fauna report_compressed.pdf

21.12 Information on the projects undertaken by the proponent

details of protected area.pdf

22 Cost-benefit analysis in terms of maintenance of carbon neutrality or increase in carbon sequestration*

details of protected area.pdf

23 Whether the Project requires Clearance under the Environment (Protection) Act 1986 (Environmental clearance)?

Yes

23.1 Status of Environmental Clearance

EC granted

23.1.1 Proposal ID/Proposal No.

IA/KM4/CMNH/96074/2018

23.1.2 Date of issue of environmental clearance

26-03-2019

23.1.3 MoEFCC / SEIAA File Number

J-11016/80/2016

23.1.4 Upload EC Letter (in pdf)

pauri II ec dated 28.03.2019 13.03.2020 and 01.12.2020.pdf

Category Specific Details

27. Copy of the detailed land use plan in 1:4,000 scale prepared by using DGPS or Total Station (XmI only)	11022117_WI_ALT_KML_1731046571427_Land Use plan (1).kml
28. Copy of the prospecting licence and extension of the prospecting licence, if any	prospecting final.pdf
29. Copy of the approval accorded for MoEFCC for prospecting	prospecting final.pdf
30. Copy of note containing details of the plan for the transportation of the minerals proposed to be raised from the mining lease (pdf only)	mineral transportation plan.pdf

31. Period of validity of Mining Plan	
31.1 From	09-09-2023
31.2 To	31-03-2030
32. Period of Mining Lease (Years)	30

33. Mineral Reserves					
Name of Mineral	Proved Reserves	Indicated Reserves	Inferred Reserves	Mineable Reserves	Remarks
Coal	42.847	42.847	42.847	30.63	

34. Details of Letter of Intent (LoI) / Vesting order / Mining Lease	
34.1 Date of issue of LoI/Vesting order/Mining Lease	20-08-2015
34.2 Period of validity of LoI / Vesting order (years and months)	30/00
34.3 Period of lease (years and months)	30/00
34.4 Date of expiry of lease	19-08-2045
34.5 Lease area (in ha) as per LoI/Vesting order/Mining Lease	1152.66
34.6 Production capacity (in MTPA) as per LoI / Vesting Order / Mining lease, if any prescribed	3.25
34.7 Details of Lease renewal(s), if any	NA
34.8 Other information, if any	NA

35. Status of approval of Mining plan	Approved
---------------------------------------	----------

36. Minerals to be mined			
Name of Mineral	Classification	Production Capacity	Remarks
Coal	Major	3.25	

37. Details of Total excavation (RoM) including Topsoil, Overburden, Mining waste, Rejects, etc.	
37.1 Total excavation in MTPA	3.25
37.2 Total Excavation in M.Cum/Annum	19
37.3 Stripping Ratio	5.8462
37.4 Other information, if any	NA

38. Life of mine (years and months)	
38.1 Life of the mine as per approved mining plan (in years and months)	14/00
38.2 Life of the mine as per total estimated reserves, if any (in years and months)	14/06
38.3 Other Information, if any	NA

39. Type and method of Mining Method	
39.1 Type of mining	Open cast
39.2 Method of mining	Mechanized
39.3 Other information, if any	NA

40. Type of blasting, if any, to be adopted	
40.1 Type of blasting	SMs Blasting
40.2 Mitigation measures for control of blast induced vibrations	Controlled blasting as per guidelines given by Scientific agency and DGMS.
40.3 Other information, if any	NA

41. Whether it is proposed to install beneficiation plant/Coal washery within the mining lease area?	No
--	----

42. Whether it is proposed to install crusher within the mining lease area?	No
---	----

43. Dumping strategy				
Description	Area in Ha	Maximum height in m	Remarks	
External dump	249.97	90	NA	

2 Utilization strategy of topsoil
3 Other information, if any

Top soil will be dumped at designated sites and later spread over reclaimed land for plantation purpose
NA

108
210

Details of the Quarry/Mine Pit

1 Total Quarry Area (ha.) 296.35
2 Area of final void (ha.) 91.58
3 Maximum Depth of final void (m) 190
4 Other information, if any NA

Details of Transportation

1 Mode of transportation upto pit head Dumper / Trucks by road
2 Mode of transportation from pit head to siding/loading Tarpaulin covered trucks by road
3 Mode of transport from loading point to consumers Rail / Road
4 Other information, if any NA

Details of reclamation/post mining land use

1 Plantation area (ha.) 769.4
2 Water body (ha.) 198.36
3 Public use (ha.) 194.81
4 Other uses (ha.) 01

3. Additional Information

No.	Document Name	Remark	Document
	NA	NA	N/A

Undertaking

I hereby give undertaking that the data and information given in the application and enclosures are true to be best of my knowledge and belief and I am aware that if any part of the data and information is found to be false or misleading at any stage, the project will be rejected and clearance given if any to the project will be revoked at our risk and cost. In addition to the above, I hereby give undertaking that no activity/construction/expansion has been taken up

Name	MADHUKAR R GAJBHIYE
Designation	Sr. Manager (Mining)
Company	WESTERN COALFIELDS LIMITED
Address	Office of the Area General Manager, Ballarpur Area, Ballarpur, MS
District	CHANDRAPUR
State	MAHARASHTRA
Pin	442905
Date	08-11-2024

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