



GUJARAT MINERAL DEVELOPMENT CORP. LTD.

(A GOVT. OF GUJARAT ENTERPRISE)

Corporate Identity No. (CIN)-L14100GJ1963SGC001206

Tadkeshwar Lignite Project

(An ISO 9001, 14001 & OHSAS 18001 Certified Unit)

Po : Tadkeshwar, Tal : Mandvi, Dist : Surat, State : Gujarat-394170.

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GMDC/TAD/1231/2019-20

Date: 19th Nov'2019

To,
The Director(S)
Ministry of Environment & Forests
Regional Office, Western Division
Kendriya Paryavaran Bhavan, Link Road no: 3, E-5,
Ravishankra Nagar,
Bhopal (MP), Pin: 462016.

Sub: Submission of six monthly compliance report of environmental clearance for the period from April, 19 to Sept, 2019 of Tadkeshwar Lignite Mines of M/S. G. M. D. C. Ltd.

Ref: MoEF EC Letter no: I-11015/144/08-IA.II (M) dated. 27.08.2010.

Dear Sir,

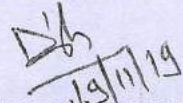
With reference to the above subject, please find enclosed herewith the half yearly compliance report of Gujarat Mineral Development Corporation Limited. Tadkeshwar Lignite Project for the period of **April-2019 to Sept-2019**.

This is for your kind information, Please.

Thanking you,

Yours Faithfully,

For G. M. D. C. Ltd,


I/C. General Manager (Project),


Lignite Project, Tadkeshwar.

Encl: As Above.




CC To: 1. General Manager (Environment), Corporate Office, GMDC Ltd., Ahmedabad MoEF File.

Dated 27.08.2010. Half yearly Compliance from April-19 to Sept-19

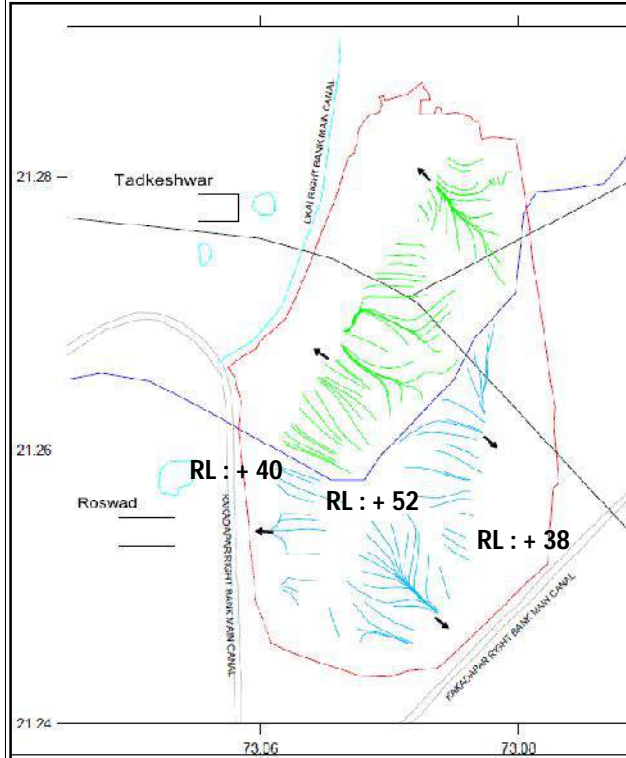
A) Specific conditions:

<u>Sr. no.</u>	<u>Specific Conditions</u>	<u>Compliance Status</u>																																	
i	Top soil shall be stacked properly with proper slope at earmarked site (s) and shall not be kept active and shall be used within a year of its generation for reclamation and development of green belt.	This is being followed In the half of financial year of Apr, 19 to Sep-19 , about 0.40 Lac M³ top soil has generated and 0.40 Lac M³ has been layered on the physical reclaimed dump in south pit area.																																	
ii	OB shall be stacked at earmarked external OB dumpsite within ML area. The ultimate slope of the existing dumps shall not exceed 28 ⁰ . Monitoring and management of existing reclaimed dumpsites shall continue until the vegetation becomes self sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional office located at Bhopal on yearly basis.	This is being followed. In the first half of financial year of 2019-20 , 40.55 Lacs M³ overburden was excavated from northern region of mine pit, of which 40.55 Lacs M³ was used for backfilling in North & South Pit. Reclamation up to ground level has been done in 5.67 Hect. 12.28 Hect of area has been backfilled from Apr, 19 to Sep,19 .																																	
		<table border="1"> <thead> <tr> <th colspan="3">EC DATA for 1st Half Yearly of FY 2019-20</th> </tr> <tr> <th colspan="3"><i>From Apr-2018 to Sept-2019</i></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Total Qty. of Top Soil Generated</td> <td>0.40 Lac Cmt.</td> </tr> <tr> <td>2</td> <td>Top Soil Layered on Dump</td> <td>0.40 Lac Cmt.</td> </tr> <tr> <td>3</td> <td>Top Soil stacked on the surface</td> <td>0.00 Lac Cmt.</td> </tr> <tr> <td>4</td> <td>Total Qty of OB generated</td> <td>40.55 Lac Cmt.</td> </tr> <tr> <td>5</td> <td>Back Filled Dump Qty.</td> <td>40.55 Lac Cmt.</td> </tr> <tr> <td>6</td> <td>External Dump Qty.</td> <td>0.00 Lac Cmt.</td> </tr> <tr> <td>7</td> <td>Back Filled area</td> <td>12.28 Hect.</td> </tr> <tr> <td>8</td> <td>Reclamation area up to GL</td> <td>5.67 Hect.</td> </tr> <tr> <td>9</td> <td>No. of Silt Pond</td> <td>11 nos.</td> </tr> </tbody> </table>	EC DATA for 1st Half Yearly of FY 2019-20			<i>From Apr-2018 to Sept-2019</i>			1	Total Qty. of Top Soil Generated	0.40 Lac Cmt.	2	Top Soil Layered on Dump	0.40 Lac Cmt.	3	Top Soil stacked on the surface	0.00 Lac Cmt.	4	Total Qty of OB generated	40.55 Lac Cmt.	5	Back Filled Dump Qty.	40.55 Lac Cmt.	6	External Dump Qty.	0.00 Lac Cmt.	7	Back Filled area	12.28 Hect.	8	Reclamation area up to GL	5.67 Hect.	9	No. of Silt Pond	11 nos.
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<u>Sr. no.</u>	<u>Specific Conditions</u>	<u>Compliance Status</u>
iii	<p>A garland drain all around and encircling the two quarry pits shall be established to drain the water away from working areas. Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilized for watering the mine area, roads, green belt development etc. the drains shall be regularly de-silted and maintained properly.</p> <p>Garland drains (size, gradient and length) and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper setting of silt material.</p>	<p>Complied</p> <p>Catch drain and garland drains with proper size have been created around mine pit and OB dump is keeping safety margin. Depth of garland drain is 1.0 to 2.0 m, length of the drain around pit is 4.8 kms and around outside dump is 5.0 kms and adequate capacity silting pond is also prepared. Moreover, we have 11 silting ponds to arrest the flow of silt along with runoff at different locations near to the dumps. They are cleaned at regular intervals before the onset of monsoon. Water so collected is being utilized for watering the mine area, roads, green belt development etc</p>
	 <p>Garland drain preparation</p>	 <p>Silting pond to arrest erosion</p>
iv	<p>Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run off and siltation shall be based on the rainfall data.</p>	<p>Retaining wall of 450 running meter, at the toe of the external dump situated towards North East corner of South pit, Parallel to Kim-Mandvi State Highway: 65 is constructed to check soil erosion.</p> <p>Moreover, Dump slopes have also been covered using Geo coir mats and are covered with Grass seeding to check excess soil erosion from dump slopes.</p>
 <p>Toe wall construction around dump and Geo coir installation on dump slopes to arrest soil erosion</p>		
<u>Sr. no.</u>	<u>Specific Conditions</u>	<u>Compliance Status</u>

V	<p>A Mine drainage plan with a surface drainage design of the mine resulting from surface run offs and seasonal nallah found within the active mining area and for the mine discharge water based on a peak rainfall data shall be prepared and implemented.</p>	<p>Complied.</p> <p>There is no significant nallah, etc. exists in the ML area. The detailed study has been done by M.G. Science Institute Ahmedabad. The suggestions are already implemented. Water drainage path plan is prepared based on R.L. as attached.</p>
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MONTH	RAIN FALL	MONTH	RAIN FALL	MONTH	RAIN FALL	MONTH	RAIN FALL	MONTH	RAIN FALL	MONTH	RAIN FALL
Jun-19	[MM]	Jul-19	[MM]	Aug-19	[MM]	Sep-19	[MM]	Oct-19	[MM]	Nov-19	[MM]
13.06.19	4	02.07.19	11	01.08.19	9	01.09.19	25	03.10.19	9	01.11.19	10
16.06.19	3	03.07.19	2	02.08.19	145	02.09.19	3.5	11.10.19	2	02.11.19	20
17.06.19	4	04.07.19	47	03.08.19	130	04.09.19	15	22.10.19	3	06.11.19	4
18.06.19	20	05.07.19	23	04.08.19	190	05.09.19	9	27.10.19	3	07.11.19	1
20.06.19	1	07.07.19	1	06.08.19	10	06.09.19	38				
25.06.19	2	08.07.19	4	07.08.19	3.5	07.09.19	15				
26.06.19	1	10.07.19	2	08.08.19	40	08.09.19	35				
27.06.19	110	11.07.19	1	09.08.19	70	09.09.19	109				
28.06.19	132	12.07.19	1	10.08.19	40	10.09.19	27				
29.06.19	90	14.07.19	3.5	11.08.19	4	11.09.19	70				
30.06.19	26	17.07.19	2	15.08.19	28	12.09.19	2				
		18.07.19	0	16.08.19	3	13.09.19	1				
		19.07.19	2.5	17.08.19	6	15.09.19	43				
		20.07.19	72	19.08.19	1	18.09.19	19				
		24.07.19	9	20.08.19	0	20.09.19	4				
		25.07.19	30	21.08.19	15	24.09.19	7				
		26.07.19	4	25.08.19	3	25.09.19	5				
		27.07.19	25	26.08.19	23	26.09.19	17.5				
		28.07.19	25	27.08.19	3	27.09.19	27				
		29.07.19	84	28.08.19	6.5	29.09.19	6				
		30.07.19	92.5			30.09.19	7.5				
		31.07.19	71								
Monthly Cumm.	393	Monthly Cumm.	512.5	Monthly Cumm.	130.0	Monthly Cumm.	485.5	Monthly Cumm.	17.0	Monthly Cumm.	55.0
Yearly Cumm.	393	Yearly Cumm.	905.5	Yearly Cumm.	1635.5	Yearly Cumm.	2121	Yearly Cumm.	2138	Yearly Cumm.	2173

vi	<p>Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May) Monsoon (August), post monsoon (November) and winter (January) seasons and for quality (including TDS and acid mine water) in May.</p> <p>Data thus collected shall be submitted to the Ministry of Environment & Forests and to the Central Pollution Control Board quarterly within one month of monitoring water quality parameter such as TDS, Sulphate, Nitrate etc, and acidic mine water if any shall be treated to confirm to prescribe standards before discharge or use in dust suppression /green belt development. Records of the water quality of the mine discharge water shall be maintained. Recognized institutions such as National Geophysical Research Institute, Hyderabad shall be involved for undertaking such a study.</p>	<p>Ground water level is regularly monitored through network of 6 nos. of borewells. The seasonal quality analysis of parameters such as Nitrates, Sulphates, and TDS etc. is also done through recognized Labs & the reports are as below.</p> <p>The bore well water level readings are as follows.</p> <p>Monthly monitoring of accumulated water in pit is done by MOEFCC & Gujarat Pollution Control Board recognized laboratory. Mine water is treated to confirm to prescribe standards before discharge or use in dust suppression /green belt development.</p> <p>Records for the water quality of the mine discharge water is maintained, Summary of analysis for last six month is as below:</p> <p>Seasonal analysis for drinking water from borewell source is also done from Government recognized laboratories.</p>
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Location	Tube well No					
	T-2	GWRDC – E3	A3	RW-II	RW-III	RW-V
	Near old Adm	Near western periphery Old weight Bridge	Near diesel pump	SSW corner Near Vodafone tower	NNE Corner of mines Near W/B	Behind New Time office
(Water table monitoring data in meters bgl)						
April -19	35.00	21.00	19.00	41.00	36.50	26.50
MAY-19	38.50	23.00	21.00	43.00	38.50	29.00
June-19	40.50	28.00	31.50	45.50	41.00	31.00
July-19	35.00	21.00	29.00	21.00	32.00	25.00
Aug-19	25.00	17.00	23.00	19.00	26.00	18.00
Sept-19	28.00	20.00	19.00	21.00	30.00	22.00
Min	25	17	19	19	26	18
Max	40.5	28	31.5	45.5	41	31
Avg	33.5	21.5	24	32	34	25

Sr. no.	Specific Conditions	Compliance Status
vii	Water quality parameters such as TDS, sulphates, nitrates etc where high and mine water should be treated to conform to prescribed standards before discharge of use in dust suppression. Green belt development. Records of the water quality of the mine discharge water shall be maintained.	ETP installed for capacity 50 m ³ /hr, is used to treat mine pit water parameter to prescribed standards and treated water is used in Dust suppression and plantation purposes. Records of the water quality of the mine discharge water shall be maintained. Report of mine pit water quality is attached as follows along with min, max and average values.

Tadkeshwar Waste Water Results from Apr-19 to Sept-19

Parameter	Results of Respective Months									
	Unit	Apr19	May19	Jun19	July19	Aug19	Sept19	Min	Max	Avg
pH at 25 oC	-	7.51	7.22	7.22	7.41	7.42	7.48	7.22	7.51	7.38
Temp oC	oC	31	28	29	31	30	32.2	29	32.2	30.2
Color	CU	15	20	20	25	15	16	15	25	18.5
BOD at 27 oC – 3days	mg/L	28	23	23	22	16	18	16	28	21.67
Chemical Oxygen Demand	mg/L	80	76.8	78.5	79.7	49.8	39.8	39.8	80	67.43
Total Suspended Solids	mg/L	32	37	40	41	53	63	32	63	44.33
Total Dissolved Solids	mg/L	1664	1596	1620	1676	1656	1670	1596	1676	1647
Oil & Grease	mg/L	2.9	3	3.1	3.2	2.8	3.6	2.9	3.6	3.1
Iron	mg/L	1.2	1.5	1.5	1.1	1.1	1.3	1.1	1.5	1.28
Nitrate	mg/L	2.5	3.5	3.1	2.9	2.9	3.4	2.5	3.5	3.05
Ammonical Nitrogen	mg/L	13.2	15.1	14.3	9.5	12	11.2	9.5	15.1	12.55
Sulphide	mg/L	0.4	0.8	0.9	0.8	1.6	3.2	0.4	3.2	1.28
Fluoride (F)	mg/L	1.2	0.67	0.72	0.76	0.72	0.74	0.67	1.2	0.8
Hexavalent Chromium (Cr+6)	mg/L	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)
Mercury (Hg)	mg/L	BQL(QL =0.01)	BQL(QL =0.01)	BQL(QL =0.01)	BQL(QL =0.01)	BQL(QL =0.01)	BQL(QL =0.01)	BQL(QL =0.01)	BQL(QL =0.1)	BQL(QL =0.05)
Cadmium (Cd)	mg/L	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)

Lead (Pb)	mg/L	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)
Copper (Cu)	mg/L	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)	BQL(QL =0.5)
Arsenic (As)	mg/L	BQL(QL =0.01)	BQL(QL =0.01)	BQL(QL =0.01)	BQL(QL =0.01)	BQL(QL =0.01)	BQL(QL =0.01)	BQL(QL =0.01)	BQL(QL =0.01)	BQL(QL =0.01)
Zinc (Zn)	mg/L	BQL(QL =0.2)	BQL(QL =0.2)	BQL(QL =0.2)	BQL(QL =0.2)	BQL(QL =0.2)	BQL(QL =0.2)	BQL(QL =0.2)	BQL(QL =0.2)	BQL(QL =0.2)
Manganese (Mn)	mg/L	BQL(QL =1)	BQL(QL =1)	BQL(QL =1)	BQL(QL =1)	BQL(QL =1)	BQL(QL =1)	BQL(QL =1)	BQL(QL =1)	BQL(QL =1)
Cyanide*	mg/L	BQL(QL =0.1)	BQL(QL =0.1)	BQL(QL =0.1)	BQL(QL =0.1)	BQL(QL =0.1)	BQL(QL =0.1)	BQL(QL =0.1)	BQL(QL =0.1)	BQL(QL =0.1)
Phenolic Compound C6H5OH	mg/L	BQL(QL =0.2)	BQL(QL =0.2)	BQL(QL =0.2)	BQL(QL =0.2)	BQL(QL =0.2)	BQL(QL =0.2)	BQL(QL =0.2)	BQL(QL =0.2)	BQL(QL =0.2)
Residual Chlorine	mg/L	BQL(QL =0.05)	BQL(QL =0.05)	BQL(QL =0.05)	BQL(QL =0.05)	BQL(QL =0.05)	BQL(QL =0.05)	BQL(QL =0.04)	BQL(QL =0.06)	BQL(QL =0.05)

viii	<p>The Company shall put up artificial groundwater recharge measures such as check dams within and adjoining the lease for augmentation of groundwater resource in case monitoring indicates decline in water table, in consultation with the local communities and with the Wildlife Department of the State Government. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.</p>	<p>Check dams/ponds have been renovated at the cost of Rs. 12 Lakhs in nearby areas which are useful for ground water recharging & Rs. 15.0 Lakhs are also contributed towards government water recharging schemes through Narmada jalsanchay yojana in this region during past.</p> <p>This is already a working mine and till date no adverse impact is observed in terms of ground water depletion. The study by National Geophysical research institute (NGRI, Hyderabad) shows that water level has risen not only in this locality but also in entire Mandvi Taluka of Surat because of high rainfall. This rise is comparatively low in ML area due to occurrence of poor aquifer conditions and presence of more impervious clayey formation.</p> <p>Moreover, the study also indicates there is rise of water table in the nearby farm areas & it has no connection with the Ground water pumping from the mines. This is due to the presence of the two canals both the adjacent sides of mines.</p> <p>This locality is covered under government irrigation and drinking water schemes. However, if required the Corporation is committed to meet the water requirement for nearby villages.</p>
ix	<p>No mining shall be carried below 94 m depth bgl; No groundwater shall be used for mining operations. Additional water required, if any, shall be met by recycling/reuse of the water from the existing activities and from rainwater harvesting measures.</p>	<p>Agreed. Mining will not be carried below 94 m depth bgl; No groundwater will be used for mining operations. Water seepage in mines is reused for dust suppression activity inside the mine on haul roads to control dust pollution as shown in photograph below.</p>



Continuous water sprinkling system for dust suppression

Sr. no.	Specific Conditions	Compliance Status
x	Water sprinkling system shall be provided to check fugitive emissions, haulage roads, transfer points, etc and fugitive dust emissions shall be kept under control.	<p>Complied.</p> <p>Three movable water sprinklers are deployed for water sprinkling at all vulnerable points to keep fugitive dust emissions under control on regular basis.</p> <p>Fixed sprinkler jets (Rain gun) installed at various areas of Traffic congestion/dusty areas i.e. near Weigh bridge & truck haul road.</p> <p>Moreover, a continuous water sprinkling system is also installed in the truck road to prevent dust pollution – Month wise quantity of water used for sprinkling & plantation and photographs of water sprinkling activity are shown below.</p>

Statement of Water used in Mines for Dust Suppression & Plantation Etc. (Half Yearly Apr19 to Sept19)	
Month	Sprinkling in Mines & Plantation (KL)
Apr19	9600
May19	10500
June19	1144
July19	0
Aug19	0
Sept19	0



xi	All approach roads, major haul roads and road to village shall be black topped.	Main village road of Tadkeshwar- is already black topped under PWD scheme. Black topped road is passing through the ML area. A 2.5 KM C.C. Road construction work is completed on main haul road which will prevent dusting due to plying of heavy vehicles and the emission from other supporting haul roads is kept at minimum level by frequent water sprinkling and for preventing the dust spread, avenue plantation also minimizes the Dust generation as well as noise generation due to vehicles.
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C.C.Road used as main haul road

xii	No drilling and blasting shall be carried out. Controlled blasting shall be carried out only where hard strata are encountered.	<p>This is being followed.</p> <p>Presently drilling and blasting is not required due to comparatively soft strata.</p>
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xiii	Transportation of lignite to Vapi and Ankleshwar being critically polluted areas shall be in trucks of 20 –T capacity or more covered with tarpaulin.	<p>Transport of lignite is under the scope of customers purchasing the lignite. GMDC is in contact with customers for increasing the size of trucks but as huge investment is required by small transporters, therefore they will do it in phased manner.</p> <p>All trucks carrying lignite are covered with tarpaulin & they are checked before leaving the mine premises.</p>
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Covering with Tarpaulin of Loaded Trucks




Loading of consumer trucks directly from lignite face

xiv	No stockpile of lignite shall be permitted. The lignite produced from mine face shall be transported immediately.	Complied. Consumer trucks are loaded directly from lignite face.
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Loading of consumer trucks directly from lignite face

xv	ETP shall be provided for workshop and CHP. s shall be treated to conform to prescribed standards, particularly for pH and TDS in case of discharge into any water course outside the lease.	This is being followed. Water pH & TDS are monitored regularly to check the quality of mine pit water. To check oil & grease from waste water generated during washing of the machineries, Oil & grease skimmer has been installed of capacity to remove 25 LPH of oil from workshop effluent. Moreover, the installation and commissioning of ETP of 50m ³ /hr capacity for mine seepage water treatment is completed treated water is reused for dust suppression and Plantation. Photographs of ETP are shown below. There is no CHP in this mine.
	 <p style="text-align: center;">ETP working at mines site</p>	
xvi	A pre mining Socio- economic survey shall be undertaken and impact of CSR assessed every 3 year and furnished as part of the monitoring report. Land oustees if any, shall be compensated as per norms laid out in the National R&R policy 2007.	Corporate Social Responsibility plan was prepared at initial pre-mining stage based on Socio- economic condition of that area& was implemented. CSR assessment report for last three years is under preparation will be submitted along with next compliance report. No R&R involved for human settlements. The compensation for land is paid as per prevailing rate and norms. Most of land oustees' families have their own trucks and deployed the same in GMDC for lignite and other material transportation.
xvii	A onetime capital investment of Rs. 10.08 crores under CSR for the six villages indentified for CSR namely - Rosvad, Togapur, Ushker, Ramkund, Virpor, and Munjlav and revenue expenditure of Rs. 5/tonne of coal shall be earmarked for CSR. The details of expenditure and various activities shall be drawn up in consultation with the local communities and implemented through VDICS. The socio-economic development of the villages shall be monitored over the life of the project and impact of CSR assessed every 3 years using indices such as the UNDP Human Development Index and furnished as part of the monitoring report and also regularly uploaded on the company website.	A CSR plan is already prepared for these six villages emphasizing on infrastructure development (Road, sanitation), economy (IGP/ME, Market access), social development (Health, education) and capacity building (marketing, technology access and training). The compliance of diverting Rs. 5/tonne of lignite for CSR activities will be achieved in phased manner through direct investment and contribution in the Government scheme for the developmental activities to uplift living standard.
		Corporate Social Responsibility plan was prepared at initial pre-mining stage based on Socio- economic condition of that area& was implemented. CSR assessment report for last three years is under preparation will be submitted along with next compliance report. Expense of Rs. 63,52,636/- was done during the last six months compliance period as detailed in table below.

Under CSR activities during Apr-19 to Sept-19 has been carried out by Lignite Project Tadkeshwar

Sr. No.	Details	Amount (Rs.)
1	Education & Sports	4783243
2	Infra-structure development	1517721
3	Health and Sanitation	40200
4	Social Welfare and culture	11472
Total		6352636

Sr. No	Specific Conditions	Compliance Status
xviii	A 50 m wide green belt shall be created along the lease boundary using native species as peripheral plantation. Area brought under pastureland/ agricultural land shall not be less than 669.19 ha. Which includes reclaimed external OB dump area (97.59 ha.), backfilled area (491.60 ha including 73 ha of grassland using native species), along ML boundary, along roads, green belt (80 ha.) and plantation in undisturbed areas (219.2501 ha) by planting native species in consultation with the local DFO/Agriculture Department.	<p>Plantation is a regular activity being carried out in phased manner based on land availability.</p> <p>Plantation is done by local social Forestry department giving priority to native species. Live Plantation in 94.75 ha area is completed till date in ML area. In the year 19-20 plantations in 5 Ha have been achieved.</p> <p>Grassland development in 45 Hect area is also completed.</p> <p>Further, the tree plantation and pasture development work in the backfilled and overburden dump area is being taken up in phased manner depending on the availability of the land.</p> <p>Photographs of plantation & Gauchar land are shown below.</p>



Plantation on Dump

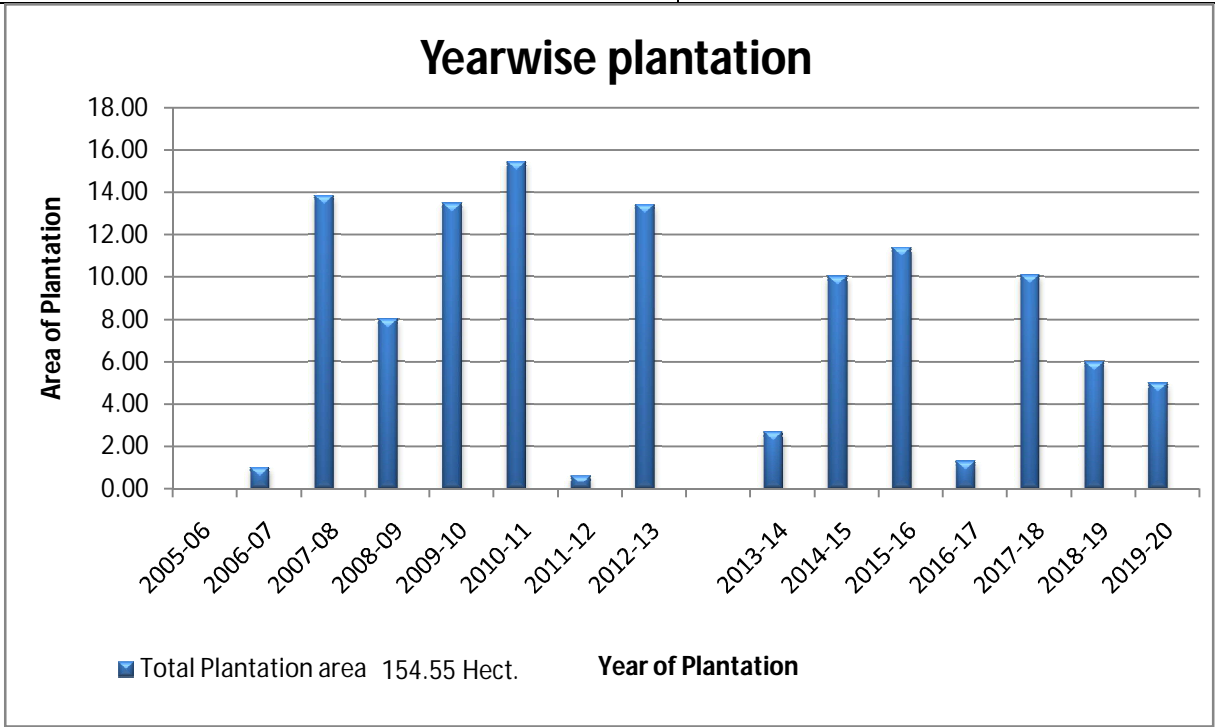


Plantation on safety zone



Gauchar Developed 45 Hect. area

Sr. No	Specific Conditions	Compliance Status
Xix	<p>A progressive Closure Plan shall be implemented of quarry area of which 491 .16 ha shall be backfilled and afforested by planting native plant species in consultation with the local DFO / Agriculture Department. The density of the trees shall be around 1500 plants per ha. It shall be ensured that the balance decoaled void of 74 ha. Being left as a water body, the upper slopes of which shall be gently sloped and reclaimed with grass and plantation. The quality of the water in the water body shall be regularly monitored and treated to ensure that in is not acidic.</p>	<p>Agreed It is planned to backfill 565.6 ha mine pit up to the end of mine life where 491.6 ha will be planted (200 ha trees+ 291.6 ha pasture) in consultation with local Forest Department. The plantation is done by local DFO of social forestry department for which payment is done by GMDC and planting of native varieties such as Peltoforum, Neem, Bamboo, Nilgiri etc. The density of tress is maintained 1667/ Hect. It is planned to make a 74 ha shallow deep water body lined with limestone at the end of mine life. Detailed year wise plantation as well as plantation for this half yearly period of Apr-19 to Sept-19 is mentioned as follows. The quality of the water in the water body is regularly monitored and treated to ensure that in is not acidic</p>

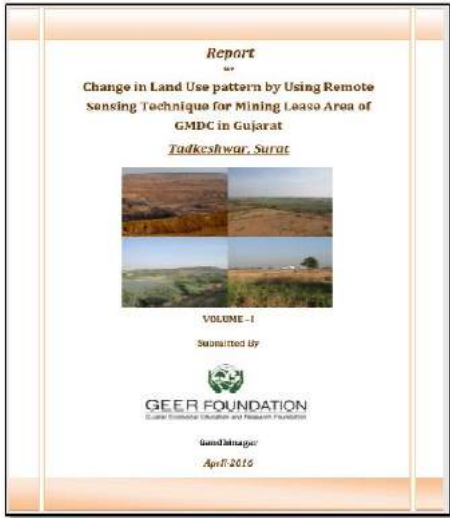
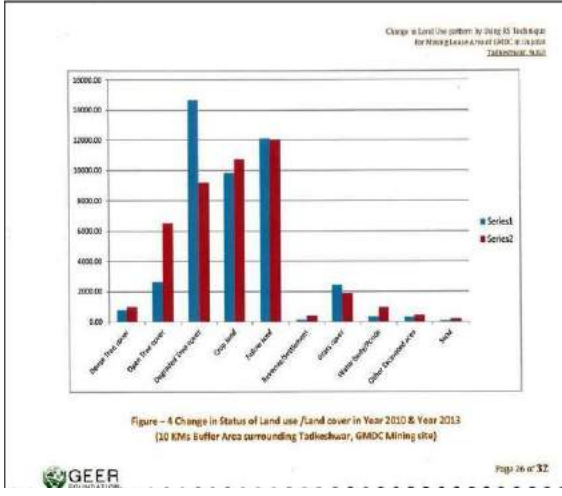


Plantation done by Local DFO of social forestry department

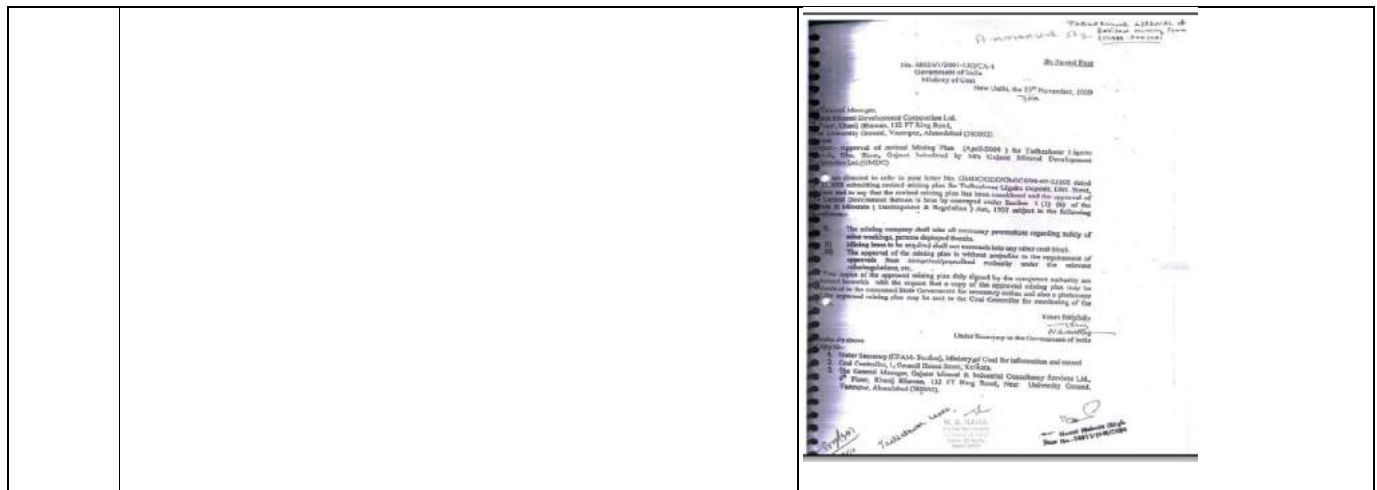
Sr.No.	Specific Conditions	Compliance Status														
	<table border="1"> <thead> <tr> <th>Month</th> <th>Departmental/ Social Forestry</th> <th>No. of Plants</th> <th>Species</th> <th>Area (Hect.)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Apr-19 to Sept-19</td> <td>Social Forestry</td> <td>8330</td> <td>Petro, Saptaparni, Amla, Bangali Bavad, etc</td> <td>5.00</td> </tr> <tr> <td>Departmental</td> <td>150</td> <td>Mango, Gulmahor</td> <td>0.02</td> </tr> </tbody> </table>	Month	Departmental/ Social Forestry	No. of Plants	Species	Area (Hect.)	Apr-19 to Sept-19	Social Forestry	8330	Petro, Saptaparni, Amla, Bangali Bavad, etc	5.00	Departmental	150	Mango, Gulmahor	0.02	
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YEAR	TOTAL PLANTATION		Survival
	AREA (Hect)	PLANT (Nos)	
2004-05	2.25	6000	30
2005-06	0	0	-
2006-07	1	4562	80
2007-08	13.85	34988	95
2008-09	8	9739	95
2009-10	13.49	24600	95
2010-11	15.44	32561	95
2011-12	0.6	9210	85
2012-13	13.41	42435	93
2013-14	2.68	9265	80
2014-15	10.03	21440	96
2015-16	11.4	21260	90
2016-17	1.3	2250	80
2017-18	10.1	17050	100
2018-19	6	10000	100
2019-20	5	8330	100
TOTAL	114.55	253690	

xx	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	Complied. Earlier the land use pattern study carried out by GEER Foundation was submitted along with previous compliance report. The process of awarding the work for new study is under progress and the report with data will be submitted for your reference and record along with compliance report.
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xxi	A final mine Closure Plan along with details of Corpus Found shall be submitted to the Ministry of Environment & Forests for approval 5 years in advance of final mine closure for approval. At the Post mining stage, land should be restored as pastureland/ agricultural land use	Complied. Earlier the land use pattern study carried out by GEER Foundation was submitted along with previous compliance report. The process of awarding the work for new study is under progress and the report with data will be submitted for your reference and record along with compliance report.
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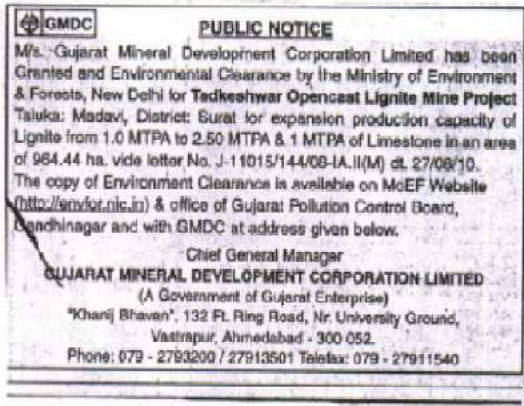


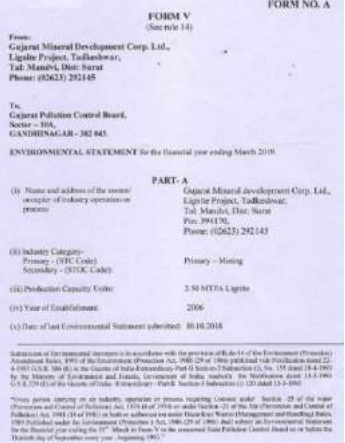
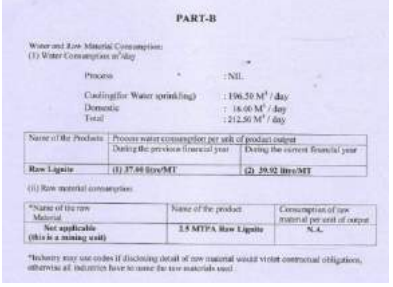
B) General Conditions:

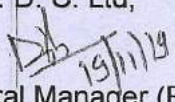
Sr. no.	General Conditions	Compliance Status																
i	No change in technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.	Agreed with due respect.																
ii	No change in the calendar plan including quantum of mineral coal and waste being produced shall be made.	<p>Compliance under progress. Month wise lignite production details for the Half year Apr19 to Sept19 are as follows:</p> <table border="1" data-bbox="973 891 1536 1131"> <thead> <tr> <th>MONTH</th> <th>PRODUCTION (MT)</th> </tr> </thead> <tbody> <tr> <td>Apr19</td> <td>224282.833</td> </tr> <tr> <td>May19</td> <td>211914.44</td> </tr> <tr> <td>June19</td> <td>109530.82</td> </tr> <tr> <td>July19</td> <td>35833.84</td> </tr> <tr> <td>Aug19</td> <td>18596.33</td> </tr> <tr> <td>Sept19</td> <td>0.00</td> </tr> <tr> <td>Total</td> <td>600158.26</td> </tr> </tbody> </table>	MONTH	PRODUCTION (MT)	Apr19	224282.833	May19	211914.44	June19	109530.82	July19	35833.84	Aug19	18596.33	Sept19	0.00	Total	600158.26
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iii	<p>Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring PM10 PM2.5, SO2 and NOx. 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.</p> <p>Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, in particulates shall be carried out at least once in six months.</p>	<p>This is being followed.</p> <p>Based on the site feature and pollution potential considerations, Ambient air quality monitoring is being done at 5 designated locations: ADM office, North Pit area, Weigh bridge area in South pit, Near New Time office, At main gate No. 2.</p> <p>The results From Apr19 to Sept19 are as follows. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, in particulates is carried out twice in a year. GMDC ensures that Ambient Air Quality will be maintained under the prescribed limits to protect Environment.</p>																
iv	Data on ambient air quality (PM10, PM2.5, SO ₂ and NO _x and heavy metals such as Hg, As, Ni, Cd, etc) and other monitoring data shall be regularly submitted to the Ministry including its Regional Office at Bhopal and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognized under the EP Rules, 1986 shall be furnished as part of the compliance report.	<p>Data on ambient air quality (PM10, PM2.5, SO₂ and NO_x and heavy metals such as Hg, As, Ni, Cd, etc) and other monitoring data are regularly being submitted to the Ministry including its Regional Office at Bhopal and to the State Pollution Control Board along with half yearly EC Compliance Reports.</p> <p>Monthly environmental monitoring is being carried out through Environmental Laboratory recognized by Gujarat Pollution Control Board & MoEFCC.</p> <p>Air parameters of Half year period Apr-19 to Sept-19 along with its station wise Minimum, Maximum and Average values are mentioned as follows.</p> <p>Moreover, all parameters are within Prescribed limits.</p>																

Ambient air parameters along with Min, Max & Average values during the period of Apr19 to Sept19							
Station 1: ADM Building				Station 2: Gate No.02			
Parameter	Max	Min	Avg.	Parameter	Max	Min	Avg.
PM10 (µg/M ³)	69.1	38.7	60.2	PM10 (µg/M ³)	72.1	50.8	67.6
PM2.5 (µg/M ³)	28.9	11.9	23.8	PM2.5 (µg/M ³)	32.5	25.0	29.6
SO2 (µg/M ³)	17.2	9.5	13.1	SO2 (µg/M ³)	25.3	13.2	19.1
NO2 (µg/M ³)	14.6	8.2	11.6	NO2 (µg/M ³)	17.5	14.6	16.2
Carbon Monoxide (µg/M ³)	1.0	0.0	0.2	Carbon Monoxide (µg/M ³)	1.2	0.0	0.2
Station 3: Time office				Station 4: New Weigh Bridge			
Parameter	Max	Min	Avg.	Parameter	Max	Min	Avg.
PM10 (µg/M ³)	72.1	31.5	57.2	PM10 (µg/M ³)	76.5	33.9	62.3
PM2.5 (µg/M ³)	25.9	15.4	22.2	PM2.5 (µg/M ³)	38.7	18.6	28.5
SO2 (µg/M ³)	19.2	11.8	16.4	SO2 (µg/M ³)	27.0	12.6	17.7
NO2 (µg/M ³)	16.7	9.0	12.9	NO2 (µg/M ³)	23.9	10.3	14.9
Carbon Monoxide (µg/M ³)	1.0	0.0	0.2	Carbon Monoxide (µg/M ³)	1.3	0.0	0.2
Station 5: North pit area							
Parameter	Max	Min	Avg.				
PM10 (µg/M ³)	87.5	40.5	66.9				
PM2.5 (µg/M ³)	39.1	23.5	29.4				
SO2 (µg/M ³)	25.8	15.9	18.5				
NO2 (µg/M ³)	18.7	10.5	14.5				
Carbon Monoxide (µg/M ³)	1.0	0.0	0.2				
v	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 ear plugs /muffs.			Complied. Preventive measures have been taken to control the noise pollution through maintenance of the Silencers & proper lubrication of machineries etc. Moreover no drilling & blasting is carried out. Employees engaged for mining activity are being provided with personal protective equipments including ear plugs/Muffs. Plantation in the premises further attenuates the propagation of noise generated at source. Monthly noise monitoring is done to ensure the compliance. Noise reports are as follows			
	Location		Max.	Min.	Avg.		
	Adm Building		65.9	37.6	54.9		
	Near Gate No.02		69.2	40.2	55.8		
	Near Time office		56.2	40.7	49.7		
	Near Weigh bridge		62.4	48.9	53.2		
	North pit area		55.8	43.1	51.6		
vi	Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, and treated so as to conform to the standards including for heavy metals before discharge prescribed under GSR 422(E) dated 19 th May 1993 and 31 st December 1993 or as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluents.			Water quality is maintained under the prescribed limit & is utilized for purpose of sprinkling & watering plantation. For reducing mine seepage and avoiding contamination, advanced water pumping system is used for domestic purpose& plantation. Oil and grease trap is also installed for washing equipments effluents. Summary of analysis of waste water is shown in table below:			

	 <p>Effluent treatment Plant</p>	 <p>Oil and Grease trap Plant</p>
vii	<p>Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transportation of the mineral shall be covered with tarpaulins and optimally loaded.</p>	<p>This is being strictly followed.</p> <p>No truck are overloaded & all loaded trucks leaving mine premises are properly covered with full body tarpaulin which is checked before the consumer truck leaves the mine premises.</p> <p>Photograph of truck covered with tarpaulin is shown below.</p>
viii	<p>Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analyzed through a laboratory recognized under EP Rules, 1986.</p>	<p>Agreed.</p> <p>Monitoring of environmental quality parameters is being carried out on monthly basis by MOEFCC & GPCB approved laboratory through establishment of adequate number and type of pollution monitoring and analysis equipments.</p>
ix	<p>Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.</p> <p>Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed</p>	<p>This is being followed.</p> <p>Adequate numbers of personal protective equipments are given to workers and sensitization and training programmes are conducted periodically.</p> <p>Occupational health surveillance is taken up as per DGMS norms. Periodic health checkup is done for workers every year. 72 Nos of workers underwent medical checkup last six months. Our project is certified in ISO 9001, 14001 & OHSAS 18001.</p>
x	<p>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.</p>	<p>Complied.</p> <p>Environment Management Cell with qualified personnel has been set up under direct control of General Manager (project), who is directly reporting to MD of the company.</p>
xi	<p>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 Regional Office at Bhopal</p>	<p>Agreed.</p> <p>The funds earmarked for environmental protection measures are been used for the said purpose only. The budget is sanctioned year wise & its proper utilization is ensured for better environment protection.</p> <p>These investments separately accounted and communicated along with compliance report.</p> <p>Expense of Rs. 55.62 lakhs was done in last six months for environmental protection .</p>

<p>xii</p>	<p>The project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and may also be seen at the website of the Ministry and Environment & Forests at http:// envfor.nic.in</p>  <p>DATE: 30 / 10 / 2010.</p>	<p>After receipt of Environmental Clearance letter the Corporation has advertised the same in :</p> <p>Indian Express (English Newspaper) on 30.10.2010.</p> <p>Gujarat Mitra (Gujarati Newspaper) on 31.10.2010.</p> 
<p>xiii</p>	<p>A copy of the environmental clearance letter shall be marked to concerned panchayat/ Jilla parishad, Municipal Corporation or Urban Local Body and local NGO, if any from whom any suggestion/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on the company's website.</p>	<p>The Environmental Clearance letter is uploaded on GMDC website: www.gmdcltd.com</p> <p>The Corporation has received active participation of people from Tadmashwar, Ushker and Virpur Gram Panchayat as well as an NGO namely Paryavaran Mitra during public consultation process. Therefore, the copy of environmental clearance letter was sent to the following:</p> <p>Sarpanchshree of villages Tadmashwar, Ushker, Ramkund and Virpur Mamlatdar of Mandvi Taluka Paryavaran Mitra, Ahmedabad</p>
<p>xiv</p>	<p>A copy of the clearance letter shall be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Centre and collector's office/ Tehsildars office for 30 days.</p>	<p>The copy of environmental clearance letter was sent to the following offices with a request to display the same:</p> <p>Collectors Office, Surat District Development Office Regional Office of Gujarat Pollution Control Board, Surat</p>
<p>xv</p>	<p>The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated EC condition 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 the public domain. The monitoring data of environmental quality parameters (air, water, noise and soil) and critical pollutants such as PM10, PM 2.5, SO2 and NOx (ambient and stack if any) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mines office and in corporate office and on the company's website.</p>	<p>Complied.</p> <p>The Environmental Clearance letter is uploaded on GMDC website. The Half yearly compliance of the EC conditions is also uploaded on GMDC website.</p> <p>A display board showing the monitoring data of environmental quality parameters is already available at project Entrances and being updated regularly. This data is also available on the company's website along with EC compliance report.</p>
<p>xvi</p>	<p>The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional office of the MOEF, the respective Zonal offices of CPCB and the SPCB.</p>	<p>This is being followed.</p> <p>Compliances are submitted timely to the regulatory bodies.</p>
<p>xvii</p>	<p>The Regional Office of this Ministry located at Bhopal shall monitor compliance of the stipulated conditions. The project authorities shall extend full cooperation to the office(s) of the regional office by furnishing the requisite data/ information /monitoring reports.</p>	<p>Agreed. GMDC ensures full cooperation during audits.</p>

xviii	<p>The environmental statement for each financial year ending 31st March in Form-V is mandated to be submitted by the project proponent to 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 by E mail.</p>	<p>Complied. GMDC is annually submitting environmental statement in the form of FORM V to GPCB, Gandhinagar.</p> <p>The same will be uploaded on the company's website along with the status of compliance of EC conditions</p>
		
3	<p>The Ministry of any other competent authority may stipulate any further condition for environmental protection.</p>	<p>Agreed with due respect.</p>
4	<p>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</p>	<p>Agreed with due respect.</p>
5	<p>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 public liability Insurance act 1991 along with their amendments and Rules. The proponent shall ensure to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of groundwater and surface water and occupational and other diseases due to the mining operations.</p>	<p>A comprehensive environment management plan and progressive mine closure plan is in place for better environment management at this mine.</p> <p>The Corporation further agrees to bear the cost of remedial measures of any accidental uncontrollable pollution if takes place due to mining.</p>

For G. M. D. C. Ltd,

 I/c General Manager (Project),
 Authorized Signatory.