

Ref: OCL/ENV/2024-25/901.

Date: 28.05.2024

To

Director-IA Division, Ministry of Environment, Forests & Climate Change, Indira Paryavaran Bhavan, Jor Bagh Road, New Delhi - 110 003.

Respected Sir,

**Sub:** All EC compliance report of Green field Cement Plant (Lime Stone Mine 3.0 MTPA) at Chittapur, Gulbarga District by M/S. Orient Cement Ltd:-Reg

Ref no: F. No. J-11015/60/2011-IA-II (M) Dated on 22.09.2014.

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As mentioned in the above cited subject & vide Ref-(1) of our EC condition, M/s Orient Cement Ltd, is hereby submitting your good self the point wise half yearly EC compliance of Mines for the period October-2023 to March-2024.

Kindly consider the compliance report & oblige.

Thanking You

Yours faithfully

For Orient Cement Limited

Satyabrata Sharma

President-Manufacturing & Unit Head

#### Cc:

- The Additional Principal Chief Conservator of Forests (C)
   Ministry of Environment, Forests & Climate change,
   4<sup>th</sup> Floor, E & F Wing, Kendriya Sedan
   Koramangala, Bangalore-560 034
- 2. Secretary to Government
  Department of Ecology & Environment
  Government of Karnataka
  7th floor, Multistoried Building,
  Bangalore 560001
- 3. Chairman,
  Central Pollution Control Board,
  Parivesh Bhawan, CBD-cum-Office Complex,
  East Arjun Nagar,
  New Delhi 110 032
- 4. The Member Secretary,
  Karnataka State Pollution Control Board,
  # 49, 4th & 5th floor,
  Parisara Bhavana,
  Church Street,
  Bangalore 560 001
- 5. Environmental officer,
  Karnataka State Pollution Control Board
  Regional office, Kalaburgi,
  Plot No. 12/2, Sy. No:19/P,
  Mansafdar Layout, M.G Road,
  Santraswadi, Kalaburgi-585 101

#### **Half year Compliance Report**

#### NAME OF PROJECT: ITAGI LIMESTONE MINE OF M/S ORIENT CEMENT LIMITED

MOEF LETTER NO: (EC) F.NO, J-11015/60/2011-IA (M) dated: 22/9/2014.

#### 01.10.2023 to 31.03.2024

Sl.no	EC Conditions	Compliance status.
Speci	fic Condition	
i	Environmental clearance for mining shall be for Pit-1 (238.80ha) and Pit-2 (42.10ha) Mining lease may be executed for the area for which EC is accorded. The EC would be subject to project proponent fulfilling the requirement under the provisions of MMDR Act, 1957 and MCR 1960 with regard to reduced mine lease area.	DMG, Bangalore has granted the mining lease for 519 Ha inclusive of pit 3.  The amended EC vide letter No. (EC) F.NO, J-11015/60/2011-IA-II (M) dated: 28/06/2022, inclusive of Pit No.3 as no mining zone submitted to DMG vide letter No. OCEM/CHIT/MINES/02, 06th July 2022.
ii	Project Proponent shall carry out only the plantation in the safety area of 500 meters, after spreading topsoil	Condition being Implemented and plantation/Green belt development are being carried out in the safety area of 500 meters, after spreading topsoil.
iii	A safety zone of 500m from any dwelling or habitation will be left out as no mining area and no blasting will be conducted in this zone	A safety zone of 500m from dwelling or habitation or village hutment area has already been left as no mining area and no blasting is being conducted in this zone.
iv	A bund of about 5m height is to be made along the mining lease boundary on the village side with good width of green belt between village and mining area.	A bund of about approx. 5.0 Mtr height has been created around the mining lease boundary on the village side area with good width.
v	Mining will not be done in all sides of Itgi village at one time and will be done in a sequential manner as per mining plan approved by IBM. During these operations all along the safety zone, measures will be taken to prevent air and noise pollution.	Mining is being done in a sequential manner as per Mining Plan approved by IBM. Necessary measures are being taken to prevent air and noise pollution.  As a measure of Noise pollution control, Controlled blasting using Nonel system is being carried out to minimize the vibration & noise.  To prevent air pollution, M/s OCL has made wet drilling arrangement and dust extractor system provided in drilling machine. Bag filter is provided at crusher to collect dust. Conveyor belts are totally covered with metal hood. Water spray is being done in hopper & on conveyor belts.
vi	The natural streams (nalas) passing through the mining lease area shall not be disturbed.	Condition being followed and natural stream or nala passing through the mining lease area are not being disturbed and in future also will be

	Further, these streams shall be creation of bunds on both sides, if required. The rainwater collected in the mining pit shall be pumped out to the water storage in plant area for use and shall not be discharged into any natural stream or nala.	with dry stone pitching.  The collected rainwater from mining pit is pumped to the water storage reservoir at plant through pipeline.  M/s OCL Chittapur is having pipeline for
vii	A long-term study with at least one year field data on runoff, rain fall, vegetation disturbance and water flow and drainage in all streams of the catchment will be carried out by reputed Institution and recommendations will be implemented within one year of commencement of mining.	
viii	Environmental clearance is subject to obtain clearance under the wildlife (Protection) Act, 1972 from the competent authority, if any, as may be applicable to this project.	As the Area does not fall under Forest / Wildlife Sanctuary, obtaining clearance under the wildlife (Protection) Act, 1972 from the competent authority, is not applicable to this project.  Kindly exempt this condition.
ix		I - I
X	During mining, pollution mitigation measures will be taken up to ensure that the impact on the village and the surrounding area will not occur. Small blasts will be conducted to reduce ground vibrations and noise. Blasted material heaps will be thoroughly wetted before loading to avoid fugitive dust during loading.	Conditions being followed and small blasts are being conducted in order to reduce ground vibrations and noise. Prior to the loading of blasted material heaps, the heaps are being thoroughly wetted to avoid fugitive dust during loading.
xi	Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and	Effective safeguard measures have been carried out in the critical areas prone to air pollution. Regular water Sprinkling arrangements through tankers and permanent water sprinkler has been

having high levels of PM10 and PM2.5 such as haul road, loading and unloading point and transfer points. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the central pollution control board in this regard. Main haulage road in the mine will be provided with permanent water sprinklers and other roads will be wetted with tanker fitted sprinklers. Crusher and material transfer points will be provided with bag filters and conveyor will be fully covered to avoid air borne dust.

provided to control fugitive dust emission on Haulage roads.

All material loading & unloading points have been provided with water sprinklers & water tankers to supress the dust generated.

Crusher and material transfer points have been provided with bag filters.

Crushed limestones are being conveyed to plant by fully covered belt conveyor to avoid air borne dust.

Effective safeguard measures xii such as conditioning of material with water. regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as around crushing and screening plant, loading and unloading point and transfer points. It should be ensured that the ambient air quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.

Condition is being followed and implemented. Areas prone to air pollution and areas having high levels of particulate matter are being wetted with water tankers fitted with sprinklers. Permanent water sprinklers are also fitted along the main haulage road.

All the material loading & unloading points have been wetted with water tankers.

Crusher and material transfer points are provided with the bag filters.

Conveyer belt is fully covered to avoid spillage and fugitive dust.

It is also being ensured that the ambient air quality parameters are confirming to the norms prescribed by the Central Pollution Control Board.

Ambient Air Quality Report in  $\mu g/m^3$  Mines for the period **October-2023 to March-2024.** 

2023-24	PM10	PM2.5	502	NOx	co
Mining Area	56	20	16	22	ND
Haulage	55	19	17	21	ND
Crushing & Screening	57	20	14	19	ND
Labor Colony/Near Surge bin	59	21	16	21	ND

Regular monitoring of ground water level and quality shall be carried out in around the mine lease by establishing a network of existing wells and installing new piezometers during the

Regular monitoring of ground water level and quality are being carried out by establishing a network of existing wells and installing new piezometers as require. Periodic monitoring (at least four times in a year) are being carried out by MoEF&CC recognised & NABL accredited

xiii

	mining operation. The periodic monitoring [(at least four times a year pre-monsoon (April/May), monsoon (August), post monsoon (November) and winter (January); once in each season)] shall be carried out in consultation with State Ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the ministry of Environment and forests and its Regional office Bangalore, the Central Ground Water Authority and its Regional Director, Central Ground Water Board. If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out.	collected are submitted to the concerned authorities regularly.  Recently submitted Report of ground water level & quality vide our letter No. OCL/ENV/2024-25/878 dated-15/04/2024 to Ministry of Environment and forests and its regional office Bangalore, the Central Ground Water Authority and its Regional Director, Central Ground Water Board.
xiv	The project authority shall implement suitable conservation measures to augment ground water resources in the area in consultation with Regional Director, Central Ground Water Board.	As a suitable conservation measure a reservoir of capacity 5,60,000 Cubic meters has already been developed inside the plant to augment the groundwater.  Also, Rainwater harvesting pit with size 50m X 40m with depth 2m has been constructed near south side of the mine lease boundary for ground water recharge.
xv	The Raw material shall be transported through road on 200 dumpers/trucks covered with tarpaulin.	As ours is the captive Limestone mine, no vehicle is being used for transportation of raw materials outside the premises.  For internal material transfer, closed conveyors belts are used without needing trucks covered with tarpaulin.
xvi	Appropriate mitigative measures shall be taken to prevent pollution of the Benithora and Kagina river in consultation with the State Pollution Control Board	No water/wastewater is being discharged from our premises to the rivers /nalla. The specified Benithora and Kagina river is situated far away from our premises with an approx. distance of 15-20Km.
		Anyhow Appropriate mitigative measures have been taken to prevent pollution by providing suitable drains in order to convey rainwater to the natural water bodies without getting mixed with other water.
xvii	Setting up of hospital with satisfactory health care facilities for local residents as per the followings: i). 9/10 bedded Hospital is with	10 bedded OHC is in operation. The OHC is appointed with male and female medical officers and suitable supporting paramedical staff for company employees & surrounding villages.

equipment necessary medicines for providing health care facilities to local residents.

ii). Three doctors (out of which atleast one will be lady doctor) and necessary paramedical staff will be appointed;

iii). Medical & Health & Hygiene education camps will organized for nearby villagers periodically;

iv). Rs 110lakhs will be spent for launching ICUs on wheels s service with ultra-modern facilities like ECG. EEG. respiratory, Bio-metric monitors etc. Recurring cost of Rs 86 lakhs will be spent during the 10 years period:

v). Ambulances/Vehicles will be provided whenever necessary to take the patients to the following nearby hospitals having better medical facilities. Orient Cement is committed to contribute Rs. 57.60 lakhs in the next 10 years for strengthening of this health center. Orient Cement is also committed to contribute Rs 57.20 lakhs in the next 10 years for strengthening of the District Hospital & Rs 54.10 lakhs to Red Cross society at Gulbarga.

Appropriate Medical & Health & Hygiene education camps are being organized for nearby villagers periodically.

Company owned Ambulance facility is already provided as and when required for the inhabitants of the villages, who cannot come to the hospitals on their own for getting medical aid facilities.

Complied and remaining amount will be complied in phase manner.

With regard to the R&R plan xviii

> i). There shall be (no Habitation or dwellings within the mine lease area:

> ii). Land sellers are paid as per compensation package fixed/decided by the tripartite committee comprising of project proponent, land sellers & district authorities in the presence of local legislator and other leaders and agreed upon by all.

> iii). Gainful employment to the land sellers directly or through its agencies, within the needs of the company.

> iv). Preference to local people for the various jobs as per

As per the approved mining plan, within 05 years the benches shall not attain its ultimate position thus reclamation is not possible within five years.

- No dwelling or habitation within the mine lease area.
- ii) The compensation rate for the land is finalized by the district administrating authority after discussing with landowners to their satisfaction and some has been paid by Orient Cement Ltd to the land seller.
- Employment is provided to the land iii) sellers either directly or indirectly but within the premises of the company.
- iv)Preference to locals has been given and based on their qualification company has provided either direct or indirectly employment to the Land seller.

qualifications and suitability.

v). Initiated necessary training activity by identifying 40 local people and sending them for training in various trades at L&T Training center and will be absorbed in various jobs in the project;

vi). As part of CSR activities, Rs 74 crores will be spent in the first ten years of the project;

vii). Welfare measures in the fields of education, health, hygiene & sanitation, community mobilization, livelihood promotion & capability building etc., of the local population.

v) Initiated necessary training activity to the local people and OCL is sending them for training in various trades at Training center to create employability.

vi) As a part of CSR-R&R activity & welfare measures, Orient Cement Ltd is carrying out the CSR activity in and around the villages of cement plant and has spent approx. amount of **Rs.5091.81954 Lakh** as on March-2024.

FY 2023-24 alone for the period October-2023 to March-2024 M/s OCL has spent **Rs. 815.96468 Lakhs** towards CSR-R & R expenses.

For the period of **October-2023 to March-2024** expenses are as follows.

S	Expenses Booked	Amount
Q3		
1	Infrastructure development in the villages.	33,29,331
2	Education	1,93,25,250
3	Hygiene and sanitation	6,14,800
4	Health	47,09,768
5	Livelihood Promotion and Capability building	9,048
6	Programme administration monitoring and Evaluation	25,44,180
	Q3 Total	3,05,32,377
Q4		
1	Infrastructure development in the villages.	40,87,640
2	Education	4,11,82,458
3	Hygiene and sanitation	89,784
4	Health	32,10,231
5	Programme administration	24,93,978
	monitoring and Evaluation	
	Q4 Total	5,10,64,091
	Q3 & Q4 Total	8,15,96,468

xix Regular monitoring of water quality upstream and downstream of adjoining water bodies shall be carried out and record of monitoring data should be maintained and submitted to Ministry of Environment and Forests. its Regional office. Bangalore, Central Groundwater Authority, Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board.

Regular monitoring of water quality upstream and downstream of adjoining water bodies is being carried out by MoEF&CC recognized & NABL accredited laboratory National Analytical Research laboratory, Bangalore and record of monitoring data is being maintained and submitted to State Pollution Control Board. Recently submitted Report vide our letter No. OCL/ENV/2024-25/878 dated-15/04/2024 for upstream and downstream of adjoining water bodies to Ministry of Environment and forests and its Regional office Bangalore, the Central Ground Water Authority and its Regional Director, KSPCB, Central Ground Water Board.

XX	There shall be scientific method for the solid waste management which will be in the form of black cotton soil and lateritic soil. The top soil of 5.05 million m³ will be generated out of which 5.01 million m³ will be backfilled in 18.40ha of mined out area and 0.04 million m³ will be disposed in 9.35 ha by bund formation along SW of pit in the safety zone of village to the height of 10m. Further, 16.2 million m³ of waste (subgrade limestone) will be generated and backfilled in 64.44 ha of mined out area. Ground Water Level is 80m below the general ground water level (340 MSL)	Scientific method for the solid waste management is being followed, where in the generated top soil & Overburden quantity of 1090052 Tonnes (up to End of March 2024), 73% is used concurrently for plantation while OB waste quantity will be used for making nala safety bund, village safety bund and formation bunds along the lease boundary for green belt development. The remaining soil is stocked in the mine lease in the earmarked site, for better usage.
xxi	Compliance status shall be submitted to the Ministry of Environment, Forests and Climate change and its regional office located at Bangalore on six monthly bases.	All the six-monthly Compliance status is being submitted to the Ministry of Environment, Forests and Climate change and its regional office located at Bangalore.  Soft Copy of all EC compliance report of Mines for the period April-2023 to September-2023 was uploaded in PARIVESH portal dated 16-12-2023 sent via mail dated 01-12-2023 06:48 PM & hard copy was submitted vide our letter no OCL/ENV/President (Manufacturing)/2023-24/808 dated 01/12/2023.
xxii	ETP shall also be provided for workshop and wastewater generated during the mining operation	There will not be any wastewater generation during mining operation. Only domestic wastewater is being generated at mines office, mines workshop, rest shelter etc.,  That wastewater generated is being treated at Soak Pit.
xxiii	Digital processing of the entire lease area using remote sensing technique shall be carried out regularly once in three years for monitoring land use pattern and report submitted to Ministry of Environment and Forests and its Regional office, Bangalore.	Digital processing of the entire lease area using remote sensing technique has been carried out for monitoring land use pattern and report submitted to Ministry of Environment and Forests and its Regional office, Bangalore, Vide Letter no. OCL/ILM/EC/2021/01, dated 03rd September 2021.
xxiv	Regular monitoring of ambient air quality shall be carried out and records maintained	Regular monitoring of ambient air quality is being carried out by MoEF&CC recognised & NABL accredited laboratory National Analytical Research Laboratory, Bangalore, and records of the same are being maintained.

		2023-2024	PM10	PM2.5	502	.NOx	CO
		Mining Area	56	20	16	22	ND
e.		Haulage	55	19	17	21	ND
		Crushing & Screening	57	20	14	19	ND
		Labor Colony/Near Surgebin	59	21	16	21	ND
XXV	Pre-placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly.	Regular Preperiodical rengaged in records are  1. Arouthe company 2. Medicante of Ocemplout. 3. Preperiodical remplation are	medical the pro mainta and 102 Drive oleted. cal exace een wor CT 202 oyee's lacemer oyees, no.s. nd 12 aination	examination in the med workmed 238 nas has has has has here are the med are th	nation being cording f Eye E comoti n for Fo rried or MAR 20 up has lical Exen has o.s of peen cantract	of the vecarried ly. Examination the local Hamilton	worker out an ation for emont otal 40 carried out for workmen
xxvi	Implementation of action plan on issues raised during public hearing.	The comp commitment			mpiling public	-	
ener	ral Conditions						
i	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment and Forests.	Noted. No change is working with approval of Forests. Mining is Approved Management of the second se	ill be the M being	carried inistry done	out of Env	without vironme cordance	t prionent and
ii	No change in the calendar plan including excavation, quantum of limestone mineral and waste should be made.	No change excavation, waste will be	quantu		_		_
iii	A final mine closure plan along with details of corpus fund shall be submitted to the Ministry of	Final Mine ( Fund will l	be sub	mitted	to the	e Minis	stry of
	Environment, Forests and Climate change 5 years in advance of final mine closure for approval.	Environment years in adapproval.					-

ensure that no natural water mining operations. course and/ or water resources No construction activity is being carried out near are obstructed due to any mining the Natural water course. operations. Adequate measures shall be taken for protection of the 1st order and 2nd order streams. if anv emanating/passing through the mine lease during the course of mining operation topsoil, All the generated topsoil shall be concurrently The if any shall utilized by spreading over the bunds and temporarily stored afforested area for plantation and green belt earmarked site(s) only and it should not be kept unutilized for development. long. The topsoil shall be used reclamation for land and plantation. The overburden (OB) generated Circular OB dump with terrace is made stacked during the mining operation at earmarked site and a RR drystone toe wall for a length of 371m is constructed at below the shall be temporarily stacked at topsoil dump to check flow of loose material earmarked dumpsite(s) only for from the dumps and non-active sites are of backfilling. purpose the Monitoring and management of stabilized by thick plantation along the slopes of over burden dump. Total 36no's Random rubble rehabilitated areas should checks has been constructed at 50m intervals in continue until the vegetation the garland drain to arrest the silt. In the year self-sustaining. becomes 2023-24, an RR dry stone toe wall has been Compliance status should be submitted to the Ministry of constructed for a length of 415 meters at the additional OB dump (OD-5). Additionally, a Environment. **Forests** and garland drain with a suitable gradient has been Climate Change and its Regional made for a length of 435 meters around the OD-5 Office, Bangalore on six monthly dump, and 1160 meters of catchment drains basis. have been made along the working pit to avoid surface runoff in to the mine. Monitoring and management of dump is continued so as to have self-sustaining vegetation. Compliance status has been submitted to MoEF and its regional office on half- yearly basis. YEAR WISE GENERATION (Tons) Particula Total r/ 2023-Material 2019-2020-2021-2022-2015 -22 23 2024 Generate 20 2.1 d Overburd 10900 13310 87789 94713 57872 42489 en/ Topsoil Catch drains and siltation ponds of appropriate Catch drains and siltation ponds of appropriate size shall be size has been constructed, no run off water and sediments flow directly in to Benithora and constructed for the working pit, Kagina river and other water bodies mineral temporary OB and dumps to arrest flow of silt and water bodies are located 15-20Km away from

the mine lease area

sediment directly into the Kagina River and Benithora River and

other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc., and The drain should be regularly desilted particularly after the and maintained monsoon properly. viii Garland drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed both around the mine pit and temporary over burden dumps to prevent run off of water and flow of sediments directly into the Benithora and Kagina river and other water bodies and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 data) and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material. Sedimentation pits shall be constructed at the corners of the garland drains and de-silted at regular intervals. Dimension of the retaining wall at the toe of the temporary OB

The rainwater collected is being used for dust suppression and green belt development.

The drains are desilted and maintained properly before every monsoon.

Garland drains with appropriate size with suitable gradient is constructed to avoid runoff water into the mines.

A toe wall for the Over Burden dumps is constructed as per proposal in IBM Approved Plan to prevent run off water.

No runoff water and sediments flow directly in to Benithora and Kagina river and other water bodies as the water bodies are located 15-20Km away from the mine lease area.

Dimension of the retaining wall at the toe of the temporary OB dumps and the OB benches within the mine to check run-off and siltation should be based on the rainfall data.

Dimension of the retaining wall at the toe of the temporary OB dumps and the OB benches (terraces) within the mine to check run-off and siltation is constructed as per IBM Approved Plan.

Plantation shall be raised in a 7.5m wide green belt in the safety zone around the mining lease, backfilled and reclaimed area, around water body, along the roads etc. by planting the native species in consultation with the local DFO/Agriculture Department. The density of the trees should around 2500plants per ha. Greenbelt shall be developed all along the mine lease area in a phased manner and shall be completed within

At present we have planted **17480** saplings in mines lease area till end of **March 2024**, with a Survival rate of approx. 78% inside lease area. Green belt along the mine lease area is being developed in a phase wise manner as per IBM Approved Mining Plan.

Year	Mines	Survivals	Survival % Age
2015-16	1220	610	50%
2016-17	4780	2390	50%
2017-18	3159	2527	80%
2018-19	3963	3646	99%
2019-20	4279	3829	89%

	first five years.	2020-21	6726	5381	80%	
		2021-22	3871	3290	85%	
		2022-23	2337	1781	85%	
		2023-24	17480	13984	90%	
		Total-Avg:	47815	37438	78%	
		Type of Saplin	ngs plante	ed in 21.8	4 Ha till E	nd of
		March-2024:	- Acacia,	Neem, ta	marind, A	shok,
		People tree,	Big neem	,Catappa(	Badam), (	Cassia
		siamea, Delor	nix regia(	Gulmohar	Conacorp	ous),
		Custard Apple	Bamboo.			
xi	Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of PM10 and PM2.5 such as around crushing and screening plant, loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the ambient air quality parameters conform to the norms prescribed by the central	Limestone conficiency bag below 30 mg/haul roads, lower sprinkly operations and for controlling The Avg Emisthe period 0.7.30 mg/Nm <sup>3</sup>	filters and /Nm3. Was bading, and ing syste d transfer g fugitive estion Level october-20	d particulter sprink ad unload m provid points o missions.	late emissicling is done ing points ed at crushed belt constants.	ion is ne on s and shing veyer
xii	pollution control board in this regard.  The project authority should implement suitable conservation measures to augment ground	As a suitable of capacity 5, been develope	60,000 Cı	ubic mete	ers has alr	ready
	water resources in the area in consultation with the regional director, central ground water board.	groundwater. Also, Rainwate 40m with dep south side of the water recharge	oth 2m ha he mine le e.	s been co ase bound	nstructed dary for gr	near ound
		OCL is also her report to CGW Report vide ou 25/878 dated level.	A office. Rur letter <b>No</b> 1- <b>15/04/</b> 2	ecently su o. OCL/EN 2024for gr	ibmitted <b>VV/2024-</b> round wat	er
xiii	Regular monitoring of ground water level and quality shall be carried out in around the mine	Regular monit quality are be mine lease by	ing carrie	d out in a	ınd around	d the
77	lease by establishing a network of existing wells and installing new piezometers during the mining operation. The periodic monitoring [(at least four times a	wells by Maccredited la Research Lal collected are authorities reg	loEF&CC aboratory, poratory, submitt gularly.	recognis , Natior Bangalo ed to t	ed & N nal analy re, the he conce	NABL ztical data rned
	year pre-monsoon (April/May), monsoon (August), post	Recently subm & quality vide				

	monsoon (November) and winter (January); once in each season)] shall be carried out in consultation with State Ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the ministry of Environment and forests and its Regional office Bangalore, the Central Ground Water Authority and its Regional Director, Central Ground Water Board. If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out.	Environment and forests and its regional office Bangalore, the Central Ground Water Authority and its Regional Director, Central Ground Water Board.
xiv	Vehicular emission shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.	Vehicles emissions are being monitored regularly to bring down the emission levels. Further following measures have been taken to reduce the Vehicular emission i.e., by speed regulation and regular preventive maintenance of the vehicles at mines.
xvi	Controlled blasting shall be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.  Drills shall either be operated	Blasting operations are carried out only during the daytime.  For ground vibration control we have adopted and implemented a method of Conventional blasting using high explosives and ANFO with use of millisecond delay/NONEL to prevent the fly rocks, noise and to reduce ground vibration. Rock breaker is used instead of secondary blasting.  Complied. The drilling equipment is inbuilt with
AVI	with dust extractors or equipped with water injection system	Cyclonic dust collector system and Water injection system.
xvii	Mineral handling area shall be provided with the adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be	Mineral Handling area such as Limestone crusher is operating with high efficiency bag filters and particulate emission is below 30 mg/Nm3. Water sprinkling arrangement is done at all the loading and unloading area and haul roads.  Water sprinkling systems are provided for crushing operations and transfer points of belt

	properly maintained and operated.	conveyer for controlling fugitive emissions.
xviii	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc., The housing may be in the form of temporary structures to be removed after the completion of the project.	Separate provision is made for the housing of construction labour within the site with all necessary infrastructure and facilities.  Safe drinking water and medical facilities are also provided.  Temporary structures will be removed after the completion of the project.
xix		The critical parameters such as $PM_{10}$ , $PM_{2.5}$ $SO_2$ , $NO_x$ & $CO$ in the ambient air within the impact zone or within the nearest habitation, whichever is closer are being monitored periodically. The results of AAQ For the period $October-2023$ to $March-2024$ are as follows.    Mining Area
	public domain. The circular no. J-20012/1/2006-IA.II (M) dated 27.05.2009 issued by Ministry of Environment and Forests, which is available on the website of the ministry <a href="https://www.envfor.nic.in">www.envfor.nic.in</a> shall also be referred in this regard for its compliance.	Regarding water quality, we are not discharging any water from Mines, the only water generated in Mines is from Water Closets and Urinals, which is being treated in soak pit.  Reports of the same will be updated in company website.
хх	Conservation measures for protection of flora fauna in the core & buffer zone should be drawn up in consultation with the local forest and wildlife department and effectively implemented.	No such flora & fauna exists in the zones as the area does not fall under forest land. Kindly exempt this condition.

Four ambient air quality monitoring stations xxi Four ambient air quality have been established in the core zone as well as monitoring stations should be established in the core zone as in the buffer zone for PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> & NO<sub>x</sub> monitoring. The data of the same is being well as in the buffer zone for submitted to KSPCB office regularly. PM10. PM2.5. SO2 & NOx Location of monitoring. The recently submitted report is vide our stations should be decided based meteorological letter OCL/ENV/2024-25/887 dated the data. topographical features 15/05/2024. and environmentally and ecological sensitive targets and frequency monitoring should undertaken in consultation with the state pollution control board We are regularly monitoring the ambient air Data on ambient air quality xxii quality and regularly submitting reports to the (PM10, PM2.5, SO2 & NOx and other pollutant as per CPCB Ministry including its Regional office at Gulbarga and to the State Pollution Control Board. notification) should be regularly submitted to the ministry of Soft Copy of all EC compliance report of Mines environment and forests for the period April-2023 to September-2023 was uploaded in PARIVESH portal dated 16including its regional office located at Bangalore and the 12-2023 sent via mail dated 01-12-2023 06:48 PM & hard copy was submitted vide state pollution control OCL/ENV/President board/central pollution control letter our no board once in six months. (Manufacturing)/2023-24/808 dated 01/12/2023. We are monitoring the fugitive dust emissions Fugitive dust emissions from all xxiii quarterly at haul road, loading and unloading the sources should be controlled points, drilling & near transfer house. We have regularly. Water spraying arrangement on haul roads, provided water spraying arrangement on haul loading and unloading and at road, loading, and unloading points. transfer points should provided and properly maintained. Noise level is being regularly monitored. In the Measures should be taken for xxiv control of noise levels below work environment, the workers are provided 85dBA in the work environment. with Ear plugs / Muffs. Workers engaged in operations The Average noise levels for the period **October-**HEMM, should etc., 2023 to March-2024 are well within the limits provided with ear plugs/muffs. for the areas specified below. imbient Noise Level Monitoring Report at surrounding Industrial Area of Mines FY (2023-24) Unit Oct-23 Nov-23 Dec-23 Jan-24 Feb-24 Mar-24 62.87 Crushing & Screening LegdB(A) 63.10 LegdB(A) 62.00 LegdB(A) 53.85 62.10 54.80 61.25 63.67 64.95 66.90 63.48 62.55 61.80 58.01 CCR Office 62.20 57.61 LegdB(A) 53.30 62.10 58.03 58.31 57.90 62.68 62.81 63.23 60.49 Avg 59.78 Unit Oct-23 Nov-23 Dec-23 Jan-24 Feb-24 Mar-24 59.50 59.95 58.05 60.95 59.90 LegdB(A) 60.35 Crushing & Screening Mining Area 60.10 60.46 61.75 61.30 60.47 59.50 CCR Office Legd8(A) 49.35 50.50 50.30 59.69 58.50 56:30 54.11 47.90 60.25 47.90 48.05 60.25 labor Colony Legd8(A) 54.40 54.60 59.61

XXV	Industrial wastewater (workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th may, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.	There is no wastewater generation during mining operation. Only domestic wastewater will be generated at mines office, mines workshop, rest shelter etc., That wastewater is being treated at Soak Pit.
xxvi	Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.	Persons working in dusty areas are been provided with dust mask and adequate training and information on safety and health aspects are provided.
xxvii	Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.	Surveillance program of the workers are being undertaken periodically. Periodical medical examination of employees is being done on regular basis as per DGMS norms.
xxviii	A separate environmental management cell with suitable qualified personnel should be set-up under the control of a senior executive, who will report directly to the head of the organization.	A separate Environment cell is provided with well qualified Engineers (2 persons) holding M.Tech Degree in Environment Engineering to carryout various activities like Analysis of Water & Waste Water, stack emission monitoring, Ambient air quality monitoring, Noise monitoring at plant boundaries and machineries , Report preparation and Compliances etc.,. The Environment Cell is set up under senior Executives of VP-Sustainability and VP-Operation who is reporting directly to the Head of the organization.
xxix	The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the ministry of environment and forests and its regional office located at Bangalore.	The condition will be followed / implemented. The year wise expenditure is being submitted to the Ministry of Environment & Forests and its Regional office located at Gulbarga.  Recently submitted data is vide our letter no OCL/ENV/2024-25/895 dated 25/05/2024
xxx	The project authorities should inform to the regional office located at Bangalore regarding date of financial closures and final approval of the project by	Date of financial closure and date of commencing land development work will be informed in due course to the regional office located at Bangalore.

xxxi	the concerned authorities and the state of land development work.  He regional office of this ministry located at Bangalore shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the regional office by furnishing the requisite data/information/ monitoring reports.	We will extend full cooperation from our end to Regional office for providing the requisite data /information /monitoring reports.
xxxii	The project proponent shall submit six monthly reports on the status of compliance of the stipulated EC conditions including results on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the ministry of environment and forests, its regional office Bangalore, the respective zonal office of CPCB and the SPCB. The proponent shall upload the status of compliance of the EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the regional office of the ministry of environment, forests & climate change, Bangalore, the respective zonal office of CPCB and the SPCB.	We are sending six monthly compliance reports to the Ministry of Environment & Forests and its Regional Office located at Bangalore, the respective Zonal Office of Central Pollution control Board the state Pollution control Board. The same is being uploaded in company website.  Soft Copy of all EC compliance report of Mines for the period April-2023 to September-2023 was uploaded in PARIVESH portal dated 16-12-2023 sent via mail dated 01-12-2023 06:48 PM & hard copy was submitted vide our letter no OCL/ENV/President (Manufacturing)/2023-24/808 dated 01/12/2023.
xxxiii	A copy of the clearance letter shall be sent by the proponent to concerned panchayat, zilla parisad/municipal corporation, urban local body and the local NGO, if any, from whom suggestion/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	We have submitted the copy of the clearance letter to the concerned Panchayat, local NGO. The clearance letter has also been put on the website of our company.

xxxiv	The state pollution control board should display a copy of the	
	clearance letter at the regional	
	office, district industry center	
	and the collector's	
	office/Tehsildar's office for 30	
	days.	
XXXV	The environmental statement for	We are submitting the Environment Statement
	each financial year ending 31st	Report for each financial year ending 31st march
	march in form-v as is mandated	in Form-V to the Regional office of the ministry
	to be submitted by the project	of environment and forests, Bangalore.
	proponent to the concerned	The recently submitted Form-V is for the period
	state pollution control board as	(Apr 2022-Mar 2023) vide our letter no
	prescribed under the	Ref:OCL/ENV/President(Manufacturing)/2023-
	environment (protection) rules,	24/740 dated 01/08/2023.
	1986, as amended subsequently,	, ,
	shall also be put on the website	
	of the company along with the	
	status of compliance of EC	
	conditions and shall also be sent	
	to the Regional office of the	
	ministry of environment and	
	forests, Bangalore by e-mail.	
xxxvi	The project authorities should	The issue of the clearance letter informing that
	advertise atleast in two local	the project has been accorded environmental
	newspapers widely circulated,	clearance has been Advertised in Local
	one of which shall be in the	(Kannada) newspaper (Vijayavani & Udayavani)
	vernacular language of the	on 26.09.2014 and in English Deccan Herald
	locality concerned, within 7 days of the issue of the clearance	newspaper on 28.09.2014.
	letter informing that the project has been accorded	
	environmental clearance and a	
	copy of the clearance letter is	
	available with the state pollution	
	control board and also at	
	website of the ministry of	
	environment and forests at	
	http://envfor.nic.in and a copy	
	the same should be forwarded to	
	the regional office of this	
	ministry located at Bangalore.	
9	The ministry or any other	We will abide by any such conditions if imposed.
1	competent authority may	asiae sy any saon contains a imposed
	alter/modify the above	
	conditions or stipulate any	
	further condition in the interest	
	of environment protection.	
10	Concealing factual data or	The data submitted in the compliance report is
	submission of false/fabricated	based on the actual reports conducted by NABL
	data and failure to comply	Accredited laboratory.
	uata and fandre to compry	

41		
	with any of the	
	conditions mentioned above	
	may result in Withdrawal of this	
	clearance and attract action	
	under the provisions of	
	environment (protection) act,	
	1986.	
11	The above conditions will be	We will comply all the applicable Acts and Rules
	enforced inter-alia, under the	as mentioned.
	provisions of the water	
	(prevention & control of	
	pollution) act, 1974 the air	
	(prevention & control of	
	pollution) act, 1981 the	
	environment (protection) act,	
	1986 and the public liability	
	insurance act, 1991 along with their amendments and rules	
	made thereunder and also any	
	other orders passed by the	
	Hon'ble Supreme Court of	
	India/High Court of Karnataka	
	and any other court of law	
	relating to the subject matter.	
12	Any appeal against this	
	environmental clearance shall lie	Appeal against this environmental clearance will
	with the national green tribunal,	lie with the national green tribunal, if preferred,
	if preferred, within a period of	within a period of 30 days as prescribed under
	30days as prescribed under	section 16 of the National Green Tribunal Act,
	section 16 of the National Green	2010.
	Tribunal Act, 2010.	

## Thanking You

Yours faithfully For Orient Cement Ltd,

Satyabrata Sharma
President -Manufacturing & Unit Head

Your (Environment Clearance) application has been Submitted with following details				
Proposal No IA/KA/MIN/9324/2011				
Compliance ID	72280576			
Compliance Number(For Tracking)	EC/M/COMPLIANCE/72280576/2024			
Reporting Year	2023			
Reporting Period	01 Jun(01 Oct - 31 Mar)			
Submission Date	30-05-2024			
IRO Name	V Geroge Jenner			
IRO Email	tr025@ifs.nic.in			
State	KARNATAKA			
IRO Office Address	Integrated Regional Offices, Bengaluru			
Note:- SMS and E-Mail has been sent to V Geroge Jenner, KA	ARNATAKA with Notification to Project Proponent.			



Ref: OCL/ENV/2024-25/909

Date: 28.05.2024

To

Director-IA Division, Ministry of Environment, Forests & Climate Change, Indira Paryavaran Bhavan, Jor Bagh Road, New Delhi - 110 003.

Respected Sir,

Sub: Amendment in existing Environmental clearance granted on 22.09.2014 by MoeF&CC w.r.t change in mine lease area from 512.354 ha (602.054 ha-89.70 ha to the executed ML area 519 ha for existing limestone mine with production capacity 0f 3.0 MTPA (ROM) located village itagi & Mogla, taluka chittapur, district Kalaburagi , Karnataka in favor of M/s Orient cement limited –(proposal no:IA/KA/MIN/214419/2021:File No. J-11015/60/2011-IA-II(M)-Amendment in EC

1. Ref no: F. No. J-11015/60/2011-IA-II (M) Dated on 28.06.2022.

\*\*\*\*

As mentioned in the above cited subject & vide Ref-(1) of our Amendment in EC condition, M/s Orient Cement Ltd, is hereby submitting your good self the point wise compliance to the conditions stipulated in amended EC for the period **October -2023 to March-2024.** 

Kindly consider the compliance report & oblige.

Thanking You.

Yours faithfully

For Orient Cement Limited

Satyabrata Sharma

President-Manufacturing & Unit Head

- The Additional Principal Chief Conservator of Forests (C) Ministry of Environment, Forests & Climate change, 4th Floor, E & F Wing, Kendriya Sedan Koramangala, Bangalore-560 034
- Secretary to Government
   Department of Ecology & Environment
   Government of Karnataka
   7th floor, Multistoried Building,
   Bangalore 560001
- Chairman,
   Central Pollution Control Board,
   Parivesh Bhawan, CBD-cum-Office Complex,
   East Arjun Nagar,
   New Delhi 110 032
- The Member Secretary,
   Karnataka State Pollution Control Board,
   # 49, 4th & 5th floor,
   Parisara Bhavana,
   Church Street,
   Bangalore 560 001
- 5. Environmental officer,
  Karnataka State Pollution Control Board
  Regional office, Kalaburagi,
  Plot No. 12/2, Sy. No:19/P,
  Mansafdar Layout, M.G Road,
  Santraswadi, Kalaburgi-585 101

#### **Compliance Report**

## NAME OF PROJECT: ITAGI LIMESTONE MINE OF M/s ORIENT CEMENT LIMITED

MOEF LETTER NO: (EC) F.NO, J-11015/60/2011-IA-II (M) dated: 28/06/2022

#### For the Period 01.10.2023 to 31.03.2024

S.No	EC Conditions	Compliance status.
Speci	fic Condition	** ***********************************
(i)	Mining operations will be restricted to pit-1 and pit-2 areas only	Mining operations are restricted to Pit-1 and Pit-2 only.
(ii)	The project proponent should periodically monitor and maintain the health records of the mine workers digitally prior to mining operations at the time of operation of mine and post mining operation. Regular surveillance on Silicosis shall be carried through regular occupational health check-up every year for mine workers.	Noted & following the condition  Annual medical check-up is being carried out for all the mine workmen at Orient Health Centre, Chittapur.
(iii)	The project proponent shall monitor water quality with specific reference to Langelier saturation index to assess the impact of calcium carbonate on water quality.	Regular monitoring of water quality is being carried out by MoEF&CC recognized & NABL accredited laboratory National Analytical Laboratory Laboratory, Ballari and record of monitoring data is being maintained and submitted to State Pollution Control Board. Recently submitted Report vide our letter No. OCL/ENV/ 2024-25/887 dated 15/05/2024
(iv)	The other terms and conditions mentioned in earlier EC letter dated 22.09.2014 shall remain unchanged.	The Compliance of EC letter No: (EC) F.NO, J-11015/60/2011-IA (M) dated: 22/9/2014 is complied

**Thanking You** 

Yours faithfully

For Orient Cement Ltd,

Satyabrata Sharma

President - Manufacturing & Unit Head

पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

















Dashboard   Environment Clearance ▼ Forest Clearance ▼ Wildlife Clearance ▼ CRZ Clearance ▼ Go To Home Logout	Welcome Satyabrata Sharma, Project Proponent						
Your (Environment Clearance) application has been Submitted with following details							
Proposal No	IA/KA/MIN/214419/2021						
Compliance ID	72165595						
Compliance Number(For Tracking)	EC/M/COMPLIANCE/72165595/2024						
Reporting Year	2023						
Reporting Period	01 Jun(01 Oct - 31 Mar)						
Submission Date	30-05-2024						
IRO Name	V Geroge Jenner						
IRO Email	tr025@ifs.nic.in						
State	KARNATAKA						
IRO Office Address	Integrated Regional Offices, Bengaluru						
Note: - SMS and E-Mail has been sent to V Geroge Jenner, KARNATAKA with Notification to Project Proponent.							

























## ENVIRONMENTAL MONITORING REPORT

### OF

## **ITAGI LIME STONE MINE**

M/S. ORIENT CEMENT LIMITED, CHITTAPUR,

KARNATAKA.

FOR

OCTOBER - 2023

Prepared By



# COSMO CONSCIOUS RESEARCH LABORATORY Pagagnized by MoEF & CC,

Accredited by NABL (ISOIEC: 17025) vide certificate No: TC6152 and Certified by ISO (45001:2018) "Survey House", # 121, 2nd Cross, Nehru Colony, Ballari - 583103, (Karnataka) E-mail: chiefexecutive@tsccrl.com

Web: www.tsccrl.com

SL.NO.	CONTENTS	REPORT NO.	PAGE NO.
1. Air Qua	lity Monitoring Data (Oct'23)	I A1 to I A2	1-4
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3. Stack N	Monitoring Data (Oct'23)	III	11
4. Noise G	Quality Monitoring Data (Oct'23)	IV	12





## CERTIFICATE

This is to certify that the sampling, testing and analysis of environmental parameters (Air, Water, Stack, & Noise) of Itagi Lime Stone Mine, Chittapur of M/s. Orient Cement Limited., is carried -out for the month of October 2023. The monitoring is done as per the requirement of our client and the methods adopted are as per the standards prescribed. The results obtained and reported are true and correct to the best of our knowledge.

For Cosmo Conscious Research Laboratory

Date: 30.10.2023

(M. Shashikala) Chief Executive







## AIR QUALITY MONITORING REPORT

Report No.: I A1

Name of the Project
 Itagi Lime Stone Mine, Chittapur
 Name of the Client
 M/s. ORIENT CEMENT LIMITED

3. Sample Collected By
 4. Particulars of Sample Collected
 5. Cosmo Conscious Research Laboratory
 6. Source Emission Air Quality Monitoring

5. Sample Condition
6. Analysis Start Date
7. Analysis Completion Date
8. Month of Monitoring
Satisfactory
08.10.2023
30.10.2023
Cottober 2023

9. Environmental condition at the time of : 28.8°C

10. Unique Lab Report Number TC6152230000006608F

Name of the	e of the Particulars of Sample Coll					Colle	ected		
Station/ Date of Sample Collection	Lab Sample Code	\$O <sub>2</sub> ( μg/m <sup>3</sup> )			NO <sub>2</sub> ( μg/m <sup>3</sup> )			PM10	DAA
		l shift	ll shift	III shift	l shift	ll shift	III shift		PM <sub>2.5</sub> (µg/m <sup>3</sup> )
1. SAI-Min	ing Area (Core Zone): ( N 17º0	07'00.3	",E 77º0	8'50.9"	')				
07.10.2023	924,925,926, C34,197	14	15	18	21	27	22	50	13
08.10.2023	936,937,938, C38,192	17	14	15	20	17	23	53	15
09.10.2023	948,949,950, C43,188	13	10	15	18	16	21	51	18
10.10.2023	960,961,962, C45,184	16	12	14	22	19	25	55	16
21.10.2023	969, 970, 971,C64, 270	10	18	15	21	24	19	50	14
22.10.2023	981, 982, 983,C60, 268	18	14	21	20	16	24	57	22
23.10.2023	993, 994, 995, C57, 264	14	19	15	21	24	19	54	17
24.10.2023	1005, 1006, 1007, C52, 260	12	17	14	19	20	16	51	15
2. SA II - Hau	lage (Core Zone): ( N 17º06'5	0.8",E 7	77208'3	6.7")					1
07.10.2023	921,922,923, C33,198	17	14	16	20	17	19	58	12
08.10.2023	933,934,935, C40,191	16	13	12	19	21	17	51	16
09.10.2023	945,946,947, C44,197	14	15	16	22	20	24	53	15
10.10.2023	957,958,959, C47,183	12	10	17	16	15	21	52	11
21.10.2023	972, 973, 974, C62, 272	17	13	11	20	23	21	55	22
22.10.2023	98 985, 986, C59, 267	11	14	18	16	22	24	57	14
23.10.2023	996, 997, 998, C55, 263	07	13	15	18	23	20	48	12
24.10.2023	1008, 1009, 1010, C50, 259	18	13	15	22	19	24	51	18

Cont'd...







## COSMO CONSCIOUS RESEARCH LABORATOR

Environmental laboratory Recognized by MoEF & CC, Accredited by NAEL (ISOIEC: 17025) vide certificate No. 1C6152 and Certified by ISC (45001:2018)



Name of the		Particulars of Sample Collected							
Station/ Date of Sample	Lab Sample Code		\$O <sub>2</sub> ( μg/m <sup>3</sup>			NO <sub>2</sub>		PM10	PM2.5
Collection		l shift	II shift	III shift	l shift	II shift	III shift	-	(µg/m³)
3. SA III -	Crusher (Core Zone): ( N 17º0	06'53.0'	',E 77º0	8'25.0"	)				
07.10.2023	927,928,929, C35,195	12	15	16	16	21	23	52	11
08.10.2023	939,940,941, C39,193	15	12	17	20	18	22	56	14
09.10.2023	951,952,953, C42,189	14	12	14	17	20	24	50	12
10.10.2023	963,964,965, C46,185	12	14	15	18	17	21	51	17
21.10.2023	975, 976, 977, C63, 271	16	10	17	23	16	25	53	13
22.10.2023	987, 988, 989, C56, 265	15	09	11	21	24	20	49	16
23.10.2023	999, 1000, 1001, C54, 262	14	10	22	24	18	26	55	13
24.10.2023	1011, 1012, 1013, C51, 258	10	15	17	16	20	22	59	16
4. SA IV –	Near Surge bin (Core Zone):	( N 17º	06'56.2	",E 77º	08'16.4	")			
07.10.2023	930,931,932, C37,194	12	16	11	19	20	18	58	19
08.10.2023	942,943,944, C36,196	16	10	13	18	16	20	54	16
09.10.2023	954,955,956, C41,190	14	13	10	17	16	21	51	17
10.10.2023	966,967,968, C48,186	12	15	11	18	20	23.	52	12
21.10.2023	978, 979, 980, C61, 269	16	13	20	24	22	25	59	15
22.10.2023	990, 991, 992, C58, 266	15	10	18	20	18	23	57	18
23.10.2023	1002, 1003, 1004, C53, 261	13	09	16	23	24	20	54	20
24.10.2023	1014, 1015, 1016, C49, 257	17	11	19	20	18	22	52	24

Method Adopted	IS 5182 (Part 02) : 2001 (RA:2017)	IS 5182 (Part 06) : 2006 (RA:2017)	IS 5182 (Part 23) : 2006 (RA :2017)	USEPA Vol - II & Part II Gravimetric method
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END OF REPORT

Note: 1. S02 – Sulfur Dioxide, N02 – Nitrogen Dioxide, PM10 – Particulate Matter (size less than 10  $\mu m$ ), PM2.5 – Particulate Matter (size less than  $2.5 \mu m$ ).

2. The above results are related only to the samples collected & tested on the particular date and time.

3. RA - Reaffirmed.

**ANALYZED BY:** 

(G.Dhavaleshwar)

**Analyst** 

**VERIFIED BY:** 

Technical Manager

**AUTHORISED SIGNATORY:** 

(M. Shashikala)

Head of the Laboratory







## AMBIENT AIR QUALITY MONITORING REPORT

Report No.: I A2

Name of the Project
 Itagi Lime Stone Mine, Chittapur.
 Name of the Client
 M/s. ORIENT CEMENT LIMITED

Sample Collected By
 Particulars of Sample Collected
 Cosmo Conscious Research Laboratory
 Source Emission Air Quality Monitoring

5. Sample Condition
6. Analysis Start Date
7. Analysis Completion Date
8. Month of Monitoring
Satisfactory
08.10.2023
30.10.2023
October 2023

9. Environmental condition at the time of sampling : 28.8°C

	Particulars of Sample Collected						
Name of the Station/ Date of Sample Collection	CO (mg/m³)						
bale of sample collection	l II shift shift		III shift				
SA I – Mining Area (Core Zone): ( N 17°07'00.3",E 77°08'50.9")							
07.10.2023	ND	ND	ND				
08.10.2023	ND	ND	ND				
09.10.2023	ND	ND	ND				
10.10.2023	ND	ND	ND				
21.10.2023	ND	ND	ND				
22.10.2023	ND	ND	ND				
23.10.2023	ND	ND	ND				
24.10.2023	ND	ND	ND				
SA II - Haulage (Core Zone):	( N 17°06'50.	8",E 77°08'36.7")					
07.10.2023	ND	ND	ND				
08.10.2023	ND	ND	ND				
09.10.2023	ND	ND	ND				
10.10.2023	ND	ND	ND				
21.10.2023	ND	ND	ND				
22.10.2023	ND	ND	ND				
23.10.2023	ND	ND	ND				
24.10.2023	ND	ND	ND				

Contd.,





	Particulars of Sample Collected CO (mg/m³)							
Name of the Station/								
Date of Sample Collection	l shift	l II shift shift						
SA III - Crushing & Screening (Core Zone): ( N 17°06'53.0",E 77°08'25.0")								
07.10.2023	ND	ND	ND					
08.10.2023	ND	ND	ND					
09.10.2023	ND	ND	ND					
10.10.2023	ND	ND	ND					
21.10.2023	ND	ND	ND					
22.10.2023	ND	ND	ND					
23.10.2023	ND	ND	ND					
24.10.2023	ND	ND	ND					
SA IV – Near Surgebin : ( N	17°06'56.2",E 7	7°08'16.4")	A					
07.10.2023	ND	ND	ND					
08.10.2023	ND	ND	ND					
09.10.2023	ND	ND	ND					
10.10.2023	ND	ND	ND					
21.10.2023	ND	ND	ND					
22.10.2023	ND	ND	ND					
23.10.2023	ND	ND	ND					
24.10.2023	ND	ND	ND					
Method Adopted	CO Indica	tor Method (by ir	nstrument)					

#### END EPORT

Note: 1. CO - Carbon Monoxide, ND - Not Detected.

2. The above results are related only to the samples collected & tested on the particular date and time.

**ANALYZED BY:** 

(G.Dhavaleshwar) Analyst **VERIFIED BY:** 

(P.Harika) Technical Manager

AUTHORISED SIGNATORY:

(M. Shashikala) Head of the Laboratory







"SURVEY HOUSE", #121, 2nd Cross, Nehru Colony, Ballari-583103 (Karnataka)

## WATER QUALITY MONITORING REPORT (SURFACE WATER)

Report no: II A

1. Name of the Project

2. Name of the Client

3. Sample collected by

**4.** Name of the Location

5. Particulars of sample collected

6. Field Sample code

7. Lab Sample Code

8. Date of sample collection

9. Date of sample Received

**10.** Date of sample Analyzed

Method of SamplingEnvironmental Condition at the time of

Sampling

13. Unique Lab Report Number

: Itagi Lime Stone Mine, Chittapur

M/s. ORIENT CEMENT LIMITED

: Cosmo Conscious Research Laboratory

Mines Pit water

Pond

: ORSW1

CCRL W 9337

10.10.2023

11.10.2023

12.10.2023 to 19.10.2023

: IS:3025 (Part 1) 1987 (Reaffirmed 2019)

28.9°C

TC6152230000006609F

Sl. No.	Parameters	Protocol	Unit	Results	Standard
				Oct '23	General Standards for Inland Surface water Schedule-VI (EPA-'86)
PHYS	SICAL				
1.	Colour	IS: 3025 (PART 14)- 1984, RA-2021, Platinum cobalt Method	Hazen units	<1	-
2.	Conductivity	IS:3025 (PART 14)-1984, RA-2019, Electrometric method	μs/cms	657	-
3.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2017, Gravimetric method	mg/L	458	-
4.	рН	IS:3025 (part 11)-1983, RA-2022, Electrometric method	-	7.16	5.50 to 9.0
5.	Turbidity	IS:3025 (part 10)-1984, RA-2017, Nephelometric method	NTU	0.40	-
6.	Total Suspended Solids	IS:3025 (part 17)-1984, RA-2021, Gravimetric Method	mg/L	2	100
<b>CHEM</b>	IICAL				
7.	Calcium as Ca	IS:3025 (part 40)-1991, RA-2019 EDTA Titrimetric method	mg/L	68.13	-
8.	Magnesium as Mg	APHA 22 <sup>nd</sup> Edition 350-B-Mg By calculation	mg/L	33.97	-
9.	Total Hardness as CaCO <sub>3</sub>	IS:3025 (part 21)-1983, RA-2019 EDTA Titrimetric method	mg/L	310	-
10.	Chloride as Cl	IS:3025 (part 32)-1988, RA-2019 Argentometric Method	mg/L	11.49	-
11.	Sulphate as SO <sub>4</sub>	APHA 22 <sup>nd</sup> edition 4500-SO4 <sup>2</sup> -E (P.NO.4-190-191) Turbidimetric method	mg/L	18.09	-

Cont'd...







ertificate No:TC6152

Sl. No.	Parameters	Protocol	Unit	Results Oct.'23	Standard General Standards for Inland Surface water Schedule-VI (EPA-'86)
13.	Nitrate Nitrogen as NO <sub>3</sub>	IS:3025 (part 34)-1988, RA-2019 Chromotropic acid method	mg/L	6.35	-
14.	Total Alkalinity as CaCO <sub>3</sub>	IS:3025 (part 23)-1986, RA-2019 Indicator method	mg/L	280	-
15.	Total Iron as Fe	APHA 22 <sup>nd</sup> 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	0.119	3

**END OF REPORT** 

Note: 1. RA: Reaffirmed.

2. BDL: Below detectable limit. (For trace metals <0.1).

3. The above results are related only to the samples collected & tested on the particular date and time.

ANALYZED BY:

(G.Dhavaleshwar)

**Analyst** 

VERIFIED BY:

(P. Harika)
Technical Manager

**AUTHORISED SIGNATORY:** 

(M. Shashikala)

**HEAD OF THE LABORATORY** 





## WATER QUALITY MONITORING REPORT (SURFACE WATER)

Report no: II B

1. Name of the Project Itagi Lime Stone Mine, Chittapur 2. Name of the Client M/s. ORIENT CEMENT LIMITED

Sample collected by 3. **Cosmo Conscious Research Laboratory** 

4. Name of the Location **Mines Pit water** 

Particulars of sample collected 5. Pit water Field Sample code 6. ORSW1 7. Lab Sample Code **CCRL W 9337** 

8. Date of sample collection 10.10.2023 9. Date of sample Received : 11.10.2023

10. Date of sample Analyzed 12.10.2023 to 19.10.2023

Method of Sampling 11. IS:3025 (Part 1) 1987 (Reaffirmed 2019)

Sl. No.	Parameters	Protocol	Unit of Measur ement	Results	Standard  General Standards for Inland Surface water Schedule-VI (EPA-'86)
				Oct.'23	
MICRO	OBIOLOGICAL				
1.	Total Coliform count	APHA 23 <sup>rd</sup> 9222-B (p.no.9-57-61) Membrane filter technique	MPN/ 100 ml	Absent	-
2.	Escherichia coli count	APHA 23 <sup>rd</sup> 9221-F (p.no.9-51-52) Membrane filter technique	MPN/ 100 ml	Absent	-

**END OF REPORT** 

Note: The above results are related only to the samples collected & tested on the particular date and time.

**ANALYZED BY:** 

(G.Dhavaleshwar) **Analyst** 

**VERIFIED BY:** 

**Technical Manager** 

**AUTHORISED SIGNATORY:** 

(M. Shashikala) **HEAD OF THE LABORATORY** 







# WATER QUALITY MONITORING REPORT (SURFACE WATER)

Report no: II C

Name of the Project
 Name of the Client
 Itagi Lime Stone Mine, Chittapur
 M/s. ORIENT CEMENT LIMITED

3. Sample collected by
4. Name of the Location
3. Cosmo Conscious Research Laboratory
4. Kagina River Water Down stream

5. Particulars of sample collected
6. Field Sample code
7. Lab Sample Code
8. Date of sample collection
9. Date of sample Received
11.10.2023

**10.** Date of sample Analyzed : **12.10.2023 to 19.10.2023** 

11. Method of Sampling : **IS:3025 (Part 1) 1987 (Reaffirmed 2019)** 

12. Environmental Condition at the time of Sampling : 28.6°C

13. Unique Lab Report Number : TC6152230000006610F

Sl. No.	Parameters	Protocol	Unit	Results Oct. '23	Standard
					General Standards for Inland Surface water Schedule-VI (EPA-'86)
PHYS	ICAL				
1.	Colour	IS: 3025 (PART 14)- 1984, RA-2021, Platinum cobalt Method	Hazen units	1	-
2.	Conductivity	IS:3025 (PART 14)-1984, RA-2019, Electrometric method	μs/cms	476	-
3.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2017, Gravimetric method	mg/L	335	-
4.	рН	IS:3025 (part 11)-1983, RA-2022, Electrometric method	-	7.93	5.50 to 9.0
5.	Turbidity	IS:3025 (part 10)-1984, RA-2017, Nephelometric method	NTU	5.50	-
6.	Total Suspended Solids	IS:3025 (part 17)-1984, RA-2021, Gravimetric Method	mg/L	13	100
CHEM	ICAL		0		
7.	Calcium as Ca	IS:3025 (part 40)-1991, RA-2019 EDTA Titrimetric method	mg/L	37.67	-
8.	Magnesium as Mg	APHA 22 <sup>nd</sup> 350-B-Mg By calculation	mg/L	24.75	-
9.	Total Hardness as CaCO <sub>3</sub>	IS:3025 (part 21)-1983, RA-2019 EDTA Titrimetric method	mg/L	196	-
10.	Chloride as Cl	IS:3025 (part 32)-1988, RA-2019 Argentometric Method	mg/L	24.99	k=
11.	Sulphate as SO <sub>4</sub>	APHA 22 <sup>nd</sup> 4500-SO4 <sup>2</sup> E (P.NO.4-190-191) Turbidimetric method	mg/L	4.60	-

Cont'd...







Sl. No.	Parameters	Protocol	Unit	Results	Standard General Standards for
31. NO.	Parameters	Frotocol	Unit	Oct.'23	Inland Surface water Schedule-VI (EPA-'86)
12.	Fluoride as F	APHA 22 <sup>nd</sup> edition4500-F <sup>-</sup> D. (P.NO. 4-87 - 88) SPADNS Method	mg/L	1.03	2
13.	Nitrate Nitrogen as NO <sub>3</sub>	IS:3025 (part 34)-1988, RA-2019 Chromotropic acid method	mg/L	0.68	-
14.	Total Alkalinity as CaCO <sub>3</sub>	IS:3025 (part 23)-1986, RA-2019 Indicator method	mg/L	205	-
15.	Total Iron as Fe	APHA 22 <sup>nd</sup> 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	3

#### **END OF REPORT**

Note: 1. RA: Reaffirmed.

2. BDL: Below detectable limit. (For trace metals <0.1).

3. The above results are related only to the samples collected & tested on the particular date and time.

**ANALYZED BY:** 

(G.Dhavaleshwar) Analyst **VERIFIED BY:** 

(P. Harika)
Technical Manager

**AUTHORISED SIGNATORY:** 

(M. Shashikala) HEAD OF THE LABORATORY









## WATER QUALITY MONITORING REPORT (SURFACE WATER)

Report no: II D

Name of the Project
 Name of the Client
 Itagi Lime Stone Mine, Chittapur M/s. ORIENT CEMENT LIMITED

3. Sample collected by
4. Name of the Location
Cosmo Conscious Research Laboratory
Kagina River Water Down stream

5. Particulars of sample collected : **River** 

6. Field Sample code : ORSW2

7.Lab Sample Code: CCRL W 93388.Date of sample collection: 10.10.20239.Date of sample Received: 11.10.2023

**10.** Date of sample Analyzed : **12.10.2023 to 19.10.2023** 

11. Method of Sampling : IS:3025 (Part 1) 1987 (Reaffirmed 2019)

		1	Unit of	Results	Standard
Sl. No.	Parameters	Protocol	Measur ement	Oct.'23	General Standards for Inland Surface water Schedule-VI (EPA-'86)
MICRO	DBIOLOGICAL				
1.	Total Coliform count	APHA 23 <sup>rd</sup> 9222-B (p.no.9-57-61) Membrane filter technique	MPN/ 100 ml	Absent	-
2.	Escherichia coli count	APHA 23 <sup>rd</sup> 9221-F (p.no.9-51-52) Membrane filter technique	MPN/ 100 ml	Absent	-

END OF REPORT

Note: The above results are related only to the samples collected & tested on the particular date and time.

ANALYZED BY:

(G.Dhavaleshwar) Analyst **VERIFIED BY:** 

(P. Harika)
Technical Manager

**AUTHORISED SIGNATORY:** 

(M. Shashikala)
HEAD OF THE LABORATORY









## Analysis Report of Stack Emission

Report No.: III

	6						
1	1 Name of the Industry Itagi Lime Stone Mine, Chittapur						
2	Address		M/s. ORIENT CEMENT LIMITED				
3	Date of Sampling		07.10.2023				
4	Sample Type		Stack Monitoring				
5	Sampling Location		Crusher				
6	Duration of Monitoring		41 Minutes				
7	Sample Condition		Satisfactory				
8	Lab Sample code		ST-42032				
9	Analysis Start Date		09.10.2023				
10	Analysis Completion Date		09.10.2023				
11	Environmental Condition a time of sampling	t the	31°C				
12	Unique Lab Report Numbe	r	TC6152230000006611F				
			Stack Details				
1	Stack attached to		Crusher	=-=			
2	Stack Diameter (mtr)		1.5 meters				
		<u>E</u>	mission Details				
Sl. No.	Parameters	Result	Unit of Measurement	Method Adopted (Sampling & Analysis)	Permissible Limit		
1	Stack Temperature	38	oC	IS-11255(Part 01) :1985 RA:2019)	-		
2	Velocity of Flue Gas	5.86	m/sec	IS-11255 (Part 03) :1985(RA:2019)			
3	Particulate Matter	11.9	mg/Nm³	IS-11255 (Part 01) :1985 RA:2019)	-		
4	Rate of Discharge of Gas	37294.73	l Nm³/hr	IS-11255(Part 03) :1985(RA:2019)	-		

**End of Report** 

Note: 1.The above results are related only to the samples collected & tested on the particular date and time

**ANALYZED BY:** 

(G.Dhavaleshwar) Analyst **VERIFIED BY:** 

(P.Harika) Technical Manager

:1985(RA:2019)

**AUTHORISED SIGNATORY:** 











### NOISE LEVEL MONITORING REPORT

Report No.: IV

Name of the Project : Itagi Lime Stone Mine, Chittapur
 Name of the Client : M/s. ORIENT CEMENT LIMITED

3. Sample Collected By : Cosmo Conscious Research Laboratory

4. Particulars of Sample Collected : Noise Quality Monitoring

**5.** Month of Monitoring : **October 2023** 

Sl.	Code	Sampling Location	Date	Unit	L max.	L	eq	L min.
No.	Couc	oumpring notation	Dute	Ome	L max.	Day	Night	L IIIIII.
1.	N1	Crushing & Screening	07.10.2023	dB (A)	64.8	62.9	61.9	58.7
1.	INI	Crushing & Screening	21.10.2023	dB (A)	64.7	63.3	58.8	58.1
2.	2 1/2 1/4	Mining Ana	08.10.2023	dB (A)	64.3	62.8	61.8	57.2
۷.	N2	Mining Area	22.10.2023	dB (A)	63.8	61.2	57.2	58.4
3.	MO	CCD office	09.10.2023	dB (A)	54.2	53.5	45.2	43.5
3.	N3	N3   CCR office	23.10.2023	dB (A)	58.7	54.2	53.5	52.1
4	4	Cura hin	10.10.2023	dB (A)	56.9	53.4	43.9	42.4
4. N4	N4 Surge bin	24.10.2023	dB (A)	54.2	52.9	51.9	50.4	

END OF REPORT

Note: 1. The above results are related only to the samples collected & tested on the particular date and time.

MOEF ambient Noise	Residential Are	a limits dB(A) Leq	Industrial Area limits dB(A) Leq			
standards in dB(A) Leq (No.41,	Day time Night time		Day time	Night time		
Dt.11.01.2010)	55	45	75	70		
Method Adopted	Integrated Sound Level Meter					

**ANALYZED BY:** 

(G.Dhavaleshwar) Analyst **VERIFIED BY:** 

(P.Harika) Technical Manager

**AUTHORISED SIGNATORY:** 









## **ENVIRONMENTAL MONITORING REPORT**

### OF

## **ITAGI LIME STONE MINE**

M/S. ORIENT CEMENT LIMITED, CHITTAPUR,

KARNATAKA.

**FOR** 

NOVEMBER - 2023

Prepared By



# COSMO CONSCIOUS RESEARCH LABORATORY Paganized by MoEF & CC,

Accredited by NABL (ISOIEC: 17025) vide certificate No: TC6152 and Certified by ISO (45001:2018) "Survey House", # 121, 2nd Cross, Nehru Colony, Ballari - 583103, (Karnataka) E-mail: chiefexecutive@tsccrl.com Web: www.tsccrl.com

## CERTIFICATE

This is to certify that the sampling, testing and analysis of environmental parameters (Air, Water, Stack, Noise, Piezometer levels) of Itagi Lime Stone Mine, Chittapur of M/s. Orient Cement Limited., is carried-out for the month of November 2023. The monitoring is done as per the requirement of our client and the methods adopted are as per the standards prescribed. The results obtained and reported are true and correct to the best of our knowledge.

For Cosmo Conscious Research Laboratory

Date: 04.12.2023

(M. Shashikala) Chief Executive







SL.NO.	CONTENTS	REPORT NO.	PAGE NO.
1. Air Qu	ality Monitoring Data (Nov'23)	I A1 to I A2	1-4
2. Water	Quality Monitoring Data (Nov'23) (Surface water)	II A to II D	5-10
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4. Stack	Monitoring Data (Nov'23)	III	23
5. Noise	Quality Monitoring Data (Nov'23)	IV	24
6. Piezon	neter Wells Depths (Nov'23)	V	25







## AIR QUALITY MONITORING REPORT

Report No.: I A1

Name of the Project
 Itagi Lime Stone Mine, Chittapur
 Name of the Client
 M/s. ORIENT CEMENT LIMITED

3. Sample Collected By
 4. Particulars of Sample Collected
 Cosmo Conscious Research Laboratory
 Source Emission Air Quality Monitoring

5. Sample Condition
6. Analysis Start Date
7. Analysis Completion Date
8. Month of Monitoring
Satisfactory
11.11.2023
03.12.2023
November 2023

**9.** Environmental condition at the time of : 29.2°C

10. Unique Lab Report Number : TC6152230000006728F

Name of the				Particu	lars of	Sample	Collec	cted	
Station/	Lab Sample Code	S	O <sub>2</sub> ( μg/	m³ )	N	O <sub>2</sub> ( μg/	m³ )	PM10	PM <sub>2.5</sub>
Date of Sample Collection		l shift	II shift	III shift	l shift	II shift	III shift	(µg/m³)	(µg/m³)
1. SAI-Min	ing Area (Core Zone): ( N 17º	07'00.3	",E 77º0	8'50.9"	<b>'</b> )				
11.11.2023	17, 18, 19, C79, 317	14	16	17	18	17	15	50	17
12.11.2023	29, 30, 31, C71, 321	15	11	17	17	18	13	53	20
13.11.2023	41, 42, 43, C75, 323	13	16	14	15	13	16	54	19
14.11.2023	53, 54, 55, C65, 315	16	13	15	19	14	18	57	15
28.11.2023	65, 66, 67, C18, 835	20	18	15	14	18	12	55	14
29.11.2023	77, 78, 79, C85, 839	16	14	21	15	17	19	50	10
30.11.2023	89, 90, 91, C89, 842	17	15	11	18	14	21	54	20
01.12.2023	101, 102, 103, C93, 846	18	11	17	15	14	18	43	15
2. SA II - Hau	lage (Core Zone): ( N 17º06'5	0.8",E	77º08'3	6.7")					
11.11.2023	20, 21, 22, C80, 318	17	14	12	15	16	18	58	18
12.11.2023	32, 33, 34, C72, 314	18	15	16	17	15	13	49	16
13.11.2023	44, 45, 46, C76, 324	13	18	12	15	16	14	50	20
14.11.2023	56, 57, 58, C66, 316	16	15	17	13	18	17	49	17
28.11.2023	68, 69, 70, C82 836	20	16	08	16	15	21	53	15
29.11.2023	80, 81, 82, C86, 838	12	11	13	16	14	10	52	13
30.11.2023	92, 93, 94, C90, 843	16	13	08	14	18	20	51	14
01.12.2023	104, 105, 106, C94, 847	15	18	08	10	16	12	48	18







## COSMO CONSCIOUS RESEARCH LABORATORY



Name of the			P	articul	ars of	Sample	e Colle	ected	
Station/			SO <sub>2</sub>			NO <sub>2</sub>			
Date of Sample	Lab Sample Code	<u> </u>	( µg/m <sup>3</sup>			( μg/m <sup>3</sup>		PM <sub>10</sub>	PM <sub>2.5</sub>
Collection		shift	II shift	III shift	l shift	II shift	III shift	(µg/m³)	(µg/m³)
3. SA III -	Crusher (Core Zone): ( N 17º0						J	1	
11.11.2023	23, 24, 25, C69, 327	12	15	16	14	17	12	49	17
12.11.2023	35, 36, 37, C73, 329	16	17	18	18	13	15	57	18
13.11.2023	47, 48, 49, C77, 325	17	14	13	13	12	18	50	16
14.11.2023	59, 60, 61, C68, 319	14	18	15	16	15	17	51	14
28.11.2023	71, 72, 73, C83, 837	15	19	17	09	15	09	47	13
29.11.2023	83, 84, 85, C87, 840	17	14	11	17	15	09	49	12
30.11.2023	95, 96, 97, C91, 844	20	12	11	14	19	10	43	19
01.12.2023	107, 108,109, C95, 848	16	20	09	18	16	17	48	16
4. SA IV –	Near Surge bin (Core Zone):	( N 179	06'56.2	." <b>,E 77</b> º	08'16.4	")			
11.11.2023	26, 27, 28, C67, 328	14	12	16	13	18	17	53	14
12.11.2023	38, 39, 40, C74, 322	12	13	19	14	16	14	57	17
13.11.2023	50, 51, 52, C78, 326	15	16	13	19	13	15	56	13
14.11.2023	62, 63, 64, C70, 320	17	18	15	14	15	13	51	15
28.11.2023	74, 75, 76, C84, 832	16	20	10	17	18	09	47	13
29.11.2023	86, 87, 88, C88, 841	16	12	08	12	13	19	50	13
30.11.2023	98, 99, 100, C92, 845	16	11	15	08	14	09	54	12
01.12.2023	110, 111, 112, C96, 849	16	11	15	08	14	09	55	10

Method Adopted	IS 5182 (Part 02) : 2001 (RA:2017)	IS 5182 (Part 06) : 2006 (RA:2017)	IS 5182 (Part 23) : 2006 (RA :2017)	USEPA Vol – II & Part II Gravimetric method
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END OF REPORT

Note: 1. SO2 - Sulfur Dioxide, NO2 - Nitrogen Dioxide, PM10 - Particulate Matter (size less than 10 µm), PM2.5 - Particulate Matter (size less than  $2.5 \mu m$ ).

2. The above results are related only to the samples collected & tested on the particular date and time.

3. RA - Reaffirmed.

**ANALYZED BY:** 

(G.Dhavaleshwar) **Analyst** 

**VERIFIED BY:** 

Technical Manager

**AUTHORISED SIGNATORY:** 









## AMBIENT AIR QUALITY MONITORING REPORT

Report No.: I A2

Name of the Project
 Name of the Client
 Itagi Lime Stone Mine, Chittapur.
 M/s. ORIENT CEMENT LIMITED

3. Sample Collected By
 4. Particulars of Sample Collected
 5. Cosmo Conscious Research Laboratory
 6. Source Emission Air Quality Monitoring

5. Sample Condition : Satisfactory
6. Analysis Start Date : 11.11.2023
7. Analysis Completion Date : 03.12.2023

8. Month of Monitoring : November 2023

9. Environmental condition at the time of sampling : 29.2°C

	Particulars of Sample Collected								
Name of the Station/ Date of Sample Collection	CO (mg/m³)								
bare of bample concentration	l shift	l II shift shift							
SA I – Mining Area (Core Zone): ( N 17°07'00.3",E 77°08'50.9")									
11.11.2023	ND	ND	ND						
12.11.2023	ND	ND	ND						
13.11.2023	ND	ND	ND						
14.11.2023	ND	ND	ND						
28.11.2023	ND	ND	ND						
29.11.2023	ND	ND	ND						
30.11.2023	ND	ND	ND						
01.12.2023	ND	ND	ND						
SA II - Haulage (Core Zone	): ( N 17°06'50.8	",E 77°08'36.7")							
11.11.2023	ND	ND	ND						
12.11.2023	ND	ND	ND						
13.11.2023	ND	ND	ND						
14.11.2023	ND	ND	ND						
28.11.2023	ND	ND	ND						
29.11.2023	ND	ND	ND						
30.11.2023	ND	ND	ND						
01.12.2023	ND	ND	ND						

Contd.,





	Particul	ars of Sample	Collected				
Name of the Station/	CO (mg/m³)						
Date of Sample Collection	1	II ,	III				
	shift	shift	shift				
SA III - Crushing & Screening (Core Zone): ( N 17°06'53.0",E 77°08'25.0							
11.11.2023	ND	ND	ND				
12.11.2023	ND	ND	ND				
13.11.2023	ND	ND	ND				
14.11.2023	ND	ND	ND				
28.11.2023	ND	ND	ND				
29.11.2023	11.2023 ND I		ND				
30.11.2023	ND	ND	ND				
01.12.2023	ND ND		ND				
SA IV – Near Surgebin : ( N	17°06'56.2",E 7	7°08'16.4")					
11.11.2023	ND	ND	ND				
12.11.2023	ND	ND	ND				
13.11.2023	ND	ND	ND				
14.11.2023	ND	ND	ND				
28.11.2023	ND	ND	ND				
29.11.2023	ND	ND	ND				
30.11.2023	ND	ND	ND				
01.12.2023	ND	ND	ND				
Method Adopted CO Indicator Method (by instrument)							

#### END EPORT

Note: 1. CO - Carbon Monoxide, ND - Not Detected.

2. The above results are related only to the samples collected & tested on the particular date and time.

**ANALYZED BY:** 

(G.Dhavaleshwar) Analyst **VERIFIED BY:** 

Technical Manager

**AUTHORISED SIGNATORY:** 







## WATER QUALITY MONITORING REPORT (SURFACE WATER)

Report no: II A

1. Name of the Project

2. Name of the Client

Sample collected by 3.

Name of the Location 4.

Particulars of sample collected 5.

Field Sample code 6.

7. Lab Sample Code

Date of sample collection 8.

Date of sample Received 9.

10. Date of sample Analyzed

Method of Sampling 11. Environmental Condition at the time of

12. Sampling

13. Unique Lab Report Number Itagi Lime Stone Mine, Chittapur

M/s. ORIENT CEMENT LIMITED

Cosmo Conscious Research Laboratory

**Mines Pit water** 

**Pond** 

ORSW1

**CCRL W 9395** 

14.11.2023

15.11.2023

16.11.2023 to 25.11.2023

IS:3025 (Part 1) 1987 (Reaffirmed 2019)

29.2°C

TC6152230000006729F

				Results	Standard
Sl. No.	Parameters	Protocol	Unit	Nov '23	General Standards for Inland Surface water Schedule-VI (EPA-'86)
PHYS	ICAL				
1.	Colour	IS: 3025 (PART 14)- 1984, RA-2021, Platinum cobalt Method	Hazen units	2	-
2.	Conductivity	IS:3025 (PART 14)-1984, RA-2019, Electrometric method	μs/cms	690	-
3.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2017, Gravimetric method	mg/L	1520	-
4.	рН	IS:3025 (part 11)-1983, RA-2022, Electrometric method	-	7.88	5.50 to 9.0
5.	Turbidity	IS:3025 (part 10)-1984, RA-2017, Nephelometric method	NTU	1.20	-
6.	Total Suspended Solids	IS:3025 (part 17)-1984, RA-2021, Gravimetric Method	mg/L	3	100
CHEM	IICAL				
7.	Calcium as Ca	IS:3025 (part 40)-1991, RA-2019 EDTA Titrimetric method	mg/L	7.21	-
8.	Magnesium as Mg	APHA 22 <sup>nd</sup> Edition 350-B-Mg By calculation	mg/L	92.28	-
9.	Total Hardness as CaCO <sub>3</sub>	IS:3025 (part 21)-1983, RA-2019 EDTA Titrimetric method	mg/L	398	-
10.	Chloride as Cl	IS:3025 (part 32)-1988, RA-2019 Argentometric Method	mg/L	16.99	-
11.	Sulphate as SO <sub>4</sub>	APHA 22 <sup>nd</sup> edition 4500-SO4 <sup>2-</sup> -E (P.NO.4-190-191) Turbidimetric method	mg/L	20.02	-







## COSMO CONSCIOUS RESEARCH LABORATORY

Certificate No:TC6152

enmentallaboratory, Recognized by MoEF & CC, Accredited by NAEL (ISOIEC: 17625 vide certificate. No : 1C6152 and Certified by ISO (45001:2018)

				Results	Standard
Sl. No.	Parameters	Protocol	Unit	Nov.'23	General Standards for Inland Surface water Schedule-VI (EPA-'86)
12.	Fluoride as F	APHA 22 <sup>nd</sup> edition4500-F <sup>-</sup> D. (P.NO. 4-87 - 88)SPADNS Method	mg/L	1.01	2
13.	Nitrate Nitrogen as NO <sub>3</sub>	IS:3025 (part 34)-1988, RA-2019 Chromotropic acid method	mg/L	4.78	-
14.	Total Alkalinity as CaCO <sub>3</sub>	IS:3025 (part 23)-1986, RA-2019 Indicator method	mg/L	285	-
15.	Total Iron as Fe	APHA 22 <sup>nd</sup> 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	3

#### **END OF REPORT**

Note: 1. RA: Reaffirmed.

2. BDL: Below detectable limit. (For trace metals <0.1).

3. The above results are related only to the samples collected & tested on the particular date and time.

**ANALYZED BY:** 

(G.Dhavaleshwar)

**Analyst** 

VERIFIED BY: 1

(P. Harika)
Technical Manager

**AUTHORISED SIGNATORY:** 

(M. Shashikala)

**HEAD OF THE LABORATORY** 







## WATER QUALITY MONITORING REPORT (SURFACE WATER)

Report no: II B

Name of the Project
 Name of the Client
 Itagi Lime Stone Mine, Chittapur
 M/s. ORIENT CEMENT LIMITED

3. Sample collected by : Cosmo Conscious Research Laboratory

4. Name of the Location : Mines Pit water

5. Particulars of sample collected
6. Field Sample code
7. Lab Sample Code
8. Date of sample collection
9. Date of sample Received
15.11.2023

9. Date of sample Received : 15.11.2023
 10. Date of sample Analyzed : 16.11.2023 to 25.11.2023

11. Method of Sampling : **IS:3025 (Part 1) 1987 (Reaffirmed 2019)** 

	Unit of Results		Results	Standard	
Sl. No.	Parameters	Protocol	Measur ement	Oct.'23	General Standards for Inland Surface water Schedule-VI (EPA-'86)
MICRO	OBIOLOGICAL				
1.	Total Coliform count	APHA 23 <sup>rd</sup> 9222-B (p.no.9-57-61) Membrane filter technique	MPN/ 100 ml	Absent	-
2.	Escherichia coli count	APHA 23 <sup>rd</sup> 9221-F (p.no.9-51-52) Membrane filter technique	MPN/ 100 ml	Absent	-

**END OF REPORT** 

Note: The above results are related only to the samples collected & tested on the particular date and time.

ANALYZED BY:

(G.Dhavaleshwar) Analyst **VERIFIED BY:** 

(P. Harika)
Technical Manager

**AUTHORISED SIGNATORY:** 

(M. Shashikala) HEAD OF THE LABORATORY







## WATER QUALITY MONITORING REPORT (SURFACE WATER)

Report no: II C

1. Name of the Project

2. Name of the Client

**3.** Sample collected by

**4.** Name of the Location

**5.** Particulars of sample collected

6. Field Sample code

7. Lab Sample Code

8. Date of sample collection

**9.** Date of sample Received

**10.** Date of sample Analyzed

Method of SamplingEnvironmental Condition at the time of

12. Sampling

13. Unique Lab Report Number

Itagi Lime Stone Mine, ChittapurM/s. ORIENT CEMENT LIMITED

Cosmo Conscious Research Laboratory

Kagina River Water Up stream

River

: ORSW2

: CCRL W 9396

14.11.2023

15.11.2023

: 16.11.2023 to 25.11.2023

IS:3025 (Part 1) 1987 (Reaffirmed 2019)

: 29.2°C

TC6152230000006730F

				Results	Standard
Sl. No.	Parameters	Protocol	Unit	Nov. '23	General Standards for Inland Surface water Schedule-VI (EPA-'86)
PHYS	ICAL				
1.	Colour	IS: 3025 (PART 14)- 1984, RA-2021, Platinum cobalt Method	Hazen units	4	-
2.	Conductivity	IS:3025 (PART 14)-1984, RA-2019, Electrometric method	μs/cms	507	-
3.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2017, Gravimetric method	mg/L	1420	-
4.	рН	IS:3025 (part 11)-1983, RA-2022, Electrometric method	-	8.06	5.50 to 9.0
5.	Turbidity	IS:3025 (part 10)-1984, RA-2017, Nephelometric method	NTU	55.30	-
6.	Total Suspended Solids	IS:3025 (part 17)-1984, RA-2021, Gravimetric Method	mg/L	12	100
CHEM	IICAL				
7.	Calcium as Ca	IS:3025 (part 40)-1991, RA-2019 EDTA Titrimetric method	mg/L	36.07	-
8.	Magnesium as Mg	APHA 22 <sup>nd</sup> 350-B-Mg By calculation	mg/L	26.70	-
9.	Total Hardness as CaCO <sub>3</sub>	IS:3025 (part 21)-1983, RA-2019 EDTA Titrimetric method	mg/L	200	-
10.	Chloride as Cl	IS:3025 (part 32)-1988, RA-2019 Argentometric Method	mg/L	25.99	-
11.	Sulphate as SO <sub>4</sub>	APHA 22 <sup>nd</sup> 4500-SO4 <sup>2</sup> -E (P.NO.4-190-191) Turbidimetric method	mg/L	15.27	-





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Cer	tificate No:TC6152	

				Results	Standard
Sl. No.	Parameters	Protocol	Unit	Nov.'23	General Standards for Inland Surface water Schedule-VI (EPA-'86)
12.	Fluoride as F	APHA 22 <sup>nd</sup> edition4500-F <sup>-</sup> D. (P.NO. 4-87 - 88)SPADNS Method	mg/L	1.67	2
13.	Nitrate Nitrogen as NO <sub>3</sub>	IS:3025 (part 34)-1988, RA-2019 Chromotropic acid method	mg/L	0.45	-
14.	Total Alkalinity as CaCO <sub>3</sub>	IS:3025 (part 23)-1986, RA-2019 Indicator method	mg/L	215	-
15.	Total Iron as Fe	APHA 22 <sup>nd</sup> 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	3

#### **END OF REPORT**

Note: 1. RA: Reaffirmed.

2. BDL: Below detectable limit. (For trace metals <0.1).

3. The above results are related only to the samples collected & tested on the particular date and time.

**ANALYZED BY:** 

(G.Dhavaleshwar) Analyst VERIFIED BY:

(P. Harika) Technical Manager

**AUTHORISED SIGNATORY:** 

(M. Shashikala)
HEAD OF THE LABORATORY







### WATER QUALITY MONITORING REPORT (SURFACE WATER)

Report no: II D

1. Name of the Project Itagi Lime Stone Mine, Chittapur 2. Name of the Client M/s. ORIENT CEMENT LIMITED

3. Sample collected by **Cosmo Conscious Research Laboratory** 

4. Name of the Location Kagina River Water Up stream

5. Particulars of sample collected River Field Sample code 6. ORSW2

7. Lab Sample Code **CCRL W 9396** 8. Date of sample collection 14.11.2023 5 9. Date of sample Received 15.11.2023

Date of sample Analyzed 10. 16.11.2023 to 25.11.2023

Method of Sampling 11. IS:3025 (Part 1) 1987 (Reaffirmed 2019)

		Unit of		Results	Standard
Sl. No.	Parameters	Protocol	Measur ement	Nov.'23	General Standards for Inland Surface water Schedule-VI (EPA-'86)
MICRO	OBIOLOGICAL				
1.	Total Coliform count	APHA 23 <sup>rd</sup> 9222-B (p.no.9-57-61) Membrane filter technique	MPN/ 100 ml	Absent	-
2.	Escherichia coli count	APHA 23 <sup>rd</sup> 9221-F (p.no.9-51-52) Membrane filter technique	MPN/ 100 ml	Absent	-

**END OF REPORT** 

Note: The above results are related only to the samples collected & tested on the particular date and time.

**ANALYZED BY:** 

(G.Dhavaleshwar) **Analyst** 

VERIFIED BY:

**Technical Manager** 

**AUTHORISED SIGNATORY:** 





## WATER QUALITY MONITORING DATA (GROUND WATER)

Report no: II E

**1.** Name of the Project

2. Name of the Client

**3.** Sample collected by

**4.** Name of the Location

**5.** Particulars of sample collected

**6.** Field Sample code

7. Lab Sample Code

**8.** Date of sample collection

**9.** Date of sample Received

10. Date of sample Analyzed11. Method of Sampling

Environmental Condition at the time of

12. Sampling

13. Unique Lab Report Number

: Itagi Lime Stone Mine, Chittapur

M/s. ORIENT CEMENT LIMITED

: Cosmo Conscious Research Laboratory

Diggove Village

Bore Well water

: ORGW1

: CCRL W 9397

14.11.2023

15.11.2023

: 16.11.2023 to 25.11.2023

: IS:3025 (Part 1) 1987 (Reaffirmed 2019)

: 29.2°C

: TC6152230000006731F

Sl. No.	Parameters	Protocol	Unit	Results	Drinking water specification Standards as per IS:10500:2012	
				Nov.'23	Desirable Limits	Permissible Limits
PHYS	ICAL					•
1.	Colour	IS: 3025 (PART 14)- 1984, RA-2021, Platinum cobalt Method	Hazen units	4	5	15
2.	Conductivity	IS:3025 (PART 14)-1984, RA-2019, Electrometric method	μs/cms	1139	-	-
3.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2017, Gravimetric method	mg/L	1910	500	2000
4.	рН	IS:3025 (part 11)-1983, RA-2022, Electrometric method	-	7.25	6.5 to 8.5	No relaxation
5.	Turbidity	IS:3025 (part 10)-1984, RA-2017, Nephelometric method	NTU	1.40	1	5
6.	Total Suspended Solids	IS:3025 (part 17)-1984, RA-2021, Gravimetric Method	mg/L	6	-	-
CHEM	ICAL					
7.	Calcium as Ca	IS:3025 (part 40)-1991, RA-2019 EDTA Titrimetric method	mg/L	129.85	75	200
8.	Magnesium as Mg	APHA 22 <sup>nd</sup> 350-B-Mg By calculation	mg/L	30.05	30	100
9.	Total Hardness as CaCO <sub>3</sub>	IS:3025 (part 21)-1983, RA-2019 EDTA Titrimetric method	mg/L	448	200	600
10.	Chloride as Cl	IS:3025 (part 32)-1988, RA-2019 Argentometric Method	mg/L	49.95	250	1000
11.	Sulphate as SO <sub>4</sub>	APHA 22 <sup>nd</sup> 4500-SO4 <sup>2</sup> -E (P.NO.4-190-191) Turbidimetric method	mg/L	35.62	200	400







	_	D	11-24	Results	specification	g water Standards as 500:2012
Sl. No.	Parameters	Protocol	Unit	Nov.'23	Desirable Limits	Permissible Limits
12.	Fluoride as F	APHA 22 <sup>nd</sup> 4500-F- D. (P.NO. 4-87 - 88)SPADNS Method	mg/L	1.72	1	1.50
13.	Nitrate Nitrogen as NO <sub>3</sub>	IS:3025 (part 34)-1988, RA-2019 Chromotropic acid method	mg/L	1.38	45	No relaxation
14.	Total Alkalinity as CaCO <sub>3</sub>	IS:3025 (part 23)-1986, RA-2019 Indicator method	mg/L	270	200	600
15.	Total Iron as Fe	APHA 22 <sup>nd</sup> 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	0.160	0.30	No relaxation

#### **END OF REPORT**

Note: 1. RA: Reaffirmed.

2. The above results are related only to the samples collected & tested on the particular date and time.

**ANALYZED BY:** 

(G.Dhavaleshwar) Analyst **VERIFIED BY:** 

(P. Harika) Technical Manager

**AUTHORISED SIGNATORY:** 









WATER QUALITY MONITORING DATA

(GROUND WATER)

Report no: II F

**1.** Name of the Project

2. Name of the Client

3. Sample collected by

**4.** Name of the Location

**5.** Particulars of sample collected

**6.** Field Sample code

7. Lab Sample Code

**8.** Date of sample collection

**9.** Date of sample Received

**10.** Date of sample Analyzed

**11.** Method of Sampling

: Itagi Lime Stone Mine, Chittapur

M/s. ORIENT CEMENT LIMITED

: Cosmo Conscious Research Laboratory

: Diggove Village

Bore Well water

: ORGW1

1

CCRL W 9397

14.11.2023

15.11.2023

: 16.11.2023 to 25.11.2023

: IS:3025 (Part 1) 1987 (Reaffirmed 2019)

Sl.			Unit of Measur	Results		er specification er IS:10500:2012
No.	Parameters	Protocol	ement	Nov.'23	Desirable Limits	Permissible Limits
MICRO	DBIOLOGICAL					
1.	Total Coliform count	APHA 23 <sup>rd</sup> 9222-B (p.no.9-57-61) Membrane filter technique	MPN/ 100 ml	Absent	Shall not be detectable in any 100 ml sample	-
2.	Escherichia coli count	APHA 23 <sup>rd</sup> 9221-F (p.no.9-51-52) Membrane filter technique	MPN/ 100 ml	Absent	Shall not be detectable in any 100 ml sample	-

**END OF REPORT** 

Note: 1. The above results are related only to the samples collected & tested on the particular date and time.

ANALYZED BY:

(G.Dhavaleshwar) Analyst **VERIFIED BY:** 

(D

Technical Manager

**AUTHORISED SIGNATORY:** 







## WATER QUALITY MONITORING DATA (GROUND WATER)

Report no: II G

1. Name of the Project

Name of the Client 2.

Sample collected by 3.

Name of the Location 4.

Particulars of sample collected 5.

Field Sample code 6.

7. Lab Sample Code

Date of sample collection 8.

Date of sample Received 9.

10. Date of sample Analyzed Method of Sampling 11.

Environmental Condition at the time of

12. Sampling

Unique Lab Report Number 13.

Itagi Lime Stone Mine, Chittapur M/s. ORIENT CEMENT LIMITED

**Cosmo Conscious Research Laboratory** 

Chittapur Village

**Bore Well water** 

ORGW2

**CCRL W 9398** 

14.11.2023

15.11.2023

16.11.2023 to 25.11.2023

IS:3025 (Part 1) 1987 (Reaffirmed 2019)

29.2°C

TC6152230000006732F

Cl. N	Parameters	Protocol	Unit	Results	Drinking water specification Standards as per IS:10500:2012	
Sl. No.	Parameters	Protocoi	Onic	Nov. '23	Desirable Limits	Permissible Limits
PHYS	ICAL					
1.	Colour	IS: 3025 (PART 14)- 1984, RA-2021, Platinum cobalt Method	Hazen units	<1	5	15
2.	Conductivity	IS:3025 (PART 14)-1984, RA-2019, Electrometric method	μs/cms	248	-	-
3.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2017, Gravimetric method	mg/L	1288	500	2000
4.	рН	IS:3025 (part 11)-1983, RA-2022, Electrometric method	-	8.05	6.5 to 8.5	No relaxation
5.	Turbidity	IS:3025 (part 10)-1984, RA-2017, Nephelometric method	NTU	1.10	1	5
6.	Total Suspended Solids	IS:3025 (part 17)-1984, RA-2021, Gravimetric Method	mg/L	9	-	-
CHEM	IICAL					
7.	Calcium as Ca	IS:3025 (part 40)-1991, RA-2019 EDTA Titrimetric method	mg/L	23.24	75	200
8.	Magnesium as Mg	APHA 22 <sup>nd</sup> 350-B-Mg By calculation	mg/L	7.28	30	100
9.	Total Hardness as CaCO <sub>3</sub>	IS:3025 (part 21)-1983, RA-2019 EDTA Titrimetric method	mg/L	88	200	600
10.	Chloride as Cl	IS:3025 (part 32)-1988, RA-2019 Argentometric Method	mg/L	202.43	250	1000
11.	Sulphate as SO <sub>4</sub>	APHA 22 <sup>nd</sup> edition 4500-SO4 <sup>2</sup> -E (P.NO.4-190-191) Turbidimetric method	mg/L	9.96	200	400







Sl. No.	Parameters	Protocol	Iluit	Results specification per IS:105		g water Standards as 500:2012
51. NO.	Parameters	Protocol	Unit	Nov. '23	Desirable Limits	Permissible Limits
12.	Fluoride as F	APHA 22 <sup>nd</sup> edition4500-F <sup>-</sup> D. (P.NO. 4-87 - 88)SPADNS Method	mg/L	0.67	1	1.50
13.	Nitrate Nitrogen as NO <sub>3</sub>	IS:3025 (part 34)-1988, RA-2019 Chromotropic acid method	mg/L	0.04	45	No relaxation
14.	Total Alkalinity as CaCO <sub>3</sub>	IS:3025 (part 23)-1986, RA-2019 Indicator method	mg/L	70	200	600
15.	Total Iron as Fe	APHA 22 <sup>nd</sup> 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.30	No relaxation

#### **END OF REPORT**

Note: 1. RA: Reaffirmed. BDL: Below detectable limit. (For trace metals <0.1)

2. The above results are related only to the samples collected & tested on the particular date and time.

**ANALYZED BY:** 

(G.Dhavaleshwar) **Analyst** 

**VERIFIED BY:** 

**Technical Manager** 

**AUTHORISED SIGNATORY:** 









## WATER QUALITY MONITORING DATA

(GROUND WATER)

Report no: II H

1. Name of the Project

2. Name of the Client

3. Sample collected by

**4.** Name of the Location

**5.** Particulars of sample collected

6. Field Sample code

7. Lab Sample Code

**8.** Date of sample collection

**9.** Date of sample Received

**10.** Date of sample Analyzed

**11.** Method of Sampling

: Itagi Lime Stone Mine, Chittapur

M/s. ORIENT CEMENT LIMITED

: Cosmo Conscious Research Laboratory

: Chittapur Village

**Bore Well water** 

oRGW2

CCRL W 9398

14.11.2023

: 15.11.2023

: 16.11.2023 to 25.11.2023

: IS:3025 (Part 1) 1987 (Reaffirmed 2019)

Sl.		Posterel	Unit of Measur	Results	Drinking wate Standard IS:1050	ls as per
No.	Parameters	Protocol	ement	Nov.'23	Desirable Limits	Permissible Limits
MICRO	OBIOLOGICAL					
1.	Total Coliform count	APHA 23 <sup>rd</sup> 9222-B (p.no.9-57-61) Membrane filter technique	MPN/ 100 ml	Absent	Shall not be detectable in any 100 ml sample	-
2.	Escherichia coli count	APHA 23 <sup>rd</sup> 9221-F (p.no.9-51-52) Membrane filter technique	MPN/ 100 ml	Absent	Shall not be detectable in any 100 ml sample	-

#### END OF REPORT

Note: 1. The above results are related only to the samples collected & tested on the particular date and time.

ANALYZED BY:

(G.Dhavaleshwar) Analyst **VERIFIED BY:** 

(P. Harika) Technical Manager

AUTHORISED SIGNATORY:







## WATER QUALITY MONITORING DATA (GROUND WATER)

Report no: II I

1. Name of the Project

2. Name of the Client

3. Sample collected by

4. Name of the Location

5. Particulars of sample collected

6. Field Sample code

7. Lab Sample Code

**8.** Date of sample collection

**9.** Date of sample Received

**10.** Date of sample Analyzed

Method of SamplingEnvironmental Condition at the time of

Sampling

13. Unique Lab Report Number

Itagi Lime Stone Mine, ChittapurM/s. ORIENT CEMENT LIMITED

Cosmo Conscious Research Laboratory

Mogla Village

Bore Well water ORGW3

**CCRL W 9399** 

14.11.2023

15.11.2023

16.11.2023 to 25.11.2023

: IS:3025 (Part 1) 1987 (Reaffirmed 2019)

: 29.2°C

: TC6152230000006733F

		Duchosol	YY24	Results	specification	g water Standards as 500:2012
Sl. No.	Parameters	Parameters Protocol Unit		Nov '23	Desirable Limits	Permissible Limits
PHYS	ICAL					
1.	Colour	IS: 3025 (PART 14)- 1984, RA-2021, Platinum cobalt Method	Hazen units	<1	5	15
2.	Conductivity	IS:3025 (PART 14)-1984, RA-2019, Electrometric method	μs/cms	423	-	-
3.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2017, Gravimetric method	mg/L	1430	500	2000
4.	рН	IS:3025 (part 11)-1983, RA-2022, Electrometric method	-	7.99	6.5 to 8.5	No relaxation
5.	Turbidity	IS:3025 (part 10)-1984, RA-2017, Nephelometric method	NTU	0.60	1	5
6.	Total Suspended Solids	IS:3025 (part 17)-1984, RA-2021, Gravimetric Method	mg/L	3	-	-
CHEM	IICAL					
7.	Calcium as Ca	IS:3025 (part 40)-1991, RA-2019 EDTA Titrimetric method	mg/L	64.92	75	200
8.	Magnesium as Mg	APHA 22 <sup>nd</sup> 350-B-Mg By calculation	mg/L	12.12	30	100
9.	Total Hardness as CaCO <sub>3</sub>	IS:3025 (part 21)-1983, RA-2019 EDTA Titrimetric method	mg/L	212	200	600
10.	Chloride as Cl	IS:3025 (part 32)-1988, RA-2019 Argentometric Method	mg/L	28.99	250	1000
11.	Sulphate as SO <sub>4</sub>	APHA 22 <sup>nd</sup> edition 4500-SO4 <sup>2</sup> -E (P.NO.4-190-191) Turbidimetric method	mg/L	17.48	200	400











Sl. No.	Parameters	Protocol	Unit	Results	Drinking water specification Standards a per IS:10500:2012	
31. NO.	rarameters	FIOLOCOI	Onit	Nov'23	Desirable Limits	Permissible Limits
12.	Fluoride as F	APHA 22 <sup>nd</sup> edition4500-F- D. (P.NO. 4-87 - 88)SPADNS Method	mg/L	1.49	1	1.50
13.	Nitrate Nitrogen as NO <sub>3</sub>	IS:3025 (part 34)-1988, RA-2019 Chromotropic acid method	mg/L	0.07	45	No relaxation
14.	Total Alkalinity as CaCO <sub>3</sub>	IS:3025 (part 23)-1986, RA-2019 Indicator method	mg/L	165	200	600
15.	Total Iron as Fe	APHA 22 <sup>nd</sup> 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.30	No relaxation

#### **END OF REPORT**

Note: 1. RA: Reaffirmed. BDL: Below detectable limit. (For trace metals <0.1)

2. The above results are related only to the samples collected & tested on the particular date and time.

ANALYZED BY:

(G.Dhavaleshwar) Analyst **VERIFIED BY:** 

(P. Harika) Technical Manager

**AUTHORISED SIGNATORY:** 









## WATER QUALITY MONITORING DATA

(GROUND WATER)

Report no: II J

1. Name of the Project

2. Name of the Client

**3.** Sample collected by

**4.** Name of the Location

**5.** Particulars of sample collected

**6.** Field Sample code

7. Lab Sample Code

**8.** Date of sample collection

**9.** Date of sample Received

**10.** Date of sample Analyzed

**11.** Method of Sampling

: Itagi Lime Stone Mine, Chittapur

M/s. ORIENT CEMENT LIMITED

Cosmo Conscious Research Laboratory

: Mogla Village

Bore Well water

: ORGW3

CCRL W 9399

14.11.2023

15.11.2023

16.11.2023 to 25.11.2023

: IS:3025 (Part 1) 1987 (Reaffirmed 2019)

Sl.	Paramotors	Parameters Protocol		Results	Drinking water specification Standards as per IS:10500:2012		
No.	rarameters	Fiotocoi	ement	Nov.'23	Desirable Limits	Permissible Limits	
MICRO	OBIOLOGICAL						
1.	Total Coliform count	APHA 23 <sup>rd</sup> 9222-B (p.no.9-57-61) Membrane filter technique	MPN/ 100 ml	Absent	Shall not be detectable in any 100 ml sample	-	
2.	Escherichia coli count	APHA 23 <sup>rd</sup> 9221-F (p.no.9-51-52) Membrane filter technique	MPN/ 100 ml	Absent	Shall not be detectable in any 100 ml sample	-	

END OF REPORT

Note: 1. The above results are related only to the samples collected & tested on the particular date and time.

**ANALYZED BY:** 

(G.Dhavaleshwar) Analyst **VERIFIED BY:** 

(P. Harika) Technical Manager

**AUTHORISED SIGNATORY:** 







## WATER QUALITY MONITORING DATA (GROUND WATER)

Report no: II K

**1.** Name of the Project

2. Name of the Client

**3.** Sample collected by

**4.** Name of the Location

**5.** Particulars of sample collected

**6.** Field Sample code

7. Lab Sample Code

**8.** Date of sample collection

**9.** Date of sample Received

10. Date of sample Analyzed11. Method of Sampling

Environmental Condition at the time of

Sampling

13. Unique Lab Report Number

: Itagi Lime Stone Mine, Chittapur : M/s. ORIENT CEMENT LIMITED

Cosmo Conscious Research Laboratory

: Itga Village

Bore Well water

: ORGW4

CCRL W 9400

1444 0000

14.11.2023

15.11.2023

16.11.2023 to 25.11.2023

IS:3025 (Part 1) 1987 (Reaffirmed 2019)

: 29.2°C

: TC6152230000006734F

Sl. No.	Parameters	arameters Protocol	Unit	Results	specification	g water Standards as 500:2012
31. 140.	1 at ameters	1100001	Oiiit	Nov.'23	Desirable Limits	Permissible Limits
<b>PHYS</b>	ICAL					
1.	Colour	IS: 3025 (PART 14)- 1984, RA-2021, Platinum cobalt Method	Hazen units	<1	5	15
2.	Conductivity	IS:3025 (PART 14)-1984, RA-2019, Electrometric method	μs/cms	1123	-	-
3.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2017, Gravimetric method	mg/L	1980	500	2000
4.	рН	IS:3025 (part 11)-1983, RA-2022, Electrometric method	-	7.26	6.5 to 8.5	No relaxation
5.	Turbidity	IS:3025 (part 10)-1984, RA-2017, Nephelometric method	NTU	2.00	1	5
6.	Total Suspended Solids	IS:3025 (part 17)-1984, RA-2021, Gravimetric Method	mg/L	7	-	-
CHEM	ICAL					
7.	Calcium as Ca	IS:3025 (part 40)-1991, RA-2019 EDTA Titrimetric method	mg/L	90.58	75	200
8.	Magnesium as Mg	APHA 22 <sup>nd</sup> 350-B-Mg By calculation	mg/L	30.07	30	100
9.	Total Hardness as CaCO <sub>3</sub>	IS:3025 (part 21)-1983, RA-2019 EDTA Titrimetric method	mg/L	350	200	600
10.	Chloride as Cl	IS:3025 (part 32)-1988, RA-2019 Argentometric Method	mg/L	81.97	250	1000
11.	Sulphate as SO <sub>4</sub>	APHA 22 <sup>nd</sup> edition 4500-S04 <sup>2</sup> -E (P.NO.4-190-191) Turbidimetric method	mg/L	41.59	200	400







	THE STATE AND ASSESSED.	
1	56	
C	rtificate No:TC6152	

Cl. N	Douglastons	Parameters Protocol Unit		Results	Drinking water specification Standards a per IS:10500:2012	
Sl. No.	Parameters	Protocol	Unit	Nov.'23	Desirable Limits	Permissible Limits
12.	Fluoride as F	APHA 22 <sup>nd</sup> edition4500-F- D. (P.NO. 4-87 - 88)SPADNS Method	mg/L	1.93	1	1.50
13.	Nitrate Nitrogen as NO <sub>3</sub>	IS:3025 (part 34)-1988, RA-2019 Chromotropic acid method	mg/L	9.20	45	No relaxation
14.	Total Alkalinity as CaCO <sub>3</sub>	IS:3025 (part 23)-1986, RA-2019 Indicator method	mg/L	350	200	600
15.	Total Iron as Fe	APHA 22 <sup>nd</sup> 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.30	No relaxation

#### **END OF REPORT**

Note: 1. RA: Reaffirmed. BDL: Below detectable limit. (For trace metals <0.1)

2. The above results are related only to the samples collected & tested on the particular date and time.

**ANALYZED BY:** 

(G.Dhavaleshwar) Analyst **VERIFIED BY:** 

(P. Harika) Technical Manager

**AUTHORISED SIGNATORY:** 







## WATER QUALITY MONITORING DATA (GROUND WATER)

Report no: II L

1. Name of the Project

2. Name of the Client

3. Sample collected by

4. Name of the Location

Particulars of sample collected 5.

Field Sample code 6.

7. Lab Sample Code

Date of sample collection 8.

Date of sample Received 9.

10. Date of sample Analyzed

Method of Sampling 11.

Itagi Lime Stone Mine, Chittapur

M/s. ORIENT CEMENT LIMITED

**Cosmo Conscious Research Laboratory** 

Itga Village

**Bore Well water** 

ORGW4

**CCRL W 9400** 

14.11.2023

15.11.2023 :

: 16.11.2023 to 25.11.2023

IS:3025 (Part 1) 1987 (Reaffirmed 2019)

Sl.	Parameters		Unit of Measur	Results	Drinking water specification Standards as per IS:10500:2012	
No.	T at affected 5	11010001	ement	Nov.'23	Desirable Limits	Permissible Limits
MICRO	OBIOLOGICAL					
1.	Total Coliform count	APHA 23 <sup>rd</sup> 9222-B (p.no.9-57-61) Membrane filter technique	MPN/ 100 ml	Absent	Shall not be detectable in any 100 ml sample	-
2.	Escherichia coli count	APHA 23 <sup>rd</sup> 9221-F (p.no.9-51-52) Membrane filter technique	MPN/ 100 ml	Absent	Shall not be detectable in any 100 ml sample	-

#### **END OF REPORT**

Note: 1. The above results are related only to the samples collected & tested on the particular date and time.

ANALYZED BY:

(G.Dhavaleshwar) **Analyst** 

**VERIFIED BY:** 

**Technical Manager** 

AUTHORISED SIGNATORY:

**Head of the Laboratory** 









vide certificate No : 1C6152 and Certified by ISO (45001:2018)

## Analysis Report of Stack Emission

Report No.: III

1	Name of the Industry		Itagi Lime Stone I	Mino Chittanur			
2	Address			•			
			M/s. ORIENT CEMENT LIMITED				
3	Date of Sampling		14.11.2023				
4	Sample Type		Stack Monitoring				
5	Sampling Location		Crusher				
6	Duration of Monitoring		39 Minutes				
7	Sample Condition		Satisfactory				
8	Lab Sample code		ST-41762				
9	Analysis Start Date		15.11.2023				
10	Analysis Completion Date		16.11.2023				
11	Environmental Condition at the time of sampling		30°C				
12	Unique Lab Report Number	1	TC6152230000006735F				
			Stack Details				
1	Stack attached to		Crusher				
2	Stack Diameter (mtr)		1.5 meters				
		<u>E</u>	mission Details				
Sl. No.	Parameters	Result	Unit of Measurement	Method Adopted (Sampling & Analysis)	Permissible Limit		
1	Stack Temperature	37	oC.	IS-11255(Part 01) :1985 RA:2019)	-		
2	Velocity of Flue Gas	6.08	m/sec	IS-11255 (Part 03) :1985(RA:2019)	-		
3	Particulate Matter	14.2	mg/Nm³	IS-11255 (Part 01) :1985 RA:2019)	-		
4	Rate of Discharge of Gas	38694.85	5 Nm³/hr	IS-11255(Part 03) :1985(RA:2019)	-		

**End of Report** 

Note: 1.The above results are related only to the samples collected & tested on the particular date and time

**ANALYZED BY:** 

(G.Dhavaleshwar) Analyst **VERIFIED BY:** 

(P.Ĥarika) Technical Manager

**AUTHORISED SIGNATORY:** 









### NOISE LEVEL MONITORING REPORT

Report No.: IV

1. Name of the Project

: Itagi Lime Stone Mine, Chittapur

2. Name of the Client

: M/s. ORIENT CEMENT LIMITED

3. Sample Collected By

: Cosmo Conscious Research Laboratory

**4.** Particulars of Sample Collected

: Noise Quality Monitoring

**5.** Month of Monitoring

: November 2023

Sl.	Code	Sampling Location	Date Unit L	L max.	Leq		L min.	
No.		company accuracy	2400		Z Man	Day	Night	2 111111
1.	N1	Crushing & Screening	11.11.2023	dB (A)	63.9	62.1	61.2	58.4
1.	IVI	Crushing & Screening	28.11.2023	dB (A)	64.8	62.9	57.8	57.2
2.	N2	Mining Area	12.11.2023	dB (A)	63.9	62.3	61.1	56.2
۷.	INZ		28.11.2023	dB (A)	64.1	61.9	58.3	57.3
3.	N3	CCD office	13.11.2023	dB (A)	56.2	54.3	46.8	44.1
٥.	NS	3 CCR office	29.11.2023	dB (A)	59.3	55.3	54.2	53.4
4.	N/4	Surga hin	14.11.2023	dB (A)	57.2	54.2	43.6	43.7
4.	1114	N4 Surge bin	30.11.2023	dB (A)	54.2	53.5	52.2	51.2

**END OF REPORT** 

Note: 1. The above results are related only to the samples collected & tested on the particular date and time.

MOEF ambient Noise standards in dB(A) Leq (No.41, Dt.11.01.2010)	Residential Area	a limits dB(A) Leq	Industrial Area limits dB(A) Leq			
	Day time	Night time	Day time	Night time		
	55	45	75	70		
Method Adopted	Integrated Sound Level Meter					

ANALYZED BY:

G.Dhavaleshwar) Analyst **VERIFIED BY:** 

Technical Manager

**AUTHORISED SIGNATORY:** 









## Piezometer Wells Depths

Report No.: V

1. Name of the Project : Itagi Lime Stone Mine, Chittapur

2. Name of the Client : M/s. ORIENT CEMENT LIMITED

3. Sample Collected By : Cosmo Conscious Research Laboratory

**4.** Date of Monitoring : **13.11.2023** 

SI. No. Location Name		Bore wells Depths in meters
1.	Itga village	8.10
2.	Mogla village	7.90
3.	Diggove village	13.40
4.	Chittapur village	8.45

**MEASURED BY:** 

(GD<del>haval</del>eshwar) Analyst

**AUTHORISED SIGNATORY:** 







## December - 2023



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### COSMO CONSCIOUS RESEARCH LABORATORY

vide certificate No : 1C6152 and Certified by ISO (45001:2018)



## AIR QUALITY MONITORING REPORT

Report No.: I A1

1. Name of the Project

2. Name of the Client

3. Sample Collected By

4. Particulars of Sample Collected

**5**. Sample Condition

6. **Analysis Start Date** 

7. **Analysis Completion Date** 

8. Month of Monitoring

9. Environmental condition at the time of

10. Unique Lab Report Number Itagi Lime Stone Mine, Chittapur

M/s. ORIENT CEMENT LIMITED

**Cosmo Conscious Research Laboratory** 

**Source Emission Air Quality Monitoring** 

**Satisfactory** 

09.12.2023

29.12.2023

December 2023

28.7°C

TC6152230000006944F

Name of the	Lab Sample Code	Particulars of Sample Collected							
Station/ Date of Sample Collection		SO <sub>2</sub> ( μg/m <sup>3</sup> )			NO <sub>2</sub> ( μg/m <sup>3</sup> )			PM10	PM <sub>2.5</sub>
		l shift	ll shift	III shift	l shift	II shift	III shlft	(µg/m³)	(µg/m³)
1. SA I - Mining Area (Core Zone): ( N 17º07'00.3",E 77º08'50.9")									
08.12.2023	114, 115, 116, C-97, 176	18	15	16	20	17	15	55	16
09.12.2023	126, 127, 128, C-102, 181	15	11	17	19	21	12	48	18
10.12.2023	138, 139, 140, C-106, 184	15	17	14	14	12	14	52	17
11.12.2023	150, 151, 152, C-110, 188	13	11	18	15	12	19	55	14
22.12.2023	162, 163, 164, C-113, 028	16	18	14	12	16	11	51	14
23.12.2023	174, 175, 176, C-119, 021	20	12	17	16	18	19	50	19
24.12.2023	186, 187, 188, C-125, 026	14	15	17	19	13	16	57	17
25.12.2023	198, 199, 200, C-117, 017	16	13	15	15	20	17	59	18
2. SA II - Haulage (Core Zone): ( N 17º06'50.8",E 77º08'36.7")									
08.12.2023	117, 118, 119, C99, 178	20	14	12	16	15	19	53	16
09.12.2023	129, 130, 131, C-103, 182	20	17	14	16	13	11	56	10
10.12.2023	141, 142, 143, C-107, 185	14	19	13	16	14	16	50	15
11.12.2023	153, 154, 155, C-111, 190	17	16	15	14	13	18	49	16
22.12.2023	165, 166, 167, C-114, 029	14	18	11	16	15	17	53	15
23.12.2023	177, 178, 179, C-120, 020	12	17	13	16	14	15	52	13
24.12.2023	189, 190, 191, C-125, 026	13	18	15	15	17	12	56	12
25.12.2023	201, 202, 203, C-118, 018	19	15	11	18	15	14	50	16









### COSMO CONSCIOUS RESEARCH LABORATORY

Certificate No:TC6152

Environmental laboratory, Recognized by MoEL & CC, Accredited by NABL (ISOIEC: 17025) vide certificate Nat IC6157 and Certified by ISO (45001:2018)

Name of the	Lab Sample Code	Particulars of Sample Collected								
Station/ Date of Sample Collection		SO <sub>2</sub>			NO <sub>2</sub>			PM <sub>10</sub>	PM <sub>2.5</sub>	
		( µg/m³ )			( µg/m³ )					
		shift	shift	III shift	shift	shift	III shift	(µg/m³)	(µg/m³)	
3. SA III -	Crusher (Core Zone): ( N 17º	06'53.0	",E 77º0	8'25.0"	<b>'</b> )					
08.12.2023	120, 121, 122, C-100, 179	17	16	15	15	17	12	51	17	
09.12.2023	132, 133, 134, C-104, 181	16	18	17	19	13	10	55	18	
10.12.2023	144, 145, 146, C-108, 186	15	12	16	12	14	18	57	17	
11.12.2023	156, 157, 158, C-112, 189	12	20	18	13	17	13	51	15	
22.12.2023	168, 169, 170, C-115, 014	17	18	14	14	15	12	56	17	
23.12.2023	180, 181, 182, C-123, 022	19	14	12	18	16	13	50	11	
24.12.2023	192, 193, 194, C-127, 015	17	16	15	19	18	16	55	18	
25.12.2023	204, 205, 206, C-121, 019	11	14	12	20	16	17	52	16	
4. SA IV –	Near Surge bin (Core Zone):	( N 17º	06'56.2	",E 77º(	08'16.4'	")				
08.12.2023	123, 124, 125, C101, 180	18	13	16	12	18	10	58	18	
09.12.2023	135, 136, 137, C-105,183	15	13	21	15	14	13	50	16	
10.12.2023	147, 148, 149, C-109, 187	13	15	12	19	12	18	49	19	
11.12.2023	159, 160, 161, C-98, 177	17	16	14	19	15	12	53	18	
22.12.2023	171, 172, 173, C-116, 016	11	15	12	18	19	16	59	14	
23.12.2023	183, 184, 185, C-124, 023	14	17	15	15	13	17	51	16	
24.12.2023	195, 196, 197, C-128, 025	16	11	15	12	13	14	55	12	
25.12.2023	207, 208, 209, C-122, 027	20	17	19	15	18	20	53	13	

Method Adopted	IS 5182 (Part 02) : 2001 (RA:2017)	IS 5182 (Part 06) : 2006 (RA:2017)	IS 5182 (Part 23) : 2006 (RA :2017)	USEPA Vol – II & Part II Gravimetric method
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END OF REPORT

Note: 1. SO2 – Sulfur Dioxide, NO2 – Nitrogen Dioxide, PM10 – Particulate Matter (size less than 10  $\mu$ m), PM2.5 – Particulate Matter (size less than 2.5  $\mu$ m).

2. The above results are related only to the samples collected & tested on the particular date and time.

3. RA - Reaffirmed.

**ANALYZED BY:** 

(G.Dhavaleshwar) Analyst VERIFIED BY:

(P.Harika)

**Technical Manager** 

**AUTHORISED SIGNATORY:** 

(M. Shashikala)

**Head of the Laboratory** 







# AMBIENT AIR QUALITY MONITORING REPORT

Report No.: I A2

1. Name of the Project

2. Name of the Client

3. Sample Collected By

4. Particulars of Sample Collected

5. Sample Condition

6. Analysis Start Date

7. Analysis Completion Date

8. Month of Monitoring

9. Environmental condition at the time

of sampling

Itagi Lime Stone Mine, Chittapur.

M/s. ORIENT CEMENT LIMITED

Cosmo Conscious Research Laboratory

Source Emission Air Quality Monitoring

Satisfactory

09.12.2023

29.12.2023

December 2023

28.7°C

	Particulars of Sample Collect			
Name of the Station/		CO (mg/m³)		
Date of Sample Collection	l shift	II shift	III shift	
SA I – Mining Area (Core Zo	one): ( N 17°07'	00.3",E 77°08'50	).9")	
08.12.2023	ND	ND	ND	
09.12.2023	ND	ND	ND	
10.12.2023	ND	ND	ND	
11.12.2023	ND	ND	ND	
22.12.2023	ND	ND	ND	
23.12.2023	ND	ND	ND	
24.12.2023	ND	ND	ND	
25.12.2023	ND	ND	ND	
SA II - Haulage (Core Zone)	): ( N 17°06'50.8	3",E 77°08'36.7")		
08.12.2023	ND	ND	ND	
09.12.2023	ND	ND	ND	
10.12.2023	ND	ND	ND	
11.12.2023	ND	ND	ND	
22.12.2023	ND	ND	ND	
23.12.2023	ND	ND	ND	
24.12.2023	ND	ND	ND	
25.12.2023	ND	ND	ND	

Contd.,







# COSMO CONSCIOUS RESEARCH LABORATORY

Environmental laboratory. Recagnized by MoEL & CC Accredited by NABL (ISOIEC: 17025) vide certificate. No.: 166152 and Certified by ISO (45001:2018)

	Particul	ars of Sample	Collected		
Name of the Statlon/	CO (mg/m³)				
Date of Sample Collection	l shift	II shift	III shift		
SA III - Crushing & Screening	ng (Core Zone):	( N 17°06'53.0",	E 77°08'25.0")		
08.12.2023	ND	ND	ND		
09.12.2023	ND	ND	ND		
10.12.2023	ND	ND	ND		
11.12.2023	ND	ND	ND		
22.12.2023	ND	ND	ND		
23.12.2023	ND	ND	ND		
24.12.2023	ND	ND	ND		
25.12.2023	ND	ND	ND		
SA IV – Near Surgebin : ( N	17°06'56.2",E 7	7°08'16.4")			
08.12.2023	ND	ND	ND		
09.12.2023	ND	ND	ND		
10.12.2023	ND	ND	ND		
11.12.2023	ND	ND	ND		
22.12.2023	ND	ND	ND		
23.12.2023	ND	ND	ND		
24.12.2023	ND	ND	ND		
25.12.2023	ND	ND	ND		
Method Adopted	CO Indica	for Method (by in	strument)		

END EPORT

Note: 1. CO - Carbon Monoxide, ND - Not Detected.

2. The above results are related only to the samples collected & tested on the particular date and time.

**ANALYZED BY:** 

(G.Dhavaleshwar)

**Analyst** 

VERIFIED BY:

(P.Harika)

**Technical Manager** 

**AUTHORISED SIGNATORY:** 

(M. Shashikala)

**Head of the Laboratory** 











# AMBIENT AIR QUALITY MONITORING DATA

Report No.: I A3

Name of the Project 1.

Itagi Lime Stone Mine, Chittapur.

2. Name of the Client M/s. ORIENT CEMENT LIMITED

3. Sample Collected By **Cosmo Conscious Research Laboratory** 

4. Particulars of Sample Collected

**Source Emission Air Quality Monitoring** 

5. Sample Condition

6. **Analysis Start Date** 

27.12.2023

7. **Analysis Completion Date**  30.12.2023

8. Month of Monitoring December 2023

Environmental condition at the time of 9. sampling

28.7°C

			Stati	on Code /D	ate of sam	pling	Method adopted		
Sl. No.	Parameters	Unit	SA I	SA II	SA III	SA IV	(Sampling &	NAAQ Std.	
140.			25.12.2023	25.12.2023	25.12.2023	25.12.2023	Analysis)	Stu.	
1.	Ozone (O <sub>3</sub> )	μg/m³	13.56	15.54	14.52	19.87	Instrument Method	180	
2.	Ammonia (NH3)	μg/m³	16.21	18.77	17.21	15.21	As per CPCB manual	400	
3.	Lead (Pb)	μg/m³	<0.001	<0.001	<0.001	<0.001	AAS Method	1	
4.	Benzene(C <sub>6</sub> H <sub>6</sub> )	μg/m³	ND	ND	ND	ND	As per CPCB manual	5	
5.	Benzo(a) pyrene	ng/m³	ND	ND	ND	ND	n	1	
6.	Arsenic (As)	ng/m³	<0.001	<0.001	<0.001	<0.001	AAS method	6	
7.	Nickel (Ni)	ng/m³	<0.001	<0.001	<0.001	<0.001	AAS method	20	
8.	Mercury (Hg)	μg/m³	<0.001	<0.001	<0.001	<0.001	AAS Method	( <u>-</u> 5)	

END OF REPORT

SA I. - Mining Area SA II. - Haulage

SA III. - Crushing area

SA IV. - Surgebin

Note: 1. The above results are related only to the samples collected & tested on the particular date and time.

2. ND - Not Detected.

**ANALYZED BY:** 

(G.Dhavaleshwar)

**Analyst** 

**VERIFIED BY:** 

**Technical Manager** 

**AUTHORISED SIGNATORY:** 

(M. Shashikala)

Head of the Laboratory







# WATER QUALITY MONITORING REPORT (SURFACE WATER)

Report no: II A

1. Name of the Project

2. Name of the Client

3. Sample collected by

Name of the Location 4.

5. Particulars of sample collected

6. Field Sample code

7. Lab Sample Code

Date of sample collection 8.

9. Date of sample Received

10. Date of sample Analyzed

11. Method of Sampling

Environmental Condition at the time of 12.

Sampling

Unique Lab Report Number 13.

Itagi Lime Stone Mine, Chittapur

M/s. ORIENT CEMENT LIMITED

**Cosmo Conscious Research Laboratory** 

**Mines Pit water** 

**Pond** 

ORSW1

**CCRL W 9440** 

12.12.2023

13.12.2023

14.12.2023 to 22.12.2023

IS:3025 (Part 1) 1987 (Reaffirmed 2019)

28.9°C

TC6152230000006945F

				Results	Standard
Sl. No.	Parameters	Parameters Protocol Unit		Dec '23	General Standards for Inland Surface water Schedule-VI (EPA-'86)
PHYS	ICAL				
1.	Colour	IS: 3025 (PART 14)- 1984, RA-2021, Platinum cobalt Method	Hazen units	1	¥.
2.	Conductivity	IS:3025 (PART 14)-1984, RA-2019, Electrometric method	μs/cms	702	
3.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2017, Gravimetric method	mg/L	488	¥1
4.	рН	IS:3025 (part 11)-1983, RA-2022, Electrometric method	i.e.	7.24	5.50 to 9.0
5.	Turbidity	IS:3025 (part 10)-1984, RA-2017, Nephelometric method	NTU	0.50	*
6.	Total Suspended Solids	IS:3025 (part 17)-1984, RA-2021, Gravimetric Method	mg/L	3	100
CHEM	ICAL				
7.	Calcium as Ca	IS:3025 (part 40)-1991, RA-2019 EDTA Titrimetric method	mg/L	68.13	Sa:
8.	Magnesium as Mg	APHA 22 <sup>nd</sup> Edition 350-B-Mg By calculation	mg/L	27.65	(¥)
9.	Total Hardness as CaCO <sub>3</sub>	IS:3025 (part 21)-1983, RA-2019 EDTA Titrimetric method	mg/L	284	•
10.	Chloride as Cl	IS:3025 (part 32)-1988, RA-2019 Argentometric Method	mg/L	21.99	(#0)
11.	Sulphate as SO <sub>4</sub>	APHA 22 <sup>nd</sup> edition 4500-SO4 <sup>2</sup> -E (P.NO.4-190-191) Turbidimetric method	mg/L	46.06	:50

Cont'd...







# COSMO CONSCIOUS RESEARCH LABORATORY



Environmental laboratory. Recognized by MoEF & CC. Accredited by NABL (ISCIEC: 17025) vide-certificate. No.: TC4152 and Certified by ISO (45001:2018)

Sl. No.	Parameters	Protocol	Unit Dec.'2		Standard General Standards for Inland Surface water
					Schedule-VI (EPA-'86)
12.	Fluoride as F	APHA 22 <sup>nd</sup> edition4500-F- D. (P.NO. 4-87 - 88)SPADNS Method	mg/L	1.80	2
13.	Nitrate Nitrogen as NO <sub>3</sub>	IS:3025 (part 34)-1988, RA-2019 Chromotropic acid method	mg/L	6.78	*
14.	Total Alkalinity as CaCO <sub>3</sub>	IS:3025 (part 23)-1986, RA-2019 Indicator method	mg/L	320	200 200 200 200 200 200 200 200 200 200
15.	Total Iron as Fe	APHA 22 <sup>nd</sup> 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	0.010	3

### **END OF REPORT**

Note: 1. RA: Reaffirmed.

2. BDL: Below detectable limit. (For trace metals <0.1).

3. The above results are related only to the samples collected & tested on the particular date and time.

**ANALYZED BY:** 

(G.Dhavaleshwar)

Analyst

VERIFIED BY: 1

(P. Harika) Technical Manager

**AUTHORISED SIGNATORY:** 

(M. Shashikala) HEAD OF THE LABORATORY







# WATER QUALITY MONITORING REPORT (SURFACE WATER)

Report no: II B

**1.** Name of the Project

2. Name of the Client

3. Sample collected by

4. Name of the Location

**5.** Particulars of sample collected

**6.** Field Sample code

7. Lab Sample Code

**8.** Date of sample collection

**9.** Date of sample Received

**10**. Date of sample Analyzed

11. Method of Sampling

: Itagi Lime Stone Mine, Chittapur

M/s. ORIENT CEMENT LIMITED

Cosmo Conscious Research Laboratory

: Mines Pit water

Pit water

ORSW1

CCRL W 9440

12.12.2023

13.12.2023

: 14.12.2023 to 22.12.2023

: IS:3025 (Part 1) 1987 (Reaffirmed 2019)

	-		Unit of	Results	Standard
Sl. No.	Parameters Protocol		col Measur ement		General Standards for Inland Surface water Schedule-VI (EPA-'86)
MICRO	OBIOLOGICAL				
1.	Total Coliform count	APHA 23 <sup>rd</sup> 9222-B (p.no.9-57-61) Membrane filter technique	MPN/ 100 ml	Absent	¥1
2.	Escherichia coli count	APHA 23 <sup>rd</sup> 9221-F (p.no.9-51-52) Membrane filter technique	MPN/ 100 ml Absent		3F

END OF REPORT

Note: The above results are related only to the samples collected & tested on the particular date and time.

**ANALYZED BY:** 

(G.Dhavaleshwar)

**Analyst** 

**VERIFIED BY:** 

(P. Harika)
Technical Manager

**AUTHORISED SIGNATORY:** 

(M. Shashikala)

**HEAD OF THE LABORATORY** 









# COSMO CONSCIOUS RESEARCH LABORATORY

Environmental laboratory, Recognized by Matt & CC, Accredited by NAEL (ISOIEC: 17025) vide certificate No : 1C6152 and Certified by ISO (45001:2018)



# WATER QUALITY MONITORING REPORT (SURFACE WATER)

Report no: II C

Name of the Project 1.

2. Name of the Client

3. Sample collected by

4. Name of the Location

Particulars of sample collected 5.

6. Field Sample code

7. Lab Sample Code

8. Date of sample collection

9. Date of sample Received

Date of sample Analyzed 10.

Method of Sampling 11.

Environmental Condition at the time of 12.

Sampling

13. Unique Lab Report Number Itagi Lime Stone Mine, Chittapur

M/s. ORIENT CEMENT LIMITED

**Cosmo Conscious Research Laboratory** 

Kagina River Water Down stream

River

ORSW2

**CCRL W 9441** 

12.12.2023

13.12.2023

14.12.2023 to 22.12.2023

IS:3025 (Part 1) 1987 (Reaffirmed 2019)

28.9°C

TC6152230000006945F

				Results	Standard
Sl. No.	Parameters Protocol Unit		Dec. '23	General Standards for Inland Surface water Schedule-VI (EPA-'86)	
PHYS	SICAL	*/			
1.	Colour	IS: 3025 (PART 14)- 1984, RA-2021, Platinum cobalt Method	Hazen units	4	ė
2.	Conductivity	IS:3025 (PART 14)-1984, RA-2019, Electrometric method	μs/cms	641	ā
3.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2017, Gravimetric method	mg/L	449	¥
4.	рН	IS:3025 (part 11)-1983, RA-2022, Electrometric method		7.32	5.50 to 9.0
5.	Turbidity	IS:3025 (part 10)-1984, RA-2017, Nephelometric method	NTU	0.1	· ·
6.	Total Suspended Solids	IS:3025 (part 17)-1984, RA-2021, Gravimetric Method	mg/L	17	100
CHEM	ICAL		**		
7.	Calcium as Ca	IS:3025 (part 40)-1991, RA-2019 EDTA Titrimetric method	mg/L	55.31	S#6
8.	Magnesium as Mg	APHA 22 <sup>nd</sup> 350-B-Mg By calculation	mg/L	5.80	:≇:
9.	Total Hardness as CaCO <sub>3</sub>	IS:3025 (part 21)-1983, RA-2019 EDTA Titrimetric method	mg/L	162	
10.	Chloride as Cl	IS:3025 (part 32)-1988, RA-2019 Argentometric Method	mg/L	39.98	945
11.	Sulphate as SO <sub>4</sub>	APHA 22 <sup>nd</sup> 4500-SO4 <sup>2</sup> -E (P.NO.4-190-191) Turbidimetric method	mg/L	4.74	<b>(#</b> 0)

Cont'd...









# COSMO CONSCIOUS RESEARCH LABORATORY



vide certificate No.: 106152 and Certified by ISO (45001:2018)

				Results	Standard
Sl. No.	Parameters	Protocol	Unit	Dec.'23	General Standards for Inland Surface water Schedule-VI (EPA-'86)
12.	Fluoride as F	APHA 22 <sup>nd</sup> edition4500-F <sup>-</sup> D. (P.NO. 4-87 - 88)SPADNS Method	mg/L	1.53	2
13,	Nitrate Nitrogen as NO <sub>3</sub>	IS:3025 (part 34)-1988, RA-2019 Chromotropic acid method	mg/L	5.25	п
14.	Total Alkalinity as CaCO <sub>3</sub>	IS:3025 (part 23)-1986, RA-2019 Indicator method	mg/L	285	121
15.	Total Iron as Fe	APHA 22 <sup>nd</sup> 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	0.040	3

### **END OF REPORT**

Note: 1. RA: Reaffirmed.

2. BDL: Below detectable limit. (For trace metals <0.1).

3. The above results are related only to the samples collected & tested on the particular date and time.

ANALYZED BY:

(G.Dhavaleshwar) **Analyst** 

VERIFIED BY:

**Technical Manager** 

**AUTHORISED SIGNATORY:** 

(M. Shashikala)

**HEAD OF THE LABORATORY** 









# WATER QUALITY MONITORING REPORT (SURFACE WATER)

Report no: II D

1. Name of the Project

2. Name of the Client

**3.** Sample collected by

**4.** Name of the Location

**5.** Particulars of sample collected

6. Field Sample code

7. Lab Sample Code

**8.** Date of sample collection

**9.** Date of sample Received

**10.** Date of sample Analyzed

**11.** Method of Sampling

: Itagi Lime Stone Mine, Chittapur

M/s. ORIENT CEMENT LIMITED

: Cosmo Conscious Research Laboratory

: Kagina River Water Down stream

: River

orsw2

: CCRL W 9441

12.12.2023

13.12.2023

: 14.12.2023 to 22.12.2023

: IS:3025 (Part 1) 1987 (Reaffirmed 2019)

			Unit of		Standard
Sl. No.	Parameters	Protocol	Measur ement	Dec.'23	General Standards for Inland Surface water Schedule-VI (EPA-'86)
MICRO	OBIOLOGICAL				
1,	Total Coliform count	APHA 23 <sup>rd</sup> 9222-B (p.no.9-57-61) Membrane filter technique	MPN/ 100 ml	Absent	*
2.	Escherichia coli count	APHA 23 <sup>rd</sup> 9221-F (p.no.9-51-52) Membrane filter technique	MPN/ 100 ml	Absent	121

END OF REPORT

Note: The above results are related only to the samples collected & tested on the particular date and time.

ANALYZED BY:

(G.Dhavaleshwar) Analyst **VERIFIED BY:** 

(P. Harika) Technical Manager

**AUTHORISED SIGNATORY:** 

(M. Shashikala) Head of the Laboratory









# Analysis Report of Stack Emission

Report No.: III

1	Name of the Industry		Itagi Lime Stone	Mine, Chittapur				
2	Address		M/s. ORIENT CEMENT LIMITED					
3	Date of Sampling		25.12.2023					
4	Sample Type		Stack Monitoring					
5	Sampling Location		Crusher					
6	Duration of Monitoring		37 Minutes					
7	Sample Condition		Satisfactory					
8	Lab Sample code		ST-01					
9	Analysis Start Date		27.12.2023					
10	Analysis Completion Date		28.12.2023					
11	Environmental Condition time of sampling	at the	32°C					
12	Unique Lab Report Numbe	er	TC6152230000006946F					
			Stack Details					
1	Stack attached to		Crusher					
2	Stack Diameter (mtr)		1.5 meters					
		E	mission Details					
Sl. No.	Parameters	Result	Unit of Measurement	Method Adopted (Sampling & Analysis)	Permissible Limit			
1	Stack Temperature	38	0C	IS-11255(Part 01) :1985 RA:2019)				
2	Velocity of Flue Gas	6.51	m/sec	IS-11255 (Part 03) :1985(RA:2019)	-			
3	Particulate Matter	3.60	mg/Nm³	IS-11255 (Part 01) :1985 RA:2019)	<b>Æ</b>			
4	Rate of Discharge of Gas	41,420.20	Nm³/hr	IS-11255(Part 03) :1985(RA:2019)	:•:			

**End of Report** 

Note: 1.The above results are related only to the samples collected & tested on the particular date and time

**ANALYZED BY:** 

(G.Dhavaleshwar) **Analyst** 

**VERIFIED BY:** 

**Technical Manager** 

**AUTHORISED SIGNATORY:** 

(M. Shashikala) **Head of the Laboratory** 









# NOISE LEVEL MONITORING REPORT

Report No.: IV

1. Name of the Project

Itagi Lime Stone Mine, Chittapur

2. Name of the Client

M/s. ORIENT CEMENT LIMITED

M/s. ORIENT CEMEN

3. Sample Collected By

: Cosmo Conscious Research Laboratory

4. Particulars of Sample Collected

Noise Quality Monitoring

5. Month of Monitoring

December 2023

Sl.	Code	Sampling Location	Date	Unit	L max.	L	∠eq	L min.
No.	Coue	Sampling Location	Date	Onic	L max.	Day	Night	
4	N/4	Constitute & Constitute	08.12.2023	dB (A)	62.3	61.9	61.2	57.2
1.	N1	Crushing & Screening	22.12.2023	dB (A)	63.8	62.7	58.7	56.8
			09.12.2023	dB (A)	64.2	61.8	60.9	55.8
2.	N2	Mining Area	23.12.2023	dB (A)	61.9	60.7	59.3	57.8
		COD CC	10.12.2023	dB (A)	55.9	54.9	46.8	444
3.	N3	N3   CCR office	24.12.2023	dB (A)	58.9	54.2	53.8	52.8
	4. N4	Ghi	11.12.2023	dB (A)	56.2	53.8	44.2	43.1
4.		Surge bin	25.12.2023	dB (A)	53.8	52.8	51.9	50.9

END OF REPORT

Note: 1. The above results are related only to the samples collected & tested on the particular date and time.

MOEF ambient Noise	Residential Area	limits dB(A) Leq	Industrial Area limits dB(A) Leq			
standards in dB(A) Leq (No.41,	Day time	Night time	Day time	Night time		
Dt.11.01.2010)	55	45	75	70		
Method Adopted		Integrated Sound Level Meter				

**ANALYZED BY:** 

(G.Dhavaleshwar) Analyst **VERIFIED BY:** 

(P.Harika)

**Technical Manager** 

**AUTHORISED SIGNATORY:** 

(M. Shashikala) Head of the Laboratory







# **January - 2024**



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#### TEST REPORT

Name of the Project Name & Address of the Customer

Particulars of sample

Report Date Page No : M/s. Itagl Lime Stone Mine, Chittapur. : M/s. ORIENT CEMENT LIMITED Tq. Chittapur, Itaga PO, Malkhed Road, Chittapur - 585211. : Ambient Air Quality Monitoring

: Ambient Air Quality Monitoring : 03/02/2024 : 1/1

Name of												
the Station/	Lab Sample	PM v		n <sup>3</sup> )	Carl	on Mon (mg/m <sup>3</sup>						
Date of Sample Collection	Code	(µg/m²)	(µg/m <sup>2</sup> )	I Shift	II Shift	III Shift	1 Shift	II Shift	III Shift	1 Shift	II Shift	III Shif
1. Ne	ar Lime S	itone Cru	sher									
02.01.2024	17	59.0	20.0	12.0	13.0	12.4	20.0	21.0	22.1	ND	ND	ND
03.01.2024	145	56.0	19.4	13.0	15.0	14.1	22.0	23.2	24.0	ND	ND	ND
08.01.2024	319	54.9	21.4	12.0	17.0	16.0	23.0	21.8	22.0	ND	ND	ND
09.01.2024	366	56.0	19.9	11.0	13.0	14.0	21.4	23.0	22.1	ND	ND	ND
16.01.2024	667	57.1	19.0	12.0	11.0	13.0	19.0	18.8	20.0	ND	ND	ND
17.01.2024	695	59.4	21.0	13.0	14.2	15.0	22.0	19.0	23.0	ND	ND	ND
23.01.2024	1025	56.0	19.0	12.0	15.0	13.5	20.0	19.0	18.1	ND	ND	ND
24.01.2024	1123	61.0	24.0	11.4	13.0	12.0	21.0	22.0	19.0	ND	ND	NE
2. Ne	ar Surgb	in Hoppe	r									
02.01.2024	18	60.0	22.4	19.0	18.0	17.0	22.0	24.0	24.1	ND	ND	NE
03.01.2024	146	63.0	25.0	20.0	17.0	21.0	25.0	27.0	24.1	ND	ND	NI
08.01.2024	320	64.4	23.0	19.0	17.0	20.0	23.5	22.4	27.0	ND	ND	NI
09.01.2024	367	62.0	21.0	17.0	16.0	15.1	23.4	25.0	24.0	ND	ND	NI
16.01.2024	668	60.9	22.0	16.0	17.4	16.0	21.0	22.0	23.0	ND	ND	NI
17.01.2024	696	59.7	21.0	15.0	16.0	14.7	20.0	19.0	21.0	ND	ND	NI
23.01.2024	1026	58.2	19.9	14.0	17.0	15.0	20.0	19.9	17.0	ND	ND	NE
24.01.2024	1124	58.0	21.0	17.0	18.0	19.0	21.0	23.0	22.4	ND	ND	NE

Test Method:

PM<sub>10</sub> - IS 5182 (Part-23) 2006 (RA - 2017) PM<sub>25</sub> - IS 5182 (Part-24) 2019 Sulphur Dioxide (SO<sub>2</sub>) - IS 5182 (Part-22) 2001 (RA - 2022) Nitrogen Dioxide (SO<sub>2</sub>) - IS 5182 (Part-0)2006 (RA - 2017) Carbon Monoside - IS 5182 (Part III) 1999 (RA - 2017)

Mater ND - Net Detect









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#### TEST REPORT

Name of the Project Name & Address of the Customer

Particulars of sample

Report Date Page No : M/s. Itagi Lime Stone Mine, Chittapur. : M/s. ORIENT CEMENT LIMITED Tq. Chittapur, Itaga PO, Malkhed Road, Chittapur - 585211. : Ambient Air Quality Monitoring

: Ambient Air Quality Monitoring : 03/02/2024 : 1/1

Name of			Particulars of Sample Collection										
the Station/	Lab Sample	PM <sub>10</sub>	PM >s	s	Ο <sub>2</sub> (μg/π	17	N	O <sub>2</sub> (µg/n	n³)	Carl	on Mon (mg/m³		
Sample Collection		Code	(µg/m²)	(µg/m²)	I Shift	II Shift	III Shift	1 Shift	II Shift	III Shift	I Shift	II Shift	III Shit
3. Ne	ar Minin	g Area											
02.01.2024	19	51.4	19.0	19.0	21.2	23.0	24.0	26.0	27.1	ND	ND	NE	
03.01.2024	147	52.5	18.0	17.0	18.0	15.0	23.0	22.1	21.5	ND	ND	NI	
08.01.2024	321	55.0	17.0	16.0	15.2	17.0	25.0	22.2	21.0	ND	ND	NI	
09.01.2024	368	53.0	19.0	15.0	16.1	17.3	23.0	22.0	23.4	ND	ND	NI	
16.01.2024	669	53.9	17.0	14.0	15.0	17.4	21.0	23.5	22.0	ND	ND	NE	
17.01.2024	697	55.0	18.0	13.0	17.0	19.0	22.0	23.0	21.5	ND	ND	NI	
23.01.2024	1027	54.0	19.0	14.2	15.0	16.0	21.0	22.3	23.0	ND	ND	NU	
24.01.2024	1125	52.3	21.0	18.0	19.0	20.0	22.3	22.0	24.0	ND	ND	NE	
4. Ha	ulage												
02.01.2024	20	52.0	21.0	21.0	19.0	18.4	25.0	26.2	24.0	ND	ND	NI	
03.01.2024	148	49.0	22.0	19.0	16.1	15.2	27.2	22.0	21.1	ND	ND	NI	
08.01.2024	322	52.0	19.7	17.0	16.0	15.9	24.2	25.0	24.0	ND	ND	NI	
09.01.2024	369	54.4	20.0	16.0	15.0	14.0	22.0	21.0	23.8	ND	ND	NI	
16.01.2024	670	53.0	18.0	17.0	18.4	16.0	21.0	22.0	20.8	ND	ND	NI	
17.01.2024	698	55.0	20.1	16.0	15.0	14.3	24.1	23.0	22.2	ND	ND	NI	
23.01.2024	1028	53.0	19.0	14.1	13.0	17.0	21.0	19.0	21.0	ND	ND	NI	
24.01.2024	1126	51.0	22.0	19.9	20.4	20.0	24.0	23.0	22.9	ND	ND	NI	

#### Test Method

rest Method:

PM 33 - 15 5182 (Part-23) 2006 (RA = 2017) PM<sub>23</sub> - 15 5182 (Part-24) 2019 Sulptur Dioxido (SO<sub>2</sub>) - 15 5182 (Part-22) 2001 (RA = 2022) Nitrogen Dioxido (NO<sub>2</sub>) - 15 5182 (Part 6)2006 (RA = 2017) Carbon Monoxide - 15 5182 (Part 10) 1999 (RA = 2019)

Note: ND - Not Detected











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#### TEST REPORT

Name of the Project Name & Address of the Customer

Particulars of Sample Collected Particular of Stack Date of Collection Date of Sample Receipt

Date of Sample Receipt Sample Code / ID Date of Analysis Started Date of Completion Report No Report Date

Page No

: M/s. Itagi Lime Stone Mine, Chittapur. : M/s. ORIENT CEMENT LIMITED Tq. Chittapur, Itaga PO, Malkhed Road, Chittapur - S8211. : Stack Monitoring.

: Chimney attached to "Crusher : 24/01/2024 : 25/01/2024

: NALRC/2024/01/ED/1127 : 25/01/2024 : 29/01/2024

: NALRC/2024/01/1127 : 29/01/2024

#### Instrument Used:

Instrument Name	Make	Model	Instrument Calibrated Date	Instrument calibration due Date
Stack Monitoring Kit	Greentech Instruments	GTI 121	12/03/2023	11/03/2024

#### General Details

Date of Monitoring	24/01/2024
Ambient Temperature(°C)	31.0
Stack Diameter (m)	1.5
Quantity of flue gas discharged into the atmosphere (Nm3/Hr)	41271.50
Flue Gas Temperature	41
Exit Velocity of gas (Mts/Sec)	6.7

#### STACK MONITORING RESULTS

Parameters	Unit	Result	Limits	Test Method
Particulate matter	mg/Nm <sup>3</sup>	4.1	-	IS 11255 (Part 1) 1985 RA 2019

\*\*\*\*\*End of the report\*\*\*\*\*





rthorized Signatory



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#### TEST REPORT

Name of the Project Name & Address of the Customer

Particulars of sample Date of Collection Date of Sample Receipt Sample Code / ID Date of Analysis Started Date of Completion Report Date

Page No

Instrument Used:

: M/s. Itagi Lime Stone Mine, Chittapur. M/s. ORIENT CEMENT LIMITED To. Chittapur, Itaga PO, Malkhed Road, Chittapur - 585211

: Noise Monitoring (Day Time) -02/01/2024 : 03/01/2024

: NALRC/2024/01/ED/21 : 03/01/2024 : 04/01/2024

NALRC/2024/01/21 :05/01/2024

nent		

Instrument Name	SI No	Calibrated Date	Calibrated Due Date
SOUND LEVEL METER	160508096	12/03/2023	11/03/2024

#### NOISE MONITORING RESULTS

SI No	Sample Location	Min	Max	Leq dB (A)	KSPCB Standards	Test Method	
1	Crushing & Screening	59.2	67.4	63.17			
2	Mining Area	61.0	66.7	63.79	75 dB (A) Los	1S 9989:1981 (Reaffirmed-	
3	CCR Office	58.4	65.2	61.71	75 dB (A) Leq	2020)	
4	Surgebin	59.7	66.9	63.20			

\*\*\*\*\*End of the report\*\*\*\*\*









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#### IESI NEFUNI

Name of the Project Name & Address of the Customer

Particulars of sample Date of Collection Date of Sample Receipt Sample Code / ID Date of Analysis Started Date of Completion Report No Report Date Page No Chittapur - 585211.
: Noise Monitoring (Night Time)
:02/01/2024
:03/01/2024
: NALIRC/2024/01/ED/22
:03/01/2024

: 03/01/2024 : 04/01/2024 : NALRC/2024/01/22 : 05/01/2024

: M/s, Itagi Lime Stone Mine, Chittapur. : M/s, ORIENT CEMENT LIMITED

Tq. Chittapur, Itaga PO, Malkhed Road,

Instrument Used:

Instrument Name	SI No	Instrument Calibrated Date	Instrument Calibrated Due Date
SOUND LEVEL METER	160508096	12/03/2023	11/03/2024

#### NOISE MONITORING RESULTS

SI No	Sample Location	Min	Max	Leq dB (A)	KSPCB Standards	Test Method
1	Crushing & Screening	58.4	63.8	61.04		
2	Mining Area	59.8	65.1	62.39	70 dB (A) Leg	IS 9989:1981 (Reaffirmed-
3	CCR Office	54.9	63.9	59.23	70 dB (A) Leq	2020)
_	rkis	58.3	61.5	61.32		

\*\*\*\*End of the report\*\*\*









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Name of the Project Name & Address of the Customer

Date of Collection Date of Sample Receipt Sample Code / ID

Report Date Page No

Chittapur - 585211 : 24/01/2024 : NALRC/2024/01/ED/1029

: Noise Monitoring (Day Time) : 24/01/2024

: M/s. Itagi Lime Stone Mine, Chittapur.

To. Chittapur, Itaga PO, Malkhed Road,

M/s, ORIENT CEMENT LIMITED

· NALRC/2024/01/1029 : 27/01/2024

Instrument Name	SI No	Instrument Calibrated Date	Instrument Calibrated Due Date
SOUND LEVEL METER	160508096	12/03/2023	11/03/2024

#### NOISE MONITORING RESULTS

SI No	Sample Location	Min	Max	Leq dB (A)	KSPCB Standards	Test Method
1	Crushing & Screening	57.7	69.7	63.42		
2	Mining Area	59.8	67.8	63.67	- 75 dB (A) Leq	15 9989:1981 (Reaffirmed-
3	CCR Office	59.2	66.1	62.55	75 db (A) Laq	2020)
4	Surgehin	57.9	65.7	61.68		

\*\*\*\*\*End of the report\*\*\*\*\*









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#### TEST REPORT

Name of the Project Name & Address of the Customer

Particulars of sample Date of Collection Date of Sample Receipt Sample Code / ID Date of Analysis Started

Instrument Used:

Page No

: M/s. Itagi Lime Stone Mine, Chittapur. M/s. ORIENT CEMENT LIMITED To. Chittapur, Itaga PO, Malkhed Road, Chittapur - 585211

: Noise Monitoring (Night Time) : 23/01/2024 : 24/01/2024 : NALRC/2024/01/ED/1030

: 24/01/2024 : 25/01/2024 - NAURC/2024/01/1030

#### Instrument SINo Instrument Name Calibrated Date Calibrated Due Date 12/03/2023 11/03/2024 SOUND LEVEL METER 160508096

#### NOISE MONITORING RESULTS

SI No	Sample Location	Min	Max	Leq dB (A)	KSPCB Standards	Test Method
1	Crushing & Screening	55.8	60.4	58.05		
2	Mining Area	58.2	62.8	60.46	70 dB (A) Leq	[S 9989:1981 (Reaffirmed- 2020)
3	CCR Office	57.1	62.4	59.69	- 70 dib (7t) Lieq	
4	Surgebin	57.9	62.7	60.25	-	

\*\*\*\*\*End of the report\*\*\*\*\*







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#### TEST REPORT

Name of the Project : M/s. Itagi Lime Stone Mine, Chittapur. Name & Address of the Customer : M/s, ORIENT CEMENT LIMITED To. Chittapur, Itaga PO, Malkhed Road,

Date of Sample Collection

Particulars of sample

Date of sample Receipt Date of Analysis Started Date of completion

Report Date Page No

Report No

Chittapur - 585211 :31/01/2024 : Upstream Water

Sample Qty: 2 Liters+500ml, Sampling Type: Grab

: NALEC/2024/01/W/496 :31/01/2024 : 05/02/2024

: NALRC/2024/02/W/119 :05/02/2024

: Colorless, Odorless, turbid liquid.

SI No	Parameters	Results	Test Method
01	Color, Hazen Units	<1.0	15 3025 (P-04)2021
02	Conductivity, µS/cm	579.0	IS 3025 (P-14)1984 RA 2019
03	Total Dissolved Solids, mg/L	347.0	15 3025 (P-16)2023
04	pH Value	7.3	IS 3025 (P-11)2022
05	Turbidity, NTU	9.2	15 3025 (P-10)2022
06	Total Suspended Solids	15:0	IS 3025(P-17) 2022
(07	Calcium as Ca, mg/L	44.0	IS 3025 (P-40)1991 RA 2019
(13	Magnesium as Mg, mg/L	29.0	IS 3025 (P-46)1994RA 2019
09	Total Hardness as CaCO3, mg/L	230.0	IS 3025 (P-21)2009 RA 2019
10	Chloride as Cl, mg/L	31.0	IS 3025 (P-32)1988 RA 2019
11	Sulphate as SO4, mg/L	24.0	APHA 23rd Edition45009O4
12	Fluoride as F, mg/L	0.66	APHA 23rd Edition4500F- D
13	Nitrate as NO3, mg/L	7.9	APHA 23rd Edition NO3 B
14	Total Alkalinity as CaCO3, mg/L	227.0	IS 3025 (P-23)1986 RA 2019
15	Iron as Fe, mg/L	0.42	APHA 23rd Edition 3500-Fe B
16	Total coliform bacteria MPN/100ml	12.0	IS 15185 2016 (RA-2021)
17	Escherichia Coli, MPN/100ml	Absent	IS 15185 2016 (RA-2021)

\*\*\*\*\*End of the report









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#### TEST REPORT

Name of the Project Name & Address of the Customer : M/s. Itagi Lime Stone Mine, Chittapur. : M/s. ORIENT CEMENT LIMITED Tq. Chittapur, Itaga PO, Malkhed Road, Chittapur = 585211.

Date of Sample Collection : 31/01/2024

: 31/01/2024 : Pit Water (Itagi Lime Stone Mine Chittapur) Sample Qty: 2 Liters+500ml, Sampling Type: Grab

Particulars of sample : Pit Wate

Date of sample Receipt : 31/01/2024
Sample ID/Code : NALRC/2024/01/W/498

 Sample ID/Code
 : NALRC/2024/01/W/ 

 Date of Analysis Started
 :31/01/2024

 Date of completion
 :05/02/2024

 Report No
 :NALRC/2004/02/132

Report Date : 05/02/2024 Page No : 1/1

Description : Colourless, Odourless, transparent liquid

SI No	Parameters	Results	Test Method
01	Color, Hazen Units	<1.0	IS 3025 (P-04)2021
02	Conductivity, µS/cm	648.0	IS 3025 (P-14)1984 RA 2019
03	Total Dissolved Solids, mg/L	388.0	IS 3025 (P-16)2023
04	pH Value	8.2	IS 3025 (P-11)2022
05	Turbidity, NTU	1.2	IS 3025 (P-10)2022
06	Total Suspended Solids	2.0	IS 3025(P-17) 2022
07	Calcium as Ca, mg/L	57.0	IS 3025 (P-40)1991 RA 2019
08	Magnesium as Mg, mg/L	29.0	IS 3025 (P-46)1994RA 2019
09	Total Hardness as CaCO3, mg/L	263.0	IS 3025 (P-21)2009 RA 2019
10	Chloride as Cl, mg/L	41.0	IS 3025 (P-32)1988 RA 2019
11	Sulphate as SO4, mg/L	43.0	APHA 23rd Edition45009O4
12	Fluoride as F, mg/L	1.22	APHA 23rd Edition4500F- D
13	Nitrate as NO3, mg/L	35.5	APHA 23rd Edition NO3 B
14	Total Alkalinity as CaCO3, mg/L	284.0	IS 3025 (P-23)1986 RA 2019
15	Iron as Fe, mg/L	0.09	APHA 23rd Edition 3500-Fe B
16	Total coliform bacteria MPN/100ml	Absent	IS 15185 2016 (RA-2021)
17	Escherichia Coli, MPN/100ml	Absent	IS 15185 2016 (RA-2021)

\*\*\*\*\*End of the report\*\*\*









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## mail : info@naircindia.com / patil.hrb@gmail.com Web : www.naircindia TEST REPORT

Name of the Project Name & Address of the Cu

Date of Sample Collection Particulars of sample

Date of sample Receipt Sample ID/Code Date of Analysis Startes Date of completion Report No

Report Date Page No Description : M/s. Itagi Lime Stone Mine, Chittapur. : M/s. ORIENT CEMENT LIMITED

Tq. Chittapur, Itaga PO, Malkhed Road, Chittapur - 585211.

: 31/01/2024 : Borewell Water (Diggaon)

Sample Qty: 2 Liters + 500 ml, Sampling Type: Grab Sampling Point: From Borewell Water Tap : 31/01/2024

: NALRC/2024/01/W/499 : 31/01/2024

: 31/01/2024 : 05/02/2024 : NALRC/2024/02/133

: 05/02/2024

: Colourless, Odourless, transparent liquid

SI No	Parameters	Results	Requirement Acceptable Limits	Permissible limit in the absence at alternate source	Test Method
				10500:2012)	
01	Coluor, Hazen Units	<1.0	5	15	IS 3025 (P-04)2021
02	Odour	Agreeable	Agreeable	Agreeable	IS 3025 (P-05)2018
03	pH Value	7.2	6.5-8.5	No relaxation	IS 3025 (P-11)2022
04	Turbidity, NTU	0.7	1	5	IS 3025 (P-10)2022
0.5	Conductivity, µS/cm	\$16.0	_	_	15 3025 (P-14)1984 RA 2019
06	Total Dissolved Solids, mg/L	490.0	500	2000	IS 3025 (P-16)2023
07	Total Hardness as CaCO <sub>5</sub> , mg/L	392.0	200	600	15 3025 (P-21)2009 RA 2019
88	Cakium as Ca, mg/L	108.0	75	200	15 3025 (P-40)1991 RA 2019
09	Magnesium as Mg, mg/L	29.0	30	100	15 3025 (P-46)1994RA 2019
10	Chloride as Cl, mg/L	21.0	250	1000	15 3025 (P-32)1988 RA 2019
11	Total Alkalinity as CaCO <sub>1</sub> , mg/L	296.0	200	600	15 3025 (P-23)1986 RA 2019
12	Residual Free Chlorine as Cl., mg/L	<0.2	Min 82	Min 1.0	IS 3025 (P-26)2021
	Boron as B, mg/L	<0.1	0.5	2.4	APHA 23rd Edition45008 B
14	Fluoride as F, mg/L	1.45	1	1.5	APHA 23rd Edition4500F-D
15	Nitrate as NO <sub>1</sub> me/L	41.0	45	No relaxation	APHA 23rd Edition 4500NO3 B
16	Iron as Fe, mg/L	0.06	1.0	No relaxation	APHA 23rd Edition 3500-Fe B
17	Sulphate as SO <sub>4</sub> , mg/L	3.0	200	400	APHA 23rd Edition45009Og/E
18	Aluminum as Al. mg/L	0.011	0.03	0.2	IS 3025 (P-2)2019
19	Manganese as Mn, mg/L	0.009	0.1	0.3	IS 3025 (P-2)2019
20	Selenium as Se, mg/L	<0.005	0.01	No relaxation	IS 3025 (P-2)2019
21	Copper as Cu, mg/L	<0.005	0.05	1.5	IS 3025 (P-2)2019
22	Zinc as Zn, mg/L	0.014	5	15	IS 3025 (P-2)2019
23	Cadmium as Cd, mg/L	<0.005	0.003	No relaxation	15 3025 (P-2)2019
24	Total chromium, mg/L	<0.005	0.05	No relaxation	IS 3025 (P-2)2019
25	Lead as Pb, mg/L	<0.005	0.01	No relaxation	IS 3025 (P-2)2019
26	Barium as Ba, mg/L	<0.005	0.70	No relaxation	15 3025 (P-2)2019
27	Nickel as Ni. mg/L	<0.005	0.02	No relaxation	15 3025 (P-2)2019
28	Arsenic as As ,mg/L	<0.005	0.01	No relaxation	IS 3025 (P-2)2019









Date of Sample Collection

#### NATIONAL ANALYTICAL LABORATORIES AND RESEARCH CENTER

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: M/s. Itagi Lime Stone Mine, Chittapur. Name of the Project Name & Address of the Customer

: M/s, ORIENT CEMENT LIMITED Tq. Chittapur, Itaga PO, Malkhed Road, Chittanur - 585211.

:31/01/2024

: Borewell Water (Diggaon) Particulars of sample Sample Oty: 2 Liters + 500 ml, Sampling Type: Grab Sampling Point: From Borewell Water Tap

Date of sample Receipt

: NALRC/2024/01/W/499 Sample ID/Code : 31/01/2024

: 06/02/2024 Date of completion NALRC/2024/02/133 Report No

-06/02/2024 Report Date Page No

: Colourless, Odourless, transparent liquid. Description

SI No	Parameters	Results	Requirement Acceptable Limits	Permissible limit in the absence at alternate source		Test Method
				10500:2012)		
01	Taste	Agreeable	Agreeable	Agreeable		25 (P-08)1984 RA 2017
02	Phenolic compourds as C <sub>3</sub> H <sub>3</sub> OH, mg/L	<0.001	100.0	0.002	IS 3	225 (P-43)1992 RA 2019
Bacte	rriological Parameters:					
03	Total coliform bacteria MPN/100ml	Not Detected		nectable in 100 ml sa		IS 15185 2016 (RA-2021)
0.1	E. coli, MPN/100ml	Not Detected	Shall not be do	tectable in 100 ml sa	mple	IS 15185 2016 (RA-2021)

Min: Minimum Note: The Test Residual free Chlorine is applicable only when water is chlorinated. Remarks: -The given sample meets to Permissible limits as per IS 10500:2012 for above Physico - chemical testing &









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#### TEST REPORT

Name of the Project Name & Address of the Customer

Date of Sample Collection Particulars of sample

Date of sample Receipt Sample ID/Code Date of Analysis Started

Date of Analysis Started Date of completion Report No Report Date

Page No Description : M/s. Itagi Lime Stone Mine, Chittapur. : M/s. ORIENT CEMENT LIMITED

M/s, ORIENT CEMENT LIMITED Tq. Chittapur, Itaga PO, Malkhed Road, Chittapur - 585211.

: 31/01/2024 : Borewell Water (Itagi)

Sample Qty: 2 Liters + 500 ml, Sampling Type: Grab Sampling Point: From Borowell Water Tap :31/01/2024

: NALRC/2024/01/W/500 : 31/01/2024

: 05/02/2024 : 05/02/2024 : NALRC/2024/02/134

: NALRC/2024/02/134 : 05/02/2024 : 1/2

: Colourless, Odourless, transparent liquid.

SI No	Parameters	Results	Requirement Acceptable Limits	Permissible limit in the absence at alternate source 10500:2012	Test Method
		<1.0	(As per 15	10500(2012)	15 3025 (P-04)2021
01	Coluor, Hazen Units	Agrecable	Agreeable	Aerocable	15 3025 (P-05)2018
02		7.2	6.5-8.5	No relaxation	15 3025 (P-11)2022
03	pH Value Turbidity, NTU	4.8	1	5	IS 3025 (P-10)2022
		1132.0		-	IS 3025 (P-14)1984 RA 2019
05	Conductivity, µS/cm Total Dissolved Solids, me/L	679.0	500	2000	IS 3025 (P-16)2023
06		352.0	200	600	IS 3025 (P-21)2009 RA 2019
07	Total Hardness as CaCO <sub>1</sub> , mg/L	71.0	75	200	IS 3025 (P-40)1991 RA 2019
CB	Calcium as Ca, mg/L	40.0	30	100	IS 3025 (P-46)1994RA 2019
09	Magnesium as Mg, mg/L	51.0	250	1000	IS 3025 (P-32)1988 RA 2019
10	Chloride as Cl, mg/L		200	600	IS 3025 (P-23)1986 RA 2019
11	Total Alkalinity as CaCO <sub>1</sub> , mg/L	357.0	200 Min 8.2	Min 1.0	IS 3025 (P-26)2021
	Residual Free Chlorine as Cl <sub>2</sub> , mg/L	<0.2		2.4	APHA 23rd Edition4500B B
	Boron as B, mg/L	<0.1	0.5	15	APHA 23rd Edition4500F D
14	Fluoride as F, mg/L	1.11	1	No relocation	APHA 23rd Edition 4500NO3 B
15	Nitrate as NO <sub>3</sub> mg/L	42.6	45		APHA 23rd Edition 3500-Fe B
16	Iron as Fe, mg/L	0.38	1.0	No relaxation	APHA 23rd Edition45009OchE
17	Sulphate as SO <sub>4</sub> , mg/L	62.0	200	400	15 3025 (P-2)2019
18	Aluminum as Al, mg/L	0.028	0.03	0.2	IS 3025 (P-2)2019 IS 3025 (P-2)2019
19	Manganese as Mn, mg/L	0.011	0.1	0.3	
20	Selenium as Se, mg/L	<0.005	0.01	No relaxation	IS 3025 (P-2)2019
21	Copper as Cu, mg/L	0.026	0.05	1.5	IS 3025 (P-2)2019
22	Zinc as Zn, mg/L	0.034	5	15	IS 3025 (P-2)2019
23	Cadmium as Cd, mg/L	<0.003	0.003	No relaxation	IS 3025 (P-2)2019
24	Total chromium, mg/L	<0.005	0.05	No relaxation	IS 3025 (P-2)2019
25	Lead as Pb, mg/L	0.008	0.01	No relaxation	IS 3025 (P-2)2019
26	Barium as Ba, mg/L	0.062	0.70	No relaxation	IS 3025 (P-2)2019
27	Nickel as Ni, mg/L	<0.005	0.02	No relaxation	IS 3025 (P-2)2019
28	Arsenic as As .mg/L	<0.005	#Ukraltoja	No relaxation	15 3025 (P-2)2019







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#### TEST REPORT

Name of the Project Name & Address of the Customer

Date of Sample Collection Particulars of sample

Date of sample Receipt

Sample ID/Code Date of completion

Page No Description · M/s. Itari Lime Stone Mine, Chittapur. : M/s. ORIENT CEMENT LIMITED Tq. Chittapur, Itaga PO, Malkhed Road,

Chittapur - 585211. : Borewell Water (Itagi)

Sample Oty: 2 Liters + 500 ml, Sampling Type: Grab Sampling Point: From Borewell Water Tap :31/01/2024 : NALRC/2024/01/W/500

:31/01/2024 : 05/02/2024 : NALRC/2024/02/134

: 05/02/2024

: Colourless, Odourless, transparent liquid

SI No	Parameters	Results	Acceptable Limits	limit in the absence at alternate source		Test Method
			(As per IS 10500:2012)			
01	Taste	Agreeable	Agreeable	Agreeable		025 (P-08)1984 RA 2017
02	Phenolic compounds as CaHyOH, mg/L	< 0.001	0.001	0.002	IS 3	025 (P-43)1992 RA 2019
Bacte	riological Parameters:					
03	Total coliform bacteria MPN/100ml	Not Detected	Shall not be de	stectable in 100 ml sa	mple	IS 15185 2016 (RA-2021)
04	C coli MON (100ml	Not Departed	Shall not be de	stectable in 100 ml sa	mulė	IS 15185 2016 (RA-2021)

Min: Minimum

Note: The Text Residual free Chlorine is applicable only when water is chlorinated. Remarks: -The given sample meets to Permissible limits as per IS 10500:2012 for above Physico - chemical testing &

\*\*\*\* End of the Report\* \*\*\*









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: M/s. Itagi Lime Stone Mine, Chittapur, Name of the Project : M/s, ORIENT CEMENT LIMITED

#### Name & Address of the Customer

Tq. Chittapur, Itaga PO, Malkhed Road, Chittapur - 585211.

:31/01/2024 Date of Sample Collection Particulars of sample

: Borewell Water (Mogla Tande) Sample Qty: 2 Liters + 500 ml, Sampling Type: Grab Sampling Point: From Borewell Water Tap

Date of sample Receipt Sample ID/Code : NALRC/2024/01/W/501

Date of Analysis Started :31/01/2024 105/02/2024

Date of completion Report No : NALRC/2024/02/135

: 05/02/2024 Report Date

Page No : Colourless, Odourless, transparent liquid Description

			Requirement Acceptable	Permissible limit in the	Test Method
SI No	Parameters	Results	Limits	absence at	
No				alternate source	
			(As per IS	10500:2012)	
01	Coluor, Hazen Units	<1.0	5	15	IS 3025 (P-04)2021
02	Odour	Agreeable	Agreeable	Agreeable	IS 3025 (P-05)2018
03	pH Value	7.4	6.5-8.5	No relaxation	IS 3025 (P-11)2022
04	Turbidity, NTU	1.3	1	5	1S 3025 (P-10)2022
05	Conductivity, uS/cm	1105.0			15 3025 (P-14)1984 RA 2019
06	Total Dissolved Solids, mg/L	663.0	500	2000	1S 3025 (P-16)2023
07	Total Hardness as CaCOs, mg/L	275.0	200	600	IS 3025 (P-21)2009 RA 2019
08	Calcium as Ca. mg/L	73.0	75	200	IS 3025 (P-40)1991 RA 2019
09	Magnesium as Mg, mg/L	23.0	30	100	IS 3025 (P-46)1994RA 2019
10	Chloride as Cl. mg/L	70.0	250	1000	IS 3025 (P-32)1988 RA 2019
11	Total Alkalinity as CaCO <sub>3</sub> , mg/L	309.0	200	600	IS 3025 (P-23)1986 RA 2019
12	Residual Free Chlorine as Cl2. mg/L	<0.2	Min 0.2	Min 1.0	IS 3025 (P-26)2021
13	Boron as B. mg/L	< 0.1	0.5	2.4	APHA 23rd Edition4500B B
14	Fluoride as F. mg/L	1.21	1	1.5	APHA 23rd Edition4500F-D
15	Nitrate as NOs. mg/L	24.3	45	No relaxation	APHA 23rd Edition 4500NO3 B
16	Iron as Fe, mg/L	0.011	1.0	No relaxation	APHA 23rd Edition 3500-Fe B
17	Sulphate as SO <sub>L</sub> mg/L	96.0	200	400	APHA 23rd Edition4500SO <sub>4</sub> 3E
18	Aluminum as Al. mg/L	0.011	0.03	0.2	IS 3025 (P-2)2019
19	Manganese as Mn. mg/L	<0.005	0.1	0.3	IS 3025 (P-2)2019
20	Selenium as Se. mg/L	<0.005	0.01	No relaxation	IS 3025 (P-2)2019
21	Copper as Cu, mg/L	<0.005	8.05	1.5	IS 3025 (P-2)2019
22	Zinc as Zn. mg/L	<0.005	5	15	IS 3025 (P-2)2019
23	Cadmium as Cd, mg/L	<0.003	0.003	No relaxation	IS 3025 (P-2)2019
24	Total chromium, mg/L	40,005	0.05	No relaxation	IS 3025 (P-2)2019
25	Lend as Pb. mg/L	<0.005	0.01	No relaxation	IS 3025 (P-2)2019
26	Barium as Ba, mg/L	0.028	0.70	No relaxation	15 3025 (P-2)2019
27	Nickel as Ni, mg/L	40.005	20.0	No relaxation	15 3025 (P-2)2019
28	Arsenic as As .mg/L	<0.005	(1908s)	No relaxation	15 3025 (P-2)2019







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: M/s, ORIENT CEMENT LIMITED

#### TEST REPORT

Name of the Project

Name & Address of the Customer

Date of Sample Collection

Particulars of sample

Date of Analysis Started Date of completion

Report No Description

Min: Minimum

Tq. Chittapur, Itaga PO, Malkhed Road, Chittapur - 585211

: Borewell Water (Mogla Tande) Sample Oty: 2 Liters + 500 ml, Sampling Type: Grab Sampling Point: From Borewell Water Tap

: NALRC/2024/01/W/501 :31/01/2024

- 05/02/2024 : NALRC/2024/02/135

: 05/02/2024 : Colourless, Odourless, transparent liquid

Requirement Permissible

SI No	Parameters	Results	Acceptable Limits	limit in the absence at alternate source	Test Method		
			(As per IS 10500:2012)				
01	Taste	Agreeable	Agreeable	Agreeable		025 (P-08)1984 RA 2017	
02	Phenolic compourds as CaHaOH, mg/L	<0.001	0.001	0.002	153	(025 (P-43)1992 RA 2019	
Bacte	eriological Parameters:						
03	Total coliform bacteria MPN/100ml	Not Detected	Shall not be de	etectable in 100 ml sa	mple	IS 15185 2016 (RA-2021)	

E. coli, MPN/100ml

Note: The Test Residual free Chlorine is applicable only when water is chlorinated. Remarks: The given sample meets to Permissible limits as per IS 10500:2012 for above Physico - chemical testing &









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#### TEST REPORT

Name of the Project Name & Address of the Customer

Date of Sample Collection Particulars of sample

Date of sample Receipt Sample ID/Code Date of Analysis Started Date of completion

Report No Report Date Page No

: M/s. Itari Lime Stone Mine. Chittapur. : M/s, ORIENT CEMENT LIMITED

Tq. Chittapur, Itaga PO, Malkhed Road, Chittapur - 585211 :31/01/2024

: Borewell Water (Chittapur) Sample Oty: 2 Liters + 500 ml, Sampling Type: Grab

Sampling Point: From Borewell Water Tap -31/01/2024 : NALRC/2024/01/W/502

:31/01/2024 : 05/02/2024

: NALRC/2024/02/136 : 05/02/2024

: Colourless, Odourless, transparent liquid

SI No	Parameters	Results	Acceptable Limits	limit in the absence at alternate source	Test Method
				10500:2012)	
01	Coluor, Hazen Units	<1.0	5	15	IS 3025 (P-04)2021
02	Odour	Agreeable	Agrecable	Agreeable	IS 3025 (P-05)2018
03	pH Value	6.9	65-85	No relaxation	IS 3025 (P-11)2022
04	Turbidity, NTU	0.7	1	5	IS 3025 (P-10)2022
05	Conductivity, µS/cm	1390.0	-	-	IS 3025 (P-14)1984 RA 2019
06	Total Dissolved Solids, mg/L	834.0	500	2000	IS 3025 (P-16)2023
	Total Hardness as CaCO <sub>5</sub> , mg/L	457.0	200	600	IS 3025 (P-21)2009 RA 2019
(18)	Calcium as Ca, mg/L	73.0	75	200	IS 3025 (P-40)1991 RA 2019
(9)	Magnesium as Mg, mg/L	67.0	30	100	IS 3025 (P-46)1994RA 2019
10	Chloride as Cl, mg/L	260.0	250	1000	15 3025 (P-32)1988 RA 2019
11	Total Alkalinity as CaCOs. mg/L	224.0	200	600	IS 3025 (P-23)1986 RA 2019
12	Residual Free Chlorine as Cl <sub>2</sub> , mg/L	40.2	Min 0.2	Min 1.0	IS 3025 (P-26)2021
	Boron as B. me/L	40.1	0.5	2.4	APHA 23rd Edition4500B B
14	Fluoride as F, mg/L	0.26	1	1.5	APHA 23rd Edition4500F D
15	Nitrate as NOs me/L	32.6	45	No relaxation	APHA 23rd Edition 4500NO3 I
16	Iron as Fe, me/L	0.06	1.0	No relaxation	APHA 23rd Edition 3800-Fe B
	Sulphate as SO <sub>4</sub> mg/L	28.0	200	400	APHA 23rd Edition45005O <sub>4</sub> -E
18	Aluminum as Al. mg/L	<0.005	0.03	0.2	IS 3025 (P-2)2019
19	Manganese as Mn, mg/L	<0.005	0.1	0.3	IS 3025 (P-2)2019
20	Selenium as Se, mg/L	<0.005	0.01	No relaxation	IS 3025 (P-2)2019
21	Copper as Cu, mg/L	<0.005	0.05	1.5	IS 3025 (P-2)2019
22	Zinc as Zn, mg/L	<0.005	5	15	IS 3025 (P-2)2019
23	Cadmium as Cd, mg/L	<0.003	0.003	No relaxation	IS 3025 (P-2)2019
24	Total chromium, mg/L	<0.005	0.05	No relaxation	IS 3025 (P-2)2019
25	Lead as Pb. mg/L	<0.005	0.01	No relaxation	IS 3025 (P-2)2019
26	Barium as Ba, mg/L	<0.005	0.70	No relaxation	IS 3025 (P-2)2019
27	Nickel as Ni, mg/L	<0.005	0.02	No relaxation	IS 3025 (P-2)2019
28	Arsenic as As .me/L	<0.005	September 1	No relaxation	IS 3025 (P-2)2019







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#### F-mail - infn@colocindia.com / cotil hrh@conail.com Web - www.nalrcindia.com TEST REPORT

Name of the Project

Name & Address of the Customer

Date of Sample Collection Particulars of sample

Date of sample Receipt Sample ID/Code

Date of completion Report Date Page No

Description

: M/s. Itagi Lime Stone Mine, Chittapur. M/s ORIENT CEMENT LIMITED

To. Chittapur, Itaga PO, Malkhed Road, Chittapur - 585211

-31/01/2024 : Borewell Water (Chittapur)

Sample Oty: 2 Liters + 500 ml, Sampling Type: Grab Sampling Point: From Borewell Water Tap

: NALRC/2024/01/W/502 :31/01/2024 :05/02/2024

: NALRC/2024/02/136 : 05/02/2024

: Colourless, Odourless, transparent liquid

SI No	Parameters	Results	Acceptable Limits	limit in the absence at alternate source		Test Method		
			(As per 1S	10500:2012 )				
01	Taste	Agreeable	Agreeable	Agreeable		025 (P-06)1984 RA 2017		
02	Phenolic compourds as C <sub>2</sub> H <sub>2</sub> OH, mg/L	<0.001	0.001	0.002	153	025 (P-43)1992 RA 2019		
Bacte	riological Parameters:							
03	Total coliform bacteria MPN/100ml			IS 15185 2016 (RA-2021)				
04	E, coli, MPN/100ml	Not Detected	Shall not be de	rectable in 100 ml sa	mple	nple IS 15185 2016 (RA-2021)		

Min: Minimum

Note: The Text Residual free Chlorine is applicable only when water is chlorinated. Remarks: -The given sample meets to Permissible limits as per IS 10500:2012 for above Physico - chemical testing &







# February - 2024



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# **TEST REPORT**

Name of the Project Name & Address of the Customer : M/s. Itagi Lime Stone Mine, Chittapur. : M/s. ORIENT CEMENT LIMITED Tq. Chittapur, Itaga PO, Malkhed Road, Chittapur – 585211.

: Ambient Air Quality Monitoring

: 03/03/2024

: 1/1

Particulars of sample Report Date Page No

Name of					Part	iculars o	of Samp	le Collec	tion							
the Station/ Date of	Lab Sample	PM 10	PM 2.5	9	O <sub>2</sub> (μg/n	n³)	N	1O2 (μg/1	n³)	Car	bon Mon (mg/m³					
Sample Collection	Code	(μg/m³)	(μg/m³)	I Shift	II Shift	III Shift	I Shift	II Shift	III Shift	I Shift	II Shift	III Shift				
1.	Near Lir	ne Stone	Crusher													
01.02.2024	04	58.0	19.0	11.0	13.0	12.2	20.0	21.2	20.4	ND	ND	ND				
03.02.2024	71	57.2	20.2	12.0	14.2	14.8	19.8	20.8	20.3	ND	ND	ND				
06.02.2024	186	55.4	21.1	13.0	16.0	12.3	21.4	20.3	19.8	ND	ND	ND				
08.02.2024	345	57.0	19.8	11.4	14.0	14.2	18.4	19.2	17.9	ND	ND	ND				
12.02.2024	588	56.2	18.4	12.1	12.0	16.8	18.0	20.4	21.0	ND	ND	ND				
14.02.2024	706	59.1	26.8	11.0	13.0	12.3	18.4	19.8	22.0	ND	ND	ND				
21.02.2024	1340	57.0	19.4	11.4	14.3	13.7	21.0	19.9	21.2	ND	ND	ND				
23.02.2024	1524	62.0	23.8	11.8	13.7	12.0	20.3	21.0	22.0	ND	ND	ND				
2.	Near Su	gbin Ho	pper													
01.02.2024	05	63.0	22.1	20.2	19.0	18.8	23.0	24.2	25.0	ND	ND	ND				
03.02.2024	72	61.8	25.4	21.0	19.9	20.8	22.9	23.8	24.2	ND	ND	ND				
06.02.2024	187	62.4	23.8	20.0	19.4	19.9	23.9	24.4	23.0	ND	ND	ND				
08.02.2024	346	59.9	24.4	12.7	20.0	21.0	23.0	24.1	22.0	ND	ND	ND				
12.02.2024	589	58.4	23.8	17.0	18.8	19.0	25.2	26.0	24.0	ND	ND	ND				
14.02.2024	707	60.3	24.7	16.9	17.0	20.0	26.0	25.2	25.0	ND	ND	ND				
21.02.2024	1341	61.7	25.4	12.9	20.4	21.0	25.2	24.6	24.0	ND	ND	ND				
23.02.2024	1525	60.9	22.0	17.4	20.0	18.0	25.0	25.2	24.4	ND	ND	ND				

### Test Method:

PM 10 - IS 5182 (Part-23) 2006 (RA - 2017)

PM<sub>2.5</sub> - IS 5182 (Part-24) 2019

Sulphur Dioxide (SO<sub>2</sub>) - IS 5182 (Part-22) 2001 (RA - 2022)

Nitrogen Dioxide (NO<sub>2</sub>) - IS 5182 (Part 6)2006 (RA - 2017)

Carbon Monoxide - IS 5182 (Part 10) 1999 (RA - 2019)

Note: ND - Not Detected

\*\*\*\*\*End of the report\*\*\*\*









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# **TEST REPORT**

Name of the Project Name & Address of the Customer : M/s. Itagi Lime Stone Mine, Chittapur. : M/s. ORIENT CEMENT LIMITED Tq. Chittapur, Itaga PO, Malkhed Road,

Chittapur – 585211.

: Ambient Air Quality Monitoring

: 03/02/2024

:1/1

Particulars of sample Report Date Page No

Name of				Particulars of Sample Collection								
I I I I I I I I I I I I I I I I I I I	Lab Sample	-	PM 10 PM 2.5		SO <sub>2</sub> (μg/m³)		N	NO <sub>2</sub> (μg/m³)		Carbon Monoxide (mg/m³)		
	Code	(μg/m³)	(μg/m³)	I Shift	II Shift	III Shift	I Shift	II Shift	III Shift	I Shift	II Shift	III Shift
3. Near Mining Area												
01.02.2024	06	52.8	20.0	18.0	19.2	17.4	23.4	25.0	26.2	ND	ND	ND
03.02.2024	73	53.4	19.0	19.4	18.4	17.9	25.0	24.8	24.2	ND	ND	ND
06.02.2024	188	56.2	18.0	18.2	19.0	20.0	24.4	25.4	23.9	ND	ND	ND
08.02.2024	347	57.0	19.9	17.0	16.0	19.0	27.4	26.2	24.2	ND	ND	ND
12.02.2024	590	55.0	18.3	16.2	18.0	17.4	25.2	24.8	24.2	ND	ND	ND
14.02.2024	708	54.2	19.2	17.5	19.0	18.0	24.8	23.9	24.4	ND	ND	ND
21.02.2024	1342	53.8	20.2	18.2	19.7	19.0	23.9	22.7	23.0	ND	ND	ND
23.02.2024	1526	52.4	19.6	19.0	20.0	17.9	22.4	22.8	21.7	ND	ND	ND
4.	Haulage											
01.02.2024	07	53.9	21.0	18.0	19.4	20.2	23.0	24.2	25.0	ND	ND	ND
03.02.2024	74	54.2	22.0	17.4	19.0	20.0	25.4	26.0	25.4	ND	ND	ND
06.02.2024	189	55.2	19.0	19.0	17.0	17.9	24.0	26.2	23.0	ND	ND	ND
08.02.2024	348	51.9	19.9	18.0	19.0	20.0	22.0	24.3	25.3	ND	ND	ND
12.02.2024	591	50.3	19.4	17.9	20.0	20.4	24.0	23.7	26.0	ND	ND	ND
14.02.2024	709	52.8	20.2	19.0	18.4	19.2	25.4	25.2	23.8	ND	ND	ND
21.02.2024	1343	51.7	20.8	20.0	17.0	19.4	24.0	25.4	26.0	ND	ND	ND
23.02.2024	1527	52.0	21.0	22.0	19.0	18.0	22.0	23.9	22.0	ND	ND	ND

### Test Method:

PM <sub>10</sub> - IS 5182 (Part-23) 2006 (RA - 2017)

PM<sub>2.5</sub> - IS 5182 (Part-24) 2019

Sulphur Dioxide (SO<sub>2</sub>) - IS 5182 (Part-22) 2001 (RA - 2022)

Nitrogen Dioxide (NO<sub>2</sub>) - IS 5182 (Part 6)2006 (RA - 2017)

Carbon Monoxide - IS 5182 (Part 10) 1999 (RA - 2019)

Note: ND - Not Detected

\*\*\*\*\*End of the report\*\*\*\*









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## **TEST REPORT**

Name of the Project

Name & Address of the Customer

: M/s. Itagi Lime Stone Mine, Chittapur.

: M/s. ORIENT CEMENT LIMITED

Tq. Chittapur, Itaga PO, Malkhed Road,

Chittapur - 585211.

Particulars of Sample Collected : Stack Monitoring

Particular of Stack
Date of Collection
Date of Sample Receipt

Sample Code / ID Date of Analysis Started

Date of Completion

Report No Report Date Page No : Chimney attached to "Crusher

: 22/02/2024 : 23/02/2024

: NALRC/2024/02/ED/1462

: 23/02/2024 : 27/02/2024

: NALRC/2024/02/ED/1462

: 27/02/2024

:1/1

### Instrument Used:

Instrument Name	Make	Model	Instrument Calibrated Date	Instrument calibration due Date
Stack Monitoring Kit	Greentech Instruments	GTI 121	12/03/2023	11/03/2024

### **General Details**

Date of Monitoring	22/02/2024
Ambient Temperature(°C)	31.0
Stack Diameter (m)	1.5
Quantity of flue gas discharged into the atmosphere (Nm³/Hr)	43901.59
Flue Gas Temperature	45
Exit Velocity of gas (Mts/Sec)	6.9

## STACK MONITORING RESULTS

Parameters	Unit	Result	Limits	Test Method
Particulate matter	mg/Nm³	4.6	3.83	IS 11255 (Part 1) 1985 RA 2019

\*\*\*\*\*End of the report\*\*\*\*





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# **TEST REPORT**

Name of the Project

Particulars of sample

Date of Collection
Date of Sample Receipt

Sample Code / ID Date of Analysis Started

Date of Completion

Name & Address of the Customer

: M/s. Itagi Lime Stone Mine, Chittapur.

: M/s. ORIENT CEMENT LIMITED

Tq. Chittapur, Itaga PO, Malkhed Road,

Chittapur - 585211.

: Noise Monitoring (Day Time)

: 01/02/2024

: 02/02/2024

: NALRC/2024/02/ED/08

: 02/02/2024

: 05/02/2024

: NALRC/2024/02/ED/08

: 05/02/2024

:1/1

Page No

Report No Report Date

### **Instrument Used:**

Instrument Name	Sl No	Instrument Calibrated Date	Instrument Calibrated Due Date	
SOUND LEVEL METER	160508096	12/03/2023	11/03/2024	

## **NOISE MONITORING RESULTS**

SI No	Sample Location	Min	Max	Leq dB (A)	KSPCB Standards	Test Method
1	Crushing & Screening	58.4	66.4	62.27		
2	Mining Area	62.4	67.5	64.90	75 dB (A) Leq	IS 9989:1981 (Reaffirmed- 2020)
3	CCR Office	58.9	64.7	61.78	73 ab (A) Led	
4	Surgebin	58.3	65.9	61.98		

\*\*\*\*\*End of the report\*\*\*\*



Authorized Signatory





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# **TEST REPORT**

Name of the Project

Particulars of sample

Date of Sample Receipt

Date of Analysis Started

Date of Collection

Sample Code / ID

Date of Completion

Report No

Report Date Page No

Name & Address of the Customer

: M/s. Itagi Lime Stone Mine, Chittapur.

: M/s. ORIENT CEMENT LIMITED

Tq. Chittapur, Itaga PO, Malkhed Road,

Chittapur - 585211.

: Noise Monitoring (Night Time)

: 01/02/2024

: 02/02/2024

: NALRC/2024/02/ED/09

: 02/02/2024

: 05/02/2024

: NALRC/2024/02/ED/09

: 05/02/2024

:1/1

### **Instrument Used:**

Instrument Name	Sl No	Instrument Calibrated Date	Instrument Calibrated Due Date	
SOUND LEVEL METER	160508096	12/03/2023	11/03/2024	

### **NOISE MONITORING RESULTS**

SI No	Sample Location	Min	Max	Leq dB (A)	KSPCB Standards	Test Method
1	Crushing & Screening	59.2	62.7	60.92		
2	Mining Area	58.7	64.8	61.67	70 dB (A) Leq	IS 9989:1981 (Reaffirmed- 2020)
3	CCR Office	54.2	62.8	58.34	70 db (A) Led	
4	Surgebin	57.2	63.3	60.17		

\*\*\*\*\*End of the report\*\*\*\*







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# **TEST REPORT**

Name of the Project

Particulars of sample

Date of Sample Receipt

Date of Analysis Started

Date of Collection

Sample Code / ID

Date of Completion

Name & Address of the Customer

: M/s. Itagi Lime Stone Mine, Chittapur.

: M/s. ORIENT CEMENT LIMITED

Tq. Chittapur, Itaga PO, Malkhed Road,

Chittapur - 585211.

: Noise Monitoring (Day Time)

: 22/02/2024

: 23/02/2024

: NALRC/2024/02/ED/1463

: 23/02/2024

: 24/02/2024

: NALRC/2024/02/ED/1463

: 27/02/2024

: 1/1

Instrument Used:

Report No

Page No

Report Date

Instrument Name	Sl No	Instrument Calibrated Date	Instrument Calibrated Due Date	
SOUND LEVEL METER	160508096	12/03/2023	11/03/2024	

# NOISE MONITORING RESULTS

Sl No	Sample Location	Min	Max	Leq dB (A)	KSPCB Standards	Test Method
1	Crushing & Screening	57.9	68.5	62.98		
2	Mining Area	59.3	66.6	62.84	75 dB (A) Leq	IS 9989:1981 (Reaffirmed-
3	CCR Office	58.2	65.8	61.88	, 5 (1.) = -1	2020)
4	Surgebin	57.5	64.3	60.81		

\*\*\*\*\*End of the report\*\*\*\*





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## **TEST REPORT**

Name of the Project

Particulars of sample

Date of Collection
Date of Sample Receipt

Sample Code / ID Date of Analysis Started

Date of Completion

Name & Address of the Customer

: M/s. Itagi Lime Stone Mine, Chittapur.

: M/s. ORIENT CEMENT LIMITED

Tq. Chittapur, Itaga PO, Malkhed Road,

Chittapur - 585211.

: Noise Monitoring (Night Time)

: 22/02/2024

: 23/02/2024

: NALRC/2024/02/ED/1464

: 23/02/2024

: 24/02/2024

: NALRC/2024/02/ED/1464

: 27/02/2024

: 1/1

Report No Report Date Page No

## **Instrument Used:**

Instrument Name	SI No	Instrument Calibrated Date	Instrument Calibrated Due Date
SOUND LEVEL METER	160508096	12/03/2023	11/03/2024

## **NOISE MONITORING RESULTS**

SI No	Sample Location	Min	Max	Leq dB (A)	KSPCB Standards	Test Method
1	Crushing & Screening	53.7	60.8	57.14	- 70 dB (A) Leq	
2	Mining Area	58.4	61.9	60.12		IS 9989:1981 (Reaffirmed-
3	CCR Office	54.4	61.8	59.04		2020)
4	Surgebin	57.2	61.9	59.50		

\*\*\*\*\*End of the report\*\*\*\*





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## **TEST REPORT**

Name of the Project : M/s. Itagi Lime Stone Mine, Chittapur. Name & Address of the Customer

: M/s. ORIENT CEMENT LIMITED

Tq. Chittapur, Itaga PO, Malkhed Road,

Chittapur - 585211.

Date of Sample Collection

Particulars of sample

Date of sample Receipt

Sample ID/Code

Date of Analysis Started Date of completion

Report No

Report Date Page No

Description

: 20/02/2024

: Downstream Water

Sample Qty: 2 Liters+500ml, Sampling Type: Grab

: 20/02/2024

: NALRC/2024/02/W/551

: 20/02/2024

: 26/02/2024

: NALRC/2024/02/W/551

: 26/02/2024

:1/1

: Slightly whitish coloured, Odourless, turbid liquid.

SI No	Parameters	Results	Test Method
01	Color, Hazen Units	5.0	IS 3025 (P-04)2021
02	Conductivity, µS/cm	616.0	IS 3025 (P-14)1984 RA 2019
03	Total Dissolved Solids, mg/L	370.0	IS 3025 (P-16)2023
04	pH Value	8.3	IS 3025 (P-11)2022
05	Turbidity, NTU	12.1	IS 3025 (P-10)2022
06	Total Suspended Solids	18.0	IS 3025(P-17) 2022
07	Calcium as Ca, mg/L	26.0	IS 3025 (P-40)1991 RA 2019
08	Magnesium as Mg, mg/L	23.0	IS 3025 (P-46)1994RA 2019
09	Total Hardness as CaCO3, mg/L	160.0	IS 3025 (P-21)2009 RA 2019
10	Chloride as Cl, mg/L	27.0	IS 3025 (P-32)1988 RA 2019
11	Sulphate as SO4, mg/L	23.0	APHA 23rd Edition4500SO4
12	Fluoride as F, mg/L	0.75	APHA 23rd Edition4500F- D
13	Nitrate as NO3, mg/L	7.3	APHA 23rd Edition NO3 B
14	Total Alkalinity as CaCO3, mg/L	220.0	IS 3025 (P-23)1986 RA 2019
15	Iron as Fe, mg/L	0.68	APHA 23rd Edition 3500-Fe B
16	Total coliform bacteria MPN/100ml	Present	IS 15185 2016 (RA-2021)
17	Escherichia Coli, MPN/100ml	Absent	IS 15185 2016 (RA-2021)

\*\*\*\*\*End of the report\*\*\*\*



Authorized Signatory



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## **TEST REPORT**

Name of the Project : M/s. Itagi Lime Stone Mine, Chittapur.

Name & Address of the Customer : M/s. ORIENT CEMENT LIMITED

Tq. Chittapur, Itaga PO, Malkhed Road,

Chittapur - 585211.

Date of Sample Collection

Particulars of sample

Date of sample Receipt Sample ID/Code

Date of Analysis Started

Date of completion

Report No

Report Date Page No

Description

: 20/02/2024

: Mines Pit Water

Sample Qty: 2 Liters+500ml, Sampling Type: Grab

: 20/02/2024

: NALRC/2024/02/W/552

: 20/02/2024

: 26/02/2024

: NALRC/2024/02/W/552

: 26/02/2024

:1/1

: Colourless, Odourless, transparent liquid.

SI No	Parameters	Results	Test Method
01	Color, Hazen Units	<1.0	IS 3025 (P-04)2021
02	Conductivity, µS/cm	718.0	IS 3025 (P-14)1984 RA 2019
03	Total Dissolved Solids, mg/L	431.0	IS 3025 (P-16)2023
04	pH Value	8.3	IS 3025 (P-11)2022
05	Turbidity, NTU	0.9	IS 3025 (P-10)2022
06	Total Suspended Solids	1.0	IS 3025(P-17) 2022
07	Calcium as Ca, mg/L	34.0	IS 3025 (P-40)1991 RA 2019
08	Magnesium as Mg, mg/L	28.0	IS 3025 (P-46)1994RA 2019
09	Total Hardness as CaCO3, mg/L	200.0	IS 3025 (P-21)2009 RA 2019
10	Chloride as Cl, mg/L	32.0	IS 3025 (P-32)1988 RA 2019
11	Sulphate as SO4, mg/L	47.0	APHA 23rd Edition4500SO4
12	Fluoride as F, mg/L	1.32	APHA 23rd Edition4500F- D
13	Nitrate as NO3, mg/L	39.0	APHA 23rd Edition NO3 B
14	Total Alkalinity as CaCO3, mg/L	208.0	IS 3025 (P-23)1986 RA 2019
15	Iron as Fe, mg/L	0.16	APHA 23rd Edition 3500-Fe B
16	Total coliform bacteria MPN/100ml	Absent	IS 15185 2016 (RA-2021)
17	Escherichia Coli, MPN/100ml	Absent	IS 15185 2016 (RA-2021)

\*\*\*\*End of the report\*\*\*\*



Authorized Signatory



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## **TEST REPORT**

Name of the Project

Name & Address of the Customer

Particulars of sample Sample ID/Code

Report No

Report Date

Page No

: M/s. Itagi Lime Stone Mine, Chittapur.

: M/s. ORIENT CEMENT LIMITED

Tq. Chittapur, Itaga PO, Malkhed Road,

Chittapur - 585211.

: Wells Depths (Piezometer)

: NALRC/2024/02/G/553

: NALRC/2024/02/G/553

: 26/02/2024

:1/1

SI No	Locations Name	Bore Wells Depths in meters
01	Itga Village	7.85
02	Mogla Village	7.70
03	Diggove Village	13.10
04	Chittapur	8.25

\*\*\*\*\*End of the report\*\*\*\*





Authorized Signatory

# March - 2024



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TEST REPORT

Name of the Project Name & Address of the Customer

Particulars of sample Report Date

Page No

: M/s. Itagi Lime Stone Mine, Chittapur. : M/s.ORIENT CEMENT LIMITED To Chittanur, Itaga PO, Malkhed Road,

Chittanur - 585211 : Ambient Air Quality Monitoring : 04/04/2024

	,							_				
Name of		Particulars of Sample Collection										
Station/ Date of Sample Collection	Sample		PM 21	s	Ο <sub>2</sub> (μg/π	17)	N	iO₂ (μg/n	17)	Car	on Mon (mg/m <sup>3</sup>	
	(µg/m³)	(µg/m²)	I Shift	II Shift	III Shift	I Shift	II Shift	III Shift	I Shift	II Shift	III Shift	
1.	Near Lir	ne Stone	Crusher	(N 17°	06'53.0"	E 77°0	8"25.0")					
01.03.2024	06	71.5	34.2	11.5	11.1	11.6	23.4	22.9	23.1	ND	ND	ND
04.03.2024	75	70.4	31.8	11.2	12.3	12.2	24.0	23.3	23.8	ND	ND	ND
06.03.2024	199	65.8	35.7	12.4	11.7	11.0	22.7	24.1	24.3	ND	ND	ND
08.03.2024	361	72.2	36.2	11.9	10.8	13.3	23.1	23.8	23.4	ND	ND	ND
12.03.2024	615	68.7	33.7	11.1	11.5	12.8	19.9	22.1	23.0	ND	ND	ND
15.03.2024	706	71.1	36.4	12.6	12.2	13.5	21.3	23.7	22.4	ND	ND	ND
21.03.2024	1155	70.9	31.6	13.1	11.9	12.7	21.5	20.8	22.2	ND	ND	ND
25.03.2024	1488	72.7	34.9	12.7	12.4	13.4	22.1	23.7	24.1	ND	ND	ND
2.	Near Su	rgbin Ho	pper: (N	17'06'3	6.2", E	77"08"16	4")					
01.03.2024	07	72.5	32.4	16.6	17.2	17.9	28.1	29.4	27.8	ND	ND	ND
04.03.2024	76	69.9	33.1	17.4	16.7	18.1	27.5	28.4	29.3	ND	ND	ND
06.03.2024	200	71.2	33.7	17.7	17.1	18.0	27.8	28.7	28.9	ND	ND	ND
08.03.2024	362	70.8	30.2	18.1	17.4	18.6	28.3	29.1	30.1	ND	ND	ND
12.03.2024	616	72.3	29.1	17.6	18.4	18.8	29.2	27.8	28.2	ND	ND	ND
15.03.2024	707	68.1	28.8	16.1	16.8	17.5	28.6	27.5	29.0	ND	ND	ND

18.5

21.03.2024 25 03 2024 Test Method:

1489 PM to - IS 5182 (Part-23) 2006 (RA - 2017)

PM+++ IS 5182 (Part-24) 2019 Sulphur Dioxide (SO<sub>2</sub>) - IS 5182 (Part-22) 2001 (RA - 2022) Nitrogen Dioxide (NOs) - IS 5182 (Part 6)2006 (RA - 2017) Carbon Monoxide - IS 5182 (Part 10) 1999 (RA - 2019)

71.8 32.1

Note: ND - Not Detected



Note: 1. The results listed above pertain only to the tested samples and applicable parameters. 2. Samples will be stored for a period of 15 days. 3. This import is not to be

28.5 28.0 30.0 NΠ ND







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#### TEST REPORT

Name of the Project Name & Address of the Customer

Particulars of sample Report Date Page No

: M/s. Itagi Lime Stone Mine, Chittapur. · M/s ORIENT CEMENT LIMITED Tg. Chittapur, Itaga PO, Malkhed Road. Chittapur - 585211. : Ambient Air Quality Monitoring

: 04/04/2024

Name of			Particulars of Sample Collection									
Station/ Date of Sample Collection	Lab Sample	PM to PM 24	SO <sub>2</sub> (µg/m²)		r)	NO <sub>2</sub> (μg/m <sup>3</sup> )		n³)	Car	bon Mor (mg/m³		
	Code	(µg/m³)	(µg/m²)	I Shift	II Shift	III Shift	I Shift	II Shift	III Shift	I Shift	II Shift	III Shif
3.	Near Mi	ning Are	a: (N 17º)	07"00.3"	, E 77°0	8′50.9″)						
01.03.2024	08	74.9	35.3	17.4	17.8	17.0	28.6	27.5	29.0	ND	ND	NE
04.03.2024	77	73.1	34.1	16.8	17.2	18.1	27.9	28.1	28.8	ND	ND	NE
06.03.2024	201	73.9	34.5	17.6	18.4	17.1	27.5	28.4	29.1	ND	ND	NE
08.03.2024	363	74.0	33.9	18.2	17.7	18.0	28.6	29.2	28.5	ND	ND	NI
12.03.2024	617	75.1	35.1	17.6	18.4	18.3	29.1	28.8	27.9	ND	ND	NE
15.03.2024	708	69.9	34.0	18.1	18.8	17.2	27.6	28.3	29.2	ND	ND	NE
21.03.2024	1157	71.0	34.7	17.5	18.1	16.9	28.4	29.5	28.0	ND	ND	NI
25.03.2024	1490	72.7	35.2	16.9	17.4	18.0	28.5	29.1	29.5	ND	ND	NI
4.	Haulage	: (N 17°0	06'50.8", 1	77°08′	36.7")							
01.03.2024	09	68.5	30.2	18.5	19.2	20.6	29.9	30.4	31.0	ND	ND	NI
04.03.2024	78	65.9	31.4	19.1	20.8	21.4	28.8	29.5	30.9	ND	ND	NI
06.03.2024	202	69.1	29.3	19.9	18.5	18.9	29.1	28.5	29.6	ND	ND	NI
08.03.2024	364	67.7	28.1	17.8	18.3	19.1	28.5	30.0	29.1	ND	ND	NI
12.03.2024	618	65.1	29.9	18.3	19.9	20.7	27.9	28.4	28.1	ND	ND	NI
15.03.2024	709	69.4	30.4	19.6	20.5	21.3	28.0	29.6	29.1	ND	ND	NI
21.03.2024	1158	68.1	28.8	19.2	20.3	20.9	29.3	30.7	31.5	ND	ND	NI
25.03.2024	1491	69.5	29.5	20.5	21.4	21.9	30.8	31.0	31.2	ND	ND	NE

Test Method:

PM 11 - IS 5182 (Part-23) 2006 (RA - 2017)

PM11 - IS 5182 (Part-24) 2019 Sulphur Dicxide (SO<sub>2</sub>) - IS 5182 (Part-22) 2001 (RA - 2022) Nitrogen Dioxide (NOs) - IS 5182 (Part 6)2006 (RA - 2017) Carbon Monoxide - IS 5182 (Part 10) 1999 (RA - 2019)

Note: ND - Not Detected







Name of the Project

#### NATIONAL ANALYTICAL LABORATORIES AND RESEARCH CENTER

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#### TEST REPORT

Name & Address of the Customer

Particulars of Sample Collected Particular of Stack Date of Collection Date of Sample Receipt Sample Code / ID Date of Analysis Started Date of Completion Report No Report Date Page No : M/s. Itagi Lime Stone Mine, Chittapur. : M/s.ORIENT CEMENT LIMITED Tq. Chittapur, Itaga PO, Malkhed Road, Chittapur - 585211. : Stack Monitoring

: Chimney attached to "Crusher" : 25/03/2024 : 26/03/2024 : NALRC/2024/02/ED/1492

: 26/03/2024 : 29/03/2024 : NALRC/2024/02/ED/1492 : 04/04/2024

Instrument Lised

Instrument Used:				
Instrument Name	Make	Model	Instrument Calibrated Date	Instrument calibration due Date
Stack Monitoring Kit	Ecotech	ESS 100	13/09/2023	12/09/2024

:1/1

#### General Details

Date of Monitoring	25/03/2024
Ambient Temperature(°C)	33.0
Stack Diameter (m)	1.5
Quantity of flue gas discharged into the atmosphere (Nm3/Hr)	43078.39
Flue Gas Temperature	48
Posts Victorian of the (Con)	7.1

#### STACK MONITORING RESULTS

Parameters	Unit	Result	Limits	Test Method
Particulate matter	mg/Nm <sup>3</sup>	5.4	-	IS 11255 (Part 1) 1985 RA 2019

\*\*\*\*\*End of the report\*\*\*\*\*



Competent of





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#### TEST REPORT

Name of the Project Name & Address of the Customer

Name & Address of the Custom

Particulars of sample Sample Code / ID

Report No Report Date Page No : M/s. Riagi Lime Stone Mine, Chittapur. : M/s.CRIENT CEMENT LIMITED Tq. Chittapur. Baga PO, Malihed Road, Chittapur. 385211. : Noise Monitoring. Day Time : 01/05/2024 - NAIRC/2024/02/ED/1493 : NAIRC/2024/02/ED/1494 : NAIRC/2024/05/ED/1494

#### Instrument Used:

Instrument Name	Make	SI No	Instrument Calibrated Date	Instrument Calibrated Due Date	
Sound Level Meter	Lutron Instruments	Q681245	12/10/2023	11/10/2024	

#### NOISE MONITORING RESULTS

SI No	Date of Sample Collection	Sample Location	L min.	L max.	Results in dB (A)Leq	KSPCB Standards	Test Method
1	01/03/2024		59:1	68.5	63.6		
1	25/03/2024	Crushing & Screening	58.4	68.0	63.0	Į.	
2	01/03/2024		65.1	69.9	67.5		
- 2	25/03/2024	Mining Area	63.4	69.3	66.3	75 dB (A)	IS 9989:1981 (Reaffirmed-
3	01/03/2024	CCR Office	57.5	65.0	61.1	Leq (Day Time)	2020)
3	25/03/2024	CCROthoe	56.2	63.7	59.8		
4	01/03/2024		59.3	66.4	62.8		
4	25/03/2024	Surgebin	58.3	65.0	61.6		









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#### TEST REPORT

Name of the Project Name & Address of the Customer

Particulars of sample

Sample Code / ID Report No Report Date

Page No

Instrument Used: Instrument Name Sound Level Meter : M/s. Itagi Lime Stone Mine, Chittapur. : M/s.ORIENT CEMENT LIMITED Tq. Chittapur, Itaga PO, Malkhed Road, Chittapur - 585211. : Noise Monitoring - Night Time or 100/2004. NAI BC/2004/07/FD/11

Cintippi - 96047.

Noise Monitoring - Night Time: 01/08/2024 - NALRC/2024/02/ED/11 25/08/2024 - NALRC/2024/02/ED/1494 : NALRC/2024/03/ED/1494 : NALRC/2024/03/ED/1494 : 1/1

Calibrated Due Date

11/10/2024

#### NOISE MONITORING RESULTS

Instrument

Calibrated Date

S1 No	Date of Sample Collection	Sample Location	L min.	L max.	Results in dB (A)Leq	KSPCB Standards	Test Method
1	01/03/2024	Crushing & Screening	57.4	63.9	60.6	70 dB (A) Leq (Night Time)	15 9989:1981 (Reaffirmed- 2020)
	25/03/2024		55.8	62.5	59.1		
2	01/03/2024	Mining Area	59.2	64.7	61.9		
	25/03/2024		57.6	63.8	60.6		
3	01/03/2024	CCR Office	54.7	59.5	57.1		
	25/03/2024		53.0	58.1	55.5		
4	01/03/2024	Surgebin	53.2	58.4	55.7		
	25/03/2024		52.4	57.3	54.8		

SI No

Make

Lutron O681245

Instruments









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#### TEST REPORT

#### Name of the Project Name & Address of the Customer

Particulars of sample

Name of the Sample Location Date of Sample Collection Date of Sample Receipt Sample Code / ID Date of Analysis Started Date of Completion Report No

Report Date Page No

: M/s. Itagi Lime Stone Mine, Chittapur. M/s ORIENT CEMENT LIMITED To. Chittapur, Itaga PO, Malkhed Road, Chittapur - 585211.

: Fugitive Emission Monitoring : Near Lime Stone Crusher : 29/03/2024 :30/03/2024

: NALRC/2024/02/ED/1495,1593,1594,1595 - 01 /04/2024 :03/04/2024

: NALRC/2024/02/ED/1495 :04/04/2024

#### **Environmental Conditions**

33.0		
8.0		
Clear Sky		
rmal		

#### FUGUTIVE EMISSION MONITORING RESULTS

SI	Parameter	Locations	Unit	Results	Standard	Test Method
No					as per KSPCB	
1		Near Lime Stone Crusher	µg/m³	457.3		
2	Particulate	Near Weigh Bridge at Haulage Road	μg/m <sup>3</sup>	395.8	600	15 5182 (Part 4)
3	Matter	Near Over Burden Dump	$\mu g/m^3$	376.3		1999 RA 2019
4		Near Drilling / Excavation at Mines	µg/m³	492.5		









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### TEST REPORT

Name of the Project Name & Address of the Customer

Date of Sample Collection

Particulars of sample Date of sample Receipt

Sample ID/Code Date of Analysis Started Date of completion Report No

Description

Report Date Page No

: M/s, Itagi Lime Stone Mine, Chittapur, : M/s.ORIENT CEMENT LIMITED

Tq. Chittapur, Itaga PO, Malkhed Road, Chittapur - 585211.

:30/03/2024 : Kagina River Water - Up Stream

Sample Oty: 2 Liters+500ml. Sampling Type: Grab :30/03/2024

: NALRC/2024/03/W/604 :30/03/2024 :04/04/2024 : NALRC/2024/03/W/604 :04/04/2024

: Slightly whitish coloured, Odourless, turbid liquid.

SI No	Parameters	Results	Test Method	General standards for Inland Surface water Schedule - VI (EPA-'86)	
01	Color, Hazen Units	5.0	IS 3025 (P-04)2021		
02	Conductivity, µS/cm	636.0	IS 3025 (P-14)1984 RA 2019		
03	Total Dissolved Solids, mg/L	382.0	IS 3025 (P-16)2023		
04	pH Value	8.5	IS-3025 (P-11)2022	5.5 to 9.0	
05	Turbidity, NTU	10.2	IS 3025 (P-10)2022		
06	Total Suspended Solids	16.0	IS 3025(P-17) 2022	100	
07	Calcium as Ca, mg/L	32.0	IS 3025 (P-40)1991 RA 2019		
08	Magnesium as Mg, mg/L	22.0	IS 3025 (P-46)1994RA 2019		
09	Total Hardness as CaCO3, mg/L	170.0	IS 3025 (P-21)2009 RA 2019	-	
10	Chloride as Cl, mg/L	31.0	IS 3025 (P-32)1988 RA 2019		
11	Sulphate as SO4, mg/L	19.0	APHA 23rd Edition4500SO4		
12	Fluoride as F, mg/L	0.54	APHA 23rd Edition4500F- D	2	
13	Nitrate as NO3, mg/L	6.1	APHA 23rd Edition NO3 B		
14	Total Alkalinity as CaCO3, mg/L	238.0	IS 3025 (P-23)1986 RA 2019		
15	Iron as Fe, mg/L	1.21	APHA 23rd Edition 3500-Fe B	3	
16	Total coliform bacteria MPN/100ml	Absent	IS 15185 2016 (RA-2021)	-	
17	Escherichia Coli, MPN/100ml	Absent	IS 15185 2016 (RA-2021)		





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#### TEST REPORT

Name of the Project Name & Address of the Customer

Date of Sample Collection Particulars of sample

Date of sample Receipt Sample ID/Code Date of Analysis Started Date of completion Report No

Report Date Page No

Description

: M/s. Itagi Lime Stone Mine, Chittapur. : M/s.ORIENT CEMENT LIMITED To. Chittanur, Itaea PO, Malkhed Road, Chittapur - 585211

:30/03/2024 : MinesPit Water Sample Qtv: 2 Liters+500ml, Sampling Type: Grab

:30/03/2024 : NALRC/2024/03/W/605 :30/03/2024

:04/04/2024 : NALRC/2024/03/W/605 -04/04/2024

: Colourless, Odourless, transparent liquid

SI No	Parameters	Results	Test Method	General standards for Inland Surface water Schedule - VI (EPA-'86)
01	Color, Hazen Units	<1.0	IS 3025 (P-04)2021	
02	Conductivity, µ5/cm	ductivity, µS/cm 708.0 IS 3025 (P-14)1984 RA 2019		
03	Total Dissolved Solids, mg/L	425.0	15 3025 (P-16)2023	
04	pH Value	8.6	IS 3025 (P-11)2022	5.5 to 9.0
05	Turbidity, NTU	0.5	IS 3025 (P-10)2022	
06	Total Suspended Solids	<1.0	IS 3025(P-17) 2022	100
07	Calcium as Ca, mg/L	36.0	15 3025 (P-40)1991 RA 2019	
08	Magnesium as Mg, mg/L	26.0	IS 3025 (P-46)1994RA 2019	
09	Total Hardness as CaCO3, mg/L	198.0	IS 3025 (P-21)2009 RA 2019	
10	Chloride as Cl, mg/L	31.0	IS 3025 (P-32)1988 RA 2019	
11	Sulphate as SO4, mg/L	54.0	APHA 23rd Edition45005O4	
12	Fluoride as F, mg/L	0.90	APHA 23rd Edition4500F- D	2
13	Nitrate as NO3, mg/L	25.1	APHA 23rd Edition NO3 B	
14	Total Alkalinity as CaCO3, mg/L	194.0	IS 3025 (P-23)1986 RA 2019	
15	Iron as Fe, mg/L	<0.05	APHA 23ed Edition 3500-Fe B	3
16	Total coliform bacteria MPN/100ml	Absent	IS 15185 2016 (RA-2021)	
17	Escherichia Coli, MPN/100ml	Absent	IS 15185 2016 (RA-2021)	





