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To,  
**The Joint Director (S)**  
Government of India  
Ministry of Environment & Forest  
Regional Office, Western Region,  
Kendriya Paryavaran Bhavan  
Link Road No.3, E-5, Ravishankar Nagar  
**BHOPAL – 462016 (M.P.)**

**Sub: –** Submission of Half Yearly Compliance Report of conditions stipulated in Environmental Clearance vide letter no. J-11011/999/2007-IA.II(I) dated 23.12.2008 for Expansion of Pelletization Plant into Integrated Steel Plant along with WHRB Power Plant of M/s Sarda Energy & Minerals Limited at Phase-I, Siltara Industrial Growth Centre, Mandhar, Raipur (C.G.).

Dear Sir,

With reference to the above subject, we would like to inform you that we have obtained consent to establish from Chhattisgarh Environment Conservation Board, Raipur on 17.12.2009 for installation of various projects for which environmental clearance was obtained. At present, the railway siding is established & commissioned in the year 2010. The construction activities for installation of various projects will start shortly.

Further, we are giving point wise compliance status of all the conditions mentioned in the Environmental Clearance vide letter no. J-11011/999/2007-IA.II (I) dated 23.12.2008 as Annexure -A

This is for your kind perusal please.

Thanking you,

**Your faithfully**  
**For Sarda Energy & Minerals Limited,**

**P. S. Dutta Gupta**  
**Vice President (C.R.)**

- CC: (I) The Zonal Officer, CPCB, Zonal Office (Central), 3<sup>rd</sup> Floor, Sahkar Bhawan, North T.T. Nagar, Bhopal – 462 003.  
(II) The Member Secretary, CECB, Commercial Complex, Housing Board Colony, Kabir Nagar, Raipur (C.G.). – 492 001



# M/S SARDA ENERGY & MINERALS LIMITED

## ENVIRONMENT CLEARANCE (EC) COMPLIANCE REPORT (Ref. Environmental Clearance granted vide MOEF letter no. J-11011/999/2007-IA.II (I) dt 23.12.2008)

### POINT-WISE COMPLIANCE OF EC CONDITIONS:

5. (A) SPECIFIC CONDITIONS	COMPLIANCE
<p><i>i) No coal based Sponge Iron Plant and Captive Power Plant shall be installed without prior permission from the State Govt. of Chhattisgarh (banned as per the order of the Govt. of Chhattisgarh dated 16<sup>th</sup> March, 2007) and Ministry.</i></p>	<p>Noted and agreed to comply.</p>
<p><i>ii) Efforts shall be made to reduce RSPM levels in the ambient air and a time bound action plan shall be submitted. On-line ambient air quality monitoring and continuous stack monitoring facilities for all the stacks and sufficient air pollution control devices shall be provided to keep the emission levels below 100 mg/Nm<sup>3</sup>. At no time the emission level shall go beyond the prescribed standards. Interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit. Data on ambient air quality stack emissions and fugitive emissions shall be regularly submitted to this Ministry including its Regional Office at Bhopal, CECB and CPCB once in six months.</i></p>	<p>The construction and commissioning of the various units of the project (covered under this EC) is expected to be taken up in 2014-15. The time-bound action plan to reduce RSPM levels in the ambient air will be submitted and monitoring, as directed, will be complied during and after commissioning of the project units.</p> <p>We have installed opacity meter in our existing Pelletization Plant stack, for continuous particulate matter emission monitoring. We have also installed high efficiency four fields Electro Static Precipitator at travelling Grate for control the flue gas emission and are running very efficiently.</p> <p>The monitoring report of ambient air quality, stack emission and fugitive emission with respect to the existing Pelletization Plant is regularly submitted to MoEF, New Delhi, and Regional Office at Bhopal, CECB and CPCB. The observed values are within the prescribed limit. A copy of monitoring reports is enclosed as <b>Annexure -I</b></p> <p><i>(Note :The existing Pelletization Plant is not included in this EC, however it is located in the same command area, where the other plant units as per EC will be installed)</i></p>
<p><i>iii) All the standards prescribed for the coke oven plants shall be followed as per the latest guidelines. Proper and full utilization of coke oven gases in power plant using waste heat recovery steam generators shall be ensured and no flue gases shall be discharged into the air.</i></p>	<p>Noted; agreed to comply during commissioning &amp; operation of the project.</p>
<p><i>iv) Gaseous emission levels including secondary fugitive emissions from blast furnace and sinter plant shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed. The emission standards issued by the Ministry in May, 2008 to control fugitive emissions shall be followed.</i></p>	<p>Noted; agreed to comply during commissioning &amp; operation of the project.</p>

<p>v) <i>Vehicular pollution due to transportation of raw material and finished product shall be controlled. Proper arrangements shall also be made to control dust emissions during loading and unloading of the raw material and finished product. Efforts shall also be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land. All the raw materials including fly ash shall be transported in the closed containers only and shall not be overloaded. Vehicular emissions shall be regularly monitored and records kept.</i></p>	<p>Noted. Agreed to comply during and after commissioning of the project.</p> <p>We have installed and commissioned captive Railway siding with Wagon Tippler and Stacker Reclaimer inside the premises for transportation of Raw material. This in hand will help in minimizing the vehicular emission caused due to transportation of Raw materials &amp; Finished products.</p>
<p>vi) <i>Electrostatic Precipitator (ESP) to sinter plant, pellet plant and ESP / bag filter to WHRB shall be provided to control gaseous emissions below 100 mg/Nm<sup>3</sup>. Bag house shall be provided to BF-Dry gas cleaning system. Bag filter / de-duster shall be provided to coke oven plant. Gas cleaning plant comprising of dust catcher and wet cleaning system shall be provided to blast furnace. ESP, multi-cyclone, bag filter, deduster shall be provided to pellet plant. Fume extraction system with cyclone and bag filter shall be provided to electric arc furnace. Heat recuperator shall be provided to rolling mill. Stacks of adequate height as per CPCB guidelines shall be provided to control emissions from the blast furnace (BF), Sinter Plant, Coke Oven, Steel melting shop (SMS), Rolling mill etc.</i></p>	<p>Noted and will be compiled at the time of commissioning &amp; operation of the project.</p> <p>We have installed and commissioned four fields ESP, multi-cyclone, bag filter / de-duster at our existing Pelletization Plant.</p>
<p>vii) <i>Fume extraction system with cyclone and bag filters shall be provided to Electric Arc Furnace to control fugitive emission. Dust extraction (DE) system to blast furnace (BF) stock house, gas cleaning plant and sludge disposal system shall be provided to BF. Dust suppression (DS) system to raw material handling area shall be provided. Adequate stack height will be provided to rolling mill and other plants. DE &amp; DS system along with dust collectors shall be provided to coke oven plant. Water sprinkling shall also be done to control fugitive emissions. All the internal roads shall be black topped/concreted. Fugitive emissions shall be regularly monitored and records maintained.</i></p>	<p>Noted and agreed to comply</p> <p><b>We have made maximum internal roads concreted in the plant premises.</b></p> <p>We assure that fugitive emissions will be regularly monitored and records will be maintained.</p>
<p>viii) <i>Total water requirement from Kharoon River shall not exceed 8,780m<sup>3</sup>/day as per the permission accorded by the Water Resources Department, Govt. of Chhattisgarh vide letter dated 27<sup>th</sup> October, 2008. No ground water shall be used. Acidic and Alkaline effluent from DM water plant shall be neutralized and reused in the plant. No phenol effluent shall be generated. All the wastewater from process and domestic sources shall be treated and recycled / reused for dust suppression and green belt development. No wastewater shall be discharged outside the premises and 'Zero' effluent discharge shall be ensured.</i></p>	<p>Noted and agreed to comply</p> <p>We assure you that all the wastewater will be treated in ETP and reused in the manufacturing process, for dust suppression and green belt development etc.</p> <p><b>Our existing pellet plant is being also maintaining zero discharge condition.</b></p> <p>No wastewater will be discharged outside the plant premises and we will adopt zero discharge concepts in all our plants in future.</p>
<p>ix) <i>The water consumption shall not exceed 16 m<sup>3</sup>/Ton of Steel as per prescribed standard. Closed circuit cooling shall be adopted to reduce fresh water consumption. Acidic and alkaline effluent from DM water plant shall be neutralized and reused for various activities in the plant. No wastewater</i></p>	<p>Noted; agreed to comply.</p>

<i>shall be discharged outside the premises and 'Zero' effluent discharge shall be ensured.</i>	
<i>x) Ground water monitoring around the solid waste disposal site / secured landfill (SLF) shall be carried out regularly and report submitted to the Ministry's Regional Office at Bhopal, CPCB and CECB.</i>	Ground water monitoring around the solid waste disposal site / secured landfill (SLF) will be carried out regularly after commissioning of the units. Monitoring report will be submitted to the Ministry's Regional Office at Bhopal, CPCB and CECB regularly.
<i>xi) All the blast furnace (BF) slag shall be granulated and provided to cement manufacturers for further utilization. SMS slag shall be properly utilized. Fly ash shall be sold to brick and cement manufacturing plants. Scrap shall be used in SMS. Sinter dust, GCP dust, SMS dust, Scale, Iron ore fines shall be used in sinter plant in making sinter to be used further in blast furnace. All the other solid wastes including broken refractory mass shall be properly disposed off in environment-friendly manner. Oily waste shall be provided to authorize recyclers/re-processors. All the other solid wastes including broken refractory mass shall be properly disposed off in environment-friendly manner. Oily waste shall be provided to authorized recyclers/ re-processors.</i>	Noted; agreed to comply during commissioning and operation of the various plant units as per EC.
<i>xii) A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal.</i>	Time-bound action plan to reduce solid waste, its proper utilization and disposal, will be prepared and submitted after commissioning of the project. We have already installed and commissioned a Fly Ash bricks Block & Tiles manufacturing Plant of capacity of utilizing <b>500-600 TPD</b> of plant waste at our adjacent Siltara site. Further expansion of the Fly Ash bricks Block & Tiles manufacturing Plant is proposed.
<i>xiii) Proper handling, storage, utilization and disposal of all the solid waste shall be ensured and regular report regarding toxic metal content in the waste material and its composition, end use of solid/hazardous waste shall be submitted to the Ministry's Regional Office at Bhopal, CECB and CPCB.</i>	Noted and agreed to comply
<i>xiv) Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 1999 as amendment in 2003.</i>	Noted and agreed to comply after commissioning of the Power Plant.
<i>xv) As proposed, green belt shall be developed in 67.47 ha. (33 %) out of total 204.45 ha. area within and around the plant premises to mitigate the effects of air emissions as per the CPCB guidelines in consultation with DFO. As proposed, Rs. 1.00 Crores shall be earmarked for green belt development and judiciously utilized.</i>	We will develop green belt in 67.47 ha. (33%) out of total 204.45 ha. area within and around the plant premises to mitigate the effects of air emissions as per the CPCB guidelines in consultation with DFO. In this connection, we have already planted about 44,746 saplings in the existing premises. We propose to plant further 2, 000 nos. of more saplings up to 31 <sup>st</sup> March, 2014. We have earmarked Rs. 1.00 Crore for green belt development.
<i>xvi) All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Sector shall be implemented.</i>	We will comply with the recommendations mentioned in Charter on Corporate Responsibility for Environment Protection (CREP) for the steel industry for proposed project.

<p><i>xvii) The company shall provide housing for construction labor within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.</i></p>	<p>Agreed to comply during construction stage.</p>
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<p><b>5. (B) GENERAL CONDITIONS</b></p>	<p><b>COMPLIANCE</b></p>
<p><i>i) The project authorities must strictly adhere to the stipulations made by the Chhattisgarh Environment Conservation Board (CECB) and the State Government.</i></p>	<p>The stipulations made by the Chhattisgarh Environment Conservation Board (CECB) and the Govt. of Chhattisgarh will be complied.</p>
<p><i>ii) No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests.</i></p>	<p>No further expansion or modifications in the plant will be carried out without prior approval of the Ministry of Environment and Forests</p>
<p><i>iii) The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The State Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time the emission level shall go beyond the prescribed standards. On-line continuous monitoring system shall be installed in stacks to monitor SPM and interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit.</i></p>	<p>Agreed to comply during commissioning and operation of the project.</p> <p>In our existing Pelletization plant, we have installed on-line continuous monitoring system (Opacity Meter) at stack to monitor particulate matter emission which is being operated regularly.</p>
<p><i>iv) In plant control measures for checking fugitive emissions from all the vulnerable sources like spillage/raw materials/coal handlings etc. shall be provided. Further, specific measures like provision of dust suppression system consisting of water sprinkling, suction hoods, fans and bag filters etc. shall be installed at material transfer points, blast furnace stock house and other enclosed raw material handling areas. Centralized de-dusting system i.e. collection of fugitive emissions through suction hood and subsequent treatment through bag filter or any other device and finally emitted through a stack of appropriately designed height conforming to the standards for induction furnaces existing in the industry and proposed induction and arc furnaces. Fugitive emissions shall be regularly monitored and records maintained.</i></p>	<p>Agreed to comply during commissioning and operation of the project.</p> <p>In the existing Pelletization Plant, we have installed &amp; commissioned Bag Filter &amp; dry fog system i.e. chemical based dust suppression system (FILSPRAY – 51) at raw material handling sections, coal fines bin, annular cooler discharge section, product stock house, junction / transfer points of material handling and crushers, to control the dust emission which are being operated regularly.</p> <p>We assure that fugitive emission will be regularly monitored and records will be maintained.</p>
<p><i>v) At least four ambient air quality-monitoring stations should be established in the downward direction as well as where maximum ground level concentration of SPM, SO<sub>2</sub> and NO<sub>x</sub> are anticipated in consultation with the CECB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bhopal and the CECB/CPCB once in six months.</i></p>	<p>Agreed to comply during commissioning and operation of the project.</p> <p>For our existing Pelletization Plant, we have already established four ambient air quality-monitoring stations in the downward direction as well as where maximum ground level concentration of SPM, SO<sub>2</sub> and NO<sub>x</sub> are anticipated in consultation with the CECB. The data on ambient air quality and stack emission is being regularly submitted at CECB every month.</p>

	The data on ambient air quality and stack emission for the proposed expansion project for which EC has been granted will be generated & submitted to MOEF including Regional Office and CECB/CPCB once in six months after commissioning of the project.
<i>vi) Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.</i>	Agreed to comply during commissioning and operation of the project.
<i>vii) The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).</i>	Agreed to comply during commissioning and operation of the project.
<i>viii) Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.</i>	Agreed to comply during commissioning and operation of the project.
<i>ix) The company shall develop surface water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.</i>	We have adopted rainwater harvesting technique in the plant premises for recharge of the ground water table and shall augment the same further.
<i>x) The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA / EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.</i>	Agreed to comply during commissioning and operation of the project.
<i>xi) As proposed, Rs. 190.00 Crores and Rs. 26.35 Crores shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of the Ministry at Bhopal. The funds so provided shall not be diverted for any other purpose.</i>	We shall earmark Rs. 190.00 Crores and Rs 26.35 Crores towards capital and recurring cost/annum for environmental protection measures to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. We will submit an implementation schedule for implementing all the conditions stipulated in Environmental Clearance to the Regional Office of the Ministry at Bhopal. We assure that the funds earmarked for environmental protection will not be diverted for any other purpose.
<i>xii) The Regional Office of this Ministry at Bhopal/CPCB/CECB will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.</i>	We are regularly submitting six monthly compliance report at Regional Office of MoEF, Bhopal/CPCB/CECB. We assure that the monitored data along with statistical interpretation will be submitted at MoEF, Bhopal/CPCB/CECB regularly after installation and commissioning of the project.
<i>xiii) The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with</i>	We had published in two local Hindi Newspapers i.e. Desh Bandhu and Amrit Sandesh, Raipur on 29.12.2008 regarding grant

<p><i>the CECB and may also be seen at Website of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office.</i></p>	<p>of Environmental Clearance for expansion of Pelletization Plant into Integrated Steel Plant (1.1MTPA) along with WHRB Power Plant (2x30 MW) at Mandhar, Raipur. Photo copy of the News paper cutting has already been submitted to your good self office with our previous letter.</p>
<p><i>xiv) Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.</i></p>	<p>The proposed expansion is proposed to be established at the existing pellet plant Premises.</p> <p>The Regional Office as well as the Ministry will be informed about the date of financial closure and final approval of the project by the concerned authorities once the construction activities are completed</p>

<p><i>6. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.</i></p>	<p>Noted.</p>
<p><i>7. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.</i></p>	<p>Noted.</p>
<p><i>8. Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred within a period of thirty days as prescribed under Section 11 of the National Environment Appellate Act, 1997.</i></p>	<p>Noted.</p>
<p><i>9. The above conditions shall be enforced, inter0alia under the provisions of the Water (Prevention &amp; Control of Pollution) Act, 1974, the Air (Prevention &amp; Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management &amp; Handling) Rules, 2003 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules.</i></p>	<p>Noted.</p>

OIC

By courier

Annexure - I

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Certificate No. 43269



SEML  
May 3, 2013

To,  
The Regional Officer  
Chhattisgarh Environment Conservation Board  
New HIG – 9, 10 & 11  
Tatibandh  
Raipur (C.G.)

①

**SUB: Stack Emission and Ambient Air Quality Monitoring Report for the Month of April' 2013**

Dear Sir,

Please find attached herewith the monthly report of stack and ambient air monitoring being conducted at our Pellet Plant in the month of April 2013. The result of stack and ambient air monitoring are as follows:

**STACK AIR MONITORING**

SL. NO.	LOCATION	DATE	RESULT (mg/Nm <sup>3</sup> )	PRESCRIBED STANDARD (mg/Nm <sup>3</sup> )
1.	Pellet Plant	19/04/13	38.88	50.00

**AMBIENT AIR MONITORING RESULT**

SL. NO.	LOCATION	DATE	PARAMETERS	RESULT (µgm/m <sup>3</sup> )	PRESCRIBED STANDARD (µgm/m <sup>3</sup> )
1.	In Motion Weigh Bridge	06/04/13	PM <sub>10</sub>	67.95	100
			PM <sub>2.5</sub>	51.02	60
			SO <sub>2</sub>	27.65	80
			NO <sub>x</sub>	28.24	80
2.	Security Post Barrier # 2	06/04/13	PM <sub>10</sub>	78.00	100
			PM <sub>2.5</sub>	52.00	60
			SO <sub>2</sub>	28.01	80
			NO <sub>x</sub>	30.45	80

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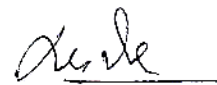


3.	Old Civil Office (Near Cabin)	21/04/13	PM <sub>10</sub>	67.94	100
			PM <sub>2.5</sub>	57.00	60
			SO <sub>2</sub>	25.53	80
			NO <sub>x</sub>	26.17	80
4.	Sub Station	21/04/13	PM <sub>10</sub>	79.97	100
			PM <sub>2.5</sub>	53.04	60
			SO <sub>2</sub>	29.31	80
			NO <sub>x</sub>	30.22	80

Plant was in operation for the entire month of April 2013 except April 17, 2013. It was shut down due to minor maintenance problem. During the running period all the pollution control equipment ran trouble free.

I hope you will find it in order.

**FOR SARDA ENERGY & MINERALS LTD.,**



A. K. NANDA  
VP (PELLET PLANT)

CC: Member Secretary  
Chhattisgarh Environment Conservation Board  
Kabir Nagar Commercial Complex  
Chhattisgarh Housing Board Colony  
Kabir Nagar, Raipur (C.G.)



REGIONAL OFFICE  
C.G. ENVIRONMENT CONSERVATION BOARD  
NEW H.I.G. 9, 10, 11 TATIBANDH, RAIPUR (C.G.)

Industrial Waste Water Analysis Report

Sample Collected From	:	M/s Sarda Energy & Minerals Ltd., Village-Mandar, Raipur.(C.G.)
Description of Sample	:	Domestic waste water
Date & Time of Sample Collection	:	06.09.2012 (04:00 PM)
Date of Sample Received	:	06.09.2012
Date of Sample Analysis	:	06.09.2012
Sample Collected By	:	Gaurish Tripathi (Lab. Attd.)
Sample Analysed by	:	S.K. Khanna (Lab. Asst.)
Reference	:	As Per Payment Basis

S.No.	Characteristics	Unit	Result
1.	pH	pH Unit	7.64
2.	Total Solids	Mg/Liter	326.0
3.	Total Dissolved Solids	"	270.0
4.	Suspended Solids	--	56.0
5.	B.O.D.(3-days at 27 °C)	"	12.0
6.	C.O.D.	"	98.0
7.	Oil & Grease	"	2.3

  
Analyzed by

  
Jr. Scientist

  
Scientist

  
Regional officer



Report No. - 77/12

REGIONAL OFFICE  
C.G. ENVIRONMENT CONSERVATION BOARD  
NEW H.I.G. 9,10,11, TATIBANDH, RAIPUR-492099, (C.G.)

"Air Monitoring Report"

1. Name of Industry : M/s. Sarda Energy & Minerals Ltd.,  
Village-Mandar, Raipur.  
2. Date of Sampling : 06/09/2012  
3. Date of Analysis : 06/09/2012  
4. Monitored By : Sujata Shukla (J.I..A.),  
Gaurish Tripathi (Lab. Attd.)  
5. Reference : As per payment basis

(A) STACK EMISSION

S. No.	Monitoring point	Unit	Characteristic	
			Particulate Matter	Opacity meter
1.	Pallet Plant Stack Outlet	mg/Nm <sup>3</sup>	43.99	36.0

(B) AMBIENT AIR QUALITY

S. No.	Monitoring point	Unit	Characteristic			
			RSPM	SPM	SO <sub>2</sub>	NO <sub>2</sub>
1.	Near In motion weigh bridge approx 300 mtr. away from the source in south west direction	µg/m <sup>3</sup>	103.80	398.09	17.85	38.32
2.	Near Security Post Barrier no. 2 approx 400 mtr. away from the source in North East direction	µg/m <sup>3</sup>	97.91	377.91	20.62	38.10
3.	Near Old Civil office (Near casin) approx 250 mtr. away from the source in South East direction	µg/m <sup>3</sup>	130.0	412.91	18.12	41.92
4.	Near Sub station approx 500 mtr. away from the source in North West direction	µg/m <sup>3</sup>	96.25	340.0	22.5	44.20

Remark

1. During the monitoring pollution control Devices ESP was found in working condition.  
2. During the monitoring period weather was rainy.

G. Tripathi  
Analyzed by

Gadaw  
Scientist

Scientist

Regional Officer



Report No.- 55/12

REGIONAL OFFICE  
C.G. ENVIRONMENT CONSERVATION BOARD  
NEW H.I.G. 9, 10, 11 TATIBANDH, RAIPUR (C.G.)

Natural Water Analysis Report

Sample Collected From	:	M/s Sarda Energy & Minerals Ltd., Village-Mandar, Raipur.(C.G.)
Description of Sample	:	Bore well water
Date & Time of Sample Collection	:	06.09.2012 (02:45 PM)
Date of Sample Received	:	06.09.2012
Date of Sample Analysis	:	06.09.2012
Sample collected By	:	Gaurish Tripathi (Lab. Attd.)
Sample analyzed by	:	S.K. Khanna (Lab. Asst.)
Reference	:	As Per Payment Basis

S.No.	Characteristics	Unit	Result
1	pH	pH Unit	7.84
2	Turbidity	NTU	4.0
3	Total Dissolved Solids	"	242.0
4	Suspended Solids	--	12.0
5	Nitrite Nitrogen (NO <sub>2</sub> -N)	"	1.2
6	Dissolved Oxygen	"	1.2
7	Total Alkalinity	"	96.0
8	Total Hardness (as CaCO <sub>3</sub> )	"	94.0
9	Calcium Hardness (as CaCO <sub>3</sub> )	"	56.0
10	Magnesium Hardness (asCaCO <sub>3</sub> )	"	38.0
11	Sulphate (as SO <sub>4</sub> )	"	14.0
12	Fluoride (as F)	"	0.32
13	Phosphate (as PO <sub>4</sub> )	"	1.2
14	Chloride (as Cl)	"	26.0
15	Calcium	"	22.4
16	Magnesium	"	9.26
17	Coliform	MPN/100 ml	4.0
18	Oil & Grease	"	1.0

  
Analyzed by

  
Jr. Scientist

  
Scientist

  
Regional officer