

# M/S JSW CEMENT LIMITED Kalinga Nagar Industrial Complex Vill- Jakhapura, Tehsil- Danagadi Dist- Jajpur, Odisha- 755026

HALF YEARLY COMPLIANCE REPORT FOR ENVIRONMENTAL CLEARENCE FOR THE PERIOD 1<sup>ST</sup> October 2020 to 31<sup>st</sup> March 2021

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# **Compliance Report of Environment Clearance Conditions**

And G locate SEIAA Octob Projec	iround Granulated Blast Furnace S ed at Kalinga Nagar Industrial Com	lag (GGBS) Cer plex, Danagad	t (PSC), Portland Pozzolana Cement (PPC), ment Grinding Unit, JSW Cement Ltd. i, Dist- Jajpur, Odlsha ND/06-2017 Ref No. 3693/SEIAA dated 17 <sup>th</sup>
S.No.			Compliance
A	Specific Conditions		
1	Environmental Clearance is recommended by SEAC considering standalone grinding units.	5	s Noted and agreed. e
2	The Environmental Clearance cement grinding unit of follow capacity.	-	
	Product	Capacity	
	Portland Slag Cement (PSC)	1.2	
	Portland Pozzolana Cement (PPC)	ΜΤΡΑ	
	Ground Granulated Blast Furnace Slag (GGBS)		
	Portland Composite Cement (PCC)		

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-		
3	The project proponent should install 24X7 air	The unit has installed OCEMS for both the
	monitoring devices to monitor air emissions, as	major stacks i.e. cement mill & coal mil
	provided by the CPCB and submit report to the	and 1 No. of CAAQMS for continuous
	SEIAA, Odisha and Regional Office MoEF&CC,	monitoring of ambient air. Data from the
	Bhubaneswar.	OCEMS & CAAQMS is being continuously
		transmitted to the CPCB/SPCB server
		Also, the monitoring is conducted by third
		party and analysis report for the same is
		being submitted to concerned statutory
		bodies on regular basis.
		(Reports enclosed as Annexure - I)
4	The Standards issued by the MoEF&CC, Govt. of	Since, it is a cement grinding unit, only
	India vide G.S.R. No. 612 (E) dated 25th August	particulate matter emission standards are
	2014 and subsequent amendment dated 9th May	applicable to us and we are complying to
	2016 and 10th May 2016 regarding cement plants	the same.
	with respect to particulate matter, SO2 & NOx	
	shall be followed.	
5	Continuous stack monitoring facilities to	OCEMS has been installed for both the
	monitor gaseous emissions from the process	major stacks (Cement Mill & Coal Mill). A
	stacks shall be provided. Limit of PM shall be	this is a cement grinding unit, only
	controlled to meet prescribed standards by	particulate matter emission standards are
	installing adequate air pollution control.	applicable to us. We have taken variou
		measures for reducing PM levels by
		installing bag house, bag filters at all the
		material transfer points as well as stacks
		material clarister politis as well as stacks

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		The bag filters are designed for outlet dust emissions <30 mg/Nm3.
6	The National Ambient Air Quality Standards issued by the MoEF&CC, Govt. of India vide G.S.R. No. 826(E) dated 16 <sup>th</sup> November 2009 shall be followed	
7	Secondary fugitive emissions shall be controlled and shall be within the prescribed limits and regularly monitored. Guidelines/Code of Practice issued by the CPCB in this regard shall be followed.	Fugitive emissions from all the sources are below the prescribed norms. Guidelines/code of practice issued by the CPCB will be followed.
8	All the raw materials shall be stored under covered shed (as proposed) to control fugitive emission.	Covered sheds with impervious platform have been provided for storage of gypsum and coal. Clinker is stored in covered silo.
9	Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land by the use of conveyors/rail mode of transport wherever feasible. The company shall have separate truck parking area. Vehicular emissions shall be regularly monitored.	Closed conveyor belts have been installed in order to control the fugitive emission caused by transport of raw materials. Wherever feasible transportation of raw materials will be done through conveyors/rail/road network. We will have separate truck parking area and vehicular emissions will be monitored regularly.
10	All the treated wastewater shall be recycled and reused in the process and/or for dust suppression and green belt development and	No waste water is being generated from the manufacturing process. Domestic

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	other plant related activities etc. No wastewater	STP. Treated waste water shall be used for
	shall be discharged outside the factory premises	dust suppression/plantation. Zero liquid
	and 'zero' discharge shall be adopted.	discharge status is maintained.
11	Efforts shall be made to make use of harvested	Noted and agreed.
	rain water.	
12	All the bag filter dust, raw mill dust, coal dust,	All the dust collected from air pollution
	clinker dust and cement dust from pollution	control devices are being recycled 8
	control devices shall be recycled and reused in	reused in cement manufacturing process.
	the process and used for cement manufacturing.	Used/Spent oil & lead acid batteries has
	Spent oil and batteries shall be sold to	been sold to authorized third party
	authorized recyclers/ re-processors only.	recyclers/ re-processors only.
13	Green belt over 33% (5.61 acres as proposed) of	Landscaping for the horticulture work has
	the total project area shall be developed within	been done by involving experts. Green
	plant premises with at least 10-meter-wide	belt development is being carried out in
	green belt on all sides along the periphery of the	phase wise manner in 33% of project area
	project area and along road sides etc. by planting	by planting native/local species in
	native and broad leaved species in consultation	consultation with local DFO, loca
	with local DFO, local community and as per the	community and as per CPCB guidelines.
	CPCB guidelines.	We have planted total 2531numbers o
		trees on 2.4 acres of land by end of March
		2021.
14	The project proponent shall provide solar light	Solar lighting system will be provided in
	system for all common areas, street lights,	
	villages, parking around project area and	
	maintain the same regularly. The proponent	
		be Solar/ renewable. Identification of the

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	shall use Solar/ Renewable energy of 5 % of the	third party for conducting the site survey
	expected actual power requirement.	is in progress.
15	The project proponent shall provide LED lights	LED lights have been provided in offices.
_	in their offices and residential areas.	Residential colony is not proposed.
16	All the commitments made during the Public	We have earmarked INR 8 Crore towards
	Hearing / Public Consultation meeting held on	ESC/CER and the same shall be spent
	03rd May, 2017 shall be satisfactorily	towards meeting PH commitments. So fai
	implemented and adequate budget provision	we have spent approx. INR 1.47 Crore
	should be made accordingly.	towards CER.
17	All the recommendations made in the Charter on	Compliance status of CREP as applicable to
	Corporate Responsibility for Environment	Cement Plants is given in Annexure-II.
	Protection (CREP) for the Cement plants shall be	
	implemented.	
18	At least 2.5% of the total cost of the project shall	
	be earmarked towards the Enterprise Social	Enterprise Social Commitment (ESC) and
	Commitment (ESC) based on Public Hearing	action plan is enclosed herewith as
	issues, locals need and item-wise details along	Annexure-III.
	with time bound action plan shall be prepared	
	and submitted to the SEIAA, Odisha and Regional	
	Office MoEF&CC Bhubaneswar, 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 SEIAA, Odisha as	

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	well as to the Regional Office MoEF & CC Bhubaneswar.	
19	In addition to the above provision of ESC, the proponent shall prepare a detailed CSR Plan for the next 5 years including annual physical and financial targets for the project, which includes village-wise, sector-wise (Health, Education, Sanitation, Skill Development and infrastructure etc.) activities in consultation with the local communities and administration. 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. 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 3 years towards CSR activities for life of the project. A separate budget head shall be created and the annual capital and revenue expenditure on various activities of the plan shall be submitted as part of the Compliance report to the SEIAA, Odisha and Regional Office, MoEF&CC, Bhubaneswar. The details of the CSR	enclosed as Annexure-IV. The details of CSR plan will be uploaded to the company

	Plan shall also be uploaded on the company website and shall also be provided in the Annual Report of the company.	
20	A risk assessment study and Disaster Preparedness and Management Plan along with the mitigation measures shall be prepared with a focus of Disaster Prevention and a copy submitted to SEIAA Odisha, Regional Office MoEF&CC Bhubaneswar, SPCB and CPCB within 3 months of issue of environment clearance letter.	Management Plan along with mitigation measures is enclosed herewith as Annexure -V.
21	To educate the workers, all the work places where dust may cause a hazard shall be clearly indicated as a dust exposure area through use of display signs which identifies the hazard and the associated health effects.	
22	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, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	feasible.

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B.	General Conditions	Compliance
1	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board, Odisha.	We shall strictly adhere to the stipulations made by Odisha State Pollution Control Board.
2	No further expansion or modifications in the plant shall be carried out without prior approval of the SEIAA, Odisha.	Noted and will be complied
3	At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM10, PM2.5, SO2 and NOx are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to the SEIAA, Odisha, Regional Office, MoEF&CC, Bhubaneswar and the SPCB/CPCB once in six months.	have been established in downwind direction in consultation with the SPCB. Also, monitoring of the ambient air quality is being carried out through NABL accredited laboratory at the four
4	The overall noise levels in and around the plant area shall be kept well within the standards (85 dB A) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz, 75 dBA (day time) and 70 dBA (night time)	We have installed acoustic barriers around high noise generations equipment's, silencers and regular preventive maintenance of the equipment's to minimize the noise generation. Ambient noise levels is being maintained within the prescribed norms.



5	Occupational health surveillance of the workers	We will carry out occupational health
	should be done on a regular basis and records	surveillance of the workers on regular basis and
	maintained as per the Factories Act.	the records shall be maintained as per the
		Factories Act requirement.
6	The company should develop rain water	Noted and will be complied.
	harvesting structures to harvest the rain water	
	for utilization in the lean season besides	
	recharging the ground water table.	
7	The project proponent should also comply with	We will comply with all the environmenta
	all the environmental protection measures and	protection measures recommend in EIA/EMP.
	safeguards recommended in the EIA/EMP	We will continuously implement various CSF
	report. Further, the company must undertake	programs as per the CSR plan.
	socio-economic development activities in the	
	surrounding villages like community	
	development programmes, educational	
	programmes, drinking water supply and health	
_	care etc.	
8	Requisite funds shall be earmarked towards	
	capital cost and recurring cost/annum for	
	environment pollution control measures to	
	implement the conditions stipulated by the	
	SEIAA, Odisha as well as the State Pollution	
	Control Board, Odisha. An implementation	
	schedule for implementing all the conditions	· · · ·
	stipulated herein shall be submitted to the	purpose.
	Regional Office, MoEF&CC, Bhubaneswar. The	

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	funds so provided shall not be diverted for any other purpose.	
9	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad / Municipal Corporation, Urban Local Body and the 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.	Clearance to concerned panchayat, zila parishad/municipal corporation. Copy of the Environment clearance letter has been uploaded on our company website and can be viewed at the below link:
10	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 on the MoEF&CC website. It shall simultaneously be sent to the Regional Office of the MoEF&CC at Bhubaneswar, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; PM10 S02, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be	We have uploaded the compliance report on our company website and shall be periodically

Question

	monitored and displayed at a convenient location near the main gate of the company in the public domain.	
11	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 MoEF&CC, Bhubaneswar, the respective Zonal Office of CPCB and the SPCB. The Regional Office of MoEF&CC at Bhubaneswar / CPCB / SPCB shall monitor the stipulated conditions.	all the concerned regulatory authorities on regular basis as stipulated.
12	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 environmental conditions and shall also be sent to the respective Regional Office of the MoEF&CC at Bhubaneswar by e-mail.	The Environmental Statement for the FY 2019-20 in form of FORM-V has been submitted on 17 <sup>th</sup>
13	The Project Proponent shall inform the public	We have advertised our Environment Clearance in local newspapers i.e New Indian Express &

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	and several descent of the second several several	Number 1 and the second second second
	environmental clearance by the SEIAA, Odisha	Pramay) which are widely circulated in the
	and copy of the clearance letter is available with	region and copy of the same was submitted to
	the SPCB and may also be available in the	Regional office, MoEF&CC.
	Website of the SEIAA, Odisha and the Odisha	Newspaper advertisement is attached as an
	State Pollution Control Board (OSPCB). This shall	Annexure-VII.
	be advertised within seven days from the date of	
	Issue of the clearance letter, at least in two local	
	newspapers that are widely circulated in the	
	region of which one shall be in the vernacular	
	language of the locality concerned and a copy of	
	the same should be forwarded to the Regional	
	office, MoEF&CC, Bhubaneswar as well as State	
_	Pollution Control Board, Odisha.	
14	Project authorities shall inform the SEIAA,	
	Odisha, as well as Regional Office, MoEF&CC,	
	Bhubaneswar, the date of financial closure and	
	final approval of the project by the concerned	Date of commencement of land development
	authorities and the date of commencing the land	work: 16-11-2017.
	development work.	
15	The SEIAA, Odisha may revoke or suspend the	Noted and agreed.
	clearance, if implementation of any of the above	
_	conditions is not satisfactory.	
16	The SEIAA, Odisha reserves the right to stipulate	Noted and agreed.
	additional conditions if found necessary. The	
	Company in a time bound manner shall	
	implement these conditions.	

17	The applicant will take statutory clearance/approval/permissions from the concerned authorities in respect of the project as and when required.	Noted and agreed.
18	The above conditions shall be enforced, Inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous & Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and rules.	Noted and agreed.



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JSW Coment Limited

Kalinganagar Industrial Complex. Vill - Jakhapura, Tehsil- Danagadi, Dist.- Jajpuri Odisha - 755026 GST- 21AABCJ6731B1Z6 Website : <u>www.je</u>wgement.jn

10<sup>th</sup> November 2020

To, Regional Officer, Odisha State Pollution Control Board, At- Dhabalagiri, Po- F.C Project, Jajpur Road, Dist – Jajpur Odisha – 755020

Dear Sir,

### Subject: Monthly Air Report October 2020

Ref: Consent to Operate under section 21 of Air (Prevention & Control of Pollution) Act, 1981, under section 25 of Water (Prevention & Control of Pollution) Act, 1974 Letter No 3806/IND-ICON-6672 dated 21.03.2020.

With reference to above cited subject and reference, we herewith submit the monthly analysis of reports for the month of October 2020. The enclosed analysis report includes:

- 1. Ambient Air Quality
- 2. Stack Emission
- 3. Ambient Noise Level

This is for your kind information.

Thanking You,

Yours faithfully,

Ravi Gaur

Unit Head

For JSW Cemen Con

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Enclosure: As stated above



CIN-U26957MH2006PLC160839

Regd. Office : JSW Centre, Opp. MWRDA Ground Bandra Kurla Complex, Bandra (East) Mumbei - 400 051 Ph (Diract) : +91 - 22 - 4286 5047 Fax +91 - 22 - 2650 2001 Wabsite : www.jswcamantun

(An Enviro Engineering Consulting Cell)



Test Report No: ENVLAB/20/R-5030

# TEST REPORT

Customer Name & Address : M/s JSW Cement Ltd, Jajpur, Odisha

JSWCL/ODISHA/20-21/7700011888 Date: 07.10.2020 Customer Reference Date ÷

#### SAMPLE DETAILS

Sample Location & Code	AAQ1:Near Weigh Bridge	Sampled by	VCSPL'S Representative
Sample Description	Ambient Air	Sampling Procedure	IS 5182.
Sample Source	JSW Cement	Sample Received on	03,10,2020,07,10,2020,10,10,2020 13,10,2020,16,10,2020,21,10,2020 27,10,2020,30,10,2020.
Sample Condition	Gaseous Sample Solution Refrigerated		
Sampling Date	02.10.2020,06.10.2020 09.10.2020,12.10.2020 15.10.2020,20.10.2020 26.10.2020,29.10.2020	Test Completed on	03.10.2020 To 03.11.2020

	Sampling Date	Concentration of Pollutants						
SL. No		Particulate Matter as PM <sub>10</sub> (µg/m <sup>3</sup> )	Particulate Matter as PM <sub>[2]</sub> (pg/m <sup>3</sup> )	Sulphur Diexide as SO <sub>2</sub> (µg/m <sup>2</sup> )	Oxides of Nitrogen as NO <sub>X</sub> (ng/m <sup>2</sup> )	Carbon Monexide as CO (mg/m <sup>3</sup> )		
1	02.10.2020	63.0	38.0	9.3	26.5	0.51		
2	06.10.2020	59.0	32.0	10.1	31.2	0.42		
3 09.10.2020 4 12.10.2020		54.0	27.0 32.0	8.9	24.2	0.58		
		60.0		9.5	26.3	0.63		
5	15.10.2020	45.0	23.0 29.0	8.8 7.2	19.1 22.7	0.56 0.71		
6	20.10.2020 56.0	56.0						
7	26,10.2020 61.0		37.0	8.9	15.6	0,45		
8	29,10,2020	69.0	43.0	11.4	23.3	0.66		
Monthly 58.8 Average		58.8	32,6	9,3	23.6	0.57		
CPC	B, New Delhi AAQ Standard	100	60	80	80	4		
Testing Method		Gravimetrie IS 5182: Part 23	Gravimetric EPA CFR-40 (pt 50) Appendix-I	Improved West & Geake Method IS 5182 (Part-2) RA2006	Modified Jacob & Hechheiser Method IS 5182 (Part-6) RA2006	Non Dispersive Infrared Method IS 5182 (Part-10):1999		
_			Remarks: Detection lin	nit for SO <sub>2</sub> : 4.0 µg/m <sup>3</sup> ,	NOx: 9.0 µg/m3	200		
			Any unusual feature d		and the second second second	NII		

Remarks: (All the values of PM-10, PM-2.5, SO2, NOx & CO presented in row no 1-8 are Time Weighted Average.)

### \*\*\* End Report \*\*\*

Remarks:

TERMS AND CONDITION :-

1. The Test result is relevant only to the item tested 8

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3. The laboratory is not responsible for the authenticity of photocopied test report.

The TOE Born will not be retained for more than 15 days from the date of issue of test report except in case as required by applicable regulations

responsibility under this report is limited to, proven willful negligence.





Plot No.-M-22&23, Chandka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khunta, Odisha Tel. : 91-674-5451781cg 92017905

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Date: 03.11.2020

(An Enviro Engineering Consulting Cell)



Test Report No: ENVLAB/20/R-5031

# TEST REPORT

Customer Name & Address : M/s JSW Cement Ltd, Jajpur, Odisha

Customer Reference Date : JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020

#### SAMPLE DETAILS

Sample Location & Code	AAQ2:Near Cement Mill	Sampled by	VCSPL'S Representative
Sample Description	Ambient Air	Sampling Procedure	15 5182.
Sample Source	JSW Cement	Sample Received on	03.10.2020,07.10.2020,10.10,2020 13.10.2020,16.10.2020,21.10.2020 27.10.2020,30.10.2020.
Sample Condition	Gaseous Sample Solution Refrigerated		
Sampling Date	02,10,2020,06,10,2020 09,10,2020,12,10,2020 15,10,2020,20,10,2020 26,10,2020,29,10,2020	Test Completed on	03.10.2020 To 03.11.2020

	Sampling Date		Concer	tration of Pollu	tants	
SL. No		Particulate Matter as PM <sub>18</sub> (ag'm <sup>3</sup> )	Particulate Matter as PM <sub>2.5</sub> (jag/m <sup>3</sup> )	Sulphur Diexide as SO <sub>2</sub> (µg/m <sup>3</sup> )	Oxides of Nitrogen as NO <sub>X</sub> (µg/m <sup>3</sup> )	Carbon Monoxide as CO (mg/m <sup>2</sup> )
1	02.10.2020	55.0	21.0	10.9	24.4	0.56
2	06.10.2020	46.0	28.0	11.4	19.3	0.59
3 09.10.2020		59.0	32.0	9.9	25.5	0.51
4	12.10.2020	\$7.0	30.0	9.2	21.4	0.66
5	15.10.2020	51.0	26.0	9.5	28.7	0.75
6	20.10.2020	42.0	23.0 33.0	8.4 8.8	29.2 25.5	0.49 0.62
7	26.10.2020	26.10.2020 60.0				
8	29.10.2020	63.0	37,0	10.6	31.4	0.34
	Monthly Average	54.1	28.8	9.8	25,7	0.57
CPC	B, New Delhi AAQ Standard	100	60	80	80	4
Testing Method		Gravimetric 18 5182: Part 23	Gravimetrie EPA CFR-40 (pt 50) Appendix-1	Improved West & Gcake Method IS 5182 (Part-2) RA2006	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2006	Non Dispersive Infrared Method IS 5182 (Pari-10):1999
		1	Remarks: Detection in	alt for SO <sub>2</sub> : 4.0 µg/m <sup>2</sup> ,	NO <sub>v</sub> : 9.0 ag/m <sup>3</sup>	
			Any unusual feature di		too to too been	Nil

Remarks: (All the values of PM-10, PM-2.5, SO2, NOx & CO presented in row no 1-8 are Time Weighted Average.)

#### \*\*\* End Report \*\*\*

Remarks:

TERMS AND CONDITION:-

1. The Test result is relevant only to the item tested 8

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3. The laboratory is not responsible for the authenticity of photocopied test report.

4. The test isem will not be retained for more than 15 days from the date of issue of test report except in case as required by applicable regulation (18)

The hitsestory's responsibility under this report is limited to; proven willful negligence.



Plot No.-M-22&23, Chandka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel. : 91-674-6451781, 7752017905

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Date: 03.11.2020

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(An Enviro Engineering Consulting Cell)



Test Report No: ENVLAB/20/R-5032

#### Date: 03.11.2020

# TEST REPORT

M/s JSW Cement Ltd, Jajpur, Odisha Customer Name & Address :

**Customer Reference Date** JSWCL/ODISHA/26-21/7700011888 Date: 07.07.2020

#### SAMPLE DETAILS

Sample Location & Code	AAQ3: Near CCR Building	Sampled by	VCSPL'S Representative
Sample Description	Ambient Air	Sampling Procedure	IS 5182.
Sample Source	JSW Cement	Sample Received on	03.10.2020,07.10.2020,10.10.2020 13.10.2020,16.10.2020,21.10.2020 27.10.2020,30.10.2020.
Sample Condition	Gaseous Sample Solution Refrigerated		
Sampling Date	02.10.2020,06.10.2020 09.10.2020,12.10.2020 15.10.2020,20.10.2020 26.10.2020,29.10.2020	Test Completed on	03.10.2020 To 03.11.2020

SL. No	Sampling Date	Concentration of Pollutants					
		Particulate Matter as PM <sub>18</sub> (ng/m <sup>2</sup> )	Particulate Matter as PM <sub>25</sub> (µg/m <sup>3</sup> )	Sulphur Dioxide as SO <sub>1</sub> (µg/m <sup>3</sup> )	Oxides of Nitrogen as NO <sub>X</sub> (µg/m <sup>8</sup> )	Carbon Monoxide as CO (mg/m <sup>2</sup> )	
1	02.10.2020	42.0	29.0	9.2	16.8	0.39	
2	06.10.2020	51.0	26.0	8.4	17.7	0.55	
3         09.10.2020           4         12.10.2020           5         15.10.2020		47.0	23.0 20.0 22.0	10.9 9.6 8.1	21.3	0.61	
		44.0			18.6 25.6	0.73 0.49	
		53.0					
6	20.10.2020	58.0	33.0	8.5	20.2	0.31	
7	26.10.2020 50.0		29.0	9.3	18.8	0.45	
8	29.10.2020	46.0	21.0	7.4	15.6	0.26	
	Monthly 48.9 Average		25.4	8.9	19.3	0.47	
CPC	B, New Delhi AAQ Standard	100	60	80	80	4	
Testing Method		Gravimetrie IS 5182: Part 23	Gravimetric EPA CFR-40 (pt 50) Appendix-1	Improved West & Geake Method IS 5182 (Pari-2) RA2006	Modified Jacob & Hochbeiser Method 18 5182 (Part-6) RA2006	Non Dispersive Infrared Method IS 5182 (Part-10):1999	
		1	Remarks: Detection lin	nit for SO <sub>51</sub> 4.0 µg/m <sup>3</sup> ,	NOx: 9.0 µg/m <sup>3</sup>	22.00	
			Any unusual feature d		and a second	NB	

Remarks: (All the values of PM-10, PM-2.5, SO2, NOx & CO presented in row no 1-8 are Time Weighted Average.)

#### \*\*\* End Report \*\*\*

Remarks:

TERMS AND CONDITION:-

1. The Test result is relevant only to the item tested.8

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3. The laboratory is not responsible for the authenticity of photocopied test roport.

Description: will not be retained for more than 15 days from the date of issue of test report except in case as required by applicable regulations, be fabricable regulations, be fabri S

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Test Report No: ENVLAB/20/R-5033

# TEST REPORT

Customer Name & Address : M/s JSW Cement Ltd, Jajpur, Odisha

Customer Reference Date : JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020

#### SAMPLE DETAILS

Sample Location & Code	AAQ4:Raw Material Storage Yard	Sampled by	VCSPL'S Representative
Sample Description	Ambient Air	Sampling Procedure	IS 5182.
Sample Source	JSW Cement	Sample Received on	03.10.2020,07.10.2020,10.10.2020 13.10.2020,16.10.2020,21.10.2020 27,10.2020,30.10.2020.
Sample Condition	Gaseous Sample Solution Refrigerated		
Sampling Date	02,10,2020,06,10,2020 09,10,2020,12,10,2020 15,10,2020,20,10,2020 26,10,2020,29,10,2020	Test Completed on	03.10.2020 To 03.11.2020

			Concer	tration of Pollu	tants	
SL. Ne	Sampling Date	Particulate Matter as PM <sub>18</sub> (µg/m <sup>2</sup> )	Particulate Matter as PM <sub>25</sub> (µg/m <sup>3</sup> )	Sulphur Diexide as SO <sub>2</sub> (µg/m <sup>3</sup> )	Oxides of Nitrogen as NO <sub>X</sub> (µg/m <sup>3</sup> )	Carbon Monoxide as CO (mg/m <sup>3</sup> )
1	02.10.2020	49.0	31.0	7.6	18.3	0.57
2	06.10.2020	52.0	26.0	5.8	15.7	0.63
3	09.10.2020	58.0	33.0	8.4	19.8	0.39
4	12.10.2020	66.0	40.0	9,2	21.2	0.61
5	15,10,2020	43.0	29.0	7.4	16.5	0.52
6	20.10.2020	55.0	35.0	6.5	13.1	0.48
7	26.10.2020	51.0	32.0	6.9	15.8	0.73
8	29,10,2020	63.0	40.0	7.8	18.8	0.66
	Monthly Average	54.6	33,3	7.5	17.4	0.57
CPC	B, New Delhi AAQ Standard	100	60	80	80	4
1	Festing Method	Gravimetrie 18 5182: Part 23	Gravimetric EPA CFR-40 (pt 50) Appendix-1	Improved West & Geake Method IS 5182 (Part-2) RA2006	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2006	Non Dispersive Infrared Method IS 5182 (Part-10):1999
-			Remarks: Detection lin	nit for SO <sub>2</sub> : 4.0 µg/m <sup>3</sup> ,	NOx: 9.0 µg/m <sup>3</sup>	11.
			Any unusual feature du			Nil

Remarks: (All the values of PM-10, PM-2.5, SO2, NOx & CO presented in row no 1-8 are Time Weighted Average.)

#### \*\*\* End Report \*\*\*

Remarks:

TERMS AND CONDITION:-

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Date: 03.11.2020

Anoni

hecked By

(An Enviro Engineering Consulting Cell)



### Test Report No: Enviab/20/R-5034

Date: 03.11.2020

# TEST REPORT

### CUSTOMER DETAILS

Customer Name & Address	:	M/s JSW Cement Lt	I/s JSW Cement Ltd, Jajpur, Odisha					
Work Order No & Date	1	JSWCL/ODISHA/20	WCL/ODISHA/20-21/7700011888 Date: 07.07.2020					
SAMPLE DETAILS								
Sample Location & Code	1	ST1: Coal Mill	Sampling Procedure	IS 11255				
Date of Sampling	:	27,10,2020	Material Construction of stack	MS Plate				
Time of Sampling	:	14.50 Hrs-16.20 Hrs	Shape of Stack	Circular				
Date of Analysis	:	29,10,2020	Height of Stack from Ground Level	39.0 meter				
Stack Connected To	1	Coal Mill	Diameter of Stack	0.8 meter				
Emission Due To	:	Burning of Coal	Height of Sampling Point from Ground Level	26.0 meter				

SL. No.	Name of the Parameters	Testing Methods	Units	Result
1.	Temperature of Stack	IS 11255: 1985(Part 3)	"K	351.0
2.	Velocity of Gas	IS 11255: 1985(Part 3)	m/sec	10.67
3.	Quantity of gas flow, at dry Condition	IS 11255: 1985(Part 3)	Nm <sup>3</sup> /hr	16293.37
4,	Moisture	IS 11255: 1985(Part 3)	%	0,19
5,	Concentration of Particulate Matter (as PM)	IS 11255: 1985 (Part 1)	mg/m <sup>3</sup>	17.29

\*\*\* End Report \*\*\*

Remarks

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(An Enviro Engineering Consulting Cell)



Test Report No: Envlab/20/R-5035

Date: 03.11.2020

# TEST REPORT

### CUSTOMER DETAILS

Customer Name & Address	1	M/s JSW Cement Ltd, Jajpur, Odisha					
Work Order No & Date	:	JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020					
SAMPLE DETAILS							
Sample Location & Code	1	ST2: Slag/Cement Mill	Sampling Procedure	IS 11255			
Date of Sampling	1	27.10.2020	Material Construction of stack	MS Plate			
Time of Sampling		12.10 Hrs-13.20 Hrs	Shape of Stack	Circular			
Date of Analysis	1	29.10.2020	Height of Stack from Ground Level	58.0 meter			
Stack Connected To	i.	Roller Press Chimney	Diameter of Stack	3.0 meter			
Emission Due To	1	Cement Grinding	Height of Sampling Point from Ground Level	33.0 meter			

SL. No.	Name of the Parameters	Testing Methods	Units	Result
1.	Temperature of Stack	IS 11255: 1985(Part 3)	<b>'</b> K	367,0
2.	Velocity of Gas	IS 11255: 1985(Part 3)	m/sec	5.98
3.	Quantity of gas flow, at dry Condition	IS 11255: 1985(Part 3)	Nm³/hr	122713.81
4.	Moisture	IS 11255: 1985(Part 3)	%	0.23
5.	Concentration of Particulate Matter (as PM)	IS 11255: 1985 (Part 1)	mg/m <sup>3</sup>	21.34

\*\*\* End Report \*\*\*

Remarks:

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Test Report No: ENVLAB/20/TR-5036

#### Date : 03.11.2020

# TEST REPORT

Customer Name & Address

M/s JSW Cement Limited, Jajpur, Orissa. t

Customer Reference Date

JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020

### SAMPLE DETAILS

Sample Code	N1-N4	Sampled By	VCSPL'S Representative
Sample Name	Noise	Sampling Procedure	IEC 61672-1(2002-05) Class-L
Sample Source	Noise Level (Core Zone)	Sample Received On	NA
Sample Condition	NA	Test Completed On	NA

SL. No	Sampling Location	Date of Monitoring	Noise level dB (A) Leq, day time (6,00am to 10.00pm)	Noise level dB (A) Leq, night time (10.00pm to 06.00am)
01	CCR Building	16.10.2020	71,4	65.6
02	Weigh Bridge	16,10,2020	65.9	57.1
03	Hopper Mill	16.10.2020	68.3	58.9
04	In front of Office	16.10.2020	65.5	60,2
Standard	as per Noise Rule 2000			
Industrial Area			75	70
Residential Area			55 45	
Any fea	ture observed during dete	rmination	1	Nil

### \*\*\* End Report \*\*\*

#### Remarks:

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(An Enviro Engineering Consulting Cell)



Test Report No: ENVLAB/20/TR-5037

Date : 03.11.2020

# TEST REPORT

Customer Name & Address

M/s JSW Cement Limited, Jajpur, Orissa.

Customer Reference Date

JSWCL/ODISHA/20-21/7700011888 Date: 07.08.2020

### SAMPLE DETAILS

Construct and the second second				
Sample Location & Code	F1-F4	Sampled by	VCSPL'S Representative	
Sample Name Fugitive Emission(AA		Sampling Procedure	IS 5182	
Sample Source	M/s JSW Cement Ltd	Sample Received on	14,10,2020, 23,10,2020	
Sample Condition	N.A			
Sampling Date	13.10.2020, 22.10.2020	Test Completed on	14.10.2020, 23.10.2020	

SL. No	Sampling Locations	Date of Sampling	Parameters	Observed Value (µg/m <sup>2</sup> )	Test Method
1	RAW MATERIAL STORAGE YARD	13,10.2020	-mil hā	83.0	
2	NEAR JSW OFFICE MAIN GATE	13.10.2020	Suspended Particulate Matter	74.0	
3	CCR BUILDING	22.10.2020		\$9.0	IS 5182 (Part-23)
4	NEAR WEIGH BRIDGE	22.10.2020		78.0	
Sta	ndard For Crusher /Industrial Area	1200			

### \*\*\* End Report \*\*\*

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Kelingenegar Industrial Complex, VIII - Jakhapura, Tahsil- Danagadi, Dist - Jajpur, Odisha - 755026 G6T- 21AABCJ6731B128 Websile ; www.jswcement.in

JSWCL/JAJPUR/ENV/20-21/

05<sup>th</sup> December 2020

To, Regional Officer, Odisha State Pollution Control Board, At- Dhabalagiri, Po- F.C Project, Jajpur Road, Dist – Jajpur Odisha – 755020

Dear Sir,

### Subject: Monthly Air Report November 2020

**Ref:** Consent to Operate under section 21 of Air (Prevention & Control of Pollution) Act, 1981, under section 25 of Water (Prevention & Control of Pollution) Act, 1974 Letter No 3806/IND-ICON-6672 dated 21.03.2020.

With reference to above cited subject and reference, we herewith submit the monthly analysis of reports for the month of **November 2020**.

# The enclosed analysis report includes:

- 1. Ambient Air Quality
- 2. Stack Emission
- 3. Ambient Noise Level
- 4. Water Quality Report

This is far your kind information.

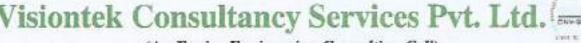


Enclosure: As stated above



### CIN-U26957MH2006PLC160839

Regd. Office : JSW Centre, Opp. MMRDA Ground Sandra Kurla Complex, Bandra (East) Mumbai - 400 DS1 Ph (Direct) : +91 - 22 - 4286 5047 Fax : +91 - 22 - 2650 2001 Website : www.jswcement.in



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150 5981: 2015 150 14001: 2015 ISO 45001:2018 (OB&S) ISO/IEC 17025:2005

Test Report No: ENVLAB/20/R-6522

# TEST REPORT

M/s JSW Cement Ltd, Jajpur, Odisha Customer Name & Address :

Customer Reference Date JSWCL/ODISHA/20-21/7700011888 Date: 07.11.2020

#### SAMPLE DETAILS

Sample Location & Code	AAQ1:Near Weigh Bridge	Sampled by	VCSPL'S Representative
Sample Description	Ambient Air	Sampling Procedure	IS 5182.
Sample Source JSW Cement		Sample Received on	04.11.2020,07.11.2020,10.11.2020 13.11.2020,17.11.2020,21.11.2020 25.11.2020,28.11.2020,
Sample Condition	Gaseous Sample Solution Refrigerated		
Sampling Date	03.11.2020,06.11.2020 09.11.2020,12.11.2020 16.11.2020,20.11.2020 24.11.2020,27.11.2020	Test Completed on	04.11.2020 To 03.12.2020

		Concentration of Pollutants					
SL. No	Sampling Date	Particulate Matter as PM <sub>18</sub> (sg/m <sup>2</sup> )	Particulate Matter as PM <sub>3.5</sub> (µg/m <sup>3</sup> )	Sulphur Dioxide as SO <sub>2</sub> (µg/m <sup>3</sup> )	Oxides of Nitrogen as NO <sub>X</sub> (µg/m <sup>2</sup> )	Carbon Monoxide as CO (mg/m <sup>2</sup> )	
1	03.11.2020	52.0	27.0	8.7	20.5	0.33	
2	06.11.2020	49.0	24.0	9.6	13.3	0.59	
3	09.11.2020	61.0	33.0	7,7	18.8	0.46	
4	12.11.2020	55.0	28.0	8,7	24.1	0.41	
5	16.11.2020	62.0	35.0	8.5	22.2	0.28	
6	20.11.2020	47.0	23.0	10.4	15.9	0.32	
7	24.11.2020	56.0	29.0	9.8	20.5	0.53	
8	27.11.2020	41.0	22.0	7.9	17.9	0.47	
	Monthly Average	52.9	27.6	8.9	19.2	0.42	
CPC	B, New Delhi AAQ Standard	100	60	80	80	4	
Testing Method Gravimetric IS 5182: Part 23		Gravimetrie EPA CFR-40 (pt 50) Appendix-1	Improved West & Geake Method IS 5182 (Part-2) RA2006	Modified Jacob & Hachheiser Mefand 15 5182 (Part-6) RA2006	Non Dispersive Infrared Method 18 5182 (Part-10):1999		
			Remarks: Detection lin	alt for SO .: 4.0 us/m	NO. : 9.0 ug/m <sup>3</sup>		
			Any unusual feature de	and the second se	the first held m	Nil	

Remarks: (All the values of PM-10, PM-2, 5, SO<sub>2</sub>, NOx & CO presented in row no 1-8 are Time Weighted Average.)

### \*\*\* End Report \*\*\*

Remarks

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Date: 04,12,2020

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ISO 9001:2015 ISO 14001:2015 ISO 14001:2015 ISO 145001:2018 (OH&S) ISO/IEC 17025:2045

Date: 04.12.2020.

Test Report No: ENVLAB/20/R-6523

# TEST REPORT

Customer Name & Address : M/s JSW Cement Ltd, Jajpur, Odisha

Customer Reference Date : JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020

### SAMPLE DETAILS

Sample Location & Code	AAQ2:Near Cement Mill	Sampled by	VCSPL'S Representative
Sample Description	Ambient Air	Sampling Procedure	15 5182.
Sample Source	JSW Cement	Sample Received on	04.11.2020.07.11.2020.10.11.2020 13.11.2020.17.11.2020.21.11.2020 25.11.2020.28.11.2020.
Sample Condition	Gaseous Sample Solution Refrigerated		
Sampling Date	03.11.2020,06.11.2020 09.11.2020,12.11.2020 16.11.2020,20.11.2020 24.11.2020,27.11.2020	Test Completed on	04.11.2020 To 03.12.2020

		Concentration of Pollutants					
SL. No	Sampling Date	Particulate Matter as PM <sub>20</sub> (gag/m <sup>2</sup> )	Particulate Matter as PM <sub>25</sub> (µg/m <sup>2</sup> )	Sulphur Dioxide as SO <sub>2</sub> (µgʻm <sup>3</sup> )	Oxides of Nitrogen as NO <sub>X</sub> (µg/m <sup>3</sup> )	Carbon Monoxide as CO (mg/m <sup>3</sup> )	
1	03.11.2020	39.0	26.0	8.8	18.1	0.46	
2	06.11.2020	51.0	24.0	9.2	22.7	0.41	
3	09.11.2020	-44.0	27.0	9.1	26.5	0.25	
4	12.11.2020	62.0	36.0	8,5	17.9	8.36	
5	16.11.2020	49.0	21.0	10.9	21.1	0.59	
6	20.11.2020	55.0	29.0	7.1	25.7	0.71	
7	24.11.2020	52.0	27.0	7,9	23.3	0.48	
8	27.11.2020	47.0	\$2.0	8.2	19.2	0.55	
	Monthly Average	49.9	26.5	8.7	21.8	0.48	
CPC	B, New Delhi AAQ Standard	100	60	80	80	4	
Testing Method Gravimetric 18 5182: Part 23		IS 5182:	Gravimetric EPA CFR-40 (pt 50) Appendix-1	Improved West & Geake Method IS 5182 (Pari-2) RA2006	Modified Jacob & Hochheiser Method IS 5182 (Pari-6) RA2006	Non Dispersive Infrared Method IS 5182 (Part-10):1999	
-			Remarks: Detection lin	alt for SOc 4.0 un/m3.	NO. : 9.0 an'm <sup>3</sup>		
			Any unusual feature du	indicate a state of product and the state of	and the pay in	NIL	

Remarks: (All the values of PM-10, PM-2.5, SO2, NOx & CO presented in row no 1-8 are Time Weighted Average.)

out End Report tota

Remarks:

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180 9001; 2015 180 14001; 2015 180 45001; 2018 (OH&S) 180/180 17925; 2005

Date: 04.12.2020

Test Report No: ENVLAB/20/R-6524

# TEST REPORT

Customer Name & Address : M/s JSW Cement Ltd, Jajpur, Odisha

Customer Reference Date : JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020

#### SAMPLE DETAILS

Sample Location & Code	AAQ3; Near CCR Building	Sampled by	VCSPL'S Representative
Sample Description	Ambient Air	Sampling Procedure	IS 5182.
Sample Source	JSW Cement	Sample Received on	04.11.2020,07.11.2020,10.11.2020 13.11.2020,17.11.2020,21.11.2020 25.11.2020,28.11.2020.
Sample Condition	Gaseous Sample Solution Refrigerated		
Sampling Date	03.11.2020,06.11.2020 09.11.2020,12.11.2020 16.11.2020,20.11.2020 24.11.2020,27.11.2020	Test Completed on	04.11.2020 To 03.12.2020

	Sampling Date	Concentration of Pollutants					
SL. No		Particulate Matter as PM <sub>10</sub> (µg/m <sup>3</sup> )	Particulate Matter as PM <sub>25</sub> (ag/m <sup>3</sup> )	Sulphur Dioxide as SO <sub>2</sub> (pg/m <sup>3</sup> )	Oxides of Nitrogen as NO <sub>X</sub> (µg/m <sup>3</sup> )	Carbon Menoxide as CO (mg/m <sup>3</sup> )	
1	03.11.2020	66,0	34.0	10.5	21.3	0.55	
2	96,11,2020	59,0	31.0	11.9	28.8	8.44	
3	89,11,2020	45.0	24.0	9.1	26.4	0.39	
4	12.11.2020	53.0	25.0	9.8	21.7	0.24	
4 5	16.11.2020	78.0	31.0	8.4	23.3	0.36	
6	20.11.2020	53.0	28.0	7.7	29.5	0.35	
7	24.11.2020	49.0	23.0	8.5	25.9	0.47	
8	37.11.2020	61.0	42.0	9.3	26.2	0.34	
	Monthly Average	57.0	30.1	9.4	24.3	0.39	
CPC	B, New Delhi AAQ Staadard	100	60	80	80	4	
Gravimetric Testing Method 18 5182: Part 23		18 5182:	Gravimetrie EPA CFR-40 (pt 50) Appendix-1	Improved West & Geake Method IS 5182 (Part-2) RA2006	Modified Jacob & Hochheiser Method 15 5182 (Pari-6) RA2896	Non Dispersive Infrarod Method 15 5182 (Part-10):1999	
		1	Remarks: Detection lin	alt for SO .: 4.0 us/m <sup>3</sup>	NO <sub>x</sub> : 9.0 as/m <sup>3</sup>		
			Any unusual feature du	California (California California California) (California California)	and a second sec	NIL	

Remarks: (All the values of PM-10, PM-2.5, SO2, NOx & CO presented in row no 1-8 are Time Weighted Average.)

#### \*\*\* End Report \*\*\*

Remarks:

TERMS AND CONDITION -

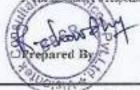
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180 5901:2015 180 14001:2015 180 45001:2018 (0H&S) 180/180 17025:2005

Date: 04.12.2020

Test Report No: ENVLAB/20/R-6525

# TEST REPORT

Customer Name & Address : M/s JSW Cement Ltd, Jajpur, Odisha

Customer Reference Date : JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020

### SAMPLE DETAILS

Sample Location & Code	AAQ4:Raw Material Storage Yard	Sampled by	VCSPL'S Representative
Sample Description	Ambient Air	Sampling Procedure	15 5182.
Sample Source	JSW Cement	Sample Received on	04.11.2020,07.11.2020,10.11.2020 13.11.2020,17.11.2020,21.11.2020 25.11.2020,28.11.2020.
Sample Condition	Gaseous Sample Solution Refrigerated		
Sampling Date	03.11.2020,06.11.2020 09.11.2020,12.11.2020 16.11.2020,20.11.2020 24.11.2020,27.11.2020	Test Completed on	04.11.2020 To 03.12,2020

		Concentration of Pollutants						
SL. No	Sampling Date	Particulate Matter as PM <sub>11</sub> (µg/m <sup>2</sup> )	Particulate Matter as PM <sub>2.5</sub> (µg/m <sup>3</sup> )	Sulphur Dioxide as SO <sub>2</sub> (µg/m <sup>3</sup> )	Oxides of Nitrogen as NO <sub>x</sub> (µg/m <sup>2</sup> )	Carbon Menoxida as CO (mg/m <sup>2</sup> )		
1	03.11.2020	50.0	28.0	5.5	19.2	0.45		
3	06.11.2020	59.0	24.0	7.9	22.8	0.49		
3	09.11.2020	47.0	24.0	8.9	18.5	0.31		
4	12.11.2020	52.0	33.9	9.7	15.4	0.56		
5	16.11.2020	68.0	38.0	9.2	23.9	0.51		
6	20.11.2020	61.0	30.0	10.1	17.5	0.57		
7	24.11.2020	52.0	27.0	8.4	14.2	0.39		
8	27.11.2020	62.0	42.0	7.7	20.2	0.35		
	Monthly Average	56.4	30,8	8.3	19.0	0,44		
CPC	B, New Delhi AAQ Standard	100	60	80	80	4		
	Testing Method	Gravimetric IS 5182: Part 23	Gravinsetric EPA CFR-40 (pt 50) Appendix-1	Improved West & Geake Method IS 5182 (Part-2) RA2006	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2006	Non Dispersive Infrared Method IS 5182 (Pari-10): 1999		
			Remarks: Detection In	ait for SO2: 4.8 µg/m <sup>3</sup> ,	NOv: 9.0 agim <sup>2</sup>			
			Any unusual feature de		and the party of	Nil		

Remarks: (All the values of PM-10, PM-2.5, SO2, NOx & CO presented in row no 1-8 are Time Weighted Average.)

and End Report waa

Remarks:

TERMS AND CONDITION-

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Plot No.-M-22&23, Chundaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 0574-3511 E-mail : visiontek/evespl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in. Visit us at: www.vespl.org

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150 9901:2015 150 14001:2015 150 45091:2013 (OH&S) 150/1EC 17025:2005

### Test Report No: Envlab/20/R-6526

Date: 04.12.2020

# TEST REPORT

#### CUSTOMER DETAILS

Customer Name & Address	:	M/s JSW Cement Lt	d, Jajpur, Odisha	
Work Order No & Date	;	JSWCL/ODISHA/20	-21/7700011888 Date: 07.07.2020	
SAMPLE DETAILS				
Sample Location & Code	1	STI: Coal Mill	Sampling Procedure	IS 11255
Date of Sampling	:	12.11.2020	Material Construction of stack	MS Plate
Time of Sampling	1	12.20 Hrs-13.50 Hrs	Shape of Stack	Circular
Date of Analysis	11	13,11,2020	Height of Stack from Ground Level	39.0 meter
Stack Connected To	1	Coal Mill	Diameter of Stack	0.8 meter
Emission Due To	:	Burning of Coal	Height of Sampling Point from Ground Level	26.0 meter

SL. No.	Name of the Parameters	Testing Methods	Units	Result
١.	Temperature of Stack	IS 11255: 1985(Part 3)	۴K	354.0
2.	Velocity of Gas	IS 11255: 1985(Part 3)	m/sec	12.06
3.	Quantity of gas flow, at dry Condition	IS 11255: 1985(Part 3)	Nm²/hr	18273.34
4.	Moisture	IS 11255: 1985(Part 3)	%	0.21
5,	Concentration of Particulate Matter (as PM)	IS 11255: 1985 (Part 1)	mg/m <sup>3</sup>	15.94

#### \*\*\* End Report \*\*\*

#### Remarks:

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150 9001:2015 150 140112015 150 45001:2018 (OH&S) 150/1EC 17025:2015

### Test Report No: Envlab/20/R-6527

Date: 04.12.2020

# TEST REPORT

#### CUSTOMER DETAILS

Customer Name & Address	:	M/s JSW Cement Ltd	, Jajpur, Odisha	
Work Order No & Date	:	JSWCL/ODISHA/20-3	21/7700011888 Date: 07.07.2020	
SAMPLE DETAILS				
Sample Location & Code	1:	ST2: Slag/Cement Mill	Sampling Procedure	IS 11255
Date of Sampling	:	12.11.2020	Material Construction of stack	MS Plate
Time of Sampling	1	14.30 Hrs-15.50 Hrs	Shape of Stack	Circular
Date of Analysis	:	13.11.2020	Height of Stack from Ground Level	58.0 meter
Stack Connected To	1	Roller Press Chimney	Diameter of Stack	3.0 meter
Emission Duc To	:	Cement Grinding	Height of Sampling Point from Ground Level	33.0 meter

SL. No.	Name of the Parameters	Testing Methods	Units	Result
1.	Temperature of Stack	IS 11255: 1985(Part 3)	۴K	369.0
2.	Velocity of Gas	IS 11255: 1985(Part 3)	m/sec	6.37
3,	Quantity of gas flow, at dry Condition	IS 11255: 1985(Part 3)	Nm <sup>3</sup> /hr	130154.66
4.	Moisture	IS 11255: 1985(Part 3)	%	0.16
5.	Concentration of Particulate Matter (as PM)	15 11255: 1985 (Part 1)	mg/m <sup>3</sup>	18,65

\*\*\* End Report \*\*\*

#### Remarks:

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150 9401:2015 150 14001:2015 150 45001:2018 (OH&S) 150/1EC 17025:2005

Test Report No: ENVLAB/20/TR-6528

### Date : 04.12.2020

# TEST REPORT

Customer Name & Address

: M/s JSW Cement Limited, Jajpur, Orissa.

**Customer Reference Date** 

JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020

SAMPLE DETAILS

Sample Code	N1-N4	Sampled By	VCSPL'S Representative
Sample Name	Noise	Sampling Procedure	IEC 61672-1(2002-05) Class-I.
Sample Source	Noise Level (Core Zone)	Sample Received On	NA
Sample Condition	NA	Test Completed On	NA

SL. No	Sampling Location	Date of Monitoring	Noise level dB (A) Leq, day time (6,00am to 10.00pm)	Noise level dB (A) Leq, night time (10.00pm to 06.00am)
01	CCR Building	12.11.2020	68.7	62.2
02	Weigh Bridge	12.11.2020	62.4	59.3
03	Hopper Mill	12.11.2020	63.7	61.5
04	In front of Office	12.11.2020	56.9	51.4
Standard	as per Noise Rule 2000			
	Industrial Area		75	70
	Residential Area		55	45
Any fea	ture observed during dete	rmination	P	Sil .

### \*\*\* End Report \*\*\*

Remarks:

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1SO 45601:2018 (OH& 1SO/IEC 17025:2005

Date: 04.12.2020

#### Test Report No: ENVLAB/20/TR-6529

1

# TEST REPORT

Customer Name & Address

: M/s JSW Cement Limited, Jajpur, Orissa.

Customer Reference Date

JSWCL/ODISHA/20-21/7700011888 Date: 07.08.2020

### SAMPLE DETAILS

Sample Location & Code	F1-F4	Sampled by	VCSPL'S Representative
Sample Name	Fugitive Emission(AAQ)	Sampling Procedure	IS 5182
Sample Source	M/s JSW Cement Ltd	Sample Received on	11.11.2020, 18.11.2020
Sample Condition	N.A		
Sampling Date	10.11.2020, 17.11.2020	Test Completed on	11.11.2020, 18.11.2020

SL. No	Sampling Locations	Date of Sampling	Parameters	Observed Value (µg/m³)	Test Method	
1	RAW MATERIAL STORAGE YARD	10.11.2020	Suspended Particulate Matter	78.0		
2	NEAR JSW OFFICE MAIN GATE	10.11.2020		81.0		
3	CCR BUILDING	17.11.2020		74.0	IS 5182 (Part-23)	
4	NEAR WEIGH BRIDGE	17.11.2020		93.0	1	
Star	dard For Crusher /Industrial Area			1200		

### \*\*\* End Report \*\*\*

Remarks:

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#### Test Report No: ENVLAB/20/TR-6530

# TEST REPORT

Date : 04.12.2020

Customer Name	& Address	:	M/s	JSW Cement	Limited,	Jajpur,	Orissa.
---------------	-----------	---	-----	------------	----------	---------	---------

Customer Reference Date

: JSWCL/ODISHA/20-21/7700011888, Date 07.08.2020

SAMPLE DETAILS Sample Location & Code VCSPL'S Representative DW1: Near CCR Building Sampled by Sample Description Sampling Procedure **APHA 1060 Drinking Water** JSW Cement Sample Received on 13.11.2020 Sample Source Sample Condition Ice Preserved ( Sealed plastic & Sterilized bottle) 12.11.2020 Test Completed on 20.11.2020 Sampling Date

SI. No	Parameters	Unit	Requirement Desirable limit (IS:10500:2012)	Test methods	Results
Organ	oleptic & Physical Parameters			Assessment and the	
1	Color	Hazen	5	APHA 2120 B,C	<1.0
2	Odour		Agreeable	APHA 2120 B	Agreeable
3	pH value	-	6.5-8.5	APHA 4500 H'B	6.93
4	Turbidity	NTU, max	1.0	APHA 2130 B	0.54
5	Total Dissolved Solids	mg/l	500	APHA 2540 C	63.0
6	Temperature	°C	-	-	27.0
7	Conductivity	µS/cm	and the second second	APHA 2510 C	102,0
Gener	al Parameters Concerning Substand	es Undesirable in Ex	cessive Amounts		1000
8	Calcium (as Ca)	mg/l .max	75	APHA 3500Ca B	14.4
9	Chloride (as Cl)	mg/l ,max	250	APHA 4500Cl B	9,2
10	Copper ( as Cu)	mg/l .max	0.05	APHA 3111B,C	<0.05
11	Fluoride ( as F)	mg/l.max	1.0	APHA 4500F C	<0.05
12	Free Residual Chlorine	mg/1,min	0.2	APHA 4500Cl B	0.2
13	Iron (as Fe)	mg/l ,max	0.3	APHA 3500Fe B	0.16
14	Magnesium (as Mg)	mg/l .max	30.	APHA 3500Mg,B	4.9
15	Manganese (as Mn)	mg/l .max	0.1	APHA 3500Mn B	< 0.05
16	Mineral oil	mg/l ,max	0.5	APHA 5220 B	< 0.02
17	Phenolic compounds	mg/l.max	0.001	APHA 5530 B,C	<0.001
18	Selenium( as Se)	mg/i .max	0.01	APHA 3114B	<0.005
19	Sulphate (as SO <sub>4</sub> )	mg/l ,max	200	APHA 4500SO4 B	10.9
20	Nitrate (as NO <sub>3</sub> )	mg/l ,max	45	APHA 4500 NO3- B	1.4
21	Total Alkalinity	mg/l ,max	200	APHA 2320 B	32.0
22	Total Hardness	mg/l ,max	200	APHA 2340 C	56.0
23	Zinc( as Zn)	mg/l ,max	5.0	APHA 3111B,C	0.13
Paran	aeters Concerning Toxic Substances	Rest Contraction			
24	Cadmium (as Cd)	mg/l_max	0,003	APHA 3111B,C	<0.003
25	Cyanide (as CN)	mg/l ,max	0.05	APHA 4500CN C,D	<0.01
26	Lead (as Pb)	mg/l.max	0.01	APHA 3111B,C	<0.005
27	Mercury (as Hg)	mg/i ,max	0.001	APHA 3500 Hg	<0,0005
28	Total arsenic (as As)	mg/l.max	0.01	APHA 3114B	<0.001
29	Pesticide	mg/l,max	0.0005	APHA 6630 B	<0.0001





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ISO 9001:2015
15014091;2015
ISD 45001:2018 (OE&S)
ISOMEC 17925:2005

30	Total Coli forms	MPN/100ml	Shall not be detected in any 100 ml sample	APHA 9221 B	Absent
31	Fecal Coli Form	MPN/100ml	Shall not be detected in any 100 ml sample	APHA 9221 B	Absent
32	E. coli	MPN/100mi	Shall not be detected in any 100 ml sample	APHA 9221 B	Absent





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JSWCL/JAJPUR/ENV/20-21/

07th January 2021

JSW Cemant Limited

Kalinganagar Industrial Complex, Vill - Jakhapura, Tehsil- Danagadi, Dist - Jajpur, Odisha - 755026 GST- 21AA5CJ8731B1Z8 Websile - <u>www.jswoement</u> in

To, Regional Officer, Odisha State Pollution Control Board, At- Dhabalagiri, Po- F.C Project, Jajpur Road, Dist – Jajpur Odisha – 755020

Dear Sir,

## Subject: Monthly Air Report December 2020

Ref: Consent to Operate under section 21 of Air (Prevention & Control of Pollution) Act, 1981, under section 25 of Water (Prevention & Control of Pollution) Act, 1974 Letter No 3806/IND-ICON-6672 dated 21.03.2020.

With reference to above cited subject and reference, we herewith submit the monthly analysis of reports for the month of December 2020. The enclosed analysis report includes:

- 1. Ambient Air Quality
- 2. Stack Emission
- Ambient Noise Level
- 4. Fugitive Emission

This is for your kind information,

Thanking You, Yours faithfully, For JSW Cemet Ravi Gaur Unit Head

ð

Enclosure: As stated above





### CIN-U26967MH2006PLC160839

Regd. Office : JSW Cecure, Opp. MMRDA Ground Bandra Kurla Complex, Bandra (Eest) Mumba, 405 059 Ph (Direct) : +91 - 22 - 4286 5047 Fax : +97 - 22 - 2650 2001 Websile : WWW,Swcementum Visiontek Consultancy Services Pvt. Ltd. (An Enviro Engineering Consulting Cell)

15/0: 9103: 2014 15/0: 14031: 2015 15/0: 45/017: 2015 15/0: 45/017: 2015 15/0: 45/017: 2015 15/0: 45/017: 2015

Date: 05.01.2021

Test Report No: ENVLAB/20/R-6892

### TEST REPORT

Customer Name & Address : M/s JSW Cement Ltd, Jajpur, Odisha

Customer Reference Date

JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020

SAMPLE DETAILS

Sample Location & Onde	AAQ1:Near Weigh Bridge	Sampled by	VCSPL'S Representative
Sample Description	Ambient Air	Sampling Procedure	LS 5182.
Sample Source	JSW Cement	Sample Received on	03.12.2020,07.12.2020,08.12.2020 12.12.2020,16.12.2020,21.12.2020 23.12.2020,28.12.2020,
Sample Condition	Caseous Sample Solution Refrigerated		
Sempting Date	42,12,2020,05,12,2020 07,12,2020,11,12,2020 25,12,2020,19,12,2020 22,12,2020,26,42,2020	Test Completed on	03.12.2020 To 31.12.2020

	Sumpling Date	Concentration of Pollutants						
SL. No		Particulate Matter as PM <sub>et</sub> (jag/m <sup>1</sup> )	Particulate Matter as PM <sub>ES</sub> (µg/m <sup>2</sup> )	Sulphur Diuside as SO <sub>3</sub> (µg/m²)	Oxides of Nitrogen as NO <sub>X</sub> (µg/m <sup>2</sup> )	Carbun Munoxido m CO (mg/m <sup>2</sup> )		
1 02.12.2020 3 05.12.2020 5 07.12.2020		58.0	\$1.A	10.5	25.7	0.39		
		65.0	37.0	7,4	143	0.46		
		45.0	23.0	121	23.9	0.53		
4	15.12.2020 67.0		ZMAI	9.6	17.7	0.7		
5			30.0	19.4	18.1	0.66		
ń			35.0	9.0				
7	22-12-2020	59.0	29.0	7.2	16.5	0.62		
8	26.12.2020	55.0	26.0	10.1	24	€.78		
	Monthly Average	\$7.3	29.9	9.5	20.3	0.58		
CPC	B. New Delhi AAQ Standard	100	60	80	80	4		
Testing Method		Gravimetrie 15 5182: Part 23	Gravinseine E9A CFR-40 (pr.50) Appendia-1	Insproved West & Geake Method IS 5182 (Part-2) RA2006	Mudified Jayob & Hochheiser Method IS 5182 (Part-6) RA2006	Non Dispersive Infeared Method IS 5182 (Part-10):1999		
			Remarks: Detection lin	nit for SO2: 4.0 µg/m2,	NO <sub>2</sub> : 9.9 me/m <sup>3</sup>			
			Any unusual feature di		the second second	Nia		

Remarks: (All the values of PM-10, PM-2, 5, SO<sub>2</sub>, NOx & CO presented in row no 1-8 are Time Weighted Average.)

\*\*\* End Report \*\*\*

Remarks.

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DNV-GI

Date: 05.01.2021

Test Report No: ENVLAB/20/R-6893

### TEST REPORT

Customer Name & Address : M/s JSW Cement Ltd, Jajpur, Orlisha

Customer Reference Date

JSWCL/ODISHA/20-21/7700001888 Date: 07.07.2020

SAMPLE DETAILS

Sample Location & Code	AAQ2:Noar Cement Mill	Sampled by	VCSPL'S Representative	
Sample Description	Ambient Alr	Sampling Procedure	18 5182.	
Sample Source	JSW Coment	Sample Received un	03.12.2420,07.12.2020,08.12.202 12.12.2020,16.12.2020,21,12.202 23.12.2020,28.12.2020.	
Sample Condition	Coscous Sample Solution Refrigerated			
Sampling Date	02.12.2020,05.12.2020 07.12.2020,11.12.2020 15.12.2020,19.12.2020 23.12.2020,26.12.2020	Test Completed on	03. (2.2020 To 31.12.2020	

SI Nu	Sampling Date	Concentration of Pollutants						
		Porticulare Manter as PMT <sub>10</sub> (ug/m <sup>2</sup> )	Particulate Matter se PM <sub>2A</sub> (pg/tP <sup>2</sup> )	Sulphur Diouide as SO <sub>2</sub> (µg:m <sup>3</sup> )	Oxides of Nicrogen as NO. (up/m <sup>2</sup> )	Carboo Monnaid an Cill (cagiar)		
1	02 11,1020	56.0	28.0	7.5	16.5	0.61		
2	•5.12.2020	46.0	33.0	6.8	18.2	0.57		
3 07.12.2020 4 01.12.2020 5 15.12.2020		51.0	26.0 25.0	8.2	17.7	0,32		
		51.0		7.4	15.2	0.49		
5	15.12.2020	15,12,2020 44,0	22.0	7.9	18.7	0.51		
6	19.12.2020							
7	22.12.2020	67.0	30.0	6.5	15.3	0.61		
8	26.12.2020	49.0	25.0	8.1	19.7	0.29		
	Monthly Average	55.6	27.5	7.5	17.8	0.51		
CPC	B, New Delhi AAQ Standard	100	60	80	80	4		
Testing Method		Gravimetric Testing Method US 5182: Part 23		Twprinted West & Geake Method (S 9182 (Part-2) RA2086	Modified Jacob & Hothbeiser Method IS 5182 (Part 6) RA2006	Non Dispersive Infrared Method IS 5182 (Part-10::1999		
			Remarks: Detection lim	it for Sfk - 4 it union?	NO + 0.6 unim <sup>3</sup>			
			Any unusual feature du	ring Artermination:	incox: son hight	Nil		

Remarks: (All the values of PM-10,PM-2 5,SO<sub>2</sub>,NOx & CO presented in row no 1-8 are Time Weighted Average.)

\*\*\* End Report \*\*\*

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Visiontek Consultancy Services Pvt. Ltd. (An Enviro Engineering Consulting Cell)



Date: 05.01.2021

Test Report No: ENVLAB/200R-6894

### TEST REPORT

Customer Name & Address : M/s JSW Cement Ltd, Jajpur, Odisha

Customer Reference Date

JSWC1/ODISHA/20-21/7700011888 Date: 07.07.2020

SAMPLE DETAILS

Sample Location & Code	AAQ3: Near CCR Building	Sampled by	VCSPL'S Representative
Sample Description	Ambient Air	Sampling Procedure	IS 5182.
Sample Source	JSW Cement	Sample Received an	03.12.2020.07.12.2020.08.12.2020 12.12.2020,16.12.2020,21.12.2020 23.12.2020,28.12.2020.
Sample Condition	Gascous Sample Solution Refrigerated		
Sampling Date	02.12.2020,05.12.2020 07.12.2020,11.12.2020 15.12.2020,19.12.2020 22.12.2020,26.12.2020	Test Completed on	03.12.2020 To 31.12.2020

	Sempling Date	Concentration of Pollutants						
SL. Na		Particulate Matter as PM <sub>m</sub> (ng/as <sup>2</sup> )	Particulate Mater as I'M <sub>as</sub> (jug/m <sup>2</sup> )	Selphur Dioside as SO, (ng/m²)	Oxides of Nitrogen III NO <sub>X</sub> (#9 <sup>(III)</sup> )	Carbus Munosede as CO (ng/m <sup>2</sup> )		
02.12.2020		50.0	23.0	7.9	15.1	0.44		
1	05.12.2020	45.0	0.21	6.7	19.4	0.77		
3 07.12.2020		54.0	21.0	8.1	20.5	0.67		
4	IE.12.2020 64.0		.51.41	7.4	15.9	41.71		
5	15.12.2020 48.0		26.0	8,7	15.4	0.49		
-6	19.12.2020	51.0	27.0	\$.8	18.9	41.76		
1	22.12.2020	41.9	31.0	9.2	17.8	0.66		
8	26.12.2020	58.0	24.0	73	29.2	0.48		
	Monthly Assrage	55.6 76.0		8.0	17.9	0.62		
CPC	B, New Delhi AAQ Standard	100	60	80	*0	4		
Testing Method		Gravimetric 19 5182: Part 23	Graviocuric Improved Wi EPA Geake Med CFR-40 IS 5182 (Par (pl 50) RA2005 Appendix-1 RA2005		Modified Jacob & Horbheiser Method (S 5182 (Pari-6) RA2006	Non Dispersive Infrared Merina IS 5182 (Part-10):1999		
			Bentarks: Delection for	elt Fer SO <sub>2</sub> : 4.0 µg/m <sup>3</sup> ,	NO <sub>v</sub> : 9.0 m/m <sup>2</sup>			
			Any unusual feature di		and the factor of the second s	Nil		

Remarks: (All the values of PM+10,PM+2 5,NO2,NOX & CO presented in row no 1+8 are Time Weighted Average.)

\*\*\* End Report \*\*\*

Bespecks

TERMS AND CONDITION:-

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Test Report No: ENVLAB/20/R-6895

### TEST REPORT

M/s JSW Cement Ltd, Jajpur, Odisha Customer Name & Address :

**Costomer Reference Date** 

JSWCL/ODJSHA/20-21/7700011888 Date: 07.07.2020

#### SAMPLE DETAILS

Sample Location & Code	AAQ4: Raw Material Storage Yard	Sampled by	VCSPL'S Representative
Sample Description	Ambient Air	Sampling Procedure	IS 5182.
Sample Suurce	JSW Cement	Sample Received on	03.12.2020,07.12.2020,08.12.2020 12.12.2020,16.12.2020,21.12.2020 23.12.2020,28.12.2020,
Sample Condition	Gaseons Sample Solution Refrigerated		
Sampling Date	02.12.2020;05.12.2020 07.12,2020;11.12.2020 15.12.2020;19.12.2020 22.12.2020;26.12.2020	Test Completed on	03.12.2020 To 31.12.2029

	Sampling Date	Concentration of Pollutants					
51 No		Particulate Matter as PM <sub>10</sub> (µg/m <sup>2</sup> )	Particulate Mabler ex PM <sub>2.5</sub> (pg/m <sup>2</sup> )	Sulpher Dioxide es SO <sub>2</sub> (14544 <sup>3</sup> )	Oxides of Nibrogen as NO <sub>X</sub> (µg/m <sup>2</sup> )	Carbon Mono-Ide as CO (mg/m <sup>1</sup> )	
1	02.12.2020	53.0	28.0	8.9	17.3	0.32	
1	05.12.2020	61.0	35.0	4.8	24.9	0.45	
3 07.12.2020		46.0	20.6	10.9	21.6	0.39	
4	4 11.12.2020 49.0 5 15.12.2020 52.0		31.0	9.6	24.8	0.33	
5			28.0	8.8	20.5	0.49	
6			3.5.0	11.4	26.2	0.62	
7	22.12.2020	35.0	36.0	8.5	23-1	0.41	
8	26.12.2020	47.6	21.0	6.4	15.4	0.35	
	Monthly Average	52.5	29.0	9-1	21.7	0.42	
CPC	B. New Delhi AAQ Standard	100	60	80	80	4	
Testing Method		Gravinetric Testing Method IS 5182: Part 13		Improved West & Geake Method IS 5182 (Pact-2) RA2006	Modified Jacob & Huckheiser Method IS 3182 (Part-6) RA2006	Non Dispersive Infrared Methos IS 5182 (Part-10):1999	
			Remarks: Detection lin	it for SO <sub>2</sub> : 4.0 µg/m <sup>2</sup> ,	NOv: 9.0 ug/m <sup>8</sup>		
			Any unusual feature d		and a second second	Nit	

Remarks: (All the values of PM-10,PM-2.5.SO<sub>5</sub>,NOx & CO presented in row no 1-8 are Time Weighted Average,)

\*\*\* End Report \*\*\*

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TERMS AND CONDITIONS

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Date: 05.01.2021





1501 9001: 2015 1900 14001: 2015 1900 45001: 2000 (0016:8) SOMEC 17025:3065

### Test Report No: Envlab/20/R-6896

Date: 05.01.2021

### TEST REPORT

#### CUSTOMER DETAILS

Customer Name & Address		M/s JSW Cement LA	Us JSW Cement Ltd, Jajpur, Odisha					
Wark Order No & Dute	1	JSWCL/ODISHA/20	SWCL/QDISHA/20-21/7700011888 Date: 07-07.2020					
SAMPLE DETAILS								
Sample Location & Code	1	ST1: Coal Mill	Sampling Procedure	15 11255				
Date of Sampling	:	34.12.2020	Material Construction of stack	MS Plate				
Time of Sampling	:	10.15 }lo-12.00 Ho	Shupe of Stack	Circular				
Date of Analysis	1	15.12.2020	Height of Stack from Ground Level	39.0 meter				
Stack Connected To	:	Cost Mill	Diameter of Stack	0.8 meter				
Emission Due Tu	1:	Burning of Coal	Height of Sampling Point from Ground Level	26.0 meter				

SL. No.	Name of the Parameters	Testing Methods	Units	Result
I.,	Temperature of Stack	LS 11255: 1985(Part 3)	٥K	356.0
2.	Velocity of Gas	IS 11255: 1985(Part 3)	m/aec	12.59
3.	Quantity of gas flow, at dry Condition	IS 11255: 1985(Part 3)	Nan <sup>3</sup> /lor	18779.91
4.	Moisture	IS 11255: 1985(Part 3)	%	0.24
5.	Concentration of Particulate Matter (as PM)	IS 11255: 1985 (Part 1)	mg/m <sup>3</sup>	17.35

#### \*\*\* End Report \*\*\*

Remarkly,

TERMS AND CONDITIONS

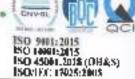
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(An Enviro Engineering Consulting Cell)



#### Test Report No: Eavlah/20/8-6897

Date: 05.01.2021

### TEST REPORT

#### CUSTOMER DETAILS

Customer Name & Address	1	M/s JSW Cement Ltd	4/s JSW Cement Ltd, Jajpur, Odisha					
Work Order No & Date	1	JSWCL/ODISHA/20-2	SWC12ODISHA/20-21/7700011888 Date: 07.07.2020					
SAMPLE DETAILS			N					
Sample Location & Code	:	ST2: Slag/Cement Mill	Sampling Procedure	15 11255				
Date of Sempling	1:	14.12.2020	Material Construction of stack	MS Plate				
Time of Sampling	:	12.25 Ilra-14.10 Hrs	Shape of Stack	Circular				
Date of Analysis	1	15.12.2020	Height of Stack from Ground Level	58.0 meter				
Stack Connected To	:	Boller Press Chimney	Diameter of Stack	3.8 meter				
Emission Due To	:	Cement Grinding	<b>Height of Sampling Point from Ground Level</b>	33,0 midler				

SL. No.	Name of the Parameters	Testing Methods	Units	Result
١.	Temperature of Stack	1S 11255: 1985(Part 3)	<b>'</b> K	358.0
2.	Velocity of Gas	IS 11255: 1985(Part 3)	m/sec	7.08
З.	Quantity of gas flow, at dry Condition	IS 11255: 1985(Part 3)	Nm <sup>2</sup> /hr	145873.28
4.	Moisture	IS 11255: 1985(Part 3)	**	0.19
<b>S</b> .	Concentration of Particulate Matter (as PM)	18 11255: 1985 (Part 1)	mg/m <sup>3</sup>	13.22

#### \*\*\* End Report \*\*\*

Remarks

TERMS AND CONDITION +

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(An Enviro Engineering Consulting Cell)

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(INN)

Date : 05.01.2021

#### Test Report No: ENVLAB/20/TR-6898

### TEST REPORT

Customer Name & Address	:	M/s JSW Coment Limited, Jajpur, O	rișsa.
Customer Réference Date		JSWCL/ODISHA/20-21/7700011888	Date: 07.07.2020

SAMPLE DETAILS

Sample Code	N1-N4	Sampled By	VCSPL'S Representative
Sample Name	Naise	Sampling Procedure	IEC 61672-1(2002-05) Class-1.
Sample Source	Noise Lovel (Core Zone)	Sample Received On	NA
Sample Cundition	NA	Test Completed On	NA

SL. No	Sampling Location	Date of Monitoring	Noise level dB (A) Leq, day time (6.00am to 10.00pm)	Noise level at B (A) Leq, night time (10.00pm to 06,000m)	
01	CCR Bullding	14.12.2020	71.4	65.6	
02	Weigh Brudge	14.12.2020	66.9	61.9	
03	Kupper Mill	14.12.2020	70.4	64.4	
84	In front of Office 14.12.2020		60.5	53.2	
Standard	as per Noise Rule 2000				
	Industrial Area		75	70	
Residential Area			55 45		
Any feat	ture observed during dete	rmination	1	11	

### \*\*\* End Report \*\*\*

#### Remarks:

TERMS AND CONDITIONS.

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(An Enviro Engineering Consulting Cell)



#### Test Report No: ENVLAB/20/TR-6899

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# TEST REPORT

Date : 05,01.2021

Customer Name & Address

M/s JSW Cement Limited, Jajpur, Orissa.

Customer Reference Date

JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020

SAMPLE DETAILS

Sample Location & Code	F1-F4	Sampled by	VCSPL'S Representative
Sample Name	Pugitive Emission(AAQ)	Sampling Procedure	iS 5182
Sample Source	M/s JSW Cement Ltd	Sample Received on	15.12.2020, 16.12.2020
Sample Condition	N.A		
Sampling Date	14.12.2020, 15.12.2020	Test Completed on	15.12.2020, 16.12.2020

SL. No	Sampling Locations	Date of Sempling	Parametera	Observed Value (µg/m <sup>3</sup> )	Test Method
I.	RAW MATERIAL STORAGE YARD	14,12-2020		85.0	JS \$182 (Part-23)
ž	NEAR JSW OFFICE MAIN GATE	14,12.2020	Suspended Particulate	93.0	
3	CCR BUILDING	15.12.2020	Mancr	84.0	
4	NEAR WEIGH BRIDGE	15.12-2020	1	79.0	(,
Star	adard For Crusber /Industrial Area			1200	1

### \*\*\* End Report \*\*\*

Renarks:

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JSWCL/JAJPUR/ENV/20-21/

11<sup>th</sup> February 2021

SW Cement Limited

Kalinganagar Industrial Complex, Vdl - Jakhapura, Tehail- Danagada, Dist.- Jajpur, Odisha - 755026 GST- 21AABCJ5731B128 Wabsite : www.jswcement.in

To, Regional Officer, Odisha State Pollution Control Board, At- Dhabalagirl, Po- F.C Project, Jajpur Road, Dist – Jajpur Odisha – 755020

Dear Sir,

### Subject: Monthly Air Report January 2021

**Ref:** Consent to Operate under section 21 of Air (Prevention & Control of Pollution) Act, 1981, under section 25 of Water (Prevention & Control of Pollution) Act, 1974 Letter No 3R06/IND-ICON-6672 dated 21.03.2020.

With reference to above cited subject and reference, we herewith submit the monthly analysis of reports for the month of **January 2021**.

The enclosed analysis report includes:

- 1. Ambient Air Quality
- Stack Emission
- 3. Ambient Noise Level
- Fugitive Emission

This is for your kind information.

Thanking You, Yours faithfully,



Enclosure: As stated above



### CIN-U26957MH2006PLC160839

Regd. Office : JSW Dentre, Opp. MMRDA Ground Bandra Kuila Complex, Bandra (Éast) Mumbai - 400 051 Ph (Direct) : +91 - 22 - 4286 5047 Fax +91 - 22 - 2860 2001 Website www.jswcement.in

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e Infractiviteture Engineering · Water Revenue Management Eastrommental & Secoil Study  Section & Set-Surface Investigation Quality Control & Project Management Renewahle Fortes

• Agricultural Development Information Technology Pottie Health Engineering.  Mine Planning & Design Mineral/Sub-Soil Exploration

Date: 02.07.2021

Entertainen 1 ak Marchel I an Seil t an Mineral Lab

Laberater's Seculation

# Wayle Management Services

A Allonabiology I ale

Test Report No: ENVLA9/20/R-7386

### TEST REPORT

Customer Name & Address

# M/s JSW Cement Ltd, Jajpur, Odisha

Castomer Reference Date

ISWCL/ODISHA/20-21/7700011698 Date: 07.07.2020

SAMPLE DETAILS

Sample Location & Code	AAQ1:Near Weigh Bridge	Sampled by	VCSPL'S Representative
Sample Description	Ambient Air	Sampling Procedure	18 5182.
Sample Source	JSW Ceniros	Sample Received on	66.01.2023.09.01.2021.12.01.2023 16.01.2021.19.01.2021.23.01.2021 26.01.2021.29.01.2021.
Sample Condition	Gascous Sample Solution Refingerated		
Sampling Date	05.01.2021.08.01.2021.11.01.2021. 15.01.2021.19.01.2021.22.01.2021 25.01.2021.28.01.2021	Test Completed on	96.01.2021 To 02.02.2021

			Co	ncentration of	Pollutants	
SL. No	Sampling Date	Particulate Matter as PMic Ipgrad	Parcicetate Malace as PM <sub>10</sub> (ug/m <sup>2</sup> )	Sulphur Dioxide as SD <sub>1</sub> (ugas <sup>1</sup> )	Oxides of Nitrogen as NO <sub>X</sub> Ipgm <sup>2</sup> )	Carbon Mountile ex CO (mg/m <sup>2</sup> )
1	05.01,2021	41.0	26.0	14	15.5	0.27
2	05.01.2021	48.0	34.0	6.2	14.7	0.34
3	11.04 2021	60.0	38.0	b.\$	18.3	0.41
4	15.05.2021	63.0	42.0	5.7	12.2	0.32
4	18.01.2071	68,0	45.0	9.4	18.9	0.39
6	22.61.2921	52.0	34.0	7.5	20.4	0.28
T	25.01.2021	55.0	39.0	7.4	16.9	0.32
8	28,01,2021	61.0	41.0	\$.5	18.6	0.42
Mo	nthly Average	56.0	37.4	7.4	17.0	0.34
	New Delbi AAQ Standard	300	60	80	80	4
Тε	sting Method	Gravimetric IS 5052- Part 33	Gravibudrie EPA (CFR-40 (pt 50) Appendis-1	Imported West & Geske Method IS 5182 (Part-2) RA2006	Medified Jacob & Hochheiser Method LS 5182 (Part-6) RA2006	Non Dispersive Inferred Mathod 15 5182 (Part-14k 1999
			Remarks: Detection		/m <sup>3</sup> , NO <sub>X</sub> : 9.0 µg/m <sup>3</sup>	
			Any unusual feature	re during determination	0.00:	Nil

Remarks: (All the values of PM-10,PM-2.5,SO; NOx & CO presented in row no 1-8 are Time Weighted Average.)

#### \*\*\* End Report \*\*\*

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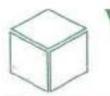
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Jaberrein Services Feed Lab Material Late Sell b ab Miserar Lab

Date: 02.02.2021

A Microbiology Lab

Test Report No: ENVLAB/20/R-7387

### TEST REPORT M/s JSW Cement Ltd, Jajpur, Odisha

Customer Name & Address

JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020 1

Customer Reference Date

SAMPLE DETAILS		D and he	VCSPL'S Representative
Sample Location & Code	AAQ2:Near Coment Mill	Sampled by	15 5182.
	A pablicent A in	Sampling Procedure	
Sample Description Sample Source	JSW Coment	Sample Received on	06.01.2021.09.01.2021.12.01.2021 16.01.2023.19.01.2023.23.01.2021 26.01.2021.29.01.2021.
Sample Condition	Gaseous Sample Solution Refrigerated		
Sampling Dale	05.01.2021.08.01.2021 11.01.2021.15.01.2021 18.01.2021.22.01.2021 25.01.2021.28.01.2021	Test Completed nn	06.01.2021 To 02.02.2021

			Coner	entration of Polle	utents	
SL. No	Sampling Date	Pecificaliste Minuter av	Particulate Marter as PMg (ag/m <sup>3</sup> )	Sulphar Dinside as SO <sub>2</sub> (us/m <sup>3</sup> )	Oxides of Nitrogen as NO <sub>X</sub> (j.g. <sup>m<sup>2</sup>)</sup>	Carbon Monoside as CO (mg/m <sup>2</sup> )
		(Jags/m/2)-		7.8	16.4	0.69
	05.01.2021	45.0	28.0	9.9	19.6	0.51
2	08.01.2021	50.0	33.0		19.5	0.55
2	11.01.2021	65.0	43.0	8.3	20.3	0.62
3	15.01.2021	31.0	32.0	7.8	23.4	0.71
4	18.01.2021	56.0	35.0	8.1	16.7	0.45
5	in the second	46.0	28.0	8.9		0.53
6	22.01.2021	42.0	25.0	9.4	19.8	0.66
7	25.01.2021	57.0	36.0	7.6	22.2	0.59
8	28.01.2021		32.5	8.5	19.7	0.37
Mo	onthly Average	51.8				a l
CPCB	8, New Delhi 44Q	100	60	KD	80	4
т	Standard esiling Method	Gravimenter (5.5182: Part 23	Crevinctric EPA CFR-40 (µt56) Appendix-1	Improved West & Gyate Method (5 \$182 (Part-2) RA2006	IS 5182 (Part-6) RA3006	Non Dispersive lefrared Method ES 5182 (Part-10): 1999
			Remarks, Detection	a limit for SO <sub>3</sub> : 44 µg/m <sup>2</sup>	, NO <sub>X</sub> : 9.0 μg/m <sup>2</sup>	NO
			Any Hungural featur	e during determination:	and the set of the set	Nil

Remarks: (All the values of PM-10, PM-2.5, SO<sub>2</sub>, NOv & CO presented in now no 1-8 are Time Weighted Average.)

\*\*\* End Report \*\*\*

Remarks.

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e Agricultural Development Information Technology oPublic Beatsh Engineering  Mile Pleaning & Desga Minerel/Sub-Sell Exploration a Waste Management Services

Laborators Services Kesin, amerijan Feolijan Waterial Lab Settak Transcal Lab

Microbiology Unit

Date: 02.02.2021

Test Report No: ENVLAB/20/R-7388

## TEST REPORT

Customer Name & Address : M/s JSW Cement Ltd, Jajpur, Odisha

Costomer Reference Date

3 SWCL2ODISHA/20-21/7700011888 Date: 07.07,2020

......

SAMPLE DETAILS		Sampled by	VCSPL'S Representative
Sample Lucation & Code	AAQ3: Near CCR Building		15 5182.
Sample Description	Anthona Air	Sampling Procedure	06.01.2021,99.01.2021,12.01.202
Sample Source	JSW Content	Sample Recrived on	16.01.2021,19.01.2021,23.01.2021 26.01,2021,29.01.2021.
Sample Condition	Gaseous Sample Solution Refrigerated		
Samphag Date	05.01.2021,08.01,2021 11.01,2021.15.01,2021 18.01,2021,22.01,2021 25.01,2021,28.01,2021	Text Completed on	06.01.2021 176 02.02.2021

-			Con	centration of Po	llutants	
51. No	Sampling Date	Particulate Matlet as PNL <sub>10</sub> (ng·m <sup>2</sup> )	Perciculate Matter as PMpa (jag/m <sup>*</sup> )	Sulpher Dioxide an SO: Lug:m <sup>3</sup> )	Oxides of Niaregeo as NO <sub>3</sub> (jeg/m <sup>3</sup> )	Carbon Manonida 24030 (arg/m <sup>2</sup> )
No 3 1 2 3 4 5 6 7 8 Mon CPC		(16.00)		10.5	25.7	0,52
1	05.01.2021	35.0	31.0		14.3	0.46
÷	08,01.2021	65.0	37.0	7.4	20.4	0.53
	11.01.2021	45.0	23.0	6.9	24.7	1.66
	15.01.2021	\$7.0	28.0	9.6	18.1	0.78
	18.01.2021	67.0	30.0	10.1	22.4	0.51
	22.01.2021	61.0	35.0	9.0	16.5	0.66
-	25.01.2021	50.0	29.0	*.1	22.7	0.78
		\$5.0	26.0	10.4		0.61
	28.01.2021	57.3	29.9	8.9	20.6	0.01
	fonthly Average	27,4			EU.	4
	PCB, New Delhi AAQ Standard	100	64)	80	80	
	Testing Method	Concumetric 15:3482- Part 23	Gravimetric EPA CFR-40 (pt 50) Appendat 1	Improved Wess & Geake Machod IS 3182 (Parb2) RA2006	Hachkeller Meldod IS 5182 (Part-6) RA2006	Non Despersive Lafrare Method 15 5182 (Part-10):1999
			Downales Detertio	a limit for SOs 4.4 µg/n	a <sup>3</sup> , NO <sub>X</sub> : 9.0 µg/m <sup>3</sup>	110
			Remarks: Determine	re during determination	AT	NII
			ANY DEESURE FEALOR	C during were the	- mu and date and	A sus man a b

Remarks: (All the values of PM-10, PM-2.5, SO<sub>2</sub>, NOx & CO presented in row no 1-8 are Time Weighted Average.)

### \*\*\* End Report \*\*\*

Rentable:

TERMS AND CONDITIONS

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3 The laboratory is not responsible for the authenticity of photocopied test report 4. The test item with not be retained for more tread to days from the date of respondes report except in case as required by applicable regulations 5. The token plot is not not retained for more train 15 days from the date of issue of lost rep internet and the second second second second to a proven writted to a proven writted to append the next second second

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a intrastructure Engineeing. Water Resource Management · Environmental & Secial Study Surface & Sub-Surface Investigation Quality Control & Project Management Henen able Energy

• Agrocattanat Ocyclepresent e Information Technology · Public Health Engineering Mine Planning & Design

Laboratory Services Feed Lob Margelej Lab Sell I gh Miner# Lak 4

 Minural/Sub-Sail Exploration Weste Management Services

Microhiategy I at

#### Chate: 02.02.2021

Test Report No: ENVLAB/20/R-7389

## TEST REPORT

Customer Name & Address : M/s JSW Cement Ltd, Jajpur, Odisha

Customer Reference Date

JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020 :

SAMPLE	DETAILS	
--------	---------	--

SAMPLE DETAILS			and the second s
Sample Lucation & Code	AAQ4: Row Material Storage	Sampled by	VCSPL'S Representative
Sample Exception of the	Yard	Sampling Procedure	18 5182.
Sample Description	Anglosent Alf	Samping Procedury	66.01.2021.09.01.2021.12.01.2021
Sample Source	JSW Coment	Sample Received on	16.01.2021,19.01.2021,23.01.2021 26.01.2021,29.01.2021.
Sample Condition	Gazenus Sample Solution Refrigerated		
Samphog Date	05.01.2021.08.01.2021 11.01.2021.15.01.2021 18.01.2021.22.01.2021 25.01.2021.28.01.2021	Test Completed on	06.411.2024 Tis 02.02.2021

	Cons	centration of Pol	lutants	
Dete Point of the Matter as Phile (ag/m <sup>2</sup> )	Particular: Matter as PNI23 Tug:=">	Sulpher Divolde es SO <sub>1</sub> (µg/m²)	Unides of Nitrogen as NO <sub>K</sub> (ng/m <sup>2</sup> )	Cerbon Monoxide as CO (mg/m <sup>2</sup> )
server and the server and the server server and the server ser	100 CT-	11.3	24.4	11.62
921 57.0	34,5	9.4	19.7	0.54
021 50.0	29.8	8.7	17.2	0.47
69.0	37.0		26.9	0.52
021 60.0	32.0	10.8	21.0	0.78
52.0	24.0	10.1	20.2	0.65
0.80	31.0	8.4	26.5	0.54
021 64.0	41.0	8.8	21.4	0.49
2021 58.0	33.0	7.3	and the second se	0.58
40.41 A. IL	33.4	9.4	22.2	
Churden .		80	80	4
Delhi 100 dard	69	RU.		
chod Gravimetels. 15 5 k82: Part 23	Genvintetric EPA CFR-40 (pi 50) Appendix-1	Improved West & Geake Meebod IS 5182 (Parti-2) RA2006	Modified Jacob & Dechliciser Method IS 51H2 (Part-6) RA2006	Non Dispersive Infrared Method JS 5682 (Part-10): 1999
thod		Part 23 (pi 59) Appendix-1 Remarks: Detection in	Part 23 (pl 50) RA2006 Appendix-1 Remarks: Detection limit for SO <sub>2</sub> : 4.0 µg/m <sup>2</sup> , Remarks: Detection limit for SO <sub>2</sub> : 4.0 µg/m <sup>2</sup> ,	Part 23 (p1 50) RA2006 RA2006 Appred12-1 Remarks: Detection limit for SO <sub>2</sub> : 4.0 µg/m <sup>2</sup> , NO <sub>X</sub> : 9.0 µg/m <sup>3</sup>

Remarks: (All the values of PM-10, PM-2.5, SO<sub>2</sub>, NOx & CO presented in row no 1-8 are Time Weighted Average.)

\*\*\* End Report \*\*\*

Romal kr.:

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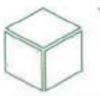
ading and a responsibility under fus repart is limited to, proven willful negligave

FFF arel Hy:



Plot No.- M 22 & 23, Chandaka Industrial Estate, Patia, Bhuhaneswar, Khurda, Odisha-751024, India Tel: 0674-3511721 E-mail: visiontek@vcspl.org, visiontekin@gmail.com

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Date: 02.02.2021

Laboratory Services teed I ab Alerened Lab Set Use Viberal Lab A Micrehiology Late

Test Report No: Envigit/20/R-7390

# TEST REPORT

### CUSTOMER DETAILS

Costomer Name & Address	ţ.	M/s JSW Cement Lb	1/s_JSW_Cement L46, Jajpar, Odisha SWCL/ODISHA/20-21/7700011888   Date: 07.07,2020				
Work Order No & Date	1	JSWCL/ODISHA/20-					
SAMPLE DETAILS	-		U. Descedare	IS 11255			
Sample Location & Code	1:	STI: COREMU	Sampling Procedure	MS Plate			
Date of Sampling	I	12.04,2023	Material Construction of stack	Circular			
Time of Sumpling	1 1	15.00 Mrs-16.30 Bis	Shape of Stack	39.0 meter			
Date of Analysis	1	13.01.2021	Height of Stack from Ground Level	0.8 meter			
Stack Connected To	1:	Cual Mill	Dismeter of Stack	26.0 meter			
Emission Due To	1	Borning of Cost	Height of Sampling Point from Ground Level				

Testing Methods		Units	Result
Name of the Paradieters		*	338.0
Temperature of Stack	18 11255; 1985(Part 3)		7.83
	IS 11255; 1985(Part 3)	UNISEC	1.00
	1	Nm <sup>4</sup> /hr	16223.76
Quantity of gas flow, at dry Condition		84	0.27
Moisture	LS 11255: 1985(Part 3)	-	14.69
	15 (1255: 1985 (Pars 1)	mg/m²	14.09
	Name of the Parameters           Temperature of Stack           Velocity of Gas           Quantity of gas flow, all dry Condition           Moisture           Concentration of Particulaty Matter (as PM)	Temperature of Stack     18 (1255: 1985(Part 3))       Velocity of Gas     15 (1255: 1985(Part 3))       Quantity of gas flow, at dry Condition     15 (1255: 1985(Part 3))       Moisture     15 (1255: 1985(Part 3))	Name of the Parameters     Lesting stemotics       Temperature of Stack     18 (1255; 1985(Part 3))       Velocity of Gas     15 (1255; 1985(Part 3))       Quantity of gas flow, all dry Condition     15 (1255; 1985(Part 3))       Moisture     15 (1255; 1985(Part 3))

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• Agricultural Development Information Technology · Public Health Engineering  Mine Planetog & Unsign Mineral/Sati-Sail Exploration Waste Management Services

Kayaranarana Lab Ford Lak Material such Self Lab **Annual Cat** 4 Wignetriefers Lab

Laboratory Services

Test Report No: Envlab/20/R-7391

# TEST REPORT

### Date: 02.02.2021

### CUSTOMER DETAILS

Customer Name & Address	1	M/s JSW Cement Ltd.	/s_JSW Cement Ltd, Jajpur, Odisha SWCL/ODISHA/20-21/7700011888 Date: 07.07.2020				
Work Order No & Date	1	JSWCL/ODISUA/20-3					
SAMPLE DETAILS	1			15 11255			
Sample Location & Code	1	ST2: Slag/Cement Mill	Sampling Procedure	MS Plate			
Date of Sampling		12.01.2021	Material Construction of stark	-			
		13.50 Hrs-13.10 Hrs	Shape of Stack	Circular			
Time of Sampling	-	13.01.2021	Height of Stack from Ground Level	58.0 meter			
Date of Analysis	1		Dismeter of Stack	3.0 meter			
Spek Connected To	1	Roller Press Chimney	Dismicrer in stars	33.0 meter			
Emission Due To	:	Center Grinding	Height of Sampling Point from Ground Level	- and the court			

SL-	Name of the Parameters	Testing Methods	Units	Result
No.		IS 11255: 1985(Parl 3)	ĸ	368.0
10	Temperature of Stack	13 11232: 1983(18114)		
7.	Velocity of Gas	15 11255; 1985(Part 3)	misee	7.42
	Quantity of gas flow, as dry Condition	IS 11255: 1985(Part 5)	Nm <sup>3</sup> /hr	151984-04
3.		(N 11255: 1985(Part 3)	%	0.25
4.	Moisture		3	18.41
5.	Concentration of Paymentate Matter (us PM)	IS 11255: 1985 (Pari 1)	htgim*	14.41

\*\*\* End Report \*\*\*

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Surface & Sale-Surface Interrigation Ousbury Control & Project Management +Nesewahir Forres

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4 Agricultural Development a Information Technology Bubbir Fleshts Fagineering · Mine Platming & Design Masered Sub-Soil Exploration. Waste Management Services

Laboriter: Services Formement Lab Marchiel I an Nell I ab Miscraf Lab A Alicentricity I sh

Date: 02.02.2021

Test Report No: ENVLAB/20/TR-7392

# TEST REPORT

Customer Name & Address

M/s JSW Cement Limited, Jajpur, Orissa-

**Customer Reference Date** 

JSWCL/OD/SHA/20-21/7700011888 Date: 07.07.2020 2

CANDI E DETAILS

SAMPLEDEIMLO		Sampled By	VCSPL'S Representative
Sample Code	NI-54	Salathing and	IEC 61672-1(2002-05) Class-
	Noine	Sampling Procedure	L
Sample Name	Nuise Level (Core Zone)	Sample Received On	NA
Sample Source	THUS DOT TO THE P	Test Completed On	NA
Sample Condition	NA	Test Complete o on	

SL.	Sampling Location	Date of Munitoring	Noise level dB (A) Leq. day time (6.00am to 10.00pm)	Noise level dB (A) Leq, night time (10.00pm to 06.00am)	
		12.01.2021	h9.2	61.9	
01	CCR Building	12.01.2028	52.5	65.4	
02	Near Weigh Bridge		68.6	60.6	
03	Hopper Mill	12.01.2021	14.3	63.5	
04	Cost Mill	12.01.2023	.4.5		
Standard	as per Noise Rule 2000		1	TO	
	Industrial Area		75	45	
	Residential Area		.55		
Any fea	ture observed during det	ermination		Nil	

### \*\*\* End Report \*\*\*

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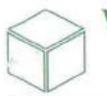
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Laboratory Services Environment Lab Food Lab Mangelah Lub Natificah Nineral Eab & Mareitologi Lais

## Vest Report No: ENVLAB/20/TR-7393

Date: 02.02.2021

### TEST REPORT

Customer Name & Address

# M/s JSW Coment Limited, Jajpur, Orissa,

Customer Reference Date

JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020

OTHER FORTAL P

	Sempled by	VCSPL'S Representative
F1-1/4		15 5182
Fugitive Emission(AAQ)	Sampling Procedure	13 5101
Mis JSW Coment Ltd	Sample Received on	12.01.2021, 13.61.2021
N.A.		
11.01.2021, 12.01.2021	Lest Completed on	12,01.2021, 13.09.2021
	pt/s.JSW Cement Ltd N.A	Forgitive Emission(AAQ)     Sampling Procedure       Mix JSW Cement Ltd     Sample Received on       N.A

SI	Sampling Encutions	Date of Sampling	Parameters	Observed Value (µg/m <sup>3</sup> )	Test Method
	RAW MATERIAL STORAGE YARD	11,01.2021		74.0	
1	NEAR JSW OFFICE MAIN GATE	15.01.2021	Suspended Particolate	61.6	
2	CCR BUILDING	12 01.2021	Matter		15 5182 (Part-23)
-	NEAR WEIGH BRIDGE	12.01,24025	1	9.99	
4	ndard For Crusher /Industrial Area	1		[200-	

### + \*\* End Report \*\*\*

Remarks:

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S The laboratory's responsibility under this report is limited to; proven willbu negligence







JSWCL/JAJPUR/ENV/20-21/

11<sup>th</sup> February 2021

SW Cement Limited

Kalinganagar Industrial Complex, Vdl - Jakhapura, Tehail- Danagada, Dist.- Jajpur, Odisha - 755026 GST- 21AABCJ5731B128 Wabsite : www.jswcement.in

To, Regional Officer, Odisha State Pollution Control Board, At- Dhabalagirl, Po- F.C Project, Jajpur Road, Dist – Jajpur Odisha – 755020

Dear Sir,

### Subject: Monthly Air Report January 2021

**Ref:** Consent to Operate under section 21 of Air (Prevention & Control of Pollution) Act, 1981, under section 25 of Water (Prevention & Control of Pollution) Act, 1974 Letter No 3R06/IND-ICON-6672 dated 21.03.2020.

With reference to above cited subject and reference, we herewith submit the monthly analysis of reports for the month of **January 2021**.

The enclosed analysis report includes:

- 1. Ambient Air Quality
- Stack Emission
- 3. Ambient Noise Level
- Fugitive Emission

This is for your kind information.

Thanking You, Yours faithfully,



Enclosure: As stated above



### CIN-U26957MH2006PLC160839

Regd. Office : JSW Dentre, Opp. MMRDA Ground Bandra Kuila Complex, Bandra (Éast) Mumbai - 400 051 Ph (Direct) : +91 - 22 - 4286 5047 Fax +91 - 22 - 2860 2001 Website www.jswcement.in

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• Agricultural Development Information Technology Pottie Health Engineering.  Mine Planning & Design Mineral/Sub-Soil Exploration

Date: 02.07.2021

Entertainen 1 ak Marchel I an Seil t an Mineral Lab

Laberater's Seculation

# Wayte Management Services

A Allonabiology I ale

Test Report No: ENVLA9/20/R-7386

### TEST REPORT

Customer Name & Address

# M/s JSW Cement Ltd, Jajpur, Odisha

Castomer Reference Date

ISWCL/ODISHA/20-21/7700011698 Date: 07.07.2020

SAMPLE DETAILS

Sample Location & Code	AAQ1:Near Weigh Bridge	Sampled by	VCSPL'S Representative
Sample Description	Ambient Air	Sampling Procedure	18 5182.
Sample Source	JSW Ceniros	Sample Received on	66.01.2023.09.01.2021.12.01.2023 16.01.2021.19.01.2021.23.01.2021 26.01.2021.29.01.2021.
Sample Condition	Gascous Sample Solution Refingerated		
Sampling Date	05.01.2021.08.01.2021.11.01.2021. 15.01.2021.19.01.2021.22.01.2021 25.01.2021.28.01.2021	Test Completed on	96.01.2021 To 02.02.2021

			Co	ncentration of	Pollutants	
SL. No	Sampling Date	Particulate Matter as PMic Ipgrad	Parcicetate Malace as PM <sub>10</sub> (ug/m <sup>2</sup> )	Sulphur Dioxide as SD <sub>1</sub> (ugas <sup>1</sup> )	Oxides of Nitrogen as NO <sub>X</sub> Ipgm <sup>2</sup> )	Carbon Mountile ex CO (mg/m <sup>2</sup> )
1	05.01,2021	41.0	26.0	14	15.5	0.27
2	05.01.2021	48.0	34.0	6.2	14.7	0.34
3	11.04 2021	60.0	38.0	b.\$	18.3	0.41
4	15.05.2021	63.0	42.0	5.7	12.2	0.32
4	18.01.2071	68,0	45.0	9.4	18.9	0.39
6	22.61.2921	52.0	34.0	7.5	20.4	0.28
T	25.01.2021	55.0	39.0	7.4	16.9	0.32
8	28,01,2021	61.0	41.0	\$.5	18.6	0.42
Mo	nthly Average	56.0	37.4	7.4	17.0	0.34
	New Delbi AAQ Standard	300	60	80	80	4
Testing Method		Gravimetric IS 5052- Part 33	Gravibudrie EPA (CFR-40 (pt 50) Appendis-1	Imported West & Geske Method IS 5182 (Part-2) RA2006	Medified Jacob & Hochheiser Method LS 5182 (Part-6) RA2006	Non Dispersive Inferred Mathod 15 5182 (Part-14k 1999
			Remarks: Detection		/m <sup>3</sup> , NO <sub>X</sub> : 9.0 µg/m <sup>3</sup>	
			Any unusual feature	re during determination	0.00:	Nil

Remarks: (All the values of PM-10,PM-2.5,SO; NOx & CO presented in row no 1-8 are Time Weighted Average.)

#### \*\*\* End Report \*\*\*

Remattice.

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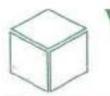
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Jaberrein Services Feed Lab Material Late Sell b ab Miserar Lab

Date: 02.02.2021

A Microbiology Lab

Test Report No: ENVLAB/20/R-7387

### TEST REPORT M/s JSW Cement Ltd, Jajpur, Odisha

Customer Name & Address

JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020 1

Customer Reference Date

SAMPLE DETAILS		D and he	VCSPL'S Representative
Sample Location & Code	AAQ2:Near Coment Mill	Sampled by	15 5182.
	A pablicent A in	Sampling Procedure	
Sample Description Sample Source	JSW Coment	Sample Received on	06.01.2021.09.01.2021.12.01.2021 16.01.2023.19.01.2023.23.01.2021 26.01.2021.29.01.2021.
Sample Condition	Gaseous Sample Solution Refrigerated		
Sampling Dale	05.01.2021.08.01.2021 11.01.2021.15.01.2021 18.01.2021.22.01.2021 25.01.2021.28.01.2021	Test Completed nn	06.01.2021 To 02.02.2021

			Coner	entration of Polle	utents		
SL. Sampling Date	Sampling Drie	Pecificaliste Minuter av	Particulate Marter as PMg (ag/m <sup>3</sup> )	Sulphar Dinside as SO <sub>2</sub> (us/m <sup>3</sup> )	Oxides of Nitrogen as NO <sub>X</sub> (j.g. <sup>m<sup>2</sup>)</sup>	Carbon Monoside as CO (mg/m <sup>2</sup> )	
		(Jags/m/2)-		7.8	16.4	0.69	
	05.01.2021	45.0	28.0	9.9	19.6	0.51	
2	08.01.2021	50.0	33.0		19.5	0.55	
2	11.01.2021	65.0	43.0	8.3	20.3	0.62	
3	15.01.2021	31.0	32.0	7.8	23.4	0.71	
4	18.01.2021	56.0	35.0	8.1	16.7	0.45	
5	in the second	46.0	28.0	8.9		0.53	
6	22.01.2021	42.0	25.0	9.4	19.8	0.66	
7	25.01.2021	57.0	36.0	7.6	22.2	0.59	
8	28.01.2021		32.5	8.5	19.7	0.37	
Mo	onthly Average	51.8				a l	
CPCB	8, New Delhi 44Q	100	60	KD	80	4	
Standard Testing Method		Gravimente Gravimente Festing Method (5.5182: CFR-40 Parr 23 (pt.54)		Improved West & Gyate Method (5 \$182 (Part-2) RA2006	IS 5182 (Part-6) RA3006	Non Dispersive Infrared Methon US 5382 (Part-10): 1999	
			Appendix-1 Remarks, Detection	a limit for SO <sub>3</sub> : 44 µg/m <sup>2</sup>	, NO <sub>X</sub> : 9.0 μg/m <sup>2</sup>	NO	
			Any Hungural featur	e during determination:	and the set of the set	Nil	

Remarks: (All the values of PM-10, PM-2.5, SO<sub>2</sub>, NOv & CO presented in now no 1-8 are Time Weighted Average.)

\*\*\* End Report \*\*\*

Remarks.

THRMS AND CONDITION -

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- ). The laborationy is not responsable for the automaticity of phonocopied just report. The rest down will not be recarred for more than 15 days from the date of issue of test report except in date as required by applicable regulations.
- 5. The inhoratory's responsibility under this report is involed to: proven willful regligence.
- 30 O/SIA#



Plot No.- M-22 & 23, Chunduka Industrial Estate, Patia, Bhubaneswar, Khurda, Odisha-751024, India Tel.: 2674-3511721 E-mail: visiontek@vcspl.org, visiontekin@gmail.com Visit us at: www.vcspl.org



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 Inferiorisence Environmental Water Resource Management · Environmental & Secial Study Surface & Sub-Surface Investigation Quality Control & Project Management Regenable Energy

e Agricultural Development Information Technology oPublic Beatsh Engineering  Mile Pleaning & Desga Minerel/Sub-Sell Exploration a Waste Management Services

Laborators Services Kesin, amerijan Feolijan Waterial Lab Settak Transcal Lab

Microbiology Unit

Date: 02.02.2021

Test Report No: ENVLAB/20/R-7388

## TEST REPORT

Customer Name & Address : M/s JSW Cement Ltd, Jajpur, Odisha

Costomer Reference Date

3 SWCL2ODISHA/20-21/7700011888 Date: 07.07,2020

......

SAMPLE DETAILS		Sampled by	VCSPL'S Representative
Sample Lucation & Code	AAQ3: Near CCR Building		15 5182.
Sample Description	Anthona Air	Sampling Procedure	06.01.2021,99.01.2021,12.01.202
Sample Source	JSW Content	Sample Recrived on	16.01.2021,19.01.2021,23.01.2021 26.01,2021,29.01.2021.
Sample Condition	Gaseous Sample Solution Refrigerated		
Samphag Date	05.01.2021,08.01,2021 11.01,2021.15.01,2021 18.01,2021,22.01,2021 25.01,2021,28.01,2021	Text Completed on	06.01.2021 176 02.02.2021

-			Con	centration of Po	llutants	
51. No		Particulate Matlet as PNL <sub>10</sub> (ng·m <sup>2</sup> )	Perciculate Matter as PMpa (jag/m <sup>*</sup> )	Sulpher Dioxide an SO: Lug:m <sup>3</sup> )	Oxides of Niaregeo as NO <sub>3</sub> (jeg/m <sup>3</sup> )	Carbon Manonida 24030 (arg/m <sup>2</sup> )
		(16.00)		10.5	25.7	0,52
1	05.01.2021	35.0	31.0		14.3	0.46
2	08,01.2021	65.0	37.0	7.4	20.4	0.53
3	11.01.2021	45.0	23.0	6.9	24.7	1.66
	15.01.2021	\$7.0	28.0	9.6	18.1	0.78
4	18.01.2021	67.0	30.0	10,1	22.4	0.51
5	22.01.2021	61.0	35.0	9.0	16.5	0.66
6	25.01.2021	50.0	29.0	*.1	22.7	0.78
7		\$5.0	26.0	10.4		0.61
8	28.01.2021	57.3	29.9	8.9	20.6	0.01
	Ionthly Average	27,4			EU.	4
	PCB, New Delhi 100 AAQ Standard		64)	80	80	
Testing Method		Grassmetric Testing Method IS 5182. 4 Part 23		Improved Wess & Geake Machod IS 3182 (Parb2) RA2006	Hachkeller Meldod IS 5182 (Part-6) RA2006	Non Despersive Lafrare Method 15 5182 (Part-10):1999
			Approdat 1	a limit for SOs 4.4 µg/n	a <sup>3</sup> , NO <sub>X</sub> : 9.0 µg/m <sup>3</sup>	110
			Remarks: Determine	re during determination	1	NII
			ANY DEESURE FEALOR	C during were the	- mu and date and	A sus man a b

Remarks: (All the values of PM-10, PM-2.5, SO<sub>2</sub>, NOx & CO presented in row no 1-8 are Time Weighted Average.)

### \*\*\* End Report \*\*\*

Rentable:

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• Agrocattanat Ocyclepresent e Information Technology · Public Health Engineering Mine Planning & Design

Laboratory Services Feed Lob Margelej Lab Sell I gh Miner# Lak 4

 Minural/Sub-Sail Exploration Weste Management Services

Microhiategy I at

#### Chate: 02.02.2021

Test Report No: ENVLAB/20/R-7389

## TEST REPORT

Customer Name & Address : M/s JSW Cement Ltd, Jajpur, Odisha

Customer Reference Date

JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020 :

SAMPLE	DETAILS	
--------	---------	--

SAMPLE DETAILS			and the second s	
Sample Lucation & Code	AAQ4: Row Material Storage	Sampled by	VCSPL'S Representative	
Sample Exception of the	Yard	Sampling Procedure	18 5182.	
Sample Description	Anglosent Alf	Samping Procedure	66.01.2021.09.01.2021.12.01.2021	
Sample Source	JSW Coment	Sample Received on	16.01.2021,19.01.2021,23.01.2021 26.01.2021,29.01.2021.	
Sample Condition	Gazenus Sample Solution Refrigerated			
Samphog Date	05.01.2021.08.01.2021 11.01.2021.15.01.2021 18.01.2021.22.01.2021 25.01.2021.28.01.2021	Test Completed on	06.411.2024 Tis 02.02.2021	

	Cons	centration of Pol	lutants		
Dete Point of the Matter as Phile (ag/m <sup>2</sup> )	Particular: Matter as PNI23 Tug:=">	Sulpher Divolde es SO <sub>1</sub> (µg/m²)	Unides of Nitrogen as NO <sub>K</sub> (ng/m <sup>2</sup> )	Cerbon Monoxide as CO (mg/m <sup>2</sup> )	
sense in the sense of the sense	100 CT-	11.3	24.4	11.62	
921 57.0	34,5	9.4	19.7	0.54	
021 50.0	29.8	8.7	17.2	0.47	
69.0	37.0		26.9	0.52	
021 60.0	32.0	10.8	21.0	0.78	
52.0	24.0	10.1	20.2	0.65	
0.80	31.0	8.4	26.5	0.54	
021 64.0	41.0	8.8	21.4	0.49	
2021 58.0	33.0	7.3	and the second se	0.58	
40.41 A. IL	33.4	9.4	22.2		
Churden .		80	80	4	
Delhi 100 dard	69	RU .			
Testing Method Gravimetels. 19 5182: Part 23		Improved West & Geake Meebod IS 5182 (Parti-2) RA2006	Modified Jacob & Dechliciser Method IS 51H2 (Part-6) RA2006	Non Dispersive Infrared Metho JS 5672 (Part-10): 1999	
thod		Part 23 (pt 50) Apprediz-1 Remarks: Detection in	Part 23 (pl 50) RA2006 Appendix-1 Remarks: Detection limit for SO <sub>2</sub> : 4.0 µg/m <sup>2</sup> , Remarks: Detection limit for SO <sub>2</sub> : 4.0 µg/m <sup>2</sup> ,	Part 23 (p1 50) RA2006 RA2006 Appred12-1 Remarks: Detection limit for SO <sub>2</sub> : 4.0 µg/m <sup>2</sup> , NO <sub>X</sub> : 9.0 µg/m <sup>3</sup>	

Remarks: (All the values of PM-10, PM-2.5, SO<sub>2</sub>, NOx & CO presented in row no 1-8 are Time Weighted Average.)

\*\*\* End Report \*\*\*

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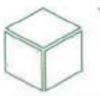
ading and a responsibility under fus repart is limited to, proven willful negligave

FFF arel Hy:



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Date: 02.02.2021

Laboratory Services teed I ab Alerened Lab Set Use Viberal Lab A Micrehiology Late

Test Report No: Envigit/20/R-7390

# TEST REPORT

### CUSTOMER DETAILS

Costomer Name & Address	ţ.	M/s JSW Cement Lb	1/s JSW Cement L46, Jajpar, Odisha			
Work Order No & Date	1	JSWCL/ODISHA/20-21/770001 [888 Date: 07.07.2020				
SAMPLE DETAILS	-		U. Descedare	IS 11255		
Sample Location & Code	1:	STI: COREMU	Sampling Procedure	MS Plate		
Date of Sampling	I	12.04,2023	Material Construction of stack	Circular		
Time of Sumpling	1 1	15.00 Mrs-16.30 Bis	Shape of Stack	39.0 meter		
Date of Analysis	1	13.01.2021	Height of Stack from Ground Level	0.8 meter		
Stack Connected To	1:	Cual Mill	Dismeter of Stack	26.0 meter		
Emission Due To	1	Borning of Cost	Height of Sampling Point from Ground Level			

daha That materia	t the Parameters Testing Methods		Result
Name of the Paradieters		*	338.0
Temperature of Stack	18 11255; 1985(Part 3)		7.83
	IS 11255; 1985(Part 3)	UNISEC	1.00
	1	Nm <sup>4</sup> /hr	16223.76
Quantity of gas flow, at dry Condition		84	0.27
Moisture	LS 11255: 1985(Part 3)	-	14.69
	15 (1255: 1985 (Pars 1)	mg/m²	14.09
	Name of the Parameters           Temperature of Stack           Velocity of Gas           Quantity of gas flow, all dry Condition           Moisture           Concentration of Particulaty Matter (as PM)	Temperature of Stack     18 (1255: 1985(Part 3))       Velocity of Gas     15 (1255: 1985(Part 3))       Quantity of gas flow, at dry Condition     15 (1255: 1985(Part 3))       Moisture     15 (1255: 1985(Part 3))	Name of the Full adjected     1S 11255: 1985(Part 3)     %       Temperature of Stack     1S 11255: 1985(Part 3)     m/sec       Velocity of Gas     IS 11255: 1985(Part 3)     m/sec       Quantity of gas flow, at dry Condition     IS 11255: 1985(Part 3)     Nm <sup>3</sup> /hr       Moisture     IS 11255: 1985(Part 3)     %

STT End Report \*\*\*

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Kayaranarana Lab Ford Lak Material such Self Lab **Annual Cat** 4 Wignetriefers Lab

Laboratory Services

Test Report No: Envlab/20/R-7391

# TEST REPORT

### Date: 02.02.2021

### CUSTOMER DETAILS

Customer Name & Address	1	M/s JSW Cement Ltd.	M/s JSW Cement Ltd, Jajpur, Odisha		
Work Order No & Date	1	JSWCL/ODISITA/20-24/7790011888 Date: 07.07.2020			
SAMPLE DETAILS	1			15 11255	
Sample Location & Code	1	ST2: Slag/Cement Mill	Sampling Procedure	MS Plate	
Date of Sampling		12.01.2021	Material Construction of stark	-	
		13.50 Hrs-13.10 Hrs	Shape of Stack	Circular	
Time of Sampling	-	13.01.2021	Height of Stack from Ground Level	58.0 meter	
Date of Analysis	1		Dismeter of Stack	3.0 meter	
Spek Connected To	1	Roller Press Chimney	Dismicrer in stars	33.0 meter	
Emission Due To	:	Center Grinding	Height of Sampling Point from Ground Level	- and the court	

SL-	Name of the Parameters	Testing Methods	Units	Result
No.		IS 11255: 1985(Parl 3)	ĸ	368.0
10	Temperature of Stack	13 11232: 1983(18114)		
7.	Velocity of Gas	15 11255; 1985(Part 3)	misee	7.42
	Quantity of gas flow, as dry Condition	IS 11255: 1985(Part 5)	Nm <sup>3</sup> /hr	151984-04
3.		(N 11255: 1985(Part 3)	%	0.25
4.	Moisture		3	18.41
5.	Concentration of Paymentate Matter (us PM)	IS 11255: 1985 (Pari 1)	htgim*	14.41

\*\*\* End Report \*\*\*

Penarka

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4 Agricultural Development a Information Technology Bubbir Fleshts Fagineering · Mine Platming & Design Masered Sub-Soil Exploration. Waste Management Services

Laboriter: Services Formement Lab Marchiel I an Nell I ab Miscraf Lab A Alicentricity I sh

Date: 02.02.2021

Test Report No: ENVLAB/20/TR-7392

# TEST REPORT

Customer Name & Address

M/s JSW Cement Limited, Jajpur, Orissa-

**Customer Reference Date** 

JSWCL/OD/SHA/20-21/7700011888 Date: 07.07.2020 2

CANDI E DETAILS

SAMPLEDEIMLO		Sampled By	VCSPL'S Representative
Sample Code	NI-54	Salathing	IEC 61672-1(2002-05) Class-
	Noine	Sampling Procedure	L
Sample Name	Nuise Level (Core Zone)	Sample Received On	NA
Sample Source	THUS DOT TO THE P	Test Completed On	NA
Sample Condition	NA	Test Complete o on	

SL.	Sampling Location	Date of Munitoring	Noise level dB (A) Leq. day time (6.00am to 10.00pm)	Noise level dB (A) Leq, night time (10.00pm to 06.00am)
		12.01.2021	h9.2	61.9
01	CCR Building	12.01.2028	52.5	65.4
02	Near Weigh Bridge		68.6	60.6
03	Hopper Mill	12.01.2021	14.3	63.5
04	Cost Mill	12.01.2023	.4.5	
Standard	as per Noise Rule 2000		1	TO
	Industrial Area		75	45
	Residential Area		.55	
Any fea	ture observed during det	ermination		Nil

### \*\*\* End Report \*\*\*

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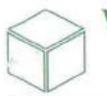
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Laboratory Services Environment Lab Food Lab Mangelah Lub Natificah Nineral Eab & Mareitologi Lais

## Vest Report No: ENVLAB/20/TR-7393

Date: 02.02.2021

### TEST REPORT

Customer Name & Address

# M/s JSW Coment Limited, Jajpur, Orissa,

Customer Reference Date

JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020

OTHER FORTAL P

	Sempled by	VCSPL'S Representative
F1-1/4		15 5182
Fugitive Emission(AAQ)	Sampling Procedure	13 5101
Mis JSW Coment Ltd	Sample Received on	12.01.2021, 13.61.2021
N.A.		
11.01.2021, 12.01.2021	Lest Completed on	12,01.2021, 13.09.2021
	pt/s.JSW Cement Ltd N.A	Forgitive Emission(AAQ)     Sampling Procedure       Mix JSW Cement Ltd     Sample Received on       N.A

SI	Sampling Encutions	Date of Sampling	Parameters	Observed Value (µg/m <sup>3</sup> )	Test Method	
	RAW MATERIAL STORAGE YARD	11,01.2021		74.0		
1	NEAR JSW OFFICE MAIN GATE	15.01.2021	Suspended Particolate	61.6		
2	CCR BUILDING	12 01.2021	Matter	96.0	15 5182 (Part-23)	
-	NEAR WEIGH BRIDGE	12.01,24025	1	9.99		
4	ndard For Crusher /Industrial Area	1		[200-		

### + \*\* End Report \*\*\*

Remarks:

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S The laboratory's responsibility under this report is limited to; proven willbu negligence







08th March 2021

To, Regional Officer, Odisha State Pollution Control Board, At- Dhabalagiri, Po- F.C Project, Jajpur Road, Dist – Jajpur Odisha – 755020

Dear Sir,

### Subject: Monthly Air Report February 2021

**Ref:** Consent to Operate under section 21 of Air (Prevention & Control of Pollution) Act, 1981, under section 25 of Water (Prevention & Control of Pollution) Act, 1974 Letter No 3806/IND-ICON-6672 dated 21.03.2020.

With reference to above cited subject and reference, we herewith submit the monthly analysis of reports for the monthly of **February 2021.** The declared analysis separation locations

The enclosed analysis report includes:

- 1. Ambient Air Quality
- 2. Stack Emission
- 3. Ambient Noise Level
- 4. Fugitive Emission

This is for your kind information.

Thanking You, Yours faithfully,

Ravi Gaur

 $\sim$ 

Enclosure: As stated above



### CIN-U26957MH2006PLC160839



Kalingahager Industrial Complex,

Vit - Jakhapura, Tehs I- Danegadi, Dist.- Japur, Odishe - 755026 GST- 21AABCJ67318128 Website : <u>www.jswcoment.in</u>



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Food Lab Monorbal Lans And Linch NAME AND LOD . Akrahelep 1 ak

**Laboratory** Services

Test Report No: ENVLAB/20/R-8502

### TEST REPORT M/s JSW Cement Ltd, Jajpur, Odisha

Date: 03.03.2021

Customer Name & Address

Customer Reference Date

JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020

### SAMPLE DETAILS

Sample Loration & Code	AAQ1:Near Weigh Bridge	Sampled by	VCSPL'S Representative
Sample Description	Ambient Air	Sampling Procedure	IS 3182.
Sample Source	JSW Cethebi	Sample Received on	04.02.2021.08.02.2021 11.02.2021.15.02.2021 18.02.2021.22.02.2021 25.02.2021.01.03.2021
Sample Condition	ICE Preservation		
Sampling Date	02.02.2021,05.02.2021, 09.02.2021,12.02.2021, 16.02.2021,19,02.2021 23.02.2021,19,02.2021	Test Completed on	05.02.2021 (0 02.03.2021

	1.		Cu	ncentration of	Pollutants	
SL. No	Sampling Date	Particulate Matter as PM p (pg/m²)	Particulate Mintler as PMiss (leg/m <sup>2</sup> )	Sulphur Dioxide x6 SO <sub>1</sub> (rg/=*)	Onides of Nitrogen as NO <sub>4</sub> (ug/m <sup>3</sup> )	Carbon Monoside as CO (mg/m <sup>3</sup> )
1	02.02.2021	4D.II	22.0	7.2	15.3	0.2
2	05.02.202.0	45.0	24.0	1.6	14.6	U.4
3	09.02.2021	58.0	31.0	6.6	18.1	0.3
4	12.02.202.0	60.0	32.0	5.5	121	0.2
5	16.02.2021	65.0	35.0	7.1	187	0.4
6	19.02.2021	21.0	27.0	7.6	20.5	D,4
7	23.02 2021	53.IF	28,0	2.0	16.7	0.2
8	26.02.2021	60.0·	32.0	8.6	18.6	D.3
Mo	athly Average	54.0	28.9	7.2	16.8	0,3
СРСВ	New Delhi AAQ Standard	100	60	80	80	4
Te	sting Method	Gravimetric IS 5182: Part 23	Gravimerrie EPA CPR-40 (pt SU) Appendix-1	Improted West & Genke Meshod IS SD2 (Part-2) RA2006	Moduled Jacob & Elocobelico Method IS 5182 (Part-6) HA2006	Noo Osspensive Uniferred Mechad 15:5362 (Part-10):1999
			Fertarka: Detection	imit for SO21 4.II ug	m <sup>3</sup> , NO <sub>8</sub> ; 9,0 µg/m <sup>3</sup>	
				e during determinable		Nja

Remarks: (All the values of PM-10, PM-7 5, SO2, NOx & CO presented in row no 1-8 are Time Weighted Average.)

\*\*\* End Report \*\*\*

Remarks:

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and the s 5 P geonsibility under this report is limited to, proven willful negligence.





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Laboratory Services Fasinetares Lab Feed Lab Sel 1ab

Renes able Energy

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Date: 03.03.2021

Terretal Lab Viley of Lot Alice Molege Lab

Test Report Not ENVLAB/20/R- 8503

### TEST REPORT M/s JSW Coment Ltd, Johner, Odisha

Customer Name & Address

Customer Reference Date

JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020

### SAMPLE DETAILS

Sample Location & Code	AAQ2:Near Cement Mill	Sampled by	VCSPL'S Representative	
Sample Description	Ambient Air	Sampling Procedure	18 5182.	
Sample Source	28W Cement	Sample Received on	04-02.2021, 08.02.2021 11.02.2021, 15.02.2021 18.02.2021, 22.02.2021 25.02.2021, 01-03.2021	
Sample Condition	Gascous Sample Solution Refrigerated			
Sampling Date	02.02.2021;05.02.2021; 09.02.2021;12.02.2021; 16.02.2021;19.02.2021; 23.02.2021;26.02.2021	Test Completed on	05-02-2021 10 02.03.2021	

6 F	Sampling Date	Concentration of Pollutants					
SL. Nn		Partseulste Matter as PM <sub>in</sub> (ugʻm <sup>2</sup> )	Particulate Mutter 82 PMax (µg/m <sup>2</sup> )	Sulphur Descide as SO: (jup/=*)	Oxides of Nitrogen as NO <sub>5</sub> (ag/m <sup>1</sup> )	Carbon Monoxide es (3) (mg/m <sup>2</sup> )	
1	07.02.2021	44.0	24.0	7.6	16.2	0.5	
2	05.02.2021	52.0	28.4	9.8	19.4	9.4	
3	09.02.2021	61.0	31.0	<b>8.1</b>	[9.3	0.7	
4	12.03.2021	50.0	27.0	13	20.1	#5	
5	16.02.2021	54.0	16.0	7.8	22.8	9.5	
6	19 03.2021	49.0	25.0	<u>6.4</u>	16.5	44	
2	13.02.2021	43.0	23.0	9.2	19.7	9.6	
8	26.02.2021	55.0	28.4	7.4	22.1	0.5	
Mon	thly Average	51.0	26.5	8.3	19.5	0.6	
	New Delhi AAQ Standard	100	60	50	80	4	
Test	ting Method	Gravienstrie JS 5184: Part 23	Grinsinienie EPA C.F6L-40 (pc 50) Appendis-1	Improved Wess & Genke Meshod IS 5182 (Part-2) RA2006	Nfedified Jacob 4, Hork heiver Viethod 15 5182 (Pari-6; RA2006	Nan Dispersive Infrared Method IS 3132 (Part 10): 1999	
1651	ang Method		(pt 50) Apprndix-J Remarks: Detection II	IS 5182 (Part-2)	15 5182 (Par)-6; RA2006	18 513	

Remarks: (All the values of PM-10.PM-2.5, SO2, NOx & CO presented in row no 1-8 are Time Weighted Average.)

\*\*\* End Report \*\*\*

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 Agricultural Development · Information Technology Public Health Engineering

· Mine Planning & Design

· Mineral/Sub-Soil Exploration · Waste Management Services

Date: 03.03.2021

Smithel Lab You I add Million Lab æ Witnehinlegs I all

Laboratory Services

Find I at

Test Report No: ENVI.AB/20/B-8504

# TEST REPORT

Customer Name & Address : M/s JSW Cement J.td, Jajpur, Odisha

Customer Reference Date

# JSWCL/ODLSI(A/20-21/7700011888 Date: 07.07.2020

### SAMPLE DETAILS

Sample Location & Code	AAQ3: Neur CCR Building	Sec. 1. M.		
Sample Description	Antbient Air	Sampled by	VCSPU'S Representative	
	Antolem Ale	Sampling Procedure	IS 5182.	
Sample Source	JSW Cemeps	Sample Received on	04.02.2021, 08.02.2021 11.02.2021, 15.02.2021 18.02.2021, 22.02.2021	
Sumple Condition	Gaseous Sample Solution Refrigerated	N	25.02.2021, 01.03.2021	
Sampling Date	02.02.2021,05.02.2021, 09.02.2021,12.02.2021, 16.02.2021,19.02.2021 23.02.2021,26.02.2021	Test Completed on	05.02,2021 (o 02.63.202)	

sı,			Con	centration of Pe	ollutants	
Nu	Sampling Date	Provingiate Matter as Philip (ug/an <sup>2</sup> )	franklig ufude Minister Ny 1730 <sub>14</sub> Gregorith	Sulphur Dioxide as 50; (µg/m <sup>*</sup> )	Oxides of Nitrogen as	Carbon Monoside
02.02.2021	02.02.2021	56.0		Colores and	lug/m²)	(file/m <sup>4</sup> )
2	05.02.2021	63.0	29.0	10.2	25.4	6.2
3	09.02.2021	44.0	33.0	7.3	14.2	0.4
4	12.02.2021	55.0	24.0	6.6	20.2	0.6
5	16.02.2021	65.0	28.4	9.4	23.9	0.3
6	19.02.2021	60.0	22.0	10.2	17.8	0.5
2	23.02.2021	51.0	J1.0	8.4	2].9	0.7
8	26.02.2021	54.0	28.0	7.1	26.8	0.4
Mo	onthly Average		29.0	10.2	22.4	0.6
		56.0	29.6	8.7		0.5
	CB, New Dolhi	100			21.6	0.5
14.1	Q Standard	100	60	908	840	4
Te	sting Method	Cravinetrir JN 5182. Part 23	Gravimente EPA OFR-øu (pi 50) Appendia-j	Improved Wron & Grake Method IN 5182 (Part-2) RA2005	Madified Jacob & Bachheiser Mathod IS 5182 (Part-6) RA2006	Non Dispersive Infrared Method IS 5882 (Part-10):1999
			Remarks: Detection lin	nit for SO3: 4.0 µg/m3,	N/2 0.0	
	er: / All the set inte		Any unusual feature da	and the state of t	NO <sub>X</sub> : 9.0 µg/m <sup>2</sup>	

Remarks: (All the values of PM-10, PM-2.5, SO<sub>2</sub>, NOx & CO presented in row no 1-8 are Trme Weighted Average.)

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Wese Management Services

Date: 03.03.2021

Minister, Leb

Test Report No: ENVLAB/20/R-8505

## TEST REPORT

M/s JSW Cement Ltd, Jajour, Odisha Customer Name & Address :

JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020 Customer Neterance Date

SAMPLE DETAILS

Sample Location & Cude	AAQ4:Raw Material Storage Yard	Sampled by	VCSPL'S Representative	
Sample Description Ambient Air		Samphag Procedure	IS 5182.	
Sample Source	JSW Ceneat	Sample Received on	04.02.2021, 08.02.2021 11.02.2021, 15.02.2021 19.02.2021,22.02.2021 25.02.2021,01.03.2021	
Sample Condition	Gaseous Sample Solution Refrigerated			
Sampling Date	02.02.2021,05.02.2021, 09.02.2021,12.02.2021, 16.02.2021,19.02,2021, 23.02.2021,19.02,2021	Test Completed on	05.02.2021 to 02.03.2021	

			Concentration of Pollutants						
SL. :No	Sampling Date	Particulate Matter as PMin (µg/m <sup>b</sup> )	Particulate Matter #> PM <sub>23</sub> (ag/m <sup>2</sup> )	Solphur D-oadde as SO <sub>2</sub> (µg/m <sup>2</sup> )	Oxides of Nitrogen at NO <sub>3</sub> Iµg <sup>1</sup> m <sup>2</sup> )	Caribon Monousle as CC (mg/m <sup>2</sup> )			
1	42.02.2021	55.0	29.0	11.1	24.1	04			
1	05,01,2021	51.0	27.0	9.6	19.5	6.0			
3	09.02.3021	66.0	35.0	8.5	17.1	0.4			
4	[2.02.2021	59.0	31.0	10.4	25.3	U.5			
3	16.02.2021	50,0	27.0	10.3	21.5	0.6			
6	19.02.2021	64.0	35.0	8.2	20.1	0.5			
7	23.02.2021	62.9	33.0	8.7	24.6	4.4			
8	26.02.2021	37.0	30.0	7.3	21.2	10			
	lonthly Average	58.3	30.9	9.2	21.7	0.4			
	PCB, New Delhi AQ Standard	100	60	80	80	4			
τ	feating Method	Cravinertrie IN 5182: Part 2)	Grassmetete EPA CFR 40 Int 50 Appendis-1	Improved West & Gashe Method US 5182 (Part-2) He2006	Nodelind Jacob & Bochheiser Michool 15 5132 (Part-6) RA2006	Non Dispersive Infested Method EN 5182 (Part-10), 1999			
			Remarks: Detection live	ait for SOs 4.0 µg/m <sup>3</sup> , N	Ox: 9.0 µg/m <sup>2</sup>	-			
			Ans many sel feature du		1000 (100 (100 (100 (100 (100 (100 (100	NII			

Remarks: (All the values of PM-10,PM-2.5,SO2,NOx & CO presented in row no 1-8 are Time Weighted Average.)

### nnn End Report \*\*\*

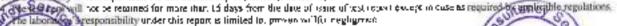
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Laboratory Services Environment 6-46 Feed Lab Stearont Late Soli I alt Milecral Lab

Date: 03.03.2021

di Microsofickogy Lab

Test Report No: Envlub/20/R- 8506

# TEST REPORT

### CUSTOMER DETAILS

Customer Name & Address		M/s JSW Centent Lt	M/s JSW Centent Ltd, Jajpur. Odisha				
Work Order No & Date	:	ISWC:1/OD1S11A/20-21/7700011888 Date: 07/07/2020					
SAMPLE DETAILS	1						
Sample Location & Code	:	STI: Coal Mill	Sampling Procedure	15 11255			
Date of Sampling	:	11.02.2021	Material Construction of stack	MS Flate			
Time of Sampling	:	15.00 Hrs-16.30 Hrs	Shape of Stack	Circular			
Date of Analysis	1	12.02.2021	Height of Stack from Ground Level	40.0 meter			
Stack Connected To	1	Coal Mill	Diameter of Stark	0.6 meter			
Emission Day To	:	Burning of Coal	Reight of Sampling Point from Ground Level	26.0 meter			

SI_ No.	Name of the Parameters	Testing Methods	Units	Result
1.	Temperature of Stack	IS   1255: 1985(Part 3)	<sup>I</sup> K	345.0
2.	Velocity of Gas	IS 11255: 1985(Part 3)	mésec	7.55
э.	Quantity of gas flow, at dry Condition	(S 11255: 1985(Part 3)	Nm <sup>2</sup> thr	16219.68
4.	Molsture	15 (1255: 1985(Part 3)	%	0.29
5.	Concentration of Particulate Matter (as PM)	15 11255: 1985 (Part 1)	org/m²	13.56

\*\*\* End Report \*\*\*

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Laboratory Services Kustryawasan Lab Faad Pada Natoriat Lab Sea Colt Minurat Lab K

Microbiology Lab

Test Report No: Enviate/20/8-8507

### TEST REPORT

Date: 03.03.2021

#### CUSTOMER DETAILS

Customer Name & Address	:	Mix JSW Cement Ltd, Jajpur, Odisha					
Work Order No & Date	1	JSWCL/ODISHA/20-	SWCL/OD(SHA/20-21/7700011888 Date: 07.07.2020				
SAMPLE DETAILS	-	1					
Sample Location & Code	:	ST2: Roller Press	Sampling Procedure	1\$ 11255			
Date of Sampling	1		Material Construction of stack	MS Plate			
Time of Sampling	1	11.50 H rs-13.05 H rs	Shape of Stack	Circular			
Date of Analysis	1		Beight of Stack from Ground Lovel	55.0 meter			
Stack Connected To	1	Roller Press Chimney	Diameter of Stack	3.0 inder			
Emission Due Tu	E.	Cement Grinding	Height of Sampling Point from Ground Level	33.0 meter			

Nume of the Parameters	Testing Methods	Units	Result
Temperature of Stock	18 11255: 1985(Part 3)	'K	383.0
Velocity of Gas	18 11255: 1985(Part 3)	invised	5.92
Quantity of gas flow, at dry Condition	15 (1255: 1985(Part 3)	∆m <sup>3</sup> /lin	109699.52
Maisture	IS 11255: 1985(Part 5)	9%.	0.28
Concentration of Particulate Matter (as PM)	18 11255: 1985 (Part 1)	mg/m <sup>3</sup>	19.16
	Temperature of Stock Velocity of Gas Quantity of gas flow, at dry Condition Mainture	Temperature of Stack     IS 11255: 1985(Part 3)       Velocity of Gas     IS 11255: 1985(Part 3)       Quantity of gas flow, of dry Condition     IS 11255: 1985(Part 3)       Mainture     IS 11255: 1985(Part 3)	Temperature of Stock     18 11255: 1985(Part 3) <sup>1</sup> K       Velocity of Gas     18 11255: 1985(Part 3)     invisec       Quantity of gas flow, or dry Condition     15 11255: 1985(Part 3)     Nm <sup>3</sup> /hr       MaiNture     18 11255: 1985(Part 3)     %

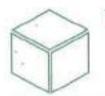
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Date: 03.03.2021

Laboratory Services Fisirotexce (1a) Food 1ab Stanenial Lab Statenial Lab Statenial Lab

Microbiology Lab

Test Report No: ENVLAB/20/TR-8508

### TEST REPORT

Customer Name & Address

M/a ISW Centent Limited, Jajpur, Orlasa.

Customer Reference Date

ISWCL/ODISHA/20-21/7700011888 Date: 07.07.2020

### SAMPLE DETAILS

Sample Code	N1-N4	Sampled By	VCSPL'S Representative
Sample Name	Nuise	Sampting Procedure	IEC 61672-1(2002-05) Class-L
Sample Source	Noise Level (Core Zone)	Sample Received On	NA
Sample Condition	NA	Test Completed Op	NA.

SL. Na	Sampling Location	Date of Monitoring	Naise level dB (A) Ley, day time (6.00am to 10.00pm)	Noise level dB (A) Leq, night time (10.00pm to 06.00am)	
01	CCR Building	11.02.2023	69.65	61.8	
02	Near Weigh Bridge	11.02.2021	88.50	64.9	
03	Hopper Mill	11.02.2021	58.44	52.6	
04 Coal Mill LLA		11.02.2021	62.24	<b>19.5</b>	
Standard a	s per Noise Rule 2000				
	Industrial Area		75	70	
	Residential Area		55	45	
Any featu	re observed during detern	nination		Nil	

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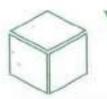
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Laboratory Services Eminancent kab Food Lab Macrial 8 ab Agill ab Microbiology Lab

#### Test Report No: ENVLAB/20/TR-8509

#### Date: 03.03.2021

Customer Name & Address

### M/s JSW Cement Limited, Jajpur, Orissa.

TEST REPORT

**Customer Reference Date** 

#### USWCL/ODISHA/20-21/7700011888 Date: 07.07.2020

SAMPLE DETAILS

Sample Location & Code	F1-F4	Sampled by	VCSPL'S Representative
Sample Name	Fughtive Emission(AAQ)	Sampling Procedure	JS 5182
Sample Snurce	M/s JSW Cement Ltd	Sample Received on	12.02.2021
Sample Condition	N.A.		
Sampling Date	10.02.2021 & 11.02.2021	Test Completed on	(3.02.2021

SL. No	Sampling Locations	Date of Sampling	Parameters	Observed Value (µg/m <sup>3</sup> )	Test Method
I.	RAW MATERIAL STORAGE YARD	10.02.2021	Suspended Particulate	72.0	
2	NEAR JSW OFFICE MAIN GATE	10.02.2021		ţn.o	18 5182 (Part-23)
з	CCR BUILDING	11.02.2021	Maiser	94.0	
4	NEAR WEIGH BRIDGE	11.02.2021	· · · · · · · · · · · · · · · · · · ·	\$6.0	
Stur	dard For Crosher Andustrial Area	1200	1		

#### \*\*\* End Report \*\*\*

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19<sup>th</sup> April 2021



Kalinganagar Industrial Complex, Vill - Jakhapura, Tehsil- Danagadi, Dist - Jajpur, Odisha - 755026 GST- 21AABCJ6731B128 Website : www.jswooment.in

To, Regional Officer, Odisha State Pollution Control Board, At- Dhabalagiri, Po- F.C Project, Jajpur Road, Dist – Jajpur Odisha – 755020

Dear Sir,

### Subject: Monthly Air Report March 2021

**Ref:** Consent to Operate under section 21 of Air (Prevention & Control of Pollution) Act, 1981, under section 25 of Water (Prevention & Control of Pollution) Act, 1974 Letter No 5577/IND-ICON-6672 dated 31.03.2021.

With reference to above cited subject and reference, we herewith submit the monthly analysis of reports for the month of March 2021.

The enclosed analysis report includes:

- 1. Ambient Air Quality
- 2. Stack Emission
- 3. Ambient Noise Level
- 4. Fugitive Emission

This is for your kind Information

Thanking You, Yours faithfully,

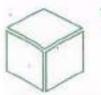
For JSW Cementer Ravi Gaur Unit Head

Enclosure: As stated above

# Janaal Part of O.P Jindal Group

### CIN-U26957MH2006PLC160839

Regd. Office : JSW Centre, Opp. MMRDA Ground Bandra Kurla Complex, Bandra (East) Mumbai - 400 051 Ph (Direct) : #91 - 22 - 4286 5047 Fax +91 - 22 - 2650 2001 Website www.jswcement.in



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Laboratory Service Feel Lab Matarak Lub-Settlab Missrah I. ak

Minestudiegs Lab

Test Report No: ENVLAB/20/R- 9472

## TEST REPORT

Date:31.03.2021

Customer Name & Address

## M/s J5W Cement Ltd. Jafpur, Odisha

Customer Reference Date

JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020

SAMPLE DETAILS

Sample Location & Code	AAQUNear Weigh Bridge	Sampled by	VCSPL'S Representative
Sample Description	Ambient Air	Sampling Procedure	15 \$182.
Samply Suurce	JSW Cement	Sample Received on	03.03.2021,06.03.2021,10.03.2021 13.03.2021,17.03.2021,20.02.2021 24.03.2021,27.03.2021
Sumple Condition	ICE Preservation		
Sampling Date	01.03.2021.04.03.2021,08.03.2021 11.03.2021,25.03.2021,18.03.2021 22.03.2021,25.03.2021	Test Completed on	04.03.2021 TO 30.03.2021

		Concentration of Pollutants						
5L Me	Nampling Date	Particulate Matter as PM <sub>ja</sub> (µg/m <sup>2</sup> )	Particulate Matter as PAlia (ug/m <sup>3</sup> )	Selpter Dioxide es SO, (pg/m <sup>5</sup> )	Öxides of Nisregen as NO <sub>X</sub> (4e/m <sup>2</sup> )	Carboe Monuxide ax CO (http/m²)		
1	#2.#3.2021	43.4	Z3.0	7.3	15.1	0.3		
2	44,63,2021	46.0	25.0	6.2	14.5	0.5		
3	03.03.2021	55.0	29.0	6.5	18.2	and the second se		
4	11.03.2021	61.0	31.0	\$.3	12.4	0.2		
9	15.03.2421	63.0	35.0	9.1	18.5	0.2		
ĥ	18.03.2028	50.0	28.0	7.5	20.3	0.3		
7	22.03 2021	52.0	27.0	7.1	16.5	0.5		
8	25.03.2421	60.0	33.0	8.4	18.4	0.3		
Mor	thly Average	\$3.6	28,9	7.2		0.2		
СРСВ,	New Dalhi AAQ Standard	100	60	80	16.7 80	4		
Testing Method		Gravimetrie 18 5182: Part ZJ	Gravimeerie ETA CPR-40 (pLS0) Appendia-1	Improved West & Goally Method IN 5182 (Part-2) RA2006	Modified Jacob & Borhleiser Method IN 5183 (Part-6) RA2006	New Dispersive Infrared Mechael IS 3482 (Part-10): 1999		
-		4		I for SO2: 4.0 µg/m <sup>3</sup> , N		Nil		

Remarks: (All the values of PM-10,PM-2.5,SO2,NOx & CO presented in row no 1-8 are Time Weighted Average.)

#### \*\*\* End Report \*\*\*

Remarker:

TERMS AND CONDITIONS

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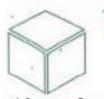
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 Information care Expirements w Water Reponence Management # Fasting mental A. Social Study • Surface & Sub-Surface Lovertigation Quality Control & Project Managethent · Renes able Evergy

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Enhoratory Service Resignment jage Reset i nig Material Late Selfat Manager at Luck ٠ Microlive Lab

Test Report No: ENVLAB/20/R-9473

## TEST REPORT

Date: 31.03.2021

Customer Name & Address

M/s JSW Cement Ltd, Jahpur, Odisha

Customer Reference Date

JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020

SAMPLE DETAILS

Sample Location & Cod	AAQ2:Near Concot Mill	Sampled by	VCSPL'S Representative
Sample Description	Amblent Air	Sampling Procedure	15 5182,
Sample Source	JSW Cement	Sumple Received on	03.03.2021,06.03.2021,10.03.2021 13.03.2021,17.03.2021,20.03.2021 24.03.2021,27.03,2021
Sample Condition	Gaseous Sample Solution Refregerated		
Sampling Date	01.03.2021,04.03.2021,08.03.2021 11.03.2021,15.03.2021,08.03.2021 22.03.2021,25.03.2021	Test Completed on	04.03.2021 TO 30.03.2021

SL No 1 2 3 4 5 4		Concentration of Pollutants					
	Sampling Date	Particulate Manner as Pint <sub>in</sub> (jagum <sup>2</sup> )	Particulate Master as PM <u>Ls</u> (ag/m <sup>2</sup> )	Solphor Diuxide as SO <sub>2</sub> (ug/m <sup>2</sup> )	Oxides of Nitrogen as NO <sub>n</sub> (Jug/m <sup>2</sup> )	Carbon Monoudu as CO (mg/ar <sup>i</sup> )	
	01.03.2021	45.0	25.0	7.5	16.3	0.5	
2	04.03.2021	\$3.0	27.0	9.9	19.5	0,3	
3	08.03.2021	69.0	31.0	8.3	19.1	0.0	
4	11.03.2021	51.0	26.4	7.4	20.3	0,4	
5	15.03.2021	56.0	29.0	7,8	22.6	0.9	
+	18.03.2021	48.0	24.0	8.5	16.4	0.5	
7	22.03.2021	42.0	23.0	9.1	19.5	0.4	
8	25.03.2021	53.0	27.0	7.3	21.9	113	
Mo	athly Average	51.0	26.8	8.2	19.5	0.5	
CPCB	, New Delbi AAQ Standard	100	640	16()	80	4	
Testing Method		Testing Method Gravinstrie Pers 33		Improved West & Genie Method IS 5182 (Pari-2) RA2006	Modified Jacob & Hochheiser Metkod 15 5 182 (Part-6) 15 42096	Non Dispersive Julianed Method 15 5182 (Part-The 1999	
			Remarks: Detection li	mit for SO2: 4.0 µg/m <sup>3</sup> ,	N(h <sub>1</sub> + 0.0 mm/m <sup>3</sup>		
			Any unusual feature o	furing determination	10X and hEan	Nil	

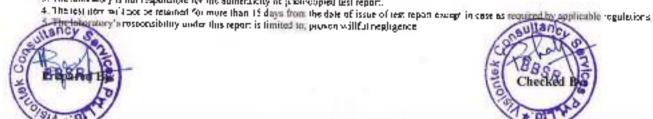
Remarks: (All the values of PM-10, PM-2.5, SO2, NOx & CO presented in row no 1-8 are Time Weighted Average.)

#### \*\*\* End Report \*\*\*

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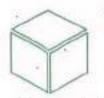
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a Infrativaciano Engineering Water Resource Management Environmental & Social Study.

Sofface & Sub-Surface Investigation Quality Control & Project Management · Renewable Farry)

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• Agricultural Development Public Brakb Registering  Mine Planning & Design Mineral/Sub-Soli Exploration

Date: \$1.04.2021

Laboration Service Essimate Lab ford t ab Terardel Lab No. I Lak Minerael, eb A Microbiology Lab

winformation Technology

West Management Services

Test Report No: ENVLAB/20/R- 9474

## TEST REPORT

Customer Name & Address :

Customer Reference Date

JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020

M/s JSW Cement Ltd, Jappur, Odisha

SAMPLE DETAILS

Sample Location & Code	AAQ3: Near CCR Building	Sampled by	VCSPL'S Representative
Sample Description	Amhient Ale	Sampling Procedure	18 5182.
Sample Source	JSW Cement	Sumple Received on	03.03.2021,06.03.2021,10.03.2021 13.03.2021,17.03.2021,20.03.2021 24.03.2021,27.03.2021
Sample Condition	Caseous Sample Solution Refrigerated		
Sampling Date	01.03.2024.04.03.2024.08.03.2021 11.03.2024.15.03.2021.18.03.2021 22.03.2024.25.03.2021	Test Completed on	D4.03.2021 TO 30.03.2021

			Con	centration of Po	llutants	
Ne	Sampling Date	Perticulate Matters as PM <sub>20</sub> (µg/m <sup>2</sup> )	Perfectate Matter na PM <sub>28</sub> (µg/m <sup>2</sup> )	Sulphur Dioxide as 50; (jug/m <sup>2</sup> )	Oxides of Nirrogen av NO <sub>K</sub> (ag/m <sup>2</sup> )	Carbon Monosidy as CO (mg/m <sup>5)</sup>
1	01.03.2021	55.0	27.0	19.5	23.2	0.3
2	04.03.2021	61.0	33.0	7.6	14.5	0.5
3	08.03.2021	43.0	24.9	6.4	20,4	0.5
4	11.03.2021	57.0	30.0	9.2	23.5	0.4
8	15.03.2021	62.0	34.0	10.1	17.4	0.4
6	18.03.2021	59.0	31.0	3.5	21.6	0.9
7	22.03.2021	52.0	19.0	7,3	25.9	8.7
8	25.43.2021	51.0	28.0	10.1	22.1	0.4
M	onthly Average	55.0	29.6	8.7	21.1	0.5
	CB, New Delhi AQ Standard	100	60	80	80	4
Texting Method		Texting Method IS 5182; Part 23		Improved West & Geate Nicibud US 5182 (Part-2) RA2006	Modified Jarob & Hochbeiser Michou 18 \$192 (Part-6) 6420ff6	Non Desperative InFrance Method IS 5182 (Part-80):7999
			Remarks: Detection I	It for SO <sub>2</sub> : 4.0 µg/m <sup>3</sup> .	NO <sub>v</sub> : 9.0 an/m <sup>3</sup>	
_			Any unusual febture of	furing determination:	Nil	

Remarks: (All the values of PM-10, PM-2.5, SO2, NOx & CO prevented in row no 1-8 are Time Weighted Average.)

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 Mineral/Sub-Soil Exploration
 Waste Management Services

Estimation Lab Field Lab Statistical Lab Sali Sali Vileoral Lab Vileoral Lab Vileoral Lab

Inhuratory Service

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Test Report No: ENVLAB/20/R- 9475

## TEST REPORT

Date: 31-03.2021

Customer Name & Address :

M/s JSW Cement Ltd, Jajpur, Odisha

Customer Reference Date ;

JSWCL/ODISH 4/20-21/7700011888 Dute: 07.07.2020

SAMPLE DETAILS

Sample Location & Code	AAQ4:Raw Materiul Storage Yard	Sampled by	VCSPL'S Representative	
Sample Description	Amhient Air	Sampling Procedure	(S 5182.	
Sample Source	JSW Cement	Sample Roenived on	03.03.2021,06.03.2021,10.03.20 13.03.2021,17.03.2021,20.03.20 24.03.2021,27.03.2021	
Sample Condition	Gancous Sansple Solution Refrigerated			
Sempling Date	01.03.2021.04.03.2021.08.03.2021 11.03.2021.15.03.2021.18.03.2021 22.03.2021.25.03.2021	Test Completed un	04.03.2021 TO 30.03.2021	

SL Nu I J			Cone	centration of Po	llutants			
	Sampling Date	Particelate Matter as PM a (jeg/m <sup>2</sup> )	Particulate Matter py PRC <sub>IA</sub> rµg/m <sup>2</sup> )	Sulphur Diaxide av Stoy (µg/m²)	Onides of Natrogen as NO <sub>X</sub> (ug/m <sup>2</sup> )	Carbon Munoside as CO Img/m <sup>3</sup>		
_	01.03.2021	54.0	28.0	J1.2	23,8	0.5		
1	04.03.2021	50.0	26.6	9.8	19.6	0.4		
5	08.03.2021	64.0	33.0	\$6	17,4	0.3		
4	11.03.2021	58.0	30.0	10.3	25.2	0.5		
3	15.03.2021	51.0	26.0	10.1	21.6	0.5		
6	18.03.2021	65.0	36.0	8.4	20.3	0.5		
2	II.43.2021	61.0	33.0	8.6	24.9			
8	25.03.2021	15.U	29.0	1.3	21.4	0.3		
M	onthly Average	57.3	30.1	9.3	21.8	0.4		
CP	CB, New Delhi AQ Standard	100	60	80	80	4		
Testing Method		Testing Method		Gravinetric US 5182; Part 23	Gravimetric EPA CFR-40 (pt 50) Apprendix-1	Improved West & Grate Method IS 5182 (Part-2) R42006	Modified Jacob A. Rochbeiser Niethad 18 5183 (Part-6) RA2006	Non Chaperalive Infrared Method US 5182 (Part 30), 1999
			Remarks: Detection limit Any unusual feature dur		Ox : 9.0 µg/m <sup>3</sup>			

Remarks: (All the values of PM-10, PM-2.5, SO2, NOx & CO presented in 10w 101-8 are Time Weighted Average.)

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Remarks:

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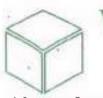
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Laboratory Services

Test Report No: Enviate/20/R-9476

## TEST REPORT

Date: 31.03.2021

#### CUSTOMER DETAILS

Customer Name & Address	1	M/s JSW Coment Lt	4/s JSW Cement Ltd, Jujpur, Odisha SWCL/ODISHA/20-21/7700011888 Date: 07.07.2020				
Work Order No & Date	:						
SAMPLE DETAILS	-	-					
Sample Location & Code	11	STJ: Cost Mill	Sampling Procedure	15 11253			
Date of Sampling	:	15.03.2021	Material Construction of stack	MS Plate			
Time of Sampling	1	15.09 Hrs-16.30 Hrs	Shape of Stack	Circular			
Date of Analysis	1	16.03.2021	Height of Stack from Ground Level	.39.0 meter			
Stack Connected To	:	Coal Mill	Diameter of Stack	0-8 meter			
Emission Dae Ta	:	Burning of Coal	Height of Sampling Point from Ground Level	26.0 meter			

SL. No.	Name of the Parameters	Testing Methods	Unics	Result
£.	Temperature of Stack	IS 11255: 1985(Part 3)	°K	339
2.	Velocity of Gaa	15 11255: 1985(Part 3)	m/sec	8.63
З.	Quantity of gas flow, at day Condition	18 11255: 1985(Part 3)	Nm <sup>2</sup> /hr	JJ714.83
4	Moisture	IS 11255: 1985(Part 3)	9%	0.34
5.	Concentration of Particulate Matter (as PM)	IS 11255: 1985 (Part 1)	mg/m <sup>A</sup>	14.6

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Laboratory Services Emergences Lab Feed Lab Material Lab. 50[·] 44 Weers Lab ŝ.

Weste Management Services

Mirrobiology 8 all

Date: 31.03.2021

Test Report No: Envlub/20/R- 9477

## TEST REPORT

#### CUSTOMER DETAILS

Customer Name & Addross	12	M/s JSW Coment Ltd	/s JSW Coment Ltd. Jajpur, Odisha					
Work Order No & Date	:		SWCL/ODISRA/20-21/7700011888 Date: 07.07.2020					
SAMPLE DETAILS	-							
Semple Location & Code	÷.	ST2: Roller Press	Sampling Procedure	18 (1255				
Date of Sampling	1	15.03.2921	Material Construction of stack	MS Plate				
Time of Sampling	1	11.50 Hrs-13.05 Hrs	Shape of Stack	Circular				
Date of Analysis	:	16.03.2021	Height of Stack from Ground Level	58.0 meter				
Stack Connected To	:	Roller Press Chimney	Diameter of Stack	3.0 meter				
Emission Duc Fo	+	Cement Grinding	Height of Sampling Point from Ground Level	33.0 meter				

SL. No.	Name of the Parameters	Name of the Parameters Testing Methods		Result	
I.	Temperature of Stack	IS 11255: 1985(Part 3)	4K	355	
2	Velocity of Gas	LS 11255: £985(Part 3)	m/sec	11.0	
Ъ.	Quantity of gas flow, at dry Condition	15 11255: 1985(Pa(† 3)	Nm <sup>2</sup> /hc	207920.45	
4.	Molsture	15 11755: 1985(Part 3)	%	0.32	
5.	Concentration of Particulate Matter (as PM)	18 11255: 1985 (Paril 1)	mg/m³	20,6	

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Laboratory Services Environmental Franci Lado Marenial Lab Nineral Lab 4

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#### Test Report No: ENVLAR/20/TR-9478

Date:31.03.2021

#### TEST REPORT

Customer Name & Address

#### M/s JSW Cement Limited, Jalpur, Orissa.

Customer Reference Data

### JSWCL/ODISHA/20-21/7700011888 Date: 07.07.2020

SAMPLE DETAILS

Sample Code	N1-INI	Sampled By	VCSPL*S Representative	
Sample Name	Noise	Sampling Procedure	TEC 61672-1(2002-05) Class-L	
Sample Source	Noise Level (Core Zone)	Sample Received On	NA	
Sample Condition	NA	Test Completed On	NA	

SL. No	No Sampling Location MonIt		Noise level dB (A) Leq, day time (6.00am to 10.00pm)	Noise level dB (A) Leq. night time (10.00pm to 06.00am)	
01	CCR Building 15.03.2021	15.03.2021 70.16	15.03.2021 70.16		62.4
ÛZ	Near Weigh Bridge	18.03.2021	89.48	65.8	
(13	Hopper Mill	24.03.2021	100.00		
04 Coal Mill 25.03.2021		25.03.2021	61.34	\$0.9 59.7	
Standard a	s per Noise Rule 2000			37.7	
	Industrial Area		75	70	
Residential Area			55	45	
Any feature observed during determination			NII		

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Sel Lab 5

Date:31.03.2021

Food Feb Malerial Lab Manural Lab Mikrobiology Lab

Laboratory Services

Test Report No: ENVLAB/20/TR- 9479

## TEST REPORT

Customer Name & Address

M/s JSW Cement Limited, Jajpur, Orlssa.

Customer Reference Date

#### JSWCL/ODJSRA/20-21/7700011888 Date: 07.07.2020 ÷

SAMPLE DETAILS

Sample Location & Code	F1-F4	Sampled hy	VCSPL'S Representative
Sumple Name	Fugitive Emission(AAQ)	Sampling Procedure	IS 5182
Sample Source	M/s JSW Cement Ltd	Sample Rottived un	26-03.2021
Sample Condition	N.A.		
Sampling Dare	24.03.2021 & 25.03.2021	Test Completed on	30.03.2021

SL. Nu	Sampling Locations	Date of Sampling	Perameters	Observed Yalue (µg/m <sup>3</sup> )	Test Method
Г	<b>RAW MATERIAL STORAGE YARD</b>	24.03.2021	24.03.2021		
2	NEAR JSW OFFICE MAIN GATE	24.03.2021	Suspended Particulate Matter	31. <b>9</b>	
s.	CCR BUILDING	25.03.2021		95.0	18 5182
4	NEAR WEIGH BRIDGE	25.03,2021	1	84.0	(Purl-2))
Stap	idard For Crisker /Industrial Area	1200			

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i. The last result is relevant only to the item tossed.8

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4. The test item will not be related for more than 15 days from the date of issue of test report except in 24.4 in reparred by applicable regulations

5 The faboratory a responsibility under doe report is limited to, proven willful negligence





## Annexure - 2

## CREP Compliance

S. No.	Recommendation	Compliance Status
l	Cement Plants, which are not complying with notified standards, shall do the following to meet the standards; Augmentation of existing Air Pollution Control Devices - by July 2003. Replacement of existing Air Pollution Control Devices - by July 2004	air pollution control devices such as bag house, bag filters to meet the notified
2	Cement Plants located in critically polluted or urban areas (including 5 km distance outside urban boundary) will meet 100mg/ Nm3 limit or particulate matter by December 2004 and continue working to reduce the emission of particulate matter to 50 mg/Nm3	
3	The new cement kilns to be accorded NOC/Environmental Clearance w.e.f 1.04.2003 will meet the limit of 50 mg/Nm3 for particulate matter emissions.	Not Applicable as there is no Kiln installed.
4	CPCB will evolve load based standards by December 2003.	No load based standard for cement industry particularly applicable to grinding unit has been evolved.
5	CPCB and NCBM will evolve SO2 and NOx emission standards by June 2004.	Not Applicable as there is no Kiln installed.
6	The Cement industries will control fugitive emissions from all the raw material and products storage and transfer points by December 2003. However, the feasibility for the control of fugitive emissions form limestone and coal storage areas will be decided by the National Task Force (NTF). The NTF shall submit its recommendations within three months.	All the material transfer points are equipped with Bag Filters. Raw materials are stored in covered shed with impervious platform. Paved road construction and green belt development work are being carried out in phase wise manner.
7	CPCB, NCBM. BIS and Oil refineries will jointly prepare the policy on use of petroleum cokes as fuel in cement kiln by July 2003.	Not Applicable as there is no Kiln installed.

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S. No.	Recommendation	Compliance Status	
8	After performance evaluation of various types of continuous monitoring equipment and feedback from the industries and equipment manufacturers, NTT will decide feasible unit operations/sections for installation of continuous monitoring equipment. The industry will install the continuous monitoring systems (CMS) by December 2003	System (OCEMS) has been installed for both major stacks i.e Cement Mill & Coa Mill Stack. Also, a Continuous Ambient Air Quality Monitoring Station (CAAQMS) has been	
9	Tripping in kiln ESP to be minimized by July 2003 as per the recommendations of NTF.	Not Applicable as there is no Kiln.	
LÜ	Industries will submit the target date to enhance the utilization of waste material by April, 2003.	All the particulate matter collected through APCEs will be automatically recycled in the respected processes. Moreover, we will be using fly ash for making Pozzolona Portland Cement (PPC) & stag for making Pozzolona Slag Cement which is waste of Thermal Plants & Steel plant respectively.	
11	NCBM will carry out a study on hazardous waste utilization in cement kilu by December 2003.	Not Applicable as there is no Kiln installed.	
12	Cement industrics will carry out feasibility study and submit target dates to CPCB for co- generation of power by July 2003. * Non complying units shall give bank guarantee to respective SPCBs.	Not Applicable.	



#### Annexare-3

Enterprize Social Commitment (ESC) Budget for Financial Year: 2017-18 to 2021-22 Name of the Location: JSW Cement Ltd., Jojpur		Rs. Lakbs				∓otal		
Category	SL No.	Activity	2017-	atte source source saget		Rødget		
	Categ	ory I	100.00	80.00	60.00	60.00	60.00	360.00
Improving Living	LL	Promoting Health Cure		30.00	10.00	10.00	10.00	60.09
Conditions	1.2	Safe Drucking water	100.00	50.00	50.DD	50.00	50.00	300.00
500	Catego	ory 2	0.00	10.00	30.00	20.00	20.00	80.00
Promoting Social	2.1	Formal esticational institution infrastructure & Development			29.00	10.00	10-00	40.00
Development	2.2	Vocational educational institution infrastructure & Development		10-00	10.00	10.00	10.00	40.00
Category 3		10.00	15:00	10.00	10.00	10.00	55.00	
Addressing	31	Tree Plantation	5 00	5.00	5.00	5.00	5.00	25.00
Environmental Issues	3.2	Promoting use of Renewable energy	5.00	10.D0	5.00	5.00	5.00	30.00
	Catego		50.00	50.00	50.00	75.00	75.00	300.00
	4.1	Rural Roads and Drainages						0.00
Reral Development Projects	4.2	Infrastructure facilities in Rural area	\$0.00	541:00	50.00	75.00	75.00	300.00
	Overb	ead	1.00	1.90	1.00	1.00	1.00	5.00
Project Mangement Cost	5.1	Project Mangement Cost	1.ÓU	L.00	1.00	1.00	1.90	5.00
Fotal		A CONTRACTOR OF	161.00	156.00	151.00	166.00	166:00	800.00

## Time Bound Budgetary Action Plan

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## Annexure-4

5.N	Activities	Budget
	Target#d	(Rs. Lakh
A	EDUCATION	33.00
A J	Construction of two classrooms in Govt. High School, Jakhapura	236
A 2	Renovation of two classrooms in Govil. Upper Primary School, Balungaband	6
A.3	Renovation of Torlet in Gow School	1.9
A 4	Develop Model Anganwadi	1.32
AS	Electrical Work at Grot. Upper Primary School, Balungabandi	Ð 28
8	HEALTHCARE	14
₹.1	Up gradation of PHC Junica, Cabimal memanoe, Deputation of trained staff/cleaning staff etc.	1.1
8.Z	Contribution towards "District Red Cross Society" to support against COVID 19	5
fя	Support against COVIC 19	
B.4	Mobile / Special Health Camps in peripheral areas	2.98
¢	RURAL DEVELOPMENT	8.4
¢.1	Rural Infrastructure development projects: Instatiation of Street Lights at Jakhapura village	
C.2	Drinking water project at Jakhapura village	37
C.B	Support to Goshala, Jajour Read	D.57
D	COMMUNITY DEVELOPMENT	12.6
01	Community Baseline Study	ь.Б
D.2	HAQDARSHAR- help beneficiaries to discover, apply finr and benefit from Higible Gove, schemes	6
E	ENVIRONMENT	2
E.1	Plantation	2
F	RURAL SPORTS	1
F 1	Drganize of inter village sports tournaments / Sport kits to school	1
6	OVERHEADS	4
	LATOTAL	75

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#### **Risk Assessment & Disaster Management Plan**

#### 7.3 QUANTITATIVE RISK ASSESSMENT & DISASTER MANAGEMENT PLAN

#### 7.3.1 Preamble

The main objective of The Quantitative Risk Analysis (QRA) study is to identify the potential hazards, assess the effect/consequence of all probable accidental releases and risk mitigating measures to reduce hazards of the proposed facilities. The Quantitative Risk Analysis (QRA) study scheme is shown in **Figure - 7.1**.

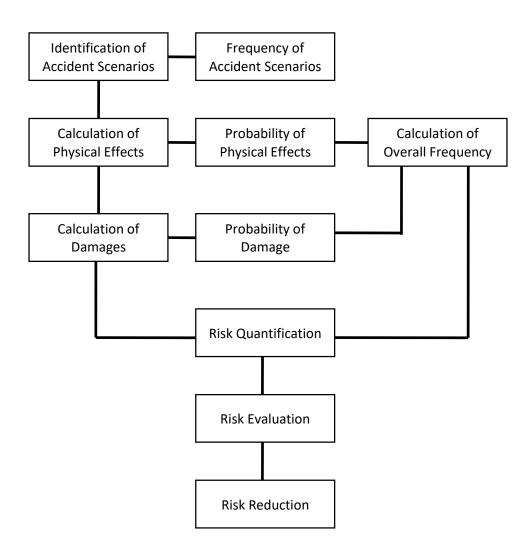


Figure - 7.1: Risk Assessment Methodology

Detailed scope of work for QRA study is given below:

- Identification of Hazards and Selection of Failure Scenarios
- Effects & Consequence Estimation
- Frequency and Risk Analysis
- Risk Mitigation Measures

The criterion of acceptance of risk is <u>As</u> <u>Low</u> <u>As</u> <u>Reasonably</u> <u>Practicable</u> (the ALARP principle).

### 7.3.2 Hazard Identification and Selection of Failure Scenarios

Hazard is defined as a chemical or physical condition having the potential for causing damage to life, property or the environment. Hazards associated plant have been identified using HAZAN techniques. For each selected release source, several scenarios may be possible depending upon the failure mode causing loss of containment.

The hazard identification includes a selection of scenarios ranging from the more likely high probability-low consequence event to the low probability-higher consequence event. The criteria used for selection of scenarios for the consequences analysis is the Maximum Credible Accidental (MAC) scenarios.

#### □ Identification of Hazardous Process/Area

Broadly, there will be mainly three major types of hazards during operation of expanded plant as described below:

- Fire in flammable materials;
- Explosion in flammable and explosive materials; and
- Toxic Release of hazardous gases.

Apart from these, there will also other hazardous conditions during lifting hot metal handling by cranes and hoists, handling of industrial gases throughout the plant.

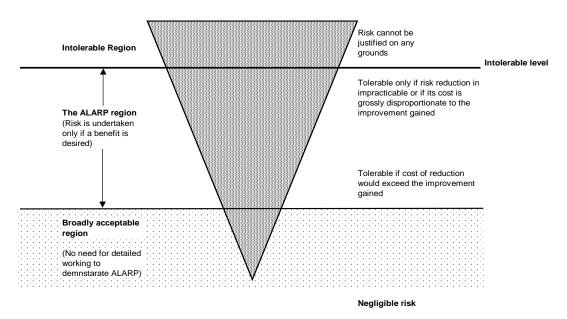
#### 7.4 RISK ANALYSIS

Risk is defined as the unwanted consequence of a particular activity in relation to the likelihood that this may occur. Risk thus comprises of two variables: magnitude of consequences & the probability of occurrence. It thus finds application as a decision making tool in situations where judgment has to be made about the tolerability of the risk posed by an existing/proposed activity. The normal approach adopted is to relate the risk measures obtained to risk acceptance criteria. The risk criteria simply attempt to establish whether Risk is "tolerable". Below is a list of words generally in use in risk analysis.

- 1. Acceptable Risks: No risk shall be called "acceptable". It might be better to say that the activity may be acceptable generally, but the risks can only ever be tolerable;
- **2.** Tolerable Risks: are risks so small that there is no cause for concern. Risk criteria, if they are to be workable, recognize the following:

- □ Level of risk that is so high that it is considered unacceptable or intolerable regardless of the benefits derived from an activity;
- □ Level of risk that is low enough as to be considered negligible; and
- □ Level of risk in between the two as mentioned above is to be considered tolerable subject to being reduced to a level i.e. "As Low As is Reasonably Practicable (ALARP)".

The ALARP (As Low As is Reasonably Practicable) principle seeks to answer the question "What is an acceptable risk?" The definition may be found in the basis for judgment used in British law that one shall be as safe as is reasonably practicable. Reasonably practicable is defined as implying "that a computation must be made in which the quantum of risk is placed on scale and the sacrifice involved in the measures necessary for averting the risk (whether in money, time, or trouble) is placed on the other, and that, if it be shown that there is a gross disproportion between them – risk being insignificant in relation to the sacrifice – the defendants discharge the onus upon them".



The effects-consequence and frequency analyses for the selected releases have been summarized in previous sections. In this section results of Risk summation are presented as following:

Individual Risk is the probability of death occurring as a result of accidents at a installation or a transport route expressed as a function of the distance from such activity. Such a risk actually exists only when a person is present at that spot. The unit of Individual Risk is fatality likelihood of an individual per year. Individual risk for a single accident scenario is calculated as:

#### Individual Risk = Accident frequency x Response fraction x Weather class probability x Wind

#### direction probability

Response fraction is the percentage of the exposed population who would be lethally injured when exposed to the calculated thermal radiations over the exposure duration. In case of a vapour cloud explosion, other probabilities such as ignition probability, probability of flash fire versus explosion also are taken into account.

The calculation of individual risk at a geographical location near a site assumes that the contributions of all incident outcome cases are to be added. Thus, the total individual risk at each point is equal to the sum of the individual risks resulting from all incident outcome cases associated with the plant.

There is no specified risk acceptance criterion in India for Individual Risk levels. A review of risk acceptance criteria in use in other countries indicates the following:

For industrial plants, Individual Risk Criteria have been developed by various countries and the review indicates that Individual Risk of fatality to the members of the public outside the installation boundaries may be adopted between  $10^{-5}$  per year (in populated areas) for intolerable risk and lower than  $10^{-6}$  per year for negligible risk. The region in between is the so-called ALARP region where risk is acceptable subjected to its being <u>As Low As R</u>easonably <u>P</u>racticable (the ALARP principle).

#### □ Findings of Risk Summation

The individual risk (10-5 /yr) for gas release is within ALARP region and tolerable. The activities at cement plant also lies in ALARP region and tolerable.

#### 7.4.1 Risk Reduction Measures

Risk Assessment study provides a quantitative technique for assessing the significance of the impact of any facility on its external environment, a means for highlighting key areas for greater attention and a tool for comparing alternative options. Though, it cannot substitute for close attention to the fundamentals of safety throughout the design process or for design reviews.

For risk reduction, attempts shall be made to either reduce inventories that could get released in the event of loss of containment or failure likelihood's or both as feasible. Risk Assessment identifies the dominant risk contributors, which enables prioritisation of plants/section that deserve special attention in terms of inspection and maintenance in particular and over all safety management as a whole.

- o Gas holders shall be provided to maintain a positive line pressure in gas network;
- Fresh oil shall be added to make up the losses due to contamination of oil;
- The safety device, such as limit switches, shut off bell along with other mechanical and electrical system shall be inspected on weekly basis jointly with gas safety and electrical and recorded.

- The fire service facilities will be equipped with:
  - Smoke and fire detection alarm system.
  - Water supply
  - Fire hydrant and nozzle installation
  - Foam system
  - Water for sprinkler system
  - Mobile firefighting equipment
  - First aid appliances
- Smoke and fire detection, fire hydrant & nozzle installation etc. and shall be included as part of all major units at the proposed project.
- o Periodic maintenance of all protective and safety equipment
- Periodical training/ awareness will be given to work force at the project as refresh courses to handle any emergency situation.
- Periodic mock drills will be conducted so as to check the alertness and efficiency of the DMP and corresponding records shall be maintained.
- Signboards including emergency phone numbers and no smoking signs shall be installed at all appropriate locations.
- o Plant shall have adequate communication system.
- All major units / equipment will be provided with smoke / fire detection and alarm system.
- 'No smoking zone' shall be declared at all fire prone areas.
- Fuel oil storage location will be selected at an isolated place with proper fencing and guarding.
- Dyke will be provided for Fuel oil storage tanks.
- Wind socks will be installed to check the wind direction at the time of accident and accordingly persons may be diverted towards opposite direction of wind.
- Naked flame, welding etc. will not be permitted in fuel oil storage area.
- To prevent the hazard of static electricity and recirculation, lines to the storage tanks will be discharged below the liquid level.

#### 7.4.2 Disaster Management Plan

#### Preamble

The purpose of this Disaster Management Plan (DMP) is to detail organizational responsibilities, actions, reporting requirement and support resources available to ensure effective and timely management of emergencies at or affecting any of operation of proposed project. This will be achieved by;

- Describing procedures to deal with emergencies affecting personnel, equipment, third party contractors, local community and environment;
- Defining the role and responsibility of Incident Response Group (IRG) and others at plant;

- Describing the external resources available to the IRG for use in an emergency and how these resources will be coordinated; and
- This plan shall recognize that:
- 1. Incident Controller will be authorized to initially control and contain any and all emergency situations;
- 2. Site Controller will be authorized to co-ordinate strategic response to all emergencies associated to the operation;
- 3. EHS management Review Committee will be authorized to co-ordinate the overall strategic response to any emergency at plant;
- 4. It will be clubbed with DMP of existing operation; and

It shall be in compliance with legal requirement as described below:

The provisions of the Hazardous Chemicals Rules, Section 41 B(4) of the Factories Act, 1948 (as amended) requires that every occupier is to draw up an on-site emergency plan with detailed disaster control measures and to educate the workers employed. The obligation of an occupier of hazardous chemicals installation to prepare an emergency plan is also stipulated in Rule 13 of the 'Manufacture, Storage and Import of Hazardous Chemicals Rule's, 2000 and amended.

Under the 'Manufacture, Storage and Import of Hazardous Chemicals Rules preparation of 'Offsite Emergency Plan' is covered in Rule No.14. The duty of preparing and keeping up to date the 'Off-site Emergency Plan' as per this rule is placed on the District Emergency Authority. Also, occupiers are charged with the responsibility of providing the above authority with such information, relating to the industrial activity under their control, as they may require for preparing the off-site emergency plan.

Following are the main objectives of the DMP to:

- Define and assess emergencies, including hazards and risk;
- Control and contain incidents;
- Safeguard employees and people in the vicinity;
- Minimize damage to property and/ or the environment;
- Minimization of risk and impact of event accident;
- Preparation of action plan to handle disasters and to contain damage;
- Inform employees, general public and the authority about the hazards/ risk assessed, the role to be played by them in the event of an emergency and to provide safeguards;
- Be ready for 'mutual aid' if need arises to help neighboring unit;
- Inform authorities and mutual aid centers to come for help;
- Effective rescue and treatment of casualties;
- Effective rehabilitation of the affected people and prevention of damage to the property;
- Identify and listing of any fatality;

- Inform and help kith and kin;
- Secure the safe rehabilitation of affected areas and to restore normalcy;
- Provide authoritative information to media; etc
   The results of the QRA study are made direct use in preparation of DMP.

#### Definitions

Definitions relevant to the emergency planning/ disaster management installation are given below.

- Incident: Incident may be defined as an emergency situation associated with any critical deviation in the process control or otherwise that may lead to a major accident/ potential emergency and disaster.
- Accident: An accident may be defined as "an undesirable and unplanned event with or without major damage consequence of life and/ or property".
- Major Accident: It is a sudden, unexpected, unplanned event resulting from uncontrolled developments during an industrial activity, which causes or has the potential to cause, death or hospitalization of a number of people, damage to environment, evacuation of local population or any combination of the above effects.
- Emergency: This can be defined as any situation, which presents a threat to the safety of people or/ and property. It may require outside help as well.
- Major Emergency: Major emergency occurring at a work is one that may affect several departments within and/ or may cause serious injuries, loss of life, extensive damage to property or serious disruption outside the works. It will require the use of outside resources to be handled effectively.
- Disaster: Disaster is a sudden calamitous event, resulting in great damage, loss or destruction.
- Hazards: Hazard may be defined as "the potential of an accident". Hazard exists in man and the system of materials and machines.
- Risk: Risk may be defined as the combination of consequence and probability or likelihood of an accident being caused in a given man-material-machine system.
- On-Site Emergency plan: Deals with measures to prevent and control emergencies within the factory and not affecting outside public or environment.
- Off-Site Emergency plan: Deals with measures to prevent and control emergencies affecting public and the environment outside the premises.

#### **Classification of Emergencies**

Emergencies can be categorized into the following three (3) broad levels on the basis of seriousness and response requirement:

a. Level-I: this is an emergency or an incident which

- i. can be effectively and safely managed and contained within the site, location or installation by the available resources; and
- ii. has no impact outside the site, location or installation;
  - b. Level-II: This is an emergency or an incident which
  - i. cannot be effectively and safely managed or contained at the location or installation by the available resources and additional support is alerted or required;
  - ii. is having or has the potential to have an effect beyond the site, location or installation and where external support of mutual aid partner may be involved; and
- iii. is likely to be of danger to life, the environment or to industrial assets or reputation.
- c. Level-III: This is an emergency or an incident with off-site impact which could be catastrophic and is likely to affect the population, property and environment inside and outside the installation; and management and control is done by the District Administration. Although Level-III emergency falls under the purview of the District Authority but until the Authority steps in, it shall be the responsibility of the concerned unit to manage the emergency.

Based on the QRA study, chances of Level-III emergency occurring are negligible.

#### **Pre-Emergency Planning**

#### Hazard Identification and Consequences

The common causes for emergency/ disaster situation are listed in the table below.

Man Made	Natural Calamities	Extraneous
Leakage	Earthquake	Riots/civil disorder/mob
Fire and explosion	Excessive rainfall	attack
Failure of critical control		Terrorism
system		Sabotage
Design deficiency		Bomb threat
Unsafe acts		War/ hit/ missiles
Inadequate maintenance		

Hazard identification and consequences analysis for Maximum Credible Accidents (MCA) scenarios have been carried out as per details given in chapter-7. It is evident that societal risk lies well below the ALARP region and is therefore considered as negligible.

#### **Pre Emergency Preparedness Measures**

Following emergency preparedness measures shall be implemented:

#### Internal Safety Audits

Internal safety audits will be conducted by a team specially formed for identification of various hazards during operation of proposed project and will check the following:

- Workability of personnel protective equipment;
- Workability of various safety facilities available;
- Workability of firefighting facilities available;
- Workability of work permit system;
- Workability of maintenance system etc.

Suggestions and schemes will be made for modification or for additional requirement, so as to make the existing system more reliable and upgrade it based on latest advanced techniques or equipment available.

#### Third Party Survey/ Audit/ Study

The third party (i.e. external expert/ consultants) safety audit and study will be carried out, as and when required, to fulfil statutory obligations and also for the following:

- To study and re-identify various hazards associated with the premises;
- To check in-built safety systems for their adequacy;
- To suggest modifications/ additions in the system, if required; etc

### Safety/Relief Valve Testing

- List of safety/ relief valves will be prepared and be readily available for reference;
- Periodical schedule for testing will be prepared & followed and records will be maintained; and
- Action plans will be made and implemented for repair and replacement of faulty or damaged materials.

#### Fire System Testing

- To prepare list of fire extinguishers and maintain record of the same;
- To prepare list of fire hydrants, fire system applications, fire pumps, water monitors, automatic fire alarms, smoke detectors and other available appliances and maintain a record of these;
- To draw testing schedules and record the findings;
- To replace/ modify defective equipment/ accessories;
- To periodically check fire pump capacities, delivery, pressure and auto-start/ stop systems; and
- To draw a schedule for testing the workability/ operability of the stand-by equipments, etc. used for firefighting services.

#### **Mutual Aid Scheme**

Mutual aid scheme will be available for:

- Fire fighting with fire brigade, industries and other facilities located in the surrounding area;
- Medical help with Government and private hospitals/ nursing homes; and
- External technical support for dealing with the emergency in case it is prolonged.

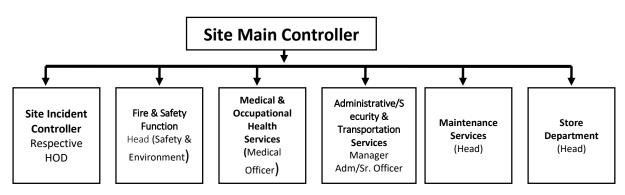


Figure 7.5 Emergency Response team

### **Emergency Communication System**

There shall be an effective system to communicate emergency:

- within the plant premises *i.e.* to the workers including key personnel and essential workers on duty and inside during normal working hours;
- to the key personnel and essential workers not on duty and outside during normal working hours;
- to the outside emergency services and to the Government authorities; and
- to the neighbouring firms and the general public in the vicinity.
  - Each and every section of cement grinding plant will be connected by internal telephones. External phone at office and residence and mobile phones will also be available with key personnel and top executives of the plant. Walkie-Talkie sets and Public Address (PA) System network will also be available.

### **Raising Alarm**

Any person noticing an emergency shall be able to raise or cause to be raised the first Floor Level Emergency Alarm (FLEA). All employees shall be trained to operate such emergency alarms. Siren is provided to indicate an emergency. The siren differs from regular sirens in use with hauling arrangement and is audible throughout the plant.

In case of emergency, Siren type alarm system as provided shall be operated for one (1) minute continuously for three (3) times within a period of 5 to 10 minutes. The type of siren to be sounded for Major and Minor emergencies are given below. This will make all the personnel who are present in the plant become aware about the occurrence.

#### **Telephone Message**

After hearing the emergency alarm and emergency declaration or even if receiving the emergency message on the phone first, the security in-charge at the plant main gate (or Information Officer) plays an important role. The security in-charge (at the plant main gate) shall be precise, sharp, attentive and quick in receiving and noting the message and then for immediate subsequent action of further communication in consultation with the Information Officer. A form to record emergency telephone calls will be made available with the security in-charge (at the plant main gate) or the person available in the Emergency Control Centre, who will record such calls during emergency.

#### **Communication to the Outside Emergency Services and Authorities**

Once the declaration is made, it is essential that the outside emergency services, if they have not already been called in, be informed in the shortest possible time. The emergency will be immediately communicated to the Government Authorities such as local Factory Inspectorate, Collectorate, Police and District Emergency Authorities. The statutory information to the abovementioned authorities shall be supplied beforehand so that the off-site emergency control (contingent) plan may be implemented, if needed. Under the statutory provisions, information is required to be provided to the following:

- Workers;
- General public and neighbouring firms;
- District Emergency Authority;
- Factory Inspectorate; and
- Odisha Pollution Control Board.

#### **Declaring Level of Emergency**

The declaration of major emergency puts all personnel/ agencies into action and the ongoing operations shall be disturbed which may be very costly at times or the consequences may be serious, therefore such declaration shall not be decided on whims or immature judgment or without proper thought. Given the scale of activity, which will be activated after the declaration of the major emergency, it is advisable to restrict the authority for declaration. However, it is not necessary to limit this authority to the Chief Incident Controller or his appointed deputy.

It may be advisable therefore, to divert the authority to declare a major emergency in a number of nominated people. They shall be selected on the basis of their knowledge and experience.

Nominated person/ persons will advise the Chief Incident Controller or the Site Controller to declare the emergency.

Joint decision to declare a major emergency may be taken but it shall be as early as possible and without wasting time.

When an emergency situation arises, it will most probably be first noticed by the operator/ technician working in the concerned area. He shall immediately get in touch with the Shift Incharge of the concerned area. The Shift In-charge shall assess the situation and apprise the CIC/SIC accordingly.

CIC will rush to the ECC room and assess the situation or will get complete information (by phone if possible) through the SIC. The Site Controller will then assess the nature of emergency as either "Major" or "Minor".

#### **Emergency Shutdown Procedure**

If necessary, full or partial shutdown of the plant shall be followed under the judgment of the Chief Incident Controller or the Site controller. On hearing the emergency siren/ message over phone, the following procedure will be followed to shut down the plant:

- The operation/ maintenance department will stop incoming vehicles and move away the tankers, if any;
- The operation/ maintenance department will declare the quantity of the oil stored, gas stored etc;
- Head (operations) will stop all the production/ maintenance activity, if necessary; and
- The individuals designated for the emergency preparedness will carry out the work as assigned to them per the checklist.

#### Roll Call

The employees attending duty will be known through punch cards and the records (on daily basis) of others (contractors and others) will be available at the security gate. At the time of emergency, attendance will be verified with the people assembled in the safe assembly and emergency assembly point.

Contractors shall maintain a similar list of personnel on-site. Record of the arrival and departure of visitors shall also be maintained, together with the names of those they have called to see which will prove useful in establishing their whereabouts during an emergency. Visitors shall wherever practicable, be accompanied on-site by a responsible member of the work staff.

In the immediately affected area, the Site Incident Controller shall arrange for a search to be made by the fire brigade for any casualty. Nominated work personnel shall record the names and other details of the casualties taken to the respective reception areas and the location, e.g. hospital.

At ECC, a nominated person shall be posted to collate the lists and check these against the nominal role of those believed to be missing. Where missing people could be at the affected area, the

Incident Controller shall be informed immediately and arrangement shall be made for further search.

#### **Evacuation Procedure**

Not required personnel will usually be evacuated from the incident site and also from adjacent areas. Evacuation shall be to predetermined assembly points in a safe part of the plant. Assembly points need to be clearly marked. The plan shall designate someone to record all personnel arriving at the assembly point so that the information can be passed to the ECC.

On hearing the emergency siren/ alarm, the employees of the concerned area and in other areas shall stop their work and rush to the safe assembly point.

#### **Control of Emergency**

The control of emergency mainly involves combating the fire/ explosion/toxic release, by using the various resources available for risk control and adopting the following procedures:

#### **Release of Gas**

#### □ Shift- In charge/ Operator

On receipt of the message from Primary Controller, the Shift In-Charge/ Operator shall:

- Switch on the emergency siren for a few minutes (if not already switched on by the primary controller);
- Telephonically inform Incident Controller/Security In-charge and Central Control Room (CCR);
- Provide the location and brief description of leakage;
- Do not allow unauthorized personnel on scene.
- **Chief Incident Controller**
- Obtain full incident briefing and likely requirements from shift in-charge and maintain liaison;
- Instruct CCR to shut all gas supply, if required;
- Ensure that all personnel are accounted for and consider need to evacuate non-essential personal near the incident site.; and
- Notify Site Incident Controller and provide full incident briefing and likely requirements.

#### □ Site Incident Controller

- Obtain full incident briefing and likely requirements from Incident Controller and maintain liaison; and
- Coordinate support activities as required.

#### □ Security Personnel

- Note down the location/ details of the incident;
- Inform Senior Personnel Officer/ Security Officer;
- Stop visitors/ contractors/ customers to enter inside the plant;
- Be at the telephone for receiving any message; and
- Organize the workers to assemble at the safe assembly point.

### □ Security Officer

On hearing the emergency siren/ alarm or on receiving the message over phone, the Security Officer will:

- Proceed to the emergency assembly point along with sufficient security personnel;
- Act as per the instruction of CIC/ SIC;
- Cordon off the area;
- Not allow any unauthorized person within the premises;
- Prevent crowding of people around the scene of incident;
- Inform:
- Security In-charge;
- Transport In-charge;
- Head (Security)/ a security personnel placed at the plant main gate;
- Head (Electrical);
- Head (HR); etc
- Keep ambulance ready; and
- Inform nearby fire service as per instruction of Incident/Site Controller.

#### □ Head (Security)

On hearing the emergency siren/ alarm/ message over phone, the Head (Security)/ a security personnel placed at the plant main gate shall rush to the emergency assembly point, report to the CIC and also:

- Ensure availability of fire extinguishers and continuous water supply for firefighting in anticipation of a fire;
- Depute responsible person for maintaining gas mask and continuous water flow for firefighting in case of a fire; and
- Rush to the ECC for further activities if any, as per the instruction of the Incident/ Site Controller.

### □ Transport In-charge

On hearing the emergency siren/ alarm or on receipt of the message, the Transport In-charge shall:

- Contact the Emergency Control Center (ECC);
- Depute a representative to ECC; and
- Plan for deployment of vehicles whenever/ wherever necessary as per the instruction of SIC/ CIC.

### □ Head (Electrical)

On hearing the emergency siren/ alarm/ message over phone, the Head (Electrical) will rush to the emergency assembly point and report to the CIC. The Head (Electrical) will be responsible to:

• Check the electrical connections in the affected area;

- Ensure availability of electrical supply if the main line is to be switched off; and
- Arrange for alternate supply.

### □ Head (HR)

Role of Head (HR) will be to:

- Be in touch with SIC/CIC for any assistance;
- To arrange refreshment for all, if emergency is prolonged;
- To provide welfare function and ensure that casualties receive adequate attention;
- To inform kith & kin of employees as per instruction of SIC/ CIC; and
- To arrange additional help (compensation, etc.), if required and inform the relatives.

#### In Case of Fire/ Explosion

#### **D** Primary Controller (First Noticing Person)

Immediately after noticing the fire, the Primary Controller shall:

- Identify himself and the location of the fire;
- Inform shift in-charge about the nature of the fire;
- Inform the security & time office about the location and nature of the fire;
- Hold on until the message is repeated to ensure proper communication;
- Switch off the electrical main in the nearby area;
- Inject fire extinguisher to extinguish the fire, if possible;
- Be on or near the incident site till the fire service personnel arrive to guide; and
- In case of fire in electrical equipment or installations, inform electrical shift in-charge about the nature and place of the fire.

#### □ Shift- In charge/ Operator

- Switch on the emergency siren for a few minutes (if not already switched on by the primary controller);
- Telephonically inform Fire /Security In-charge and Central Control Room (CCR);
- Provide the location and brief description of the fire;
- Keep watch over the fire;
- Try to extinguish or prevent the fire from further spreading with available resources; and
- Do not allow unauthorized personnel on scene.

### **Chief Incident Controller**

- Obtain full incident briefing and likely requirements from shift in-charge and maintain liaison;
- Ensure that all personnel are accounted for and consider need to evacuate non-essential personnel from the incident site or near it.
- Notify Site Controller and provide full incident briefing and likely requirement.

#### □ Site Incident Controller

- Obtain full incident briefing and likely requirements from Incident Controller and maintain liaison; and
- Coordinate support activities as required.

#### Security Personnel

- Note down the location/ details of the incident;
- Inform Senior Personnel Officer/ Security Officer;
- Stop the visitors/ contractors/ customers to enter inside the plant;
- Be at the telephone for receiving any message; and
- Organize the workers to assemble at the safe assembly point.

#### □ Security Officer

On hearing the emergency siren/ alarm or on receiving the message over phone, he will:

- Proceed to the emergency assembly point along with sufficient security personnel;
- Act as per the instruction of CIC/ SIC;
- Cordon off the area;
- Not allow unauthorized personnel within the premises;
- Prevent crowding of people around the scene of incident;
- Inform:
- Security In-charge;
- Head (Security)/ a security personnel placed at the plant main gate;
- Transport In-charge;
- Head (Electrical);
- Head (HR); etc
- Keep ambulance ready; and
- Inform nearby fire service as per instruction of Incident/ Site Controller.

### □ Head (Security)

On hearing the emergency siren/ alarm/ message over the phone, the Head (Security)/ a security personnel placed at the plant main gate shall rush to the emergency assembly point, report to the CIC and also:

- Ensure availability of gas masks with oxygen cylinders and fire extinguishers and continuous water supply for firefighting;
- Depute responsible person for maintaining continuous water flow for firefighting; and
- Rush to the ECC for further activities, if any, as per the instruction of the CIC/ SIC.

#### □ Transport In-Charge

On hearing the emergency siren/ alarm or on receipt of the phone message, the Transport Incharge shall:

• Contact the ECC;

- Depute a representative to ECC;
- Plan for deployment of vehicles whenever/ wherever necessary as per the instruction of the Site/ Incident Controller;
- Move away the tankers, if any;
- Stop the incoming vehicles; and
- Give the quantity of the oil stored and gas stored etc.

#### □ Head (Electrical)

On hearing the emergency siren/ alarm/ message over phone, the Head (Electrical) will rush to the emergency assembly point, report to the Incident Controller and will be responsible to:

- Check the electrical connections in the affected area;
- Ensure the availability of electrical supply if the lines are affected; and
- Arrange for alternate supply.

#### □ Head (HR)

- To be in touch with Site/ Incident controller for any assistance;
- To arrange refreshment for all, if emergency is prolonged;
- To provide welfare function and ensure that casualties receive adequate attention;
- To inform kith & kin of employees as per instruction of SIC/ CIC; and
- To arrange additional help (compensation, etc.), if required and inform the relatives.

#### In Case of Accident

During the time of any accident or emergency condition, the Primary Controller will have to inform the Shift In-Charge immediately which will be followed by:

- Shift In-Charge will inform to responsible Department Head, Time Office and Security Personnel;
- According to the seriousness of the accident, the Department Head will arrange duty doctors, ambulance and inform the personnel department;
- Department head will also report to Incident Controller and Site Controller about the incident and actions taken/required;
- The department head will immediately report to spot and collect the cause of accident;
- The department head will make a final report;
- The cause of accident will be analyzed and rehabilitation measure will be implemented; and
- The workmen will be advised to do the work with more safety measures.

#### All Clear Signal

As soon as the emergency situation has been brought under control, it is necessary to bring it to the notice of all concerned. This will be done by a coded siren. The coded siren for this would be a continuous siren for five (5) minutes. This would indicate that the emergency situation has been brought under control.

#### **Post Emergency Activities**

Post emergency activities comprise of steps taken after the emergency is over so as to establish the reasons for the causation of the emergency and preventive measures. The steps involved are:

- Collection of records;
- Conducting inquiry and concluding preventive measures;
- Making insurance claims;
- Preparation of inquiry reports with recommendations;
- Rehabilitate the affected people within the plant and outside the plant, if any; and
- To restart the plant.

#### Off-site emergency plan

The Risk Assessment (RA) study has concluded that the off-site risk is in the negligible range. Toxic material generally will may have an off-site;

#### Legal Authority

Under the Environment (Protection) Act, 1986 the 'Manufacture, Storage and Import of Hazardous Chemicals Rules' were promulgated in November, 1989 & amended in 2000 and 'Rules on Emergency Planning, Preparedness and Response for Chemical Accidents' in 1996.

Under the 'Manufacture, Storage and Import of Hazardous Chemicals Rules' preparation of 'Off-site Emergency Plan' is covered in Rule No.14. The duty of preparing and keeping up to date the 'Off-site Emergency Plan' as per this rule is placed on the District Emergency Authority (DEA). Also, occupiers are charged with the responsibility of providing the information, relating to the industrial activity under their control, as DEA may require for preparing the off-site emergency plan.

In addition to information provided in the relevant sections on actions to be taken by plant personnel and exposed public during any situation, the District Authority (i.e. District Collector, Factory Inspector, etc) in conjunction with **JSWCL**, nearby industries under mutual aid scheme and relevant emergency services shall have an off-site emergency plan considering the following:

- Incidents at the site including fires and/ or explosions and toxic release that would likely cause concern among the local population. It would be necessary to advise people to stay away from the area, reassure them that they are in no danger and follow relevant actions as suggested in the DMP;
- In addition to JSWCL personnel, the following "local" external agencies may be involved in the formulation of procedures for off-site incidents and may also be involved in response to any incident;
  - Police at District Headquarter;
  - □ Traffic Police at District Headquarter;
  - □ Fire services District Headquarter;
  - □ Fire services available with nearby industries;
  - □ Civil Authority at District Headquarter;
  - □ Factory Inspector;

- Odisha Pollution Control Board;
- □ Electricity Authority at District Headquarter; etc
- Develop a continuous liaison system with the abovementioned agencies for better coordination to deal with any emergency;
- The following aspects shall be addressed in any detailed response to an off-site incident:

#### Role of the Management

The On-site and Off-site plans are dovetailed so that the emergency services are summoned at the appropriate time and are provided with accurate information and a correct assessment of the situation. The responsibility for this is with the CIC.

CIC will provide a copy of On-Site and Off-Site Emergency Plan to the District Authorities, the Factories Inspectorate and the Emergency Services, so that on the basis of information provided in the plan, such authorities can make their emergency preparedness plan to formulate and execute the District/ Area Off- Site Emergency Plan.

#### **Role of External Agencies**

It is expected that the following roles shall be performed by various external agencies during off site emergency:

#### □ Fire Brigade

a) Rush fire tenders to the incident site with all necessary firefighting equipments;

- b) Dispersal of vapors by water spray away from the inhabited area in case of leakage;
- c) Extinguish the fire, in case of fire;
- d) Allow the fire to burn under controlled conditions if isolation is not possible;
- e) Save human lives and salvage material from incident:
- f) Assist fire department of plant to handle the emergency;
- g) Liaise with fire brigade in the adjoining town for additional help, if necessary;
- h) Arrange water through municipal water tankers or any other source; etc

#### Police

- a) Stop traffic from both ends of the road and divert the traffic;
- b) Warn the people living in the adjacent area to stop all smoking, evacuate to safer places, if necessary;
- c) Contact district police headquarters for further assistance, if required;
- d) Evacuate personnel from the area, if required;
- e) Extend help in removal of injured personnel to the nearest first aid center/ hospital, contacting highway patrol, completing legal formalities in case of any casualty; etc

#### **District Administration**

- a) To keep a watch on the overall situation;
- b) Rush ambulance to the incident site if causalities are reported;
- c) Direct cranes or any other such equipment to carry out rescue operations;

- d) Issue warning messages to people through public address system, if any evacuation is required;
- e) Arrange emergency vehicles for evacuation;
- f) Give direction to hospitals having burn injuries ward for readiness to receive patients in case of incident involving fire;
- g) Provide basic amenities, e.g. water, electricity, food and shelter to the affected people as required; etc

#### Medical Department

- Will provide first aid and treatment;
- Will arrange ambulance for removal of victims/ causalities;
- Will set up temporary medical camp and import first-aid to casualties;
- Will arrange for casualties to be sent to Government/ private hospitals; and
- Will secure assistance of medical and paramedical personnel from nearby hospitals/ institutions.

#### Security Threat Plan and Action Plan to Meet the Eventualities

On identification of doubtful packet/ bags/ others, following emergency action shall be taken in case of bomb threat:

- (a) Area shall be cordoned off immediately;
- (b) On receipt of first hand report, CIC shall contact District Authorities and Police immediately;
- (c) Persons inside the installation shall be evacuated as soon as possible;
- (d) All the vehicles on the installation premises shall be evacuated to safer places; and
- (e) All piping valves shall be closed and all operations at **JSWCL** shall be stopped.

#### **Pre-Incident Information**

Provision of providing incident/ awareness details to the public shall also be a part of the responsibility of "Government Authorities" and not of JSWCL alone. Recommended information to be provided to the public are as follows (it is recognized that some of the information given below may not be divulged due to security reasons):

- Name of the site manager and address;
- Details of the person responsible for providing information;
- Common name(s) of all hazardous substance and indication of their characteristics;
- An assurance that JSWCL will be taking all reasonably practicable steps to minimize the risk of a major accident (the level of risk has been estimated through RA which shows acceptable off-site risks);
- Details of emergency warning system and the actions to be taken on receipt of warning;
- An assurance that JSWCL will make appropriate arrangements to deal with any foreseeable incidents;
- Reference to off-site emergency planning and advice to the public to cooperate with emergency services;

- Details of where and from whom further information may be obtained;
- Details of any emergency response exercise to be carried out; and
- The above information can be circulated via posters, talks, leaflets, etc which shall be in the local language. Leaflets containing do's and don'ts may also be circulated in the vicinity. Any printed information to be provided to the local community shall be in the local language.

#### **Actions Recommended for the Public**

**JSWCL**'s personnel, in liaison with the emergency services, will provide relevant information to the public during any incident via the use of loud hailers, etc. As a precautionary measure, the actions to be taken by the general public in the event of a major accident are as follows:

- Move away from the site to safer areas and follow any instruction from JSWCL personnel;
- Take appropriate shelter and close doors, windows, curtains and blinds, if available;
- Do not smoke or light matches, until given the all clear;
- Put out fires, until given the all clear;
- Follow the instructions of JSWCL 's emergency services;
- Listen public announcement carefully;
- Do not contact the emergency services unless you are alone unaided/ injured or are in need of urgent assistance; and
- Remain indoors until you are told that it is safe to go outside. If evacuation is necessary, you will be notified by JSWCL 's emergency services;
- It is JSWCL's responsibility, in liaison with relevant local authorities, to update the local community at appropriate intervals.

List of Details to be notified:

List of telephone numbers of outside agencies as listed below shall be readily available:

- District Collector;
- Police;
- Fire Brigade;
- Ambulance;
- Hospital;
- Factory Inspectorate;
- Regional and Head office, Chhattisgarh Pollution Control Board; etc

#### Annexure-6

## Item Wise cost break up of Environment Management

S. No.	Particulars	Estimated cost Rs. Lakhs	Recurring cost in Rs. Lakhs/Annum
1	Air pollution control	1027.5	38.14
2	Water Pollution & Reclamation	150.0	7.95
3	Occupational Health	9.0	4.5
4	Environmental Management	63.5	25.4
5	Green Belt Management	400.0	10.56
	TOTAL	1650.00	86.55

Annexure-7

News Paper Clipping of EC advertisement



