

1st Floor, Vanijya Bhawan, Jail Road,
Devendra Nagar Square,
Raipur – 492001 (C.G.)
Tel.: +91 7712214210
Fax: +91 7712214213/14
PAN No.: AAACR6149L
CIN: L27100MH1973PLC016617
www.seml.co.in
info@seml.co.in

An ISO 9001, ISO 14001 & OHSAS 18001
Certified Company



The Additional Principal Chief Conservator of Forests (C),
Ministry of Environment, Forest & Climate Change
Regional Office, Western Central Zone,
Ground Floor, East Wing, New Secretariat Building,
Civil Lines, Nagpur-440001,

Sub:-Submission of Compliance Report of conditions stipulated in Environmental Clearance
vide letter no. J-11011/45/2012-IA.II (I) dated 28/10/2016 for Regularization of existing
6,00,000 TPA Iron Ore Pelletization Plant at Phase I of Siltara Industrial Growth Center,
Mandhar, Raipur, Chhattisgarh of M/s Sarda Energy & Minerals Limited .

Dear Sir,

In context with the subject cited matter, we would like to submit Point wise compliance
status of all the conditions mentioned in the Environmental Clearance vide letter No. J-
11011/45/2012- IA II (I) dated 28th October, 2016 as Annexure -I

Thanking you,

Your faithfully
For Sarda Energy & Minerals Limited,

P.S. Dutta Gupta
Authorized Signatory

Encl: a/a

- CC: (I) The Zonal Officer, CPCB, Zonal Office (Central), 3rd Floor, Sahkar Bhawan, North
T.T. Nagar, Bhopal – 462 003.
- (II) The Member Secretary, CECB, "Paryavash Bhawan", North Block, Sector -19 ,
Naya Raipur (C.G.). – 492 002

Point wise compliance status of all the conditions mentioned in the Environmental Clearance vide letter no. J-11011/45/2012-IA.II (I) dated 28/10/2016

S. L	(A) SPECIFIC CONDITIONS	COMPLIANCE STATUS
I.	The project proponent shall install 24x7 air monitoring devices to monitor air emissions as provided by the CPCB and submit report to Ministry and its Regional Office.	<p>We have established four ambient air quality-monitoring stations in the downward direction as well as where maximum ground level concentration of SPM, SO₂ and NO_x are anticipated in consultation with the CECB. The data on ambient air quality and stack emission is being regularly submitted at CECB monthly basis.</p> <p>A copy of the Monitoring Reports from Jan 2018 to April 2018 attached herewith as Annexure - I</p>
II.	Continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices viz Electrostatic Precipitator (ESP), bag house, bag filters etc. shall be provided to keep the emission levels below 50 mg/Nm ³ and installing energy efficient technology.	<p>We have installed opacity meter in our Pelletization Plant stack, for continuous particulate matter emission monitoring. Additionally, we have installed Online Continuous Stack emission motoring facilities for gaseous emissions i.e. NO_x and SO₂ along with data transfer facility. The data is being continuously transferred to CECB and CPCB server.</p> <p>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>We have installed & commissioned Bag Filter & 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>
III.	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16 th November, 2009 shall be followed.	Noted and is being/will be complied with.
IV.	Gaseous emission levels including secondary fugitive emissions from all the	Noted and is being/will be complied with.

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S. L	(A) SPECIFIC CONDITIONS	COMPLIANCE STATUS
	sources shall be controlled within the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30 th May, 2008 and regularly monitored, Guidelines / Code of Practice issued by the CPCB shall be followed.	
V.	The PP shall install scrubber or upgrade the existing scrubbers within one year to reduce SOx emission which will be verified by the regional office.	<p>Low sulphur fuel is being utilized in our pellet plant. Further we have installed Coal Gasifiers which produce producer gas. The producer gas is being utilized in the travelling grate replacing the LDO/HFO. Hence the concentration of SO₂ in the Flue gas is well within the prescribe limit. Sulphur emission is being monitored regularly through a continuous online emission monitoring and the data is being continuously transferred to CECB and CPCB server. We are enclosing herewith the SO₂ monitoring data of our OCSMS for your kind reference as Annexure - 2.</p> <p>As such installation of scrubber is not required in our Iron Ore Pellet Plant and we request you to kindly be waved off this condition.</p>
VI.	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.	<p><i>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 & Finished products.</i></p> <p><i>We have installed & commissioned Bag Filter & 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</i></p>
VII.	The internal roads should be designed such that the fire tenders should reach upto 10 meters of any unit.	<i>The internal road network is designed accordingly.</i>
VIII.	Zero effluent discharge shall be strictly followed and no wastewater shall be discharged outside the premises.	No Industrial effluents are being generated from our Pellet Plant. Water is being used for process mixing and equipment cooling. The process water evaporated at the time of

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S. L	(A) SPECIFIC CONDITIONS	COMPLIANCE STATUS
		<p>heating of pellets. The cooling blow down water is re-circulating in a close system and some make up water is being added for evaporation losses. We have provided concrete settling tanks for settling & collection of cooling blow down water. we have constructed oil & grease separator before the settling tank for separation of Oil & Grease.</p> <p>Domestic waste water is being treated in septic tanks attached with soak pit inside the factory premises.</p> <p>We are not discharging any effluent outside the premises. The concept of zero discharge condition is being maintained all the time.</p>
IX.	Regular monitoring of influent and effluent surface, sub-surface and ground waters shall be ensured and treated wastewater shall meet the norms prescribed by the State Pollution Control Board or described under the E(P) Act whichever are more stringent.	<p><i>Regular monitoring of influent and effluent surface, sub-surface and ground waters is being and will be ensured</i></p> <p><i>Quality of treated waste water is being maintained well within the prescribed standard of Board published in Gazette Notification dated 25.03.1988.</i></p> <p><i>The analysis report for influent and effluent, surface, ground waters and treated wastewater is enclosed as Annexure - 3</i></p>
X.	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, SPCB and CPCB.	<p><i>We have made arrangement for collection, storage, transportation and disposal of all solid waste. The solid waste generated from pollution control equipment is being collected manually and all dust is being recycled back to process again for Pelletization. All raw materials, fuel and solid waste is being stored in covered shed for avoid any fugitive emission. We have made arrangement for the same</i></p>
XI.	A time bound action plan shall be submitted for reduction in solid waste, its proper utilization and disposal.	<p><i>The only solid waste being generated from our pellet plant is ESP and Bag filter Dust which is being recycled back as raw material.</i></p>
XII.	Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 1999 and subsequent amendment in 2003 and 2009. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of	<p><i>Fly ash (ESP/Bag filter Dust) is the only solid waste being generated from our Iron Ore Pellet Plant. ESP/Bag filter Dust - 14580 TPA (Max) is being reused in our pellet plant as Raw material.</i></p>

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S. L	(A) SPECIFIC CONDITIONS	COMPLIANCE STATUS
	Understanding shall be submitted to the Ministry's Regional Office at Nagpur.	
XIII.	A Risk and Disaster Management Plan shall be prepared and a copy submitted to the Ministry's Regional Office, SPCB and CPCB within 3 months of issue of environment clearance letter.	<i>The Risk and Disaster Management Plan has been prepared and submitted vide our letter no SEML/ENV/MAN/4755 dated 01.07.2018.</i>
XIV.	Green belt shall be developed in at least 33% of the project area by planting native and broad leaved species in consultation with local DFO and local communities as Per the CPCB guidelines. The green belt should be development within 1 year time form the date of grant of Environmental Clearance.	<i>SEML will develop extensive green belt in 67.469 Ha, 33% of the total 204.452 Ha land available within the premises as per the CPCB guidelines. We have planted about 13000 no of saplings in the plant premises up to 31stMarch, 2018, thus the total Plantation done is 79,270 No of Saplings i.e. an area of around 52.85 Ha.</i>
XV.	At least 2.5% of the total cost of the project shall be earmarked based on Public Hearing issues, locals need and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office. Implementation of such program shall be ensured by constituting a Committee comprising of the proponent, representatives of village Pauchayat and District Administration. Action taken report in this regard shall be submitted to the Ministry's Regional Office.	<p><i>We have earmarked Rs. 472 Lac i.e. 2.5% gross capital invested on our Iron Ore Pelletization Plant towards Enterprise Social Commitment.</i></p> <p><i>The time Bond action plan is Annexed as Annexure – 4.</i></p> <p><i>Further we have requested the Raipur Collector with a copy to Chief Executive Officer, District Panchayat, Raipur for constituting a committee. Our letter no SEML/ENV/MAN/4901 dated 23.01.2019 is enclosed as Annexure – 5 for your ready reference.</i></p>
XVI.	The proponent shall prepare a detailed CSR Plan for every year for the next 5 years for the existing cum-expansion project, which includes village-wise, sector-wise (Health, Education, Sanitation, Health, Skill Development and infrastructure requirements such as strengthening of village roads, avenue plantation, etc) activities in consultation with the local communities and administration. The CSR Plan will include the amount of 2% retain annual profits as provided for in Clause 135 of the Companies Act, 2013 which provides for 2% of the average net profits of previous	CSR Plan is enclosed as Annexure -6



S. L	(A) SPECIFIC CONDITIONS	COMPLIANCE STATUS
	<p>3years towards CSR activities for life of the project. A separate buget head shall becreated and the annual capital and revenue expenditure on various activities of the Plan shall be submitted as part of the Compliance Report to RO, The details of the CSR Plan shall also be uploaded on the company website and shall also be provided in the Annual Report of the company. The plan so prepared shall be based on SMART (Specific, Measurable, Achievable, Relevant and Time bound) concept. The expenditure should be aimed at sustainable development and direct free distribution and temporary relief should not be included.</p>	
XVII.	<p>The Company shall submit within three months their policy towards Corporate Environment Responsibility which shall inter-aha address (i) Standard operating process / procedure to being into focus any infringement/deviation/ violation of environmental or forest norms/conditions, (ii) Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance tothe environmental clearance conditions and (iii) System of reporting of non-compliance/violation environmental norms to the Board of Directors of the company and/or stakeholders or shareholders</p>	<p><i>Our Corporate Environment Policy is enclosed herewith as Annexure – 7.</i></p> <p><i>Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance to the environmental clearance conditions is enclosed herewith as Annexure – 8.</i></p> <p><i>An environmental management cell has been established to implement the management plan. The environmental management cell is being headed by Plant Head (Sr. Vice-President). The group has/will ensure the suitability, adequacy and effectiveness of the Environment Management Program. The functions of Environmental Management Cell are/will be:</i></p> <ul style="list-style-type: none"> <i>• Obtaining consent order from State Pollution Control Board.</i> <i>• Environmental monitoring.</i> <i>• Analysis of environmental data, preparations and submission of report to statutory authorities, & Corporate Office.</i> <i>• To co-ordinate with statutory bodies, functional groups of the plant units & head office.</i> <i>• Interactions with plant official for modification programme if any to improve</i>

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S. L	(A) SPECIFIC CONDITIONS	COMPLIANCE STATUS
		<p><i>pollution control devices / systems.</i></p> <ul style="list-style-type: none"> • <i>Environmental Appraisal (Internal) and Environmental Audit</i> • <i>In case non compliance/violation of environment laws, the environment cell will suggest remedial measures and get them implemented.</i>
XVIII.	The project proponent shall provide for solar light system for all common areas, streetlights, villages, parking around project area and maintain the same regularly.	<i>Noted, We have provided LED lights in offices of all our units at Mandhar and Siltara.</i>
XIX.	The project proponent shall provide for LED lights In their offices and residential areas.	Our company has installed 100KW solar power plant in the premises. This Solar Power Plant generates 1,25,000 unit/annum for captive consumption .the said plant is being consumed for streetlights, parking and office administration building.
XX.	Provision shall be made for the housing of construction labour 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 temproray structures to be removed after the completion of the project.	<i>No new construction work is required for our existing operational 0.6 MTPA Pelletization Plant.</i>

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GENERAL CONDITIONS

S. L	TERMS & CONDITIONS	COMPLIANCE
I.	The project authorities must strictly adhere to the stipulations made by the Chhattisgarh Environment Conservation Board and the State Government.	We are complying with all the conditions stipulated in the consent issued by CECB under Water & Air Act.
II.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC).	No further expansion or modifications in the plant will be carried out without prior approval of the Ministry of Environment and Forests
III.	At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM ₁₀ , PM _{2.5} , SO ₂ and NO _x are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Nagpur and the SPCB/CPCB once in six months.	Four Ambient Air Quality monitoring station established in the premises in the downward direction as well as where maximum ground level concentration of PM ₁₀ , PM _{2.5} , SO ₂ and NO _x are anticipated in consultation with the CECB. We are regular monitoring ambient air quality & stack emission. Monitoring report is being submitted to Board on monthly basis. Copy of the Ambient Air Quality monitoring reports for last 6 months is enclosed herewith as Annexure-1
IV.	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 th May, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.	Noted and is being/shall be complied with.
V.	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. 75dBA (daytime) and 70 dBA (nighttime).	Effective control measures for attenuation of noise generated from various machinery and operations is being practiced to control the noise within permissible limits. We have already provided acoustic hoods, silencers, enclosures etc. on all sources of noise generation in the existing plant. The ambient noise level is being maintained well below the prescribed standards.
VI.	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Occupational Health surveillance of the workers has been conducted periodically and corrective measures are taken. The records are being maintained as per the Factories Act.
VII.	The company shall develop rain water	We have adopted rainwater-harvesting

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	<p>harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.</p>	<p>technique in the plant premises to recharge ground water. In this connection, we have made two water reservoirs of capacity 1,35,784 Cu. Meter & 1,59,274 Cu. Meter to collect rain water during monsoon season in the plant through a well connected drain system.</p> <p>Further, we have constructed, 03 No. of Recharge Well (03 feet Dia x 08-10 Feet Depth) inside Rainwater Harvesting Tank 1 and 02 No. of Recharge Well (05 feet Dia x 08- 10 Feet Depth) inside Rainwater Harvesting Tank 2.</p>
VIII.	<p>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.</p>	<p>We will comply/ are compiling with all the environmental protection measures and safeguards recommended in the EIA/EMP report. We have undertaken socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc. and in future also we will continue the same.</p>
IX.	<p>Requisite funds 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, Forest and Climate Change (MoEFCC) 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 Nagpur. The funds so provided shall not be diverted for any other purpose.</p>	<p>We have Requisite funds 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. The expenditure against pollution control and Environment management in the Year 2017 -2018 is enclosed as Annexure 9.</p>
X.	<p>A copy of clearance letter shall be sent by the proponent to concerned Panchayat Zila Parishad/Municipal Corporation, Urban Local Body and the</p>	<p>A copy of clearance letter has been sent to the Sarpanch, Gram Panchayat Mandhar, vide our letter no SEML/ENV/MAN/4452 dated 07.11.2016</p>

Further

	local NGO, if any from whom suggestions /representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.	A copy of the environment clearance has been uploaded on the company's web site http://seml.co.in/projfiledisplay.php?%20ProjCode=2
XI.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEFCC at Nagpur. The respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; PM ₁₀ , SO ₂ , NO _x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	We are submitting the Half Yearly Compliance report which includes the monitoring reports regularly to: 1. The Additional Principal Chief Conservator of Forests (C), Ministry of Environment, Forest & Climate Change, Regional Office, Western Central Zone, Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur-440001, With a Copy to: 1. The Zonal Officer, CPCB, Zonal Office (Central), 3rd Floor, Sahkar Bhawan, North T.T. Nagar, Bhopal – 462 003. 2. The Member Secretary, CECB, "Paryavash Bhawan", North Block, Sector -19, Naya Raipur (C.G.). – 492 002 A copy of the Half yearly compliance reports which includes the monitoring reports has been uploaded on the company's web site (http://seml.co.in/projfiledisplay.php?%20ProjCode=2)
XII.	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEFCC, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry at Nagpur / CPCB / SPCB shall monitor the stipulated conditions.	A copy of the Half yearly compliance reports which includes the monitoring reports has been uploaded on the company's web site (http://seml.co.in/projfiledisplay.php?%20ProjCode=2)
XIII.	The environmental statement for each financial year ending 31st March in Form-V as 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 put on the website of the company along with the status of compliance of environment sent to the respective Regional Office of the MOEFCC at Nagpur by e-mail.	The Environment Statement report for each financial year ending 31st March in Form-V is being submitted regularly to Board as per the provision of Environment (Protection) amendment Rules, 1993 A copy of the Environment Statement has been uploaded on the company's web site http://seml.co.in/projfiledisplay.php?%20ProjCode=2
XIV.	The Project Proponent shall inform the public that the project has been	We had published in two local Hindi Newspapers i.e. Patrika and Hari Bhumi,

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	accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forests and Climate Change (MoEFCC) at http://envfor.nic.in . 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 localoty concerned and a copy of the same should be forwarded to the Regional office at Nagpur.	Raipur on 05.11.2016 regarding grant of Environmental Clearance for Regularization of existing 6,00,000 TPA Iron Ore Pelletization Plant at Mandhar, Raipur...
XV.	Project authorities shall inform the Regional Office as well as the Minisitry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	The said project is under operation and all the major capital investments have already been made.
10.0	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted
11.0	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Noted
12.0	The above conditions shall be enforced, inter-aha 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, Hazardous Wastes (Management, Handling and Transboundary Movement) Rufes, 2008 and the Public (Insurance) Liability Act, 1991 along with their amcndmnts and rules.	Noted

Further

Industrial Growth Center, Siltara
Raipur (CG) 493111, India
Tel: +91 771 2216100
Fax: +91 771 2216198/99
PAN No.: AAACR6149L
www.seml.co.in
info@seml.co.in

An ISO 9001, ISO 14001 & OHSAS 18001
Certified Company



CIN OF SEML IS
L27100MH1973PLC 016617

SEML/2018-19/HSE/MRM/ 445
6 July, 2018

To,
The Regional Officer
Chhattisgarh Environment Conservation Board
Kabir Nagar Commercial Complex
Chhattisgarh Housing Board Colony
Kabir Nagar, Raipur (C.G.)

SUB: Stack Emission and Ambient Air Quality Monitoring Report for the Month of June, 2018

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 **June, 2018**. The result of stack and ambient air monitoring are as follows:

STACK AIR MONITORING

SL. NO.	LOCATION	DATE	RESULT (mg/Nm ³)	PRESCRIBED STANDARD (mg/Nm ³)
1.	Pellet Plant	09/06/18	43.56	50


AMBIENT AIR MONITORING RESULT

SL. NO.	LOCATION	DATE	PARAMETER S	RESULT (µgm/m ³)	PRESCRIBED STANDARD (µgm/m ³)
1.	In Motion Weigh Bridge	22/06/18	PM ₁₀	81.13	100
			PM _{2.5}	32.99	60
			SO ₂	30.18	80
			NO _x	34.15	80
2.	Security Post Barrier # 2	22/06/18	PM ₁₀	66.82	100
			PM _{2.5}	22.46	60
			SO ₂	28.19	80
			NO _x	27.32	80

3.	Sub Station	23/06/18	PM ₁₀	87.11	100
			PM _{2.5}	30.13	60
			SO ₂	31.44	80
			NO _x	33.42	80
4.	Old Civil Office (Near Cabin)	23/06/18	PM ₁₀	69.29	100
			PM _{2.5}	23.75	60
			SO ₂	32.22	80
			NO _x	33.12	80

All the pollution control equipment run without any stoppage for the entire month.
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
Paryavash Bhavan North Block
Sec. 19 naya Raipur
492002

Industrial Growth Center, Siltara
Raipur (CG) 493111, India
Tel: +91 771 2216100
Fax: +91 771 2216198/99
PAN No.: AAACR6149L
www.seml.co.in
info@seml.co.in

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CIN OF SEML IS

L27100MH1973PLC 016617

SEML/2018-19/HSE/MRM/ 518
6 Aug, 2018

To,
The Regional Officer
Chhattisgarh Environment Conservation Board
Kabir Nagar Commercial Complex
Chhattisgarh Housing Board Colony
Kabir Nagar, Raipur (C.G.)

SUB: Stack Emission and Ambient Air Quality Monitoring Report for the Month
of July, 2018

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 **July, 2018**. The result of stack and ambient air monitoring are as follows:

STACK AIR MONITORING

SL. NO.	LOCATION	DATE	RESULT (mg/Nm ³)	PRESCRIBED STANDARD (mg/Nm ³)
1.	Pellet Plant	28/07/18	44.76	50

AMBIENT AIR MONITORING RESULT

SL. NO.	LOCATION	DATE	PARAMETER S	RESULT (µgm/m ³)	PRESCRIBED STANDARD (µgm/m ³)
1.	In Motion Weigh Bridge	22/07/18	PM ₁₀	73.67	100
			PM _{2.5}	25.95	60
			SO ₂	24.18	80
			NO _x	25.22	80
2.	Security Post Barrier # 2	18/07/18	PM ₁₀	55.30	100
			PM _{2.5}	18.67	60
			SO ₂	21.18	80
			NO _x	23.42	80

Registered Office : 73/A, Central Avenue, Shri Ram Niketan, Nagpur (MH) 440018, Tel: 91 712 8722407 Fax: 0712-2722107 India



3.	Sub Station	23/07/18	PM ₁₀	72.11	100
			PM _{2.5}	25.93	60
			SO ₂	22.13	80
			NO _x	23.18	80
4.	Old Civil Office (Near Cabin)	23/07/18	PM ₁₀	79.03	100
			PM _{2.5}	27.07	60
			SO ₂	20.15	80
			NO _x	22.23	80

All the pollution control equipment run without any stoppage for the entire month.
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
Paryavash Bhavan North Block
Sec. 19 naya Raipur
492002

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Raipur (CG) 493111, India
Tel: +91 771 2216100
Fax: +91 771 2216198/99
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CIN : L27100MH1973PLC 016617
www.seml.co.in
info@seml.co.in

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SEML/2018-19/HSE/MRM/550
6 September, 2018

To,
The Regional Officer
Chhattisgarh Environment Conservation Board
Kabir Nagar Commercial Complex
Chhattisgarh Housing Board Colony
Kabir Nagar, Raipur (C.G.)

SUB: Stack Emission and Ambient Air Quality Monitoring Report for the Month of August, 2018

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 **August, 2018**. The result of stack and ambient air monitoring are as follows:

STACK AIR MONITORING

SL. NO.	LOCATION	DATE	RESULT (mg/Nm ³)	PRESCRIBED STANDARD (mg/Nm ³)
1.	Pellet Plant	25/08/18	33.16	35

AMBIENT AIR MONITORING RESULT

SL. NO.	LOCATION	DATE	PARAMETER S	RESULT (µgm/m ³)	PRESCRIBED STANDARD (µgm/m ³)
1.	In Motion Weigh Bridge	07/08/18	PM ₁₀	56.08	100
			PM _{2.5}	18.88	60
			SO ₂	23.15	80
			NO _x	24.00	80
2.	Security Post Barrier # 2	07/08/18	PM ₁₀	65.13	100
			PM _{2.5}	21.56	60
			SO ₂	17.22	80
			NO _x	19.15	80

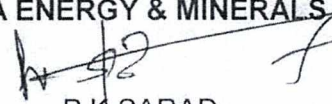


Registered Office : 73/A, Central Avenue, Nagpur (MH) 440018, Tel: 91 712 2722407, Fax: 0712-2722107 India

3.	Sub Station	06/08/18	PM ₁₀	55.96	100
			PM _{2.5}	18.07	60
			SO ₂	16.13	80
			NO _x	17.14	80
4.	Old Civil Office (Near Cabin)	06/08/18	PM ₁₀	65.63	100
			PM _{2.5}	22.62	60
			SO ₂	18.19	80
			NO _x	20.14	80

All the pollution control equipment run without any stoppage for the entire month.
I hope you will find it in order.

FOR SARDA ENERGY & MINERALS LTD.,


P K SARAD
(HEAD-PELLET)

CC: Member Secretary
Chhattisgarh Environment Conservation Board
Paryavash Bhavan North Block
Sec. 19 naya Raipur
492002

Industrial Growth Center, Siltara
Raipur (CG) 493111, India
Tel: +91 771 2216100
Fax: +91 771 2216198/99
PAN No.: AAACR6149L
www.seml.co.in
info@seml.co.in

An ISO 9001, ISO 14001 & OHSAS 18001
Certified Company



CIN OF SEML IS

L27100MH1973PLC 016617

SEML/2018-19/HSE/MRM/619
6 October, 2018

To,
The Regional Officer
Chhattisgarh Environment Conservation Board
Kabir Nagar Commercial Complex
Chhattisgarh Housing Board Colony
Kabir Nagar, Raipur (C.G.)

SUB: Stack Emission and Ambient Air Quality Monitoring Report for the Month of September, 2018

Dear Sir,

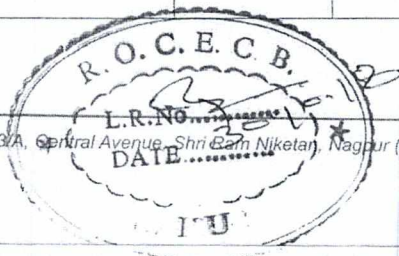
Please find attached herewith the monthly report of stack and ambient air monitoring being conducted at our Pellet Plant in the month of **September, 2018**. The result of stack and ambient air monitoring are as follows:

STACK AIR MONITORING

SL. NO.	LOCATION	DATE	RESULT (mg/Nm ³)	PRESCRIBED STANDARD (mg/Nm ³)
1.	Pellet Plant	20/09/18	33.26	35

AMBIENT AIR MONITORING RESULT

SL. NO.	LOCATION	DATE	PARAMETER S	RESULT (µgm/m ³)	PRESCRIBED STANDARD (µgm/m ³)
1.	In Motion Weigh Bridge	08/09/18	PM ₁₀	68.02	100
			PM _{2.5}	22.45	60
			SO ₂	22.18	80
			NO _x	24.45	80
2.	Security Post Barrier # 2	07/09/18	PM ₁₀	55.16	100
			PM _{2.5}	18.18	60
			SO ₂	19.15	80
			NO _x	21.18	80

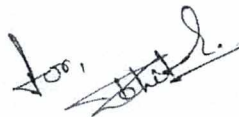


Registered Office : 73/A, Central Avenue, Shri Ram Niketan, Nagpur (MH) 440018, Tel: 91 712 2722407 Fax: 0712-2722107 India

3.	Sub Station	07/09/18	PM ₁₀	67.09	100
			PM _{2.5}	23.80	60
			SO ₂	18.22	80
			NO _x	22.15	80
4.	Old Civil Office (Near Cabin)	08/09/18	PM ₁₀	79.44	100
			PM _{2.5}	28.57	60
			SO ₂	18.23	80
			NO _x	20.45	80

All the pollution control equipment run without any stoppage for the entire month.
I hope you will find it in order.

FOR SARDA ENERGY & MINERALS LTD.,



**P K SARAD
(HEAD-PELLET)**

CC: Member Secretary
Chhattisgarh Environment Conservation Board
Paryavash Bhavan North Block
Sec. 19 naya Raipur
492002

Industrial Growth Center, Siltara
Raipur (CG) 493111, India
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info@seml.co.in

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Certified Company



SEML/2018-19/HSE/MRM/690
6 November, 2018

To,
The Regional Officer
Chhattisgarh Environment Conservation Board
Kabir Nagar Commercial Complex
Chhattisgarh Housing Board Colony
Kabir Nagar, Raipur (C.G.)

SUB: **Stack Emission and Ambient Air Quality Monitoring Report for the Month of October, 2018**

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 **October, 2018**. The result of stack and ambient air monitoring are as follows:

STACK AIR MONITORING

SL. NO.	LOCATION	DATE	RESULT (mg/Nm ³)	PRESCRIBED STANDARD (mg/Nm ³)
1.	Pellet Plant	12/10/18	29.57	35

AMBIENT AIR MONITORING RESULT

SL. NO.	LOCATION	DATE	PARAMETER S	RESULT (µgm/m ³)	PRESCRIBED STANDARD (µgm/m ³)
1.	In Motion Weigh Bridge	26/10/18	PM ₁₀	71.23	100
			PM _{2.5}	23.68	60
			SO ₂	22.18	80
			NO _x	24.55	80
2.	Security Post Barrier # 2	26/10/18	PM ₁₀	54.99	100
			PM _{2.5}	18.94	60
			SO ₂	20.15	80
			NO _x	22.42	80



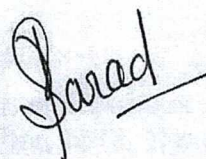
Registered Office: 73/A, Central Avenue, Nagpur (MH) 440018, Tel: 91 712 2722407 Fax: 0712-2722107 India

RAIPUR

3.	Sub Station	25/10/18	PM ₁₀	78.14	100
			PM _{2.5}	26.89	60
			SO ₂	19.42	80
			NO _x	21.15	80
4.	Old Civil Office (Near Cabin)	25/10/18	PM ₁₀	69.12	100
			PM _{2.5}	23.65	60
			SO ₂	17.42	80
			NO _x	19.55	80

All the pollution control equipment run without any stoppage for the entire month.
I hope you will find it in order.

FOR SARDA ENERGY & MINERALS LTD.,



(HEAD-PELLET)

CC: Member Secretary
Chhattisgarh Environment Conservation Board
Paryavash Bhavan North Block
Sec. 19 Atal Nagar(Naya Raipur)
492002

Industrial Growth Center, Siltara
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An ISO 9001, ISO 14001 & OHSAS 18001
Certified Company



SEML/2018-19/HSE/MRM/717
6 December, 2018

To,
The Regional Officer
Chhattisgarh Environment Conservation Board
Kabir Nagar Commercial Complex
Chhattisgarh Housing Board Colony
Kabir Nagar, Raipur (C.G.)

SUB: Stack Emission and Ambient Air Quality Monitoring Report for the Month of November, 2018

Dear Sir,

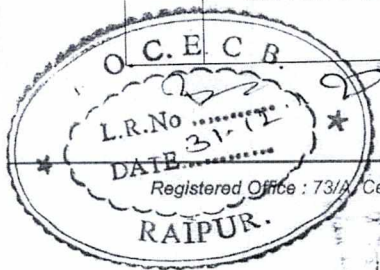
Please find attached herewith the monthly report of stack and ambient air monitoring being conducted at our Pellet Plant in the month of **November, 2018**. The result of stack and ambient air monitoring are as follows:

STACK AIR MONITORING

SL. NO.	LOCATION	DATE	RESULT (mg/Nm ³)	PRESCRIBED STANDARD (mg/Nm ³)
1.	Pellet Plant	21/11/18	32.06	35

AMBIENT AIR MONITORING RESULT

SL. NO.	LOCATION	DATE	PARAMETER S	RESULT (µgm/m ³)	PRESCRIBED STANDARD (µgm/m ³)
1.	In Motion Weigh Bridge	28/11/18	PM ₁₀	72.09	100
			PM _{2.5}	25.89	60
			SO ₂	24.15	80
			NO _x	28.18	80
2.	Security Post Barrier # 2	28/11/18	PM ₁₀	65.13	100
			PM _{2.5}	22.57	60
			SO ₂	24.18	80
			NO _x	26.13	80



Registered Office : 73/A Central Avenue, Nagpur (MH) 440018, Tel: 91 712 2722407 Fax: 0712-2722107 India

3.	Sub Station	22/11/18	PM ₁₀	67.15	100
			PM _{2.5}	23.65	60
			SO ₂	22.18	80
			NO _x	26.23	80
4.	Old Civil Office (Near Cabin)	22/11/18	PM ₁₀	78.59	100
			PM _{2.5}	27.13	60
			SO ₂	22.15	80
			NO _x	27.18	80

All the pollution control equipment run without any stoppage for the entire month.
I hope you will find it in order.

FOR SARDA ENERGY & MINERALS LTD.,



(HEAD-PELLET)

CC: Member Secretary
Chhattisgarh Environment Conservation Board
Paryavash Bhavan North Block
Sec. 19 Atal Nagar(Naya Raipur)
492002

Sarda Energy & Minerals Limited

Location Village Mandhar, Raipur (C.G.)

Stack Name 0.6 MTPA Iron Ore Pellet Plant

ULR: <http://in-1.webfront.m2mlogger.com/EnviroFRONT>

Scan Time stamp	NOx	PM	SO ₂
	(mg/Nm ³)		
5-Jan-19			
15:50	0	30.63	159.52
15:45	73.32	31.31	392.25
15:35	0	30.09	209.2
15:30	73.32	31.44	410.56
15:25	41.36	31.38	227.51
15:20	71.44	31.31	407.94
15:15	65.8	30.94	368.72
15:10	0	31.25	167.36
15:05	78.96	31.13	358.26
15:05	78.96	31.31	358.26
14:55	82.72	31.31	358.26
14:50	80.84	31.25	350.41
14:45	0	31.19	73.22
14:40	86.48	31.25	355.64
14:35	75.2	31.25	311.19
14:30	0	26.84	188.28
14:25	82.72	31	347.8
14:15	90.24	31.38	347.8
14:10	84.6	31.13	324.26
14:05	0	30.81	156.9
14:00	90.24	31.38	329.49
14:00	90.24	31.06	329.49
13:55	78.96	31	264.12
13:50	95.88	31.19	313.8
13:45	94	31	311.19
13:35	97.76	31.19	303.34
13:30	88.36	27.03	269.35
13:25	0	31.19	159.52
13:20	97.76	31.13	285.04
13:15	75.2	27.34	190.9
13:10	105.28	31.19	248.43
13:05	103.4	30.69	235.35
4-Jan-19			
23:45	154.16	31.19	162.13
23:40	199.28	30.94	253.66



Scan Time stamp	NOx	PM	SO ₂
	(mg/Nm ³)		
23:35	180.48	31.25	232.74
23:30	41.36	27.22	73.22
23:25	203.04	31.38	271.96
23:20	157.92	31.38	206.59
23:15	208.68	31.25	277.19
23:05	116.56	31.56	73.22
23:00	199.28	31.13	298.11
22:55	167.32	31.38	269.35
22:50	184.24	31.19	305.96
22:45	182.36	31.44	305.96
22:40	148.52	31.56	222.28
22:40	142.88	31.25	198.74
22:35	188	27.16	298.11
22:25	30.08	31.5	164.75
22:20	188	31.38	305.96
22:15	156.04	31.13	248.43
22:10	186.12	31.5	324.26
22:05	180.48	31.38	311.19
22:00	125.96	31.44	172.59
21:55	191.76	31.38	329.49
21:45	37.6	31.5	196.13
21:40	186.12	31.56	342.57
21:35	152.28	27.47	266.73
21:35	144.76	27.22	240.58
21:30	188	31.5	342.57
21:25	169.2	31.13	321.65
21:20	18.8	27.09	164.75
21:15	184.24	31.44	353.03
21:05	178.6	27.22	350.41
21:00	172.96	31.31	339.95
20:55	125.96	31.38	201.36
20:50	184.24	26.91	366.1
20:45	163.56	31.56	324.26
20:40	28.2	31.63	198.74
20:35	189.88	26.97	389.64
20:30	142.88	31.69	295.5
20:25	189.88	31.63	410.56
20:20	176.72	27.28	384.41
20:15	30.08	31.5	172.59
20:10	184.24	31.44	413.17
20:05	150.4	26.78	350.41
20:00	184.24	31.31	407.94
19:50	124.08	27.22	264.12
19:45	178.6	31.31	426.25

Scan Time stamp	NOx	PM	SO ₂
	(mg/Nm ³)		
19:40	152.28	31.13	389.64
19:35	9.4	28.22	188.28
19:30	172.96	31.25	397.48
19:25	135.36	31.13	345.18
19:25	125.96	31.31	319.03
19:20	172.96	26.91	421.02
19:10	50.76	31.38	180.44
19:05	169.2	26.97	444.55
19:00	131.6	31.06	394.87
18:55	165.44	31.5	452.4
18:50	161.68	27.28	449.78
18:45	103.4	31.31	308.57
18:40	157.92	31.19	468.09
18:30	0	30.94	185.67
18:25	133.48	31.19	462.86
18:20	103.4	31.25	397.48
18:20	94	27.22	371.33
18:15	116.56	31.38	462.86
18:10	109.04	31.31	444.55
18:05	30.08	26.72	190.9
18:00	114.68	31.06	468.09
17:50	107.16	27.03	470.7
17:45	107.16	31.25	470.7
17:40	69.56	30.81	334.72
17:35	101.52	27.22	486.39
17:30	92.12	31.5	468.09
17:25	0	31.38	175.21
17:20	95.88	26.47	491.62
17:15	75.2	31.56	400.1
17:10	84.6	31.56	444.55
17:05	80.84	26.72	431.48
17:00	18.8	31.44	193.51
16:55	90.24	31.44	473.32
16:50	78.96	26.97	405.33
16:45	0	31.19	188.28
16:35	67.68	27.22	326.88
16:30	97.76	31.19	444.55
16:25	94	31.38	426.25
16:20	0	26.78	159.52
16:15	97.76	31.38	452.4
16:10	88.36	31.13	400.1
16:10	84.6	31	376.56
16:05	92.12	27.22	449.78
15:55	33.84	31.13	188.28



Scan Time stamp	NOx	PM	SO ₂
	(mg/Nm ³)		
15:50	94	26.91	407.94
15:45	84.6	31.19	376.56
15:40	0	31.69	190.9
15:35	95.88	26.91	447.17
15:30	75.2	31.06	326.88
15:25	103.4	31	449.78
15:15	0	31.5	156.9
15:10	103.4	31.19	426.25
15:05	92.12	31.31	381.79
15:05	88.36	26.84	358.26
15:00	107.16	31.69	410.56
14:55	105.28	31.13	407.94
14:50	58.28	26.84	217.05
14:45	107.16	31.5	413.17
14:35	0	27.16	167.36
14:30	109.04	31.06	379.18
14:25	86.48	30.94	279.81
14:20	109.04	27.03	371.33
14:15	105.28	31.25	353.03
14:10	0	31.56	62.76
14:05	110.92	27.22	358.26
14:00	99.64	31.38	292.88
13:55	122.2	31.31	334.72
13:50	120.32	26.91	332.11
13:45	84.6	31.13	193.51
13:40	125.96	31.44	329.49
13:35	118.44	26.72	303.34
13:30	0	31.69	67.99
13:20	109.04	27.41	232.74
13:15	144.76	31.44	287.65
13:10	139.12	31.06	279.81
13:05	22.56	27.16	47.07
13:00	157.92	31.25	282.42
12:55	141	31.56	256.27
12:55	135.36	31.19	243.2
12:50	82.72	26.91	211.82
12:40	116.56	29.72	177.82
12:35	152.28	30.09	256.27
12:30	141	31.5	227.51
12:25	11.28	31.31	36.61
12:20	150.4	26.84	219.66
12:15	124.08	31.38	175.21
12:10	159.8	31.31	203.97
12:00	92.12	31	31.38

Scan Time stamp	NOx	PM	SO ₂
	(mg/Nm ³)		
11:55	176.72	31.31	201.36
11:50	167.32	27.03	183.05
11:50	161.68	31.25	175.21
11:45	37.6	31.38	36.61
11:40	182.36	31.56	180.44
11:35	146.64	27.03	52.3
11:30	188	31.56	159.52
11:20	35.72	26.91	13.08
11:15	191.76	31.13	156.9
11:10	165.44	31.06	49.69
11:05	199.28	27.22	70.61
11:00	193.64	31.5	67.99
10:55	148.52	31.31	13.08
10:50	204.92	27.09	65.38
10:45	188	31.25	44.46
10:40	52.64	31.38	15.69
10:35	206.8	26.78	49.69
10:30	176.72	31.25	20.92
10:25	208.68	31.31	41.84
10:20	199.28	27.03	36.61
10:15	73.32	31.56	0
10:10	206.8	31.38	34
10:00	203.04	31.25	23.54
9:55	203.04	31.19	20.92
9:50	169.2	27.16	0
9:45	210.56	31.75	15.69
9:40	203.04	31.13	10.46
9:40	199.28	31.56	5.23
9:35	65.8	26.97	0
9:25	199.28	31.5	0
9:20	223.72	27.03	7.85
9:15	218.08	31.19	5.23
9:10	150.4	31.44	0
9:05	225.6	27.03	7.85
9:00	204.92	31	0
8:55	231.24	31.5	0
8:45	203.04	31.13	0
8:40	240.64	31.38	0
8:35	233.12	31.31	0
8:35	229.36	27.09	0
8:30	94	31.31	0
8:25	253.8	31.38	0
8:20	227.48	31	0
8:15	255.68	31.38	0

Scan Time stamp	NOx	PM	SO ₂
	(mg/Nm ³)		
8:05	201.16	27.16	0
8:00	246.28	31.13	0
7:55	231.24	30.31	0
7:50	112.8	31.25	0
7:45	257.56	31.63	0
7:40	225.6	29.72	0
7:35	251.92	31	0
7:30	238.76	31.38	0
7:25	112.8	29.53	0
7:20	251.92	31.38	0
7:15	225.6	30.94	0
7:10	246.28	29.47	0
7:05	238.76	31.31	0
7:00	195.52	31.38	0
6:55	236.88	29.09	0
6:45	101.52	30.88	0
6:40	246.28	30.31	0
6:35	219.96	26.53	0
6:30	240.64	31.44	0
6:25	233.12	30.38	0
6:25	231.24	30.25	0
6:20	152.28	28.28	0
6:10	214.32	30.31	0
6:05	242.52	26.91	0
6:00	238.76	31.25	0
5:55	204.92	30.81	0
5:50	235	31.25	0
5:45	221.84	31.13	0
5:40	97.76	31.13	0
5:30	221.84	31.38	0
5:25	263.2	31.13	0
5:20	257.56	31.44	0
5:20	250.04	26.84	0
5:15	191.76	31.13	0
5:10	257.56	29.91	0
5:05	231.24	27.41	0
5:00	261.32	31.5	0
4:50	216.2	30.94	0
4:45	250.04	31.63	5.23
4:40	229.36	30.31	0
4:35	92.12	31	0
4:30	246.28	31.19	5.23
4:25	206.8	30.25	0
4:20	240.64	31.56	2.62



Scan Time stamp	NO _x	PM	SO ₂
	(mg/Nm ³)		
4:15	233.12	31	0
4:10	186.12	30.31	0
4:05	238.76	31.06	5.23
4:00	212.44	31.19	0
3:55	238.76	29.22	10.46
3:50	238.76	31.06	10.46
3:45	204.92	31.38	0
3:40	242.52	30.09	15.69
3:30	84.6	31.5	0
3:25	235	26.84	13.08
3:20	208.68	31.13	0
3:15	236.88	31.25	23.54
3:10	236.88	31.25	23.54
3:10	231.24	31.13	23.54
3:05	184.24	31.06	0
2:55	197.4	30.63	15.69
2:50	78.96	31.69	0
2:45	223.72	31.31	20.92
2:40	189.88	31.38	0
2:35	229.36	31.44	26.15
2:30	214.32	31.63	18.31
2:25	110.92	31.13	0
2:15	195.52	31.25	15.69
2:10	229.36	30.31	31.38
2:05	229.36	30.94	31.38
2:05	223.72	31.38	28.77
2:00	176.72	31	0
1:55	231.24	30.94	39.23
1:50	203.04	31.25	28.77
1:45	75.2	31.13	5.23
1:35	186.12	31.5	18.31
1:30	235	31.56	54.92
1:25	219.96	31.63	52.3
1:20	139.12	31.25	0
1:15	240.64	31.13	62.76
1:10	206.8	31.13	41.84
1:05	235	31.25	70.61
1:00	229.36	31.19	70.61
0:55	176.72	30.81	23.54
0:50	225.6	31.38	67.99
0:45	210.56	31.56	54.92
0:40	63.92	27.78	18.31
0:35	231.24	31.5	156.9
0:30	184.24	31.19	52.3



Scan Time stamp	NO _x	PM	SO ₂
	(mg/Nm ³)		
0:25	231.24	31.38	169.98
0:15	146.64	31.38	18.31
0:10	227.48	31.56	169.98
0:05	197.4	30.88	70.61
0:00	221.84	31.13	172.59
3-Jan-19			
23:55	221.84	31.5	172.59
23:55	218.08	31.81	172.59
23:50	176.72	31.13	44.46
23:40	199.28	31.5	162.13
23:35	45.12	31.13	28.77
23:30	208.68	31.5	183.05
23:25	169.2	31.44	65.38
23:20	204.92	31.19	183.05
23:15	195.52	31.19	175.21
23:10	142.88	31.38	31.38
23:00	180.48	31.25	169.98
22:55	146.64	31.25	141.21
22:50	199.28	31.38	190.9
22:50	199.28	31.13	190.9
22:45	163.56	31.44	67.99
22:40	208.68	31.25	203.97
22:35	197.4	31.5	193.51
22:30	58.28	31.31	39.23
22:20	169.2	30.94	180.44
22:15	199.28	30.94	214.43
22:10	193.64	27.28	209.2
22:05	148.52	31.38	57.53
22:00	201.16	31.31	222.28
21:55	176.72	31.06	201.36
21:50	37.6	31.31	60.15
21:45	204.92	31.25	224.89
21:40	159.8	31.25	175.21
21:35	197.4	31.56	248.43
21:30	182.36	31.63	235.35
21:25	86.48	31.56	47.07
21:20	197.4	26.91	251.04
21:15	163.56	30.88	209.2
21:10	195.52	31.31	248.43
21:00	148.52	31.31	162.13
20:55	186.12	31.13	248.43
20:50	167.32	31.31	224.89
20:45	20.68	31.44	60.15
20:40	184.24	31.31	245.81

Scan Time stamp	NOx	PM	SO ₂
	(mg/Nm ³)		
20:40	184.24	31.63	245.81
20:35	146.64	31.13	193.51
20:25	180.48	31.31	264.12
20:20	110.92	31.75	62.76
20:15	199.28	31.69	279.81
20:10	171.08	28.22	256.27
20:05	204.92	31.56	319.03
20:00	201.16	31.38	316.42
19:55	142.88	27.28	224.89
19:45	171.08	31.38	292.88
19:40	16.92	28.03	70.61
19:35	191.76	31.31	308.57
19:35	191.76	31.06	308.57
19:30	146.64	31.31	251.04
19:25	188	31.56	295.5
19:20	176.72	31.44	290.27
19:15	114.68	31.13	175.21
19:05	169.2	31.25	321.65
19:00	201.16	31.31	368.72
18:55	199.28	31.56	368.72
18:50	139.12	31.44	274.58
18:45	188	31.25	366.1
18:40	169.2	27.34	353.03
18:35	0	30.88	156.9
18:30	178.6	31.38	381.79
18:25	135.36	31.13	329.49
18:20	171.08	31	405.33
18:15	161.68	31.5	402.71
18:10	92.12	31.5	240.58
18:05	154.16	31.25	415.79
18:00	127.84	31.31	389.64
17:55	0	26.72	185.67
17:45	97.76	31.44	321.65
17:40	124.08	31.44	421.02
17:35	112.8	31.31	400.1
17:30	0	31.44	154.29
17:25	116.56	31.44	421.02
17:25	116.56	31.06	421.02
17:20	95.88	31.13	358.26
17:10	114.68	31.38	431.48
17:05	78.96	31.19	287.65
17:00	110.92	31.13	421.02
16:55	101.52	27.09	394.87
16:50	0	31.56	175.21

Scan Time stamp	NOx	PM	SO ₂
	(mg/Nm ³)		
16:45	110.92	31.25	421.02
16:40	92.12	31.38	337.34
16:35	107.16	31.31	444.55
16:25	0	31	159.52
16:20	112.8	31.31	449.78
16:20	112.8	31.25	449.78
16:15	97.76	31.25	400.1
16:10	120.32	31.13	449.78
16:05	118.44	31	444.55
16:00	88.36	31.44	313.8
15:50	101.52	31.31	410.56
15:45	0	27.22	172.59
15:40	109.04	31.25	441.94
15:35	90.24	31.44	353.03
15:30	116.56	27.03	418.4
15:25	110.92	31.44	407.94
15:20	39.48	31.06	172.59
15:15	116.56	30.69	400.1
15:10	107.16	31.38	366.1
15:05	118.44	31.38	371.33
15:00	116.56	26.78	366.1
14:55	95.88	31.56	264.12
14:50	127.84	31.06	368.72
14:45	120.32	27.22	355.64
14:40	0	31.13	70.61
14:30	109.04	26.97	308.57
14:25	129.72	31.25	358.26
14:20	124.08	31.13	353.03
14:15	77.08	27.22	180.44
14:10	135.36	31.25	350.41
14:10	135.36	31.19	350.41
14:05	120.32	31.44	300.73
13:55	125.96	31.63	329.49
13:50	101.52	31.38	243.2
13:45	137.24	27.03	337.34
13:40	125.96	31.44	319.03
13:35	0	31.19	47.07
13:30	129.72	26.97	287.65
13:25	114.68	31.44	251.04
13:20	133.48	31.13	256.27
13:10	105.28	30.88	156.9
13:05	137.24	31.31	253.66
13:05	137.24	31.44	253.66
13:00	107.16	26.91	201.36

Scan Time stamp	NO _x	PM	SO ₂
	(mg/Nm ³)		
12:55	1.88	31.44	67.99
12:50	137.24	31.56	235.35
12:45	99.64	27.16	70.61
12:35	146.64	31.44	206.59
12:30	5.64	27.16	31.38
12:25	156.04	31.44	196.13
12:20	139.12	31.25	156.9
12:15	169.2	26.97	188.28
12:10	165.44	31.38	183.05
12:05	92.12	31.5	23.54
12:00	174.84	27.28	180.44
11:55	150.4	31.38	159.52
11:50	31.96	31.19	34
11:45	180.48	27.03	169.98
11:40	142.88	31.56	41.84
11:35	174.84	31.25	73.22
11:30	169.2	27.22	65.38
11:25	28.2	31.31	15.69
11:15	165.44	31.31	44.46
11:10	184.24	31.19	73.22
11:05	180.48	31.5	70.61
11:00	133.48	26.84	13.08
10:55	182.36	31.38	54.92
10:55	182.36	31.25	54.92
10:50	167.32	31.38	39.23
10:40	161.68	31.31	31.38
10:35	146.64	31.38	10.46
10:30	272.6	31.38	154.29
10:25	259.44	31	73.22
10:20	218.08	31.38	28.77
10:15	259.44	31.25	75.84
10:10	223.72	31.38	52.3
10:05	186.12	31.31	31.38
9:55	144.76	31.31	0
9:50	176.72	31.19	23.54
9:50	176.72	31.44	23.54
9:45	171.08	27.28	13.08
9:40	43.24	31.56	2.62
9:35	191.76	31.38	15.69
9:30	174.84	27.09	0
9:20	195.52	31.25	10.46
9:15	129.72	26.78	0
9:10	212.44	31	13.08
9:05	195.52	31.5	0

Scan Time stamp	NOx	PM	SO ₂
	(mg/Nm ³)		
9:00	139.12	27.16	7.85
8:55	204.92	31.31	13.08
8:50	178.6	31.38	0
8:45	212.44	26.91	7.85
8:40	201.16	31.19	0
8:35	67.68	31.38	0
8:30	216.2	26.84	5.23
8:25	191.76	31.63	0
8:20	216.2	31.19	5.23
8:15	212.44	26.91	2.62
8:10	165.44	31	0
8:00	199.28	26.84	0
7:55	78.96	31.31	0
7:50	214.32	31.25	2.62
7:45	188	26.72	0
7:40	212.44	31.38	5.23
7:40	212.44	31.63	5.23
7:35	201.16	31.38	0
7:25	208.68	31.25	5.23
7:20	189.88	31.25	0
7:15	212.44	26.72	7.85
7:10	208.68	31.56	5.23
7:05	176.72	31.19	0
7:00	201.16	26.91	7.85
6:55	188	30.81	0
6:50	63.92	31.5	0
6:40	180.48	31.31	0
6:35	201.16	31.06	7.85
6:35	201.16	31.25	7.85
6:30	193.64	31.44	2.62
6:25	95.88	31	0
6:20	195.52	31.25	7.85
6:15	178.6	26.66	0
6:05	199.28	31.56	10.46
6:00	163.56	27.28	0
5:55	195.52	31.06	10.46
5:50	182.36	31.5	0
5:45	58.28	27.09	0
5:40	195.52	31.13	7.85
5:35	176.72	31.06	0
5:30	204.92	30.44	10.46
5:25	195.52	30.94	7.85
5:20	133.48	31.06	0
5:15	210.56	31	18.31



Scan Time stamp	NO _x	PM	SO ₂
	(mg/Nm ³)		
5:10	186.12	31.5	2.62
5:05	201.16	30.69	18.31
5:00	201.16	28.16	18.31
4:55	165.44	31.38	0
4:45	184.24	26.59	10.46
4:40	58.28	31.38	0
4:35	197.4	31.38	20.92
4:30	169.2	27.22	2.62
4:25	188	31.06	23.54
4:25	188	31.19	23.54
4:20	180.48	31.13	20.92
4:10	180.48	31.25	15.69
4:05	165.44	30.75	2.62
4:00	58.28	26.72	0
3:55	184.24	31.19	18.31
3:50	157.92	31.06	0
3:45	189.88	27.16	20.92
3:40	178.6	31.25	13.08
3:35	52.64	31.19	0
3:25	178.6	31.06	5.23
3:20	197.4	31	36.61
3:20	208.68	31.44	36.61
3:15	203.04	26.78	31.38
3:10	157.92	31.06	0
3:05	203.04	31.06	41.84
3:00	180.48	31.31	23.54
2:50	197.4	30.63	41.84
2:45	165.44	27.16	7.85
2:40	199.28	31.44	44.46
2:35	186.12	31.13	36.61
2:30	62.04	27.03	0
2:25	193.64	31.31	47.07
2:20	167.32	31.5	26.15
2:15	186.12	27.16	52.3
2:10	182.36	31.25	49.69
2:05	142.88	30.81	5.23
2:00	186.12	27.09	52.3
1:55	171.08	31.63	39.23
1:50	43.24	31.31	13.08
1:45	184.24	26.97	57.53
1:40	152.28	31.38	23.54
1:30	171.08	26.59	52.3
1:25	94	31.5	2.62
1:20	176.72	31.63	60.15

Scan Time stamp	NOx	PM	SO ₂
	(mg/Nm ³)		
1:15	156.04	26.91	36.61
1:10	35.72	31.56	15.69
1:10	178.6	31.63	62.76
1:05	176.72	31.06	62.76
0:55	184.24	30.94	70.61
0:50	171.08	31.31	57.53
0:45	33.84	29.22	18.31
0:40	184.24	31.19	154.29
0:35	150.4	31.63	44.46
0:30	178.6	27.34	156.9
0:25	171.08	31.38	154.29
0:20	110.92	31.31	13.08
0:10	156.04	31.25	65.38
0:05	31.96	27.03	26.15
0:05	182.36	31.31	169.98
0:00	180.48	27.09	169.98
2-Jan-19			
23:55	144.76	31.13	39.23
23:50	184.24	31.31	172.59
23:45	169.2	26.59	162.13
23:35	184.24	31.31	190.9
23:30	154.16	26.91	154.29
23:25	186.12	31.44	201.36
23:20	178.6	31.56	196.13
23:15	124.08	27.09	34
23:10	180.48	31.25	206.59
23:05	152.28	30.94	183.05
23:00	24.44	31.19	36.61
22:55	169.2	31.44	209.2
22:50	131.6	31.25	70.61
22:45	159.8	27.66	201.36
22:40	148.52	31.19	185.67
22:35	22.56	31	31.38
22:30	167.32	27.22	211.82
22:25	142.88	31.13	180.44
22:15	172.96	27.59	232.74
22:10	125.96	31.38	65.38
22:05	182.36	30.88	253.66
22:00	161.68	26.97	222.28
21:55	22.56	31.13	47.07
21:55	31.96	31.5	62.76
21:50	186.12	31.69	253.66
21:40	191.76	31	285.04
21:35	178.6	31.5	274.58

Scan Time stamp	NOx	PM	SO ₂
	(mg/Nm ³)		
21:30	56.4	26.91	54.92
21:25	186.12	31.5	298.11
21:20	150.4	31.19	256.27
21:15	184.24	27.16	324.26
21:10	178.6	31.25	319.03
21:05	120.32	31	185.67
20:55	154.16	31.38	271.96
20:50	26.32	31.13	52.3
20:50	20.68	31.69	67.99
20:45	180.48	26.91	313.8
20:40	133.48	31.19	243.2
20:35	171.08	31.44	326.88
20:30	159.8	27.03	313.8
20:20	172.96	31.19	332.11
20:15	141	27.16	285.04
20:10	172.96	31.31	326.88
20:05	172.96	31.38	326.88
20:00	120.32	26.84	230.12
19:55	171.08	31	342.57
19:50	154.16	31.25	324.26
19:45	60.16	31.25	65.38
19:40	167.32	31	353.03
19:35	127.84	31	292.88
19:30	165.44	26.72	353.03
19:25	154.16	31.69	342.57
19:20	88.36	31.5	177.82
19:15	161.68	27.09	350.41
19:10	131.6	31.5	305.96
19:00	157.92	26.84	358.26
18:55	109.04	31.44	264.12
18:50	152.28	31.44	381.79
18:45	131.6	26.66	355.64
18:40	63.92	31.44	175.21
18:40	0	31.13	67.99
18:35	146.64	31.19	387.02
18:25	137.24	31.06	405.33
18:20	129.72	31.44	397.48
18:15	67.68	27.16	219.66
18:10	125.96	31.56	394.87
18:05	105.28	31.56	363.49
18:00	0	26.91	172.59
17:55	118.44	31.06	418.4
17:50	80.84	31.31	326.88
17:40	97.76	31.44	405.33

Scan Time stamp	NOx	PM	SO ₂
	(mg/Nm ³)		
17:35	48.88	31.19	209.2
17:35	0	30.88	62.76
17:30	105.28	30.94	410.56
17:25	77.08	31.06	355.64
17:20	99.64	31.25	413.17
17:15	97.76	27.16	407.94
17:05	95.88	31.44	402.71
17:00	82.72	31.13	373.95
16:55	0	31.19	73.22
16:50	88.36	31.25	387.02
16:45	67.68	27.41	300.73
16:40	86.48	30.75	381.79
16:35	80.84	31	363.49
16:30	52.64	30.69	214.43
16:25	90.24	31	376.56
16:20	71.44	31	324.26
16:15	94	30.75	381.79
16:10	92.12	31.63	379.18
16:05	60.16	30.94	240.58
16:00	88.36	26.84	381.79
15:55	80.84	31	353.03
15:45	92.12	26.59	366.1
15:40	75.2	30.88	287.65
15:35	95.88	31	366.1
15:30	90.24	27.03	350.41
15:25	67.68	31.5	224.89
15:25	20.68	31.31	65.38
15:20	97.76	31.06	363.49
15:10	97.76	31.31	360.87
15:05	97.76	31.44	360.87
15:00	73.32	31.19	237.97
14:55	103.4	31.5	326.88
14:50	97.76	31.13	308.57
14:45	0	31.19	57.53
14:40	99.64	31.5	342.57
14:35	80.84	26.97	285.04
14:25	97.76	31.13	313.8
14:20	80.84	27.03	206.59
14:20	48.88	26.78	67.99
14:15	107.16	30.81	303.34
14:10	94	31.06	274.58
14:05	0	27.16	65.38
14:00	112.8	31.44	285.04
13:50	116.56	27.03	274.58

Scan Time stamp	NO _x	PM	SO ₂
	(mg/Nm ³)		
13:45	110.92	31.19	261.5
13:40	0	31.38	36.61
13:35	120.32	26.97	266.73
13:30	107.16	31.19	227.51
13:25	129.72	31.44	264.12
13:20	125.96	26.84	258.89
13:15	105.28	31.5	185.67
13:10	135.36	31.13	256.27
13:05	122.2	27.16	235.35
13:00	0	31.13	41.84
12:55	142.88	31.25	235.35
12:50	114.68	26.72	167.36
12:45	142.88	31.63	214.43
12:40	135.36	31.13	201.36
12:30	146.64	31.31	193.51
12:25	133.48	31.5	159.52
12:20	161.68	27.09	188.28
12:15	159.8	31.19	185.67
12:10	133.48	31.63	54.92
12:10	124.08	31.19	34
12:05	167.32	27.09	167.36
11:55	20.68	31.31	5.23
11:50	169.2	27.34	73.22
11:45	144.76	31.31	34
11:40	186.12	31.19	62.76
11:35	180.48	27.22	57.53
11:30	97.76	31.69	0
11:25	199.28	31.38	60.15
11:20	178.6	26.66	39.23
11:10	197.4	31.19	52.3
11:05	165.44	26.78	20.92
11:05	159.8	26.97	13.08
11:00	206.8	30.75	47.07
10:55	189.88	31.5	36.61
10:50	52.64	26.91	0
10:45	201.16	31.5	41.84
10:35	210.56	26.78	31.38
10:30	201.16	31.31	28.77
10:25	146.64	31.5	0
10:20	206.8	26.91	26.15
10:15	182.36	31.13	10.46
10:10	204.92	31.31	10.46
10:05	204.92	27.03	10.46
10:00	186.12	31	0



Scan Time stamp	NO _x	PM	SO ₂
	(mg/Nm ³)		
9:55	221.84	31.19	7.85
9:50	206.8	27.09	2.62
9:45	69.56	31	0
9:40	225.6	31.44	5.23
9:35	197.4	27.22	0
9:30	233.12	31.5	0
9:25	227.48	31.06	0
9:15	225.6	31.13	0
9:10	210.56	31.38	0
9:05	92.12	27.16	0
9:00	235	31.38	0
8:55	210.56	31.44	0
8:55	204.92	31.25	0
8:50	233.12	26.78	0
8:40	118.44	30.88	0
8:35	227.48	26.66	0
8:30	206.8	31.44	0
8:25	229.36	31.44	0
8:20	223.72	27.03	0
8:15	184.24	31.13	0
8:10	221.84	31.63	0
8:05	201.16	27.03	0
7:55	221.84	31.25	0
7:50	201.16	31.13	0
7:50	195.52	27.22	0
7:45	231.24	31.13	0
7:40	221.84	31.06	0
7:35	159.8	31.25	0
7:30	231.24	31.13	0
7:20	238.76	31.38	0
7:15	236.88	31.19	0
7:10	203.04	31.38	0
7:05	244.4	27.09	0
7:00	227.48	31.38	0
6:55	94	31.56	0
6:50	236.88	31.44	0
6:45	216.2	31.25	0
6:40	240.64	31.56	0
6:35	227.48	27.16	0
6:30	188	31.13	0
6:25	244.4	31.56	0
6:20	219.96	31.38	0
6:15	251.92	31.38	0
6:10	250.04	31.06	0



Scan Time stamp	NOx	PM	SO ₂
	(mg/Nm ³)		
6:00	255.68	31.25	0
5:55	236.88	31.44	0
5:50	97.76	26.91	0
5:45	250.04	31.25	0
5:40	223.72	31.31	0
5:40	219.96	31.25	0
5:35	244.4	31.38	0
5:30	238.76	31.25	0
5:20	238.76	27.03	0
5:15	219.96	31.56	0
5:10	193.64	31	0
5:05	242.52	26.84	0
5:00	201.16	31.19	0
4:55	236.88	31.56	0
4:50	218.08	26.97	0
4:40	242.52	31.5	0
4:35	219.96	31.31	0
4:35	212.44	27.09	0
4:30	248.16	31.13	0
4:25	240.64	31.19	0
4:20	197.4	31.19	0
4:15	242.52	31.63	0
4:05	101.52	31.19	0
4:00	240.64	31.56	0
3:55	208.68	26.72	0
3:50	238.76	31.69	0
3:45	221.84	31.5	0
3:40	148.52	31.31	0
3:35	238.76	31.31	0
3:30	216.2	31.06	0
3:25	235	31.38	0
3:20	229.36	31.63	0
3:15	186.12	31.06	0
3:10	227.48	31.38	0
3:05	203.04	31.38	0
3:00	77.08	31.25	0
2:55	223.72	30.94	0
2:45	229.36	31.19	0
2:40	219.96	31	0
2:35	167.32	31	0
2:30	235	31.31	0
2:25	210.56	26.66	0
2:25	203.04	27.03	0
2:20	231.24	31.19	0



Scan Time stamp	NO _x	PM	SO ₂
	(mg/Nm ³)		
2:15	227.48	31.25	0
2:05	214.32	31.56	0
2:00	197.4	31.56	0
1:55	63.92	26.97	0
1:50	203.04	31.69	0
1:45	169.2	31.44	0
1:40	201.16	31.31	0
1:35	193.64	31.63	0
1:25	208.68	31.56	0
1:20	189.88	31.31	0
1:20	184.24	31.25	0
1:15	216.2	31.19	2.62
1:10	216.2	26.97	0
1:05	174.84	31.5	0
1:00	216.2	31.56	0
0:50	65.8	31.5	0
0:45	221.84	31.25	0
0:40	191.76	31.63	0
0:35	223.72	31.63	2.62
0:30	218.08	31.44	0
0:25	169.2	31.75	0
0:20	225.6	31.56	10.46
0:15	208.68	27.34	5.23
0:10	78.96	31.44	0
0:05	233.12	31.13	15.69
0:00	191.76	31.5	0
1-Jan-19			
23:55	235	31.31	26.15
23:50	218.08	31.75	18.31
23:45	103.4	31.44	0
23:40	223.72	31.19	28.77
23:30	208.68	31.38	34
23:25	199.28	27.16	31.38
23:20	154.16	31.19	0
23:15	201.16	31.63	28.77
23:10	188	31.63	20.92
23:10	180.48	31	18.31
23:05	58.28	31.31	0
23:00	203.04	31	34
22:50	203.04	31.38	36.61
22:45	188	31.38	28.77
22:40	122.2	31	0
22:35	212.44	31.38	44.46
22:30	180.48	31.25	28.77

Scan Time stamp	NO _x	PM	SO ₂
	(mg/Nm ³)		
22:25	206.8	31.19	54.92
22:20	201.16	31.25	52.3
22:10	197.4	27.16	49.69
22:05	186.12	31.31	44.46
22:05	182.36	31.44	41.84
22:00	47	31.44	0
21:55	208.68	31.38	60.15
21:50	171.08	31.38	34
21:45	214.32	31.38	67.99
21:35	142.88	31.5	10.46
21:30	223.72	30.81	167.36
21:25	186.12	31.19	67.99
21:20	214.32	31.19	172.59
21:15	210.56	31.56	172.59
21:10	157.92	30.75	49.69
21:05	212.44	31.38	185.67
21:00	199.28	31.25	180.44
20:55	39.48	31.06	20.92
20:50	212.44	31.31	198.74
20:45	167.32	31.06	167.36
20:40	204.92	30.81	214.43
20:35	193.64	31.94	206.59
20:30	137.24	31.5	49.69
20:25	191.76	31.38	224.89
20:15	186.12	31.31	219.66
20:10	186.12	31.19	219.66
20:05	144.76	31.31	172.59
20:00	193.64	31.13	243.2
19:55	182.36	27.16	240.58
19:55	174.84	31.19	237.97
19:50	45.12	31.38	34
19:45	189.88	31.38	258.89
19:35	189.88	31.44	269.35
19:30	182.36	31.31	264.12
19:25	129.72	31.25	183.05
19:20	184.24	31.44	287.65
19:15	159.8	31.06	261.5
19:10	28.2	31.63	70.61
19:05	189.88	31.44	316.42
18:55	182.36	27.34	311.19
18:50	174.84	31.19	308.57
18:50	169.2	31.56	303.34
18:45	77.08	31.69	62.76
18:40	180.48	26.72	334.72



Scan Time stamp	NOx	PM	SO ₂
	(mg/Nm ³)		
18:35	139.12	31.5	292.88
18:30	161.68	30.94	324.26
18:20	105.28	31.19	224.89
18:15	157.92	31.25	337.34
18:10	133.48	27.09	313.8
18:05	0	31.44	67.99
18:00	152.28	31.38	363.49
17:55	105.28	27.16	298.11
17:50	133.48	31.25	371.33
17:45	127.84	31.44	366.1
17:40	52.64	31.25	164.75
17:35	125.96	31.38	379.18
17:30	105.28	31	334.72
17:25	116.56	27.41	389.64
17:20	114.68	31.5	387.02
17:15	82.72	31.25	282.42
17:10	112.8	31.38	402.71
17:00	0	30.81	65.38
16:55	105.28	26.84	397.48
16:50	82.72	30.81	326.88
16:45	109.04	31.75	407.94
16:40	107.16	31	407.94
16:40	103.4	31.5	402.71
16:35	56.4	31.13	211.82
16:30	109.04	30.75	402.71
16:20	103.4	31.06	397.48
16:15	103.4	30.94	397.48
16:10	75.2	26.97	305.96
16:05	52.64	31.44	287.65
16:00	47	30.56	258.89
15:55	0	26.97	36.61



HDD-272, PHASE III- NEAR JP CHOWK.

RING ROAD NO -2, KABIR NAGAR, RAIPUR, C.G. -99

PH - 0771-2972364 / EMAIL-ultimatenviro@gmail.com



Name & Address Of The Customer TO, SARDA ENERGY & MINERALS LIMITED IRON ORE PELLET PLANT, PHASE - I, MANDHAR, SILTARA, RAIPUR (C. G.) 493111		REPORT NO		UES/TR/18-19/02261	
		ULR NO		ULR - TC606518000000200P	
		DATE OF REPORT		23/01/2019	
		LAB REF NO		UES/18-19/W/2261	
		DATE OF RECEIPT		18/01/2019	
		DATE OF ANALYSIS		START:18/01/2019	END:22/01/2019
SAMPLE DETAILS					
CUSTOMER SAMPLE ID	RAIN WATER HARVESTING POND	CUSTOMER REF. NO. & DATE		VERBAL COMMUNICATION Dated 18/01/2019	
SAMPLE TYPE	SURFACE WATER	SAMPLE CONDITION AT RECEIPT		OK	
PACKING OF SAMPLE	PLASTIC BOTTLE (3 LTR.) GLASS BOTTLE (2 LTR.)	SAMPLE COLLECTED BY		CLIENT	
OTHER DEATAILS	SEALED	QUANTITY RECEIVED		APPROX 5 LTR.	

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	RESULT
1	Colour	Hazen	IS:3025:(Part-4)	<1
2	Odour	-	IS 3025(part-5)	Agreeable
3	pH Value at 26.2°C	-	IS:3025:(Part-11)	7.44
4	Taste	-	IS 3025(part-8)	Agreeable
5	Conductivity	µS/Cm	IS 3025:(Part-14)	352.2
6	Total Dissolved Solids	mg/L	IS:3025:(Part-16)	211.3
7	Chloride (as Cl)	mg/L	IS 3025:(Part-32)	18.99
8	Turbidity	NTU	IS 3025:(Part-10)	0.50
9	Total Alkalinity (as CaCO ₃)	mg/L	IS 3025:(Part-23)	84.0
10	Total Hardness (as CaCO ₃)	mg/L	IS 3025:(Part-21)	142.0
11	Calcium (as Ca)	mg/L	IS 3025:(Part-40)	35.27
12	Magnesium (as Mg)	mg/L	IS 3025:(Part-46)	13.12
13	Sulphate (as SO ₄)	mg/L	IS 3025:(Part-24)	14.8
14	Fluoride (as F)	mg/l	IS 3025(part-60)	0.14
15	Nitrate (as NO ₃)	mg/l	IS 3025(part-34)	1.18
16	Copper (as Cu)	mg/l	IS 3025(part-42)	N.D.
17	Iron (as Fe)	mg/l	IS 3025(part-53)	N.D.
18	Zinc (as Zn)	mg/l	IS 3025(part-49)	N.D.
19	Manganese (as Mn)	mg/l	IS 3025(part-59)	N.D.
20	Cadmium (as Cd)	mg/l	IS 3025(part-41)	N.D.
21	Lead (as Pb)	mg/l	IS 3025(part-47)	N.D.
22	Chromium (as Cr)	mg/l	Annex J of IS:13428	N.D.
23	Selenium (as Se)	mg/l	IS 3025(part-56)	N.D.
24	Arsenic (as As)	mg/l	IS 3025(part-37)	N.D.
25	Mercury (as Hg)	mg/l	IS 3025(part-48)	N.D.
26	Barium (as Ba)	mg/l	Annex F of IS:13428	N.D.
27	Free Residual Chlorine	mg/l	IS 3025(part-26)	N.D.



HDD-272, PHASE III- NEAR JP CHOWK.

RING ROAD NO -2, KABIR NAGAR, RAIPUR, C.G. -99

PH - 0771-2972364 / EMAIL-ultimatenviro@gmail.com



Name & Address Of The Customer

TO,
SARDA ENERGY & MINERALS LIMITED
IRON ORE PELLET PLANT,
PHASE - I, MANDHAR, SILTARA,
RAIPUR (C. G.) 493111

REPORT NO	UES/TR/18-19/02261	
ULR NO	ULR - TC606518000000200P	
DATE OF REPORT	23/01/2019	
LAB REF NO	UES/18-19/W/2261	
DATE OF RECEIPT	18/01/2019	
DATE OF ANALYSIS	START: 18/01/2019	END: 22/01/2019

SAMPLE DETAILS

CUSTOMER SAMPLE ID	RAIN WATER HARVESTING POND	CUSTOMER REF. NO. & DATE	VERBAL COMMUNICATION Dated 18/01/2019
SAMPLE TYPE	SURFACE WATER	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	PLASTIC BOTTLE (3 LTR.) GLASS BOTTLE (2 LTR.)	SAMPLE COLLECTED BY	CLIENT
OTHER DETAILS	SEALED	QUANTITY RECEIVED	APPROX 5 LTR.

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	RESULT
28	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	IS 3025(part-43)	N.D.
29	Cyanide (as CN)	mg/l	IS 3025(part-27)	N.D.
30	Anionic Detergent (as MBAS)	mg/l	Annex K of IS:13428	N.D.
31	Mineral Oil	mg/l	IS 3025(part-39)	N.D.
32	Aluminium (as Al)	mg/l	IS 3025(part-55)	N.D.
33	Boron (as B)	mg/l	IS 3025(part-57)	N.D.
34	E.coli	-	IS:1622:1981 RA 2014	Absent
35	Total Coliform	-	IS:1622:1981 RA 2014	Absent

Note: mg/lit.: milligram per liter.
 N.D. Not Detection

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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- > Test sample will be retained for 07 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above test(s) only



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Pranod Choubey
PRANOD CHOUBEY
(DY. TECH. MANAGER)
AUTHORIZED SIGNATORY

End of the test report.....



HDD-272, PHASE III- NEAR JP CHOWK

RING ROAD NO -2, KABIR NAGAR, RAIPUR, C.G. -99

PH - 0771-2972364 | EMAIL-ultimatenviro@gmail.com



TC-6065

Name & Address Of The Customer

TO,
SARDA ENERGY & MINERALS LIMITED
IRON ORE PELLET PLANT,
PHASE - I, MANDHAR, SILTARA,
RAIPUR (C. G.) 493111

REPORT NO	UES/TR/18-19/02259	
ULR NO	ULR - TC606518000000198P	
DATE OF REPORT	23/01/2019	
LAB REF NO	UES/18-19/W/2259	
DATE OF RECEIPT	18/01/2019	
DATE OF ANALYSIS	START: 18/01/2019	END: 22/01/2019

SAMPLE DETAILS

CUSTOMER SAMPLE ID	1. RAW WATER (RESERVOIR POND)	CUSTOMER REF. NO. & DATE	VERBAL COMMUNICATION Dated 18/01/2019
SAMPLE TYPE	SURFACE WATER	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	PLASTIC BOTTLE (3 LTR.) GLASS BOTTLE (2 LTR.)	SAMPLE COLLECTED BY	CLIENT
OTHER DETAILS	SEALED	QUANTITY RECEIVED	APPROX 5 LTR.

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	RESULT
1	Colour	Hazen	IS:3025:(Part-4)	<1
2	Odour	-	IS 3025(part-5)	Agreeable
3	pH Value at 26.2°C	-	IS:3025:(Part-11)	7.53
4	Taste	-	IS 3025(part-8)	Agreeable
5	Conductivity	pS/Cm	IS 3025:(Part-14)	871.7
6	Total Dissolved Solids	mg/L	IS:3025:(Part-16)	483.0
7	Chloride (as Cl)	mg/L	IS 3025:(Part-32)	33.98
8	Turbidity	NTU	IS 3025:(Part-10)	0.62
9	Total Alkalinity (as CaCO ₃)	mg/L	IS 3025:(Part-23)	66.0
10	Total Hardness (as CaCO ₃)	mg/L	IS 3025:(Part-21)	234.0
11	Calcium (as Ca)	mg/L	IS 3025:(Part-40)	61.72
12	Magnesium (as Mg)	mg/L	IS 3025:(Part-46)	19.4
13	Sulphate (as SO ₄)	mg/L	IS 3025:(Part-24)	17.6
14	Fluoride (as F)	mg/l	IS 3025(part-60)	0.19
15	Nitrate (as NO ₃)	mg/l	IS 3025(part-34)	1.26
16	Copper (as Cu)	mg/l	IS 3025(part-42)	N.D.
17	Iron (as Fe)	mg/l	IS 3025(part-53)	N.D.
18	Zinc (as Zn)	mg/l	IS 3025(part-49)	N.D.
19	Manganese (as Mn)	mg/l	IS 3025(part-59)	N.D.
20	Cadmium (as Cd)	mg/l	IS 3025(part-41)	N.D.
21	Lead (as Pb)	mg/l	IS 3025(part-47)	N.D.
22	Chromium (as Cr)	mg/l	Annex J of IS:13428	N.D.
23	Selenium (as Se)	mg/l	IS 3025(part-56)	N.D.
24	Arsenic (as As)	mg/l	IS 3025(part-37)	N.D.
25	Mercury (as Hg)	mg/l	IS 3025(part-48)	N.D.
26	Barium (as Ba)	mg/l	Annex F of IS:13428	N.D.
27	Free Residual Chlorine	mg/l	IS 3025(part-26)	N.D.



HDD-272, PHASE III- NEAR JP CHOWK,
RING ROAD NO -2, KABIR NAGAR, RAIPUR, C.G. -99
PH - 0771-2972364 : EMAIL-ultimatenviro@gmail.com



Name & Address Of The Customer

TO,
SARDA ENERGY & MINERALS LIMITED
IRON ORE PELLET PLANT,
PHASE - I, MANDHAR, SILTARA,
RAIPUR (C. G.) 493111

REPORT NO	UES/TR/18-19/02259	
ULR NO	ULR - TC606518000000198P	
DATE OF REPORT	23/01/2019	
LAB REF NO	UES/18-19/W/2259	
DATE OF RECEIPT	18/01/2019	
DATE OF ANALYSIS	START:18/01/2019	END:22/01/2019

SAMPLE DETAILS

CUSTOMER SAMPLE ID	1. RAW WATER (RESERVOIR POND)	CUSTOMER REF. NO. & DATE	VERBAL COMMUNICATION Dated 18/01/2019
SAMPLE TYPE	SURFACE WATER	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	PLASTIC BOTTLE (3 LTR.) GLASS BOTTLE (2 LTR.)	SAMPLE COLLECTED BY	CLIENT
OTHER DETAILS	SEALED	QUANTITY RECEIVED	APPROX 5 LTR.

TEST REPORT

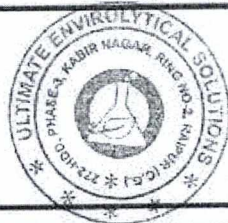
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	RESULT
28	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	IS 3025(part-43)	N.D.
29	Cyanide (as CN)	mg/l	IS 3025(part-27)	N.D.
30	Anionic Detergent (as MBAS)	mg/l	Annex K of IS:13428	N.D.
31	Mineral Oil	mg/l	IS 3025(part-39)	N.D.
32	Aluminium (as Al)	mg/l	IS 3025(part-55)	N.D.
33	Boron (as B)	mg/l	IS 3025(part-57)	N.D.
34	E.coli	-	IS:1622:1981 RA 2014	Absent
35	Total Coliform	-	IS:1622:1981 RA 2014	Absent

Note: mg/lit.: milligram per liter.
N.D. Not Detection

REMARKS: RESULTS ARE AS ABOVE

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For ULTIMATE ENVIROLYTICAL SOLUTIONS

Pramod Choubey
PRAMOD CHOUBEY
(DY. TECH. MANAGER)
AUTHORIZED SIGNATORY

End of the test report.....



HDD-272, PHASE III- NEAR JP CHOWK.

RING ROAD NO -2, KABIR NAGAR, RAIPUR, C.G. -99

PH - 0771-2972364 | EMAIL-ultimatenviro@gmail.com



Name & Address Of The Customer TO, SARDA ENERGY & MINERALS LIMITED IRON ORE PELLET PLANT, PHASE - I, MANDHAR, SILTARA, RAIPUR (C. G.) 493111		REPORT NO	UES/TR/18-19/02260	
		ULR NO	ULR - TC606518000000199P	
		DATE OF REPORT	23/01/2019	
		LAB REF NO	UES/18-19/W/2260	
		DATE OF RECEIPT	18/01/2019	
		DATE OF ANALYSIS	START: 18/01/2019	END: 22/01/2019
SAMPLE DETAILS				
CUSTOMER SAMPLE ID	1. BOREWELL WATER NEAR STORE 2. BOREWELL WATER NEAR WAGON TRIPLER	CUSTOMER REF. NO. & DATE	VERBAL COMMUNICATION Dated 18/01/2019	
SAMPLE TYPE	BOREWELL WATER	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	PLASTIC BOTTLE (3 LTR.) GLASS BOTTLE (2 LTR.)	SAMPLE COLLECTED BY	CLIENT	
OTHER DETAILS	SEALED	QUANTITY RECEIVED	APPROX 5 LTR. EACH	

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	RESULT	
				BOREWELL WATER NEAR STORE	BOREWELL WATER NEAR WAGON WAGON TRIPLER
1	Colour	Hazen	IS:3025:(Part-4)	<1	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable
3	pH Value at 26.2°C	-	IS:3025:(Part-11)	8.13	7.51
4	Taste	-	IS 3025(part-8)	Agreeable	Agreeable
5	Conductivity	µS/Cm	IS 3025:(Part-14)	689.4	919.0
6	Total Dissolved Solids	mg/L	IS:3025:(Part-16)	413.5	477.0
7	Chloride (as Cl)	mg/L	IS 3025:(Part-32)	58.98	130.95
8	Turbidity	NTU	IS 3025:(Part-10)	0.29	0.33
9	Total Alkalinity (as CaCO ₃)	mg/L	IS 3025:(Part-23)	122.0	174.0
10	Total Hardness (as CaCO ₃)	mg/L	IS 3025:(Part-21)	250.0	238.0
11	Calcium (as Ca)	mg/L	IS 3025:(Part-40)	71.4	71.8
12	Magnesium (as Mg)	mg/L	IS 3025:(Part-46)	15.0	9.72
13	Sulphate (as SO ₄)	mg/L	IS 3025:(Part-24)	19.2	21.0
14	Fluoride (as F)	mg/l	IS 3025(part-60)	0.17	0.22
15	Nitrate (as NO ₃)	mg/l	IS 3025(part-34)	1.36	1.40
16	Copper (as Cu)	mg/l	IS 3025(part-42)	N.D.	N.D.
17	Iron (as Fe)	mg/l	IS 3025(part-53)	N.D.	N.D.
18	Zinc (as Zn)	mg/l	IS 3025(part-49)	N.D.	N.D.
19	Manganese (as Mn)	mg/l	IS 3025(part-59)	N.D.	N.D.
20	Cadmium (as Cd)	mg/l	IS 3025(part-41)	N.D.	N.D.
21	Lead (as Pb)	mg/l	IS 3025(part-47)	N.D.	N.D.
22	Chromium (as Cr)	mg/l	Annex J of IS:13428	N.D.	N.D.
23	Selenium (as Se)	mg/l	IS 3025(part-56)	N.D.	N.D.
24	Arsenic (as As)	mg/l	IS 3025(part-37)	N.D.	N.D.
25	Mercury (as Hg)	mg/l	IS 3025(part-48)	N.D.	N.D.
26	Barium (as Ba)	mg/l	Annex F of IS:13428	N.D.	N.D.
27	Free Residual Chlorine	mg/l	IS 3025(part-26)	N.D.	N.D.



HDD-272, PHASE III- NEAR JP CHOWK,

RING ROAD NO -2, KABIR NAGAR, RAIPUR, C.G. -99

PH - 0771-2972364 | EMAIL-ultimatenviro@gmail.com



Name & Address Of The Customer

TO,
SARDA ENERGY & MINERALS LIMITED
IRON ORE PELLET PLANT,
PHASE - I, MANDHAR, SILTARA,
RAIPUR (C. G.) 493111

REPORT NO	UES/TR/18-19/02260	
ULR NO	ULR - TC606518000000199P	
DATE OF REPORT	23/01/2019	
LAB REF NO	UES/18-19/W/2260	
DATE OF RECEIPT	18/01/2019	
DATE OF ANALYSIS	START: 18/01/2019	END: 22/01/2019

SAMPLE DETAILS

CUSTOMER SAMPLE ID	1. BOREWELL WATER NEAR STORE 2. BOREWELL WATER NEAR WAGON TRIPLER	CUSTOMER REF. NO. & DATE	VERBAL COMMUNICATION Dated 18/01/2019
SAMPLE TYPE	BOREWELL WATER	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	PLASTIC BOTTLE (3 LTR.) GLASS BOTTLE (2 LTR.)	SAMPLE COLLECTED BY	CLIENT
OTHER DEATAILS	SEALED	QUANTITY RECEIVED	APPROX 5 LTR. EACH

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	RESULT	
				BOREWELL WATER NEAR STORE	BOREWELL WATER NEAR WAGON TRIPLER
28	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	IS 3025(part-43)	N.D.	N.D.
29	Cyanide (as CN)	mg/l	IS 3025(part-27)	N.D.	N.D.
30	Anionic Detergent (as MBAS)	mg/l	Annex K of IS:13428	N.D.	N.D.
31	Mineral Oil	mg/l	IS 3025(part-39)	N.D.	N.D.
32	Aluminium (as Al)	mg/l	IS 3025(part-55)	N.D.	N.D.
33	Boron (as B)	mg/l	IS 3025(part-57)	N.D.	N.D.
34	E.coli	-	IS:1622:1981 RA 2014	Absent	Absent
35	Total Coliform	-	IS:1622:1981 RA 2014	Absent	Absent

Note: mg/lit.: milligram per liter.
 N.D. Not Detection

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

- The above analysis report refers to the particular sample received at our end and the use of the report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 07 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Pranod Choubey
PRANOD CHOUBEY
 (DY. TECH. MANAGER)
 AUTHORIZED SIGNATORY

-----End of the test report-----



HDD-272, PHASE III - NEAR JP CHOWK,
KING ROAD NO -2, KABIR NAGAR, RAIPUR, C.G. -99
PH - 0771-2972364 : EMAIL-ultimatenviro@gmail.com



Name & Address Of The Customer

TO,
SARDA ENERGY & MINERALS LIMITED
IRON ORE PELLET PLANT,
PHASE - I, MANDHAR, SILTARA,
RAIPUR (C. G.) 493111

REPORT NO	UES/TR/18-19/02258
ULR NO	ULR - TC606518000000197P
DATE OF REPORT	23/01/2019
LAB REF NO.	UES/18-19/W/2258
DATE OF RECEIPT	18/01/2019
DATE OF ANALYSIS	START: 18/01/2019 END: 22/01/2019

SAMPLE DETAILS

CUSTOMER SAMPLE ID	SETTLING POND OUTLET (AFTER TREATMENT)	CUSTOMER REF. NO. & DATE	VERBAL COMMUNICATION DATED - 18/01/2019
SAMPLE TYPE	EFFLUENT WATER	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	PLASTIC BOTTLE	SAMPLE COLLECTED BY	CLIENT
OTHER DEATAILS	SEALED	QUANTITY RECEIVED	APPROX 5 LTR.

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	LIMITS AS PER CONSENT	RESULT
1	pH Value at 25.8°C	-	IS:3025:(Part-11): 1983, RA 2012	5.5 To 9.0	7.72
2	Total Suspended Solid	mg/L	IS 3025:(Part-17): 1984, RA 2012	100	35.6
3	Chemical Oxygen Demand	mg/L	IS:3025:(Part-58): 2006, RA 2012	250	82.5
4	Bio-chemical Oxygen Demand at 27°C for three day	mg/L	IS:3025:(Part-44): 1993 RA 2014	30	18.6
5	Oil & Grease	mg/L	IS 3025 (Part 39):1986	10	N.D.
6	E.coli	-	IS : 1622 : 1981 RA 2014	-	Absent

Note: mg/lit.: milligram per liter, N.D. - Not Detected.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

- The above analysis report refers to the particular sample received at our end and the use of the report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 07 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only



For ULTIMATE ENVIROLYTICAL SOLUTIONS

[Signature]
PRAMOD CHOUBEY
(DY. TECH. MANAGER)
AUTHORIZED SIGNATORY

-----End of the test report-----

Sarda Energy & Minerals Limited

Enterpenure Social Commitment

Budgetry Provision for ECS [2.5% of the total cost of the project (Existing Operational 0.6 MTPA Iron Ore Pellet Plant)] INR 472 Lac

ACTION	DETAILS	2019	2020	2021	Total
EDUCATION		Exps (Rs. in Lac)			
EDUCATION PROMOTION	Educational material support to students / Support for Sports	2.00	2.00	2.00	6.00
	Celebration of National festival and sweets distribution for Students	0.30	0.30	0.30	0.90
	Salary support to teachers in Siltara & Dongarbore	2.00	2.00	2.00	6.00
	Water cooler & water purifier support to selective school	1.00	1.00	1.00	3.00
	Teachers meet / Teachers day /Annual Day celebration	0.50	0.50	0.50	1.50
	IT promotion in village schools (Support of computers)	1.00	1.00	1.00	3.00
	Sub total	6.80	6.80	6.80	20.40
EDUCATION SUPPORT TO PHYSICALLY CHALLENGED	Support for the education development of physically challenged	1.00	1.00	1.00	3.00
	Sub total	1.00	1.00	1.00	3.00
PROMOTION OF GIRL EDUCATION	Coaching classes for girl students/ Support to Poor girls / Karate classes for girls for self defence	0.20	0.10	0.10	0.40
	Sub total	0.20	0.10	0.10	0.40
SUPPORT TO ANGANBADIES	Material help to Aganwadi Centers (Examination table & Wt Machine etc)	0.60	0.60	0.60	1.80
	Support for MID-Day meal utensils plates/ Play Material for children	0.50	0.50	0.50	1.50
	Sub total	1.10	1.10	1.10	3.30
REWARDS TO MERITORIOUS	"Pratibha Protsahan Samaroh" to Reward Meritorious Students" (Siltara,Girod & Mandhar)	1.00	1.00	1.00	3.00
	Support for Higher Education(Engineering, Medical & Professional Courses)	2.00	1.00	1.00	4.00
	Sub total	3.00	2.00	2.00	7.00
CAREER COUNSELLING CAMPS	Organize career guidance / Career orientation camp / CareerCounseling camp	0.30	0.30	0.30	0.90
	Sub Total	0.30	0.30	0.30	0.90
EKAL VIDYALAYAS	Support Single teacher schools through FTS	20.00	20.00	20.00	60.00
	Sub Total	20.00	20.00	20.00	60.00
	Total	32.40	31.30	31.30	95.00
HEALTHCARE		Exps(Rs.in Lac)			
HEALTH CENTER/ MOBILE MEDICAL	Mobile medical van / Doctors Fee / Medicine/Dongarbore	30.00	25.00	25.00	80.00
	Support to critical patients for advance treatment	1.00	1.00	1.00	3.00
	Sub total	31.00	26.00	26.00	83.00
GENERAL HEALTH CAMP	Skin / ENT / Diabete camp / Cardiology & Neurology	0.25	0.25	-	0.50
	Health camp / Diagnostic camp / IMA Camp	0.25	0.25	-	0.50
	Village / School level free health check up camp	0.50	0.50	-	1.00
	Sub total	1.00	1.00	-	2.00
AIDS AWARENESS PROGRAM	AIDS awareness program with NACO & CG SACS & HLPPT : Nukkad Natak/ Condom Distribution /AIDS Policy formation and Implement NACO Program Awareness to truckers / IEC Material	1.00	1.00	1.00	3.00
	Sub total	1.00	1.00	1.00	3.00
SUPPORT OF MEDICAL EQUIPMENTS TO PHYSICALLY CHALLENGED	Medical Equipment for Physically challenged	1.00	0.50	0.50	2.00
	Sub total	1.00	0.50	0.50	2.00
EYE CAMP	Free monthly eye check up camp (Village & Plant) / Free Eye Spectacles to BPL Families	1.00	1.00	1.00	3.00
	Sub total	1.00	1.00	1.00	3.00
	TOTAL	35.00	29.50	28.50	93.00

ACTION	DETAILS	2019	2020	2021	Total
INFRASTRUCTURE DEVELOPMENT		Exps(Rs.in Lac)			
SCHOOL /ANGANBADI / COMMUNITY BUILDINGS	Construction, repair & renovation of schools buildings , Boundary Wall / Toilet block / Rang Manch / Kitchen shed etc.	5.00	5.00	5.00	15.00
	Sub total	5.00	5.00	5.00	15.00
COMMUNITY ASSET	Bathing Platform Mandhar, Girod village/ Nirmalaghat Pachri & Pinchingwork in village pond / Sluice Gate	6.00	6.00	6.00	18.00
	Sub total	6.00	6.00	6.00	18.00
ROAD / LANE / CULVERT / DRAINAGE	Construction & repair of road, lane, culvert, drainage / Gali Concrete in Tada & Girod, Eco Bricks to Govt offices / Drainage	15.00	15.00	15.00	45.00
	Sub total	15.00	15.00	15.00	45.00
ELECTRICITY / SOLAR LIGHTS / SOLAR PUMPS / BIO-GAS PLANTS	Support for the Construction of Bio Gas / Solar Lights Chulhas / Vermicompost/ NADEP etc.	10.00	10.00	10.00	30.00
	Sub total	10.00	10.00	10.00	30.00
DRINKING WATER WELL / WATER CHANNELS/ HANDPUMPS INSTALLATION/ SUBMERCIBLE PUMP	Installation of Hand pump / Submersible / Drinking Water Lines / Ter Tank in Village/ Schools / Potable water supply thorough tanker in Summer	12.00	10.00	10.00	32.00
	Sub total	12.00	10.00	10.00	32.00
	TOTAL	48.00	46.00	46.00	140.00
ART, CULTURE & SPORTS		Exps(Rs.in Lac)			
AWARENESS & VALUES PROMOTIONAL CAMPS/ TRAINING / SESSION	Organize work shop, Seminar, Training, on CSR with CII & Others	0.25	0.25	0.25	0.75
	Training on CSR and business ethics & Stress Management with ISKCON & Ramakrishna Mission	0.20	0.20	0.20	0.60
	Panchayat raj training /Exposure visit / CBWE training / CBO Training/ SHG visit	0.50	0.50	0.50	1.50
	Road & Domestic safety program in Schools & Villages	0.10	0.10	0.10	0.30
	Sub total	1.55	1.55	1.55	4.65
SPORTS & CULTURAL PROMOTION	Support to NGO/Trust/CBO/Media / Journalists / /Panchayat/Support to local village leaders on Dev. Issues	5.00	5.00	5.00	15.00
	Mahila chetana program/ Women PRI meet/ Bal mela etc	0.30	0.30	0.30	0.90
	Painting /Essay Competition on Environment issue in Schools	0.25	0.25	0.25	0.75
	Photo & Video graph ,PVC board / Display System/ Standy, Flexes, Banner / Poster / Brochure / Hand Bills / IEC Material / Advocacy / CSR Film	0.50	0.50	0.50	1.50
	Musical Instrument & Sports Material Support (Youth & Women Group)	2.00	2.00	2.00	6.00
	Support for Madai Mela & Jasgeet Jhaki Pratiyogita	1.00	1.00	1.00	3.00
	Support to Government Sports & Programmes	1.00	1.00	1.00	3.00
	Inter village sports / Local Sports Promotion / E Sports	0.20	-	-	0.20
	Promotion of local culture & Festivals like Dussera, Ram navmi, Ganesh Puja etc	2.00	2.00	2.00	6.00
	Establish multipurpose stall for Maa Bamleshwari Devotees during Navratri	1.00	1.00	1.00	3.00
	Local Cultural program / Social Event	1.00	1.00	1.00	3.00
	Sub total	9.25	9.05	9.05	27.35
MASS MARRIAGE OF POOR GIRLS	Support for poor Girl Masss marriage / Tool kit for IGP	5.00	5.00	5.00	15.00
	Sub total	5.00	5.00	5.00	15.00
DISASTER MANAGEMENT	Disaster Mitigation / Emergency Preparedness	10.00	7.50	7.50	25.00
	Sub total	10.00	7.50	7.50	25.00
CHARITY & DONATION	Charity & Donation as per the need assessment	5.00	5.00	5.00	15.00
SOCIAL SECUIRTY	Support for the social security measures	3.00	3.00	3.00	9.00
	Sub total	8.00	8.00	8.00	24.00
	Total	33.80	31.10	31.10	96.00

ACTION	DETAILS	2019	2020	2021	Total
LIVELIHOOD		Exps(Rs.in Lac)			
VOCATIONAL TRAINING & KOUSHAL VIKAS PROGRAM FOR LIVELIHOOD DEVELOPMENT	To Conduct and Co-Ordinate need based technical training & Support JCB Operator /Mobile repairing / Rural Livelihood Programs / Retail / Computer Training / Self employment training / Vocational Training etc.	3.00	3.00	3.00	9.00
	Sub total	3.00	3.00	3.00	9.00
AGRICULTURE / HORTICULTURE DEVELOPMENT PROGRAMME	Farmer Training / Exposure visit to Kharora/ Kurud / Mahasamund CGSIRD / PNB Farmers Club	1.00	1.00	1.00	3.00
	Model construction of vermi compost / Nadeb Pit / Bio Gas etc / Road Cleanning / Model village development/Financial Relief fund	1.00	1.00	1.00	3.00
	Sub total	2.00	2.00	2.00	6.00
WATERSHED DEVELOPMENT	Deepening of Pond & Beautification / Rain water harvesting /Road Cleaning	1.00	1.00	1.00	3.00
	Sub total	1.00	1.00	1.00	3.00
DAIRY DEVELOPMENT INITIATIVE	Cattle breed promotion(AI) and Veterinary camp (Vaccination & Treatment)/ Exposure visit / Fodder Development & Para treatment program / Dairy Development program/ Calves Distribution	8.00	8.00	8.00	24.00
	Sub total	8.00	8.00	8.00	24.00
MICRO FINANCE INSTITUTE / SELF HELP GROUP MOMENT	Self Help Group Training /Exposure visit / Bank Linkage Awareness/ Training ar CGSIRD / Grihini / New SHG'S/IGP Promotion & Facilitate for loan and micro finance/Sewing Training / Beauty Parlour Training	2.00	2.00	2.00	6.00
	Sub total	2.00	2.00	2.00	6.00
	Total	16.00	16.00	16.00	48.00
	GRAND TOTAL	165.20	153.90	152.90	472.00

1st Floor, Vanijya Bhawan, Jail Road, An ISO 9001, ISO 14001 & OHSAS 18001
 Devendra Nagar Square, Certified Company
 Raipur - 492001 (C.G.)
 Tel.: +91 7712214210
 Fax: +91 7712214213/14
 PAN No.: AAACR6149L
 CIN: L27100MH1973PLC016617
 www.seml.co.in
 info@seml.co.in



SEML/ENV/MAN/4901
 23.01.2019

To,
 The Collector,
 Collectorate Pasrisar,
 Raipur Chhattisgarh

Sub: Request for Constituting a committee for ensuring Implementation of Enterprise Social Commitment earmarked in compliance with the Specific Condition XV of Environment Clearance granted for existing operational 0.6 MTPA Iron Ore Pelletization Plant of M/s Sarda Energy & Minerals Limited at Village Mandhar, Raipur, Chhattisgarh.

Re: Environment clearance granted vide F. No J-11011/45/2012-IA.II (I) dated 28/10/2016.

Dear Sir,

With reference to the subject cited matter, we would like to submit that MoEF&CC vide Environment Clearance (under reference) has stipulated the following condition:

Quote:

"Specific Condition no (XV)

At least 2.5% of the total cost of the project shall be earmarked towards Enterprise Social Commitment based on Public Hearing issues, locals need and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office. Implementation of such program shall be ensured by constituting a Committee comprising of the proponent, representatives of village Panchayat and District Administration. Action taken report in this regard shall be submitted to the Ministry's Regional Office."

Unquote:

In compliance to the above, We have earmarked Rs. 472 Lac i.e. 2.5% gross capital invested on our Iron Ore Pelletization Plant towards Enterprise Social Commitment. The time Bond action plan is annexed as Annexure - I

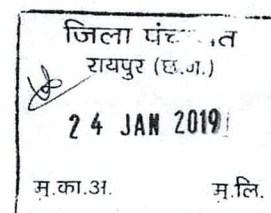
Now for compliance of the above stated condition we request to kindly constituting a Committee comprising of the proponent, representatives of village Pauchayat and District Administration for ensuring the Implementation of the attached action plan.

Thanking You,

For Sarda Energy & Minerals Limited

Authorized Signatory

CC: Chief Executive Officer, District Panchayat, Raipur Chhattisgarh.



Sarda Energy & Minerals Limited

Enterpenure Social Commitment

Budgetry Provision for ECS [2.5% of the total cost of the project (Existing Operational 0.6 MTPA Iron Ore Pellet Plant)] **INR 472 Lac**

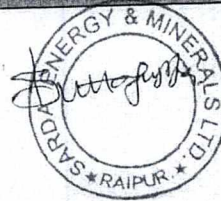
ACTION	DETAILS	2019	2020	2021	Total
EDUCATION		Exps (Rs. in Lac)			
EDUCATION PROMOTION	Educational material support to students / Support for Sports	2.00	2.00	2.00	6.00
	Clebration of National festival and sweets distribution for Students	0.30	0.30	0.30	0.90
	Salary support to teachers in Siltara & Dongarbore	2.00	2.00	2.00	6.00
	Water cooler & water purifier support to selective school	1.00	1.00	1.00	3.00
	Teachers meet / Teachers day /Annual Day celebration	0.50	0.50	0.50	1.50
	IT promotion in village schools (Support of computers)	1.00	1.00	1.00	3.00
	Sub total	6.80	6.80	6.80	20.40
EDUCATION SUPPORT TO PHYSICALLY CHALLANGED	Support for the education development of physically challanged	1.00	1.00	1.00	3.00
	Sub total	1.00	1.00	1.00	3.00
PROMOTION OF GIRL EDUCATION	Coaching classes for girl students/ Support to Poor girls / Karate classes for girls for self defence	0.20	0.10	0.10	0.40
	Sub total	0.20	0.10	0.10	0.40
SUPPORT TO ANGANBADIES	Material help to Aganwadi Centers (Examination table & Wt Machine etc)	0.60	0.60	0.60	1.80
	Support for MID-Day meal utensils plates/ Play Material for children	0.50	0.50	0.50	1.50
	Sub total	1.10	1.10	1.10	3.30
REWARDS TO MERITORIOUS	"Pratibha Protsahan Samaroh" to Reward Meritorious Students" (Siltara,Girod & Mandhar)	1.00	1.00	1.00	3.00
	Support for Higher Education(Engineering, Medical & Professional Courses)	2.00	1.00	1.00	4.00
	Sub total	3.00	2.00	2.00	7.00
CAREER COUNSELLING CAMPS	Organize career guidance / Career orientation camp / CareerCounseling camp	0.30	0.30	0.30	0.90
	Sub Total	0.30	0.30	0.30	0.90
EKAL VIDYALAYAS	Support Single teacher schools through FTS	20.00	20.00	20.00	60.00
	Sub Total	20.00	20.00	20.00	60.00
	Total	32.40	31.30	31.30	95.00
HEALTHCARE		Exps(Rs.in Lac)			
HEALTH CENTER/ MOBILE MEDICAL	Mobile medical van / Doctors Fee / Medicine/Dongarbore	30.00	25.00	25.00	80.00
	Support to critical patients for advance treatment	1.00	1.00	1.00	3.00
	Sub total	31.00	26.00	26.00	83.00
GENERAL HEALTH CAMP	Skin / ENT / Diabetc camp / Cardiology & Neurology	0.25	0.25	-	0.50
	Health camp / Diagnostic camp / IMA Camp	0.25	0.25	-	0.50
	Village / School level free health check up camp	0.50	0.50	-	1.00
	Sub total	1.00	1.00	-	2.00
AIDS AWARENESS PROGRAM	AIDS awareness program with NACO & CG SACS & HLFPT : Nukkad Natak/ Condom Distribution /AIDS Policy formation and Implement NACO Program Awareness to truckers / IEC Material	1.00	1.00	1.00	3.00
	Sub total	1.00	1.00	1.00	3.00
SUPPORT OF MEDICAL EQUIPMENTS TO PHYSICALLY CHALLENGED	Medical Equipment for Physically challanged	1.00	0.50	0.50	2.00
	Sub total	1.00	0.50	0.50	2.00
EYE CAMP	Free monthly eye check up camp (Village & Plant) / Free Eye Specticales to BPL Families	1.00	1.00	1.00	3.00
	Sub total	1.00	1.00	1.00	3.00
	TOTAL	35.00	29.50	28.50	93.00



ACTION	DETAILS	2019	2020	2021	Total
INFRASTRUCTURE DEVELOPMENT		Exps(Rs.in Lac)			
SCHOOL /ANGANBADI / COMMUNITY BUILDINGS	Construction, repair & renovation of schools buildings , Boundary Wall / Toilet block / Rang Manch / Kitchen shed etc.	5.00	5.00	5.00	15.00
	Sub total	5.00	5.00	5.00	15.00
COMMUNITY ASSET	Bathing Platform Mandhar, Girod village/ Nirmalaghat Pachri & Pinchingwork in village pond / Sluice Gate	6.00	6.00	6.00	18.00
	Sub total	6.00	6.00	6.00	18.00
ROAD / LANE / CULVERT / DRAINAGE	Construction & repair of road, lane, culvert, drainage / Gali Concrete in Tada & Girod, Eco Bricks to Govt offices / Drainage	15.00	15.00	15.00	45.00
	Sub total	15.00	15.00	15.00	45.00
ELECTRICITY / SOLAR LIGHTS / SOLAR PUMPS / BIO GAS PLANTS	Support for the Construction of Bio Gas / Solar Lights Chulhas / Vermicompost/ NADEP etc.	10.00	10.00	10.00	30.00
	Sub total	10.00	10.00	10.00	30.00
DRINKING WATER WELL / WATER CHANNELS/ HANDPUMPS INSTALLATION/ SUBMERCIBLE PUMP	Installation of Hand pump / Submersible / Drinking Water Lines / Ter Tank in Village/ Schools / Potable water supply thorough tanker in Summer	12.00	10.00	10.00	32.00
	Sub total	12.00	10.00	10.00	32.00
	TOTAL	48.00	46.00	46.00	140.00
ART, CULTURE & SPORTS		Exps(Rs.in Lac)			
AWARENESS & VALUES PROMOTIONAL CAMPS/ TRAINING / SESSION	Organize work shop, Seminar, Training, on CSR with CII & Others	0.25	0.25	0.25	0.75
	Training on CSR and business ethics & Stress Management with ISKCON & Ramakrishna Mission	0.20	0.20	0.20	0.60
	Panchayat raj training /Exposure visit / CBWE training / CBO Training/ SHG visit	0.50	0.50	0.50	1.50
	Road & Domestice safety program in Schools & Villages	0.10	0.10	0.10	0.30
	Sub total	1.55	1.55	1.55	4.65
SPORTS & CULTURAL PROMOTION	Support to NGO/Trust/CBO/Media / Journalists / /Panchayat/Support to local village leaders on Dev. Issues	5.00	5.00	5.00	15.00
	Mahila chetana program/ Women PRI meet/ Bal mela etc	0.30	0.30	0.30	0.90
	Painting /Essay Competition on Environment issue in Schools	0.25	0.25	0.25	0.75
	Photo & Video graph ,PVC board / Display System/ Standy, Flexes, Banner / Poster / Brochure / Hand Bills / IEC Material / Advocacy / CSR Film	0.50	0.50	0.50	1.50
	Musical Instrument & Sports Material Support (Youth & Women Group)	2.00	2.00	2.00	6.00
	Support for Madai Mela & Jasgeet Jhaki Pratiyogita	1.00	1.00	1.00	3.00
	Support to Government Sports & Programmes	1.00	1.00	1.00	3.00
	Inter village sports / Local Sports Promotion / E Sports	0.20	-	-	0.20
	Promotion of local culture & Festivals like Dussera, Ram navmi, Ganesh Puja etc	2.00	2.00	2.00	6.00
	Establish multipurpose stall for Maa Bamleshwari Devotees during Navratri	1.00	1.00	1.00	3.00
	Local Cultural program / Social Event	1.00	1.00	1.00	3.00
	Sub total	9.25	9.05	9.05	27.35
MASS MARRIAGE OF POOR GIRLS	Support for poor Girl Masss marriage / Tool kit for IGP	5.00	5.00	5.00	15.00
	Sub total	5.00	5.00	5.00	15.00
DISASTER MANAGEMENT	Disaster Mitigation / Emergency Preparedness	10.00	7.50	7.50	25.00
	Sub total	10.00	7.50	7.50	25.00
CHARITY & DONATION	Charity & Donation as per the need assessment	5.00	5.00	5.00	15.00
SOCIAL SECURITY	Support for the social security measures	3.00	3.00	3.00	9.00
	Sub total	8.00	8.00	8.00	24.00
	Total	33.80	31.10	31.10	96.00



ACTION	DETAILS	2019	2020	2021	Total
LIVELIHOOD		Exps(Rs.In Lac)			
VOCATIONAL TRAINING & KOUSHAL VIKAS PROGRAM FOR LIVELIHOOD DEVELOPMENT	To Conduct and Co-Ordinate need based technical training & Support JCB Operator / Mobile repairing / Rural Livelihood Programs / Retail / Computer Training / Self employment training / Vocational Training etc.	3.00	3.00	3.00	9.00
	Sub total	3.00	3.00	3.00	9.00
AGRICULTURE / HORTICULTURE DEVELOPMENT PROGRAMME	Farmer Training / Exposure visit to Kharora/ Kurud / Mahasamund CGSIRD / PNB Farmers Club	1.00	1.00	1.00	3.00
	Model construction of vermi compost / Nadeh Pit / Bio Gas etc / Road Cleanning / Model village development/Financial Relief fund	1.00	1.00	1.00	3.00
	Sub total	2.00	2.00	2.00	6.00
WATERSHED DEVELOPMENT	Deepening of Pond & Beautification / Rain water harvesting / Road Cleaning	1.00	1.00	1.00	3.00
	Sub total	1.00	1.00	1.00	3.00
DAIRY DEVELOPMENT INITIATIVE	Cattle breed promotion(AI) and Veterinary camp (Vaccination & Treatment)/ Exposure visit / Fodder Development & Para treatment program / Dairy Development program/ Calves Distribution	8.00	8.00	8.00	24.00
	Sub total	8.00	8.00	8.00	24.00
MICRO FINANCE INSTITUTE / SELF HELP GROUP MOMENT	Self Help Group Training /Exposure visit / Bank Linkage Awareness/ Training ar CGSIRD / Grihini / New SHG'S/IGP Promotion & Facilitate for loan and micro finance/Sewing Training / Beauty Parlour Training	2.00	2.00	2.00	6.00
	Sub total	2.00	2.00	2.00	6.00
	Total	16.00	16.00	16.00	48.00
GRAND TOTAL		165.20	163.90	152.90	472.00



Annexure - 6

M/s. Sarda Energy & Minerals Limited, Raipur (C.G.).

Projected Profit and Corporate Social Responsibility Plan for Five years (2019-20 to 2023-24)

CSR is embedded into SEML's core value system. It is committed to continuous improvement in our CSR strategy and aim to be an exemplar of good practice. SEML firmly believe that as a responsible corporate, it has responsibility towards development areas which is in the vision of our operational boundaries.

All Fig: INR Lac

Sl. No	Particular	2019	2020	2021	2022	2023
A	Projected average net profit of the Company for last three financial years	14,760.92	21,952.98	27,132.45	29,854.33	32,200.33
B	Prescribed CSR expenditure (2% of net profit as computed above – Sl. No A)	295.22	439.06	542.65	597.09	644.01
C	Previous Year Amount unspent	7.00	-	-	-	-
	Total Projected CSR for the Year	302.22	439.06	542.65	597.09	644.01
1	Healthcare	45.33	65.86	81.40	89.56	96.60
2	Education	75.55	109.76	135.66	149.27	161.00
3	Social projects	30.22	43.91	54.26	59.71	64.40
4	Environment	30.22	43.91	54.26	59.71	64.40
5	Art & Culture	30.22	43.91	54.26	59.71	64.40
6	Help to widows	15.11	21.95	27.13	29.85	32.20
7	Sports	15.11	21.95	27.13	29.85	32.20
8	Rural development projects	45.33	65.86	81.40	89.56	96.60
9	Administrative Expenses	15.11	21.95	27.13	29.85	32.20
	Total Projected SR Expenditure	302.22	439.06	542.65	597.09	644.01

Industrial Growth Center, Siltara
Raipur (CG) 493111, India
Tel: +91 771 2216100
Fax : +91 771 2216198/99
PAN No.: AAACR6149L

www.seml.co.in
info@seml.co.in



Corporate Environmental Policy

M/s Sarda Energy & Minerals Limited is committed to a clean, safe and healthy environment and is committed to managing environmental impact as an integral part of our operations. Our commitment to environmental protection and stewardship will be achieved by:

- Complying with the requirements and spirit of applicable environmental laws and striving to exceed required levels of compliance.
- Conservation of resources by utilizing waste to meaningful/productive reutilization.
- Identifying, assessing and managing our environment impact.
- Regular monitoring, review and report publicly our environmental performance.
- Enhancing awareness, skill and competence of our employees and contractors so as to enable them to demonstrate their involvement, responsibility and accountability for sound environmental performance.
- Setting objective-targets, develop, implement and maintain management standards and systems and go-beyond compliance of the relevant statutory industrial standards, legal and other requirement.
- Commitment towards continual improvement in reporting system related to non-compliance/violation environmental conditions.
- Making business decisions that aim towards sustainable development and engaging with stakeholders to create awareness on environment sustainability

Date: 25th January 2019

A handwritten signature in black ink, appearing to read "Kamal K. Sarda", is written over a horizontal line.

Kamal K. Sarda
Chairman & Managing Director

Annexure – 8

Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance to the environmental Law:

Plant Head (Sr. Vice President)		
Head – Health, Safety & Environment (Sr. Manager)		
Manager (Horticulture)	Asst. Manager (Environment)	Asst. Manager QC (Environment)
Officer	Sr. Officer	Chemists
Supervisors	Supervisors	Lab. Assistant
Gardeners	Workers	
Workers		



Sarda Energy & Minerals Limited
(0.6 MTPA Pellet Plant at Phase – I of Siltara Industrial Growth Center,
Mandhar, Raipur)

EXPENDITURE AGAINST POLLUTION CONTROL IN 2017-18

S. NO.	NAME OF SECTION	AMOUNT
1	Energy charges for running of ESPs	13,136,879
2	Maintenance charges for Pollution Control Equipments	161,254
3	ESPs cleaning charges	14,500
4	Cleaning charges	
5	Purchase of Chemicals & Calibration Charges	1,534,570
6	Environmental Monitoring Charges	853,000
7	Third party monitoring	336,000
8	Green Belt Development / Plantation	1,501,500
	TOTAL	17,537,703

