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SIX MONTHLY COMPLIANCE REPORT OF ENVIRONMENTAL CLEARANCE

MOHAN (MAORI) UG MINE

(1.00 MTPA IN AREA OF 800 HA)

EC NO. - J-11015/123/2008-IA-II(M)

DATED 02.02.2009



**WESTERN COALFIELDS LIMITED
KANHAN AREA**

PO: DUNGARIA, CHHINDWARA (MP)-480553

PERIOD-OCTOBER 2022 TO MARCH 2023

**Name of Project:-Mohan(Maori) Under Ground Coal Mine
Expansion Project (0.45 MT to 1.00 MTPA)**

MOEF Environmental Clearance Letter No.J 1105/238/2005-IA.(II) Dated.-02.02.2009

Status of Implementation of Environmental Clearance conditions

S NO	Condition	Remarks/ Action
A)	Specific Conditions	
I	No Mining operation shall be undertaken in the forest land until clearance under provision of FC Act 1980	Noted for Compliance. Forest Clearances received from MOEFCC vide 8-133/2006-FC dated 17.07.2008 and 8-113/2011-FC dated 02.07.2015
II	Regular Monitoring of subsidence movement on the surface over & around the working area and impact on Natural drainage pattern, water bodies, vegetation, structures, roads, and surroundings should be continued till movement ceases completely. In case of observation of any high rate of subsidence should be taken to avoid loss of life and material. Cracks should be effectively plugged with ballast and clayey soil/suitable material.	Subsidence is being monitored regularly and till date no subsidence on the surface has been observed. Depillaring is carried out as per DGMS guidelines and records of the same are maintained. The depillaring operation is started after taking due permission from DGMS. The conditions stipulated by DGMS in the permission are being followed & regularly monitoring for subsidence is being done.
III	High root density tree species shall be selected and planted over areas likely to be attended by subsidence.	Subsidence is being monitored regularly and till date no subsidence on the surface has been observed and records of the same are maintained.
IV	Coal Extraction Shall also be optimized in areas where agriculture production is continuing. Some pillars shall be left below the agriculture land. No coal depillaring shall be undertaken below areas of habitation.	Presently the depillaring operations are carried out in Forest land, Subsidence is being monitored regularly and till date no subsidence on the surface has been observed. In the past depillaring operation in tenancy land was carried out, no subsidence was observed and reported by the habitants. The depillaring operation are carried out after taking due permission from DGMS. The conditions stipulated by DGMS in the permission are being followed & regularly monitoring for subsidence is being done.
V	Subsidence should be monitored closely and if the subsidence is found exceeding permitted limits, then the landowners should be adequately compensated with mutual agreement of the landowners.	Subsidence is being monitored regularly and till date no subsidence on the surface has been observed. Depillaring is carried out as per DGMS guidelines and records of the same are maintained.
VI	Garland drain (size, gradient & length) around the safety areas such as mine shaft and low lying areas & sump Capacity should be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper setting of silt material.	This is a UG mine and the precautions being taken to prevent the risk of inundation due to surface water as per CMR 1957. Adequate sump capacity provided in UG dip site working for settling of silt material.

VII	Water sprinkling system shall be provide to check fugitive emission from loading operations, conveyor system, haulage roads, transfer points, etc. Mobile sprinklers shall be provided in major haul roads and with high levels of SPM/RSPM.	<p>03 Nos. of Fixed Water Sprinklers provided over conveyor belt.</p> <p>01 Nos. of mobile water tanker (Capacity -4500 Litres) provided for dust suppression on coal transport roads.</p> <p>Monitoring of Ambient Air quality and Water Quality is carried out once in a fortnight as per GSR 742 (E) dated 25.09.2000.</p> <p>The monitoring is carried out by Central Mine Planning and Design Institute Limited (CMPDIL), a NABL/ NABET approved laboratory. The measurement techniques follow the prescribed guidelines and Standards.</p> <p>The monitoring results are submitted along with six monthly EC compliance reports to MPPCB and MOEF, Bhopal.</p>			
VIII	Major approach road shall be black topped and properly maintained.	All major coal transport road transport roads are black - topped			
IX	Drills shall be wet operated only to avoid fugitive dust emission.	In U/G mine drilling in coal faces is done by portable hand- held electric drill machine duly approved by DGMS.			
X	A progressive afforestation plan shall be prepared & implemented for the undisturbed area and shall include areas under green belt development .Areas along roads, along ML boundary, township outside the lease area etc by planting native plant species in consultation with the local DFO /Agriculture department. The density of the trees should around by 2500 plants per Ha.	Total plantation 81500 has been carried out.			
		S.L No	Location	Area (Ha)	Nos.
		1	Total plantation including old plantation in and around the mine leasehold area	32 Ha	81500
XI	Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells & constructing new piezometers. The monitoring for water levels should be done at least four times a year in pre Monsoon (May) Monsoon (August), Post Monsoon (November) & winter (January) seasons & quality in May data thus collected should be submitted to the MOEF & CGWB, Regional office quarterly within one month of Monitoring	Monitoring of ground water level along with quality is being done through a certified agency, four times a year as specified. The annual ground water monitoring and groundwater quality reports are submitted to Regional Offices of MOEF Bhopal and CGWB Bhopal. Reports for the FY 2022-23 are enclosed.			
XII	The company shall put up artificial groundwater recharge measures for augmentation of groundwater resource .The project authorities should meet water requirement of nearby village (s) in case village wells go dry due to de – watering of the mines.	<p>Water is supplied to nearby villages through water tanker as & when required.</p> <p>A rooftop rainwater harvesting system has been provided at Community hall of Mohan UG mine</p>			
XIII	Mine discharge water particularly TDS shall be treated to confirm to prescribed levels before discharge into the natural environment.	<p>The mine has one Sedimentation tanks of capacity 300 m³.</p> <p>The mine water discharged is treated in two stages settling-first at UG sump and subsequently at surface sedimentation tank.</p> <p>The final effluent after settling meets the standards prescribed by GSR 742 (e) dated 25.09.2000.</p>			

		<p>Mine water discharged is utilized in dust suppression, roof bolting, plantation etc. In case of mine water exceeding the utilization, the overflow from the settling tank is allowed to discharge in nearby nallah.</p> <p>Presently there is no mine water discharge from the mine.</p>
XIV	<p>Beside carrying out regular periodic health check up of their workers, 10 % of the workers identified from work force engaged in active mining operations shall be subjected to health check up for occupational diseases and hearing impairment, if any through an agency such as NIOH, Ahmadabad within period of one year & the results reported to this Ministry & to DGMS</p>	<p>Periodical medical examination (P.M.E.) are carried out compulsorily on each employee once in five years with the purpose of detecting and keeping the record of diseases with specific importance to the coal workers viz. Pneumoconiosis. During P.M.E. the candidates are subject to complete clinical examination relating to occupational diseases and hearing impairment. As WCL is having all the infrastructure facilities to comply with all statutory obligations regarding occupational health survey of all its employees, help from external organization i.e.: NIOH, Ahmedabad is not required.</p> <p>PME conducted-208 nos of Mohan UG employees and workers during the FY 2022-23 against a target of 197 nos.</p>
XV	<p>For monitoring land use pattern and post for mining land use a time series of land use maps based on satellite imagery (on a scale of 1:5000) of the core zone and buffer zone from the start of the project until end of mine life shall be prepared once in a 3 year (for any one particular season which is consistent in the time series) and the report submitted to MOEF and its regional office Bhopal.</p>	<p>Land Use monitoring is being done through satellite imagery as specified. The land use monitoring report for Pench-Kanhan- Tawa valley for the year 2020 is uploaded on the website of WCL (westerncoal.in). The hyperlink of the report is -</p> <p>http://103.59.142.228:8081/wclweb/TPK_CF_2020.pdf</p>
XVI	<p>The company shall obtain prior approval of CGWA/CGWB Regional Official for use of ground water if any, for mining operations.</p>	<p>Complied. NOC has been obtained from CGWA for use of groundwater vide NOC no-CGWA/NOC/MIN/ORIG/2021/13579 valid upto 31/10/23.</p>
XVII	<p>Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells & constructing new piezometers. The monitoring for water levels should be done at least four times a year in pre Monsoon (May) Monsoon (August), Post Monsoon (November) & winter (January) seasons & quality in May data thus collected should be submitted to the MOEF & CGWB, Regional office quarterly within one month of Monitoring</p>	<p>Monitoring of ground water level along with quality is being done through a certified agency- Anacon Laboratories Pvt. Ltd. Nagpur, four times a year as specified. The annual ground water monitoring and groundwater quality reports are submitted to Regional Offices of MOEF Bhopal and CGWB Bhopal. Reports for the FY 2022-23 are enclosed.</p>
XVIII	<p>The company shall put up artificial groundwater recharge measures for augmentation of groundwater resource. The project authorities should meet water requirement of nearby village (s) in case village wells go dry due to de-watering of the mines.</p>	<p>Water is supplied to nearby villages through water tanker as and when required</p>
XIX	<p>ETP shall also be provided for workshop and CHP waste water.</p>	<p>This is a UG mine and there is no HEMM. There is no workshop hence not applicable.</p>

XX	Besides carrying out regular periodic health checkup for their workers. 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health checkup for occupational diseases and hearing impairment, if any, through an agency such as NIOH, Ahmedabad with in a period of two years and the results reported to this Ministry and to DGMS.	Periodical medical examination(P.M.E.) are carried out compulsorily on each employee once in five years with the purpose of detecting and keeping the record of diseases with specific importance to the coal workers viz. Pneumoconiosis. During P.M.E. the candidates are subject to complete clinical examination relating to occupational diseases and hearing impairment. As WCL is having all the infrastructure facilities to comply with all statutory obligations regarding occupational health survey of all its employees, help from external organization i.e.: NIOH, Ahmedabad is not required. PME conducted-208 nos of Mohan UG employees and workers during the FY 2022-23 against a target of 197 nos.
XXI	A Final mine closure plan along with details of corpus fund shall be submitted immediately upon receipt of EC to the Ministry of Environment & Forest RO, Bhopal for approval.	Copy of Approved Mine Closure Plan enclosed with six monthly EC compliance report. Total Amount deposited in Escrow account of Mohan UG mine is 1246.33 lakhs till date and balance as on 31/03/23 is INR 13,28,05,378/-
XXII	For monitoring land use pattern and post for mining land use a time series of land use maps based on satellite imagery (on a scale of 1:5000) of the core zone and buffer zone from the start of the project untill end of mine life shall be prepared once in a 3 year (for any one particular season which is consistence in the time series) and the report submitted to MOEF and its regional office Bhopal.	Land Use monitoring is being done through satellite imagery as specified. The land use monitoring report for Pench-Kanhan- Tawa valley for the year 2020 is uploaded on the website of WCL (westerncoal.in). The hyperlink of the report is - http://103.59.142.228:8081/wclweb/TPK_CF_2020.pdf

B) General Conditions: -

i)	No change in mining technology & scope of working should be made without prior Approval of the Ministry of Environment & Forests.	Noted for Compliance.
ii)	No change in the calendar plan including excavation, quantum of mineral coal waste should be made.	Being Complied.
iii)	Four ambient air quality Monitoring stations should be established in the core zone as well as in the buffer zone for RPM, SPM, SO ₂ , NO _X & CO Monitoring location of the stations should be decided based on the meteorologically data topographical features and environmentally and ecologically sensitive target in Consultations with state pollution control board.	Four ambient air quality status have been established in consultation with SPCB. Data on Ambient air Quality (SPM, RPM, SO ₂ , Na) is being regularly submitted to MPPCB & MOEF. Monitoring reports for period Oct'22 to Mar'23 are attached. Also, CAAQMS Monitoring station has been established in the buffer zone of the mine, to monitor the air quality parameters in compliance of the CTO conditions issued by MPPCB (Photographs enclosed).
iv)	Fugitive dust emission from all sources should be controlled regularly Monitored & data recorded properly. Water spraying arrangements on haul roads, wagon loading, dump trucks, (loading, unloading,) should be provided, & properly Maintained	1 Nos. of mobile water tanker (Capacity -4500 Litres) provided for dust suppression on coal transport roads. Wind Barrier wall (Height – 6.0 metres, Length – 380 metres) provided at Palachourai Railway siding at a cost of Rs. 19.15 Lakhs in the year 2016-17 (Photograph enclosed)
v)	Data on ambient air quality (RPM, SPM, SO ₂ , NO _X & CO) should be regularly submitted to the Ministry including its Regional office at Bhopal & the state pollution control board/Central pollution control board once in six months.	Data on Ambient air Quality (SPM, RPM, SO ₂ , Na) is being regularly submitted to MPPCB & MOEF along with six monthly EC compliance reports. Also, CAAQMS Monitoring station has been established in the buffer zone of the mine, to monitor the air quality parameters in compliance of the CTO conditions issued by MPPCB (Photographs enclosed).
vi)	Adequate measure should be taken for control noise levels below 85 db (A) in the work environment. Worker engaged in blasting & drilling operation, operation of HEMM should be provide with ear plugs & muff's	Noted. Regular monitoring of noise level is done. Monitoring report for period Oct'22-Mar'23 is enclosed. This is a U/G mine & there is No HEMM all machineries viz Haulages, belt conveyors etc deployed in U/G. The noise level control measures in U/G workings are covered vide CMR 1957.
vii)	Industrial waste water (workshop & water from the mines) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 May 1993 and 31 Dec 1993 Or as amended from time to time. Oil & grease trap should be installed before discharge of workshop effluents	Noted. Regular monitoring of mine water is done. Monitoring report for period Oct'22 to Mar'23 enclosed. This is a U/G mine & there is No HEMM all machineries viz Haulages, belt conveyors etc deployed in U/G. The noise level control measures in U/G workings are covered vide CMR 1957.
viii)	Vehicular emission should be kept under control & regularly Monitored. Vehicles used for transporting & mineral should be covered with tarpaulin optimally loaded.	All light vehicles like jeep; school buses Ambulance etc are mandated to have a PUC Certificate. Vehicles used for coal transportation are covered with tarpaulin covering and optimally loaded.

ix)	Environmental Laboratory should be established with adequate number and types of pollution Monitoring & analysis equipments in consultation with the state pollution control board.	Environmental monitoring is done by CMPDIL. A well established environment laboratory exists in CMPDIL which is NABL accredited. (Copy of NABL Certificate enclosed).
x)	Personnel working in dust area should be wear protective respiratory devices & they should also provide with adequate training & information on safety & health aspects. Occupational health surveillances program of the worker should be undertaken periodically to observe any contradictions due to exposure to the coal dust and take corrective measure ,if needed	All workmen are given protective gears as per statute. Dust monitoring underground is carried out using Personnel Dust Sampler (PDS) at required intervals. Occupational health survey i.e Periodic Medical Examination (PME) is done for every workman once in five (5) years. PME conducted for WCL, Kanhan Area employees which currently has three active mines-Ambara OC, Mohan UG and Tandsi UG. PME conducted-208 nos of Mohan UG employees and workers during the FY 2022-23 against a target of 197 nos.
xi)	A separate Environmental managements cell with suitable qualified personnel should be set-up under the control of Senior Executive, who will report directly to the head of company	There is well established environmental cell at corporate HQ, headed by GM (Env) reporting to Director (Tech) P & P .He is assisted by well qualified & well trained team of Engineers of Mining, Civil & Environment disciplines. At area level, the team is headed by General Manger (Operations) & assisted by Area Nodal Officer (Environmental) under the overall control of General Manger of the Area. At project level the team is headed by Sub Area Manger of the project & assisted by project Nodal officer (Environment).
xii)	The Funds earmarked for Environmental protection measures should be kept separate account should be diverted for other purpose. Year wise expenditure should be reported to the Ministry & Regional office located office at Bhopal.	A separate budget for Environmental Cell is provided and the funds are utilized for the assigned purposes only. Year-wise Environmental expenditure is reported in the Six Monthly EC compliance report and Environmental Audit Statement submitted yearly.
xiii)	The Regional office of this Ministry located office at Bhopal shall monitor compliance of the stipulated conditions. The project authorities should be extend full co –operation to the officer (s) of the Regional Office by furnishing the requisite data /information/ monitoring reports	Noted
xiv)	A copy of clearance letter will be marked to the concerned Panchayat/local NGO. If any from whom and suggestion /representation while processing the proposal.	Complied. Copy of the letter enclosed.
xv)	State pollution control board should be display a copy of the clearance letter The Regional office, District Industry center & Collector's office /Tehsildar office for 30 days.	This is for MPPCB
xvi)	The project authorities should advertise at least in two local news paper widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter	Copies of Advertisement enclosed.

	informing the project has been accorded environmental clearance and a copy of clearance letter is available with state pollution control board & may also be seen at web site Ministry of Environment & Forests .at http://envfor.nic.in	
3	The Ministry or any other competent may alter/modify the above condition or stipulated any further condition in the interest of environment protection	Noted
4	Failure to the comply with any of the condition mentioned above may result withdrawal of the clearance & attract action under the provisions of environment (protection) Act 1986	Noted
5	The above condition will be enforced inter-alia, under the provision of water (prevention & control of pollution) Act1974 the air (prevention & control of pollution) Act1981 the environment (protection) Act 1986 & public liability insurance Act 1991 along with their amendments & rules.	Noted