



WESTERN COALFIELDS LIMITED MAJRI AREA

DHORWASA OPENCAST COAL MINE EXTENSION PROJECT

SIX MONTHLY REPORT

AS ON 30TH SEPTEMBER 2016

WESTERN COALFIELDS LIMITED
SIX MONTHLY ENVIRONMENTAL MONITORING REPORT

PART-I

Name of the project	DHORWASA OPENCAST COAL MINE EXTENSION PROJECT
Location and Address	Office of the Sub Area Manager, Telwasa Sub Area, Majri Area PO: Bhadrawati, Dist: Chandrapur, Maharashtra
Address for correspondence	Office of the Sub Area Manager, Telwasa Sub Area, Majri Area PO: Bhadrawati, Dist: Chandrapur, Maharashtra
MOEF's clearance letter no. & date	J-11015/308/2008-IA.II(M) Dt.03.05.2012
Period of this status report	As on 30 th September 2016
Date of last report submitted	05.05.2016
Date of commencement of project work	01.03.2002

STATUS OF LAND ACQUISITION:

Type of land	Required as per EMP (Ha)	Actual acquired (Ha) as on 30.09.2016
Forest	26.44	9.17
Agriculture	224.42	220.35
Other	57.74	9.65
Total	308.60	239.17

STATUS OF LEGAL COMPLIANCES:

a.	Consent under Water (Prevention & Control of Pollution) Act	Consent to establish for 2.00 MTY has been approved. Consent to operate for 1.40 MTY has been obtained with validity upto 30.06.2016. Mine closed hence not applied for further renewal.
b.	Consent under Water (Prevention & Control of Pollution) Cess Act	Consent to operate for 1.40 MTY has been obtained with validity upto 30.06.2016. Mine closed hence not applied for further renewal.
c.	Environment (Protection) Act	Env. Statement submitted to MPCB for the year 2015-16. Env. Clearance obtained for 2.00 MTY capacity.
d.	Forest (Conservation) Act	Obtained. Vide letter of Dy. Conservator of Forest, Chandrapur Division No.Kaksh-5/Survey Jamin/ 3769 dt. 15.03.2002 for 26.44 Ha out of which, 9.17 Ha forest land belongs to Dhorwasa Open Cast Coal Mine Extension Project.

PART – II

STATUS OF ENVIRONMENT

AIR POLLUTION CONTROL:-

- a. No. Of ambient air monitoring stations: Four
- b. Name of the location:
1. SAM Office
 2. Dhorwasa village
 3. Ekta Nagar Colony.
 4. RC Office.
- c. Ambient air quality status for the parameters prescribed by State Pollution Control Board (Average 95% time weighted values):

Sl. No	Location	SPM	RPM	SO ₂	NO _x
1	SAM Office	Enclosed CMPDIL monitoring reports for QE June 2016			
2	Dhorwasa village				
3	Ekta Nagar Colony				
4	RC Office				

WATER POLLUTION CONTROL:

- a. No. of stations and frequency of monitoring: There are two stations & frequency of monitoring is fortnightly.
- b. Description of locations:
1. Mine water discharge.
 2. DETP (Ekta Nagar) water discharge
- c. Average concentration of major pollutants prescribed by State Pollution Control Board (fig. in mg/lit except pH) :

Sl. No	Location	pH	BOD	COD	DO	TSS	O/G
1.	Mine water discharge	Enclosed CMPDIL monitoring reports for QE June 2016					
2.	DETP (Ekta Nagar) water discharge						

NOISE POLLUTION CONTROL:

- a. No. of noise monitoring stations:- Two.
- b. Description of location and dB(A) value:-
1. Near Project Office
 2. Colony.

Sl.No	Location	Day	Night
1.	Near Project Office	Enclosed CMPDIL monitoring reports for QE June 2016	
2.	Colony		

PART-III

STATUS OF IMPLEMENTATION OF PROVISIONS OF EMP

LAND USE STATUS:-

Area reclaimed biologically: 8.0 Ha. (Progressive)
(Tree plantation on backfilled area)

Sl. No	Particulars	As per EMP	01.04.2016 to 30.09.2016	Progressive
1.	Area excavated (Ha)	57.50	Nil	64.75
2.	OB removed (Mm3)	24.58	Nil	29.520524
3.	Top soil removed (Mm3)	Not available	Nil	1.38461
4.	OB backfilled (Mm3)	15.06	Nil	18.980862
5.	OB dumped (Mm3)	9.52	Nil	10.990911
6.	Area recovered for reclamation (physical reclamation)	Not available	Nil	13.0

PRODUCTION:-

- (i) Targeted Capacity: - 2.0 MTY (sanctioned capacity)
- (ii) Present Capacity: - 2016-17 – 0.00 MTY

AFFORESTRATION :-

Sl. No	Location	01.04.2016 to 30.09.2016	Progressive (nos.)
1.	OB Dump & embankments	Nil	85,000
2.	Safety zones	Nil	Nil
3.	Backfilled areas	Nil	30,000
4.	Other areas	Nil	Nil
	Total	Nil	1,15,000

Area under plantation (Progressive): - 46.0 Ha.

No. of plants per Hectare :- 2,500 plants

Species planted: - Shivan, Gulmohar, Bamboo, Neem, Behada, Amla, Arjun, Shikekai, Ber, Jamun, Amrud, Vilayatiimli, Mahua, cassia etc.

REHABILITATION & RESETTLEMENT :-

Sl.No	Particulars	SC	ST	Others
1.	No. of land oustees	02	06	90
2.	No. of land oustees rehabilitated	02	06	90
3.	No. of PAPS/PAFS to be resettled	Not applicable		
4.	No. of PAPS/PAFS resettled			
5.	Area of new site (Ha)			
6.	Status of development			
7.	Civic amenities provided at new resettlement site			

Organizational setup at project level :-
(Name and designation of the personnel to be given)

1. Shri R.P. Singh
Sub Area Manager.
2. Shri B.S.Sharma
Sr. Manager (Mining)
3. Shri Mirza Shakil Baig
SOE(Civil)/Nodal Officer (Env).

EXPENDITURE:-CAPITAL

Account head	01.04.2016 to 30.09.2016	Progressive
Reclamation (HEMM)	Nil	Rs. 270.00 lakhs
Air pollution control	Nil	Rs. 33.03 lakhs
Water pollution control	Nil	Rs. 29.22 lakhs
Others	Nil	Nil

REVENUE

Account head	01.04.2016 to 30.09.2016	Progressive
Afforestation	Nil	Rs. 73.66 lakhs
Monitoring	Rs. 2.54 lakhs	Rs. 29.98 lakhs
Legal expenses	Nil	Rs. 21.84 lakhs
Others (Cost of operation & maintenance of mobile tankers, etc.)	Nil	Rs. 175.48 lakhs

PART - V

Clearance letter No. : J-11015/308/2008-IA.II (M)

Date : 3rd May 2012

1		
SPECIFIC CONDITIONS		
Sl.No	Conditions	Compliance
i.	The embankment constructed along the river boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side & stabilized with plantation so as to withstand the peak water flow & prevent mine inundation.	The embankment is 30 m at top, 58 to 60 m at bottom. The height is 6 m above HFL (190 m). The plantation so far done over embankment is 25,000 nos.
ii.	There shall be no overflow of OB in to the river & in to the agricultural fields & massive plantation of native species shall be taken up in the area between the river & the project.	Necessary steps has been taken to check the overflow of OB into the river & into the agricultural field like grass turfing on slope of embankment, making of wall of sand bags at the toe of embankment etc
iii.	OB shall be stacked at two earmarked external OB dumpsite(s) only. The ultimate slope of the dump shall not exceed 28°. Monitoring & management of existing reclaimed dumpsites shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests & its Regional Office, located at Bhopal on yearly basis.	There is only one OB dump & OB is stacked at the earmarked site only. The height of OB dump is 33 m at two stages each of 20 m height. The ultimate slope is 28 degree. The dump is still active. The plantation will be started after dump becomes dead.
iv.	Catch drains & siltation ponds of appropriate size shall be constructed to arrest silt & sediment flows from soil, OB & mineral dumps. The water so collected shall be utilized for watering the mine area, roads, green belt development, etc. The drains shall be regularly desilted and maintained properly. Garland drains (size, gradient & length) and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material.	Catch drains of size 1.0 m bottom x 2.0 m top x 1.50 m height for 1200 m long has been constructed around OB dump. Cross – drainage has been provided in quarry, OB & coal benches to divert all strata water along with silt & sediments to the sump provided at the bottom of the quarry. The sump capacity is 62 MG. The garland drain is desilted before onset of every monsoon.
v	Dimensions of the retaining wall at the toe of dumps and OB benches within the mine to checkup run-off and siltation shall be based on the rainfall data.	Since silt & sediments are naturally diverted to the sedimentation pond made out of mine de-coaled area, therefore, construction of retaining wall at the toe of OB dumps & benches is not required. The same is subsequently diverted to the surface sedimentation tank.
vi	Crushers at the CHP of adequate capacity for the expansion project shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emission from crushing operations, conveyor system, haulage roads, transfer points etc.	The issue was raised during the last inspection of MOEF Official & as directed vide letter no. J-11015/83/2005.IA.II(M) dt.16.10.2006, the compliance is as under:- No coal handling plant is constructed in this mine. Hence, this condition is not applicable because existing CHP at Chargaon OC & NMOC-II (A) are

		being used & will continue to be used for the balance life of the mine. Dust pollution control measures are installed & maintained at these CHPs.
vii	Drills shall be wet operated.	Both the drills running in the mine have arrangement of wet drilling.
viii	The project authorities shall undertake regular repairing & tarring of roads used for mineral transportation. A 3- tier green belt comprising of mix of native species shall be developed all along the major approach roads.	Regular repairing & tarring of roads used for coal transportation is being done. A thick green belt comprising of native species has already been developed along the major approach roads. In addition, it is proposed to cover the all other coal transportation roads also in phase manner.
ix	Controlled blasting shall be practiced with the use of delay detonators and only during day time. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.	Controlled blasting is being done as per DGMS guidelines with delay detonators and shock tubes.
x	A Progressive afforestation plan shall be implemented covering an area of 161 ha, which includes reclaimed external OB dump (58 ha), backfilled area (60 ha), along ML boundary, along roads & infrastructure (1 ha), embankment & within vacant land/blasting zone (42 ha) & in township located outside the lease by planting native species in consultation with the local DFO/ Agriculture Department. The density of the trees shall be around 2500 plants per Ha. Massive plantation shall be carried out in open spaces in and around the mine & a 3 tier avenue plantation along the main approach roads to the mine.	<p><i>Details of tree plantation done till date are as follows:-</i></p> <ol style="list-style-type: none"> 1. Reclaimed external OB dump – 28.0 Ha 2. Backfilled area – 8.0 Ha 3. Along ML boundary – Nil 4. Along roads & infrastructure - Nil 5. Green belt - Nil 6. Embankment – 10.0 Ha 7. Area in township located outside the lease – Nil <p><i>The plantation is being carried out by Forest development Corporation of Maharashtra, Maharashtra State Govt. undertaking under the supervision of their forest experts.</i></p>
xi	Of the total quarry area of 86.10 ha, the backfilled quarry area of 60 ha shall be reclaimed with plantation, & a void of 26.10 which is proposed to converted in to water body shall be gently sloped & the upper benches shall be terraced & stabilized with plantation/afforestation by planting native plant species in consultation with the local DFO/ Agriculture Department. The density of the trees shall be around 2500 plants per Ha.	<p>Backfilling is in progress and condition shall be complied.</p> <p><i>However, Details of tree plantation done till date are as follows:-</i></p> <ol style="list-style-type: none"> 1. Reclaimed external OB dump – 28.0 Ha 2. Backfilled area – 8.0 Ha 3. Along ML boundary – Nil 4. Along roads & infrastructure - Nil 5. Green belt - Nil 6. Embankment – 10.0 Ha 7. Area in township located outside the lease – Nil <p><i>The plantation is being carried out by Forest development Corporation of Maharashtra, Maharashtra State Govt. undertaking under the supervision of their forest experts</i></p>
xii	No groundwater shall be used for mining operations.	No groundwater is being used for mining operations.

xiii	Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and construction of 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) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment & Forests and the Central Ground Water Board, Regional Office quarterly within one month of monitoring.	Well water monitoring for assessing the ground water level in the villages of buffer zone is being carried out through CMPDIL.
xiv	The company shall put up artificial groundwater recharge measures for augmentation of groundwater resources in case monitoring indicates a decline in water table. The project authorities shall meet water requirement of nearby village (s) in case the village wells go dry due to de-watering of the mine.	Arrangement has been made for artificial ground water recharge measures & adopted rain water harvesting for various infrastructure, buildings. The project will provide drinking water to the nearby villages in case of village wells go dried due to dewatering of the mine. At present there is no such case.
xv	Sewage Treatment Plant shall be installed in the existing colony. ETP shall also be provided for workshop & CHP wastewater.	Sewage treatment plant of 0.40 MLD capacity has already been installed in the existing colony. No exclusive CHP is constructed for this mine, CHP of adjacent Navin Kunada OC Mine is catering the needs of this mine also. ETP of 100 KLD capacity is also provided for CHP waste water. There is no workshop established in this mine.
xvi	Besides carrying out regular periodic health checkup of their workers, 10% of the workers identified from work force engaged in active mining operation shall be subjected to health checkup for occupational diseases and hearing impairment, if any, through an specialized agency/institution within the District/State & the results reported to this Ministry & to DGMS.	Being complied & report is being submitted to the DGMS on regular basis.
xvii	Land oustees shall be compensated as per the norms laid out R&R Policy of CIL or the National R&R Policy or R&R Policy of the State Government whichever is higher.	Land oustees are compensated as per the norms laid out R&R Policy of CIL.
xviii	For monitoring land use pattern and for post mining land use, a time series of land use maps, based on satellite imagery (on a scale of 1:5000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in 3 years (for any one particular season which is consistent in the time series), and the report submitted to MOEF and its Regional Office at Bhopal.	Noted for compliance.
xx	A detail Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment and Forest within 6 months of grant of Environmental Clearance.	Noted for compliance.
xxi	The project authorities shall in consultation with the Panchayats of the local villages & administration identify socio-economic & welfare measures under CSR to be carried out over the balance life of the mine.	CSR action plan is prepared with the consultation of Panchayats of the local villages.

xxii.	Corporate Environment responsibility :	
a	The company shall have a well laid down Environment Policy approved by the Board of Directors.	The company has a well laid down Environment Policy approved by the Board of Directors.
b	The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/ deviation/violation of the environmental or forest norms/conditions.	The Environment Policy prescribes for standard operating process/ procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
c	The hierarchical system or Administrative Order of the company to deal with environmental issues & for ensuring compliance with the environmental clearance conditions shall be furnished.	The hierarchical system or Administrative Order of the company to deal with environmental issues & for ensuring compliance with the environmental clearance conditions is clearly defined in the environmental policy of the company.
d	To have proper checks & balances, the company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.	The company have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
2	GENERAL CONDITIONS	
Sl. No	Condition	Compliance
i.	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.	Noted.
ii.	No change in the calendar plan including excavation, quantum of mineral coal & waste shall be made.	Noted.
iii.	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM ₁₀ , PM _{2.5} , SO ₂ , NO _x monitoring. Location of the stations shall be decided based on the meteorological data, topographical features, and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board.	<i>The ambient air quality monitoring at present is being carried out at four stations in core and buffer zone which are as follows:-</i> 1. SAM Office, 2. Dhorwasa village, 3. Ekta Nagar Colony, 4. RC Office. <i>The monitoring reports for QE June 2016 have been enclosed herewith. The above locations have been finalized on the basis of meteorological data, topographical features etc. The information regarding above has been given to State Pollution Control Board.</i>
iv.	Fugitive dust emission (PM ₁₀ & PM _{2.5}) from all the sources shall be controlled regularly monitored & data recorded properly. Water spraying arrangements on haul roads, wagon loading, dump trucks (loading & unloading points) shall be provided & maintained.	<i>In order to control fugitive dust emission from different sources various measures like water spraying through mobile sprinklers on haul road, coal transportation roads, approach roads, coal stock yard etc. is being</i>

		done. Fugitive emission is being monitored by CMPDIL since 2 nd fortnight of May 2006 at two stations namely i. Ground Stock Yard ii. Weigh Bridge.
v.	Data on ambient air quality, (PM ₁₀ , PM _{2.5} , SO ₂ , NO _x) shall be regularly submitted to the Ministry including its Regional Office at Bhopal and to the State Pollution Control Board & the Central Pollution Control Board once in six months.	Reports on ambient air quality are being submitted to state Pollution Control Office, Bhopal quarterly. The same is also submitted to MOEF, Regional Office, Bhopal along with six monthly report.
vi.	Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operations of HEMM, etc should be provided with ear plugs/muffs.	Adequate measures namely proper maintenance of HEMM and controlled blasting are in operation so as to control noise levels below 85 dB(A). The workers engaged in noisy environment are provided with ear plugs/muffs. Two nos. stations are there for monitoring the noise level data namely i.e. I. Near project Office, ii. Ekta Nagar Colony.
vii.	Industrial waste water (workshop and waste water from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) dated 19 th May 1993 and 31 st December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.	Mine water is collected in the sump in the quarry itself where first stage settlement is done and thereafter water is pumped out after settlement of suspended particles and put in to surface settling tank for 2 nd stage settlement & after 2 nd stage settlement again pumped out to the sedimentation tank for 3 rd stage settlement. The quality of mine discharged water is monitored every fortnight and all parameters are found to be within the permissible limits. The workshop is having a ETP of 100 KLD capacity with facility of re-circulation of water.
viii.	Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.	All the light vehicles namely jeep & trucks etc. are having valid PUC certificate for vehicular emission through RTO approved agency. Further, it may be mentioned here that the ambient air quality monitoring in and around the mine site is regularly carried out. Vehicles used for transportation of coal are covered with tarpaulin & optimally loaded as per the carrying capacity.
ix.	Monitoring of Environment Quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with State Pollution Control board and data not analysed through a laboratory recognized under EP Rules, 1986	A full fledged Environmental laboratory under CMPDIL exists at Nagpur, which monitors all the mines of WCL.
x.	Personnel working in dusty areas should wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.	Personnel working in dusty areas are provided with dust masks. The workers are given training/refresher

	Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed & records maintained thereof.	training in VTC on safety and health aspects which is also a statutory requirement under Mines Act 1952. Periodic medical Examination for all workers once in every five years is carried out and record maintained to observe any disease and to take corrective measures, if needed
xi.	A separate environmental management cell with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the Company.	Environment Cell exists at HQ, Area, & project level. GM (Environment) of HQ directly reports to the head of the Organization.
xii.	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year wise expenditure shall be reported to this Ministry and its concerned Regional Office.	Funds have been earmarked for environment protection measures and is kept in separate account and is not diverted for other purpose.
xiii	The Regional Office of this Ministry located at Bhopal 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.	Agreed.
xiv	A copy of the clearance letter shall be marked to concerned Panchayat/ Local NGO if any, from whom any suggestions/ representation has been received while processing the proposal.	A copy of clearance letter given to concerned Panchayats vide letter no.WCL/MA/43 dated 12.05.2012.
xv	State Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industry Sector and Collector's Office/ Tahasildar's Office for 30 days.	Complied.
xvi	The project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in vernacular language of the locality concerned within seven days of issue of the clearance letter informing that the project has been according environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and may also be seen at web site of the Ministry of Environment & Forests at http://envfor.nic.in .	Complied. Advertisement given in following 2 Newspapers :- 1. The Hitwada (English) dated 21.05.2012 2. Mahavidhrabha (Marathi) dated 21.05.2012
3	The ministry or any other competent authority may stipulate any further condition for environment protection.	Noted.
4	Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract the provisions of the Environment (Protection) Act, 1986.	Noted.
5	The above conditions will be enforced, <i>inter-alia</i> , 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	Noted.

	and rules. The proponent shall ensure to provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of groundwater and surface water and occupational and other diseases due to the mining operations.	
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Sub Area Manager
Dhorwasa Opencast Project
Majri Area,
Western Coalfields Limited